

Dixon Sanitary Engineered Product Reference Guide - Introduction

Designed for Performance, Engineered for Reliability

At Dixon® Sanitary, our engineering team is committed to developing high-quality, innovative solutions for sanitary processing applications. Every product featured in these guides has been carefully designed and engineered to meet the demands of the hygienic industries, ensuring performance, durability, and compliance with strict sanitary standards.

Your Essential Resource for Product Selection

These reference guides serve as a valuable tool for distributors, providing quick access to critical product details that streamline the selection and ordering process. Whether you need specifications for valves, pumps, actuators, or accessories, this resource simplifies decision-making by consolidating key information in one place.

How These Guides Help You

- Easily compare product options with detailed specifications
- Quickly locate part numbers and ordering details
- Gain insight into product applications and performance
- Access technical data to ensure the right fit for your system

What's Included

Each guide is organized by product category and includes:

- Technical specifications
- Part number keys
- Performance details
- Bill of materials
- Dimensions
- Repair kits

With these guides, you have the information you need at your fingertips to confidently select and recommend Dixon's engineered products.

If you would like to request a hard copy, contact Dixon Sanitary at 800.789.1718 or email sanitarymarketing@dixonvalve.com.

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- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K

HSG-Series Sanitary Sight Glass



Used in sanitary processes to view fluids. This 3A certified sight glass is clean-in-place.

They are found in the food processing, beverage, dairy, personal care, winery, brewery, pet product, and industrial markets.

Sizes

- 1/2" to 6"

Features

- Easy to assemble and disassemble
- Patented single clamp construction

Materials

- Product contact metal components: 316 stainless steel
- Non-product contact metal components: CF8

Specifications

- Product contact seal components:
 - EPDM and FKM: single pin clamp style sizes 1" to 6"
 - PTFE: bolted clamp style sizes 1/2" to 6"
- Surface finish technical data:
 - Product contact metal components: Ra ≤ 32
 - Other finishes available upon request



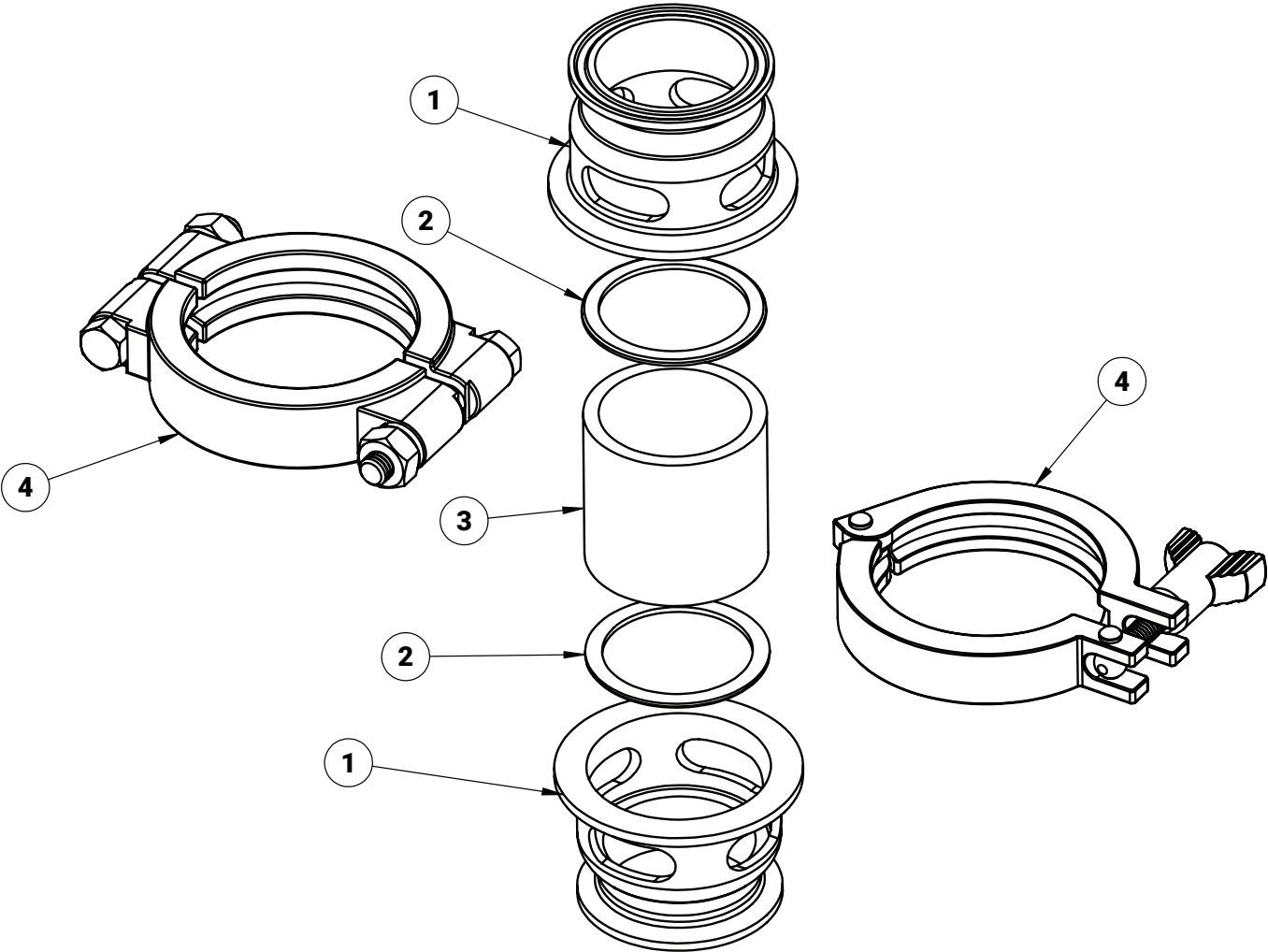
Maximum Line Pressure and Product Temperature

Size	Pressure at 70°F (21°C)	Pressure at 200°F (93°C)
1/2"	500	300
3/4"	500	300
1"	500	300
1-1/2"	450	250
2"	400	200
2-1/2"	350	175
3"	250	125
4"	80	40
6"	50	25

HSG-Series Sanitary Sight Glass - Part Number Key

HSG-Series Sanitary Sight Glass Part Number Key Example: HSGE100CCA		Series	Elastomers	Size	Body One Connection	Body Two Connection	Surface Finish
		HSG	E	100	C	C	A
Elastomer	Code						
EPDM (1" - 6") single pin clamp	E						
FKM (1" - 6") single pin clamp	V						
PTFE (1/2" - 6") bolted clamp	P						
Size	Code						
1/2" (only available in PTFE)	050						
3/4" (only available in PTFE)	075						
1"	100						
1-1/2"	150						
2"	200						
2-1/2"	250						
3"	300						
4"	400						
6"	600						
Body One Connection	Code						
Clamp (standard)	C						
Weld	B						
Female I-Line	F						
Male I-Line	M						
Threaded Bevel	T						
Plain Bevel with Nut	P						
Q-Line	Q						
Body Two Connection	Code						
Clamp (standard)	C						
Weld	B						
Female I-Line	F						
Male I-Line	M						
Threaded Bevel	T						
Plain Bevel with Nut	P						
Q-Line	Q						
Surface Finish	Code						
32 Ra (I.D. mechanical polish)	A						
25 Ra (I.D. mechanical polish)	B						
20 Ra (I.D. mechanical polish)	C						
15 Ra (I.D. mechanical polish)	D						
10 Ra (I.D. mechanical polish)	E						

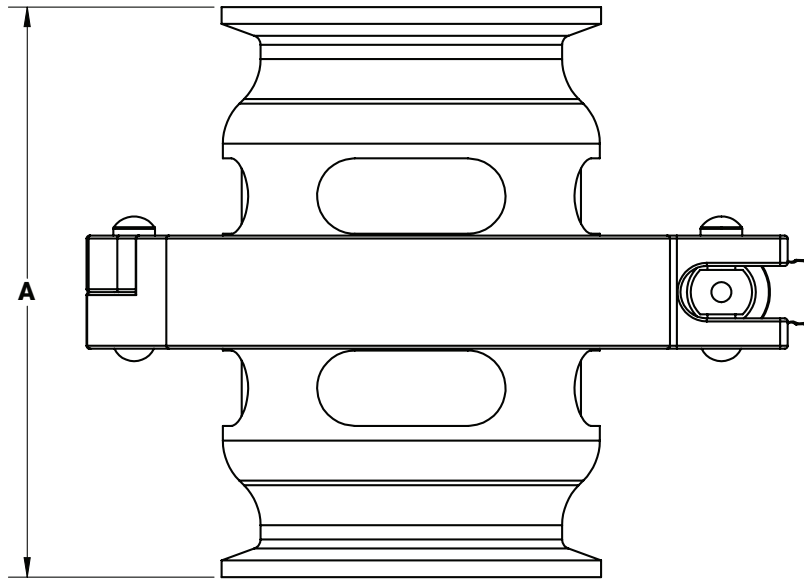
HSG-Series Sanitary Sight Glass - Bill of Materials



HSG-Series Sanitary Sight Glass - Bill of Materials

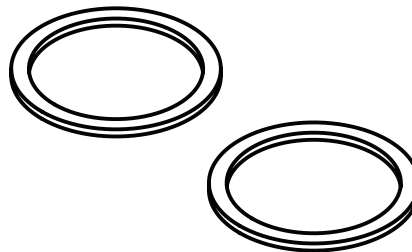
Item #	Size	Part #	Description	Material	Qty		
					EPDM	FKM	PTFE
1	1/2"	HSG-B050CA	body, tri-clamp	316L SS	2	2	2
	3/4"	HSG-B075CA					
	1"	HSG-B100CA					
	1-1/2"	HSG-B150CA					
	2"	HSG-B200CA					
	2-1/2"	HSG-B250CA					
	3"	HSG-B300CA					
	4"	HSG-B400CA					
	6"	HSG-B600CA					
2	1/2"	HSG-RKP050	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	3/4"	HSG-RKP075	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	1"	40IE100	I-line gasket, 3/32" thick	EPDM	2	-	-
		40IV100		FKM	-	2	-
		HSG-RKP100	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	1-1/2"	40IE150	I-line gasket, 3/32" thick	EPDM	2	-	-
		40IV150		FKM	-	2	-
		HSG-RKP150	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	2"	40IE200	I-line gasket, 3/32" thick	EPDM	2	-	-
		40IV200		FKM	-	2	-
		HSG-RKP200	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	2-1/2"	40IE250	I-line gasket, 3/32" thick	EPDM	2	-	-
		40IV250		FKM	-	2	-
		HSG-RKP250	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	3"	40IE300	I-line gasket, 3/32" thick	EPDM	2	-	-
		40IV300		FKM	-	2	-
		HSG-RKP300	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	4"	40IE400	I-line gasket, 3/32" thick	EPDM	2	-	-
		40IV400		FKM	-	2	-
		HSG-RKP400	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	6"	40IE600	I-line gasket, 3/32" thick	EPDM	2	-	-
		40IV600		FKM	-	2	-
		HSG-RKP600	PTFE gasket kit (2 gaskets)	PTFE	-	-	1
	3	1/2"	HSG-POLY-050	insert	Polycarbonate	1	1
3/4"		HSG-POLY-075					
1"		HSG-POLY-100					
1-1/2"		HSG-POLY-150					
2"		HSG-POLY-200					
2-1/2"		HSG-POLY-250					
3"		HSG-POLY-300					
4"		HSG-POLY-400					
6"	HSG-POLY-600						
4	1/2"	13MHP100-150	bolted clamp	CF8	-	-	1
	3/4"	13MHP100-150	bolted clamp	CF8	-	-	1
	1"	13MHHM100-150SN	single pin clamp	CF8	1	1	-
		13MHP100-150	bolted clamp		-	-	1
	1-1/2"	13MHHM200SN	single pin clamp	CF8	1	1	-
		13MHP200	bolted clamp		-	-	1
	2"	13MHHM250SN	single pin clamp	CF8	1	1	-
		13MHP250	bolted clamp		-	-	1
	2-1/2"	13MHHM300SN	single pin clamp	CF8	1	1	-
		13MHP300	bolted clamp		-	-	1
	3"	13MHHV300	single pin clamp	CF8	1	1	-
		13MHPV300	bolted clamp		-	-	1
	4"	13MHHV400	single pin clamp	CF8	1	1	-
		14MHPV400	bolted clamp		-	-	1
	6"	13MHHM800SN	single pin clamp	CF8	1	1	-
		13MHP800	bolted clamp		-	-	1

HSG-Series Sanitary Sight Glass - Dimensions



Size	A (in)
1/2"	3.8
3/4"	3.8
1"	3.8
1-1/2"	3.8
2"	3.8
2-1/2"	3.8
3"	3.8
4"	3.8
6"	6.0

HSG-Series Sanitary Sight Glass - Repair Kits



Seal Material	Size	Part #	Seal Material	Size	Part #	Seal Material	Size	Part #
PTFE	1/2"	HSG-RKP050	EPDM	1/2"	-	FKM	1/2"	-
	3/4"	HSG-RKP075		3/4"	-		3/4"	-
	1"	HSG-RKP100		1"	HSG-RKE100		1"	HSG-RKV100
	1-1/2"	HSG-RKP150		1-1/2"	HSG-RKE150		1-1/2"	HSG-RKV150
	2"	HSG-RKP200		2"	HSG-RKE200		2"	HSG-RKV200
	2-1/2"	HSG-RKP250		2-1/2"	HSG-RKE250		2-1/2"	HSG-RKV250
	3"	HSG-RKP300		3"	HSG-RKE300		3"	HSG-RKV300
	4"	HSG-RKP400		4"	HSG-RKE400		4"	HSG-RKV400
6"	HSG-RKP600	6"	HSG-RKE600	6"	HSG-RKV600			

B54BMP-Series Inline Sight Glass

Used in sanitary processes to view fluids. They are found in the food processing, beverage, winery, brewery, pet product, and industrial markets.

Sizes

- 1", 1-1/2", 2", 2-1/2", 3", 4", and 6"

Features

- Various end configurations available
 - Clamp, weld, bevel seat, John Perry, I-line, and Q-line

Materials

- Product contact metal components: 316L stainless steel
- Non-product contact metal components: 316L stainless steel
- Product contact sight window: borosilicate glass or polycarbonate
- Product contact seals: nitrile rubber, FKM, or EPDM

Specifications

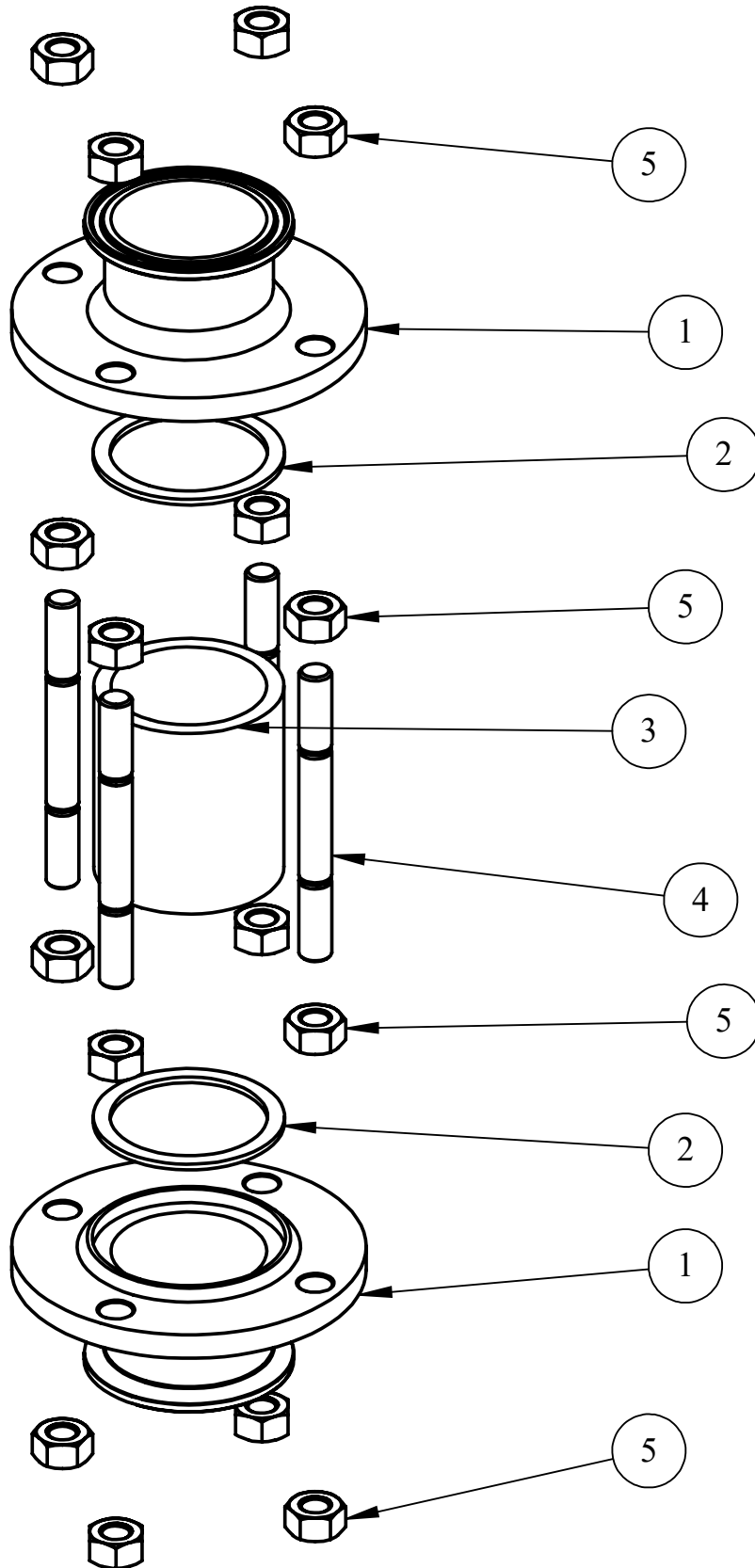
- Standard connection: clamp
- Sight glass working pressure:
 - 1": **145 PSI**
 - 1-1/2": **145 PSI**
 - 2": **145 PSI**
 - 2-1/2": **120 PSI**
 - 3": **120 PSI**
 - 4": **95 PSI**
 - 6": **80 PSI**
- Maximum operating temperature: **200°F (93°C)**
- Surface finish
 - Product contact metal components: ≤ 32 Ra I.D. and O.D.



B54BMP-Series Inline Sight Glass - Part Number Key

B54BMP-Series Inline Sight Glass Part Number Key Example: B54BMP-R100__		Series	Connections	Material	Size	Sight Glass Material	Surface Finish	Elastomer
		B54BMP	-	R	100			
Series	Code							
B54BMP	B54BMP							
Connections	Code							
Tri-clamp	-							
Weld	B							
Threaded bevel	T							
Plain bevel with nut	P							
Female I-line	F							
Male I-line	M							
John Perry plain	J							
John Perry threaded	H							
Q-line	G							
Material	Code							
316L stainless steel	R							
Size	Code							
1"	100							
1-1/2"	150							
2"	200							
2-1/2"	250							
3"	300							
4"	400							
6"	600							
Sight Glass Material	Code							
Borosilicate glass	blank							
Polycarbonate	LX							
Surface Finish	Code							
32 Ra (I.D. mech polish)	blank							
25 Ra (I.D. mech polish)	B							
20 Ra (I.D. mech polish)	C							
15 Ra (I.D. mech polish)	D							
Elastomer	Code							
Nitrile rubber (standard)	blank							
FKM	V							
EPDM	E							

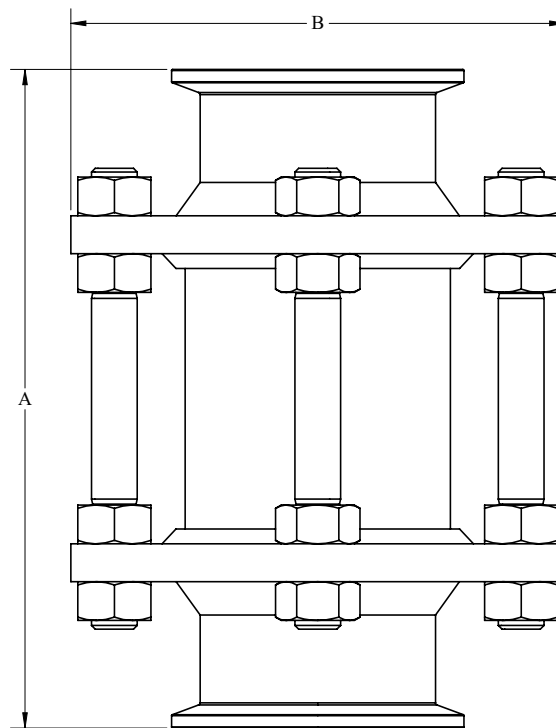
B54BMP-Series Inline Sight Glass - Bill of Materials



B54BMP-Series Inline Sight Glass - Bill of Materials

Item #	Size	Part #	Description	Material	Qty
1	1"	B54BMP-1-100	body, tri-clamp	316L SS	2
	1-1/2"	B54BMP-1-150	body, tri-clamp	316L SS	2
	2"	B54BMP-1-200	body, tri-clamp	316L SS	2
	2-1/2"	B54BMP-1-250	body, tri-clamp	316L SS	2
	3"	B54BMP-1-300	body, tri-clamp	316L SS	2
	4"	B54BMP-1-400	body, tri-clamp	316L SS	2
	6"	B54BMP-1-600	body, tri-clamp	316L SS	2
2	1"	B54BMP-SK100	elastomer kit (2-pcs)	Nitrile rubber	1
		B54BMP-EK100	elastomer kit (2-pcs)	EPDM	1
		B54BMP-VK100	elastomer kit (2-pcs)	FKM	1
	1-1/2"	B54BMP-SK150	elastomer kit (2-pcs)	Nitrile rubber	1
		B54BMP-EK150	elastomer kit (2-pcs)	EPDM	1
		B54BMP-VK150	elastomer kit (2-pcs)	FKM	1
	2"	B54BMP-SK200	elastomer kit (2-pcs)	Nitrile rubber	1
		B54BMP-EK200	elastomer kit (2-pcs)	EPDM	1
		B54BMP-VK200	elastomer kit (2-pcs)	FKM	1
	2-1/2"	B54BMP-SK250	elastomer kit (2-pcs)	Nitrile rubber	1
		B54BMP-EK250	elastomer kit (2-pcs)	EPDM	1
		B54BMP-VK250	elastomer kit (2-pcs)	FKM	1
	3"	B54BMP-SK300	elastomer kit (2-pcs)	Nitrile rubber	1
		B54BMP-EK300	elastomer kit (2-pcs)	EPDM	1
		B54BMP-VK300	elastomer kit (2-pcs)	FKM	1
	4"	B54BMP-SK400	elastomer kit (2-pcs)	Nitrile rubber	1
		B54BMP-EK400	elastomer kit (2-pcs)	EPDM	1
		B54BMP-VK400	elastomer kit (2-pcs)	FKM	1
	6"	B54BMP-SK600	elastomer kit (2-pcs)	Nitrile rubber	1
		B54BMP-EK600	elastomer kit (2-pcs)	EPDM	1
		B54BMP-VK600	elastomer kit (2-pcs)	FKM	1
3	1"	B54G-P100	insert	Borosilicate	1
		B54BMP-LX100	insert	Polycarbonate	1
	1-1/2"	B54G-P150	insert	Borosilicate	1
		B54BMP-LX150	insert	Polycarbonate	1
	2"	B54G-P200	insert	Borosilicate	1
		B54BMP-LX200	insert	Polycarbonate	1
	2-1/2"	B54G-P250	insert	Borosilicate	1
		B54BMP-LX250	insert	Polycarbonate	1
	3"	B54G-P300	insert	Borosilicate	1
		B54BMP-LX300	insert	Polycarbonate	1
	4"	B54G-P400	insert	Borosilicate	1
		B54BMP-LX400	insert	Polycarbonate	1
	6"	B54G-P600	insert	Borosilicate	1
		B54BMP-LX600	insert	Polycarbonate	1
	4	1"	B54BMP-4-100	body bolt, 3/8" UNC, 100 mm long	316L SS
1-1/2"		B54BMP-4-150	body bolt, 3/8" UNC, 100 mm long	316L SS	4
2"		B54BMP-4-200	body bolt, 3/8" UNC, 100 mm long	316L SS	4
2-1/2"		B54BMP-4-250	body bolt, 3/8" UNC, 110 mm long	316L SS	4
3"		B54BMP-4-300	body bolt, 1/2" UNC, 149 mm long	316L SS	4
4"		B54BMP-4-400	body bolt, 1/2" UNC, 149 mm long	316L SS	6
6"		B54BMP-4-600	body bolt, 1/2" UNC, 149 mm long	316L SS	8
5	1"	B54BMP-5-100	nut, 3/8" UNC	316L SS	4
	1-1/2"	B54BMP-5-150	nut, 3/8" UNC	316L SS	4
	2"	B54BMP-5-200	nut, 3/8" UNC	316L SS	4
	2-1/2"	B54BMP-5-250	nut, 3/8" UNC	316L SS	4
	3"	B54BMP-5-300	nut, 1/2" UNC	316L SS	4
	4"	B54BMP-5-400	nut, 1/2" UNC	316L SS	6
	6"	B54BMP-5-600	nut, 1/2" UNC	316L SS	8

B54BMP-Series Inline Sight Glass - Dimensions



Size	A (in)	B (in)
1"	5.6	3.3
1-1/2"	5.6	4.0
2"	5.6	4.3
2-1/2"	6.1	4.8
3"	7.3	5.5
4"	7.4	6.5
6"	7.6	9.5

B54BMP-Series Inline Sight Glass - Repair Kits

Size	Nitrile Rubber Seal Kit ¹	FKM Seal Kit ²	Borosilicate Glass Replacement	Polycarbonate Replacement
1"	B54BMP-SK100	B54BMP-VK100	B54G-P100	B54BMP-LX100
1-1/2"	B54BMP-SK150	B54BMP-VK150	B54G-P150	B54BMP-LX150
2"	B54BMP-SK200	B54BMP-VK200	B54G-P200	B54BMP-LX200
2-1/2"	B54BMP-SK250	B54BMP-VK250	B54G-P250	B54BMP-LX250
3"	B54BMP-SK300	B54BMP-VK300	B54G-P300	B54BMP-LX300
4"	B54BMP-SK400	B54BMP-VK400	B54G-P400	B54BMP-LX400
6"	B54BMP-SK600	B54BMP-VK600	B54G-P600	B54BMP-LX600

¹Kit contains (2) black nitrile rubber gaskets

²Kit contains (2) FKM gaskets

B54BM-Series Compact Sight Glass

Used in sanitary processes to view fluids. This sight glass is perfect on hose assemblies. They are found in the food processing, beverage, winery, brewery, pet product, and industrial markets

Sizes

- 1", 1-1/2", 2", 3", and 4"

Features

- Compact design for hose assembly
- Less cost to repair than bolted styles

Materials

- Product contact metal components: 316L stainless steel
- Product contact sigh window: polycarbonate or borosilicate glass
- Product contact seals: white nitrile rubber, FKM, or EPDM

Specifications

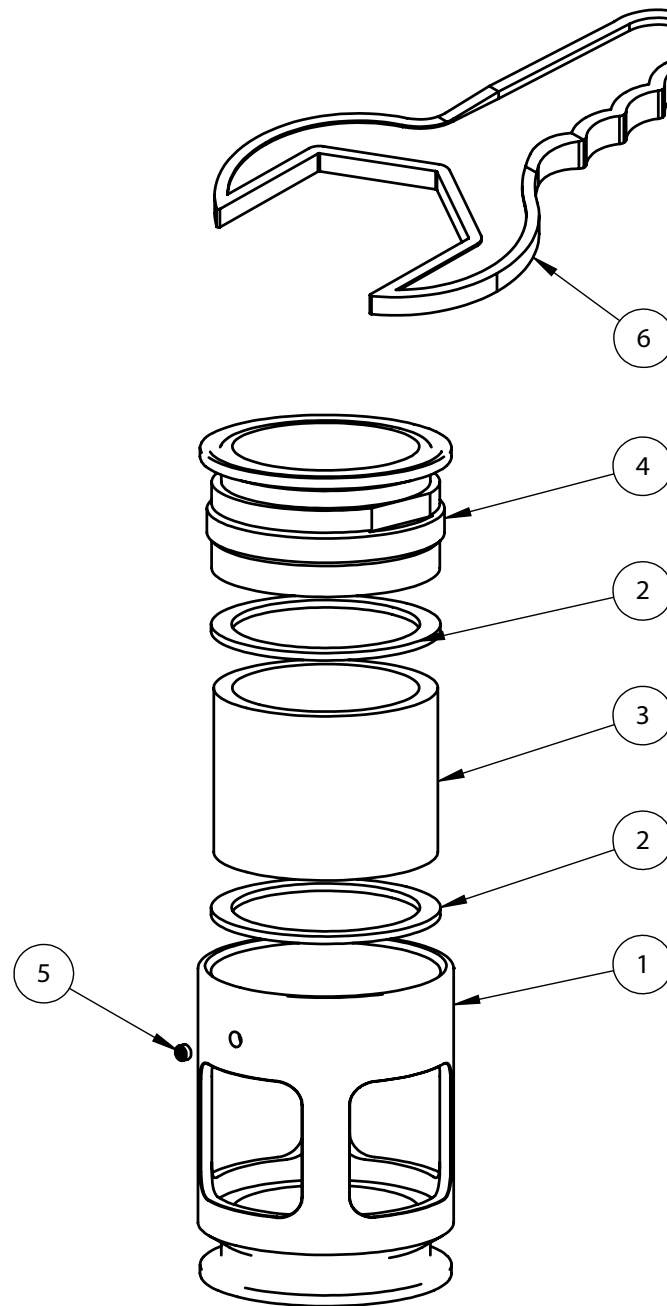
- Standard clamp connection
- Sight glass working pressure:
 - 1": **145 PSI**
 - 1-1/2": **145 PSI**
 - 2": **145 PSI**
 - 3": **120 PSI**
 - 4": **95 PSI**
- Maximum operating temperature: **200°F (93°C)**
- Minimum operating temperature: **0°F (-17°C)**
- Surface finish
 - Product Contact Metal Components: Ra ≤ 32



B54BM-Series Compact Sight Glass - Part Number Key

B54BM-Series Compact Sight Glass Part Number Key Example: B54BMPLX-R100_		Series	Sight Glass Material		Material	Size	Elastomer
		B54BM	PLX	-	R	100	
Series	Code						
B54BM	B54BM						
Sight Glass Material	Code						
Polycarbonate	PLX						
Borosilicate glass	PS						
Material	Code						
316L stainless steel	R						
Size	Code						
1"	100						
1-1/2"	150						
2"	200						
3"	300						
4"	400						
Elastomer	Code						
Nitrile rubber (standard)	blank						
FKM	V						
EPDM	E						

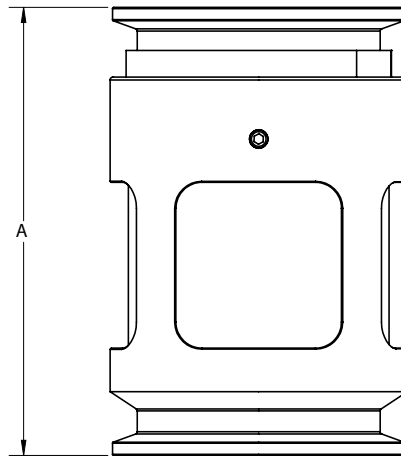
B54BM-Series Compact Sight Glass- Bill of Materials



B54BM-Series Compact Sight Glass - Bill of Materials

Item #	Size	Part #	Description	Material	Qty					
					Borosilicate Insert			Polycarbonate Insert		
					Nitrile	EPDM	FKM	Nitrile	EPDM	FKM
1	1"	B54BMPS-1100	window body, clamp	316L SS	1	1	1	1	1	1
	1-1/2"	B54BMPS-1150								
	2"	B54BMPS-1200								
	3"	B54BMPS-1300								
	4"	B54BMPS-1400								
2	1"	B54BMP-SK100	elastomer kit (2-pieces)	Nitrile	1	-	-	1	-	-
		B54BMP-EK100		EPDM	-	1	-	-	1	-
		B54BMP-VK100		FKM	-	-	1	-	-	1
	1-1/2"	B54BMP-SK150	elastomer kit (2-pieces)	Nitrile	1	-	-	1	-	-
		B54BMP-EK150		EPDM	-	1	-	-	1	-
		B54BMP-VK150		FKM	-	-	1	-	-	1
	2"	B54BMP-SK200	elastomer kit (2-pieces)	Nitrile	1	-	-	1	-	-
		B54BMP-EK200		EPDM	-	1	-	-	1	-
		B54BMP-VK200		FKM	-	-	1	-	-	1
	3"	B54BMP-SK300	elastomer kit (2-pieces)	Nitrile	1	-	-	1	-	-
		B54BMP-EK300		EPDM	-	1	-	-	1	-
		B54BMP-VK300		FKM	-	-	1	-	-	1
	4"	B54BMP-SK400	elastomer kit (2-pieces)	Nitrile	1	-	-	1	-	-
		B54BMP-EK400		EPDM	-	1	-	-	1	-
		B54BMP-VK400		FKM	-	-	1	-	-	1
3	1"	B54BMPS-GL100	insert	Borosilicate	1	1	1	-	-	-
		B54BMPS-LX100		Polycarbonate	-	-	-	1	1	1
	1-1/2"	B54BMPS-GL150	insert	Borosilicate	1	1	1	-	-	-
		B54BMPS-LX150		Polycarbonate	-	-	-	1	1	1
	2"	B54BMPS-GL200	insert	Borosilicate	1	1	1	-	-	-
		B54BMPS-LX200		Polycarbonate	-	-	-	1	1	1
	3"	B54BMPS-GL300	insert	Borosilicate	1	1	1	-	-	-
		B54BMPS-LX300		Polycarbonate	-	-	-	1	1	1
	4"	B54BMPS-GL400	insert	Borosilicate	1	1	1	-	-	-
		B54BMPS-LX400		Polycarbonate	-	-	-	1	1	1
4	1"	B54BMPS-4100	upper body, clamp	316L SS	1	1	1	1	1	1
	1-1/2"	B54BMPS-4150	upper body, clamp	316L SS	1	1	1	1	1	1
	2"	B54BMPS-4200	upper body, clamp	316L SS	1	1	1	1	1	1
	3"	B54BMPS-4300	upper body, clamp	316L SS	1	1	1	1	1	1
	4"	B54BMPS-4400	upper body, clamp	316L SS	1	1	1	1	1	1
5	all	B54BMPS-5	M5-0.8 set screw	Stainless steel	1	1	1	1	1	1
6	1"	B54BMPS-WR100	wrench	Aluminum	1	1	1	1	1	1
	1-1/2"	B54BMPS-WR150	wrench	Aluminum	1	1	1	1	1	1
	2"	B54BMPS-WR200	wrench	Aluminum	1	1	1	1	1	1
	3"	B54BMPS-WR300	wrench	Aluminum	1	1	1	1	1	1
	4"	B54BMPS-WR400	wrench	Aluminum	1	1	1	1	1	1

B54BM-Series Compact Sight Glass - Dimensions



Size	A (in)
1"	3.4
1-1/2"	3.6
2"	3.8
3"	4.1
4"	4.3

B54BM-Series Compact Sight Glass - Repair Kits and Replacement Parts

Size	Nitrile Rubber Seal Kit ¹	FKM Seal Kit ²	EPDM Seal Kit ³	Borosilicate Glass Replacement	Polycarbonate Replacement
1"	B54BMP-SK100	B54BMP-VK100	B54BMP-EK100	B54BMPS-GL100	B54BMPS-LX100
1-1/2"	B54BMP-SK150	B54BMP-VK150	B54BMP-EK150	B54BMPS-GL150	B54BMPS-LX150
2"	B54BMP-SK200	B54BMP-VK200	B54BMP-EK200	B54BMPS-GL200	B54BMPS-LX200
3"	B54BMP-SK300	B54BMP-VK300	B54BMP-EK300	B54BMPS-GL300	B54BMPS-LX300
4"	B54BMP-SK400	B54BMP-VK400	B54BMP-EK400	B54BMPS-GL400	B54BMPS-LX400

¹Kit contains: 2 black nitrile gaskets

²Kit contains: 2 FKM gaskets

³Kit contains: 2 EPDM gaskets

SJSS-Series Swivel



B Used when a rotation is required between two connecting lines. They are found in the food processing, beverage, dairy, personal care, winery, brewery, pet product, and industrial markets

Sizes

- 1", 1-1/2", 2", 2-1/2", 3", 4"

Features

- 3A certified for COP
- Easy assembly/disassembly
- Multiple body styles for greater process flexibility

Materials













- Product contact metal components: 316L stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: PTFE and (EPDM or silicone)

Specifications

- Standard connections: tri-clamp, weld
- Maximum pressure at **70°F (21°C)**
 - 1": **500 PSI**
 - 1-1/2": **500 PSI**
 - 2": **450 PSI**
 - 2-1/2": **400 PSI**
 - 3": **350 PSI**
 - 4": **300 PSI**
- Maximum pressure at **200°F (93°C)**
 - 1": **300 PSI**
 - 1-1/2": **300 PSI**
 - 2": **250 PSI**
 - 2-1/2": **200 PSI**
 - 3": **175 PSI**
 - 4": **150 PSI**
- Maximum operating temperature: **200°F (93°C)**
- Materials of construction
- Surface finish
 - Product contact metal components: ≤ 32 Ra
 - Non-product contact metal components: ≤ 63 Ra



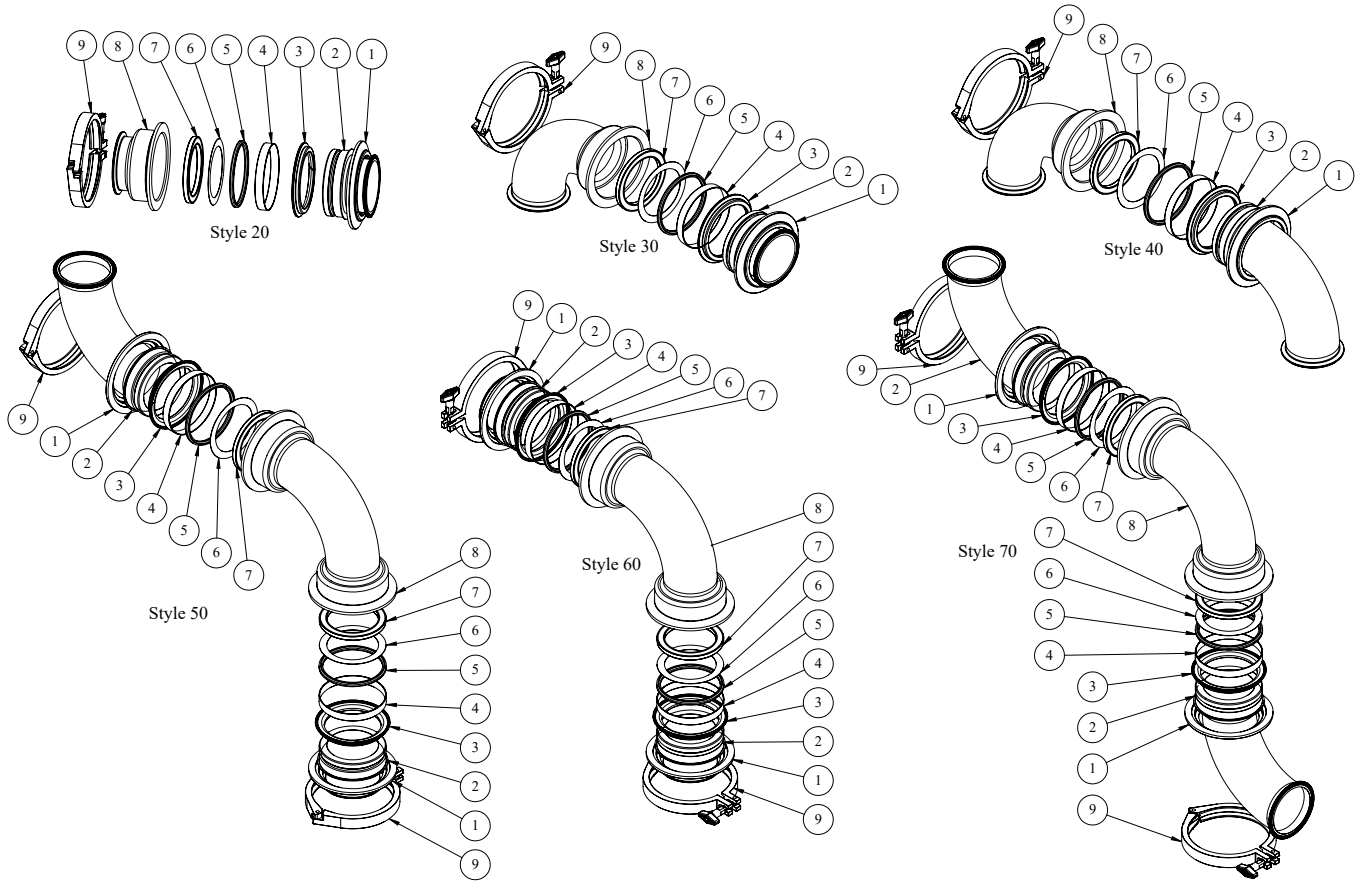
SJSS-Series Swivel - Part Number Key

SJSS-Series Swivel Part Number Key Ex: SJSS100ECC120B		Series	Size	Gasket	End One Connection	End Two Connection	Surface Finish	Style	Clamp
		SJSS	100	E	C	C	1	20	B
Series	Code								
SJSS	SJSS								
Size	Code								
1"	100								
1-1/2"	150								
2"	200								
2-1/2"	250								
3"	300								
4"	400								
Elastomer	Code								
EPDM	E								
Silicone	S								
Body One Connection (C1)	Code								
Clamp (standard)	C								
Weld	B								
Female I-line	F								
Male I-line	M								
Threaded bevel	T								
Plain bevel with nut	P								
Q-line	Q								
Body Two Connection (C2)	Code								
Clamp (standard)	C								
Weld	B								
Female I-line	F								
Male I-line	M								
Threaded bevel	T								
Plain bevel with nut	P								
Q-line	Q								
Surface Finish	Code								
32 Ra (I.D. mechanical polished)	1								
25 Ra (I.D. mechanical polished)	2								
20 Ra (I.D. mechanical polished)	3								
15 Ra (I.D. mechanical polished)	4								
10 Ra (I.D. mechanical polished)	5								
Styles	Code								
 20 (C1)	20								
 30 (C1)	30								
 40 (C1)	40								
 50 (C1)	50								
 60 (C1)	60								
 70 (C1)	70								
 20 (C2)	30								
 30 (C2)	40								
 40 (C2)	50								
 50 (C2)	60								
 60 (C2)	70								
 70 (C2)									
Clamp	Code								
Single-pin clamp (standard)	blank								
Bolted clamp	B								

B

SJSS-Series Swivel - Bill of Materials

B



Item #	Part # ²	Description	Material	Qty						
				Style 20	Style 30	Style 40	Style 50	Style 60	Style 70	
1	SJSS-32CP5-___	Upper body	316L SS	1	1	1	2	2	2	
2	SJSS-32CP3-___	Inner body - clamp	316L SS	1	1	-	1	2	-	
	SJSS-32CP1-___	Inner body - weld	316L SS		-	-	-	-	-	
	SJSS-32CP6-___	Inner body - clamp elbow	316L SS		-	-	1	1	-	2
3	SJSS-PSEAT-P___	Upper body seat	PTFE	1	1	1	2	2	2	
4	SJSS-32CP3B-400	Inner body bushing ¹	POM	1	1	1	2	2	2	
5	SJSS-INBG-E___	Inner body gasket	EPDM or Silicone	1	1	1	2	2	2	
	SJSS-INBG-S___									
6	SJSS-LBWSH-___	Lower body washer	PTFE	1	1	1	2	2	2	
7	SJSS-OUTBG-E___	Outer body gasket	EPDM or Silicone	1	1	1	2	2	2	
	SJSS-OUTBG-S___									
8	SJSS-32CP4-___	Outer body - clamp	316L SS	1	-	-	-	-	-	
	SJSS-32CP2-___	Outer body - weld	316L SS		-	-	-	-	-	
	SJSS-32CP7-___	Outer body - clamp elbow	316L SS		-	1	1	-	-	-
	SJSS-32CP8-___	Outer body x outer body elbow	316L SS		-	-	-	1	1	1
9	SJSSMHHM-__	Body clamp	304 SS	1	1	1	2	2	2	

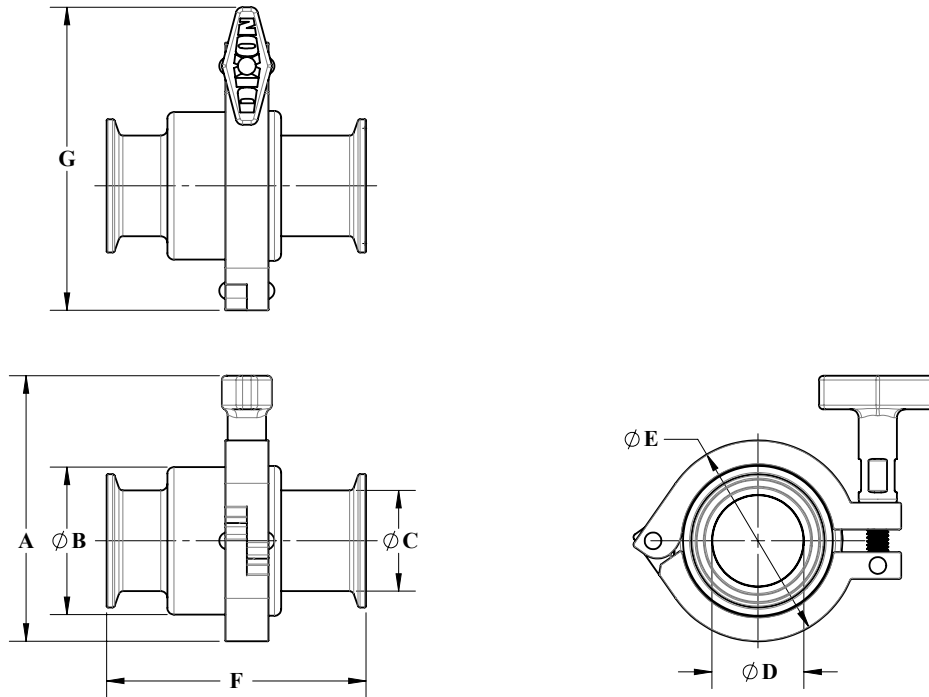
¹Only used on 4" size

²Part number size key: 1" = 100, 1-1/2" = 150, 2" = 200, 2-1/2" = 250, 3" = 300, 4" = 400

SJSS-Series Swivels - Dimensions

Style 20

B



Clamp Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1"	3.56	1.68	1.00	0.87	2.42	3.86	3.93
1-1/2"	3.96	2.20	1.50	1.37	2.99	3.87	4.51
2"	4.14	2.71	2.00	1.87	3.48	3.84	5.09
2-1/2"	4.48	3.23	2.50	2.37	3.98	3.84	5.57
3"	5.08	4.26	3.00	2.87	5.08	3.84	6.82
4"	7.03	5.31	4.00	3.83	7.03	4.97	9.21

Weld Dimensions

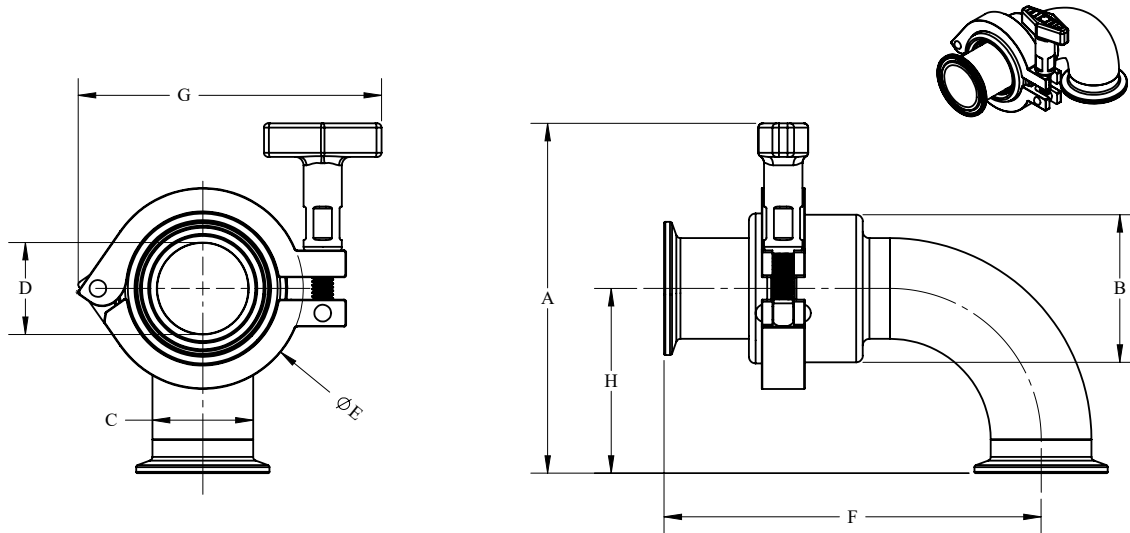
Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1"	3.56	1.68	1.00	0.87	2.42	2.24	3.93
1-1/2"	3.96	2.20	1.50	1.37	2.99	2.24	4.51
2"	4.14	2.71	2.00	1.87	3.48	2.22	5.09
2-1/2"	4.48	3.23	2.50	2.37	3.98	2.22	5.57
3"	5.08	4.26	3.00	2.87	5.08	2.21	6.82
4"	7.03	5.31	4.00	3.83	7.03	3.22	9.21

NOTE: Drawing is not to scale

SJSS-Series Swivel - Dimensions

Style 30

B



Clamp Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
1"	4.35	1.68	1.00	0.87	2.42	4.86	3.93	2.00
1-1/2"	5.21	2.20	1.50	1.37	2.99	5.62	4.51	2.75
2"	5.90	2.71	2.00	1.87	3.48	6.34	5.09	3.50
2-1/2"	6.47	3.23	2.50	2.37	3.98	7.08	5.57	4.25
3"	7.41	4.26	3.00	2.87	5.08	7.84	6.82	5.00
4"	9.18	5.31	4.00	3.83	7.03	9.69	9.21	6.63

Weld Dimensions

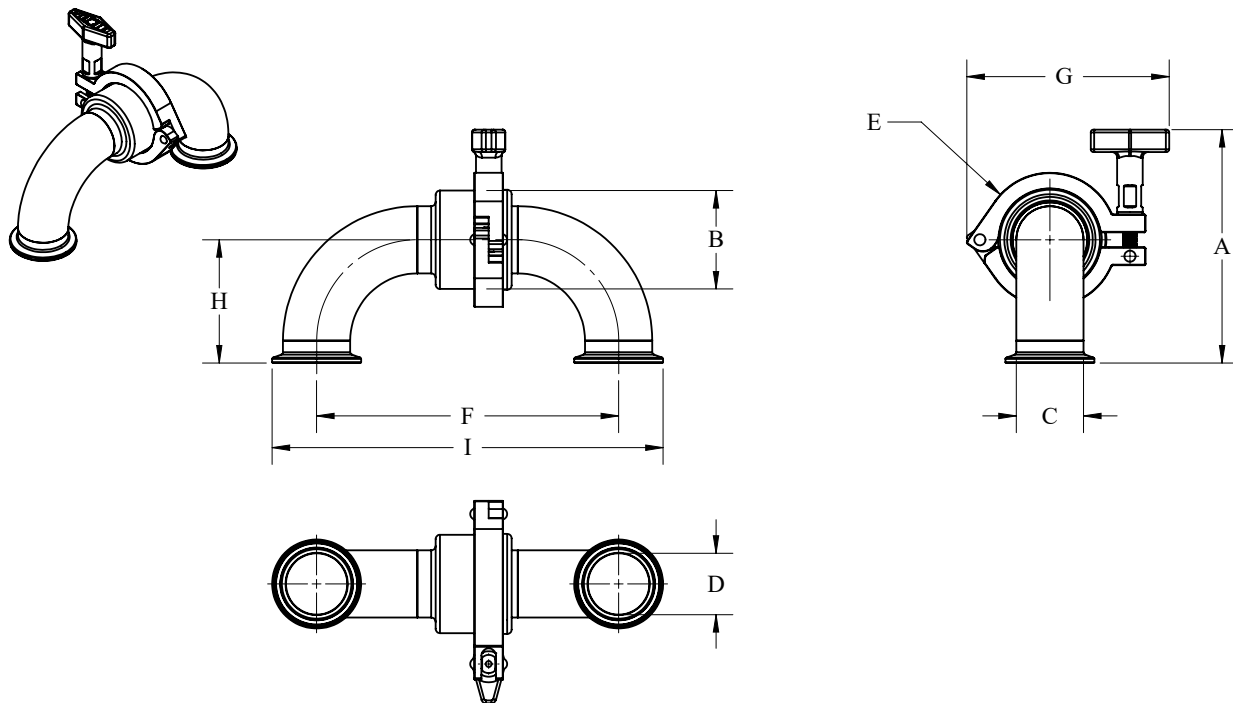
Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
1"	3.85	1.68	1.00	0.87	2.42	3.77	3.93	1.50
1-1/2"	4.71	2.20	1.50	1.37	2.99	4.52	4.51	2.25
2"	5.40	2.71	2.00	1.87	3.48	5.20	5.09	3.00
2-1/2"	6.24	3.23	2.50	2.37	3.98	6.03	5.57	3.75
3"	6.91	4.26	3.00	2.87	5.08	6.75	6.82	4.50
4"	9.18	5.31	4.00	3.83	7.03	9.28	9.21	6.00

NOTE: Drawing is not to scale

SJSS-Series Swivel - Dimensions

Style 40

B



Clamp Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)
1"	4.35	1.68	1.00	0.87	2.42	5.27	3.93	2.00	7.26
1-1/2"	5.20	2.20	1.50	1.37	2.99	6.70	4.51	2.80	8.70
2"	5.90	2.71	2.00	1.87	3.48	8.20	5.09	3.50	10.70
2-1/2"	6.74	3.23	2.50	2.37	3.98	9.70	5.57	4.25	12.75
3"	7.41	4.26	3.00	2.87	5.08	11.15	6.82	5.00	14.73
4"	9.18	5.31	4.00	3.83	7.03	15.28	9.21	6.63	19.96

Weld Dimensions

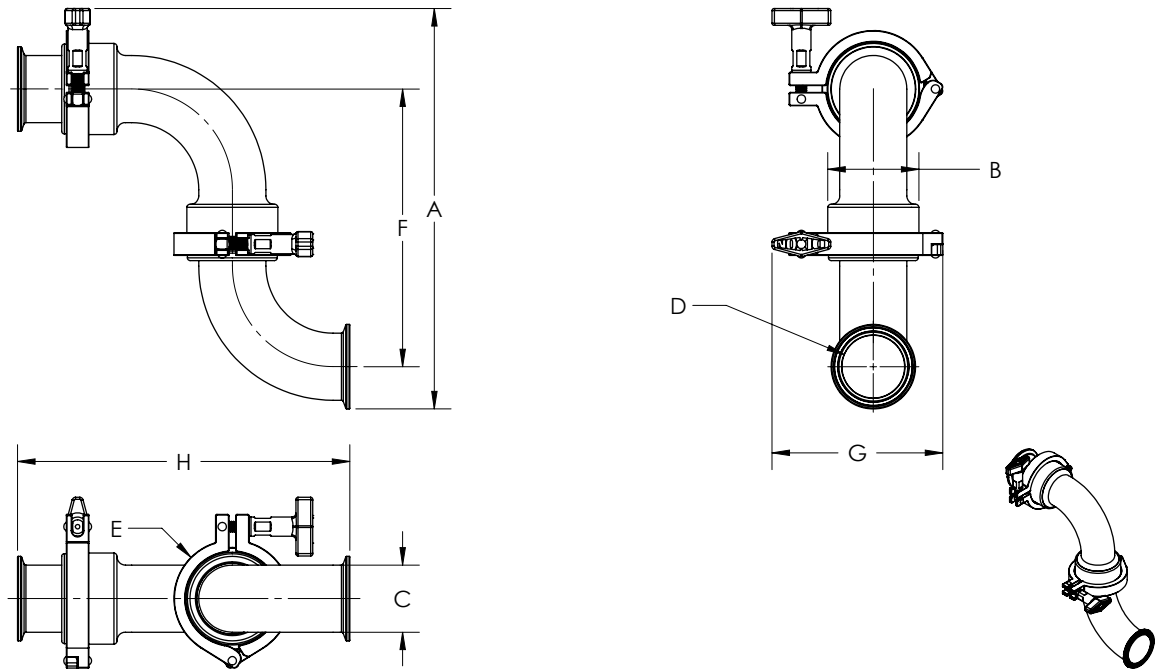
Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)
1"	3.85	1.68	1.00	0.87	2.42	5.27	3.93	1.50	6.27
1-1/2"	4.71	2.20	1.50	1.37	2.99	6.70	4.51	2.25	8.24
2"	5.40	2.71	2.00	1.87	3.48	8.20	5.09	3.00	9.75
2-1/2"	6.24	3.23	2.50	2.37	3.98	9.70	5.57	3.75	12.20
3"	6.91	4.26	3.00	2.87	5.08	11.15	6.82	4.50	14.15
4"	8.55	5.31	4.00	3.83	7.03	15.28	9.21	6.00	19.20

NOTE: Drawing is not to scale

SJSS-Series Swivel - Dimensions

Style 50

B



Clamp Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
1"	8.62	1.68	1.00	0.87	2.42	5.27	3.93	6.90
1-1/2"	10.19	2.20	1.50	1.37	2.99	6.74	4.51	8.37
2"	11.93	2.71	2.00	1.87	3.48	8.27	5.09	9.90
2-1/2"	13.71	3.23	2.50	2.37	3.98	9.70	5.57	11.40
3"	15.47	4.26	3.00	2.87	5.08	11.27	6.82	12.78
4"	20.17	5.31	4.00	3.83	7.03	15.28	9.21	16.95

Weld Dimensions

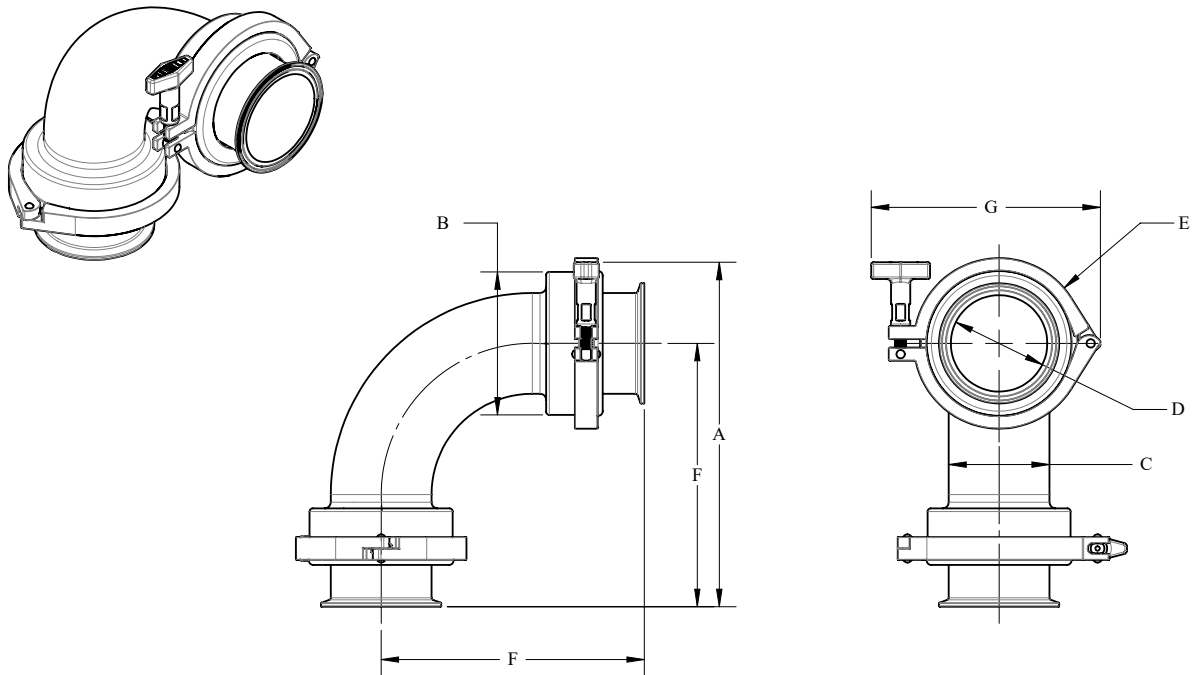
Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
1"	8.13	1.68	1.00	0.87	2.42	5.27	3.93	5.27
1-1/2"	9.98	2.20	1.50	1.37	2.99	6.74	4.51	6.77
2"	11.68	2.71	2.00	1.87	3.48	8.27	5.09	8.29
2-1/2"	13.43	3.23	2.50	2.37	3.98	9.70	5.57	9.70
3"	15.30	4.26	3.00	2.87	5.08	11.27	6.82	11.27
4"	19.76	5.31	4.00	3.83	7.03	15.28	9.21	15.20

NOTE: Drawing is not to scale

SJSS-Series Swivel - Dimensions

Style 60

B



Clamp Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1"	7.25	1.68	1.00	0.87	2.42	4.90	3.93
1-1/2"	8.07	2.20	1.50	1.37	2.99	5.62	4.51
2"	8.81	2.71	2.00	1.87	3.48	6.41	5.09
2-1/2"	9.64	3.23	2.50	2.37	3.98	7.15	5.57
3"	10.25	4.26	3.00	2.87	5.08	7.84	6.82
4"	12.96	5.31	4.00	3.83	7.03	10.41	9.21

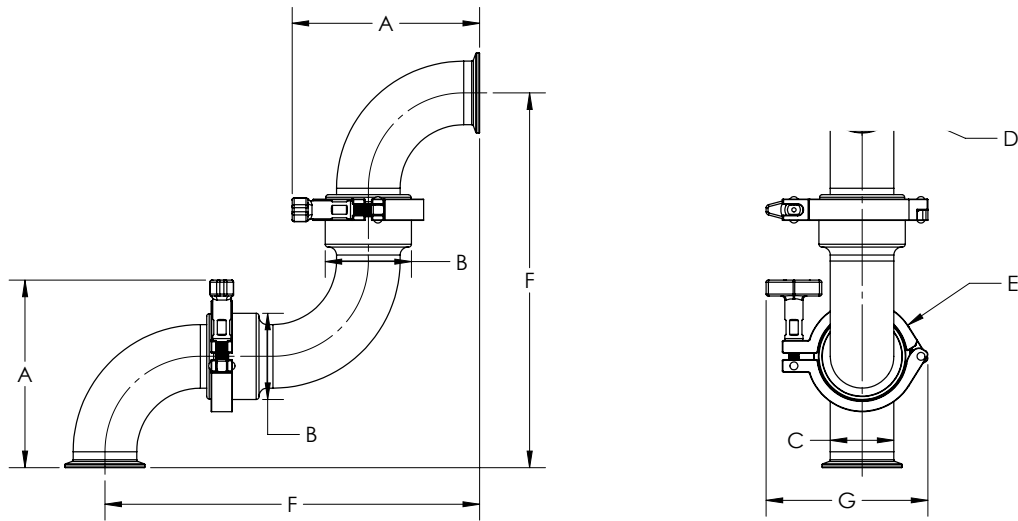
Weld Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1"	6.13	1.68	1.00	0.87	2.42	3.77	3.93
1-1/2"	6.98	2.20	1.50	1.37	2.99	4.52	4.51
2"	7.68	2.71	2.00	1.87	3.48	5.29	5.09
2-1/2"	8.52	3.23	2.50	2.37	3.98	6.03	5.57
3"	9.18	4.26	3.00	2.87	5.08	6.77	6.82
4"	11.83	5.31	4.00	3.83	7.03	9.28	9.21

NOTE: Drawing is not to scale

SJSS-Series Swivel - Dimensions

Style 70



Clamp Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1"	4.35	1.68	1.00	0.87	2.42	7.27	3.93
1-1/2"	5.21	2.20	1.50	1.37	2.99	9.49	4.51
2"	5.90	2.71	2.00	1.87	3.48	11.79	5.09
2-1/2"	6.74	3.23	2.50	2.37	3.98	14.03	5.57
3"	7.41	4.26	3.00	2.87	5.08	16.27	6.82
4"	9.18	5.31	4.00	3.83	7.03	21.91	9.21

Weld Dimensions

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1"	3.85	1.68	1.00	0.87	2.42	6.77	3.93
1-1/2"	4.71	2.20	1.50	1.37	2.99	8.99	4.51
2"	5.40	2.71	2.00	1.87	3.48	11.29	5.09
2-1/2"	6.24	3.23	2.50	2.37	3.98	13.53	5.57
3"	6.91	4.26	3.00	2.87	5.08	15.77	6.82
4"	8.55	5.31	4.00	3.83	7.03	21.28	9.21

NOTE: Drawing is not to scale

SJSS-Series Swivel - Repair Kits

Size	Silicone Part #	EPDM Part #	Repair Kit Qty Required					
			Style 20	Style 30	Style 40	Style 50	Style 60	Style 70
1"	SJSS-REPAR-S100	SJSS-REPAR-E100	1	1	1	2	2	2
1-1/2"	SJSS-REPAR-S150	SJSS-REPAR-E150						
2"	SJSS-REPAR-S200	SJSS-REPAR-E200						
2-1/2"	SJSS-REPAR-S250	SJSS-REPAR-E250						
3"	SJSS-REPAR-S300	SJSS-REPAR-E300						
4"	SJSS-REPAR-S400	SJSS-REPAR-E400						

Kit contains: item #3 (qty 1), item #5 (qty 1), #6 (qty 1), and #7 (qty 1); 4" additionally contains #4 (qty 1)

BSV-Series Dixon/Rieger Sample Valve



Used when you need to easily and safely sample liquids from closed systems such as vessels and pipelines. They are found in the pharmaceutical, bio-pharmaceutical, biochemical, cosmetic, food processing, beverage, and dairy markets.

Sizes

- 1/2" and 3/4", 1" and 1-1/2", 2", 2-1/2", 3", 4"

Features

- Valve body made from solid bar
- No dead space
- Drainable
- Connections suitable for orbital welding
- Available with single or dual ports
- Hermetically sealed against environment
- Optimum cleanability
- Change of seals without special tools

Materials

- Product contact metal components: 316L stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: PTFE bellows

Specifications

- Standard clamp connections
- Sample ports: weld (standard), clamp or hose barb 1/2" only
- Valve data
 - Maximum pressure: **116 PSI**
 - Maximum operating temperature: **250°F (121°C)**
 - Maximum sterilization temperature (20 min/max): **275°F (135°C)**
 - Maximum ambient temperature: **140°F (60°C)**
- Actuator data
 - Fastener size: M4 x 7 mm
 - Control air
 - Spring return pressure range: **87-145 PSI (6-10 bar)**
 - Maximum temperature: **176°F (80°C)**
 - Solids content: 196 microinch (5µm) maximum
 - Oil content: .025 ppm (25 mg/m³) maximum
- Surface finish
 - Product contact metal components: ≤ 32 Ra
 - Non-product contact metal components: ≤ 63 Ra



C

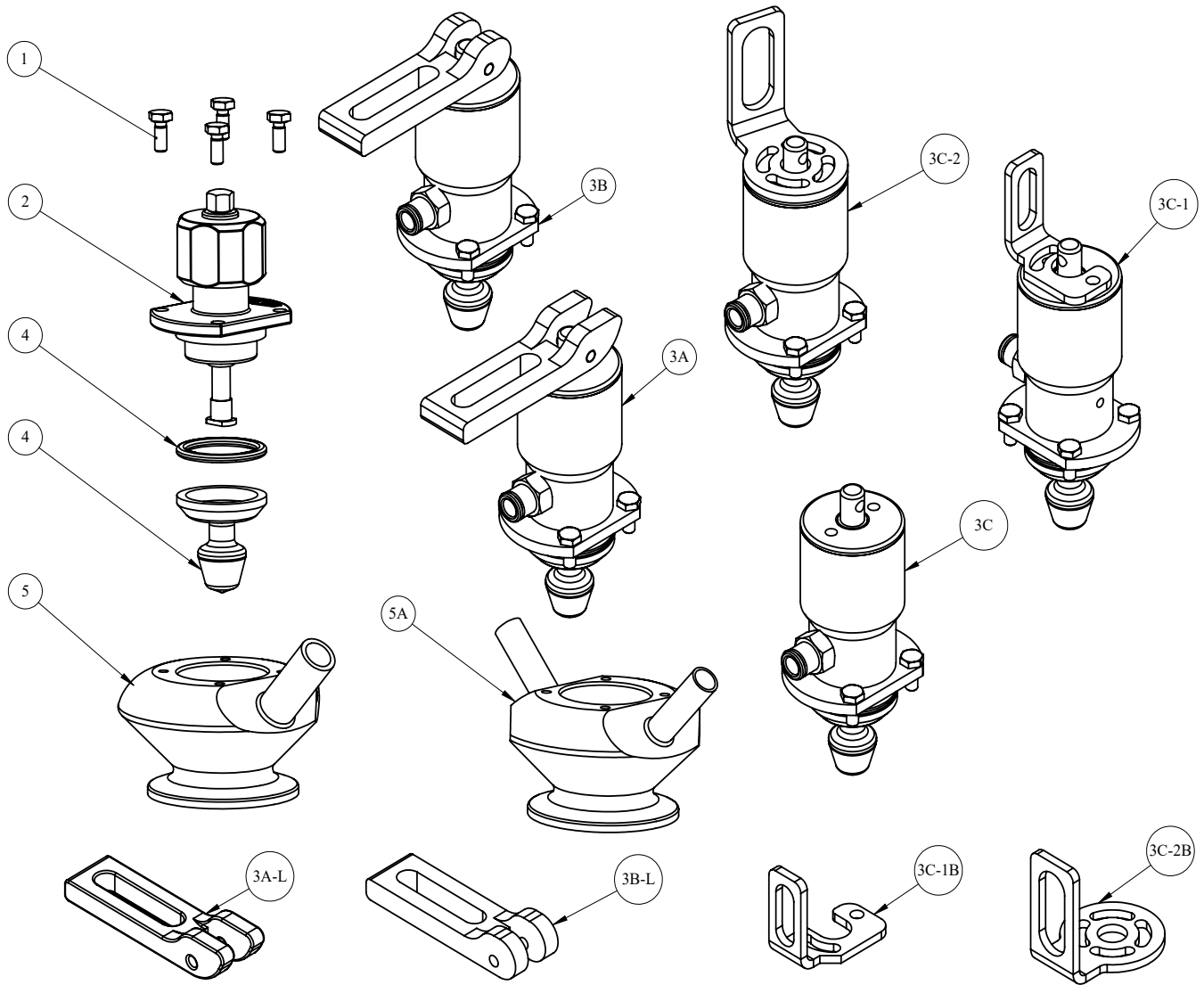
BSV-Series Sample Valve - Part Number Key

C

BSV-Series Sample Valve Part Number Key Example: BSVS-PC050C025		Series	Type	Actuator	Process End Connection	Process End Connection Size	Sample Port Connection	Sample Port Connection Size	Options
		BSV	S	- P	C	050	C	025	
Series	Code								
BSV	BSV								
Type	Code								
Single port	S								
Dual port	D								
Actuator	Code								
Actuator	P								
Actuator with open lever	O								
Actuator with self-closing lever	S								
Handwheel	H								
Actuator with 8 mm proximity sensor bracket	J								
Actuator with 12 mm proximity sensor bracket	K								
Process End Connection	Code								
Clamp (standard)	C								
Process End Connection Size	Code								
1/2" and 3/4"	050								
1" and 1-1/2"	100								
2"	200								
2-1/2"	250								
3"	300								
4"	400								
Sample Port Connection	Code								
Clamp (1/2" sample ports only)	C								
Weld (standard)	B								
Hose barb (1/2" sample ports only, not 3A)	H								
Sample Port Connection Size	Code								
1/4"	025								
3/8"	375								
1/2"	050								
Options	Code								
Standard 32 Ra finish	Blank								
SF1 finish	A								
SF2 finish	B								
SF3 finish	C								
SF4 finish	D								
SF5 finish	E								

BSV-Series Sample Valve - Bill of Materials

C



BSV-Series Sample Valve - Bill of Materials

Item #	Size	Part #	Description	Material	Qty
1		-	M4x7 hex screw	18-8	4
2		BSV-MAN050400	manual handle assembly	304 SS / Polyoxymethylene	1
3A		BSV-ACL050400	pneumatic actuator assembly - self closing lever	304 SS / Nylon 6	1
3AL		BSV-LEV-CL	self-closing lever	Nylon 6	1
3B		BSV-AOL050400	pneumatic actuator assembly - normally open lever	304 SS / Nylon 6	1
3BL	1/2" - 4"	BSV-LEV-OP	normally open lever	Nylon 6	1
3C		BSV-ANL050400	pneumatic actuator - no lever	304 SS	1
3C-1		BSV-A8M050400	pneumatic actuator - 8 mm proximity bracket	304 SS	1
3C-1B		BSV-PB-8M	8 mm proximity bracket (Kit)	304 SS	1
3C-2		BSV-A12M050400	pneumatic actuator - 12 mm proximity bracket	304 SS	1
3C-2B		BSV-PB-12M	12 mm proximity bracket (Kit)	304 SS	1
4		BSV-NRKS050400	repair kit (includes PTFE bellow & O-rings)	PTFE / Silicone	1
5	1/2" x 1/4"	BSVS-VBC050B025	1/2" tri-clamp connection / 1/4" single weld sample port	316L SS	1
	1/2" x 1/4"	BSVS-VBC050B050	1/2" tri-clamp connection / 1/2" single weld sample port		
	1/2" x 3/8"	BSVS-VBC050B375	1/2" tri-clamp connection / 3/8" single weld sample port		
	1" x 1/4"	BSVS-VBC100B025	1" tri-clamp connection / 1/4" single weld sample port		
	1" x 1/2"	BSVS-VBC100B050	1" tri-clamp connection / 1/2" single weld sample port		
	1" x 3/8"	BSVS-VBC100B375	1" tri-clamp connection / 3/8" single weld sample port		
	2" x 1/4"	BSVS-VBC200B025	2" tri-clamp connection / 1/4" single weld sample port		
	2" x 1/2"	BSVS-VBC200B050	2" tri-clamp connection / 1/2" single weld sample port		
	2" x 3/8"	BSVS-VBC200B375	2" tri-clamp connection / 3/8" single weld sample port		
	2.5" x 1/4"	BSVS-VBC250B025	2-1/2" tri-clamp connection / 1/4" single weld sample port		
	2.5" x 1/2"	BSVS-VBC250B050	2-1/2" tri-clamp connection / 1/2" single weld sample port		
	2-1/2" x 3/8"	BSVS-VBC250B375	2-1/2" tri-clamp connection / 3/8" single weld sample port		
	3" x 1/4"	BSVS-VBC300B025	3" tri-clamp connection / 1/4" single weld sample port		
	3" x 1/2"	BSVS-VBC300B050	3" tri-clamp connection / 1/2" single weld sample port		
	3" x 3/8"	BSVS-VBC300B375	3" tri-clamp connection / 3/8" single weld sample port		
	4" x 1/4"	BSVS-VBC400B025	4" tri-clamp connection / 1/4" single weld sample port		
	4" x 1/2"	BSVS-VBC400B050	4" tri-clamp connection / 1/2" single weld sample port		
	4" x 3/8"	BSVS-VBC400B375	4" tri-clamp connection / 3/8" single weld sample port		

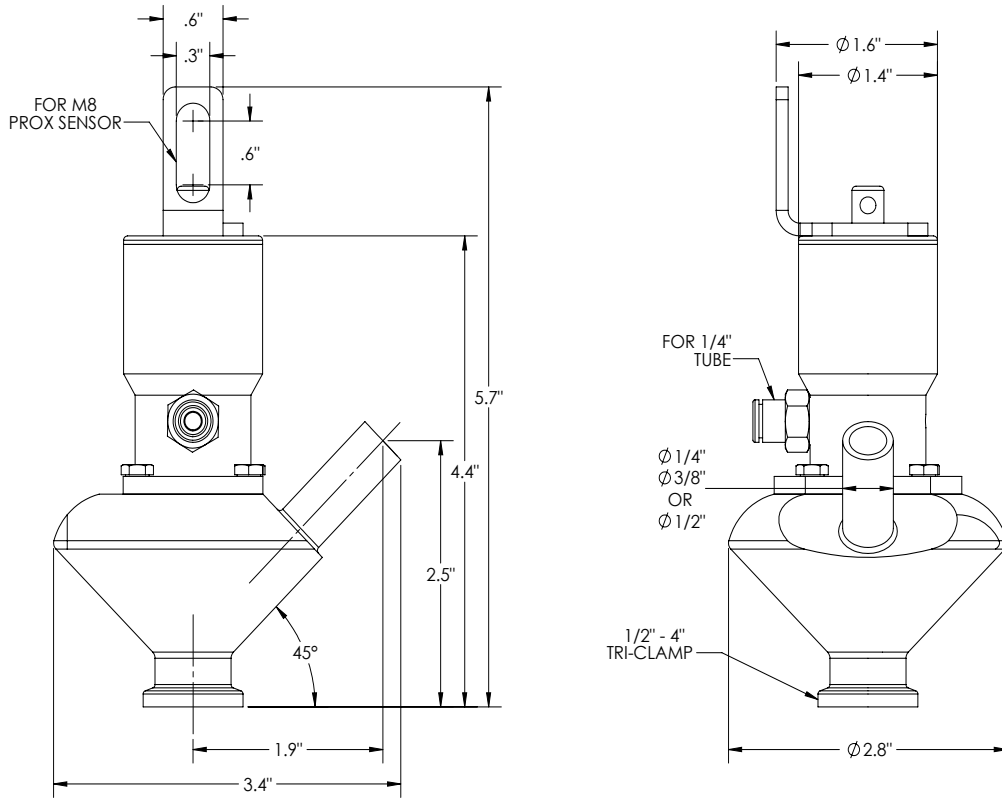
BSV-Series Sample Valve - Bill of Materials

Item #	Size	Part #	Description	Material	Qty
5A	1/2" x 1/4"	BSVD-VBC050B025	1/2" tri-clamp connection / 1/4" dual weld sample ports	316L SS	1
	1/2" x 1/2"	BSVD-VBC050B050	1/2" tri-clamp connection / 1/2" dual weld sample ports		
	1/2" x 3/8"	BSVD-VBC050B375	1/2" tri-clamp connection / 3/8" dual weld sample ports		
	1" x 1/4"	BSVD-VBC100B025	1" tri-clamp connection / 1/4" dual weld sample ports		
	1" x 1/2"	BSVD-VBC100B050	1" tri-clamp connection / 1/2" dual weld sample ports		
	1" x 3/8"	BSVD-VBC100B375	1" tri-clamp connection / 3/8" dual weld sample ports		
	2" x 1/4"	BSVD-VBC200B025	2" tri-clamp connection / 1/4" dual weld sample ports		
	2" x 1/2"	BSVD-VBC200B050	2" tri-clamp connection / 1/2" dual weld sample ports		
	2" x 3/8"	BSVD-VBC200B375	2" tri-clamp connection / 3/8" dual weld sample ports		
	2-1/2"x 1/4"	BSVD-VBC250B025	2-1/2" tri-clamp connection / 1/4" dual weld sample ports		
	2-1/2" x 1/2"	BSVD-VBC250B050	2-1/2" tri-clamp connection / 1/2" dual weld sample ports		
	2-1/2" x 3/8"	BSVD-VBC250B375	2-1/2" tri-clamp connection / 3/8" dual weld sample ports		
	3" x 1/4"	BSVD-VBC300B025	3" tri-clamp connection / 1/4" dual weld sample ports		
	3" x 1/2"	BSVD-VBC300B050	3" tri-clamp connection / 1/2" dual weld sample ports		
	3" x 3/8"	BSVD-VBC300B375	3" tri-clamp connection / 3/8" dual weld sample ports		
	4" x 1/4"	BSVD-VBC400B025	4" tri-clamp connection / 1/4" dual weld sample ports		
	4" x 1/2"	BSVD-VBC400B050	4" tri-clamp connection / 1/2" dual weld sample ports		
	4" x 3/8"	BSVD-VBC400B375	4" tri-clamp connection / 3/8" dual weld sample ports		

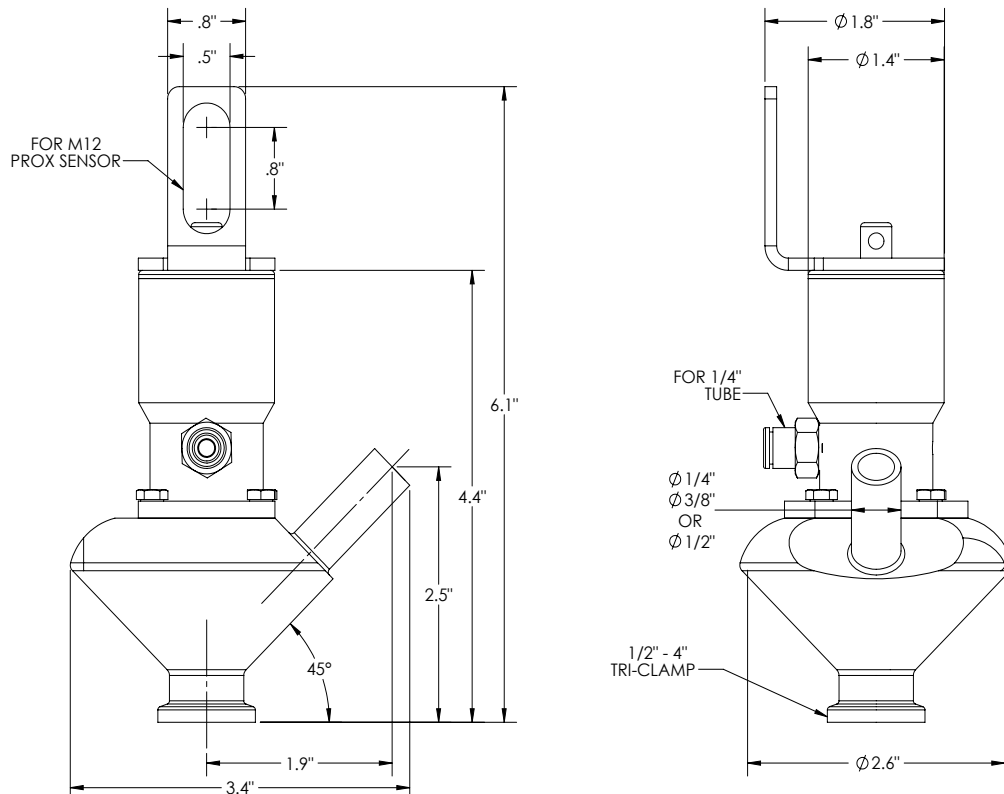
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BSV-Series Sample Valve - Dimensions

Actuated Single Port 8 mm Proximity Bracket

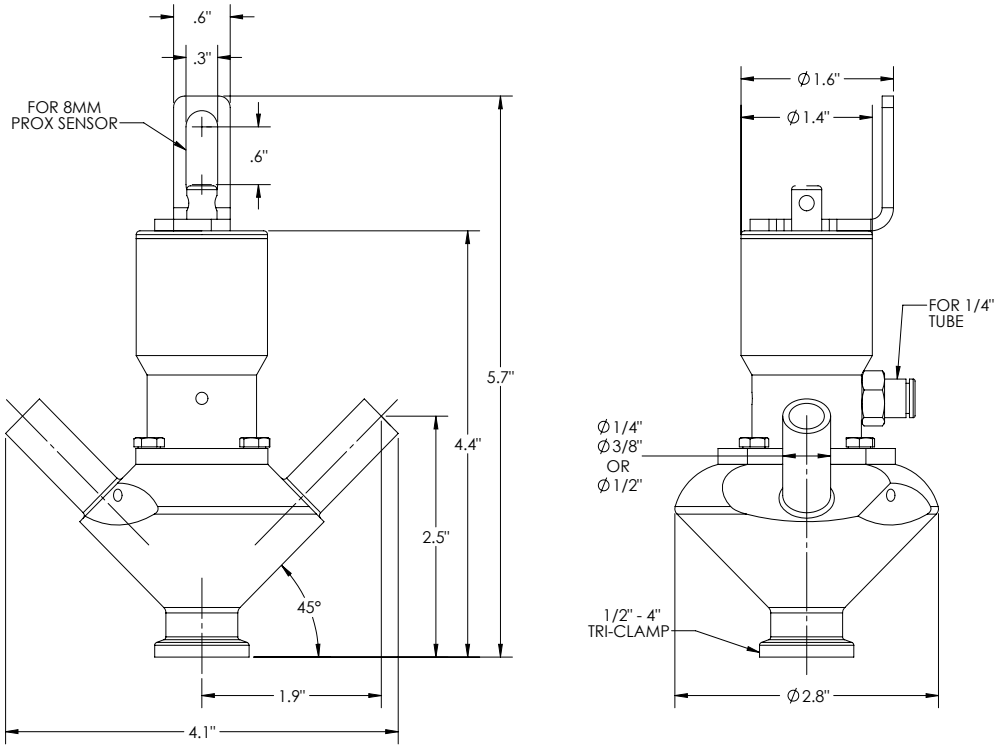


Actuated Single Port 12 mm Proximity Bracket



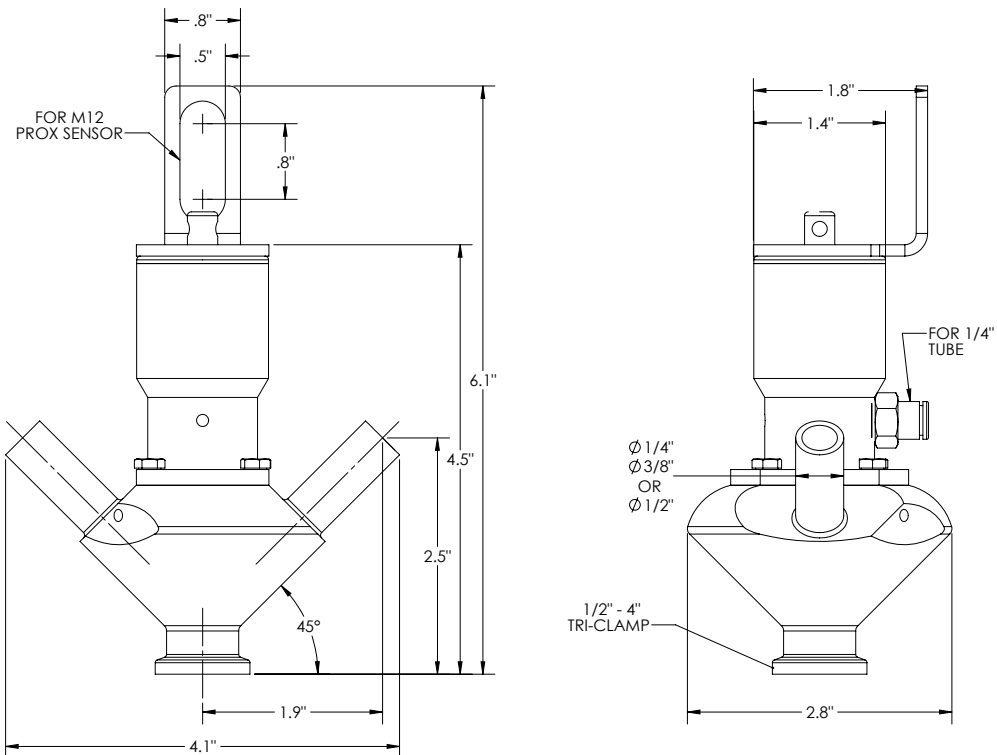
BSV-Series Sample Valve - Dimensions

Actuated Dual Port 8 mm Proximity Bracket



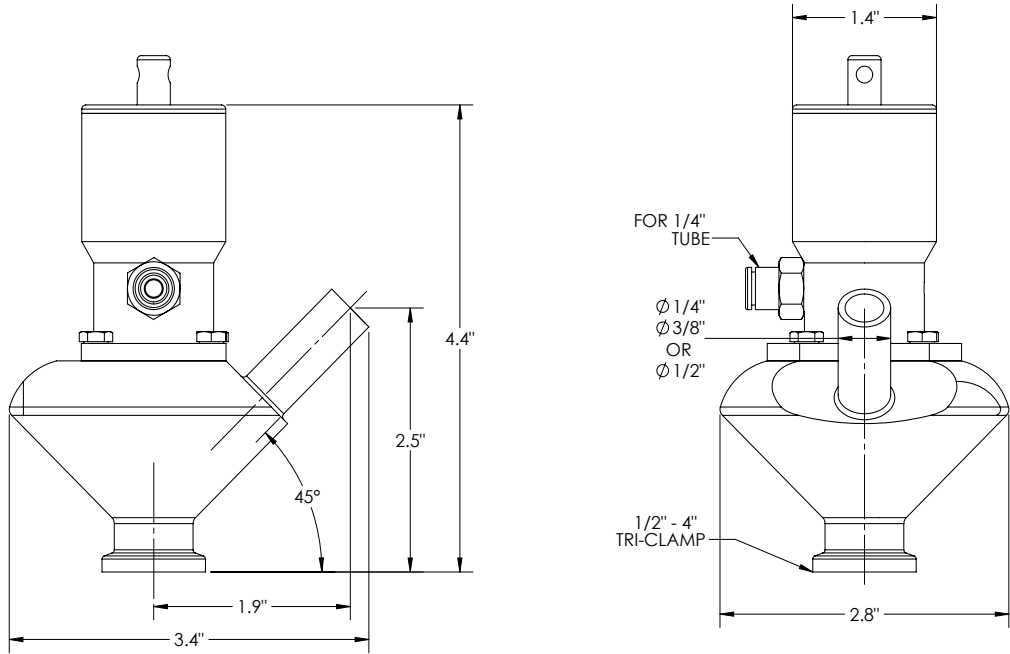
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Actuated Dual Port 12 mm Proximity Bracket

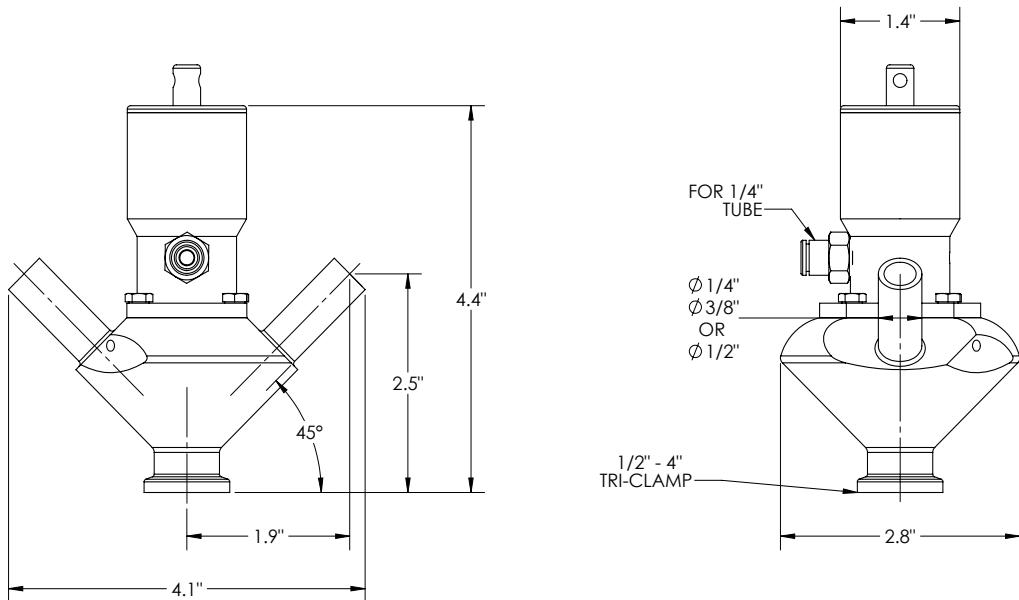


BSV-Series Sample Valve - Dimensions

Single Port with Actuator



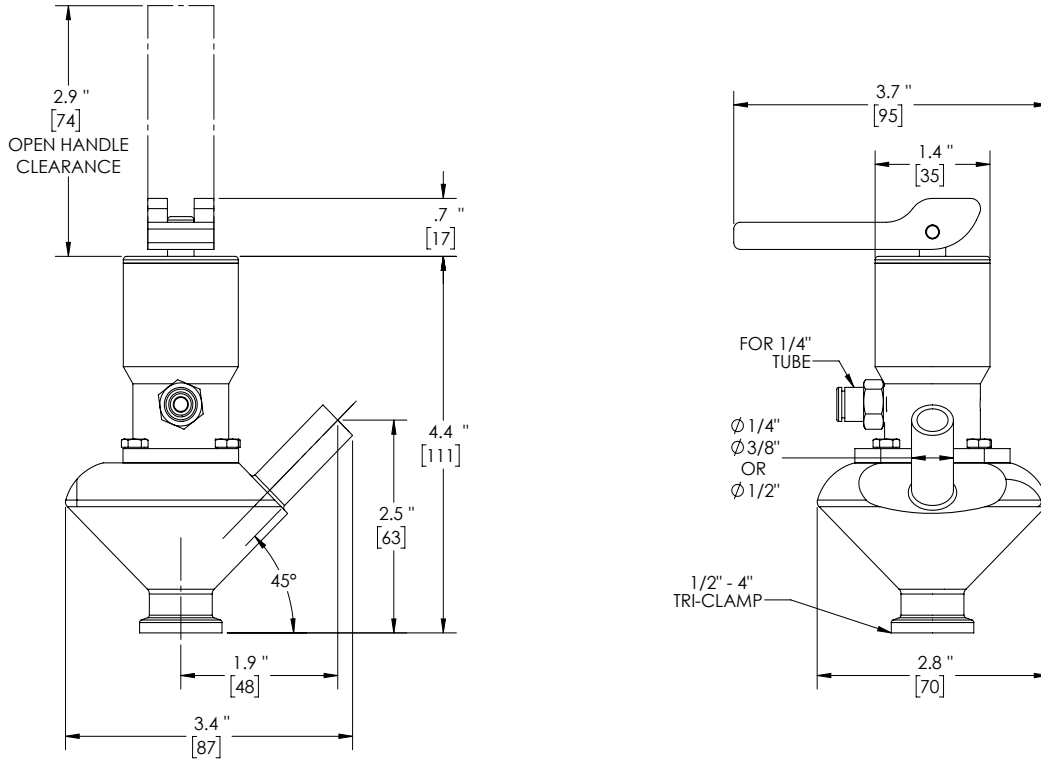
Dual Port with Actuator



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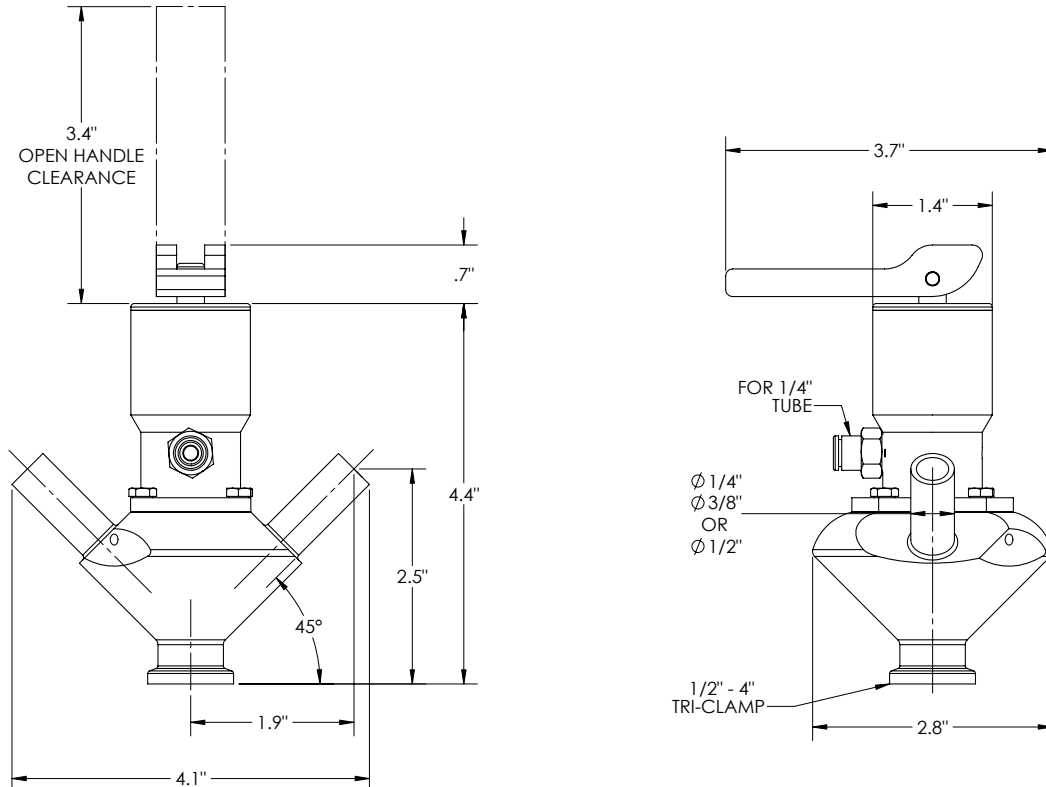
BSV-Series Sample Valve - Dimensions

Single Port with Actuator & Self-Closing Lever



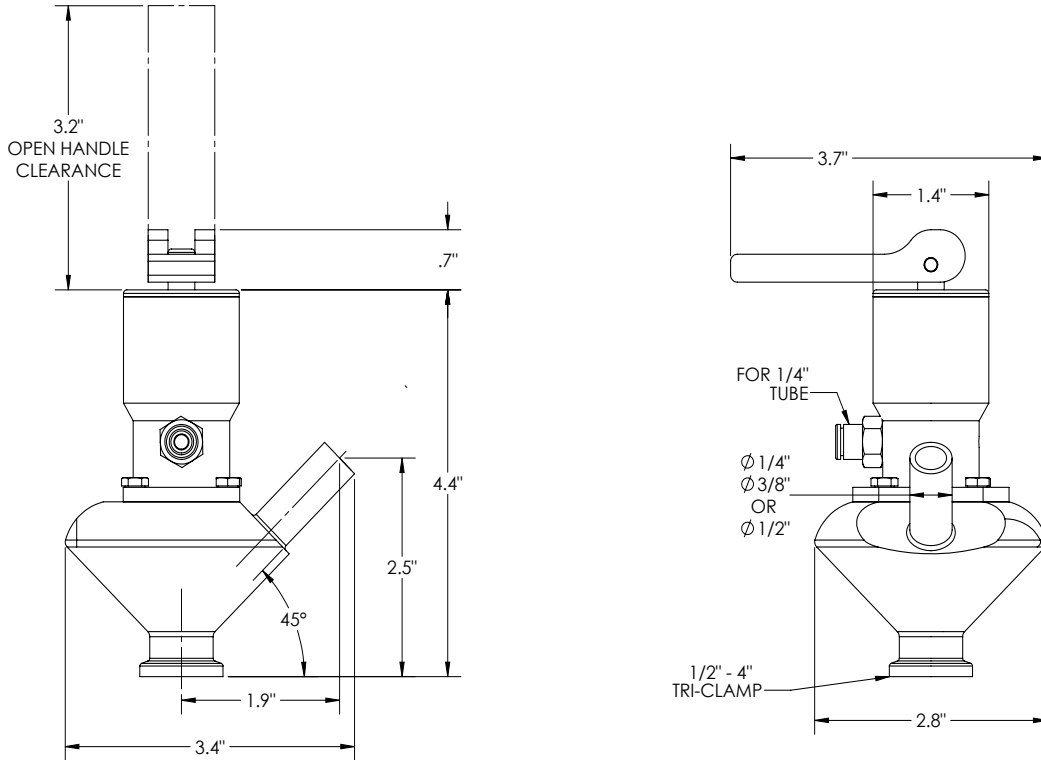
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Dual Port with Actuator & Self-Closing Lever

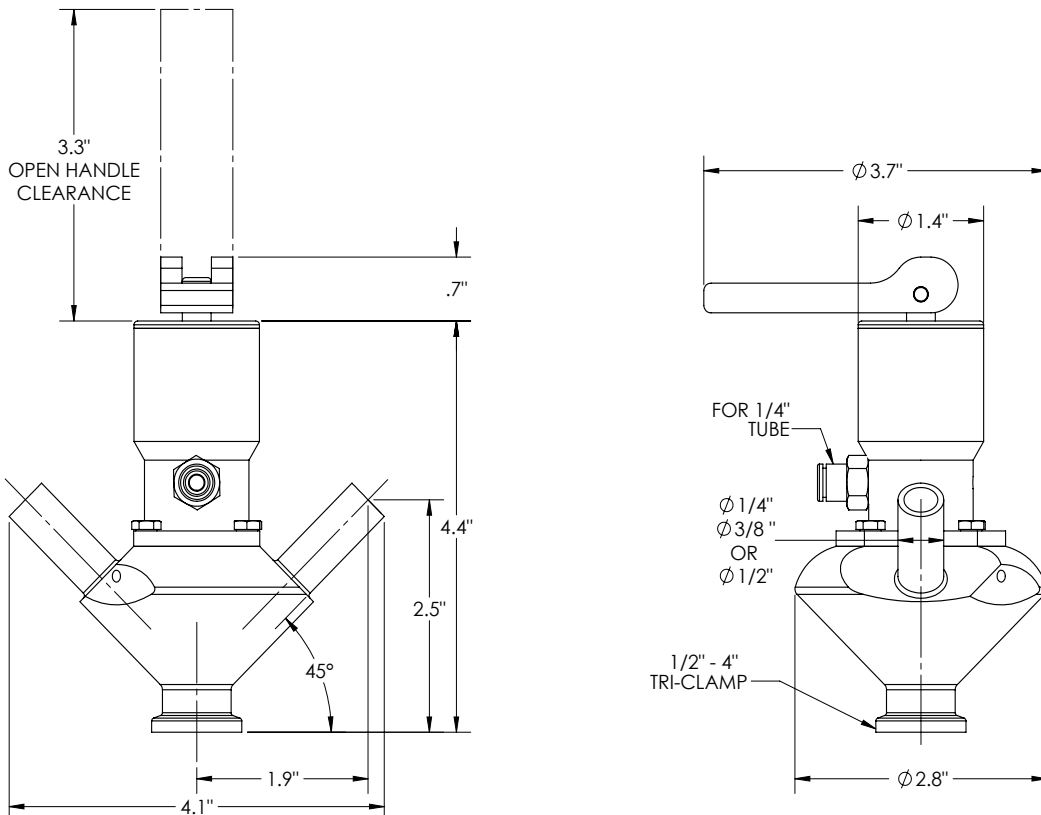


BSV-Series Sample Valve - Dimensions

Single Port with Actuator & Open Lever

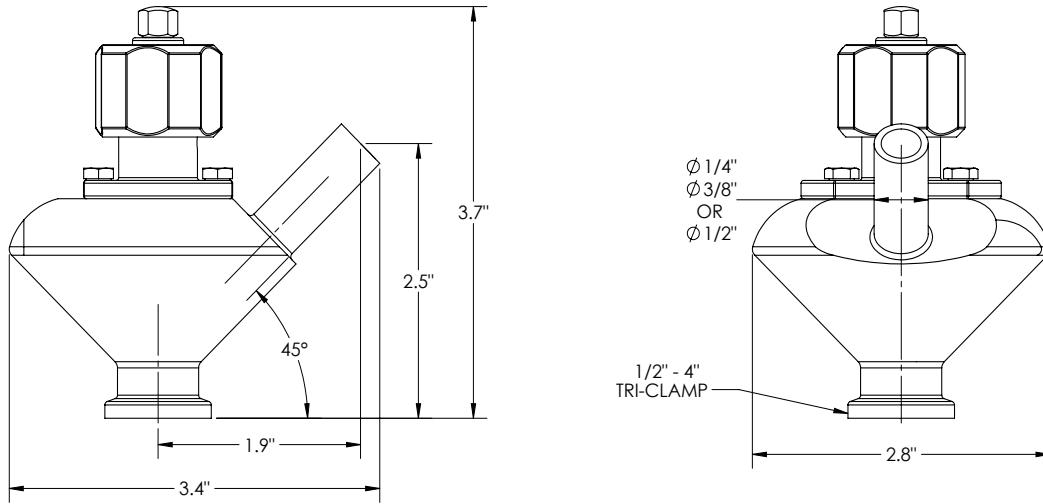


Dual Port with Actuator & Open Lever



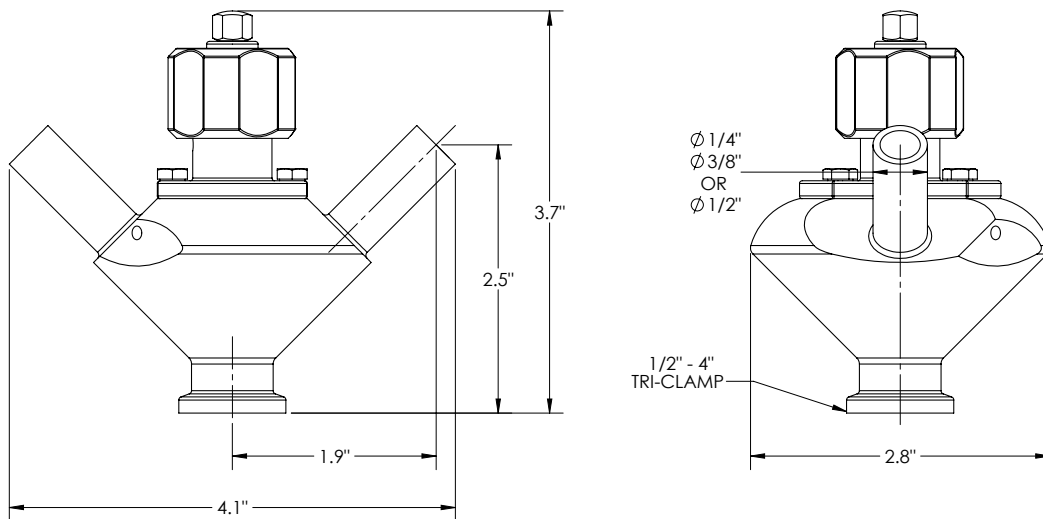
BSV-Series Sample Valve - Dimensions

Single Port with Handwheel



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Dual Port with Handwheel



BSV-Series Sample Valve - Repair Kit

Valve Size	Repair Kit Part Number
1/2" - 4"	BSV-NRKS050400

NOTE: Repair kit contains (1) silicone O-ring and (1) PTFE bellow.

BSVW-Series Sample Valve

Used to sample product from a vessel or line. They are found in the food processing, beverage, winery, and brewery markets.

Sizes

- 1/2" and 3/8" NPT
- 1" weld
- 1", 2", 2-1/2", and 3" clamp

Materials

- Product contact metal components: 304 stainless steel
- Product contact seals: PTFE or silicone, with silicone O-rings

Specifications

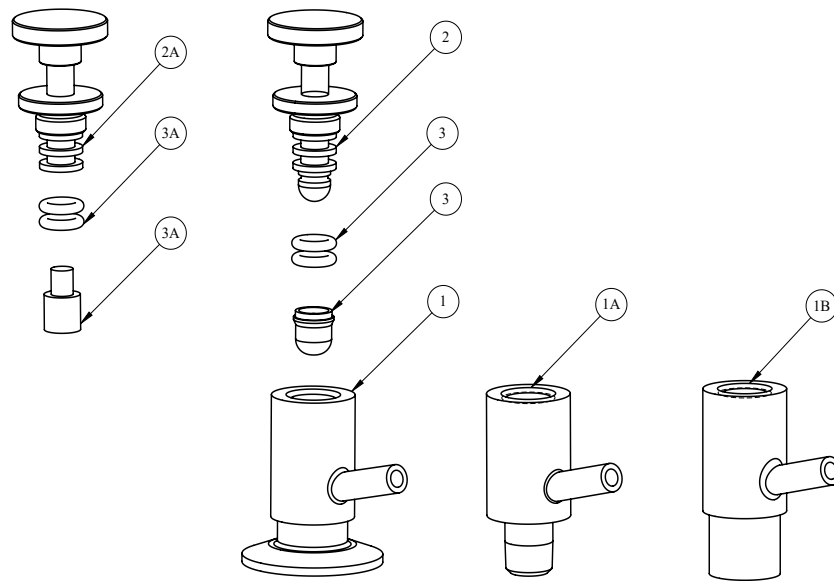
- Standard connections: clamp, weld, or NPT
- Port standard connection: weld
- Valve data
 - Maximum pressure: **200 PSI**
 - Maximum operating temperature: **300°F (149°C)**
- Surface finish
 - Product contact metal components: ≤ 32 Ra



BSVW-Series Sample Valve - Part Number Key

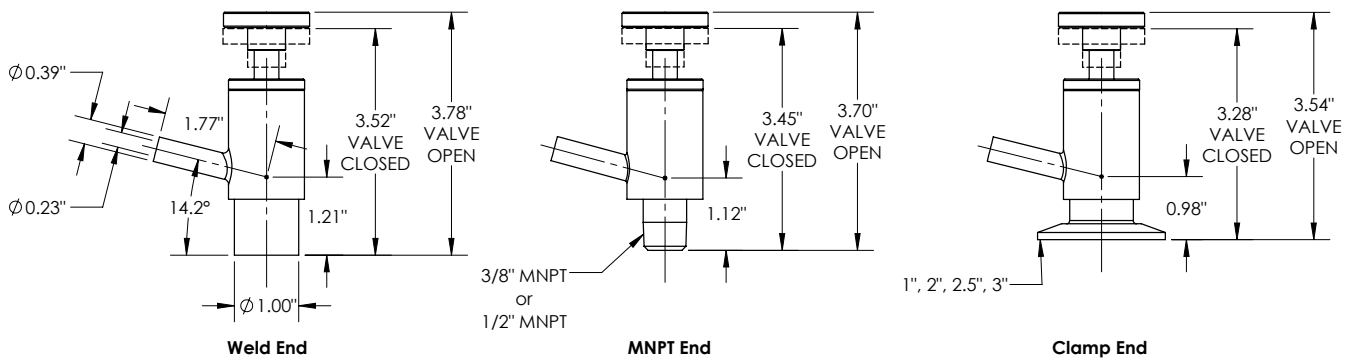
BSVW-Series Sample Valve Part Number Key Example: BSVWNP-G375		Series	End	Seat Material	-	Body Material	Size
		BSVW	N	P	-	G	375
Series	Code	←	←	←	←	←	←
BSVW	BSVW						
End	Code						
MNPT	N						
Clamp	C						
Weld	B						
Seat Material	Code	←	←	←	←	←	←
PTFE	P						
Silicone	S						
Body Material	Code	←	←	←	←	←	←
304 stainless steel	G						
Size	Code	←	←	←	←	←	←
3/8" MNPT	375						
1/2" MNPT	500						
1" clamp or weld	100						
2" clamp	200						
2-1/2" clamp	250						
3" clamp	300						

BSVW-Series Sample Valve - Bill of Materials



Item #	Part #	Description	Material	Qty
1	BSVWN-BDY	1" to 1-1/2" clamp to process body	304 SS	1
	BSVWD-BDY	2" clamp to process body	304 SS	1
	BSVWE-BDY	2-1/2" clamp to process body	304 SS	1
	BSVWF-BDY	3" clamp to process body	304 SS	1
1A	BSVWC-BDY	3/8" NPT to process body	304 SS	1
	BSVWG-BDY	1/2" NPT to process body	304 SS	1
1B	BSVWB-BDY	1" weld to process body	304 SS	1
2	BSVW-STEM2	knob & stem assembly (silicone seat)	304 SS	1
2A	BSVW-STEM2A	knob & stem assembly (PTFE seat)	304 SS	1
3	BSVW-RKS	silicone seat repair kit	silicone	1
3A	BSVW-RKP	PTFE seat repair kit	PTFE (silicone O-rings)	1

BSVW-Series Sample Valve - Dimensions



BSVW-Series Sample Valve - Repair Kits

BSVW-RKP Kit	BSVW-RKS Kit
(1) PTFE seat	(1) Silicone seat
(2) Silicone O-rings	(2) Silicone O-rings

NOTE: Repair kits are for all valve sizes

B45-Series Air Blow Check Valve



The B45-Series Air Blow Check Valve is used in sanitary processes to evacuate product or inject clean air or gas into the system. It can be used in combination with the HYC Y-Ball Check Valve.

They are found in the food processing, beverage, dairy, personal care, winery, brewery, pet product, and industrial markets.

Sizes

- 1-1/2", 2", 2-1/2", 3", and 4"

Materials

- Product contact metal components: 316L stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: EPDM

Specifications

- Standard connections
 - Clamp to process
- Air connections
 - 1/4" quick connect plug
 - 1/2" NPT cap
 - 1" hose barb
 - Air relief cap
- Valve data
 - Maximum pressure: **145 PSI**
 - Maximum operating temperature: **212°F (100°C)**
 - Cracking pressure: **9 PSI**
 - Capacity: see chart below
 - Sizing: see chart below
- Surface finish
 - Product contact metal components: Ra ≤ 32



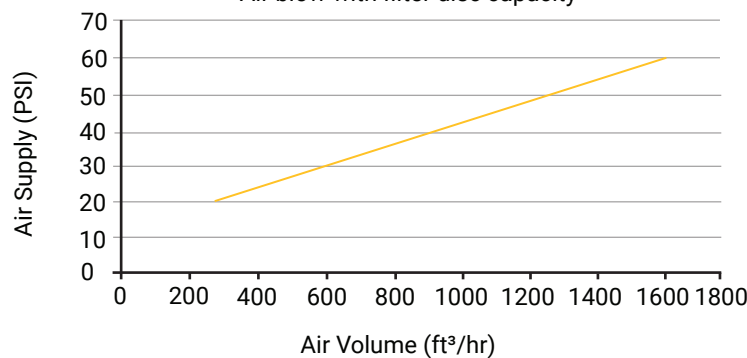
B45-series body with single pin clamp



B45Y-series body with Clever Clamp™

Capacity Chart

Air blow with filter disc capacity



Sizing Chart

Ball Check Valve Size	Air Blow Check Valve Size
1-1/2"	2"
2"	2-1/2"
2-1/2"	3"
3"	4"

NOTE: When using air blow check valves with ball check valves, refer to the sizing chart above.

B45-Series Air Blow Check Valve - Part Number Key

B45-Series Air Blow Check Valve Part Number Key Example: B45AB-R100150		Series	Air End Connection	Air Blow Body/ Seal Material	Size	Options
		B45	AB	-	R	100150
Series	Code					
B45	B45					
B45Y (with ball stabilizer option) ¹	B45Y					
Air End Connection	Code					
1/4" male air line quick connect	AB					
1/4" NPT cap ²	BA					
3/8" NPT cap ²	BB					
1/2" NPT cap	BC					
3/4" NPT cap ²	BD					
1" hose barb	CC					
Air relief cap	AR					
Air Blow Body/Seal Material	Code					
316L stainless steel/EPDM	R					
Size	Code					
1-1/2" ³	100150					
2"	200					
2-1/2"	250					
3"	300					
4"	400					
Options	Code					
32 Ra (ID mechanical polish) (standard) ⁴	blank					
25 Ra (ID mechanical polish) ⁴	B					
20 Ra (ID mechanical polish) ⁴	C					
15 Ra (ID electropolish) ⁴	D					
32 Ra (ID mechanical polish) with customer specified ID marking ⁴	E					
25 Ra (ID mechanical polish) with customer specified ID marking ⁴	F					
20 Ra (ID mechanical polish) with customer specified ID marking ⁴	G					
15 Ra (ID electropolish) with customer specified ID marking ⁴	H					
32 Ra (ID mechanical polished) with Clever Clamp™	I					
32 Ra (ID mechanical polish) with Clever Clamp™ with self locking pin	J					



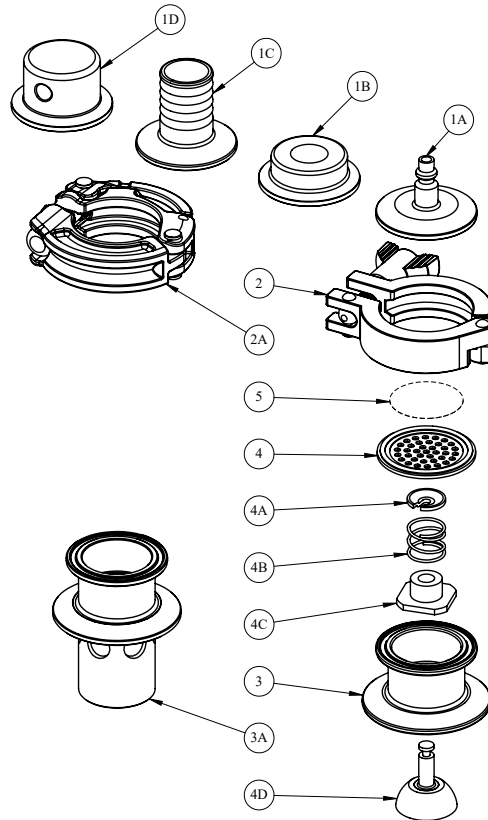
¹To be used with HYC-series Y-ball check valve only

²Non-stock items, built to order

³Can only be connected to 1-1/2" ferrule

⁴Standard single pin clamp with serrated nut

B45-Series Air Blow Check Valve - Bill of Materials



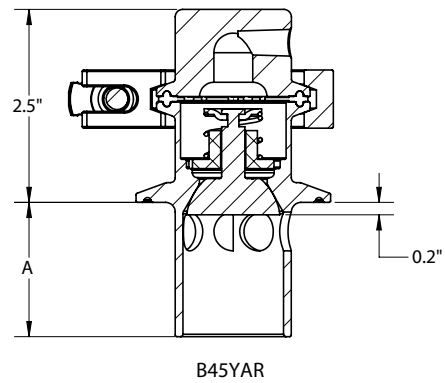
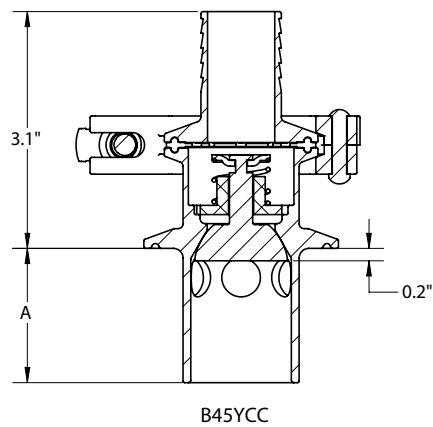
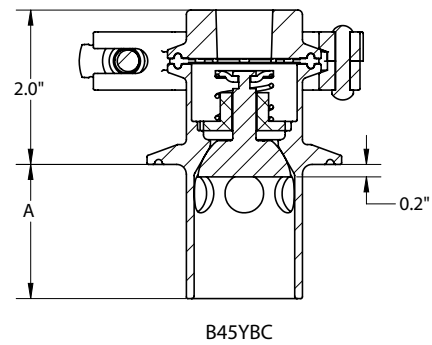
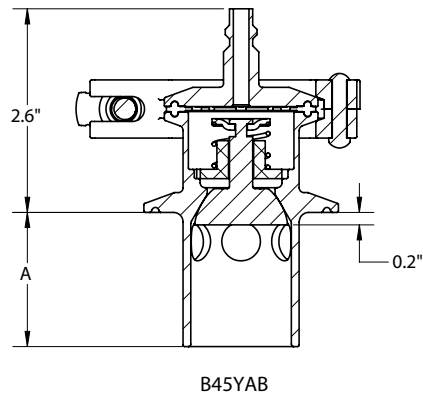
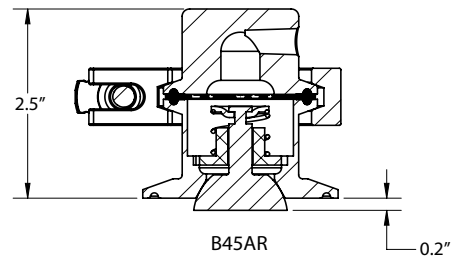
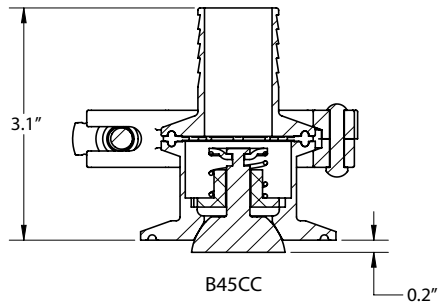
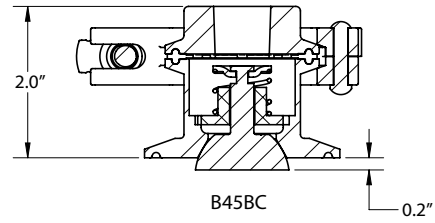
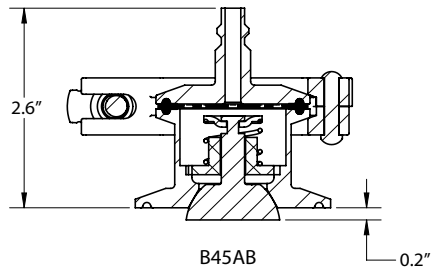
Item #	Valve Size	Part #	Part # Key Identifier	Part # Key Code	Description	Material	Qty
1A	all	B16AC-G150	Air End Connection	AB	1/4" air line quick connect	316L SS	1
1B	all	B23BMP-R100		BC	1/2" NPT cap	316L SS	1
1C	all	14MPHR-R100		CC	1" hose barb	316L SS	1
1D	all	HAV-4A		AR	1/8" NPT cap	316L SS	1
2	all	13MHHM100-150SN	Air End Clamp Type	(blank)	single pin clamp with serrated nut	CF8	1
2A	all	13SCC-100150		C	Clever Clamp™	304 SS	1
	all	13SCC-100150L		L	Clever Clamp™ with self locking pin	304 SS	1
3	1" - 1-1/2"	B45AB-3-100150	Series	B45	valve body	316L SS	1
	2"	B45AB-3-200					1
	2-1/2"	B45AB-3-250					1
	3"	B45AB-3-300					1
	4"	B45AB-3-400					1
3A	1" - 1-1/2"	-		B45Y	valve body for HYC-series check valve	316L SS	1
	2"	B45Y-3-200					1
	2-1/2"	B45Y-3-250					1
	3"	B45Y-3-300					1
	4"	B45Y-3-400					1
4	all	B45AB-4	Seal Material	R	perforated disc	316L SS/EPDM	1
4A	all	B45AB-4A	-	-	spring retainer	304 SS	1
4B	all	B45AB-4B	-	-	spring retainer	304 SS	1
4C	all	B45AB-4C	-	-	stem guide	nylon	1
4D	all	B45AB-4D	Seal Material	R	stem and plug	316L SS/EPDM	1

Filter discs (optional) must be used when installed for Accepted Practice 3A 604-05, supplying air under pressure in contact with milk, milk products, and product contact.

5	all	B45ABFD150	-	-	optional filter disc (pack of 50)	1 micron filter	1
		B45ABFD150-200	-	-	optional filter disc (pack of 200)		

Repair Kit: B45AB-RK contains item numbers: 4, 4A, 4B, 4C, and 4D

B45-Series Air Blow Check Valve - Dimensions



Size	A (in)
2"	1.71
2-1/2"	1.80
3"	1.92
4"	2.14

HYC-Series Y-Ball Check Valve



When liquid flows through the valve, the ball is forced into the branch of the valve allowing full fluid flow. When the liquid stops, equalizing the pressure, the ball drops back into the seat, preventing backflow. Should reverse flow occur, the differential pressure will cause the ball to seal firmly against the seat, preventing leakage.

Applications

- Used in sanitary processes to prevent backflow of fluids
- This valve can be used in combination with a B45 Air Blow Check Valve to evacuate the upstream checked fluid from the processing line
- They are found in the food processing, beverage, dairy, personal care, winery, brewery, pet product, and industrial markets

Sizes

- 1-1/2" to 3"

Features

- Replaceable seat
- PTFE ball standard
- Vertical or horizontal installation orientation

Materials

- Product contact metal components: CF8M (316) stainless steel
- Non-product contact metal components: AISI 304 stainless steel
- Product contact seals: EPDM, FKM
- Ball: PTFE, EPDM, FKM, nitrile rubber

Specifications

- Standard clamp connections (see part number key for alternate connections)
- Valve data
 - Maximum pressure: **150 PSI (10 bar)**
 - Minimum operating temperature: **15°F (-9°C)**
 - Maximum operating temperature: **200°F (93°C)**
- Surface finish
 - Product contact metal components: Ra ≤ 32 standard (see part number key for alternative finishes)



HYC-Series Y-Ball Check Valve - Cracking Pressure and Cv Values

Size	Cracking Pressure Inches (H2O)		Seating Pressure Inches (H2O)		Flow Coefficient (Cv)
	Vertical Orientation	Horizontal Orientation	Vertical Orientation	Horizontal Orientation	
1-1/2"	2.0	0.5	3.6	3.9	60.0
2"	2.5		2.6	3.7	80.0
2-1/2"	3.0		1.6	2.4	100.0
3"	3.8		1.9	2.6	140.0

HYC-Series Y-Ball Check Valve - Sizing Chart

Ball Check Valve Size	Air Blow Check Valve Size
1-1/2"	2"
2"	2-1/2"
2-1/2"	3"
3"	4"

HYC-Series Y-Ball Check Valve - Part Number Key

HYC-Series Y-Ball Check Valve Part Number Key Example: HYCEP150CCAA		Series	Elastomer	Ball Material	Size	End Connection	Surface Finish	Airflow Check Valve Option
		HYC	E	P	150	CC	A	A
Series	Code							
HYC	HYC	←						
Elastomer	Code							
EPDM	E		←					
FKM	V							
Ball Material	Code							
Nitrile	B							
EPDM	E							
PTFE (standard)	P			←				
FKM	V							
Size	Code							
1-1/2"	150				←			
2"	200							
2-1/2"	250							
3"	300							
End Connection	Code							
Clamp (standard)	CC					←		
Weld	BB							
Female I-Line	FF							
Male I-Line	MM							
Threaded Bevel	TT							
Plain Bevel with nut	PP							
Q-Line	QQ							
John Perry Plain	JJ							
John Perry threaded	HH							
Extended weld	EE							
Female NPT*	11							
Male NPT*	22							
Surface Finish	Code							
32 Ra (I.D. mech. polished) (standard)	A						←	
25 Ra (I.D. mech. polished)	B							
20 Ra (I.D. mech. polished)	C							
15 Ra (I.D. electropolish)	D							
Airflow Check Valve Options	Code							
None	A							←
1/4" male air line quick connect	B							
1/2" NPT cap	C							
1" hose barb	D							

D

*Not a sanitary connection

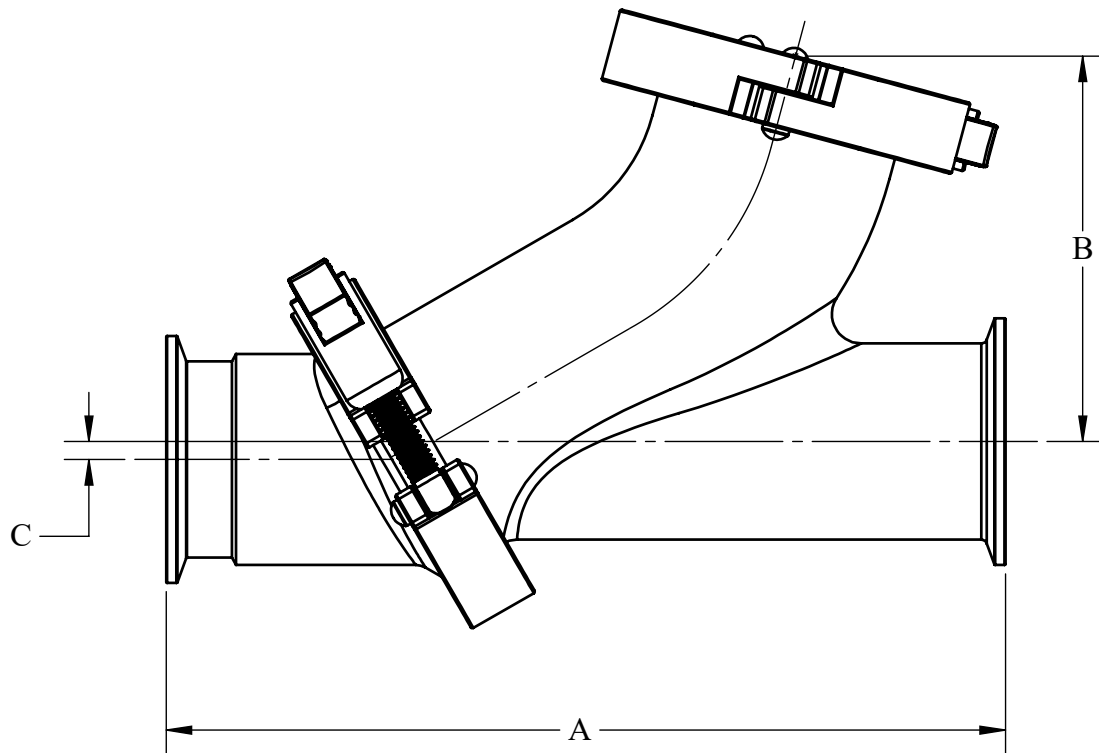
HYC-Series Y-Ball Check Valve - Pressure Drop Table

Capacity (U.S. GPM)	Valve Size			
	1-1/2"	2"	2-1/2"	3"
10	0.0	0.0	0.0	0.0
20	0.1	0.1	0.0	0.0
30	0.3	0.1	0.1	0.0
40	0.4	0.3	0.2	0.1
50	0.7	0.4	0.3	0.1
60	1.0	0.6	0.4	0.2
70	1.4	0.8	0.5	0.3
80	1.8	1.0	0.6	0.3
90	2.3	1.3	0.8	0.4
100	2.8	1.6	1.0	0.5
110	3.4	1.9	1.2	0.6
120	4	2.3	1.4	0.7
130	4.7	2.6	1.7	0.9
140	5.4	3.1	2	1.0
150	6.3	3.5	2.3	1.1
160	7.1	4.0	2.6	1.3
170	8.0	4.5	2.9	1.5
180	9.0	5.1	3.2	1.7
190	10.0	5.6	3.6	1.8
200	11.1	6.3	4.0	2.0
210		6.9	4.4	2.3
220		7.6	4.8	2.5
230		8.3	5.3	2.7
240		9.0	5.8	2.9
250		9.8	6.3	3.2
260		10.6	6.8	3.4
270		11.4	7.3	3.7
280		12.3	7.8	4.0
290		13.1	8.4	4.3
300		14.1	9.0	4.6
310			9.6	4.9
320			10.2	5.2
330			10.9	5.6
340			11.6	5.9
350			12.3	6.3
360				6.6
370				7.0
380				7.4
390				7.8
400				8.2
410				8.6
420				9.0
430				9.4
440				9.9
460				10.3
470				10.8

$$\Delta P = [GPM/Cv]^2 G$$

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HYC-Series Y-Ball Check Valve - Dimensions

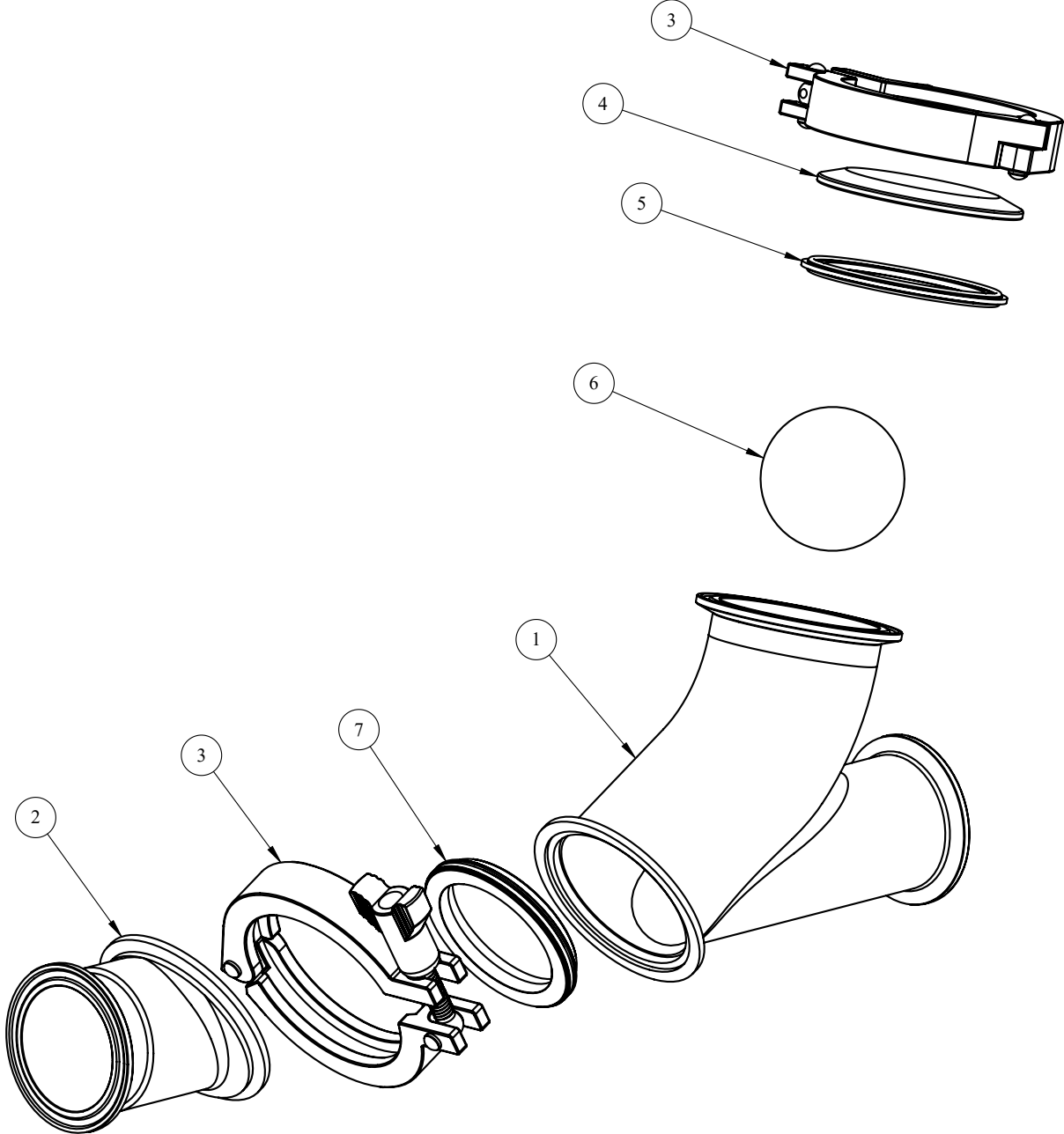


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Size	A (in)	B (in)	C (in)	PTFE Ball Ø (in)	Rubber Ball Ø (in)
1-1/2"	7.5	3.3	0.16	1.6	1.6
2"	8.5	3.9		2.1	2.1
2-1/2"	10	4.5		2.7	2.6
3"	11.5	5.3		3.6	3.5

HYC-Series Y-Ball Check Valve - Bill of Materials

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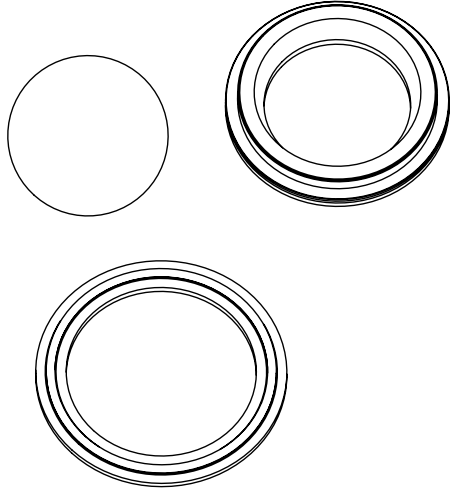
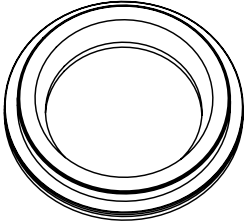
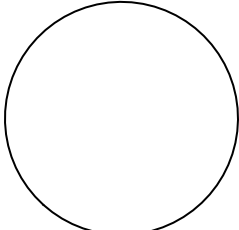


HYC-Series Y-Ball Check Valve - Bill of Materials

Item #	HYC Valve Size	Part #	Description	Material	Qty
1	1-1/2"	HYC-1-150	angle body	CF8M	1
	2"	HYC-1-200			1
	2-1/2"	HYC-1-250			1
	3"	HYC-1-300			1
2	1-1/2"	HYC-2-150	inlet body	CF8M	1
	2"	HYC-2-200			1
	2-1/2"	HYC-2-250			1
	3"	HYC-2-300			1
3	1-1/2"	13MHM200SN	clamp	CF8	2
	2"	13MHM250SN			2
	2-1/2"	13MHM300SN			2
	3"	13MHM400SN			2
4	1-1/2"	16AMP-R200	end cap	316L SS	1
	2"	16AMP-R250			1
	2-1/2"	16AMP-R300			1
	3"	16AMP-R400			1
5	1-1/2"	40MP-E200	cap gasket	EPDM	1
	2"	40MP-E250			1
	2-1/2"	40MP-E300			1
	3"	40MP-E400			1
	1-1/2"	40MP-SFY200		FKM	1
	2"	40MP-SFY250			1
	2-1/2"	40MP-SFY300			1
	3"	40MP-SFY400			1
6	1-1/2"	HYC-TB150	ball	PTFE	1
	2"	HYC-TB200			1
	2-1/2"	HYC-TB250			1
	3"	HYC-TB300			1
	1-1/2"	HYC-EB150		EPDM	1
	2"	HYC-EB200			1
	2-1/2"	HYC-EB250			1
	3"	HYC-EB300			1
	1-1/2"	HYC-VB150		FKM	1
	2"	HYC-VB200			1
	2-1/2"	HYC-VB250			1
	3"	HYC-VB300			1
7	1-1/2"	HYC-7E-150	seat	EPDM	1
	2"	HYC-7E-200			1
	2-1/2"	HYC-7E-250			1
	3"	HYC-7E-300			1
	1-1/2"	HYC-7V-150		FKM	1
	2"	HYC-7V-200			1
	2-1/2"	HYC-7V-250			1
	3"	HYC-7V-300			1

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HYC-Series Y-Ball Check Valve - Repair Kits

Series	Elastomer	Size	Part #	Repair Kit
Repair Kit	EPDM & PTFE ball	1-1/2"	HYC-RK-E-P-150	Repair Kit contains: end cap gasket (5), ball (6), and seat (7) 
		2"	HYC-RK-E-P-200	
		2-1/2"	HYC-RK-E-P-250	
		3"	HYC-RK-E-P-300	
	EPDM & nitrile rubber ball	1-1/2"	HYC-RK-E-B-150	
		2"	HYC-RK-E-B-200	
		2-1/2"	HYC-RK-E-B-250	
		3"	HYC-RK-E-B-300	
	FKM & PTFE ball	1-1/2"	HYC-RK-V-P-150	
		2"	HYC-RK-V-P-200	
		2-1/2"	HYC-RK-V-P-250	
		3"	HYC-RK-V-P-300	
	FKM & nitrile rubber ball	1-1/2"	HYC-RK-V-B-150	
		2"	HYC-RK-V-B-200	
		2-1/2"	HYC-RK-V-B-250	
		3"	HYC-RK-V-B-300	
Seal Kits	EPDM	1-1/2"	HYC-SK-E-150	Seal Kit contains: end cap gasket (5) and seat (7) 
		2"	HYC-SK-E-200	
		2-1/2"	HYC-SK-E-250	
		3"	HYC-SK-E-300	
	FKM	1-1/2"	HYC-SK-V-150	
		2"	HYC-SK-V-200	
		2-1/2"	HYC-SK-V-250	
		3"	HYC-SK-V-300	
Replacement Ball Kit	PTFE	1-1/2"	HYC-P150	Replacement Ball Kit contains: ball (6) 
		2"	HYC-P200	
		2-1/2"	HYC-P250	
		3"	HYC-P300	
	NBR	1-1/2"	HYC-B150	
		2"	HYC-B200	
		2-1/2"	HYC-B250	
		3"	HYC-B300	
	FKM	1-1/2"	HYC-V150	
		2"	HYC-V200	
		2-1/2"	HYC-V250	
		3"	HYC-V300	
EPDM	1-1/2"	HYC-E150		
	2"	HYC-E200		
	2-1/2"	HYC-E250		
	3"	HYC-E300		

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HYC-Series Y-Ball Check Valve



Used in sanitary processes to prevent backflow of fluids. When liquid flows through the valve, the ball is forced into the branch of the valve allowing fluid flow. When the liquid stops equalizing the pressure, the ball drops back into the seat, preventing backflow. Should reverse flow occur, the differential pressure will cause the ball to seal firmly against the seat preventing leakage.

This valve can be used in combination with a B45 air blow check valve to evacuate the upstream checked fluid from the processing line.

They are found in the food processing, beverage, dairy, personal care, winery, brewery, pet product, and industrial markets.

Sizes

- 1-1/2" to 3"

Features

- Improved flow performance and ball stabilization¹
- Patent pending ball cap stabilizer¹
- Replaceable seat
- PTFE ball standard
- Vertical or horizontal installation orientation

Materials

- Product contact metal components: 316L stainless steel
- Non-product contact metal components: AISI 304
- Product contact seals: EPDM, FKM
- Ball: PTFE, EPDM, FKM, nitrile rubber

Specifications

- Standard connections: clamp (see part number key for alternate connections)
- Valve data
 - Maximum pressure: **150 PSI** (10 bar)
 - Minimum operating temperature: **15°F (-9°C)**
 - Maximum operating temperature: **200°F (93°C)**
- Surface finish
 - Product contact metal components: Ra ≤ 32 (see part number key for alternate finishes)



HYC-Series Y-Ball Check Valve¹



HYC-Series Y-Ball Check Valve with B45 Air Blow Check Valve

HYC-Series Cracking Pressure and Flow Coefficient

Size	Cracking Pressure (in) (H ₂ O)		Seating Pressure (in) (H ₂ O)		Flow Coefficient		
	Vertical Orientation	Horizontal Orientation	Vertical Orientation	Horizontal Orientation	HYC-4A Ball Stabilizer End Cap	B45Y Ball Stabilizer Air Blow	16AMP/B45 End Cap/Air Blow
1-1/2"	2.0	0.5	3.6	3.9	44.3	37.1	53.9
2"	2.5		2.6	3.7	75.3	67.8	106.3
2-1/2"	3.0		1.6	2.4	137.0	130.8	151.0
3"	3.8		1.9	2.6	158.9	167.5	162.7

Sizing Chart

Ball Valve Check Valve Size	Air Blow Check Valve Size
1-1/2"	2"
2"	2-1/2"
2-1/2"	3"
3"	4"

¹The improved design of the HYC-Series Y-Ball Check Valve is launching in 2025. This will be the new standard design. NOTE: Previous repair kits are still interchangeable with the improved design.

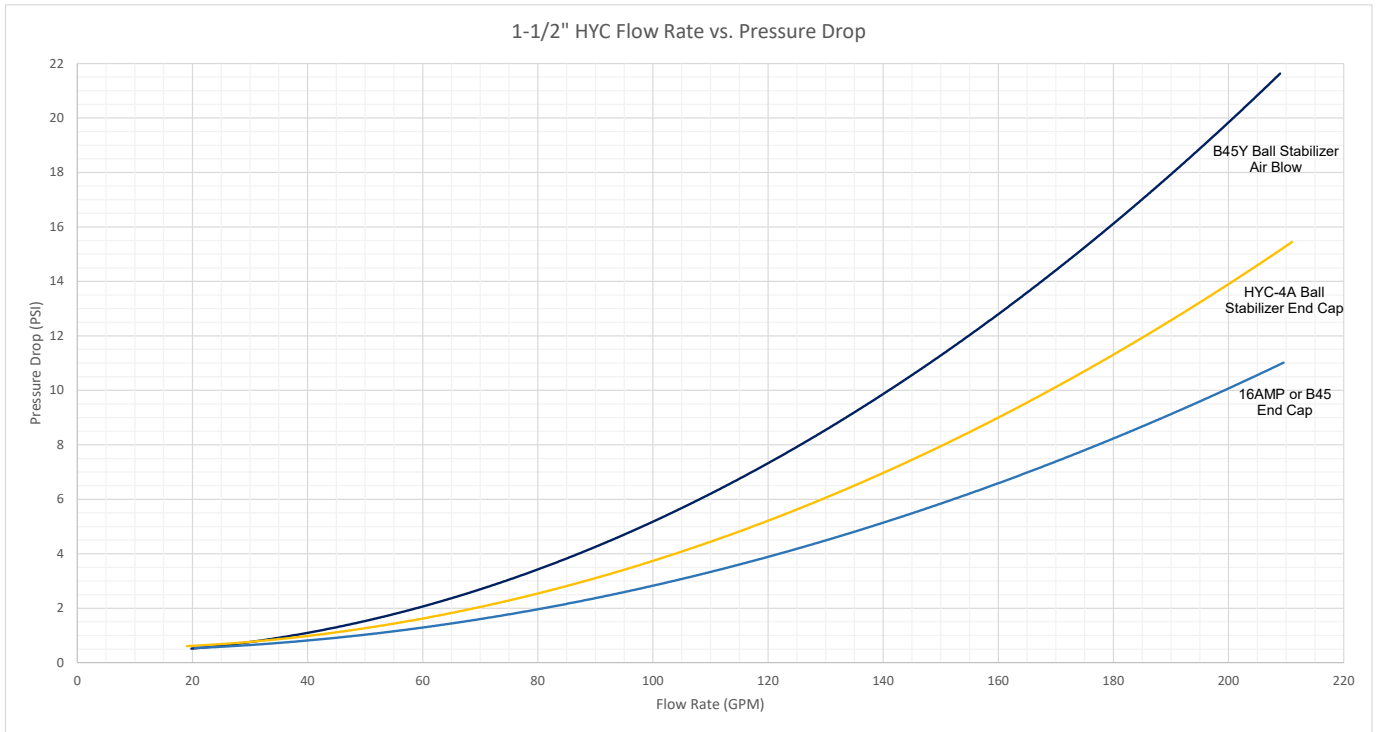
HYC-Series Y-Ball Check Valve - Part Number Key

HYC-Series Y-Ball Check Valve Part Number Key Example: HYCEP150CCAA		Series	Elastomer	Ball Material	Size	End Connections	Surface Finish	Options
		HYC	E	P	150	CC	A	E
Series	Code							
HYC	HYC	←						
Elastomer	Code							
EPDM	E	←						
FKM	V							
Ball Material	Code							
PTFE (standard)	P	←						
EPDM	E							
Nitrile rubber	B							
FKM	V							
Size	Code							
1-1/2"	150	←						
2"	200							
2-1/2"	250							
3"	300							
Body One Connection	Code							
Clamp (standard)	CC	←						
Weld	BB							
Female I-line	FF							
Male I-line	MM							
Threaded bevel	TT							
Plain bevel with nut	PP							
Q-line	QQ							
John Perry plain	JJ							
John Perry threaded	HH							
Extended weld	EE							
Female NPT ¹	11							
Male NPT ¹	22							
Surface Finish	Code							
32 Ra (I.D. mech. polished) (standard)	A	←						
25 Ra (I.D. mech. polished)	B							
20 Ra (I.D. mech. polished)	C							
15 Ra (I.D. electropolish)	D							
32 Ra (I.D. mech. polished) with customer specified ID marking	E							
25 Ra (I.D. mech. polished) with customer specified ID marking	F							
20 Ra (I.D. mech. polished) with customer specified ID marking	G							
15 Ra (I.D. mech. polished) with customer specified ID marking	H							
Options	Code							
Ball stabilizer end cap (standard)	E	←						
1/4" male air line quick connect ²	F							
1/2" NPT cap ²	I							
1" hose barb ²	K							

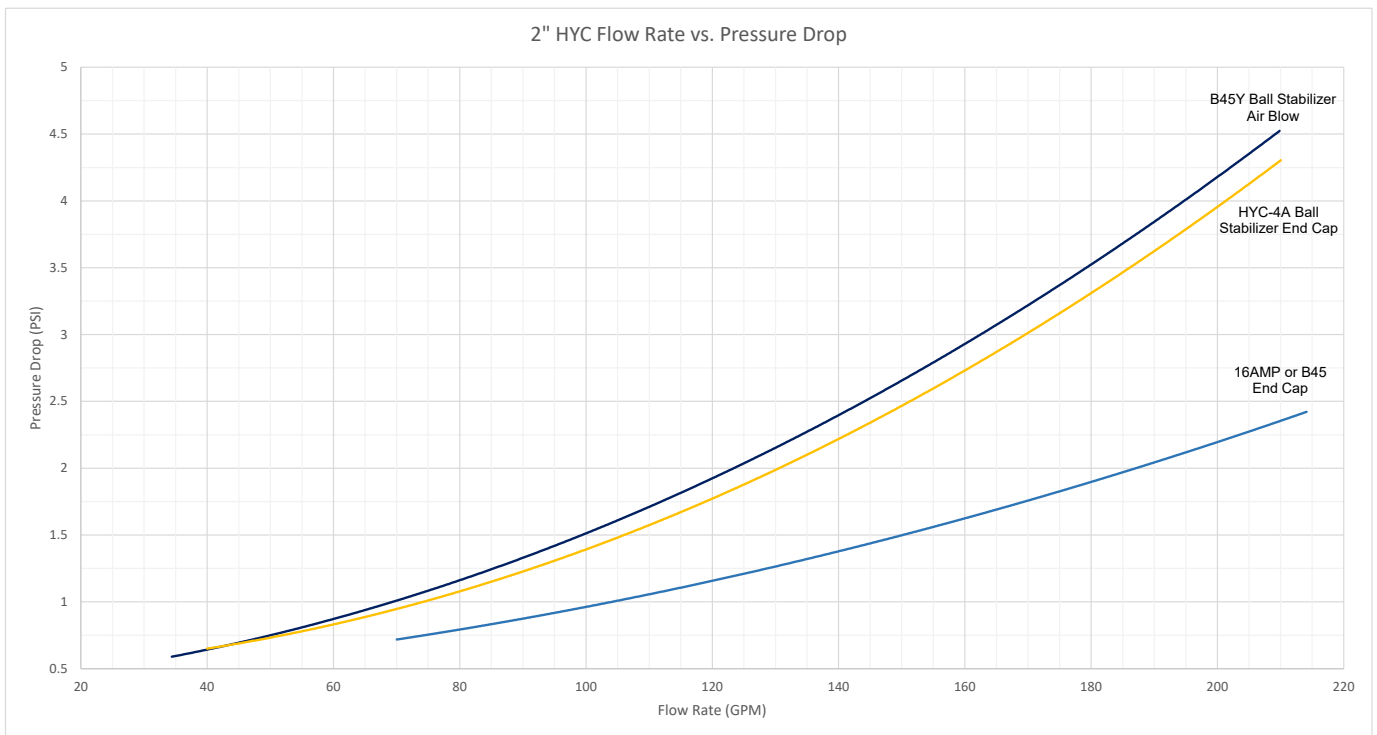
¹Not a sanitary connection

²Air blow check valve with ball stabilizer

HYC-Series Y-Ball Check Valve - Pressure Drop Charts

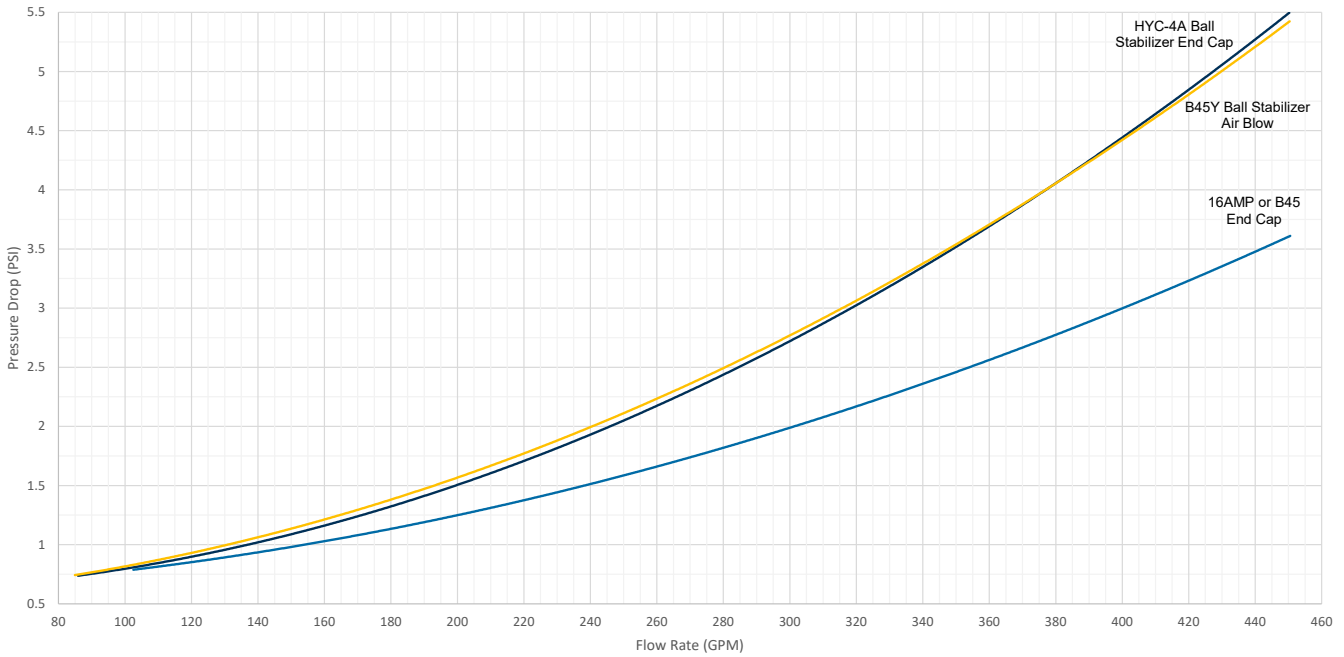


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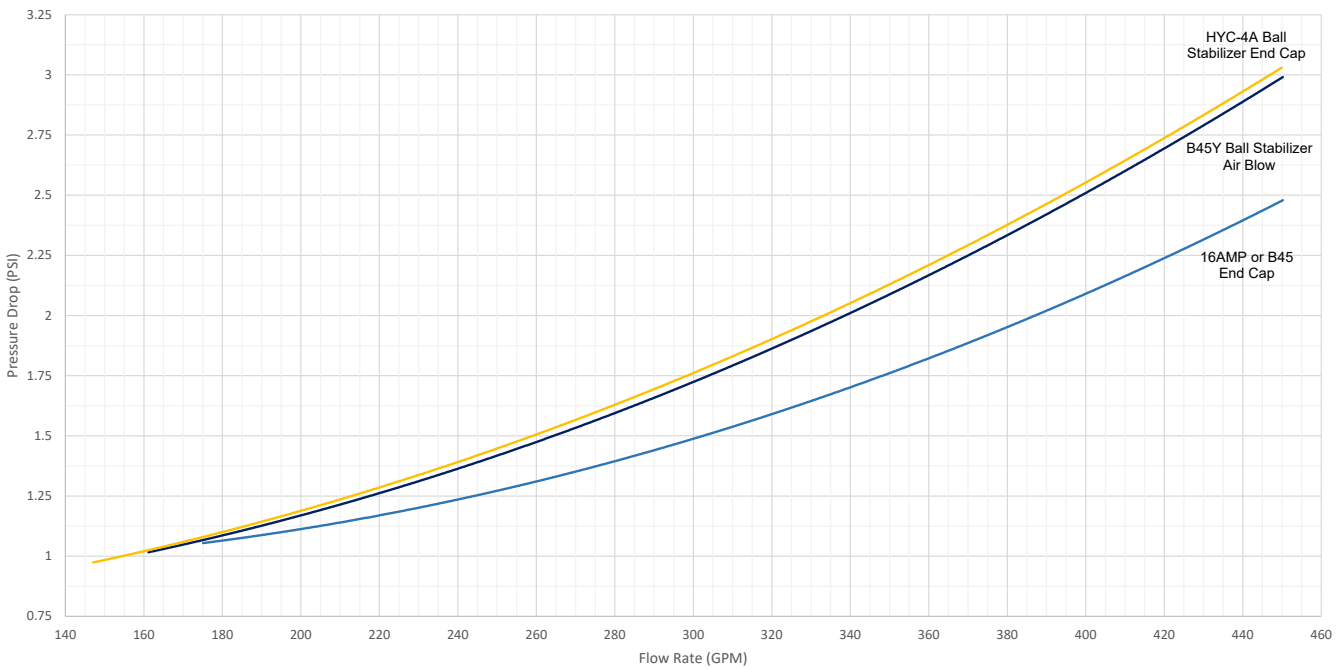


HYC-Series Y-Ball Check Valve - Pressure Drop Charts

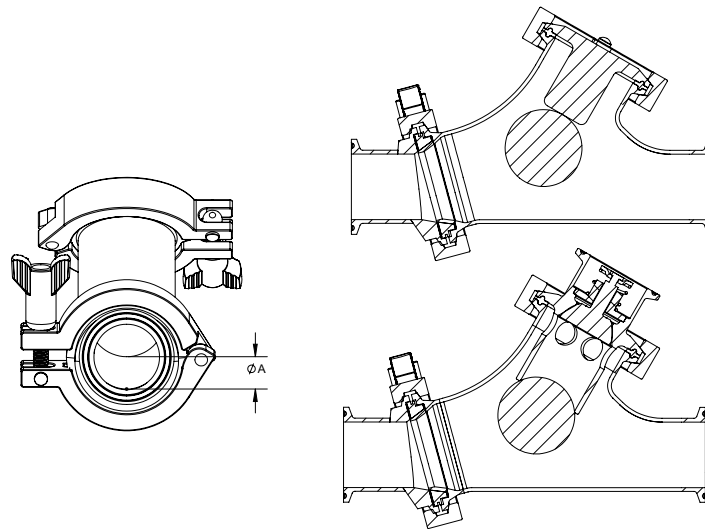
2-1/2" HYC Flow Rate vs. Pressure Drop



3" HYC Flow Rate vs. Pressure Drop



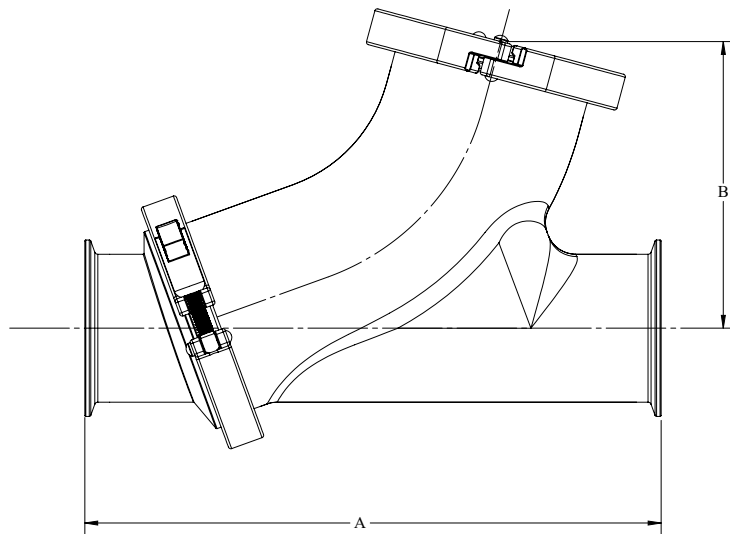
HYC-Series Y-Ball Check Valve - Maximum Particulate Diameter



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Size	A (in)
1-1/2"	0.67
2"	0.71
2-1/2"	1.09
3"	1.54

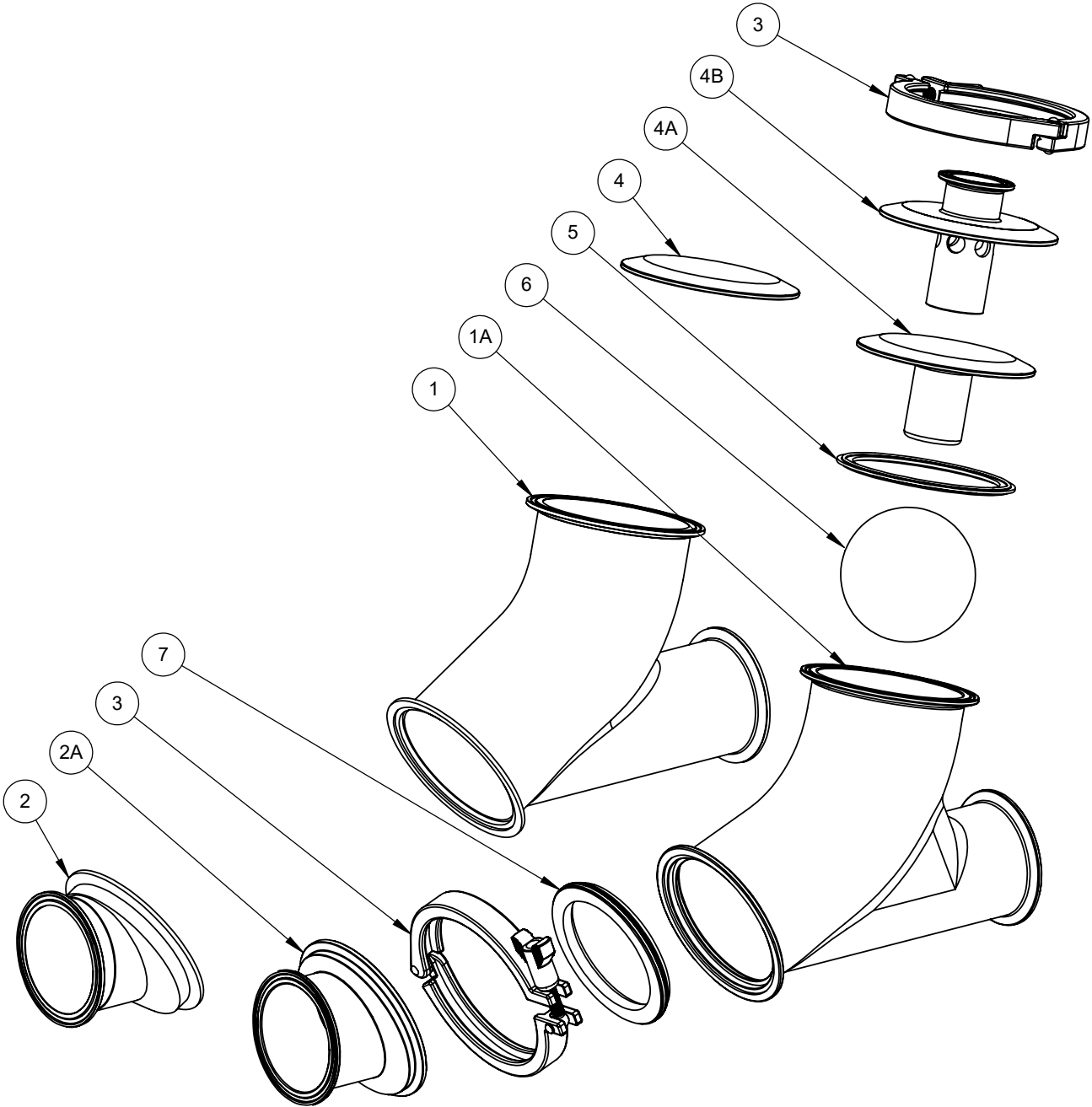
HYC-Series Y-Ball Check Valve - Dimensions



Size	A (in)	B (in)	PTFE Ball ϕ (in)	Rubber Ball ϕ (in)
1-1/2"	7.5	3.3	1.6	1.6
2"	8.5	3.9	2.1	2.1
2-1/2"	10	4.5	2.7	2.6
3"	11.5	5.3	3.6	3.5

HYC-Series Y-Ball Check Valve - Bill of Materials

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HYC-Series Y-Ball Check Valve - Bill of Materials

Item #	HYC Valve Size	Part #	Description	Material	Qty
1	1-1/2"	HYC-1-150	angle body (pre-2025 design)	316L SS	1
	2"	HYC-1-200			1
	2-1/2"	HYC-1-250			1
	3"	HYC-1-300			1
1A	1-1/2"	HYC-1A-150	angle body (2025 revised design)	316L SS	1
	2"	HYC-1A-200			1
	2-1/2"	HYC-1A-250			1
	3"	HYC-1A-300			1
2	1-1/2"	HYC-2-150	inlet body (pre-2025 design)	316L SS	1
	2"	HYC-2-200			1
	2-1/2"	HYC-2-250			1
	3"	HYC-2-300			1
2A	1-1/2"	HYC-2A-150	inlet body (2025 revised design)	316L SS	1
	2"	HYC-2A-200			1
	2-1/2"	HYC-2A-250			1
	3"	HYC-2A-300			1
3	1-1/2"	13MHHM200SN	clamp	CF8	2
	2"	13MHHM250SN			2
	2-1/2"	13MHHM300SN			2
	3"	13MHHM400SN			2
4	1-1/2"	16AMP-R200	end cap	316L SS	1
	2"	16AMP-R250			1
	2-1/2"	16AMP-R300			1
	3"	16AMP-R400			1
4A	1-1/2"	HYC-4A-150	HYC ball stabilizer end cap (standard)	316L SS	1
	2"	HYC-4A-200			1
	2-1/2"	HYC-4A-250			1
	3"	HYC-4A-300			1
4B	1-1/2"	B45Y-3-200	HYC ball stabilizer air blow valve body ¹	316L SS	1
	2"	B45Y-3-250			1
	2-1/2"	B45Y-3-300			1
	3"	B45Y-3-400			1
5	1-1/2"	40MP-E200	cap gasket	EPDM	1
	2"	40MP-E250			1
	2-1/2"	40MP-E300			1
	3"	40MP-E400			1
	1-1/2"	40MP-SFY200		FKM	1
	2"	40MP-SFY250			1
	2-1/2"	40MP-SFY300			1
	3"	40MP-SFY400			1

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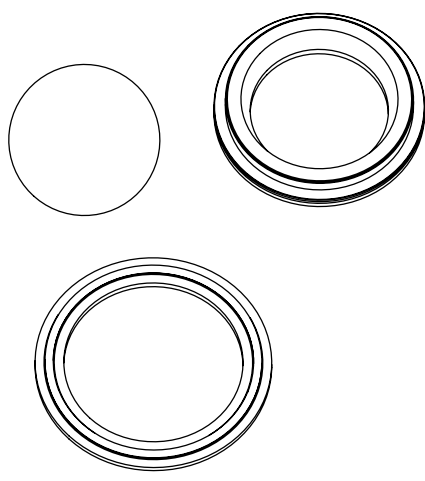
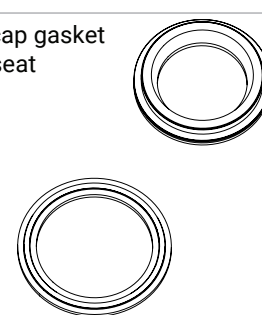
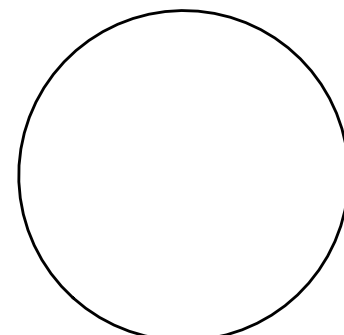
¹See B45-series EPRG for air end connection options.

HYC-Series Y-Ball Check Valve - Bill of Materials

Item #	HYC Valve Size	Part #	Description	Material	Qty
6	1-1/2"	HYC-TB150	ball	PTFE (standard)	1
	2"	HYC-TB200			1
	2-1/2"	HYC-TB250			1
	3"	HYC-TB300			1
	1-1/2"	HYC-EB150		EPDM	1
	2"	HYC-EB200			1
	2-1/2"	HYC-EB250			1
	3"	HYC-EB300			1
	1-1/2"	HYC-VB150		FKM	1
	2"	HYC-VB200			1
	2-1/2"	HYC-VB250			1
	3"	HYC-VB300			1
	1-1/2"	HYC-BB150		nitrile rubber	1
	2"	HYC-BB200			1
	2-1/2"	HYC-BB250			1
	3"	HYC-BB300			1
7	1-1/2"	HYC-7E-150	seat	EPDM	1
	2"	HYC-7E-200			1
	2-1/2"	HYC-7E-250			1
	3"	HYC-7E-300			1
	1-1/2"	HYC-7V-150		FKM	1
	2"	HYC-7V-200			1
	2-1/2"	HYC-7V-250			1
	3"	HYC-7V-300			1

NOTE: The revised version of the HYC-series Y-Ball Check valve will be the standard, launching 2024.

HYC-Series Y-Ball Check Valve - Repair Kits

Repair Kit Type	Elastomer/Ball Material	Size (in)	Part #	Contains: (1) end cap gasket, (1) ball, and (1) seat
Complete Repair Kit	EPDM and PTFE ball	1-1/2	HYC-RKE150	
		2	HYC-RKE200	
		2-1/2	HYC-RKE250	
		3	HYC-RKE300	
	EPDM and nitrile rubber ball	1-1/2	HYC-RKE150B	
		2	HYC-RKE200B	
		2-1/2	HYC-RKE250B	
		3	HYC-RKE300B	
	FKM and PTFE ball	1-1/2	HYC-RKV150	
		2	HYC-RKV200	
		2-1/2	HYC-RKV250	
		3	HYC-RKV300	
FKM and nitrile rubber ball	1-1/2	HYC-RKV150B		
	2	HYC-RKV200B		
	2-1/2	HYC-RKV250B		
	3	HYC-RKV300B		
Elastomer Seal Kit	EPDM	1-1/2	HYC-SKE150	
		2	HYC-SKE200	
		2-1/2	HYC-SKE250	
		3	HYC-SKE300	
	FKM	1-1/2	HYC-SKV150	
		2	HYC-SKV200	
		2-1/2	HYC-SKV250	
		3	HYC-SKV300	
Replacement Ball Kit	PTFE	1-1/2	HYC-TB150	
		2	HYC-TB200	
		2-1/2	HYC-TB250	
		3	HYC-TB300	
	Nitrile rubber	1-1/2	HYC-BB150	
		2	HYC-BB200	
		2-1/2	HYC-BB250	
		3	HYC-BB300	
	FKM	1-1/2	HYC-VB150	
		2	HYC-VB200	
		2-1/2	HYC-VB250	
		3	HYC-VB300	
EPDM	1-1/2	HYC-EB150		
	2	HYC-EB200		
	2-1/2	HYC-EB250		
	3	HYC-EB300		



HAV-Series Air Relief Check Valve

The HAV-series air relief check valve is installed vertically on suction lines where air removal is required. This valve is double-seated with a freely moving polypropylene ball.

The ball, which is lighter than water, closes against the upper or lower seat, against vacuum or positive pressure conditions. Under vacuum the ball sits at the bottom of the valve. Under positive pressure the ball moves allowing air to escape.

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They are found in food processing, beverage, dairy, personal care, winery, brewery, pet product, and industrial markets.

Sizes

- 1-1/2" and 2"

Features

- Replaceable ball and gasket
- Valve seals for pressure and vacuum

Materials

- Product contact metal components: 304 stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: EPDM (standard), others available upon request

Specifications

- Clamp connections standard
- Valve data
 - Maximum pressure: **145 PSI (10 bar)**
 - Maximum operating temperature: **212°F (100°C)**
- Ball material: Polypropylene (standard) or PTFE
- Ball material density
 - Polypropylene: 0.033 lb/in³
 - PTFE: 0.078 lb/in³
- Surface finish
 - Product contact metal components: Ra ≤ 32

NOTE: Not for use on tanks

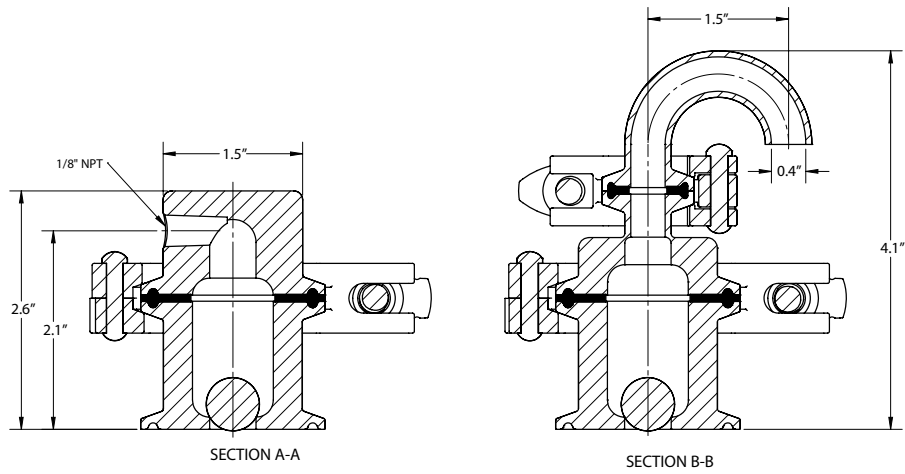
3A approved only when used with 3A cover (item #4 on page 4)



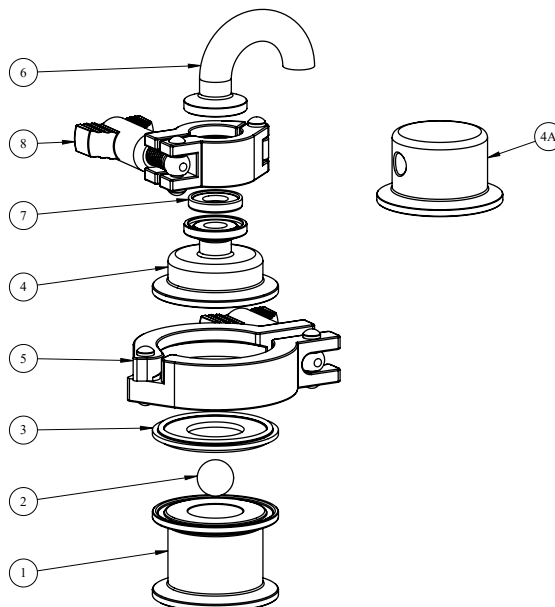
HAV-Series Air Relief Check Valve - Part Number Key

HAV-Series Air Relief Check Valve Part Number Key Example: HAVNEA150		Series	Style	Elastomer	Ball Material	Size
		HAV	N	E	A	150
Series	Code	←	←	←	←	←
HAV	HAV					
Style	Code	←	←	←	←	←
1/8" NPT tap (not 3A)	N					
1/2" 3A elbow	3					
Elastomer	Code	←	←	←	←	←
EPDM (standard)	E					
FKM	V					
Ball Material	Code	←	←	←	←	←
Polypropylene (standard)	A					
PTFE	P					
Size	Code	←	←	←	←	←
1-1/2"	150					
2"	200					

HAV-Series Air Relief Check Valve - Dimensions



HAV-Series Air Relief Check Valve - Bill of Materials



Item #	Valve Size	Part #	Description	Material	Elbow NPT Qty	
					Elbow	NPT
1	1-1/2"	HAV-1150	1-1/2" body	304 SS	1	1
	2"	HAV-1200	2" body			
2	all	HAV-3P	ball	polypropylene	1	1
		HAV-3T		PTFE		
3	all	40MP-E100	1" gasket	EPDM	1	1
4	all	HAV-4	3A cover	304 SS	1	-
4A	all	HAV-4A	tapped cover	304 SS	-	1
5	all	13MHHM100-150SN	1" to 1-1/2" clamp	CF8	1	1
6	all	HAV-6	180° tube ferrule	304 SS	1	-
7	all	42MP-E50	1/2" gasket	EPDM	1	-
8	all	13MHHM50-75SN	1/2" clamp	CF8	1	-

HAV-Series Air Relief Check Valve - Repair Kits

Size	Polypropylene Ball Part #	PTFE Ball Part #
all	HAV-3P	HAV-3T

HSC/EHSC-Series Spring Check Valve



Used in sanitary processes to prevent backflow of fluids. The HSC-Series is for vertical applications and the EHSC-Series is for horizontal applications. These valves are certified clean-in-place for sizes 1" through 4" and clean-out-of-place for sizes 1/2" and 3/4".

They are found in the food processing, beverage, dairy, personal care, winery, brewery, pet product and industrial markets.

D

Sizes

- 1/2" to 4"

Features

- Machined from solid bar
- Integrated spider design
- Standard O-ring and gasket seals

Materials

- Product contact metal components: 316L stainless steel
- Non-product contact metal components: CF8
- Product contact seals: EPDM, FKM

Specifications

- Standard connection: clamp
- Valve data
 - Maximum pressure: **145 PSI (10 bar)**
 - Maximum operating temperature: **200°F (93°C)**
 - Minimum operating temperature: **15°F (-9°C)**
- Surface finish
 - Product contact metal components: Ra ≤ 32
- Cleaning method
 - CIP models: HSC and EHSC sizes 1" to 4"
 - COP models: HSC and EHSC sizes 1/2" to 3/4"



NOTE: Check valves should be sized for the application and not necessarily for the tubing size.

Cracking Pressure Chart

Size	Cracking Pressure (PSIG)
1/2"	10.0
3/4"	4.0
1"	2.5
1-1/2"	1.0
2"	1.5
2-1/2"	0.8
3"	0.5
4"	0.4

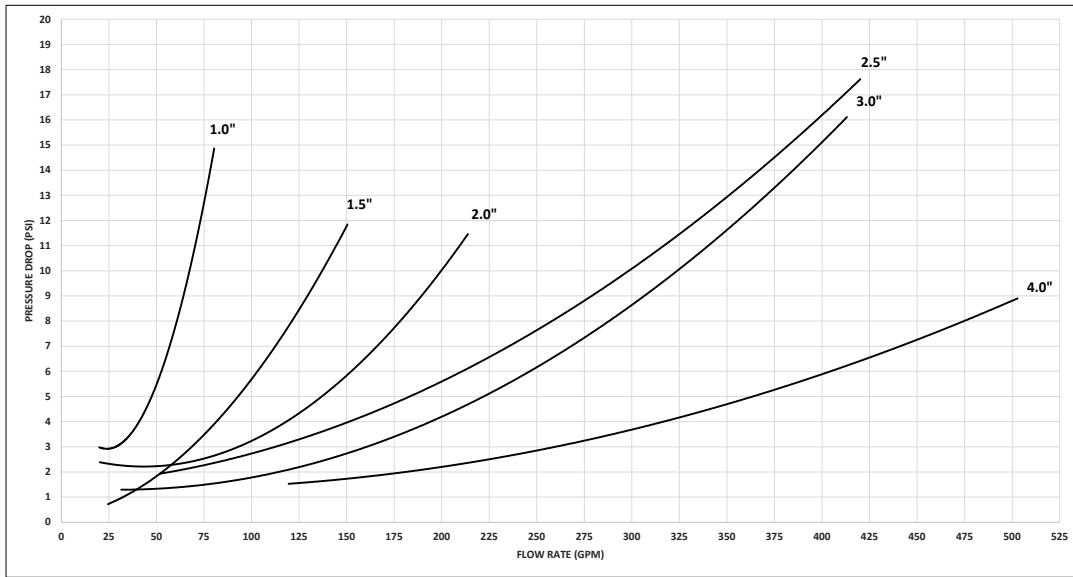
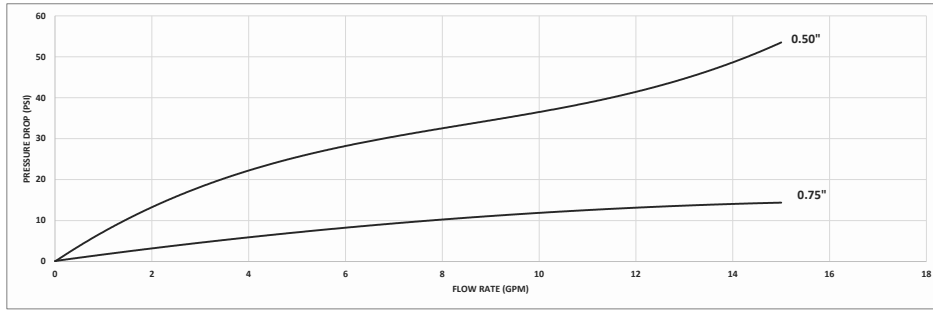
HSC/EHSC-Series Spring Check Valve - Part Number Key

HSC/EHSC-Series Spring Check Valve Part Number Key Example: HSCE050CCA		Series	Elastomers	Size	End Connections
		HSC	E	050	
Series	Code	←	←	←	
HSC (vertical application)	HSC				
EHSC (horizontal application)	EHSC				
Elastomers	Code		←	←	
EPDM	E				
FKM	V				
FKM plunger with EPDM body gasket	W				
FKM (metal detectable)	Y				
Size	Code			←	
1/2"	050				
3/4"	075				
1"	100				
1-1/2"	150				
2"	200				
2-1/2"	250				
3"	300				
4"	400				
End Connections	Code				
Clamp	CC				
Weld	BB				

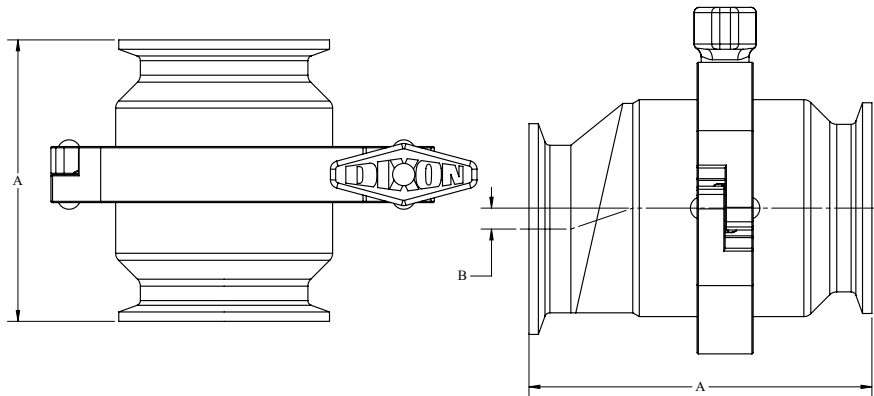


NOTE: Standard surface finish is 32 Ra I.D.
For other configurations, please contact Dixon Sanitary

HSC/EHSC-Series Spring Check Valve - Pressure Drop Charts



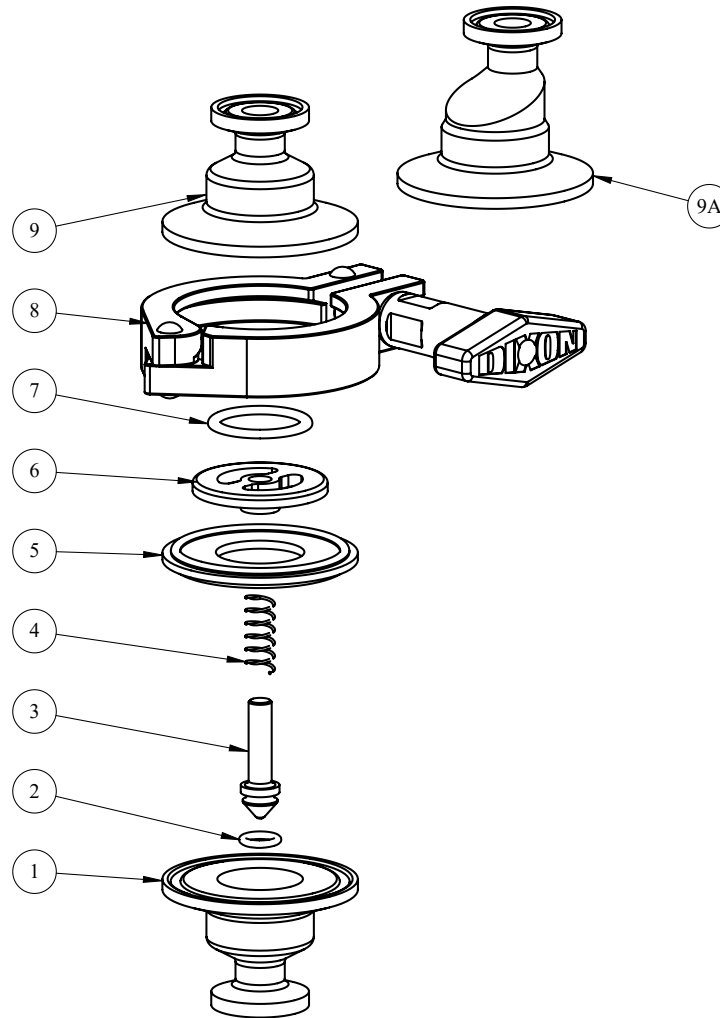
HSC/EHSC-Series Spring Check Valve - Dimensions



Size	HSC		EHSC	
	A (in)	B (in)	A (in)	B (in)
1/2"	2.7	0.3	3.1	0.3
3/4"	2.7	0.3	3.1	0.3
1"	3.3	0.3	4.0	0.3
1-1/2"	3.4	0.3	3.6	0.3
2"	3.4	0.3	4.1	0.3
2-1/2"	3.4	0.4	4.0	0.4
3"	3.4	0.4	4.0	0.4
4"	4.1	0.4	4.7	0.4

HSC/EHSC-Series Spring Check Valve - Bill of Materials

1/2" to 3/4"

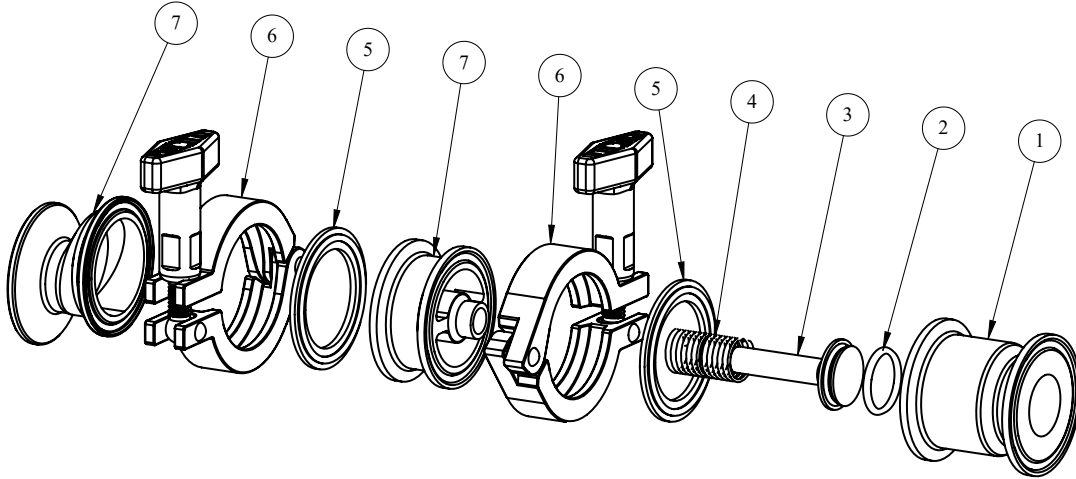


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Item #	Size	Part #	Description	Material	Qty	
					HSC	EHSC
1	1/2"	HSC-LB050	lower body, clamp	316L SS	1	1
	3/4"	HSC-LB075	lower body, clamp	316L SS	1	1
2	both	see repair kits	plunger O-ring	see repair kits	1	1
3	1/2"	HSC-P050	plunger	316L SS	1	1
	3/4"	HSC-P075	plunger	316L SS	1	1
4	1/2"	HSC-SP050	spring	316L SS	1	1
	3/4"	HSC-SP075	spring	316L SS	1	1
5	both	see repair kits	plunger O-ring	see repair kits	1	1
6	1/2"	HSC-S050	spider	316L SS	1	1
	3/4"	HSC-S075	spider	316L SS	1	1
7	both	see repair kits	spider O-ring	see repair kits	1	1
8	both	13MHHM100-150	clamp	CF8	1	1
9	1/2"	HSC-UB050	concentric upper body, clamp	316L SS	1	-
	3/4"	HSC-UB075	concentric upper body, clamp	316L SS	1	-
9A	1/2"	EHSC-UB050	eccentric upper body, clamp	316L SS	-	1
	3/4"	EHSC-UB075	eccentric upper body, clamp	316L SS	-	1

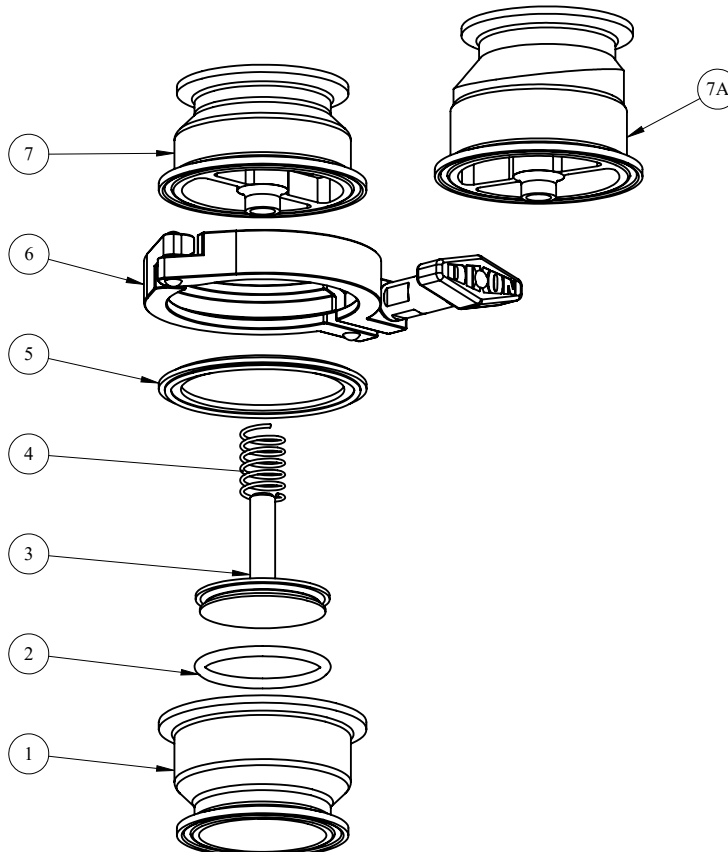
HSC/EHSC-Series Spring Check Valve - Bill of Materials

1"



Item #	Part #	Description	Material	Qty
1	HSC-LB100	lower body, clamp	316L SS	1
2	see repair kits	plunger O-ring	see repair kits	1
3	HSC-P100	plunger	316L SS	1
4	HSC-SP100	spring	316L SS	1
5	see repair kits	body gasket	see repair kits	2
6	13MHHM100-150	clamp	CF8	2
7	EHSC-UB100	2 pc upper body, clamp	316L SS	1

1" to 4" HSC, 1-1/2" to 4" EHSC



HSC/EHSC-Series Spring Check Valve - Bill of Materials

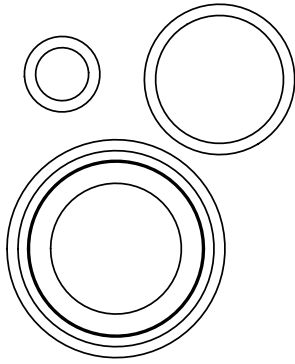
1" to 4" HSC, 1-1/2" to 4" EHSC

Item #	Size	Part #	Description	Material	Qty	
					HSC	EHSC
1	1"	HSC-LB100	lower body, clamp	316L SS	1	-
	1-1/2"	HSC-LB150	lower body, clamp	316L SS	1	1
	2"	HSC-LB200	lower body, clamp	316L SS	1	1
	2-1/2"	HSC-LB250	lower body, clamp	316L SS	1	1
	3"	HSC-LB300	lower body, clamp	316L SS	1	1
	4"	HSC-LB400	lower body, clamp	316L SS	1	1
2	all	see repair kits	plunger O-ring	see repair kits	1	1
3	1"	HSC-P100	plunger	316L SS	1	-
	1-1/2"	HSC-P150	plunger	316L SS	1	1
	2"	HSC-P200	plunger	316L SS	1	1
	2-1/2"	HSC-P250	plunger	316L SS	1	1
	3"	HSC-P300	plunger	316L SS	1	1
	4"	HSC-P400	plunger	316L SS	1	1
4	1"	HSC-SP100	spring	316L SS	1	-
	1-1/2"	HSC-SP150	spring	316L SS	1	1
	2"	HSC-SP200	spring	316L SS	1	1
	2-1/2"	HSC-SP250	spring	316L SS	1	1
	3"	HSC-SP300	spring	316L SS	1	1
	4"	HSC-SP400	spring	316L SS	1	1
5	all	see repair kits	plunger O-ring	see repair kits	1	1
6	1"	13MHHM100-150	clamp	316L SS	1	-
	1-1/2"	13MHHM200	clamp	316L SS	1	1
	2"	13MHHM250	clamp	316L SS	1	1
	2-1/2"	13MHHV300	clamp	316L SS	1	1
	3"	13MHHM400	clamp	316L SS	1	1
	4"	13MHHM500	clamp	316L SS	1	1
7	1"	HSC-UB100	concentric upper body, clamp	316L SS	1	-
	1-1/2"	HSC-UB150	concentric upper body, clamp	316L SS	1	-
	2"	HSC-UB200	concentric upper body, clamp	316L SS	1	-
	2-1/2"	HSC-UB250	concentric upper body, clamp	316L SS	1	-
	3"	HSC-UB300	concentric upper body, clamp	316L SS	1	-
	4"	HSC-UB400	concentric upper body, clamp	316L SS	1	-
7A	1-1/2"	EHSC-UB150	eccentric upper body, clamp	316L SS	-	1
	2"	EHSC-UB200	eccentric upper body, clamp	316L SS	-	1
	2-1/2"	EHSC-UB250	eccentric upper body, clamp	316L SS	-	1
	3"	EHSC-UB300	eccentric upper body, clamp	316L SS	-	1
	4"	EHSC-UB400	eccentric upper body, clamp	316L SS	-	1

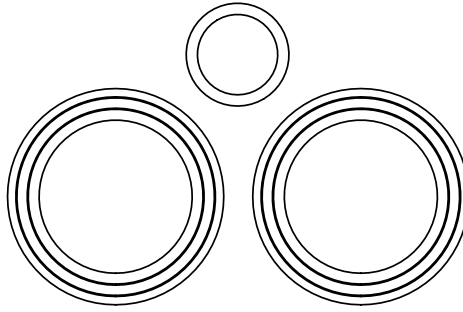
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HSC/EHSC-Series Spring Check Valve - Repair Kits

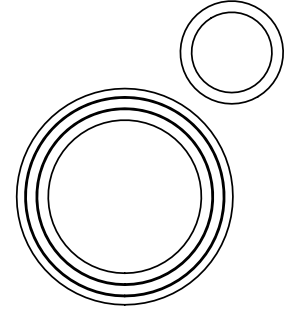
1/2" & 3/4" HSC/EHSC



1" EHSC



1" - 4" HSC & 1-1/2" - 4" EHSC



D

Series	Elastomer	Size	Part #
HSC	EPDM	1/2"	HSC-RKE050
		3/4"	HSC-RKE075
		1"	HSC-RKE100
		1-1/2"	HSC-RKE150
		2"	HSC-RKE200
		2-1/2"	HSC-RKE250
		3"	HSC-RKE300
	FKM	4"	HSC-RKE400
		1/2"	HSC-RKV050
		3/4"	HSC-RKV075
		1"	HSC-RKV100
		1-1/2"	HSC-RKV150
		2"	HSC-RKV200
		2-1/2"	HSC-RKV250
EHSC	EPDM	3"	HSC-RKV300
		4"	HSC-RKV400
		1/2"	EHSC-RKE050
		3/4"	EHSC-RKE075
		1"	EHSC-RKE100
		1-1/2"	EHSC-RKE150
		2"	EHSC-RKE200
	FKM	2-1/2"	EHSC-RKE250
		3"	EHSC-RKE300
		4"	EHSC-RKE400
		1/2"	EHSC-RKV050
		3/4"	EHSC-RKV075
		1"	EHSC-RKV100
		1-1/2"	EHSC-RKV150
2"	EHSC-RKV200		
2-1/2"	EHSC-RKV250		
3"	EHSC-RKV300		
4"	EHSC-RKV400		

TVPC-Series Air and Vacuum Relief Tank Vent Valve

When filling or emptying a tank this valve is used to relieve pressure or vacuum. The stainless steel dome will help in preventing external contamination. They are found mostly in winery and brewery markets.

Sizes

- 2" and 3"

Feature

- 2" and 3" clamp connections on same valve

Materials

- Metal components: 304 stainless steel
- Other components: PVC

Specifications

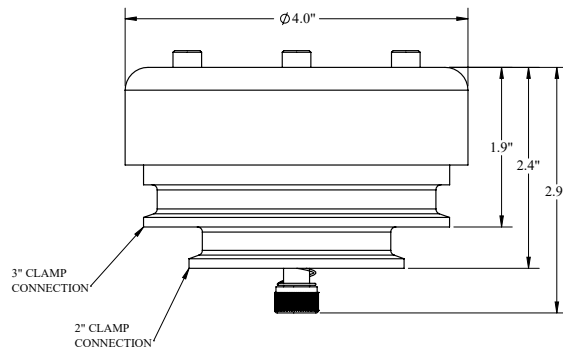
- Standard clamp connection
- Valve data:
 - Vacuum break: **2" water column (0.1 PSI)**
 - Pressure relief: **2" water column (0.1 PSI)**
 - Maximum tank fill and evacuation rate: **250 GPM**
 - Operating temperature range: **40°F to 120°F (4.4°C to 49°C)**

NOTE: This valve has been designed as a secondary pressure and vacuum relief vent. Always open upper manhole whenever product is being transferred in excess of **250 GPM**. Dixon® Sanitary assumes no liability for tank damage or product loss. Designed for indoor use.

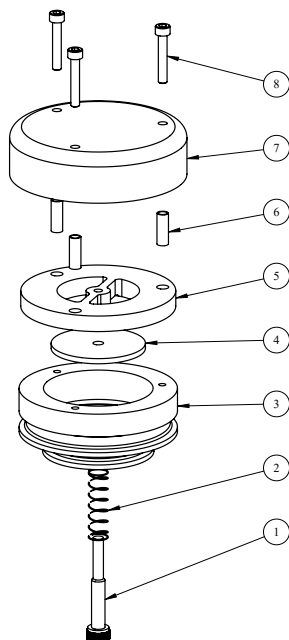


Part #
TVPC200-300

TVPC-Series Air and Vacuum Relief Tank Vent Valve - Dimensions



TVPC-Series Air and Vacuum Relief Tank Vent Valve - Bill of Materials



Item #	Part #	Description	Material	Qty
1	TVPC-1	spring bolt	304 SS	1
2	TVPC-2	spring	304 SS	1
3	TVPC-3	body	PVC	1
4	TVPC-4	check plate	PVC	1
5	TVPC-5	flow plate	PVC	1
6	TVPC-6	spacer	304 SS	3
7	TVPC-7	cap	304 SS	1
8	TVPC-8	cap bolt	304 SS	3

TVSEC-Series Stainless Steel Air and Vacuum Relief Tank Vent Valve

When filling or emptying a tank this valve relieves pressure or vacuum and seals under equal pressure. In addition, it includes an external stainless steel screen that protects against larger particulates from entering the tank. It includes a 1/4" FNPT port that allows inert gas to be pumped into the tank. They are most prominent in the winery and brewery markets.

Sizes

- 2", 3", and 4"

Features

- Triple action functionality
 - Valve relieves pressure as the fluid level rises while filling a tank
 - Valve relieves vacuum as the fluid level drops while emptying a tank
 - Seals under equal pressure
- Stainless steel screen surrounds the entire vacuum and pressure flow area
- 1/4" FNPT connection for gas inlet; plug also supplied

Materials

- Product contact metal components: 304 stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: EPDM
- Gas inlet purge plug: Nylon

Specifications

- Standard clamp connection
- Tank vent data
 - Vacuum break: **2" water column (0.1 PSI)**
 - Pressure relief: **22" water column (0.8 PSI)**
 - Maximum tank fill and evacuation rate: **250 GPM**
 - Operating temperature range: **40°F to 120°F (4.4°C to 49°C)**
- Surface finish
 - Product contact metal components: **Ra ≤ 32**
- Screen technical data
 - Surface area of the open holes: **3.2in² +/- 0.2in²**
 - Surface area of the open holes and screen: **20in²**
 - Hole diameter: **0.03"**

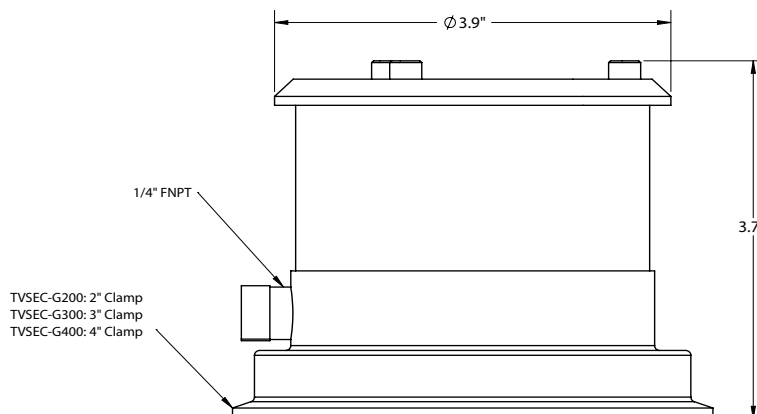
NOTE: This valve has been designed as a secondary pressure and vacuum relief vent. Always open the upper manhole whenever a product is being transferred in excess of **250 GPM**. Dixon Sanitary assumes no liability for tank damage or product loss. Designed for indoor use.



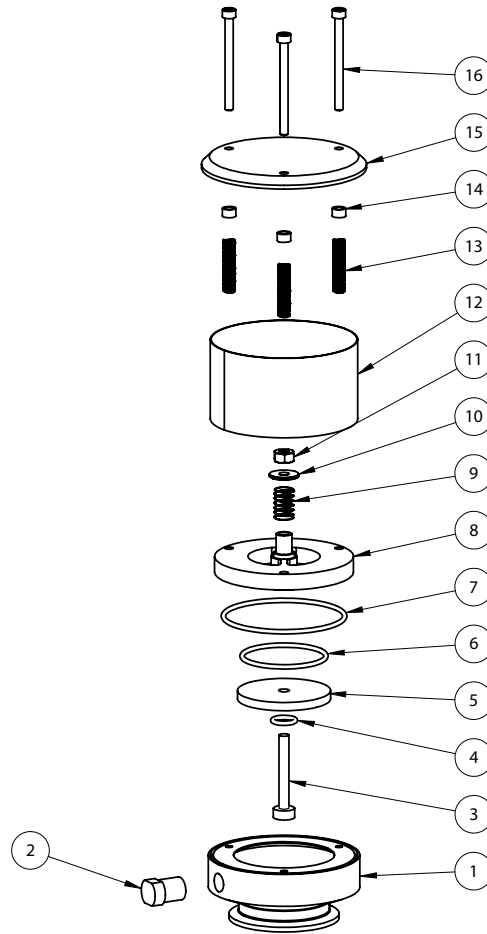
TVSEC-Series Air and Vacuum Relief Tank Vent Valve - Part Number Table

Tube O.D.	Part #
2"	TVSEC-G200
3"	TVSEC-G300
4"	TVSEC-G400

TVSEC-Series Air and Vacuum Relief Tank Vent Valve - Dimensions



TVSEC-Series Stainless Steel Air and Vacuum Relief Tank Vent Valve - Bill of Materials



D

Item #	Valve Size	Part #	Description	Material	Qty
1	2"	TVSEC-1-200	2" body	304 SS	1
	3"	TVSEC-1-300	3" body		
	4"	TVSEC-1-400	4" body		
2	all	TVSEC-2	plug	PVC	1
3	all	TVSEC-3	vacuum bolt	304 SS	1
4	all	TVSEC-4E	vacuum bolt O-ring	EPDM	1
5	all	TVSEC-5	vacuum disc	304 SS	1
6	all	TVSEC-6E	vacuum disc O-ring	EPDM	1
7	all	TVSEC-7E	pressure plate O-ring	EPDM	1
8	all	TVSEC-8	pressure plate	304 SS	1
9	all	TVSEC-9	vacuum spring	304 SS	1
10	all	TVSEC-10	flat washer	304 SS	1
11	all	TVSEC-11	nut	304 SS	1
12	all	TVSEC-12	screen	304 SS	1
13	all	TVSEC-13	pressure plate springs	304 SS	3
14	all	TVSEC-14	spacers	304 SS	3
15	all	TVSEC-15	cover	304 SS	1
16	all	TVSEC-16	cover screws	304 SS	3

TVSEC-Series Stainless Steel Air and Vacuum Relief Tank Vent Valve - Repair Kits

Tank Vent Repair Kit

Part #	Description	Qty
TVSEC-RK	304 stainless steel vacuum bolt	1
	EPDM vacuum bolt O-ring	1
	EPDM vacuum disc O-ring	1
	EPDM pressure plate O-ring	1
	vacuum spring	1
	304 stainless steel flat washer	1
	304 stainless steel nut	1
	304 stainless steel pressure plate springs	3
	304 stainless steel spacers	3
	304 stainless steel cover screws	3



Tank Vent O-Ring Kit

Part #	Description	Qty
TVSEC-OKIT-E	EPDM vacuum bolt O-ring	1
	EPDM vacuum disc O-ring	1
	EPDM pressure plate O-ring	1



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B5102-Series Butterfly Valve

Used in hygienic applications when you need a valve for isolation or control of the flow of product. The body acts as the clamp and the seat acts as the ferrule gasket.

They are found in the food processing, beverage, dairy, winery, brewery, pet products, and industrial markets.

Sizes

- 1", 1-1/2", 2", 2-1/2", 3", 4"

Features

- Bi-directional flow
- All sizes use only 3/4" of line space
- 3-position reversible handle
- No need for clamps, gaskets, or welding
- Quick and easy installation (no special tools required)

Materials

- Product contact metal components: 316L stainless steel
- Non-product contact metal components: 304 stainless steel
- Non-product contact other: PTFE
- Product contact seals: EPDM, silicone, or FKM

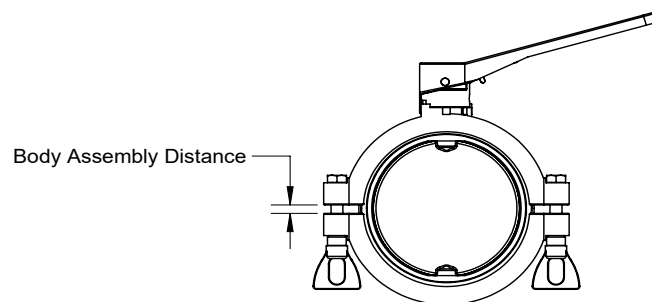
Specifications

- Standard connections: for use with clamp ferrules
- Maximum pressure of valve:
 - 1" to 1-1/2" **140 PSI**
 - 2" to 2-1/2": **120 PSI**
 - 3": **100 PSI**
 - 4" **70 PSI**
- Minimum line pressure (all sizes): 0.4" Hg vacuum at **68°F (-20°C)**
- Operating temperature range: **15°F to 200°F (-9°C to 93°C)**
- Surface Finish
 - Product Contact Metal Components: ≤ 32 Ra
 - Non-Product Contact Metal Components: ≤ 64 Ra



E

B5102-Series Butterfly Valve - Break Torque, Pressure Rating, Flow Coefficient, Body Assembly, and Weight



Size	Break Torque (in-lbs)	Pressure Rating (PSI)	Flow Coefficient (Cv)	Body Assembly Distance (in)	Weight with Handle (lbs)
1"	35	140	23	0.084	1.5
1-1/2"	40	140	80	0.088	2
2"	60	120	230	0.094	2.5
2-1/2"	80	120	264	0.082	3
3"	215	100	372	0.109	4
4"	495	70	800	0.083	6

B5102-Series Butterfly Valve - Part Number Key

B5102-Series Butterfly Valve Part Number Key Example: B5102E150-A		Series	Seat Material	Size	*	Actuation	Control Unit/ Feedback	Finish Options
		B5102	E	150	-	A		
Series	Code							
B5102	B5102							
Seat Material	Code							
EPDM	E							
Silicone	S							
FKM	V							
Size	Code							
1"	100							
1-1/2"	150							
2"	200							
2-1/2"	250							
3"	300							
4"	400							
Actuation	Code							
Manual handle -3 position standard handle	A							
24VDC electric (power open/ power close)	D							
110VAC electric (power open/ power close)	E							
Normally open linear pneumatic vertical canister	F							
Normally closed linear pneumatic vertical canister	G							
Air to air linear pneumatic vertical canister	H							
Air to air pneumatic rack & pinion SS	J							
Normally closed pneumatic rack & pinion stainless steel	K							
Normally open pneumatic rack & pinion stainless steel	L							
Air to air pneumatic rack & pinion AL	M							
Normally closed pneumatic rack & pinion AL	N							
Normally open pneumatic rack & pinion AL	P							
Normally closed, dead man handle	Q							
220VAC electric (power open/ power close)	R							
Normally closed pneumatic rack & pinion AL (oversized)	S							
24VAC electric (power open/ power close)	T							
110VAC electric (4-20mA input/ output modulating controller)	U							
24VDC electric (4-20mA input/ output modulating controller)	V							
24VDC electric (power open/power close, 2 extra switches)	W							
24VDC electric (4-20mA input/ output modulating controller, oversized)	X							

E

*Only use a dash (-) in the part number if using a manual handle with no options, otherwise the dash is eliminated.

B5102-Series Butterfly Valve - Part Number Key

B5102-Series Butterfly Valve Part Number Key Example: B5102E150-A		Series	Seat Material	Size	*	Actuation	Control Unit/ Feedback	Finish Options
		B5102	E	150	-	A		
24VDC electric (75% duty cycle, oversized)	Y	<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> E </div>						
Normally closed pneumatic rack & pinion TP	Z							
12VDC electric (power open/ power close)	1							
110VAC electric (power open/power close, undersized)	2							
Air to air pneumatic rack & pinion AL (oversized)	3							
Air to air pneumatic rack & pinion AL (double oversized)	4							
Normally closed pneumatic rack & pinion AL (double oversized)	5							
24VDC electric (4-20mA input/0-10V output modulating controller)	6							
Control Unit/Feedback	Code							
None	blank							
Only available to be used with the following actuation codes: F, G, and H								
10-30VDC 12mm external proximity, PNP, open/close, (qty 2), flying leads	01							
10-30 VDC 12mm external proximity, NPN, open/close, (qty 2), flying leads	02							
10-30VDC 12mm external proximity, PNP, open, (Qty 1), flying leads	03							
10-30VDC 12mm external proximity, PNP, close, (Qty 1), flying leads	04							
10-30 VDC 12mm external proximity, NPN, open, (qty 1), flying leads	05							
10-30VDC 12mm external proximity, PNP, open/close, (Qty 2), M12 quick disconnect	06							
10-30 VDC 12mm external proximity, NPN, open/close, (qty 2), M12 quick disconnect	07							
10-30VDC 12mm external proximity, PNP, open, (Qty 1), M12 quick disconnect	08							
10-30VDC 12mm external proximity, PNP, close, (qty 1), M12 quick disconnect	09							
10-30 VDC 12mm external proximity, NPN, open, (qty 1), M12 quick disconnect	10							
Only available to be used with the following actuation codes: F, G, and H								
Burkert 8691, single acting, DeviceNet, multipin	11							
Burkert 8691, single acting, AS-i, multipin	12							
Burkert 8691, single acting, 24VDC, multipin	13							
Burkert 8691, double acting, DeviceNet, multipin	14							
Burkert 8691, double acting, AS-i, multipin	15							
Burkert 8691, double acting, 24VDC, multipin	16							

*Only use a dash (-) in the part number if using a manual handle with no options, otherwise the dash is eliminated.

B5102-Series Butterfly Valve - Part Number Key

B5102-Series Butterfly Valve Part Number Key Example: B5102E150-A		Series	Seat Material	Size	*	Actuation	Control Unit/ Feedback	Finish Options
		B5102	E	150	-	A		
Burkert 8691, without solenoid, 24VDC, multipin	17							
Burkert 8692 positioner, 24VDC, 4-20mA, multipin	18							
Burkert 8692 positioner, 24VDC, ATEX, multipin	62							
Burkert 8691, single acting, IO link, multipin	64							
Only available to be used with the following actuation codes: J, K, L, M, N, and P								
Limit switch box, OPEN/CLOSE beacon, (2) SPDT mech. switches	19							
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches	20							
Limit switch box, OPEN/CLOSE beacon, AS-I interface	21							
Only available to be used with the following actuation codes: J, K, L, M, N, and P								
Rotary pneumatic positioner 3-15 PSI input, no feedback	22							
Rotary pneumatic positioner 3-15 PSI input, (2) SPDT mech. switches for feedback	23							
Rotary pneumatic positioner 3-15 PSI input, 4-20mA for feedback	24							
Rotary electropneumatic positioner 4-20mA input, no feedback	25							
Rotary electropneumatic positioner 4-20mA input, (2) SPDT mech. switches for feedback	26							
Rotary electropneumatic positioner 4-20mA input, 4-20mA for feedback	27							
Rotary electropneumatic positioner 0-10v input, no feedback	28							
Rotary electropneumatic positioner 0-10v input, (2) SPDT mech. switches for feedback	29							
Rotary electropneumatic positioner 0-10v input, 4-20mA for feedback	30							
Single coil solenoid, 12VDC	31							
Single coil solenoid, 24VDC	32							
Single coil solenoid, 24VAC	33							
Single coil solenoid, 110VAC	34							
Single coil solenoid, 220VAC	35							
Single coil solenoid, 12VDC + option 19 limit switch	36							
Single coil solenoid, 12VDC + option 20 limit switch	37							
Single coil solenoid, 24VDC + option 19 limit switch	38							
Single coil solenoid, 24VDC + option 20 limit switch	39							
Single coil solenoid, 24VAC + option 19 limit switch	40							

*Only use a dash (-) in the part number if using a manual handle with no options, otherwise the dash is eliminated.

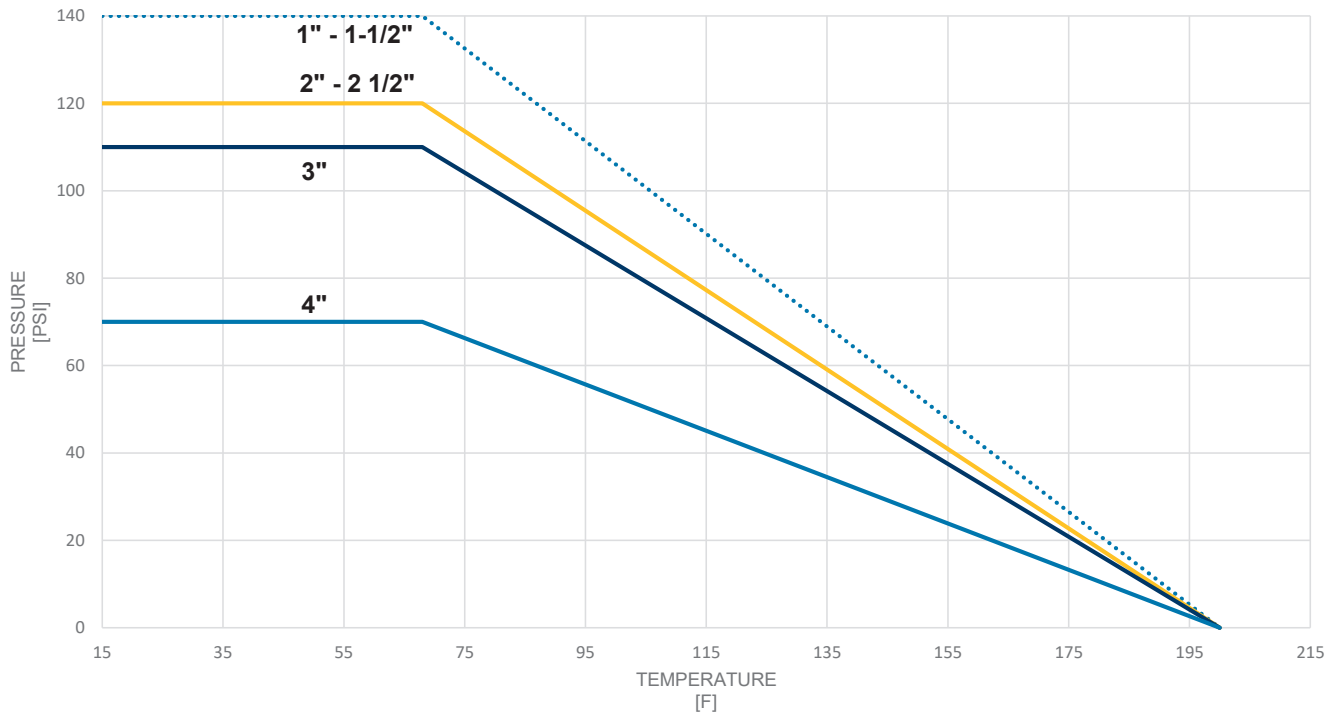
B5102-Series Butterfly Valve - Part Number Key

B5102-Series Butterfly Valve Part Number Key Example: B5102E150-A		Series	Seat Material	Size	*	Actuation	Control Unit/ Feedback	Finish Options							
		B5102	E	150	-	A									
Single coil solenoid, 24VAC + option 20 limit switch	41														
Single coil solenoid, 110VAC + option 19 limit switch	42														
Single coil solenoid, 110VAC + option 20 limit switch	43														
Single coil solenoid, 220VAC + option 19 limit switch	44														
Single coil solenoid, 220VAC + option 20 limit switch	45														
Limit switch box with integral solenoid, AS-i, 24VDC	46														
Rotary electropneumatic positioner 4-20mA input, no feedback, explosion proof	48														
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	49														
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, explosion proof	50														
Single coil solenoid, 12VDC + option 19 limit switch+ pre-wired	51														
Single coil solenoid, 12VDC + option 20 limit switch+ pre-wired	52														
Single coil solenoid, 24VDC + option 19 limit switch+ pre-wired	53														
Single coil solenoid, 24VDC + option 20 limit switch+ pre-wired	54														
Single coil solenoid, 24VAC + option 19 limit switch+ pre-wired	55														
Single coil solenoid, 24VAC + option 20 limit switch+ pre-wired	56														
Single coil solenoid, 110VAC + option 19 limit switch+ pre-wired	57														
Single coil solenoid, 110VAC + option 20 limit switch+ pre-wired	58														
Single coil solenoid, 220VAC + option 19 limit switch+ pre-wired	59														
Single coil solenoid, 220VAC + option 20 limit switch+ pre-wired	60														
Mount actuator rotated 90 degrees	61														
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, 24VDC single coil solenoid, explosion proof	63														
Limit switch box, OPEN/CLOSE beacon, (2) mechanical SPDT switches, explosion proof	65														
Finish Options	Code								←						
32 Ra mechanical (standard)	blank														
25 Ra mechanical	B														
20 Ra mechanical	C														
15 Ra mechanical	D														

E

*Only use a dash (-) in the part number if using a manual handle with no options, otherwise the dash is eliminated.

B5102-Series Butterfly Valve - Pressure Temperature Chart



1" - 1-1/2" Pressure Temperature Relation

Temperature (°F)	Pressure PSI
15	140
68	140
200	0

2" - 2-1/2" Pressure Temperature Relation

Temperature (°F)	Pressure PSI
15	120
68	120
200	0

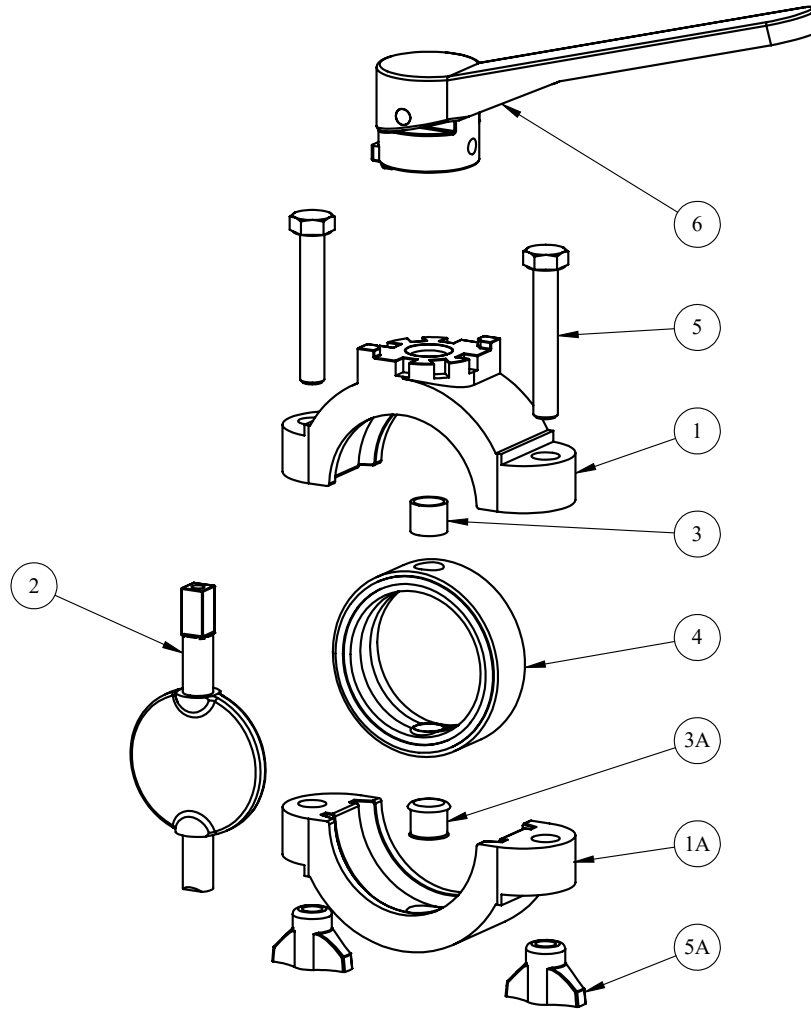
3" Pressure Temperature Relation

Temperature (°F)	Pressure PSI
15	110
68	110
200	0

4" Pressure Temperature Relation

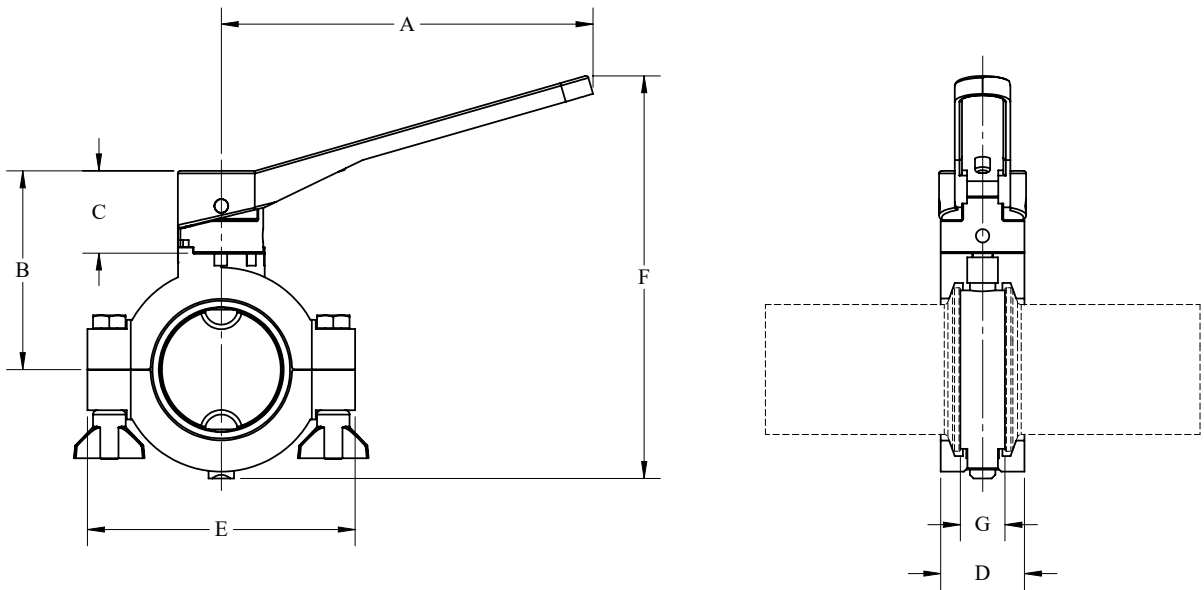
Temperature (°F)	Pressure PSI
15	70
68	70
200	0

B5102-Series Butterfly Valve - Bill of Materials



Item #	Size	Part #	Description	Material	Qty
1	all	see repair kit	upper body half	CF8	1
1a	all	see repair kit	lower body half	CF8	1
2	1"	B5102-DSC100	disc	316L SS	1
	1-1/2"	B5102-DSC150	disc	316L SS	1
	2"	B5102-DSC200	disc	316L SS	1
	2-1/2"	B5102-DSC250	disc	316L SS	1
	3"	B5102-DSC300	disc	316L SS	1
	4"	B5102-DSC400	disc	316L SS	1
3	1" - 2-1/2"	B5102-100-250UB	upper bushing	PTFE	1
	3" - 4"	B5102-300-400UB	upper bushing	PTFE	1
3a	1" - 2-1/2"	B5102-100-250LB	lower bushing	PTFE	1
	3" - 4"	B5102-300-400LB	lower bushing	PTFE	1
4	all	see repair kit	seat	see repair kit	1
5	all	see repair kit	bolts	see repair kit	2
5a	all	see repair kit	wing nuts	see repair kit	2
6	1" - 2-1/2"	B5102-SH100-250	handle assembly	CF8	1
	3" - 4"	B5102-SH300-400	handle assembly	CF8	1

B5102-Series Butterfly Valve - Dimensions



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Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1"	5.6	2.8	1.3	1.3	3.6	5.6	0.7
1-1/2"	5.6	2.8	1.3	1.3	3.6	5.6	0.7
2"	5.6	3	1.3	1.3	4.1	6.1	0.7
2-1/2"	5.6	3.3	1.3	1.3	4.6	6.6	0.7
3"	5.6	3.6	1.3	1.3	5.3	7.1	0.7
4"	5.6	4.1	1.3	1.3	6.4	8.2	0.7

B5102-Series Butterfly Valve - Repair Kits

Valve Size	Red Silicone	Black EPDM	Brown FKM	Replacement Handle Part #	Replacement Bolt/Nut Kit Part #	Replacement Housing Kit Pat #
1"	B5102-RKS100	B5102-RKE100	B5102-RKV100	B5102-SH100-250	B5102-BN100-250	B5102-HSG100
1-1/2"	B5102-RKS150	B5102-RKE150	B5102-RKV150	B5102-SH100-250	B5102-BN100-250	B5102-HSG150
2"	B5102-RKS200	B5102-RKE200	B5102-RKV200	B5102-SH100-250	B5102-BN100-250	B5102-HSG200
2-1/2"	B5102-RKS250	B5102-RKE250	B5102-RKV250	B5102-SH100-250	B5102-BN100-250	B5102-HSG250
3"	B5102-RKS300	B5102-RKE300	B5102-RKV300	B5102-SH300-400	B5102-BN300-400	B5102-HSG300
4"	B5102-RKS400	B5102-RKE400	B5102-RKV400	B5102-SH300-400	B5102-BN300-400	B5102-HSG400

Red silicone kit contains: (1) silicone seat, (2) PTFE bushings

Black EPDM kit contains: (1) EPDM seat, (2) PTFE bushings

Brown FKM kit contains: (1) FKM seat, (2) PTFE bushings

Handle kit contains: (1) CF8M handle

Bolt/nut kit contains: (2) 304 wing nuts, (2) 304 steel bolts

Housing kit contains: (1) upper body half, (1) lower body half

B5107-Series Butterfly Valve

Quarter turn valve is used to isolate and regulate the flow of fluid in processing pipelines. They are found in the pharmaceutical, biochemical, cosmetic, food processing, beverage, and some dairy markets.

Sizes

- 1/2", 3/4", 1", 1-1/2", 2", 2-1/2", 3", 4", 6", 8"

Certification/Compliance for rubber seats

- FDA: 21 CFR 177.2600
- 3A: sanitary standard 18-03 Class II (low fat) compliant
- United States Pharmacopeia (USP): 87 & 88 Class VI
- European Regulation: EC 1935/2004
- REACH: in accordance with EC 1907/2006
 - Does not contain any substances above 0.1% (w/w) from:
 - The Candidate List of Substances of Very High Concern, Annex XVII
- Animal derived ingredient free
- Phthalate free

Features

- Hex head body bolts eliminate cavities of socket head screw
- High performance seat design increases seal life
- Large disc stem decreases chance of stem deformation
- Large range of options for operating devices and accessories

Materials

- Product contact metal components: 316L forged stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: EPDM, silicone, or FKM

Specifications

- Standard connections: clamp, weld
- Available optional connections:
 - Female I-line, male I-line, threaded bevel, plain bevel, Q-line, John Perry threaded
- Valve data
 - Maximum pressure:
 - 1/2" to 2": **140 PSI**
 - 2-1/2" to 3": **110 PSI**
 - 4": **85 PSI**
 - 6" to 8": **60 PSI**
 - Maximum product line pressure: 0.4" Hg vacuum (absolute) at **68°F (20°C)**
 - Maximum operating temperature: **200°F (93°C)**
 - Minimum operating temperature: **15°F (-9°C)**
 - Valve stem square size:
 - 1/2" to 4": 10mm
 - 6": 13mm
 - 8": 14mm
- Surface finish
 - Product contact metal components: ≤ 32 Ra (standard), 20 Ra, 15 Ra optional
 - Non-product contact metal components: ≤ 32 Ra
 - Seat lubricant: MOLYKOTE 111



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B5107-Series Butterfly Valve - Manual Operating Devices and Accessories

Pull Handle



Pull Handle with Limit Switch for Position Detection



Pull Handle with External Proximity Sensors for Position Detection (Lockout Capable)



Infinite Handle



Infinite Handle with Limit Switch for Position Detection



Infinite Handle with External Proximity Sensors for Position Detection (Lockout Capable)



Multi Position Trigger Handle (Lockout Capable)



Multi Position Trigger Handle with External Proximity Sensors for Position Detection (Lockout Capable)



Pull Handle Stem Extension



Infinite Handle Stem Extension



E

B5107-Series Butterfly Valve - Pneumatic & Electric Operating Devices and Accessories

**Stainless Steel Canister Actuator
(Spring Return or Double Acting)**



**Stainless Steel Canister Actuator with
External Proximity Position Detection**



**Stainless Steel Canister Actuator
with Burkert Control Top**



**Aluminum Rack and Pinion Actuator
(Spring Return or Double Acting)**



**Aluminum Rack and Pinion Actuator with
Limit Switch for Position Detection**



**Electric Actuator
(Power Open/Power Close)**



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Flow Coefficients (Cv)

(Based on water at 68°F)

Valve Size	Flow Coefficient (Cv)	Valve Size	Flow Coefficient (Cv)
1/2"	7	2-1/2"	264
3/4"	11	3"	372
1"	23	4"	800
1-1/2"	80	6"	1200
2"	230	8"	2800

Valve Break Torque

(Based on water at 68°F)

Valve Size	Break Torque (in-lbs) Silicone	Break Torque (in-lbs) EPDM	Break Torque (in-lbs) FKM
1/2"	20	13	70
3/4"	20	13	70
1"	20	13	70
1-1/2"	35	20	125
2"	35	48	175
2-1/2"	133	98	220
3"	133	146	310
4"	266	341	450
6"	775	830	NA
8"	1106	1106	NA

B5107-Series Butterfly Valve - Pressure Drop Chart

(Based on Water at 68°F)

Capacity (U.S.-GPM)	Valve Size									
	1/2"	3/4"	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
5	7	5								
10		2.5	0.2	0.0						
50			4.7	0.4						
90			15.3	1.3	0.2					
130				2.6	0.3	0.2				
170				4.5	0.5	0.4	0.2			
210				6.9	0.8	0.6	0.3			
250				9.8	1.2	0.9	0.5			
290					1.6	1.2	0.6			
330					2.1	1.6	0.8	0.2		
370					2.6	2.0	1.0	0.2		
410					3.2	2.4	1.2	0.3		
450					3.8	2.9	1.5	0.3		
490					4.5	3.4	1.7	0.4	0.2	
530						4.0	2.0	0.4	0.2	
570						4.7	2.3	0.5	0.2	
610						5.3	2.7	0.6	0.3	
650						6.1	3.1	0.7	0.3	
690						6.8	3.4	0.7	0.3	
730							3.9	0.8	0.4	
770							4.3	0.9	0.4	
810							4.7	1.0	0.5	
850							5.2	1.1	0.5	
890							5.7	1.2	0.6	
930							6.3	1.4	0.6	
970								1.5	0.7	
1010								1.6	0.7	
1050								1.7	0.8	
1090								1.9	0.8	0.2
1130								2.0	0.9	0.2
1170								2.1	1.0	0.2
1210								2.3	1.0	0.2
1250								2.4	1.1	0.2
1290								2.6	1.2	0.2
1330								2.8	1.2	0.2
1370								2.9	1.3	0.2
1410								3.1	1.4	0.3
1450								3.3	1.5	0.3
1490								3.5	1.5	0.3
1530								3.7	1.6	0.3
1570								3.9	1.7	0.3
1610								4.1	1.8	0.3
1650								4.3	1.9	0.3

$$\Delta P = \left[\frac{\text{GPM}}{C_v} \right]^2 G$$

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B5107-Series Butterfly Valve - Part Number Key

B5107-Series Butterfly Valve Part Number Key Example: B5107E050CC-A__		Series	Seat Material	Size	Connection End	Connection End	*	Actuation	Control Unit/ Feedback	Finish Options
		B5107	E	050	C	C	-	A		
Series	Code									
B5107	B5107									
Seat Material	Code									
EPDM	E									
Silicone	S									
FKM (1/2" - 4")	V									
EPDM/PTFE	X									
FKM/PTFE (1/2" - 4")	Y									
Silicone/PTFE	Z									
Size	Code									
1/2"	050									
3/4"	075									
1"	100									
1-1/2"	150									
2"	200									
2-1/2"	250									
3"	300									
4"	400									
6"	600									
8"	800									
Connections (choose connection for each side)	Code									
Clamp (standard)	C									
Weld	B									
Female I-line	F									
Flange	K									
Male I-line	M									
Threaded bevel	T									
Plain bevel with nut	P									
Q-line	Q									
John Perry plain	J									
John Perry Threaded	H									
Female NPT	1									
Male NPT	2									
DIN male	3									
DIN weld liner/nut	4									
SMS male	5									
SMS welding liner	6									
Actuation	Code									
Manual handle - 4 position standard handle	A									
Manual handle - infinite position handle (1/2" - 4")	B									
Manual handle - 13 position trigger handle (1/2" - 4")	C									
Extended manual handle - 4 position standard handle	8									

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*NOTE: Only use a dash (-) in the part number if using a manual handle with no options, otherwise dash is eliminated.

B5107-Series Butterfly Valve - Part Number Key

B5107-Series Butterfly Valve Part Number Key Example: B5107E050CC-A__	Series	Seat Material	Size	Connection End	Connection End	*	Actuation	Control Unit/ Feedback	Finish Options
		B5107	E	050	C	C	-	A	

E

Actuation (continued)	Code
Extended manual handle-infinite position handle	9
24VDC electric (power open/power close)	D
110VAC electric (power open/power close)	E
Normally open linear pneumatic vertical canister	F
Normally closed linear pneumatic vertical canister	G
Air to air linear pneumatic vertical canister	H
Manual handle - lockout 4 position standard handle (6" and 8")	I
Air to air pneumatic rack and pinion SS	J
Normally closed pneumatic rack and pinion SS	K
Normally open pneumatic rack and pinion SS	L
Air to air pneumatic rack and pinion AL	M
Normally closed pneumatic rack and pinion AL	N
110VAC electric (2 extra switches, torque switches)	O
Normally open pneumatic rack and pinion AL	P
Normally closed, dead man handle	Q
220VAC electric (power open/power close)	R
Normally closed pneumatic rack and pinion AL (oversized)	S
24VAC electric (power open/power close)	T
110VAC electric (4-20mA input/output modulating controller)	U
24VDC electric (4-20mA input/output modulating controller)	V
24VDC electric (power open/power close, 2 extra switches)	W
24VDC electric (4-20mA input/output modulating controller, oversized)	X
24VDC electric (75% duty cycle, oversized)	Y
Normally closed pneumatic rack and pinion TP	Z
12VDC electric (power open/power close)	1
110VAC electric (power open/power closed, undersized)	2
Air to air pneumatic rack and pinion AL (oversized)	3
Air to air pneumatic rack and pinion AL (double oversized)	4
Normally closed pneumatic rack and pinion AL (double oversized)	5
24VDC electric (4-20mA input/0-10V output modulating controller)	6

B5107-Series Butterfly Valve - Part Number Key

B5107-Series Butterfly Valve Part Number Key Example: B5107E050CC-A__		Series	Seat Material	Size	Connection End	Connection End	*Actuation	Control Unit/Feedback	Finish Options
		B5107	E	050	C	C	- A		
110VAC electric (power open/power close, 2 extra switches)	7								
Extended manual handle - 4 position standard handle (1/2" -4")	8								
Extended manual handle - infinite position handle (1/2" - 4")	9								
Control Unit/Feedback	Code								
None	blank								
Only available to be used with the following Actuation codes: A, B, C, F, G, H, 8, and 9									
10-30VDC 12mm external proximity, PNP, open/close, (Qty 2), flying leads	01								
10-30 VDC 12mm external proximity, NPN, open/close, (Qty 2), flying leads	02								
10-30VDC 12mm external proximity, PNP, open, (Qty 1), flying leads	03								
10-30VDC 12mm external proximity, PNP, close, (Qty 1), flying leads	04								
10-30VDC 12mm external proximity, NPN, open, (Qty 1), flying leads	05								
10-30VDC 12mm external proximity, PNP, open/close, (Qty 2), M12 quick disconnect	06								
10-30 VDC 12mm external proximity, NPN, open/close, (Qty 2), M12 quick disconnect	07								
10-30VDC 12mm external proximity, PNP, open, (Qty 1), M12 quick disconnect	08								
10-30VDC 12mm external proximity, PNP, close, (Qty 1), M12 quick disconnect	09								
10-30 VDC 12mm external proximity, NPN, open, (Qty 1), M12 quick disconnect	10								
Manual handle bracket for proximity sensor only	70								
Only available to be used with the following Actuation codes: F, G, & H									
Burkert 8691, single acting, DeviceNet, multipin	11								
Burkert 8691, single acting, AS-i, multipin	12								
Burkert 8691, single acting, 24VDC, multipin	13								
Burkert 8691, double acting, DeviceNet, multipin	14								
Burkert 8691, double acting, AS-i, multipin	15								
Burkert 8691, double acting, 24VDC, multipin	16								
Burkert 8691, without solenoid, 24VDC, multipin	17								
Aluminum proximity ring with red poly tube indicator - discontinued Jan. 2022	47								
Burkert 8692 positioner, 24VDC, 4-20mA, multipin	18								
Burkert 8692 positioner, 24VDC, ATEX, multipin	62								
Burkert 8691, single acting, IO link, multipin	64								



B5107-Series Butterfly Valve - Part Number Key

B5107-Series Butterfly Valve Part Number Key Example: B5107E050CC-A__		Series	Seat Material	Size	Connection End	Connection End	*	Actuation	Control Unit/ Feedback	Finish Options
		B5107	E	050	C	C	-	A		
Burket 8681, 1 solenoid (single acting), 120 VAC, cable glands	68									
Burkert 8681, 2 solenoids (double acting), 120VAC, cable glands	69									
Only available to be used with the following actuation codes: A, J, K, L, M, N, & P										
limit switch box, OPEN/CLOSE beacon, (2) SPDT mech. switches	19									
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches	20									
Limit switch box, OPEN/CLOSE beacon, AS-I interface	21									
Only available to be used with the following actuation codes: J, K, L, M, N, & P										
Rotary pneumatic positioner 3-15psi input, no feedback	22									
Rotary pneumatic positioner 3-15psi input, (2) SPDT mech. switches for feedback	23									
Rotary pneumatic positioner 3-15psi input, 4-20mA for feedback	24									
Rotary electropneumatic positioner 4-20mA input, no feedback	25									
Rotary electropneumatic positioner 4-20mA input, (2) SPDT mech. switches for feedback	26									
Rotary electropneumatic positioner 4-20mA input, 4-20mA for feedback	27									
Rotary electropneumatic positioner 0-10v input, no Feedback	28									
Rotary electropneumatic positioner 0-10v input, (2) SPDT mech. switches for feedback	29									
Rotary electropneumatic positioner 0-10v input, 4-20mA for feedback	30									
Single coil solenoid, 12VDC	31									
Single coil solenoid, 24VDC	32									
Single coil solenoid, 24VAC	33									
Single coil solenoid, 110VAC	34									
Single coil solenoid, 220VAC	35									
Single coil solenoid, 12VDC + option 19 limit switch	36									
Single coil solenoid, 12VDC + option 20 limit switch	37									
Single coil solenoid, 24VDC + option 19 limit switch	38									
Single coil solenoid, 24VDC + option 20 limit switch	39									
Single coil solenoid, 24VAC + option 19 limit switch	40									
Single coil solenoid, 24VAC + option 20 limit switch	41									
Single coil solenoid, 110VAC + option 19 limit switch	42									
Single coil solenoid, 110VAC + option 20 limit switch	43									

B5107-Series Butterfly Valve - Part Number Key

B5107-Series Butterfly Valve Part Number Key Example: B5107E050CC-A_		Series	Seat Material	Size	Connection End	Connection End	* Actuation	Control Unit/ Feedback	Finish Options
		B5107	E	050	C	C	-	A	
Single coil solenoid, 220VAC + option 19 limit switch	44								
Single coil solenoid, 220VAC + option 20 limit switch	45								
Limit switch box with integral solenoid, AS-i, 24VDC	46								
Aluminum proximity ring with red poly tube indicator - discontinued Jan. 2022	47								
Rotary electropneumatic positioner 4-20mA input, no feedback, explosion proof	48								
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	49								
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, explosion proof	50								
Single coil solenoid, 12VDC + option 19 limit switch+ pre-wired	51								
Single coil solenoid, 12VDC + option 20 limit switch+ pre-wired	52								
Single coil solenoid, 24VDC + option 19 limit switch+ pre-wired	53								
Single coil solenoid, 24VDC + option 20 limit switch+ pre-wired	54								
Single coil solenoid, 24VAC + option 19 limit switch+ pre-wired	55								
Single coil solenoid, 24VAC + option 20 limit switch+ pre-wired	56								
Single coil solenoid, 110VAC + option 19 limit switch+ pre-wired	57								
Single coil solenoid, 110VAC + option 20 limit switch+ pre-wired	58								
Single coil solenoid, 220VAC + option 19 limit switch+ pre-wired	59								
Single coil solenoid, 220VAC + option 20 limit switch+ pre-wired	60								
Mount actuator rotated 90 degrees	61								
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, 24VDC single coil solenoid, explosion proof	63								
Limit switch box, OPEN/CLOSE beacon, (2) mechanical SPDT switches, explosion proof	65								
Single coil solenoid, SS, 24VDC + SS limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches	66								
3D beacon low profile visual indicator + option 01 external proximity sensor	67								
Finish Options	Code								
32 Ra mechanical (standard)	blank								
25Ra mechanical finish	B								
20 Ra mechanical finish	C								
15 Ra electropolish	D								
32 Ra mech. w/ customer specified I.D. marking	E								
25 Ra mech. w/ customer specified I.D. marking	F								
20 Ra mech. w/ customer specified I.D. marking	G								
15 Ra electropolish w/ customer specified I.D. marking	H								

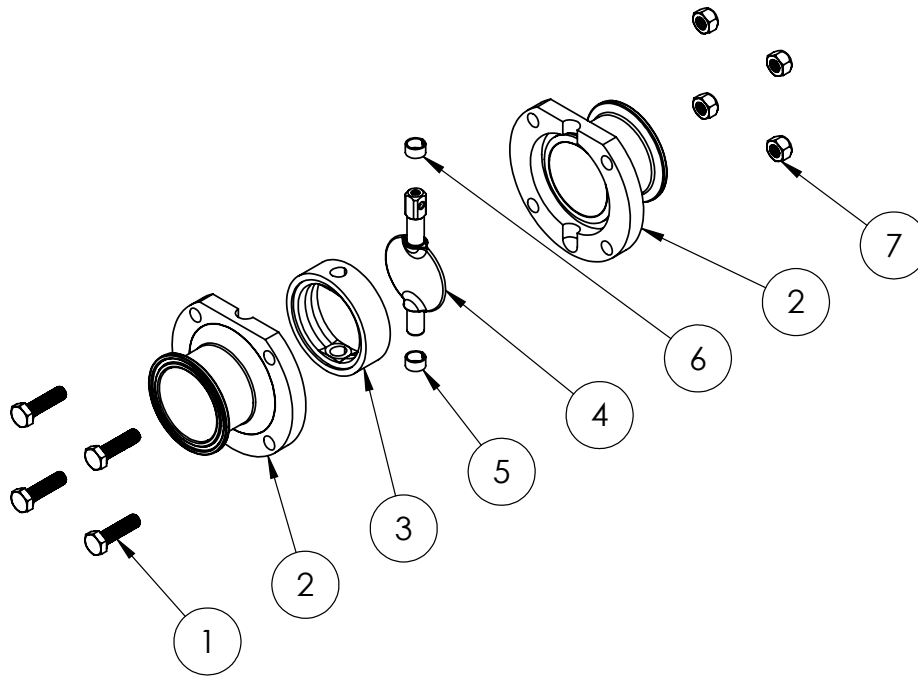


B5107-Series Butterfly Valve - Proximity Sensor Bracket Kit Part Number Table

Part #	Description	Contains ¹
Kit with Handle		
B5107-SH-5025PB	1/2" - 2-1/2" pull handle with proximity bracket	2, 11
B5107-SH-3040PB	3" - 4" pull handle with proximity bracket	
B5107-SH-5025PB8	1/2" - 2-1/2" pull handle with proximity bracket and M8 bushings	2, 11, 13
B5107-SH-3040PB8	3" - 4" pull handle with proximity bracket and M8 bushings	
B5107-ES-5025PB	1/2" - 2-1/2" extended pull handle with proximity bracket	2A, 11
B5107-ES-3040PB	3" - 4" extended pull handle with proximity bracket	
B5107-ES-5025PB8	1/2" - 2-1/2" extended pull handle with proximity bracket and M8 bushings	2A, 11, 13
B5107-ES-3040PB8	3" - 4" extended pull handle with proximity bracket and M8 bushings	
B5107-IH-5025PB	1/2" - 2-1/2" infinite handle with proximity bracket	3, 11
B5107-IH-3040PB	3" - 4" infinite handle with proximity bracket	
B5107-IH-5025PB8	1/2" - 2-1/2" infinite handle with proximity bracket and M8 bushings	3, 11, 13
B5107-IH-3040PB8	3" - 4" infinite handle with proximity bracket and M8 bushings	
B5107-EI-5025PB	1/2" - 2-1/2" extended infinite handle with proximity bracket	3A, 11
B5107-EI-3040PB	3" - 4" extended infinite handle with proximity bracket	
B5107-EI-5025PB8	1/2" - 2-1/2" extended handle with proximity bracket and M8 bushings	3A, 11, 13
B5107-EI-3040PB8	3" - 4" extended infinite handle with proximity bracket and M8 bushings	
Kit without Handle		
B5107-PB-B	proximity bracket bushings	13
B5107-PB-5025	proximity bracket for 1/2" - 2-1/2" handle	11
B5107-PB-3040	proximity bracket for 3" - 4" handle	
B5107-PB-5025B	proximity bracket for 1/2" - 2-1/2" handle with M8 bushings	11, 13
B5107-PB-3040B	proximity bracket for 3" - 4" handle with M8 bushings	

¹Items referred to are in the manual handle bill of materials.

B5107-Series Butterfly Valve - Bill of Materials (Valve Body)



E

Item #	Description	Part #					Material	Qty
		1/2"	3/4"	1"	1-1/2"	2"		
1	body bolt	M6x1x30				M8x1.25x30	18-8	4
2	clamp body half ¹	B5107-HSG50	B5107-HSG75	B5107-HSG10	B5107-HSG15	B5107-HSG20	316L	2
3	valve seat	see repair kits					-	1
4	disc	B5107-DSC5010			B5107-DSC15	B5107-DSC20	316L	1
5	lower bushing ²	-					polyacetal	1
6	upper bushing ²	-					polyacetal	1
7	body nut	M6x1 Nylock				M8x1.25 Nylock	18-8	4

Item #	Description	Part #					Material	Qty
		2-1/2"	3"	4"	6"	8"		
1	body bolt	M8x1.25x30	M8x1.25x40			M10x1.5x45	18-8	4 ³
2	clamp body half ¹	B5107-HSG25	B5107-HSG30	B5107-HSG40	B5107-HSG60	B5107-HSG800	316L	2
3	valve seat	see repair kits					-	1
4	disc	B5107-DSC25	B5107-DSC30	B5107-DSC40	B5107-DSC60	B5107-DSC800	316L	1
5	lower bushing ²	-					polyacetal	1
6	upper bushing ²	-					polyacetal	1
7	body nut	M8x1.25 Nylock				M10x1.5 Nylock	18-8	4 ³

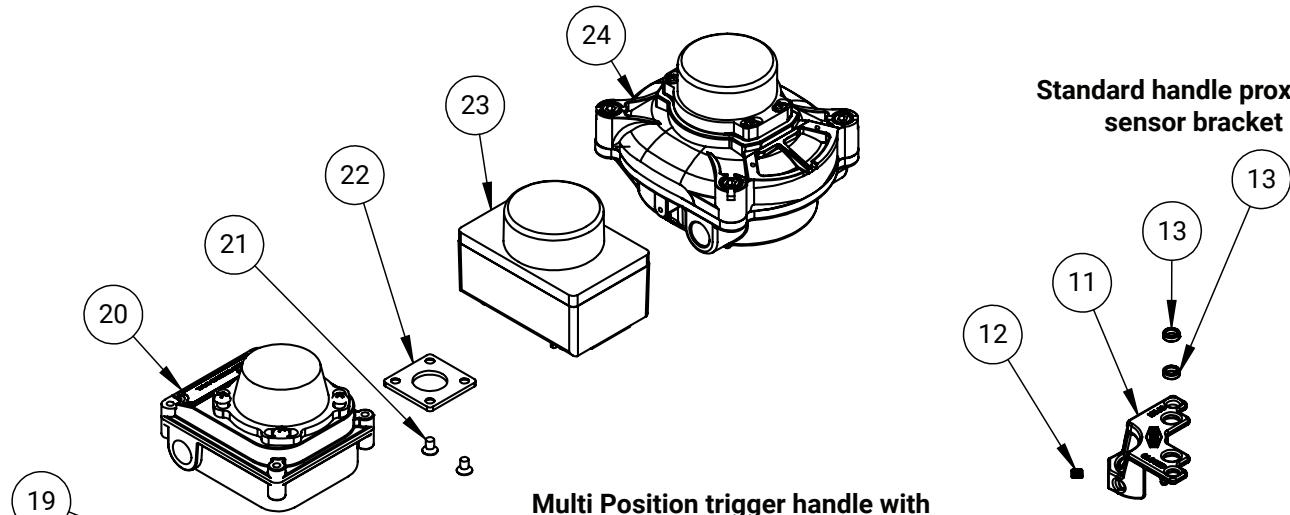
¹Other connection ends available, see connection code identifier in part number key (ex: 2" flange connection: B5107-HSG20K).

²Upper and lower bushings are included in the seat repair kit. Cannot be purchased separately.

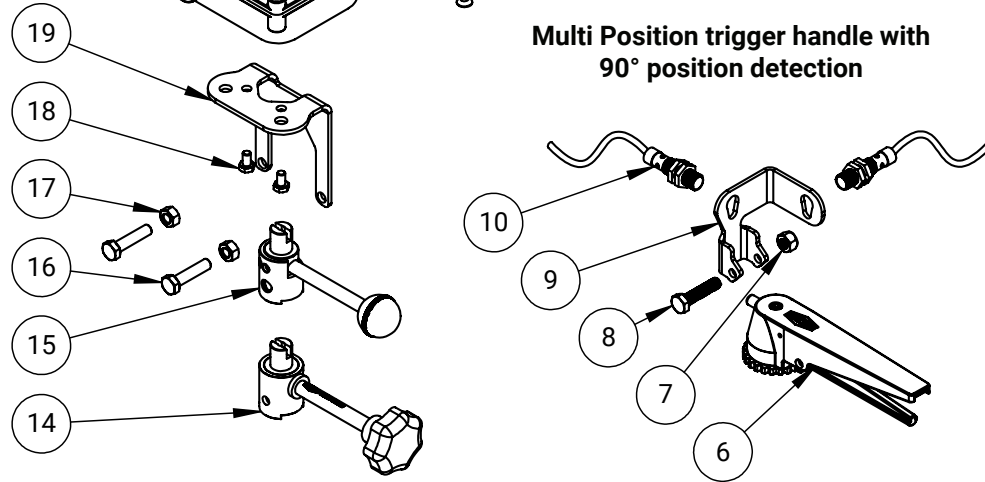
³4" and 8" valves have a qty 6 bolts and nuts. 6" valve has a qty 8 bolts and nuts.

B5107-Series Butterfly Valve - Bill of Materials (Manual Options)

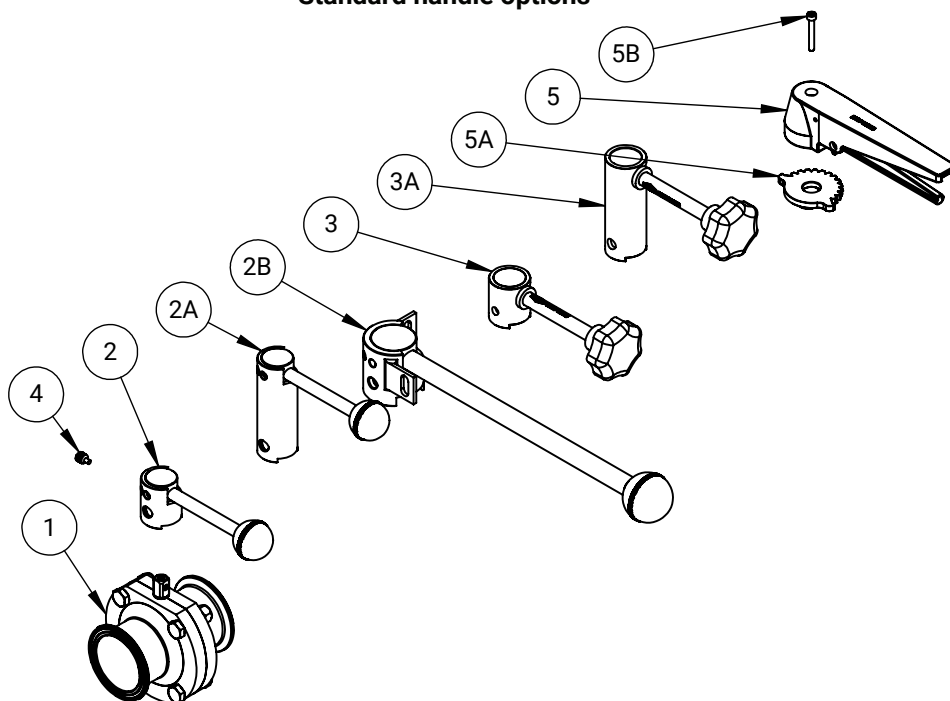
Standard and Infinite Handle with Position Detection



Multi Position trigger handle with 90° position detection



Standard handle options



E

B5107-Series Butterfly Valve - Bill of Materials (Manual Options)

Item #	Description	Part #					Material	Qty
		1/2"	3/4"	1"	1-1/2"	2"		
1	valve	B5107_050_	B5107_075_	B5107_100_	B5107_150_	B5107_200_	see valve BOM	1
2	pull handle		B5107-SH5025				304	1
2A	extended pull handle		B5107-SH5025E				304	1
3	infinite handle		B5107-IH5025				304	1
3A	extended infinite handle		B5107-IH5025E				304	1
4	item no. 2, 2A, 3, 3A handle set screw		B5107-IHSH-SSLP				304	1
5	trigger handle						304	1
5A	180° sprocket ²		B5107-TH5025				304	1
5B	M5x30mm socket cap bolt ²						304	1
6	proximity sensor trigger handle		B5107-TH5025-PS				304	1
7	body nut		M6x1 Nylock			M8x1.25 Nylock	18-8	1
8	valve/bracket bolt		M6x1x35mm hex head bolt			M8x1.25x35mm hex head bolt	18-8	1
9	external proximity bracket		B5107-B1015-MPD				304	1
10	proximity sensor		see DW-series Proximity Sensors EPRG				-	-
11	proximity sensor bracket ¹						CF8	1
12	M6x8mm set screw		B5107-PB-5025				304	1
13	M12 to M8 bushings		B5107-PB-B				PTFE	2
14	infinite handle for position detection		B5107-IH5025-L				304	1
15	pull handle for position detection		B5107-SH5025-L				304	1
16	valve/bracket bolt		M6x1x35mm hex head bolt			M8x1.25x35mm hex head bolt	18-8	2
17	body nut		M6x1 Nylock			M8x1.25 Nylock	18-8	2
18	item no. 20 limit switch bracket bolt		M6x1x10mm hex head bolt				18-8	2
	item no. 23 and 24 limit switch bracket bolt		M6x1x16mm hex head bolt				18-8	2
19	limit switch bracket		B5107-LSB-5015			B5107-LSB-2025	304	1
20	XLS-B4-series limit switch		see Limit Switches EPRG				-	1
21	spacer bolts		M6x1x12mm countersunk screw				18-8	2
22	spacer		B5107-LSB-SP				304	1
23	XLS-C4-series limit switch						-	1
24	XLS-C7-series limit switch		see Limit Switches EPRG				-	1

¹Used with actuation codes A, B, 8, and 9 only.

²Included with the trigger handle.

B5107-Series Butterfly Valve - Bill of Materials (Manual Options)

Item #	Description	Part #					Material	Qty	
		2-1/2"	3"	4"	6"	8"			
1	valve	B5107_250_	B5107_300_	B5107_400_	B5107_600_	B5107_800_	see valve BOM	1	
2	pull handle	B5107-SH5025	B5107-SH3040		B5107-SH60	B5107-SH800	304	1	
2A	extended pull handle	B5107-SH5025E	B5107-SH3040E		-		304	1	
2B	lockout pull handle	-			B5107-LSH600	B5107-LSH800	304	1	
3	infinite handle	B5107-IH5025	B5107-IH3040		B5107-IH60	B5107-IH800	304	1	
3A	extended infinite handle	B5107-IH5025E	B5107-IH3040E		-		304	1	
4	item no. 2, 2A, 3, 3A handle set screw	B5107-IHSH-SSLP					304	1	
5	trigger handle					304		1	
5A	180° sprocket ²	B5107-TH5025	B5107-TH3040				304	1	
5B	M5x30mm socket cap bolt ²						304	1	
6	proximity sensor trigger handle	B5107-TH5025-PS	B5107-TH3040-PS				304	1	
7	body nut	M6x1 Nylock					18-8	1	
8	valve/bracket bolt	M8x1.25x35mm hex head bolt	M8x1.25x45mm hex head bolt				18-8	1	
9	external proximity bracket	B5107-B1015-MPD	B5107-B3040-MPD				304	1	
10	proximity sensor	see DW-series Proximity Sensors EPRG					-	-	
11	proximity sensor bracket ¹	B5107-PB-5025	B5107-PB-3040				CF8	1	
12	M6x8mm set screw						304	1	
13	M12 to M8 bushings	B5107-PB-B					PTFE	2	
14	infinite handle for position detection	B5107-IH5025-L	B5107-IH3040-L				304	1	
15	pull handle for position detection	B5107-SH5025-L	B5107-SH3040-L		-		304	1	
16	valve/bracket bolt	M8x1.25x35mm hex head bolt	M8x1.25x45mm hex head bolt				18-8	2	
17	body nut	M8x1.25 Nylock	M8x1.25 Nylock				18-8	2	
18	item no. 20 limit switch bracket bolt	M6x1x10mm hex head bolt					18-8	2	
	item no. 23 and 24 limit switch bracket bolt	M6x1x16mm hex head bolt					18-8	2	
19	limit switch bracket	B5107-LSB-5015	B5107-LSB-3040				304	1	
20	XLS-B4-series limit switch	see Limit Switch EPRG					-	1	
21	spacer bolts	M6x1x12mm countersunk screw					18-8	2	
22	spacer	B5107-LSB-SP					304	1	
23	XLS-C4-series limit switch	see Limit Switch EPRG							1
24	XLS-C7-series limit switch								

¹Used with actuation codes A, B, 8, and 9 only.

²Included with the trigger handle.

B5107-Series Butterfly Valve - Bill of Materials (Manual Options)

Part Number Key Code Identifier

Item #	Description	Part # Key Code Identifier	Part # Key Code ²
1	valve	-	-
2	pull handle	Actuation	A
2A	extended pull handle		8
2B	lockout pull handle		I
3	infinite handle		B
3A	extended infinite handle		9
4	item no. 2, 2A, 3, 3A handle set screw		-
5	trigger handle		C
5A	180° sprocket ³		
5B	M5x30mm socket cap bolt ³		
6	proximity sensor trigger handle		
7	body nut	Control Unit/Feedback	01-10, 70
8	valve/bracket bolt		
9	external proximity bracket		
10	proximity sensor	Control Unit/Feedback	01-10, 70
11	proximity sensor bracket ¹		
12	M6x8mm set screw		
13	M12 to M8 bushing	Actuation	B
14	infinite handle for position detection		A
15	pull handle for position detection	-	-
16	valve/bracket bolt	-	-
17	body nut	-	-
18	item no. 20 limit switch bracket bolt	-	-
	item no. 23 and 24 limit switch bracket bolt	-	-
19	limit switch bracket	-	-
20	XLS-B4-series limit switch	Control Unit/Feedback	19
21	spacer bolts	-	-
22	spacer	-	-
23	XLS-C4-series limit switch	Control Unit/Feedback	20, 21, 46
24	XLS-C7-series limit switch		50, 63, 65

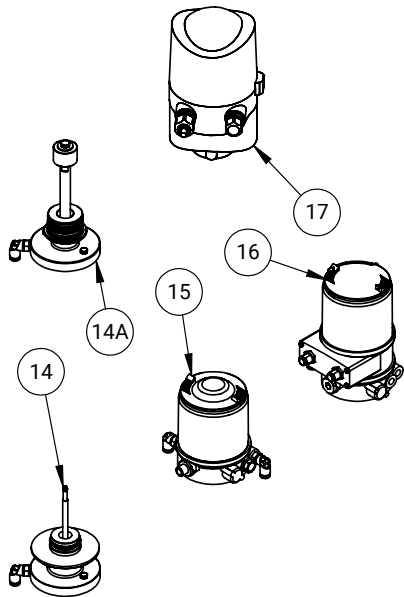
¹Used with Actuation codes A, B, 8, and 9 only.

²Code shown is based off single option selection, see part number key for combination codes.

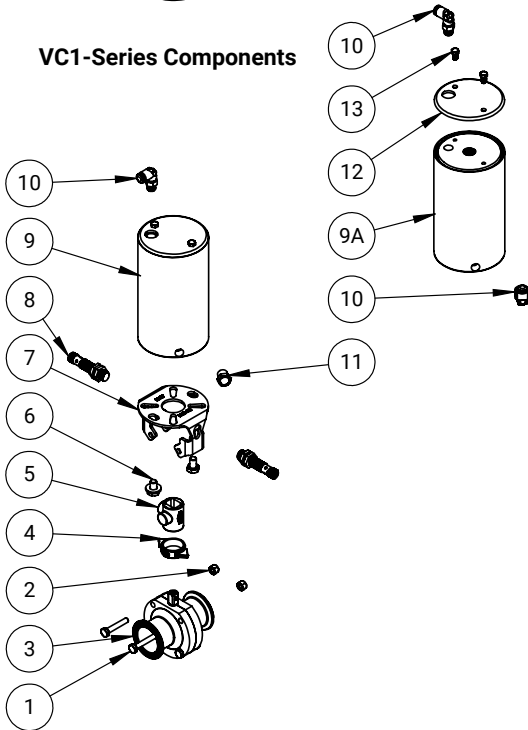
B5107-Series Butterfly Valve - Bill of Materials (Actuated Options)

VC1-Series Vertical Canister Actuator

Control Top Options

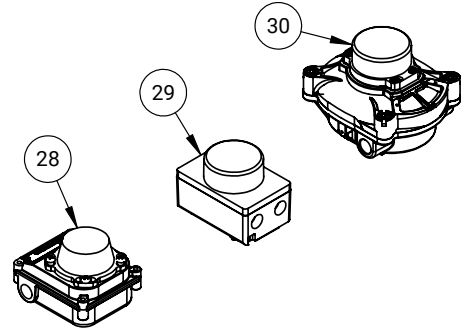


VC1-Series Components

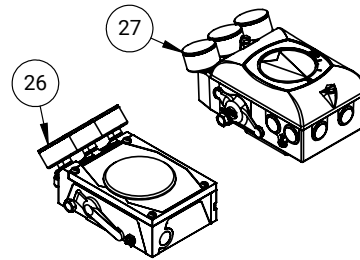


RP-BA, RP-BS, BEO, and BX-Series Actuators

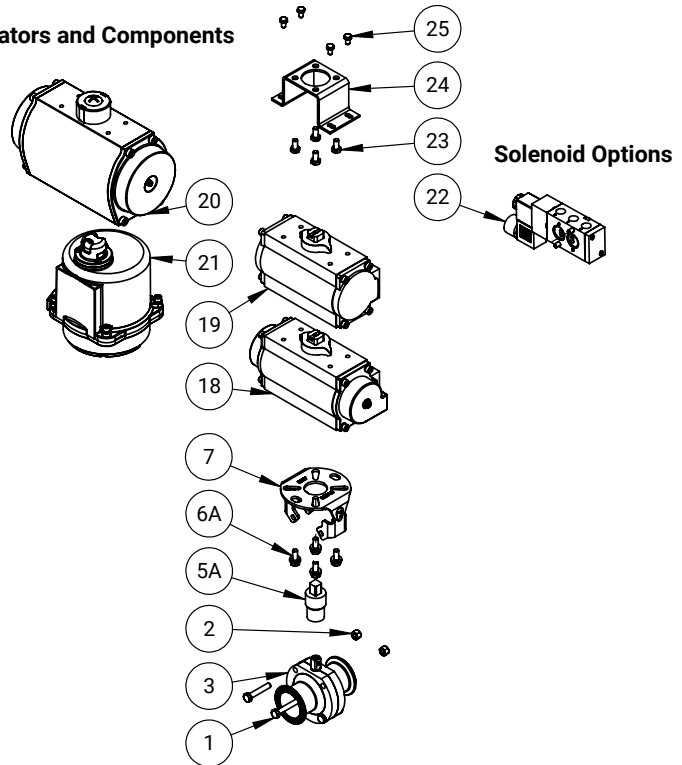
Limit Switch Options



Positioner Options



Actuators and Components



Solenoid Options

E

B5107-Series Butterfly Valve - Bill of Materials (Actuated Options)

Item #	Description	Part #					Material	Qty
		1/2"	3/4"	1"	1-1/2"	2"		
1	actuated body bolt	M6x1x35mm hex head bolt				M8x1.25x35mm hex head bolt	18-8	2
2	body nut	M6x1 Nylock nut				M8x1.25 Nylock nut	18-8	2
3	valve	B5107_050_	B5107_075_	B5107_100_	B5107_150_	B5107_200_	see valve BOM	1
4	indicator	XB51-P-N					polyethylene	1
5	VC1-series coupler	XB51-CPB-NB					CF8	1
5A	coupler ¹	XB51 coupler is dependent on actuator selected based on actuator code and seat material					304	1
6	VC1 actuator bolt and lock washer	M8x1.25x12mm hex head bolt, M8x1.25 lock washer					18-8	2
6A	pneumatic/electric actuator bolt	mounting bolt is dependent on actuator selected based on actuator code and seat material					18-8	4
7	actuator bracket	B5107-B100-150			B5107-B200-250		304	1
8	external proximity sensors	see DW-series Proximity Sensors EPRG					-	-
9	VC1-series spring return actuator canister	VC1SR					304	1
9A	VC1-series double acting actuator canister	VC1DA					304	1
10	canister top cap	VC1-7					304	1
11	air fitting	407322					-	-
12	air filter	VC-NR-AF					-	-
13	top cap bolts	M5x0.8x10mm hex head bolt					18-8	2
14	Burkert 8691/8692 adapter kit	adapter and detection shaft: VC1-BA, VC1-DS, O-rings: (2) VC1-BA-OR1, VC1-BA-OR2, adapter hardware: 407322, (2) M5x0.8x20mm hex head bolts					-	1
14A	Burkert 8682 adapter kit	adapter: VC1-BA2, detection shaft: VC1-DS2, VC1-DTA, M6WASHER, M6x1x12mm hex head bolt, O-ring: VC1-BA-OR1, VC1-BA-OR2, (2) VC1-BA-OR3, hardware: 407322, (2) M5x0.8x20mm hex head bolt					-	1
15	Burkert 8691 control top	see BT-series Control Top EPRG					-	1
16	Burkert 8692 control top	see XPB-series Control Top EPRG					-	1
17	Burkert 8682 control top	see MT-series Control Top EPRG					-	1
18	RP-BA-series spring return actuator	see RP-BA-series Rack and Pinion Actuator EPRG					-	1
19	RP-BA-series double acting actuator							1
20	RP-BS-series actuator	see RP-BS-series Rack and Pinion Actuator EPRG					-	1
21	BEO and BX-series actuator	see BEO-series Electric Actuator and BX-series Electric Actuator EPRG					-	1
22	solenoid	see X-series Solenoid EPRG					-	1
23	M6x12mm hex head limit switch/positioner bolts	M6x1x12mm hex head bolt					18-8	4
24	F05 limit switch/positioner bracket	LSPP-BK-S-N					304	1
25	M5x10mm hex head bracket bolts	M5x0.8x10mm hex head bolt					18-8	4
26	XPO-series rotary positioner	see XPO and XPV-series Rotary Positioner EPRG					-	1
27	XPV-series rotary positioner							
28	XLS-B4-series limit switch	see Limit Switches EPRG					-	1
29	XLS-C4-series limit switch							
30	XLS-C7-series limit switch							

¹Coupler may also require sleeve.

B5107-Series Butterfly Valve - Bill of Materials (Actuated Options)

Item #	Description	Part #					Material	Qty	
		2-1/2"	3"	4"	6"	8"			
1	actuated body bolt	M8x1.25x35mm hex head bolt	M8x1.24x45mm hex head bolt		M8x1.25x45mm socket cap screw	M10x1.5x50mm socket cap screw	18-8	2	
2	body nut	M8x1.25 Nylock nut			-	M10x1.25 Nylock nut	18-8	2	
3	valve	B5107_250_	B5107_300_	B5107_400_	B5107_600_	B5107_800_	see BOM	1	
4	indicator	XB51-P-N					polyethylene	1	
5	VC1-series coupler	XB51-CPB-NB					CF8	1	
E 5A	coupler ¹	XB51 coupler is dependent on actuator selected based on actuator code and seat material					304	1	
6	VC1-series actuator bolt and lock washer	M8x1.25x12mm hex head bolt					18-8	2	
6A	pneumatic/electric actuator bolt	mounting bolts are dependent on actuator selected based on actuator code and seat material					18-8	4	
7	actuator bracket	B5107-B200-250	B5107-B300-400		B5107-B600	B5107-B800	304	1	
8	external proximity sensors	see DW-series Proximity Sensors EPRG					-	-	
9	VC1-series spring return actuator canister	VC1SR					304	1	
9A	VC1-series double acting actuator canister	VC1DA					304	1	
10	canister top cap	VC1-7					304	1	
11	air fitting	407322					-	-	
12	air filter	VC-NR-AF					-	-	
13	top cap bolts	M5x0.8x100mm hex head bolt					18-8	2	
14	Burkert 8691/8692 adapter kit	adapter and detection shaft: VC1-BA, VC1-DS, O-rings: (2) VC1-BA-OR1, VC1-BA-OR2, adapter hardware: 407322, (2) M5x0.8x20mm hex head bolt					6" and 8" valves can only be actuated using Dixon's RP-BA and RP-BS-series rack and pinion actuators or BEO and BX-series electric actuators	-	1
14A	Burkert 8682 adapter kit	adapter: VC1-BA2, detection shaft: VC1-DS2, VC1-DTA, M6WASHER, M6x1x12mm hex head bolt, O-ring: VC1-BA-OR1, VC1-BA-OR2, (2) VC1-BA-OR3, hardware: 407322, (2) M5x0.8x20mm hex head bolt						-	1
15	Burkert 8691 control top	see BT-series Control Top EPRG						-	1
16	Burkert 8692 control top	see XPB-series Control Top EPRG						-	1
17	Burkert 8682 control top	see MT-series Control Top EPRG					-	1	
18	RP-BA-series spring return actuator	see RP-BA-series Rack and Pinion Actuator EPRG					-	1	
19	RP-BA-series double acting actuator							1	
20	RP-BS-series actuator	see RP-BS-series Rack and Pinion Actuator EPRG					-	1	
21	BEO and BX-series	see BEO-series and BX-series Electric Actuator EPRG					-	1	
22	solenoid	see X-series Solenoid EPRG					-	1	
23	M6x12mm hex head limit switch/positioner bolts	M6x1x12mm hex head bolt					18-8	4	
24	F05 limit switch/positioner bracket	LSPP-BK-S-N					304	1	
25	M5x10mm hex head bracket bolts	M5x0.8x10mm hex head bolt					18-8	4	
26	XPO-series rotary positioner	see XPO-series and XPV-series Rotary Positioner EPRG					-	1	
27	XPV-series rotary positioner								
28	XLS-B4-series limit switch	see Limit Switches EPRG					-	1	
29	XLS-C4-series limit switch								
30	XLS-C7-series limit switch								

¹Coupler may also require sleeve.

B5107-Series Butterfly Valve - Bill of Materials (Actuated Options)

Part Number Key Code Identifier

Item #	Description	Part # Key Code Identifier	Part # Key Code ²
1	actuated body bolt	standard on actuated valves	
2	body nut		
3	valve		
4	indicator		
5	VC1-series coupler		
5A	coupler ¹		
6	VC1-series actuator bolt and lock washer		
6A	pneumatic/electric actuator bolt		
7	actuator bracket		
8	external proximity sensors		Control Unit/Feedback
9	VC1-series spring return actuator canister	Actuation	F, G
9A	VC1-series double acting actuator canister	Actuation	H
10	canister top cap	standard on VC1-series actuated valves	
11	air fitting		
12	air filter		
13	top cap bolts		
14	Burkert 8691/8692 adapter kit	Control Unit/Feedback	11-18, 62, 64
14A	Burkert 8682 adapter kit	Control Unit/Feedback	68, 69
15	Burkert 8691 control top	Control Unit/Feedback	11-17, 64
16	Burkert 8692 control top	Control Unit/Feedback	18, 62
17	Burkert 8682 control top	Control Unit/Feedback	68, 69
18	RP-BA-series spring return actuator	Actuator	N, P, S, 5
19	RP-BA-series double acting actuator	Actuator	M, 3, 4
20	RP-BS-series actuator	Actuator	J, K, L
21	BEO-series and BX-series actuator	Actuator	D, E, O, R, T-Y, 6, 7
22	solenoid	Control Unit/Feedback	31-35
23	M6x12mm hex head limit switch/positioner bolts	standard on item no. 26-30	
24	F05 limit switch/positioner bracket		
25	M5x10mm hex head bracket bolts		
26	XPO-series rotary positioner	Control Unit/Feedback	22-30
27	XPV-series rotary positioner		
28	XLS-B4-series limit switch	Control Unit/Feedback	19
29	XLS-C4-series limit switch		20, 21, 46
30	XLS-C7-series limit switch		50, 63, 65

¹Coupler may also require a sleeve.

²Code shown is based off single option selection, see part number key for combination codes.

B5107-Series Butterfly Valve - Dimensions

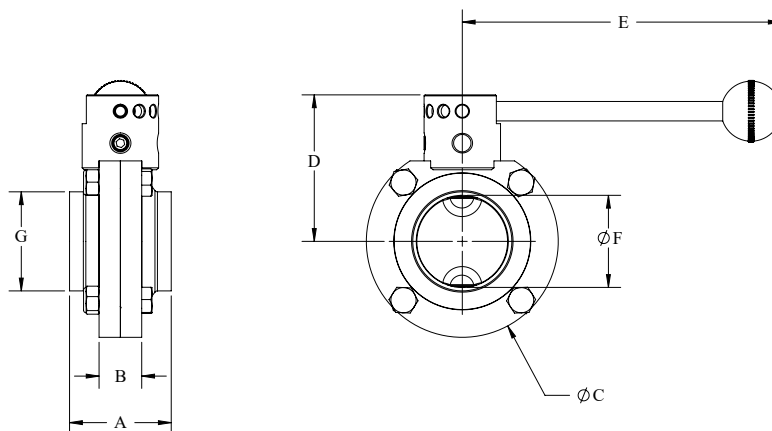
Standard Handle - Clamp



E

Size	A (in)	B (in)	C (in)	D (in)	E (in)
1/2"	3.50	0.90	3.10	2.60	4.60
3/4"	3.50	0.90	3.10	2.60	4.60
1"	3.50	0.90	3.10	2.60	4.60
1-1/2"	3.50	0.90	3.10	2.60	4.60
2"	3.80	0.90	3.90	3.00	4.60
2-1/2"	3.80	0.90	4.60	3.40	4.60
3"	4.10	1.20	5.20	3.50	6.50
4"	4.80	1.20	6.70	4.30	6.50
6"	5.50	1.20	8.50	5.60	11.70
8"	5.00	1.20	11.20	7.80	18.10

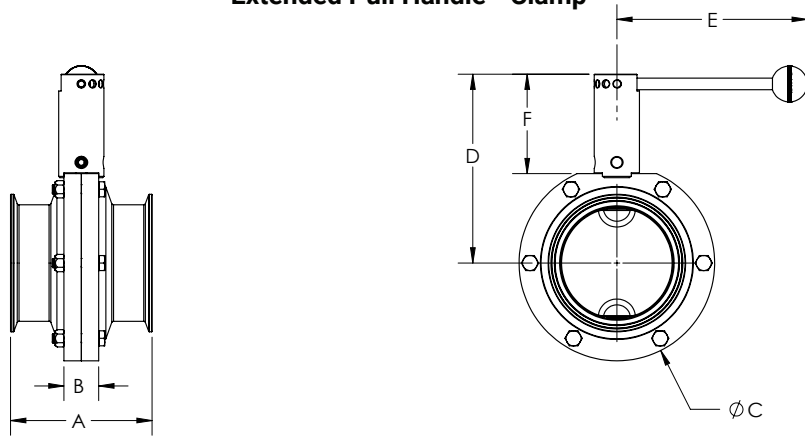
Standard Handle - Weld



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1/2"	1.87	0.90	3.10	2.60	4.60	0.37	0.50
3/4"	1.87	0.90	3.10	2.60	4.60	0.62	0.75
1"	1.87	0.90	3.10	2.60	4.60	0.87	1.00
1-1/2"	1.87	0.90	3.10	2.60	4.60	1.37	1.50
2"	2.06	0.90	3.90	3.00	4.60	1.87	2.00
2-1/2"	2.12	0.90	4.60	3.40	4.60	2.37	2.50
3"	2.50	1.20	5.20	3.50	6.50	2.87	3.00
4"	3.18	1.20	6.70	4.30	6.50	3.83	4.00
6"	3.83	1.20	8.50	5.60	11.70	5.78	6.00
8"	4.97	1.20	11.20	7.80	18.10	7.78	8.00

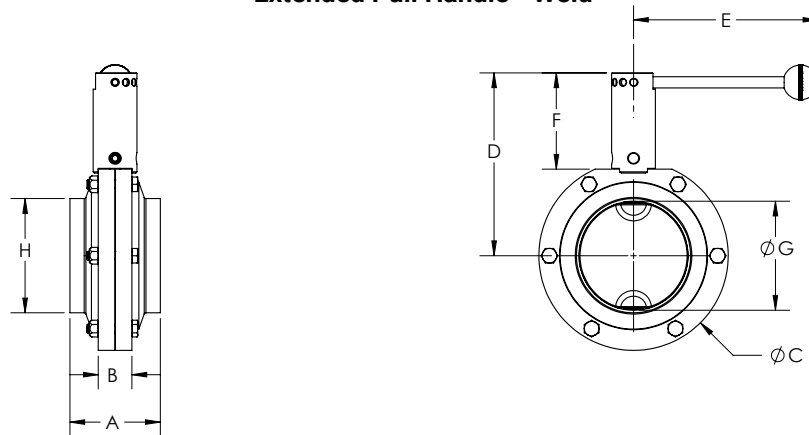
B5107-Series Butterfly Valve - Dimensions

Extended Pull Handle - Clamp



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)
1/2"	3.50	0.90	3.10	4.60	4.60	3.30
3/4"	3.50	0.90	3.10	4.60	4.60	3.30
1"	3.50	0.90	3.10	4.60	4.60	3.30
1-1/2"	3.50	0.90	3.10	4.60	4.60	3.30
2"	3.80	0.90	3.90	5.00	4.60	3.30
2-1/2"	3.80	0.90	4.60	5.40	4.60	3.30
3"	4.10	1.20	5.20	5.50	6.50	3.30
4"	4.80	1.20	6.70	6.30	6.50	3.30

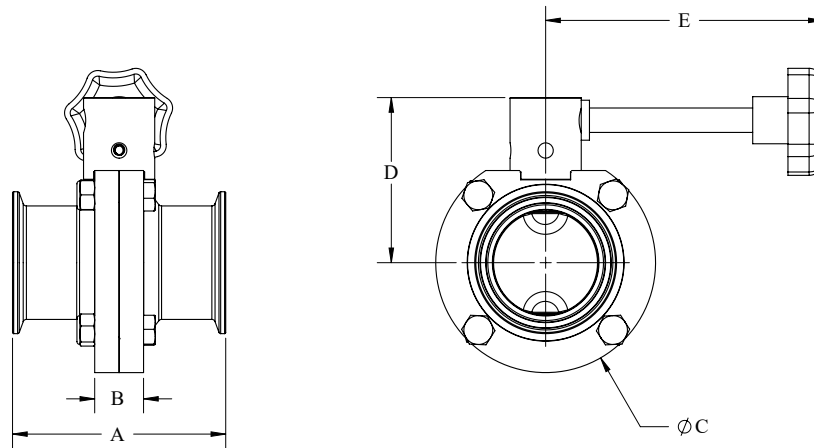
Extended Pull Handle - Weld



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
1/2"	1.87	0.90	3.10	4.60	4.60	0.37	0.50	0.50
3/4"	1.87	0.90	3.10	4.60	4.60	0.62	0.75	0.75
1"	1.87	0.90	3.10	4.60	4.60	0.87	1.00	1.00
1-1/2"	1.87	0.90	3.10	4.60	4.60	1.37	1.50	1.50
2"	2.06	0.90	3.90	5.00	4.60	1.87	2.00	2.00
2-1/2"	2.12	0.90	4.60	5.40	4.60	2.37	2.50	2.50
3"	2.50	1.20	5.20	5.50	6.50	2.87	3.00	3.00
4"	3.18	1.20	6.70	6.30	6.50	3.83	4.00	4.00

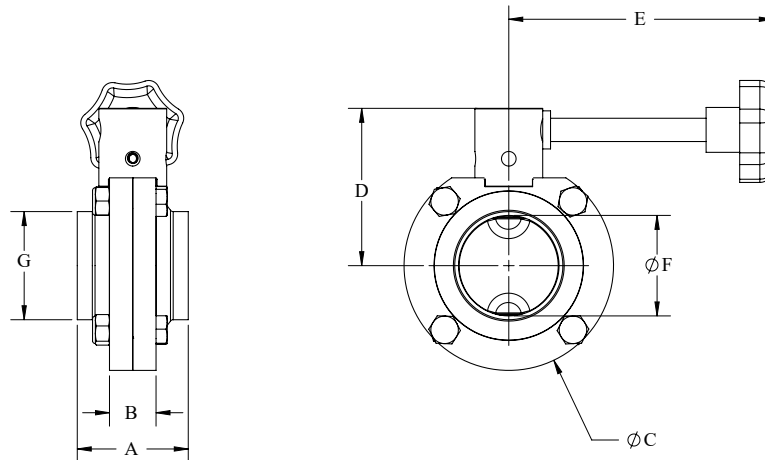
B5107-Series Butterfly Valve - Dimensions

Infinite Handle - Clamp



Size	A (in)	B (in)	C (in)	D (in)	E (in)
1/2"	3.50	0.90	3.10	2.60	4.90
3/4"	3.50	0.90	3.10	2.60	4.90
1"	3.50	0.90	3.10	2.60	4.90
1-1/2"	3.50	0.90	3.10	2.60	4.90
2"	3.80	0.90	3.90	3.00	4.90
2-1/2"	3.80	0.90	4.60	3.40	4.90
3"	4.10	1.20	5.20	3.50	6.60
4"	4.80	1.20	6.70	4.30	6.60

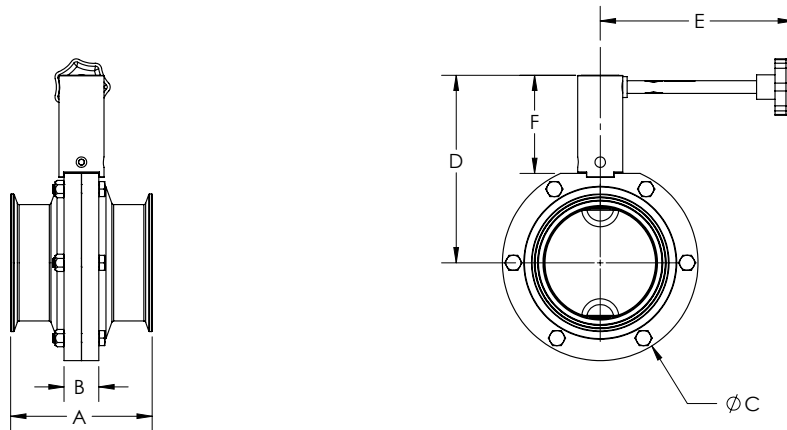
Infinite Handle - Weld



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1/2"	1.87	0.90	3.10	2.60	4.90	0.37	0.50
3/4"	1.87	0.90	3.10	2.60	4.90	0.62	0.75
1"	1.87	0.90	3.10	2.60	4.90	0.87	1.00
1-1/2"	1.87	0.90	3.10	2.60	4.90	1.37	1.50
2"	2.06	0.90	3.90	3.00	4.90	1.87	2.00
2-1/2"	2.12	0.90	4.60	3.40	4.90	2.37	2.50
3"	2.50	1.20	5.20	3.50	6.60	2.87	3.00
4"	3.18	1.20	6.70	4.30	6.60	3.83	4.00

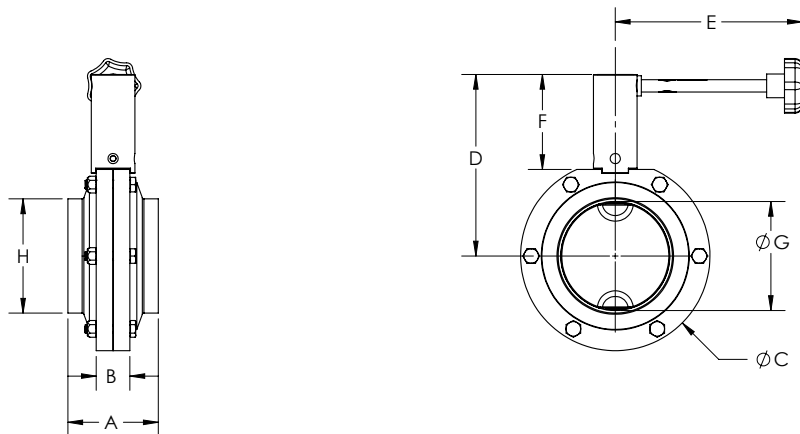
B5107-Series Butterfly Valve - Dimensions

Extended Infinite Handle - Clamp



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)
1/2"	3.50	0.90	3.10	4.60	4.90	3.30
3/4"	3.50	0.90	3.10	4.60	4.90	3.30
1"	3.50	0.90	3.10	4.60	4.90	3.30
1-1/2"	3.50	0.90	3.10	4.60	4.90	3.30
2"	3.80	0.90	3.90	5.00	4.90	3.30
2-1/2"	3.80	0.90	4.60	5.40	4.90	3.30
3"	4.10	1.20	5.20	5.50	6.60	3.30
4"	4.80	1.20	6.70	6.30	6.60	3.30

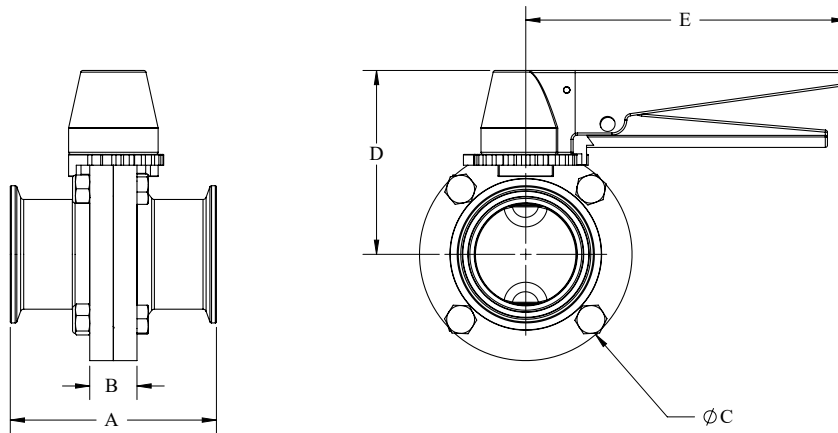
Extended Infinite Handle - Weld



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
1/2"	1.87	0.90	3.10	4.60	4.90	0.37	0.50	0.50
3/4"	1.87	0.90	3.10	4.60	4.90	0.62	0.75	0.75
1"	1.87	0.90	3.10	4.60	4.90	0.87	1.00	1.00
1-1/2"	1.87	0.90	3.10	4.60	4.90	1.37	1.50	1.50
2"	2.06	0.90	3.90	5.00	4.90	1.87	2.00	2.00
2-1/2"	2.12	0.90	4.60	5.40	4.90	2.37	2.50	2.50
3"	2.50	1.20	5.20	5.50	6.60	2.87	3.00	3.00
4"	3.18	1.20	6.70	6.30	6.60	3.83	4.00	4.00

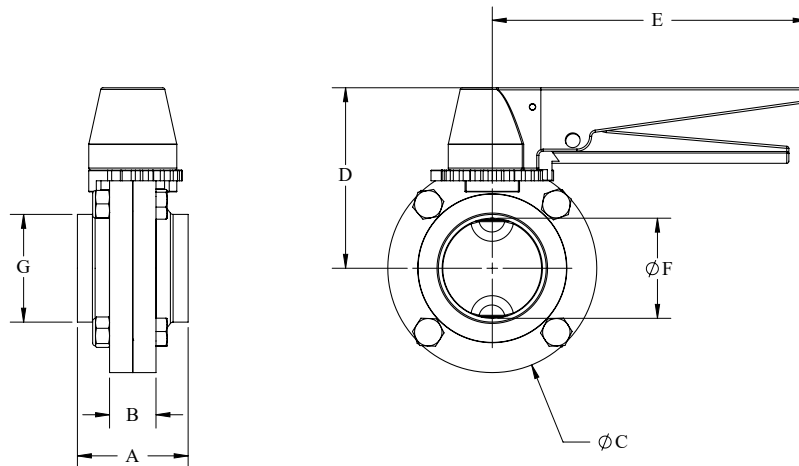
B5107-Series Butterfly Valve - Dimensions

Trigger Handle - Clamp



Size	A (in)	B (in)	C (in)	D (in)	E (in)
1/2"	3.50	0.90	3.10	2.60	5.90
3/4"	3.50	0.90	3.10	2.60	5.90
1"	3.50	0.90	3.10	2.60	5.90
1-1/2"	3.50	0.90	3.10	2.60	5.90
2"	3.80	0.90	3.90	3.00	5.90
2-1/2"	3.80	0.90	4.60	3.40	5.90
3"	4.10	1.20	5.20	3.50	5.90
4"	4.80	1.20	6.70	4.30	5.90

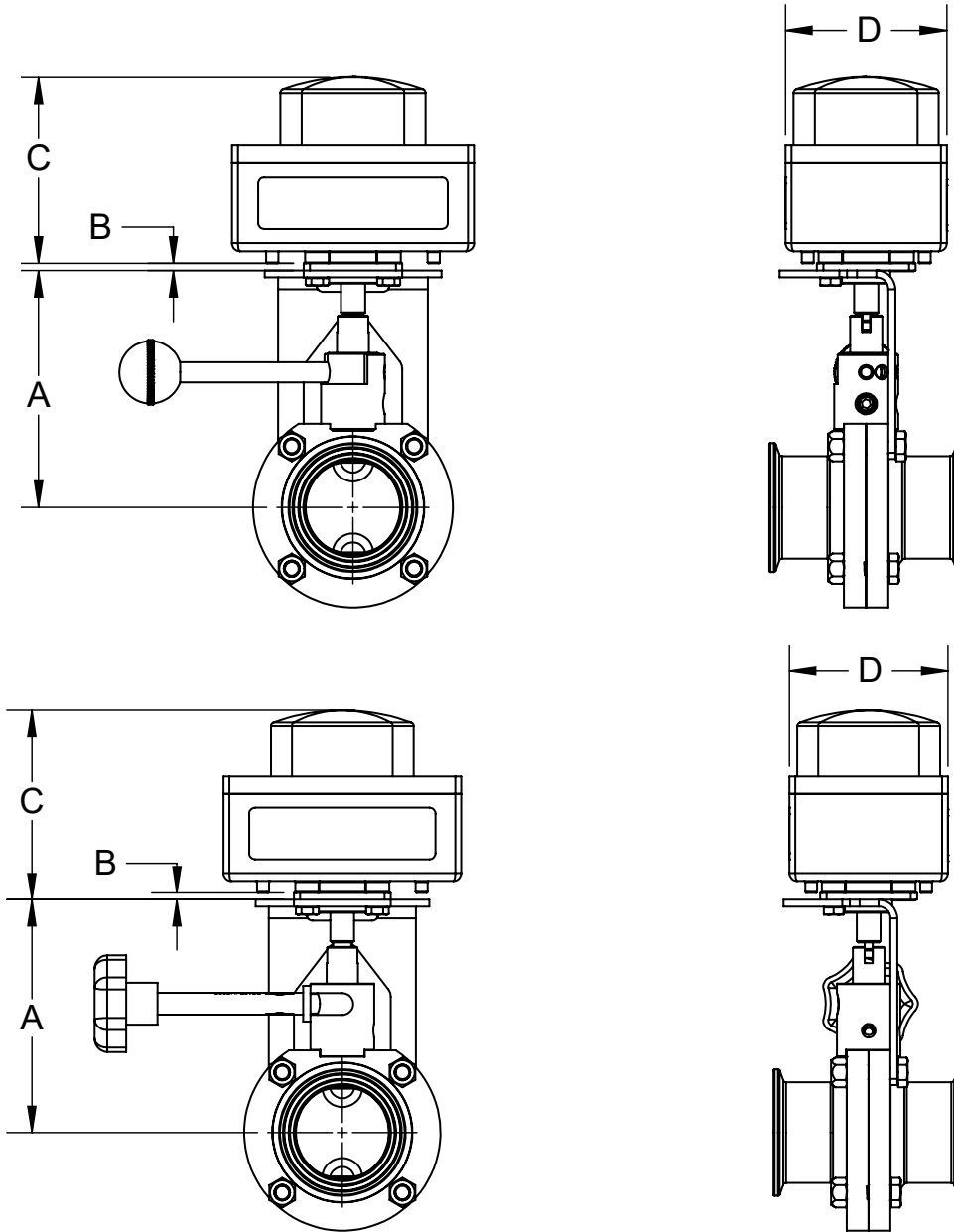
Trigger Handle - Weld



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
1/2"	1.87	0.90	3.10	2.60	5.90	0.37	0.50
3/4"	1.87	0.90	3.10	2.60	5.90	0.62	0.75
1"	1.87	0.90	3.10	2.60	5.90	0.87	1.00
1-1/2"	1.87	0.90	3.10	2.60	5.90	1.37	1.50
2"	2.06	0.90	3.90	3.00	5.90	1.87	2.00
2-1/2"	2.12	0.90	4.60	3.40	5.90	2.37	2.50
3"	2.50	1.20	5.20	3.50	5.90	2.87	3.00
4"	3.18	1.20	6.70	4.30	5.90	3.83	4.00

B5107-Series Butterfly Valve - Dimensions

Standard and Infinite Handles with Position Detection



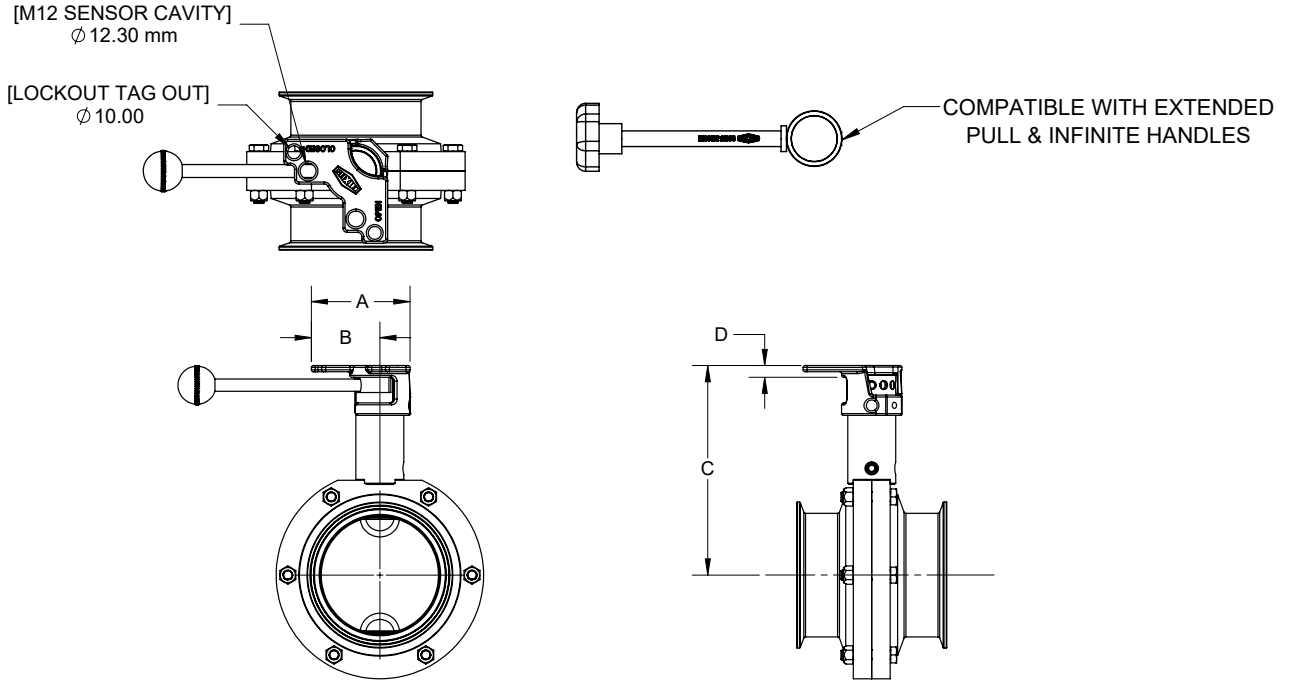
E

NOTE: Limit switch shown is XLS-C4A0120P

Size	A (in)	XLS-B4A0120P			XLS-C4A0120P			XLS-C7A0120P		
		B (in)	C (in)	D (in)	B (in)	C (in)	D (in)	B (in)	C (in)	D (in)
1/2"	4.31	0 (no spacer required)	3.62	4.06	0.135	3.63	3.15	0.135	5.43	6.7
3/4"	4.31									
1"	4.32									
1-1/2"	4.32									
2"	4.63									
2-1/2"	5.04									
3"	5.19									
4"	6.06									

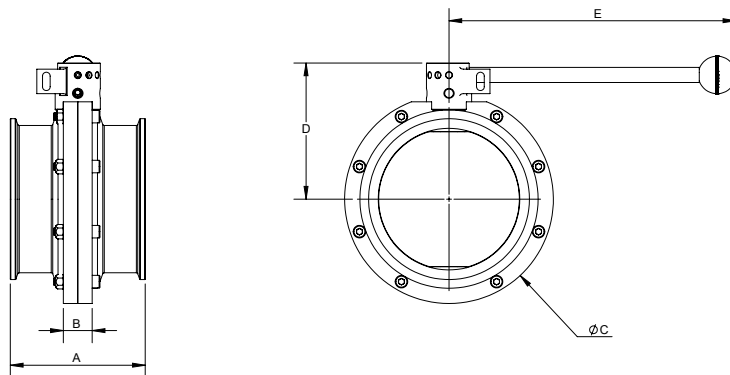
B5107-Series Butterfly Valve - Dimensions

Standard and Infinite Handles with Lock-out Tag-out



Part #	Size	A (in)	B (in)	C (in) (standard handle)	C (in) (infinite handle)	D (in)
B5107-PB-5025	1/2"	3.02	2.20	5	5	0.37
	3/4"	3.02	2.20	5	5	0.37
	1"	3.02	2.20	5	5	0.37
	1-1/2"	3.02	2.20	5	5	0.37
	2"	3.02	2.20	5.4	5.4	0.37
	2-1/2"	3.02	2.20	5.8	5.8	0.37
B5107-PB-3040	3"	3.17	2.20	6	5.9	0.37
	4"	3.17	2.20	6.8	6.7	0.37

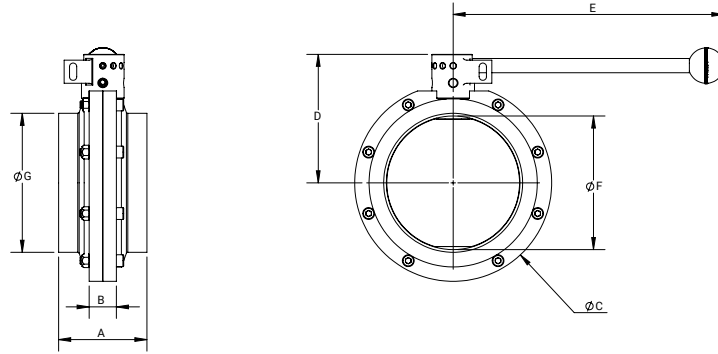
Pull Handle with Lock-out Tag-out - Clamp



Size	A (in)	B (in)	C (in)	D (in)	E (in)
6"	5.50	1.20	8.50	5.60	11.70
8"	5.00	1.20	11.20	7.80	18.10

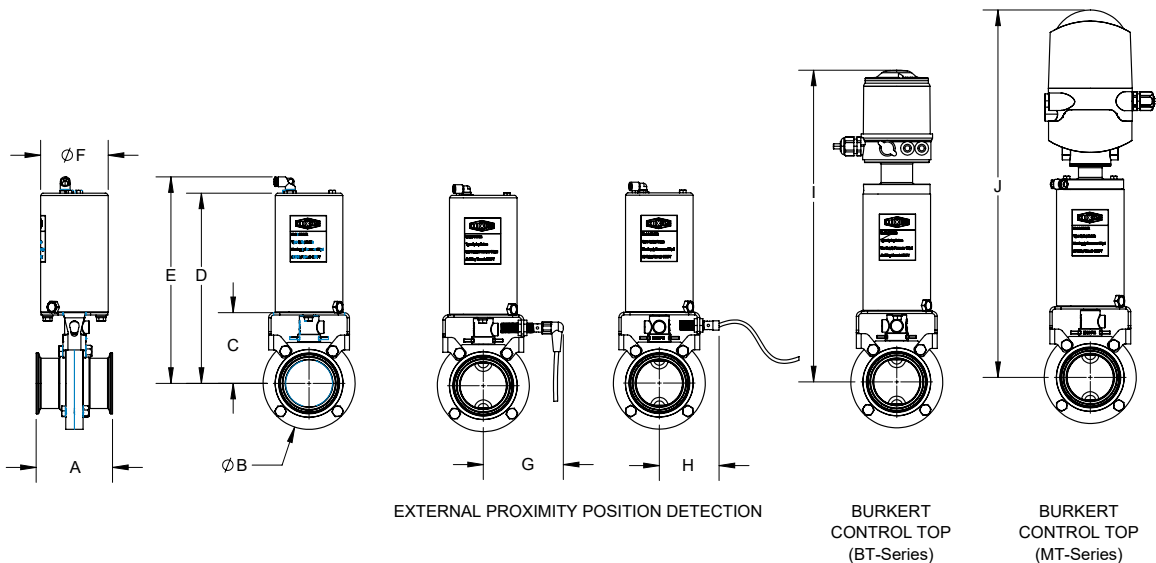
B5107-Series Butterfly Valve - Dimensions

Pull Handle with Lock-out Tag-out - Weld



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
6"	3.83	1.20	8.50	5.60	11.70	5.78	6.00
8"	4.97	1.20	11.20	7.80	18.10	7.78	8.00

Vertical Canister Actuator

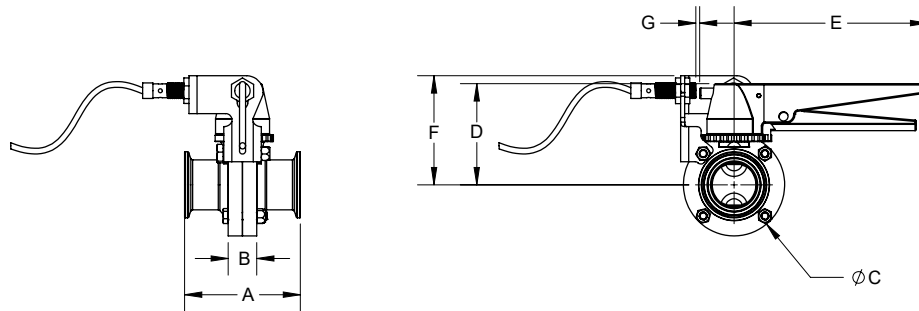


NOTE: See Proximity, BT-series, and MT-series EPRG for more information.

Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)
1/2"	3.5	3.1	2.7	8.7	9.6	3.4	4.0	3.0	14.7	17.6
3/4"	3.5	3.1	2.7	8.7	9.6	3.4	4.0	3.0	14.7	17.6
1"	3.5	3.1	2.7	8.7	9.6	3.4	4.0	3.0	14.7	17.6
1-1/2"	3.5	3.1	2.7	8.7	9.6	3.4	4.0	3.0	14.7	17.6
2"	3.8	3.9	3.0	9.0	10.0	3.4	4.0	3.0	15.0	17.9
2-1/2"	3.8	4.6	3.5	9.5	10.4	3.4	4.0	3.0	15.5	18.4
3"	4.1	5.2	3.6	9.5	10.5	3.4	4.0	3.0	15.5	18.5
4"	4.8	6.7	4.4	10.4	11.4	3.4	4.0	3.0	16.4	19.3

B5107-Series Butterfly Valve - Dimensions

Multi Position Trigger Handle with Position Detection



E

Size	A (in)		B (in)	C (in)	D (in)	E (in)	F (in)	G (in)
	Clamp	Weld						
1/2"	3.50	1.87	0.90	3.10	2.60	5.90	3.30	proximity distance dependent on sensor used ¹
3/4"	3.50	1.87	0.90	3.10	2.60	5.90	3.30	
1"	3.50	1.87	0.90	3.10	2.60	5.90	3.30	
1-1/2"	3.50	1.87	0.90	3.10	2.60	5.90	3.30	
2"	3.80	2.06	0.90	3.90	3.00	5.90	3.55	
2-1/2"	3.80	2.12	0.90	4.60	3.40	5.90	4.00	
3"	4.10	2.50	1.20	5.20	3.50	5.90	4.05	
4"	4.80	3.18	1.20	6.70	4.30	5.90	4.90	

¹Refer to proximity sensor EPRG for more information on proximity distance.

B5107-Series Butterfly Valve - Repair Kits

Size	Seat Material					
	EPDM	Silicone	FKM	EPDM/PTFE	Silicone/PTFE	FKM/PTFE
1/2"	B5107-RKE100	B5107-RKS100	B5107-RKV100	B5107-RKX100	B5107-RKZ100	B5107-RKY100
3/4"						
1"						
1-1/2"	B5107-RKE150	B5107-RKS150	B5107-RKV150	B5107-RKX150	B5107-RKZ150	B5107-RKY150
2"	B5107-RKE200	B5107-RKS200	B5107-RKV200	B5107-RKX200	B5107-RKZ200	B5107-RKY200
2-1/2"	B5107-RKE250	B5107-RKS250	B5107-RKV250	B5107-RKX250	B5107-RKZ250	B5107-RKY250
3"	B5107-RKE300	B5107-RKS300	B5107-RKV300	B5107-RKX300	B5107-RKZ300	B5107-RKY300
4"	B5107-RKE400	B5107-RKS400	B5107-RKV400	B5107-RKX400	B5107-RKZ400	B5107-RKY400
6"	B5107-RKE600	B5107-RKS600	-	B5107-RKX600	B5107-RKZ600	-
8"	B5107-RKE800	B5107-RKS800	-	B5107-RKX800	B5107-RKZ800	-

NOTE: All repair kits contain items 3, 4, and 5.

L5107-Series Butterfly Valve

Quarter-turn valve used to isolate and regulate the flow of fluid in processing pipelines.

They are found in the pharmaceutical, biochemical, cosmetic, food processing, beverage, and some dairy markets.

Certifications

- FDA 21 CFR 177.2600
- 3A sanitary standard 18-03 Class II (low fat) compliant
- United States Pharmacopeia (USP) 87 and 88 Class VI
- European regulation EC 1935/2004
- REACH
 - In accordance with regulation EC 1907/2006
 - Does not contain any substances above 0.1% (w/w)
 - Source: The Candidate List of Substances of Very High Concern, Annex XVII
- Animal derived ingredient free
- Phthalate free

Sizes

- 1", 1-1/2", 2", 2-1/2", 3", and 4"

Features

- Compact design with face-to-face dimensions being 3" for all sizes
- High performance rubber seat design
 - Same seat design as our premium B5107-series butterfly valve line
 - Seats are interchangeable
- 360° trigger sprocket allows handle to be easily rotated to both sides of the valve without disassembly and reassembly of the valve handle
- Hex head body bolts eliminate cavities of socket head screws for cleaner exterior design
- Durable high performance polyamide handle with stainless trigger reduces weight of overall assembly
- Manual valves ship complete with handle installed and ready for operation

Materials

- Product contact metal components: 304 forged stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: EPDM, silicone, or FKM

Specifications

- Standard connection: clamp (2022 ASME BPE DT-4.1.4-1)
- Maximum pressure
 - 1/2" to 2": **140 PSI**
 - 2-1/2" to 3": **110 PSI**
 - 4": **85 PSI**
- Minimum product line pressure: 0.4" Hg vacuum (absolute) at **68°F (20°C)**
- Maximum operating temperature: **200°F (93°C)**
- Minimum operating temperature: **15°F (-9°C)**
- Valve stem square size: 10mm (all valve sizes)
- Surface finish
 - Product contact metal components: ≤ 32 Ra (standard)
- Seat lubricant: MOLYKOTE® 111



E

L5107-Series Butterfly Valve - Flow Coefficients (Cv)

Valve Size	Flow Coefficient (Cv)	Valve Size	Flow Coefficient (Cv)
1"	23	2-1/2"	264
1-1/2"	80	3"	372
2"	230	4"	800

L5107-Series Butterfly Valve - Valve Break Torque

(Based on water at 68°F)

Valve Size	Break Torque (in-lbs) Silicone	Break Torque (in-lbs) EPDM	Break Torque (in-lbs) FKM
1"	20	13	70
1-1/2"	35	20	125
2"	35	48	175
2-1/2"	133	98	220
3"	133	146	310
4"	266	341	450

E

L5107-Series Butterfly Valve - Pressure Drop Chart (PSI)

(Based on water at 68°F)

Capacity (USGPM)	1"	1-1/2"	2"	2-1/2"	3"	4"
5						
10	0.2	0.0				
50	4.7	0.4				
90	15.3	1.3	0.2			
130		2.6	0.3	0.2		
170		4.5	0.5	0.4	0.2	
210		6.9	0.8	0.6	0.3	
250		9.8	1.2	0.9	0.5	
290			1.6	1.2	0.6	
330			2.1	1.6	0.8	0.2
370			2.6	2.0	1.0	0.2
410			3.2	2.4	1.2	0.3
450			3.8	2.9	1.5	0.3
490			4.5	3.4	1.7	0.4
530				4.0	2.0	0.4
570				4.7	2.3	0.5
610				5.3	2.7	0.6
650				6.1	3.1	0.7
690				6.8	3.4	0.7
730					3.9	0.8
770					4.3	0.9
810					4.7	1.0
850					5.2	1.1
890					5.7	1.2
930					6.3	1.4
970						1.5
1010						1.6
1050						1.7
1090						1.9
1130						2.0
1170						2.1
1210						2.3
1250						2.4
1290						2.6
1330						2.8
1370						2.9
1410						3.1
1450						3.3
1490						3.5
1530						3.7
1570						3.9
1610						4.1
1650						4.3

$$\Delta P = \left[\frac{\text{GPM}}{C_v} \right]^2 G$$

L5107-Series Butterfly Valve - Operating Devices

<p>Multi Position Trigger Handle Lock-out Tag-out</p>	<p>Stainless Steel Canister Actuator (spring return or double acting)</p>	<p>Stainless Steel Canister Actuator with External Proximity Position Detection</p>
		

E

Stainless Steel Canister Actuator with Burkert Control Top



L5107-Series Butterfly Valve - Part Number Key

L5107-Series Butterfly Valve Part Number Key Example: L5107E150CC-P		Series	Seat Material	Size	Connection End	Connection End	* Actuation	Control Unit/ Feedback	Finish Options
		L5107	E	150	C	C	-	P	
Series	Code								
L5107	L5107								
Seat Material	Code								
EPDM	E								
Silicone	S								
FKM	V								
Size	Code								
1"	100								
1-1/2"	150								
2"	200								
2-1/2"	250								
3"	300								
4"	400								
Connection End	Code								
Clamp (standard)	C								
Actuation	Code								
Manual handle - 24 position trigger handle (ships assembled)	P								
Normally open linear pneumatic vertical canister actuator	F								
Normally closed linear pneumatic vertical canister actuator	G								
Air to air linear pneumatic vertical canister actuator	H								
Control Unit/Feedback	Code								
Only available to be used with the following actuation codes: F, G, and H									
None	blank								
10-30 VDC 12mm external proximity, PNP, open/close, (qty 2), flying leads	01								
10-30 VDC 12mm external proximity, NPN, open/close, (qty 2), flying leads	02								
10-30 VDC 12mm external proximity, PNP, open, (qty 1), flying leads	03								
10-30 VDC 12mm external proximity, PNP, close, (qty 1), flying leads	04								
10-30 VDC 12mm external proximity, NPN, open, (qty 1), flying leads	05								
10-30 VDC 12mm external proximity, PNP, open/close, (qty 2), M12 quick disconnect	06								
10-30 VDC 12mm external proximity, NPN, open/close, (qty 2), M12 quick disconnect	07								
10-30 VDC 12mm external proximity, PNP, open, (qty 1), M12 quick disconnect	08								
10-30 VDC 12mm external prox, PNP, close, (qty 1), M12 quick disconnect	09								

* Only use a dash (-) in the part number if using a manual handle, otherwise the dash is eliminated.

NOTE: Part number key continues on the next page.

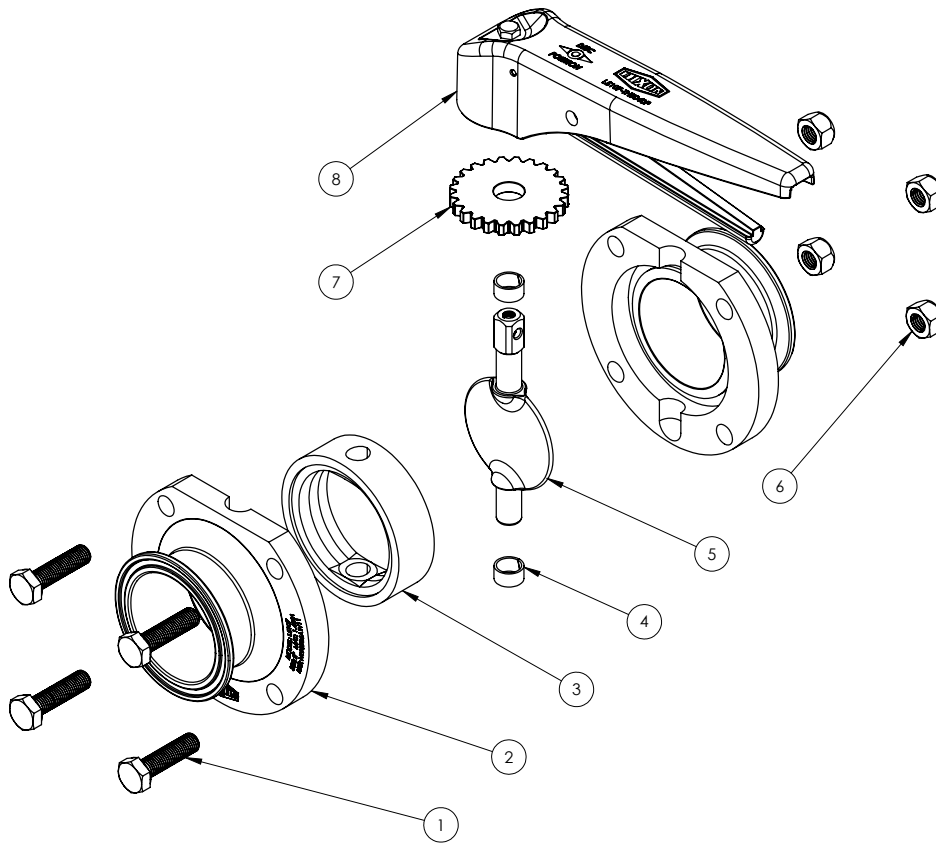
L5107-Series Butterfly Valve - Part Number Key

L5107-Series Butterfly Valve Part Number Key Example: L5107E150CC-P		Series	Seat Material	Size	Connection End	Connection End	*	Actuation	Control Unit/ Feedback	Finish Options														
		L5107	E	150	C	C	-	P																
10-30 VDC 12mm external proximity, NPN, open, (qty 1), M12 quick disconnect	10	<div style="border: 1px solid black; padding: 5px;"> <p>Only available to be used with the following actuation codes: F, G, and H</p> <p>Burkert 8691, single acting, DeviceNet, multipin</p> <p>Burkert 8691, single acting, AS-i, multipin</p> <p>Burkert 8691, single acting, 24VDC, multipin</p> <p>Burkert 8691, double acting, DeviceNet, multipin</p> <p>Burkert 8691, double acting, AS-i, multipin</p> <p>Burkert 8691, double acting, 24VDC, multipin</p> <p>Burkert 8691, without solenoid, 24VDC, multipin</p> <p>Burkert 8692 positioner, 24VDC, 4-20mA, multipin</p> <p>Burkert 8962 positioner, 24VDC, ATEX, multipin</p> <p>Burkert 8691, single acting, IO link multipin</p> <p>Finish Options</p> <table border="1"> <thead> <tr> <th>Finish Options</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>32Ra mechanical (standard)</td> <td>blank</td> </tr> <tr> <td>25Ra mechanical</td> <td>B</td> </tr> <tr> <td>20Ra mechanical</td> <td>C</td> </tr> <tr> <td>32Ra mechanical with customer specified ID marking</td> <td>E</td> </tr> <tr> <td>25Ra mechanical with customer specified ID marking</td> <td>F</td> </tr> <tr> <td>20Ra mechanical with customer specified ID marking</td> <td>G</td> </tr> </tbody> </table> </div>									Finish Options	Code	32Ra mechanical (standard)	blank	25Ra mechanical	B	20Ra mechanical	C	32Ra mechanical with customer specified ID marking	E	25Ra mechanical with customer specified ID marking	F	20Ra mechanical with customer specified ID marking	G
Finish Options	Code																							
32Ra mechanical (standard)	blank																							
25Ra mechanical	B																							
20Ra mechanical	C																							
32Ra mechanical with customer specified ID marking	E																							
25Ra mechanical with customer specified ID marking	F																							
20Ra mechanical with customer specified ID marking	G																							
Burkert 8691, single acting, DeviceNet, multipin	11																							
Burkert 8691, single acting, AS-i, multipin	12																							
Burkert 8691, single acting, 24VDC, multipin	13																							
Burkert 8691, double acting, DeviceNet, multipin	14																							
Burkert 8691, double acting, AS-i, multipin	15																							
Burkert 8691, double acting, 24VDC, multipin	16																							
Burkert 8691, without solenoid, 24VDC, multipin	17																							
Burkert 8692 positioner, 24VDC, 4-20mA, multipin	18																							
Burkert 8962 positioner, 24VDC, ATEX, multipin	62																							
Burkert 8691, single acting, IO link multipin	64																							
Finish Options	Code																							
32Ra mechanical (standard)	blank																							
25Ra mechanical	B																							
20Ra mechanical	C																							
32Ra mechanical with customer specified ID marking	E																							
25Ra mechanical with customer specified ID marking	F																							
20Ra mechanical with customer specified ID marking	G																							

E

*Only use a dash (-) in the part number if using a manual handle, otherwise the dash is eliminated.

L5107-Series Butterfly Valve - Bill of Materials



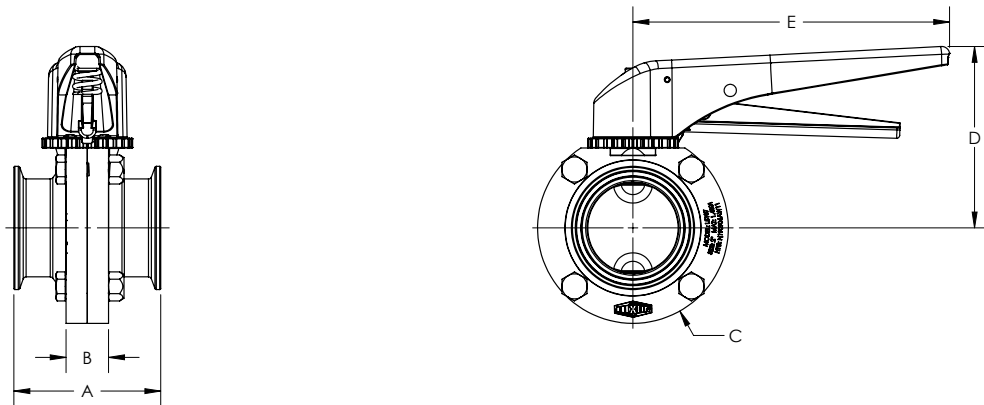
Item #	Description	Part #			Material	Qty
		1"	1-1/2"	2"		
1	body bolt	M6x1x30 hex head		M8X1.25X30 hex head	18-8	4
2	body housing	L5107-HSG10	L5107-HSG15	L5107-HSG20	304	2
3	valve seat	see repair kit			-	1
4	bushing	n/a (included with item no. 3)			polyacetal	2
5	disc	L5107-DSC10	L5107-DSC15	L5107-DSC20	304	1
6	body nut	M6x1 Nylock		M8x1.25 Nylock	18-8	4
7	sprocket	L5107-THS-5025			304	1
8	handle	L5107-TH5040P			PA55-GF30 / 304	1

Item #	Description	Part #			Material	Qty
		2-1/2"	3"	4"		
1	body bolt	M8x1.25x30 hex head	M8x1.25x40 hex head		18-8	4 ¹
2	body housing	L5107-HSG25	L5107-HSG30	L5107-HSG40	304	2
3	valve seat	see repair kits			-	1
4	bushing	n/a (included with item no. 3)			polyacetal	2
5	disc	L5107-DSC25	L5107-DSC30	L5107-DSC40	304	1
6	body nut	M8x1.25 Nylock			18-8	4 ¹
7	sprocket	L5107-THS-5025	L5107-THS-3040		304	1
8	handle	L5107-TH5040P			PA55-GF30 / 304	1

¹4" valves have a quantity of 6 bolts and nuts

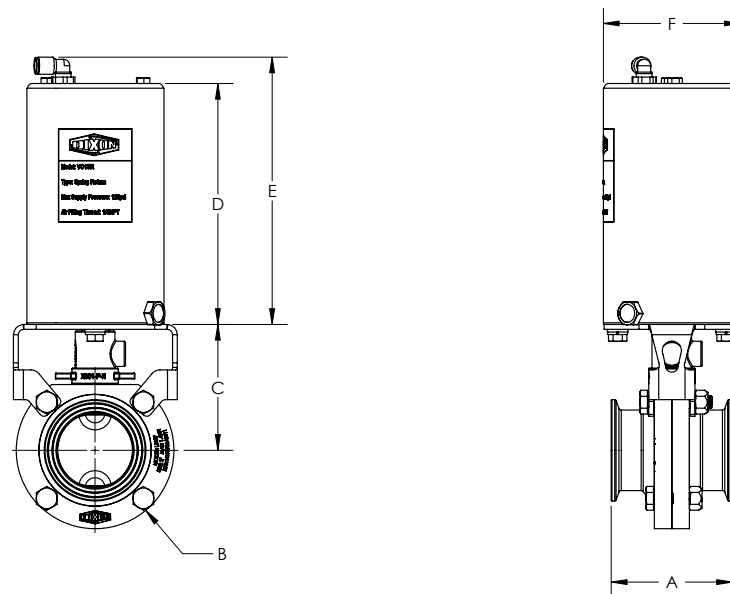
L5107-Series Butterfly Valve - Dimensions

Manual Handle



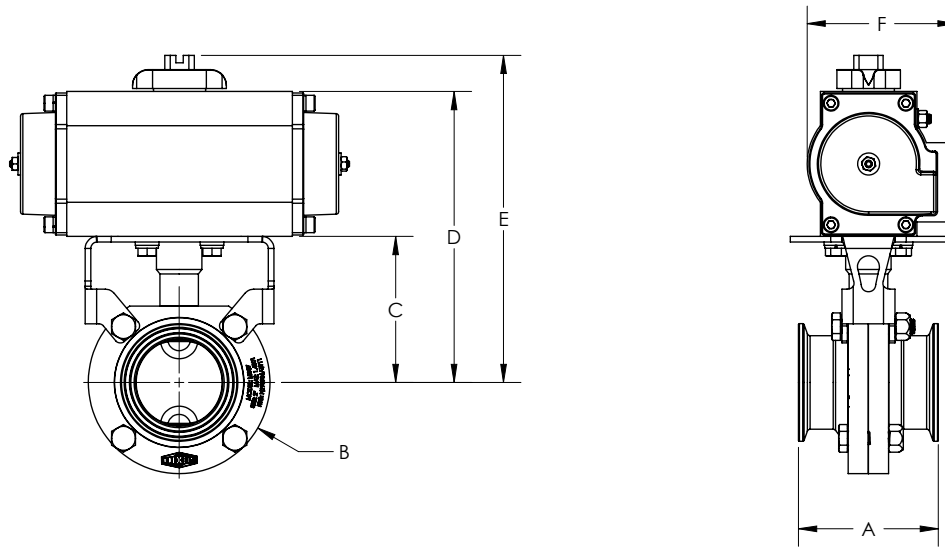
Valve Size	A (in)	B (in)	C (in)	D (in)	E (in)
1"	3.00	0.866	3.071	3.363	6.469
1-1/2"		0.866	3.071	3.363	
2"		0.866	3.898	3.707	
2-1/2"		0.866	4.606	4.119	
3"		1.181	5.197	4.312	
4"		1.181	6.657	5.109	

Vertical Canister Actuator



Valve Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)
1"	3.00	3.071	2.834	5.984	6.638	3.386
1-1/2"		3.071	2.834			
2"		3.898	3.124			
2-1/2"		4.606	3.542			
3"		5.197	3.683			
4"		6.657	4.557			

L5107-Series Butterfly Valve - Dimensions Rack and Pinion Actuator



E

Valve Size	A (in)	B (in)	C (in)	D (in)		E (in)		F (in)	
				SR	DA	SR	DA	SR	DA
1"	3.00	3.071	2.834	5.934	5.934	6.707	6.707	3.197	3.197
1-1/2"		3.071	2.834	5.934	5.934	6.707	6.707	3.197	3.197
2"		3.898	3.124	6.224	6.224	6.997	6.997	3.197	3.197
2-1/2"		4.606	3.542	6.642	6.642	7.415	7.415	3.197	3.197
3"		5.197	3.683	7.543	7.543	8.308	8.308	3.717	3.717
4"		6.657	4.557	9.343	8.417	10.098	9.182	4.679	3.717

L5107-Series Butterfly Valve - Repair Kits

Repair Kit Part #	Part Description	Kit Contains
B5107-RKV100	L5107/B5107 FKM repair kit, for 1" valves	items 3, 4, and seat lubricant pack
B5107-RKV150	L5107/B5107 FKM repair kit, for 1-1/2" valves	
B5107-RKV200	L5107/B5107 FKM repair kit, for 2" valves	
B5107-RKV250	L5107/B5107 FKM repair kit, for 2-1/2" valves	
B5107-RKV300	L5107/B5107 FKM repair kit, for 3" valves	
B5107-RKV400	L5107/B5107 FKM repair kit, for 4" valves	
B5107-RKS100	L5107/B5107 silicone repair kit, for 1" valves	
B5107-RKS150	L5107/B5107 silicone repair kit, for 1-1/2" valves	
B5107-RKS200	L5107/B5107 silicone repair kit, for 2" valves	
B5107-RKS250	L5107/B5107 silicone repair kit, for 2-1/2" valves	
B5107-RKS300	L5107/B5107 silicone repair kit, for 3" valves	
B5107-RKS400	L5107/B5107 silicone repair kit, for 4" valves	
B5107-RKE100	L5107/B5107 EPDM repair kit, for 1" valves	
B5107-RKE150	L5107/B5107 EPDM repair kit, for 1-1/2" valves	
B5107-RKE200	L5107/B5107 EPDM repair kit, for 2" valves	
B5107-RKE250	L5107/B5107 EPDM repair kit, for 2-1/2" valves	
B5107-RKE300	L5107/B5107 EPDM repair kit, for 3" valves	
B5107-RKE400	L5107/B5107 EPDM repair kit, for 4" valves	

B51-Series Industrial Butterfly Valve

Used in industrial applications when you need a valve for isolation or control of the flow of product. The B51-series valve is a resilient seated butterfly valve available with a pneumatic or electric actuator and a variety of control options.

They are found in the industrial market in various applications.

Certifications

- CE, NSF/ANSI 61, NSF/ANSI 372, CRN
- Conforms to MSS-SP-67, MSS-SP-25, API-609

Sizes

- 1-1/2" to 12" (larger sizes available upon request)

Features

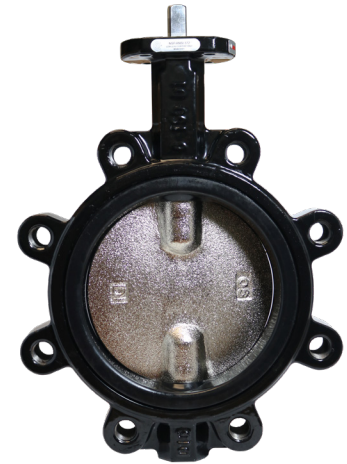
- Wafer or lug type (install between standard ANSI class 125-150 flanges)
- Cartridge seat design
- Dead-end service
- Designed for blowout-proof service

Materials

- Product contact metal components: nickel-plated ductile iron, CF8M, aluminum bronze, and nylon
- Non-product contact metal components: ductile iron, CF8M
- Product contact seals: PTFE, EPDM, nitrile rubber, FKM

Specifications

- Standard connection: wafer and lug
- Valve data
 - Maximum pressure: **200 PSI**
 - Maximum operating temperatures
 - EPDM: **-40°F to 275°F (-40°C to 135°C)**
 - FKM: **0°F to 300°F (-17°C to 148°C)**
 - Nitrile rubber: **10°F to 180°F (-12°C to 82°C)**
 - PTFE over EPDM: **-4°F to 300°F (-20°C to 148°C)**
 - Maximum ambient temperature: **-40°F to 300°F (-40°C to 148°C)**
- Actuator: standard ISO 5211



E

B51-Series Industrial Butterfly Valve - Part Number Key

B51-Series Industrial Butterfly Valve Part Number Key Example: B5120A150L-		Series	Body	Disc	Seat Material	Size	Ends	Handle
		B51	2	0	B	150	L	-
Series	Code							
B51	B51							
Body	Code							
Ductile iron	2							
Stainless steel (CF8M)	3							
Disc	Code							
Stainless steel (CF8M)	0							
Nickel-plated ductile iron	1							
Nylon coated ductile iron*	2							
AL bronze	3							
304 SS mirror polish	4							
Undercut stainless steel	5							
PTFE/stainless steel	6							
Seat Material	Code							
Nitrile rubber	B							
EPDM	E							
PTFE backed EPDM	P							
Silicone	S							
FKM	V							
Size	Code							
1-1/2" **	150							
2"	200							
2-1/2"	250							
3"	300							
4"	400							
5"	500							
6"	600							
8"	800							
10"	1000							
12"	1200							
Ends	Code							
Lug	L							
Wafer	W							
Handle	Code							
No handle	blank							
Multi-position handle ***	C							
Gear operator	G							
Standard with lock plate	CL							
Multi-position stainless handle ***	CS							

* Only available with stainless steel body
 ** Only available in wafer end
 *** Only available up to 8"

B51-Series Industrial Butterfly Valve - Actuated Part Number Key

B51-Series Actuated Industrial Butterfly Valve Part Number Key Example: 5L20B151XX00XX1		Valve Style	Body Material	Disc Material	Seat Material	Size
		5L	2	0	B	15
B51 Valve Style	Code					
Lug	5L					
Wafer	5W					
Body Material	Code					
Ductile iron	2					
Stainless steel	3					
Disc Material	Code					
316 stainless steel	0					
Nickel plated ductile iron	1					
Nylon 11 coated ductile iron	2					
Aluminum bronze	3					
Polished 316 stainless steel	4					
PTFE coated 316 stainless steel	5					
Seat Material	Code					
Nitrile rubber	B					
FKM	V					
EPDM	E					
PTFE over EPDM	P					
Size	Code					
1-1/2"	15					
2"	20					
2-1/2"	25					
3"	30					
4"	40					
5"	50					
6"	60					
8"	80					
10"	10					
12"	12					

E

Continue part number selection by following column 1 or 2 on page 120.

B51-Series Industrial Butterfly Valve - Actuated Part Number Key

1. Pneumatic Actuator or Spring Return Manual Handle					2. Electric Actuator			
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2
1	XX	00	XX	1	E	B	1	1
Actuator				Code	Actuator			Code
Aluminum spring return pneumatic rack and pinion				1	Electric			E
Aluminum double acting pneumatic rack and pinion				2	Oversized (1-UP) Electric			F
Stainless steel spring return pneumatic rack and pinion				3	Nema 7 Electric			G
Stainless steel double acting pneumatic rack and pinion				4	Electric with Riser Kit			H
Deadman spring return handle				6	Voltage			Code
Technopolymer spring return pneumatic rack and pinion				7	115VAC			B
Actuator Options				Code	12VDC			C
None				XX	24VAC			D
Oversized (1-up)				AA	24VDC			E
Actuator mounted parallel to flow				AB	220VAC			F
High temperature FKM elastomers				AC	12VAC			G
Extended travel stops				AD	Option 1			Code
Riser kit				AE	None			1
Feedback				Code	Torque switches			2
None				00	4-20mA Input/Output Modulating Controller			3
Limit Switch Box, OPEN/CLOSE Beacon, (2) SPDT Mech. Switches				11	Current Position Transmitter			4
Limit Switch Box, OPEN/CLOSE Beacon, (2) Switches, Magnetic Reed SPDT, Hermetically Sealed, up to SIL3, Exia ready, cULusClass 1/2 Div1/2				12	Potentiometer			5
Limit Switch Box, OPEN/CLOSE Beacon, AS-I				13	Local Control Unit			6
Limit Switch Box, OPEN/CLOSE Beacon, (2) Proximity SPDT Switches, Aluminum Exd IIB certified enclosure				14	Two Extra Travel Cams and Switches			7
Limit Switch Box, OPEN/CLOSE Beacon, (2) DPDT Mechanical Switches				15	Three Position Cam Set			8
Limit Switch Box, OPEN/CLOSE Beacon, (2) Switches, Electro mechanical SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1				16	Local Control Unit with Lock			9
Limit Switch Box, OPEN/CLOSE Beacon, Inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO				17	1-5V Input/2-10V Output Modulating Controller			A
Limit Switch Box, OPEN/CLOSE Beacon, 4-20ma Analog Position Transmitter				18	2-10V Input/Output Modulating Controller			B
Limit Switch Box, OPEN/CLOSE Beacon, SPDT Proximity, 0.25A@120VAC, 0.416A@48VDC, Resistive				19	75% Duty Cycle			C
Limit Switch Box, OPEN/CLOSE Beacon, 4-20ma Analog Position Transmitter + 2 SPDT Mechanical Switches				20	Relay			D
Stainless Steel Limit Switch Box, OPEN/CLOSE Beacon, (2) Proximity SPDT Switches				21	Four Position Cam Set			E

E

B51-Series Industrial Butterfly Valve - Actuated Part Number Key

1. Pneumatic Actuator or Spring Return Manual Handle					2. Electric Actuator			
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2
1	XX	00	XX	1	E	B	1	1
Control				Code	25% Duty Cycle (Actuator Code G Only)			F
None				XX	75% Duty Cycle (Actuator Code G Only)			G
Single Coil Solenoid, 120VAC				AA	Option 2			Code
Single Coil Solenoid, 24VDC				AB	None			1
Single Coil Solenoid, 12VDC				AC	Torque Switches			2
Single Coil Solenoid, 220VAC				AD	4-20mA Input/Output Modulating Controller			3
Dual Coil Solenoid, 120VAC				AE	Current Position Transmitter			4
Dual Coil Solenoid, 24VDC				AF	Potentiometer			5
Dual Coil Solenoid, 220VAC				AG	Local Control Unit			6
Pneumatic Positioner 3-15 PSI input, no feedback				AH	Two Extra Travel Cams and Switches			7
Pneumatic Positioner 3-15 PSI input, (2) SPDT Mech. Switches for Feedback				AI	Three Position Cam Set			8
Pneumatic Positioner 3-15 PSI input, 4-20mA for Feedback				AJ	Local Control Unit with Lock			9
Electropneumatic Positioner 4-20mA input, no Feedback				AK	1-5V Input/2-10V Output Modulating Controller			A
Electropneumatic Positioner 4-20mA input, (2) SPDT Mech. Switches for Feedback				AL	2-10V Input/Output Modulating Controller			B
Electropneumatic Positioner 4-20mA input, 4-20mA for Feedback				AM	75% Duty Cycle			C
Electropneumatic Positioner 0-10v input, no Feedback				AN	Relay			D
Electropneumatic Positioner 0-10v input, (2) SPDT Mech. Switches for Feedback				AO	Four Position Cam Set			E
Electropneumatic Positioner 0-10v input, 4-20mA for Feedback				AP	25% Duty Cycle (Actuator Code G Only)			F
V200 Rotary Electropneumatic Positioner 4-20mA input, 4-20mA Feedback				AQ	75% Duty Cycle (Actuator Code G Only)			G
Electropneumatic Positioner 4-20mA input, no Feedback, Class 1, Div II Explosion Proof				AR				
Single Coil Solenoid, 24VDC and 24V Banjo Solenoid Valve with Form B Plug				AS				
Single Coil Solenoid, 24VDC, AS-I, 2.5W Low Power				AT				
Single Coil Solenoid, 24VDC, Intrinsically Safe				AU				
Single Coil Solenoid, 120VAC, Exp. Proof, Class H Coil				AV				
Single Coil Solenoid, 24VDC, Exp. Proof, Class H Coil				AW				
Single Coil Solenoid, 24VAC				AX				
V200 Rotary Electropneumatic Positioner 4-20mA input, 4-20mA Feedback, Class 1, Div II Explosion Proof				AY				
Single Coil Solenoid, 24VDC, Molded LED, Ind. Form, 2M Leads				AZ				
TUFRAM coated Electropneumatic Positioner 4-20mA input, no Feedback				BA				

E

B51-Series Industrial Butterfly Valve - Actuated Part Number Key

1. Pneumatic Actuator or Spring Return Manual Handle				
Actuator	Actuator Options	Feedback	Control	Valve Operation
1	XX	00	XX	1
V200 Rotary Pneumatic Positioner, (2) REED SWITCH Feedback				BB
Single Coil Solenoid, 24VDC, Pre-Wired to Limit Switch WITH CORDSET (Dual Keyway, 1/2"-20 UNF Mating Thread, Single Ended, Straight Female Connector, 22 AWG PVC, Auto Color Code 2P to 6P Cable, 12' Length)				BC
Single Coil Solenoid, 24VDC, Pre-Wired to Limit Switch, 6P MALE CONNECTOR				BD
Valve Operation				Code
Normally Closed (Spring Return)				1
Normally Open (Spring Return)				2
Fail in Place (Double Acting)				3

E

B51-Series Industrial Butterfly Valve - Pressure Drop Chart - Flow Coefficients (Cv)

Size	Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
ANSI									
1-1/2"	0.1	1.8	7	16	32	41	59	76	99
2"	0.1	2	11	22	42	58	86	120	132
2-1/2"	0.2	4	20	37	65	98	142	202	256
3"	0.3	8	21	38	86	125	198	392	505
4"	0.4	14	35	77	140	232	401	702	936
5"	0.9	29	62	132	232	392	625	922	1109
6"	2.1	42	96	203	372	611	1105	2009	2531
8"	3.2	65	191	401	726	121	1901	3555	4812
10"	3.9	151	321	695	1232	2065	3740	6183	7498
12"	5	234	495	1065	1909	2178	5905	8805	9928

E

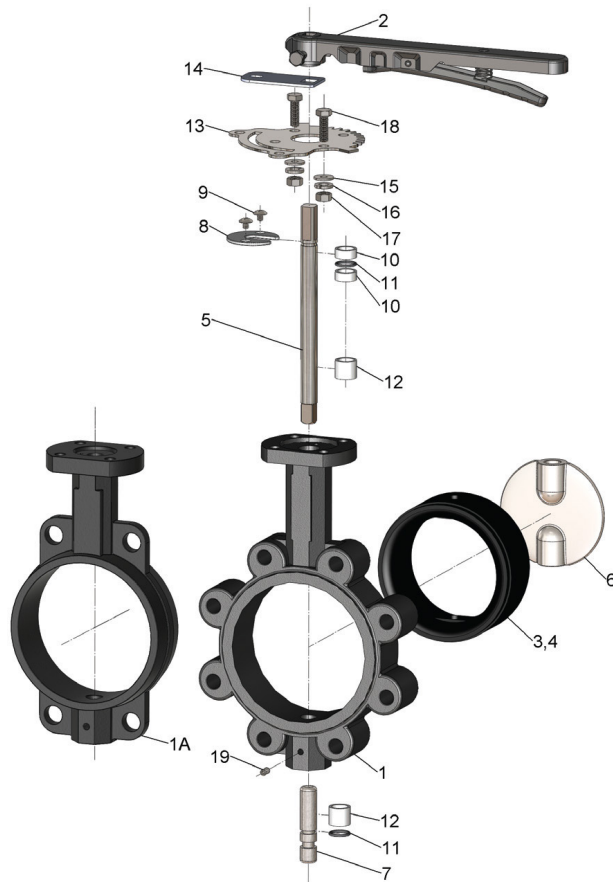
Holding Pressure Chart

Size Range	1-1/2" to 12"					
Disc	Full Cut				Undercut	
Seat	EPDM, Nitrile Rubber, FKM		PTFE/E		EPDM, Nitrile Rubber, FKM	PTFE/E
Stem	416 SS	316SS	416 SS	316 SS	416SS, 316SS	416 SS, 316 SS
Maximum Rated Body Pressure	200 PSI	200 PSI	150 PSI	150 PSI	200 PSI	150 PSI
Bidirectional Service	200 PSI	150 PSI	150 PSI	50 PSI	50 PSI	50 PSI
Unidirectional Dead-End Service	200 PSI	150 PSI	150 PSI	50 PSI	50 PSI	50 PSI

Torque Chart (in-lbs)

Size	Standard Seat				Undercut	PTFE Seat		
	50ΔP	100ΔP	150ΔP	200ΔP	50ΔP	50ΔP	100ΔP	150ΔP
1-1/2"	89	97	106	115	-	133	133	136
2"	105	111	117	124	-	144	148	150
2-1/2"	133	143	159	184	-	161	165	168
3"	191	203	218	247	-	299	304	310
4"	283	316	343	373	200	392	409	425
5"	428	479	540	631	330	771	793	814
6"	636	720	799	909	440	1074	1113	1151
8"	1239	1273	1411	1506	820	2106	2177	2257
10"	2568	2710	2832	3106	1151	3152	3301	3453
12"	3154	3308	3671	4306	2400	4186	4444	4692

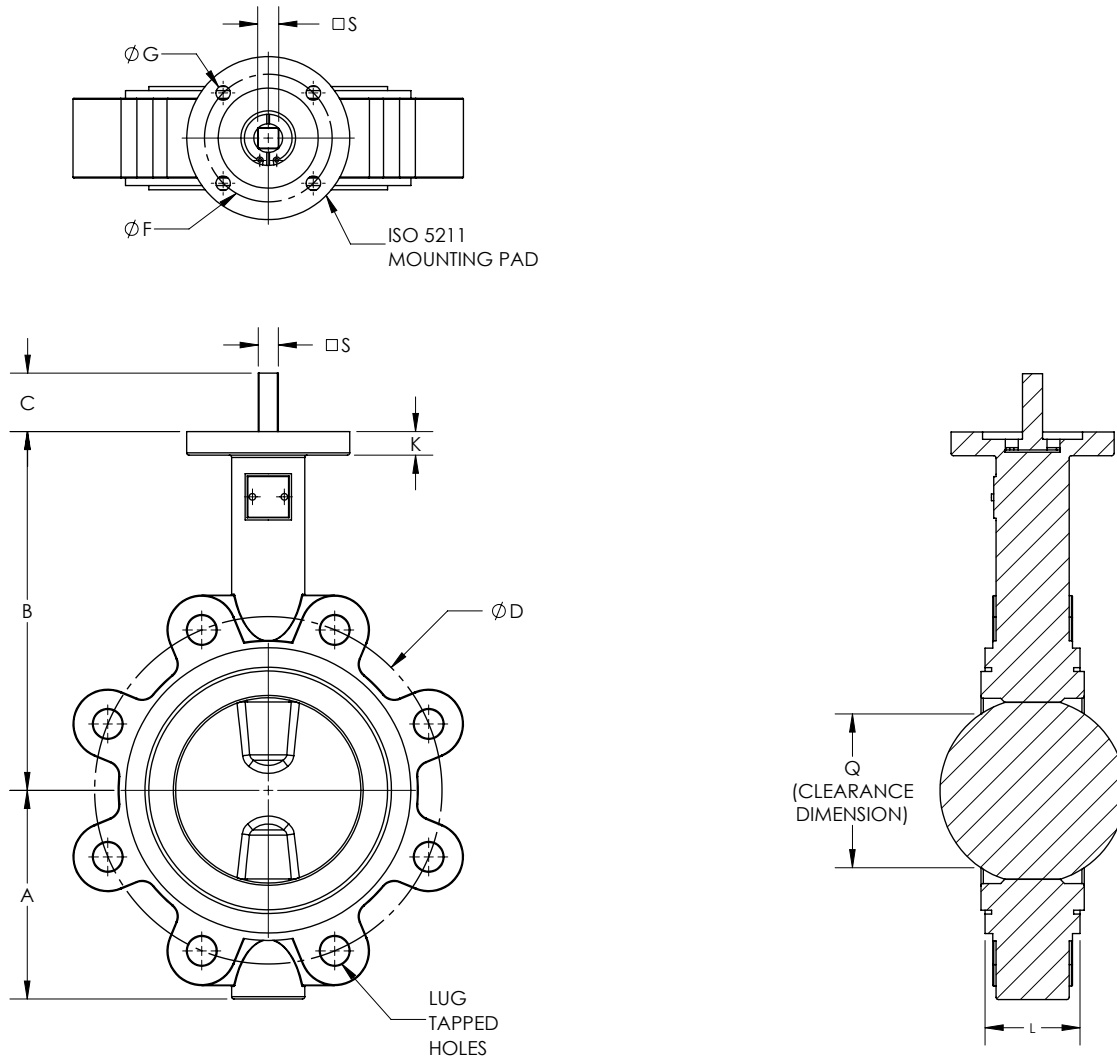
B51-Series Industrial Butterfly Valve - Bill of Materials



Item #	Description	Materials	Qty
1	lug body	cast iron, CF8M, ductile iron	1
1A	wafer body	cast iron, CF8M, ductile iron	1
2	operator (bare stem, handle, or gear)	cast iron, 304 SS	1
3	seat	EPDM, nitrile rubber, FKM (others)	1
4	back ring	phenolic thermoset resin	1
5	stem, upper	416 or 316 SS	1
6	disc	nickel plated ductile iron, CF8M, aluminum bronze, nylon coated ductile iron	1
7	stem lower	416 or 316 SS	1
8	stem retainer plate	zinc dichromate plated carbon steel	1
9	retainer plate screws	zinc dichromate plated carbon steel	2
10	bushings, upper	PTFE with graphite	2
11	stem o-ring	EPDM, nitrile rubber, FKM (others)	1
12	bushings, lower	PTFE with graphite	2
13	throttle plate	zinc dichromate plated carbon steel	1
14	infinite lock plate	zinc dichromate plated carbon steel	1
15	washer	zinc dichromate plated carbon steel	2
16	lock washer	zinc dichromate plated carbon steel	2
17	nut	zinc dichromate plated carbon steel	2
18	bolt	zinc dichromate plated carbon steel	2
19	set screw	zinc dichromate plated carbon steel	1

B51-Series Industrial Butterfly Valve - Dimensions

Stainless Steel Lug Butterfly Valve

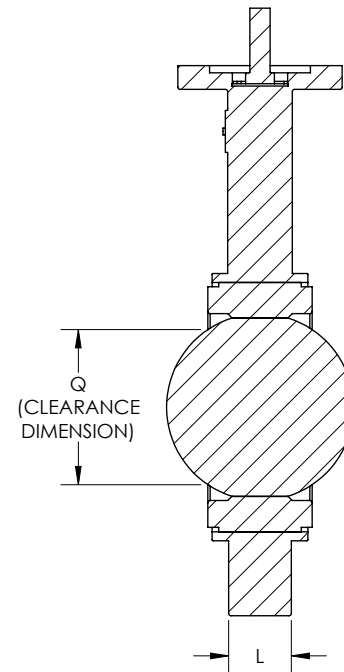
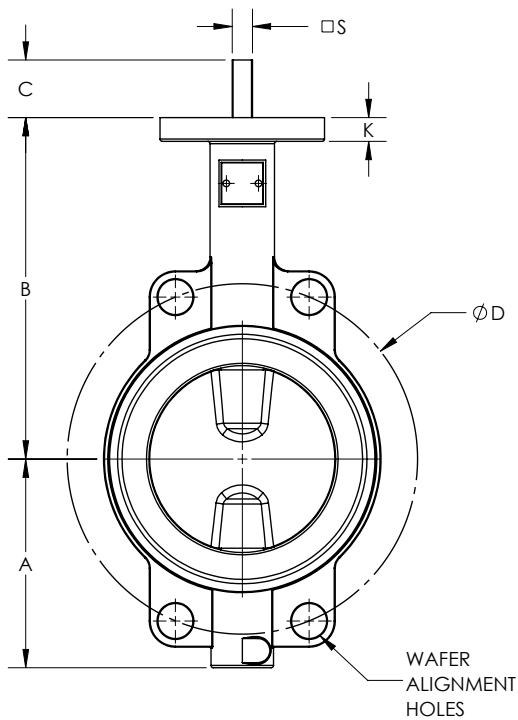
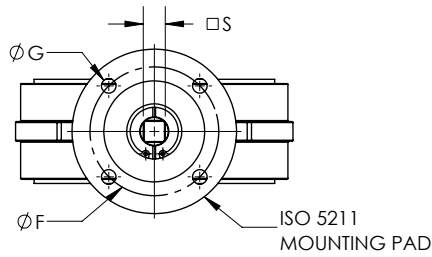


E

Size	L (in)	Q (in)	ØD (in)	Lug Taps SAE Thread	A (in)	B (in)	C (in)	□S (in)	ØF(in)	ISO	ØG (in)	K (in)
2"	1.69	1.14	4.74	4x 5/8"-11 UNC	2.60	5.12	1.18	0.354	1.969	F05	0.3	0.43
2-1/2"	1.81	1.77	5.50	4x 5/8"-11 UNC	3.23	5.55	1.18	0.354	1.969	F05	0.30	0.43
3"	1.81	2.44	6.00	4x 5/8"-11 UNC	3.54	5.83	1.18	0.354	1.969	F05	0.3	0.43
4"	2.05	3.50	7.50	8x 5/8"-11 UNC	4.25	6.69	1.18	0.433	2.756	F07	0.41	0.47
5"	2.20	4.57	8.50	8x 3/4"-10 UNC	4.84	7.36	1.18	0.551	2.756	F07	0.41	0.51
6"	2.20	5.71	9.51	8x 3/4"-10 UNC	5.43	7.95	1.18	0.551	4.016	F07	0.41	0.51
8"	2.36	7.76	11.75	8x 3/4"-10 UNC	6.69	9.37	1.57	0.669	4.016	F10	0.48	0.59
10"	2.68	9.76	14.25	12x 7/8"-9 UNC	7.87	10.71	1.57	0.866	4.016	F10	0.48	0.59
12"	3.07	11.73	17.01	12x 7/8"-9 UNC	9.29	12.01	1.57	0.866	4.016	F10	0.48	0.59

B51-Series Industrial Butterfly Valve - Dimensions

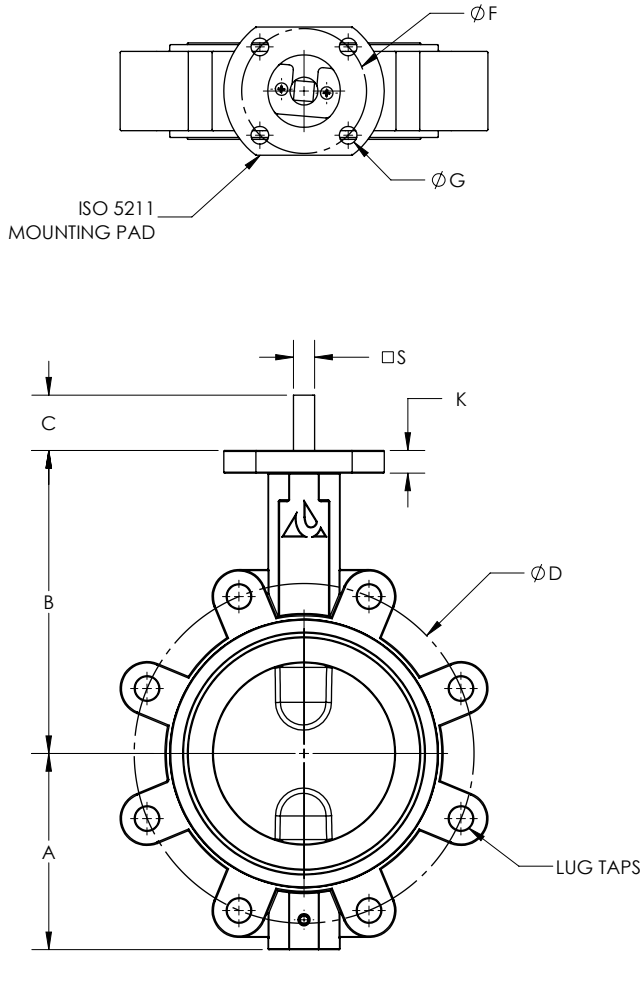
Stainless Steel Wafer Butterfly Valve



Size	L (in)	Q (in)	ϕD (in)	Wafer Holes (in)	A (in)	B (in)	C (in)	$\square S$ (in)	ϕF (in)	ISO	ϕG (in)	K (in)
2"	1.69	1.14	4.74	4 x 0.75	2.60	5.12	1.18	0.354	1.969	F05	0.3	0.43
2-1/2"	1.81	1.77	5.50	4 x 0.75	3.23	5.55	1.18	0.354	1.969	F05	0.30	0.43
3"	1.81	2.44	6.00	4 x 0.75	3.54	5.83	1.18	0.354	1.969	F05	0.3	0.43
4"	2.05	3.50	7.50	4 x 0.75	4.25	6.69	1.18	0.433	2.756	F07	0.41	0.47
5"	2.20	4.57	8.50	4 x 0.87	4.84	7.36	1.18	0.551	2.756	F07	0.41	0.51
6"	2.20	5.71	9.51	4 x 0.87	5.43	7.95	1.18	0.551	4.016	F07	0.41	0.51
8"	2.36	7.76	11.75	4 x 0.87	6.69	9.37	1.57	0.669	4.016	F10	0.48	0.59
10"	2.68	9.76	14.25	4 x 0.98	7.87	10.71	1.57	0.866	4.016	F10	0.48	0.59
12"	3.07	11.73	17.01	4 x 0.98	9.29	12.01	1.57	0.866	4.016	F10	0.48	0.59

B51-Series Industrial Butterfly Valve - Dimensions

Ductile Iron Lug Butterfly Valve

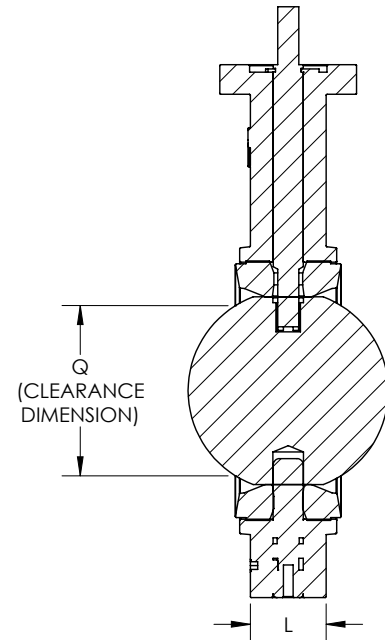
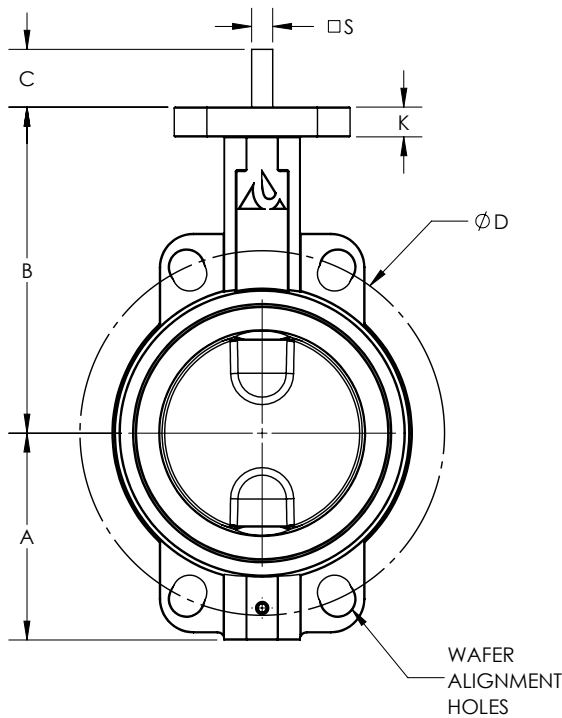
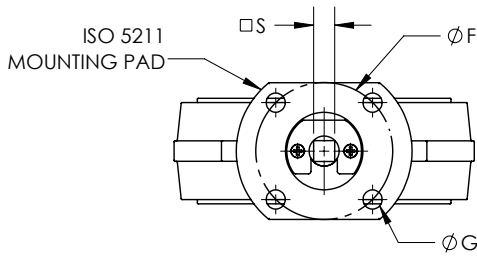


E

Size	L (in)	Q (in)	ØD (in)	Lug Taps SAE Thread	A (in)	B (in)	C (in)	□S (in)	ØF(in)	ISO	ØG (in)	K (in)
1-1/2"	1.30	0.83	3.88	-	2.32	4.92	1.18	0.354	1.969	F05	0.30	0.39
2"	1.69	1.14	4.74	4x 5/8"-11 UNC	2.60	5.12	1.18	0.354	1.969	F05	0.3	0.43
2-1/2"	1.81	1.77	5.50	4x 5/8"-11 UNC	3.23	5.55	1.18	0.354	1.969	F05	0.30	0.43
3"	1.81	2.44	6.00	4x 5/8"-11 UNC	3.54	5.83	1.18	0.354	1.969	F05	0.3	0.43
4"	2.05	3.50	7.50	8x 5/8"-11 UNC	4.25	6.69	1.18	0.433	2.756	F07	0.41	0.47
5"	2.20	4.57	8.50	8x 3/4"-10 UNC	4.84	7.36	1.18	0.551	2.756	F07	0.41	0.51
6"	2.20	5.71	9.51	8x 3/4"-10 UNC	5.43	7.95	1.18	0.551	4.016	F07	0.41	0.51
8"	2.36	7.76	11.75	8x 3/4"-10 UNC	6.69	9.37	1.57	0.669	4.016	F10	0.48	0.59
10"	2.68	9.76	14.25	12x 7/8"-9 UNC	7.87	10.71	1.57	0.866	4.016	F10	0.48	0.59
12"	3.07	11.73	17.01	12x 7/8"-9 UNC	9.29	12.01	1.57	0.866	4.016	F10	0.48	0.59

B51-Series Industrial Butterfly Valve - Dimensions

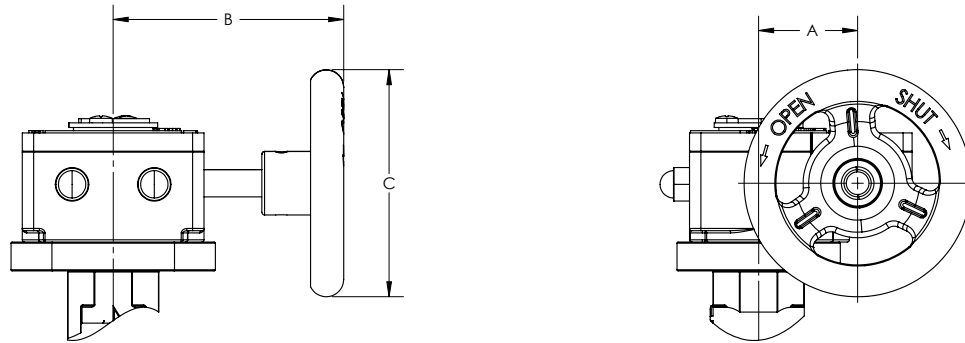
Ductile Iron Wafer Butterfly Valve



Size	L (in)	Q (in)	$\varnothing D$ (in)	Wafer Holes (in)	A (in)	B (in)	C (in)	$\square S$ (in)	$\varnothing F$ (in)	ISO	$\varnothing G$ (in)	K (in)
1-1/2"	1.30	0.83	3.88	4 X 0.63	2.32	4.92	1.18	0.354	1.969	F05	0.30	0.39
2"	1.69	1.14	4.74	4 X 0.75	2.60	5.12	1.18	0.354	1.969	F05	0.3	0.43
2-1/2"	1.81	1.77	5.50	4 X 0.75	3.23	5.55	1.18	0.354	1.969	F05	0.30	0.43
3"	1.81	2.44	6.00	4 X 0.75	3.54	5.83	1.18	0.354	1.969	F05	0.3	0.43
4"	2.05	3.50	7.50	4 X 0.75	4.25	6.69	1.18	0.433	2.756	F07	0.41	0.47
5"	2.20	4.57	8.50	4 X 0.87	4.84	7.36	1.18	0.551	2.756	F07	0.41	0.51
6"	2.20	5.71	9.51	4 X 0.87	5.43	7.95	1.18	0.551	4.016	F07	0.41	0.51
8"	2.36	7.76	11.75	4 X 0.87	6.69	9.37	1.57	0.669	4.016	F10	0.48	0.59
10"	2.68	9.76	14.25	4 X 0.98	7.87	10.71	1.57	0.866	4.016	F10	0.48	0.59
12"	3.07	11.73	17.01	4 X 0.98	9.29	12.01	1.57	0.866	4.016	F10	0.48	0.59

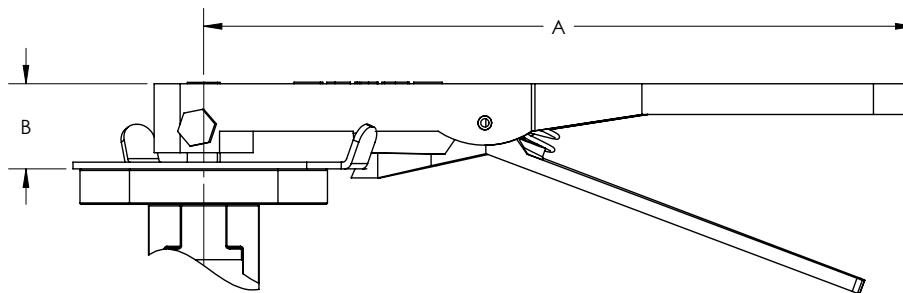
B51-Series Industrial Butterfly Valve - Dimensions

Gear Operator



Size	A (in)	B (in)	H (in)
1-1/2"	1.69	3.9	6
2"	1.69	3.9	6
2-1/2"	1.69	3.9	6
3"	1.69	3.9	6
4"	1.69	3.9	6
5"	2.49	5.8	6
6"	2.49	5.8	6
8"	2.38	8.4	10
10"	2.38	8.4	10
12"	2.63	8.3	12

Handles



Size	A (in)	B (in)
1-1/2"	8.9	1.3
2"	8.9	1.3
2-1/2"	8.9	1.3
3"	10.2	1.42
4"	10.2	1.42
5"	10.2	1.42
6"	14.0	1.69
8"	14.0	1.69
10"	14.0	1.69
12"	14.0	1.69

B51-Series Industrial Butterfly Valve - Weight Charts

Ductile Iron Weight Chart

Size	Wafer		Lug	
	lbs	kg	lbs	kg
1-1/2"	3.5	1.6	4.0	1.8
2"	4.4	2.0	5.4	2.5
2-1/2"	5.1	2.3	6.6	3.0
3"	5.8	2.7	7.3	3.3
4"	9.4	4.3	13.2	6.0
5"	12.6	5.7	16.3	7.4
6"	15.6	7.1	20.5	9.3
8"	25.9	11.8	33.3	15.1
10"	40.8	18.5	57.8	26.2
12"	61.8	28.1	81.3	36.9

Stainless Steel Weight Chart

Size	Wafer		Lug	
	lbs	kg	lbs	kg
1-1/2"	-	-	-	-
2"	4.0	1.8	5.3	2.4
2-1/2"	4.8	2.2	6.0	2.7
3"	5.6	2.6	6.5	3.0
4"	9.4	4.3	12.5	5.7
5"	12.5	5.7	14.7	6.7
6"	16.3	7.4	20.0	9.1
8"	26.6	12.1	31.7	14.4
10"	41.7	18.9	54.7	24.8
12"	66.6	30.2	75.6	34.3

Ductile Iron with Handle Weight Chart

Size	Handle		Wafer with Handle		Lug with Handle	
	lbs	kg	lbs	kg	lbs	kg
1-1/2"	1.1	2.4	4.6	4.0	5.1	4.2
2"	1.1	2.4	5.5	4.4	6.5	4.9
2-1/2"	1.1	2.4	6.2	4.7	7.7	5.4
3"	1.1	2.4	6.9	5.1	8.4	5.7
4"	1.2	2.6	10.6	6.9	14.4	8.6
5"	1.3	2.9	13.9	8.6	17.6	10.3
6"	1.3	2.9	16.9	9.9	21.8	12.1
8"	2.6	5.7	28.5	17.5	35.9	20.8
10"	2.6	5.7	43.4	24.2	60.4	31.9
12"	2.6	5.7	64.4	33.8	83.9	42.6

NOTE: For 8" and larger it is recommended a gear operator be used for manual operation.

B51-Series Industrial Butterfly Valve - Weight Charts

Stainless Steel with Handle Weight Chart

Size	Handle		Wafer with Handle		Lug with Handle	
	lbs	kg	lbs	kg	lbs	kg
1-1/2"	-	-	-	-	-	-
2"	1.0	2.2	5.0	4.0	6.3	4.6
2-1/2"	1.0	2.2	5.8	4.4	7.0	4.9
3"	1.0	2.2	6.6	4.8	7.5	5.2
4"	1.0	2.2	10.4	6.5	13.5	7.9
5"	1.0	2.2	13.5	7.9	15.7	8.9
6"	1.0	2.2	17.3	9.6	21.0	11.3
8"	2.5	5.5	29.1	17.6	34.2	19.9
10"	2.5	5.5	44.2	24.4	57.2	30.3
12"	2.5	5.5	69.1	35.7	78.1	39.8

NOTE: For 8" and larger it is recommended a gear operator be used for manual operation.

Ductile Iron with Gear Weight Chart

Size	Gear		Wafer with Gear		Lug with Gear	
	lbs	kg	lbs	kg	lbs	kg
1-1/2"	3.0	6.6	6.5	8.2	7.0	8.4
2"	3.0	6.6	7.4	8.6	8.4	9.1
2-1/2"	3.0	6.6	8.1	8.9	9.6	9.6
3"	3.0	6.6	8.8	9.3	10.3	9.9
4"	3.0	6.6	12.4	10.9	16.2	12.6
5"	6.0	13.2	18.6	18.9	22.3	20.6
6"	6.0	13.2	21.6	20.3	26.5	22.5
8"	12.0	26.5	37.9	38.2	45.3	41.6
10"	12.0	26.5	52.8	45.0	69.8	52.7
12"	12.0	48.5	83.8	76.6	103.3	85.4

Stainless Steel with Gear Weight Chart

Size	Gear		Wafer with Gear		Lug with Gear	
	lbs	kg	lbs	kg	lbs	kg
1-1/2"	-	-	-	-	-	-
2"	3.0	6.6	7.0	8.4	8.3	9.0
2-1/2"	3.0	6.6	7.8	8.8	9.0	9.3
3"	3.0	6.6	8.6	9.2	9.5	9.6
4"	3.0	6.6	12.4	10.9	15.5	12.3
5"	6.0	13.2	18.5	18.9	20.7	19.9
6"	6.0	13.2	22.3	20.6	26.0	22.3
8"	12.0	26.5	38.6	38.5	43.7	40.9
10"	12.0	26.5	53.7	45.4	66.7	51.3
12"	22.0	48.5	88.6	78.7	97.6	82.8

Repair Kits

- Repair kit includes items (3) seat, (4) back ring, (10) upper bushing, (11) stem O-ring, and (12) lower bushing in the bill of materials.

BV2-Series Ball Valve

Used in sanitary processes when you need a valve for isolation or control of the flow of a product. The 3-piece design allows for seat and/or ball replacement without removing the valve from the process line.

They are found in the food processing, beverage, winery, brewery, pet product, and industrial markets.

Sizes

- 1/2" to 4"

Features

- Live-loaded stem packing
- Precision stainless steel balls reduce torque and friction losses while extending seat life
- Integral ISO 5211 mounting pad
- Lockable handle can prevent accidental actuation
- Standard internal entry blow-out proof stem design
- Full port design matches ball and seat ports to tube I.D. for lower pressure drop and less turbulent flow
- Compact design for areas with tight space restrictions
- Fully encapsulated construction produces bubble tight seal
- Identification tagging available
- Balanced encapsulated construction minimizes cold flow
- V-port encapsulated

Materials

- Product contact metal components: CF8M stainless steel
- Non-product contact metal components: CF8M, 316, 304 stainless steel
- Product contact seals: virgin PTFE (standard), 15% glass reinforced PTFE, 25% carbon reinforced PTFE (not food grade), 50% stainless steel reinforced PTFE, and ultra-high molecular weight polyethylene

Specifications

- Standard connections: clamp (other options available, see part number key)
- Valve data
 - Maximum pressure
 - 1/2" - 2": **1000 PSI WOG**
 - 2-1/2" - 4": **800 PSI WOG**
 - Operating temperature: **-20°F to 450°F (-29°C to 232°C)**
- Surface finish
 - Product contact metal components: ≤ 32 Ra
 - Non-product contact metal components: as cast or $Ra \leq 63$
- Seat lubricant: BESSIL F-100
- Stem lubricant: G.A. BESSIL 25



1/2" to 2"



2-1/2" to 4"

BV2-Series Ball Valve - Part Number Key

BV2-Series Sanitary Ball Valve Part Number Key Example: BV2CV-050CC-A		Series	Seat	Seat Material	Valve Size	Connection End 1	Connection End 2	Handle	Surface Finish
		BV2	C	V	- 050	C	C	- A	
Series	Code								
BV2	BV2								
Seat Type	Code								
Encapsulated	C								
Non-encapsulated	N								
60° V-Port	L								
30° V-Port	M								
Seat Material	Code								
Virgin PTFE (standard)	V								
15% glass reinforced PTFE	G								
25% carbon reinforced PTFE	C								
50% stainless steel reinforced PTFE	S								
Ultra high molecular weight polyethylene	U								
Valve Size	Code								
1/2"	050								
3/4"	075								
1"	100								
1-1/2"	150								
2"	200								
2-1/2"	250								
3"	300								
4"	400								
Connection End 1	Code								
Clamp (standard)	C								
Weld	B								
Female I-line	F								
Male I-line	M								
Threaded bevel	T								
Plain bevel with nut	P								
Q-line	Q								
DIN male	D								
DIN liner with nut	L								
Connection End 2	Code								
Clamp (standard)	C								
Weld	B								
Female I-line	F								
Male I-line	M								
Threaded bevel	T								
Plain bevel with nut	P								
Q-line	Q								
DIN male	D								
DIN liner with nut	L								
Surface Finish	Code								
32 Ra (mechanical polish)	blank								
25 Ra (mechanical polish)	-2								
20 Ra (mechanical polish)	-1								
20 Ra (electro polish)	-5								
15 Ra (electro polish)	-4								
10 Ra (electro polish)	-7								
32 Ra (mechanical polish) with K22 kolsterising treatment	F								



BV2-Series Ball Valve - Part Number Key (Actuated)

Sanitary 2-Way Actuated Ball Valve Part Number Key Example: 2CV50CA1XX00XX1		Series	Seat Material	Size	Connections	Surface Finish
		2C	V	50	C	A
Series	Code					
Encapsulated	2C					
Non-encapsulated	2N					
Encapsulated 30° V Port	2M					
Encapsulated 60° V Port	2L					
Seat Material	Code					
Virgin PTFE	V					
RTFE (15% glass reinforced PTFE)	G					
25% carbon reinforced PTFE	C					
50% stainless steel reinforced PTFE	S					
UHMW (encapsulated only)	U					
Size	Code					
1/2"	50					
3/4"	75					
1"	10					
1-1/2"	15					
2"	20					
2-1/2"	25					
3"	30					
4"	40					
Connections	Code					
Clamp	C					
Weld	B					
Female I-line	F					
Male I-line	M					
Threaded bevel	T					
Plain bevel with nut	P					
Q-line	Q					
Female NPT	1					
Flange	K					
Clamp x weld	D					
Male x female I-line	X					
Surface Finish	Code					
32 Ra	A					
25 Ra	B					
20 Ra	C					
15 Ra	D					
10 Ra	E					

F

Continue number selection by following column 1 (pneumatic actuators) or 2 (electric actuators) on page 141.

BV2-Series Ball Valve - Part Number Key (Actuated)

1. Pneumatic Actuator, Spring Return Manual Handle, or Manual Handle with Feedback					2. Electric Actuator			
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2
1	XX	00	XX	1	E	B	1	1
Actuator				Code	Actuator			Code
Aluminum spring return pneumatic rack and pinion				1	Electric			E
Aluminum double acting pneumatic rack and pinion				2	Oversized (1-UP) electric			F
Stainless steel spring return pneumatic rack and pinion				3	Nema 7 electric			G
Stainless steel double acting pneumatic rack and pinion				4	Electric with riser kit			H
Manual handle				5	Voltage			Code
Dead man spring return handle				6	115VAC			B
Technopolymer spring return pneumatic rack and pinion				7	12VDC			C
Actuator Options				Code	24VAC			D
None				XX	24VDC			E
Oversized (1-UP)				AA	220VAC			F
Actuator mounted perpendicular to flow				AB	12VAC			G
High temp FKM elastomers				AC	Option 1			Code
Extended travel stops				AD	None			1
Riser kit				AE	Torque switches			2
Feedback				Code	4-20mA Input/Output modulating controller			3
None				00	Current position transmitter			4
Limit switch box, OPEN/CLOSE beacon, (2) SPDT mech. switches				11	Potentiometer			5
Limit switch box, OPEN/CLOSE beacon, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULusClass 1/2 div1/2				12	Local control unit			6
Limit switch box, OPEN/CLOSE beacon, AS-I				13	Two extra travel cams and switches			7
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, aluminum Exd IIB certified enclosure				14	Three position cam set			8
Limit switch box, OPEN/CLOSE beacon, (2) DPDT mech. switches				15	Local control unit with lock			9
Limit switch box, OPEN/CLOSE beacon, (2) switches, electro mec. SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1				16	1-5V Input/2-10V output modulating controller			A
Limit switch box, OPEN/CLOSE beacon, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO				17	2-10V Input/Output modulating controller			B
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter				18	75% duty cycle			C
Limit switch box, OPEN/CLOSE beacon, SPDT proximity, 0.25A@120VAC, 0.416A@48VDC, resistive				19	Relay			D
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter + 2 SPDT mechanical switches				20	Four position cam set			E
Stainless steel limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches				21	25% duty cycle (actuator code G only)			F
Stainless steel limit switch box, OPEN/CLOSE beacon, (2) inductive NUMAR Exia ready switches				22	75% duty cycle (actuator code G only)			G

F

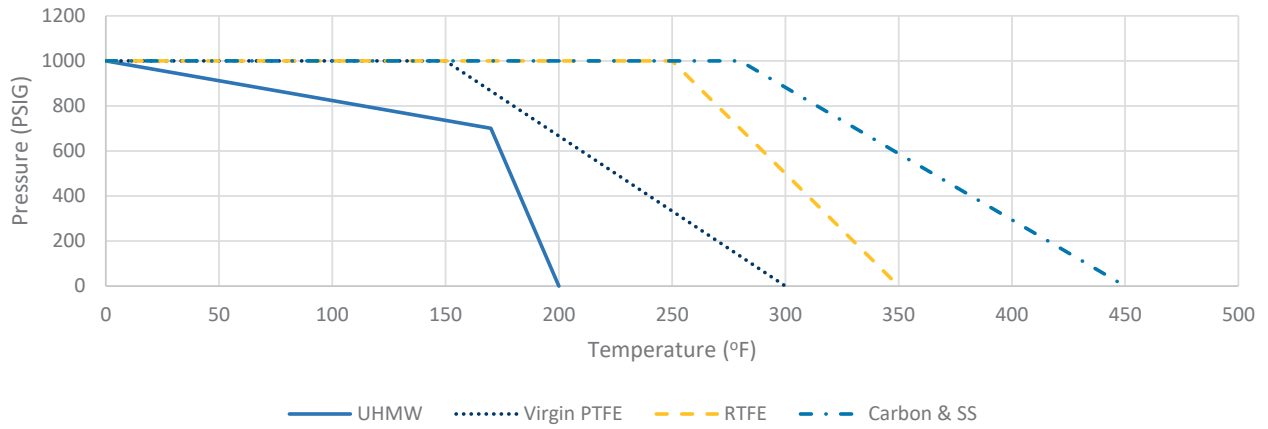
BV2-Series Ball Valve - Part Number Key (Actuated)

Control	Code	Option 2	Code
None	XX	None	1
Single coil solenoid, 120VAC	AA	Torque switches	2
Single coil solenoid, 24VDC	AB	4-20mA input/output modulating controller	3
Single coil solenoid, 12VDC	AC	Current position transmitter	4
Single coil solenoid, 220VAC	AD	Potentiometer	5
Dual coil solenoid, 120VAC	AE	Local control unit	6
Dual coil solenoid, 24VDC	AF	Two extra travel cams and switches	7
Dual coil solenoid, 220VAC	AG	Three position cam set	8
Pneumatic positioner 3-15psi input, no feedback	AH	Local control unit with lock	9
Pneumatic positioner 3-15psi input, (2) SPDT mech. switches for feedback	AI	1-5V input/2-10V output modulating controller	A
Pneumatic positioner 3-15psi input, 4-20mA for feedback	AJ	2-10V input/output modulating controller	B
Electropneumatic positioner 4-20mA input, no feedback	AK	75% duty cycle	C
Electropneumatic positioner 4-20mA input, (2) SPDT mech. switches for feedback	AL	Relay	D
Electropneumatic positioner 4-20mA input, 4-20mA for feedback	AM	Four position cam set	E
Electropneumatic positioner 0-10v input, no feedback	AN	25% duty cycle (actuator code G only)	F
Electropneumatic positioner 0-10v input, (2) SPDT mech. switches for feedback	AO	75% duty cycle (actuator code G only)	G
Electropneumatic positioner 0-10v input, 4-20mA for feedback	AP		
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	AQ		
Electropneumatic positioner 4-20mA input, no feedback, class 1, div II explosion proof	AR		
Single coil solenoid, 24VDC and 24V banjo solenoid valve with form B plug	AS		
Single coil solenoid, 24VDC, AS-I, 2.5W low power	AT		
Single coil solenoid, 24VDC, intrinsically safe	AU		
Single coil solenoid, 120VAC, exp. proof, class H coil	AV		
Single coil solenoid, 24VDC, exp. proof, class H coil	AW		
Single coil solenoid, 24VAC	AX		
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, class 1, div II explosion proof	AY		
Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads	AZ		
TUFRAM COATED electropneumatic positioner 4-20mA input, no feedback	BA		
V200 rotary pneumatic positioner, (2) REED SWITCH feedback	BB		
Single coil solenoid, 24VDC, pre-wired to limit switch WITH CORDSET (Dual Keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)	BC		
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P MALE CONNECTOR	BD		
Single coil solenoid, stainless steel, 24VDC	BE		
Valve Operation	Code		
Normally closed (spring return)	1		
Normally open (spring return)	2		
Fail in place (actuator code 2, 4, or 5)	3		

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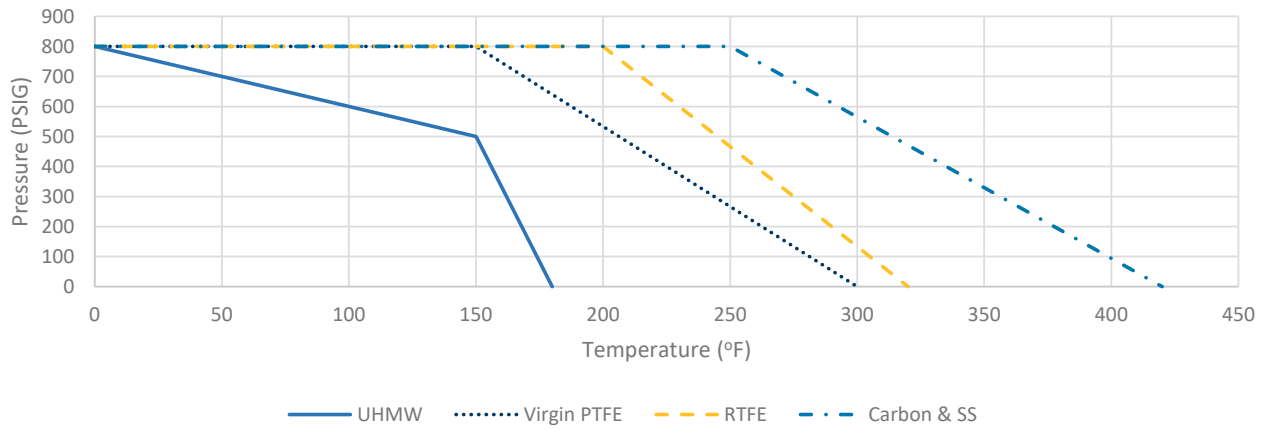
BV2-Series Ball Valve - Pressure Temperature Chart

0.50 in - 2.00 in



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2.50 in - 4.00 in

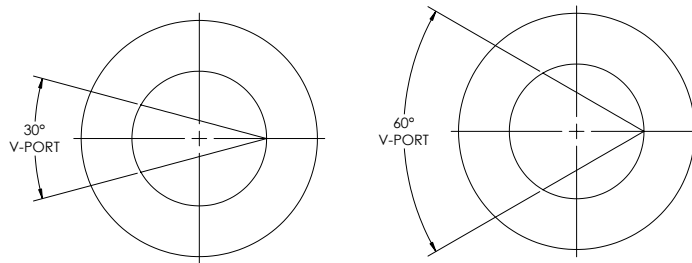


BV2-Series Ball Valve - Break Torque, Weight, Cv, and Vacuum Testing Chart

Part #	Size	Break Torque					Weight (lbs)	Flow Coefficient (Cv)	Vacuum Testing	
		V (virgin PTFE)	G (15% glass reinforced RTFE)	C (25% carbon reinforced PTFE)	S (50% stainless steel reinforced PTFE)	U (UHMW)			Body Leakage (atm-cc/sec)	Helium Leak Rate Test (Torr)
BV2_-050_	1/2"	38	38	67	67	34	1.5	8	1 x 10 ⁻⁹	1 x 10 ⁻⁵
BV2_-075_	3/4"	40	40	70	70	36	1.9	29		
BV2_-100_	1"	109	109	191	191	98	2.7	66		
BV2_-150_	1-1/2"	387	387	677	677	348	4.8	192		
BV2_-200_	2"	432	432	756	756	389	8.9	434	1 x 10 ⁻⁷	1 x 10 ⁻⁴
BV2_-250_	2-1/2"	738	738	1292	1292	664	18.7	723		
BV2_-300_	3"	810	810	1418	1418	729	29.7	1124		
BV2_-400_	4"	895	1790	1566	1566	806	43.6	2100		

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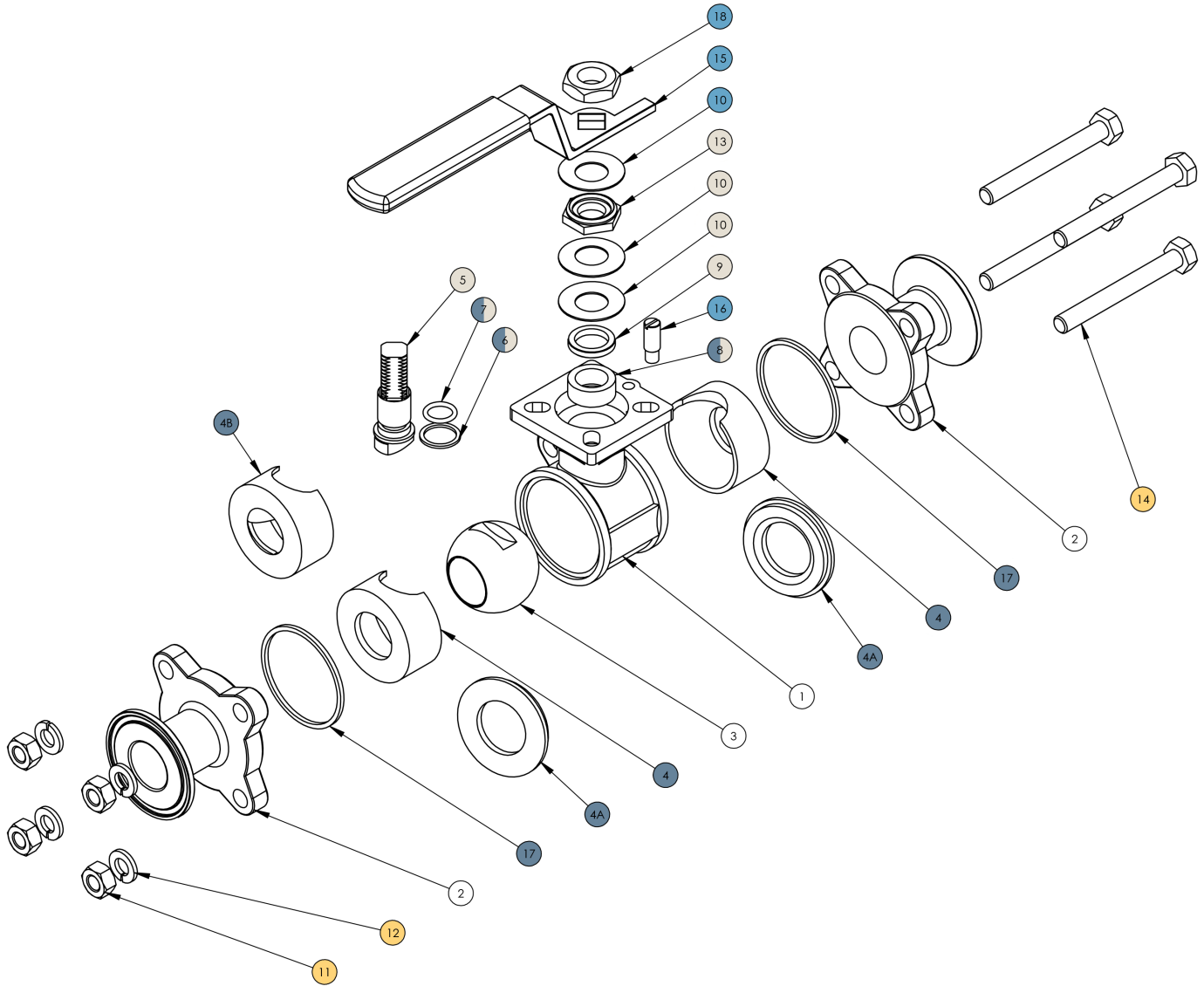
BV2-Series Ball Valve - V-Port Seat Flow Coefficient (Cv)



Size	V-Port Angle	Percentage of Valve Opening										
		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1/2"	30°	0	.04	.23	.47	.77	1.19	1.83	2.47	3.43	4.65	5.55
	60°	0	.04	.28	.73	1.11	1.83	2.92	4.29	7.00	9.43	12.78
3/4"	30°	0	.07	.30	.61	.99	1.57	2.42	3.25	4.52	6.12	7.30
	60°	0	.07	.35	.93	1.46	2.42	3.85	5.64	9.21	12.41	16.25
1"	30°	0	.08	.45	1.25	2.06	3.54	5.30	7.70	10.49	12.84	15.48
	60°	0	.09	.68	1.74	2.78	5.13	8.00	11.88	18.71	23.22	32.81
1-1/2"	30°	0	.07	.65	1.88	3.39	5.66	8.36	12.12	16.17	20.44	23.88
	60°	0	.09	.92	2.81	4.69	8.89	14.85	21.16	30.73	45.88	59.74
2"	30°	0	.09	1.18	3.79	7.53	12.26	17.83	26.44	36.45	48.09	55.85
	60°	0	.11	1.51	5.80	10.39	20.60	33.98	48.75	69.04	104.23	135.75
2-1/2"	30°	0	.09	1.15	4.42	7.91	13.39	20.05	30.43	41.92	56.30	76.95
	60°	0	.13	1.46	5.91	11.90	23.24	37.92	59.31	83.29	113.65	162.50
3"	30°	0	.12	1.20	4.15	9.49	15.96	26.78	38.91	53.31	69.77	85.91
	60°	0	.15	2.89	6.70	15.82	29.36	46.32	73.60	106.74	149.88	193.20
4"	30°	0	.16	1.75	7.84	18.59	35.21	58.60	87.89	124.21	158.53	196.35
	60°	0	.26	2.20	12.44	33.67	62.98	106.26	160.49	233.96	329.50	437.29

BV2-Series Ball Valve - Bill of Materials

1/2" to 1"
























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BV2-Series Ball Valve - Bill of Materials

1/2" to 1"

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Item #	BV2 Size	Part #	Description	Materials	Qty
1	1/2"	BV-2C-1-050	body	CF8M	1
	3/4"	BV-2C-1-075	body	CF8M	1
	1"	BV-2C-1-100	body	CF8M	1
2	1/2"	BV-2X-CE050	tri-clamp end	CF8M	2
	3/4"	BV-2X-CE075	tri-clamp end	CF8M	2
	1"	BV-2X-CE100	tri-clamp end	CF8M	2
3	1/2"	BV-2X-BL050	ball	CF8M	1
	3/4"	BV-2X-BL075	ball	CF8M	1
	1"	BV-2X-BL100	ball	CF8M	1
4	all		encapsulated seat	see repair kits	2
4A	all		non-encapsulated seat	see repair kits	2
4B	all		v-port encapsulated seat	see repair kits	1
5	all		stem	316 SS	1
6	all	 	thrust washer	see repair kits	1
7	all	 	stem O-ring	FKM	1
8	all	 	stem packing	see repair kits	3
9	all		gland ring	316 SS	1
10	all	 	bevel washer	301 SS	3
11	all		hex nut	304 SS	4
12	all		lock washer	304 SS	4
13	all		stem lock nut	304 SS	1
14	all		body bolt	304 SS	4
15	all		handle	304 SS / Vinyl	1
16	all		stop pin	316 SS	1
17	all		body seal	see repair kits	2
18	all		handle nut	304 SS	1



Included in seat kit (page 152)



Included in handle kit (page 153)



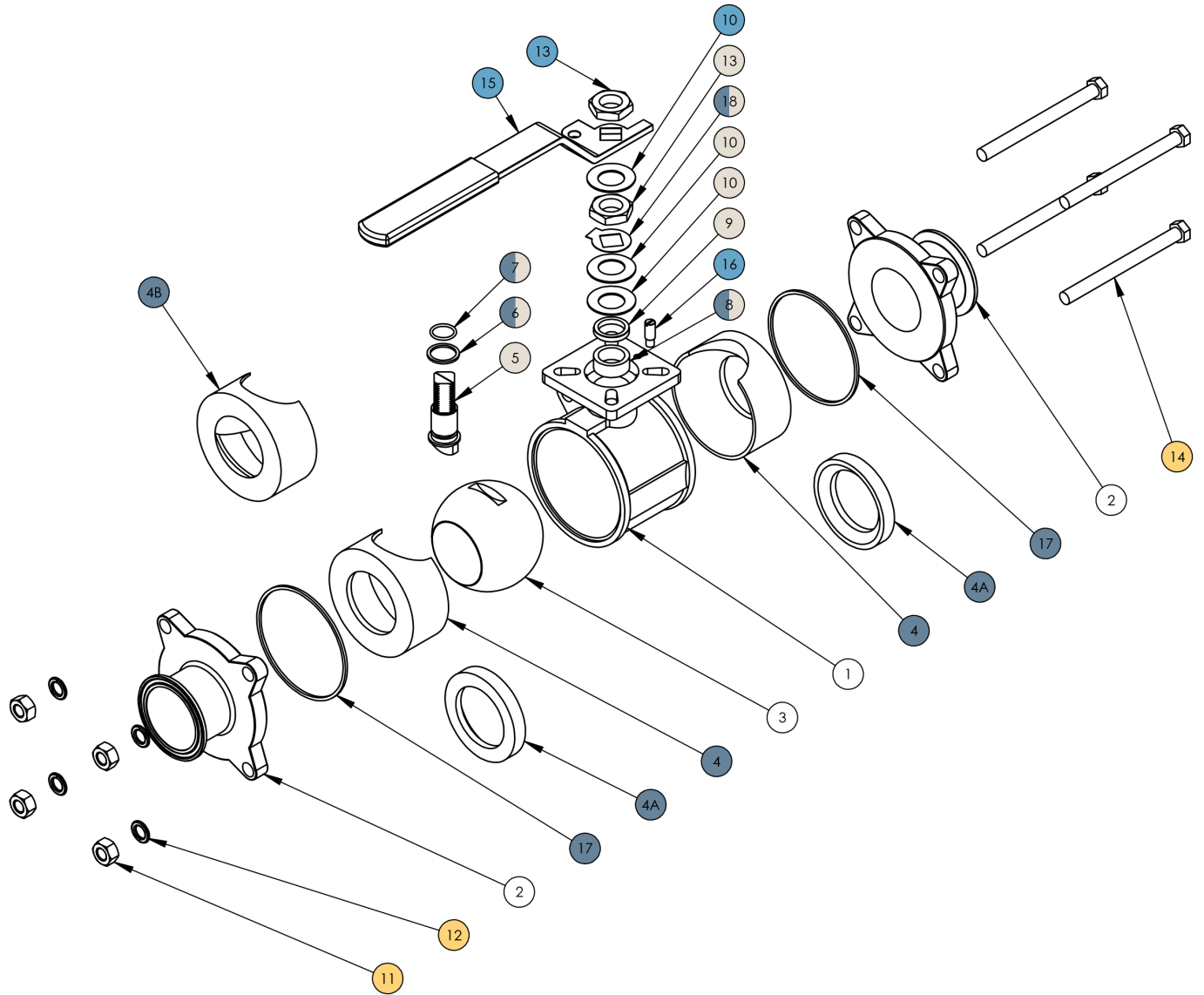
Included in stem kit (page 153)



Included in bolt and nut kit (page 153)

BV2-Series Ball Valve - Bill of Materials




















1-1/2" to 2"





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BV2-Series Ball Valve - Bill of Materials


1-1/2" to 2"

Item #	BV2 Size	Part #	Description	Materials	Qty
1	1-1/2"	BV-2C-1-150	body	CF8M	1
	2"	BV-2C-1-200	body	CF8M	1
2	1-1/2"	BV-2X-CE150	tri-clamp end	CF8M	2
	2"	BV-2X-CE200	tri-clamp end	CF8M	2
3	1-1/2"	BV-2X-BL150	ball	CF8M	1
	2"	BV-2X-BL200	ball	CF8M	1
4	all		encapsulated seat	see repair kits	2
4A	all		non-encapsulated seat	see repair kits	2
4B	all		v-port encapsulated seat	see repair kits	1
5	all		stem	316 SS	1
6	all	 	thrust washer	see repair kits	1
7	all	 	stem O-ring	FKM	1
8	all	 	stem packing	see repair kits	3
9	all		gland ring	316 SS	1
10	all	 	bevel washer	301 SS	3
11	all		hex nut	304 SS	4
12	all		lock washer	304 SS	4
13	all	 	stem nut	304 SS	2
14	all		body bolt	304 SS	4
15	all		handle	304 SS / Vinyl	1
16	all		stop pin	316 SS	1
17	all		body seal	see repair kits	2
18	all	 	tab washer	304 SS	1

 Included in seat kit (page 152)

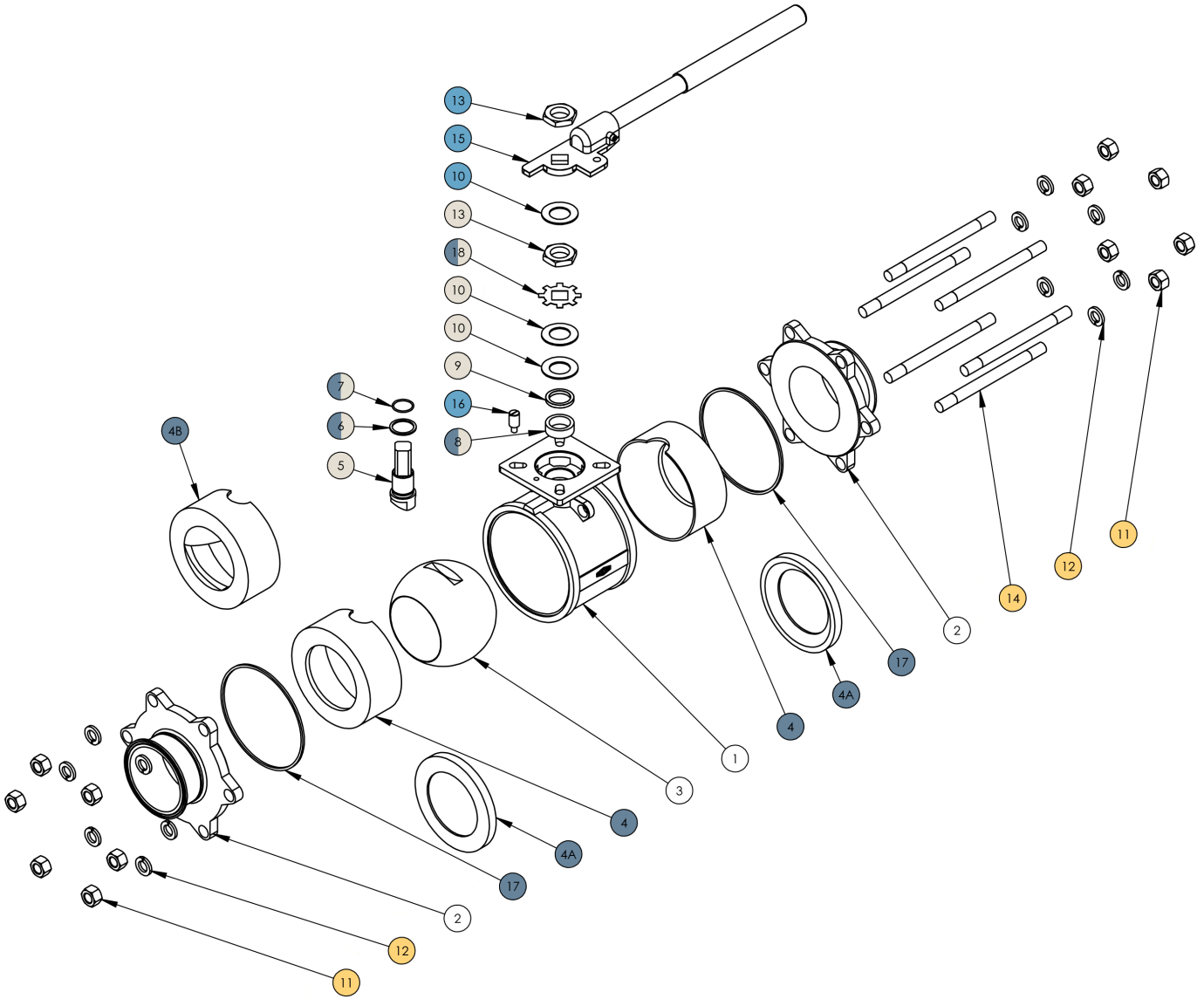
 Included in handle kit (page 153)

 Included in stem kit (page 153)

 Included in bolt and nut kit (page 153)

BV2-Series Ball Valve - Bill of Materials
























2-1/2" to 4"





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BV2-Series Ball Valve - Bill of Materials


2-1/2" to 4"

Item #	BV2 Size	Part #	Description	Materials	Qty		
					2-1/2"	3"	4"
1	2-1/2"	BV-2C-1-250	body	CF8M	1	1	1
	3"	BV-2C-1-300	body	CF8M	1	1	1
	4"	BV-2C-1-400	body	CF8M	1	1	1
2A	2-1/2"	BV-2X-CE250	tri-clamp end	CF8M	2	2	2
	3"	BV-2X-CE300	tri-clamp end	CF8M	2	2	2
	4"	BV-2X-CE400	tri-clamp end	CF8M	2	2	2
3	2-1/2"	BV-2X-BL250	ball	CF8M	1	1	1
	3"	BV-2X-BL300	ball	CF8M	1	1	1
	4"	BV-2X-BL400	ball	CF8M	1	1	1
4	all		encapsulated seat	see repair kit	2	2	2
4A	all		non-encapsulated seat	see repair kit	2	2	2
4B	all		v-port encapsulated seat	see repair kit	1*		
5	all		stem	316 SS	1	1	1
6	all	 	thrust washer	see repair kit	1	1	1
7	all	 	stem O-ring	FKM	1	1	1
8	all	 	stem packing	see repair kit	3	3	3
9	all		gland ring	316 SS	1	1	1
10	all	 	bevel washer	301 SS	3	3	3
11	all		hex nut	304 SS	4	8	12
12	all		lock washer	304 SS	4	8	12
13	all	 	stem nut	304 SS	2	2	2
14	all		body bolt	304 SS	4	4	6
15	all		handle	304 SS/vinyl	1	1	1
16	all		stop pin	316 SS	1	1	1
17	all		body seal	see repair kit	2	2	2
18	all	 	tab washer	304 SS	1	1	1

 Included in seat kit (page 152)

 Included in handle kit (page 153)

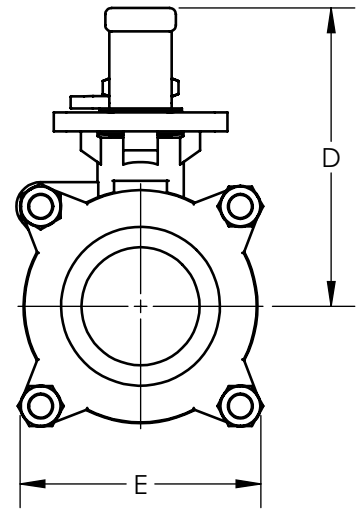
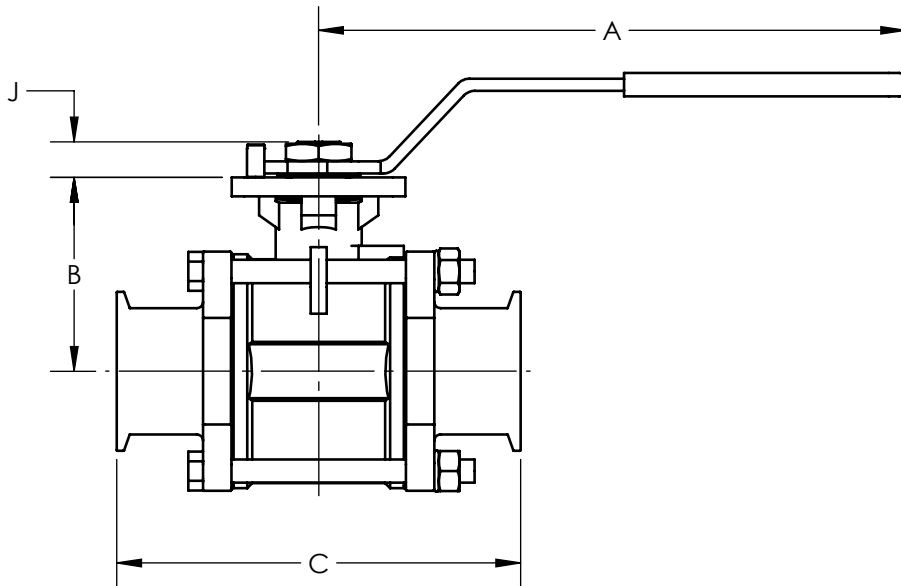
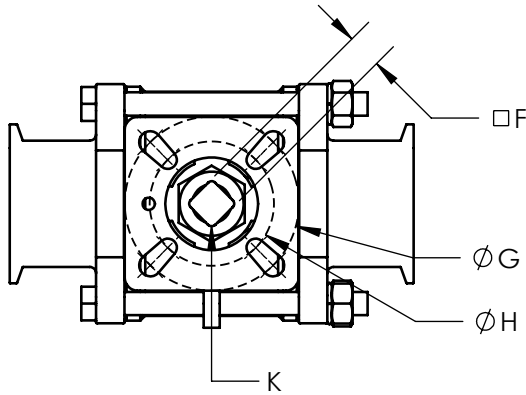
 Included in stem kit (page 153)

 Included in bolt and nut kit (page 153)

BV2-Series Ball Valve - Dimensions

1/2" to 2"

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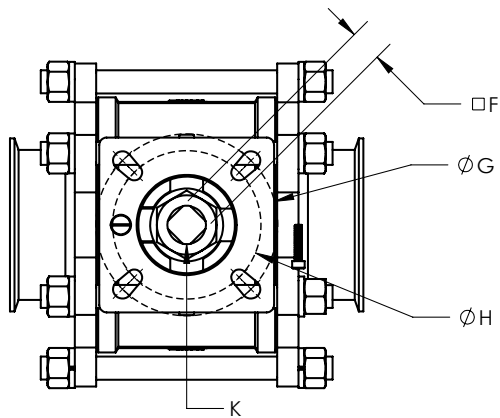


Size	A (in)	B (in)	C (in) ¹	D (in)	E (in)	F (mm)	G (ISO 5211)	H (ISO 5211)	J (mm)	K (threads)
1/2"	4.9	1.5	4.3	3.1	2.0	9	F04	F03	9	M12 x 1.75
3/4"	4.9	1.8	4.7	3.4	2.2	9	F04	F03	11	M12 x 1.75
1"	5.5	2.1	4.9	3.6	2.4	11	F05	F04	11	M14 x 2
1-1/2"	9.3	2.7	5.6	4.4	3.1	14	F07	F05	14	M18 x 2.5
2"	9.5	3.1	6.4	4.7	3.7	14	F07	F05	14	M18 x 2.5

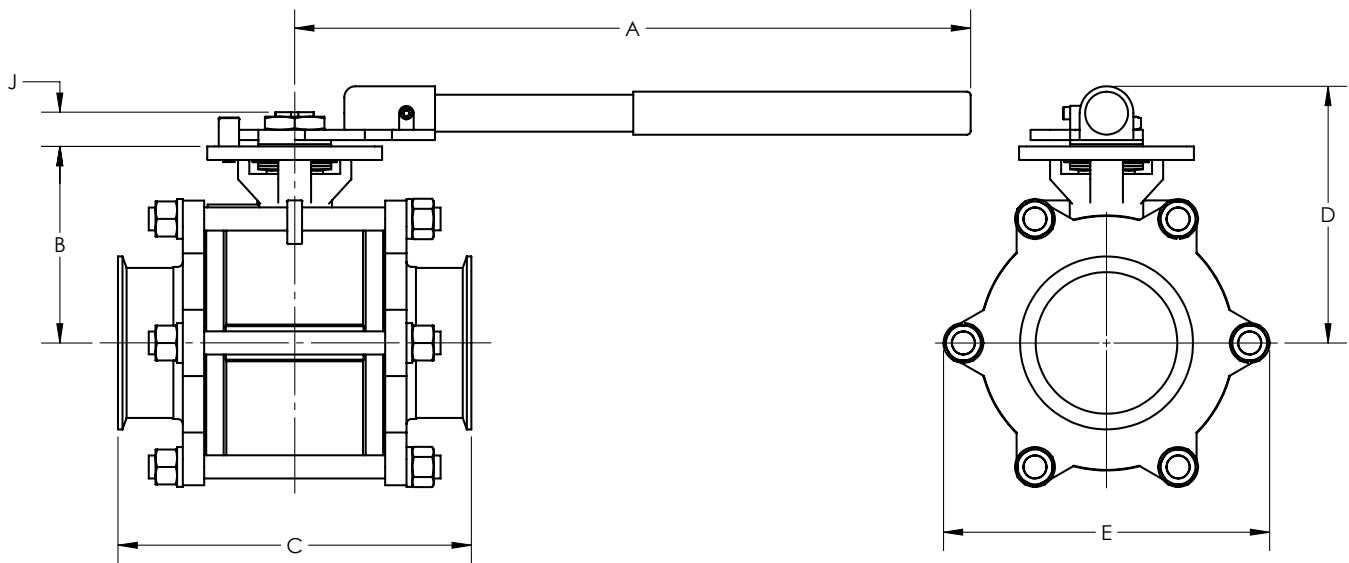
¹Clamp and weld dimensions are the same.

BV2-Series Ball Valve - Dimensions

2-1/2" to 4"



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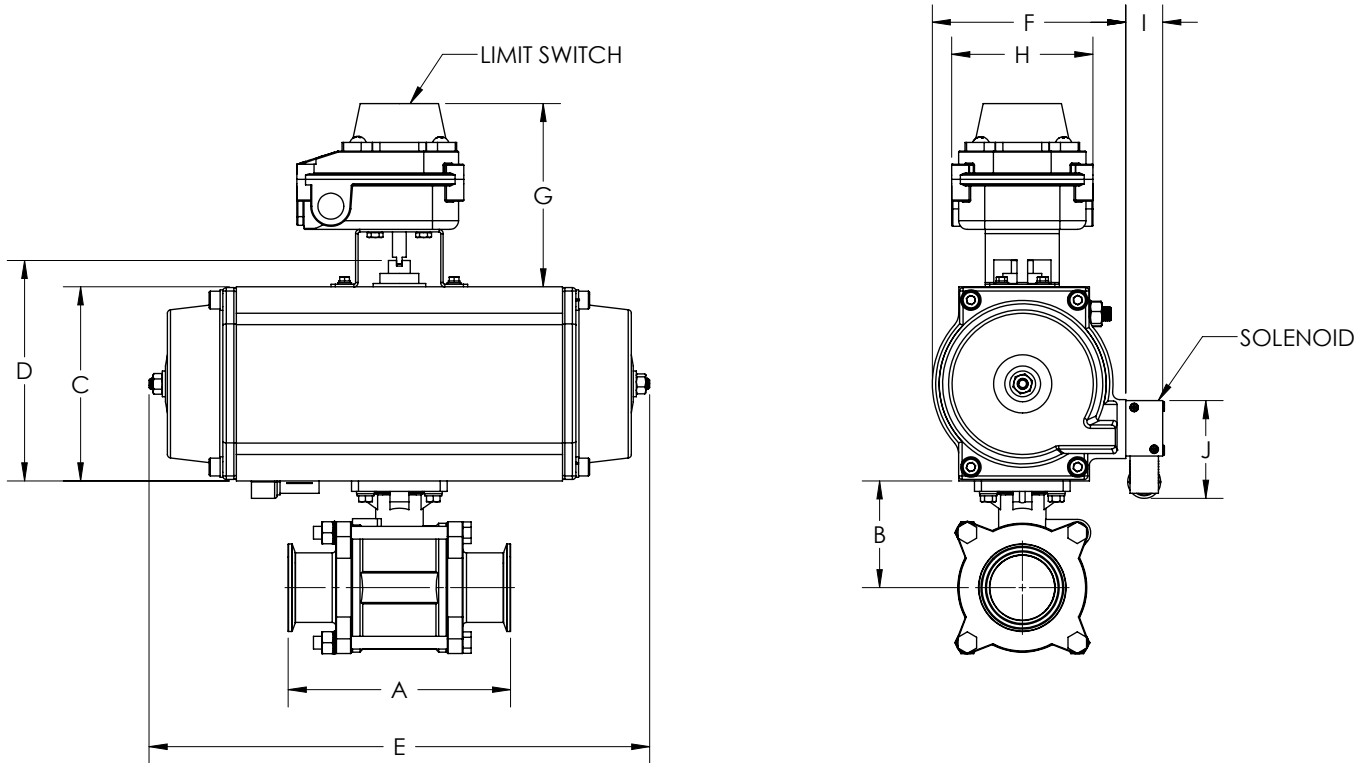


Size	A (in)	B (in)	C (in) ¹	D (in)	E (in)	F (mm)	G (ISO 5211)	H (ISO 5211)	J (mm)	K (threads)
2-1/2"	18.0	3.8	7.8	5.2	4.9	17	F10	F07	17	M22 x 2.5
3"	18.0	4.2	9.0	5.7	5.4	17	F12	F10	17	M22 x 2.5
4"	18.0	5.3	9.6	6.9	8.8	22	F12	F10	24	1-1/8" x 12 UNF

¹Clamp and weld dimensions are the same.

BV2-Series Ball Valve - Dimensions

Spring Return

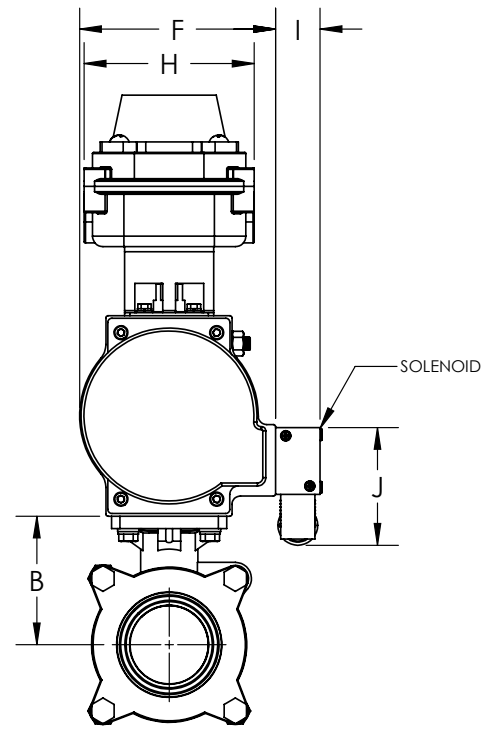
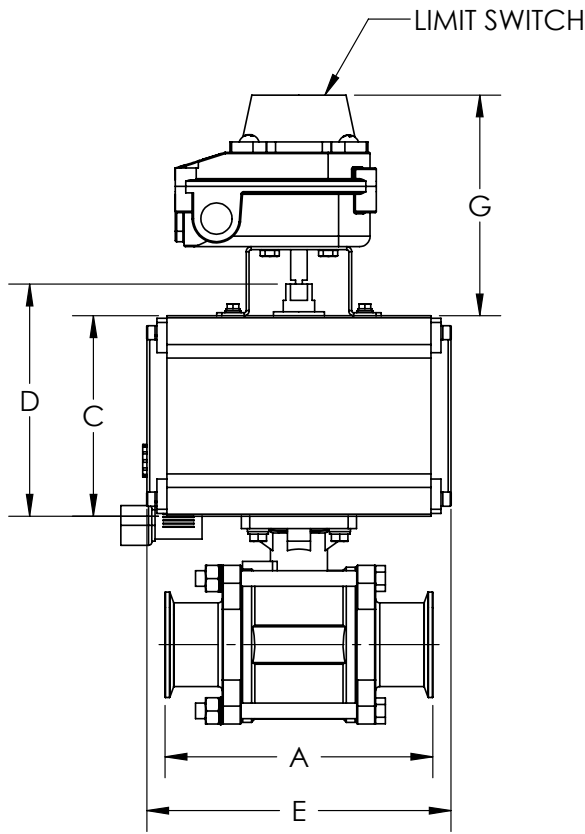


Size	A (in) ¹	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4-series	X-series		
1/2"	4.3	1.5	RP-BA-025-SR	3.1	3.83	7.66	3.20	5.27	4.06	1.07	2.81
3/4"	4.7	1.8									
1"	4.9	2.1	RP-BA-025-SR05	3.1	3.83	7.66	3.20				
1-1/2"	5.6	2.7	RP-BA-045-SR	3.86	4.63	8.09	3.72				
2"	6.4	3.1	RP-BA-101-SR	4.79	5.54	9.84	4.68				
2-1/2"	7.8	3.8	RP-BA-225-SR	5.58	6.34	13.98	5.56				
3"	9.0	4.2	RP-BA-365-SR	6.94	7.72	16.61	7.25				
4"	9.6	5.3	RP-BA-500-SR	7.73	8.50	19.17	8.05				

¹Clamp and weld dimensions are the same.

BV2-Series Ball Valve - Dimensions

Double Acting

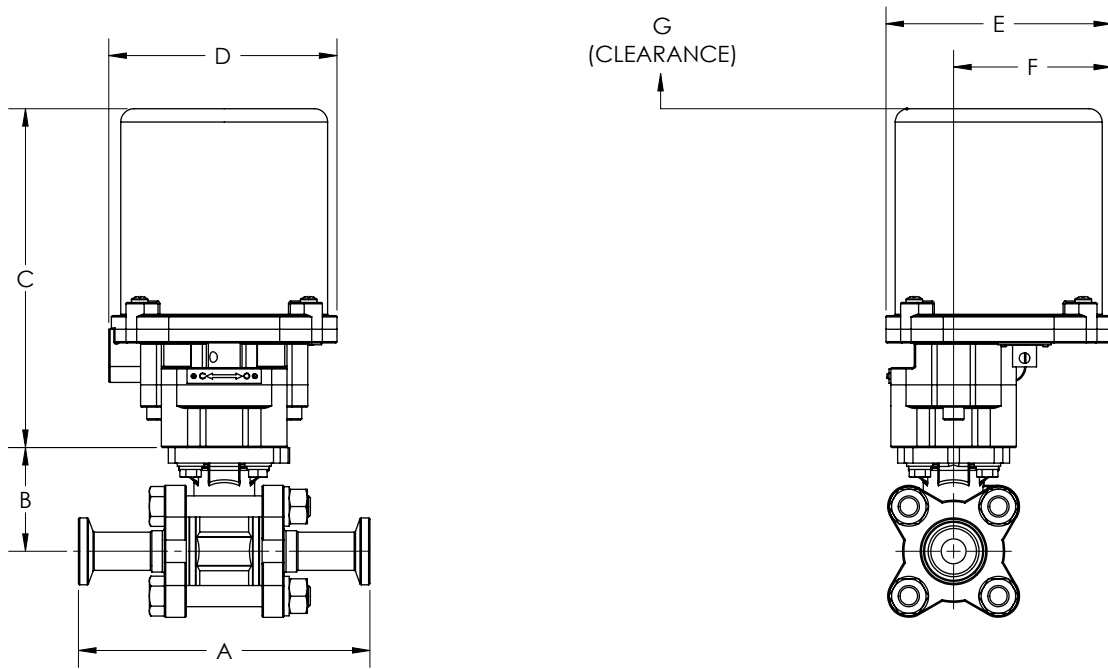


Size	A (in) ¹	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4 series	X series		
1/2"	4.3	1.5	RP-BA-012-DA	2.60	3.39	4.72	2.93	5.27	4.06	1.07	2.81
3/4"	4.7	1.8									
1"	4.9	2.1	RP-BA-025-DA05	3.10	3.87	5.68	3.20				
1-1/2"	5.6	2.7	RP-BA-045-DA	3.86	4.63	5.87	3.72				
2"	6.4	3.1									
2-1/2"	7.8	3.8	RP-BA-101-DA	4.79	5.54	7.20	4.77				
3"	9.0	4.2	RP-BA-225-DA	5.58	6.34	10.22	5.56				
4"	9.6	5.3									

¹Clamp and weld dimensions are the same.

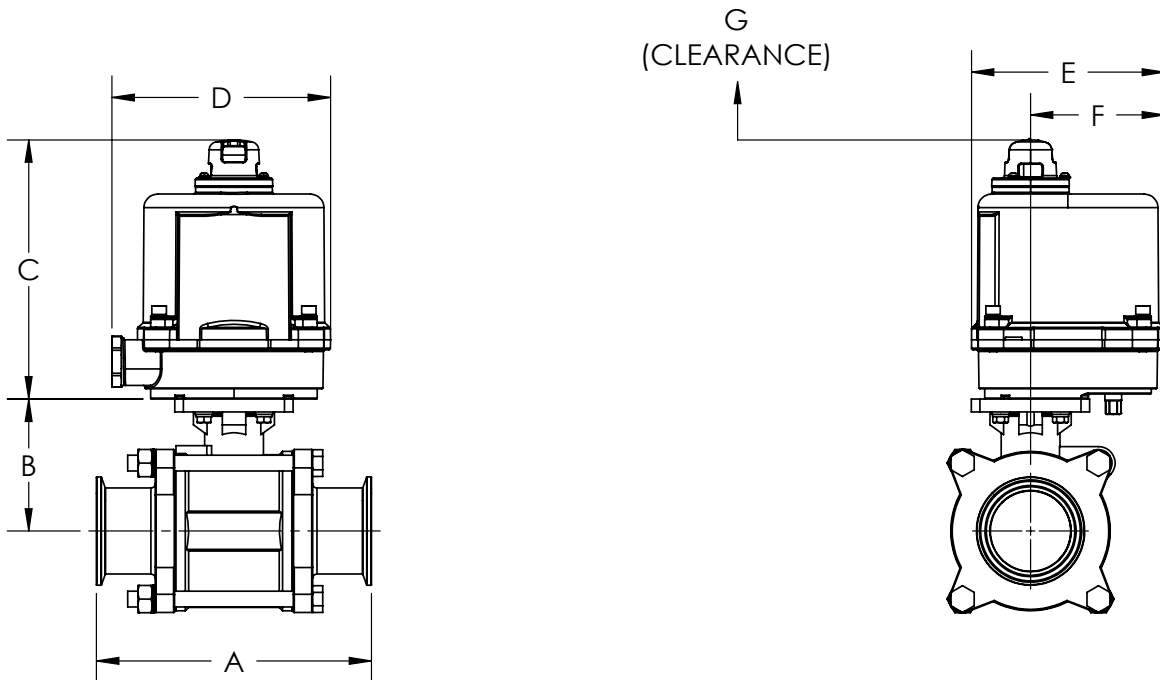
BV2-Series Ball Valve - Dimensions

Electric Actuator - BM-T



NOTE: The electric actuator shown is a BM-T model. For more information on actuation accessories see relevant EPRG for electric actuators.

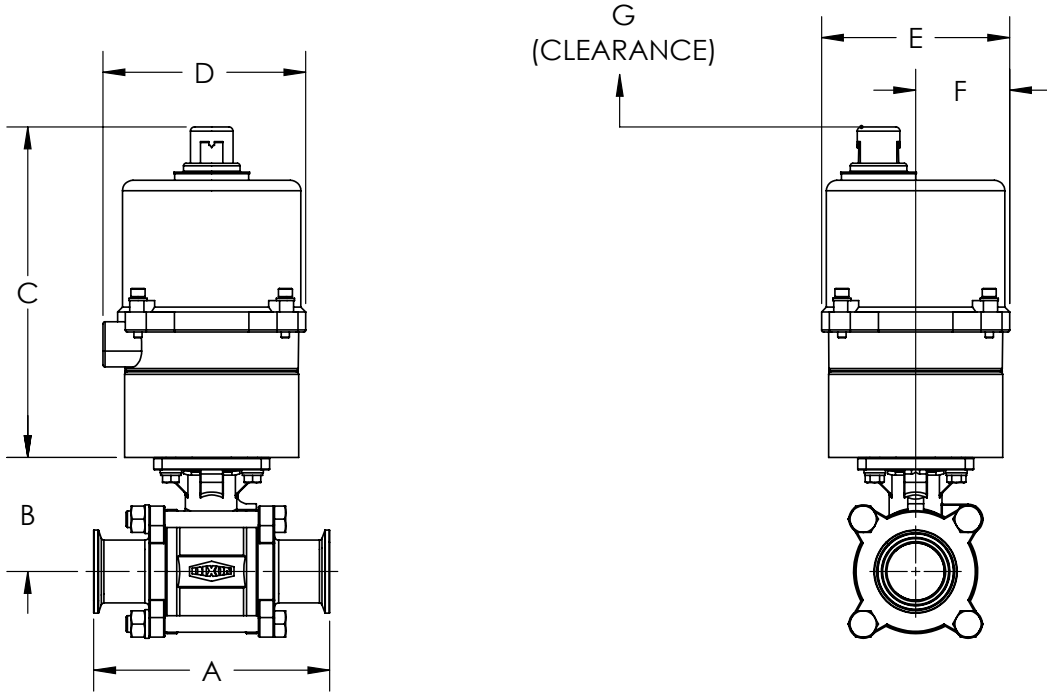
Electric Actuator - OM-1



NOTE: The electric actuator shown is a BEOM-1 model. For more information on actuation accessories, see relevant EPRG for electric actuators.

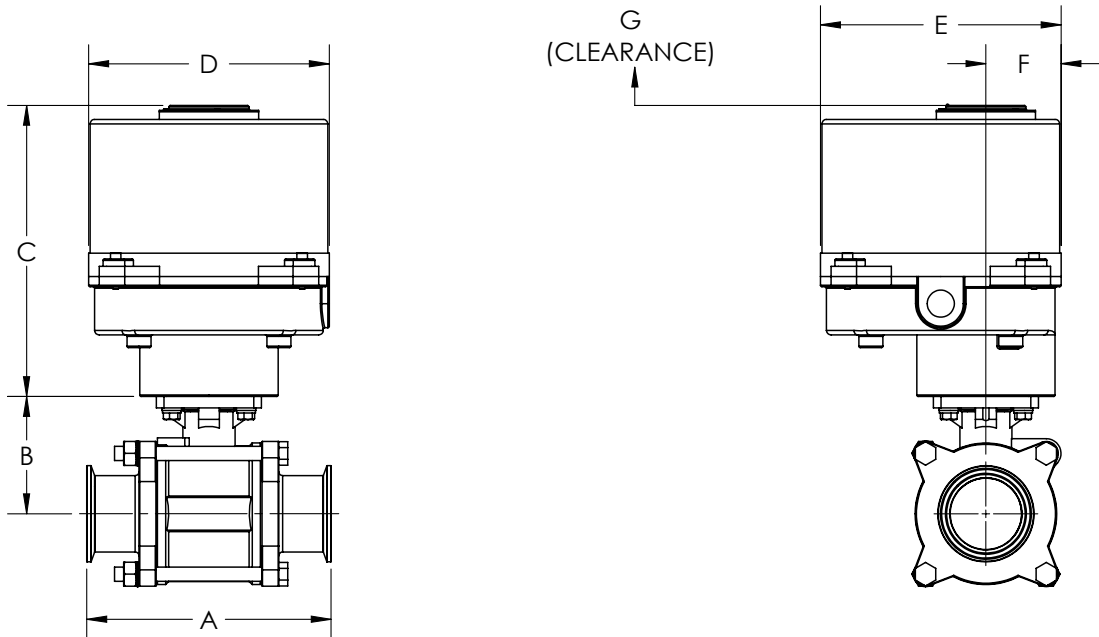
BV2-Series Ball Valve - Dimensions

Electric Actuator - OM-A



NOTE: The electric actuator shown is a BEOM-A model. For more information on actuation accessories see relevant EPRG for electric actuators.

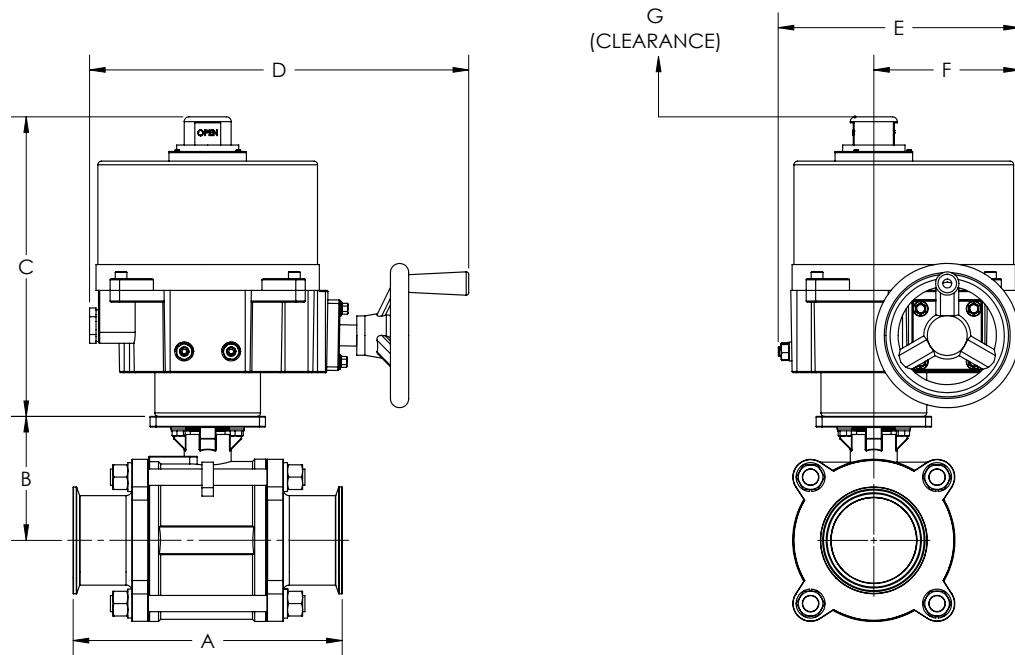
Electric Actuator - BM-2



NOTE: The electric actuator shown is a BM-2 model. For more information on actuation accessories, see relevant EPRG for electric actuators.

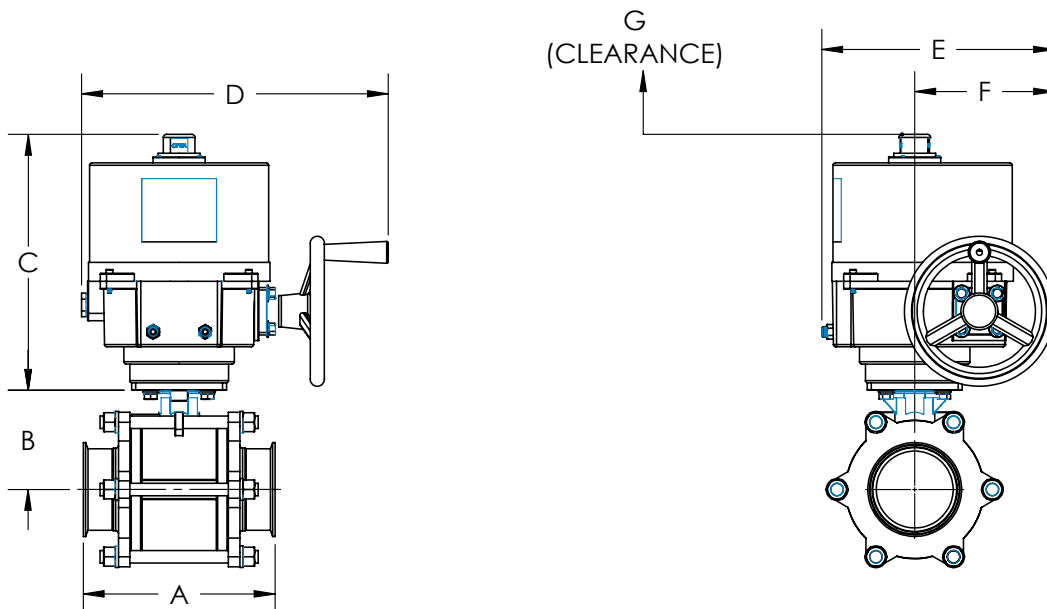
BV2-Series Ball Valve - Dimensions

Electric Actuator - OM-3



NOTE: The electric actuator shown is an OM-3 model. For more information on actuation accessories see relevant EPRG for electric actuators.

Electric Actuator - OM-4



NOTE: The electric actuator shown is an OM-4 model. For more information on actuation accessories, see relevant EPRG for electric actuators.

BV2-Series Ball Valve - Dimensions

Size	A (in) ¹	B (in)	Electric Actuator Series	C (in)	D (in)	E (in)	F (in)	G (in) ²
1/2"	4.3	1.5	BM-T	4.96	3.43	3.35	2.34	3.35
3/4"	4.7	1.8						
1"	4.9	2.1	OM-1	6.02	4.80	4.49	3.11	4.72
1-1/2"	5.6	2.7	OM-A	7.83	4.80	4.49	2.24	4.72
2"	6.4	3.1	BM-2	7.68	6.34	6.30	4.33	4.72
2-1/2"	7.8	3.8	OM-3	10.55	12.84	7.13	4.84	6.50
3"	9.0	4.2						
4"	9.6	5.3	OM-4	12.99	15.43	11.58	7.24	8.07

¹Clamp and weld dimensions are the same.

²Space needed to remove cover.

BV2-Series Ball Valve - Repair Kits



Encapsulated Seat Kit

Size	Material				
	Virgin PTFE	RTFE	25% Carbon PTFE	50% Stainless Steel PTFE	UHMW
1/2"	BV-2C-VK050	BV-2C-GK050	BV-2C-CK050	BV-2C-SK050	BV-2C-UK050
3/4"	BV-2C-VK075	BV-2C-GK075	BV-2C-CK075	BV-2C-SK075	BV-2C-UK075
1"	BV-2C-VK100	BV-2C-GK100	BV-2C-CK100	BV-2C-SK100	BV-2C-UK100
1-1/2"	BV-2C-VK150	BV-2C-GK150	BV-2C-CK150	BV-2C-SK150	BV-2C-UK150
2"	BV-2C-VK200	BV-2C-GK200	BV-2C-CK200	BV-2C-SK200	BV-2C-UK200
2-1/2"	BV-2C-VK250	BV-2C-GK250	BV-2C-CK250	BV-2C-SK250	BV-2C-UK250
3"	BV-2C-VK300	BV-2C-GK300	BV-2C-CK300	BV-2C-SK300	BV-2C-UK300
4"	BV-2C-VK400	BV-2C-GK400	BV-2C-CK400	BV-2C-SK400	BV-2C-UK400



Non-Encapsulated Seat Kit

Size	Material				
	Virgin PTFE	RTFE	25% Carbon PTFE	50% Stainless Steel PTFE	UHMW
1/2"	BV-2N-VK050	BV-2N-GK050	BV-2N-CK050	BV-2N-SK050	BV-2N-UK050
3/4"	BV-2N-VK075	BV-2N-GK075	BV-2N-CK075	BV-2N-SK075	BV-2N-UK075
1"	BV-2N-VK100	BV-2N-GK100	BV-2N-CK100	BV-2N-SK100	BV-2N-UK100
1-1/2"	BV-2N-VK150	BV-2N-GK150	BV-2N-CK150	BV-2N-SK150	BV-2N-UK150
2"	BV-2N-VK200	BV-2N-GK200	BV-2N-CK200	BV-2N-SK200	BV-2N-UK200
2-1/2"	BV-2N-VK250	BV-2N-GK250	BV-2N-CK250	BV-2N-SK250	BV-2N-UK250
3"	BV-2N-VK300	BV-2N-GK300	BV-2N-CK300	BV-2N-SK300	BV-2N-UK300
4"	BV-2N-VK400	BV-2N-GK400	BV-2N-CK400	BV-2N-SK400	BV-2N-UK400

BV2-Series Ball Valve - Repair Kits

Encapsulated 60° V-Port Seat Kit

Size	Material				
	Virgin PTFE	RTFE	25% Carbon PTFE	50% Stainless Steel PTFE	UHMW
1/2"	BV-2L-VK050	BV-2L-GK050	BV-2L-CK050	BV-2L-SK050	BV-2L-UK050
3/4"	BV-2L-VK075	BV-2L-GK075	BV-2L-CK075	BV-2L-SK075	BV-2L-UK075
1"	BV-2L-VK100	BV-2L-GK100	BV-2L-CK100	BV-2L-SK100	BV-2L-UK100
1-1/2"	BV-2L-VK150	BV-2L-GK150	BV-2L-CK150	BV-2L-SK150	BV-2L-UK150
2"	BV-2L-VK200	BV-2L-GK200	BV-2L-CK200	BV-2L-SK200	BV-2L-UK200
2-1/2"	BV-2L-VK250	BV-2L-GK250	BV-2L-CK250	BV-2L-SK250	BV-2L-UK250
3"	BV-2L-VK300	BV-2L-GK300	BV-2L-CK300	BV-2L-SK300	BV-2L-UK300
4"	BV-2L-VK400	BV-2L-GK400	BV-2L-CK400	BV-2L-SK400	BV-2L-UK400

F

Encapsulated 30° V-Port Seat Kit

Size	Material				
	Virgin PTFE	RTFE	25% Carbon PTFE	50% Stainless Steel PTFE	UHMW
1/2"	BV-2M-VK050	BV-2M-GK050	BV-2M-CK050	BV-2M-SK050	BV-2M-UK050
3/4"	BV-2M-VK075	BV-2M-GK075	BV-2M-CK075	BV-2M-SK075	BV-2M-UK075
1"	BV-2M-VK100	BV-2M-GK100	BV-2M-CK100	BV-2M-SK100	BV-2M-UK100
1-1/2"	BV-2M-VK150	BV-2M-GK150	BV-2M-CK150	BV-2M-SK150	BV-2M-UK150
2"	BV-2M-VK200	BV-2M-GK200	BV-2M-CK200	BV-2M-SK200	BV-2M-UK200
2-1/2"	BV-2M-VK250	BV-2M-GK250	BV-2M-CK250	BV-2M-SK250	BV-2M-UK250
3"	BV-2M-VK300	BV-2M-GK300	BV-2M-CK300	BV-2M-SK300	BV-2M-UK300
4"	BV-2M-VK400	BV-2M-GK400	BV-2M-CK400	BV-2M-SK400	BV-2M-UK400

Handle Kits

Size	Part #
1/2"	BV-23-HA050-075
3/4"	
1"	BV-23-HA100
1-1/2"	BV-23-HA150-200
2"	
2-1/2"	BV-23-HA-17
3"	
4"	BV-23-HA-22

Stem Kits (Virgin PTFE)

Size	Part #
1/2"	BV-2X-SM050
3/4"	BV-2X-SM075
1"	BV-2X-SM100
1-1/2"	BV-2X-SM150
2"	BV-2X-SM200
2-1/2"	BV-2X-SM250
3"	BV-2X-SM300
4"	BV-2X-SM400

Bolt and Nut Kits

Size	Part #
1/2"	BV-2X-BN050
3/4"	BV-2X-BN075
1"	BV-2X-BN100
1-1/2"	BV-2X-BN150
2"	BV-2X-BN200
2-1/2"	BV-2X-BN250
3"	BV-2X-BN300
4"	BV-2X-BN400

BV2G-Series Non-Encapsulated Ball Valve

Sizes

- 1/2", 3/4", 1", 1-1/2", 2", 2-1/2", 3", and 4"

Features

- Compact design for areas with tight space restrictions
- Full port design offers lower pressure drop and a less turbulent flow
- Balanced non-encapsulated construction minimizes cold flow
- Precision stainless steel balls reduce torque and friction losses while extending seat life
- Blow-out proof stem
- Lockable handle can prevent accidental actuation when used

Materials

- Product contact metal components: CF8M (316) stainless steel



Specifications

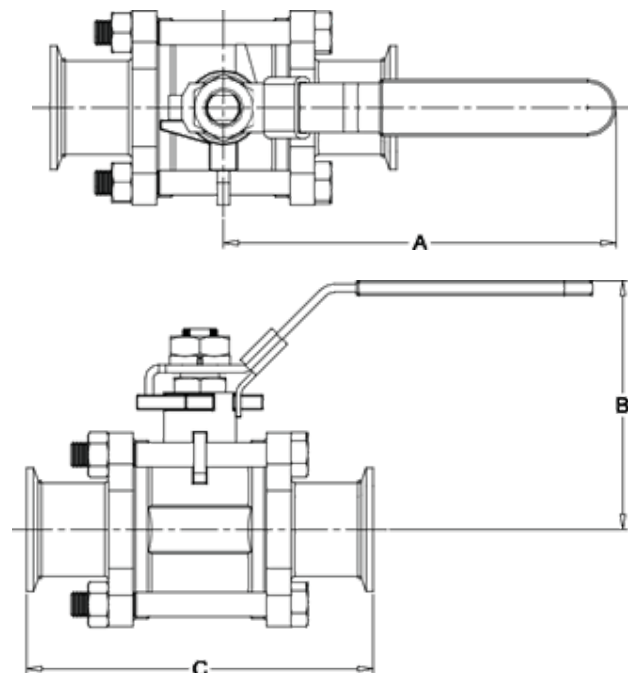
- Maximum pressure
 - 1/2" to 2": **1000 PSI WOG**
 - 2-1/2" to 4": **800 PSI WOG**

Size	Part #	Weight (lbs)	Break Torque (in-lbs)
1/2"	BV2G*-050CC-A	1.4	55
3/4"	BV2G*-075CC-A	1.8	71
1"	BV2G*-100CC-A	2.6	101
1-1/2"	BV2G*-150CC-A	4.6	221
2"	BV2G*-200CC-A	8.5	345
2-1/2"	BV2G*-250CC-A	17.8	883
3"	BV2G*-300CC-A	28.2	830
4"	BV2G*-400CC-A	41.4	1323

* G - RTFE; C - 25% carbon/PTFE

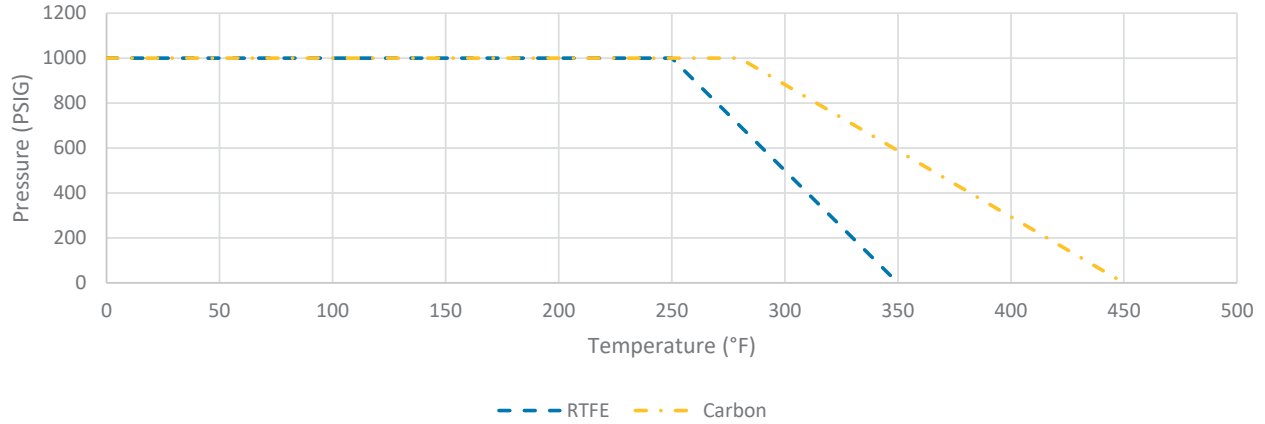
BV2G-Series Non-Encapsulated Ball Valve - Dimensions

Size	A (in)	B (in)	C (in)
1/4"	4.1	2.3	4.6
3/4"	4.1	2.5	4.7
1"	5.0	2.8	4.9
1-1/2"	6.1	3.5	5.6
2"	7.6	3.9	6.4
2-1/2"	7.6	4.4	7.8
3"	10.9	4.9	9.0
4"	13.2	6.6	9.6

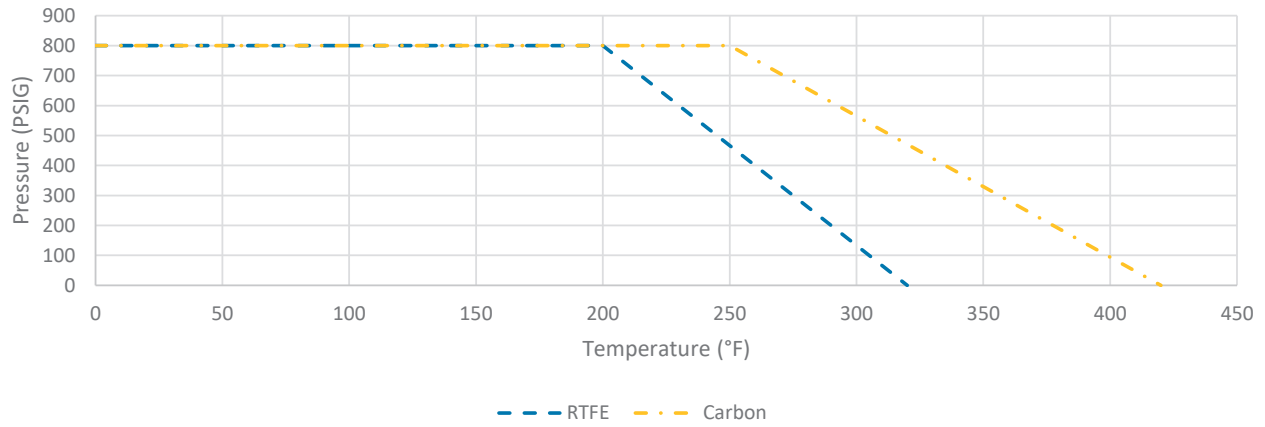


BV2G-Series Non-Encapsulated Ball Valve - Pressure Temperature Charts

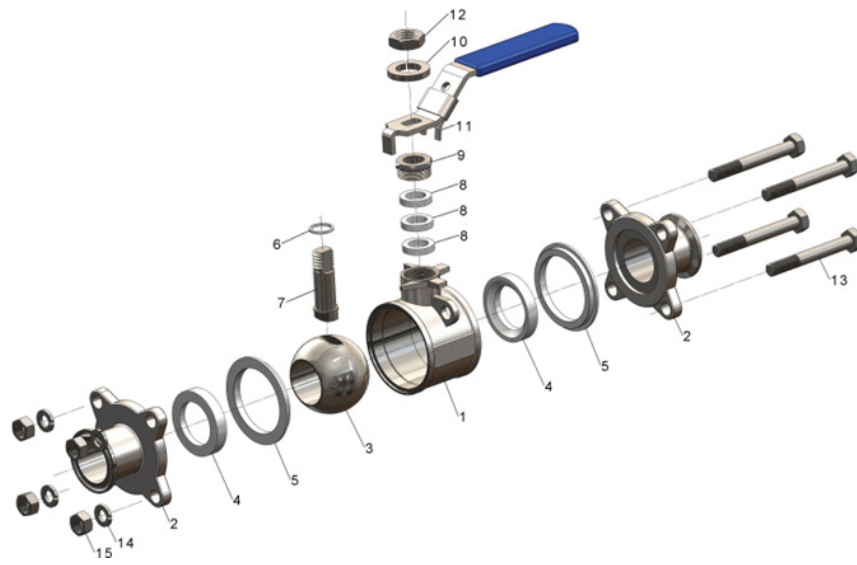
0.50 in - 2.00 in



2.50 in - 4.00 in



BV2G-Series Non-Encapsulated Ball Valve - Bill of Materials



F

Item #	Description	Material	Qty	
			1/2" to 3"	4"
1	body	CF8M	1	1
2	end (4-bolt)	CF8M	2	2
3	ball	CF8M	1	1
4	seat	G or C *	2	2
5	gasket	G or C *	2	2
6	thrust washer	G or C *	1	1
7	stem	316	1	1
8	stem packing	G or C *	3	3
9	gland	304	1	1
10	bevel washer	301	1	1
11	handle	304	1	1
12	nut	304	1	1
13	bolt	304	4	6
14	bolt washer	304	4	6
15	bolt nut	304	4	6

* G - RTFE; C - 25% carbon/PTFE

BV2G-Series Non-Encapsulated Ball Valve - Repair Kits

Valve Size	Repair Kit Part #
1/2"	BV-2G-*K050
3/4"	BV-2G-*K075
1"	BV-2G-*K100
1-1/2"	BV-2G-*K150
2"	BV-2G-*K200
2-1/2"	BV-2G-*K250
3"	BV-2G-*K300
4"	BV-2G-*K400

* G - RTFE; C - 25% carbon/PTFE
 Repair kit contains items 4 (qty 2), 5 (qty 2), 6 (qty 1), 8 (qty 3)

BV3S/4S-Series Sanitary Multi-Port Ball Valve

The BV3S/4S-series sanitary multi-port ball valve can be used for diversion or control of processing fluid

They are found in the food processing, beverage, winery, brewery, pet product, and industrial markets

Sizes

- 1/2", 3/4", 1", 1-1/2", 2", 2-1/2", 3", 4"

Features

- Live-loaded stem packing
- Integral ISO 5211 mounting pad
- Lockable handle can prevent accidental actuation
- Standard internal entry blow-out proof stem design
- Precision stainless steel balls reduce torque and friction losses while extending shelf life
- Full port design on 1/2" through 3" and reduced port design on 4"
- Compact design for areas with tight space restrictions
- Fully encapsulated construction produces bubble tight seal
- Identification tagging available
- Balanced encapsulated construction minimizes cold flow

Materials

- Product contact metal components: CF8M
- Non-product contact metal components: 304 stainless steel
- Product contact seals: virgin PTFE, 15% reinforced PTFE, UHMW polyethylene, 50% stainless steel reinforced PTFE, 25% carbon reinforced PTFE

Specifications

- Standard connections: clamp
- Valve data
 - Maximum pressure
 - 1/2" to 2": **1000 PSI WOG**
 - 2-1/2" to 4": **800 PSI WOG**
- Surface finish
 - Product contact metal components: ≤ 32 Ra
 - Non-product contact metal components: as cast or $Ra \leq 63$
 - Seat lubricant: BESSI F-100
 - Stem lubricant: G.A. BESSIL 25



BV3S/4S-Series Sanitary Multi-Port Ball Valve - Part Number Key

BV3S/4S-Series Multi-Port Sanitary Ball Valve Part Number Key Example: BV3SVTF050C-A		Valve Style	Seat Material	Ball Configuration	Port Size	Size	Connections		Handle	Surface Finish
		BV3S	V	T	F	050	C	-	A	
Valve Style	Code									
3-way	BV3S	←								
4-way	BV4S									
Seat Material	Code									
Virgin PTFE	V		←							
15% glass reinforced PTFE	G									
25% carbon reinforced PTFE	C									
50% stainless steel reinforced PTFE	S									
Ultra high molecular weight polyethylene	U									
Ball Configuration	Code									
T Port	T			←						
L Port	L									
Port Size	Code									
Full port	F				←					
Reduced port (4" only) ¹	R									
Size	Code									
1/2"	050					←				
3/4"	075									
1"	100									
1-1/2"	150									
2"	200									
2-1/2"	250									
3"	300									
4"	400									
Connections	Code									
Clamp (standard)	C						←			
Weld	B									
Female I-Line	F									
Male I-Line	M									
Threaded Bevel	T									
Plain Bevel with Nut	P									
Q-Line	Q									
John Perry Plain with Nut	J									
John Perry Threaded	H									
Handle	Code									
90° manual handle (standard)	A							←		
180° manual handle	B									
Surface Finish	Code									
32 Ra I.D.	blank									←
25 Ra I.D.	-2									
20 Ra I.D.	-1									
15 Ra I.D.	-4									
10 Ra I.D.	-7									

¹Reduced port size is 3.15".

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Part Number Key (Actuated)

BV3/4S-Series Actuated Ball Valve Part Number Key Example: BV3SVTF050C-A		Valve Style	Seat Material	Size	Connections	Surface Finish
		3CL	V	50	C	A
Valve Style	Code					
3-Way L-Port	3CL					
3-Way T-Port	3CT					
4-Way L-Port	4CL					
4-Way T-Port	4CT					
Seat Material	Code					
Virgin PTFE	V					
RTFE (15% glass reinforced PTFE)	G					
25% carbon reinforced PTFE	C					
50% stainless steel reinforced PTFE	S					
UHMW	U					
Size	Code					
1/2"	50					
3/4"	75					
1"	10					
1-1/2"	15					
2"	20					
2-1/2"	25					
3"	30					
4"	40					
Connections	Code					
Clamp	C					
Weld	B					
Female I-Line	F					
Male I-Line	M					
Threaded Bevel	T					
Plain Bevel with Nut	P					
Q-Line	Q					
Female NPT	1					
Flange	K					
Surface Finish	Code					
32 Ra	A					
25 Ra	B					
20 Ra	C					
15 Ra	D					
10 Ra	E					
32 Ra with K22 kolstering treatment	F					

F

Continue number selection by following column 1 or 2 on page 166.

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Part Number Key (Actuated)

1. Pneumatic Actuator, Spring Return Manual Handle, or Manual Handle with Feedback				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option 2	Flow Path
1	00	XX	10	E	B	1	1	12
Actuator			Code	Actuator				Code
Aluminum spring return pneumatic rack and pinion			1	Electric				E
Aluminum double acting pneumatic rack and pinion			2	Oversized (1-UP) Electric				F
Stainless steel spring return pneumatic rack and pinion			3	Nema 7 Electric				G
Stainless steel double acting pneumatic rack and pinion			4	Electric with Riser Kit				H
Manual handle			5	Voltage				Code
Dead man spring return handle			6	115VAC				B
Oversized (1-UP) aluminum spring return pneumatic rack and pinion			7	12VDC				C
Technopolymer spring return pneumatic rack and pinion			8	24VAC				D
Oversized (1-UP) aluminum double acting pneumatic rack and pinion			9	24VDC				E
90° manual handle with riser kit			A	220VAC				F
180° manual handle			B	12VAC				G
Feedback			Code	Option 1				Code
None			00	None				1
Limit switch box, position indicator, (2) SPDT mechanical switches			11	Torque switches				2
Limit switch box, position indicator, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULus Class 1/2 Div 1/2			12	4-20 mA input/output modulating controller				3
Limit switch box, position indicator, AS-I			13	Current position transmitter				4
Limit switch box, position indicator, (2) proximity SPDT switches, aluminum Exd IIB certified enclosure			14	Potentiometer				5
Limit switch box, position indicator, (2) DPDT mechanical switches			15	Local control unit				6
Limit switch box, position indicator, (2) switches, electro mechanical SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1			16	Two extra travel cams and switches				7
Limit switch box, position indicator, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO			17	Three position cam set				8
Limit switch box, position indicator, 4-20ma analog position transmitter			18	Local control unit with lock				9
Limit switch box, position indicator, SPDT proximity, 0.25A @ 120VAC, 0.416A @ 48VDC, resistive			19	1-5V input/2-10V output modulating controller				A
Limit switch box, position indicator, 4-20ma analog position transmitter + 2 SPDT mechanical switches			20	2-10V input/output modulating controller				B
Stainless steel limit switch box, position indicator, (2) proximity SPDT switches			21	75% duty cycle				C
Control			Code	Relay				D
None			XX	Four position cam set				E
Single coil solenoid, 120VAC			AA	25% duty cycle (actuator code G only)				F
Single coil solenoid, 24VDC			AB	75% duty cycle (actuator code G only)				G
Single coil solenoid, 12VDC			AC	Option 2				Code
Single coil solenoid, 220VAC			AD	None				1
Dual coil solenoid, 120VAC			AE	Torque switches				2
Dual coil solenoid, 24VDC			AF	4-20mA input/output modulating controller				3
Dual coil solenoid, 220VAC			AG	Current position transmitter				4

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Part Number Key (Actuated)

Pneumatic positioner 3-15 PSI input, no feedback	AH	Potentiometer	5
Pneumatic positioner 3-15 PSI input, (2) SPDT mechanical switches for feedback	AI	Local control unit	6
Pneumatic positioner 3-15 PSI input, 4-20mA for feedback	AJ	Two extra travel cams and switches	7
Electropneumatic positioner 4-20mA input, no feedback	AK	Three position cam set	8
Electropneumatic positioner 4-20mA input, (2) SPDT mechanical switches for feedback	AL	Local unit with lock	9
Electropneumatic positioner 4-20mA input, 4-20mA for feedback	AM	1-5V input/2-10V output modulating controller	A
Electropneumatic positioner 0-10v input, no feedback	AN	2-10V input/output modulating controller	B
Electropneumatic positioner 0-10v input, (2) SPDT mechanical switches for feedback	AO	75% duty cycle	C
Electropneumatic positioner 0-10v input, 4-20mA for feedback	AP	Relay	D
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	AQ	Four position cam set	E
Electropneumatic positioner 4-20mA input, no feedback, Class 1, Div II explosion proof	AR	25% duty cycle (actuator code G only)	F
Single coil solenoid, 24VDC and 24V banjo solenoid valve with Form B plug	AS	75% duty cycle (actuator code G only)	G
Single coil solenoid, 24VDC, AS-I, 2.5W low power	AT	Flow Path	Code
Single coil solenoid, 24VDC, intrinsically safe	AU	Energize A, Energize B	12
Single coil solenoid, 24VDC, pre-wired to limit switch with CORASET (dual keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)	AV	Energize A, Energize D	13
Single coil solenoid, 24VDC, explosion proof, Class H coil	AW	Energize A, Energize B, Energize D (180)	39
Single coil solenoid, 24VAC	AX		
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, Class 1, Div II explosion proof	AY		
Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads	AZ		
TUFRAM COATED electropneumatic positioner 4-20mA input, no feedback	BA		
V200 rotary pneumatic positioner, (2) REED SWITCH feedback	BB		
Single coil solenoid, 120VAC, explosion proof, Class H coil	BC		
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P male connection	BD		
Non-integral 304 stainless steel NEMA 4/4X 3 position control box, includes 3 manifold mount solenoids time delay relay and terminal strip (3 input control, does not require PLC) 24VDC	BE		
Non-integral 304 stainless steel NEMA 4/4X 3 position control box includes 3 manifold mount solenoids time delay relay and terminal strip (3 input control, does not require PLC) 120VAC	BF		
Flow Path	Code		
Rest A, energize B (spring return)			10
Rest A, energize D (spring return)			11
Energize A, energize B (double acting)			12
Energize A, energize D (double acting)			13
Rest B, energize A, energize D (spring return, 180°)			14
Rest B, energize A (spring return)			15

F

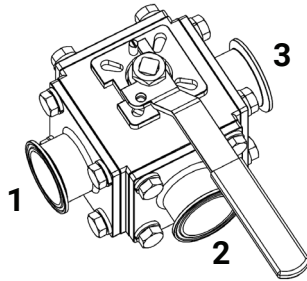
NOTE: Refer to the flow path codes on the following pages for other available configurations.

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

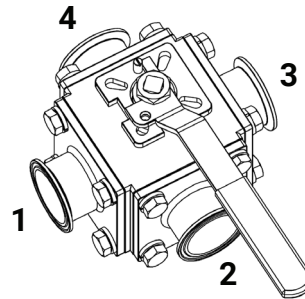
What is a multiport ball valve?

Multiport ball valves, also known as a 3-way and 4-way ball valves, provide an easy solution for applications requiring flow direction control in one valve body. 3-way or 4-way refers to the number of valve-to-application connection points there are.

3-Way

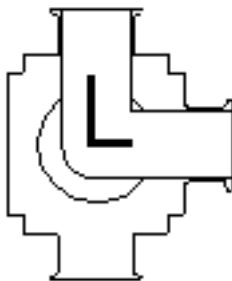


4-Way

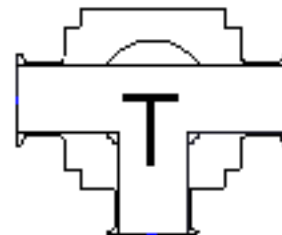


Dixon® Sanitary offers two variations to the 3-way and 4-way multiport ball valves, "L" and "T" port styles. "L" and "T" refer to the shape of the flow path inside the ball of the valve.

L-Port



T-Port



Why is a defined flow path necessary?

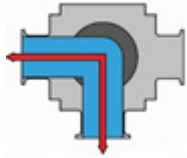
Rotating the ball inside the valve will yield different flow paths. The requirements of the application will determine the flow path needed when purchasing an actuated multiport ball valve.

When a multiport ball valve is ordered with a manual handle, adjusting the flow path for the application may be as simple as rotating the valve by hand. However, when a multiport ball valve is actuated, the flow path information is required to ensure the valve and necessary components are built in the proper position to meet the application requirements.

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

Understanding the flow path diagrams

When viewing Dixon Sanitary's flow path code tables, it is important to understand what the diagrams mean. The flow path diagrams are drawn as if the top half of the valve was cut off and you are looking straight down on the cut valve. This view shows the L or T shape inside the ball, the position of the ball, and how many connection points are on the valve. Each position is given a letter designation A, B, C, or D.



Example: This diagram shows a 3-way (3 connection points), L-port ball valve ("L" shaped path inside the ball), currently in position "A" (position designation assigned by Dixon Sanitary).



Example: This diagram shows a 3-way (3 connection points), L-port ball valve ("L" shaped path inside the ball), currently in position "C" (position designation assigned by Dixon Sanitary). This position is essentially a shut-off position for the L-port valve. This position is not possible on a T-port valve.



Example: This diagram shows a 4-way (4 connection points), T-port ball valve ("T" shaped path inside the ball), currently in position "A" (position designation assigned by Dixon Sanitary).

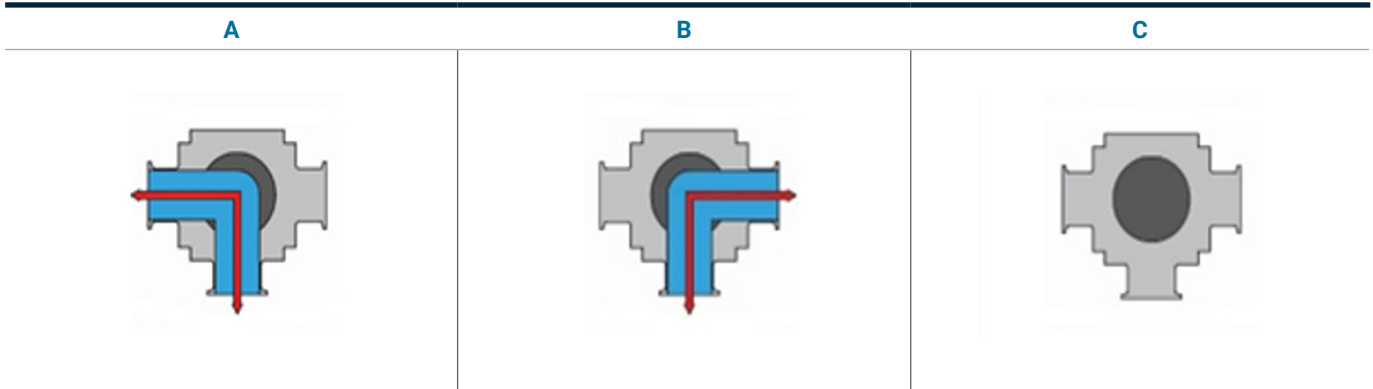
Steps to determine the flow path

1. Determine the core function of the valve
 - Will this valve be used to shut off and divert flow? Change the destination of flow? Mix two sources of flow into one?
2. Determine how many flow positions the valve will need to operate. E.g. diverting between two destinations and a shut off position would be three positions.
3. Determine actuator function
 - First determine the source of power for the actuator. Will this be pneumatically or electrically powered? If pneumatic, does it need to be spring return or double acting? Spring return means if air power is lost, the actuator will rotate the valve back to a predetermined "fail" or "rest" position. Double acting and electric both rotate only when air power or electric power are applied.
4. Select the flow path code from the list of available combinations.

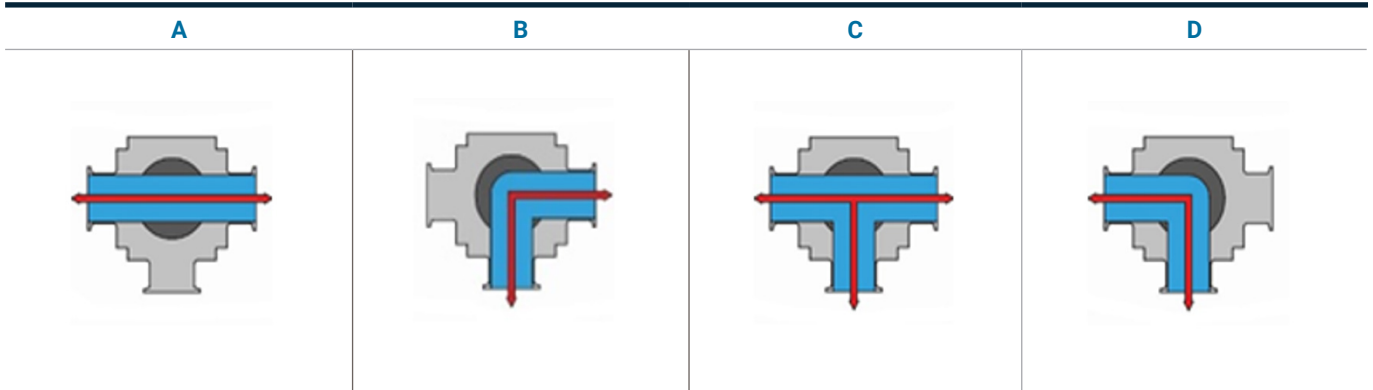
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BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

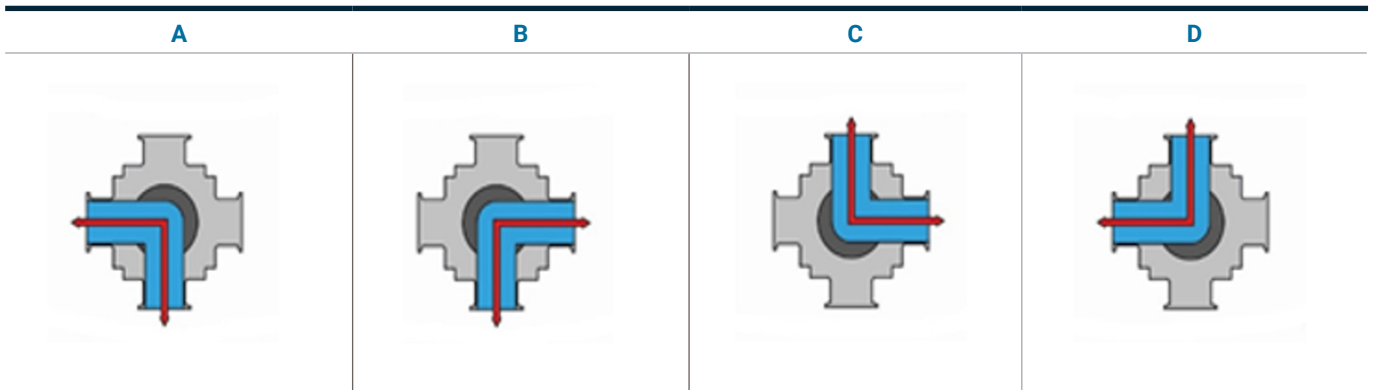
3-Way L-Port



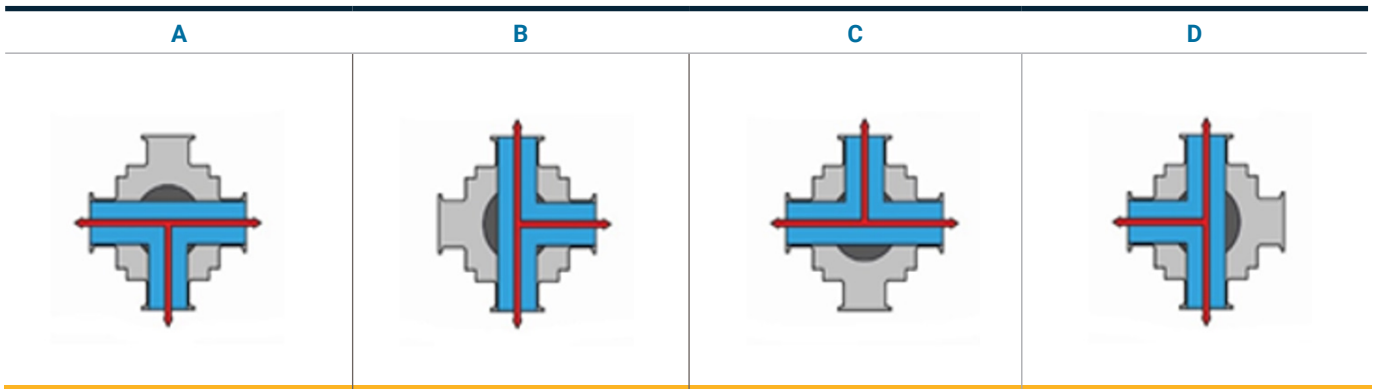
3-Way T-Port



4-Way L-Port



4-Way T-Port



F

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

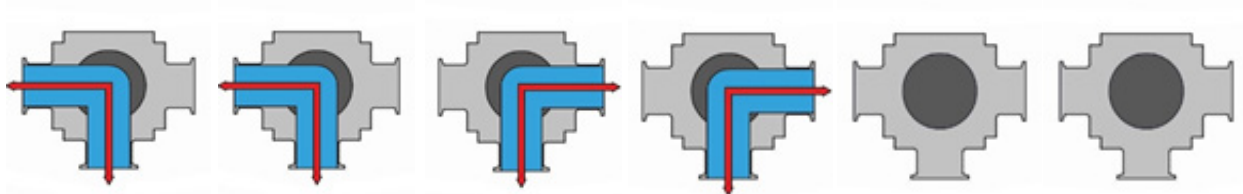
2 Position

3-Way | L-Port | Spring Return

Code	10	16	15	17	18	19
Rotation	90°	90°	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW	CCW	CW

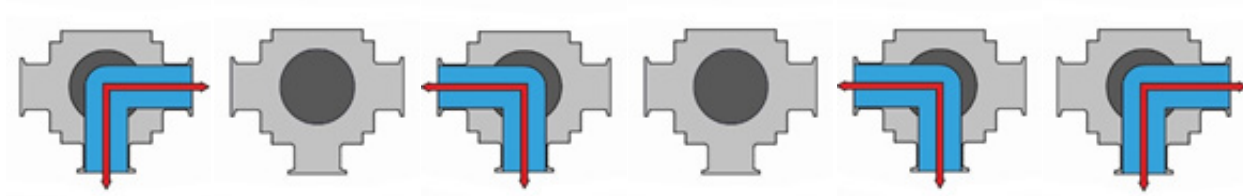
A A B B C C

Rest Position



B C A C A B

Energize Position

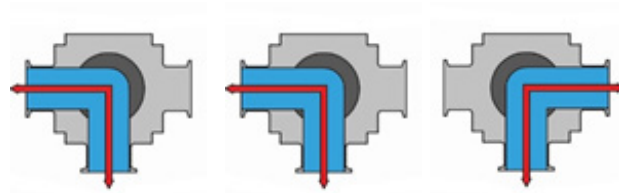


3-Way | L-Port | Double Acting or Electric

Code	12	20	21
Rotation	90°	90°	90°

A A B

Energize Position



B C C

Energize Position

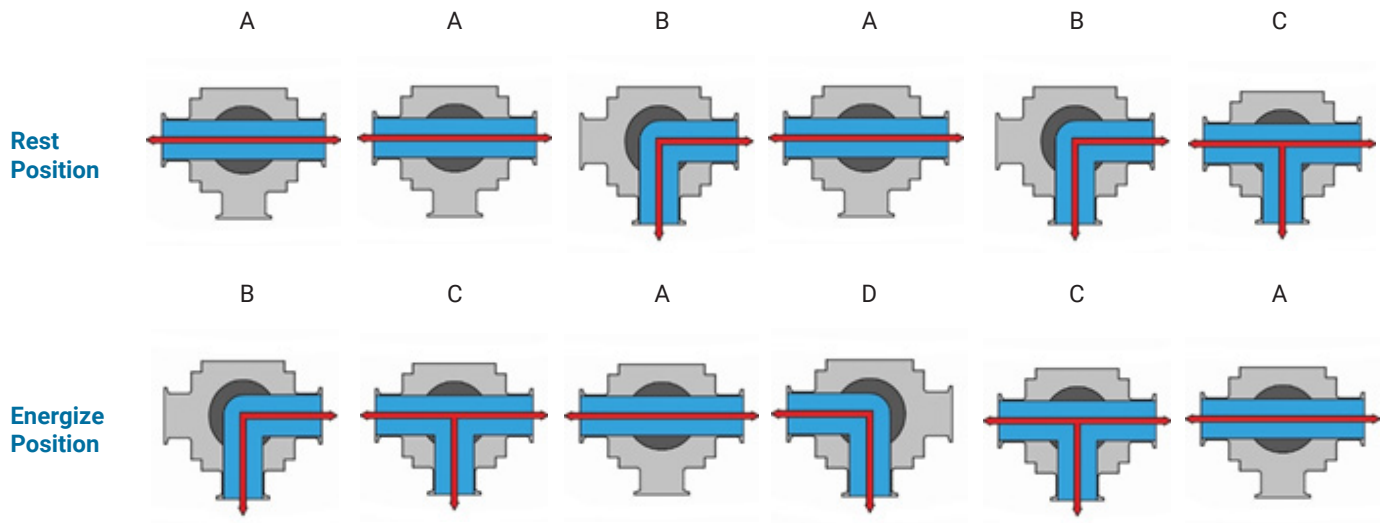


BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

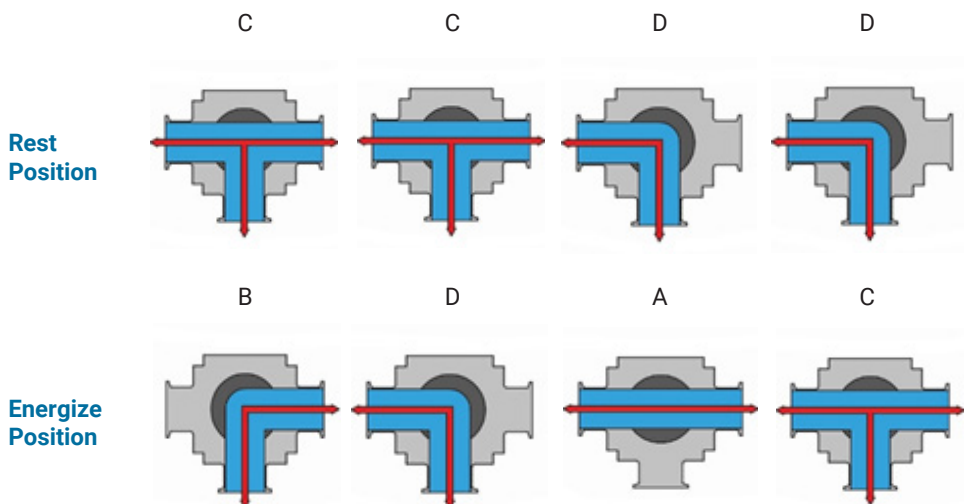
3-Way | T-Port | Spring Return

Code	10	16	15	11	17	18
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CW	Either	CCW	CCW	CW	Either

F



Code	19	22	23	24
Rotation	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW

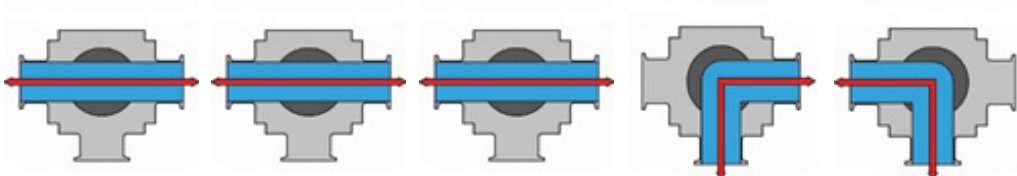


BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

3-Way | T-Port | Double Acting or Electric

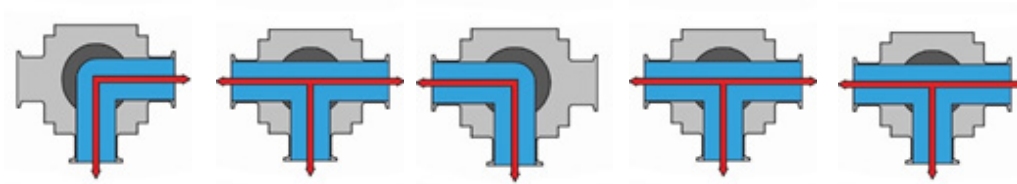
Code	12	20	13	21	25
Rotation	90°	180°	90°	90°	90°
	A	A	A	B	D

Energize Position



B C D C C

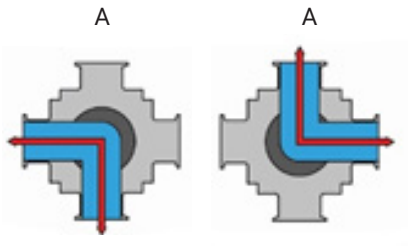
Energize Position



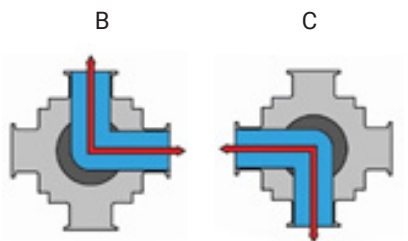
4-Way | L-Port | Spring Return

Code	10	16
Rotation	180°	180°
Air Rotation Detection	Either	Either

Rest Position



Energize Position



4-Way | L-Port | Double Acting or Electric

Code	12
Rotation	180°

Energize Position



Energize Position

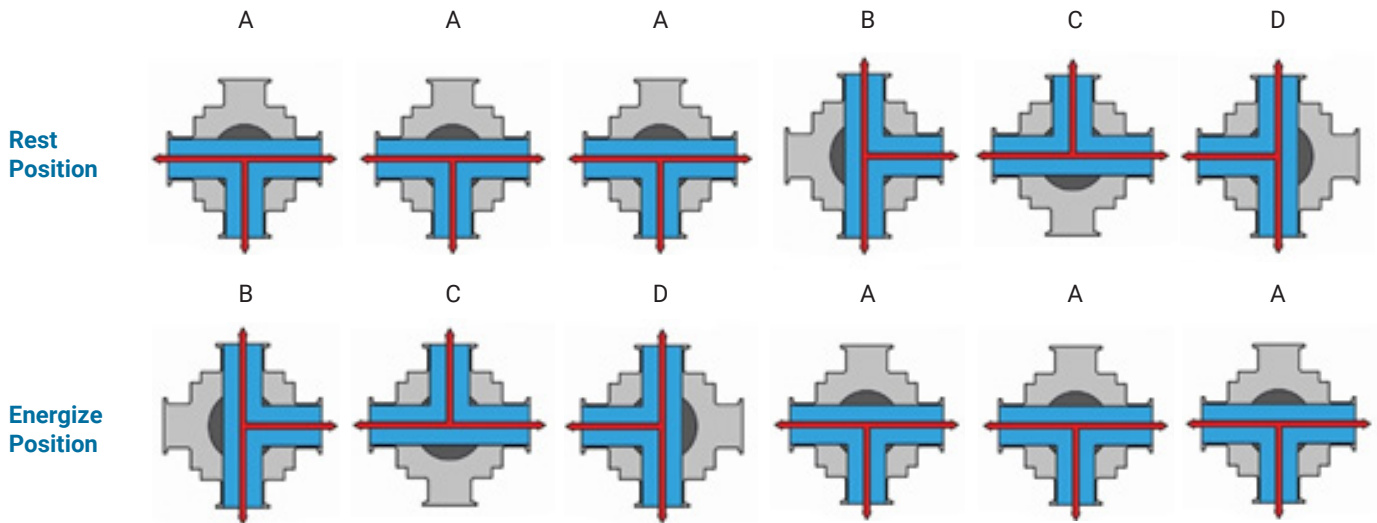


BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

4-Way | T-Port | Spring Return

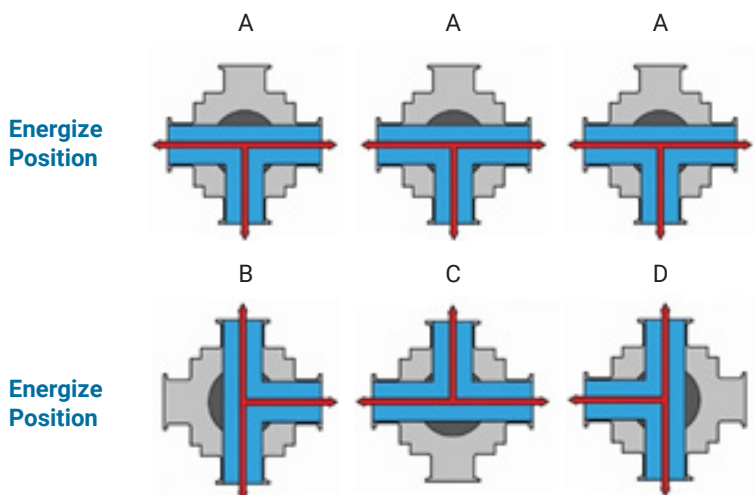
Code	10	16	11	15	18	23
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CCW	Either	CW	CW	Either	CCW

F



4-Way | T-Port | Double Acting or Electric

Code	12	20	13
Rotation	90°	180°	90°



BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

3 Position

3-Way | L-Port | Spring Return

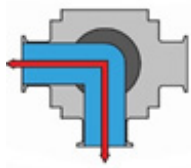
Code	26	28	29
Rotation	180°	180°	180°
Air Rotation Detection	Either	Either	Either
Return	Either	Either	End

A

B

C

Rest Position



B

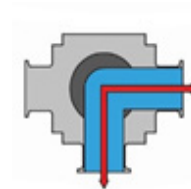


A

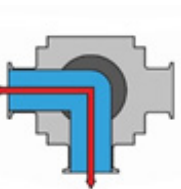


A

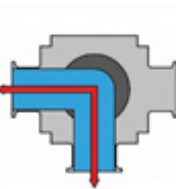
Energize Position



C



C



B

Energize Position

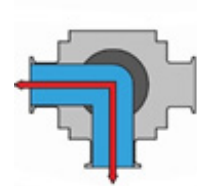


3-Way | L-Port | Double Acting or Electric

Code	30
Rotation	180°

A

Energize Position



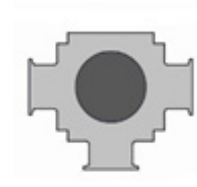
B

Energize Position



C

Energize Position



F

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

3-Way | T-Port | Spring Return

Code	26	27	31	28	14	32
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	Both	CCW	Both	CCW	CW
Return	End	Center	End	Center	End	End

F

A

A

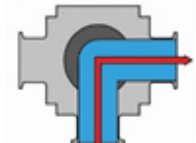
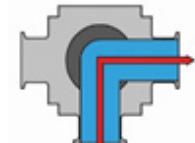
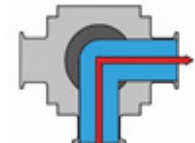
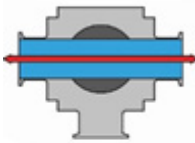
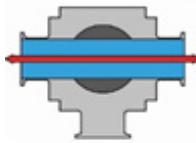
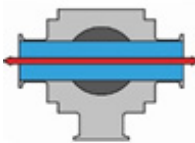
A

B

B

B

Rest Position



B

B

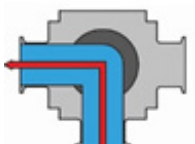
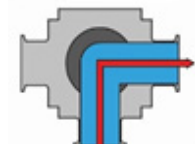
D

A

A

C

Energize Position



C

D

C

C

D

D

Energize Position

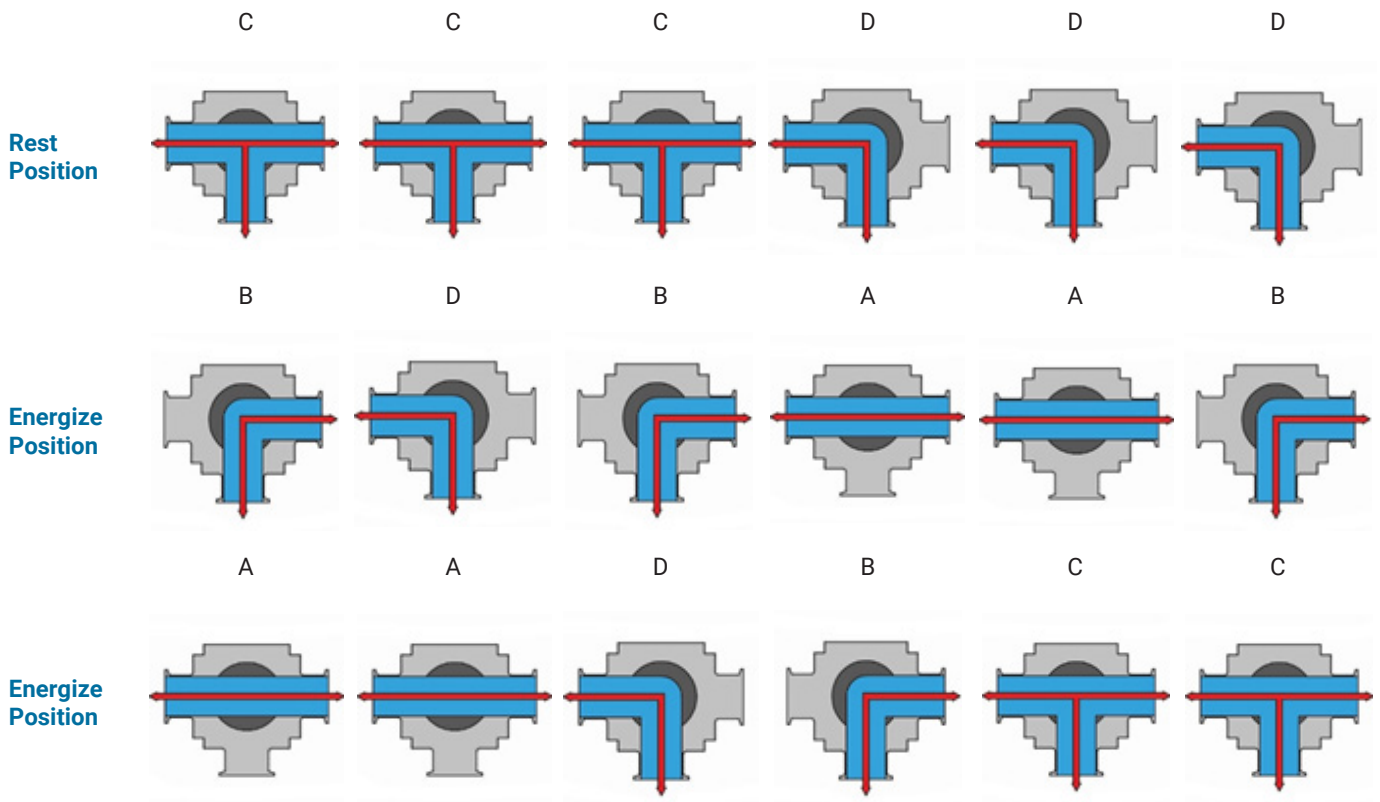


BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

3-Way | T-Port | Spring Return

Code	33	34	35	36	37	38
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CCW	CW	Both	CW	Both	CCW
Return	End	End	Center	End	Center	End

F



BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

3-Way | T-Port | Double Acting or Electric

Code	30	39	40	41
Rotation	180°	180°	180°	180°

A

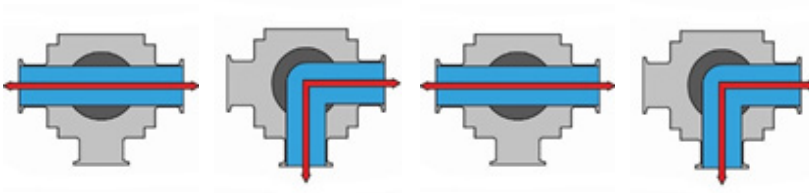
B

A

B

F

Energize Position



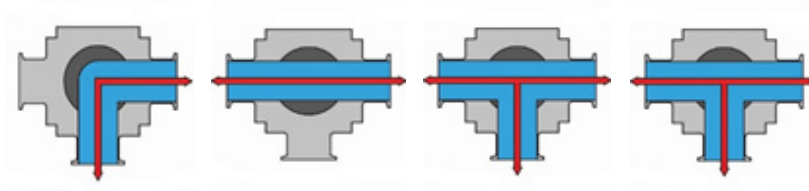
B

A

C

C

Energize Position



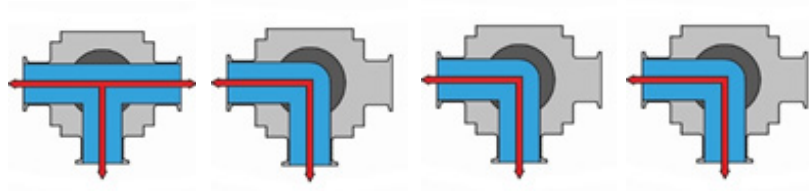
C

D

D

D

Energize Position

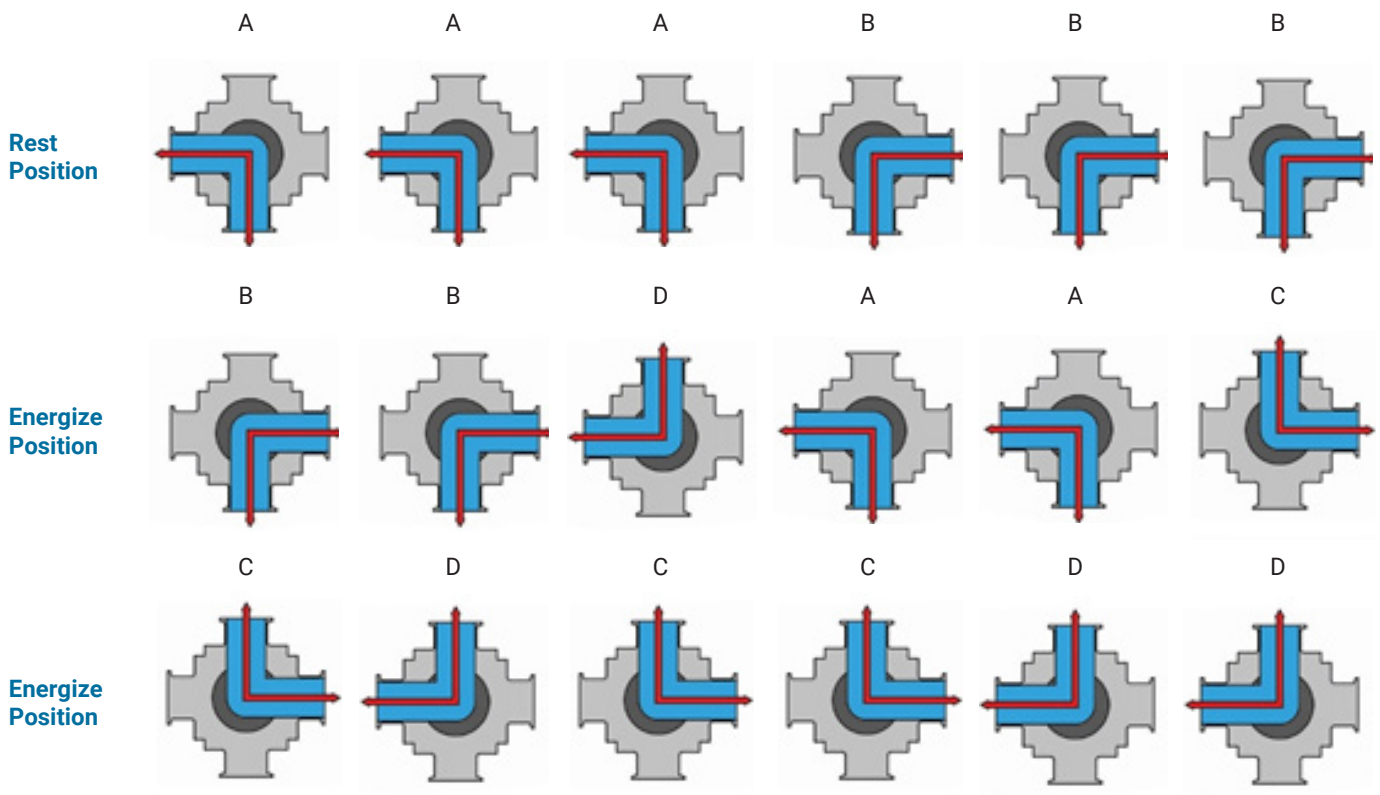


BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

4-Way | L-Port | Spring Return

Code	26	27	31	28	14	32
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CCW	Both	CW	Both	CW	CCW
Return	End	Center	End	Center	End	End

F



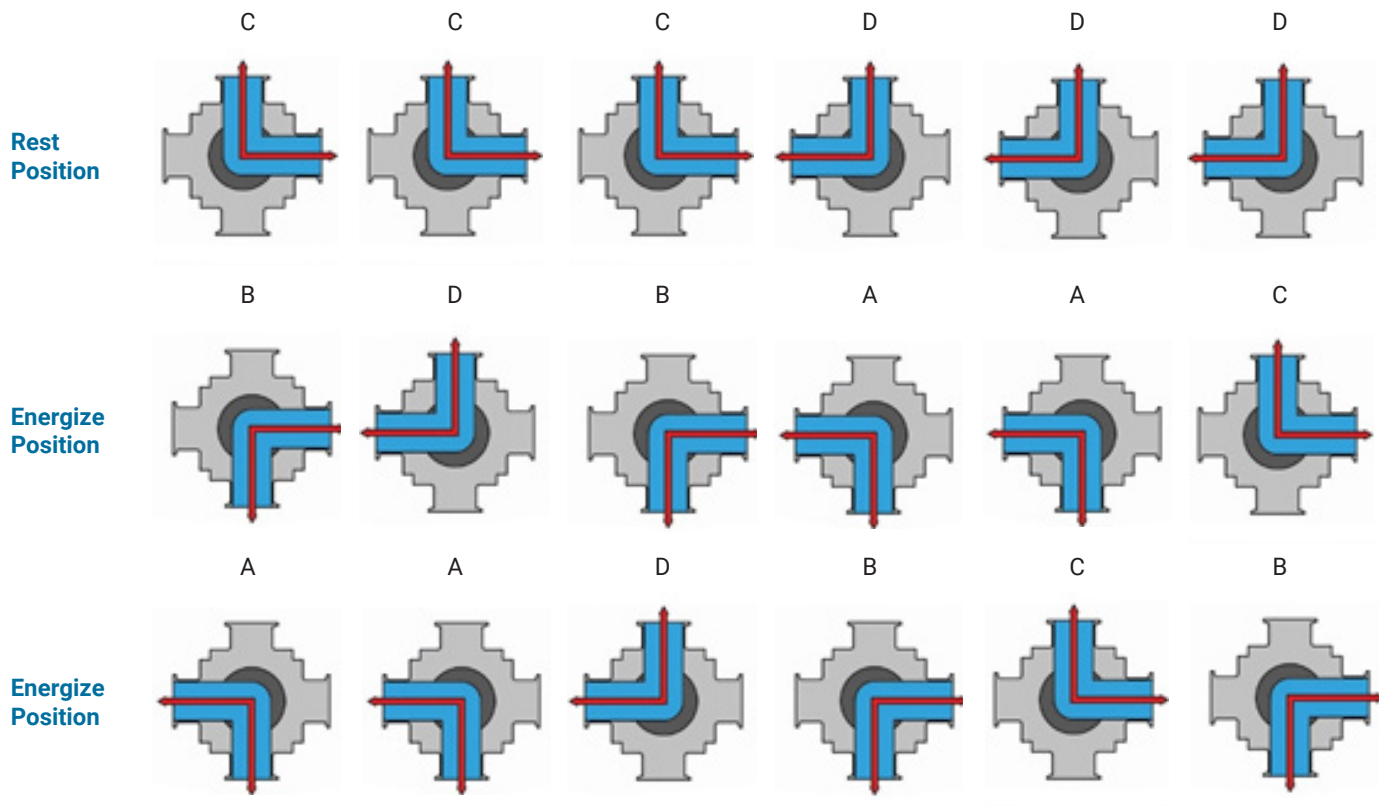
NOTE: 4-way, L-Port, Spring Return continued on the next page

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

4-Way | L-Port | Spring Return

Code	33	34	35	36	37	42
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	CCW	Both	CCW	Both	CW
Return	End	End	Center	End	Center	End

F



BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

4-Way | L-Port | Double Acting or Electric

Code	30	39	40	41
Rotation	180°	180°	180°	180°

A

B

A

B

Energize Position



B

A

C

C

Energize Position



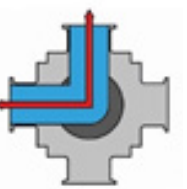
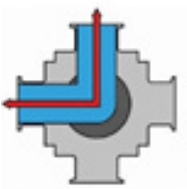
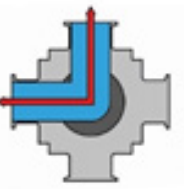
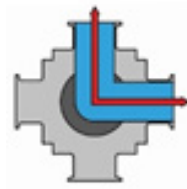
C

D

D

D

Energize Position



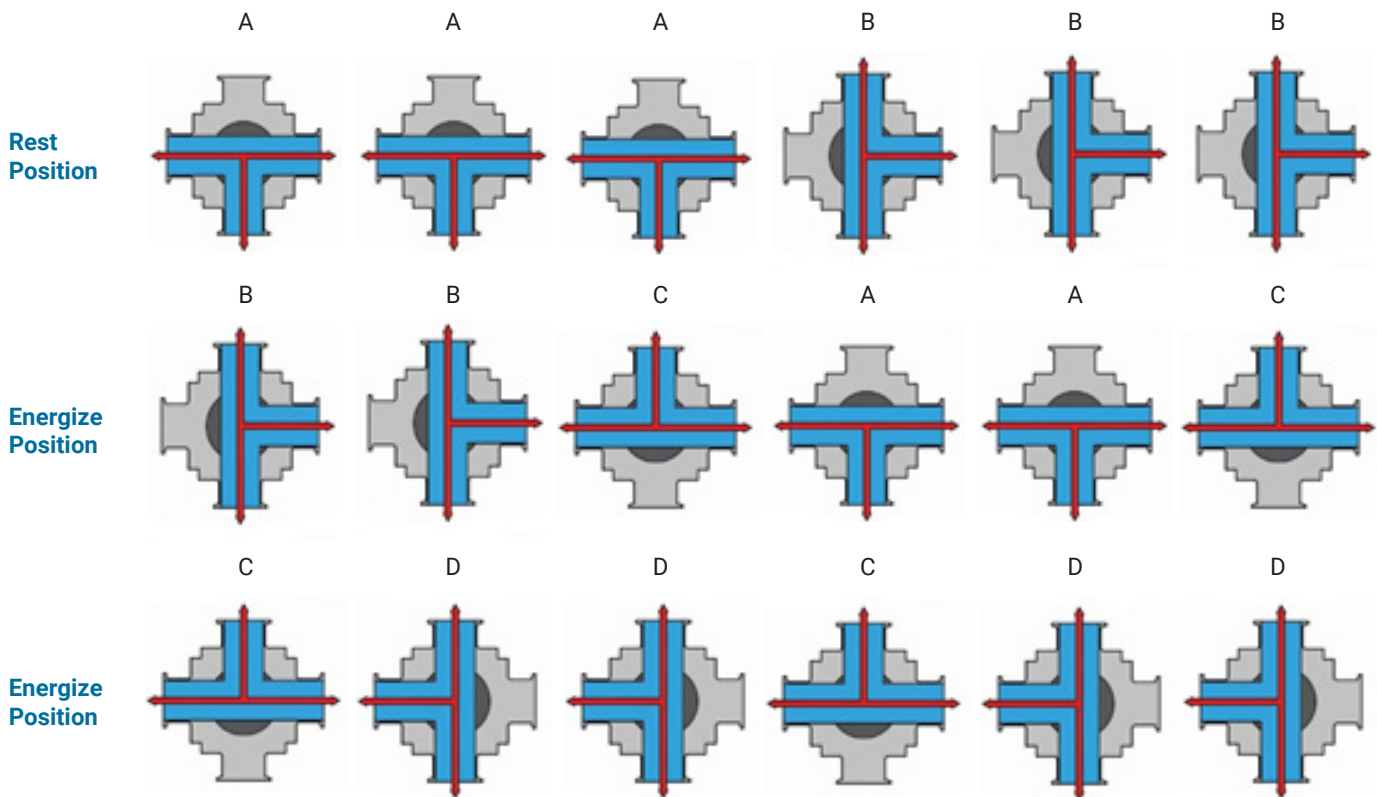
F

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

4-Way | T-Port | Spring Return

Code	26	43	27	28	14	32
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CCW	Both	CW	Both	CW	CCW
Return	End	Center	End	Center	End	End

F



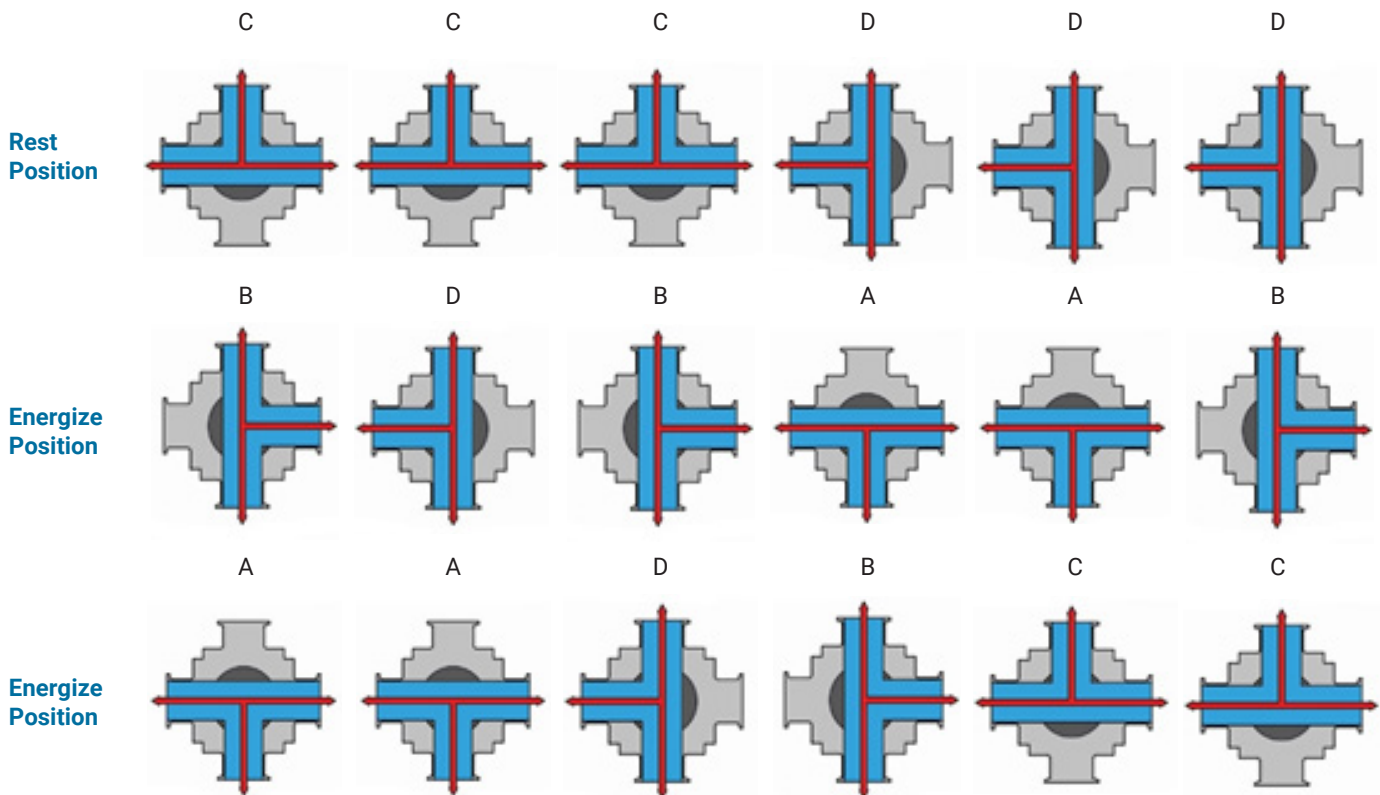
NOTE: 4-way, T-Port, Spring Return continued on the next page

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

4-Way | T-Port | Spring Return

Code	33	34	35	36	37	38
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	CCW	Both	CCW	Both	CW
Return	End	End	Center	End	Center	End

F



BV3S/4S-Series Sanitary Multi-Port Ball Valve - Flow Path Position Codes

4-Way | T-Port | Double Acting or Electric

Code	30	39	40	41
Rotation	180°	180°	180°	180°

F

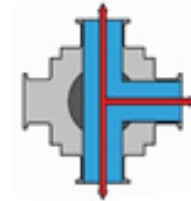
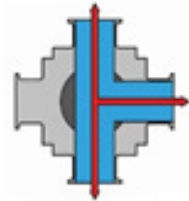
Energize Position

A

B

A

B



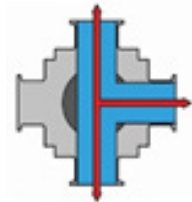
B

A

D

C

Energize Position



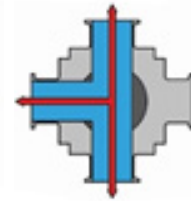
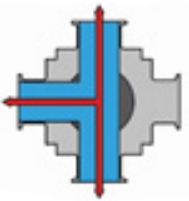
C

D

C

D

Energize Position



BV3S/4S-Series Sanitary Multi-Port Ball Valve - Break Torque (Actuated)

Part #	Size	Base Break Torque (in-lbs)		Flow Coefficient (C _v)			Vacuum Testing (Virgin PTFE Seals)		Weight (lbs)
		L	T	L	T (thru)	T (branched)	Body Leakage (atm-cc/sec)	Helium Leak Rate Test	
BV_S_050_	1/2"	48	45	3.5	5.3	3	1 x 10 ⁻⁹	10 ⁻⁵ Torr	3.6
BV_S_075_	3/4"	62	62	10	14	8			4.3
BV_S_100_	1"	84	79	20	30	14			6.8
BV_S_150_	1-1/2"	315	286	52	80	44			12.6
BV_S_200_	2"	789	595	100	150	83	1 x 10 ⁻⁷	10 ⁻⁴ Torr	21.6
BV_S_250_	2-1/2"	833	1090	148	176	108			33.7
BV_S_300_	3"	1303	1940	250	380	200			56.4
BV_S_R400_	4"	1453	2050	450	680	350			85.4

F

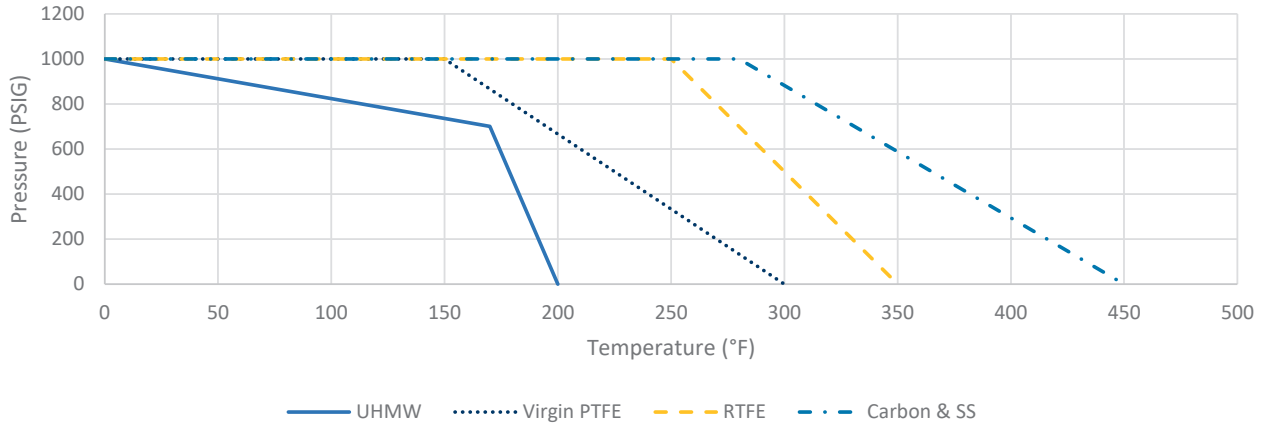
BV3S/4S-Series Actuated Ball Valve - Seat Multiplier

Code (Seat Material)	Material Torque Multiplier
U (UHMW)	0.9
V (Virgin PTFE)	1
G (15% Glass Reinforced RTFE)	1 (4" = 2.0)
C (25% Carbon Reinforced PTFE)	1.75
S (50% Stainless Steel Reinforced PTFE)	1.75

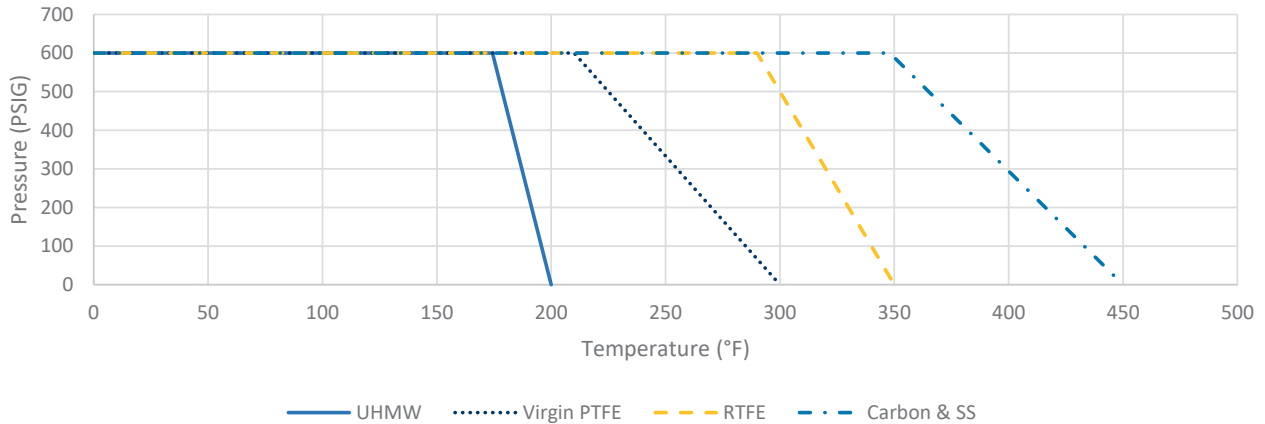
NOTE: 1) Base Break Torque * Material Torque Multiplier = Material Break Torque

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Pressure Temperature Charts

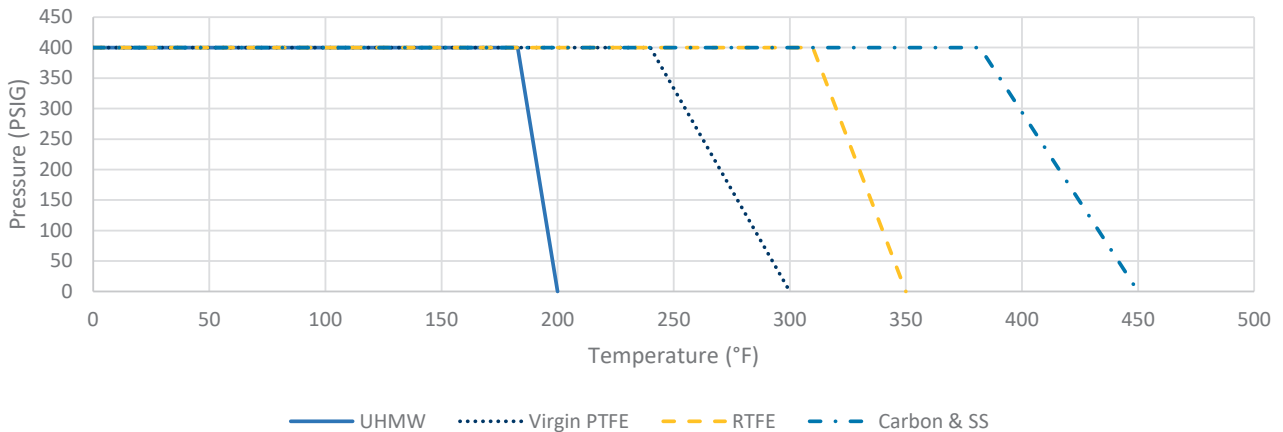
0.50 in & 0.75 in



1.00 in

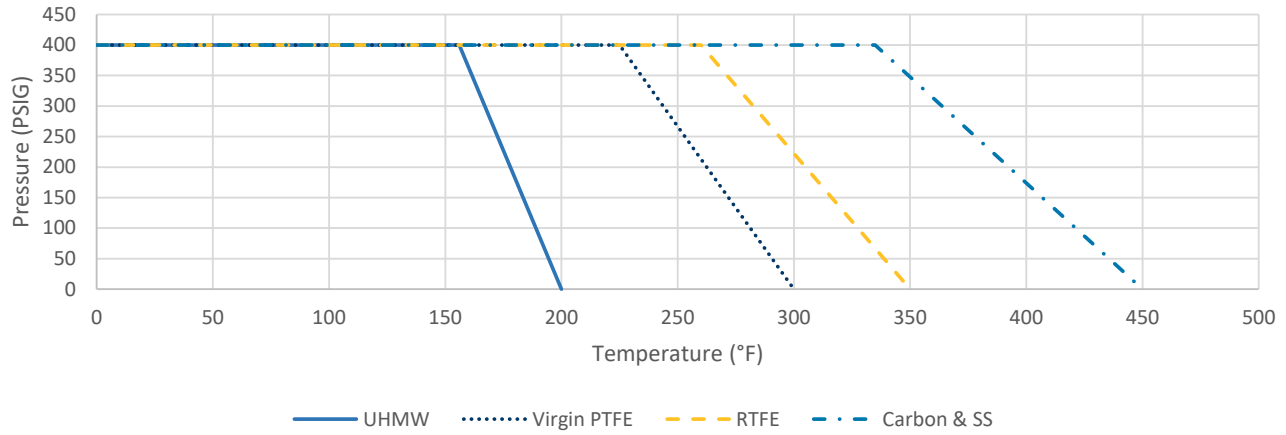


1.50 in & 2.00 in

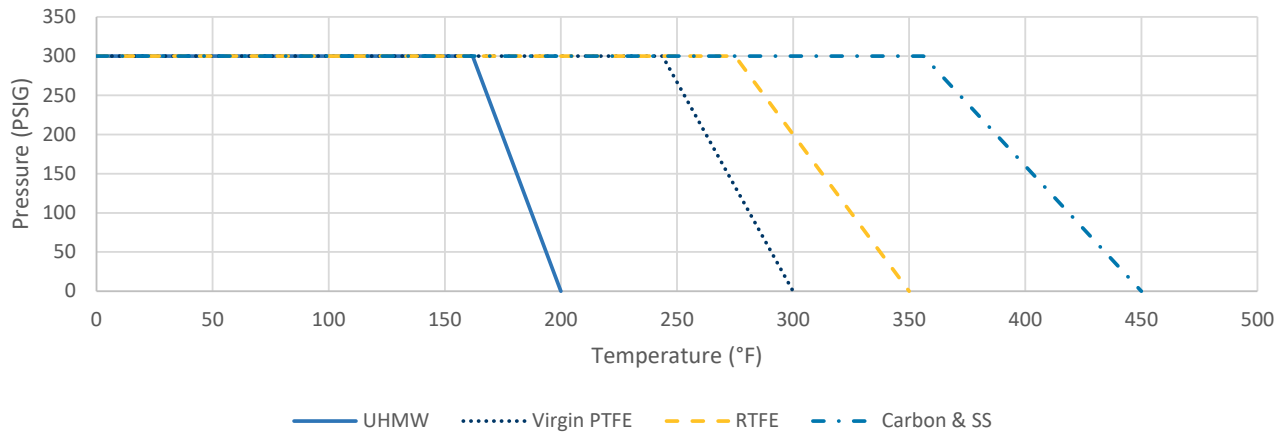


BV3S/4S-Series Sanitary Multi-Port Ball Valve - Pressure Temperature Charts

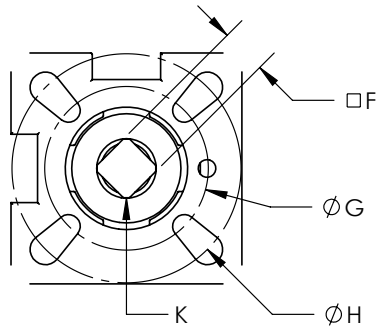
2.50 in & 3.00 in



4.00 in

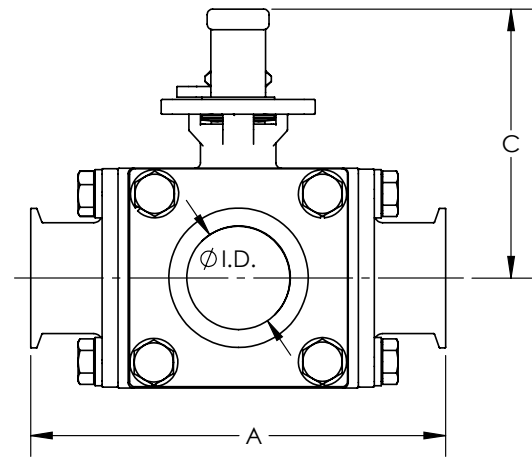
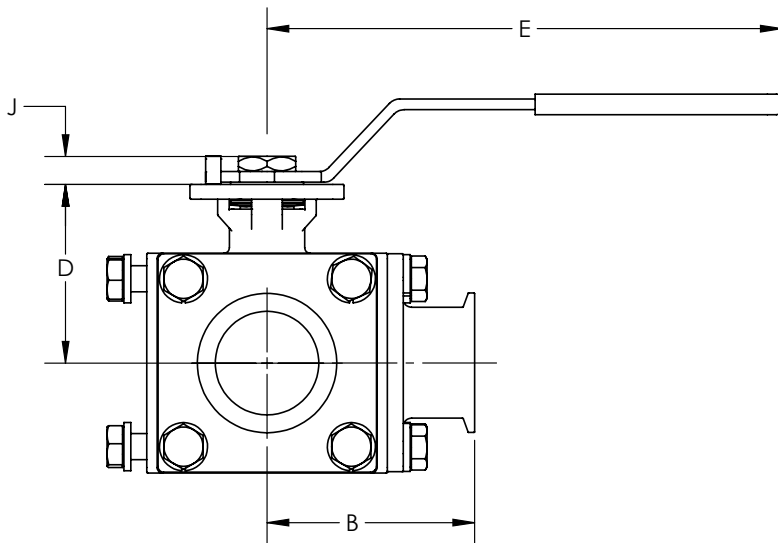


BV3S/4S-Series Sanitary Multi-Port Ball Valve - Dimensions



PAD DETAIL

F

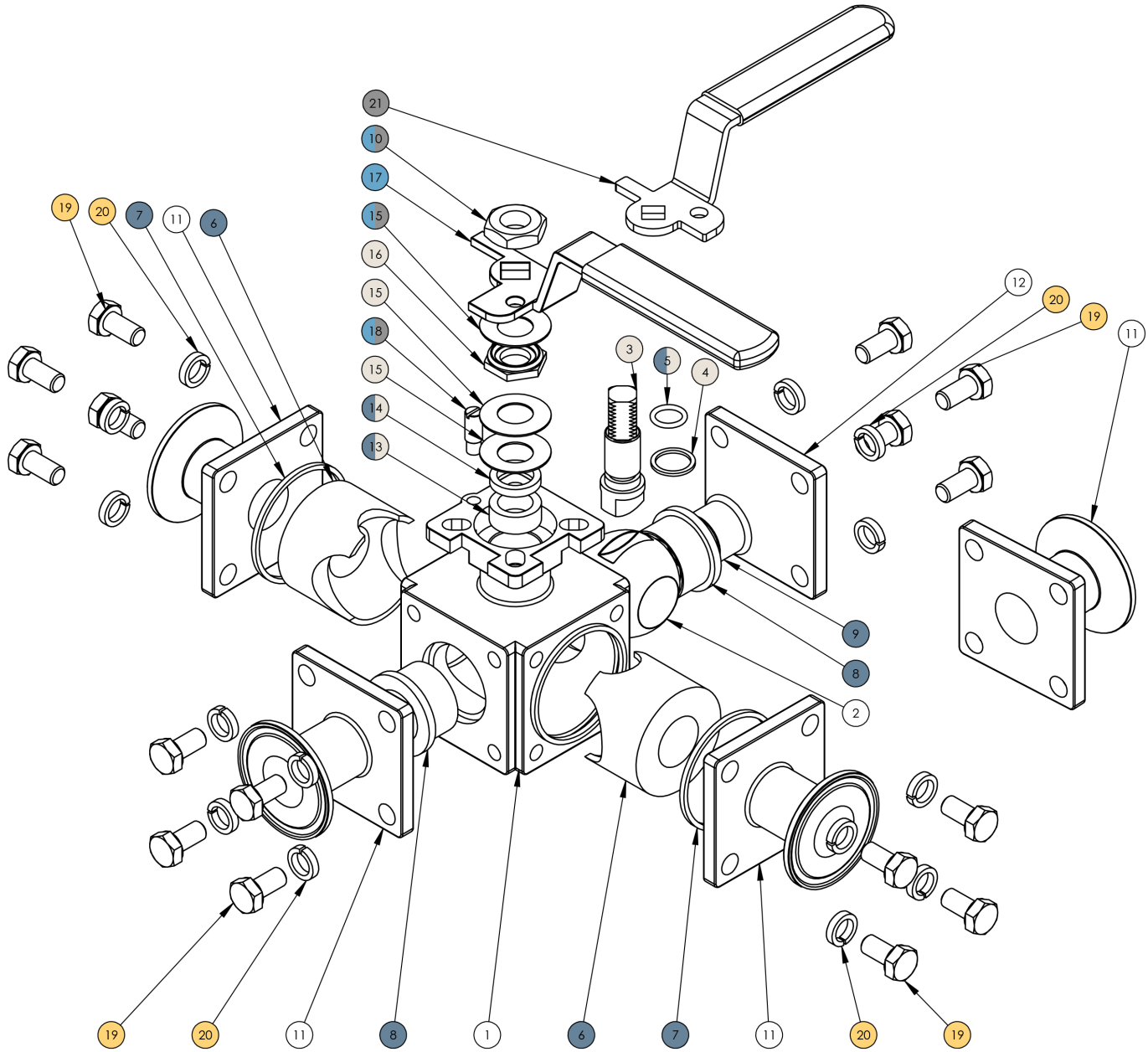


Size	A (in)	B (in)	C (in)	D (in)	E (in)	ID (in)	F (mm)	G (ISO 5211)	H (ISO 5211)	J (mm)	K (threads)
1/2"	4.6	2.3	3.3	1.7	4.9	0.37	9	F03	F04	9	M12 x 1.75
3/4"	5.0	2.5	3.5	1.9	4.9	0.62	9	F03	F04	10	M12 x 1.75
1"	6.0	3.0	3.8	2.3	5.4	0.87	11	F04	F05	12	M14 x 2
1-1/2"	6.9	3.4	4.5	2.9	9.3	1.37	14	F05	F07	12	M18 x 2.5
2"	7.5	3.7	4.9	3.2	9.3	1.87	14	F05	F07	14	M18 x 2.5
2-1/2"	8.4	4.5	5.3	3.9	18.0	2.37	17	F07	F10	17	M22 x 2.5
3"	9.6	5.1	6.5	4.9	18.3	2.87	22	F10	F12	24	1-1/8" x 12 UNF
4"	11.4	6.3	7.0	5.4	18.3	3.83	22	F10	F12	23	1-1/8" x 12 UNF

NOTE: Handle dimensions applicable for both 90° and 180° handles.






















BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials

1/2" to 1"



- Included in seat kit (page 191)
- Included in handle kit (page 191)
- Included in 180° handle kit (page 191)
- Included in stem kit (page 191)
- Included in bolt and nut kit (page 191) (3-way only)

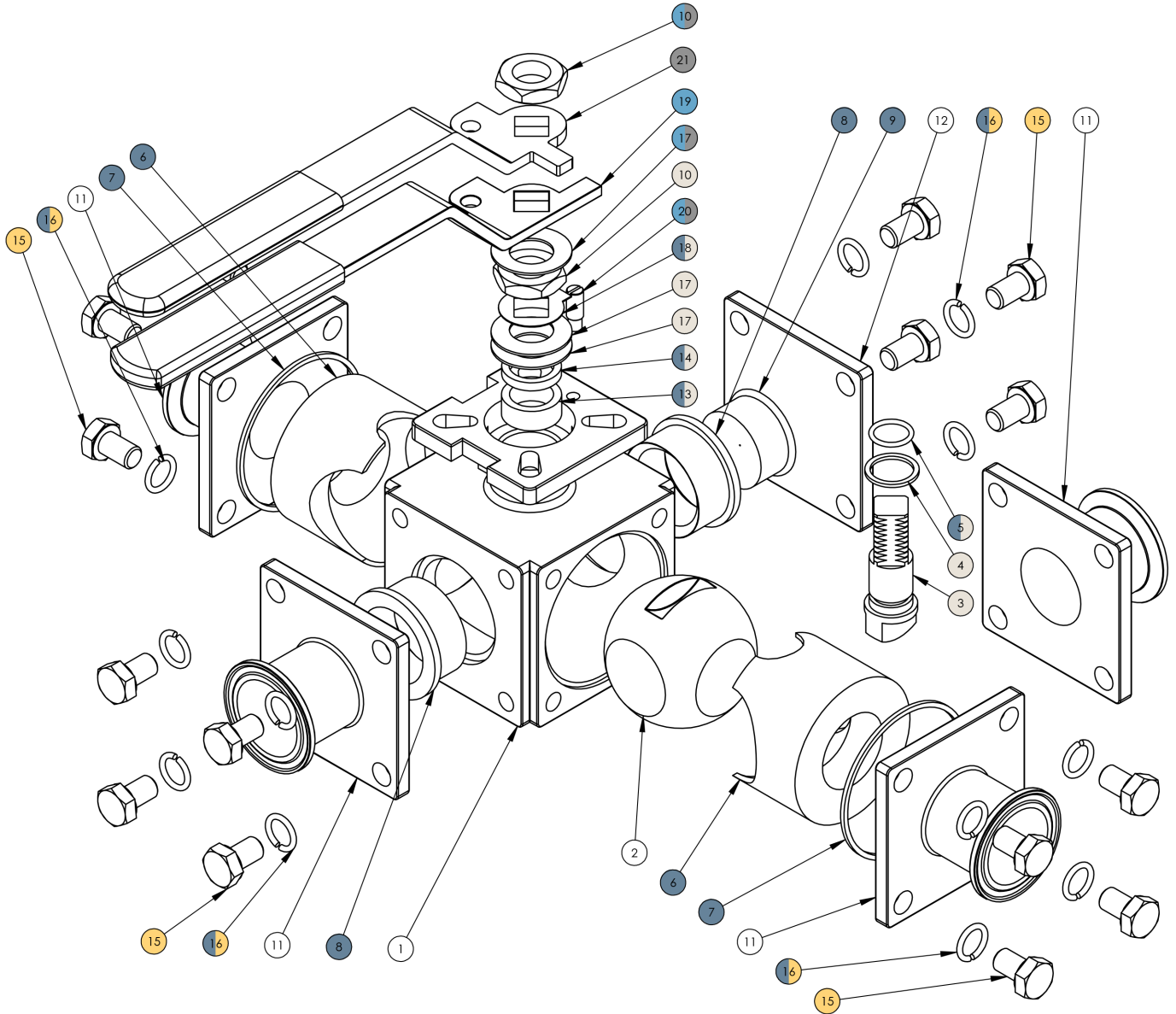
BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials (1/2" to 1")

Item #	Size	Part #	Description	Material	Qty			
					3-Way		4-Way	
					L-Port	T-Port	L-Port	T-Port
1	1/2"	BV3S-1050	body	CF8M	1	1	1	1
	3/4"	BV3S-1075	body	CF8M	1	1	1	1
	1"	BV3S-1100	body	CF8M	1	1	1	1
2	1/2"	BV-3SVFLB050	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB050	T-port ball	CF8M	-	1	-	1
	3/4"	BV-3SVFLB075	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB075	T-port ball	CF8M	-	1	-	1
	1"	BV-3SVFLB100	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB100	T-port ball	CF8M	-	1	-	1
3	all		stem	304 SS	1	1	1	1
4	all		gland ring	316 SS	1	1	1	1
5	all		stem O-ring	FKM	1	1	1	1
6	all		encapsulated seat	see repair kits	2	2	2	2
7	all		body seal	see repair kits	2	2	2	2
8	all		small encapsulated seat	see repair kits	2	2	2	2
9	all		plug	see repair kits	1	1	-	-
10	all		handle nut	304 SS	1	1	1	1
11	1/2"	BV-3SVFCE050	tri-clamp end	CF8M	3	3	4	4
	3/4"	BV-3SVFCE075	tri-clamp end	CF8M	3	3	4	4
	1"	BV-3SVFCE100	tri-clamp end	CF8M	3	3	4	4
12	1/2"	BV-3SVRCP050	cover plate	CF8M	1	1	-	-
	3/4"	BV-3SVRCP075	cover plate	CF8M	1	1	-	-
	1"	BV-3SVRCP100	cover plate	CF8M	1	1	-	-
13	1/2"		stem packing	see repair kits	1	1	1	1
	3/4"		stem packing	see repair kits	2	2	2	2
	1"		stem packing	see repair kits	3	3	3	3
14	all		thrust washer	see repair kits	1	1	1	1
15 ¹	all		bevel washer	304 SS	3	3	3	3
16	all		stem lock nut	304 SS	1	1	1	1
17	all		handle	304 SS/Vinyl	1	1	1	1
18	all		stop pin	304 SS	1	1	1	1
19	all		bolt	304 SS	16	16	16	16
20	all		lock washer	304 SS	16	16	16	16
21	1/2"		180° handle	304 SS	1	1	1	1
	3/4"		180° handle	304 SS	1	1	1	1
	1"		180° handle	304 SS	1	1	1	1

¹Top bevel washer is included in handle kit(s) and bottom two bevel washers are included in the stem kit.

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials


















1-1/2"



F

- Included in seat kit (page 191)
- Included in handle kit (page 191)
- Included in 180° handle kit (page 191)
- Included in stem kit (page 191)
- Included in bolt and nut kit (page 191) (3-way only)

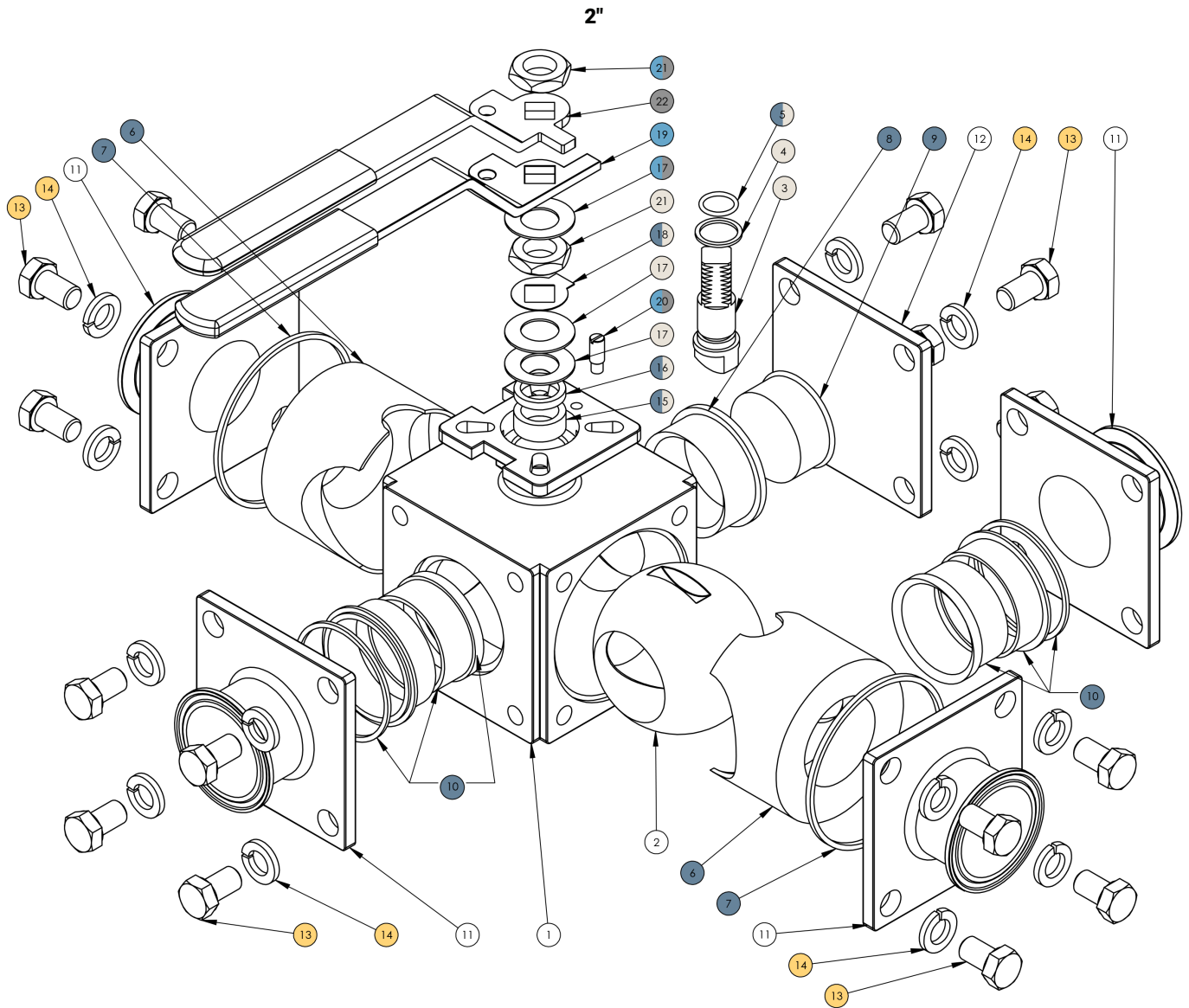
BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials (1-1/2")

Item #	Part #	Description	Material	Qty			
				3-Way		4-Way	
				L-Port	T-Port	L-Port	T-Port
1	BV3S-1150	body	CF8M	1	1	1	1
2	BV-3SVFLB150	L-port ball	CF8M	1	-	1	-
	BV-3SVFTB150	T-port ball	CF8M	-	1	-	1
3		stem	304 SS	1	1	1	1
4		gland ring	316 SS	1	1	1	1
5		stem O-ring	FKM	1	1	1	1
6		encapsulated seat	see repair kits	2	2	2	2
7		body seal	see repair kits	2	2	2	2
8		small encapsulated seat	see repair kits	2	2	2	2
9		plug	see repair kits	1	1	-	-
10 ¹		stem nut	304 SS	2	2	2	2
11	BV-3SVFCE150	tri-clamp end	CF8M	3	3	4	4
12	BV-3SVRCP150	cover plate	CF8M	1	1	-	-
13		stem packing	see repair kits	3	3	3	3
14		thrust washer	see repair kits	1	1	1	1
15		bolt	304 SS	16	16	16	16
16		lock washer	304 SS	16	16	16	16
17 ²		bevel washer	304 SS	3	3	3	3
18		tab washer	304 SS	1	1	1	1
19		handle	304 SS/Vinyl	1	1	1	1
20		stop pin	304 SS	1	1	1	1
21		180° handle	304 SS	1	1	1	1

¹Top stem nut is included in the handle kit(s) and bottom stem nut is included in the stem kit.



















²Top bevel washer is included in the handle kit(s) and bottom two bevel washers are included in the stem kit.

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials



- Included in seat kit (page 191)
- Included in handle kit (page 191)
- Included in 180° handle kit (page 191)
- Included in stem kit (page 191)
- Included in bolt and nut kit (page 191) (3-way only)

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials (2")

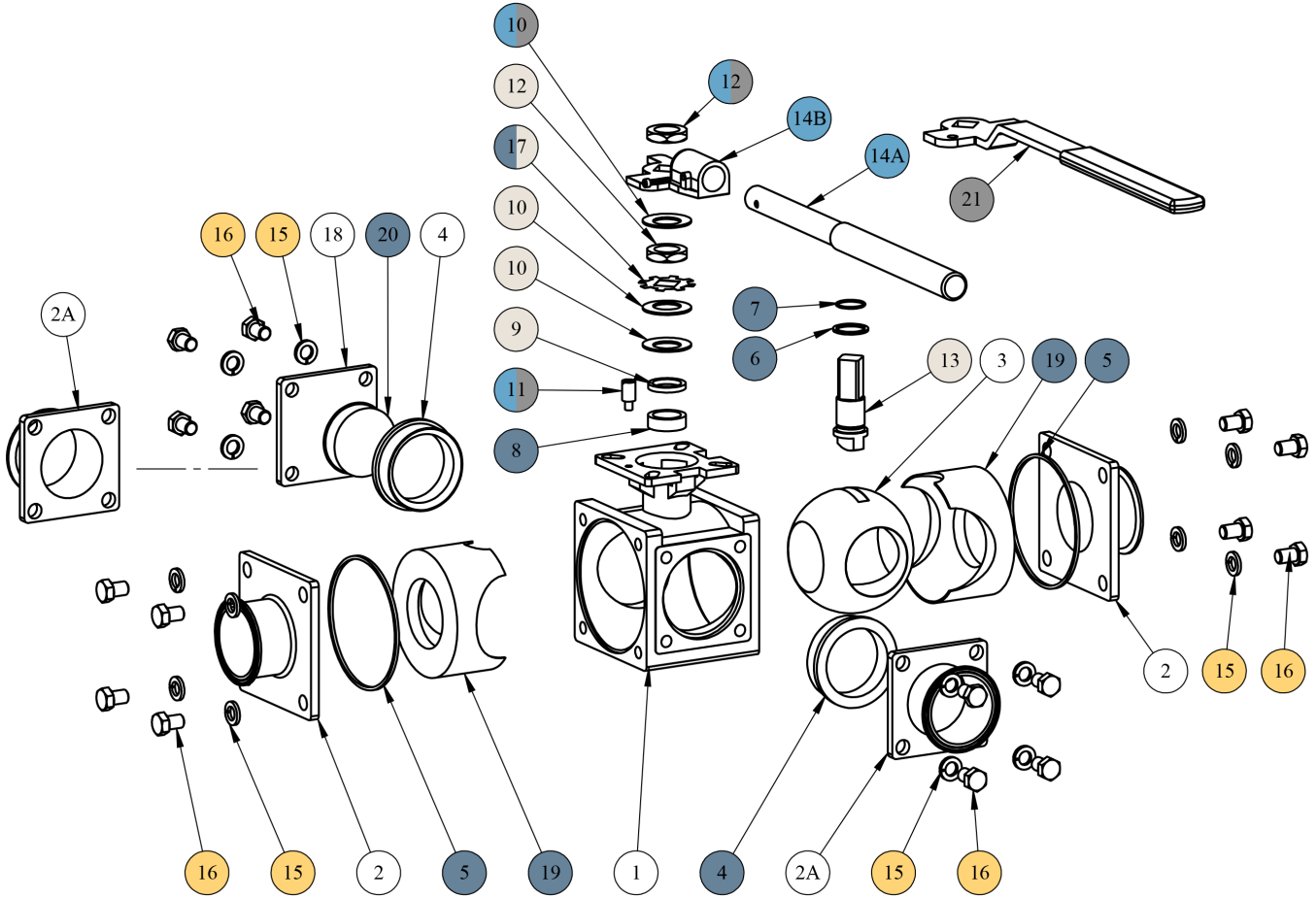
Item #	Part #	Description	Material	Qty			
				3-Way		4-Way	
				L-Port	T-Port	L-Port	T-Port
1	BV3S-1200	body	CF8M	1	1	1	1
2	BV-3SVFLB200	L-port ball	CF8M	1	-	1	-
	BV-3SVFTB200	T-port ball	CF8M	-	1	-	1
3		stem	304 SS	1	1	1	1
4		gland ring	316 SS	1	1	1	1
5		stem O-ring	FKM	1	1	1	1
6		encapsulated seat	see repair kits	2	2	2	2
7		body seal	see repair kits	2	2	2	2
8		small encapsulated plug seat	see repair kits	2	2	2	2
9		plug	see repair kits	1	1	-	-
10		small seat assembly (3 pcs)	see repair kits	1	1	2	2
11	BV-3SVFCE200	tri-clamp end	CF8M	3	3	4	4
12	BV-3SVRCP200	cover plate	CF8M	1	1	-	-
13		bolt	304 SS	16	16	16	16
14		lock washer	304 SS	16	16	16	16
15		stem packing	see repair kits	3	3	3	3
16		thrust washer	see repair kits	1	1	1	1
17 ¹		bevel washer	304 SS	3	3	3	3
18		tab washer	304 SS	1	1	1	1
19		handle	304 SS/Vinyl	1	1	1	1
20		stop pin	304 SS	1	1	1	1
21 ²		stem nut	304 SS	2	2	2	2
22		180° handle	304 SS	1	1	1	1

¹Top bevel washer is included in the handle kit(s) and bottom two bevel washers are included in the stem kit.

²Top stem nut is included in the handle kit(s) and bottom stem nut is included in the stem kit.

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials

























2-1/2" to 4"



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- Included in seat kit (page 191)
- Included in handle kit (page 191)
- Included in 180° handle kit (page 191)
- Included in stem kit (page 191)
- Included in bolt and nut kit (page 191) (3-way only)

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Bill of Materials (2-1/2" to 4")

Item #	Size	Part #	Description	Material	Qty			
					3-Way		4-Way	
					L-Port	T-Port	L-Port	T-Port
1	2-1/2"	BV3S-1250	body	CF8M	1	1	1	1
	3"	BV3S-1300	body	CF8M	1	1	1	1
	4"	BV3S-1400	body	CF8M	1	1	1	1
2	2-1/2"	BV-3SVFCL250	large tri-clamp end	CF8M	2	2	2	2
	3"	BV-3SVFCL300	large tri-clamp end	CF8M	2	2	2	2
	4"	BV-3SVFCL400	large tri-clamp end	CF8M	2	2	2	2
2A	2-1/2"	BV-3SVFCS250	small tri-clamp end	CF8M	1	1	2	2
	3"	BV-3SVFCS300	small tri-clamp end	CF8M	1	1	2	2
	4"	BV-3SVFCS400	small tri-clamp end	CF8M	1	1	2	2
3	2-1/2"	BV-3SVFLB250	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB250	T-port ball	CF8M	-	1	-	1
	3"	BV-3SVFLB300	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB300	T-port ball	CF8M	-	1	-	1
	4"	BV-3SVFLB400	L-port ball	CF8M	1	-	1	-
		BV-3SVFTB400	T-port ball	CF8M	-	1	-	1
4	all		small encapsulated seat	see repair kits	2	2	2	2
5	all		body seal	see repair kits	2	2	2	2
6	all		thrust washer	see repair kits	1	1	1	1
7	all		stem O-ring	FKM	1	1	1	1
8	all		stem packing	see repair kits	3	3	3	3
9	all		gland ring	316 SS	1	1	1	1
10 ¹	all	  	bevel washer	301 SS	3	3	3	3
11	all	 	stop pin	304 SS	1	1	1	1
12 ²	all	  	stem nut	304 SS	2	2	2	2
13	all		stem	304 SS	1	1	1	1
14A	all		handle	304 SS/Vinyl	1	1	1	1
14B	all		handle hub	CF3	1	1	1	1
15	all		lock washer	304 SS	16	16	16	16
16	all		bolt	304 SS	16	16	16	16
17	all	 	tab washer	304 SS	1	1	1	1
18	2-1/2"	BV-3SVRCP250	cover plate	CF8M	1	1	0	0
	3"	BV-3SVRCP300	cover plate	CF8M	1	1	0	0
	4"	BV-3SVRCP400	cover plate	CF8M	1	1	0	0
19	all		large encapsulated seat	see repair kits	2	2	2	2
20	all		plug	see repair kits	1	1	-	-
21	all		180° handle	304 SS	1	1	1	1

¹Top bevel washer is included in the handle kit(s) and bottom two bevel washers are included in the stem kit.

²Top stem nut is included in the handle kit(s) and bottom stem nut is included in the stem kit.

BV3S/4S-Series Sanitary Multi-Port Ball Valve - Repair Kits

Seat Kits

Size	Material				
	Virgin PTFE	RTFE	25% Carbon PTFE	50% Stainless Steel PTFE	UHMW
1/2"	BV-3SVFRK050	BV-3SGRK050	BV-3SCRK050	BV-3SSRK050	BV-3SURK050
3/4"	BV-3SVFRK075	BV-3SGRK075	BV-3SCRK075	BV-3SSRK075	BV-3SURK075
1"	BV-3SVFRK100	BV-3SGRK100	BV-3SCRK100	BV-3SSRK100	BV-3SURK100
1-1/2"	BV-3SVFRK150	BV-3SGRK150	BV-3SCRK150	BV-3SSRK150	BV-3SURK150
2"*	BV-3SVFRK200	BV-3SGRK200	BV-3SCRK200	BV-3SSRK200	BV-3SURK200
2-1/2"	BV-3SVFRK250	BV-3SGRK250	BV-3SCRK250	BV-3SSRK250	BV-3SURK250
3"	BV-3SVFRK300	BV-3SGRK300	BV-3SCRK300	BV-3SSRK300	BV-3SURK300
4"	BV-3SVRRK400	BV-3SGRK400	BV-3SCRK400	BV-3SSRK400	BV-3SURK400

*The 3-piece small assembly (2" only) contains (2) seat material components and (1) 316L stainless steel ring.

Handle Kits

Size	90° Part #	180° Part #
1/2"	BV-23-HA050-075	BV-3-HA18-9
3/4"		
1"	BV-23-HA100	BV-3-HA18-11
1-1/2"	BV-23-HA150-200	BV-3-HA18-14
2"		
2-1/2"	BV-23-HA-17	BV-3-HA18-17
3"	BV-23-HA-22	BV-3-HA18-22
4"		

Stem Kits

Size	Part #	
	L Port	T Port
1/2"	BV3SV-SML-050	BV3SV-SMT-050
3/4"	BV3SV-SML-075	BV3SV-SMT-075
1"	BV3SV-SML-100	BV3SV-SMT-100
1-1/2"	BV3SV-SML-150	BV3SV-SMT-150
2"	BV3SV-SML-200	BV3SV-SMT-200
2-1/2"	BV3SV-SML-250	BV3SV-SMT-250
3"	BV3SV-SML-300	BV3SV-SMT-300
4"	BV3SV-SML-400	BV3SV-SMT-400

Bolt and Washer Kit (3-way only)

Size	Part #
1/2"	BV-3X-BN050
3/4"	BV-3X-BN075
1"	BV-3X-BN100
1-1/2"	BV-3X-BN150
2"	BV-3X-BN200
2-1/2"	BV-3X-BN250
3"	BV-3X-BN300
4"	BV-3X-BN400

BV2I-Series Industrial Ball Valve

The BV2I valve is a full port valve and available with a manual handle, pneumatic or electric actuator and a variety of control options.

Used in oil, water, and gas applications when you need a valve for isolation or control of the flow of a product. They are found in the industrial market and in the sanitary process markets on the non-process side where there is not product contact.

Sizes

- 1/4", 3/8", 1/2", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 4"

Features

- Blow-out proof stem design
- Live-loaded stem packing
- ISO 5211 mounting pad
- 3-piece design allows for ball and seat replacement without having to remove the valve from the line
- Self centering valve ends
- Anti-static stem

Materials

- Product contact metal components: CF8M stainless steel
- Non-product contact metal components: 316 stainless steel
- Product contact seals: RTFE or 25% carbon PTFE

Specifications

- Standard connections:
 - FNPT, schedule 5/10 socket weld
- Valve data
 - Maximum pressure:
 - 1/4" to 2": **1000 PSI WOG**
 - 2-1/2" to 3": **800 PSI WOG**
 - 4": **600 PSI WOG**
 - Operating pressure range: **-20°F to 400 °F (-28°C to 200°C)**
- Actuator data
 - ISO 5211 mounting pad connection (see chart on page 3)
- Surface finish
 - Product contact metal components: ≤ 32 Ra
 - Seat lubricant: BESSIL F-100



BV2I-Series Industrial Ball Valve - ISO 5211 Mounting Pad Connection Chart

Size	ISO 5211 Mounting Pad Connections		Stem Width (mm)	Stem Height (mm)
1/4"	F03	F04	9	9
3/8"	F03	F04	9	10
1/2"	F03	F04	9	10
3/4"	F03	F04	9	11
1"	F04	F05	11	12.5
1-1/4"	F04	F05	11	14
1-1/2"	F05	F07	14	17
2"	F05	F07	14	17
2-1/2"	F07	F10	17	18.5
3"	F07	F10	17	18.5
4"	F07	F10	17	21



BV2I-Series Industrial Ball Valve - Weight and Break Torque Chart

Part #	Size	Base Break Torque (in-lbs)	Flow Coefficient (Cv)	Weight (lbs)
BV2I_025_	1/4"	17	8.1	1.00
BV2I_038_	3/8"	18	14	1.10
BV2I_050_	1/2"	50	26	1.26
BV2I_075_	3/4"	57	51	1.57
BV2I_100_	1"	115	68	2.27
BV2I_125_	1-1/4"	186	120	3.44
BV2I_150_	1-1/2"	220	170	5.51
BV2I_200_	2"	405	376	7.58
BV2I_250_	2-1/2"	452	510	14.11
BV2I_300_	3"	1020	996	24.69
BV2I_400_	4"	1180	1893	48.50

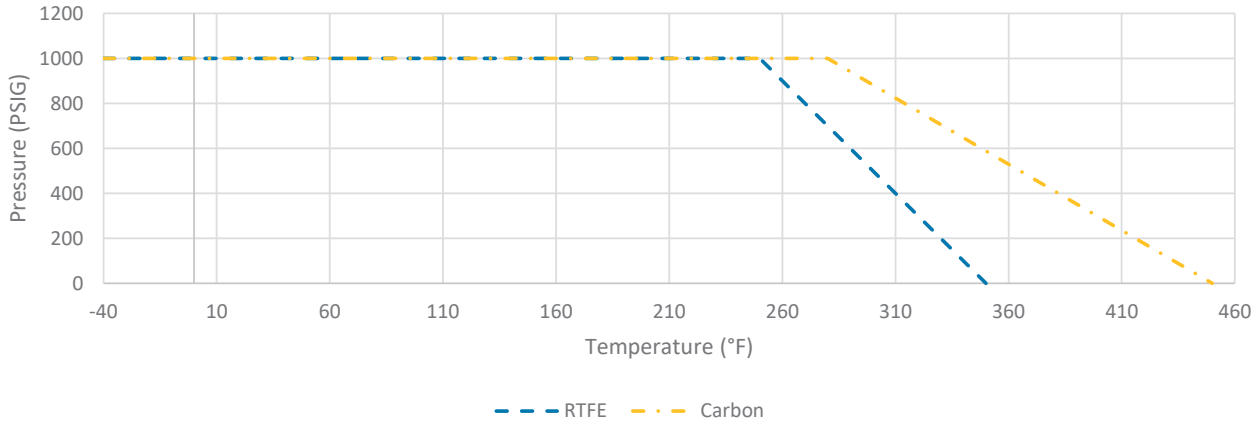
BV2I-Series Ball Valve - Seat Material

Code (Seat Material)	Material Torque Multiplier
GN (15% Glass Reinforced RTFE)	1
CN (25% Carbon Reinforced PTFE)	1.25

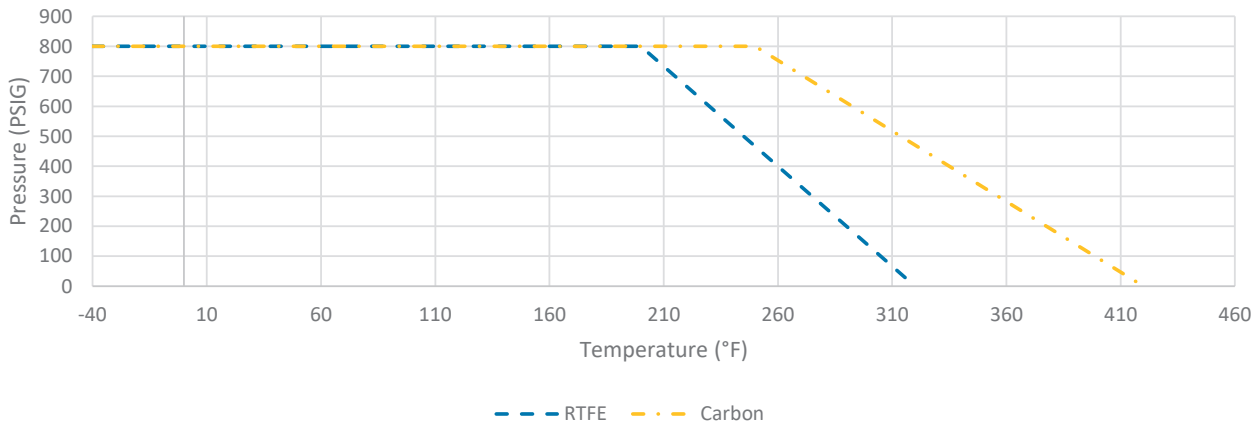
NOTE: 1) Base Break Torque * Material Torque Multiplier = Material Break Torque

BV2I-Series Industrial Ball Valve - Pressure Temperature Charts

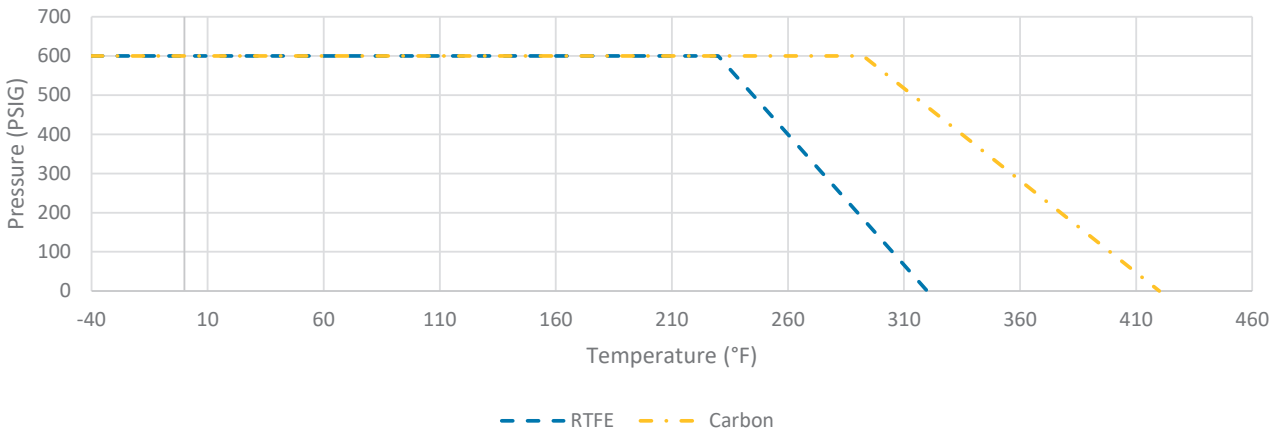
0.25 in - 2.00 in



2.50 in & 3.00 in



4.00 in



BV2I-Series Industrial Ball Valve - Part Number Key

BV2I-Series Industrial Ball Valve Part Number Key Example: BV2IGN02511-A		Series	Seat Material	Valve Size	Connection End	Connection End	Handle
		BV2I	GN	025	1	1	- A
Series	Code						
BV2I	BV2I						
Seat Material	Code						
15% glass reinforced PTFE (standard)	GN						
25% carbon reinforced PTFE	CN						
Valve Size	Code						
1/4"	025						
3/8"	038						
1/2"	050						
3/4"	075						
1"	100						
1-1/4"	125						
1-1/2"	150						
2"	200						
2-1/2"	250						
3"	300						
4"	400						
Connection End	Code						
Female NPT	1						
Socket weld	3						
Handle	Code						
Manual handle (standard)	A						
No handle (actuation)	blank						

F

Industrial 2-Way Actuated Ball Valve Part Number Key Example: 2IG0311XX00XX1		Series	Seat Material	Size	Connections
		2I	G	03	1
Series	Code				
Stainless steel 3-piece body, non-encapsulated	2I				
Seat Material	Code				
RTFE (15% glass reinforced PTFE)	G				
25% carbon reinforced PTFE	C				
Size	Code				
1/4"	03				
3/8"	04				
1/2"	50				
3/4"	75				
1"	10				
1-1/4"	13				
1-1/2"	15				
2"	20				
2-1/2"	25				
3"	30				
4"	40				
Connections	Code				
Female NPT	1				
Socket weld	3				

NOTE: Continue part number selection by following column 1 or 2 on page 202.

BV2I-Series Industrial Ball Valve (Actuated)

1. Pneumatic Actuator or Spring Return Manual Handle					2. Electric Actuator			
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2
1	XX	00	XX	1	E	B	1	1
Actuator				Code	Actuator			Code
Aluminum spring return pneumatic rack and pinion				1	Electric			E
Aluminum double acting pneumatic rack and pinion				2	Oversized (1-UP) electric			F
Stainless steel spring return pneumatic rack and pinion				3	Nema 7 electric			G
Stainless steel double acting pneumatic rack and pinion				4	Electric with riser kit			H
Dead man spring return handle				6	Voltage			Code
Technopolymer spring return pneumatic rack and pinion				7	115VAC			B
Actuator Options				Code	12VDC			C
None				XX	24VAC			D
Oversized (1-UP)				AA	24VDC			E
Actuator mounted perpendicular to flow				AB	220VAC			F
High temp FKM elastomers				AC	12VAC			G
Extended travel stops				AD	Option 1			Code
Riser kit				AE	None			1
Feedback				Code	Torque switches			2
None				00	4-20mA input/output modulating controller			3
Limit switch box, OPEN/CLOSE beacon, (2) SPDT mechanical switches				11	Current position transmitter			4
Limit switch box, OPEN/CLOSE beacon, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULus Class 1/2 Div 1/2				12	Potentiometer			5
Limit switch box, OPEN/CLOSE beacon, AS-I				13	Local control unit			6
Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, aluminum Exd IIB certified enclosure				14	Two extra travel cams and switches			7
Limit switch box, OPEN/CLOSE beacon, (2) DPDT mechanical switches				15	Three position cam set			8
Limit switch box, OPEN/CLOSE beacon, (2) switches, electro mechanical SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1				16	Local control unit with lock			9
Limit switch box, OPEN/CLOSE beacon, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO				17	1-5V input/2-10V output modulating controller			A
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter				18	2-10V input/output modulating controller			B
Limit switch box, OPEN/CLOSE beacon, SPDT proximity, 0.25A @ 120VAC, 0.416A @ 48VDC, resistive				19	75% duty cycle			C
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter + 2 SPDT mechanical switches				20	Relay			D
Stainless steel limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches				21	Four position cam set			E
					25% duty cycle (actuator Code G only)			F
					75% duty cycle (actuator Code G only)			G

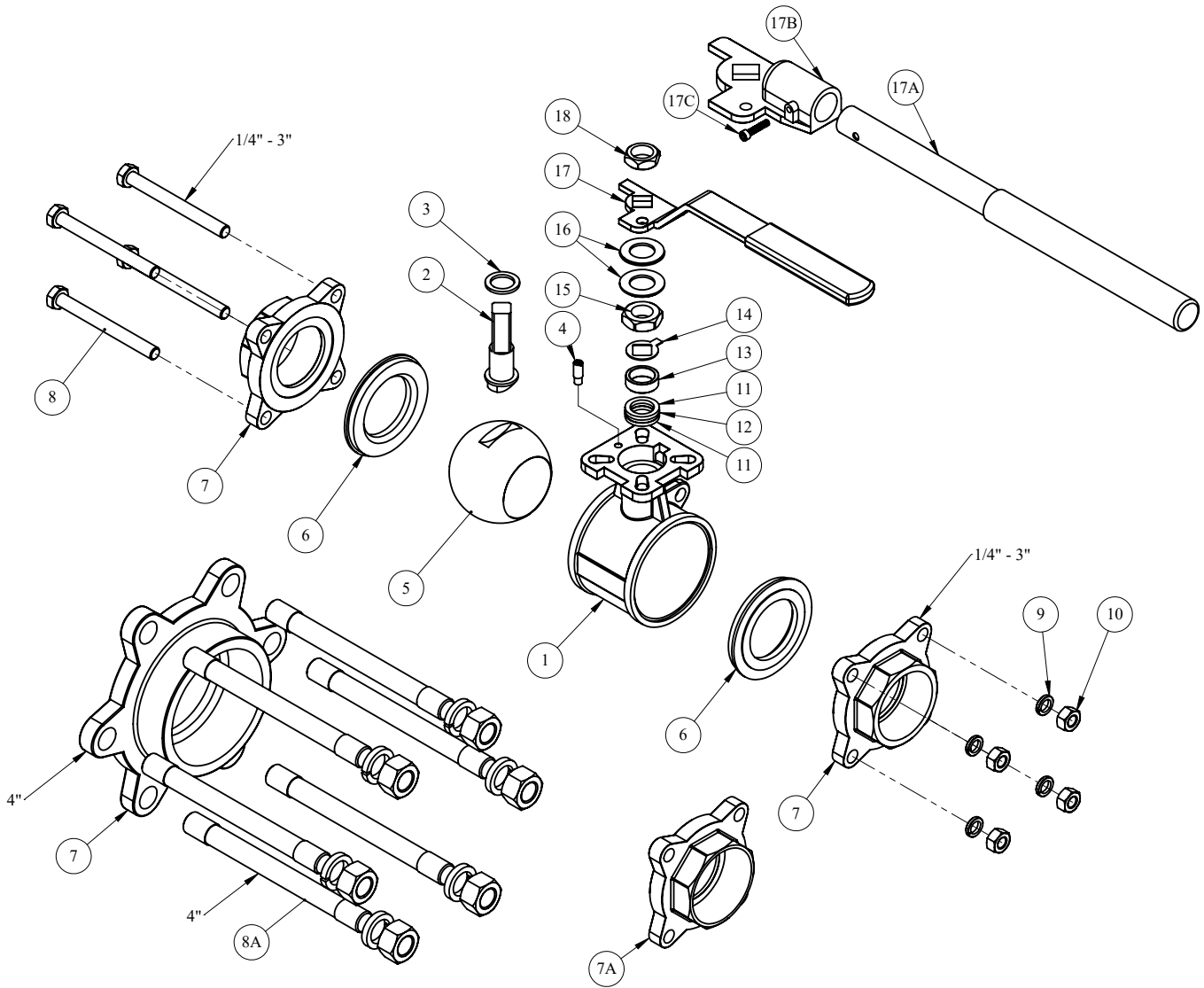
BV2I-Series Industrial Ball Valve (Actuated)

Control	Code	Option 2	Code
None	XX	None	1
Single coil solenoid, 120VAC	AA	Torque switches	2
Single coil solenoid, 24VDC	AB	4-20mA input/output modulating controller	3
Single coil solenoid, 12VDC	AC	Current position transmitter	4
Single coil solenoid, 220VAC	AD	Potentiometer	5
Dual coil solenoid, 120VAC	AE	Local control unit	6
Dual coil solenoid, 24VDC	AF	Two extra travel cams and switches	7
Dual coil solenoid, 220VAC	AG	Three position cam set	8
Pneumatic positioner 3-15psi input, no feedback	AH	Local control unit with lock	9
Pneumatic positioner 3-15psi input, (2) SPDT mechanical switches for feedback	AI	1-5V input/2-10V output modulating controller	A
Pneumatic positioner 3-15psi input, 4-20mA for feedback	AJ	2-10V input/output modulating controller	B
Electropneumatic positioner 4-20mA input, no feedback	AK	75% duty cycle	C
Electropneumatic positioner 4-20mA input, (2) SPDT mechanical switches for feedback	AL	Relay	D
Electropneumatic positioner 4-20mA input, 4-20mA for feedback	AM	Four position cam set	E
Electropneumatic positioner 0-10v input, no feedback	AN	25% duty cycle (actuator Code G only)	F
Electropneumatic positioner 0-10v input, (2) SPDT mechanical switches for feedback	AO	75% duty cycle (actuator Code G only)	G
Electropneumatic positioner 0-10v input, 4-20mA for feedback	AP		
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	AQ		
Electropneumatic positioner 4-20mA input, no feedback, Class 1, Div II explosion proof	AR		
Single coil solenoid, 24VDC and 24V Banjo solenoid valve with Form B plug	AS		
Single coil solenoid, 24VDC, AS-I, 2.5W low power	AT		
Single coil solenoid, 24VDC, intrinsically safe	AU		
Single coil solenoid, 120VAC, explosion proof, Class H coil	AV		
Single coil solenoid, 24VDC, explosion proof, Class H coil	AW		
Single coil solenoid, 24VAC	AX		
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, Class 1, Div II explosion proof	AY		
Single coil solenoid, 24VDC, molded LED, ind. form, 2M Leads	AZ		
TUFRAM coated electropneumatic positioner 4-20mA input, no feedback	BA		
V200 rotary pneumatic positioner, (2) REED SWITCH feedback	BB		
Single coil solenoid, 24VDC, pre-wired to limit switch with CORDSET (dual keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)	BC		
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P male connector	BD		
Valve Operation	Code		
Normally closed (spring return)	1		
Normally open (spring return)	2		
Fail in place (double acting)	3		

F

BV2I-Series Industrial Ball Valve - Bill of Materials

F



BV2I-Series Industrial Ball Valve - Bill of Materials

Item #	Description	Material	Qty		
			1/4" to 2"	2-1/2" to 3"	4"
1	body	CF8M		1	
2	stem	316 SS		1	
3	thrust washer	G or C		1	
4	stopper	304 SS		1	
5	ball	316 SS		1	
6	seat	G or C		2	
7	end (FNPT)	CF8M		2	
7A	end (socket weld)	CF8M		2	
8	body bolt	304 SS	4		N/A
8A	body bolt	304 SS	N/A		6
9	body washer	304 SS	4		12
10	body nut	304 SS	4		12
11	stem packing	G or C		2	
12	O-ring	Silicone		1	
13	gland bushing	304 SS		1	
14	tap washer	304 SS		1	
15	gland nut	304 SS		1	
16	spring washer	304 SS		1	
17	handle	304 SS/plastic	1		N/A
17A	handle rod	304 SS/plastic	N/A		1
17B	handle hub	304 SS	N/A		1
17C	hub bolt	304 SS	N/A		1
18	handle nut	304 SS		1	

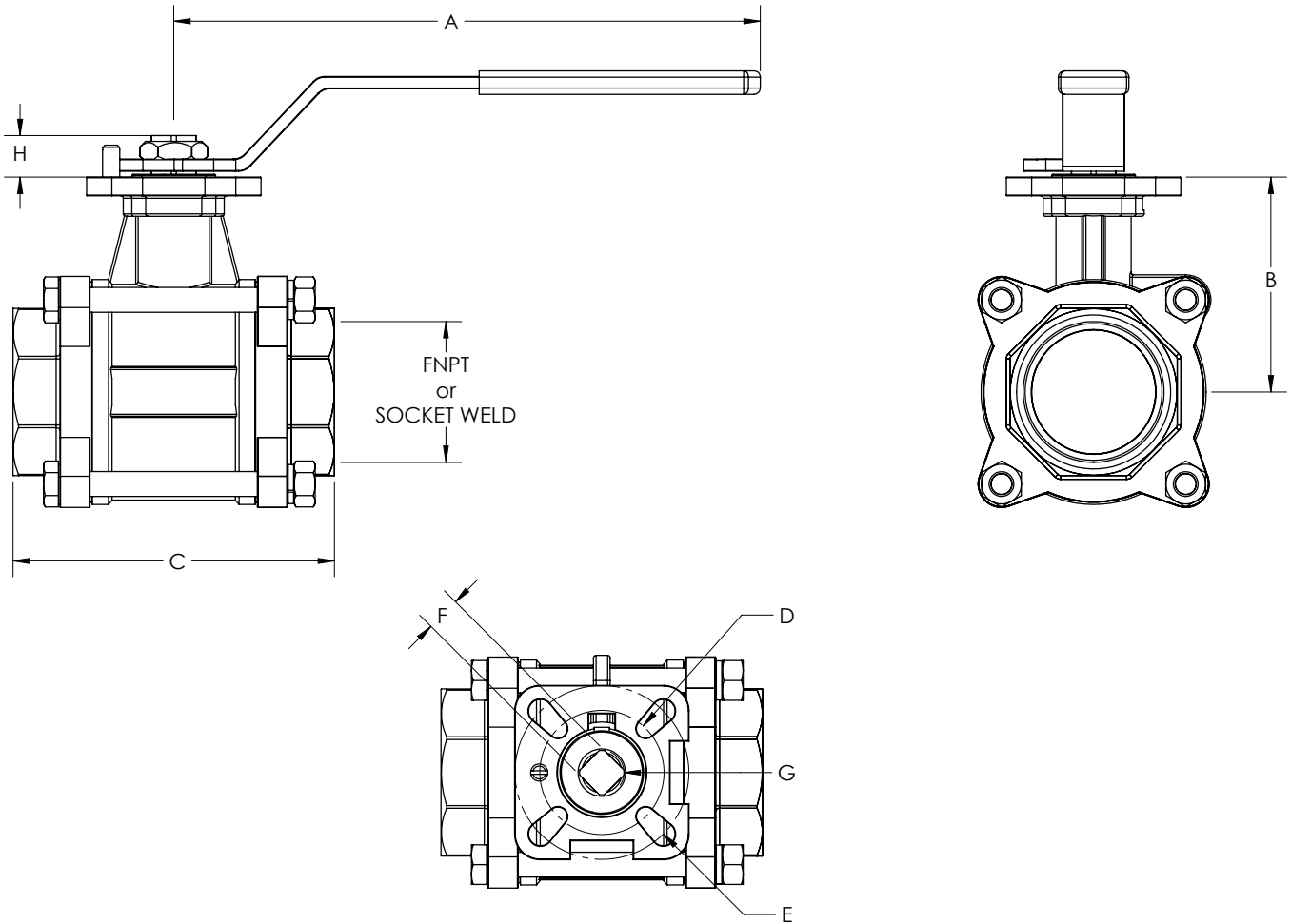
F

BV2I-Series Ball Valve - Repair Kits

Item #	Description	Qty
3	thrust washer	1
6	seat	2
11	stem packing	*
12	O-ring	1

* 1/2" - 2": qty 2
 2-1/2": qty 3
 3" - 4": qty 4

BV2I-Series Industrial Ball Valve - Dimensions

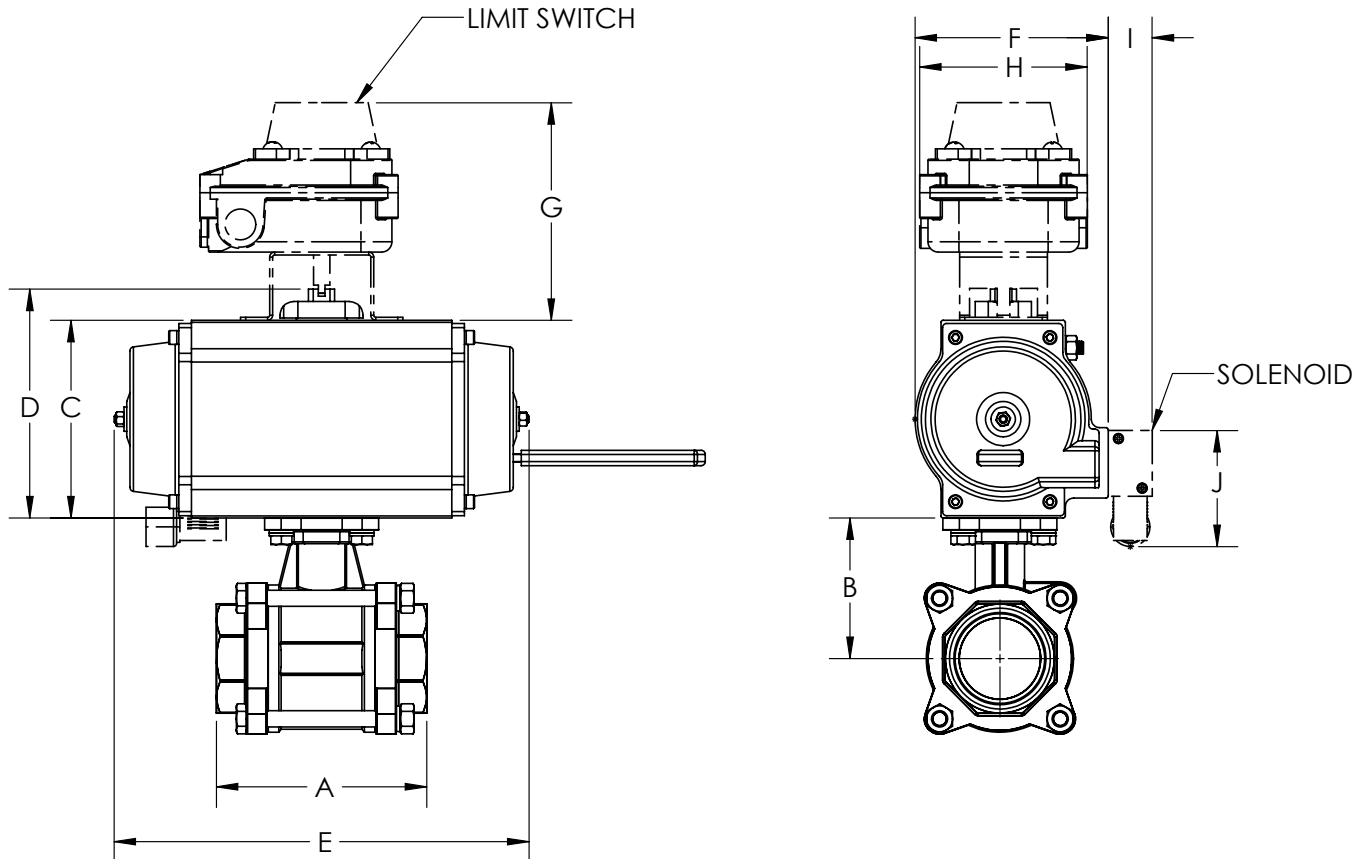


F

Size	A	B	C	D	E	F (mm)	G (threads)	H (mm)	FNPT	Socket Weld
1/4"	4.72	1.52	2.51	F03	F04	9	M12 x 1.75	9	0.25	N/A
3/8"	4.72	1.52	2.51	F03	F04	9	M12 x 1.75	10	0.38	0.71
1/2"	4.72	1.67	2.84	F03	F04	9	M12 x 1.75	10	0.50	0.88
3/4"	4.72	1.91	3.11	F03	F04	9	M12 x 1.75	11	0.75	1.09
1"	5.35	2.17	3.29	F04	F05	11	M14 x 2	12	1.00	1.35
1-1/4"	5.35	2.35	4.14	F04	F05	11	M14 x 2	14	1.25	1.70
1-1/2"	9.17	2.77	4.41	F05	F07	14	M18 x 2.5	17	1.50	1.94
2"	9.17	3.38	5.13	F05	F07	14	M18 x 2.5	17	2.00	2.44
2-1/2"	17.32	4.29	6.64	F07	F10	17	M22 x 2.5	18	2.50	3.01
3"	17.32	4.67	7.34	F07	F10	17	M22 x 2.5	18	3.00	3.52
4"	17.32	4.54	8.88	F07	F10	17	M22 x 2.5	21	4.00	4.52

BV2I-Series Industrial Ball Valve - Dimensions

Actuated Spring Return

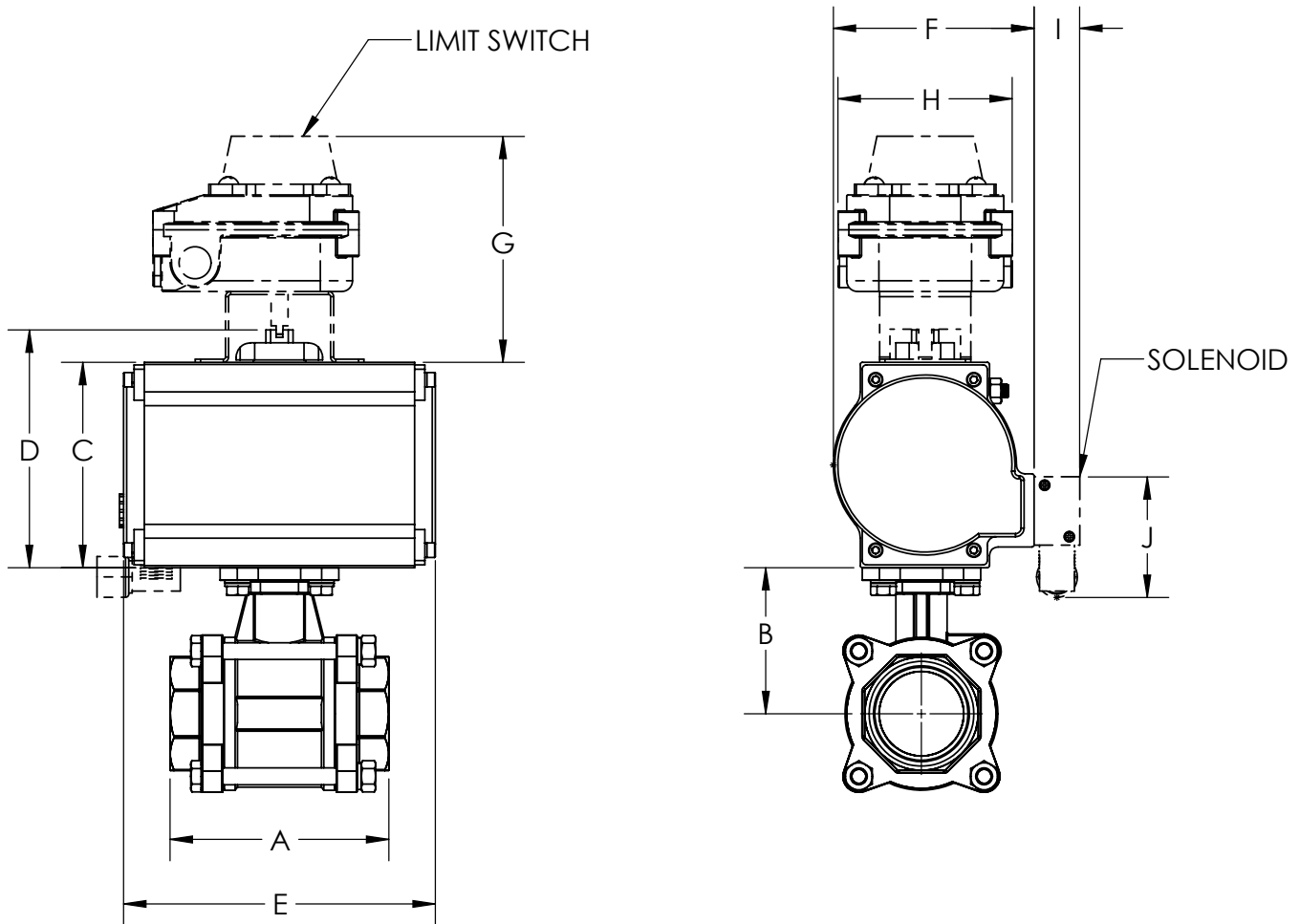


Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4 Series		X Series	
1/4"	2.51	1.52	RP-BA-025-SR	3.10	3.83	7.66	3.20	5.27	4.06	1.07	2.81
3/8"	2.51	1.52									
1/2"	2.84	1.67									
3/4"	3.11	1.91									
1"	3.29	2.17	RP-BA-025-SR05	3.10	3.83	7.66	3.20	5.27	4.06	1.07	2.81
1-1/4"	4.14	2.35									
1-1/2"	4.41	2.77	RP-BA-045-SR	3.86	4.63	8.09	3.72				
2"	5.13	3.38	RP-BA-101-SR	4.79	5.54	9.84	4.68				
2-1/2"	6.64	4.29	RP-BA-225-SR	5.58	6.34	13.98	5.56	5.27	4.06	1.07	2.81
3"	7.34	4.67									
4"	8.88	4.54									

NOTE: For more information on actuation accessories, see relevant EPRG for the actuator, limit switch, and solenoid.

BV2I-Series Industrial Ball Valve - Dimensions

Actuated Double Acting

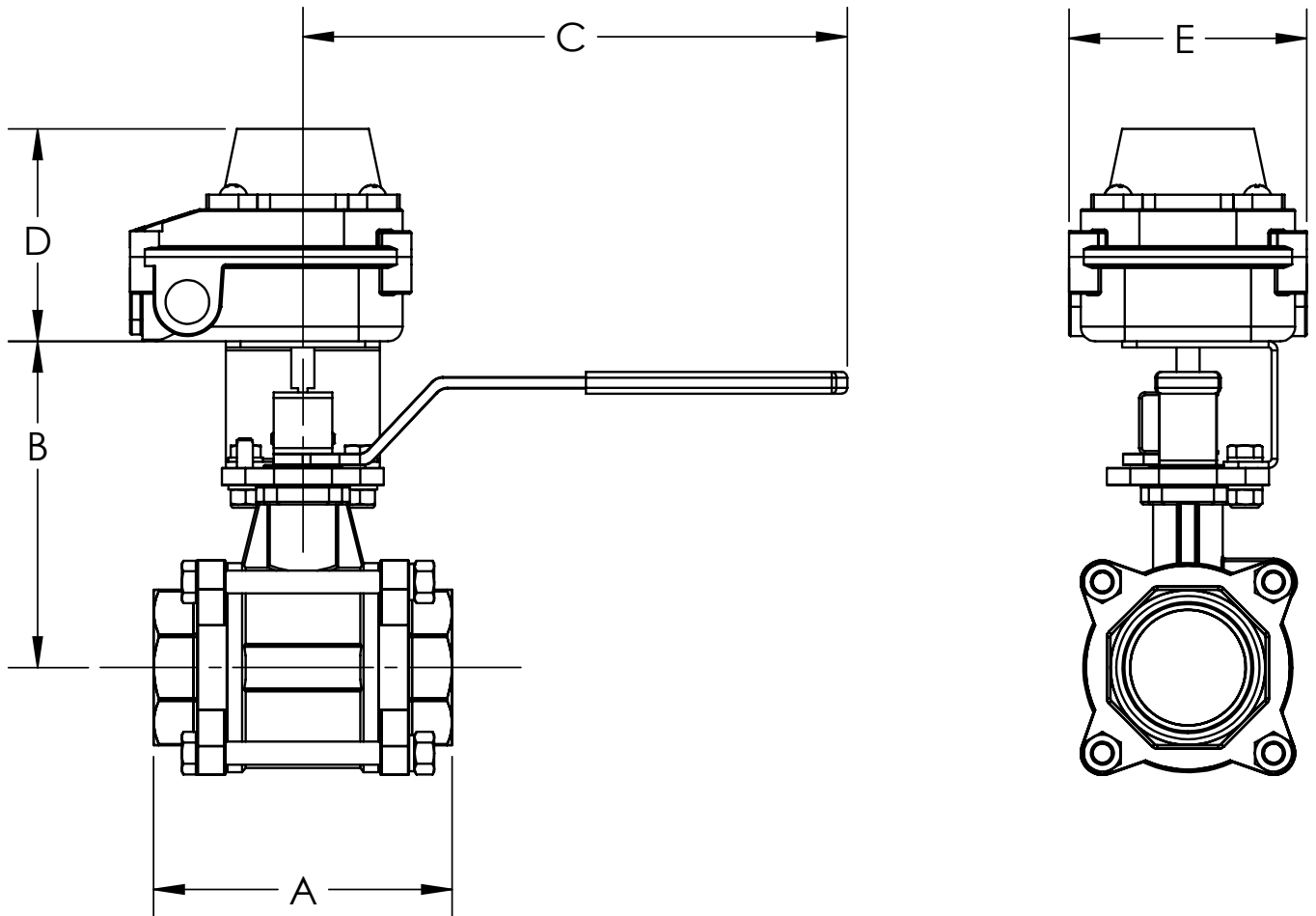


Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4 Series		X Series	
1/4"	2.51	1.52	RP-BA-012-DA	2.6	3.39	4.72	2.93	5.27	4.06	1.07	2.81
3/8"	2.51	1.52									
1/2"	2.84	1.67									
3/4"	3.11	1.91	RP-BA-025-DA	3.1	3.87	5.68	3.2	5.27	4.06	1.07	2.81
1"	3.29	2.17	RP-BA-025-DA05	3.1	3.87	5.68	3.2				
1-1/4"	4.14	2.35									
1-1/2"	4.41	2.77	RP-BA-045-DA	3.86	4.63	5.87	3.72	5.27	4.06	1.07	2.81
2"	5.13	3.38	RP-BA-101-DA	4.79	5.54	7.2	4.77				
2-1/2"	6.64	4.29									
3"	7.34	4.67	RP-BA-225-DA	5.58	6.34	10.22	5.56	5.27	4.06	1.07	2.81
4"	8.88	4.54									

NOTE: For more information on actuation accessories, see relevant EPRG for the actuator, limit switch, and solenoid.

BV2I-Series Industrial Ball Valve - Dimensions

Actuated Manual Handle and Limit Switch

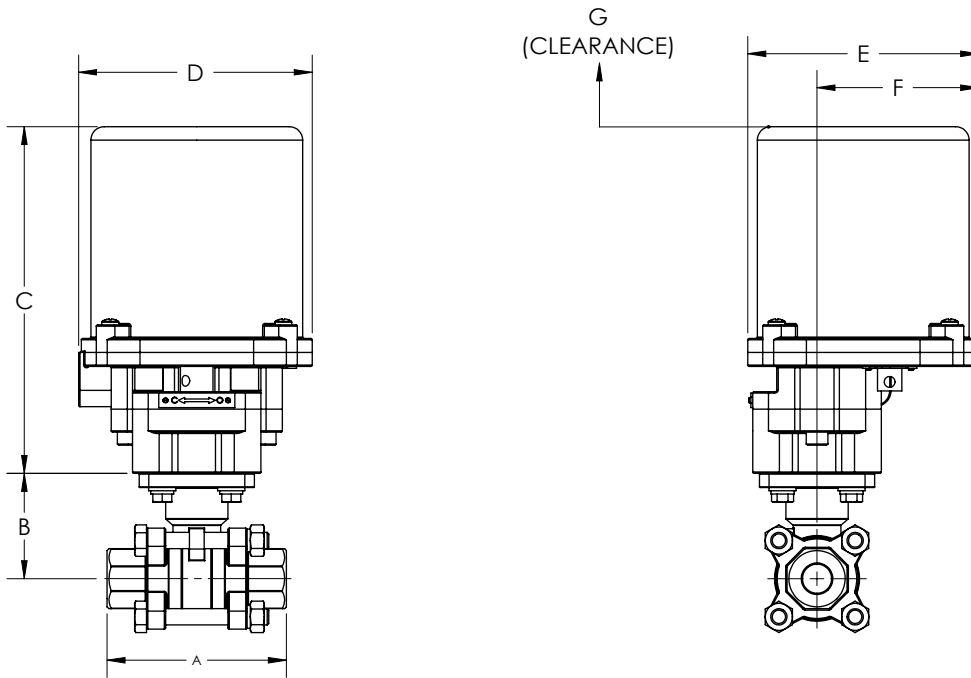


Size	A (in)	B (in)	C (in)	D (in)	E (in)
				XLS-B4A0120P	
1/4"	2.51	3.59	4.72	3.62	4.06
3/8"	2.51	3.59	4.72		
1/2"	2.84	3.74	4.72		
3/4"	3.11	3.98	4.72		
1"	3.29	4.35	5.35		
1-1/4"	4.14	4.53	5.35		
1-1/2"	4.41	4.94	9.17		
2"	5.13	5.55	9.17		
2-1/2"	6.64	6.60	17.32		
3"	7.34	6.98	17.32		
4"	8.88	6.85	17.32		

NOTE: The limit switch depicted is XLS-B4A0120P. For more information on actuation accessories, see relevant EPRG.

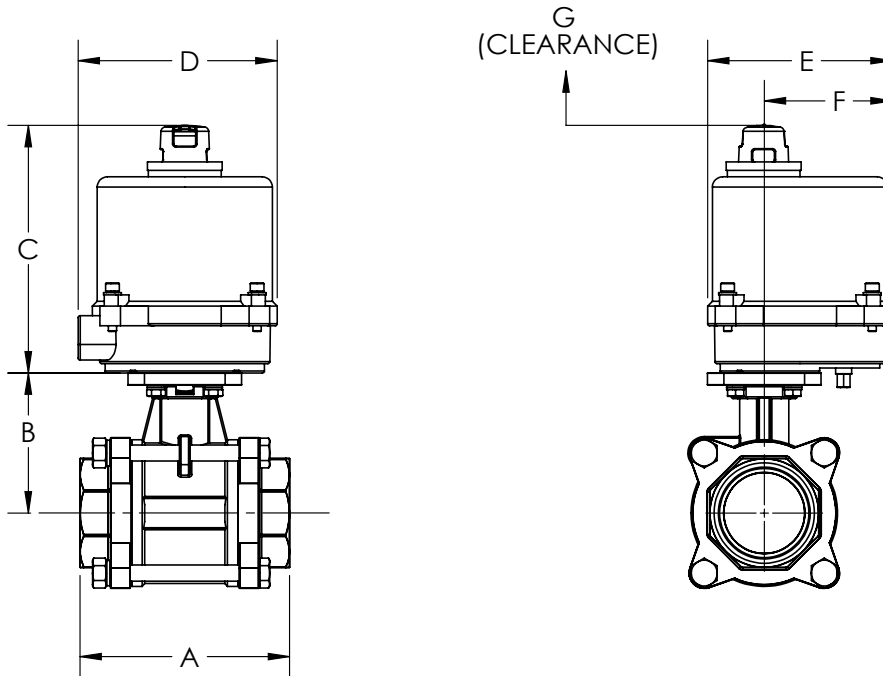
BV2I-Series Industrial Ball Valve - Dimensions

Electric Actuator



NOTE: The electric actuator shown is a OM-T model. For more information on actuation accessories see relevant EPRG for electric actuators.

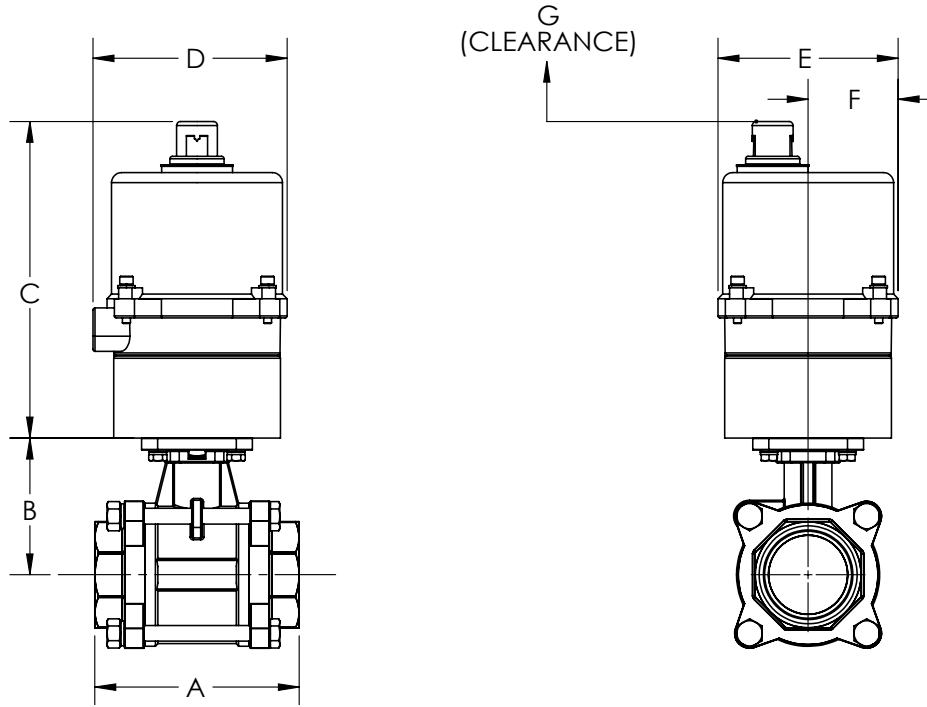
Electric Actuator



NOTE: The electric actuator shown is a BEOM-1B-1 model. For more information on actuation accessories, see relevant EPRG for electric actuators.

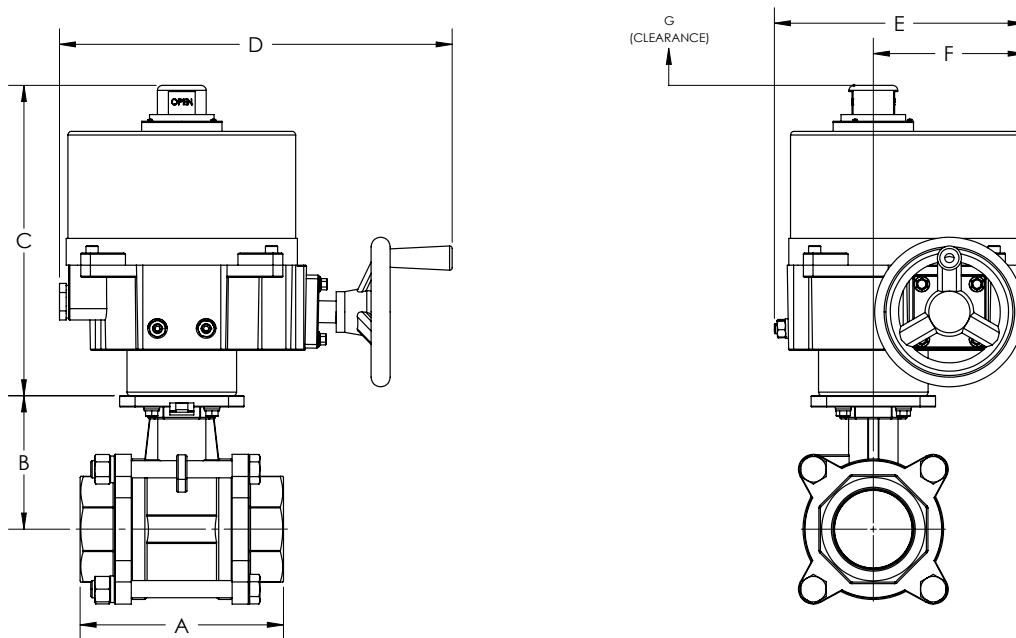
BV2I-Series Industrial Ball Valve - Dimensions

Electric Actuator



NOTE: The electric actuator shown is a BEOM-A model. For more information on actuation accessories see relevant EPRG for electric actuators.

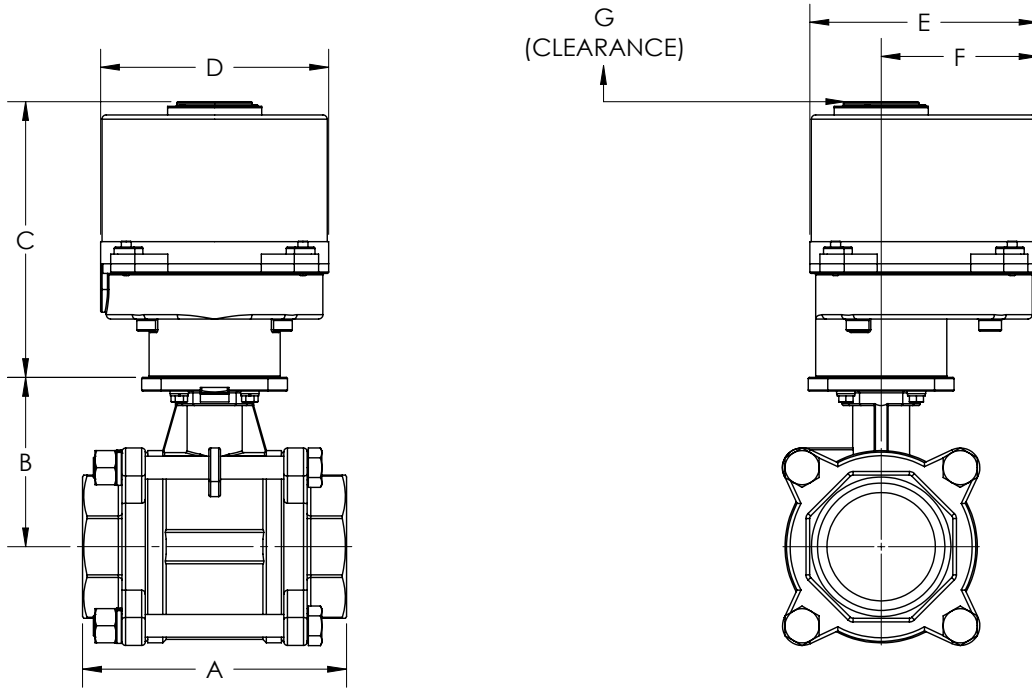
Electric Actuator



NOTE: The electric actuator shown is a OM-3 model. For more information on actuation accessories, see relevant EPRG for electric actuators.

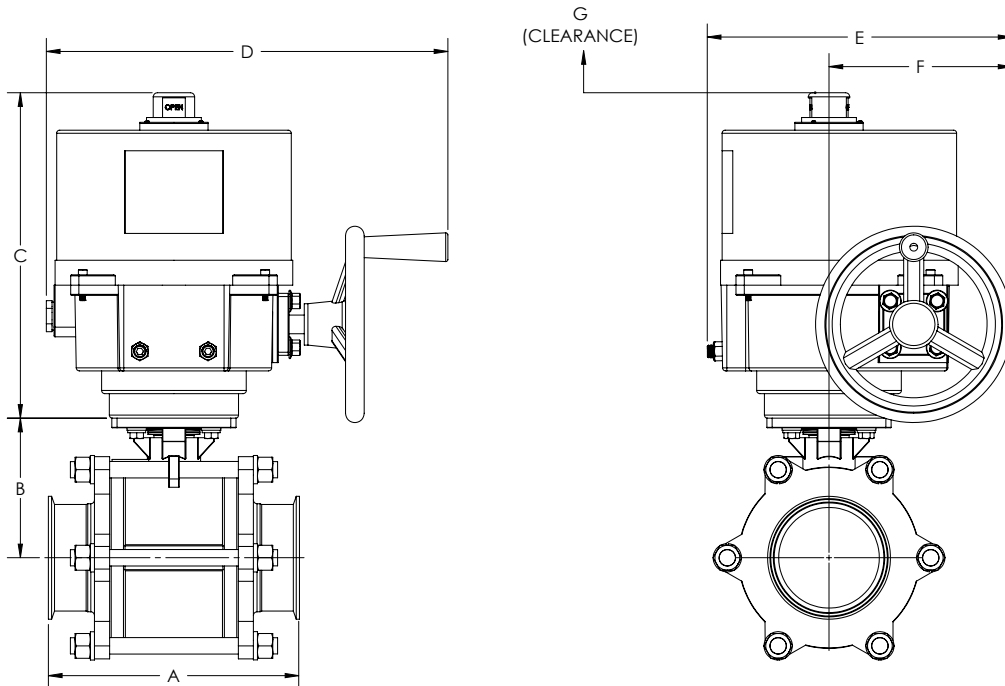
BV2I-Series Industrial Ball Valve - Dimensions

Electric Actuator



NOTE: The electric actuator shown is a BM-2 model. For more information on actuation accessories see relevant EPRG for electric actuators.

Electric Actuator



NOTE: The electric actuator shown is a OM-4 model. For more information on actuation accessories, see relevant EPRG for electric actuators.

BV2I-Series Industrial Ball Valve - Dimensions

Size	A (in)	B (in)	Actuator	C (in)	D (in)	E (in)	F (in)	G (in)
1/4"	2.51	1.52	BM-T	4.96	3.43	3.35	2.34	3.35
3/8"	2.51	1.52						
1/2"	2.84	1.67						
3/4"	3.11	1.91	OM-1	6.02	4.80	4.49	3.11	4.72
1"	3.29	2.17						
1-1/4"	4.14	2.35						
1-1/2"	4.41	2.77						
2"	5.13	3.38	OM-A	7.83	4.80	4.49	2.24	4.72
2-1/2"	6.64	4.29	OM-3	10.55	12.84	7.13	4.84	6.50
3"	7.34	4.67	BM-2	7.68	6.34	6.06	4.33	4.72
4"	8.88	4.54	OM-4	12.99	15.43	11.58	7.24	8.07

F

BV2I-Series Industrial Ball Valve - Repair Kits

Valve Size	Repair Kit Part #	Handle Kit Part #
1/4"	BV-2IN-*K025	BV-2I-HA-9
3/8"	BV-2IN-*K038	BV-2I-HA-9
1/2"	BV-2IN-*K050	BV-2I-HA-9
3/4"	BV-2IN-*K075	BV-2I-HA-9
1"	BV-2IN-*K100	BV-2I-HA-11
1-1/4"	BV-2IN-*K125	BV-2I-HA-11
1-1/2"	BV-2IN-*K150	BV-2I-HA-14
2"	BV-2IN-*K200	BV-2I-HA-14
2-1/2"	BV-2IN-*K250	BV-2I-HA-17
3"	BV-2IN-*K300	BV-2I-HA-17
4"	BV-2IN-*K400	BV-2I-HA-17

*Use G or C

Kit contains:

1 - (G) RTFE or (C) 25% carbon/PTFE thrust washer

2 - (G) RTFE or (C) 25% carbon/PTFE seats

** - (G) RTFE or (C) 25%carbon/PTFE stem packings (qty (4) for 3"-4", qty (3) for 2-1/2", qty (2) for 1/4"-2")

1 - Silicone O-ring

BV2H-Series Ball Valve

The BV2H valve is a full port valve and available with pneumatic or electric actuator and a variety of control options. They are used in oil, water, and gas applications when you need a valve for isolation or control of the flow of product.

They are found in the industrial market and in the sanitary process markets on the non-process side where there is no product contact.

Sizes

- 1/4", 3/8", 1/2", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3"

Features

- Blow-out proof stem design
- ISO 5211 mounting pad

Materials

- Product contact metal components: CF8M stainless steel
- Product contact seals: RTFE

Specifications

- Standard connections: FNPT
- Valve data
 - Maximum pressure
 - 1/4" to 2": **1000 PSI WOG**
 - 2-1/2" to 3": **800 PSI WOG**
 - Operating temperature range
 - 1/4" to 2": **-20°F to 350°F (-28°C to 177°C)**
 - 2-1/2" to 3": **-20°F to 310°F (-28°C to 154°C)**
- Actuator: ISO 5211 mounting pad connection
- Surface finish
 - Product Contact Metal Components: ≤ 32 Ra
 - Seat lubricant: BESSIL F-100



Size	ISO 5211 Mounting Pad Connections		Stem Width (mm)	Stem Height (mm)
1/4"	F03	F04	9	9
3/8"	F03	F04	9	10
1/2"	F03	F04	9	10
3/4"	F03	F04	9	11
1"	F04	F05	11	12.5
1-1/4"	F04	F05	11	14
1-1/2"	F05	F07	14	17
2"	F05	F07	14	17
2-1/2"	F07	F10	17	18.5
3"	F07	F10	17	18.5

BV2H-Series Ball Valve - Part Number Key

Valve I.D.	Size	Code	FNPT Connections
2HG	1/4"	03	1
	3/8"	04	
	1/2"	50	
	3/4"	75	
	1"	10	
	1-1/4"	13	
	1-1/2"	15	
	2"	20	
	2-1/2"	25	
	3"	30	

Continue to part number selection by following column 1 or 2.

1. Pneumatic Actuator or Spring Return Manual Handle					2. Electric Actuator			
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2
1	XX	00	XX	1	E	B	1	1
Actuator					Actuator			
Code					Code			
Aluminum spring return pneumatic rack and pinion					Electric			
Aluminum double acting pneumatic rack and pinion					Oversized (1-UP) electric			
Stainless steel spring return pneumatic rack and pinion					Nema 7 electric			
Stainless steel double acting pneumatic rack and pinion					Electric with riser kit			
Dead man spring return handle					Voltage			
Technopolymer spring return pneumatic rack and pinion					Code			
Actuator Options					115VAC			
None					12VDC			
Oversized (1-UP)					24VAC			
Actuator mounted perpendicular to flow					24VDC			
High temp FKM elastomers					220VAC			
Extended travel stops					12VAC			
Riser kit					Option 1			
Feedback					Code			
None					Torque switches			
Limit switch box, OPEN/CLOSE beacon, (2) SPDT mech. switches					4-20mA input/output modulating controller			
Limit switch box, OPEN/CLOSE beacon, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULus class 1/2 div1/2					Current position transmitter			
Limit switch box, OPEN/CLOSE beacon, AS-I					Potentiometer			
					Local control unit			

BV2H-Series Ball Valve - Part Number Key

Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, aluminum Exd IIB certified enclosure	14	Two extra travel cams and switches	7
Limit switch box, OPEN/CLOSE beacon, (2) DPDT mech. switches	15	Three position cam set	8
Limit switch box, OPEN/CLOSE beacon, (2) switches, electro mec. SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1	16	Local control unit with lock	9
Limit switch box, OPEN/CLOSE beacon, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO	17	1-5V input/2-10V output modulating controller	A
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter	18	2-10V input/output modulating controller	B
Limit switch box, OPEN/CLOSE beacon, SPDT proximity, 0.25A@120VAC, 0.416A@48VDC, resistive	19	75% duty cycle	C
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter + 2 SPDT mechanical switches	20	Relay	D
Stainless steel limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches	21	Four position cam set	E
Control	Code	25% duty cycle (actuator code G only)	F
None	XX	75% duty cycle (actuator code G only)	G
Single coil solenoid, 120VAC	AA	Option 2	Code
Single coil solenoid, 24VDC	AB	None	1
Single coil solenoid, 12VDC	AC	Torque switches	2
Single coil solenoid, 220VAC	AD	4-20mA input/output modulating controller	3
Dual coil solenoid, 120VAC	AE	Current position transmitter	4
Dual coil solenoid, 24VDC	AF	Potentiometer	5
Dual coil solenoid, 220VAC	AG	Local control unit	6
Pneumatic positioner 3-15psi input, no feedback	AH	Two extra travel cams and switches	7
Pneumatic positioner 3-15psi input, (2) SPDT mech. switches for feedback	AI	Three position cam set	8
Pneumatic positioner 3-15psi input, 4-20mA for feedback	AJ	Local control unit with lock	9
Electropneumatic positioner 4-20mA input, no feedback	AK	1-5V input/2-10V output modulating controller	A
Electropneumatic positioner 4-20mA input, (2) SPDT mech. switches for feedback	AL	2-10V input/output modulating controller	B
Electropneumatic positioner 4-20mA input, 4-20mA for feedback	AM	75% duty cycle	C
Electropneumatic positioner 0-10v input, no feedback	AN	Relay	D
Electropneumatic positioner 0-10v input, (2) SPDT mech. switches for feedback	AO	Four position cam set	E
Electropneumatic positioner 0-10v input, 4-20mA for feedback	AP	25% duty cycle (actuator code G only)	F
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	AQ	75% duty cycle (actuator code G only)	G

F

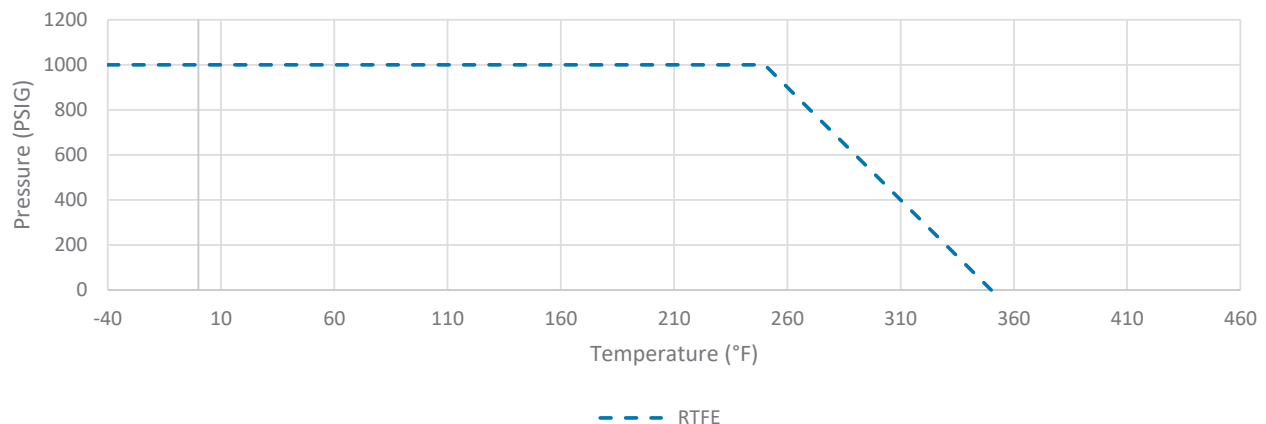
BV2H-Series Ball Valve - Part Number Key

Electropneumatic positioner 4-20mA input, no feedback, class 1, div II explosion proof	AR
Single coil solenoid, 24VDC and 24V banjo solenoid valve with form B plug	AS
Single coil solenoid, 24VDC, AS-I, 2.5W low power	AT
Single coil solenoid, 24VDC, intrinsically safe	AU
Single coil solenoid, 120VAC, exp. proof, class H coil	AV
Single coil solenoid, 24VDC, exp. proof, class H coil	AW
Single coil solenoid, 24VAC	AX
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, class 1, div II explosion proof	AY
Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads	AZ
TUFRAM COATED electropneumatic positioner 4-20mA input, no feedback	BA
V200 rotary pneumatic positioner, (2) REED SWITCH feedback	BB
Single coil solenoid, 24VDC, pre-wired to limit switch WITH CORDSET (dual keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)	BC
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P MALE CONNECTOR	BD
Single coil solenoid, stainless steel, 24VDC	BE
Valve Operation	Code
Normally closed (spring return)	1
Normally open (spring return)	2
Fail in place (double acting)	3

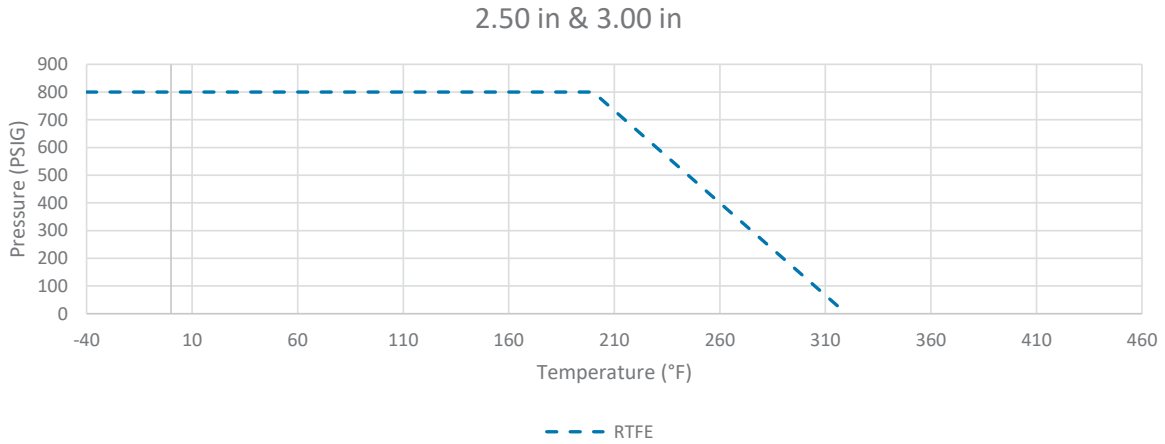


BV2H-Series Ball Valve - Pressure Drop Table

0.25 in - 2.00 in



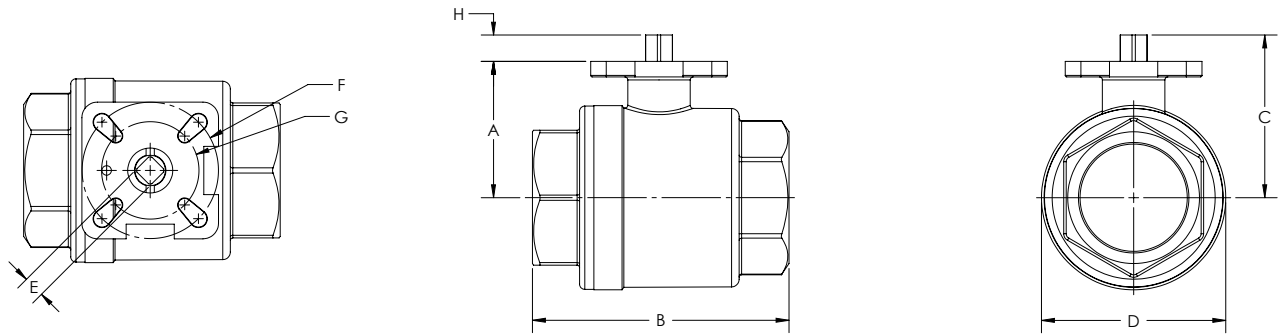
BV2H-Series Ball Valve - Pressure Drop Table



BV2H-Series Ball Valve - Weight & Break Torque Chart

Part #	Size	Break Torque (in-lbs)	Weight (lbs)
BV2HG-02511	1/4"	12	0.53
BV2HG-03811	3/8"	46	0.53
BV2HG-05011	1/2"	70	0.66
BV2HG-07511	3/4"	125	1.12
BV2HG-10011	1"	136	1.87
BV2HG-12511	1-1/4"	193	2.76
BV2HG-15011	1-1/2"	195	4.45
BV2HG-20011	2"	377	6.30
BV2HG-25011	2-1/2"	1250	11.62
BV2HG-30011	3"	1450	24.69

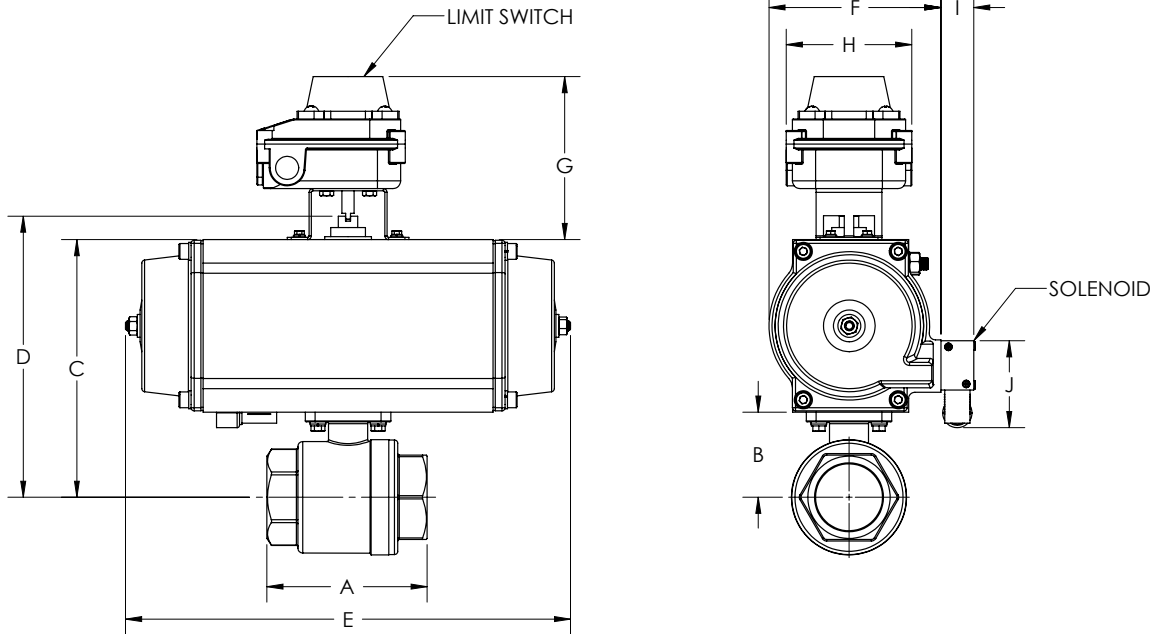
BV2H-Series Ball Valve - Dimensions



Size	A (in)	B (in)	C (in)	D (in)	E (mm)	F (ISO 5211)	G (ISO 5211)	H (mm)
1/4"	1.1	2.2	1.7	1.4	9.0	F04	F03	11
3/8"	1.1	2.2	1.5	1.2	9.0	F04	F03	11
1/2"	2.4	2.4	3.0	1.5	9.0	F04	F03	12
3/4"	3.0	3.0	3.6	1.9	9.0	F04	F03	10
1"	3.4	3.4	4.1	2.3	9.0	F05	F04	10
1-1/4"	3.9	3.9	4.6	2.8	9.0	F05	F04	13
1-1/2"	4.5	4.5	5.3	3.2	11.0	F07	F05	17
2"	5.2	5.2	6.0	3.9	11.0	F07	F05	14
2-1/2"	4.1	6.6	4.8	4.6	17.0	F10	F07	17
3"	4.6	7.5	5.3	5.5	17.0	F10	F07	21

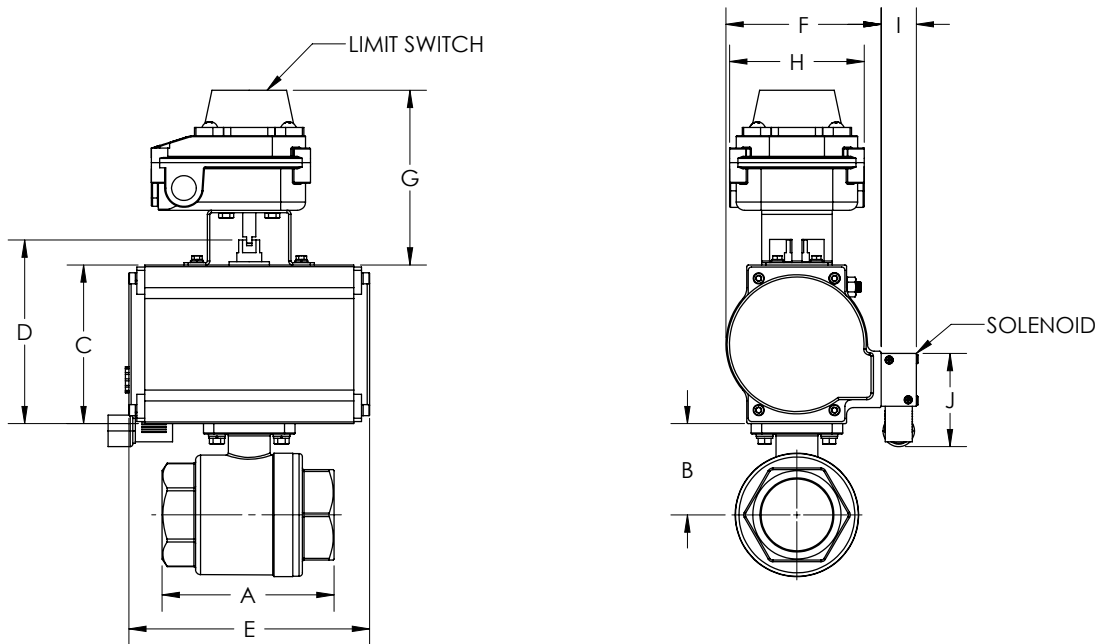
BV2H-Series Ball Valve - Dimensions

Actuated Spring Return



F

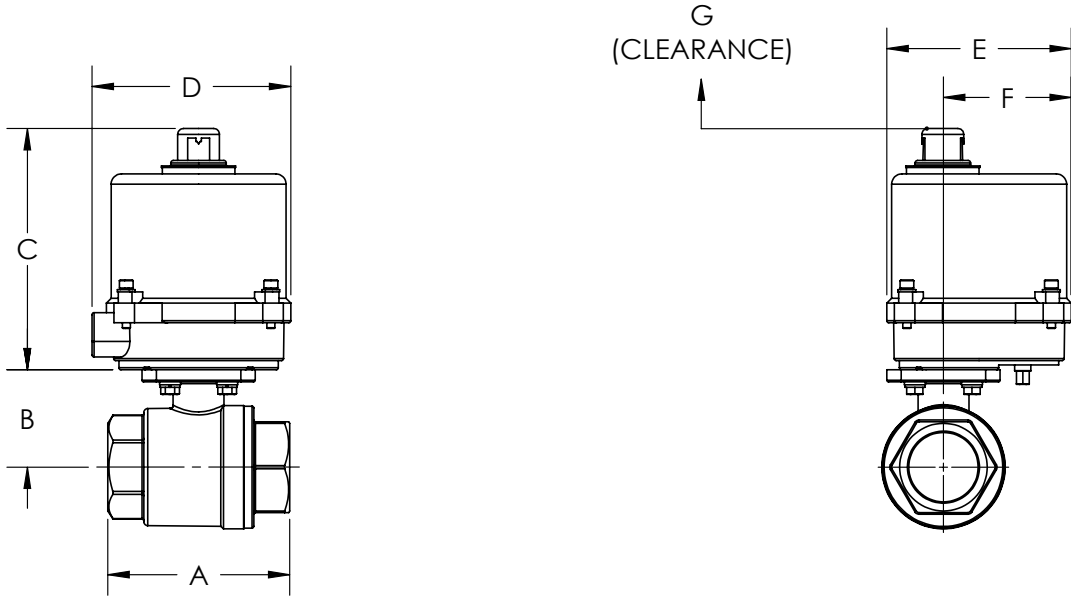
Actuated Double Acting



NOTE: For more information on actuation accessories see relevant EPRG for actuator, limit switch, and solenoid
 Pictured with optional limit switch and solenoid.

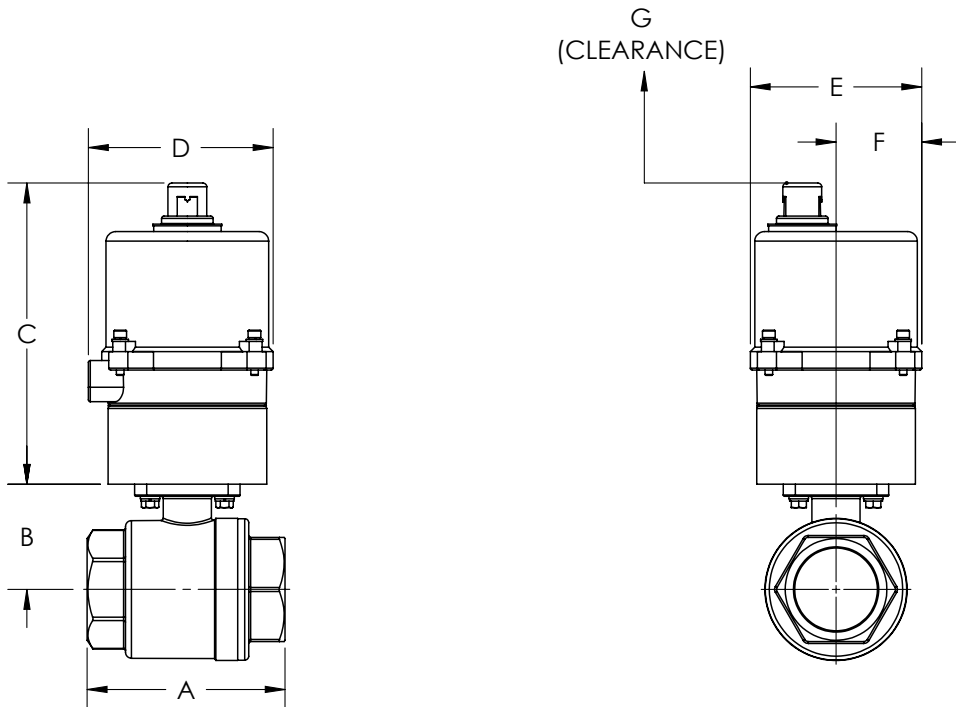
BV2H-Series Ball Valve - Dimensions

Actuated Electric



NOTE: Electric actuator shown is BEOM-1 series. For more information on actuation accessories, see relevant EPRG for electric actuators.

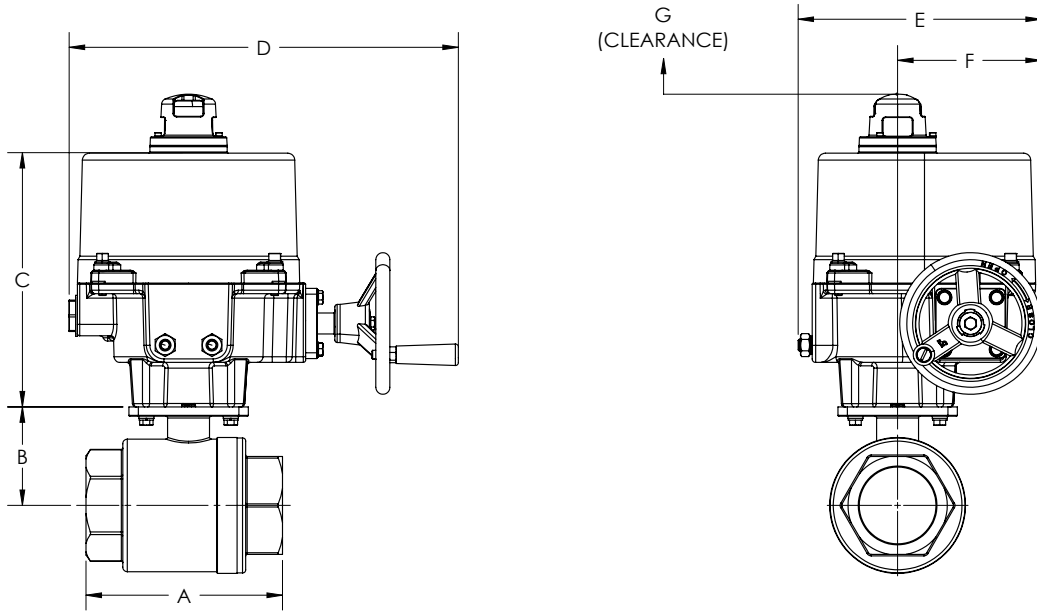
Actuated Electric



NOTE: Electric actuator shown is BEOM-A series. For more information on actuation accessories, see relevant EPRG for electric actuators.

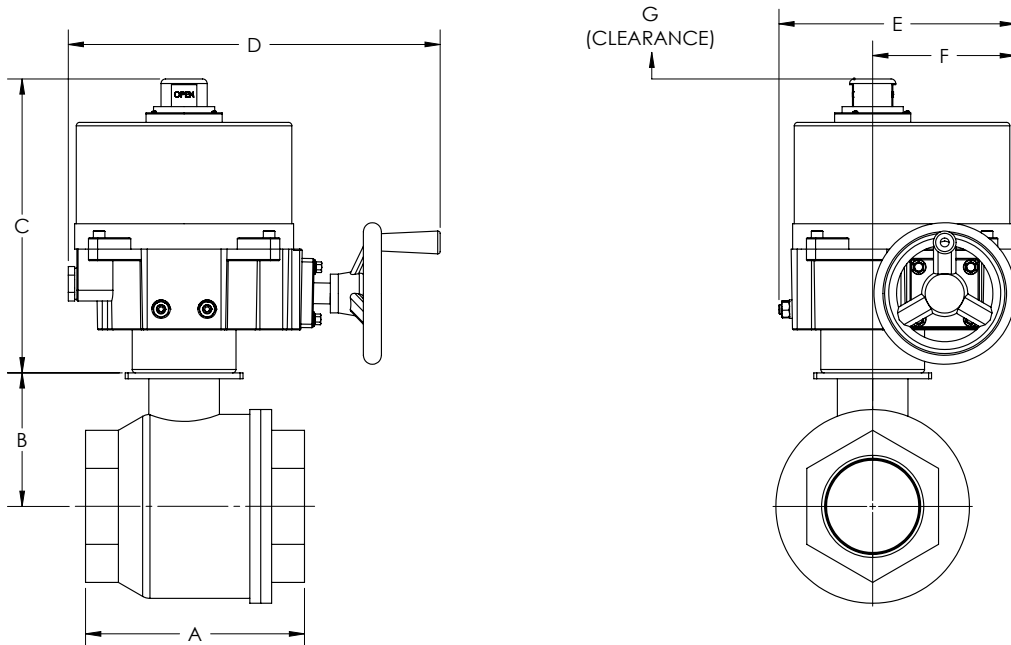
BV2H-Series Ball Valve - Dimensions

Actuated Electric



NOTE: Electric actuator shown is BM-2 series. For more information on actuation accessories, see relevant EPRG for electric actuators.

Actuated Electric



NOTE: Electric actuator shown is OM-3 series. For more information on actuation accessories, see relevant EPRG for electric actuators.

BV2H-Series Ball Valve - Dimensions

Spring Return

Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F(in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4 Series		X Series	
1/4"	2.17	1.06	RP-BA-025-SR	3.10	3.83	7.66	3.20	5.27	4.06	1.07	2.81
3/8"	2.17	1.06									
1/2"	2.40	2.40									
3/4"	2.99	2.99									
1"	3.43	3.43	RP-BA-025-SR05	3.10	3.83	7.66	3.20				
1-1/4"	3.94	3.94	RP-BA-045-SR	3.68	4.63	8.09	3.72				
1-1/2"	4.49	4.49									
2"	5.20	5.20	RP-BA-101-SR	4.79	5.54	9.84	4.68				
2-1/2"	6.61	4.13	RP-BA-225-SR	5.58	6.34	13.98	5.56				
3"	7.48	4.56									

Double Acting

Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F(in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4 Series		X Series	
1/4"	2.17	1.06	RP-BA-012-DA	2.60	3.39	4.72	2.93	5.27	4.06	1.07	2.81
3/8"	2.17	1.06									
1/2"	2.40	2.40									
3/4"	2.99	2.99									
1"	3.43	3.43	RP-BA-025-DA05	3.1	3.87	5.68	3.2				
1-1/4"	3.94	3.94	RP-BA-045-DA	3.86	4.63	5.87	3.72				
1-1/2"	4.49	4.49									
2"	5.20	5.20	RP-BA-101-DA	4.79	5.54	7.20	4.77				
2-1/2"	6.61	4.13									
3"	7.48	4.56									

Electric

Size	A (in)	B (in)	Electric Actuator Series	C (in)	D (in)	E (in)	F (in)	G (in)
1/4"	2.17	1.06	OM-1	6.02	4.80	4.49	3.11	4.72
3/8"	2.17	1.06						
1/2"	2.40	2.40						
3/4"	2.99	2.99						
1"	3.43	3.43						
1-1/4"	3.94	3.94						
1-1/2"	4.49	4.49	OM-A	7.83	4.80	4.49	2.24	4.72
2"	5.20	5.20	BM-2	7.68	6.34	6.06	4.33	4.72
2-1/2"	6.61	4.13	OM-3	10.55	12.84	7.13	4.84	6.50
3"	7.48	4.56						

F

BV2B-Series Ball Valve

The BV2B valve is a full port valve and available with pneumatic or electric actuator and a variety of control options. It is used in oil, water, and gas applications when you need a valve for isolation or control of the flow of product

They are found in the industrial market and in the sanitary process markets on the non-process side where there is no product contact

Sizes

- 1/4", 3/8", 1/2", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 4"

Features

- Blow-out proof stem design
- ISO 5211 mounting pad

Materials

- Product contact metal components
 - 1/4" to 2": brass body and chrome plated brass ball
 - 2-1/2" to 4": bronze body and 304 stainless steel ball
 - Stem: 304 stainless steel
- Product contact seals: PTFE

Specifications

- Standard connections: FNPT
- Valve data
 - Maximum pressure: **600 PSI**
 - Maximum operating temperature: **20°F to 320°F (-7°C to 160°C)**
- Actuator data
 - ISO 5211 mounting pad connection
- Surface finish
 - Product contact metal components: ball ≤ 32 Ra
 - Seat lubricant: KF-96-1,000CS
 - Stem lubricant: 201-100CS



1/4" to 2"



2-1/2" to 4"

Size	ISO 5211 Mounting Pad Connections		Stem Width (mm)	Stem Height (mm)
1/4"	F03	-	9	9
3/8"	F03	-	9	9
1/2"	F04	-	9	8.2
3/4"	F04	F05	11	11
1"	F04	F05	11	11
1-1/4"	F05	F07	14	14
1-1/2"	F05	F07	14	14.5
2"	F05	F07	14	14
2-1/2"	-	F07	14	18
3"	-	F07	14	18
4"	-	F07	17	17

BV2B-Series Ball Valve - Part Number Key

Valve I.D.	Size	Code	FNPT Connections
2BV	1/4"	03	1
	3/8"	04	
	1/2"	50	
	3/4"	75	
	1"	10	
	1-1/4"	13	
	1-1/2"	15	
	2"	20	
	2-1/2"	25	
	3"	30	
	4"	40	

F

1. Pneumatic Actuator or Spring Return Manual Handle					2. Electric Actuator				
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2	
1	XX	00	XX	1	E	B	1	1	
Actuator					Code				
Aluminum spring return pneumatic rack and pinion					1	Electric			E
Aluminum double acting pneumatic rack and pinion					2	Oversized (1-UP) electric			F
Stainless steel spring return pneumatic rack and pinion					3	Nema 7 electric			G
Stainless steel double acting pneumatic rack and pinion					4	Electric with riser kit			H
Dead man spring return handle					6	Voltage		Code	
Technopolymer spring return pneumatic rack and pinion					7	115VAC		B	
Actuator Options					Code				
None					XX	24VAC		D	
Oversized (1-UP)					AA	24VDC		E	
Actuator mounted perpendicular to flow					AB	220VAC		F	
High temp FKM elastomers					AC	12VAC		G	
Extended travel stops					AD	Option 1		Code	
Riser kit					AE	None		1	
Feedback					Code				
None					00	Torque switches		2	
Limit switch box, OPEN/CLOSE beacon, (2) SPDT mech. switches					11	4-20mA input/output modulating controller		3	
Limit switch box, OPEN/CLOSE beacon, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULusClass 1/2 Div1/2					12	Current position transmitter		4	
Limit switch box, OPEN/CLOSE beacon, AS-I					13	Potentiometer		5	
						Local control unit		6	

BV2B-Series Ball Valve - Part Number Key

Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, aluminum exd IIB certified enclosure	14	Two extra travel cams and switches	7
Limit switch box, OPEN/CLOSE beacon, (2) DPDT mech. switches	15	Three position cam set	8
Limit switch box, OPEN/CLOSE beacon, (2) switches, electro mec. SPDT, silver contacts, up to SIL3, cULus class 1/2 div 1	16	Local control unit with lock	9
Limit switch box, OPEN/CLOSE beacon, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO	17	1-5V input/2-10V output modulating controller	A
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter	18	2-10V input/output modulating controller	B
Limit switch box, OPEN/CLOSE beacon, SPDT proximity, 0.25A@120VAC, 0.416A@48VDC, resistive	19	75% duty cycle	C
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter + 2 SPDT mechanical switches	20	Relay	D
Stainless steel limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches	21	Four position cam set	E
Control	Code	25% duty cycle (actuator code G only)	F
None	XX	75% duty cycle (actuator code G only)	G
Single coil solenoid, 120VAC	AA	Option 2	Code
Single coil solenoid, 24VDC	AB	None	1
Single coil solenoid, 12VDC	AC	Torque switches	2
Single coil solenoid, 220VAC	AD	4-20mA input/output modulating controller	3
Dual coil solenoid, 120VAC	AE	Current position transmitter	4
Dual coil solenoid, 24VDC	AF	Potentiometer	5
Dual coil solenoid, 220VAC	AG	Local control unit	6
Pneumatic positioner 3-15psi input, no feedback	AH	Two extra travel cams and switches	7
Pneumatic positioner 3-15psi input, (2) SPDT mech. switches for feedback	AI	Three position cam set	8
Pneumatic positioner 3-15psi input, 4-20mA for feedback	AJ	Local control unit with lock	9
Electropneumatic positioner 4-20mA input, no feedback	AK	1-5V input/2-10V output modulating controller	A
Electropneumatic positioner 4-20mA input, (2) SPDT mech. switches for feedback	AL	2-10V input/output modulating controller	B
Electropneumatic positioner 4-20mA input, 4-20mA for feedback	AM	75% duty cycle	C
Electropneumatic positioner 0-10v input, no feedback	AN	Relay	D
Electropneumatic positioner 0-10v input, (2) SPDT mech. switches for feedback	AO	Four position cam set	E
Electropneumatic positioner 0-10v input, 4-20mA for feedback	AP	25% duty cycle (actuator code G only)	F
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	AQ	75% duty cycle (actuator code G only)	G

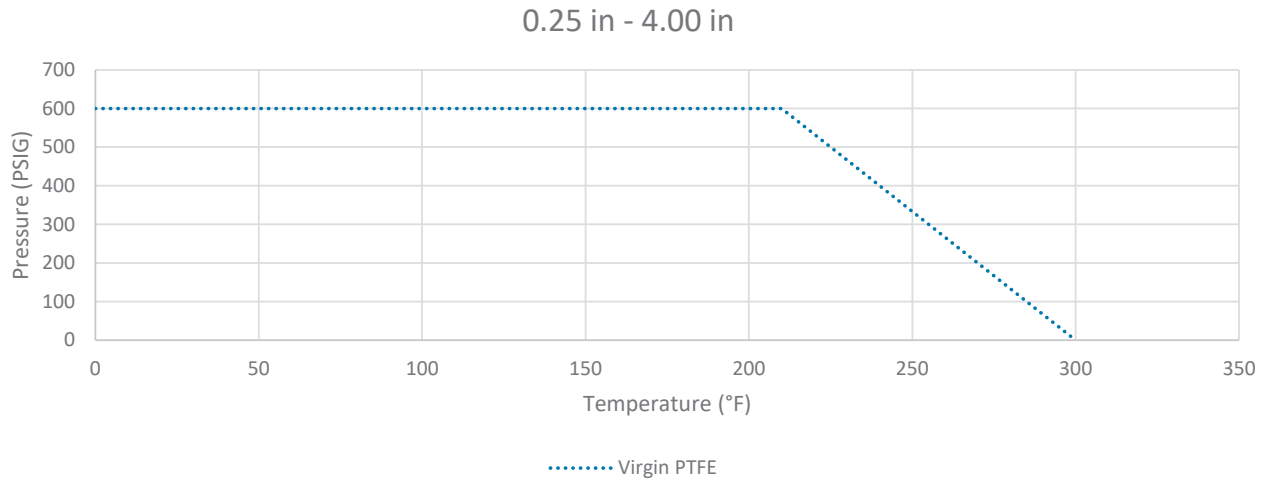
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BV2B-Series Ball Valve - Part Number Key

Electropneumatic positioner 4-20mA input, no feedback, class 1, Div II explosion proof	AR
Single coil solenoid, 24VDC and 24V banjo solenoid valve with form B plug	AS
Single coil solenoid, 24VDC, AS-I, 2.5W low power	AT
Single coil solenoid, 24VDC, intrinsically safe	AU
Single coil solenoid, 120VAC, exp. proof, class H coil	AV
Single coil solenoid, 24VDC, exp. proof, class H coil	AW
Single coil solenoid, 24VAC	AX
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, class 1, div II explosion proof	AY
Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads	AZ
TUFRAM COATED electropneumatic positioner 4-20mA input, no feedback	BA
V200 rotary pneumatic positioner, (2) REED SWITCH feedback	BB
Single coil solenoid, 24VDC, pre-wired to limit switch WITH CORDSET (Dual Keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)	BC
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P MALE CONNECTOR	BD
Single coil solenoid, stainless steel, 24VDC	BE
Valve Operation	Code
Normally closed (spring return)	1
Normally open (Spring return)	2
Fail in place (double acting)	3

F

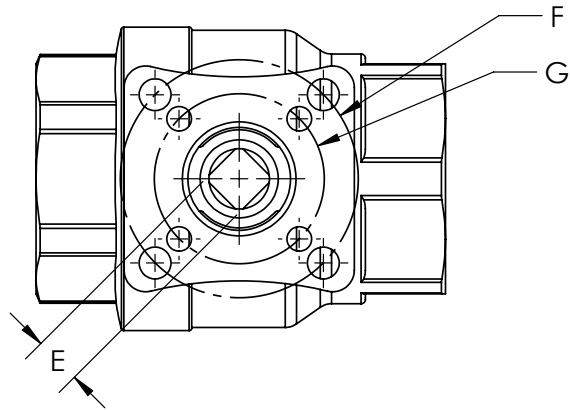
BV2B-Series Ball Valve - Pressure Drop Chart



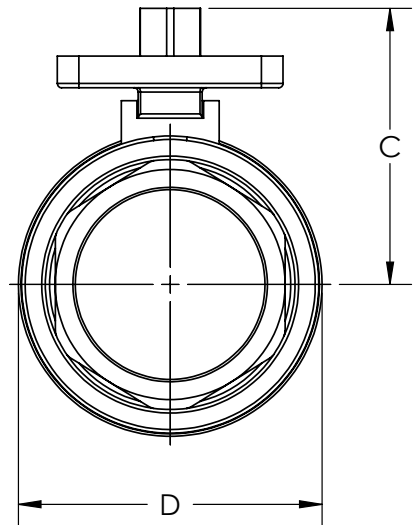
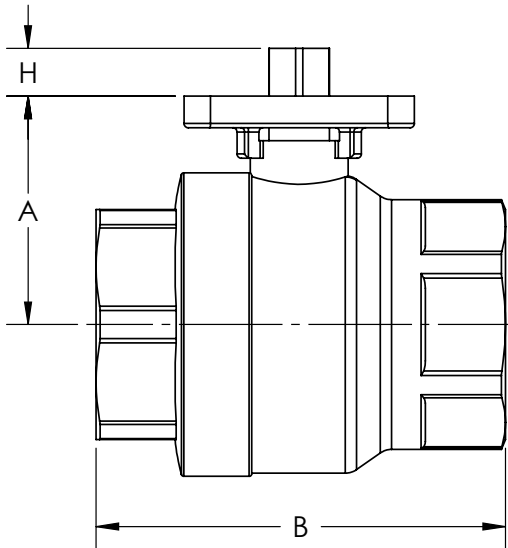
BV2B-Series Ball Valve - Technical Specifications

Part #	Size	Break Torque (in-lbs)	Flow Coefficient (Cv)	Weight (lbs)
BV2BV-02511	1/4"	5	8.1	0.80
BV2BV-03811	3/8"	12	14	0.77
BV2BV-05011	1/2"	81	26	0.70
BV2BV-07511	3/4"	115	51	1.19
BV2BV-10011	1"	155	68	1.56
BV2BV-12511	1-1/4"	265	120	2.50
BV2BV-15011	1-1/2"	335	170	3.33
BV2BV-20011	2"	460	376	4.99
BV2BV-25011	2-1/2"	475	510	13.04
BV2BV-30011	3"	505	996	18.84
BV2BV-40011	4"	1395	1893	35.33

BV2B-Series Ball Valve - Dimensions



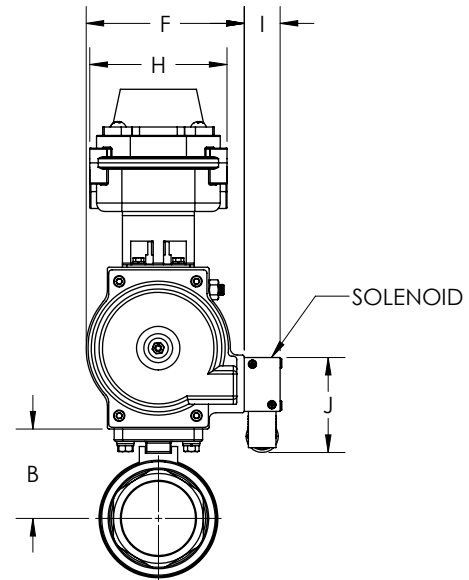
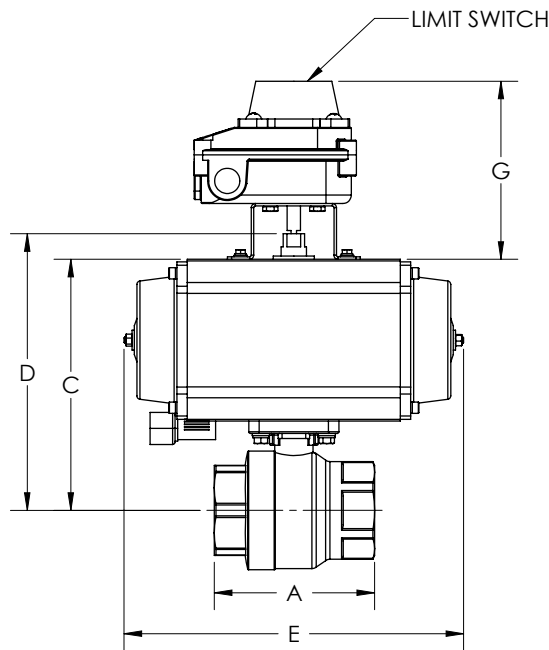
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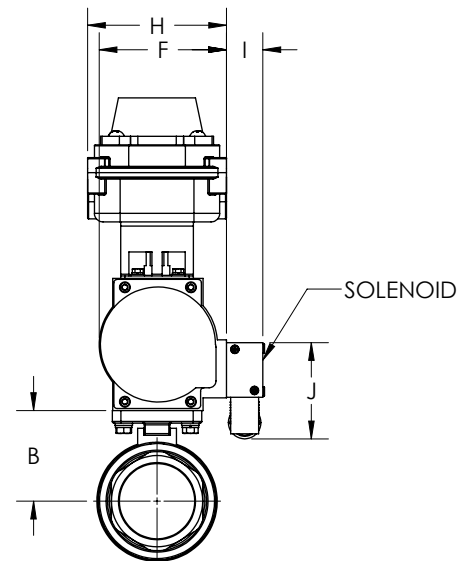
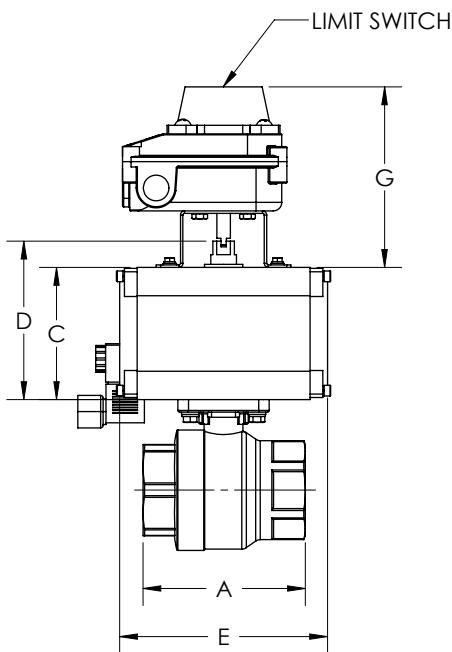
Size	A (in)	B (in)	C (in)	D (in)	E (mm)	F (ISO 5211)	G (ISO 5211)	H (mm)
1/4"	1.3	2.6	1.6	1.3	9.0	-	F03	9
3/8"	1.3	2.6	1.6	1.3	9.0	-	F03	9
1/2"	1.5	2.2	1.9	1.3	9.0	-	F04	8
3/4"	1.6	2.8	2.0	1.7	11.0	-	F05	10
1"	1.8	3.2	2.2	1.9	11.0	-	F05	11
1-1/4"	2.1	3.6	2.8	2.5	11.0	F07	F05	16
1-1/2"	2.3	4.1	2.9	2.9	14.0	F07	F05	15
2"	2.7	4.8	3.2	3.5	14.0	F07	F05	14
2-1/2"	3.9	6.1	4.6	4.5	14.0	-	F07	18
3"	4.3	6.9	5.0	5.3	14.0	-	F07	18
4"	4.9	8.1	5.6	6.4	17.0	-	F07	18

BV2B-Series Ball Valve - Dimensions

Spring Return



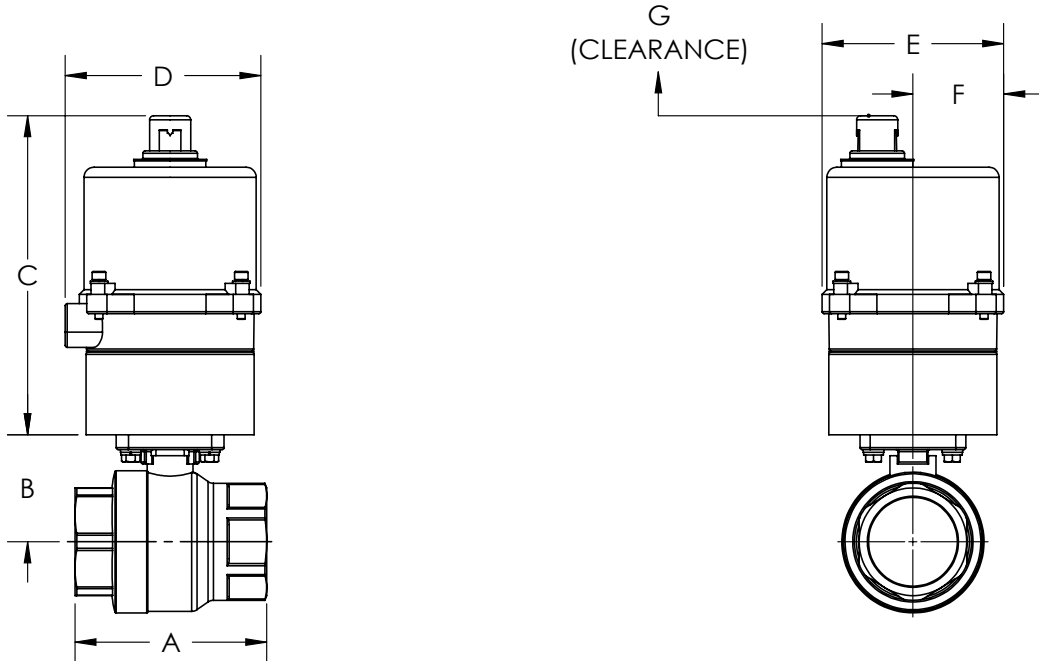
Double Acting



NOTE: For more information on actuator accessories, see relevant EPRG for actuator, limit switch, and solenoid.

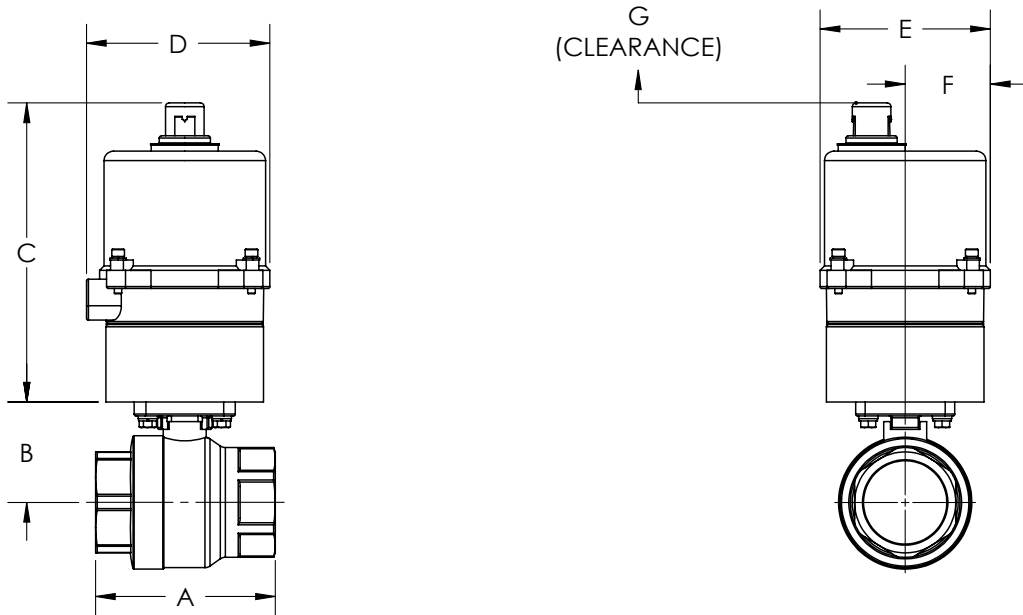
BV2B-Series Ball Valve - Dimensions

Actuated Electric



NOTE: The electric actuator shown is a BEOM-1 model. For more information on actuator accessories, see relevant EPRG for electric actuator.

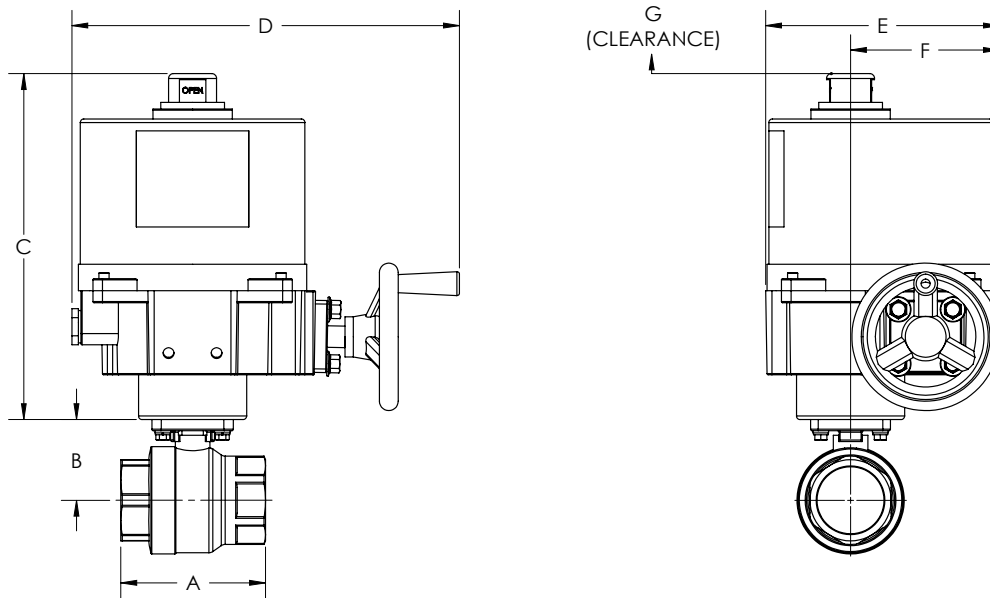
Actuated Electric



NOTE: The electric actuator shown is a BEOM-A model. For more information on actuator accessories, see relevant EPRG for electric actuator.

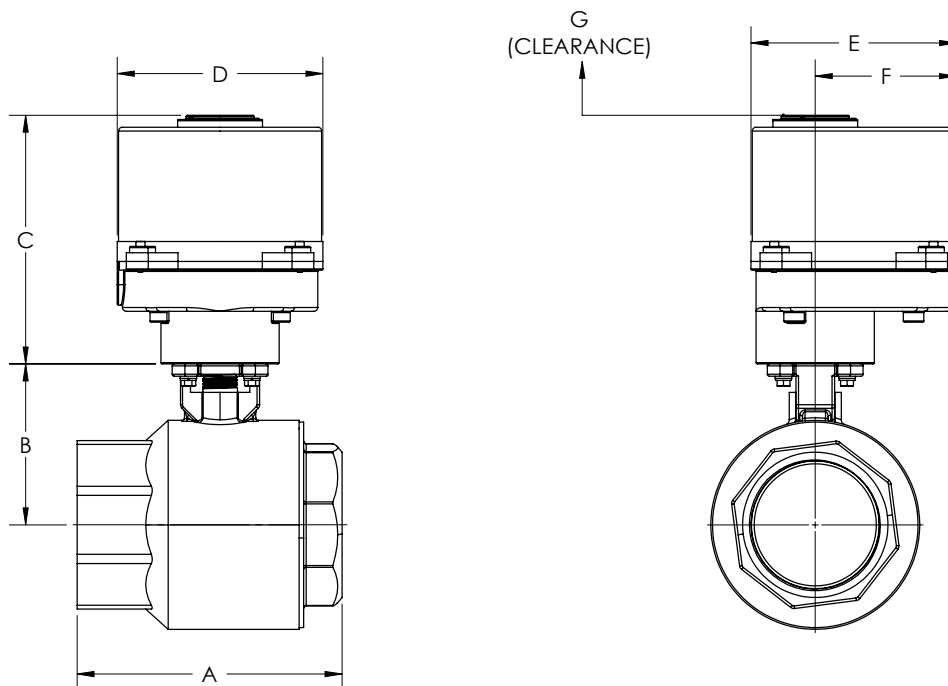
BV2B-Series Ball Valve - Dimensions

Actuated Electric



NOTE: The electric actuator shown is a BEOM-2 model. For more information on actuator accessories, see relevant EPRG for electric actuator.

Actuated Electric



NOTE: The electric actuator shown is a BM-2 model. For more information on actuator accessories, see relevant EPRG for electric actuator.

BV2B-Series Ball Valve - Dimensions

Spring Return

Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F(in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4 Series	X Series		
1/4"	2.64	1.28	RP-BA-025-SR	3.1	3.83	7.66	3.20	5.27	4.06	1.07	2.81
3/8"	2.64	1.28									
1/2"	2.16	1.51									
3/4"	2.8	1.63	RP-BA-025-SR05	3.1	3.83	7.66	3.20				
1"	3.23	1.76									
1-1/4"	3.58	2.13									
1-1/2"	4.06	2.32	RP-BA-045-SR	3.86	4.63	8.09	3.72				
2"	4.76	2.65	RP-BA-101-SR	4.79	5.54	9.84	4.68				
2-1/2"	6.08	3.93									
3"	6.89	4.32									
4"	8.12	4.93	RP-BA-225-SR	5.58	6.34	13.98	5.56				

Double Acting

Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F(in)	G (in)	H (in)	I (in)	J (in)
1/4"	2.64	1.28	RP-BA-012-DA	2.60	3.39	4.72	2.93	5.27	4.06	1.07	2.81
3/8"	2.64	1.28									
1/2"	2.16	1.51									
3/4"	2.8	1.63	RP-BA-025-DA05	3.10	3.87	5.68	3.20				
1"	3.23	1.76									
1-1/4"	3.58	2.13									
1-1/2"	4.06	2.32	RP-BA-045-DA	3.86	4.63	5.87	3.72				
2"	4.76	2.65	RP-BA-101-DA	4.79	5.54	7.20	4.77				
2-1/2"	6.08	3.93									
3"	6.89	4.32									
4"	8.12	4.93									

Electric Actuator

Size	A (in)	B (in)	Actuator	C (in)	D (in)	E (in)	F(in)	G (in)
1/4"	2.64	1.28	OM-1	6.02	4.8	4.49	3.11	4.72
3/8"	2.64	1.28						
1/2"	2.16	1.51						
3/4"	2.8	1.63						
1"	3.23	1.76						
1-1/4"	3.58	2.13	OM-A	7.83	4.8	4.49	2.24	4.72
1-1/2"	4.06	2.32						
2"	4.76	2.65						
2-1/2"	6.08	3.93	OM-2	10.55	12.84	7.13	4.84	6.5
3"	6.89	4.32	BM-2	7.68	6.34	6.06	4.33	4.72
4"	8.12	4.93						

BV3I-Series Multi-Port Ball Valve

Sizes

- 1/4", 3/8", 1/2", 3/4", 1", 1-1/4", 1-1/2", 2"

Features

- Full port stainless steel ball
- ISO 5211 mounting pad
- Blow-out proof stem

Specifications

- Surface Finish
 - Product Contact Metal Components: ≤ 32 Ra
 - Non-Product Contact Metal Components: ≤ 63 Ra

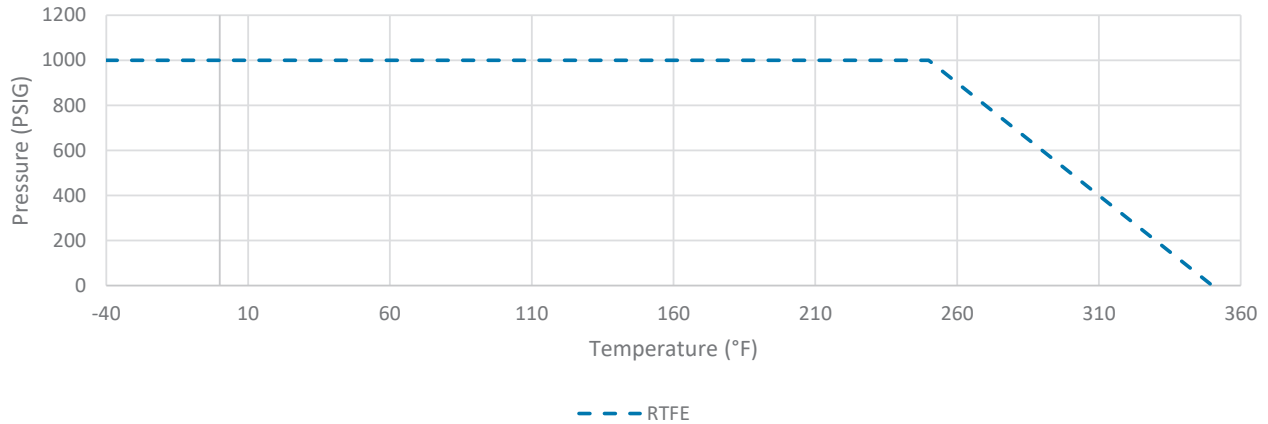


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Size	L-Port Part #	T-Port Part #	Weight (lbs)	Break Torque (in-lbs)	ISO 5211	Flow Coefficient (Cv)
1/4"	BV3IGLF-0251-A	BV3IGTF-0251-A	.70	105	F03/F04	7
3/8"	BV3IGLF-0381-A	BV3IGTF-0381-A	.72	105	F03/F04	7
1/2"	BV3IGLF-0501-A	BV3IGTF-0501-A	.72	138	F03/F04	11
3/4"	BV3IGLF-0751-A	BV3IGTF-0751-A	1.11	184	F04/F05	20
1"	BV3IGLF-1001-A	BV3IGTF-1001-A	1.71	323	F04/F05	30
1-1/4"	BV3IGLF-1251-A	BV3IGTF-1251-A	2.77	461	F05/F07	47
1-1/2"	BV3IGLF-1501-A	BV3IGTF-1501-A	3.82	633	F05/F07	70
2"	BV3IGLF-2001-A	BV3IGTF-2001-A	6.73	1037	F07/F10	156

BV3I-Series Multi-Port Ball Valve - Pressure Temperature Chart

0.25 in - 2.00 in



BV3-Series Industrial Actuated Ball Valve - Part Number Key

BV3-Series Industrial Actuated Ball Valve Part Number Key Example: 3BLV031100XX10		Valve Style	Seat Material	Size	Connections
		3BL	V	03	1
BV3B/BV3I Valve Style	Code				
Brass 3-way L-port	3BL				
Brass 3-way T-port	3BT				
Stainless steel 3-way L-port	3IL				
Stainless steel 3-way T-port	3IT				
Seat Material	Code				
Virgin-PTFE (3B valve style only)	V				
RTFE (15% glass reinforced PTFE) (3I valve styles only)	G				
Size	Code				
1/4"	03				
3/8"	38				
1/2"	50				
3/4"	75				
1"	10				
1-1/4"	13				
1-1/2"	15				
2"	20				
2-1/2" (3B valve style only)	25				
3" (3B valve style only)	30				
Connections	Code				
Female NPT	1				

Continue number selection by following column 1 (pneumatic actuators) or 2 (electric actuators) below.

1. Pneumatic Actuator or Spring Return Manual Handle				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option	Flow Path
1	XX	00	10	E	B	1	1	12
Actuator			Code	Actuator				Code
Aluminum spring return pneumatic rack and pinion			1	Electric				E
Aluminum double acting pneumatic rack and pinion			2	Oversized (1-UP) electric				F
Stainless steel spring return pneumatic rack and pinion			3	Nema 7 electric				G
Stainless steel double acting pneumatic rack and pinion			4	Electric with riser kit				H
Dead man spring return handle			6	Voltage				Code
Oversized (1-UP) aluminum spring return pneumatic rack and pinion			7	115VAC				B
Technopolymer spring return pneumatic rack and pinion			8	12VDC				C
Oversized (1-UP) aluminum double acting pneumatic rack and pinion			9	24VAC				D
Manual handle with riser kit			A	24VDC				E

BV3-Series Industrial Actuated Ball Valve - Part Number Key

1. Pneumatic Actuator or Spring Return Manual Handle				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option	Flow Path
1	XX	00	10	E	B	1	1	12
Feedback			Code					
None			00	220VAC				F
Limit switch box, position indicator, (2) SPDT mechanical switches			11	12VAC				G
Limit switch box, position indicator, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULus Class 1/2 Div 1/2			12	Option 1				Code
Limit switch box, position indicator, AS-I			13	None				1
Limit switch box, position indicator, (2) proximity SPDT switches, aluminum Exd IIB certified enclosure			14	Torque switches				2
Limit switch box, position indicator, (2) DPDT mechanical switches			15	4-20mA input/output modulating controller				3
Limit switch box, position indicator, (2) switches, electro mec. SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1			16	Current position transmitter				4
Limit switch box, position indicator, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO			17	Potentiometer				5
Limit switch box, position indicator, 4-20ma analog position transmitter			18	Local control unit				6
Limit switch box, position indicator, SPDT proximity, 0.25A @120VAC, 0.416A @ 48VDC, resistive			19	Two extra travel cams and switches				7
Limit switch box, position indicator, 4-20ma analog position transmitter + 2 SPDT mechanical switches			20	Three position cam set				8
Stainless steel limit switch box, position indicator, (2) proximity SPDT switches			21	Local control unit with lock				9
Control			Code	2-10V input/output modulating controller				A
None			XX	75% duty cycle				B
Single coil solenoid, 120VAC			AA	Relay				C
Single coil solenoid, 24VDC			AB	Four position cam set				D
Single coil solenoid, 12VDC			AC	25% duty cycle (actuator code G only)				E
Single coil solenoid, 220VAC			AD	75% duty cycle (actuator code G only)				F
Dual coil solenoid, 120VAC			AE	Option 2				Code
Dual coil solenoid, 24VDC			AF	None				1
Dual coil solenoid, 220VAC			AG	Torque switches				2
Pneumatic positioner 3-15psi input, no feedback			AH	4-20mA input/output modulating controller				3
Pneumatic positioner 3-15psi input, (2) SPDT mechanical switches for feedback			AI	Current position transmitter				4
Pneumatic positioner 3-15psi input, 4-20mA for feedback			AJ	Potentiometer				5
Electropneumatic positioner 4-20mA input, no feedback			AK	Local control unit				6
Electropneumatic positioner 4-20mA input, (2) SPDT mechanical switches for feedback			AL	Two extra travel cams and switches				7
Electropneumatic positioner 4-20mA input, 4-20mA for feedback			AM	Three position cam set				8
Electropneumatic positioner 0-10v input, no feedback			AN	Local control unit with lock				9
Electropneumatic positioner 0-10V input, (2) SPDT mechanical switches for feedback			AO	1-5V input/2-10V output modulating controller				A

F

BV3-Series Industrial Actuated Ball Valve - Part Number Key

1. Pneumatic Actuator or Spring Return Manual Handle				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option	Flow Path
1	XX	00	10	E	B	1	1	12
Electropneumatic positioner 0-10v input, 4-20mA for feedback			AP	2-10V input/output modulating controller				B
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback			AQ	75% duty cycle				C
Electropneumatic positioner 4-20mA input, no feedback, Class 1, Div II explosion proof			AR	Relay				D
Single coil solenoid, 24VDC and 24V banjo solenoid valve with form B plug			AS	Four position cam set				E
Single coil solenoid, 24VDC, AS-I, 2.5W low power			AT	25% duty cycle (actuator code G only)				F
Single coil solenoid, 24VDC, intrinsically safe			AU	75% duty cycle (actuator code G only)				G
Single coil solenoid, 24VDC, pre-wired to limit switch with cordset (dual keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)			AV	Flow Path				Code
Single coil solenoid, 24VDC, explosion proof, Class H coil			AW	Energize A, Energize B				12
Single coil solenoid, 24VAC			AX	Energize A, Energize D				13
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, Class 1, Div II explosion proof			AY	Energize A, Energize B, Energize D (80°)				39
Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads			AZ					
TUFRAM coated electropneumatic positioner 4-20mA input, no feedback			BA					
V200 rotary pneumatic positioner, (2) REED SWITCH feedback			BB					
Single coil solenoid, 120VAC, explosion proof, Class H coil			BC					
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P male connector			BD					
Flow Path			Code					
Rest A, Energize B (spring return)			10					
Rest A, Energize D (spring return)			11					
Energize A, Energize B (double acting)			12					
Energize A, Energize D (double acting)			13					
Rest B, Energize A, Energize D (spring return, 180°)			14					
Rest B, Energize A (spring return)			15					

NOTE: Refer to the flow path codes on the following pages for other available configurations.

BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

3-Way L-Port

A



B

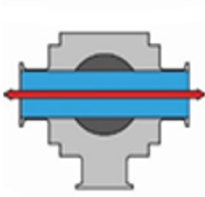


C



3-Way T-Port

A



B



C



D



4-Way L-Port

A



B



C



D



4-Way T-Port

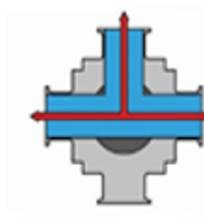
A



B



C



D



F

BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

2 Position

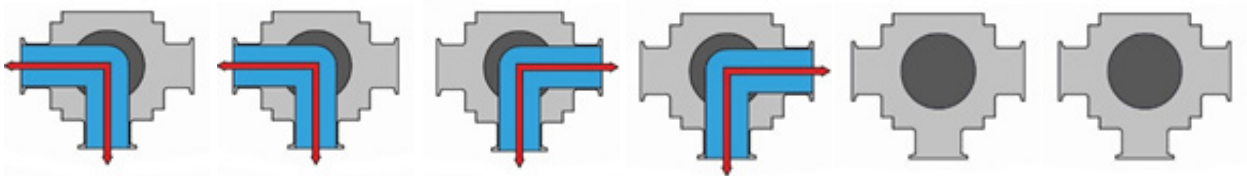
3-Way | L-Port | Spring Return

Code	10	16	15	17	18	19
Rotation	90°	90°	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW	CCW	CW

F

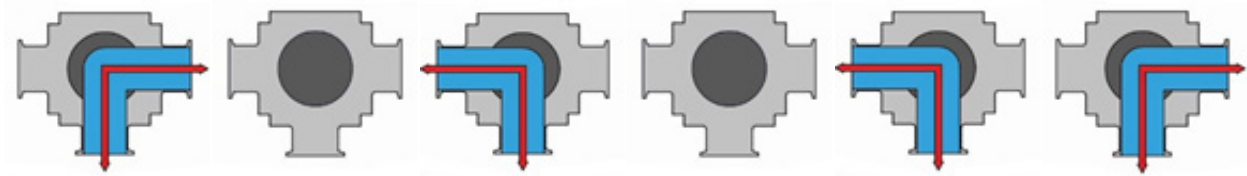
A A B B C C

Rest Position



B C A C A B

Energize Position

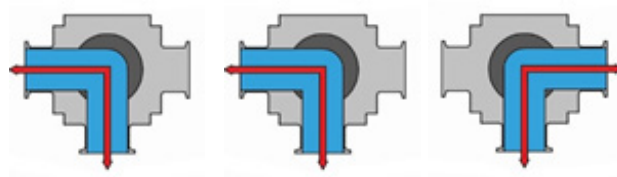


3-Way | L-Port | Double Acting or Electric

Code	12	20	21
Rotation	90°	90°	90°

A A B

Energize Position



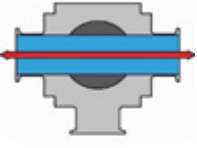
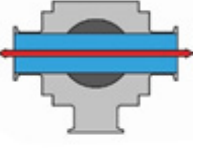

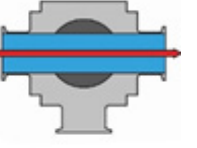
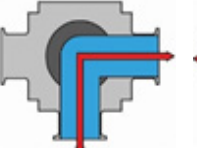
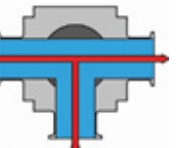
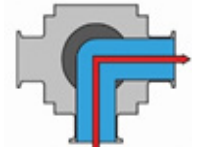
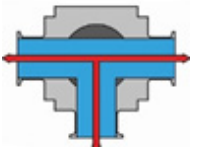
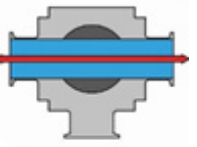
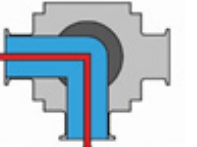
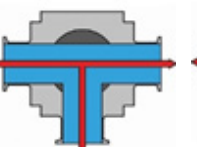
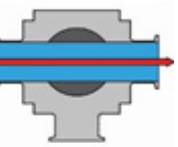
B C C

Energize Position

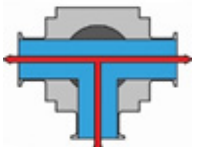


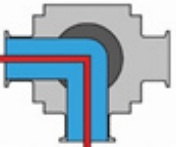


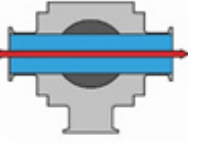



BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

3-Way | T-Port | Spring Return

Code	10	16	15	11	17	18
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CW	Either	CCW	CCW	CW	Either
	A	A	B	A	B	C
Rest Position						
	B	C	A	D	C	A
Energize Position						

F

Code	19	22	23	24
Rotation	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW
	C	C	D	D
Rest Position				
	B	D	A	C
Energize Position				

BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

3-Way | T-Port | Double Acting or Electric

Code	12	20	13	21	25
Rotation	90°	180°	90°	90°	90°

A A A B D

F

Energize Position



B C D C C

Energize Position

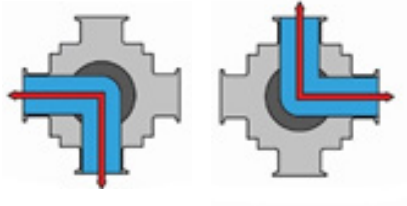


4-Way | L-Port | Spring Return

Code	10	16
Rotation	180°	180°
Air Rotation Detection	Either	Either

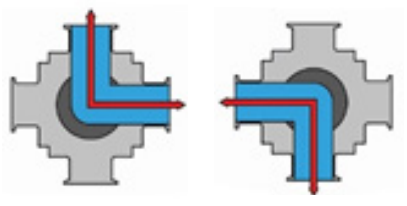
A A

Rest Position



B C

Energize Position



4-Way | L-Port | Double Acting or Electric

Code	12
Rotation	180°

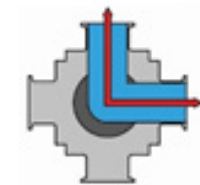
A

Energize Position



B

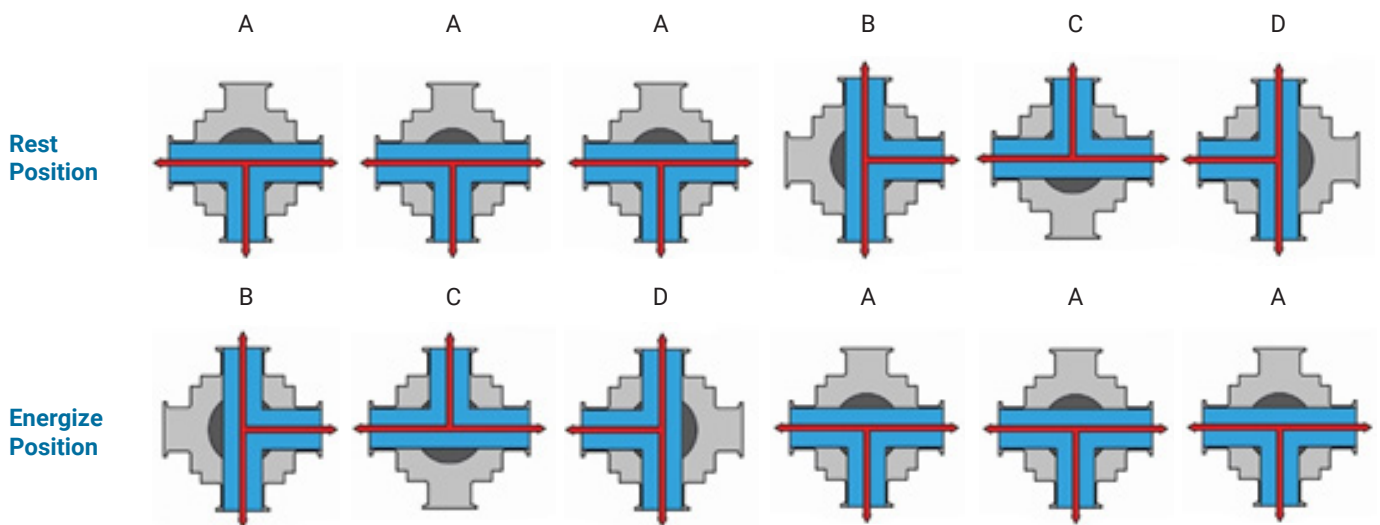
Energize Position



BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

4-Way | T-Port | Spring Return

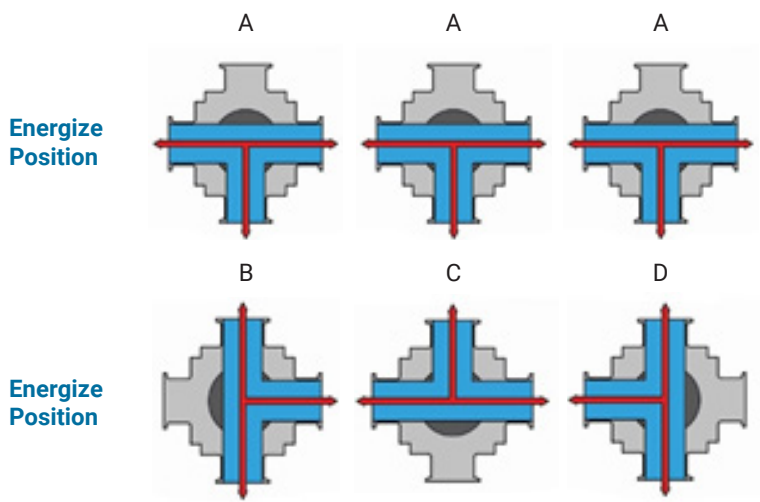
Code	10	16	11	15	18	23
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CCW	Either	CW	CW	Either	CCW



F

4-Way | T-Port | Double Acting or Electric

Code	12	20	13
Rotation	90°	180°	90°



BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

3 Position

3-Way | L-Port | Spring Return

Code	26	28	29
Rotation	180°	180°	180°
Air Rotation Detection	Either	Either	Either
Return	Either	Either	End

A B C

Rest Position



B A A

Energize Position



C C B

Energize Position

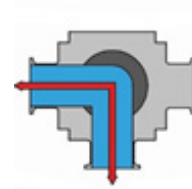


3-Way | L-Port | Double Acting or Electric

Code	30
Rotation	180°

A

Energize Position



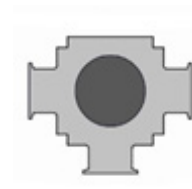
B

Energize Position



C

Energize Position



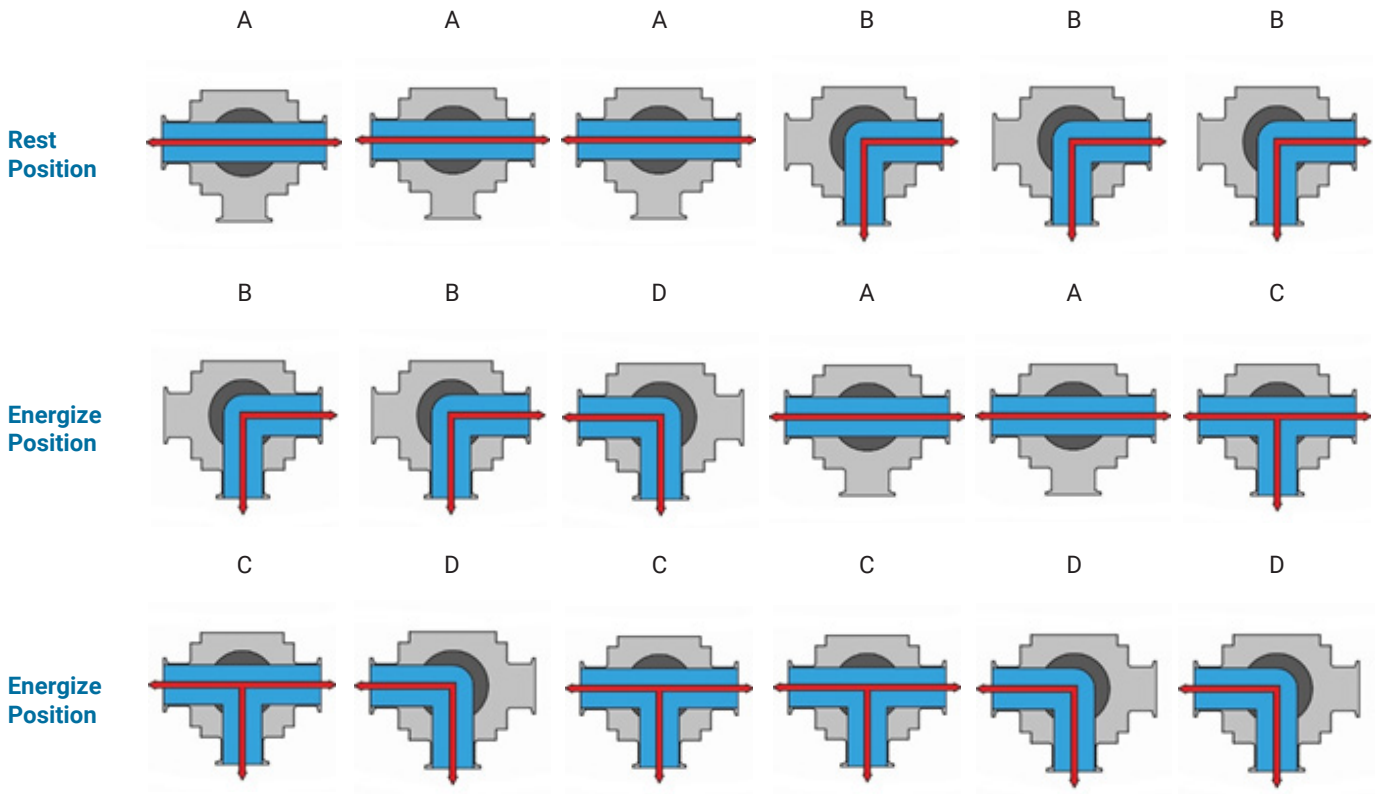
F

BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

3-Way | T-Port | Spring Return

Code	26	27	31	28	14	32
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	Both	CCW	Both	CCW	CW
Return	End	Center	End	Center	End	End

F



BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

3-Way | T-Port | Spring Return

Code	33	34	35	36	37	38
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CCW	CW	Both	CW	Both	CCW
Return	End	End	Center	End	Center	End

F

C

C

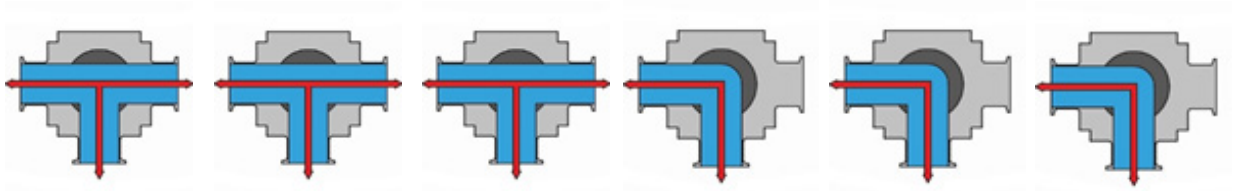
C

D

D

D

Rest Position



B

D

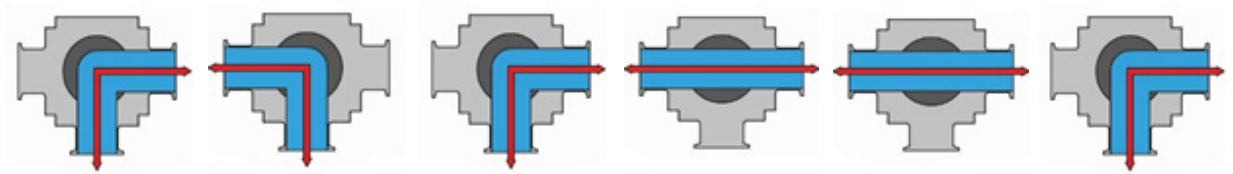
B

A

A

B

Energize Position



A

A

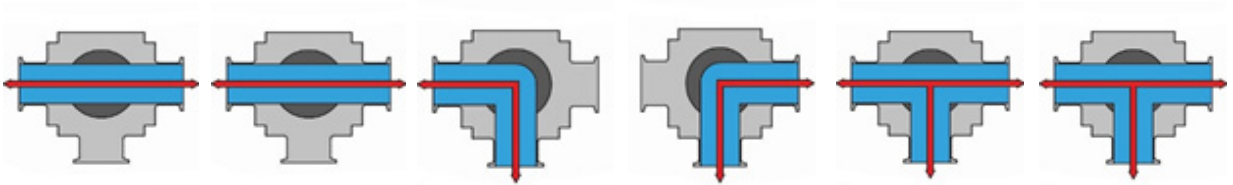
D

B

C

C

Energize Position



BV3I-Series Industrial Multi-Port Ball Valve - Flow Path Codes

3-Way | T-Port | Double Acting or Electric

Code	30	39	40	41
Rotation	180°	180°	180°	180°

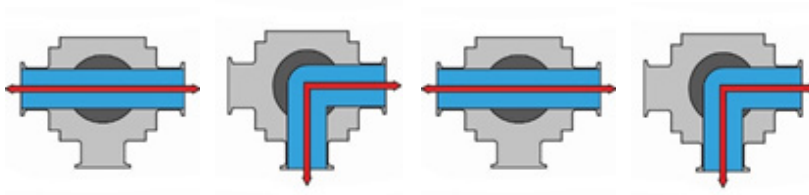
A

B

A

B

Energize Position



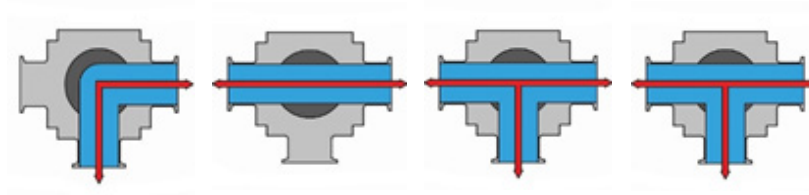
B

A

C

C

Energize Position



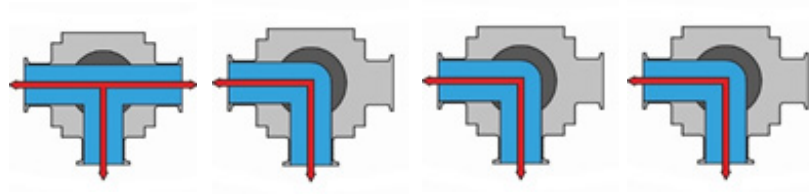
C

D

D

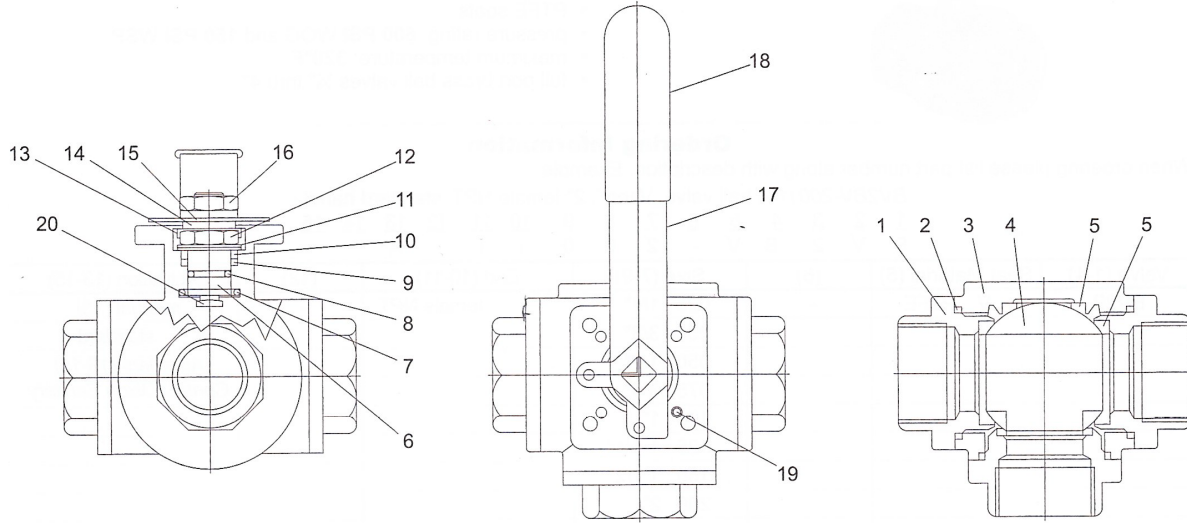
D

Energize Position



F

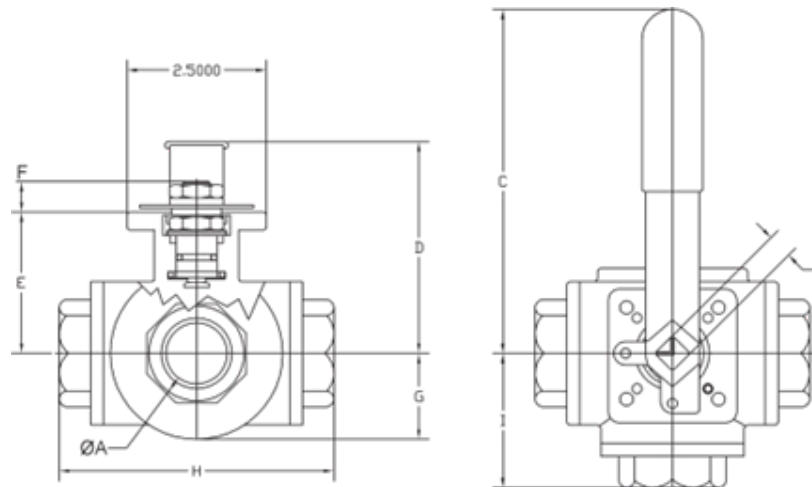
BV3I-Series Industrial Multi-Port Ball Valve - Bill of Materials



F

Item #	Description	Material	Qty
1	end cap	CF8M	1
2	gasket	PTFE	3
3	body	CF8M	1
4	ball	CF8M	1
5	seat	PTFE	4
6	stem	RTFE	1
7	stem seal	FKM	1
8	O-ring	PTFE	1
9	stem packing	PTFE	1
10	gland	301 SS	1
11	Belleville washer	304 SS	2
12	stem nut	304 SS	1
13	nut stop	304 SS	1
14	space washer	304 SS	1
15	lock saddle	304 SS	1
16	handle nut	304 SS	1
17	handle	304 SS	1
18	handle sleeve	vinyl	1
19	stop pin	304 SS	1
20	insert pin	316 SS	1

BV3I-Series Industrial Multi-Port Ball Valve - Dimensions



F

Size	A (in)	B (mm)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)
1/4"	.43	9	5.12	2.44	1.45	.40	.78	2.83	1.41
3/8"	.47	9	5.12	2.44	1.45	.40	.78	2.83	1.41
1/2"	.59	9	5.12	2.51	1.65	.45	.91	3.26	1.63
3/4"	.78	11	6.49	3.22	1.65	.59	1.10	3.89	1.94
1"	.98	11	6.49	3.50	2.18	.55	1.33	4.40	2.20
1-1/4"	1.25	14	8.07	3.85	2.48	.64	1.53	4.92	2.46
1-1/2"	1.50	14	8.07	4.25	2.88	.62	1.88	5.86	2.93
2"	2.0	17	12.79	5.51	3.63	.88	2.36	6.85	3.42

BV3I-Series Industrial Multi-Port Ball Valve - Repair Kits

Valve Size	Repair Kit Part #
1/4"	BV-3I-GK0251
3/8"	BV-3I-GK0381
1/2"	BV-3I-GK0501
3/4"	BV-3I-GK0751
1"	BV-3I-GK1001
1-1/4"	BV-3I-GK1251
1-1/2"	BV-3I-GK1501
2"	BV-3I-GK2001

Repair kit contains (3) PTFE gaskets, (4) PTFE seats, (1) RTFE stem, (1) FKM stem seal, and (1) PTFE stem packing.

BV3B-Series Industrial Brass Ball Valve

Sizes

- 1/4", 3/8", 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3"

Features

- Reduced port brass ball
- ISO 5211 mounting pad
- Blow-out proof stem
- Double O-ring stem packing

Materials

- Chrome plated brass ball
- FKM elastomers
- PTFE seats with O-ring backing for low operation torque



F

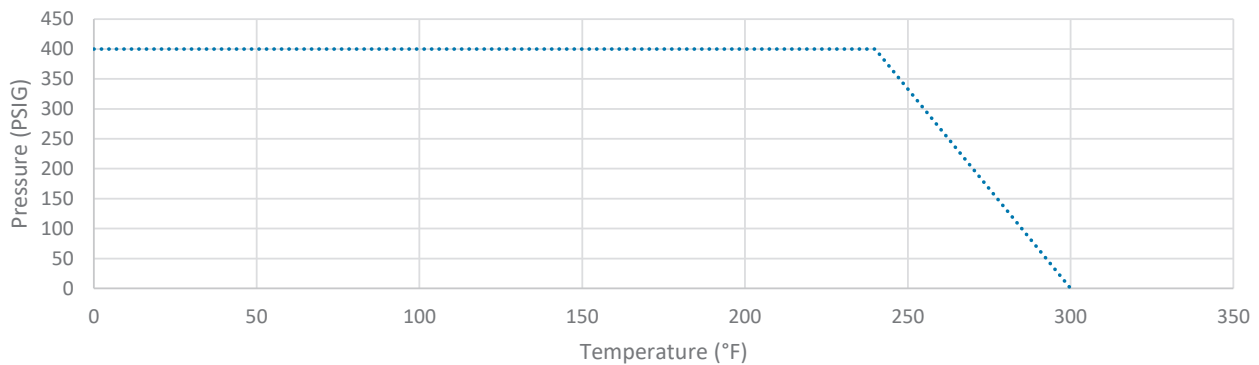
Specifications

- Pressure rating: **400 PSI WOG**; **100 PSI WSP**
- Maximum temperature: 344°F (173°C)

Size	L-Port Part #	T-Port Part #	Weight (lbs)	Break Torque (in-lbs)	ISO 5211
1/4"	BV3BVLR-0251-A	BV3BVTR-0251-A	1.22	53.1	F03
3/8"	BV3BVLR-0381-A	BV3BVTR-0381-A	1.16	53.1	F03
1/2"	BV3BVLR-0501-A	BV3BVTR-0501-A	1.21	53.1	F03
3/4"	BV3BVLR-0751-A	BV3BVTR-0751-A	1.44	53.1	F03
1"	BV3BVLR-1001-A	BV3BVTR-1001-A	2.64	150.46	F05
1-1/4"	BV3BVLR-1251-A	BV3BVTR-1251-A	4.15	150.46	F05
1-1/2"	BV3BVLR-1501-A	BV3BVTR-1501-A	6.02	150.46	F05
2"	BV3BVLR-2001-A	BV3BVTR-2001-A	9.08	274.37	F07
2-1/2"	BV3BVLR-2501-A	BV3BVTR-2501-A	16.33	380.58	F07
3"	BV3BVLR-3001-A	BV3BVTR-3001-A	19.55	380.58	F07

BV3B-Series Industrial Brass Ball Valve - Pressure Temperature Chart

0.25 in - 3.00 in



..... Virgin PTFE

BV3-Series Industrial Actuated Ball Valve - Part Number Key

BV3-Series Industrial Actuated Ball Valve Part Number Key Example: 3BLV031100XX10		Valve Style	Seat Material	Size	Connections
		3BL	V	03	1
BV3B/BV3I Valve Style	Code				
Brass 3-way L-port	3BL				
Brass 3-way T-port	3BT				
Stainless steel 3-way L-port	3IL				
Stainless steel 3-way T-port	3IT				
Seat Material	Code				
Virgin-PTFE (3B valve style only)	V				
RTFE (15% glass reinforced PTFE) (3I valve styles only)	G				
Size	Code				
1/4"	03				
3/8"	38				
1/2"	50				
3/4"	75				
1"	10				
1-1/4"	13				
1-1/2"	15				
2"	20				
2-1/2" (3B valve style only)	25				
3" (3B valve style only)	30				
Connections	Code				
Female NPT	1				

F

Continue number selection by following column 1 (pneumatic actuators) or 2 (electric actuators) below.

1. Pneumatic Actuator or Spring Return Manual Handle				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option	Flow Path
1	XX	00	10	E	B	1	1	12
Actuator			Code	Actuator				Code
Aluminum spring return pneumatic rack and pinion			1	Electric				E
Aluminum double acting pneumatic rack and pinion			2	Oversized (1-UP) electric				F
Stainless steel spring return pneumatic rack and pinion			3	Nema 7 electric				G
Stainless steel double acting pneumatic rack and pinion			4	Electric with riser kit				H
Dead man spring return handle			6	Voltage				Code
Oversized (1-UP) aluminum spring return pneumatic rack and pinion			7	115VAC				B
Technopolymer spring return pneumatic rack and pinion			8	12VDC				C
Oversized (1-UP) aluminum double acting pneumatic rack and pinion			9	24VAC				D
Manual handle with riser kit			A	24VDC				E

BV3-Series Industrial Actuated Ball Valve - Part Number Key

1. Pneumatic Actuator or Spring Return Manual Handle				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option	Flow Path
1	XX	00	10	E	B	1	1	12
Feedback			Code					
None			00	220VAC				F
Limit switch box, position indicator, (2) SPDT mechanical switches			11	12VAC				G
Limit switch box, position indicator, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULus Class 1/2 Div 1/2			12	Option 1				Code
Limit switch box, position indicator, AS-I			13	None				1
Limit switch box, position indicator, (2) proximity SPDT switches, aluminum Exd IIB certified enclosure			14	Torque switches				2
Limit switch box, position indicator, (2) DPDT mechanical switches			15	4-20mA input/output modulating controller				3
Limit switch box, position indicator, (2) switches, electro mec. SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1			16	Current position transmitter				4
Limit switch box, position indicator, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO			17	Potentiometer				5
Limit switch box, position indicator, 4-20ma analog position transmitter			18	Local control unit				6
Limit switch box, position indicator, SPDT proximity, 0.25A @120VAC, 0.416A @ 48VDC, resistive			19	Two extra travel cams and switches				7
Limit switch box, position indicator, 4-20ma analog position transmitter + 2 SPDT mechanical switches			20	Three position cam set				8
Stainless steel limit switch box, position indicator, (2) proximity SPDT switches			21	Local control unit with lock				9
Control			Code	1-5V input/2-10V output modulating controller				A
None			XX	2-10V input/output modulating controller				B
Single coil solenoid, 120VAC			AA	75% duty cycle				C
Single coil solenoid, 24VDC			AB	Relay				D
Single coil solenoid, 12VDC			AC	Four position cam set				E
Single coil solenoid, 220VAC			AD	25% duty cycle (actuator code G only)				F
Dual coil solenoid, 120VAC			AE	75% duty cycle (actuator code G only)				G
Dual coil solenoid, 24VDC			AF	Option 2				Code
Dual coil solenoid, 220VAC			AG	None				1
Pneumatic positioner 3-15psi input, no feedback			AH	Torque switches				2
Pneumatic positioner 3-15psi input, (2) SPDT mechanical switches for feedback			AI	4-20mA input/output modulating controller				3
Pneumatic positioner 3-15psi input, 4-20mA for feedback			AJ	Current position transmitter				4
Electropneumatic positioner 4-20mA input, no feedback			AK	Potentiometer				5
Electropneumatic positioner 4-20mA input, (2) SPDT mechanical switches for feedback			AL	Local control unit				6
Electropneumatic positioner 4-20mA input, 4-20mA for feedback			AM	Two extra travel cams and switches				7
Electropneumatic positioner 0-10v input, no feedback			AN	Three position cam set				8
Electropneumatic positioner 0-10V input, (2) SPDT mechanical switches for feedback			AO	Local control unit with lock				9
				1-5V input/2-10V output modulating controller				A

F

BV3-Series Industrial Actuated Ball Valve - Part Number Key

1. Pneumatic Actuator or Spring Return Manual Handle				2. Electric Actuator				
Actuator	Feedback	Control	Flow Path	Actuator	Voltage	Option 1	Option	Flow Path
1	XX	00	10	E	B	1	1	12
Electropneumatic positioner 0-10v input, 4-20mA for feedback			AP	2-10V input/output modulating controller				B
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback			AQ	75% duty cycle				C
Electropneumatic positioner 4-20mA input, no feedback, Class 1, Div II explosion proof			AR	Relay				D
Single coil solenoid, 24VDC and 24V banjo solenoid valve with form B plug			AS	Four position cam set				E
Single coil solenoid, 24VDC, AS-I, 2.5W low power			AT	25% duty cycle (actuator code G only)				F
Single coil solenoid, 24VDC, intrinsically safe			AU	75% duty cycle (actuator code G only)				G
Single coil solenoid, 24VDC, pre-wired to limit switch with cordset (dual keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)			AV	Flow Path				Code
Single coil solenoid, 24VDC, explosion proof, Class H coil			AW	Energize A, Energize B				12
Single coil solenoid, 24VAC			AX	Energize A, Energize D				13
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, Class 1, Div II explosion proof			AY	Energize A, Energize B, Energize D (80°)				39
Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads			AZ					
TUFRAM coated electropneumatic positioner 4-20mA input, no feedback			BA					
V200 rotary pneumatic positioner, (2) REED SWITCH feedback			BB					
Single coil solenoid, 120VAC, explosion proof, Class H coil			BC					
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P male connector			BD					
Flow Path			Code					
Rest A, Energize B (spring return)			10					
Rest A, Energize D (spring return)			11					
Energize A, Energize B (double acting)			12					
Energize A, Energize D (double acting)			13					
Rest B, Energize A, Energize D (spring return, 180°)			14					
Rest B, Energize A (spring return)			15					

F

NOTE: Refer to the flow path codes on the following pages for other available configurations.

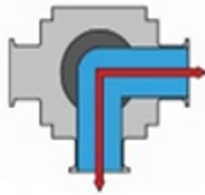
BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

3-Way L-Port

A



B



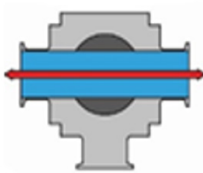
C



F

3-Way T-Port

A



B



C



D



4-Way L-Port

A



B



C



D

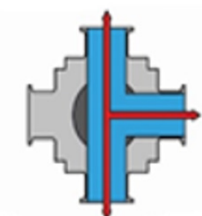


4-Way T-Port

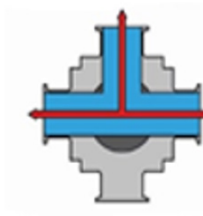
A



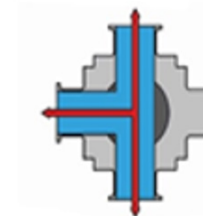
B



C



D



BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

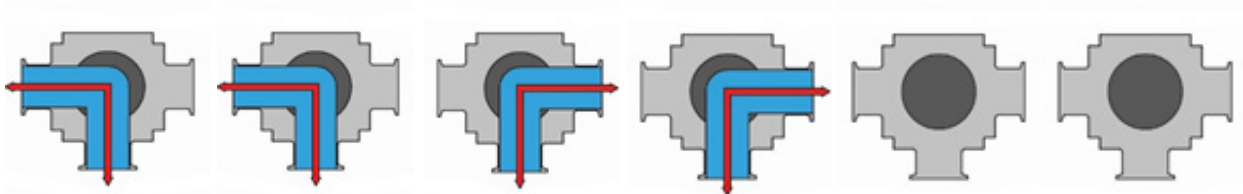
2 Position

3-Way | L-Port | Spring Return

Code	10	16	15	17	18	19
Rotation	90°	90°	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW	CCW	CW

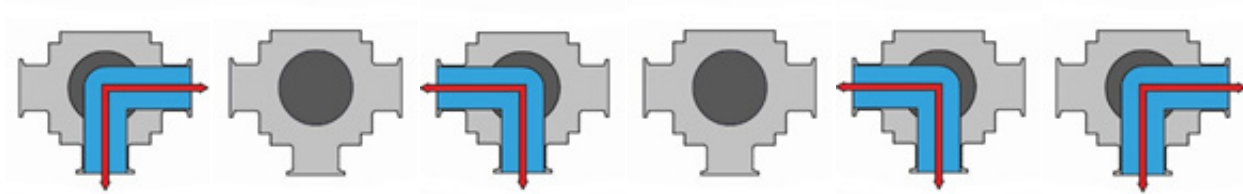
A A B B C C

Rest Position



B C A C A B

Energize Position

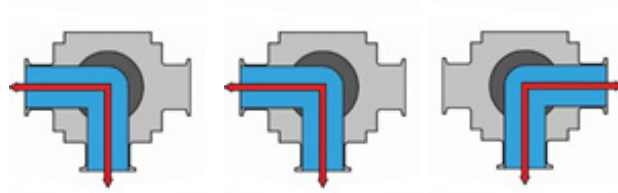


3-Way | L-Port | Double Acting or Electric

Code	12	20	21
Rotation	90°	90°	90°

A A B

Energize Position



B C C

Energize Position

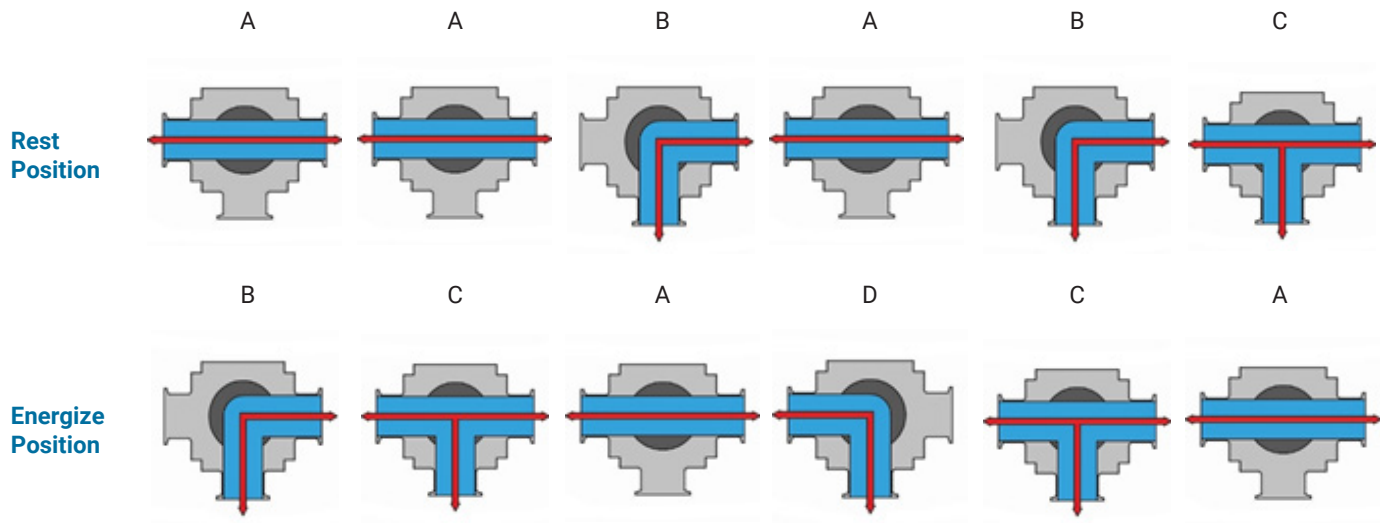


BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

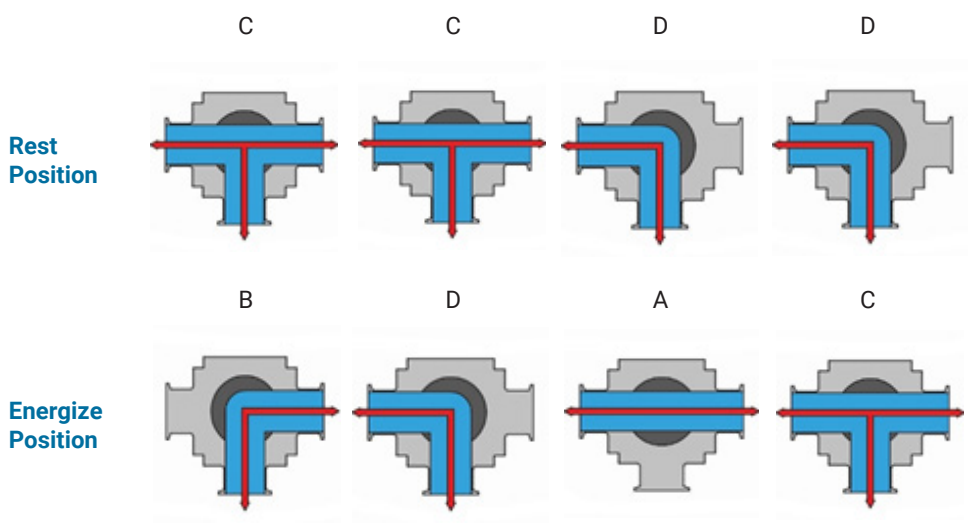
3-Way | T-Port | Spring Return

Code	10	16	15	11	17	18
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CW	Either	CCW	CCW	CW	Either

F



Code	19	22	23	24
Rotation	90°	90°	90°	90°
Air Rotation Detection	CCW	CW	CW	CCW



BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

3-Way | T-Port | Double Acting or Electric

Code	12	20	13	21	25
Rotation	90°	180°	90°	90°	90°
	A	A	A	B	D
Energize Position					
	B	C	D	C	C
Energize Position					

F

4-Way | L-Port | Spring Return

Code	10	16
Rotation	180°	180°
Air Rotation Detection	Either	Either
Rest Position		
	A	A
Energize Position		
	B	C

4-Way | L-Port | Double Acting or Electric

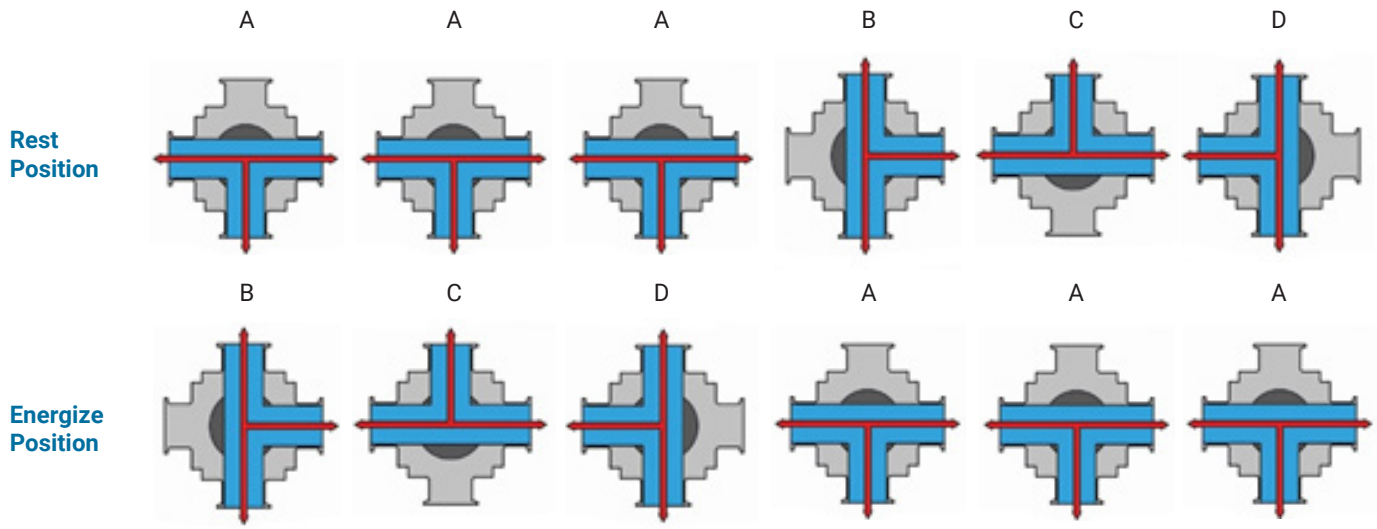
Code	12
Rotation	180°
Energize Position	
	A
Energize Position	
	B

BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

4-Way | T-Port | Spring Return

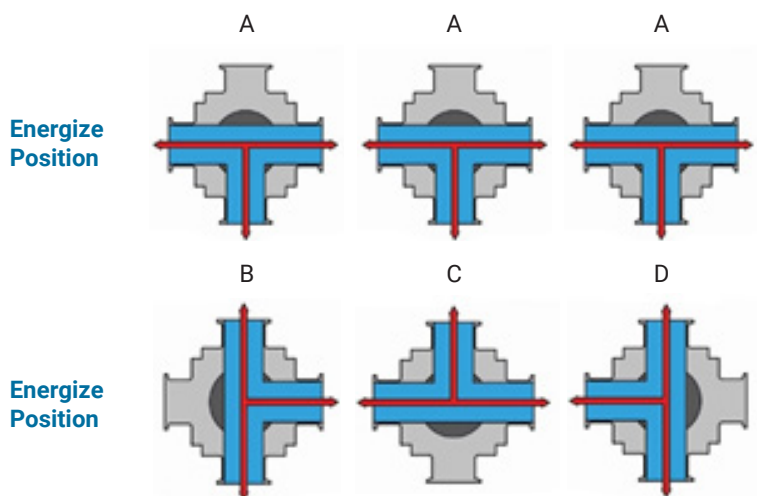
Code	10	16	11	15	18	23
Rotation	90°	180°	90°	90°	90°	180°
Air Rotation Detection	CCW	Either	CW	CW	Either	CCW

F



4-Way | T-Port | Double Acting or Electric

Code	12	20	13
Rotation	90°	180°	90°



BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

3 Position

3-Way | L-Port | Spring Return

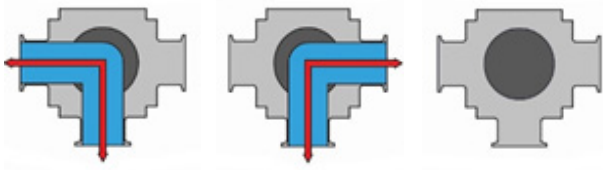
Code	26	28	29
Rotation	180°	180°	180°
Air Rotation Detection	Either	Either	Either
Return	Either	Either	End

A

B

C

Rest Position

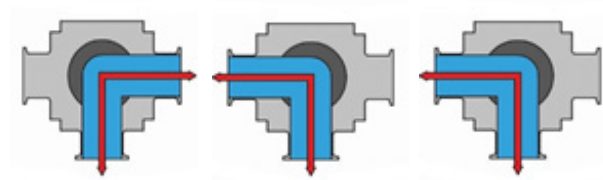


B

A

A

Energize Position



C

C

B

Energize Position

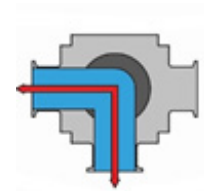


3-Way | L-Port | Double Acting or Electric

Code	30
Rotation	180°

A

Energize Position



B

Energize Position



C

Energize Position



F

BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

3-Way | T-Port | Spring Return

Code	26	27	31	28	14	32
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CW	Both	CCW	Both	CCW	CW
Return	End	Center	End	Center	End	End

F

A

A

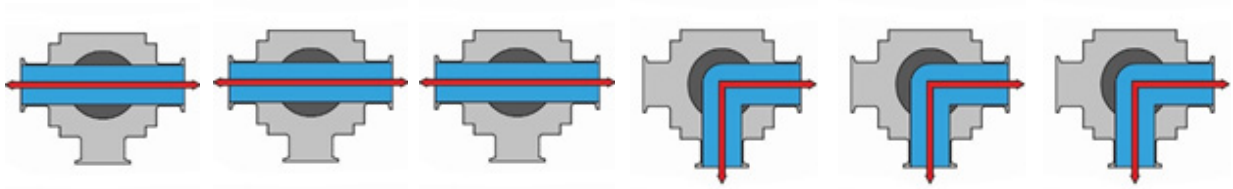
A

B

B

B

Rest Position



B

B

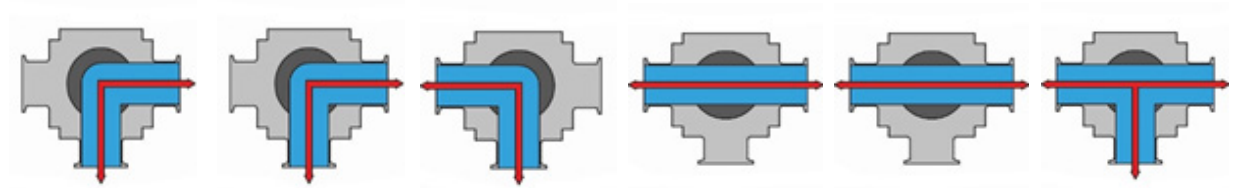
D

A

A

C

Energize Position



C

D

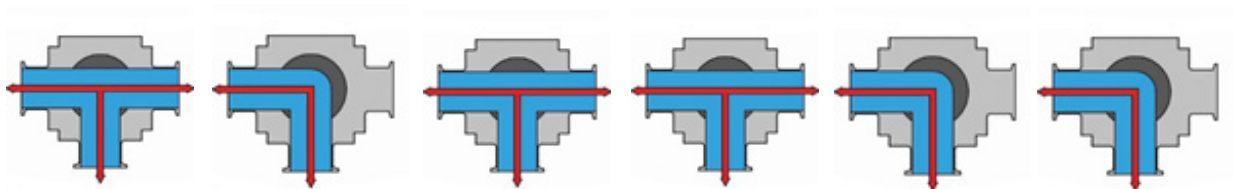
C

C

D

D

Energize Position



BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

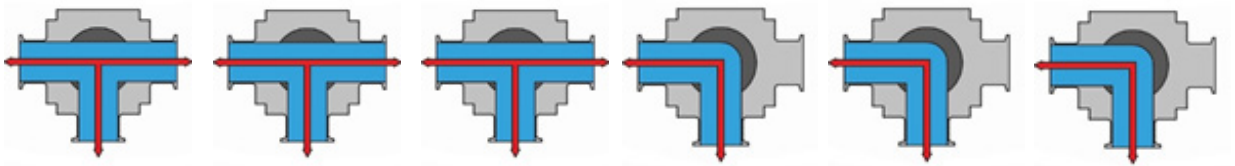
3-Way | T-Port | Spring Return

Code	33	34	35	36	37	38
Rotation	180°	180°	180°	180°	180°	180°
Air Rotation Detection	CCW	CW	Both	CW	Both	CCW
Return	End	End	Center	End	Center	End

F

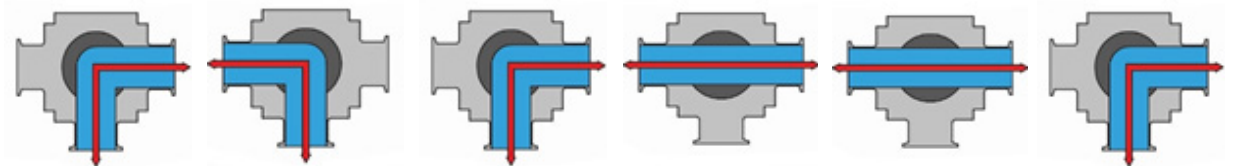
C C C D D D

Rest Position



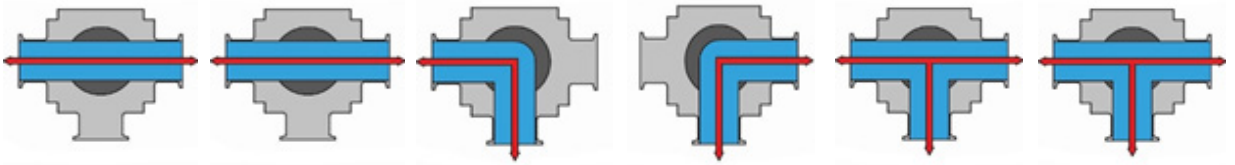
B D B A A B

Energize Position



A A D B C C

Energize Position



BV3B-Series Industrial Brass Ball Valve - Flow Path Codes

3-Way | T-Port | Double Acting or Electric

Code	30	39	40	41
Rotation	180°	180°	180°	180°

A

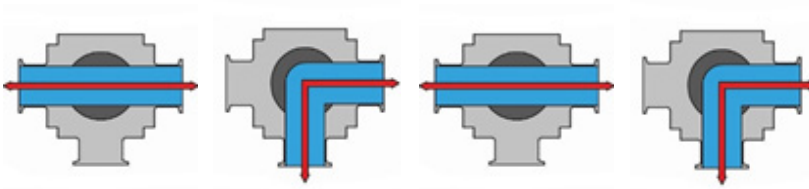
B

A

B

F

Energize Position



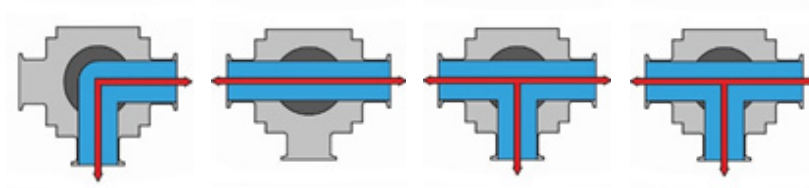
B

A

C

C

Energize Position



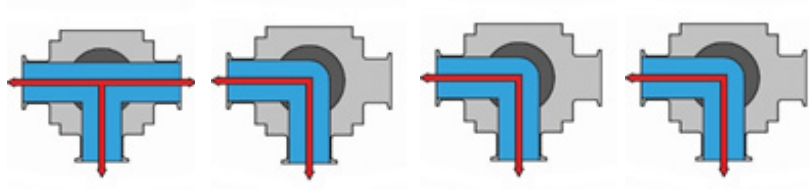
C

D

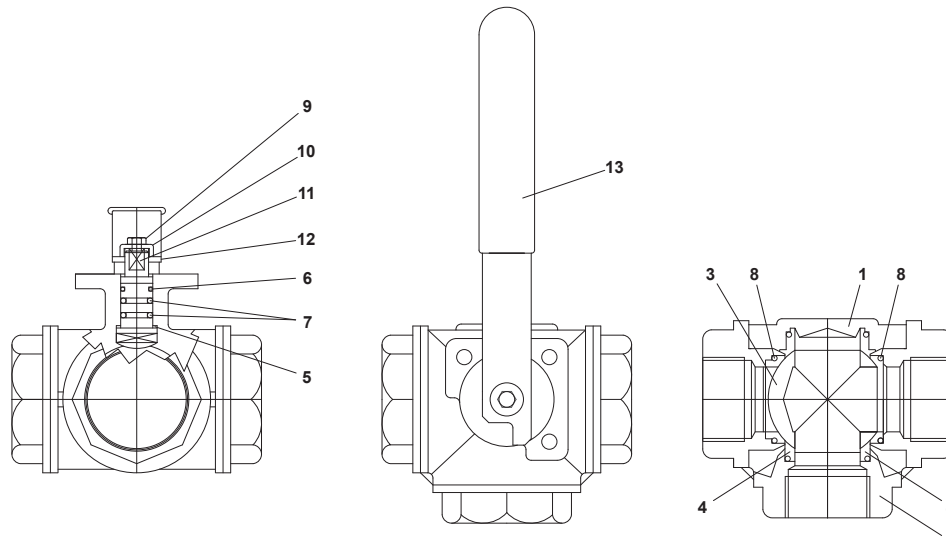
D

D

Energize Position



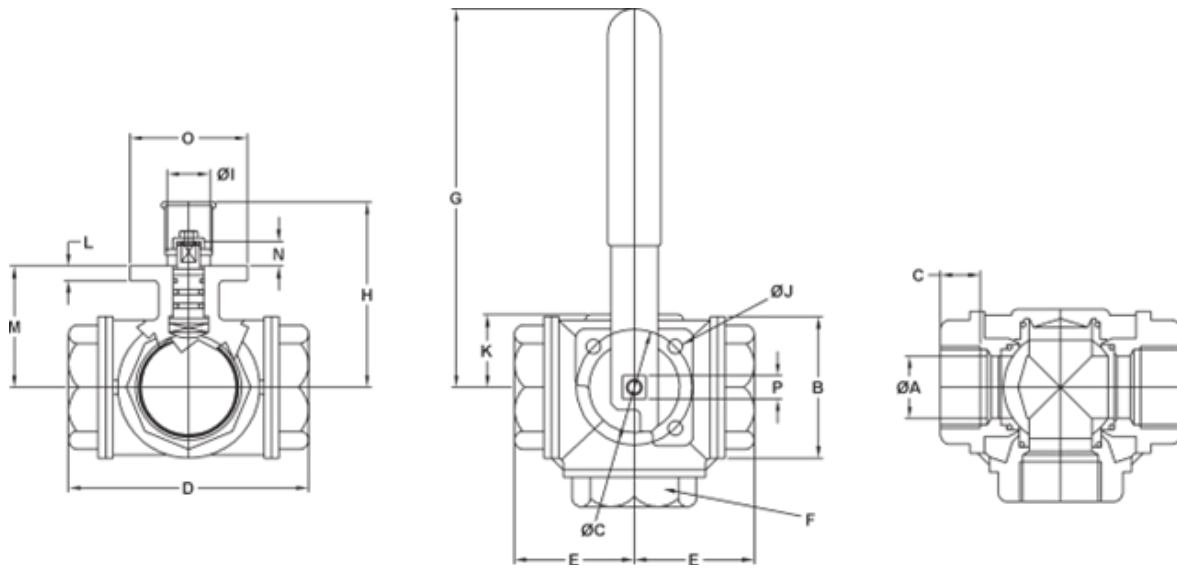
BV3B-Series Industrial Brass Ball Valve - Bill of Materials



F

Item #	Description	Material	Qty
1	body	brass	1
2	end connection	brass	3
3	ball	chrome plated brass	1
4	ball seat	PTFE	4
5	thrust washer	PTFE	1
6	stem seal	PTFE	1
7	O-ring stem	FKM	1
8	O-ring body	FKM	4
9	screw	steel	1
10	bushing	brass	1
11	stem	brass	1
12	washer	nylon	1
13	handle	steel and vinyl	1

BV3B-Series Industrial Brass Ball Valve - Dimensions



Size	A (in) ¹	B (in) ¹	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	N (in)	O (in)	P (mm)
1/4"	.39	1.34	.39	2.64	1.32	.86	4.72	2.44	.87	.23	.77	.20	1.20	.35	1.49	9
3/8"	.43	1.34	.40	2.64	1.32	.86	4.72	2.44	.87	.23	.77	.20	1.20	.35	1.49	9
1/2"	.43	1.34	.53	2.87	1.44	1.06	4.72	2.44	.87	.23	.77	.20	1.20	.35	1.49	9
3/4"	.59	1.53	.55	3.19	1.60	1.25	4.72	2.52	.87	.23	.87	.20	1.29	.35	1.49	9
1"	.79	1.89	.66	3.74	1.87	1.61	6.69	2.95	.94	.27	1.00	.28	1.63	.43	1.97	11
1-1/4"	.98	2.36	.68	4.39	2.20	1.96	6.69	3.17	.94	.27	1.22	.28	1.85	.43	1.97	11
1-1/2"	1.26	2.83	.68	4.86	2.43	2.16	6.69	3.66	1.26	.27	1.79	.28	2.34	.43	1.97	11
2"	1.57	3.38	.70	5.73	2.87	2.75	9.05	4.43	1.46	.35	1.75	.32	2.90	.59	2.75	14
2-1/2"	1.95	4.37	.93	6.93	3.47	3.34	9.05	4.86	1.46	.35	2.20	.32	3.35	.59	2.75	14
3"	1.95	4.45	1.01	7.08	3.54	4.13	9.05	4.86	1.46	.35	2.20	.32	3.35	.59	2.75	14

¹Clamp and weld dimensions are the same.

SSV-Series Single Seat Valves



Used in sanitary processes for the isolation or diversion of fluids. The valve is 3A certified to be cleaned-in-place and is constructed from FDA approved materials.

These valves can be found in the food processing, beverage, dairy, personal care, winery, brewery, and pet product markets.

Sizes

- 1", 1-1/2", 2", 2-1/2", 3", and 4"

Features

- Available with a pneumatic actuator or manual handle
- Burkert™ control top model numbers 8691 and 8692 are available

NOTE: See part number key for configurations available

Materials

- Product contact metal components: AISI 316L
- Non-product contact metal components: AISI 304
- Product contact seals: EPDM, FKM, or PTFE

Specifications

- Standard clamp connections
- Valve data
 - Maximum pressure: see holding pressure chart
 - Maximum operating temperature: **266°F (130°C)**
 - Maximum sterilization temperature (20 minutes maximum): **275°F (135°C)**
 - Maximum ambient temperature: **140°F (60°C)**
- Actuator data
 - Connections: 1/8" NPT with 1/4" tube push-in connection
 - Control air pressure
 - Spring return maximum pressure: **80 PSI (5.5 bar)**
 - Double acting maximum pressure: **45 PSI (3.1 bar)**
 - Maximum temperature: **176°F (80°C)**
 - Solids content
 - Maximum particle size: 5 µm
 - Maximum particle density: 5 mg/m³
 - Oil content
 - Maximum oil: 25 mg/m³ (oil free quality class 3)
- Surface finish
 - Product contact metal components: Ra ≤ 32
 - Non-product contact metal components: Ra ≤ 63 polished
- Device sound emission level: ≤ 70 dB(A)



SSV-Series Single Seat Valve - Part Number Key

SSV-Series Single Seat Valve Part Number Key Example: S01A10C1EEA		Series	Valve Body				Actuation Type	Stem Type	Wetted Elastomers	Options
		S	01	A	10	C	1	E	E	A






Series	Code
Shut off	S
Divert	D
Valve Body Style (See Diagram A)	Code
L (2-port shut-off)	01
T (3-port shut-off)	02
Y (2-port shut-off)	03
F (3-port divert)	04
F-90 (3-port divert) top port rotated 90° CW	49
L/L (3-port divert)	05
L/L-90 (3-port divert) top port rotated 90° CW	59
T/L (4-port divert)	06
T/L-90 (4-port divert) top port rotated 90° CW	69
L/T (4-port divert)	07
L/T-90 (4-port divert) top port rotated 90° CW	79
T/T (5-port divert) top port rotated 90° CW	08
T/T-90 (5-port divert) top port rotated 90° CW	89
Surface Finish	Code
32 Ra (I.D. mech. polish)	A
25 Ra (I.D. mech. polish)	B
20 Ra (I.D. mech. polish)	C
15 Ra (I.D. mech. polish)	D
Valve Size	Code
1"	10
1-1/2"	15
2"	20
2-1/2"	25
3"	30
4"	40
Connections	Code
Clamp	C
Weld	B
Female I-line	F
Male I-line	M
Threaded bevel	T
Plain bevel	P
Q-Line	Q
Combination (see table 1)	-

G

Table 1 (Codes)

A-Port	B-Port	C-Port	D-Port	E-Port	Port Diagram
C	C	C	C	C	
B	B	B	B	B	
F	F	F	F	F	
M	M	M	M	M	
T	T	T	T	T	
P	P	P	P	P	
Q	Q	Q	Q	Q	
N (no port)	-	N (no port)	N (no port)	N (no port)	

SSV-Series Single Seat Valve - Part Number Key

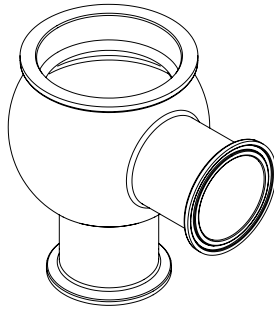
SSV-Series Single Seat Valve Part Number Key Example: S01A10C1EEA		Series	Valve Body				Actuation Type	Stem Type	Wetted Elastomers	Options
		S	01	A	10	C	1	E	E	A
Actuation Type	Code									
Pneumatic spring return (air-to-raise)	1									
Pneumatic spring return (air-to-lower)	2									
Pneumatic double acting (air-to-air)	3									
Manual handle	4									
Stem Type	Code									
Elastomer O-ring stem seal	E									
PTFE plug seal	P									
Wetted Elastomers	Code									
EPDM	E									
FKM	V									
Options	Code									
10-30 VDC external proximity, PNP, (qty 2)	A									
10-30 VDC external proximity, NPN, (qty 2)	B									
20-253 VAC external proximity, (qty 2)	C									
110 VAC external proximity, (qty 2)	D									
Burkert 8691, single acting, DeviceNet, multipin	E									
Burkert 8691, single acting, AS-i, multipin	F									
Burkert 8691, single acting, 24VDC, multipin	G									
Burkert 8691, double acting, DeviceNet, multipin	H									
Burkert 8691, double acting, AS-i, multipin	J									
Burkert 8691, double acting, 24VDC, multipin	K									
Burkert 8691, without solenoid, 24VDC, multipin	L									
Burkert 8692 positioner, 24VDC, 4-20mA, multipin	P									
External proximity bracket only	Q									

G

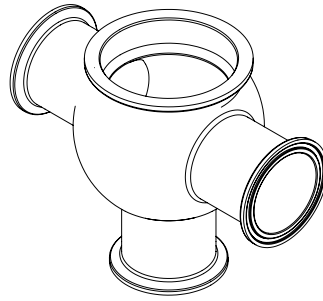
SSV-Series Single Seat Valve - Body Styles (Diagram A)

Part Number Example:
 D06B20NBCCC2PVG
 Part Description: Divert Valve,
 T/L Body, 25 Ra Polish, 2", [No
 Port on A, Butt weld on Port B,
 Clamp Port C, Clamp on Port
 D, Clamp on Port E] Spring
 Return Air-to-Lower Actuator,
 PTFE Stem Seal, FKM wetted
 Elastomers, Burkert 8691
 Single Acting 24VDC Multipin

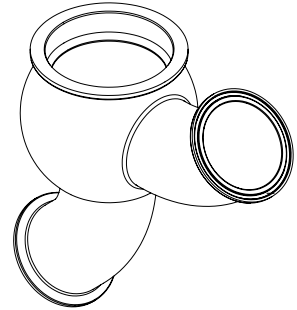
L-Body



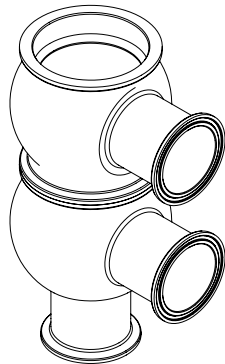
T-Body



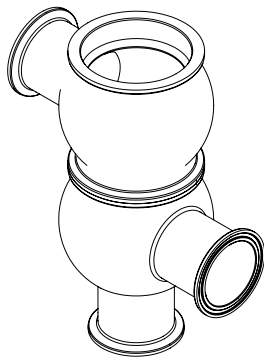
Y-Body



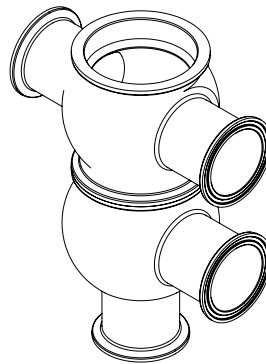
F-Body



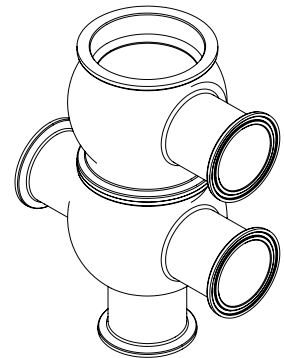
LL-Body



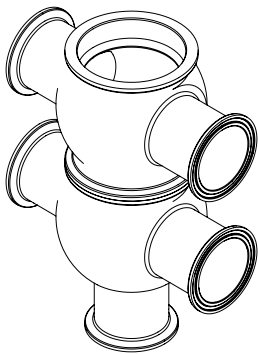
TL-Body



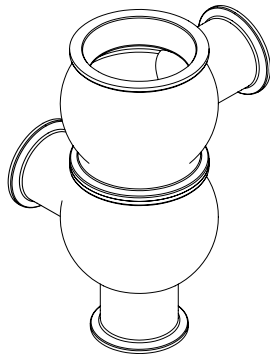
LT-Body



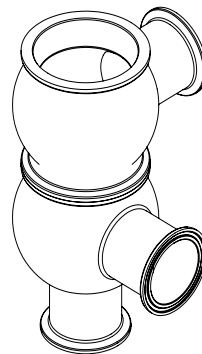
TT-Body



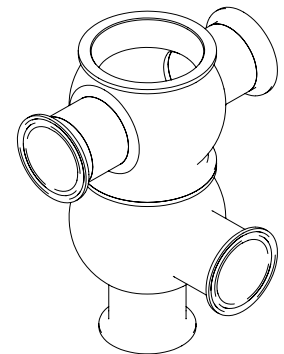
F-90 Body



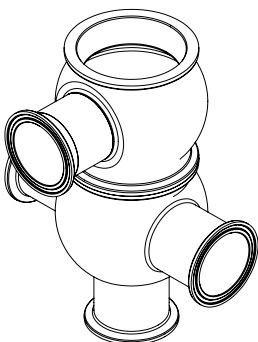
LL-90 Body



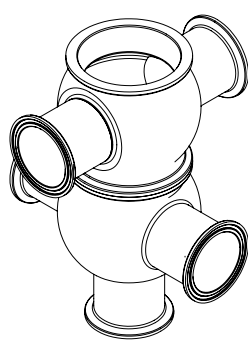
TL-90 Body



LT-90 Body

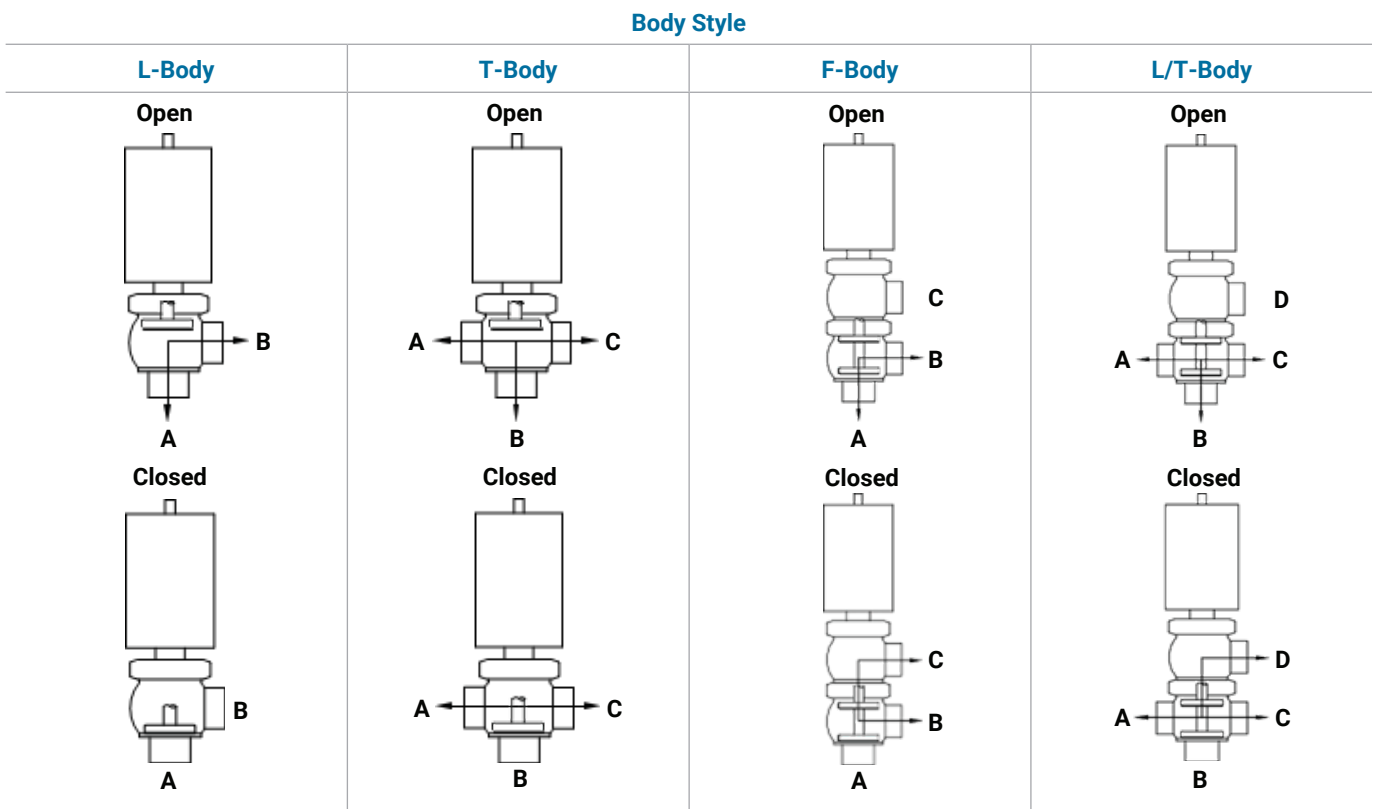


TT-90 Body

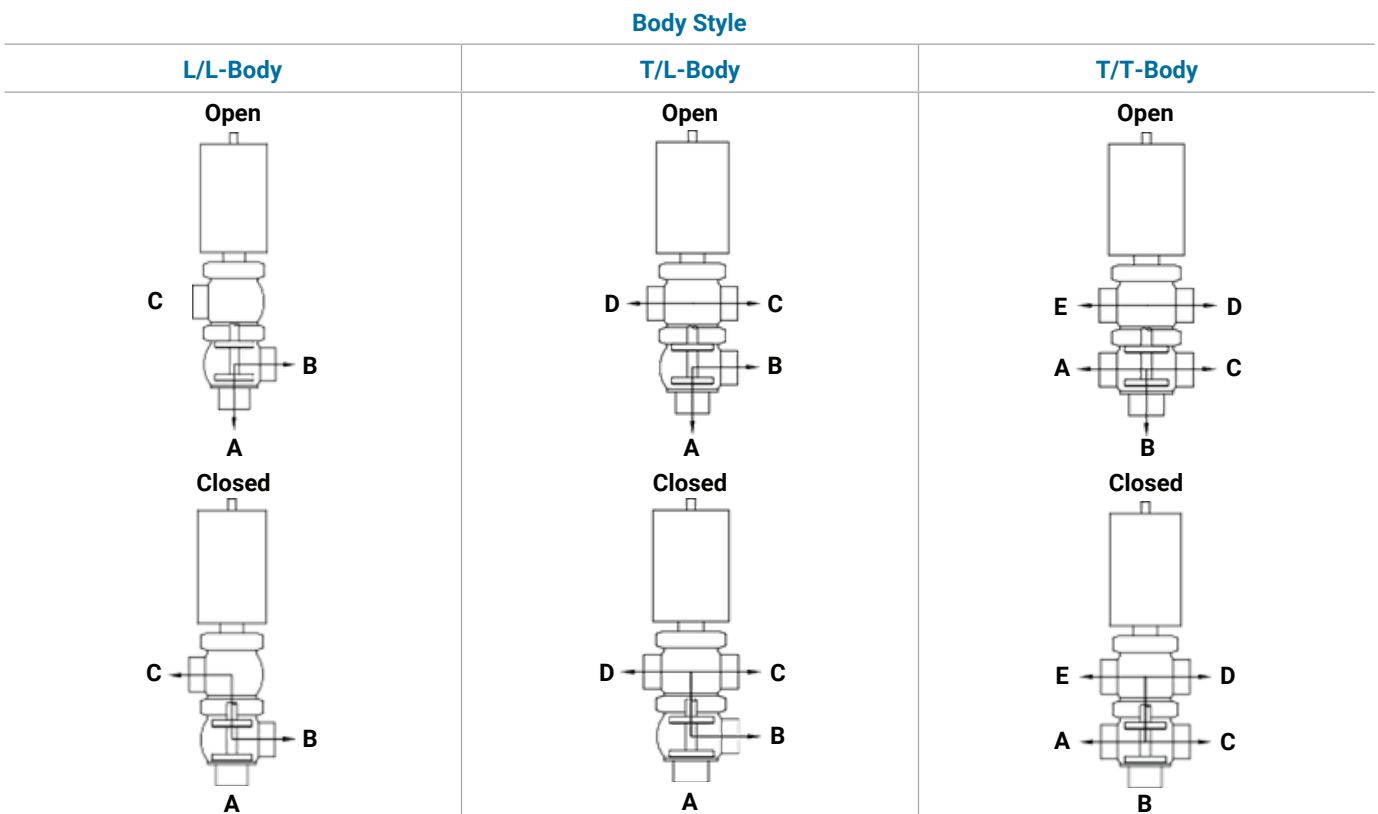


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SSV-Series Single Seat Valve - Flow Paths



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SSV-Series Single Seat Valve - Divert Pressure Drop Chart

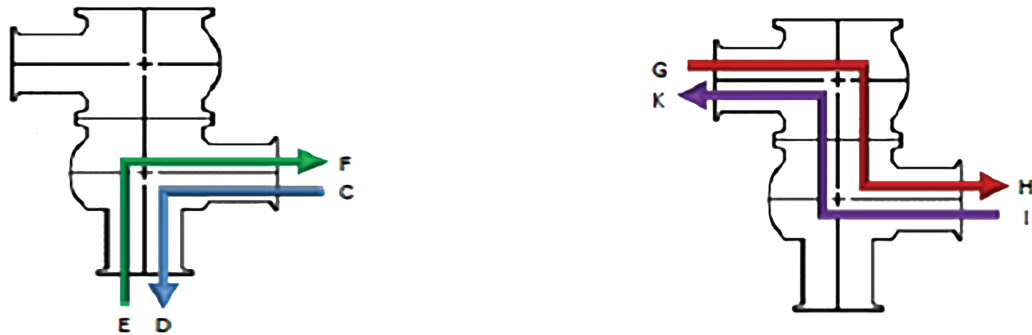


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Δp [PSI]	Valve Size							
	1"				1-1/2"			
	C-D Q[GPM]	E-F Q[GPM]	G-H Q[GPM]	I-K Q[GPM]	C-D Q[GPM]	E-F Q[GPM]	G-H Q[GPM]	I-K Q[GPM]
3.6	26.40	25.52	27.10	26.84	65.34	63.27	67.19	66.44
7.3	37.40	36.08	38.28	38.02	92.40	89.50	95.04	94.16
14.5	52.67	51.04	54.16	53.77	130.68	126.54	134.77	133.32
21.8	64.68	62.48	66.44	65.82	160.16	155.01	164.56	163.24
29.0	74.49	72.16	76.56	76.03	184.80	179.08	190.08	188.54
36.3	83.29	80.70	85.67	84.92	206.62	200.20	212.52	210.76
43.5	91.21	88.44	93.85	93.10	226.34	219.16	232.76	231.00
50.8	98.56	95.48	101.20	100.58	244.51	236.72	251.24	249.48
58.0	105.34	102.08	107.49	107.36	261.36	253.09	268.40	266.64
65.3	111.76	108.24	114.84	113.96	277.20	268.40	285.12	282.92
72.5	117.74	114.14	121.18	120.12	292.16	282.92	300.52	298.32

Δp [PSI]	Valve Size							
	2"				2-1/2"			
	C-D Q[GPM]	E-F Q[GPM]	G-H Q[GPM]	I-K Q[GPM]	C-D Q[GPM]	E-F Q[GPM]	G-H Q[GPM]	I-K Q[GPM]
3.6	121.66	117.92	125.18	124.08	195.36	189.42	201.08	199.76
7.3	172.04	166.76	176.88	175.56	276.32	267.87	284.24	282.04
14.5	243.32	235.84	250.36	248.16	390.72	378.84	402.16	399.08
21.8	298.01	288.86	306.68	304.04	478.54	464.20	492.36	488.84
29.0	344.08	333.52	354.20	351.12	552.55	535.92	568.92	564.52
36.3	384.74	372.90	396.00	392.48	617.76	599.02	635.80	630.96
43.5	421.52	408.50	433.84	429.88	676.72	656.17	696.52	691.24
50.8	455.40	441.32	468.60	464.20	730.97	708.84	752.40	746.68
58.0	486.64	471.68	500.72	496.32	781.44	757.68	804.32	798.16
65.3	516.12	500.28	531.08	526.24	828.96	803.66	853.16	846.56
72.5	544.28	527.56	559.68	554.84	873.84	847.13	899.36	892.32

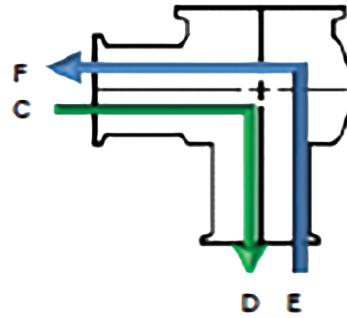
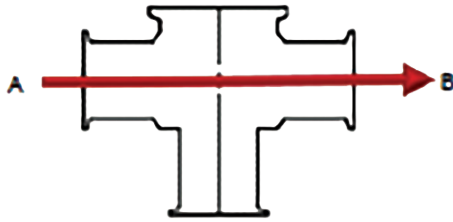
SSV-Series Single Seat Valve - Divert Pressure Drop Chart



Δp [PSI]	Valve Size							
	3"				4"			
	C-D	E-F	G-H	I-K	C-D	E-F	G-H	I-K
	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]
3.6	286.53	277.68	294.80	292.60	511.28	495.53	525.80	521.84
7.3	404.80	392.70	416.90	413.60	723.05	700.74	743.60	737.88
14.5	573.01	555.37	589.60	585.20	1022.56	991.01	1051.60	1043.68
21.8	701.80	680.24	722.04	717.20	1252.37	1213.74	1287.88	1278.20
29.0	810.48	785.40	833.80	827.64	1446.10	1401.49	1487.20	1476.20
36.3	906.05	878.24	932.80	925.32	1617.00	1567.28	1663.20	1650.00
43.5	992.51	961.93	1021.24	1013.76	1771.13	1716.44	1821.60	1808.40
50.8	1072.02	1039.02	1103.08	1094.72	1913.12	1854.16	1967.24	1953.60
58.0	1146.02	1110.74	1179.20	1170.40	2045.12	1982.02	2103.20	2087.36
65.3	1215.54	1178.10	1250.92	1241.24	2169.20	2102.23	2230.80	2214.08
72.5	1281.28	1241.86	1318.24	1308.56	2286.68	2215.97	2351.36	2333.76

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SSV-Series Single Seat Valve - Shut-Off Pressure Drop Chart

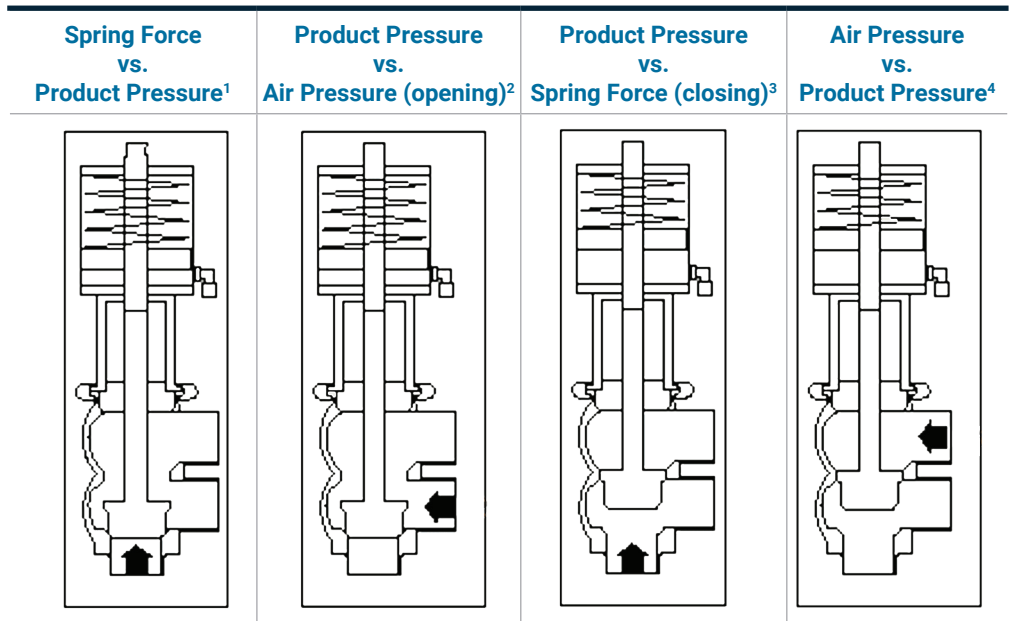


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Δp [PSI]	Valve Size								
	1"			1-1/2"			2"		
	A-B	C-D	E-F	A-B	C-D	E-F	A-B	C-D	E-F
	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]
3.6	26.75	26.40	25.52	66.35	65.34	63.27	123.64	121.66	117.92
7.3	37.84	37.40	36.08	93.85	92.40	89.50	166.06	172.04	166.76
14.5	53.52	52.67	51.04	132.70	130.68	126.54	247.28	243.32	235.84
21.8	65.56	64.68	62.48	162.54	160.16	155.01	302.85	298.01	288.86
29.0	75.68	74.49	72.16	187.66	184.80	179.08	349.80	344.08	333.52
36.3	84.61	83.29	80.70	209.88	206.62	200.20	390.98	384.74	372.90
43.5	92.84	91.21	88.44	229.86	226.34	219.16	428.30	421.52	408.50
50.8	100.14	98.56	95.48	248.29	244.51	236.72	462.62	455.40	441.32
58.0	107.05	105.34	102.08	265.32	261.36	253.09	494.56	486.64	471.68
65.3	113.52	111.76	108.24	281.60	277.20	268.40	524.57	516.12	500.28
72.5	119.68	117.74	114.14	296.74	292.16	282.92	553.08	544.28	527.56

Δp [PSI]	Valve Size								
	2-1/2"			3"			4"		
	A-B	C-D	E-F	A-B	C-D	E-F	A-B	C-D	E-F
	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]	Q[GPM]
3.6	198.57	195.36	189.42	291.28	286.53	277.68	519.64	511.28	495.53
7.3	280.81	276.32	267.87	411.93	404.80	392.70	734.80	723.05	700.74
14.5	397.14	390.72	378.84	582.56	573.01	555.37	1039.28	1022.56	991.01
21.8	486.42	478.54	464.20	713.50	701.80	680.24	1272.92	1252.37	1213.74
29.0	561.66	552.55	535.92	823.86	810.48	785.40	1469.78	1446.10	1401.49
36.3	627.92	617.76	599.02	921.10	906.05	878.24	1643.27	1617.00	1567.28
43.5	687.90	676.72	656.17	1009.05	992.51	961.93	1800.04	1771.13	1716.44
50.8	742.98	730.97	708.84	1089.88	1072.02	1039.02	1944.36	1913.12	1854.16
58.0	794.29	781.44	757.68	1165.12	1146.02	1110.74	2078.56	2045.12	1982.02
65.3	842.60	828.96	803.66	1235.96	1215.54	1178.10	2204.40	2169.20	2102.23
72.5	888.05	873.84	847.13	1302.40	1281.28	1241.86	2324.08	2286.68	2215.97

SSV-Series Single Seat Valve - Spring Return (Air-to-Raise) Holding Pressure Chart



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Plant Supply Air	Valve Size	Actuator Size	Seat Material	Spring Force vs. Product Pressure ¹		Product Pressure vs. Air Pressure (opening) ²		Product Pressure vs. Spring Force (closing) ³		Air Pressure vs. Product Pressure ⁴	
				bar	PSI	bar	PSI	bar	PSI	bar	PSI
80 PSI	1"	1"	Elastomer	12.3	178.4	16.0	232.0	6.8	98.6	16.0	232.0
			PTFE	10.3	149.4	16.0	232.0	6.9	100.1	16.0	232.0
	1-1/2"	2"	Elastomer	17.3	251.1	16.0	232.0	12.1	175.5	16.0	232.0
			PTFE	9.8	142.1	16.0	232.0	13.6	197.2	14.9	216.1
	2"	2"	Elastomer	9.3	134.9	9.8	142.1	8.2	118.9	8.8	127.6
			PTFE	10.6	153.7	10.3	149.4	7.6	110.2	9.8	142.1
	2-1/2"	3"	Elastomer	14.0	203.0	10.8	156.6	11.3	163.1	14.3	207.4
			PTFE	10.1	146.0	15.2	220.4	12.9	187.1	13.6	197.2
	3"	3"	Elastomer	9.5	137.8	9.3	134.9	8.3	120.4	8.8	127.6
			PTFE	9.8	142.1	10.2	147.9	8.3	120.4	10.9	158.1
	4"	3"	Elastomer	4.8	69.6	5.3	76.9	5.2	75.4	5.4	78.3
			PTFE	5.0	72.5	5.6	81.2	5.5	79.8	5.9	85.6

NOTE: **80 PSI** required for spring return actuators. Do not exceed **80 PSI**.

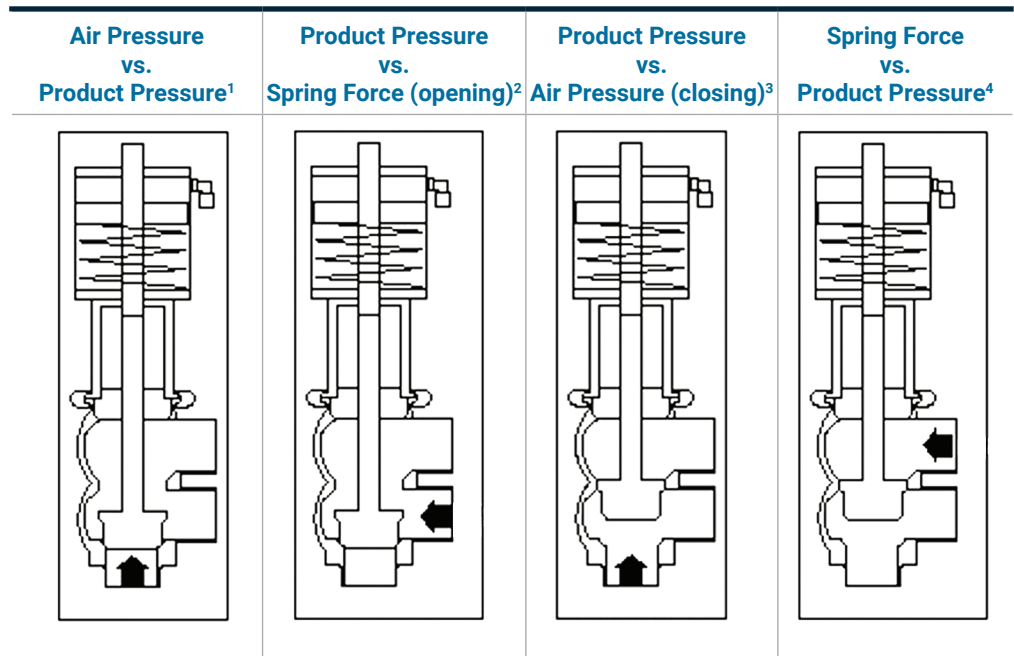
¹Product line pressure required to overcome the spring force of the actuator from the bottom port in the lowered position.

²Product line pressure required from the side port to prevent the valve stem from actuating to the raised position when actuated with **80 PSI** air.

³Product line pressure required from the bottom port to prevent the actuator spring from actuating to the lower position.

⁴Product line pressure required from the side port to overcome the actuated valve at **80 PSI** to force the valve stem to lower position.

SSV-Series Single Seat Valve - Spring Return (Air-to-Lower) Holding Pressure Chart



Plant Supply Air	Valve Size	Actuator Size	Seat Material	Air Pressure vs. Product Pressure ¹		Product Pressure vs. Spring Force (opening) ²		Product Pressure vs. Air Pressure (closing) ³		Spring Force vs. Product Pressure ⁴	
				bar	PSI	bar	PSI	bar	PSI	bar	PSI
80 PSI	1"	1"	Elastomer	16.0	232.0	9.3	134.9	12.8	185.6	11.8	171.1
			PTFE	16.0	232.0	11.8	170.8	15.0	217.5	9.3	134.9
	1-1/2"	2"	Elastomer	16.0	232.0	15.8	229.1	14.8	214.6	16.0	232.0
			PTFE	8.8	127.6	16.0	232.0	14.0	203.0	13.6	197.2
	2"	2"	Elastomer	10.1	146.5	9.2	133.4	8.1	117.5	9.5	137.8
			PTFE	8.1	117.5	10.1	146.5	8.4	121.8	9.2	133.4
	2-1/2"	3"	Elastomer	15.8	229.1	12.8	185.6	11.0	159.5	12.9	187.1
			PTFE	9.7	140.7	14.8	214.6	13.4	194.3	11.8	171.1
	3"	3"	Elastomer	10.0	145.0	9.3	134.9	9.3	134.9	9.1	132.0
			PTFE	10.0	145.0	9.1	131.7	9.3	134.9	9.7	140.7
	4"	3"	Elastomer	5.3	76.9	5.3	76.9	5.1	74.0	4.8	69.6
			PTFE	4.4	63.8	5.6	81.2	5.8	84.1	4.4	63.8

NOTE: 80 PSI required for spring return actuators. Do not exceed 80 PSI.

¹Product line pressure required from the bottom port to overcome the actuated valve at 80 PSI to force the valve stem to the raised position.

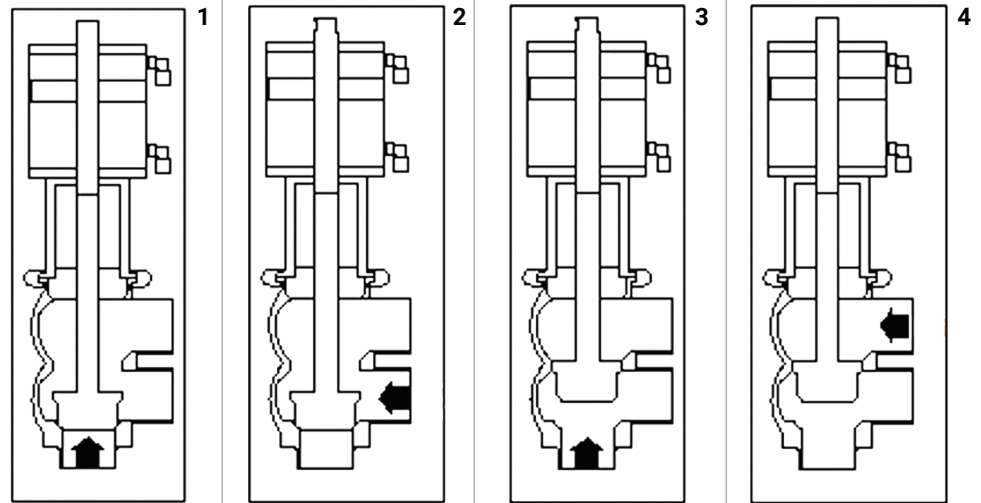
²Product line pressure required from the side port to prevent the actuator spring from actuating to the raised position.

³Product line pressure required from the bottom port to prevent the actuated valve from actuating to the lower position at 80 PSI.

⁴Product line pressure required from the side port to overcome the spring force of the actuator to force the valve stem to the lower position.

SSV-Series Single Seat Valve - Double Acting Actuator Holding Pressure Chart

Air Pressure
vs.
Product Pressure



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Plant Supply Air	Valve Size	Actuator Size	Seat Material	Air Pressure		Product Pressure		Air Pressure		Product Pressure	
				bar	PSI	bar	PSI	bar	PSI	bar	PSI
45 PSI	1"	1"	Elastomer	12.3	178.4	16.0	232.0	6.8	98.6	16.0	232.0
			PTFE	10.3	149.4	16.0	232.0	6.9	100.1	16.0	232.0
	1-1/2"	2"	Elastomer	17.3	251.1	16.0	232.0	12.1	175.5	16.0	232.0
			PTFE	9.8	142.1	16.0	232.0	13.6	197.2	14.9	216.1
	2"	2"	Elastomer	9.3	134.9	9.8	142.1	8.2	118.9	8.8	127.6
			PTFE	10.6	153.7	10.3	149.4	7.6	110.2	9.8	142.1
	2-1/2"	3"	Elastomer	14.0	203.0	10.8	156.6	11.3	163.1	14.3	207.4
			PTFE	10.1	146.0	15.2	220.4	12.9	187.1	13.6	197.2
	3"	3"	Elastomer	9.5	137.8	9.3	134.9	8.3	120.4	8.8	127.6
			PTFE	9.8	142.1	10.2	147.9	8.3	120.4	10.9	158.1
	4"	3"	Elastomer	4.8	69.6	5.3	76.9	5.2	75.4	5.4	78.3
			PTFE	5.0	72.5	5.6	81.2	5.5	79.8	5.9	85.6

NOTE: 45 PSI required for double acting actuators. Do not exceed 45 PSI.

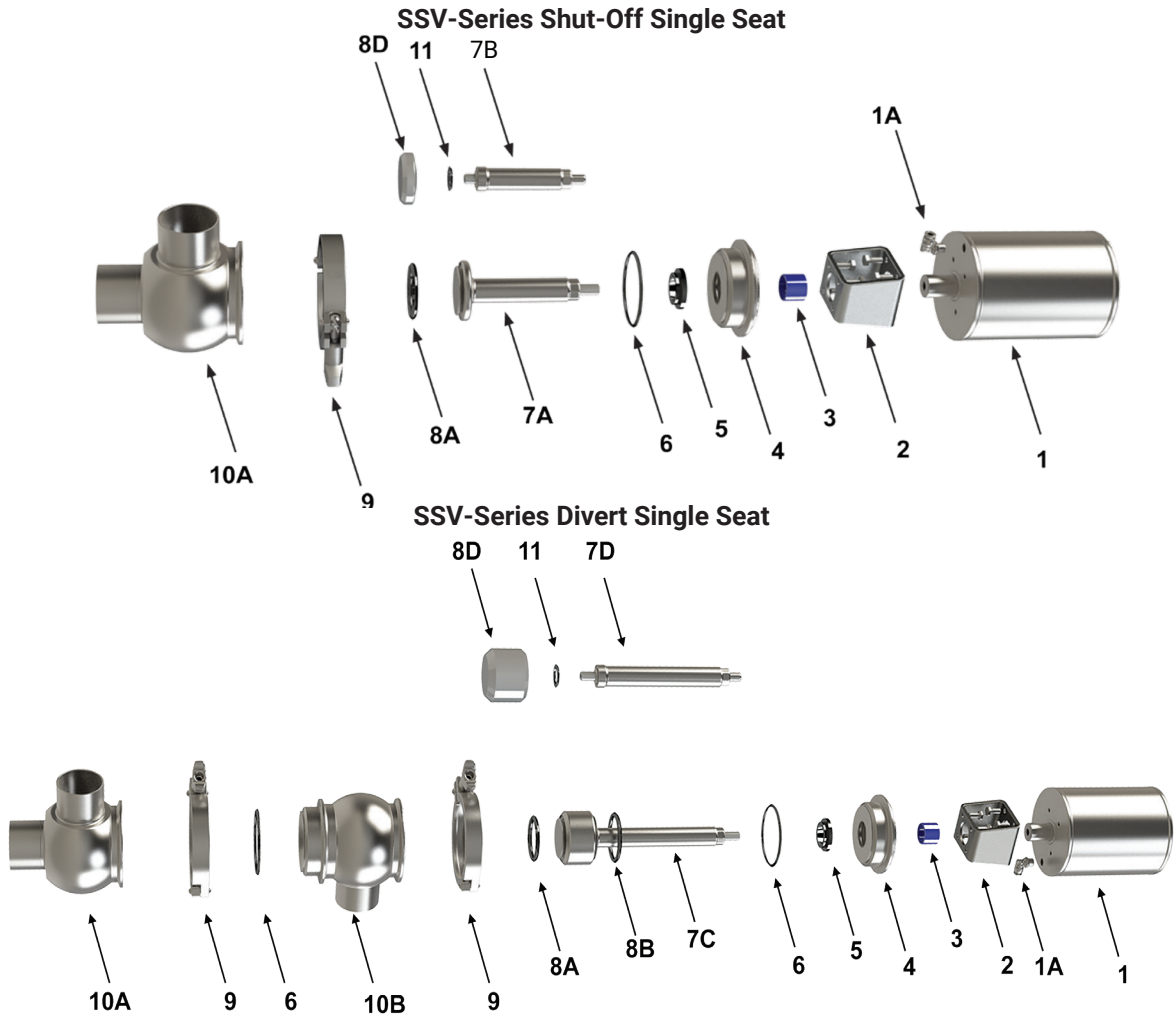
¹Product line pressure required from the bottom port to overcome the actuated valve at 80 PSI to force the valve stem to the raised position.

²Product line pressure required from the side port to prevent the actuated valve at 80 PSI from actuating to the raised position.

³Product line pressure required from the bottom port to prevent the actuated valve at 80 PSI from actuating to the lower position.

⁴Product line pressure required from the side port to overcome the actuated valve at 80 PSI to force the valve stem to the lower position.

SSV-Series Single Seat Valve - Bill of Materials



Part Type	Part #	Item #	Material	Description	Qty		Valve Type
					Shut-Off	Divert	
Actuator	SSV-ACT-SR-10	1	304 SS	1" spring-return actuator	1	1	Shut-Off / Divert
	SSV-ACT-SR-1520		304 SS	1-1/2" to 2" spring-return actuator	1	1	
	SSV-ACT-SR-2540		304 SS	2-1/2" to 4" spring-return actuator	1	1	
	SSV-ACT-DA-10		304 SS	1" double acting actuator	1	1	
	SSV-ACT-DA-1520		304 SS	1-1/2" to 2" double acting actuator	1	1	
	SSV-ACT-DA-2540		304 SS	2-1/2" to 4" double acting actuator	1	1	
Air Fitting	36095611	1A	Ni Brass	1" to 4" male NPT push-in swivel elbow	1*	1*	Shut-Off / Divert
Actuator Adapter Bracket	SSV-AB10	2	304 SS	1" actuator adapter bracket	1	1	Shut-Off / Divert
	SSV-AB1540		304 SS	1-1/2" to 4" actuator adapter bracket	1	1	
Adapter Flange Slide Bearing	SSV-AFSB-1015	3	316L SS	1" to 1-1/2" adapter flange slide bearing	1	1	Shut-Off / Divert
	SSV-AFSB-2040		316L SS	2" to 4" adapter flange slide bearing	1	1	
Adapter Flange	SSV-ADFLNG-10	4	316L SS	1" adapter flange	1	1	Shut-Off / Divert
	SSV-ADFLNG-15		316L SS	1-1/2" adapter flange	1	1	
	SSV-ADFLNG-20		316L SS	2" adapter flange	1	1	
	SSV-ADFLNG-25		316L SS	2-1/2" adapter flange	1	1	
	SSV-ADFLNG-30		316L SS	3" adapter flange	1	1	
	SSV-ADFLNG-40		316L SS	4" adapter flange	1	1	

NOTE: *Use Qty 2 for double acting actuators

SSV-Series Single Seat Valve - Bill of Materials

SSV-Series Shut-Off and Divert Single Seats

Part Type	Part #	Item #	Material	Description	Qty		Valve Type	
					Shut-Off	Divert		
Stem Lip Seal	SSV-LSE-1015	5	EPDM	1" to 1-1/2" stem lip seal	1	1	Shut-Off / Divert	
	SSV-LSE-2040		EPDM	2" to 4" stem lip seal	1	1		
	SSV-LSV-1015	5	FKM	1" to 1-1/2" stem lip seal	1	1	Shut-Off / Divert	
	SSV-LSV-2040		FKM	2" to 4" stem lip seal	1	1		
Adapter Flange Seal O-Ring	SSV-AFSO-E-10	6	EPDM	1" adapter flange seal O-ring	1	2	Shut-Off / Divert	
	SSV-AFSO-E-15		EPDM	1-1/2" adapter flange seal O-ring	1	2		
	SSV-AFSO-E-20		EPDM	2" adapter flange seal O-ring	1	2		
	SSV-AFSO-E-25		EPDM	2-1/2" adapter flange seal O-ring	1	2		
	SSV-AFSO-E-30		EPDM	3" adapter flange seal O-ring	1	2		
	SSV-AFSO-E-40		EPDM	4" adapter flange seal O-ring	1	2		
	SSV-AFSO-V-10	6	FKM	1" adapter flange seal O-ring	1	2	Shut-Off / Divert	
	SSV-AFSO-V-15		FKM	1-1/2" adapter flange seal O-ring	1	2		
	SSV-AFSO-V-20		FKM	2" adapter flange seal O-ring	1	2		
	SSV-AFSO-V-25		FKM	2-1/2" adapter flange seal O-ring	1	2		
	SSV-AFSO-V-30		FKM	3" adapter flange seal O-ring	1	2		
	SSV-AFSO-V-40		FKM	4" adapter flange seal O-ring	1	2		
	Single Body Valve Stem (Elastomeric Seal)	SSV-SVS-OS-10	7A	316L SS	1" single body valve stem (elastomeric seal)	1	-	Shut-Off
		SSV-SVS-OS-15		316L SS	1-1/2" single body valve stem (elastomeric seal)	1	-	
SSV-SVS-OS-20		316L SS		2" single body valve stem (elastomeric seal)	1	-		
SSV-SVS-OS-25		316L SS		2-1/2" single body valve stem (elastomeric seal)	1	-		
SSV-SVS-OS-30		316L SS		3" single body valve stem (elastomeric seal)	1	-		
SSV-SVS-OS-40		316L SS		4" single body valve stem (elastomeric seal)	1	-		
Single Body Valve Stem (PTFE Seal)	SSV-SVS-PS-10	7B	316L SS	1" single body valve stem (PTFE seal)	1	-	Shut-Off	
	SSV-SVS-PS-15		316L SS	1-1/2" single body valve stem (PTFE seal)	1	-		
	SSV-SVS-PS-20		316L SS	2" single body valve stem (PTFE seal)	1	-		
	SSV-SVS-PS-25		316L SS	2-1/2" single body valve stem (PTFE seal)	1	-		
	SSV-SVS-PS-30		316L SS	3" single body valve stem (PTFE seal)	1	-		
	SSV-SVS-PS-40		316L SS	4" single body valve stem (PTFE seal)	1	-		
Double Body Valve Stem (Elastomeric Seal)	SSV-DVS-OS-10	7C	316L SS	1" double body valve stem (elastomeric seal)	-	1	Divert	
	SSV-DVS-OS-15		316L SS	1-1/2" double body valve stem (elastomeric seal)	-	1		
	SSV-DVS-OS-20		316L SS	2" double body valve stem (elastomeric seal)	-	1		
	SSV-DVS-OS-25		316L SS	2-1/2" double body valve stem (elastomeric seal)	-	1		
	SSV-DVS-OS-30		316L SS	3" double body valve stem (elastomeric seal)	-	1		
	SSV-DVS-OS-40		316L SS	4" double body valve stem (elastomeric seal)	-	1		
Double Body Valve Stem (PTFE Seal)	SSV-DVS-PS-10	7D	316L SS	1" double body valve stem (PTFE seal)	-	1	Divert	
	SSV-DVS-PS-15		316L SS	1-1/2" double body valve stem (PTFE seal)	-	1		
	SSV-DVS-PS-20		316L SS	2" double body valve stem (PTFE seal)	-	1		
	SSV-DVS-PS-25		316L SS	2-1/2" double body valve stem (PTFE seal)	-	1		
	SSV-DVS-PS-30		316L SS	3" double body valve stem (PTFE seal)	-	1		
	SSV-DVS-PS-40		316L SS	4" double body valve stem (PTFE seal)	-	1		

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SSV-Series Single Seat Valve - Bill of Materials

SSV-Series Shut-Off and Divert Single Seats

Part Type	Part #	Item #	Material	Description	Qty		Valve Type
					Shut-Off	Divert	
Lower Stem Seal O-Ring	SSV-LSOR-E-10	8A	EPDM	1" lower stem seal O-ring	1	1	Shut-Off / Divert
	SSV-LSOR-E-15		EPDM	1-1/2" lower stem seal O-ring	1	1	
	SSV-LSOR-E-20		EPDM	2" lower stem seal O-ring	1	1	
	SSV-LSOR-E-25		EPDM	2-1/2" lower stem seal O-ring	1	1	
	SSV-LSOR-E-30		EPDM	3" lower stem seal O-ring	1	1	
	SSV-LSOR-E-40		EPDM	4" lower stem seal O-ring	1	1	
	SSV-LSOR-V-10	8A	FKM	1" lower stem seal O-ring	1	1	Shut-Off / Divert
	SSV-LSOR-V-15		FKM	1-1/2" lower stem seal O-ring	1	1	
	SSV-LSOR-V-20		FKM	2" lower stem seal O-ring	1	1	
	SSV-LSOR-V-25		FKM	2-1/2" lower stem seal O-ring	1	1	
SSV-LSOR-V-30	FKM		3" lower stem seal O-ring	1	1		
SSV-LSOR-V-40	FKM	4" lower stem seal O-ring	1	1			
Upper Stem Seal O-Ring	SSV-USOR-E-10	8B	EPDM	1" upper stem seal O-ring	-	1	Divert
	SSV-USOR-E-15		EPDM	1-1/2" upper stem seal O-ring	-	1	
	SSV-USOR-E-20		EPDM	2" upper stem seal O-ring	-	1	
	SSV-USOR-E-25		EPDM	2-1/2" upper stem seal O-ring	-	1	
	SSV-USOR-E-30		EPDM	3" upper stem seal O-ring	-	1	
	SSV-USOR-E-40	EPDM	4" upper stem seal O-ring	-	1		
	SSV-USOR-V-10	8B	FKM	1" upper stem seal O-ring	-	1	Divert
	SSV-USOR-V-15		FKM	1-1/2" upper stem seal O-ring	-	1	
	SSV-USOR-V-20		FKM	2" upper stem seal O-ring	-	1	
	SSV-USOR-V-25		FKM	2-1/2" upper stem seal O-ring	-	1	
SSV-USOR-V-30	FKM		3" upper stem seal O-ring	-	1		
SSV-USOR-V-40	FKM	4" upper stem seal O-ring	-	1			
Stem Seal Plug	SSV-SBSP-P-10	8C	PTFE	1" single body stem seal plug	1	-	Shut-Off
	SSV-SBSP-P-15		PTFE	1-1/2" single body stem seal plug	1	-	
	SSV-SBSP-P-20		PTFE	2" single body stem seal plug	1	-	
	SSV-SBSP-P-25		PTFE	2-1/2" single body stem seal plug	1	-	
	SSV-SBSP-P-30		PTFE	3" single body stem seal plug	1	-	
	SSV-SBSP-P-40	PTFE	4" single body stem seal plug	1	-		
	SSV-DBSP-P-10	8D	PTFE	1" double body stem seal plug	-	1	Divert
	SSV-DBSP-P-15		PTFE	1-1/2" double body stem seal plug	-	1	
	SSV-DBSP-P-20		PTFE	2" double body stem seal plug	-	1	
	SSV-DBSP-P-25		PTFE	2-1/2" double body stem seal plug	-	1	
SSV-DBSP-P-30	PTFE		3" double body stem seal plug	-	1		
SSV-DBSP-P-40	PTFE	4" double body stem seal plug	-	1			
Body Clamp	13MHHM200SN	9	304 SS	1" body clamp	1	2	Shut-Off / Divert
	13MHHM250SN		304 SS	1-1/2" body clamp	1	2	
	13MHHM300SN		304 SS	2" body clamp	1	2	
	13MHHV300SN		304 SS	2-1/2" body clamp	1	2	
	13MHHM400SN		304 SS	3" body clamp	1	2	
	13MHHM500SN		304 SS	4" body clamp	1	2	

SSV-Series Single Seat Valve - Bill of Materials

SSV-Series Shut-Off and Divert Single Seats

Part Type	Part #	Item #	Material	Description	Qty		Valve Type
					Shut-Off	Divert	
Lower Valve Body (L-Port) Tri-Clamp	SSV-LBLC10	10A	316L SS	1" lower valve body (L) configuration, tri-clamp	1	1	Shut-Off / Divert
	SSV-LBLC15		316L SS	1-1/2" lower valve body (L) configuration, tri-clamp	1	1	
	SSV-LBLC20		316L SS	2" lower valve body (L) configuration, tri-clamp	1	1	
	SSV-LBLC25		316L SS	2-1/2" lower valve body (L) configuration, tri-clamp	1	1	
	SSV-LBLC30		316L SS	3" lower valve body (L) configuration, tri-clamp	1	1	
	SSV-LBLC40		316L SS	4" lower valve body (L) configuration, tri-clamp	1	1	
Lower Valve Body (L-Port) Butt weld	SSV-LBLB10	10A	316L SS	1" lower valve body (L) configuration, butt weld	1	1	Shut-Off / Divert
	SSV-LBLB15		316L SS	1-1/2" lower valve body (L) configuration, butt weld	1	1	
	SSV-LBLB20		316L SS	2" lower valve body (L) configuration, butt weld	1	1	
	SSV-LBLB25		316L SS	2-1/2" lower valve body (L) configuration, butt weld	1	1	
	SSV-LBLB30		316L SS	3" lower valve body (L) configuration, butt weld	1	1	
	SSV-LBLB40		316L SS	4" lower valve body (L) configuration, butt weld	1	1	
Lower Valve Body (T-Port) Tri-Clamp	SSV-LBTC10	10A	316L SS	1" lower valve body (T) configuration, tri-clamp	1	1	Shut-Off / Divert
	SSV-LBTC15		316L SS	1-1/2" lower valve body (T) configuration, tri-clamp	1	1	
	SSV-LBTC20		316L SS	2" lower valve body (T) configuration, tri-clamp	1	1	
	SSV-LBTC25		316L SS	2-1/2" lower valve body (T) configuration, tri-clamp	1	1	
	SSV-LBTC30		316L SS	3" lower valve body (T) configuration, tri-clamp	1	1	
	SSV-LBTC40		316L SS	4" lower valve body (T) configuration, tri-clamp	1	1	
Lower Valve Body (T-Port) Butt weld	SSV-LBTB10	10A	316L SS	1" lower valve body (T) configuration, butt weld	1	1	Shut-Off / Divert
	SSV-LBTB15		316L SS	1-1/2" lower valve body (T) configuration, butt weld	1	1	
	SSV-LBTB20		316L SS	2" lower valve body (T) configuration, butt weld	1	1	
	SSV-LBTB25		316L SS	2-1/2" lower valve body (T) configuration, butt weld	1	1	
	SSV-LBTB30		316L SS	3" lower valve body (T) configuration, butt weld	1	1	
	SSV-LBTB40		316L SS	4" lower valve body (T) configuration, butt weld	1	1	
Lower Valve Body (Y-Port) Tri-Clamp	SSV-LBYC10	10A	316L SS	1" lower valve body (Y) configuration, tri-clamp	1	-	Shut-Off
	SSV-LBYC15		316L SS	1-1/2" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC20		316L SS	2" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC25		316L SS	2-1/2" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC30		316L SS	3" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC40		316L SS	4" lower valve body (Y) configuration, tri-clamp	1	-	
Lower Valve Body (Y-Port) Butt weld	SSV-LBYB10	10A	316L SS	1" lower valve body (Y) configuration, butt weld	1	-	Shut-Off
	SSV-LBYB15		316L SS	1-1/2" lower valve body (Y) configuration, butt weld	1	-	
	SSV-LBYB20		316L SS	2" lower valve body (Y) configuration, butt weld	1	-	
	SSV-LBYB25		316L SS	2-1/2" lower valve body (Y) configuration, butt weld	1	-	
	SSV-LBYB30		316L SS	3" lower valve body (Y) configuration, butt weld	1	-	
	SSV-LBYB40		316L SS	4" lower valve body (Y) configuration, butt weld	1	-	
Upper Valve Body (L-Port) Tri-Clamp	SSV-UBLC10	10B	316L SS	1" upper valve body (L) configuration, tri-clamp	-	1	Divert
	SSV-UBLC15		316L SS	1-1/2" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC20		316L SS	2" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC25		316L SS	2-1/2" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC30		316L SS	3" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC40		316L SS	4" upper valve body (L) configuration, tri-clamp	-	1	
Upper Valve Body (L-Port) Butt weld	SSV-UBLB10	10B	316L SS	1" upper valve body (L) configuration, butt weld	-	1	Divert
	SSV-UBLB15		316L SS	1-1/2" upper valve body (L) configuration, butt weld	-	1	
	SSV-UBLB20		316L SS	2" upper valve body (L) configuration, butt weld	-	1	
	SSV-UBLB25		316L SS	2-1/2" upper valve body (L) configuration, butt weld	-	1	
	SSV-UBLB30		316L SS	3" upper valve body (L) configuration, butt weld	-	1	
	SSV-UBLB40		316L SS	4" upper valve body (L) configuration, butt weld	-	1	

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SSV-Series Single Seat Valve - Bill of Materials

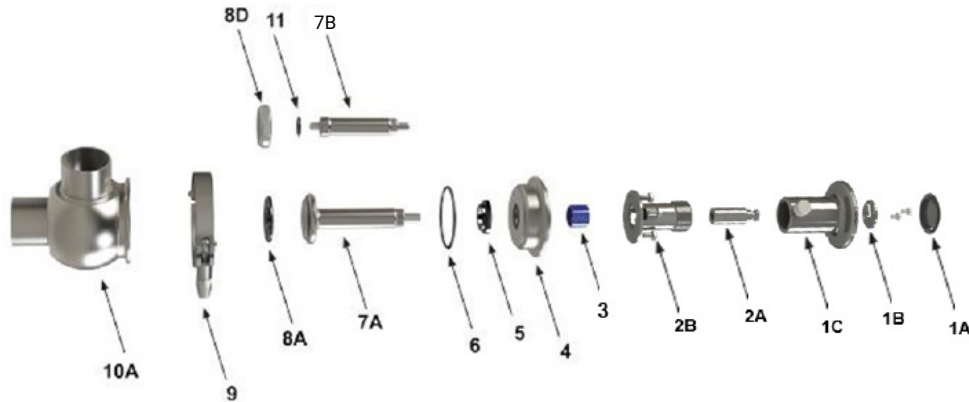
SSV Series Shut-Off and Divert Single Seats

Part Type	Part #	Item #	Material	Description	Qty		Valve Type
					Shut-Off	Divert	
Upper Valve Body (T-Port) Tri-Clamp	SSV-UBTC10	10B	316L SS	1" upper valve body (T) configuration, tri-clamp	-	1	Divert
	SSV-UBTC15		316L SS	1-1/2" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC20		316L SS	2" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC25		316L SS	2-1/2" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC30		316L SS	3" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC40		316L SS	4" upper valve body (T) configuration, tri-clamp	-	1	
Upper Valve Body (T-Port) Buttweld	SSV-UBTB10	10B	316L SS	1" upper valve body (T) configuration, buttweld	-	1	Divert
	SSV-UBTB15		316L SS	1-1/2" upper valve body (T) configuration, buttweld	-	1	
	SSV-UBTB20		316L SS	2" upper valve body (T) configuration, buttweld	-	1	
	SSV-UBTB25		316L SS	2-1/2" upper valve body (T) configuration, buttweld	-	1	
	SSV-UBTB30		316L SS	3" upper valve body (T) configuration, buttweld	-	1	
	SSV-UBTB40		316L SS	4" upper valve body (T) configuration, buttweld	-	1	
Stem Seal Plug O-Ring	SSV-SPOR-E-1015	11	EPDM	1" to 1-1/2" stem seal plug O-ring	1	1	Shut-Off / Divert
	SSV-SPOR-E-2040		EPDM	2" to 4" stem seal plug O-ring	1	1	
	SSV-SPOR-V-1015		FKM	1" to 1-1/2" stem seal plug O-ring	1	1	Shut-Off / Divert
	SSV-SPOR-V-2040		FKM	2" to 4" stem seal plug O-ring	1	1	

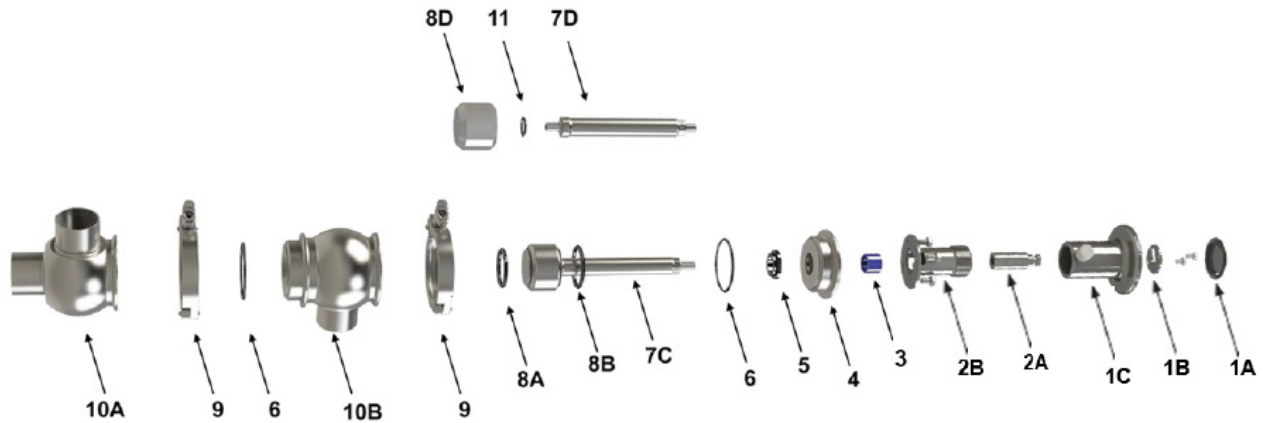
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SSV-Series Single Seat Valve - Bill of Materials

SSV-Series Shut-Off Single Seat (Manual Handle)



SSV-Series Divert Single Seat (Manual Handle)



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Part Type	Part #	Item #	Material	Description	Qty		Valve Type
					Shut-Off	Divert	
Handle Cap	9750K320	1A	Poly	1" to 4" handle cap cover	1	1	Shut-Off / Divert
Handle Retainer	SSV-HR-1040	1B	304 SS	1" to 4" handle retainer ring	1	1	Shut-Off / Divert
Handle	SSV-HA-1040	1C	304 SS	1" to 4" handle	1	1	Shut-Off / Divert
	SSV-SC-1015		304 SS	1" to 1-1/2" handle stem	1	1	
Handle Stem	SSV-SC-2025	2A	304 SS	2" to 2-1/2" handle stem	1	1	Shut-Off / Divert
	SSV-SC-3040		304 SS	3" to 4" handle stem	1	1	
Handle Hub	SSV-HAB-10	2B	304 SS	1" handle hub	1	1	Shut-Off / Divert
	SSV-HAB-1540		304 SS	1-1/2" to 4" handle hub	1	1	
Adapter Flange Slide Bearing	SSV-AFSB-1015	3	Poly	1" to 1-1/2" adapter flange slide bearing	1	1	Shut-Off / Divert
	SSV-AFSB-2040			2" to 4" adapter flange slide bearing	1	1	
Adapter Flange	SSV-ADFLNG-10	4	316L SS	1" adapter flange	1	1	Shut-Off / Divert
	SSV-ADFLNG-15		316L SS	1-1/2" adapter flange	1	1	
	SSV-ADFLNG-20		316L SS	2" adapter flange	1	1	
	SSV-ADFLNG-25		316L SS	2-1/2" adapter flange	1	1	
	SSV-ADFLNG-30		316L SS	3" adapter flange	1	1	
	SSV-ADFLNG-40		316L SS	4" adapter flange	1	1	
	SSV-ADFLNG-40		316L SS	4" adapter flange	1	1	

SSV-Series Single Seat Valve - Bill of Materials

SSV-Series Shut-Off and Divert Single Seats (Manual Handle)

Part Type	Part #	Item #	Material	Description	Qty		Valve Type			
					Shut-Off	Divert				
Stem Lip Seal	SSV-LSE-1015	5	EPDM	1" to 1-1/2" stem lip seal	1	1	Shut-Off / Divert			
	SSV-LSE-2040		EPDM	2" to 4" stem lip seal	1	1				
	SSV-LSV-1015	5	FKM	1" to 1-1/2" stem lip seal	1	1	Shut-Off / Divert			
	SSV-LSV-2040		FKM	2" to 4" stem lip seal	1	1				
Adapter Flange Seal O-Ring	SSV-AFSO-E-10	6	EPDM	1" adapter flange seal O-ring	1	2	Shut-Off / Divert			
	SSV-AFSO-E-15		EPDM	1-1/2" adapter flange seal O-ring	1	2				
	SSV-AFSO-E-20		EPDM	2" adapter flange seal O-ring	1	2				
	SSV-AFSO-E-25		EPDM	2-1/2" adapter flange seal O-ring	1	2				
	SSV-AFSO-E-30		EPDM	3" adapter flange seal O-ring	1	2				
	SSV-AFSO-E-40		EPDM	4" adapter flange seal O-ring	1	2				
	SSV-AFSO-V-10	6	FKM	1" adapter flange seal O-ring	1	2	Shut-Off / Divert			
	SSV-AFSO-V-15		FKM	1-1/2" adapter flange seal O-ring	1	2				
	SSV-AFSO-V-20		FKM	2" adapter flange seal O-ring	1	2				
	SSV-AFSO-V-25		FKM	2-1/2" adapter flange seal O-ring	1	2				
	SSV-AFSO-V-30		FKM	3" adapter flange seal O-ring	1	2				
	SSV-AFSO-V-40		FKM	4" adapter flange seal O-ring	1	2				
	Single Body Valve Stem (Elastomeric Seal)		SSV-SVS-OS-10	7A	316L SS	1" single body valve stem (elastomeric seal)		1	-	Shut-Off
			SSV-SVS-OS-15		316L SS	1-1/2" single body valve stem (elastomeric seal)		1	-	
SSV-SVS-OS-20		316L SS	2" single body valve stem (elastomeric seal)		1	-				
SSV-SVS-OS-25		316L SS	2-1/2" single body valve stem (elastomeric seal)		1	-				
SSV-SVS-OS-30		316L SS	3" single body valve stem (elastomeric seal)		1	-				
SSV-SVS-OS-40		316L SS	4" single body valve stem (elastomeric seal)		1	-				
Single Body Valve Stem (PTFE Seal)	SSV-SVS-PS-10	7B	316L SS	1" single body valve stem (PTFE seal)	1	-	Shut-Off			
	SSV-SVS-PS-15		316L SS	1-1/2" single body valve stem (PTFE seal)	1	-				
	SSV-SVS-PS-20		316L SS	2" single body valve stem (PTFE seal)	1	-				
	SSV-SVS-PS-25		316L SS	2-1/2" single body valve stem (PTFE seal)	1	-				
	SSV-SVS-PS-30		316L SS	3" single body valve stem (PTFE seal)	1	-				
	SSV-SVS-PS-40		316L SS	4" single body valve stem (PTFE seal)	1	-				
Double Body Valve Stem (Elastomeric Seal)	SSV-DVS-OS-10	7C	316L SS	1" double body valve stem (elastomeric seal)	-	1	Divert			
	SSV-DVS-OS-15		316L SS	1-1/2" double body valve stem (elastomeric seal)	-	1				
	SSV-DVS-OS-20		316L SS	2" double body valve stem (elastomeric seal)	-	1				
	SSV-DVS-OS-25		316L SS	2-1/2" double body valve stem (elastomeric seal)	-	1				
	SSV-DVS-OS-30		316L SS	3" double body valve stem (elastomeric seal)	-	1				
	SSV-DVS-OS-40		316L SS	4" double body valve stem (elastomeric seal)	-	1				
Double Body Valve Stem (PTFE Seal)	SSV-DVS-PS-10	7D	316L SS	1" double body valve stem (PTFE seal)	-	1	Divert			
	SSV-DVS-PS-15		316L SS	1-1/2" double body valve stem (PTFE seal)	-	1				
	SSV-DVS-PS-20		316L SS	2" double body valve stem (PTFE seal)	-	1				
	SSV-DVS-PS-25		316L SS	2-1/2" double body valve stem (PTFE seal)	-	1				
	SSV-DVS-PS-30		316L SS	3" double body valve stem (PTFE seal)	-	1				
	SSV-DVS-PS-40		316L SS	4" double body valve stem (PTFE seal)	-	1				
Lower Stem Seal O-Ring	SSV-LSOR-E-10	8A	EPDM	1" lower stem seal O-ring	1	1	Shut-Off / Divert			
	SSV-LSOR-E-15		EPDM	1-1/2" lower stem seal O-ring	1	1				
	SSV-LSOR-E-20		EPDM	2" lower stem seal O-ring	1	1				
	SSV-LSOR-E-25		EPDM	2-1/2" lower stem seal O-ring	1	1				
	SSV-LSOR-E-30		EPDM	3" lower stem seal O-ring	1	1				
	SSV-LSOR-E-40		EPDM	4" lower stem seal O-ring	1	1				
	SSV-LSOR-V-10	8A	FKM	1" lower stem seal O-ring	1	1	Shut-Off / Divert			
	SSV-LSOR-V-15		FKM	1-1/2" lower stem seal O-ring	1	1				
	SSV-LSOR-V-20		FKM	2" lower stem seal O-ring	1	1				
	SSV-LSOR-V-25		FKM	2-1/2" lower stem seal O-ring	1	1				
	SSV-LSOR-V-30		FKM	3" lower stem seal O-ring	1	1				
	SSV-LSOR-V-40		FKM	4" lower stem seal O-ring	1	1				

SSV-Series Single Seat Valve - Bill of Materials

SSV-Series Shut-Off and Divert Single Seats (Manual Handle)

Part Type	Part #	Item #	Material	Description	Qty		Valve Type	
					Shut-Off	Divert		
Upper Stem Seal O-Ring	SSV-USOR-E-10	8B	EPDM	1" upper stem seal O-ring	-	1	Divert	
	SSV-USOR-E-15		EPDM	1-1/2" upper stem seal O-ring	-	1		
	SSV-USOR-E-20		EPDM	2" upper stem seal O-ring	-	1		
	SSV-USOR-E-25		EPDM	2-1/2" upper stem seal O-ring	-	1		
	SSV-USOR-E-30		EPDM	3" upper stem seal O-ring	-	1		
	SSV-USOR-E-40	EPDM	4" upper stem seal O-ring	-	1	Divert		
	SSV-USOR-V-10	8B	FKM	1" upper stem seal O-ring	-		1	
	SSV-USOR-V-15		FKM	1-1/2" upper stem seal O-ring	-		1	
	SSV-USOR-V-20		FKM	2" upper stem seal O-ring	-		1	
	SSV-USOR-V-25		FKM	2-1/2" upper stem seal O-ring	-		1	
SSV-USOR-V-30	FKM		3" upper stem seal O-ring	-	1			
SSV-USOR-V-40	FKM	4" upper stem seal O-ring	-	1	Shut-Off			
Stem Seal Plug	SSV-SBSP-P-10	8C	PTFE	1" single body stem seal plug		1	-	
	SSV-SBSP-P-15		PTFE	1-1/2" single body stem seal plug		1	-	
	SSV-SBSP-P-20		PTFE	2" single body stem seal plug		1	-	
	SSV-SBSP-P-25		PTFE	2-1/2" single body stem seal plug		1	-	
	SSV-SBSP-P-30		PTFE	3" single body stem seal plug		1	-	
	SSV-SBSP-P-40	PTFE	4" single body stem seal plug	1		-	Divert	
	SSV-DBSP-P-10	8D	PTFE	1" double body stem seal plug		-		1
	SSV-DBSP-P-15		PTFE	1-1/2" double body stem seal plug		-		1
	SSV-DBSP-P-20		PTFE	2" double body stem seal plug		-		1
	SSV-DBSP-P-25		PTFE	2-1/2" double body stem seal plug	-	1		
SSV-DBSP-P-30	PTFE		3" double body stem seal plug	-	1			
SSV-DBSP-P-40	PTFE	4" double body stem seal plug	-	1	Shut-Off / Divert			
Body Clamp	13MHHM200SN	9	304 SS	1" body clamp		1	2	
	13MHHM250SN		304 SS	1-1/2" body clamp		1	2	
	13MHHM300SN		304 SS	2" body clamp		1	2	
	13MHHV300SN		304 SS	2-1/2" body clamp		1	2	
	13MHHM400SN		304 SS	3" body clamp		1	2	
	13MHHM500SN		304 SS	4" body clamp	1	2	Shut-Off / Divert	
Lower Valve Body (L-Port) Tri-Clamp	SSV-LBLC10	10A	316L SS	1" lower valve body (L) configuration, tri-clamp	1	1		
	SSV-LBLC15		316L SS	1-1/2" lower valve body (L) configuration, tri-clamp	1	1		
	SSV-LBLC20		316L SS	2" lower valve body (L) configuration, tri-clamp	1	1		
	SSV-LBLC25		316L SS	2-1/2" lower valve body (L) configuration, tri-clamp	1	1		
	SSV-LBLC30		316L SS	3" lower valve body (L) configuration, tri-clamp	1	1		
	SSV-LBLC40		316L SS	4" lower valve body (L) configuration, tri-clamp	1	1	Shut-Off / Divert	
Lower Valve Body (L-Port) Butt-weld	SSV-LBLB10	10A	316L SS	1" lower valve body (L) configuration, weld	1	1		
	SSV-LBLB15		316L SS	1-1/2" lower valve body (L) configuration, weld	1	1		
	SSV-LBLB20		316L SS	2" lower valve body (L) configuration, weld	1	1		
	SSV-LBLB25		316L SS	2-1/2" lower valve body (L) configuration, weld	1	1		
	SSV-LBLB30		316L SS	3" lower valve body (L) configuration, weld	1	1		
	SSV-LBLB40		316L SS	4" lower valve body (L) configuration, weld	1	1	Shut-Off / Divert	
Lower Valve Body (T-Port) Tri-Clamp	SSV-LBTC10	10A	316L SS	1" lower valve body (T) configuration, tri-clamp	1	1		
	SSV-LBTC15		316L SS	1-1/2" lower valve body (T) configuration, tri-clamp	1	1		
	SSV-LBTC20		316L SS	2" lower valve body (T) configuration, tri-clamp	1	1		
	SSV-LBTC25		316L SS	2-1/2" lower valve body (T) configuration, tri-clamp	1	1		
	SSV-LBTC30		316L SS	3" lower valve body (T) configuration, tri-clamp	1	1		
	SSV-LBTC40		316L SS	4" lower valve body (T) configuration, tri-clamp	1	1		

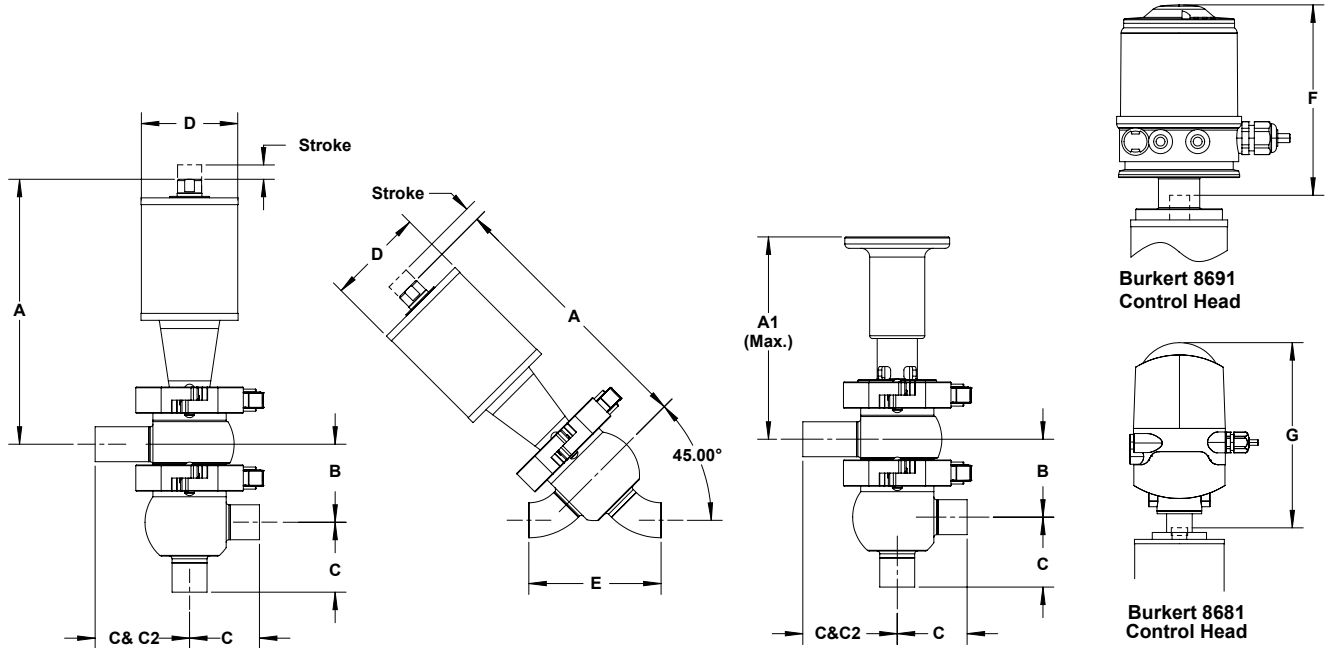
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SSV-Series Single Seat Valve - Bill of Materials

SSV-Series Shut-Off and Divert Single Seats (Manual Handle)

Part Type	Part #	Item #	Material	Description	Qty		Valve Type
					Shut-Off	Divert	
Lower Valve Body (T-Port) Butt-weld	SSV-LBTB10	10A	316L SS	1" lower valve body (T) configuration, weld	1	1	Shut-Off / Divert
	SSV-LBTB15		316L SS	1-1/2" lower valve body (T) configuration, weld	1	1	
	SSV-LBTB20		316L SS	2" lower valve body (T) configuration, weld	1	1	
	SSV-LBTB25		316L SS	2-1/2" lower valve body (T) configuration, weld	1	1	
	SSV-LBTB30		316L SS	3" lower valve body (T) configuration, weld	1	1	
	SSV-LBTB40		316L SS	4" lower valve body (T) configuration, weld	1	1	
Lower Valve Body (Y-Port) Tri-Clamp	SSV-LBYC10	10A	316L SS	1" lower valve body (Y) configuration, tri-clamp	1	-	Shut-Off
	SSV-LBYC15		316L SS	1-1/2" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC20		316L SS	2" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC25		316L SS	2-1/2" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC30		316L SS	3" lower valve body (Y) configuration, tri-clamp	1	-	
	SSV-LBYC40		316L SS	4" lower valve body (Y) configuration, tri-clamp	1	-	
Lower Valve Body (Y-Port) Butt-weld	SSV-LBYB10	10A	316L SS	1" lower valve body (Y) configuration, weld	1	-	Shut-Off
	SSV-LBYB15		316L SS	1-1/2" lower valve body (Y) configuration, weld	1	-	
	SSV-LBYB20		316L SS	2" lower valve body (Y) configuration, weld	1	-	
	SSV-LBYB25		316L SS	2-1/2" lower valve body (Y) configuration, weld	1	-	
	SSV-LBYB30		316L SS	3" lower valve body (Y) configuration, weld	1	-	
	SSV-LBYB40		316L SS	4" lower valve body (Y) configuration, weld	1	-	
Upper Valve Body (L-Port) Tri-Clamp	SSV-UBLC10	10B	316L SS	1" upper valve body (L) configuration, tri-clamp	-	1	Divert
	SSV-UBLC15		316L SS	1-1/2" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC20		316L SS	2" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC25		316L SS	2-1/2" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC30		316L SS	3" upper valve body (L) configuration, tri-clamp	-	1	
	SSV-UBLC40		316L SS	4" upper valve body (L) configuration, tri-clamp	-	1	
Upper Valve Body (L-Port) Butt-weld	SSV-UBLB10	10B	316L SS	1" upper valve body (L) configuration, weld	-	1	Divert
	SSV-UBLB15		316L SS	1-1/2" upper valve body (L) configuration, weld	-	1	
	SSV-UBLB20		316L SS	2" upper valve body (L) configuration, weld	-	1	
	SSV-UBLB25		316L SS	2-1/2" upper valve body (L) configuration, weld	-	1	
	SSV-UBLB30		316L SS	3" upper valve body (L) configuration, weld	-	1	
	SSV-UBLB40		316L SS	4" upper valve body (L) configuration, weld	-	1	
Upper Valve Body (T-Port) Tri-Clamp	SSV-UBTC10	10B	316L SS	1" upper valve body (T) configuration, tri-clamp	-	1	Divert
	SSV-UBTC15		316L SS	1-1/2" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC20		316L SS	2" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC25		316L SS	2-1/2" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC30		316L SS	3" upper valve body (T) configuration, tri-clamp	-	1	
	SSV-UBTC40		316L SS	4" upper valve body (T) configuration, tri-clamp	-	1	
Upper Valve Body (T-Port) Butt-weld	SSV-UBTB10	10B	316L SS	1" upper valve body (T) configuration, weld	-	1	Divert
	SSV-UBTB15		316L SS	1-1/2" upper valve body (T) configuration, weld	-	1	
	SSV-UBTB20		316L SS	2" upper valve body (T) configuration, weld	-	1	
	SSV-UBTB25		316L SS	2-1/2" upper valve body (T) configuration, weld	-	1	
	SSV-UBTB30		316L SS	3" upper valve body (T) configuration, weld	-	1	
	SSV-UBTB40		316L SS	4" upper valve body (T) configuration, weld	-	1	
Stem Seal Plug O-Ring	SSV-SPOR-E-1015	11	EPDM	1" to 1-1/2" stem seal plug O-ring	1	1	Shut-Off / Divert
	SSV-SPOR-E-2040		EPDM	2" to 4" stem seal plug O-ring	1	1	
	SSV-SPOR-V-1015		FKM	1" to 1-1/2" stem seal plug O-ring	1	1	Shut-Off / Divert
	SSV-SPOR-V-2040		FKM	2" to 4" stem seal plug O-ring	1	1	

SSV-Series Single Seat Valve - Dimensions

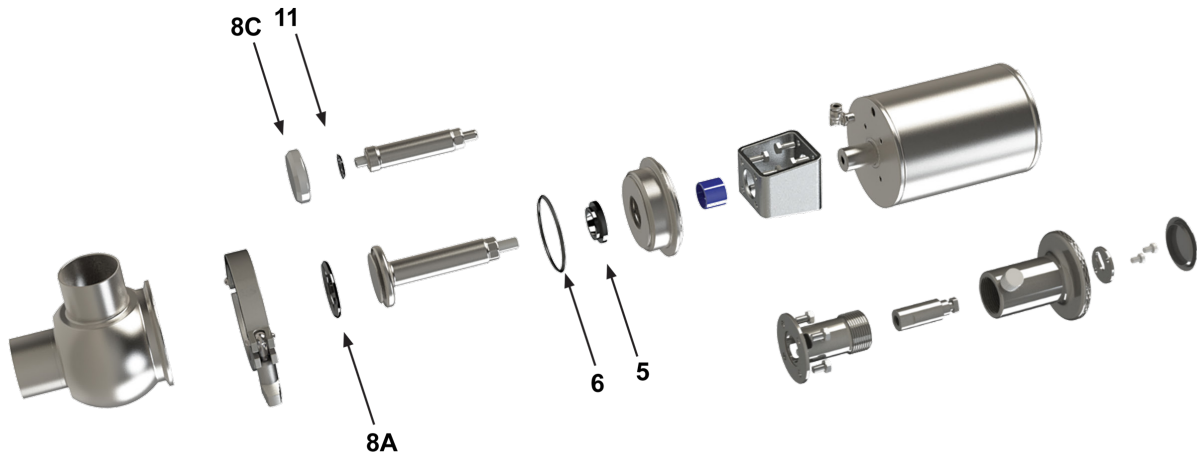


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Valve Size	A (in)	A1 (in)	Stroke (in)	B (in)	C (in) (Clamp)	C (in) (Weld)	C2 (in) (Clamp)	C2 (in) (Weld)	D (in)	E (in) (Clamp)	E (in) (Weld)	F (in)	G (in)
1"	7.58	5.80	0.41	2.23	2.50	2.00	3.20	2.00	2.78	4.78	3.78	6.00	8.47
1-1/2"	8.80	6.10	0.77	3.15	2.75	2.25	-	-	4.11	6.60	5.60		
2"	9.05	6.28	0.77	3.64	3.50	3.00	-	-	4.11	7.64	6.64		
2-1/2"	11.36	6.52	1.04	4.72	3.50	3.00	-	-	6.08	9.33	8.33		
3"	11.61	6.78	1.04	5.04	3.75	3.25	-	-	6.08	10.63	9.63		
4"	12.10	7.25	1.04	5.94	4.50	3.87	-	-	6.08	13.18	11.93		

SSV-Series Single Seat Valve - Repair Kits

SSV-Series Shut-Off Single Seat

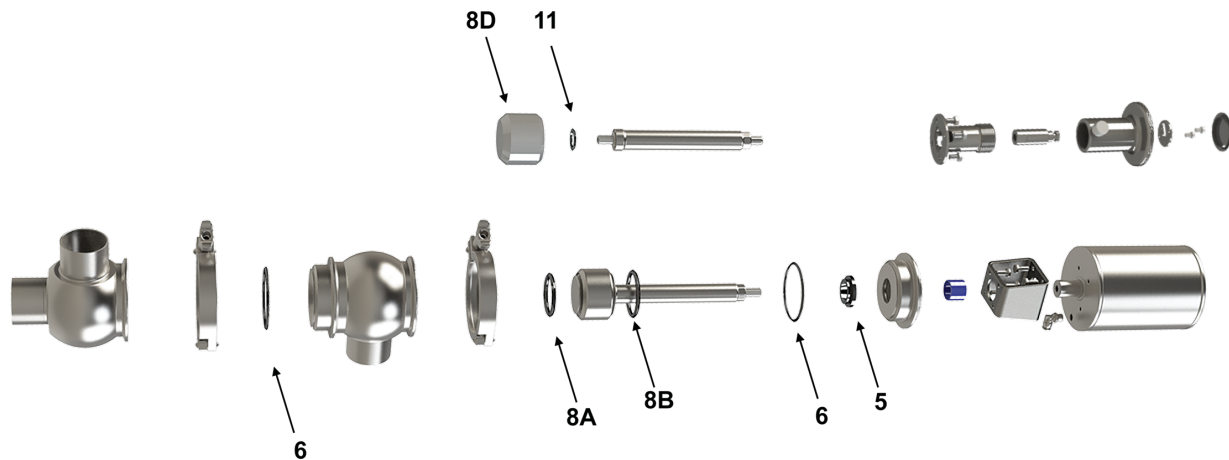


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Valve Size	Valve Type	Stem Seat Material	Body Seal Material	Kit Part #	Kit Includes
1"	Shut-Off	FKM	FKM	SSV-RKS-10-V	Items 5, 6, 8A
1-1/2"	Shut-Off	FKM	FKM	SSV-RKS-15-V	Items 5, 6, 8A
2"	Shut-Off	FKM	FKM	SSV-RKS-20-V	Items 5, 6, 8A
2-1/2"	Shut-Off	FKM	FKM	SSV-RKS-25-V	Items 5, 6, 8A
3"	Shut-Off	FKM	FKM	SSV-RKS-30-V	Items 5, 6, 8A
4"	Shut-Off	FKM	FKM	SSV-RKS-40-V	Items 5, 6, 8A
1"	Shut-Off	EPDM	EDPM	SSV-RKS-10-E	Items 5, 6, 8A
1-1/2"	Shut-Off	EPDM	EDPM	SSV-RKS-15-E	Items 5, 6, 8A
2"	Shut-Off	EPDM	EDPM	SSV-RKS-20-E	Items 5, 6, 8A
2-1/2"	Shut-Off	EPDM	EDPM	SSV-RKS-25-E	Items 5, 6, 8A
3"	Shut-Off	EPDM	EDPM	SSV-RKS-30-E	Items 5, 6, 8A
4"	Shut-Off	EPDM	EDPM	SSV-RKS-40-E	Items 5, 6, 8A
1"	Shut-Off	PTFE	FKM	SSV-RKS-10-PV	Items 5, 6, 8C, 11
1-1/2"	Shut-Off	PTFE	FKM	SSV-RKS-15-PV	Items 5, 6, 8C, 11
2"	Shut-Off	PTFE	FKM	SSV-RKS-20-PV	Items 5, 6, 8C, 11
2-1/2"	Shut-Off	PTFE	FKM	SSV-RKS-25-PV	Items 5, 6, 8C, 11
3"	Shut-Off	PTFE	FKM	SSV-RKS-30-PV	Items 5, 6, 8C, 11
4"	Shut-Off	PTFE	FKM	SSV-RKS-40-PV	Items 5, 6, 8C, 11
1"	Shut-Off	PTFE	EPDM	SSV-RKS-10-PE	Items 5, 6, 8C, 11
1-1/2"	Shut-Off	PTFE	EPDM	SSV-RKS-15-PE	Items 5, 6, 8C, 11
2"	Shut-Off	PTFE	EPDM	SSV-RKS-20-PE	Items 5, 6, 8C, 11
2-1/2"	Shut-Off	PTFE	EPDM	SSV-RKS-25-PE	Items 5, 6, 8C, 11
3"	Shut-Off	PTFE	EPDM	SSV-RKS-30-PE	Items 5, 6, 8C, 11
4"	Shut-Off	PTFE	EPDM	SSV-RKS-40-PE	Items 5, 6, 8C, 11

SSV-Series Single Seat Valve - Repair Kits

SSV-Series Divert Single Seat



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Valve Size	Valve Type	Stem Seat Material	Body Seal Material	Kit Part #	Kit Includes
1"	Divert	FKM	FKM	SSV-RKD-10-V	Items 5, 6, 8A, 8B
1-1/2"	Divert	FKM	FKM	SSV-RKD-15-V	Items 5, 6, 8A, 8B
2"	Divert	FKM	FKM	SSV-RKD-20-V	Items 5, 6, 8A, 8B
2-1/2"	Divert	FKM	FKM	SSV-RKD-25-V	Items 5, 6, 8A, 8B
3"	Divert	FKM	FKM	SSV-RKD-30-V	Items 5, 6, 8A, 8B
4"	Divert	FKM	FKM	SSV-RKD-40-V	Items 5, 6, 8A, 8B
1"	Divert	EPDM	EDPM	SSV-RKD-10-E	Items 5, 6, 8A, 8B
1-1/2"	Divert	EPDM	EDPM	SSV-RKD-15-E	Items 5, 6, 8A, 8B
2"	Divert	EPDM	EDPM	SSV-RKD-20-E	Items 5, 6, 8A, 8B
2-1/2"	Divert	EPDM	EDPM	SSV-RKD-25-E	Items 5, 6, 8A, 8B
3"	Divert	EPDM	EDPM	SSV-RKD-30-E	Items 5, 6, 8A, 8B
4"	Divert	EPDM	EDPM	SSV-RKD-40-E	Items 5, 6, 8A, 8B
1"	Divert	PTFE	FKM	SSV-RKD-10-PV	Items 5, 6, 8D, 11
1-1/2"	Divert	PTFE	FKM	SSV-RKD-15-PV	Items 5, 6, 8D, 11
2"	Divert	PTFE	FKM	SSV-RKD-20-PV	Items 5, 6, 8D, 11
2-1/2"	Divert	PTFE	FKM	SSV-RKD-25-PV	Items 5, 6, 8D, 11
3"	Divert	PTFE	FKM	SSV-RKD-30-PV	Items 5, 6, 8D, 11
4"	Divert	PTFE	FKM	SSV-RKD-40-PV	Items 5, 6, 8D, 11
1"	Divert	PTFE	EPDM	SSV-RKD-10-PE	Items 5, 6, 8D, 11
1-1/2"	Divert	PTFE	EPDM	SSV-RKD-15-PE	Items 5, 6, 8D, 11
2"	Divert	PTFE	EPDM	SSV-RKD-20-PE	Items 5, 6, 8D, 11
2-1/2"	Divert	PTFE	EPDM	SSV-RKD-25-PE	Items 5, 6, 8D, 11
3"	Divert	PTFE	EPDM	SSV-RKD-30-PE	Items 5, 6, 8D, 11
4"	Divert	PTFE	EPDM	SSV-RKD-40-PE	Items 5, 6, 8D, 11

SPR-Series Pressure Relief Valve



Used as a safety valve to bypass fluids if the discharge on a positive displacement pump is closed with the pump still running. The valve will open and bypass both liquids and gas.

3A certified for clean-out-of-place, they are found in the food processing, beverage, dairy, winery, brewery, pet products, and industrial markets.

Sizes

- 1-1/2" and 2"

Features

- Valve opens when the set pressure is reached to prevent excess pressure in piping or systems
- Valve body made from solid bar
- Low spare part cost

Materials

- Product contact metal components: 316L stainless steel
- Non-product contact metal components: 304 stainless steel
- Product contact seals: EPDM or FKM

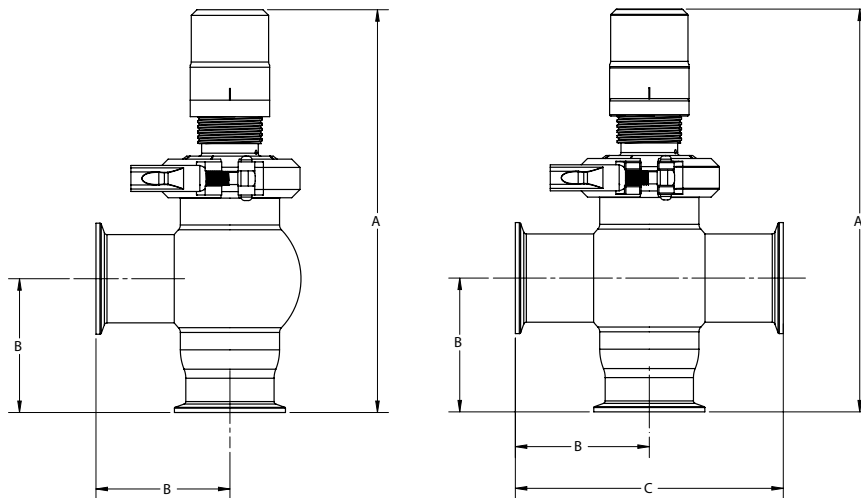


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Specifications

- Standard clamp connections
- Valve set pressure ranges
 - 10-49 PSI
 - 50-99 PSI
 - 100-300 PSI
- Maximum operating temperature: 266°F (130°C)
- Maximum sterilization temperature (20 minutes maximum): 300°F (148°C)
- Surface finish
 - Product contact metal components: < 32 Ra on all product contact surfaces
 - Non-product contact metal components: > 32 Ra
 - Cleaning method: 3A certified for clean-out-of-place

SPR-Series Pressure Relief Valve - Dimensions



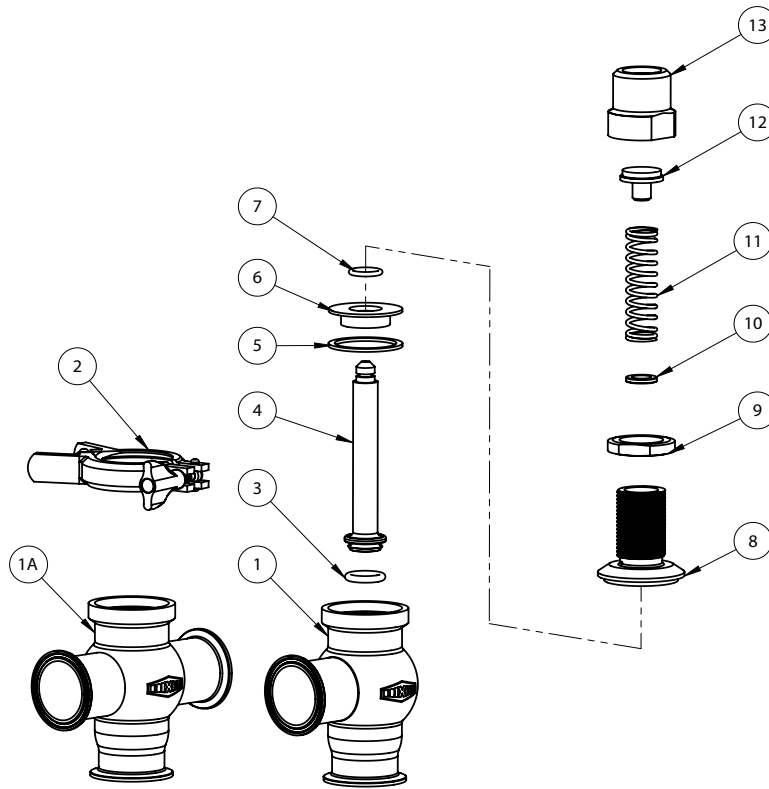
Size	A (in)	B (in)	C (in)	Connection
1-1/2"	9.2	2.7	5.4	tri-clamp
2"	9.8	3.0	6.1	tri-clamp

SPR-Series Pressure Relief Valve - Part Number Key

SPR-Series Pressure Relief Valve Part Number Key Example: SPR-LCE1A150		Series	-	Body Style	Connection	Elastomer	Spring Set Range (PSI)	Size	Finish
		SPR		L	C	E	1A	150	
Series	Code								
SPR	SPR	←							
Body Style	Code								
L-Body style	L		←						
T-Body style	T								
Connection	Code								
Clamp	C				←				
Elastomer	Code								
EPDM	E					←			
FKM	V								
Spring Set Range	Code								
10 - 49 PSI	1A						←		
50 - 99 PSI	2A								
100 - 300 PSI	3A								
Size	Code								
1-1/2"	150							←	
2"	200								
Surface Finish	Code								
32 Ra	Blank								←
25 Ra	B								
20 Ra	C								
15 Ra	D								



SPR-Series Pressure Relief Valve - Bill of Materials



Item #	SPR Size	Part #	Description	Material	Qty
1	1-1/2"	SPR-LBDY150	L-body	316L SS	1
	2"	SPR-LBDY200			
1A	1-1/2"	SPR-TBDY150	T-body	316L SS	1
	2"	SPR-TBDY200			
2	1-1/2"	13IL-Q100150	clamp	304 SS	1
	2"	13IL-Q200			
3	1-1/2" and 2"	SPR-SSE	seat seal	EPDM	1
		SPR-SSV		FKM	1
4	1-1/2"	SPR-STEM150	stem	316L SS	1
	2"	SPR-STEM200			1
5	1-1/2"	40IE150	body gasket	EPDM	1
		40IV150		FKM	
	2"	40IE200		EPDM	
		40IV200		FKM	
6	1-1/2"	SPR-SH150	stem holder	316L SS	1
	2"	SPR-SH200			
7	1-1/2" and 2"	SPR-SOE	stem O-ring	EPDM	1
		SPR-SOV		FKM	
8	1-1/2"	SPR-ADPTR150	adapter	304 SS	1
	2"	SPR-ADPTR200			
9	1-1/2" and 2"	SPR-LN	locking nut	304 SS	1
10		SPR-WSHR	washer		1
11		SPR-S50	spring set (Code 1A)		1
11		SPR-S100	spring set (Code 2A)		1
11		SPR-S300	spring set (Code 3A)		1
12		SPR-TOPCAP	top cap		1
13		SPR-ADJSTCAP	adjustable cap		1

DX60-Series Tanker Valve



Applications

- Used on food-grade and dairy stainless steel bulk transport trailers to safely and hygienically load and unload various products including milk, juices, chocolate, glycerin, and many types of food-grade oils
- These valves are found in the tanker manufacturing and repair/replacement markets

Sizes

- 3", 6" x 6", 6" x 4", 6" x 3" (other sizes available upon request)

Features

- Drop-in replacement for other 60TTF valves on the market
- Durable valve body machined from bar
- Lip seal provides fluid-tight seal whether the plunger is open or closed
 - Cycle tested to over 70,000 cycles
- Easy-lock plunger for locking valve in open position with no external clips needed
- Patented closure system to eliminate the pinch point that may result in injury on competitor's valves
- Bonnet design uses standard sanitary clamps for easy removal without the need of tools

Materials

- Product contact metal components: 304 stainless steel
- Non-product contact metal components: see BOM for individual component materials
- Product contact seals: FKM or nitrile rubber (FDA 21CFR177.2600 & 3A 18-03 Class I)

Specifications

- Standard connections
 - 3" Flange with ANSI B16.5 class 150# flange bolt circle x 3" sanitary male threaded bevel seat
 - 6" sanitary tri-clamp flange x 3" sanitary male threaded bevel seat adapter
 - 6" sanitary tri-clamp ferrule x 6" 90° outlet tri-clamp ferrule
 - Other connection types available upon request
- Valve data
 - Maximum product line pressure: **75 PSI (5.17 Bar)**
 - Maximum operating temperature: **212°F (100°C)**
 - Minimum operating temperature: **-20°F (-29°C)**
 - Maximum ambient temperature: **140°F (60°C)**
- Surface Finish
 - Product Contact Metal Components: ≤ 32 Ra
 - Non-Product Contact Metal Components: ≤ 63 Ra
- Cleaning method: 3A certified for Clean-In-Place (CIP) and Clean-Out-Of-Place (COP)



Aluminum cover with lanyard style cover nut



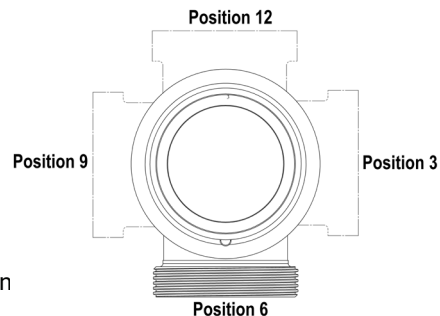
Aluminum cover with 5/8" UNC threaded post and nut



Optional plunger with freeze rod

DX60-Series Tanker Valve - Part Number Key

DX60-Series Hygienic Tanker Valve Part Number Key Example: DX603010A1GV1_		Series	Valve Body				Material	Seat Material	Valve Cover	Options
		DX60	30	10	A	1	G	V	1	
Series	Code									
DX60	DX60									
Valve Size	Code									
3"	30									
3" at position 6 / 2" at position 3, 9, or 12	32									
3" at position 6 / 2-1/2" at positions 3, 9, or 12	35									
6" to trailer / 3" at 3, 6, 9, or 12	63N									
6" to trailer / 6" 90° outlet	60									
Valve Body Style	Code									
L (2-port shut-off) position 6	10									
Multiport (3-port shut-off) positions 6 and 3	20									
Multiport (3-port shut-off) positions 6 and 9	30									
Multiport (3-port shut-off) positions 6 and 12	40									
Surface Finish	Code									
32 Ra (I.D. mech polish)	A									
Connections	Code									
Flange (to trailer) x male threaded bevel *	1									
Plain bevel (to trailer) x male threaded bevel	2									
Wetted Parts Material	Code									
304 stainless steel	G									
316L stainless steel	R									
Seat Material	Code									
FKM	V									
Nitrile rubber	B									
Valve Dust Cover	Code									
Aluminum with lanyard style cover nut	1									
No cover	2									
Aluminum with 5/8" UNC threaded post and nut	3									
Options	Code									
None	blank									
Plunger with freeze rod	R									
No bevel seat nut or cap	A									



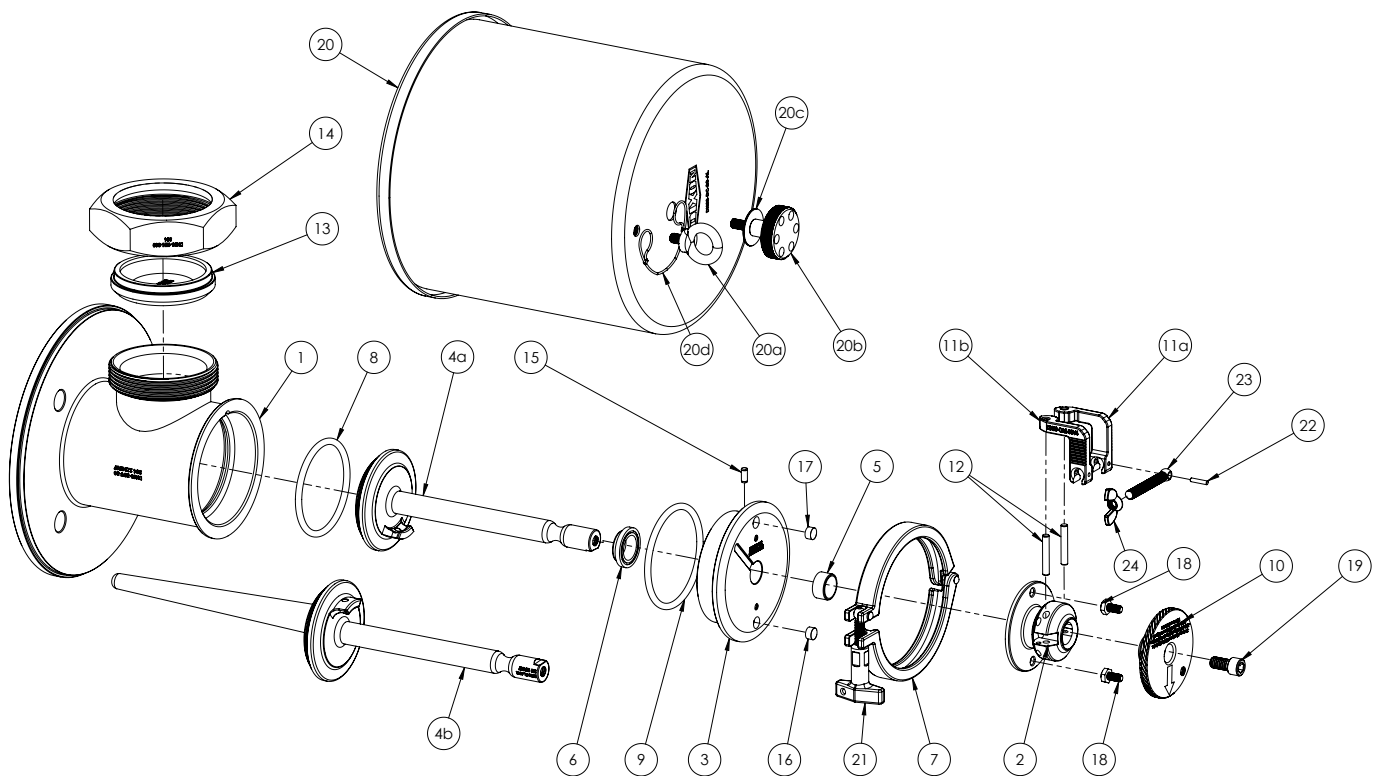
* When used with valve size code 63, the flange is a tri-clamp style connection

NOTE: For other sizes and configurations not listed, please contact the Dixon® Sanitary Engineering department by emailing sanitaryengineering@dixonvalve.com or give us a call at 800.789.1718.

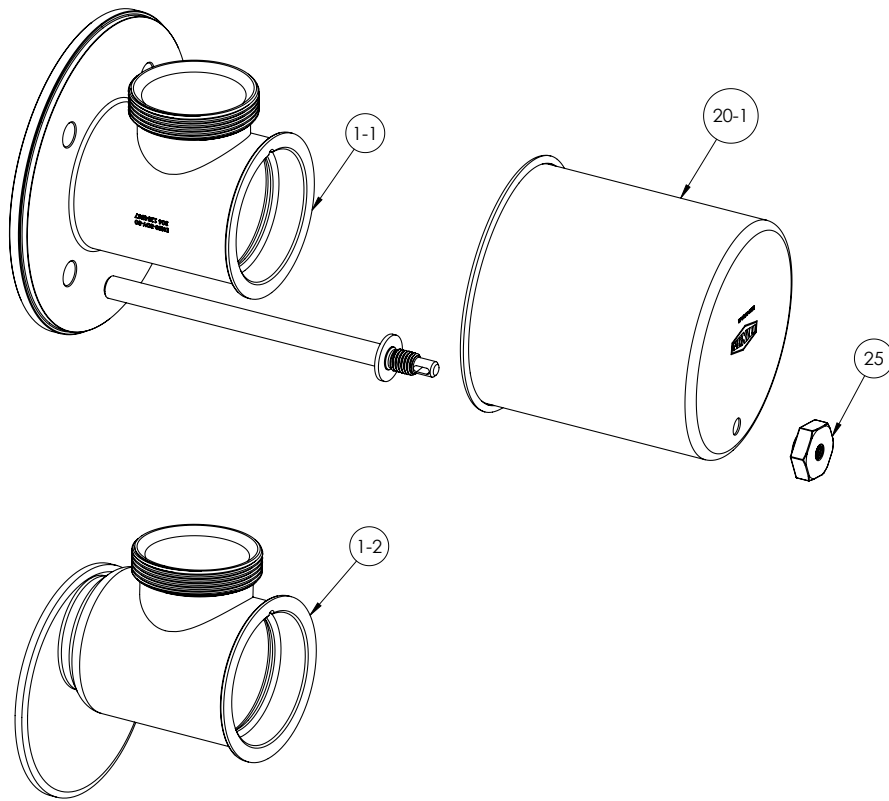
DX60-Series Tanker Valve - Standard Valve Part Numbers

Size	Connections	Cover Style	Freeze Rod	Material	Weight (lbs)	Part #	
3"	150# flange x male threaded bevel seat	with aluminum cover (lanyard style dust cover)	with freeze rod	304, nitrile rubber	28.0	DX603010A1GB1R	
				304, FKM	28.0	DX603010A1GV1R	
			without freeze rod	304, nitrile rubber	27.0	DX603010A1GB1	
				304, FKM	27.0	DX603010A1GV1	
			with aluminum cover (5/8" UNC threaded post and nut)	with freeze rod	304, nitrile rubber	30.5	DX603010A1GB3R
					304, FKM	30.5	DX603010A1GV3R
		without aluminum cover	with freeze rod	304, nitrile rubber	29.4	DX603010A1GB3	
				304, FKM	29.4	DX603010A1GV3	
			without freeze rod	304, FKM	26.4	DX603010A1GV2R	
				304, nitrile rubber	26.4	DX603010A2GB2R	
			without freeze rod	304, nitrile rubber	25.4	DX603010A1GB2	
				304, FKM	25.4	DX603010A1GV2	
6" x 3"	6" tri-clamp x 3" male threaded bevel seat	without aluminum cover	without freeze rod	304, FKM	25.4	DX6063N10A1GV2	
				304, nitrile rubber	19.9	DX6063N10A1GB2	
6"	6" ferrule x 6" 90° outlet ferrule	without aluminum cover	without freeze rod	304, FKM	-	DX606010A3GV2	

DX60-Series Tanker Valve - BOM



DX60-Series Tanker Valve - Bill of Materials (Alternative Body and Cover)



Part Type	Part #	Item #	Material	Description	Qty
Body housing	DX60-BDY-30	1	304 SS	DX60 body (3" flange x 3" male bevel seat)	1
	DX60-BDY-30P	1-1	304 SS	DX60 body (3" flange x 3" male bevel seat) with 5/8" UNC post for cover	1
	DX60-BDY-60103N	1-2	304 SS	DX60 body (6" tri-clamp x 3" male bevel seat)	1
Bonnet hub flange	DX60-BF-30	2	304 SS	DX60 bonnet hub flange (3" valve)	1
Bonnet	DX60-BON-30	3	304 SS	DX60 bonnet (3" valve)	1
Plunger	DX60-PL-30	4a	304 SS	DX60 plunger (3" valve)	1
Plunger - freeze rod (optional)	DX60-PL-30-R	4b	304 SS	DX60 plunger with freeze rod (3" valve)	1
Stem bushing	DX60-SB-30	5	PTFE	DX60 stem bushing (3" valve)	1
Lip seal	DX60-LS-V-30	6	FKM	DX60 FKM lip seal (3" valve)	1
Body clamp	DX60-CLMP-30	7	304	DX60 body clamp (3" valve)	1
Plunger seal	DX60-PS-V-30	8	FKM	DX60 FKM plunger seal (3" valve)	1
Bonnet seal	DX60-BS-V-30	9	FKM	DX60 FKM bonnet seal (3" valve)	1
Plunger handle	DX60-HA-30	10	304 SS	DX60 plunger handle (3" valve)	1
Handle cam arm left	DX60-CA-KIT	11a	304 SS	Handle cam arm left (3" valve)	1
Handle cam arm right		11b	304 SS	Handle cam arm right (3" valve)	1
Pin	DX60-G100PSS	12	304 SS	Cam arm pin	2
Bevel seat cap	DX60-16A-G30	13	304 SS	DX60 bevel seat cap (3" valve)	1

DX60-Series Tanker Valve - Bill of Materials

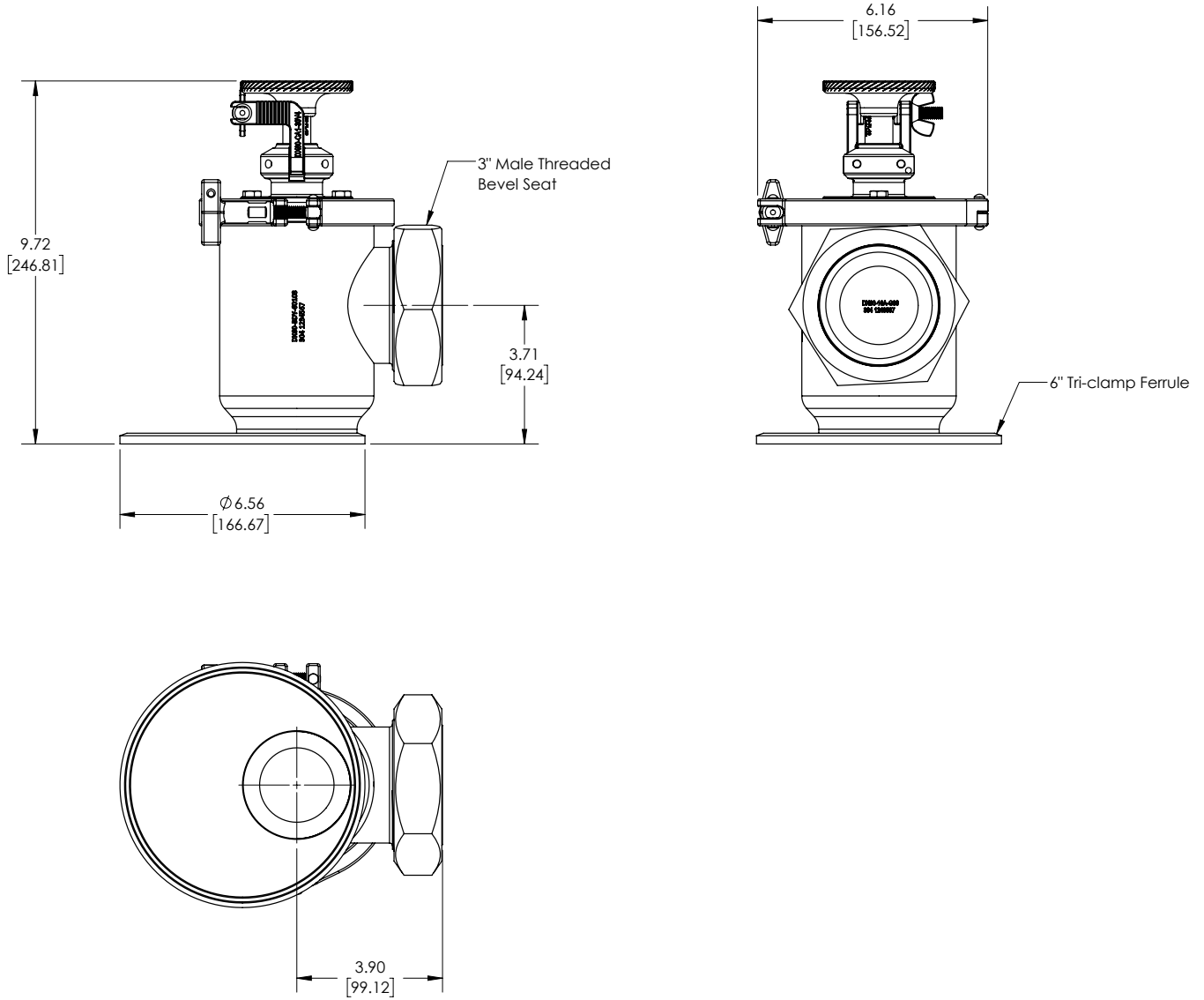
Part Type	Part #	Item #	Material	Description	Qty
Bevel seat nut	13H-G300	14	304 SS	3" bevel seat nut	1
Bonnet locating pin	DX60-BLP-30	15	18-8	DX60 bonnet locating pin (3" valve)	1
Bonnet marker - red	DX60-BMR	16	Nylon	DX60 red bonnet marker	1
Bonnet marker - green	DX60-BMG	17	Nylon	DX60 green bonnet marker	1
Bonnet flange bolt	DX60-BFHB-30	18	18-8	DX60 bonnet flange bolt (3" valve)	2
Plunger handle bolt	DX60-HAB-30	19	304 SS	DX60 plunger handle bolt	1
Dust cover	DX60-DC-30-ALRK	20	AL	DX60 valve dust cover assembly with lanyard/nut (3" valve)	1
Dust cover	DX60-DC-30-ALP	20-1	AL	DX60 valve dust cover for 5/8" UNC post style body	1
Dust cover eye bolt	DX60-DCEB-30	20a	304 SS	DX60 dust cover eye bolt	1
Dust cover nut	DX60-DCN-30	20b	AL	DX60 dust cover nut	1
Dust cover nut washer	DX60-DCNW-30	20c	18-8	DX60 dust cover nut washer	1
Dust cover nut assembly with lanyard	DX60-DCNA-30	20a-d	--	Nut assembly w/ lanyard	1
Body clamp wing nut	DX60-13DWN	21	304 SS	DX60 body clamp wing nut	1
SS slotted spring pin, 1/8" x 5/8"	DX-92373A179	22	18-8	SS slotted spring pin, 1/8" x 5/8"	1
5/16" x 2-1/2" threaded eye bolt	13IB6	23	304 SS	5/16" x 2-1/2" threaded eye bolt	1
SS wing nut, 5/16-18", right hand	DX-92001A330	24	18-8	SS wing nut, 5/16"-18", right hand	1
5/8" aluminum dust cover stem nut	DX60-DCSN-AL	25	AL	5/8" UNC aluminum dust cover stem nut. Use with dust cover DX60-DC-30-ALP	1

DX60-Series Tanker Valve - Other Material Components

Part Type	Part #	Item #	Material	Description	Qty
Body housing	DX60-BDY-30R	1	316L SS	DX60 body (3" flange x 3" male bevel Seat), 316L	1
	DX60-BDY-30PR	1-1	316L SS	DX60 body (3" flange x 3" male bevel seat) with 5/8" UNC post for cover, 316L	1
	DX60-BDY60103NR	1-2	316L	DX60 body (6" tri-clamp x 3" male bevel seat), 316L	1
Bonnet	DX60-BON-30R	3	316L	DX60 bonnet (3" valve), 316L	1
Plunger	DX60-PL-30R	4a	316L	DX60 plunger (3" valve), 316L	1
Bevel seat cap	DX60-16A-G30R	13	316L	DX60 bevel seat cap (3" valve), 316L	1
Lip seal	DX60-LS-B-30	6	nitrile rubber	DX60 NBR lip seal (3" valve)	1
Plunger seal	DX60-PS-B-30	8	nitrile rubber	DX60 NBR plunger seal (3" valve)	1
Bonnet seal	DX60-BS-B-30	9	NBR	DX60 NBR bonnet seal (3" valve)	1

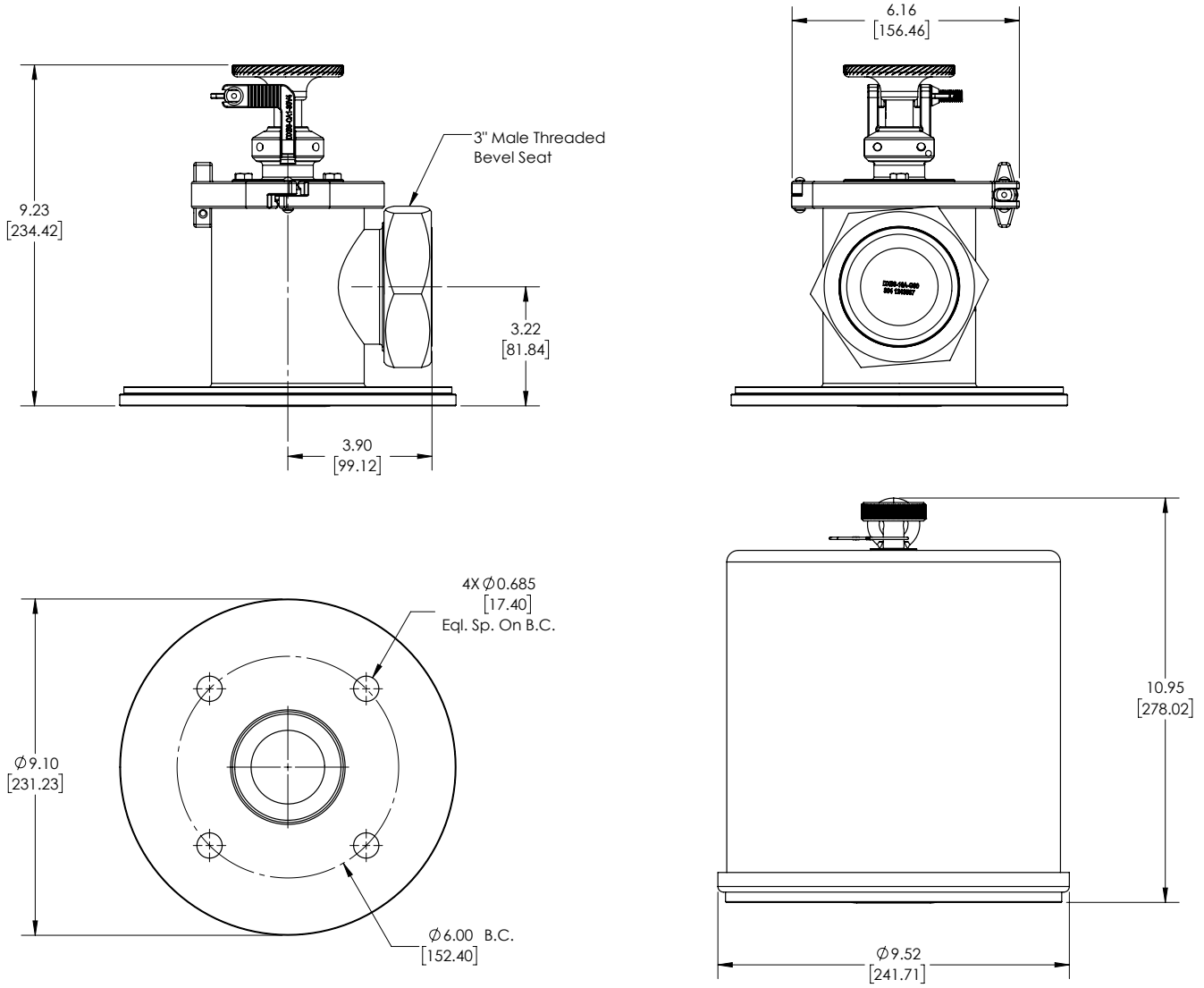
DX60-Series Tanker Valve - Dimensions

6x3 Valve



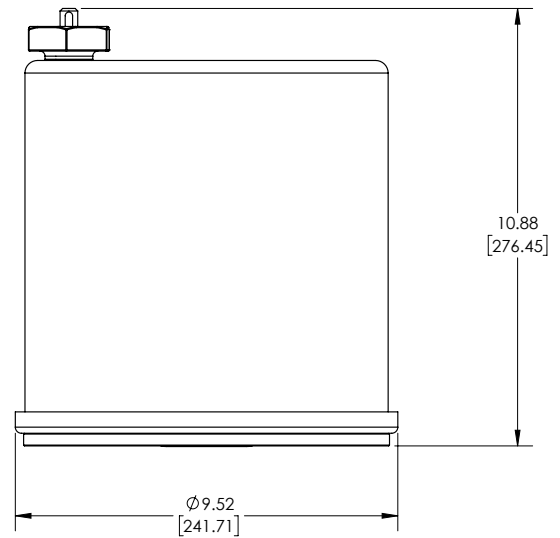
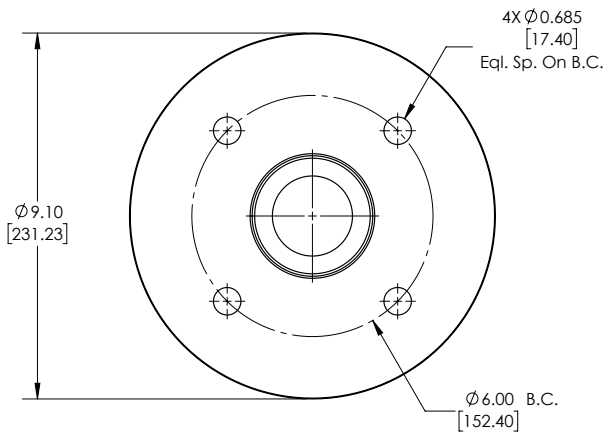
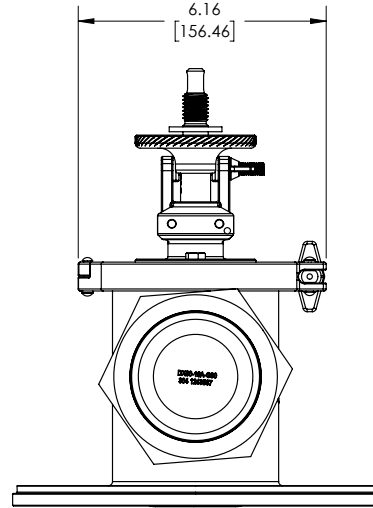
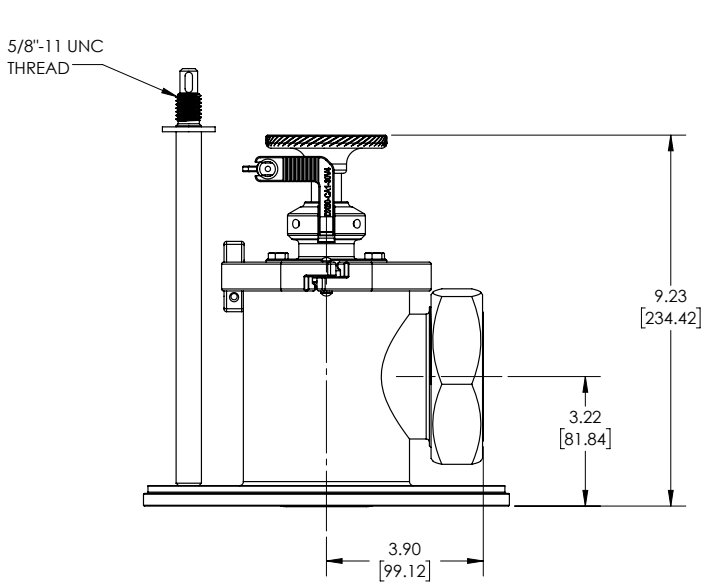
DX60-Series Tanker Valve - Dimensions

3x3 Valve 150# Flange



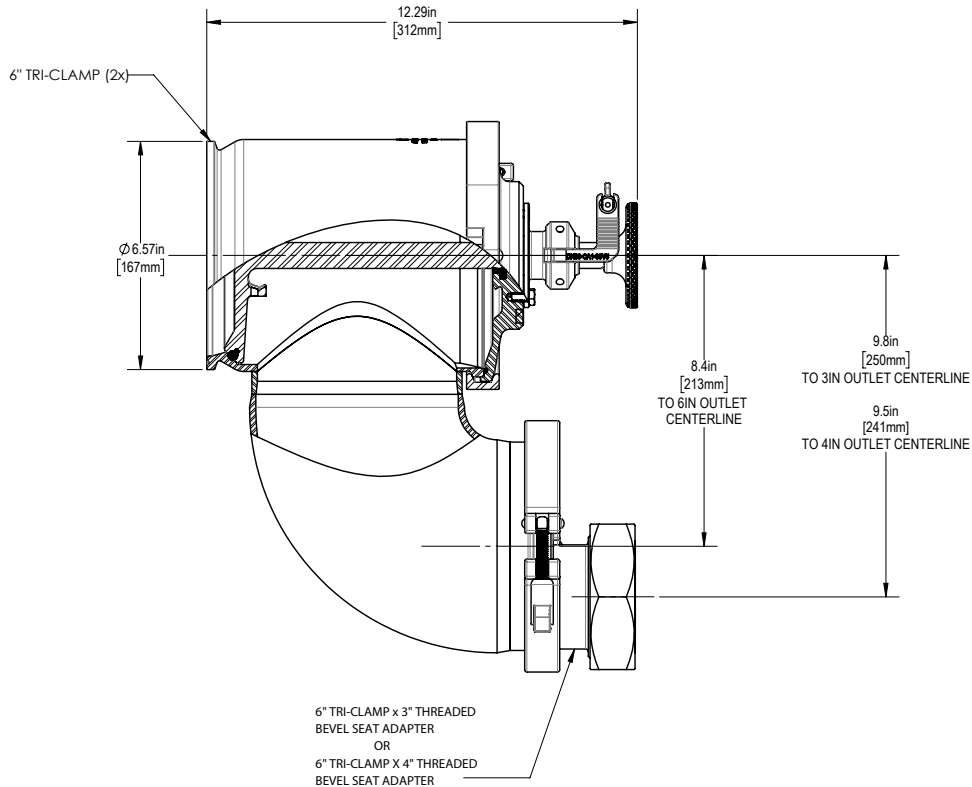
DX60-Series Tanker Valve - Dimensions

3x3 Valve 150# Flange Post Covers



DX60-Series Tanker Valve - Dimensions

6x6 Valve with Optional Reducing End Cap



DX60-Series Tanker Valve - Repair Kits

Valve Size	Lip Seal Material (Item 6)	Plunger Seal Material (Item 8)	Bonnet Seat Material (Item 9)	Repair Kit Part #	Kit Includes
3" and 6" x 3"	-	FKM	FKM	DX60-30-SK1-V	Items 8, 9
	FKM	FKM	FKM	DX60-30-SK2-V	Items 6, 8, 9
	-	Nitrile rubber	Nitrile rubber	DX60-30-SK1-B	Items 8, 9
	Nitrile rubber	Nitrile rubber	Nitrile rubber	DX60-30-SK2-B	Items 6, 8, 9

Repair Kit Part #	Description	Kit Contains
DX60-30-SK1-V	DX60 FKM plunger and bonnet seals	(1) FKM plunger seal, (1) FKM bonnet seal
DX60-30-SK2-V	DX60 FKM lip seal, plunger seal, and bonnet seal	(1) FKM lip seal, (1) FKM plunger seal, (1) FKM bonnet seal
DX60-30-SK1-B	DX60 Buna plunger and bonnet seats	(1) Nitrile rubber plunger seal, (1) nitrile rubber bonnet seal
DX60-30-SK2-B	DX60 Buna lip seal, plunger seal, and bonnet seal	(1) Nitrile rubber lip seal, (1) nitrile rubber plunger seal, (1) nitrile rubber bonnet seal

RP-BA-Series Aluminum Rack and Pinion Actuator

Utilized with industrial and sanitary valves for quarter turn actuation in industrial, food, beverage, and pharmaceutical industries

Features

- Body: extruded hard anodized aluminum alloy provides wear and corrosion resistance
- Heavy duty spring: high tensile steel springs with retainer and guide for safety
- Pistons: die-cast aluminum alloy fitted with nylon bushing guides and nitrile rubber seats
- End caps: epoxy-coated die-cast aluminum alloy for maximum resistance to corrosive environments
- Pinion: electroless nickel plated carbon steel for maximum corrosion and wear resistance
- Rotation adjustment: full $\pm 5^\circ$ of travel adjustments in the open and closed positions, standard on all sizes
- Solenoid interface: international VDE/VDI 3845 NAMUR solenoid mounting standard on all models
- Indicator: high visibility polyethylene, open/close indication is standard on all models
- Tested to 1 million cycles
- Twin rack and pinion design
- Female double square output shaft
- ISO 5211 bolt patterns

Specifications

- Size range: 40 in-lb to 16,500 in-lb
- Standard connections: ISO 5211 mounting pad
 - F04, F05, F07, F10, F12, F14
- Operating pressure: **40 to 120 PSI**
- Maximum pressure rating: **150 PSI**
- Temperature range: **-4°F to 200°F (-20°C to 93°C)**
- FKM seal maximum temperature: **350°F (176°C)**
- Operating media: dry or lubricated
- Piston and pinion lubrication: Shell Darina R2
- Range of rotation adjustment: 80° to 100°
- Cycle times
 - Overall cycle time performance will vary greatly for each unit
 - Cycle times are dependent on air supply, valve torque, line pressure, temperature, and media



RP-BA-Series Aluminum Rack and Pinion Actuator - Spring Return Torque Ratings (in-lbs)

Part #	Spring Set	Spring Torque		Air Torque									
				40 PSI		60 PSI		80 PSI		100 PSI		120 PSI	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
RP-BA-025-SR	2	69	45	76	47	138	109	201	172	263	234	326	312
	3	104	67			113	70	176	133	229	195	301	258
	4	140	90			88	31	151	93	213	156	276	218
	5	175	112					126	54	189	116	251	179
	6	209	135							164	77	227	139
RP-BA-045-SR	2	126	81	135	83	248	196	361	309	473	421	586	533
	3	190	121			203	125	316	238	428	350	541	463
	4	254	162			158	54	271	167	383	279	496	392
	5	317	202					226	96	339	209	451	321
	6	381	243							293	137	406	251
RP-BA-101-SR	2	279	179	300	184	549	433	798	682	1048	931	1297	1181
	3	418	270			449	278	698	526	947	775	1196	1025
	4	559	360			350	120	599	371	848	618	1097	867
	5	698	450					500	212	749	464	998	710
	6	839	540							650	304	899	557
RP-BA-225-SR	2	659	394	690	395	1253	958	1816	1521	2379	2084	2939	2647
	3	990	590			1034	591	1596	1154	2159	1717	2722	2280
	4	1320	787			816	226	1379	788	2029	1351	2505	1914
	5	1650	984					1161	424	1724	984	2287	1549
	6	1980	1181							1506	621	2069	1181
RP-BA-365-SR	2	1053	607	1152	659	2063	1570	2975	2482	3886	3393	4797	4305
	3	1573	912			1726	996	2637	1907	3549	2819	4460	3730
	4	2091	1217			1388	423	2300	1335	3211	2246	4123	3157
	5	2625	1519					1967	744	2878	1655	3789	2566
	6	3144	1824							2540	1082	3452	1994
RP-BA-500-SR	2	1560	785	1590	803	2780	1990	3970	3180	5160	4380	6350	5570
	3	2340	1180			2380	1200	3570	2400	4760	3590	5960	4780
	4	3130	1570			1980	414	3180	1600	4370	2800	5560	3990
	5	3910	1960					2780	815	3970	2010	5160	3200
	6	4690	2360							3570	1220	4760	2410
RP-BA-110-SR	2	3400	1720	3460	1760	6060	4360	8660	6960	11300	9560	13900	12200
	3	5100	2570			5200	2650	7790	5240	10400	7840	13000	10400
	4	6790	3430			4330	932	6930	3530	9520	6130	12100	8730
	5	8490	4290					6060	1810	8660	4410	11300	7010
	6	10200	5150							7790	2700	10400	5300

NOTE: Spring set 4 is standard on all sizes

RP-BA-Series Rack and Pinion Actuator - Double Acting Torque Ratings (in-lbs)

Part #	40 PSI	60 PSI	80 PSI	100 PSI	120 PSI
RP-BA-012-DA	63	94	125	156	188
RP-BA-025-DA	125	187	250	312	375
RP-BA-045-DA	225	337	450	562	675
RP-BA-101-DA	500	750	1000	1250	1500
RP-BA-225-DA	1125	1687	2250	2812	3375
RP-BA-365-DA	1825	2738	3650	4563	5475
RP-DA-500-DA	2500	3750	5000	6250	7500
RP-BA-110-DA	5500	8250	11000	13750	16500

Weight, Volume, Mounting, and Cycle Times - Spring Return

Part #	Weight (lbs)	Volume		ISO 5211	Cycle Time (@ 80 PSI, No Load)	
		cm ³	in ³		Spring Side (seconds)	Air Side (seconds)
RP-BA-025-SR05	4.21	170	10.37	F05	0.05	0.28
RP-BA-025-SR	4.21	170	10.37	F04	0.05	0.25
RP-BA-045-SR	5.20	324	19.77	F05/F07	0.08	0.39
RP-BA-101-SR	11.45	708	43.20	F05/F07	0.17	0.81
RP-BA-225-SR	22.50	1573	95.99	F07/F10	0.3	1.77
RP-BA-365-SR	40.55	2673	163.12	F10/F12	0.44	2.52
RP-BA-500-SR	57.80	3018	184.17	F10/F12	0.6	3.44
RP-BA-110-SR	113.50	6381	389.39	F14	1.31	7.10

Weight, Volume, Mounting, and Cycle Times - Double Acting

Part #	Weight (lbs)	Volume				ISO 5211	Cycle Time (@ 80 PSI, No Load, seconds)
		Outboard		Inboard			
		cm ³	in ³	cm ³	in ³		
RP-BA-012-DA	2.24	77	4.70	80	4.88	F04	0.04
RP-BA-025-DA05	3.48	139	8.48	170	10.37	F05	0.08
RP-BA-025-DA	3.48	139	8.48	170	10.37	F04	0.08
RP-BA-045-DA	5.00	252	15.38	324	19.77	F05/F07	0.10
RP-BA-101-DA	8.70	495	30.21	708	43.20	F05/F07	0.21
RP-BA-225-DA	17.25	1163	70.97	1573	95.99	F07/F10	0.50
RP-BA-365-DA	33.00	2415	147.37	2673	163.12	F10/F12	0.62
RP-BA-500-DA	45.00	2863	174.71	3018	184.17	F10/F12	1.80
RP-BA-110-DA	95.01	5591	341.18	6381	389.39	F14	3.80

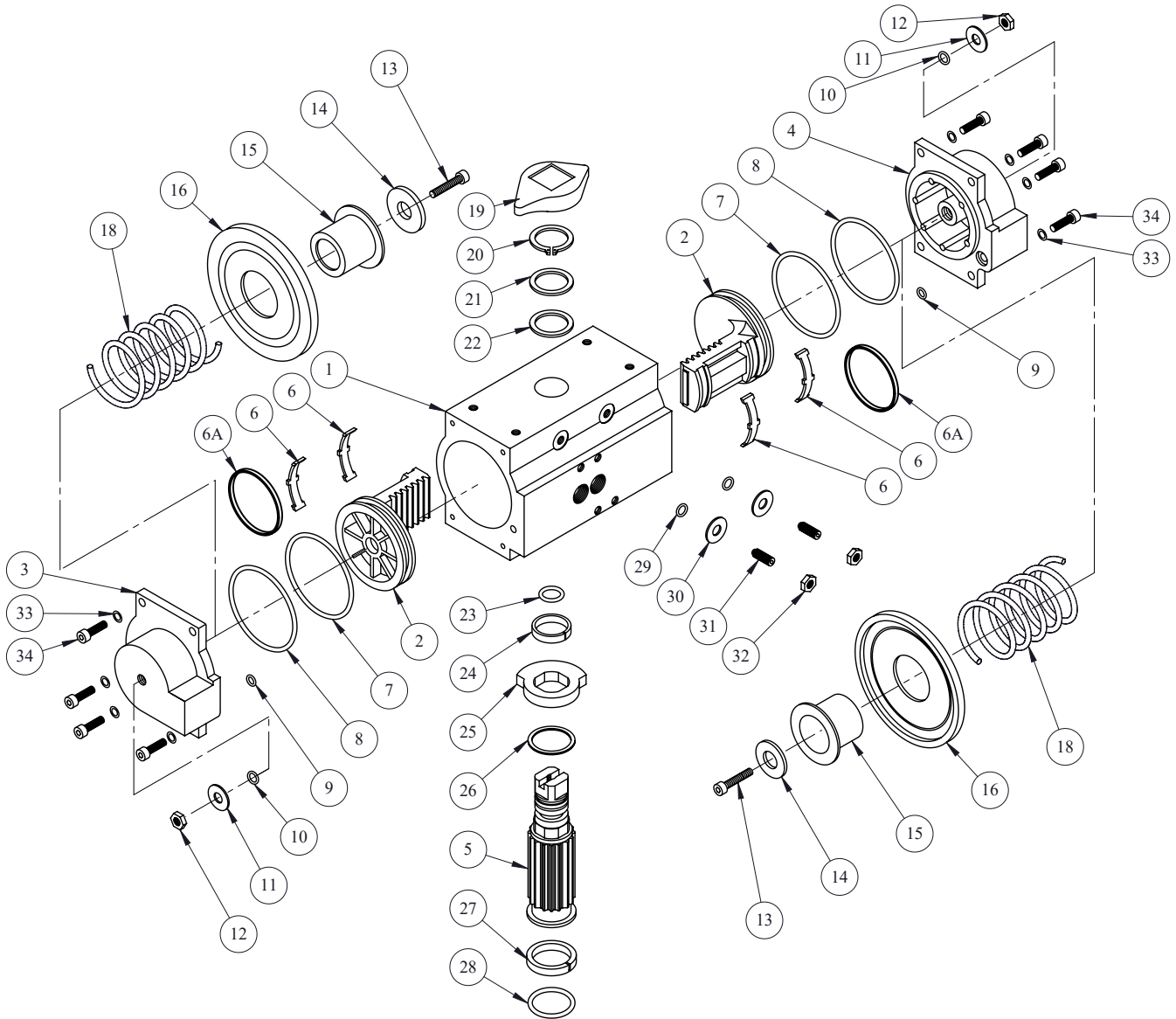
RP-BA-Series Aluminum Rack and Pinion Actuator - Part Number Key

RP-BA-Series Aluminum Rack and Pinion Actuator Part Number Key Example: RP-BA-012-DACW		Type	Spring Set	Series	Elastomer	Size	Function	Rotation	
		RP	-	BA	-	012	-	DA	CW
Type	Code	←	←	←	←	←	←	←	
RP (rack and pinion)	RP								
Spring Set	Code								
2 spring set	2								
3 springs	3								
4 springs (standard)	-								
5 springs	4								
6 springs	5								
Series	Code								
BA	BA								
Elastomer	Code								
Nitrile Rubber (standard)	-								
FKM	V								
Size	Code								
012 (double acting only)	012								
025 (F04)	025								
045	045								
101	101								
225	225								
365	365								
500	500								
1000	110								
Function	Code								
Spring return	SR								
Double acting	DA								
Spring return F05 (025 only)	SR05								
Double acting F05 (025 only)	DA05								
Rotation (air to P1)*	Code								
Counter clockwise (standard)	blank								
Clockwise	CW								

*See drawing on page 10 for air to P1

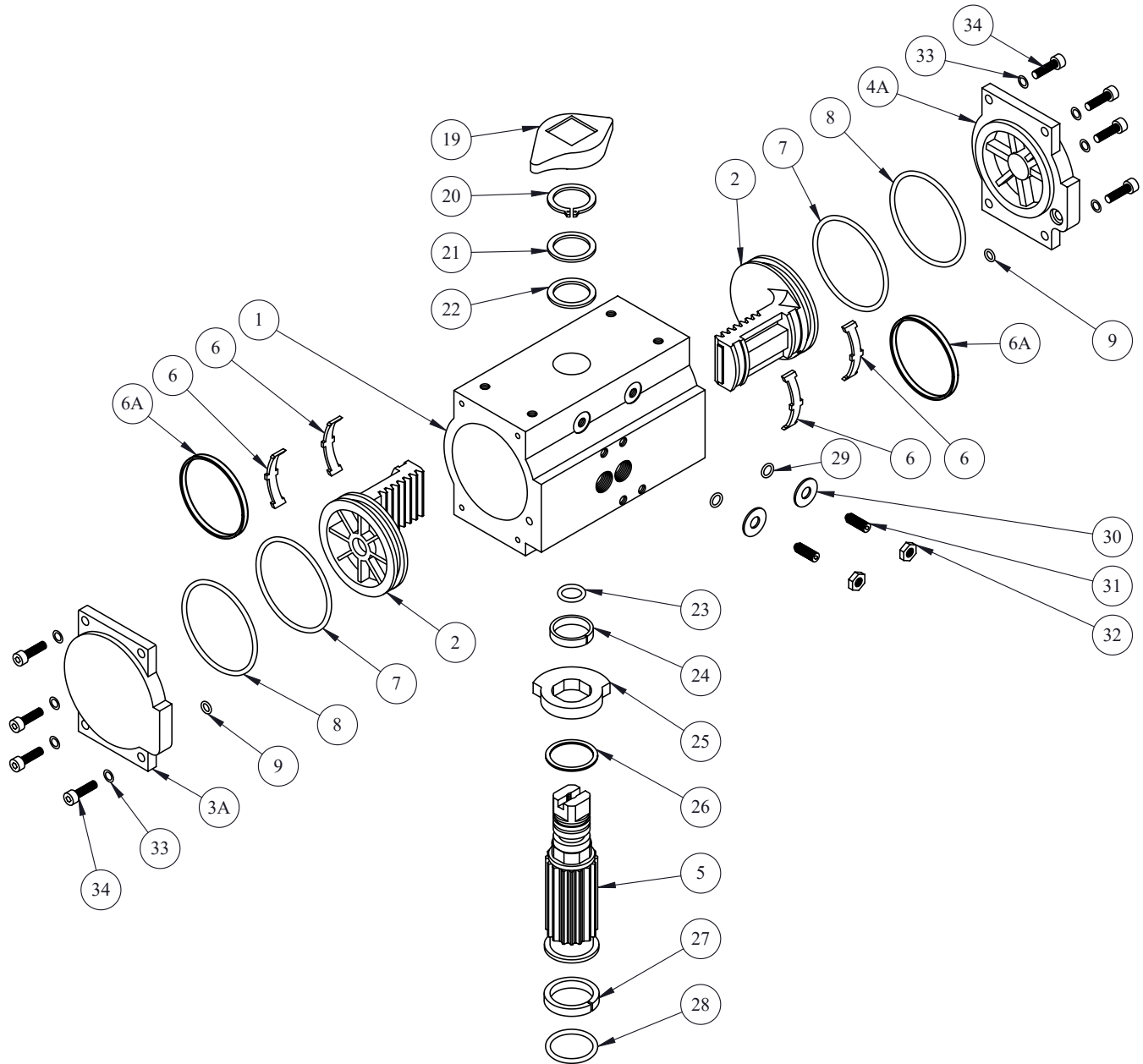


RP-BA-Series Aluminum Rack and Pinion Spring Return Actuator - Bill of Materials



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RP-BA-Series Aluminum Rack and Pinion Double Acting Actuator - Bill of Materials



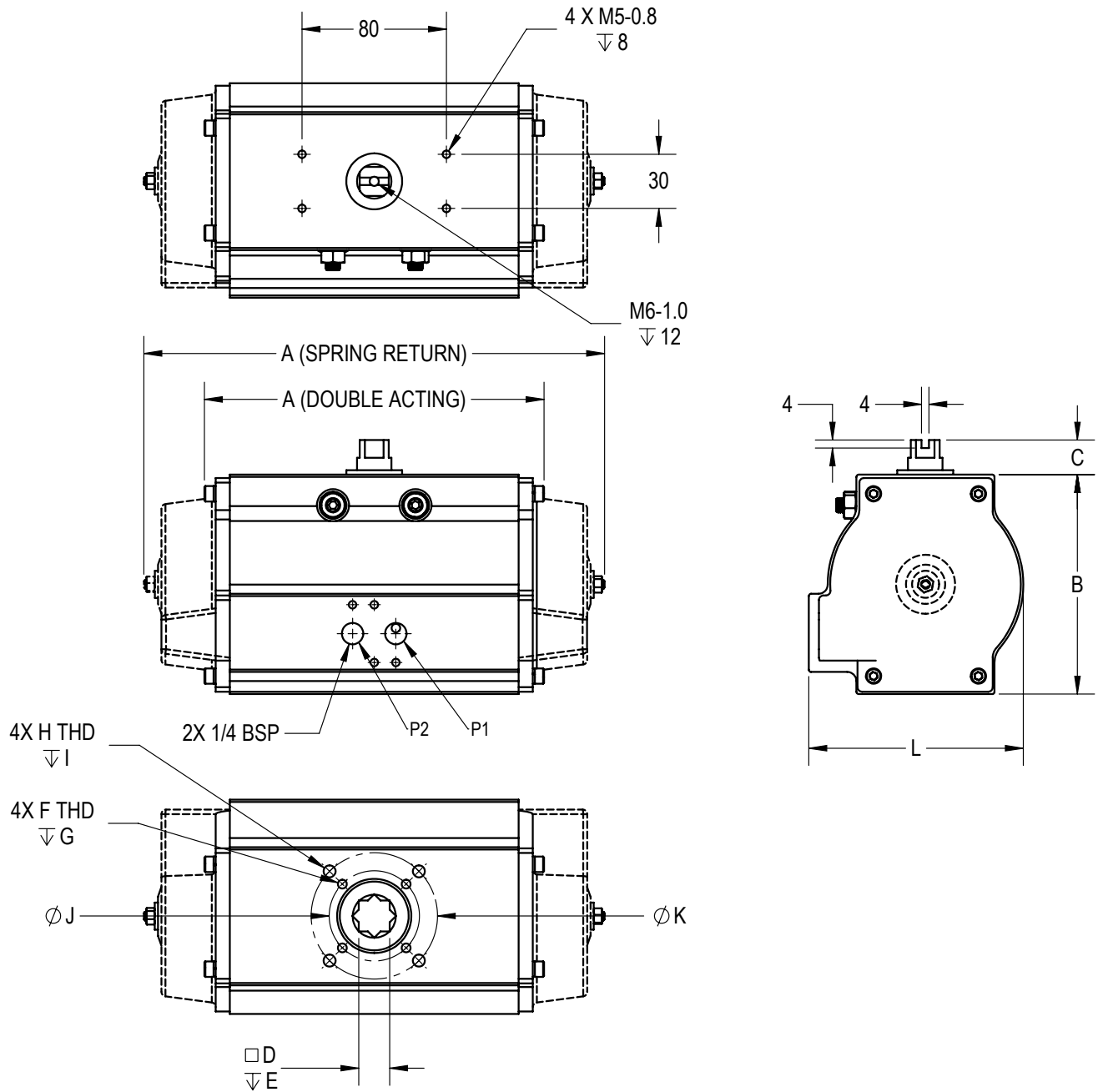
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RP-BA-Series Aluminum Rack and Pinion Actuator - Bill of Materials

Item #	Description	Material	Qty		Part #
			Spring Return	Double Acting	
1	body	anodized aluminum alloy	1		RP-BA-###-1
2	piston	die-cast aluminum alloy	2		RP-BA-###-2
3	left end cover SR	die-cast aluminum alloy	1	-	RP-BA-###-3
3A	left end cover DA	die-cast aluminum alloy	-	1	RP-BA-###-3A
4	right end cover SR	die-cast aluminum alloy	1	-	RP-BA-###-4
4A	right end cover DA	die-cast aluminum alloy	-	1	RP-BA-###-4A
5	pinion	carbon steel	1		RP-BA-###-5
6	bearing	nylon	*		RP-BA-###-6
6A	bearing	nylon	**		RP-BA-###-6A
7	O-ring	nitrile or FKM	2		RP-BA-###-7
8	O-ring	nitrile or FKM	2		RP-BA-###-8
9	O-ring	nitrile or FKM	2		RP-BA-###-9
10	O-ring	nitrile or FKM	2	-	RP-BA-###-10
11	washer	304 SS	2	-	RP-BA-###-11
12	nut	304 SS	2	-	RP-BA-###-12
13	screw	304 SS	2	-	RP-BA-###-13
14	washer	304 SS	2	-	RP-BA-###-14
15	spring guide	304 SS	2	-	RP-BA-###-15
16	retainer	304 SS	2	-	RP-BA-###-16
18	spring	high tensile steel	***	-	RP-BA-###-18
19	piston indicator	polyethylene	1		RP-BA-###-19
20	retaining ring	304 SS	1		RP-BA-###-20
21	washer	304 SS	1		RP-BA-###-21
22	bearing	nylon	1		RP-BA-###-22
23	O-ring	nitrile or FKM	1		RP-BA-###-23
24	bearing	nylon	1		RP-BA-###-24
25	stop cam	iron-based powdered metal	1		RP-BA-###-25
26	retaining ring	304 SS	1		RP-BA-###-26
27	bearing	nylon	1		RP-BA-###-27
28	O-ring	nitrile or FKM	1		RP-BA-###-28
29	O-ring	nitrile or FKM	2		RP-BA-###-29
30	washer	304 SS	2		RP-BA-###-30
31	stop screw	304 SS	2		RP-BA-###-31
32	nut	304 SS	2		RP-BA-###-32
33	washer	304 SS	8		RP-BA-###-33
34	cap screw	304 SS	8		RP-BA-###-34

*Quantity 4 for size 012 to 101, quantity 2 for sizes 225 to 1000
 **Quantity 0 for sizes 012 to 101, quantity 2 for sizes 225 to 1000
 ***Actual number of physical springs will depend on spring set being used
 ###Refer to size below
 - 012, 025, 045, 101, 225, 365, 500, 1000

RP-BA-Series Aluminum Rack and Pinion Actuator - Dimensions



Size	A (in)		B (in)	C (in)	D (mm)	E (in)	F	G (mm)	H	I (mm)	J	K	L (in)
	Spring Return	Double Acting											
012	-	4.7	2.6	0.5	9	0.4	M5	8	-	-	F04	-	2.9
025 (F04)	7.7	5.7	3.1	0.5	11	0.7	M5	8	-	-	F04	-	3.2
025 (F05)	7.7	5.7	3.1	0.5	11	0.7	M6	10	-	-	F05	-	3.2
045	8.1	5.9	4.8	0.5	14	0.8	M6	10	M8	12	F05	F07	3.7
101	9.8	7.2	5.6	0.5	17	1.0	M6	10	M8	12	F05	F07	4.7
225	14.0	10.2	6.9	0.5	22	1.2	M8	12	M10	15	F07	F10	5.5
365	16.6	12.0	7.7	0.5	27	1.4	M10	15	M12	19	F10	F12	7.3
500	19.2	14.3	9.6	0.5	27	1.4	M10	15	M12	19	F10	F12	8.1
1000	25.3	19.3	25.3	0.5	36	1.8	M16	24	-	-	F14	-	9.4

RP-BA-Series Aluminum Rack and Pinion Actuator - Repair Kits

Kit Type	Part #	Contains
Seal/Bearing Kit (Nitrile)	RP-012-RKB	Items 6, 7, 8, 9, 10, 23, 28, 29
	RP-025-RKB	
	RP-045-RKB	
	RP-101-RKB	
	RP-225-RKB	
	RP-365-RKB	
	RP-500-RKB	
	RP-110-RKB	
Seal/Bearing Kit (FKM)	RP-012-RKV	Items 6, 7, 8, 9, 10, 23, 28, 29
	RP-025-RKV	
	RP-045-RKV	
	RP-101-RKV	
	RP-225-RKV	
	RP-365-RKV	
	RP-500-RKV	
	RP-110-RKV	
End Cap/Spring Set Assembly	RP-025-SS	Items 3, 4, 10, 11, 12, 13, 14, 15, 16, 18
	RP-045-SS	
	RP-101-SS	
	RP-225-SS	
	RP-365-SS	
	RP-500-SS	
	RP-110-SS	

NOTE: All kits are qty 1 kit/actuator



RP-BS-Series Stainless Steel Rack and Pinion Actuator

Stainless steel rack and pinion utilized with industrial and sanitary valves for quarter turn actuation in industrial, food/beverage, and pharmaceutical applications

Features

- Replaceable top and bottom PTFE pinion bearings ensure low friction
- 304 SS construction for excellent chemical and corrosion resistance
- Travel stops provide $\pm 4^\circ$ travel adjustment
- Precision cast stainless steel pistons are guided through full face engagement with the pinion and piston guide
- NAMUR slotted shaft is standard to provide a self-centering positive drive for positioners or a variety of switches
- Drive pinion is one-piece stainless steel alloy shaft with precision machined gear teeth for precise control



Specifications

- Maximum pressure rating: **120 PSI**
- NBR elastomer (standard) temperature range: **-4°F to 180°F (-20°C to 82°C)**
- FKM elastomer (optional) temperature range: **-4°F to 302°F (-20°C to 150°C)**
- Available in:
 - Double acting
 - Spring return (standard CW - air actuated)
 - Spring return (optional CCW - air actuated)

Actuator Weights Chart

Model Size	Double Acting (lbs)	Spring Return (lbs)
045	5.0	5.5
060	8.0	8.5
085	14.0	14.5
105	25.5	27.0
125	38.5	40.5
140	63.5	65.5
160	80.0	83.0

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RP-BS-Series Stainless Steel Rack and Pinion Actuator Spring Return Torque Chart (in-lbs)

Size	Spring Per Side	Spring Torque		40 PSI		60 PSI		80 PSI		100 PSI	
		End	Break	End	Break	End	Break	End	Break	End	Break
RP-BS-045-SR	(5 STD)										
	3	35	57	14	36	50	72	86	108	121	143
	4	47	77			30	60	66	96	101	131
	5	60	96					47	83	82	118
RP-BS-065-SR	3	67	136	35	104	120	189	206	275	291	360
	4	90	182			74	166	160	252	245	337
	5	112	227					115	230	200	315
	6	135	273							154	292
RP-BS-080-SR	3	167	273	97	203	282	388	467	573	652	758
	4	223	364			191	332	376	517	561	702
	5	279	456					284	461	469	646
	6	335	547							378	590
RP-BS-105-SR	3	346	574	50	278	362	590	675	903	987	1215
	4	461	766			170	475	483	788	795	1110
	5	576	956					293	673	605	985
	6	692	1141							420	869
RP-BS-125-SR	3	651	1141	73	563	681	1171	1288	1778	1895	2385
	4	869	1522			300	953	907	1560	1514	2167
	5	1080	1902					527	1349	1134	1956
	6	1301	2283							753	1735
RP-BS-140-SR	3	808	1859	175	1226	1192	2243	2209	3260	3226	4277
	4	1071	2487			564	1980	1581	2997	2598	4014
	5	1345	3107					961	2723	1978	3740
	6	1610	3726							1359	3475
RP-BS-160-SR	3	1522	2098	895	1580	2420	3131	4022	4682	4657	6233
	4	2035	3133			1720	2618	3122	4169	4822	5720
	5	2550	3690					2467	3654	3588	5205
	6	3054	4893							3333	4701

NOTE: 5 springs per side is standard

RP-BS-Series Double Acting Torque Chart (in-lbs)

Size	40 PSI	60 PSI	80 PSI	100 PSI	120 PSI
RP-BS-045-DA	71	107	143	178	214
RP-BS-065-DA	171	256	342	427	512
RP-BS-080-DA	370	555	740	925	1110
RP-BS-105-DA	624	936	1249	1561	1873
RP-BS-125-DA	1214	1822	2429	3036	3643
RP-BS-140-DA	2034	3051	4068	5085	6102
RP-BS-160-DA	3102	4653	6204	7755	9306

RP-BS-Series Stainless Steel Rack and Pinion Actuator - Part Number Key

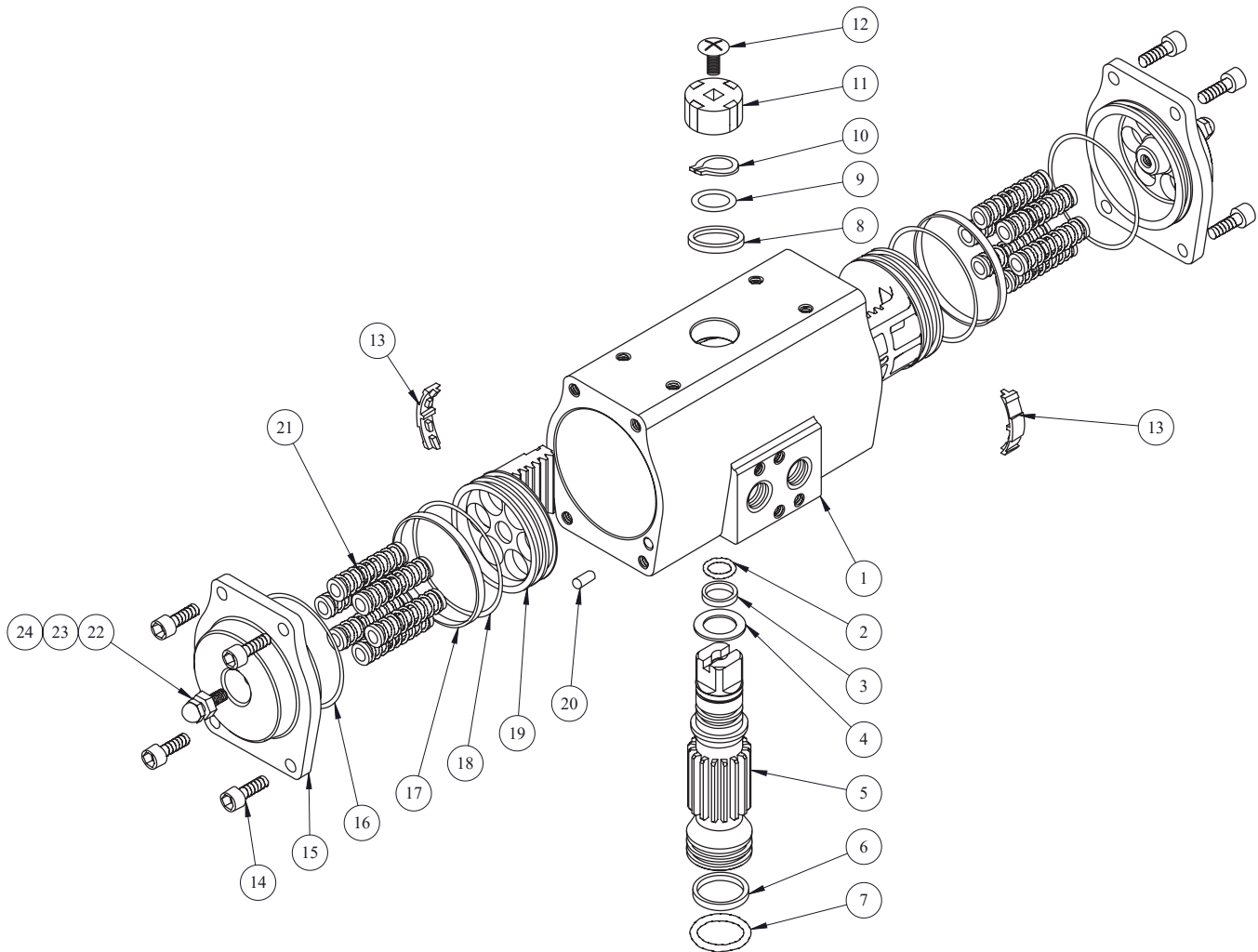
RP-BS-Series Stainless Steel Actuator Part Number Key Example: RP-BS-045-DA		Series	Model	Configuration	Spring Set	Seal Options	Rotation
		RP-BS	- 045	- DA			
Series	Code						
RP-BS	RP-BS	←					
Model-Size	Code						
045	045	←					
065	065						
080	080						
105	105						
125	125						
140	140						
160	160						
Configuration	Code						
Double Acting	DA	←					
Spring Return	SR						
Spring Set	Code						
3	3						
4	4						
5 (standard)	blank	←					
6	6						
Seal Options	Code						
Nitrile rubber (standard)	blank	←					
FKM	V						
Rotation	Code						
CCW air to spring (standard)	blank	←					
CW air to spring	R						



RP-BS-Series Stainless Steel Rack and Pinion Actuator - Spring Set Kit Part Number Key

RP-BS-Series Spring Set Kit Part Number Key Example: RP-BS-045SS5		Series	Model	Kit	Spring Set Quantity
		RP-BS	- 045	SS	5
Series	Code				
RP-BS	RP-BS	←			
Model-Size	Code				
045	045	←			
065	065				
080	080				
105	105				
125	125				
140	140				
160	160				
Kit	Code				
Spring Set Kit	SS	←			
Spring Set Quantity	Code				
3	3				
4	4				
5 (standard)	5	←			
6	6				

RP-BS-Series Stainless Steel Rack and Pinion Actuator - Bill of Materials

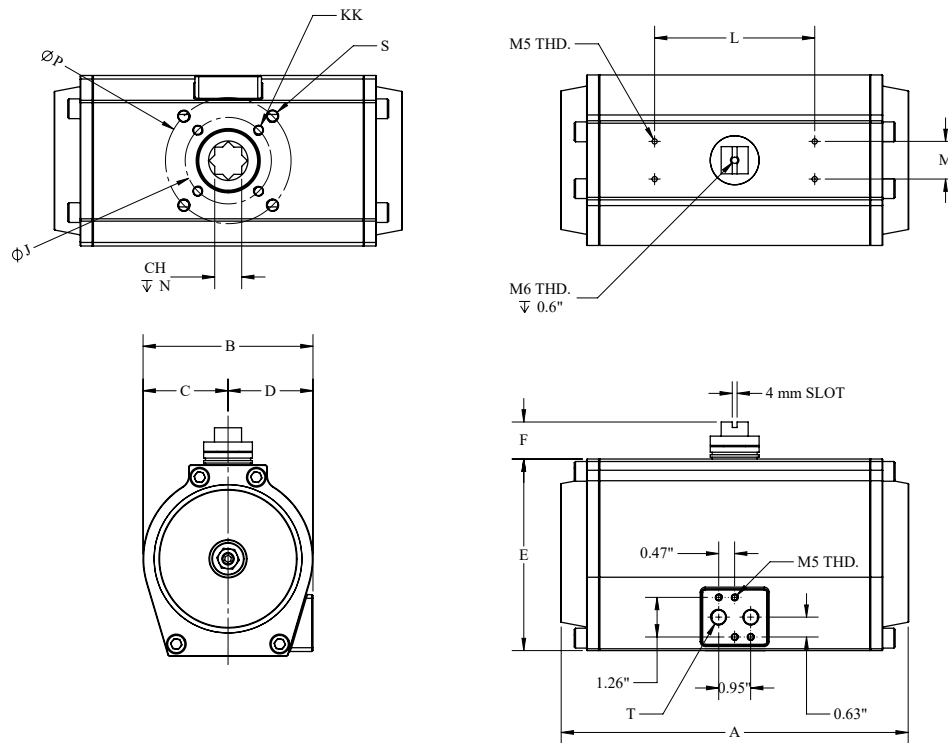


Item #	Description	Material	Qty
1	Body	CF8	1
2	O-ring (pinion top)	nitrile rubber	1
3	Bearing (pinion top)	Polyoxymethylene	1
4	Inside washer	Polyoxymethylene	1
5	Pinion	304 SS	1
6	Bearing (pinion bottom)	Polyoxymethylene	1
7	O-ring (pinion bottom)	nitrile rubber	1
8	Outside washer	Polyoxymethylene	1
9	Thrust washer	304 SS	1
10	Circlip	304 SS	1
11	Indicator	Plastic (ABS)	1
12	Indicator screw	Plastic (ABS)	1

Item #	Description	Material	Qty
13	Guide (piston)	Nylon 66	2
14	End cap screw	304 SS	8
15	End cap	CF8	2
16	O-ring (end cap)	nitrile rubber	2
17	Bearing (piston)	Polyoxymethylene	2
18	O-ring (piston)	nitrile rubber	2
19	Piston	304 SS	2
20	Plug	nitrile rubber	2
21*	Spring	Piano wire	0-12
22	Adjustment screw	304 SS	2
23	O-ring (adjustment screw)	nitrile rubber	2
24	Nut (adjustment screw)	304 SS	2

* For spring return only

RP-BS-Series Stainless Steel Rack and Pinion Actuator - Dimensions



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	CH (mm)	J	L (in)	N (in)	M (in)	P	S	T	KK
045	7.6	2.6	1.2	1.2	2.6	0.8	11	F03	3.2	0.6	1.2	F05	M6x10	1/4" NPT	M5x8
065	7.3	2.9	1.4	1.4	3.2	0.8	14	F05	3.2	0.6	1.2	-	M6x10	1/4" NPT	-
080	8.4	4.0	1.9	1.9	4.2	0.8	17	F05	3.2	0.7	1.2	F07	M8x13	1/4" NPT	M6x10
105	10.5	4.8	2.3	2.3	5.2	0.8	22	F07	3.2	0.8	1.2	-	M8x13	1/4" NPT	-
125	12.2	5.4	2.7	2.7	6.1	1.2	22	F07	5.1	1.0	1.2	F10	M10x16	1/4" NPT	M8x13
140	19.3	6.3	3.1	3.1	6.9	1.2	27	F10	5.1	1.2	1.2	F12	M12x20	1/4" NPT	M10x16
160	21.1	6.9	3.4	3.4	7.8	1.2	27	F10	5.1	1.2	1.2	F12	M12x21	1/4" NPT	M10x16

RP-BS-Series Stainless Steel Rack and Pinion Actuator - Repair Kits

Kit Type	Part #
Seal/Bearing Kit (nitrile rubber standard)	RP-045SS-RKB
	RP-065SS-RKB
	RP-080SS-RKB
	RP-105SS-RKB
	RP-125SS-RKB
	RP-140SS-RKB
Seal/Bearing Kit (FKM optional)	RP-045SS-RKV
	RP-065SS-RKV
	RP-080SS-RKV
	RP-105SS-RKV
	RP-140SS-RKV

NOTE: All kits are qty 1 kit/actuator
 Repair kits contain the following item numbers from the bill of materials: 2, 3, 4, 6, 7, 8, 13, 17, and 18

RP-MA-Series Rack and Pinion Actuator

Aluminum rack and pinion actuators utilized with valves for 180° rotation in industrial, food, beverage, and pharmaceutical applications.

Features

- NAMUR VDI/VDE 3845 and ISO 5211 dimensions on all sizes
- Standard angle of rotation is 180°. Available in 120°, 135°, and 150° angle of rotation
- 016 and larger sizes feature a travel stop with $\pm 10^\circ$ adjustment in both open and closed directions
- Extruded aluminum body is internally machined and lapped to exact specifications. All internal and external surfaces are anodized for corrosion resistance
- For additional corrosion resistance, actuator can be epoxy coated
- Configurable beacon indicator is standard and available for all rotations
- All pinions are supplied with anti-blowout retention in both directions
- Air pressure operation from **40 to 120 PSI**. Water, nitrogen, and compatible hydraulic fluids may be used to power the actuator
- All units are permanently lubricated at the factory with non-silicone grease
- 100% of all units are factory pressure and leak tested



Specifications

- Twin rack and pinion design
- Female double square output shaft
- ISO 5211 bolt patterns
- Piston and pinion lubrication: non-silicone grease
- Range of rotation adjustment: 170° to 190°
- Operating media: dry or lubricated non-corrosive gas
- Operating pressure: **40 to 120 PSI**
- Maximum pressure rating: **150 PSI**
- Nitrile rubber (standard) temperature range: **-4°F to 176°F (-20°C to 80°C)**
- FVMQ (fluorosilicone) temperature range: **-67° to 250°F (-55° to 121°C)**
- FKM temperature range: **-10°F to 250°F (-23° to 121°C)**
- Available in:
 - Double acting
 - Double acting 3-position
 - Spring return
 - Center return
 - Low and high temperature seals
 - Polyamide epoxy coating

RP-MA-Series Rack and Pinion Actuator - Weight and Air Consumption Charts

Size	Double Acting		Spring Return		Center Return		3-Position	
	Weight (lbs)	Air Cons. (cu-in)	Weight (lbs)	Air Cons. (cu-in)	Weight (lbs)	Air Cons. (cu-in)	Weight (lbs)	Air Cons. (cu-in)
16	5.29	42.5	7.67	21.2	CF	42.5	CF	89.4
17	8.05	53.7	10.14	25.6	CF	53.7	CF	116.1
20 - 21	8.82	73.7	11.57	38.1	CF	73.7	CF	153.7
25 - 26	11.79	118.7	15.39	58.1	CF	118.7	CF	248.0
30 - 31	14.88	150.0	19.62	71.9	CF	150.0	CF	317.0
35 - 36	22.44	237.5	30.29	113.7	CF	237.5	CF	514.4
40 - 41	27.67	293.9	36.88	141.2	CF	293.7	CF	636.8
45 - 46	39.20	462.5	51.48	221.9	CF	462.5	CF	978.1
50 - 51	54.23	656.3	77.08	316.2	CF	656.3	CF	1421.4
55 - 56	65.81	906.3	88.76	435.6	CF	906.3	CF	1942.5

Size	Drive (mm)	Drive (in)	Standard ISO Pattern	Optional Pattern
16	14	0.551	F05/F07	F04/3.25
17	14	0.551	F05/F07	F04/3.25
20-21	17	0.670	F05/F07	F04/3.25
25-26	17	0.670	F05/F07	F04/3.25
30-31	17	0.670	F05/F07	F04/3.25
35-36	22	0.866	F07/F10	3.25/5.00
40-41	22	0.866	F07/F10	F07/F12 3.25/F12 3.25/5.00
45-46	22	0.866	F07/F10	F07/F12 3.25/F12 3.25/5.00
50-51	27	1.063	F10/F12	-
55-56	27	1.063	F10/F12	-

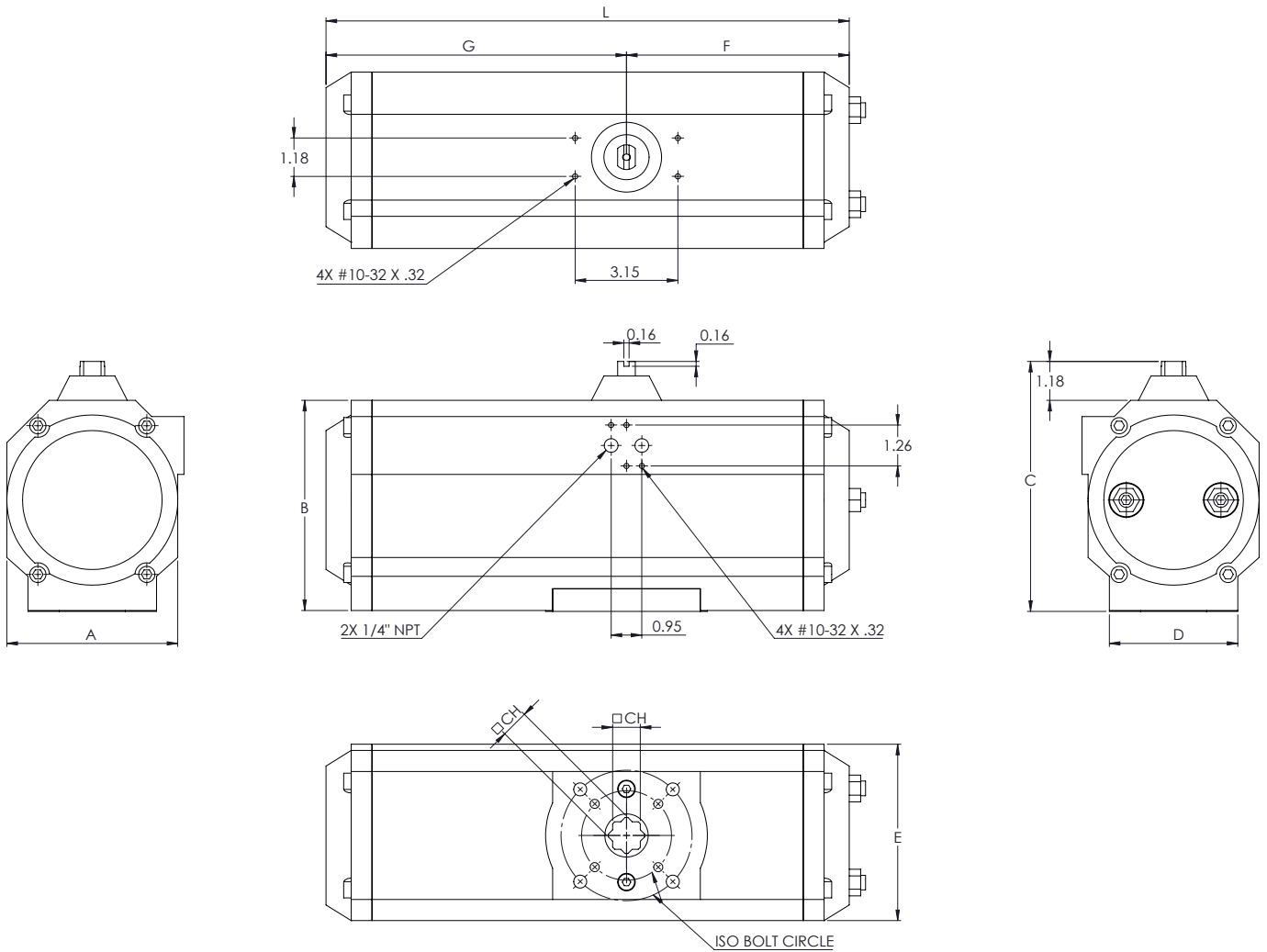
RP-MA-Series Rack and Pinion Actuator - Torque Ratings (Double Acting)

Part #	40 PSI	60 PSI	80 PSI	100 PSI	120 PSI
RP-MA-016-DA	137	206	275	344	412
RP-MA-017-DA	180	270	360	450	540
RP-MA-021-DA	250	375	500	625	750
RP-MA-026-DA	375	562	750	937	1125
RP-MA-031-DA	500	750	1000	1250	1500
RP-MA-036-DA	800	1200	1600	2000	2400
RP-MA-041-DA	1000	1500	2000	2500	3000
RP-MA-046-DA	1562	2344	3125	3906	4687
RP-MA-051-DA	2250	3375	4500	5625	6750
RP-MA-056-DA	3000	4500	6000	7500	9000

RP-MA-Series Rack and Pinion Actuator - Torque Ratings (Spring Return)

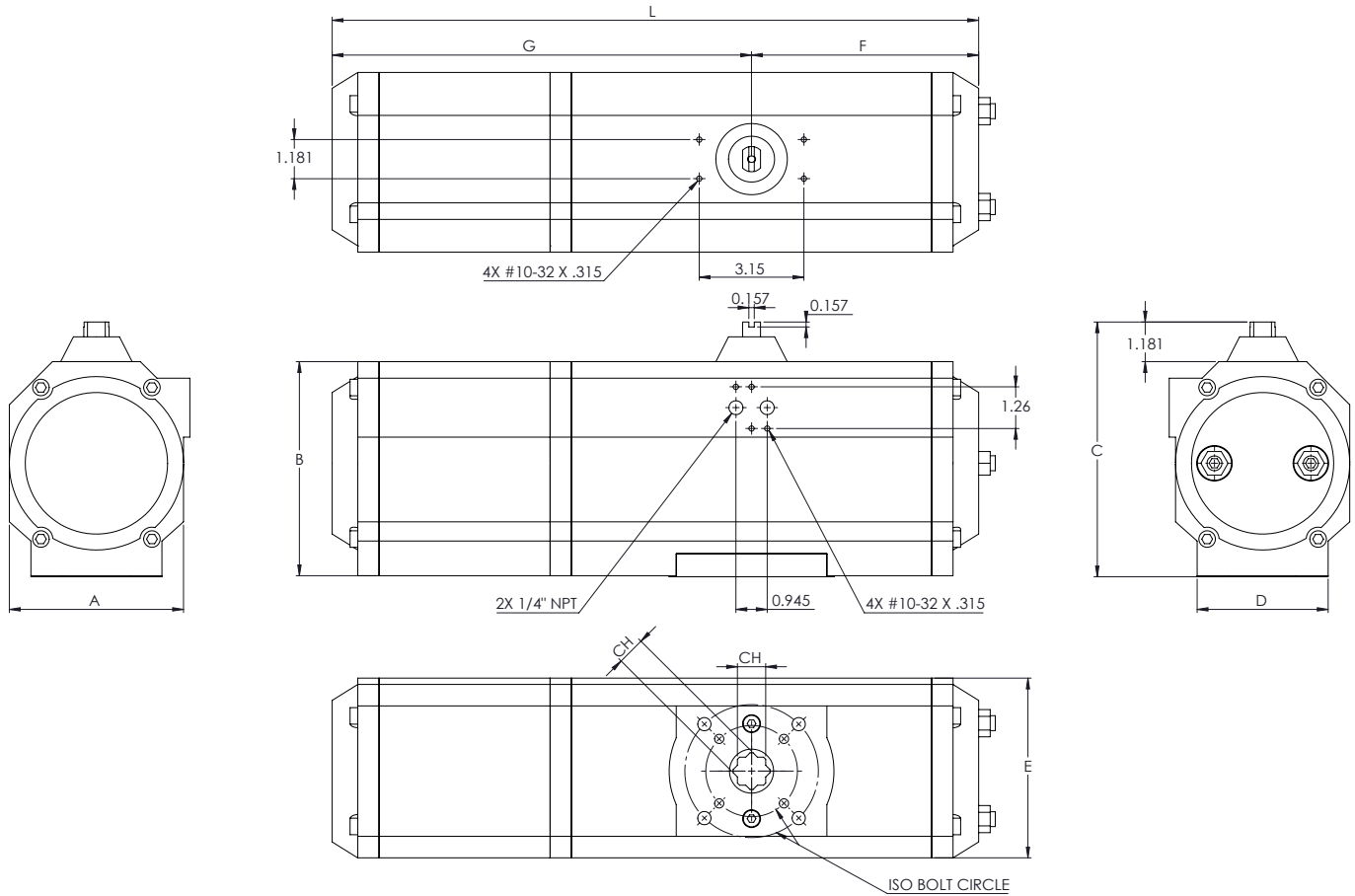
Part #	Spring Set	Spring Torque		40 PSI		60 PSI		80 PSI		100 PSI		120 PSI	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
RP-MA-015-SR	2+2	75	53	84	62	153	131	222	200	291	269	359	337
	3+3	112	81	56	25	125	94	194	163	263	232	331	300
	4+4	150	107			99	56	168	125	237	194	305	262
	5+5	187	134			72	19	141	88	210	157	278	225
	7+5	224	160					115	51	184	120	252	188
RP-MA-017-SR	2+2	93	64	116	87	206	177	296	267	386	357	476	447
	3+3	139	96	84	41	174	131	264	221	354	311	444	401
	4+4	185	128			142	85	232	175	322	265	412	355
	5+5	232	160			110	38	200	128	290	218	380	308
	7+5	278	192					168	82	258	172	348	262
RP-MA-020-SR	2+2	122	92	158	128	283	253	408	378	533	503	658	628
	3+3	184	138	112	66	237	191	362	316	487	441	612	566
	4+4	245	184	66	5	191	130	316	255	441	380	566	505
	5+5	307	230			145	68	270	193	395	318	520	443
	7+5	369	278			97	6	222	131	347	256	472	381
RP-MA-025-SR	2+2	196	124	251	179	438	366	626	554	813	741	1001	929
	3+3	294	185	190	81	377	268	565	456	752	643	940	831
	4+4	392	247			315	170	503	358	690	545	878	733
	5+5	490	309			253	72	441	260	628	447	816	635
	7+5	588	372					378	162	565	349	753	537
RP-MA-030-SR	2+2	251	187	313	249	563	499	813	749	1063	999	1313	1249
	3+3	376	280	220	123	470	374	720	624	970	874	1220	1124
	4+4	502	374			376	248	626	498	876	748	1126	998
	5+5	627	467			283	123	533	373	783	623	1033	873
	7+5	753	560					440	247	690	497	940	747
RP-MA-035-SR	2+2	412	306	494	388	894	788	1294	1188	1694	1588	2094	1988
	3+3	617	461	339	183	739	583	1139	983	1539	1383	1939	1783
	4+4	824	614			586	376	986	776	1386	1176	1786	1576
	5+5	1029	767			433	171	833	571	1233	971	1633	1371
	7+5	1236	921					679	364	1079	764	1479	1164
RP-MA-040-SR	2+2	505	371	629	495	1129	995	1629	1495	2129	1995	2629	2495
	3+3	757	556	444	243	944	743	1444	1243	1944	1743	2444	2243
	4+4	1011	741			759	489	1259	989	1759	1489	2259	1989
	5+5	1263	929			572	237	1072	737	1572	1237	2072	1737
	7+5	1516	113					887	484	1387	984	1887	1484
RP-MA-045-SR	2+2	890	560	1002	672	1784	1454	2565	2235	3346	3016	4127	3797
	3+3	1334	840	722	228	1504	1010	2285	1791	3066	2572	3847	3353
	4+4	1779	1120			1224	565	2005	1346	2786	2127	3567	2908
	5+5	224	1399			945	120	1726	901	2507	1682	3288	2463
	7+5	2669	1679					1446	456	2227	1237	3008	2018
RP-MA-050-SR	2+2	1101	869	1381	1149	2506	2274	3631	339	4756	4524	5881	5649
	3+3	1652	1304	946	598	2071	1723	3196	2848	4321	3973	5446	5098
	4+4	2203	1738	512	47	1637	1172	2762	2297	3887	3422	5012	4547
	5+5	2754	2173			1202	621	2327	1746	3452	2871	4577	3996
	7+5	3303	2607			768	72	1893	1197	3080	2322	4143	3447
RP-MA-055-SR	2+2	1487	1055	1945	1513	3445	3013	4945	4513	6445	6013	7945	7513
	3+3	2231	1583	1417	769	2917	2269	4417	3769	5917	5269	7417	6769
	4+4	2974	211	889	26	2389	1526	3889	3026	5389	4526	6889	6026
	5+5	3718	2638			1862	782	3362	2282	4862	3782	6362	5282
	7+5	4462	3166			1334	38	2834	1538	4334	3038	5834	4538

RP-MA-Series Rack and Pinion Actuator - Dimensions (Spring Return)



Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	5.39	7.42	12.82	F05/F07	F04/3.25	14
17	2.76	3.54	4.76	2.52	3.35	5.39	7.42	12.82	F05/F07	F04/3.25	14
20	3.386	4.409	5.63	2.756	3.78	4.96	6.73	11.69	F05/F07	F04/3.25	17
25	3.386	4.409	5.63	2.756	3.78	6.50	9.04	15.53	F05/F07	F04/3.25	17
30	4.10	5.16	6.38	2.76	4.45	6.52	8.68	15.197	F05/F07	F04/3.25	17
35	5.16	6.50	7.72	3.40	5.43	6.83	9.21	16.04	F07/F10	3.25/5.00	22
40	5.16	6.50	7.72	3.40	5.43	7.89	10.91	18.80	F07/F10	F07/F12/3.25/5	22
45	5.78	6.97	8.19	3.40	5.95	10.00	13.15	23.15	F07/F10	F07/F12/3.25/5	22
50	7.17	8.54	9.76	4.72	7.28	9.82	13.58	23.15	F10/F12	-	27
55	7.17	8.54	9.76	4.72	7.28	11.95	15.75	27.70	F10/F12	-	27

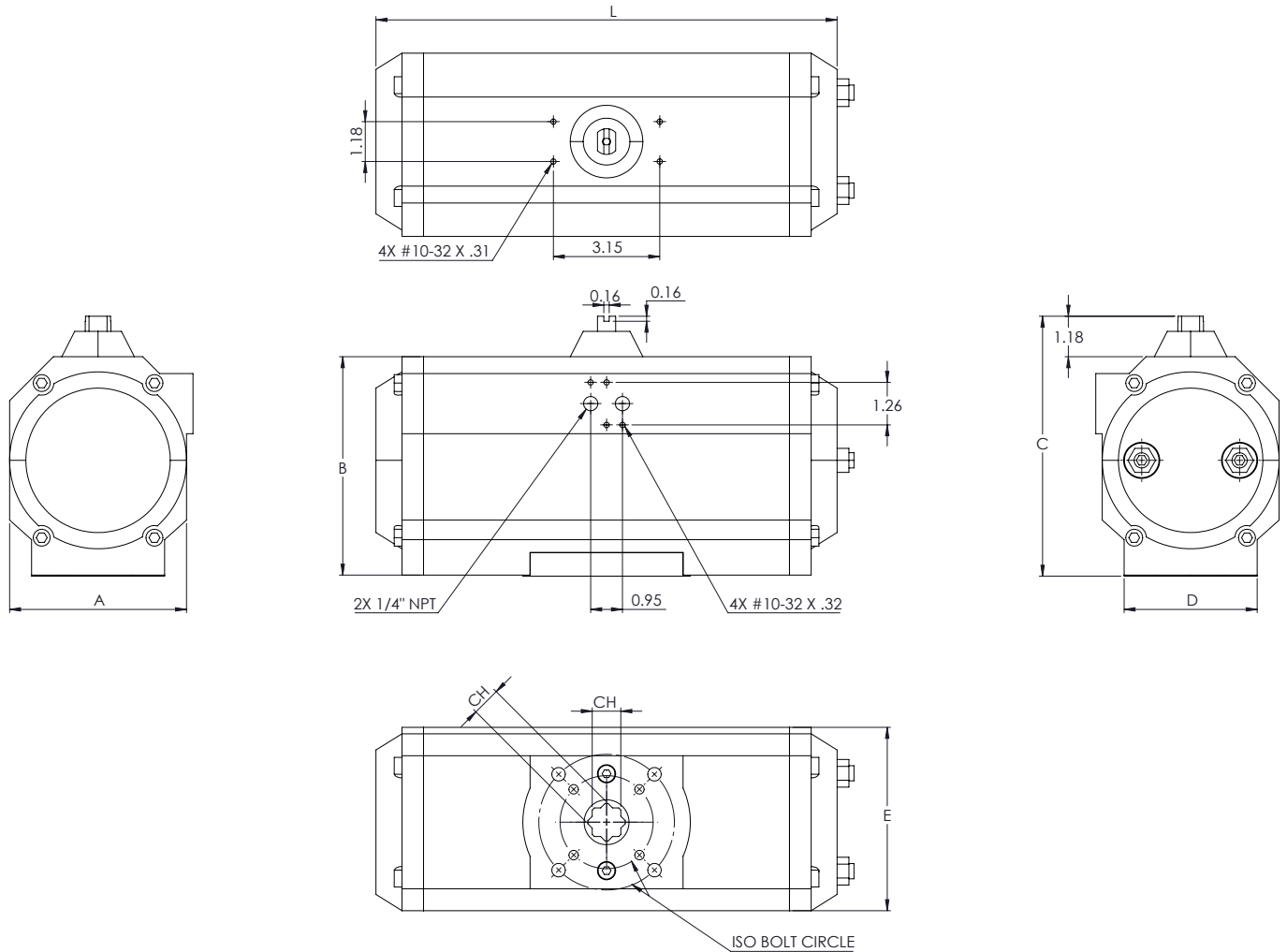
RP-MA-Series Rack and Pinion Actuator - Dimensions (Center Return)



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Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	8.58	4.61	13.19	F05/F07	F04/3.25	14
17	3.39	4.41	5.63	2.76	3.78	9.21	4.96	14.73	F05/F07	F04/3.25	17
25	3.39	4.41	5.63	2.76	3.78	10.79	6.50	17.28	F05/F07	F04/3.25	17
30	4.10	5.16	6.38	2.76	4.45	11.30	6.54	17.84	F05/F07	F04/3.25	17
35	5.16	6.50	7.78	3.40	5.43	12.60	6.86	191.45	F07/F10	3.25/5.00	22
40	5.16	6.50	7.78	3.40	5.43	14.21	7.91	22.13	F07/F10	F07/F12/3.25/5	22
45	5.78	6.97	8.19	3.40	5.95	17.87	10.00	27.87	F07/F10	F07/F12/3.25/5	22
50	7.17	8.54	9.76	4.72	7.28	17.32	9.84	27.17	F10/F12	-	27
55	7.17	8.54	9.76	4.72	7.28	21.26	11.97	33.23	F10/F12	-	27

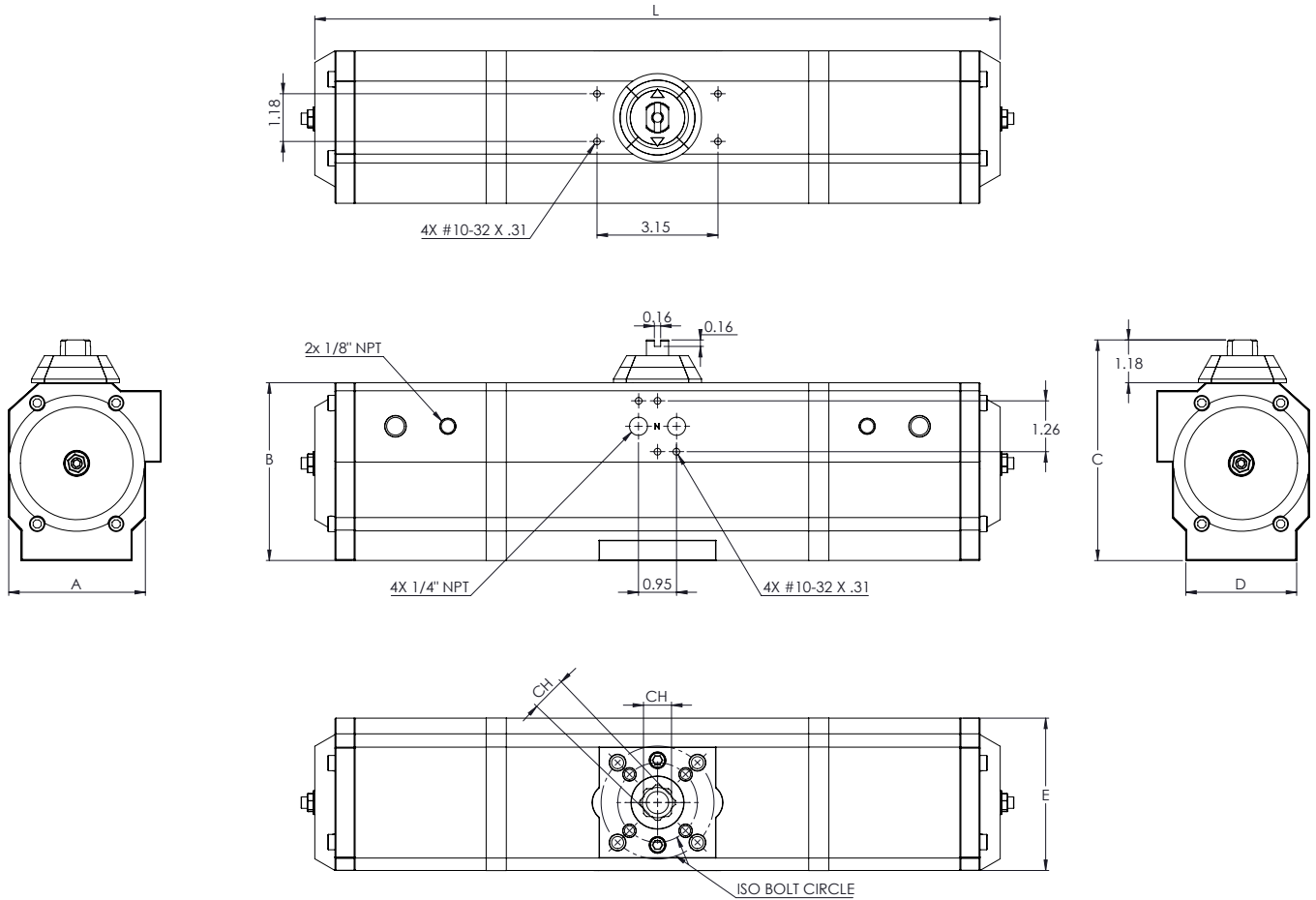
RP-MA-Series Rack and Pinion Actuator - Dimensions (Double Acting)



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Size	A (in)	B (in)	C (in)	D (in)	E (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	9.21	F05/F07	F04/3.25	14
17	2.76	3.54	4.76	2.52	3.35	10.79	F05/F07	F04/3.25	14
21	3.39	4.41	5.63	2.76	3.78	9.92	F05/F07	F04/3.25	17
26	3.39	4.41	5.63	2.76	3.78	12.99	F05/F07	F04/3.25	17
31	4.10	5.16	6.38	2.76	4.45	13.03	F05/F07	F04/3.25	17
36	5.16	6.50	7.72	3.40	5.43	13.66	F07/F10	3.25/5.00	22
41	5.16	6.50	7.72	3.40	5.43	15.79	F07/F10	F07/F12/3.25/5	22
46	5.78	6.97	8.19	3.40	5.95	20.00	F07/F10	F07/F12/3.25/5	22
51	7.17	8.54	9.76	4.72	7.28	19.65	F10/F12	-	27
56	7.17	8.54	9.76	4.72	7.28	23.90	F10/F12	-	27

RP-MA-Series Rack and Pinion Actuator - Dimensions (Double Acting 3-Position)



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Size	A (in)	B (in)	C (in)	D (in)	E (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	15.24	F05/F07	F04/3.25	14
17	2.76	3.54	4.76	2.52	3.35	17.24	F05/F07	F04/3.25	14
21	3.39	4.41	5.63	2.76	3.78	16.26	F05/F07	F04/3.25	17
26	3.39	4.41	5.63	2.76	3.78	20.24	F05/F07	F04/3.25	17
31	4.10	5.16	6.38	2.76	4.45	21.06	F05/F07	F04/3.25	17
36	5.16	6.50	7.72	3.40	5.43	22.13	F07/F10	3.25/5.00	22
41	5.16	6.50	7.72	3.40	5.473	24.92	F07/F10	F07/F12/3.25/5	22
46	5.78	6.97	8.19	3.40	5.95	31.54	F07/F10	F07/F12/3.25/5	22
51	7.17	8.54	9.76	4.72	7.28	32.4	F10/F12	-	27
56	7.17	8.54	9.76	4.72	7.28	37.99	F10/F12	-	27

NOTE: Repair kits unavailable, not field serviceable.

RP-TP-Series Technopolymer Rack and Pinion Actuator

Utilized with industrial and sanitary valves for quarter turn actuation in corrosive environment applications.

Features

- Double acting or spring return with non-metallic spring cartridges and epoxy coated springs
- Anti-blowout pinion
- Indicator: high visibility technopolymer
 - Open/close indication is standard
- Female double square output shaft

Materials

- Body and spring cartridge: technopolymer
- Elastomers: nitrile rubber
- Piston: die cast aluminum
- Pinion: nickel plated carbon steel
- Fasteners: 304 stainless steel



Specifications

- Size range: 62 in-lbs to 750 in-lbs
- Standard connections: ISO 5211 female output drive
 - NAMUR VDI/VDE 3845 solenoid and switch mounting standards
- Actuator data
 - Connections: 1/4" NPT
 - Operating pressure: **40 to 200 PSI**
 - Temperature range: **-4°F to 176°F (-20°C to 80°C)**
 - Operating media: lubricated air, hydraulic oil, or water

RP-TP-Series Technopolymer Rack and Pinion Actuator - Torque Ratings

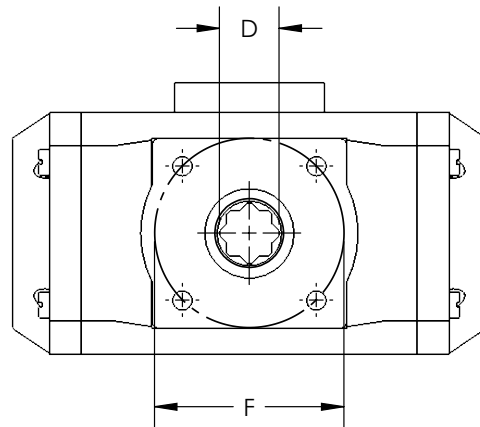
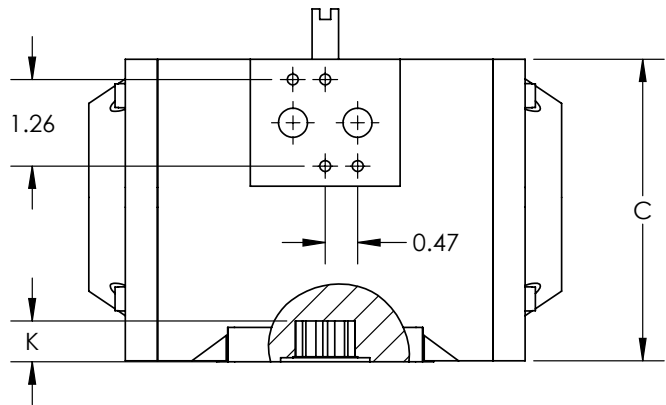
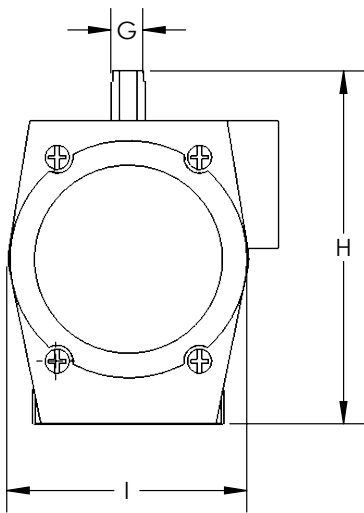
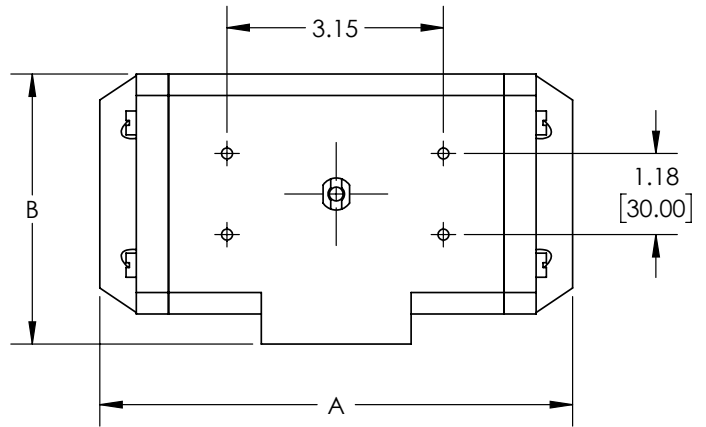
Double Acting

Part#	40 PSI	60 PSI	80 PSI	100 PSI	120 PSI
RP-TP-011-DA	62	94	125	156	187
RP-TP-014-DA	137	206	275	344	412
RP-TP-019-DA	250	375	500	625	750

Spring Return

Part #	Position #1 Spring Torque			Position #2 Air Torque					
				60 PSI		80 PSI		100 PSI	
	# Springs	Start	End	Start	End	Start	End	Start	End
RP-TP-011-SR	1+1	33	22	72	61	103	92	134	123
	2+2	66	44	50	28	81	59	112	90
	3+3	99	66	-	-	58	27	90	66
RP-TP-014-SR	2+2	75	53	153	131	222	200	291	269
	3+3	112	81	125	94	194	163	263	232
	4+4	150	107	99	56	168	125	237	194
	5+5	187	134	72	19	141	88	210	157
	7+5	224	160	-	-	115	51	184	120
RP-TP-019-SR	2+2	122	92	283	253	408	378	533	503
	3+3	184	138	237	191	362	316	487	441
	4+4	245	184	191	130	316	255	441	380
	5+5	307	230	145	68	270	193	395	318
	7+5	369	278	97	6	222	131	347	256

RP-TP-Series Technopolymer Rack and Pinion Actuator - Dimensions



Part #	A (in)	B (in)	C (in)	D (mm)	F	G (in)	H (in)	I (in)	K (in)
RP-TP-011-*	4.69	2.64	2.76	11	F04	0.47	3.58	2.09	0.49
RP-TP-014-*	6.30	3.39	3.54	14	F05	0.47	4.37	2.76	0.75
RP-TP-019-*	6.89	3.98	4.39	17	F07	0.47	5.22	2.76	0.91

*SR (spring return) or DA (double acting)

BEO-Series Electric Actuator

The quarter-turn BEO-series electric actuator is an alternative to the rack and pinion actuator when an air supply isn't available. This electric actuator is used with sanitary and industrial valves for quarter turn actuation in industrial, food/beverage, and pharmaceutical applications.

Certifications

- CSA (except BM-2), CE (except for BM-2), UKCA (except BM-2), RoHS, China RoHS, REACH

Features

- ISO 5211 mounting flange
- Self-locking gear system
- Mechanical position indication
- Mechanical stops (except OM-1 / A / BM-2)
- Built-in thermal protection
- 30% duty cycle
- Clutchless manual override (for safe operation, handwheel does not rotate during operation)
- Standard anti-condensation heater to prevent the freezing of lubricants and keep interior dry to prevent product damage from moisture (heater not recommended if ambient temperature is over **95°F** or **35°C**)
- Enclosure features
 - Aluminum alloy, polyester powder coated
 - Corrosion protection C3 according to ISO 12944-6
 - OM-1, OM-A, BM-2, and BM-T utilize a plastic clover
 - NEMA 4X, 5, and IP67 (waterproof and dustproof enclosure intended for outdoor use)
- Gear train features
 - High alloy steel gear trains with self locking to avoid backlash
 - Gear trains are factory lubricated for life
- Motor features
 - Insulation class F
 - Built in thermal protection prevents motor burnout
 - AC motor: **257±9°F (125±5°C)**
 - DC motor: **194±9°F (90±5°C)**

Specifications

- Standard connections: ISO 5211 mounting flange
- Working temperature range: **-22°F to 149°F (-30°C to 65°C)**
- Working relative humidity range: 30% to 90%
- Standard voltages: 12 VDC, 12 VAC, 24 VDC/AC, 115VAC, 220VAC
- Options
 - **Heater thermostat:** can switch the anti-condensation heater off when the temperature inside the actuator is higher than **77±9°F (25±5°C)**
 - **Auxiliary limit switches:** actuators come standard with two limit switches (LS1 for fully open and LS2 for fully closed position). Two auxiliary limit switches are optional for fully open and fully closed position feedback.
 - **Modulating control:** a proportional control unit
 - Analog signal input: 4-20mA, 1-5V, and 2-10V
 - Analog signal output: 4-20mA and 2-10V
 - **Potentiometer unit:** recommended to use with a floating control actuator to output signal for position indicator. Two resistors, 1K ohm or 5K ohm are available for selection.
 - **Analog signal output:** recommended to use with a floating control actuator for position indication
 - Analog signal output: 0-20mA, 4-20mA, 0-5V, 0-10V, 1-5V, and 2-10V
 - **Extended duty cycle controller** (including motor, IEC standard): 75% duty cycle available for OM-A, OM-1 to OM-6
 - **Enclosure material:** IP68 316 stainless steel; available for OM-1 to OM-6
 - **Torque switch:** torque overload protection. Must be ordered with actuator, installed and set up at factory
 - **Local control unit:** contains LOCAL/REMOTE and CLOSE/OFF/OPEN rotary switches. In LOCAL mode, the valves are directly being controlled in the field and can be operated to close, stop, or open by using CLOSE/OFF/OPEN selector switch.
 - Standard: IP65
 - Optional: IP67, NEMA 4X
 - For OM-1 and OM-A: LCU is only available for floating control units
 - For OM-2 to OM-6: three phase power supply units with modulating control must be optioned with LCU



BEO-Series Electric Actuator - Part Number Key

BEO-Series Electric Actuator Part Number Key Example: BEOM-TB-11		Series	Model	Voltage		Option 1	Option 2	Indicator
		BE	BM-T	B	-	1	1	
Series	Code							
BE	BE							
Model	Code							
BM-T ¹	BM-T							
OM-1	OM-1							
OM-A	OM-A							
OM-M	OM-M							
OM-2	OM-2							
BM-2 ²	BM-2							
OM-3	OM-3							
OM-4	OM-4							
OM-5	OM-5							
OM-6	OM-6							
Voltage	Code							
115 VAC	B							
12 VDC ⁵	C							
12 VAC ⁶	G							
24 VDC/AC	E							
220 VAC	F							
Option 1	Code							
None	1							
Torque switches	2							
4-20mA input/output modulating controller	3							
Current position transmitter	4							
Potentiometer	5							
Local control unit	6							
Two extra travel cams and switches	7							
Three position cam set	8							
Local control unit with lock	9							
1-5V input/2-10V output modulating controller	A							
2-10V input/output modulating controller	B							
75% duty cycle ³	C							
Four position cam set	D							
Heater thermostat	E							
No heater	F							
Torque limiter	G							
Option 2⁴	Code							
None	1							
Torque switches	2							
4-20mA input/output modulating controller	3							
Current position transmitter	4							
Potentiometer	5							
Local control unit	6							
Two extra travel cams and switches	7							
Three position cam set	8							
Local control unit with lock	9							
1-5V input/2-10V output modulating controller	A							
2-10V input/output modulating controller	B							
75% duty cycle ³	C							
Four position cam set	D							
Heater thermostat	E							
No heater	F							
Torque limiter	G							
Indicator	Code							
Open/close (standard)	blank							
L-port	-L							
T-port	-T							

¹ No options available.

² Options 1, 7, & E available.

³ Not available in 220 VAC.

⁴ If 2 options selected, list lower code first.

⁵ Cannot be selected in combination with Option 1 or 2 Codes A and B.

⁶ 12 VAC only available in OM-1 model.

NOTE: Do not duplicate options selected from Option 1 to Option 2.

Some options are not available to combine.

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BEO-Series Electric Actuator - Supply Voltages

Model	Voltages								
	12 V		24 V		1-Phase		3-Phase		
	DC	AC	DC	AC	110-120 V	220-240 V	220-240 V	380-415 V	440-480 V
BM-T	✓		✓	✓	✓	✓			
OM-1	✓	✓	✓	✓	✓	✓			
OM-A	✓		✓	✓	✓	✓			
BM-2					✓	✓	✓	✓	✓
OM-2 to OM-6	✓		✓	✓	✓	✓	✓	✓	✓

Standard Mounting Specs

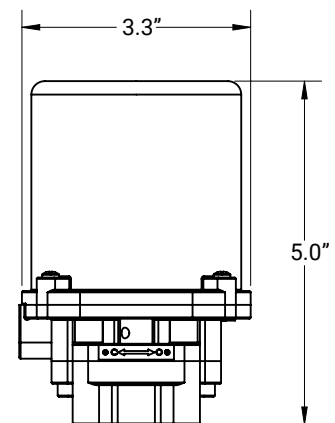
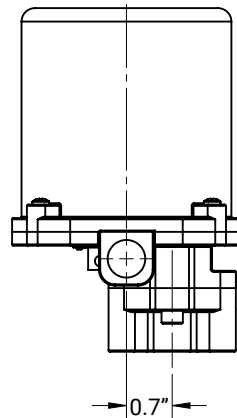
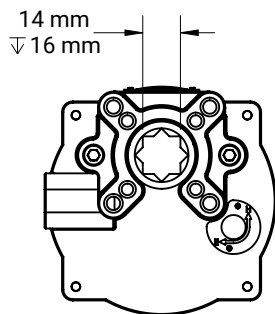
Model	Mounting Flange ISO 5211
BM-2	F07
BM-T	F03 / F05
OM-A	F05 / F07
OM-1	F03 / F05
OM-2 & OM-3	F07 / F10
OM-4, OM-5, & OM-6	F10 / F12

Torque, Weight, and Override Specifications

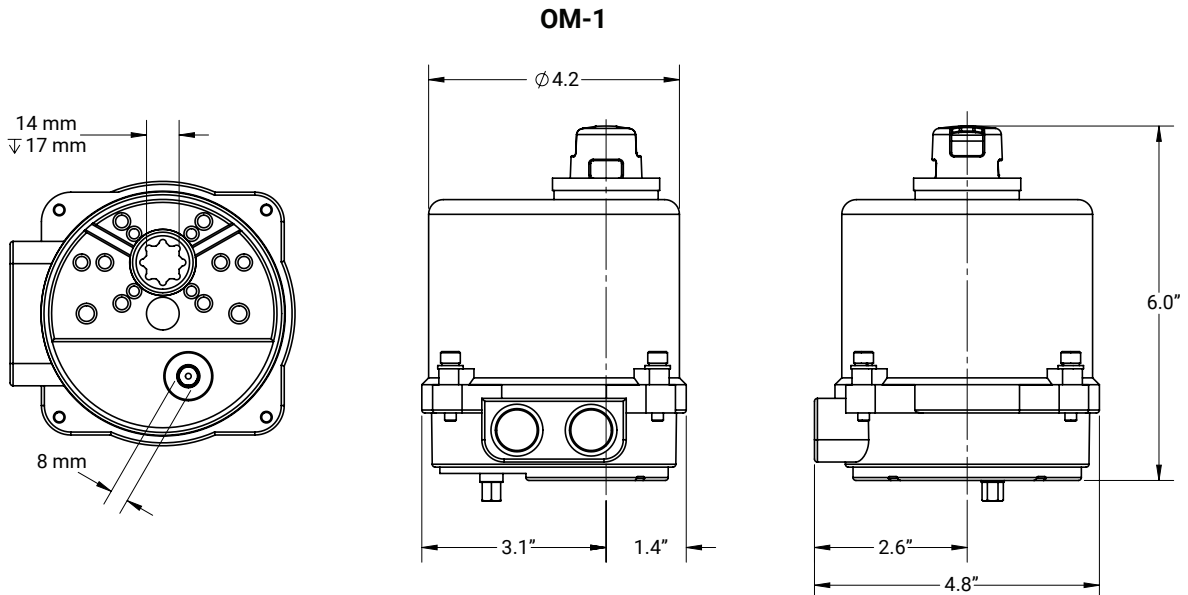
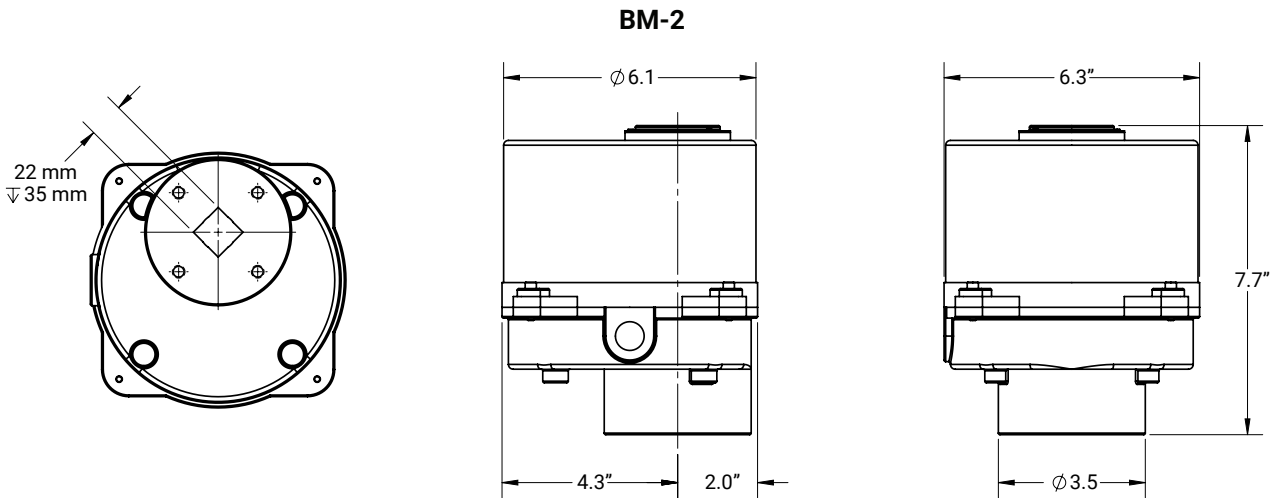
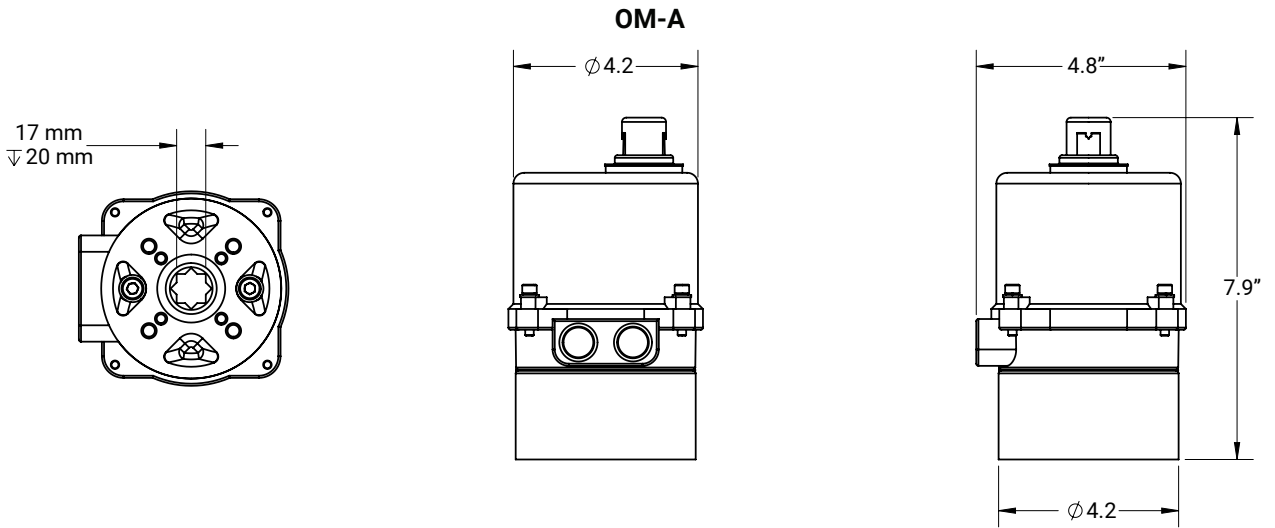
Model	Output Torque		Weight		Manual Override
	N-m	in-lbs	kg	lbs	
BM-T	15	132	1.5	3.3	lever
OM-A	50	443	3	6.61	-
OM-1	35	310	2	4.41	lever
BM-2	120	1063	5.5	12.13	hand wheel
OM-2	90	797	11	24.25	
OM-3	150	1328	11	24.25	
OM-4	400	3542	20	44.09	
OM-5	500	4427	20	44.09	
OM-6	650	5756	20	44.09	

BEO-Series Electric Actuator - Dimensions

BM-T

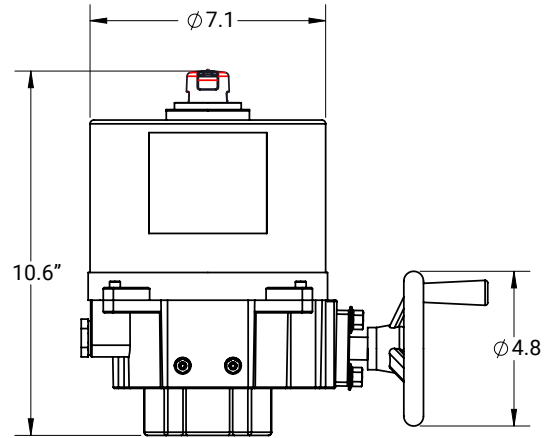
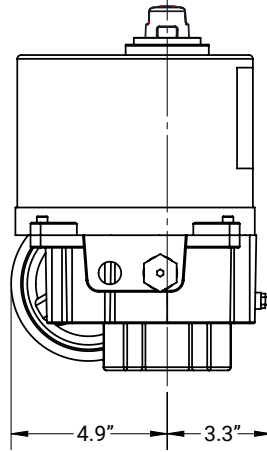
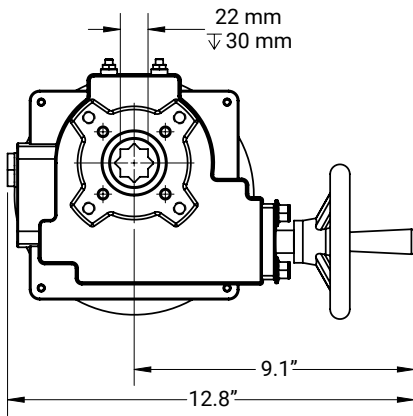


BEO-Series Electric Actuator - Dimensions

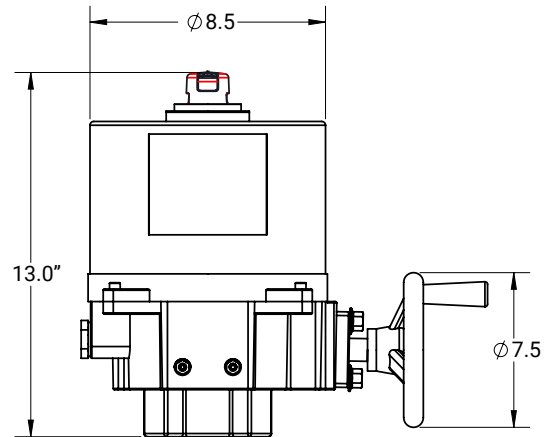
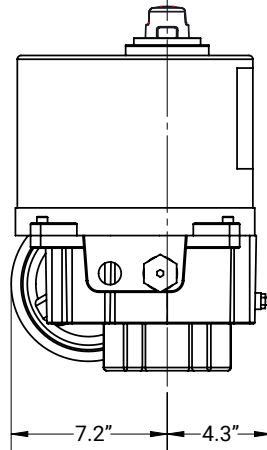
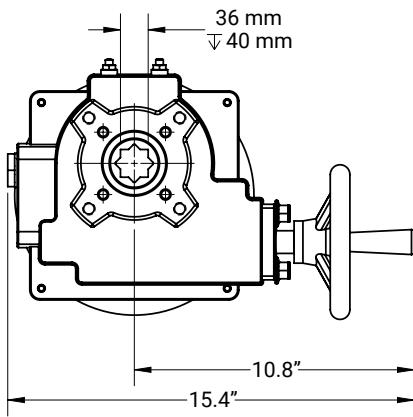


BEO-Series Electric Actuator - Dimensions

OM-2 & OM-3



OM-4, OM-5, & OM-6



BEO-Series Electric Actuator - Electrical Data
BM-T and OM-1 to 6, 1 PH, 30% and 75% duty cycle
BM-T, 1 PH, 30% duty cycle

Voltage	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
12	5	0.6	-	-	18	-	-	4	-	-
24		0.4	0.6	0.7	16	19	23	4	2	2
110-120		-	0.3	0.3	-	19	23	-	1	1
220-240		-	0.2	0.2	-	19	23	-	1	1

12VAC/DC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	2.1	2.4	2.3	22	22	21	3	4	4
OM-A	10	2.5	-	-	34	-	-	3	-	-
OM-2	40	4.5	-	-	15	-	-	12	-	-
OM-3	40	4.6	-	-	24	-	-	8	-	-
OM-4	80	14.0	-	-	21	-	-	22	-	-
OM-5	80	14.9	-	-	29	-	-	27	-	-
OM-6	80	12.3	-	-	35	-	-	18	-	-

24VAC/DC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	1.4	1.6	1.6	18	18	18	2.0	8.0	8.0
OM-A	10	1.4	1.6	1.6	36	37	37	2.0	8.0	8.0
OM-2	40	2.8	3.4	3.4	18	18	17	10.0	11.0	12.0
OM-3	40	2.6	3.1	3.1	27	26	26	10.0	11.0	12.0
OM-4	80	7.7	9.4	9.4	21	20	20	20.0	30.0	30.0
OM-5	80	7.4	8.9	9	28	26	26	20.0	30.0	30.0
OM-6	80	9.0	11.1	11.6	37	37	39	20.0	30.0	30.0

24VAC/DC, Modulating Control, 75% duty cycle

Model	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	1.3	2.8	2.8	18	18	18	2.0	8.0	8.0
OM-A	10	1.3	2.8	2.8	36	37	37	2.0	8.0	8.0
OM-2	40	2.8	3.40	3.40	18	18	17	10.0	11.0	12.0
OM-3	40	2.6	3.1	3.1	27	26	26	10.0	11.0	12.0
OM-4	80	7.7	9.4	9.4	21	20	20	20.0	30.0	30.0
OM-5	80	7.4	8.9	9.0	28	26	26	20.0	30.0	30.0
OM-6	80	9.0	11.1	11.6	37	37	39	20.0	30.0	30.0

BEO-Series Electric Actuator - Electrical Data

110-120 VAC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.6	0.6	15	15	3.0	3.0
OM-A	10	0.6	0.6	28	28	3.0	3.0
OM-2	40	0.8	0.8	19	19	9.0	9.0
OM-3	40	0.7	0.7	29	28	9.0	9.0
OM-4	80	2.1	2.2	24	23	17.0	17.0
OM-5	80	1.9	1.9	28	28	17.0	17.0
OM-6	80	2.0	2.1	38	38	17.0	17.0

110-120 VAC, Modulating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.6	0.6	18	17	3.0	2.0
OM-A	10	0.6	0.6	33	33	3.0	2.0
OM-2	40	0.8	0.8	19	19	9.0	9.0
OM-3	40	0.7	0.7	29	28	9.0	9.0
OM-4	80	2.1	2.2	24	23	17.0	17.0
OM-5	80	1.9	1.9	28	28	17.0	17.0
OM-6	80	2.0	2.1	38	38	17.0	17.0

110-120 VAC, Floating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.7	0.8	12	17	2.0	2.0
OM-A	10	0.7	0.8	27	37	2.0	2.0
OM-2	40	1.2	1.7	17	20	3.0	4.0
BM-2	40	1.3	1.6	9	11	4.0	4.0
OM-3	40	1.2	1.7	26	31	3.0	4.0
OM-4	80	2.1	2.4	19	23	7.0	7.0
OM-5	80	2.0	2.4	26	31	7.0	7.0
OM-6	80	2.4	2.5	34	41	7.0	7.0

110-120 VAC, Modulating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	1.2	1.7	17	20	3.0	4.0
OM-3	40	1.2	1.7	26	31	3.0	4.0
OM-4	80	2.1	2.4	19	23	7.0	7.0
OM-5	80	2.0	2.4	26	31	7.0	7.0
OM-6	80	2.4	2.5	34	41	7.0	7.0

BEO-Series Electric Actuator - Electrical Data

220-240 VAC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.4	0.4	15	15	2.0	2.0
OM-A	10	0.4	0.4	28	28	2.0	2.0
OM-2	40	0.4	0.4	16	16	6.0	7.0
OM-3	40	0.4	0.4	26	25	6.0	7.0
OM-4	80	1.1	1.1	22	22	15.0	14.0
OM-5	80	1.0	1.1	28	28	15.0	14.0
OM-6	80	1.0	1.1	35	35	15.0	14.0

220-240 VAC, Modulating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.4	0.4	18	18	2.0	2.0
OM-A	10	0.4	0.4	30	30	2.0	2.0
OM-2	40	0.4	0.4	16	16	6.0	7.0
OM-3	40	0.4	0.4	26	25	6.0	7.0
OM-4	80	1.1	1.1	22	22	15.0	14.0
OM-5	80	1.0	1.1	28	28	15.0	14.0
OM-6	80	1.0	1.1	35	35	15.0	14.0

220-240 VAC, Floating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.4	0.4	15	17	3.0	2.0
OM-A	10	0.4	0.4	25	33	3.0	2.0
OM-2	40	0.6	0.8	17	21	2.0	2.0
BM-2	40	0.6	0.8	9	11	2.0	2.0
OM-3	40	0.6	0.8	26	31	2.0	2.0
OM-4	80	1.1	1.3	20	23	4.0	4.0
OM-5	80	1.0	1.3	26	31	4.0	4.0
OM-6	80	1.1	1.3	34	40	4.0	4.0

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BEO-Series Electric Actuator - Electrical Data

220-240 VAC, Modulating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	0.6	0.8	17	21	2.0	2.0
OM-3	40	0.6	0.8	26	31	2.0	2.0
OM-4	80	1.1	1.3	20	23	4.0	4.0
OM-5	80	1.0	1.3	26	31	4.0	4.0
OM-6	80	1.1	1.3	34	40	4.0	4.0

OM-2 to OM-6, 3 PH, 30% duty cycle

220-240 VAC, Floating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	0.5	0.6	16	19	1.3	1.4
BM-2	40	0.5	0.6	9	10	1.6	1.6
OM-3	40	0.5	0.6	26	31	1.3	1.4
OM-4	80	0.9	1.0	21	24	2.9	3.1
OM-5	80	0.9	1.0	27	31	2.9	3.1
OM-6	80	0.9	1.0	34	40	2.9	3.1

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BX-Series Explosion Proof Electric Actuator

The quarter-turn electric BX-series explosion-proof actuator is an alternative to the rack and pinion actuator, utilized when an air supply isn't available. It is also used when flame-proof and combustible dust-proof enclosures are specified.

Certifications

- CSA for hazardous locations
- AEx/Ex
- UKCA II 2GD
- ATEX II 2GD
- RoHS
- REACH

Features

- Self-locking gear system
- Mechanical position indication
- Built-in thermal protection
- Clutch-less manual over-ride (for safe operation, the handwheel does not rotate during operation)
- Standard anti-condensation heater to prevent the freezing of lubricants and keep interior dry to prevent damage from moisture (heater not recommended if ambient temperature is over **68°F** or **35°C**)
- Enclosure features
 - Aluminum alloy, polyester powder coated, corrosion protection C3 according to ISO 12944-6
 - NEMA 4X and IP68 (waterproof and dustproof enclosure 7m, 72hrs)
- Gear train features
 - High alloy steel gear trains with self-locking to avoid backlash
 - Gear trains are factory lubricated for life
- Motor features
 - Insulation class F
 - Built-in thermal protection prevents motor burnout
 - AC motor: 257±9°F (125±5°C)
 - DC motor: 194 ± 9°F (90 ± 5°C)



Specifications

- Standard connections: ISO 5211 mounting flange
- Working temperature range: **-22°F to 158°F (-30°C to 70°C)**
- Working relative humidity range: 30% to 95%
- Options
 - Heater thermostat
 - Can switch the anti-condensation heater off when the temperature inside the actuator is higher than **77±9°F (25±5°C)**
 - Auxiliary limit switches
 - Actuators come standard with two limit switches (LS1 for fully-open and LS2 for fully-closed positioning)
 - Two auxiliary limit switches are optional for fully-open and fully-closed position feedback
 - Modulating control
 - A proportional control unit
 - Analog signal input: 4-20mA, 1-5V, and 2-10V
 - Analog signal output: 4-20mA and 2-10V
 - Potentiometer unit
 - Recommended to use with a floating control actuator to output signal for position indicator
 - Two resistors, 1K ohm or 5K ohm are available for selection
 - Current position transmitter
 - Can provide 4-20mA output signal for position indication

BX-Series Explosion Proof Electric Actuator - Part Number Key

BX-Series Electric Actuator Part Number Key Example: BXOM-1B-11		Series	Model	Voltage	-	Option 1	Option 2
		BX	OM-1	B	-	1	1
Series	Code	←	←	←	←	←	←
BX	BX						
Model	Code						
OM-1	OM-1						
OM-A	OM-A						
OM-M	OM-M						
OM-2	OM-2						
OM-3	OM-3						
OM-4	OM-4						
OM-5	OM-5						
OM-6	OM-6						
Voltage	Code						
115 VAC	B						
12 VDC	C						
24 VDC/AC	D						
220 VAC	F						
Option 1	Code						
None	1						
4-20 mA input/output modulating controller	3						
Current position transmitter	4						
Potentiometer	5						
Two extra travel cams and switches	7						
1-5V input/2-10V output modulating controller	A						
2-10V input/output modulating controller	B						
75% duty cycle ¹	C						
Heater thermostat	E						
No heater	F						
Option 2²	Code						
None	1						
4-20 mA input/output modulating controller	3						
Current position transmitter	4						
Potentiometer	5						
Two extra travel cams and switches	7						
1-5V input/2-10V output modulating controller	A						
2-10V input/output modulating controller	B						
75% duty cycle ¹	C						
Heater thermostat	E						
No heater	F						



¹Standard for 24V

²If 2 options selected, list lower code first

NOTE: Do not duplicate options selected from Option 1 and Option 2. Some options are not available to combine.

BX-Series Explosion Proof Electric Actuator - Standard Mounting Specifications

Model	Mounting Flange	Square		Depth of Square	
	ISO 5211	mm	in	mm	in
OM-A	F07	17	0.67	20	0.78
OM-1	F03/F05	14	0.55	17	0.67
OM-2 and OM-3	F07	22	0.87	30	1.18
OM-4, OM-5, and OM-6	F10	36	1.38	40	1.57

Hazardous Area Enclosures

TS Taiwan Hazardous Areas Certification

Marking	Ambient Temperature
Ex db IIB T4 Gb	-22°F ~ 158°F (-30°C ~ 70°C)
Ex tb IIIC T130°C Db	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with IEC 60079-0, IEC 60079-1, IEC60079-31.

CNEx China Hazardous Areas Certification

Marking	Ambient Temperature
Ex db IIB T4 Gb	-22°F ~ 158°F (-30°C ~ 70°C)
Ex tb IIIC T130°C Db	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with GB/T3836.1, GB/t3836.2, GB/T3836.31.

ATEX Hazardous Areas Certification for European Union

Directive	Marking	Ambient Temperature
ATEX II2GD	Ex db IIB T4 Gb	-22°F ~ 158°F (-30°C ~ 70°C)
ATEX II 2GD	Ex tb IIIC T130°C Db	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with IEC 60079-0, IEC 60079-1, IEC60079-31.

IECEx Hazardous Areas Certification for International Market

Marking	Ambient Temperature
Ex db IIB T4 Gb	-22°F ~ 158°F (-30°C ~ 70°C)
Ex tb IIIC T130°C Db	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with IEC 60079-0, IEC 60079-1, IEC60079-31.

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CSA Hazardous Locations Certification for North America

Zone System

Code	Class	Permitted Zone	Type of Protection	Group	Temperature Class	Ambient Temperature
AEx/Ex	1	1	db	IIB, IIA	T4	-22°F ~ 158°F (-30°C ~ 70°C)
AEx/Ex	11	21	tb	IIC, IIB, IIA	T130°C	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with CAN/CSA-C22.2 No. 0-20, CAN/CSA-C22.2 No. 60079-0, CAN/CSA-C22.2 No. 60079-1, CAN/CSA-C22.2 No. 60079-31, UL 60079-0, UL 60079-1, UL 60079-31.

Division System

Hazard Class	Permitted Division	Group	Temperature Class	Ambient Temperature
I	1	C, D	T4	-22°F ~ 158°F (-30°C ~ 70°C)
II	1	E, F, G	T130°C	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with CAN/CSA-C22.2 No. 0-20, CSA C22.2 No. 30-M1986, CSA C22.2 No. 25-17, FM 3600, FM 3615, FM 3616.

UKCA Hazardous Area Certification

Directive	Marking	Ambient Temperature
UKCA II 2GD	Ex db IIB T4 Gb	-22°F ~ 158°F (-30°C ~ 70°C)
UKCA II 2GD	Ex tb IIIC T130°C Db	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with EN 60079-0, EN 60079-1, EN 60079-31.

JPEX Hazardous Areas Certification for Japan

Marking	Ambient Temperature
Ex db IIB T4 Gb	-22°F ~ 158°F (-30°C ~ 70°C)
Ex tb IIIC T130°C Db	-22°F ~ 158°F (-30°C ~ 70°C)

In accordance with JNIOOSH-TR-46-1, JNIOOSH-TR-46-2, JNIOOSH-TR-46-9.

Torque, Weight, and Override Specifications Chart

Model	Maximum Torque		Weight		Manual Override
	N-m	in-lbs	kg	lb	
OM-A	50	443	4.5	10	-
OM-1	35	310	3.5	8	lever
OM-2	90	797	17	37.5	hand-wheel
OM-3	150	1328	17	37.5	
OM-4	400	3542	31	68.5	
OM-5	500	4427	31	68.5	
OM-6	650	5756	31	68.5	

BX-Series Explosion Proof Electric Actuator - Electrical Data

12VAC/DC, Floating Control, 30% and 75% Duty Cycle

Model	Motor Power	Running Current			Running Time			Lock Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	2.9	-	-	22	-	-	3.1	-	-
OM-A	10	2.5	-	-	34	-	-	3.1	-	-
OM-2	40	4.4	-	-	15	-	-	17.5	-	-
OM-3	40	5.1	-	-	24	-	-	17.5	-	-
OM-4	80	14.1	-	-	21	-	-	40.6	-	-
OM-5	80	14.5	-	-	29	-	-	40.6	-	-
OM-6	80	21.8	-	-	35	-	-	40.6	-	-

24VAC/DC, Floating Control, 75% Duty Cycle

Model	Motor Power	Running Current			Running Time			Lock Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	1.5	1.9	1.6	11	14	14	2.6	2.5	2.5
OM-A	10	1.3	1.6	1.6	21	24	25	2.6	2.5	2.5
OM-2	40	1.9	3.4	3.4	19	15	15	14.1	10.4	10.4
OM-3	40	2.7	3.6	3.9	30	24	24	14.1	10.4	10.4
OM-4	80	7.4	10.7	10.3	22	20	22	36.4	27.3	27.3
OM-5	80	8.1	10.5	10.4	30	27	28	36.4	27.3	27.3
OM-6	80	12.5	10.3	10.3	42	34	34	36.4	27.3	27.3

24VAC/DC, Modulating Control, 75% Duty Cycle

Model	Motor Power	Running Current			Running Time			Lock Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	1.6	2.8	2.8	15	14	15	0.4	2.8	2.8
OM-A	10	1.2	2.5	2.4	26	23	24	0.4	2.8	2.8
OM-2	40	1.9	3.4	3.4	19	15	15	14.1	10.4	10.4
OM-3	40	2.7	3.6	3.9	30	24	24	14.1	10.4	10.4
OM-4	80	7.4	10.7	10.3	22	20	22	36.4	27.3	27.3
OM-5	80	8.1	10.5	10.4	30	27	28	36.4	27.3	27.3
OM-6	80	12.5	10.3	10.3	42	34	34	36.4	27.3	27.3

BX-Series Explosion Proof Electric Actuator - Electrical Data

110-120 VAC, Floating Control, 75% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.6	0.6	12	12	2.5	2.3
OM-A	10	0.5	0.5	21	21	2.5	2.3
OM-2	40	0.5	0.5	16	16	3.6	3.7
OM-3	40	0.6	0.6	26	25	3.6	3.7
OM-4	80	3.7	3.8	15	15	12.7	11.7
OM-5	80	3.6	3.6	21	20	12.7	11.7
OM-6	80	4.8	5.2	29	27	12.7	11.7

110-120 VAC, Modulating Control, 75% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.6	0.5	12	12	0.7	0.7
OM-A	10	0.5	0.5	22	22	0.7	0.7
OM-2	40	0.5	0.5	16	16	3.6	3.7
OM-3	40	0.6	0.6	26	25	3.6	3.7
OM-4	80	3.7	3.8	15	15	12.7	11.7
OM-5	80	3.6	3.6	21	20	12.7	11.7
OM-6	80	4.8	5.2	29	27	12.7	11.7

110-120 VAC, Floating Control, 30% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.7	0.8	11	14	0.7	0.7
OM-A	10	0.7	0.8	21	27	0.7	0.8
OM-2	40	0.9	1.2	18	22	1.4	1.5
OM-3	40	0.9	1.2	28	34	1.4	1.5
OM-4	80	2.1	2.3	20	25	5.5	6.0
OM-5	80	2.2	2.3	27	33	5.5	6.0
OM-6	80	2.7	2.4	36	42	5.5	6.0

BX-Series Explosion Proof Electric Actuator - Electrical Data

110-120 VAC, Modulating Control, 30% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	0.9	1.2	18	22	1.4	1.5
OM-3	40	0.9	1.2	28	34	1.4	1.5
OM-4	80	2.1	2.3	20	25	5.5	6.0
OM-5	80	2.2	2.3	27	33	5.5	6.0
OM-6	80	2.7	2.4	36	42	5.5	6.0

220-240 VAC, Floating Control, 75% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.4	0.4	11	11	0.6	0.6
OM-A	10	0.3	0.3	20	20	0.6	0.6
OM-2	40	0.3	0.3	25	24	2.7	2.5
OM-3	40	0.3	0.3	25	24	2.7	2.5
OM-4	80	2.1	2.2	14	14	7.0	7.7
OM-5	80	1.9	1.9	19	19	7.0	7.7
OM-6	80	2.0	2.3	24	25	7.0	7.7

220-240 VAC, Modulating Control, 75% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.3	0.3	12	12	0.4	0.4
OM-A	10	0.3	0.3	22	22	0.4	0.4
OM-2	40	0.3	0.3	16	15	2.7	2.5
OM-3	40	0.3	0.3	25	24	2.7	2.5
OM-4	80	2.1	2.2	14	14	7.0	7.7
OM-5	80	1.9	1.9	19	19	7.0	7.7
OM-6	80	2.0	2.3	24	25	7.0	7.7

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BX-Series Explosion Proof Electric Actuator - Electrical Data

220-240 VAC, Floating Control, 30% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.3	0.3	11	13	0.3	0.3
OM-A	10	0.3	0.3	20	25	0.3	0.3
OM-2	40	0.4	0.5	18	22	0.7	0.8
OM-3	40	0.4	0.5	28	34	0.7	0.8
OM-4	80	0.9	1.3	20	24	2.8	3.0
OM-5	80	1.1	1.3	27	33	2.8	3.0
OM-6	80	1.1	1.3	33	41	2.8	3.0

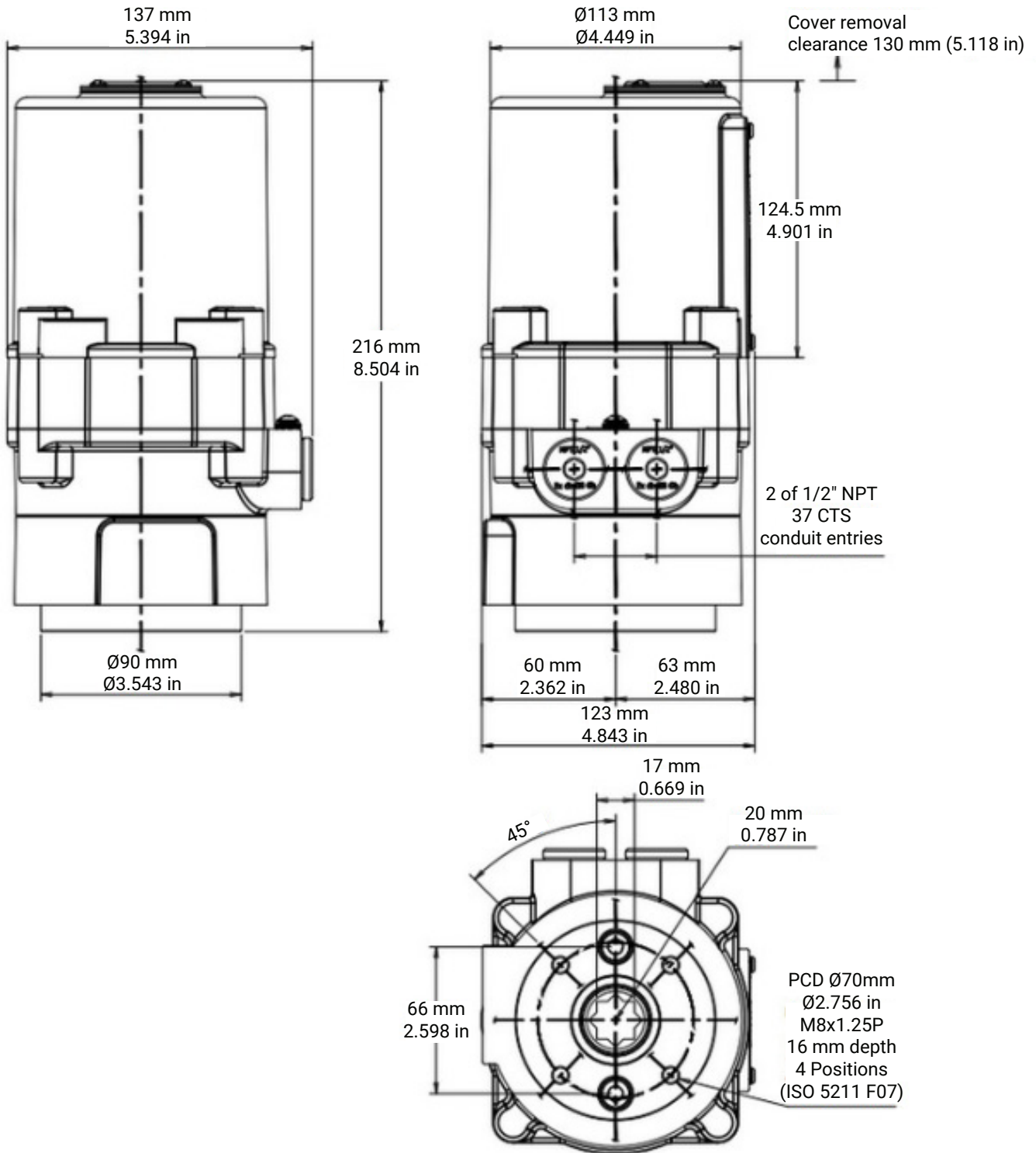
220-240 VAC, Modulating Control, 30% Duty Cycle

Model	Motor Power	Running Current		Running Time		Lock Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	0.4	0.5	18	22	0.7	0.8
OM-3	40	0.4	0.5	28	34	0.7	0.8
OM-4	80	0.9	1.3	20	24	2.8	3.0
OM-5	80	1.1	1.3	27	33	2.8	3.0
OM-6	80	1.1	1.3	33	41	2.8	3.0



BX-Series Explosion Proof Electric Actuator - Dimensions

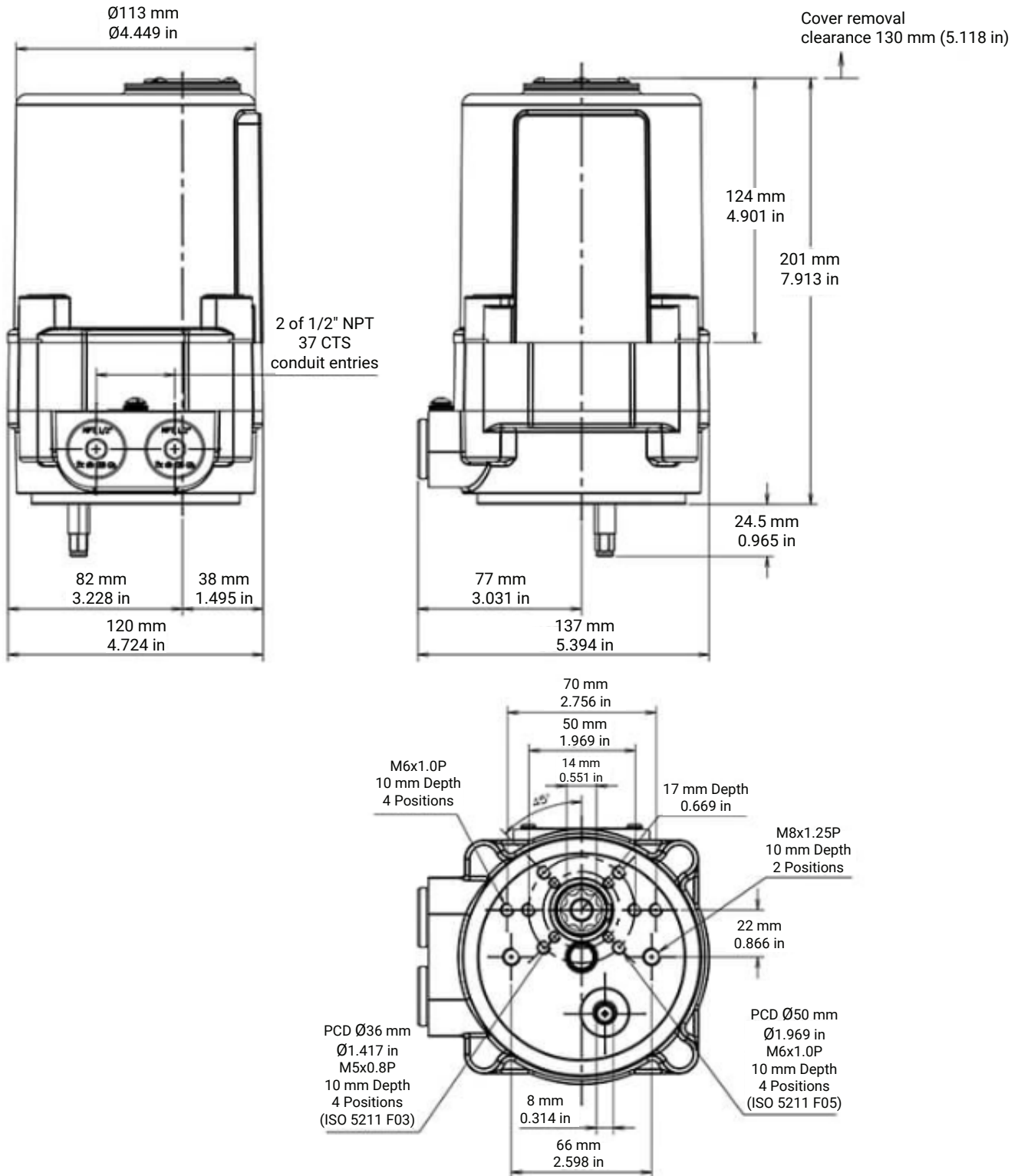
OM-A



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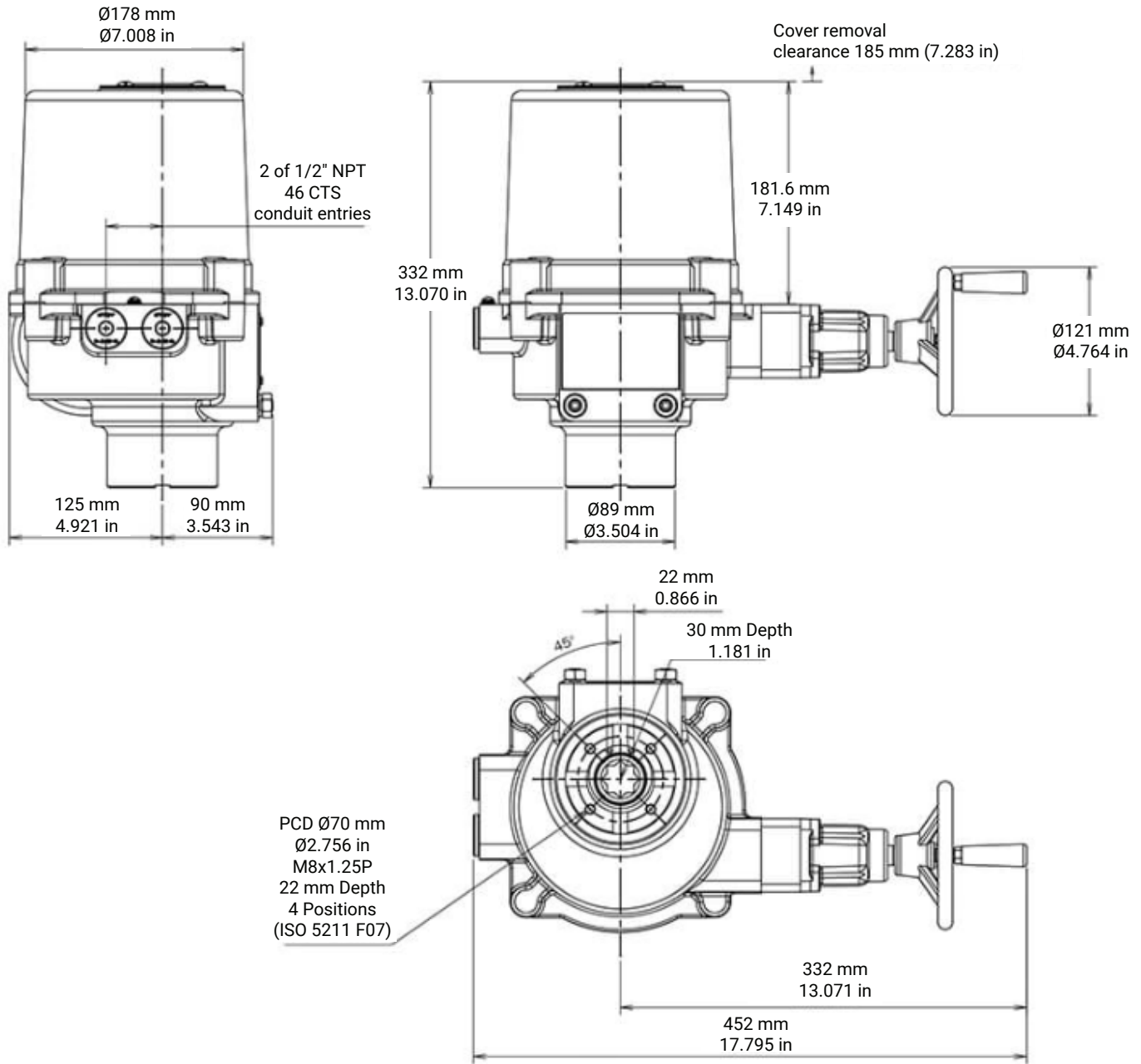
BX-Series Explosion Proof Electric Actuator - Dimensions

OM-1



BX-Series Explosion Proof Electric Actuator - Dimensions

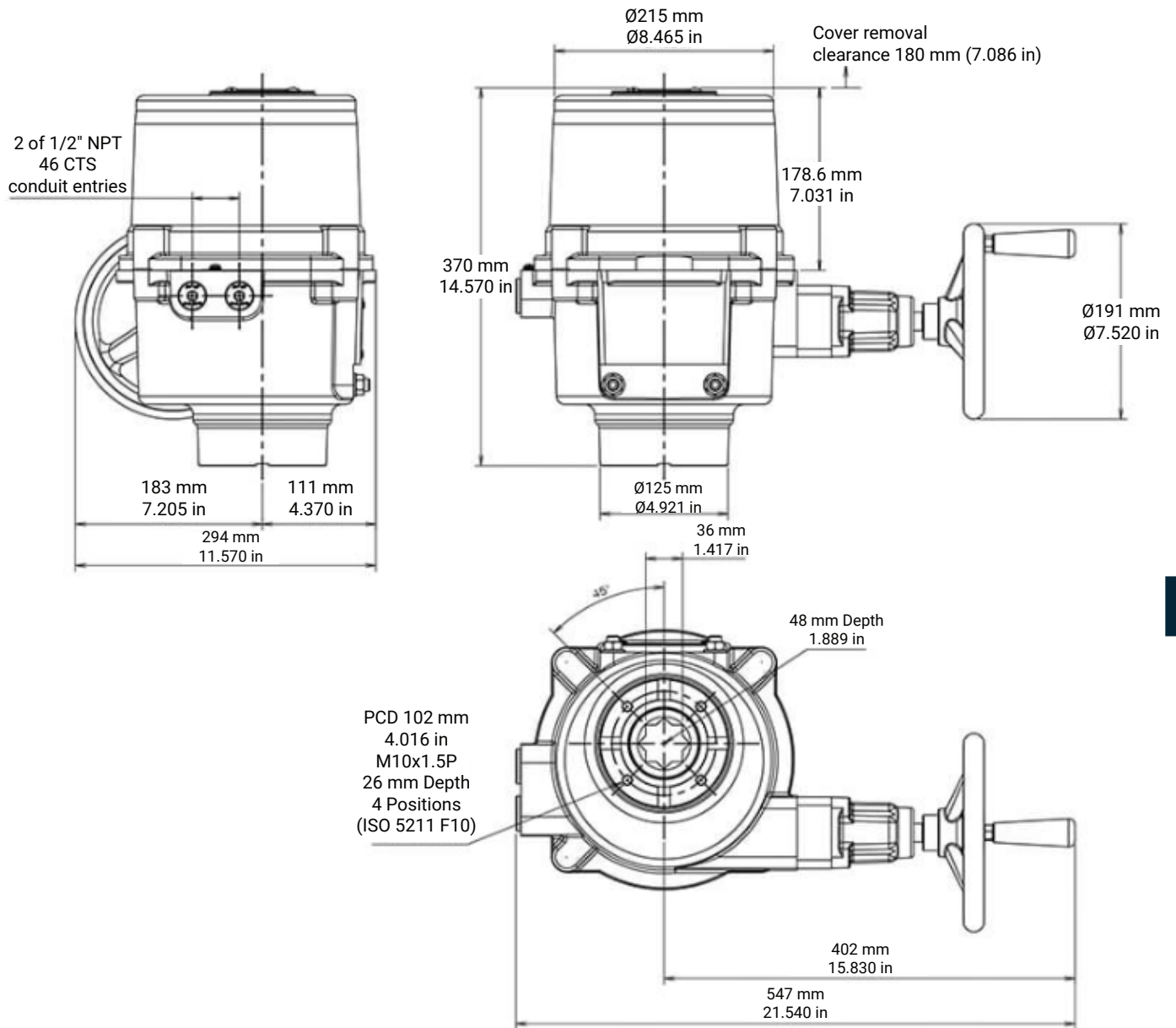
OM-2 and OM-3



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BX-Series Explosion Proof Electric Actuator - Dimensions

OM-4, OM-5, and OM-6



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VC-Series Vertical Canister Actuator

Used with Dixon® B5107, L5107, and B5102-series sanitary butterfly valves for quarter-turn actuation.

Sizes

- One size for all Dixon sanitary butterfly valves up to 4"

Features

- Tested to 1 million cycles
- Excellent corrosion resistance
- Available in spring return or double acting
- Actuation capabilities range between 1/2" to 4" in EPDM, silicone, and FKM for sanitary butterfly valves

Materials

- See bill of materials on page 3

Specifications

- Cycle times
 - Cycle time performance will vary greatly for each unit
 - They are dependent on air supply, valve torque, line pressure, temperature, and media
- Actuator data
 - Air connections: 1/8" NPT fitting ports
 - Lubrication:
 - Control air data
 - Spring return maximum pressure: **120 PSI**
 - Double acting maximum pressure: **120 PSI**
 - Maximum temperature: **250°F (121°C)**
 - Minimum temperature: **-4°F (-20°C)**
 - Plant air: dry or lubricated
 - VC1SR: spring return actuator data
 - Weight: 6.0 lbs
 - Air consumption: 8.5 in³ down stroke (CW), 18.5 in³ up stroke (CCW)
 - Cycle time (@ **80 PSI**, no load): 0.30 seconds (CCW air), 1.50 seconds (CW spring)
 - VC1DA: double acting actuator data
 - Weight: 5.1 lbs
 - Air consumption: 8.5 in³ down stroke (CW), 20 in³ up stroke (CCW)
 - Cycle time (@ **80 PSI**, no load): 0.15 seconds
- Control top mounting kits
 - Bürkert 8681/Dixon MT-series control top
 - Bürkert 8691/Dixon BT-series control top
 - Bürkert 8692/Dixon XPB-series positioner



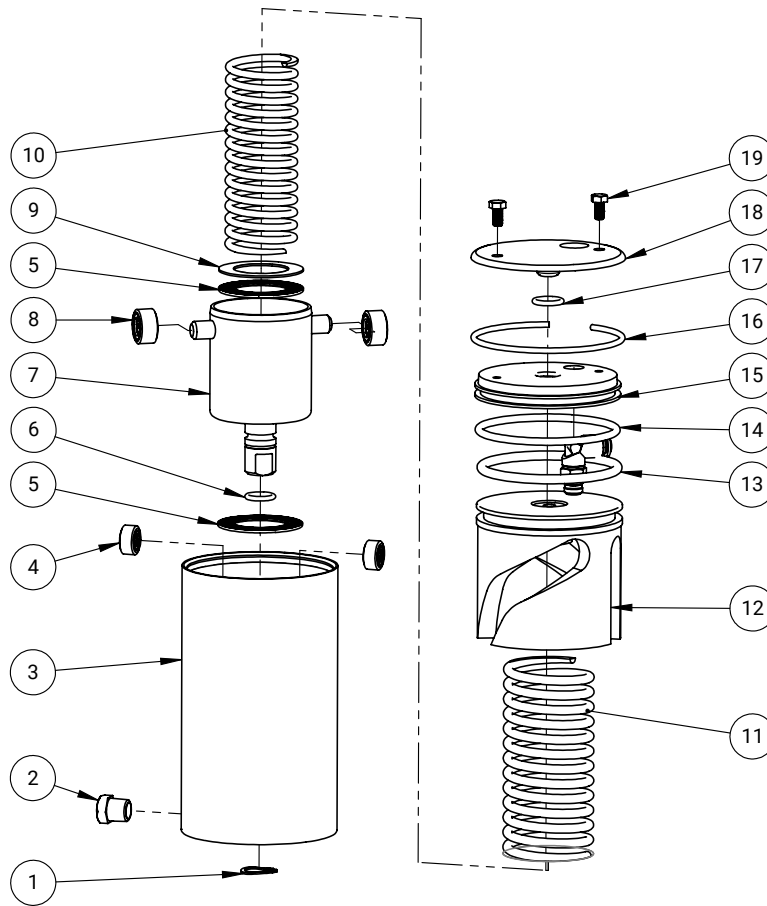
VC-Series Vertical Canister Actuator - Part Number Table

Part #	Description	Repair Kit Part #
VC1SR	spring return vertical canister actuator	VC1-RK1 ¹
VC1DA	double acting vertical canister actuator	

¹Repair kit includes items: 4, 5, 6, 8, 9, 13, and 14.

NOTE: See Actuation Accessories EPRG for available couplers, sleeves, and brackets.

VC-Series Vertical Canister Actuator - Bill of Materials



Item #	Part #	Description	Material	Qty	Spare Part
1	VC1-17	retaining clip	304 SS	1	
2 ¹	VC-NR-AF	air filter	304 SS	1	
3	VC1-1	actuator body	304 SS	1	
4	VC1-8	body needle bearing	304 SS	2	
5 ²	VC1-10	thrust bearing	304 SS	2	
6	VC1-11	drive O-ring	EPDM	1	
7	VC1-2	actuator drive	304 SS	1	
8	VC1-9	drive needle bearing	304 SS	2	
9 ¹	VC1-12	thrust washer	304 SS	1	
10 ¹	VC1-3	inner spring	60Si2Mn	1	yes
11 ¹	VC1-4	outer spring	60Si2Mn	1	
12	VC1-5	piston	AL	1	
13	VC1-13	piston O-ring	EPDM	1	
14	VC1-14	end cap O-ring	EPDM	1	
15	VC1-6	end cap	304 SS	1	
16	VC1-15	retaining ring	304 SS	1	
17	VC1-16	top cap O-ring	EPDM	1	
18	VC1-7	top cap	304 SS	1	
19 ³	-	M5x10mm hex screw	18-8	2	

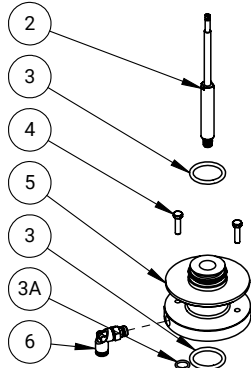
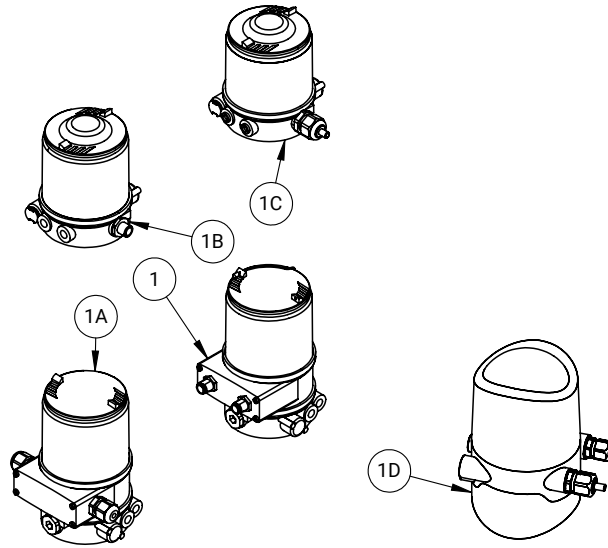
¹Double acting actuators do not require items 2, 9, 10, and 11

²Double acting actuators only require qty 1 of item 5

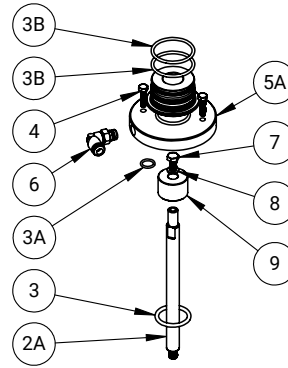
³Item 19 to be assembled with liquid threadlocker and torqued to 45.1 in-lbs (5.1 N-m)

NOTE: Repair kit VC1-RK1 includes items 4, 5, 6, 8, 9, 13, and 14

VC-Series Vertical Canister Actuator - Bill of Materials (Accessories)



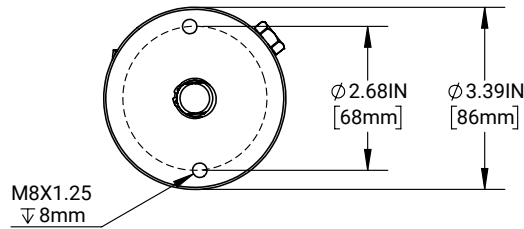
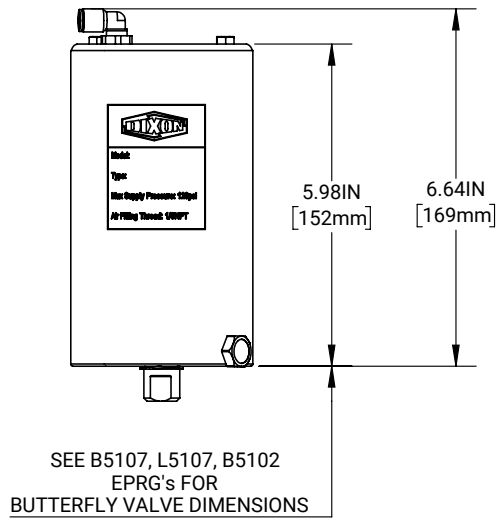
XPB and BT-Series Adapter



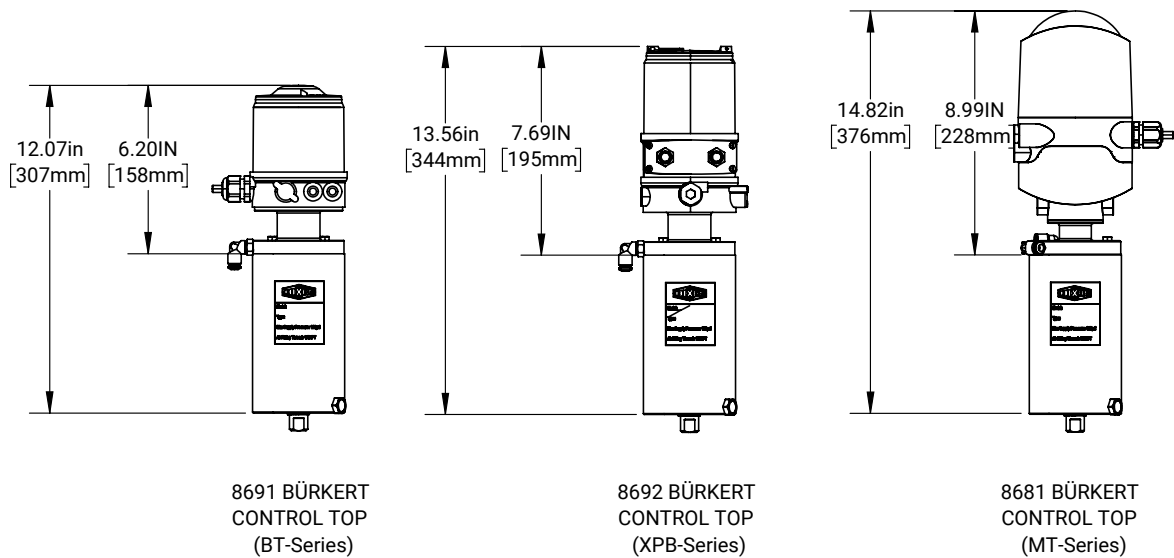
MT-Series Adapter

Item #	Part #	Description	Material	Qty
1	see XPB-series EPRG	XPB-series control top with M12 multipole	-	1
1A		XPB-series control top with cable gland	-	1
1B	see MT-series EPRG	BT-series control top with M12 multipole	-	1
1C		BT-series control top with cable gland	-	1
1D	see BT-series EPRG	MT-series positioner	-	1
2	VC1-DS	VC1 detection shaft for XPB and BT-series control tops	304 SS	1
2A	VC1-DS2	VC1 detection shaft for MT-series positioner	304 SS	1
3	VC1-BA-OR1	AS568-216 O-ring	nitrile rubber	1
3A	VC1-BA-OR2	AS568-013 O-ring	nitrile rubber	1
3B	VC1-BA-OR3	2.65mm x 37.5mm O-ring	nitrile rubber	2
4	M5x0.8x20HB	M5x20mm hex head bolts	18-8	2
5	VC1-BA	VC1 adapter for XPB and BT-series control tops	304 SS	1
5A	VC1-BA2	VC1 adapter for MT-series control tops	304 SS	1
6	407322	air fitting	-	1
7	-	M6x10mm hex head bolt	18-8	1
8	-	M6 lock washer	18-8	1
9	VC1-DTA	VC1 detection target for MT-series positioner	410 SS	1

VC-Series Vertical Canister Actuator - Dimensions



VC-Series Vertical Canister Actuator - Dimensions (Accessories)



NOTE: See BT-series, XPB-series, and MT-series EPRG's for more information.

BT-Series Control Top

Bürkert 8691 control top for automation and position feedback of Dixon® butterfly valves with spring return or double acting vertical canister actuators and single seat valves.

Certifications

- IP65/IP67, UL listed E238179, 4X enclosure, NEC class 2

Features

- Contact-free inductive valve position registration
- Color illuminated status display
- Fieldbus interface AS-Interface, IO-Link, or option
- Integrated pilot valve
- Detects and saves the valve end position using the Teach function during start-up

Materials

- Non-metal components: polyphenylene sulfide (PPS) and polycarbonate
- Metal components: stainless steel
- Product contact seals: EPDM

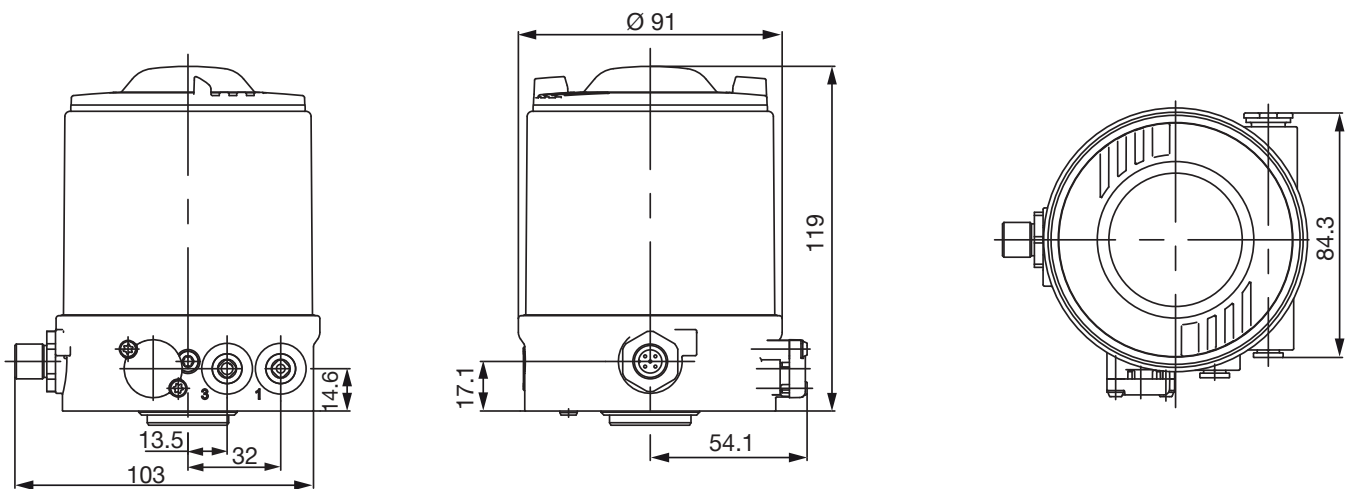
Specifications

- Standard clamp connections: M12, 8-pin resp. 4- or 5-pin according to device version or cable gland
- Operating ambient temperature range
 - With pilot valve: **14°F to 131°F (-10°C to 55°C)**
 - Without pilot valve: **-4°F to 104°F (-20°C to 60°C)**
- Pneumatic data
 - Air connections: G 1/8
- Control air
 - Control medium: neutral gases, air, quality class according to ISO 8573-1
 - Air capacity: 250 l/min (for aeration and ventilation)

NOTE: All electrical data can be found [here](#) or at www.burkert-usa.com.



BT-Series Control Top - Dimensions



NOTE: Dimensions are in mm.

BT-Series Control Top - Part Number Key

BT-Series Control Top Part Number Key Example: BT-PS-24S-M12_		Series	Communication	Pneumatic Valve	Electrical Connection	Approvals
		BT	- PS	- 24S	- M12	
Series	Code	BT	PS	24S	M12	
Bürkert 8691 Control Top	BT					
Communication	Code		PS	24S	M12	
Contact-free analog position sensor (PNP)	PS					
Contact-free analog position sensor (NPN)	NP					
AS-Interface	AS					
DeviceNet	DN					
Pneumatic Valve	Code					
Single acting 24VDC	24S					
Double acting 24VDC	24D					
No solenoid	NS					
Electrical Connection	Code				M12	
M12 multipole*	M12					
Cable gland	CG					
*M12 8-pins (analog position sensor)						
M12 4-pins (AS-Interface)						
M12 5-pinds (DeviceNet)						
Approvals	Code					
IP65/IP67 acc. to EN 60529, 4X acc. to NEMA 250 standard	blank					
ATEX II cat. 3G/D	A					



MT-Series Control Top

Bürkert 8681 control top for automation and feedback of Dixon® butterfly valves with spring return or double acting vertical canister actuators and single seat valves.

Certifications

- IP65/67 according to EN 60529

Features

- Contactless position measurement system
- Colored status display
- Manual override operative with closed housing
- Optional AS-Interface and IO-link
- Analog voltage options: 12-28 VDC or 120VAC

Materials

- Body: polyphenylene sulfide (PPS)
- Cover: polycarbonate
- Seals: EPDM

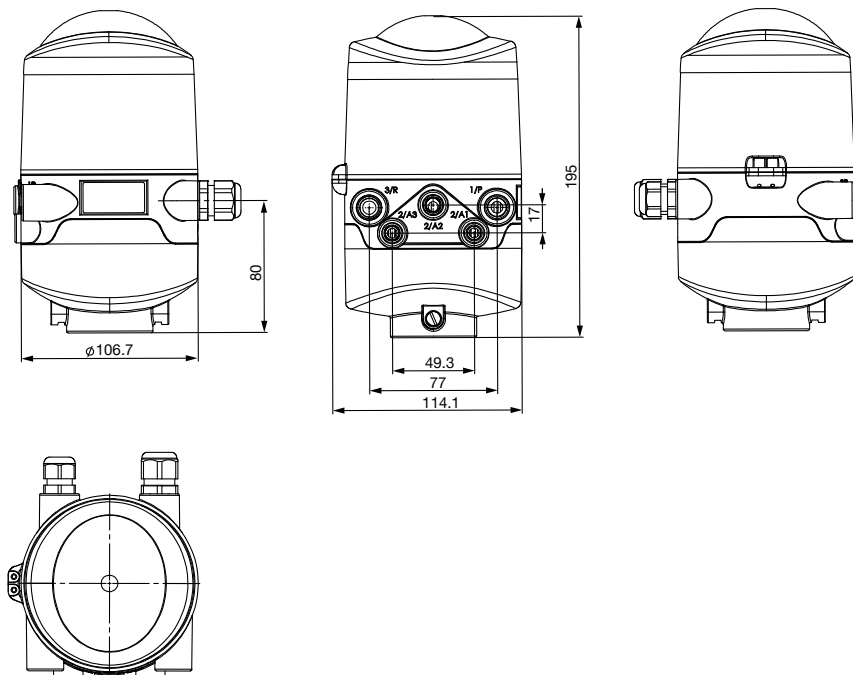
Specifications

- Operating ambient temperature range: **14°F to 131°F (-10°C to 55°C)**
- Pneumatic data
 - Air connections
 - Air inlet and outlet: G 1/4
 - Service port: G 1/8
- Control air data
 - Control medium: neutral gases, air, quality class according to ISO 8573-1
 - Air capacity:
 - 110 l/min for aeration and ventilation
 - 110 l/min delivery condition
 - 200 l/min maximum typical flow rate

NOTE: All electrical data can be found [here](#) or at www.burkert-usa.com.



MT-Series Control Top - Dimensions



NOTE: Dimensions are in mm.

MT-Series Control Top - Part Number Key

MT-Series Control Top Part Number Key Example: MT-1A-N1		Series	-	Number of Solenoid Valves	Power Supply	-	Communication	Connection	Approvals
		MT		1	A		N	1	
Series	Code								
Bürkert 8681 Control Top	MT	←							
Number of Solenoid Valves	Code								
One	1	←							
Two	2								
Three	3								
No solenoid	N								
Power Supply	Code								
24VDC	A	←							
120VAC (cable glands connection only)	B								
12VDC	C								
No solenoid	N								
Communication	Code								
No communication	N	←							
AS-Interface	A								
DeviceNet	B								
Connection	Code								
M12 pin connector (12 pin)	1	←							
Communication specific (AS-Interface or DeviceNet)	2								
Cable glands	3								
Approvals	Code								
Standard	blank								
ATEX zone 2/22 cat. 3	A								



XLS-B4-Series Limit Switch

The XLS-B4 series limit switch has been designed to provide rotary pneumatic actuators with a local and remote indication of valve position in a variety of applications.

This limit switch is manufactured from die-cast aluminum and powder epoxy-coated with stainless steel fasteners and shaft. With a weather-proof NEMA 4/4X and IP68 rating, the XLS-B4 is corrosion resistant and suitable for most environments.

Features

- UL approved
- Compact, cost-efficient limit switches for both local and remote indication of valve and or actuator position
- Visual position indicator
- Quick-set adjustable cams
- Multipoint terminal strip
- Dual wire potting
- Captive cover bolts
- NEMA 4/4X
- Standard NAMUR mounting

Materials

- Indicator: polycarbonate
- Housing: black polyester powder-coated die cast aluminum
- Bracket: 304 stainless steel

Specifications

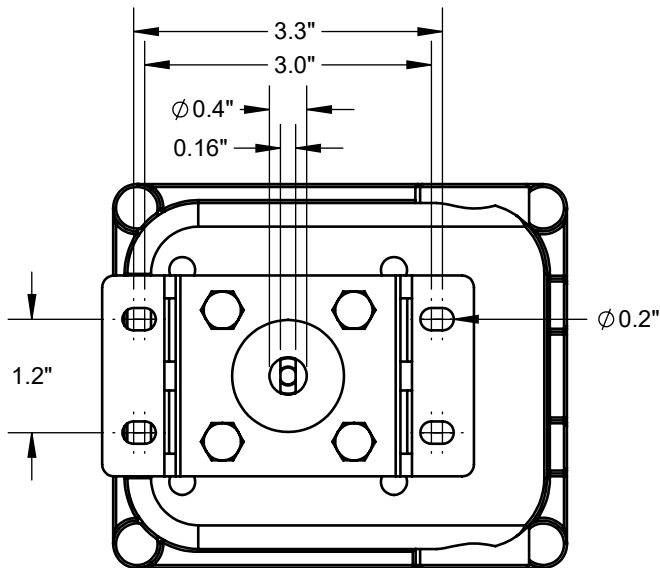
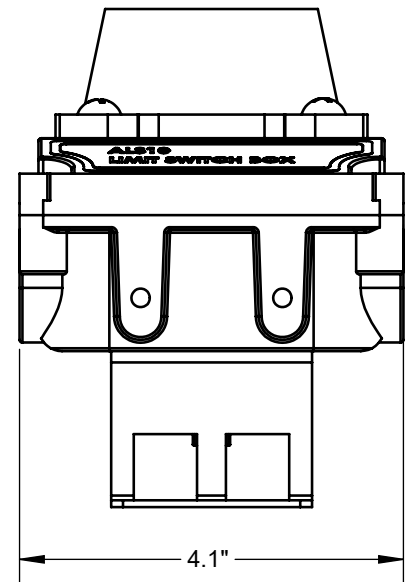
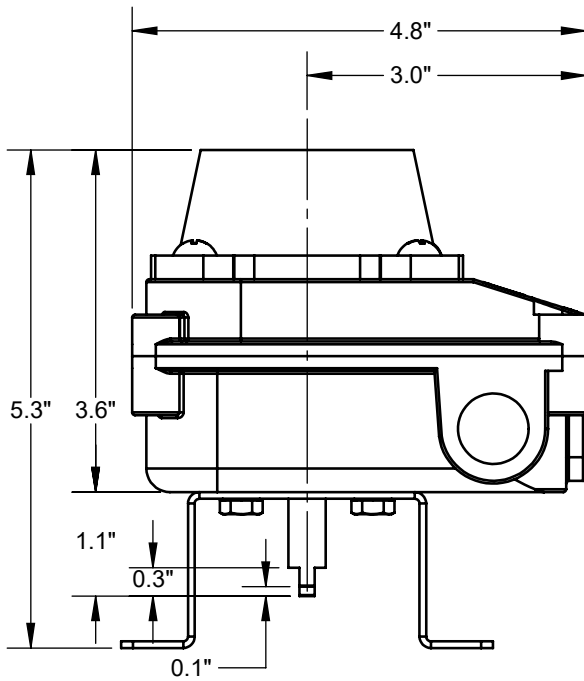
- Weight: 1.9 lbs
- Enclosure: weatherproof, IP68
- Temperature range: **-4°F to 185°F (20°C to 85°C)**
- Cable entry: 2 x 2-1/2" NPT
- Position indicator: 0° to 90° indication with open (yellow) and closed (red), L and T flow indication
- Switch types: mechanical (2) SPDT
- Maximum voltage: 250VAC/VDC
- Current data
 - 0.6A 125VDC
 - 0.3A 250VDC
 - 16A 125/250VAC



XLS-B4-Series Part Number Table

Part #	Description
XLS-B4A0120P	IP68 enclosure, open/closed indicator, mechanical SPDT, (2) switches, 8 point terminal strip, 2 x 2-1/2" NPT cable entry
XLS-B4L0120P	IP68 enclosure, L-port indicator with clear cover, mechanical SPDT, (2) switches, 8 point terminal strip, 2 x 2-1/2" NPT cable entry
XLS-B4T0120P	IP68 enclosure, T-port indicator with clear cover, mechanical SPDT, (2) switches, 8 point terminal strip, 2 x 2-1/2" NPT cable entry
XLS-B4AJ	replacement 2-way cover assembly
XLS-B4-IC	replacement clear cover

XLS-B4-Series Limit Switch - Dimensions



XLS-C4-Series Limit Switch

The XLS-C4-series limit switch provides a compact design and cost effective solution for both visual and remote electrical indication of rotary valve/actuator position.

This series is the ideal switch for applications requiring proximity switches or AS-interface. Hermetically sealed and solid state switch options also make the XLS-C4 series suitable for use in intrinsically safe applications and Class I Division 2 Groups A, B, C, D, and Class II Division F and G hazardous applications.

Features

- The polyester coating inside and outside as well as the stainless steel shaft make this unit ideal for use in harsh environments
- Multiple switch options include mechanical, proximity, and inductive switches
- Visual position indication: 3D beacon provides high visibility confirmation of valve actuator position
- "Easy-set" cams are splined, spring-loaded, and independently adjustable. This design offers tool-free calibration and positive vibration resistant engagement
- Standard with two 1/2" NPT cable entries

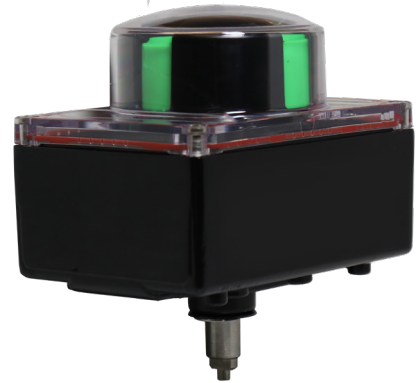
Materials

- Cover: polycarbonate, aluminum, or stainless steel
- Housing: aluminum, polyester-coated, or stainless steel
- Shaft: stainless steel
- Cam/splines: UV resistant polycarbonate
- 3D beacon: UV resistant polycarbonate
- Terminal block: stainless steel screws and PVC housing

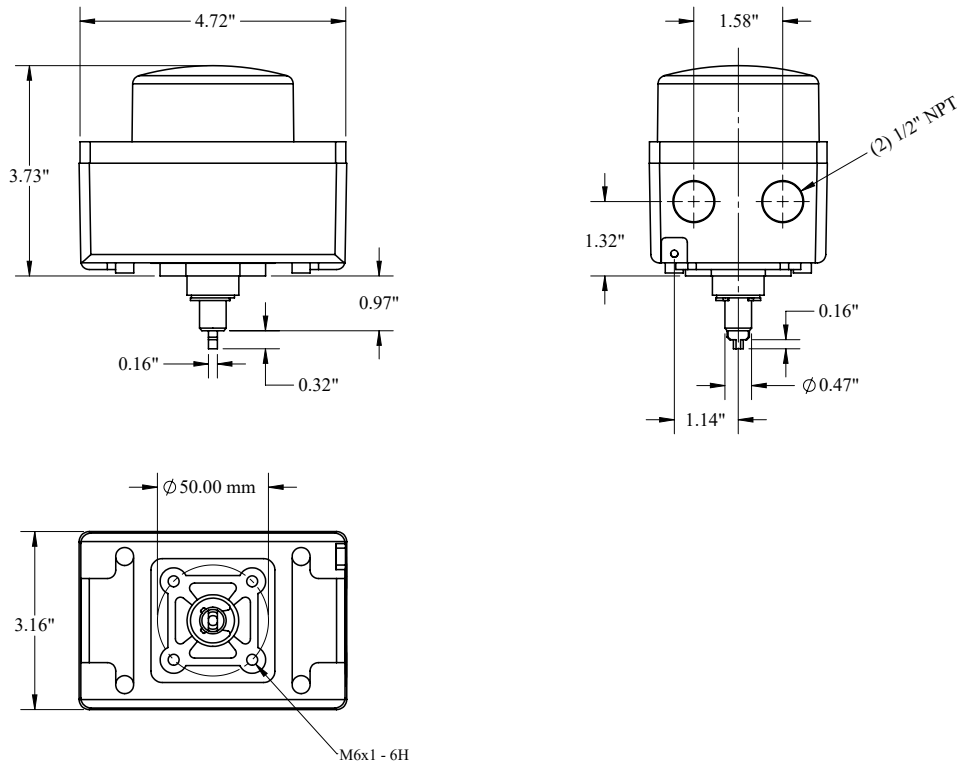
Specifications

- Weight: 1.25 lbs
- Temperature range: **-4°F to 176°F (20°C to 80°C)**
- Approvals: UL, NEMA 4/4X Class I Division 2 Groups A, B, C, D, and Class II Division 2 Groups F and G

NOTE: See page 349 for part number key.



XLS-C4-Series Limit Switch - Dimensions



XLS-C7-Series Limit Switch

The XLS-C7 series hazardous location explosion-proof limit switch provides an effective solution for both visual and remote electrical indication of the valve/actuator position.

The heavy-duty design and wide variety of options make the XLS-C7 series the ideal limit switch for use in NEMA 7 and 9 applications.

Features

- Limit switch for both local and remote indication of valve/actuator position
- Wide variety of switch options are available
- Visual position indicator
- Quick-set adjustable cams
- Multipoint terminal strip
- Dual wire potting
- Captive cover bolts
- UL approved
 - Class I Division 1 Groups C, D and Division 2 Groups A, B, C, and D
 - Class II Division 1 Groups E, F, G and Division 2 Groups F and G
- NEMA 4, 4X, 7, and 9
- Standard NAMUR mounting

Materials

- 3D beacon: UV resistant and 94-V0 polycarbonate
- Painting: black polyester powder coating
- Cover: die chromated aluminum
- Body: die chromated aluminum
- Shaft: stainless steel
- Fasteners: stainless steel

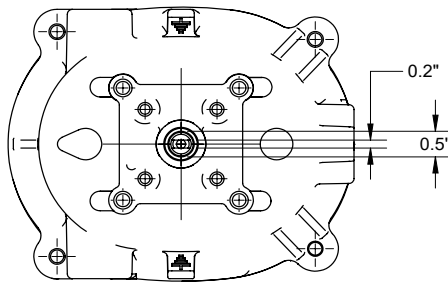
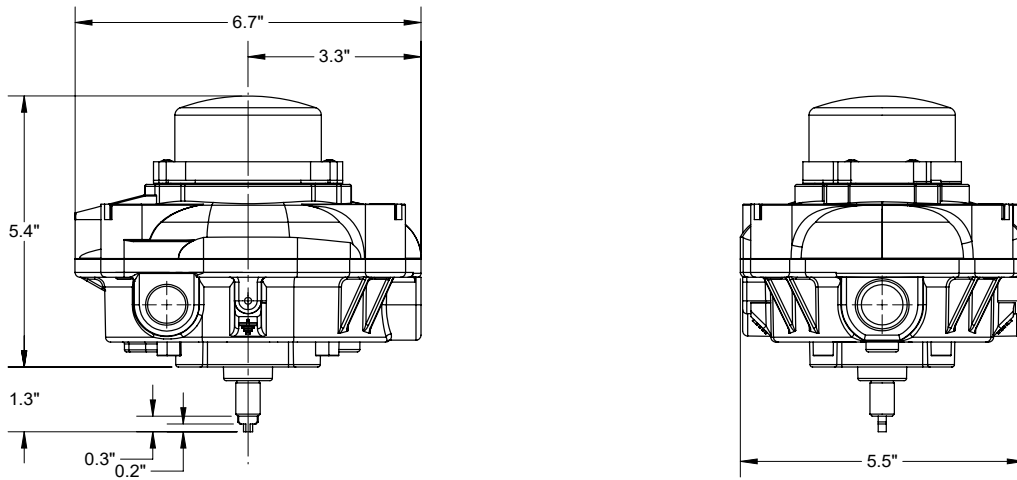
Specifications

- Weight: 4 lbs
- Cable entry: two 1/2" NPT
- Position indicator
- Option for NAMUR proximity switches for intrinsically safe applications
- AS-I digital communication interface card option
- Temperature range: **-4°F to 176°F (-20°C to 80°C)**
- Switch approvals
 - Class I Division 1 Groups C and D
 - Class I Division 2 Groups A, B, C, D (proximity sensors only)
 - Class II Division 1 Groups E, F, G
 - Class II Division 2 Groups F and G

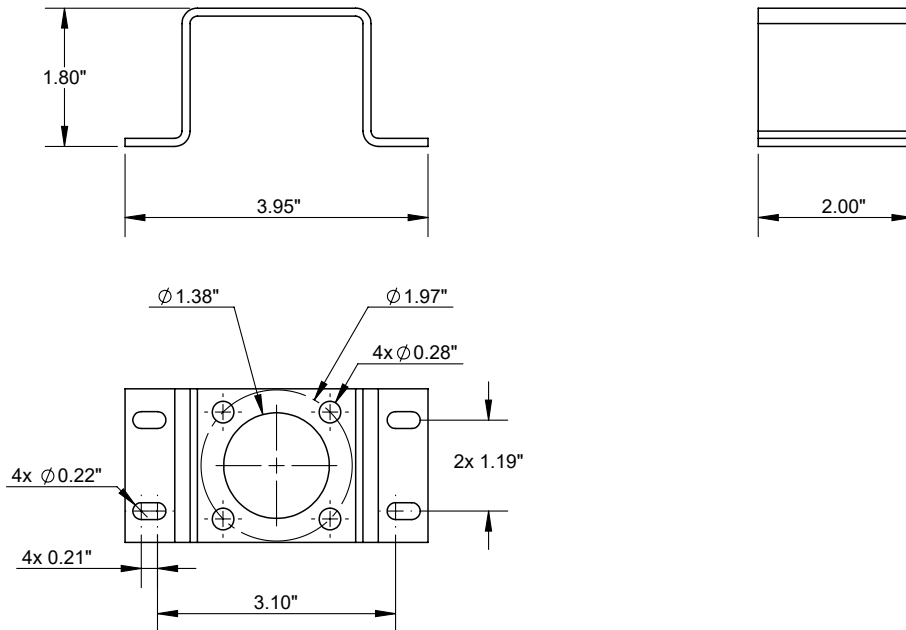
NOTE: See page 349 for part number key.



XLS-C7-Series Limit Switch - Dimensions



XLS-C-Series Limit Switch Bracket - Dimensions



NOTE: Bracket shown with XLS-C-series limit switch. Part number is LSPP-BK-S-N

XLS-C-Series Limit Switch - Part Number Key

XLS-C-Series Limit Switch Part Number Key Example: XLS-C7A0120P		Series	Enclosure	Indicator	Switch Type	Switch Quantity	Terminal Strip	Cable Entry
		XLS-C	7	A	01	2	0	P
Series	Code							
XLS-C	XLS-C							
Enclosure	Code							
IP66/67 aluminum body with polycarbonate cover	1							
IP66/67 aluminum body ATEX and IECEx intrinsically safe	3							
NEMA 4/4X aluminum body with polycarbonate cover (standard)	4							
NEMA 4/4X with 316 stainless steel enclosure	5							
NEMA 4/4X with aluminum enclosure	6							
Nema 4/4X, 7 & 9 with aluminum enclosure (explosion proof)	7							
Indicator	Code							
Open/closed	A							
L-port	L							
T-port	T							
none	N							
Switch Type	Code							
SPDT el. mech. switch silver-plated contacts	01							
SPDT el. mech. switch gold-plated contacts (required for ATEX and IECEx enclosure)	02							
SPDT magnetic hermetically sealed proximity switches	10							
4-20mA position transmitter	TR							
AS-Interface	AS							
Inductive sensors, 2 wires NO, 5-60 VDC operating voltage, 2-100mA operating current	32							
Inductive NAMUR sensors, 2 wires, up to SIL3, Exia ready	70							
Switch Quantity	Code							
2	2							
3	3							
4 ¹	4							
Terminal Strip	Code							
Screw terminals with solenoid connection (standard)	0							
AS-I terminal	1							
Blue screw type terminals with solenoid connection (required ATEX and IECEx enclosure)	3							
Cable Entry	Code							
2 x 2-1/2" NPT (standard)	P							
2 x M20-1.5	M							
2 x 1/2" NPT + 1 x 3/4" NPT ¹	N							

¹Available for enclosure code 7



DW-Series Proximity Sensors

Inductive proximity sensors detect the presence of metallic objects at close range, signaling the presence of the object to a connected control device such as a PLC or relay. These sensors can be bracket mounted to actuated Dixon® Sanitary butterfly valves and single seat valves.

Certifications

- IP67 rated
- UL Listed E239373
- EMC Directive no. 2014/30/EC
- RoHS Directive no. 2011/65/EU

Size

- M12

Features

- Complete overload protection
- LED status indicator

Materials

- Housing: chrome-plated brass
- Sensing face: PPS (polyphenylene sulfide)

Specifications

- Standard connections: 6.56 ft Axial cable flying leads or M12 quick-disconnect
- Sensor data
 - Operating temperature range: -13°F to 158°F (-25°C to 70°C)



Specifications	DW-Ax-50x-M12
Mounting Type	semi-flush
Nominal Sensing Distance	6 mm
Material Correction Factors	see the material influence table
Output Type	NPN or PNP, N.O. or N.C.
Operating Voltage	10 to 30 VDC
No-load Supply Current	≤ 10mA
Operating (Load) Current	≤ 200mA
Off-state (Leakage) Current	≤ 0.1mA
Voltage Drop	≤ 2 V
Switching Frequency	≤ 800Hz
Differential Travel (% of Nominal Distance)	≤ 10%
Repeat Accuracy	0.15mm
Ripple	≤ 20%
Time Delay Before Availability (tv)	≤ 50ms
Reverse Polarity Protection	yes
Short-Circuit Protection	yes
Indication/Switch Status	yellow LED
Shock/Vibration	IEC 60947-5-2/7.4
Weight	92g (3.25 oz), 26g (0.92 oz)
Connection	2m (6.5 ft) cable, M12 connection

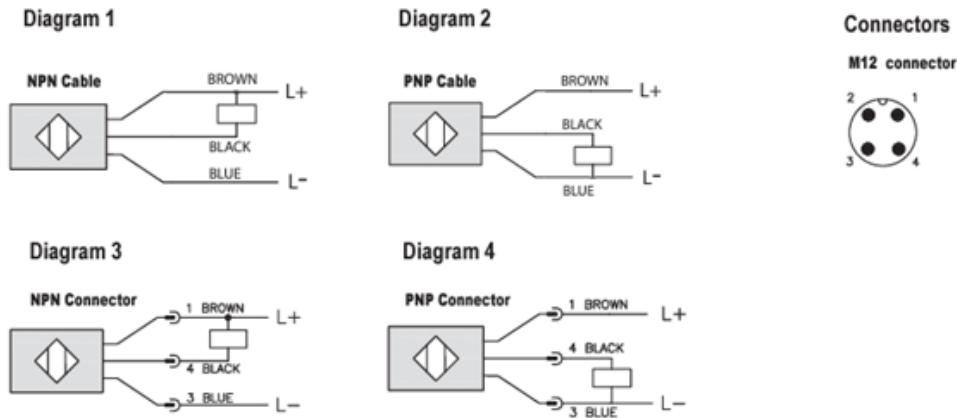
DW-Series Proximity Sensors - Electrical Data

Electrical Data	
Operating voltage AC maximum	250 V
Operating voltage DC maximum	250 V
Operating voltage AC (UL-listed)	30 V
Operating voltage DC (UL-listed)	30 V
Current operating per contact maximum	4 A

DW-Series Proximity Sensors - Part Number Table

Part #	Size	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Dimensions
DW-AD-501-M12	M12	6mm (0.236 in)	semi-flush	N.O.	NPN	2m (6.56 ft) axial cable	diagram 1	figure 1
DW-AD-503-M12				N.O.	PNP	2m (6.56 ft) axial cable	diagram 2	figure 2
DW-AS-501-M12				N.O.	NPN	M12 quick-disconnect	diagram 3	figure 3
DW-AS-503-M12				N.O.	PNP	M12 quick-disconnect	diagram 4	figure 3

DW-Series Proximity Sensors - Wiring Diagrams



DW-Series Proximity Sensors - Dimensions

Figure 1 - DW-AD-501-M12

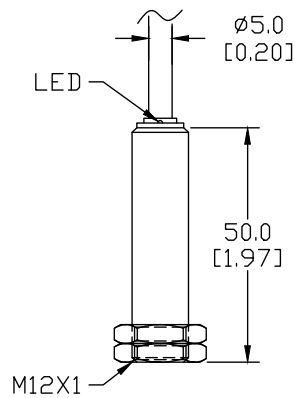


Figure 2 - DW-AD-503-M12

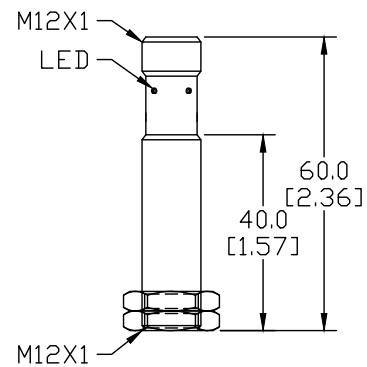


Figure 3 - DW-AS-501-M12

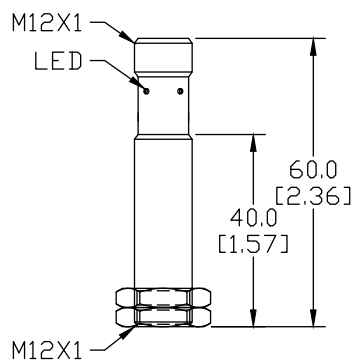
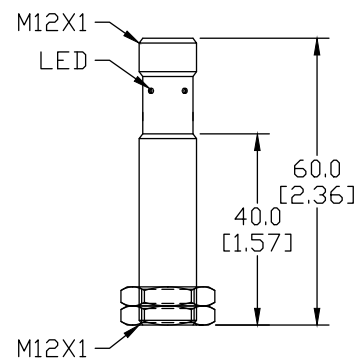
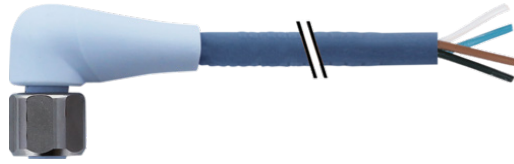


Figure 4 - DW-AS-503-M12

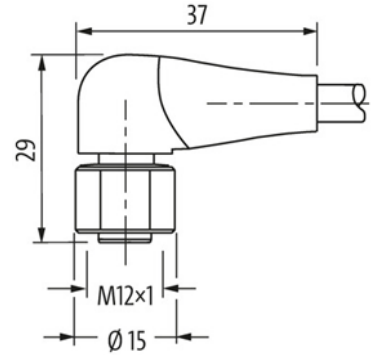
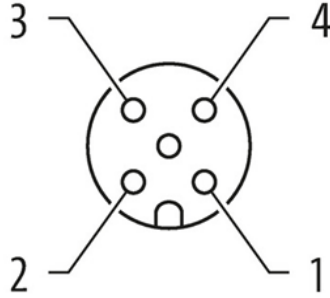


NOTE: Dimensions are in mm (in).

DW-Series Proximity Sensors - M12 4-Pole Cable



1	BN
2	WH
3	BU
4	BK



NOTE: Dimensions are in mm (in).

M12 4-Pole Cable - Part Number Table

Part #	Cord Length (ft)
M12F-4P-69K-2M	6.56
M12F-4P-69K-3M	9.84
M12F-4P-69K-5M	16.4

J

X-Series Solenoid Valve

X-series solenoids are direct mount compatible with all Dixon® rack and pinion actuators. They are used with industrial and sanitary valves for quarter turn actuation in industrial, food, beverage, and pharmaceutical applications.

Certifications/Approvals

- CSA/UL approved coil
- ATEX approved coil option

Features

- Multiple voltages available (AC/DC)
- Standard duty, intrinsically safe and explosion proof models
- Water and dust-proof according to IP65; IP67 available
- Standard lockable manual override button
- Aluminum 4-way direct mount body, 2 position normally closed or fail-in-place



Materials

- Models XSC, XIS, XEX, and XHT
 - Body, spool, cap, and piston: aluminum
 - Spool cap assembly: polypropylene
 - End plate: carbon steel
 - Armature housing: brass/stainless steel
 - Fasteners: plated steel
 - Elastomers: nitrile rubber
 - Coil nut: technopolymer
- Stainless steel enclosure
 - Body, spool, cap, and piston: stainless steel
 - Spool cap assembly: polypropylene
 - End plate: stainless steel
 - Armature housing: brass/stainless steel
 - Fasteners: stainless steel
 - Elastomers: nitrile rubber
 - Coil nut: technopolymer

Specifications

- Sizes: 1/4" NAMUR body
- Standard connections: 1/2" NPT connector standard
 - 1M flying leads (model XEX)
- Valve data
 - Minimum pressure: **30 PSI**
 - Maximum pressure: **120 PSI**
 - Maximum ambient temperature: see chart

Model XSC Technical Data

Standard voltages	24 - 110 - 220V 50/60 Hz, 12 - 24V DC
Power input	60 Hz inrush 9.4VA holding 6.9VA
	DC 4.8W
Voltage tolerance	±10%
Coil insulation	Class "F"
Duty cycle	100%
Protection class	IP65
Air supply connection	1/4" NPT
Operating pressure	Minimum 2 bar (30 PSI)
	Maximum 8 bar (120 PSI)
DIN connector	1/2" NPT
Flow factor	Cv 1.1
Maximum operating frequency	600/1'
Ambient temperature limit	-4°F to 158°F (-4°C to 70°C)
Weight	0.80 lb

X-Series Solenoid Valve - Technical Data

Model XIS Technical Data

Standard voltages	24V DC
Power input	DC 1.6W
Voltage tolerance	±10%
Coil insulation	class "F"
Duty cycle	100%
Protection class	IP65
Air supply connection	1/4" NPT
Operating pressure	Minimum 2 bar (30 PSI)
	Maximum 8 bar (115 PSI)
DIN connector	Strain relief
Flow factor	Cv 1.1
Maximum operating frequency	600/1'
Ambient temperature limit	-4°F to 122°F (-20°C to 50°C)
Weight	0.80 lb
V max	28V DC
I max	115mA
Maximum valve pressure	115 PSI
Hazardous Location Class:	
Class I	Groups A, B, C, and D
Class II	Groups E, F, and G
Class III	Div. I

Model XEX Technical Data

Standard voltages	24 - 110 - 220V 50/60 Hz, 12 - 24V DC
Power input	60 Hz inrush 7.5VA holding 5VA
	DC 6W
Voltage tolerance	±10%
Coil insulation	class "H"
Duty cycle	100%
Protection class	IP65
Air supply connection	1/4" NPT
Operating pressure	Minimum: 2 bar (30 PSI)
	Maximum: 8 bar (120 PSI)
DIN connector	1/2" NPT
Flow factor	Cv 1.1
Maximum operating frequency	600/1'
Ambient temperature limit	-4°F to 140°F (-20°C to 60°C)
Weight	0.95 lb
Hazardous Location Class:	
Class I	Groups A, B, C, and D
Class II	Groups E, F, and G
Class III	Div. I

X-Series Solenoid Valve - Part Number Key

X-Series Solenoid Valves Part Number Key Example: XSC-A1S-024D-F1		Series	Model	Enclosure	Operator	Coil Options	Voltage	Connector Options	Seals
		X	SC	- A	1	S	- 024D	F	- 1
Series	Code								
NAMUR mount solenoid	X								
Model	Code								
IP65, industrial for coil (standard)	SC								
Intrinsically safe, form A coil (24VDC only)	IS								
Explosion proof, class H coil with 1/2" NPT and leads	EX								
High temperature, IP65, class H, form A coil	HT								
Enclosure	Code								
2 pos., 1/4" NAMUR aluminum body, single coil/dual coil	A								
2 pos., 1/4" NAMUR stainless steel body, single coil only	S								
3 pos., 1/4" NAMUR aluminum body, dual coils only	D								
Operator	Code								
Left pilot, normal closed, single coil (2 position only)	1								
Dual pilots, fail in place, dual coils (2 position only)	2								
Dual pilots, fail to open centers, dual coils (3 position only)	3								
Dual pilots, fail to close centers, dual coils (3 position only)	4								
Coil Options	Code								
CSA/UL coil (standard)	S								
Asi 2.5W low power level 3 (model SC only)	L								
ATEX approved coil	X								
Voltage	Code								
Refer to table 1 for options	-								
Connector Options	Code								
None	A								
Model SC Only									
Industrial form, 1/2" NPT (standard)	B								
Industrial form, 1/2" NPT with grommet	C								
Molded lead, industrial form, 1M lead	D								
Molded lead, industrial form, 3M lead	E								
12V AC/DC LED industrial form, 1/2" NPT	F								
24V AC/DC LED industrial form, 1/2" NPT	G								
120V AC/DC LED industrial form, 1/2" NPT	H								
220V AC/DC LED industrial form, 1/2" NPT	I								
24V AC/DC molded LED, industrial form, 1M leads	J								

Model	12VDC	24VDC	24VAC	48VDC	120VAC	220VAC
SC	012D	024D	024A	048D	120A	220A
IS	-	024D	-	-	-	-
EX	012D	024D	024A	-	120A	220A
HT	-	024D	-	-	120A	220A
LT	-	024D	-	-	-	-

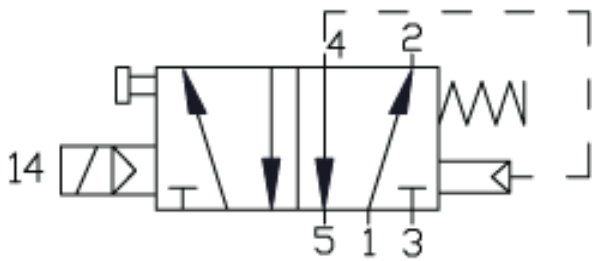


X-Series Solenoid Valve - Part Number Key

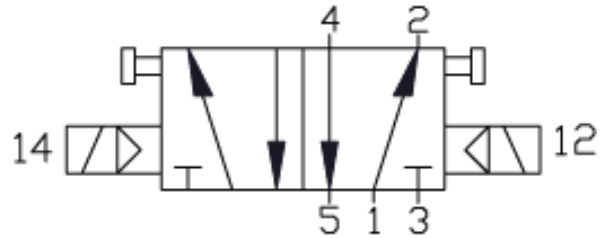
X-Series Solenoid Valves Part Number Key Example: XSC-A1S-024D-F1		Series	Model	Enclosure	Operator	Coil Options	Voltage	Connector Options	Seals			
		X	SC	-	A	1	S	-	024D	F	-	1
120V AC/DC molded LED, industrial form, 1M leads	K											
24V AC/DC molded LED, industrial form, 2M leads	L											
120V AC/DC molded LED, industrial form, 2M leads	M											
IP67 kit	N											
M12, industrial form	O											
Model HT and IS only												
Form A, 3/8" NPT with grommet (standard)	P											
Form A, 1/2" NPT with grommet	Q											
Molded lead, form A, 1M lead	R											
Model EX only												
1/2" NP connection with 1M flying leads (standard)	S											
Seals	Code											
Nitrile rubber (standard for models SC, HT, IS, EX)	1											
Low temperature nitrile rubber	2											

X-Series Solenoid - Flow Diagrams

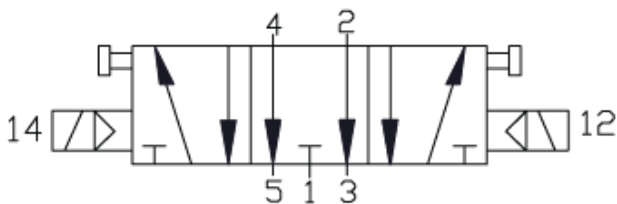
Single Coil Left Pilot



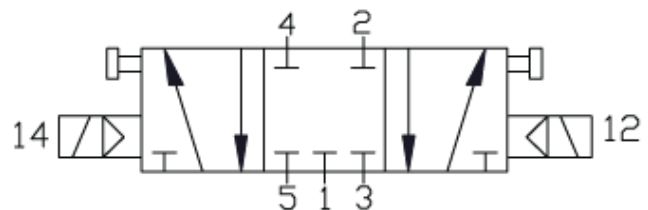
Dual Pilot



3-Position Open Center



3-Position Closed Center



X-Series Solenoid Valve - Coil Data

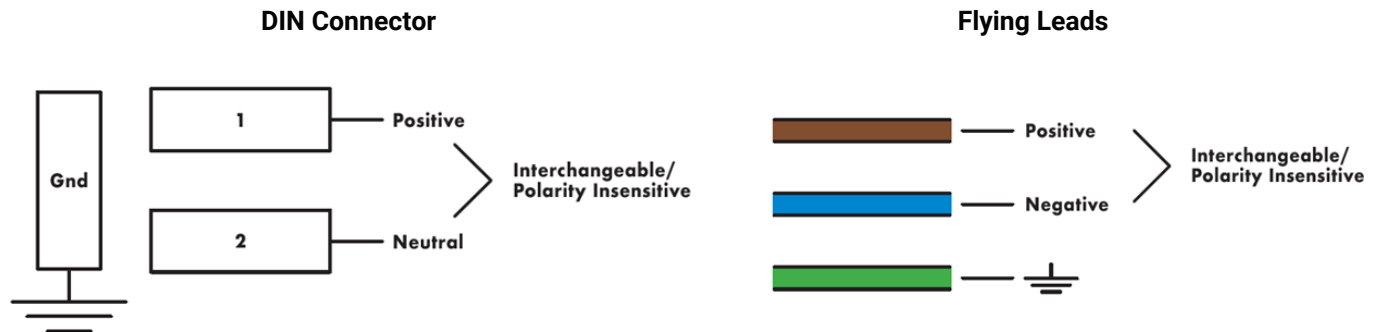
Model XSC

Voltage (primary)	Voltage (secondary)	Watts (DC)/VA (AC)	Insulation Class	Resistance (ohms)	Inrush Power Draw (AC only)	IP Rating	Ambient Temperature
12 VDC	24 VAC	6.9	F	40.1	10.2	65/67	-4°F to 122°F (-20°C to 50°C)
24 VDC	48 VAC	6.9	F	97.9	-	65/67	-4°F to 122°F (-20°C to 50°C)
120 VAC	-	6.9	F	619	12.4	65/67	-4°F to 122°F (-20°C to 50°C)
230 VDC	125 VAC	6.9	F	2475	-	65/67	-4°F to 122°F (-20°C to 50°C)
24 VDC	-	3.0	F	200	-	65	5°F to 122°F (-15°C to 50°C)
24 VDC	-	2.7	H	216	-	65	-4°F to 176°F (-20°C to 80°C)
120 VAC	-	3.7	H	741	6.84	65	-4°F to 176°F (-20°C to 80°C)
240 VAC	-	3.7	H	2924	6.72	65	-4°F to 176°F (-20°C to 80°C)

Model XEX

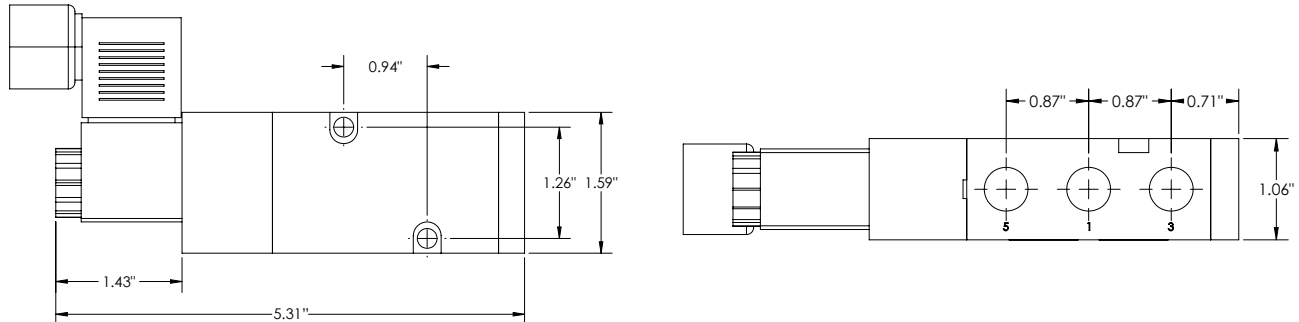
Voltage (primary)	Voltage (secondary)	Watts (DC)/VA (AC)	Insulation Class	Resistance (ohms)	Inrush Power Draw (AC only)	IP Rating	Ambient Temperature
12 VDC	-	4.5	H	32.2	-	65	-4°F to 140°F (-20°C to 60°C)
24 VDC	-	4.6	H	126	-	65	-4°F to 140°F (-20°C to 60°C)
110/120 VAC	-	6.8	H	530	12.3	65	-4°F to 140°F (-20°C to 60°C)
220/240 VAC	-	6.8	H	2345	12.3	65	-4°F to 140°F (-20°C to 60°C)
24 VAC	-	-	F	-	-	65	-4°F to 122°F (-20°C to 50°C)
125 VDC	-	-	F	-	-	65	-4°F to 122°F (-20°C to 50°C)

X-Series Solenoid Valve - Wiring Diagram



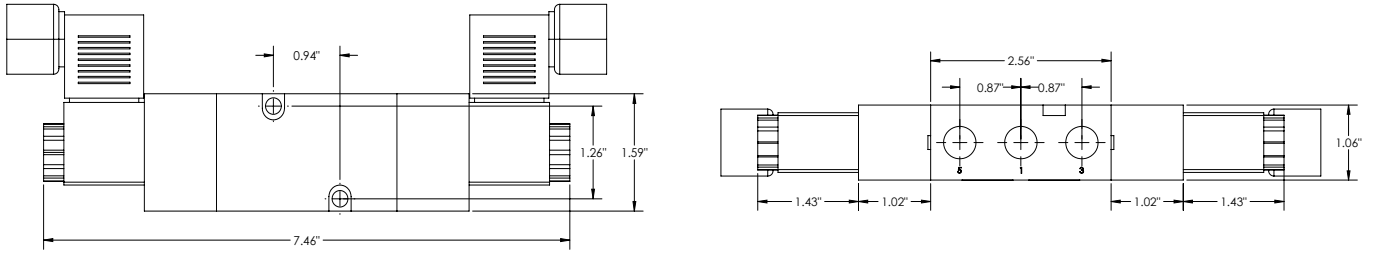
X-Series Solenoid Valve - Dimensions

Model XSC Single Coil

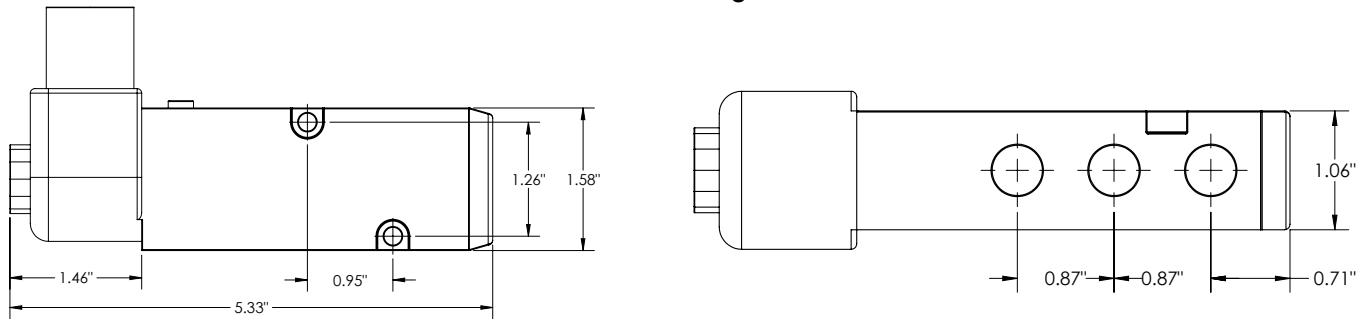


X-Series Solenoid Valve - Dimensions

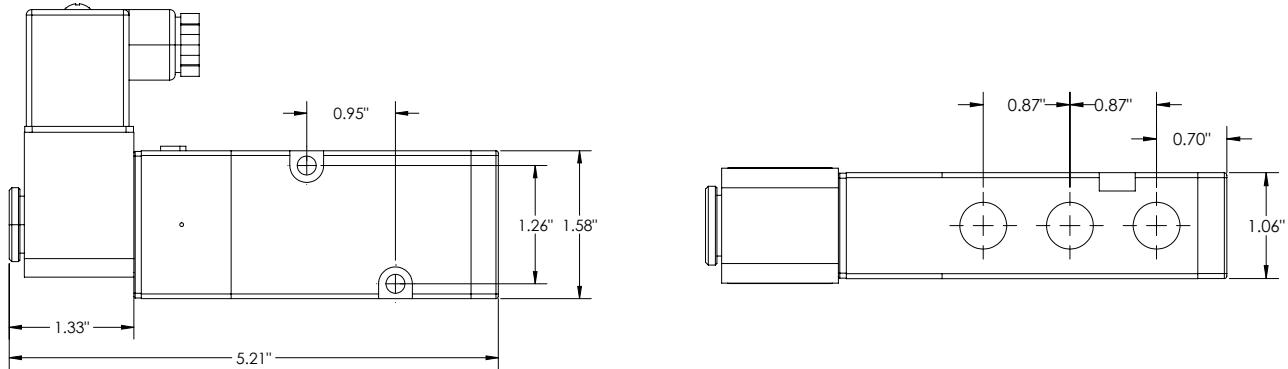
Model XSC Dual Coil



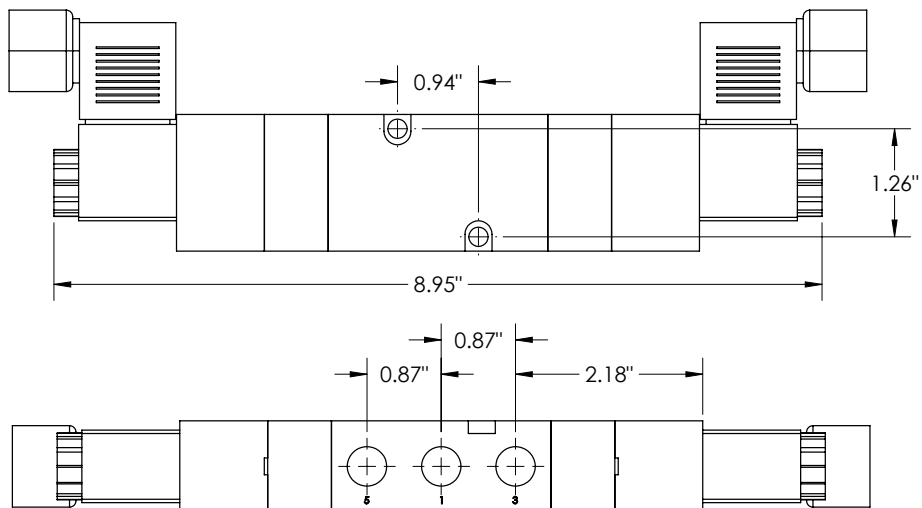
Model XEX Single Coil



Model XIS Single Coil



Model XSC 3 Position



Actuation Accessories

Accessories for mounting Dixon® actuators to industrial or sanitary valves and actuator and valve accessories for limit switch and proximity capabilities.





Features

- Actuator sleeve inserts for size reduction of output drive
- Square sleeves used in conjunction with double square sleeves to meet larger varieties in size reduction
- Couplers used for non-direct mount applications
- ISO 5211 mounting brackets

Materials

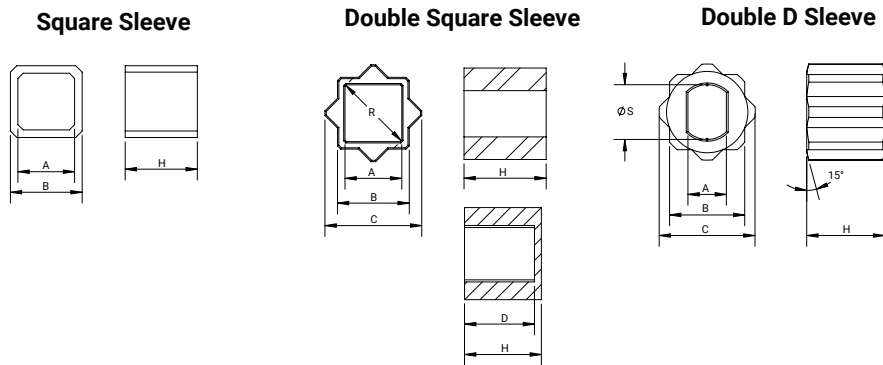
- Sleeve inserts
 - Square: 304 stainless steel
 - Double square: high strength iron based powdered metal
 - Double D: high strength iron based powdered metal
- Couplers: 304 stainless steel
- Brackets: 304 stainless steel
- B5107-PB brackets: CF8M



Square Sleeve	Double Square Sleeve	Double D Sleeve
		
Female Square to Male Square	Female Rectangular Bore to Male Square	Female Slot to Male Square
		
Female Double D to Male Square	Female Slot to (45° rotated) Male Square	Female Square to (45° rotated) Male Square
		

J

Actuation Accessories - Sleeve Dimensions

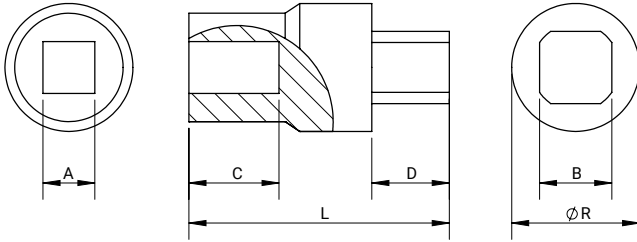


Sleeve Type	Part #	A (mm)	B (mm)	C (mm)	D (mm)	H (mm)	R (mm)	S (mm)
Square Sleeve	XB51-SVF	8	11	-	-	11	-	-
	XB51-SVD	9	11	-	-	11	-	-
	XB51-SVA	11	14	-	-	14	-	-
	XB51-SVG	10	14	-	-	14	-	-
	XB51-SVB	14	17	-	-	17	-	-
	XB51-SV1622	16	22	-	-	21.8	-	-
	XB51-SVC	17	22	-	-	22	-	-
	XB51-SVE	22	27	-	-	27	-	-
Double Square Sleeve	XB51-SVZ	27	35	-	-	40	-	-
	DSQ.11X9	9	11	13.9	-	11	-	-
	DSQ.14X9X16	9	14	17.9	-	16	-	-
	DSQ.14X9X17.4	9	14	18.9	-	17.4	-	-
	DSQ.14X11	11	14	18	-	17	-	-
	DSQ.17X11.SHORT	11	17	22	-	17	-	-
	DSQ.17X11.TALL	11	17	21.9	-	20.9	-	-
	DSQ.17X14.SHORT	14	17	22	-	18	-	-
	DSQ.17X14.TALL	14	17	21.9	-	20.9	-	-
	DSQ.22X14	14	22	28	-	27	-	-
	DSQ.22X17	17	22	28	-	27	-	-
	DSQ.27X17.SHORT	17	22	36	-	27	-	-
	DSQ.27X22.SHORT	22	27	36	-	27	-	-
	DSQ.27X22.TALL	22	27	6	-	33.8	-	-
	DSQ.36X27	27	36	48.2	-	46	-	-
	XB51-STVD	9	11	15	-	17	12.5	-
	XB51-SVH	9	14	19.1	-	20	12.5	-
	XB51-STVA	11	14	19.1	-	20	14.5	-
	XB51-SVQ	9	17	23.1	-	24	12.5	-
	XB51-SVI	11	17	23.1	-	24	14.5	-
	XB51-STVB	14	17	23.1	-	24	19.2	-
	XB51-SVJ	22	11	29.6	-	30	15.5	-
	XB51-SVK	14	22	29.6	-	30	19.2	-
	XB51-STVC	17	22	29.6	-	30	23.3	-
	XB51-SVR	19	22	29.6	-	30	25.8	-
	XB51-SVS	22.2	27	35.8	-	29	31.4	-
	XB51-SVL	14	27	36	27	29	19.2	-
XB51-SVM	17	27	36	27	29	23.3	-	
XB51-STVE	22	27	36	27	29	30	-	
XB51-STS	19	36	48	33	35	25.8	-	
XB51-SVP	27	36	48	33	35	37	-	
Double D Sleeve	XB51-DD1122	11	22	28.1	-	22.8	-	16
	XB51-DD1322	13	22	28.1	-	22.8	-	19.3

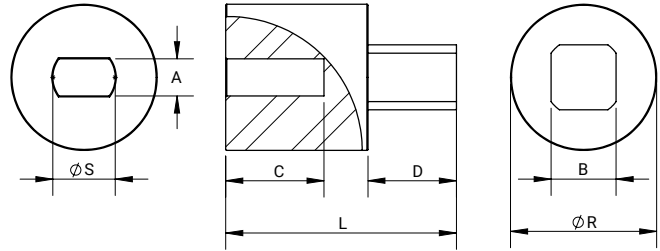
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Actuation Accessories - Coupler Dimensions

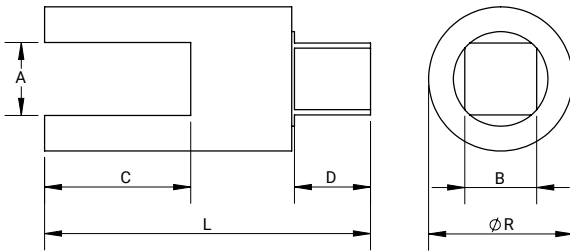
Female Square to Male Square Coupler



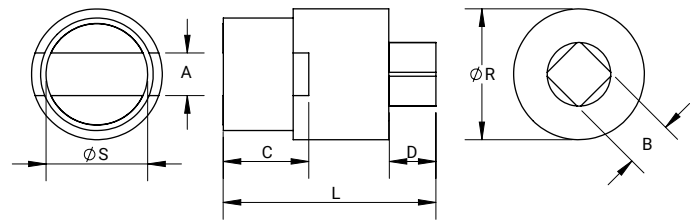
Female Double D to Male Square Coupler



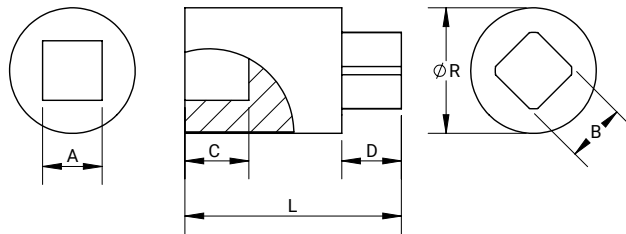
Female Slot to Male Square Coupler



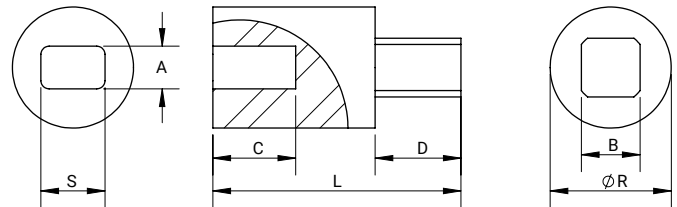
Female Slot to (45° rotated) Male Square Coupler



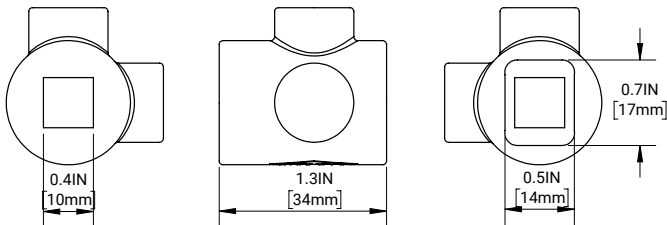
Female Square to (45° rotated) Male Square Coupler



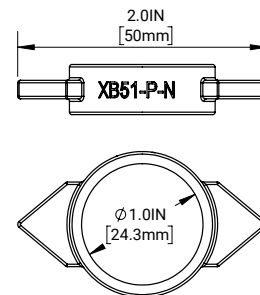
Female Rectangular Bore to Male Square Coupler



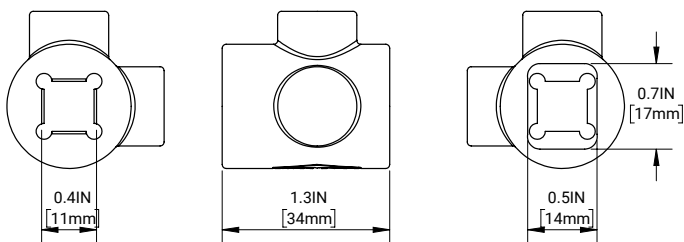
B5107-Series Valve to VC1-Series Actuator Coupler
Part Number: XB51-CPB-NB



Coupler Flow Indicator
Part Number: XB51-P-N



B5102-Series Valve to VC1-Series Actuator Coupler
Part Number: XB51-CP102-1040



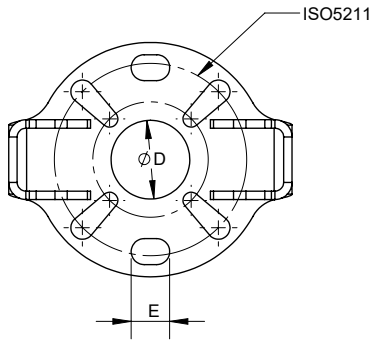
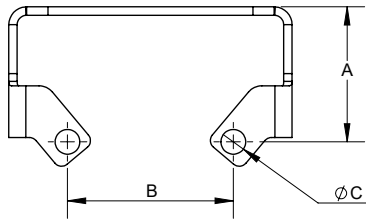
Actuation Accessories - Coupler Dimensions

Coupler Style	Part #	A (mm)	B (mm)	C (mm)	D (mm)	L (mm)	R (mm)	S (mm)
Female Square to Male Square	XB51-CPF	8	11	16.0	14.0	50.0	24.8	-
	XBV-CP-F03F04-9	9	9	15.2	9.5	46.4	16.5	-
	XBV-CP-F03F04	9	14	15.2	9.5	46.4	16.5	-
	XB51-CPF-N	10	11	16.0	14.0	50.0	24.8	-
	XB51-CPG	10	14	17.5	15.0	50.5	24.8	-
	XB51-CPE	13	17	24.3	17.0	76.0	34.8	-
	XB51-CPH	14	14	28.3	14.8	63.2	27.9	-
	XB51-C1617	16	17	25.4	22.9	59.6	27.9	-
Female Rectangular Bore to Male Square	XB51-WB100-125	8	11	15.5	16.1	46.5	22.7	12
	XB51-WB150-200	10	14	20.3	20.1	47.4	26.8	16
	XB51-WB250-400	14	14	21.6	20.1	49.5	30.6	20
Female Slot to Male Square	XB51-CPK	10	11	16.0	15.9	54.1	24.7	-
Female Double D to Male Square	XB51-C16S1	9	17	25.4	22.9	59.6	27.9	16
	XB51-C16S2	11	17	25.4	22.9	59.6	27.9	16
Female Slot to (45° rotated) Male Square	XB51-CPJ	8	9	16.0	8.7	40.0	24.5	19
Female Square to (45° rotated) Male Square	XBV-CP150-200	14	14	15.0	14.0	50.9	29.5	-

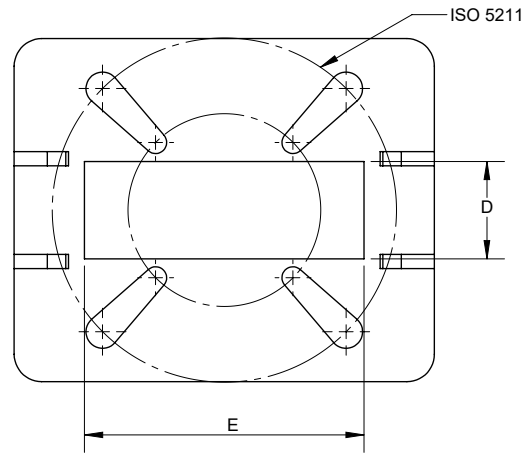
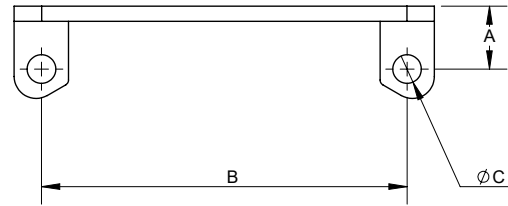
Actuation Accessories - Actuator Mounting Bracket Dimensions

B5107-Series Butterfly Valve Brackets

B5107-Series Bracket - 1/2" - 6"



B5107-Series Bracket - 8"



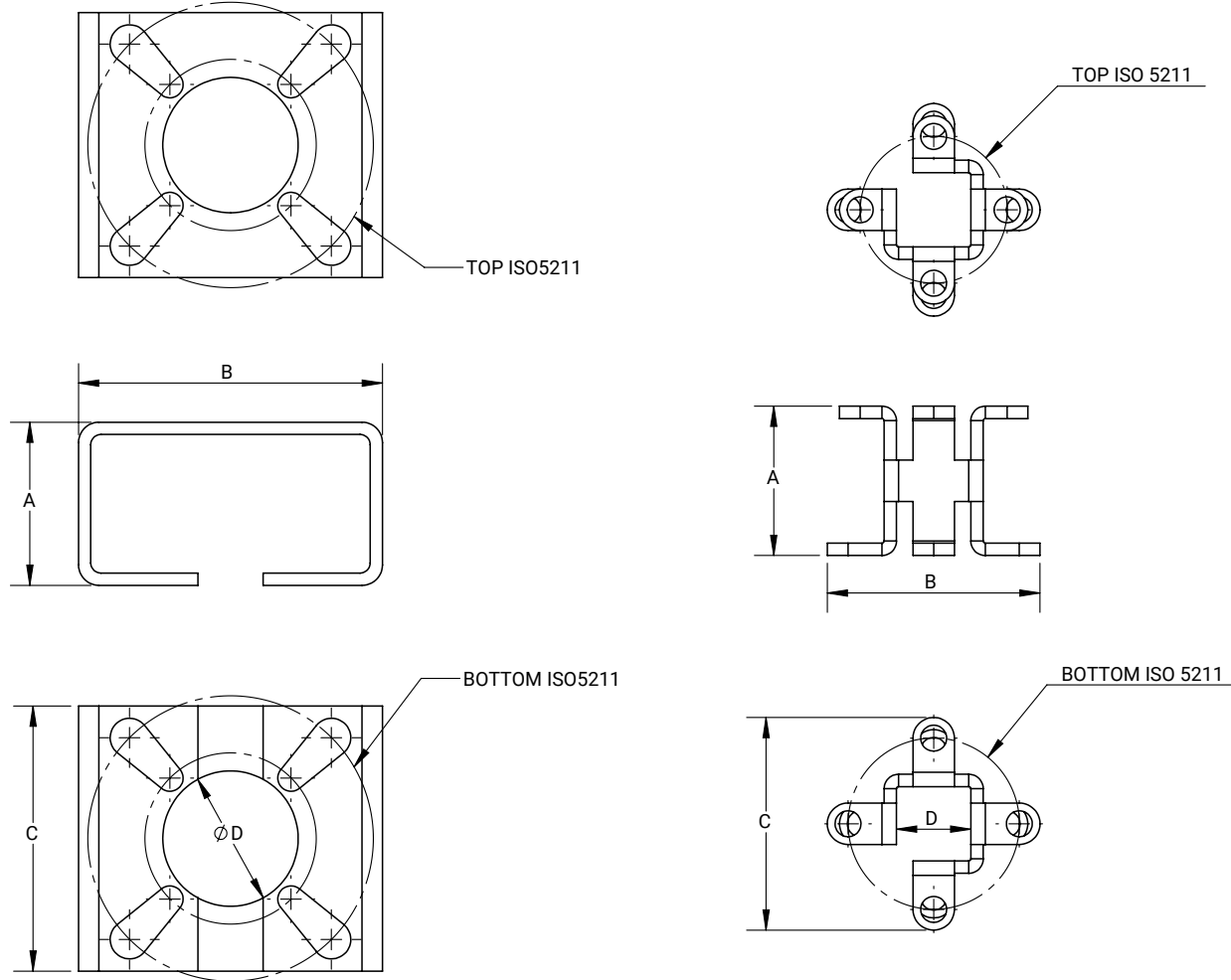
Size	Part #	A (in)	B (in)	C (mm)	D (in)	E (in)	ISO 5211		
1/2"	B5107-B100-150	1.9	1.9	6	1.1	0.6	F04	F05	F07
3/4"									
1"									
1-1/2"									
2"	B5107-B200-250	1.9	2.4	9	1.1	0.6	F04	F05	F07
2-1/2"									
3"									
4"	B5107-B300-400	2	3.2	10	1.1	0.6	F04	F05	F07
6"									
8"	B5107-B600	3	3.9	10	1.5	0.6	F07	F10	-
	B5107-B800	0.9	5.2	10	1.4	4	F07	F10	F12

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Actuation Accessories - Actuator Mounting Bracket Dimensions

Ball Valve and Butterfly Valve Brackets - XBV Bracket

Part Number: XBV-F03F04

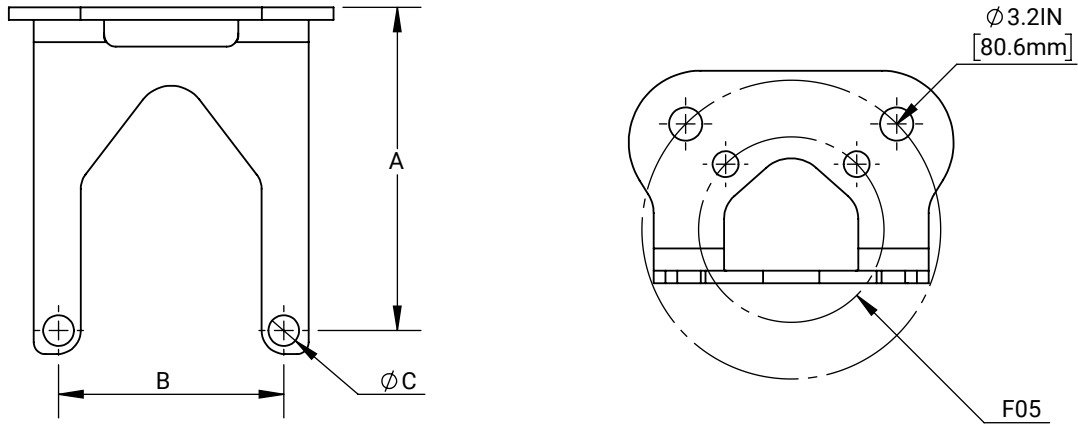


Part #	A (in)	B (in)	C (in)	D (in)	Top ISO 5211			Bottom ISO 5211		
XBV-F03F04	1.4	2.1	2.1	0.7	F03	-	-	F04	-	-
XBV-B050-075	1.5	2.2	2	1	F03	F04	F05	F03	F04	F05
XBV-B100-200	1.6	2.9	2.6	1.3	F04	F05	F07	F04	F05	F07
XBV-WB250-400	1.6	2.9	2.6	1.6	F04	F05	F07	F04	F05	F07
YXBV-B100200C ¹	1.7	3.43	3.1	1.3	F07	-	-	F04	F05	F07
XBV-F10-F14	2.8	6	5.5	3	F14	-	-	F10	-	-

¹Has non-ISO 5211 mounting diameter of 82.6mm for both top and bottom of bracket.

Actuation Accessories - Accessory Brackets

B5107-Series Manual Limit Switch Bracket

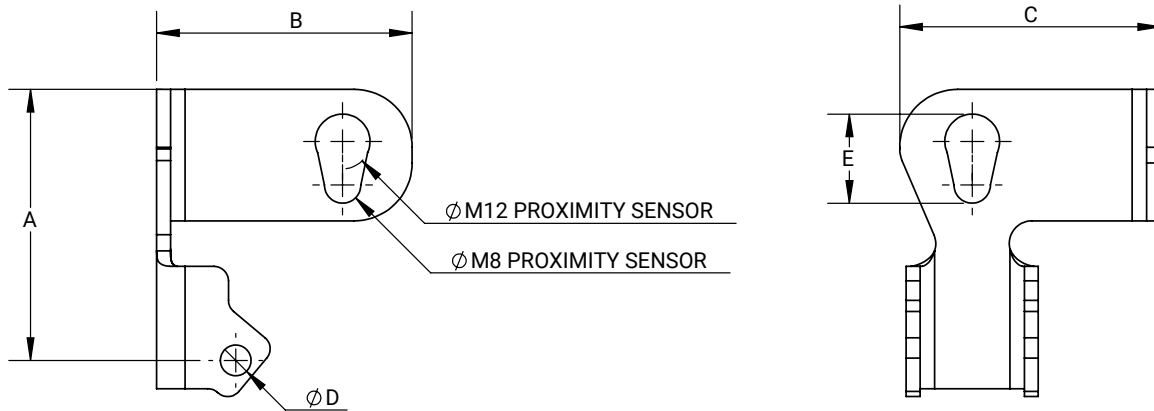


Size	Part #	A (in)	B (in)	C (mm)
1/2"	B5107-LSB-5015	3.4	1.9	7
3/4"				
1"				
1-1/2"				
2"	B5107-LSB-2025	3.4	2.4	8
2-1/2"				
3"				
4"	B5107-LSB-3040	3.5	3.2	8

NOTE: Use with position detection handles. See B5107-series butterfly valve EPRG for more information.



B5107-Series Proximity Sensor Bracket for Trigger Handle

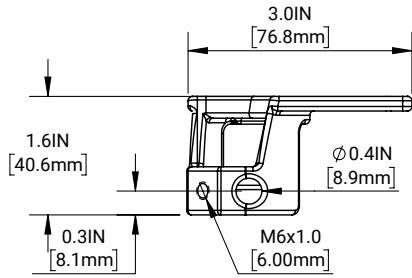


Size	Part #	A (in)	B (in)	C (in)	D (mm)	E (in)	Compatible Trigger Handle Part #
1/2"	B5107-B1015-MPD	2.3	2.2	2.2	6	0.8	B5107-TH5025-PS
3/4"							
1"							
1-1/2"							
2"	B5107-B2025-MPD	2.3	2.3	2.2	8	0.8	
2-1/2"							
3"	B5107-B3040-MPD	2.5	2.8	2.2	9	0.8	B5107-TH3040-PS
4"							

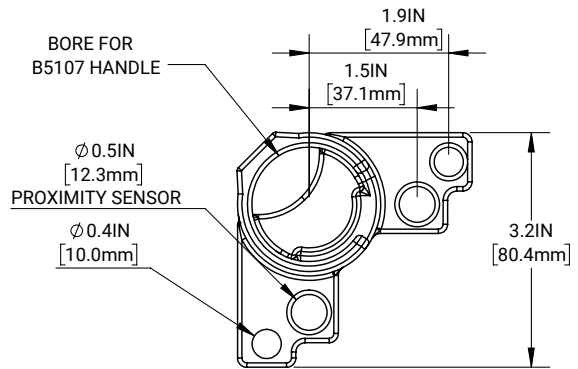
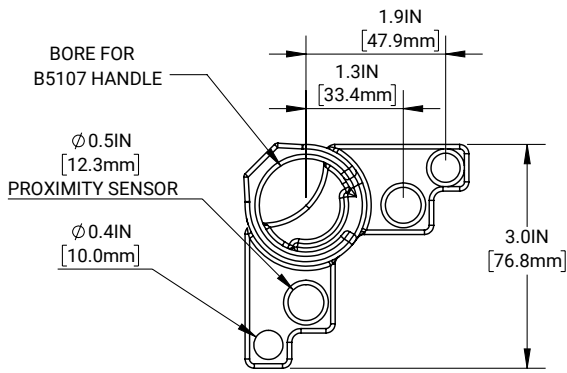
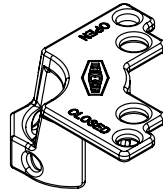
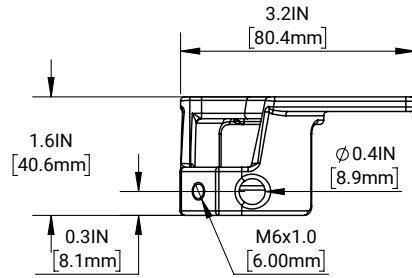
Actuation Accessories - Accessory Brackets

B5107-Series Proximity Sensor Bracket for Pull and Infinite Handles

B5107-PB-5025
(1/2" - 2-1/2")



B5107-PB-3040
(3" - 4")

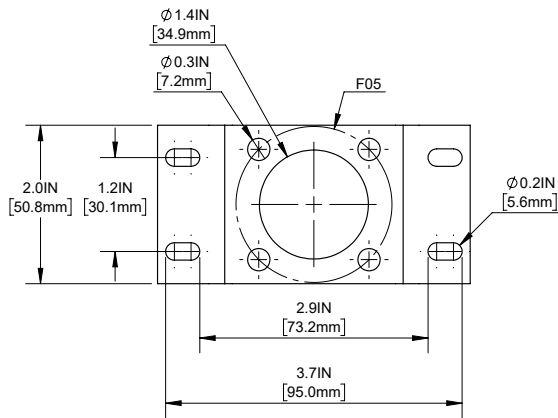
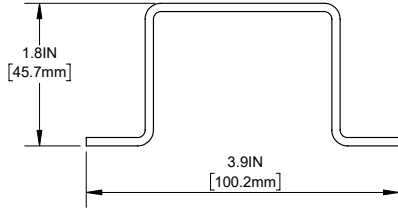


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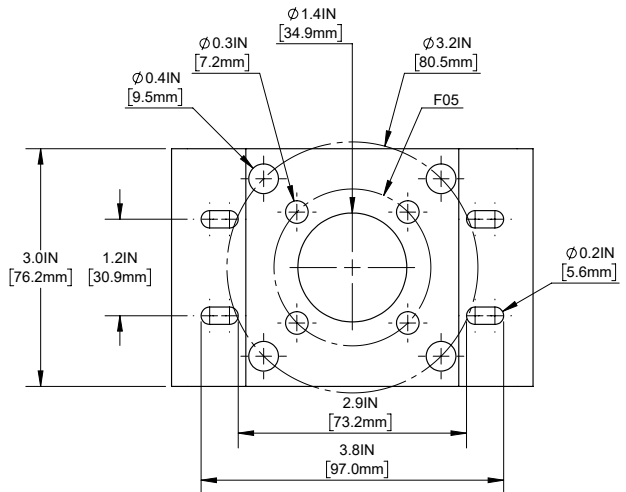
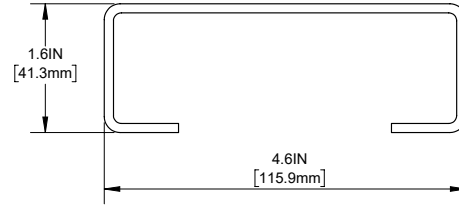
Actuation Accessories - Accessory Brackets

Rack and Pinion Limit Switch and Positioner Brackets

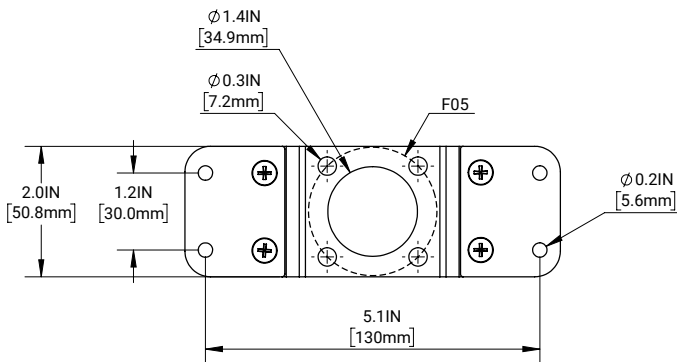
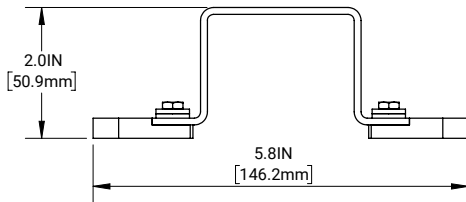
LSPP-BK-S-N



LSPP-BK-S

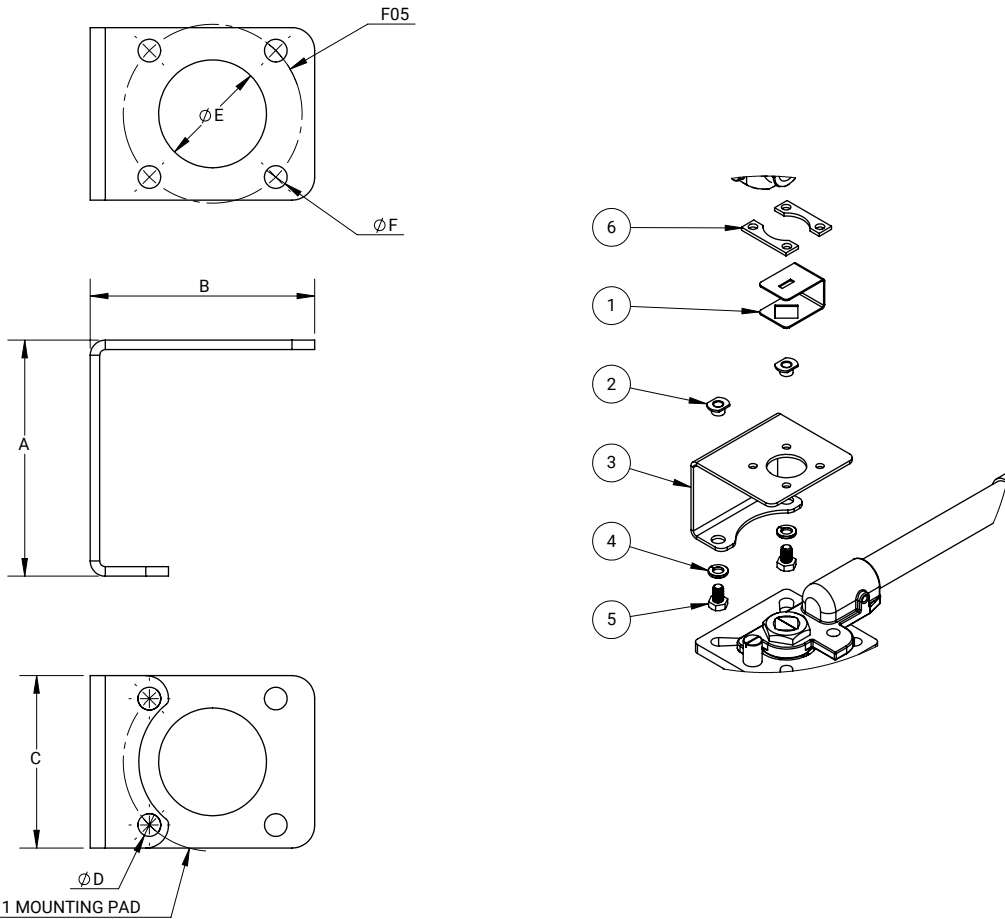


LSPP-BK-NL



Actuation Accessories - Accessory Brackets

Ball Valve Manual Limit Switch Bracket



Ball Valve ISO 5211 Mounting Pad	Bracket Part #	A (in)	B (in)	C (in)	D (mm)	E (in)
F04	BV-LSB-F04	2.4	2.4	1.9	6	1.2
F05	BV-LSB-F05	2.6	2.5	1.9	6	1.2
F07	BV-LSB-F07	2.6	2.7	2.6	6	1.2
F10	BV-LSB-F010	2.8	3.3	3.5	6	1.2
F12	BV-LSB-F12	2.9	3.7	4.3	6	1.2

Ball Valve Manual Limit Switch Bracket - Bill of Materials

Item #	Description	Ball Valve ISO 5211 Mounting Pad					Qty
		F04	F05	F07	F10	F12	
1	limit switch stem bracket	BV-LSSB-9	BV-LSSB-11	BV-LSSB-14	BV-LSSB-17	BV-LSSB-22	1 per kit
2	flanged nut insert	BV-2X-FN-F04	BV-2X-FN-F05	BV-2X-FN-F07	BV-2X-FN-F10	BV-2X-FN-F12	2 per kit
3	limit switch bracket	BV-LSB-F04	BV-LSB-F05	BV-LSB-F07	BV-LSB-F10	BV-LSB-F12	1 per kit
4	lock washer	M4LOCKW	M5LOCKW	M6LOCKW	M8LOCKW	M10LOCKW	2 per kit
5	hex head bolt	M4X0.7X10HB	M5X0.8X12HB	M6X1X16HB	M8X1.25X16HB	M10X1.5X16HB	2 per kit
6	limit switch spacer	LSPP-SP	LSPP-SP	LSPP-SP	LSPP-SP	LSPP-SP	2 per kit

Actuation Accessories - Accessory Brackets

Ball Valve Limit Switch Kits for Manual Actuation

Part #	Description	Item # Included
BVK-LSB-F04-9	XLS-B-series limit switch kit accessory for F04 ball valve pad with 9mm square stem, manual handle actuation	1 - 5
BVK-LSB-F05-11	XLS-B-series limit switch kit accessory for F05 ball valve pad with 11mm square stem, manual handle actuation	1 - 5
BVK-LSB-F07-14	XLS-B-series limit switch kit accessory for F07 ball valve pad with 14mm square stem, manual handle actuation	1 - 5
BVK-LSB-F10-17	XLS-B-series limit switch kit accessory for F10 ball valve pad with 17mm square stem, manual handle actuation	1 - 5
BVK-LSB-F12-22	XLS-B-series limit switch kit accessory for F12 ball valve pad with 22mm square stem, manual handle actuation	1 - 5
BVK-LSC-F04-9	XLS-C-series limit switch kit accessory for F04 ball valve pad with 9mm square stem, manual handle actuation	1 - 6
BVK-LSC-F05-11	XLS-C-series limit switch kit accessory for F05 ball valve pad with 11mm square stem, manual handle actuation	1 - 6
BVK-LSC-F07-14	XLS-C-series limit switch kit accessory for F07 ball valve pad with 14mm square stem, manual handle actuation	1 - 6
BVK-LSC-F10-17	XLS-C-series limit switch kit accessory for F10 ball valve pad with 17mm square stem, manual handle actuation	1 - 6
BVK-LSC-F12-22	XLS-C-series limit switch kit accessory for F12 ball valve pad with 22mm square stem, manual handle actuation	1 - 6

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BC/BP-Series Centrifugal Pump



Designed for conveying low viscosity fluids in a broad range of applications such as dairy, food, beverage, wine, and brewing markets.

Certifications

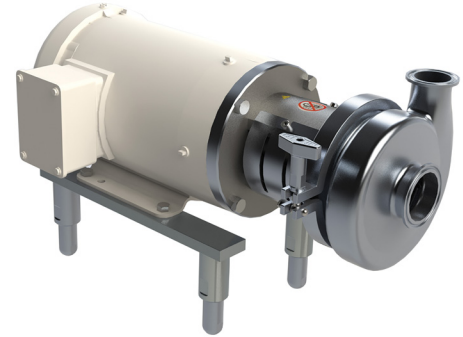
- 3A approved
- Elastomers meet FDA 21CFR 177.2600 and 3A 18-03 Class I

Sizes

- 1-1/2" - 4" x 1-1/2" - 6" inlet

Features

- Seal options: externally balanced 'D' seal, 'DG' seal with clamped in seat, or externally balanced 'F' flush seal
- Seal design
 - Robust single mechanical seal design with multiple material options
- Shaft design
 - BP sealed impeller with nut provides optimal hygienic performance while the split shaft compression collar improves shaft concentricity, reduces vibration, and improves seal life
 - BC design utilizes an impeller retainer; some BC models have a split shaft design available
- Drop-in replacement for other C-series pumps
- Wet end mounts to a standard NEMA C-face frame motor



Materials

- Product contact components: AISI 316L, FKM, silicone, EPDM, PTFE
- Non-product contact components: AISI 304
- Product contact seals: 316L, carbon, silicon carbide, tungsten carbide, and ceramic

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Specifications

- Standard connection: clamp
- Minimum operating temperature: **32°F (0°C)**
- Maximum operating temperature: **212°F (100°C)**
- Viscosity range: 1-500 cP
- Surface Finish
 - Product contact metal components: ≤ 32 Ra
 - Non-product contact metal components: ≤ 63 Ra
- Seal type: single mechanical
- Performance characteristics
 - Nominal capacity: up to **1200 GPM**
 - Nominal speed: up to 3500 RPM - 60 Hz
- Motors and mounting
 - Motor frame size: NEMA C-face
 - Speeds: 1750 and 3450 RPM
 - Enclosure: TENV or TEFC, stainless steel or epoxy white washdown
- Cleaning method
 - CIP: clean-in-place

BC/BP-Series Centrifugal Pump - Part Number Key

BC/BP-Series Centrifugal Pump Part Number Key Example: BC114M101BAJA01		Series	Model	Connection	Seal Type	Impeller	Elastomer	Frame	Motor Type	Motor Electrical	HP RPM
		BC	114	M	1	01	B	A	J	A	01
Series	Code										
BC - impeller retainer	BC	←									
BP - threaded impeller nut	BP										
Model	Code										
1-1/2" inlet x 1-1/2" outlet	114	←									
2" inlet x 1-1/2" outlet	214										
2" inlet x 1-1/2" outlet	216										
2-1/2" inlet x 1-1/2" outlet	516										
2" inlet x 1-1/2" outlet	218										
3" inlet x 1-1/2" outlet	318										
3" inlet x 2" outlet	328										
4" inlet x 2" outlet	428										
4" inlet x 4" outlet ¹	441										
6" inlet x 4" outlet ¹	641										
Connection	Code										
Clamp (standard)	M	←									
Weld	B										
Seal Type	Code										
D type - carbon vs stainless steel	1	←									
DG C/SC - carbon vs silicon carbide	2										
DG C/CER - carbon vs ceramic	3										
DG C/TC - carbon vs tungsten carbide	4										
D type C/F - carbon vs stainless steel with cascade	5										
DG SC/SC - silicon carbide vs silicon carbide	6										
DG C/SC/F - carbon vs silicon carbide with cascade flush	7										
D type w/Wave Spring - carbon vs stainless steel	A										
DG C/SC w/Wave Spring - carbon vs silicon carbide	B										
D type C/F w/Wave Spring - carbon vs stainless steel with cascade	E										
Impeller	Code										
2-1/2"	01	←									
2-3/4"	02										
3"	03										
3-1/4"	04										
3-1/2"	05										
3-3/4"	06										
4"	07										
4-1/4"	08										
4-1/2"	09										
4-3/4"	10										
5"	11										
5-1/4"	12										
5-1/2"	13										

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¹Only available as a BP with DG seal.

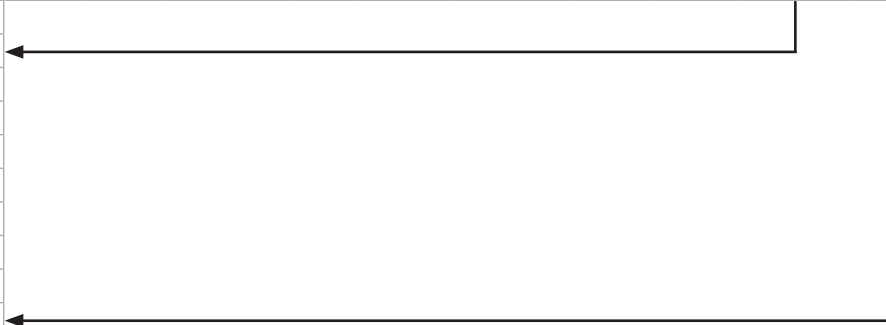
BC/BP-Series Centrifugal Pump - Part Number Key

BC/BP-Series Centrifugal Pump Part Number Key Example: BC114M101BAJA01		Series	Model	Connection	Seal Type	Impeller	Elastomer	Frame	Motor Type	Motor Electrical	HP RPM
		BC	114	M	1	01	B	A	J	A	01
5-3/4"	14										
6"	15										
6-1/4"	16										
6-1/2"	17										
6-3/4"	18										
7"	19										
7-1/4"	20										
7-1/2"	21										
7-3/4"	22										
8"	23										
8-1/4"	70										
8-1/2"	71										
8-3/4"	72										
9"	73										
9-1/4"	74										
9-3/4"	76										
10"	77										
Elastomer	Code										
Nitrile rubber ²	B										
EPDM	E										
Silicone/EPDM	S										
FKM	V										
Frame	Code										
56C	A										
143/145TC	B										
182/184TC	C										
213/215TC	D										
254/256TC	E										
284/286TS (1.625" bore diameter)	F										
284/286TC (1.875" bore diameter)	H										
324/326TSC	G										
Stop here for fluid end.											
Motor Type	Code										
Baldor stainless steel wash down	J										
Baldor white wash down	Z										
Sterling stainless steel wash down	S										
Sterling painted wash down	W										
Baldor general purpose	M										
Baldor explosion proof CL1, DV1 GP D Class II GP F and G	E										
Brook Crompton CL1 DV 2 GP A, B, C, and D cast iron wash down	3										
Worldwide electric stainless steel wash down	4										
Baldor food safe stainless steel wash down	F										
WEG shark stainless steel wash down	G										
Baldor explosion proof CL1, DV 2, GP A, B, C, and D cast iron	H										

²BP models 441 and 641 nitrile rubber elastomer comes supplied with static FKM impeller nut O-ring seals (P25A).

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BC/BP-Series Centrifugal Pump - Part Number Key

BC/BP-Series Centrifugal Pump Part Number Key Example: BC114M101BAJA01		Series	Model	Connection	Seal Type	Impeller	Elastomer	Frame	Motor Type	Motor Electrical	HP RPM
		BC	114	M	1	01	B	A	J	A	01
Motor Electrical	Code										
1PH, 60HZ, 115/230V	A										
3PH, 60HZ, 208-230/460V	B										
3PH, 60HZ, 575V	C										
3PH, 50HZ, 190/380V	D										
3PH, 50HZ, 380/460V	E										
3PH, 50HZ, 220/380/440V	F										
3PH, 50HZ, 220/380/415V	G										
HP RPM	Code										
0.33HP - 1750RPM	01										
0.50HP - 1750RPM	02										
0.75HP - 1750RPM	03										
1.0HP - 1750RPM	04										
1.5HP - 1750RPM	05										
2.0HP - 1750RPM	06										
3.0HP - 1750RPM	07										
5.0HP - 1750RPM	08										
7.5HP - 1750RPM	09										
10HP - 1750RPM	10										
15HP - 1750RPM	11										
20HP - 1750RPM	12										
25HP - 1750RPM	13										
30HP - 1750RPM	14										
40HP - 1750RPM	15										
50HP - 1750RPM	16										
60HP - 1750RPM	17										
0.33HP - 3500RPM	18										
0.50HP - 3500RPM	19										
0.75HP - 3500RPM	20										
1.0HP - 3500RPM	21										
1.5HP - 3500RPM	22										
2.0HP - 3500RPM	23										
3.0HP - 3500RPM	24										
5.0HP - 3500RPM	25										
7.5HP - 3500RPM	26										
10HP - 3500RPM	27										
15HP - 3500RPM	28										
20HP - 3500RPM	29										
25HP - 3500RPM	30										
30HP - 3500RPM	31										
40HP - 3500RPM	32										
50HP - 3500RPM	33										
60HP - 3500RPM	34										
2HP - 1200RPM	35										

NOTE: BP models 114-428 are manufactured to 3A standards but do not carry a 3A certificate. BP model 441 and 641 do carry the 3A certificate.

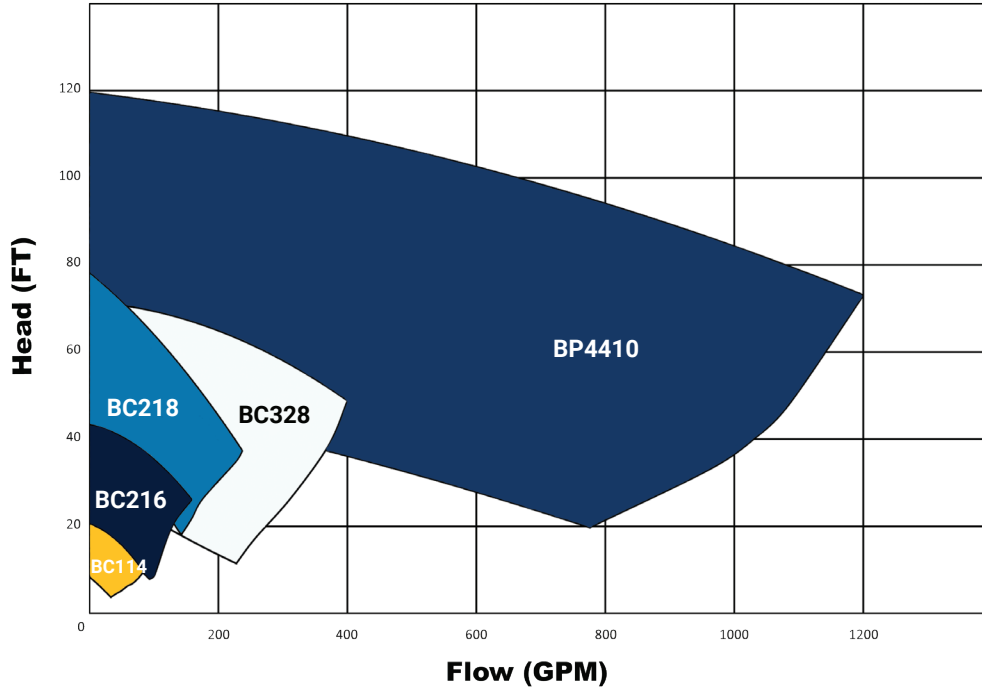
Fluid end includes all parts required to assemble to your motor.

Specify adjustable leg kits at time of order. Leg kits will be shipped to match the frame size of motor as specified by model number. Leg kits will not be assembled. If there are options that are not listed above, please contact Dixon Sanitary at 800.789.1718 for availability and pricing.

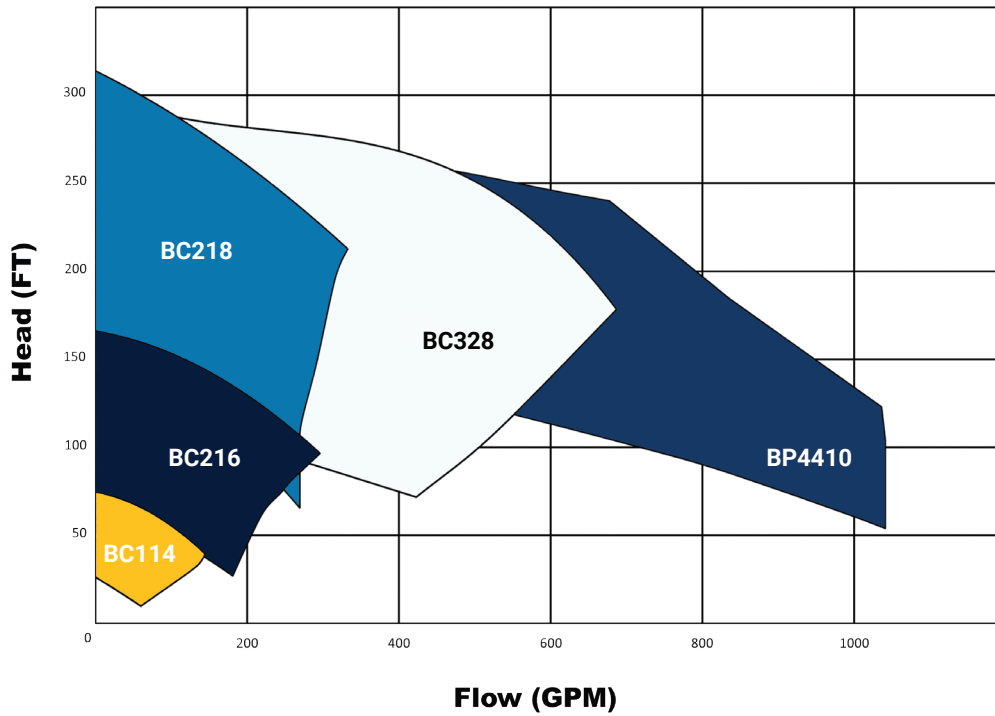


BC/BP-Series Centrifugal Pump - Pump Curves

1750 RPM



3500 RPM



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BC/BP-Series Centrifugal Pump - Pump Curves

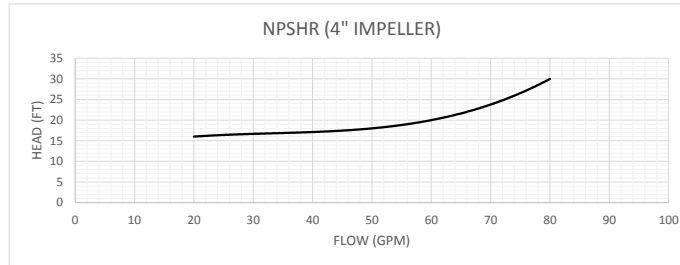
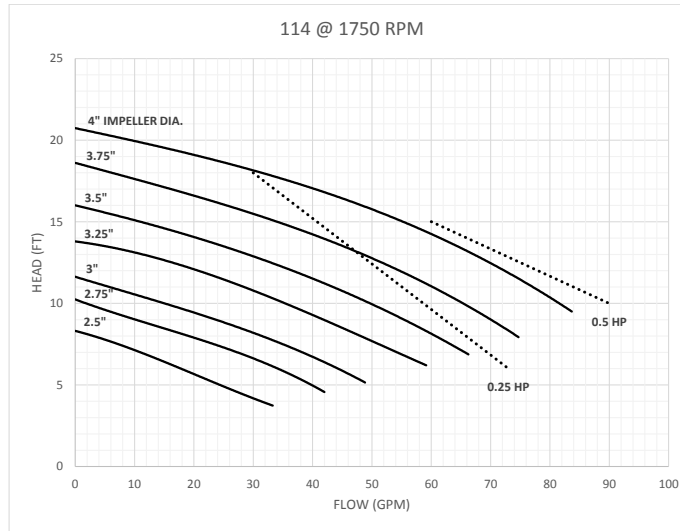
BC/BP 114

Based on H₂O at 70°F (21°C)

Frequency: 60 HZ

RPM: 1750

Size: 1-1/2" x 1-1/2" x4"

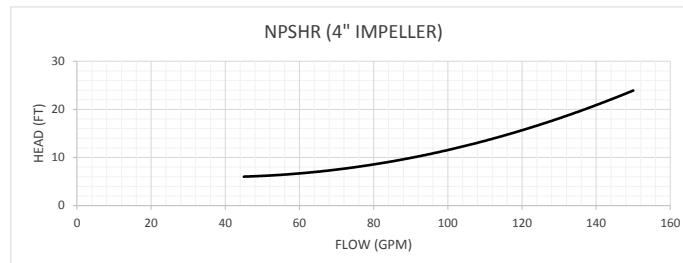
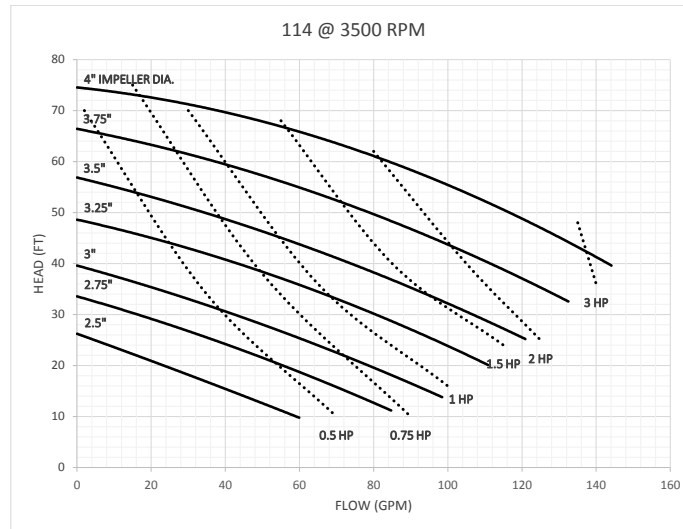


Based on H₂O at 70°F (21°C)

Frequency: 60 HZ

RPM: 3500

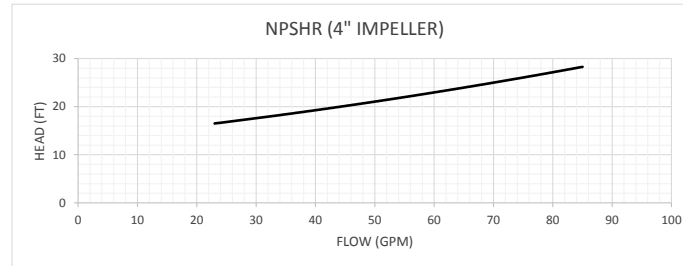
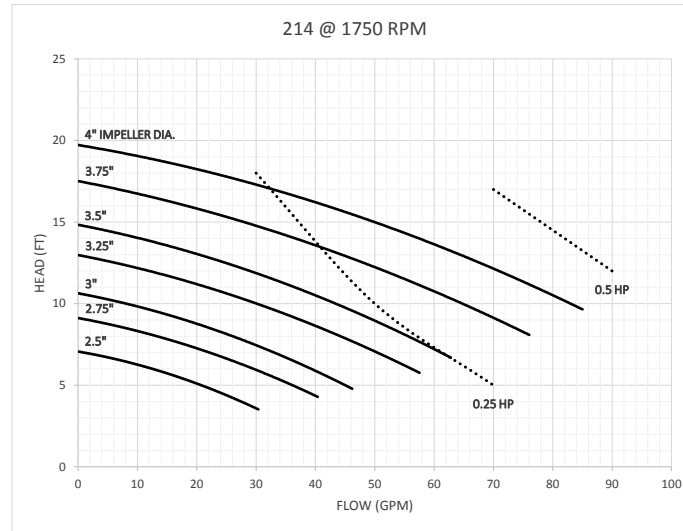
Size: 1-1/2" x 1-1/2" x4"



BC/BP-Series Centrifugal Pump - Pump Curves

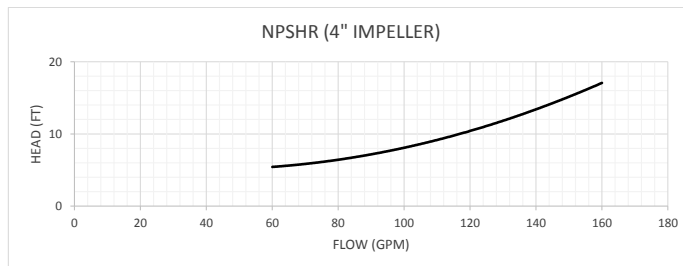
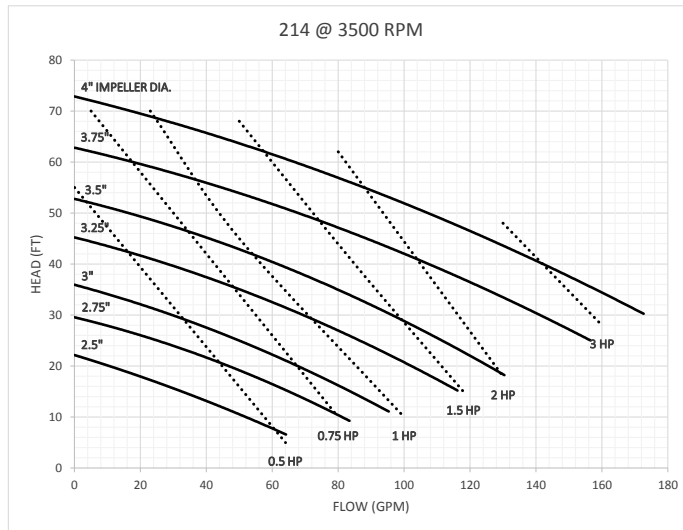
BC/BP 214

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 2" x 1-1/5" x 4"



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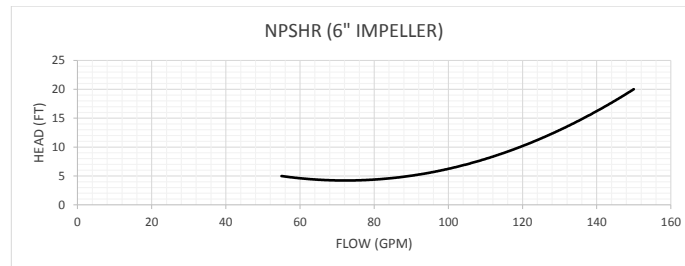
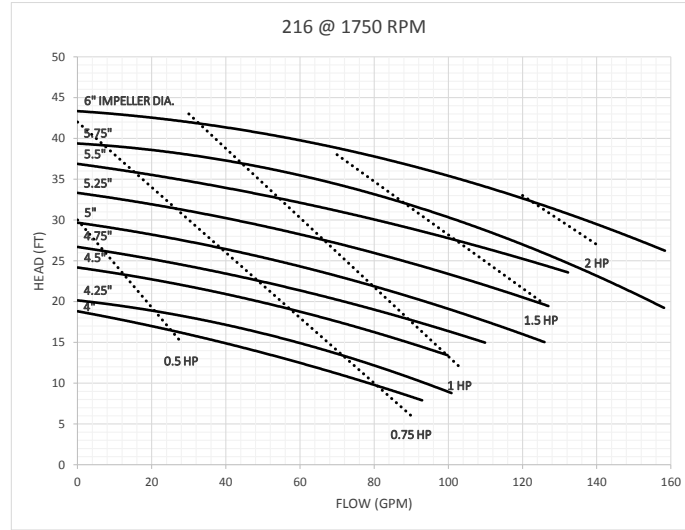
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 2" x 1-1/2" x 4"



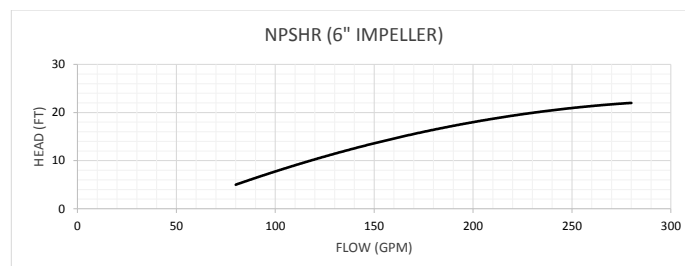
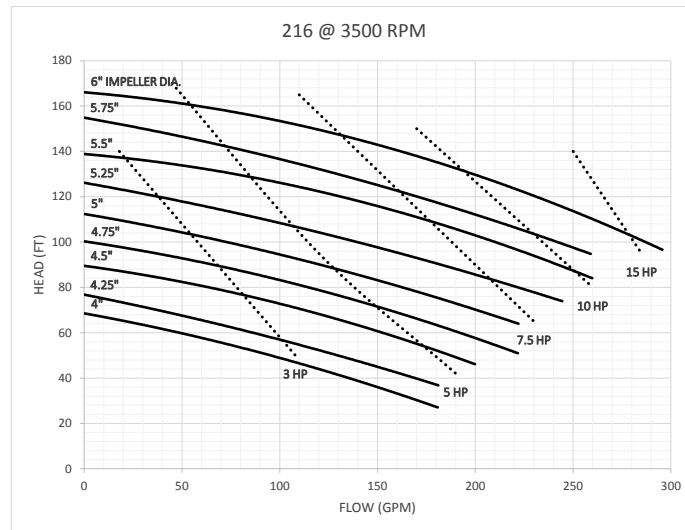
BC/BP-Series Centrifugal Pump - Pump Curves

BC/BP 216

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 2" x 1-1/2" x 6"



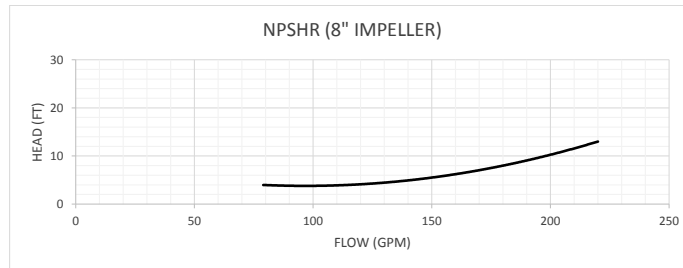
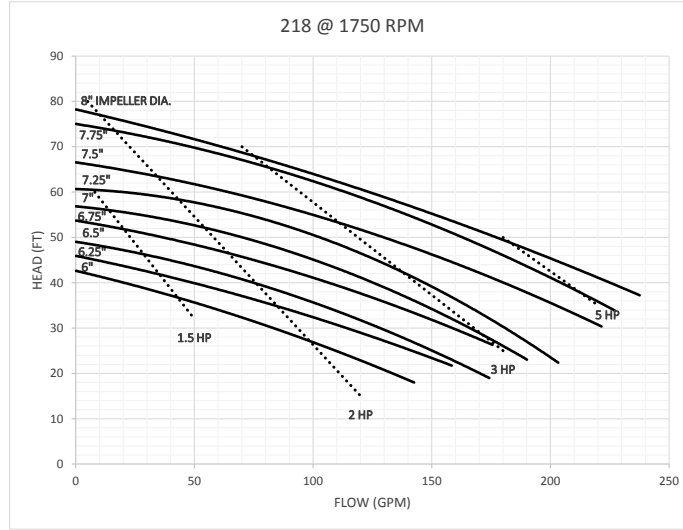
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 2" x 1-1/2" x 6"



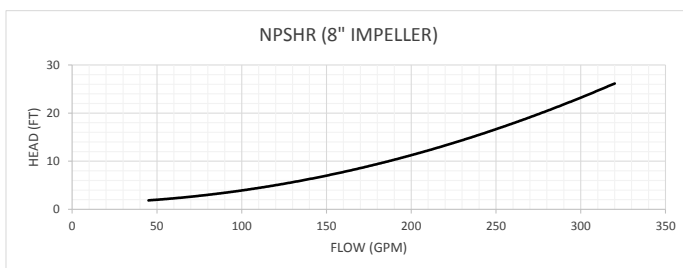
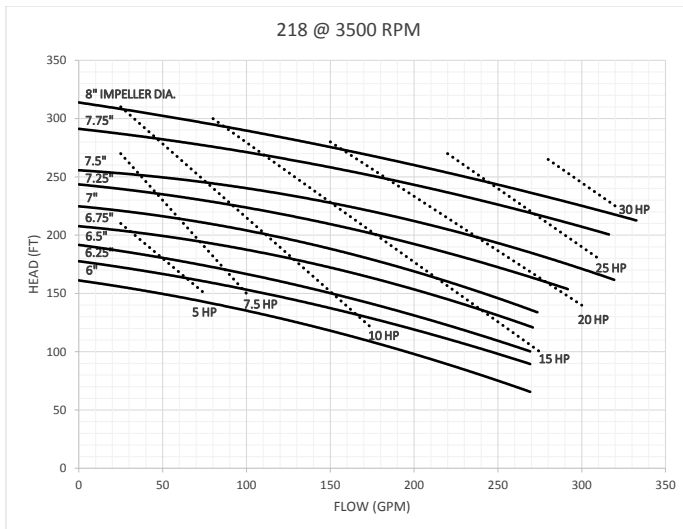
BC/BP-Series Centrifugal Pump - Pump Curves

BC/BP 218

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 2" x 1" x 8"



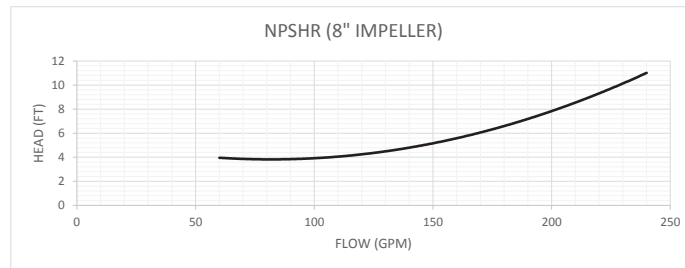
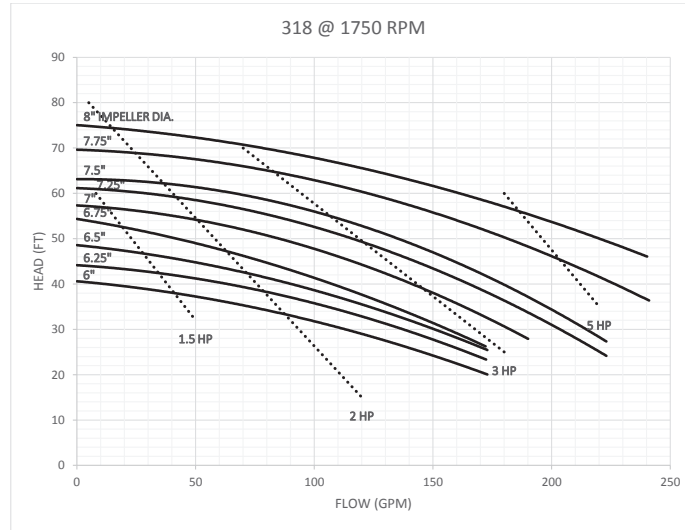
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 2" x 1" x 8"



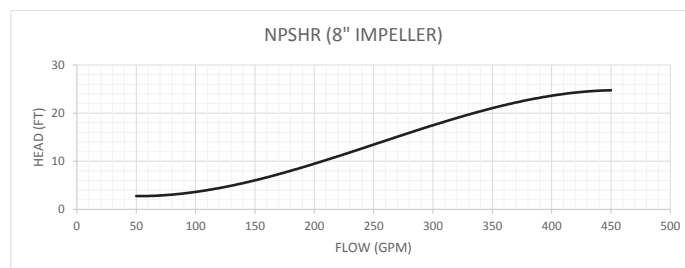
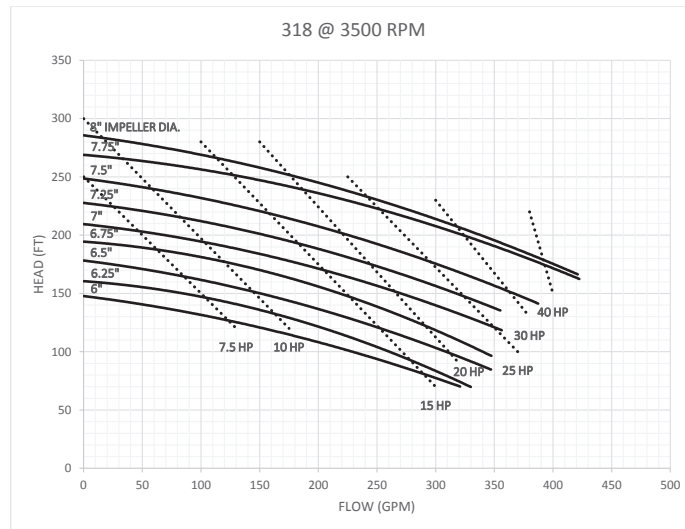
BC/BP-Series Centrifugal Pump - Pump Curves

BC/BP 318

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 3" x 1-1/2" x 8"



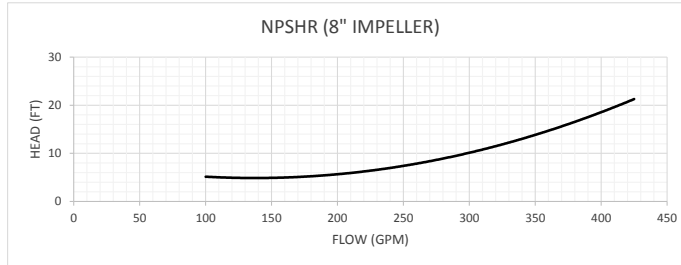
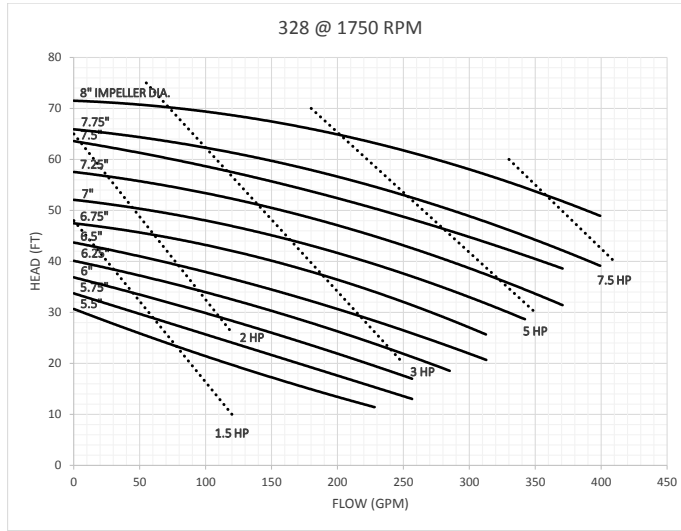
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 3" x 1-1/2" x 8"



BC/BP-Series Centrifugal Pump - Pump Curves

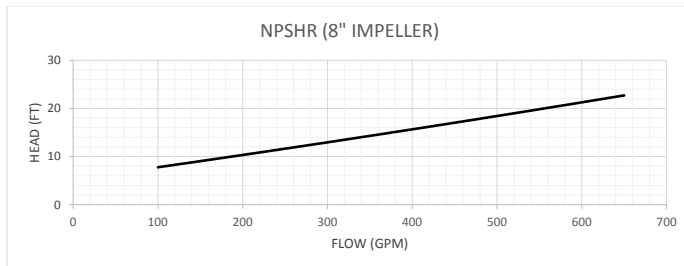
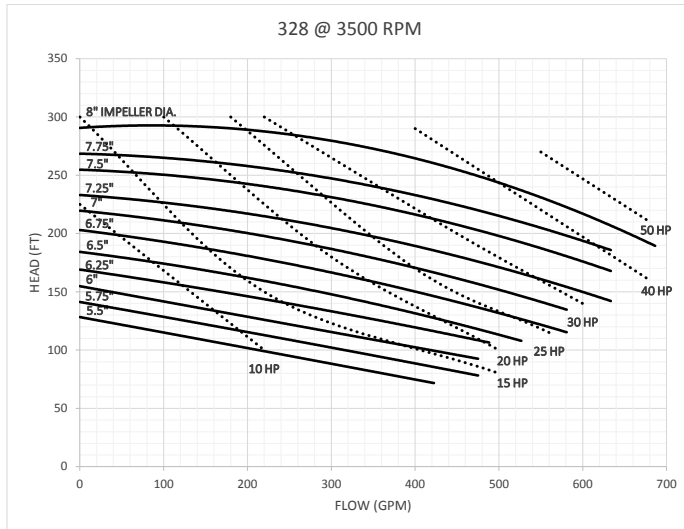
BC/BP 328

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 3" x 2" x 8"



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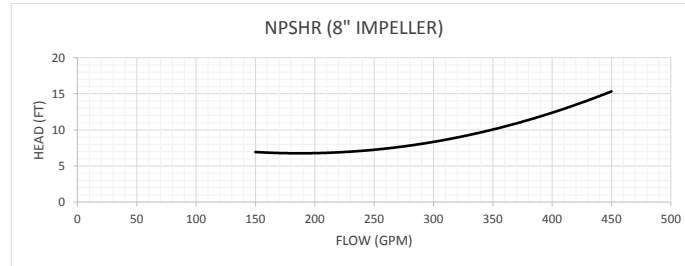
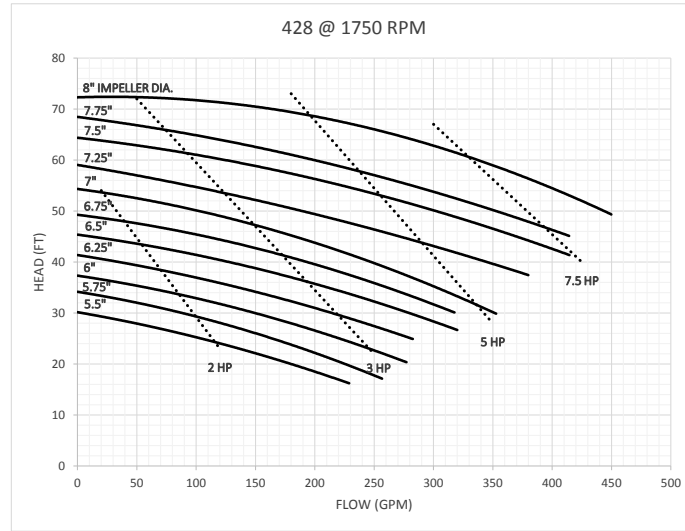
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 3" x 2" x 8"



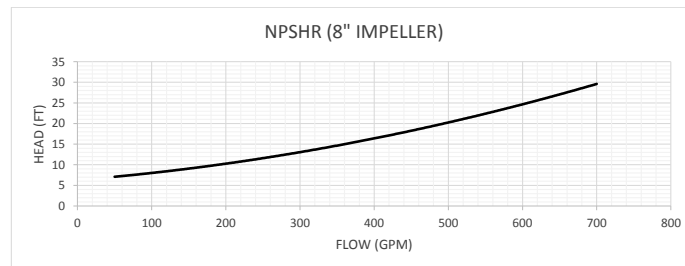
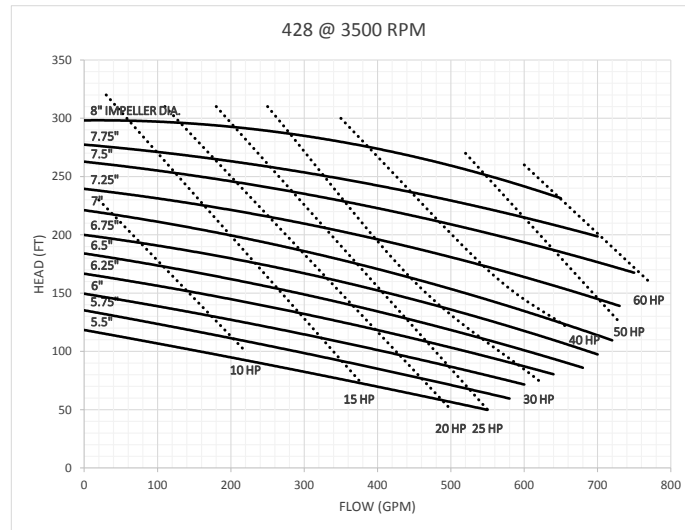
BC/BP-Series Centrifugal Pump - Pump Curves

BC/BP 428

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 4" x 2" x 8"



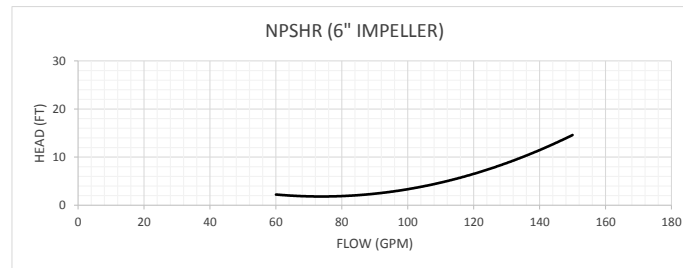
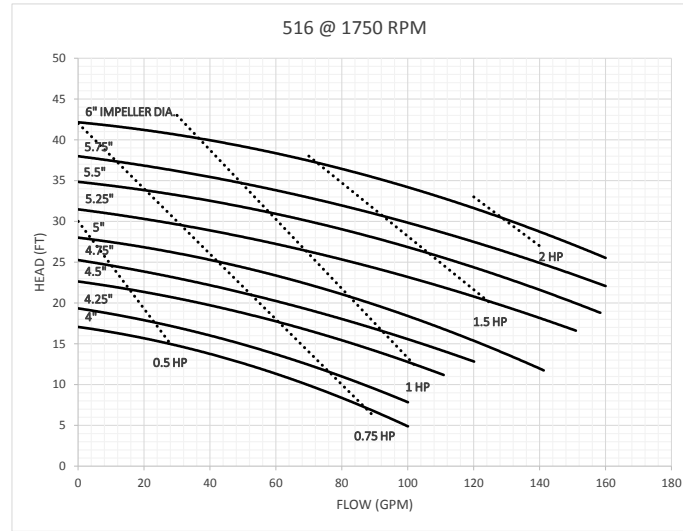
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 4" x 2" x 8"



BC/BP-Series Centrifugal Pump - Pump Curves

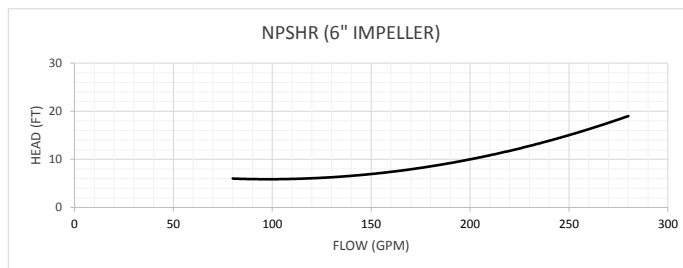
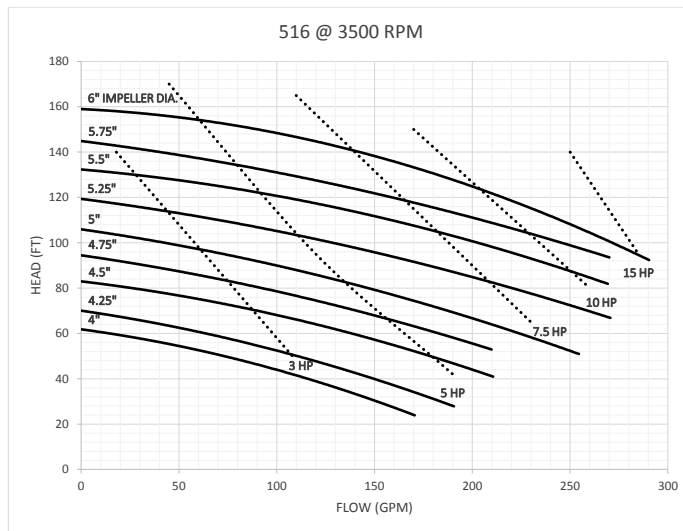
BC/BP 516

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 2-1/2" x 1-1/2" x 6"



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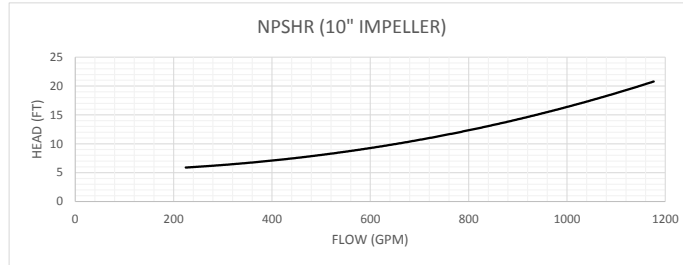
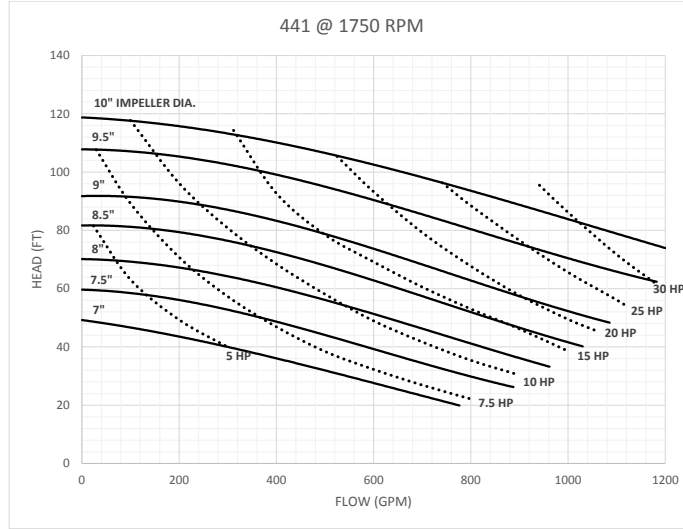
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 2-1/2" x 1-1/2" x 6"



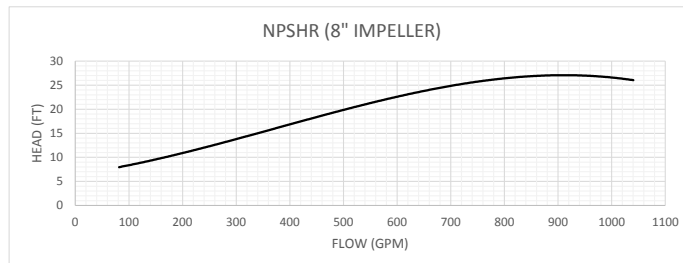
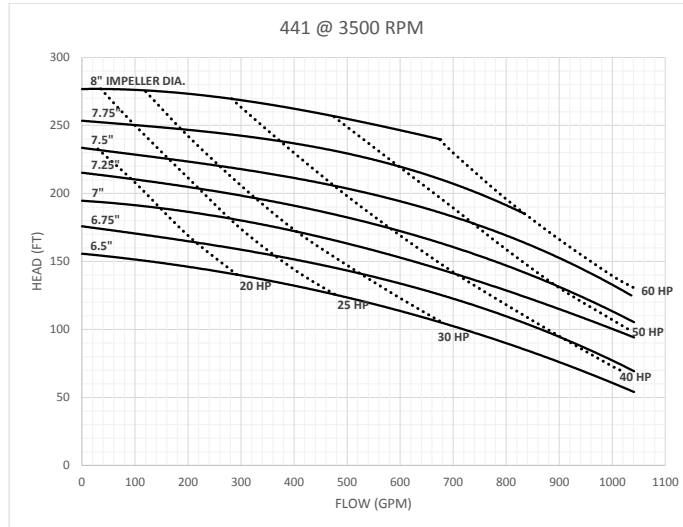
BC/BP-Series Centrifugal Pump - Pump Curves

BP 441

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 4" x 4" x 8"



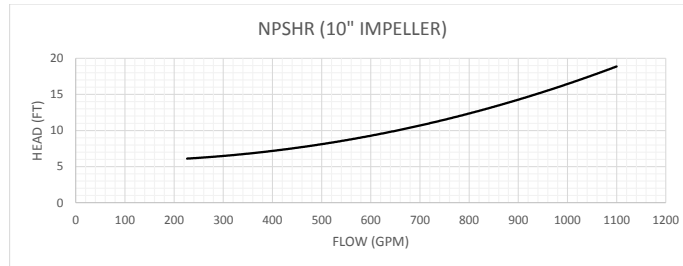
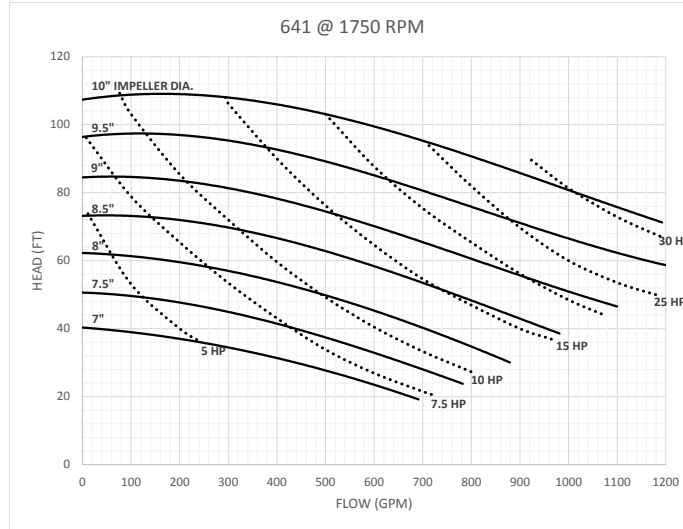
Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 4" x 4" x 8"



BC/BP-Series Centrifugal Pump - Pump Curves

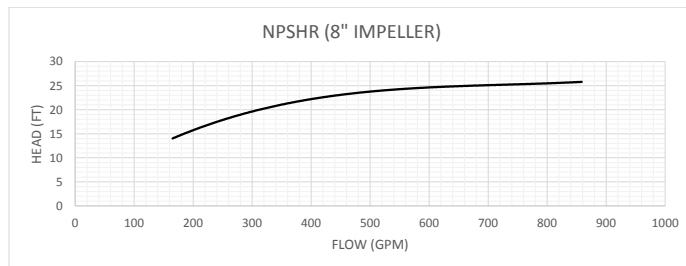
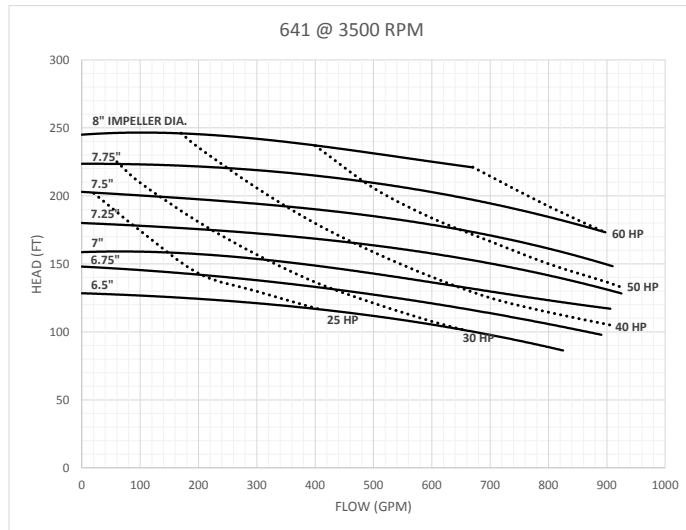
BP 641

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750
 Size: 6" x 4" x 10"

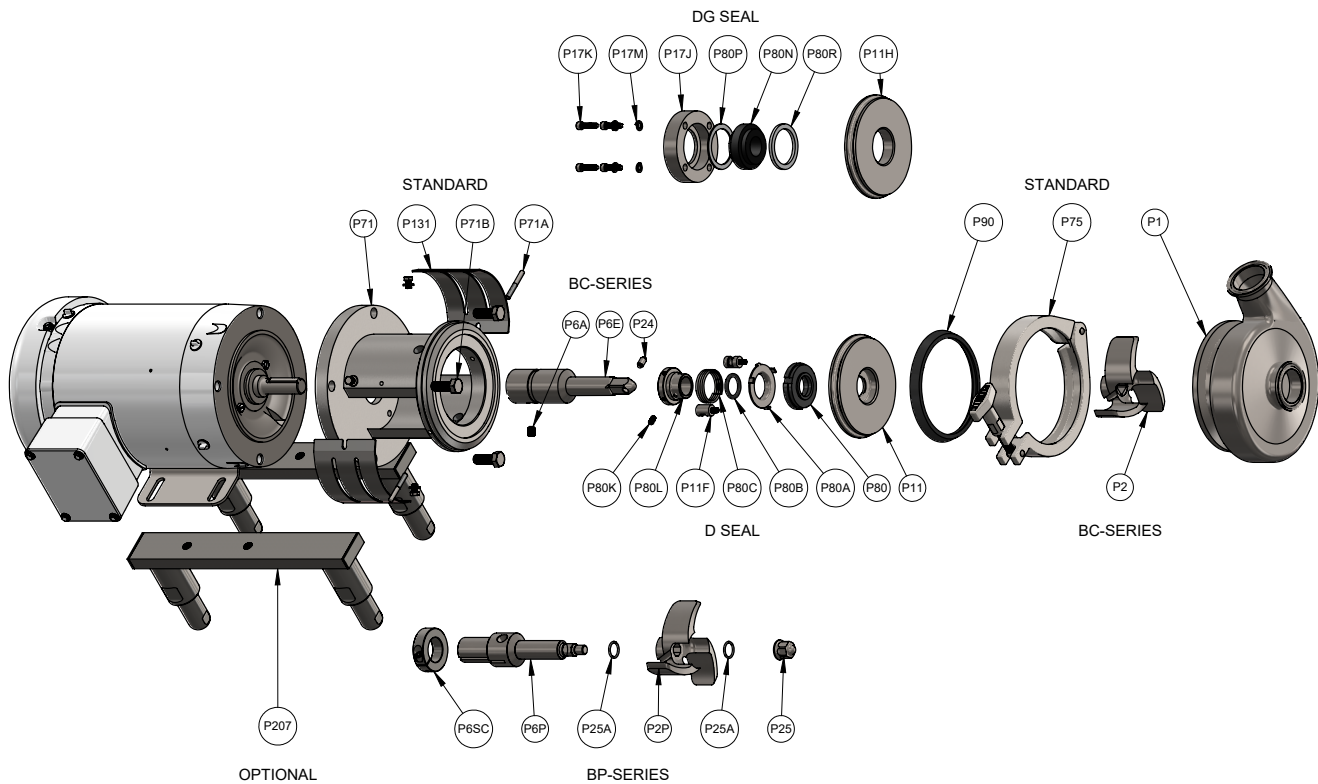


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Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 3500
 Size: 6" x 4" x 10"



BC/BP-Series Centrifugal Pump - Bill of Materials



Item #	Description	Part #				
		BC114	BC216	BC218	BC328	BP441 ^{BP}
P1	casing	P1-114M	P1-216M	P1-218M	P1-328M	P1-441M
P1	enlarged inlet casing	P1-214M	P1-516M	P1-318M	P1-428M	P1-641M
P2	impeller ^{1, BC}	P2-114-400	P2-216-600	P2-218-800	P2-328-800	P2-441-1000
P2P	impeller ^{1, BP}	P2P-114-400	P2P-216-600	P2P-218-800	P2P-328-800	P2P-441-1000
P6A	stub shaft set screw	P6A-114SS		P6A-216BSS		P6A-441SS
P11	back plate ^D	P11-114DP	P11-216DP	P11-218BDP		-
P11F	back plate latch	P11F-114BPP		P11F-218BPP		P11F-441PP
P11H	back plate ^{DG}	P11H-114DGP	P11H-216DGP	P11H-218BDGP		P11H-441DGP
P17J	gland ring ^{DG}	P17J-114GR	P17J-216GR	P17J-218BGR		P17J-441GR
P17K	gland bolt ^{DG}	P17K-114BG		P217K-216BGB		P17K-441GB
P17M	washers ^{DG}	P17M-114GW		P17M-216BGW		P17M-441GW
P24	impeller retainer ^{BC}	P24-114R	P24-216R	P24-218BR		-
P25	threaded impeller nut ^{BP}	P25-114NUT-P	P25-216NUT-P	P25-218BNUT-P		P25-441NUT
P25A	nitrile rubber impeller O-ring ^{BP}	P25A-114NOB	P25A-216NOB	P25A-218BNOB		-
	EPDM impeller O-ring ^{BP}	P25A-114NOE	P25A-216NOE	P25A-218BNOE		P25A-441NOE
	FKM impeller O-ring ^{BP}	P25A-114NOV	P25A-216NOV	P25A-218BNOV		P25A-441NOV
P71A	adapter pins	P71A-114BAP				-
P75	clamp assembly	P75-114CA	P75-216CA	P75-218BCA		P75-441CA
P80	carbon seal	P80-114CS	P80-216CS	P80-218BCS		P80-441CS
P80	silicon carbide seal	P80-114SC	P80-216SC	P80-218BSC		P80-441SC
P80A	seal cup	P80A-114CP	P80A-216CP	P80A-218BCP		P80A-441CP
P80B	nitrile rubber seal O-ring	P80B-114SOB	P80B-216SOB	P80B-218BSOB		-
	EPDM seal O-ring	P80B-114SOE	P80B-216SOE	P80B-218BSOE		P80B-441SOE
	silicone seal O-ring	P80B-114SOS	P80B-216SOS	P80B-218BSOS		P80B-441SOS
	FKM seal O-ring	P80B-114SOV	P80B-216SOV	P80B-218BSOV		P80B-441SOV

BC/BP-Series Centrifugal Pump - Bill of Materials

Item #	Description	Part #				
		BC114	BC216	BC218	BC328	BP441 ^{BP}
P80C	spring	P80C-114SG	P80C-216SG	P80C-218BSG		P80C-441SG
P80K	drive collar set screw	P80K-114DCS	P80K-216BDCS			P80K-441DCS
P80L	drive collar	P80L-114DC	P80L-216DC	P80L-218BDC		P80L-441DC
P80N	silicon carbide seat ^{DG}	P80N-114SC	P80N-216SC	P80N-218BSC		P80N-441SC
	ceramic seat ^{DG}	P80N-114CER	P80N-216CER	P80N-218BCER		-
	tungsten carbide seat ^{DG}	P80N-114TC	P80N-216TC	P80N-218BTC		-
P80P	outboard gasket ^{DG}	P80P-114OG	P80P-216OG	P80P-218BOG		P80P-441OG
P80R	inboard gasket ^{DG}	P80R-114IG	P80R-216IG	P80R-218BIG		P80R-441IG
P90	nitrile rubber casing gaskets	P90-114CGB	P90-216CGB	P90-218BCGB		-
	EPDM casing gaskets	P90-114CGE	P90-216CGE	P90-218BCGE		P90-441CGE
	silicone casing gaskets	P90-114CGS	P90-216CGS	P90-218BCGS		P90-441CGS
	FKM casing gasket	P90-114CGV	P90-216CGV	P90-218BCGV		P90-441CGV

¹Part number is for maximum sized impeller.

^DAvailable for D-seal type only.

^{DG}Available for DG-seal type only.

^{BC}Available for BC-series only.

^{BP}Available for BP-series only.

BC/BP-Series Centrifugal Pump - Bill of Materials - Variable Parts

BC/BP 114

Item #	Description	Part #		
		56C	140TC	180TC
P6E	stub shaft ^{BC}	P6E-114-56SH	P6E-114-14SH	P6E-114-18SH
P6P	stub shaft ^{BP}	P6P-114-56SH-P	P6P-114-14SH-P	P6P-114-18SH-P
P6SC	shaft collar ^{BP}	P6SC-56	P6SC-14	P6SC-18
P71	adapter	P71-114-56AN	P71-114-56AN	P71-114-18AN
P71B	adapter bolts	P71B-114B-56AB	P71B-114B-56AB	P71B-114B-18AB
P131	guard set	P131-114-56GAN	P131-114-56GAN	P131-114-18GAN

BC/BP 216

Item #	Description	Part #				
		56C	140TC	180TC	210TC	250TC
P6E	stub shaft ^{BC}	P6E-216-56SH	P6E-216-14SH	P6E-216-18SH	P6E-216-21SH	P6E-216-25SH
P6P	stub shaft ^{BP}	P6P-216-56SH-P	P6P-216-14SH-P	P6P-216-18SH-P	P6P-216-21SH-P	P6P-216-25SH-P
P6SC	shaft collar ^{BP}	P6SC-56	P6SC-14	P6SC-18	P6SC-21	P6SC-25
P71	adapter	P71-216-56AN	P71-216-56AN	P71-216-18AN	P71-216-21AN	P71-216-25AN
P71B	adapter bolts	P71B-114B-56AB	P71B-114B-56AB	P71B-114B-18AB	P71B-114B-18AB	P71B-114B-18AB
P131	guard set	P131-216-56GAN	P131-216-56GAN	P131-216-18GAN	P131-216-21GAN	P131-216-25GAN

BC/BP 218 BC/BP 328

Item #	Description	Part #				
		180TC	210TC	250TC	280TSC	320TSC
P6E	stub shaft ^{BC}	P6E-218B-18SH	P6E-218B-21SH	P6E-218B-25SH	P6E-218B-28SH	P6E-328-32SH
P6P	stub shaft ^{BP}	P6P-218B-18SH-P	P6P-218B-21SH-P	P6P-218B-25SH-P	P6P-218B-28SH-P	P6P-328-32SH-P
P6SC	shaft collar ^{BP}	P6SC-18	P6SC-21	P6SC-2528S	P6SC-2528S	P6SC-32
P71	adapter	P71-218B-18AN	P71-218B-21AN	P71-218B-25AN	P71-218B-28AN	P71-328-32AN
P71B	adapter bolts	P71B-114B-18AB	P71B-114B-18AB	P71B-114-18AB	P71B-114B-18AB	P71B-328-32AB
P131	guard set	P131-218B-18GAN	P131-218B-21GAN	P131-218B-25GAN	P131-218B-28GAN	P131-328-32GAN

BC/BP-Series Centrifugal Pump - Bill of Materials

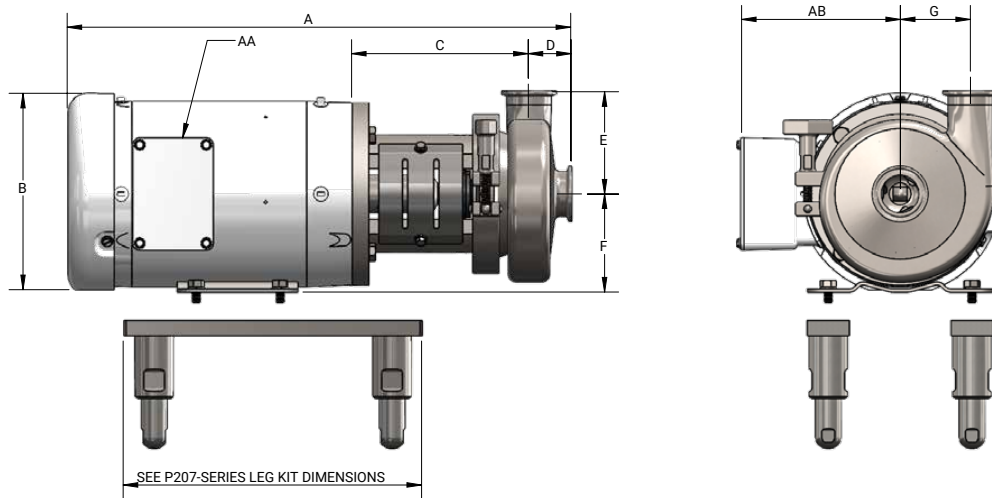
BP 441

Item #	Description	Part #			
		210TC	250TC	280TSC	320TSC
P6P	stub shaft ^{BP}	P6P-441-21SH	P6P-441-25SH	P6P-441-28SH	P6P-441-32TCSH
P71	adapter	P71-441B-21A	P71-441-25A	P71-441B-28A	P71B-441B-32A
P71B	adapter bolts	P71B-114B-18AB	P71B-114B-18AB	P71B-114B-18AB	P71B-441B-32AB
P131	guard set	P131-441-21GA	P131-441-25GA	P131-441-28GA	P131-441-32GA

^{BC}Available for BC-series only.

^{BP}Available for BP-series only.

BC/BP-Series Centrifugal Pump - Dimensions



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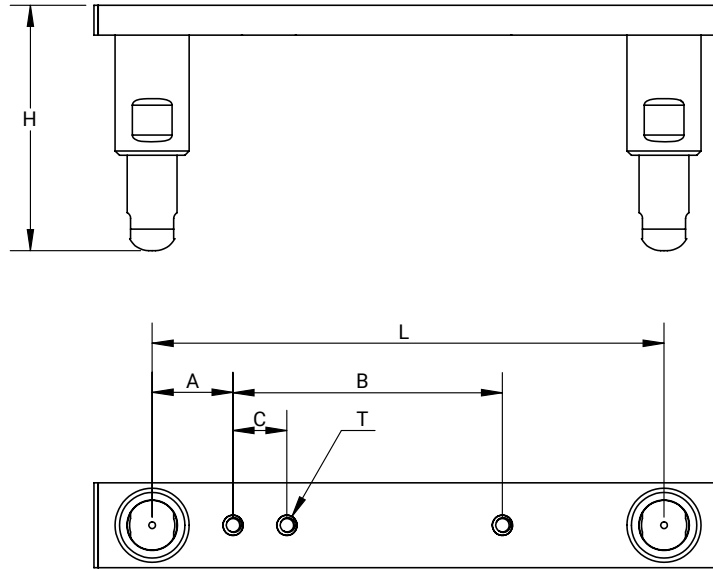
Pump Model	Frame Size	A (in)	AA (in) (conduit size)	AB (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)		
BC/BP 114 BC/BP 214	56C	contact Dixon Sanitary for exact measurement ¹	0.50	5.00	6.63	6.22	1.63	3.63	3.50	2.63		
	143/145TC		0.75	5.25					-			
	182/183TC		0.75	5.88					7.88		6.78	4.50
BC/BP 216 BC/BP 516	56C		0.50	5.00	6.63	6.06	1.94	4.50	3.50	3.69		
	143/145TC		0.75	5.25					4.50			
	182/183TC		0.75	5.88					7.88		6.69	4.50
	213/215TC		1.00	7.38					9.56		7.81	5.25
	254/256TC		1.00	9.63					12.94		8.50	6.25
BC/BP 218 BC/BP 318 BC/BP 328 BC/BP 428	182/183TC		0.75	5.88	7.88	6.94	1.94 2.25 ²	5.50	4.50	4.75		
	213/215TC		1.00	7.38	9.56	7.31			5.25			
	254/256TC	1.00	9.63	12.94	8.19	6.25						
	284/286TC	1.50	13.13	14.63	8.81	7.00						
	324/326TC	2.00	14.13	16.50	9.69	8.00						
BP 441 BP 641	213/215TC	1.00	7.38	9.56	10.52	3.25	7.35	5.25	7.60			
	254/256TC	1.00	9.63	12.94				6.25				
	284/286TC	1.50	13.13	14.63				11.16		7.00		
	324/326TC	2.00	14.13	16.50				10.53		8.00		

¹Dimensions dependent on motor selection.

²Dimension applies to BC/BP 328 and 428 only.

BC/BP-Series Centrifugal Pump - Dimensions

Leg Kit - Optional



Frame Size	Part #	A (in)	B (in)	C (in)	H (in)		L (in)	T	
					min	max			
56C	P207-56LK-N	1.50	3.00	-	4.60	5.00	10.50	5/16"-18 UNC	
	P207-56LK-N-60				6.75	7.50			
140TC	P207-14LK-N		5.00	1.00	4.60	5.00	11.50		
	P207-14LK-N-60				6.75	7.50			
180TC	P207-18LK-N		5.50	1.50	4.60	5.00	12.63		3/8"-16 UNC
	P207-18LK-N-60				6.75	7.50			
210TC	P207-21LK-N		7.00	1.50	4.60	5.00	15.88		
	P207-21LK-N-60				6.75	7.50			
250TC	P207-25LK-N		10.00	1.75	4.60	5.00	20.00		
	P207-25LK-N-60				6.75	7.50			
280TSC	P207-28LK-N		11.00	1.50	4.60	5.00	21.00	1/2"-13 UNC	
	P207-28LK-N-60				6.75	7.50			
320TSC	P207-32LK-N	12.00	1.50	4.60	5.00	22.50			
	P207-32LK-N-60			6.75	7.50				

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BC/BP-Series Centrifugal Pump - Friction Loss Chart

Capacity in U.S. GPM	O.D. Tube Size																	
	1" I.D. = 0.870"			1-1/2" I.D. = 1.370"			2" I.D. = 1.870"			2-1/2" I.D. = 2.370"			3" I.D. = 2.870			4" I.D. = 3.834"		
	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee
5	.035	.025	.25															
10	.12	.06	.40	.02	.01	.15	.005	.015	.10									
15	.25	.10	.80	.04	.02	.25	.013	.02	.15									
20	.43	.22	1.5	.06	.03	.30	.02	.025	.20	.005	.02	.10	.003	.02	.06			
25	.66	.40	2.3	.08	.04	.40	.025	.03	.25	.006	.03	.15	.004	.03	.08			
30	.93	.70	3.3	.105	.55	.55	.035	.05	.30	.008	.05	.20	.005	.04	.10			
35	1.22	1.25	5.2	.135	.80	.80	.04	.06	.40	.011	.06	.25	.006	.05	.13			
40				.17	1.0	1.0	.05	.08	.50	.015	.07	.30	.007	.06	.15			
45				.21	1.3	1.3	.063	.10	.60	.02	.09	.35	.008	.065	.18			
50				.25	1.6	1.6	.073	.12	.70	.022	.10	.40	.01	.07	.20			
60				.34	2.2	2.2	.10	.18	.90	.03	.12	.45	.015	.08	.25			
80				.57	3.7	3.7	.16	.30	1.5	.05	.15	.55	.02	.10	.40			
100				.85	5.8	5.8	.23	.44	2.3	.075	.18	.60	.03	.11	.50	.008	.04	.10
120				1.18	9.1	9.1	.32	.64	3.3	.105	.21	1.0	.04	.13	.60	.01	.05	.15
140							.42	.85	4.5	.14	.23	1.25	.05	.16	.80	.013	.06	.20
160							.54	1.13	5.8	.17	.28	1.6	.07	.20	1.1	.015	.07	.25
180							.67	1.45	7.4	.205	.31	2.0	.08	.21	1.3	.02	.08	.30
200							.81	1.82	9.0	.245	.35	2.5	.10	.26	1.6	.025	.09	.40
220							.95	2.22	11.0	.29	.41	3.0	.12	.30	1.9	.028	.10	.50
240							1.10	2.63	13.5	.34	.48	3.7	.14	.33	2.2	.035	.11	.55
260										.39	.53	4.5	.165	.39	2.5	.04	.115	.60
280										.45	.61	5.3	.19	.42	2.8	.045	.12	.65
300										.515	.70	6.2	.22	.50	3.1	.05	.13	.70
350										.68	1.05	8.5	.28	.67	4.1	.07	.15	.90
400										.86	1.55	11.0	.38	.88	5.2	.085	.18	1.2
450										1.05	2.25	13.5	.44	1.1	6.6	.105	.20	1.5
500													.54	1.4	8.0	.13	.23	1.75
550													.64	1.7	9.5	.15	.27	2.1
600													.75	2.05	10.2	.175	.30	2.5
650													.87	2.41	13.0	.20	.34	2.8
700													.10	2.8	15.0	.23	.40	3.4
750																.26	.43	3.8
800																.30	.50	4.4

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BC/BP-Series Centrifugal Pump - Viscosity Chart

N - Newtonian, T - Thixotropic, D - Dilatant

	Fluid	Specific Gravity	Viscosity CPS	Viscosity Type
Reference	Water	1.0	1.0	N
Adhesives	"box" adhesives	1+-	3,000	T
	PVA	1.3	100	T
	rubber and solvents	1.0	15,000	N
Bakery	batter	1.0	2,000	T
	butter (melted)	0.98	18 at 140°F	N
	egg (whole)	0.5	60 at 50°F	N
	emulsifier	-	20	T
	frosting	1.0	10,000	T
	lecithin	-	3,250 at 125°F	T
	77% sweetened condensed milk	1.3	10,000 at 77°F	N
	yeast slurry 15%	1.0	180	T
Beer/Wine	beer	1.0	1.1 at 40°F	N
	brewers concentrated yeast (80% solids)	-	16,000 at 40°F	T
	wort	-	-	-
	wine	1.0	-	-
Confectionery	caramel	1.2	400 at 140°F	-
	chocolate	1.1	17,000 at 120°F	T
	fudge (hot)	1.1	36,000	T
	toffee	1.2	87,000	T
Cosmetics/Soaps	face cream	-	10,000	T
	hair gel	1.4	5,000	T
	shampoo	-	5,000	T
	toothpaste	-	20,000	T
	hand cleaner	-	2,000	T
Dairy	cottage cheese	1.08	225	T
	cream	1.02	20 at 40°F	N
	milk	1.03	1.2 at 60°F	N
	process cheese	-	30,000 at 160°F	T
	yogurt	-	1,100	T
Detergents	detergent concentrate	-	10	N
Dyes and Inks	printers ink	1 to 1.38	10,000	T
	dye	1.1	10	N
	gum	-	5,000	T
Fats and Oils	corn oil	0.92	30	N
	lard	0.96	60 at 100°F	N
	linseed oil	0.93	30 at 100°F	N
	peanut oil	0.92	42 at 100°F	N
	soybean oil	0.95	36 at 100°F	N
	vegetable oil	0.92	3 at 300°F	N
Misc. Foods	black bean paste	-	10,000	T
	cream style corn	-	130 at 190°F	T
	ketchup	1.11	560 at 145°F	T
	pablum	-	4,500	T
	pear pulp	-	4,000 at 160°F	T
	mashed potato	1.0	20,000	T
	potato skins and caustic	-	20,000 at 100°F	T
	prune juice	1.0	60 at 120°F	T
	orange juice concentrate	1.1	5,000 at 38°F	T
	tapioca pudding	0.7	1,000 at 235°F	T
	mayonnaise	1.0	5,000 at 75°F	T
	33% tomato paste	1.14	7,000	T
honey	1.5	1,500 at 100°F	-	

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BC/BP-Series Centrifugal Pump - Viscosity Chart

N - Newtonian, T - Thixotropic, D - Dilatant

	Fluid	Specific Gravity	Viscosity CPS	Viscosity Type
Meat Products	melted animal fat	0.9	43 at 100°F	N
	ground beef fats	0.9	11,000 at 60°F	T
	meat emulsion	1.0	22,000 at 40°F	T
	pet food	1.0	11,000 at 40°F	T
	pork fat slurry	1.0	650 at 40°F	T
Misc. Chemicals	glycols	1.1	35 at range	-
Paint	metallic auto paints	-	220	T
	solvents	0.8 to 0.9	0.5 to 10	N
	titanium dioxide slurry	-	10,000	T
	varnish	1.06	140 at 100°F	-
	turpentine	0.86	2 at 60°F	-
Paper and Textile	black liquor tar	-	2,000 at 300°F	-
	paper coating 35%	-	400	-
	sulfide 6%	-	1,600	-
	black liquor	1.3	1,100 at 122°F	-
	black liquor soap	-	7,000 at 122°F	-
Petroleum and Petroleum Products	asphalt (unblended)	1.3	500 to 2,500	-
	gasoline	0.7	0.8 at 60°F	N
	kerosene	0.8	3 at 68°F	N
	fuel oil #6	0.9	660 at 122°F	N
	auto lube oil SAE 40	0.9	200 at 100°F	N
	auto lube oil SAE 90	0.9	320 at 100°F	N
	propane	0.46	0.2 at 100°F	N
	tars	1.2	wide range	-
Pharmaceuticals	castor oil	0.96	350	N
	cough syrup	1.0	190	N
	"stomach" remedy slurries	-	1,500	T
	pill pastes	-	5,000 +-	T
Plastic Resins ¹	butadiene	0.94	0.17 at 40°F	-
	polyester resin (typ)	1.4	3,000	T
	PVA resin (typ)	1.3	65,000	-
Starches and Gums	corn starch Sol 22°B	1.18	32	T
	corn starch Sol 25°B	1.21	300	T
Sugars, Syrups, Molasses	corn syrup 41 Be	1.39	15,000 at 60°F	N
	corn syrup 45 Be	1.45	12,000 at 130°F	N
	glucose	1.42	10,000 at 100°F	-
	molasses A	1.42	280 to 5,000 at 100°F	-
	molasses B	1.43 to 1.48	1,400 to 13,000 at 100°F	-
	molasses C	1.46 to 1.49	2,600 to 5,000 at 100°F	-
	sugar syrups	-	-	-
	60 Brix	1.29	75 at 60°F	N
	68 Brix	1.34	360 at 60°F	N
76 Brix	1.39	4,000 at 60°F	N	
Water and Waste Treatment	clarified sewage sludge	1.1	2,000 range	-

¹Wide variety of plastics can be pumped, viscosity varies greatly.

BC/BP-Series Centrifugal Pump - Repair Kits

Repair Kit 1

Series	Model #	Elastomer				Items Included
		Nitrile Rubber	EPDM	Silicone	FKM	
BC	114	PRK1-114B	PRK1-114E	PRK1-114S	PRK1-114V	(1) casing gasket (P90)
	216	PRK1-216B	PRK1-216E	PRK1-216S	PRK1-216V	(1) carbon seal (P80)
	218/328	PRK1-218BB	PRK1-218BE	PRK1-218BS	PRK1-218BV	(1) seal O-ring (P80B) (1) impeller retainer (P24)
BP	114	PRK1-114BP	PRK1-114EP	PRK1-114SP	PRK1-114VP	(1) casing gasket (P90)
	216	PRK1-216BP	PRK1-216EP	PRK1-216SP	PRK1-216VP	(1) carbon seal (P80)
	218/328	PRK1-218BBP	PRK1-218BEP	PRK1-218BSP	PRK1-218BVP	(1) seal O-ring (P80B)
	441	PRK1-441B	PRK1-441E	-	PRK1-441V	(2) impeller O-rings (P25A)

Repair Kit 2

Series	Model #	Elastomer				Items Included
		Nitrile Rubber	EPDM	Silicone	FKM	
BC/BP	114	PRK2-114B	PRK2-114E	PRK2-114S	PRK2-114V	(3) casing gaskets (P90) (3) seal O-rings (P80B) (3) carbon seals (P90)
	216	PRK2-216B	PRK2-216E	PRK2-216S	PRK2-216V	
	218/328	PRK2-218BB	PRK2-218BE	PRK2-218BS	PRK2-218BV	
	441	PRK2-441B	PRK2-441E	-	PRK2-441V	

Repair Kit 3

Series	Model #	Elastomer				Items Included
		Nitrile Rubber	EPDM	Silicone	FKM	
BC/BP	114	PRK3-114B	PRK3-114E	PRK3-114S	PRK3-114V	(1) carbon seal (P80) (1) seal cup (P80A) (1) seal O-ring (P80B) (1) spring (P80C)
	216	PRK3-216B	PRK3-216E	PRK3-216S	PRK3-216V	
	218/328	PRK3-218BB	PRK3-218BE	PRK3-218BS	PRK3-218BV	
	441	PRK3-441B	PRK3-441E	-	PRK3-441V	

Repair Kit 4

Series	Model #	Elastomer				Items Included
		Nitrile Rubber	EPDM	Silicone	FKM	
BC	114	PRK4-114B	PRK4-114E	PRK4-114S	PRK4-114V	(1) casing gasket (P90) (1) carbon seal (P80)
	216	PRK4-216B	PRK4-216E	PRK4-216S	PRK4-216V	(1) seal cup (P80A) (1) seal O-ring (P80B)
	218/328	PRK4-218BB	PRK4-218BE	PRK4-218BS	PRK4-218BV	(1) spring (P80C) (1) impeller retainer (P24)
BP	114	PRK4-114BP	PRK4-114EP	PRK4-114SP	PRK4-114VP	(1) casing gasket (P90)
	216	PRK4-216BP	PRK4-216EP	PRK4-216SP	PRK4-216VP	(1) carbon seal (P80) (1) seal cup (P80A)
	218/328	PRK4-218BBP	PRK4-218BEP	PRK4-218BSP	PRK4-218BVP	(1) seal O-ring (P80B) (1) spring (P80C)
	441	PRK4-441B	PRK4-441E	-	PRK4-441V	(2) impeller O-rings (P25A)

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BC/BP-Series Centrifugal Pump - Repair Kits

DG Repair Kit

Series	Model #	Elastomer	Seal Seat Material			Items Included
			Ceramic	Silicon Carbide	Tungsten Carbide	
BC	114	nitrile rubber	PRKDG-114BCER	PRKDG-114BSC	PRKDG-114BTC	(1) seal seat (P80N) (1) carbon seal (P80) (1) seal cup (P80A) (1) seal O-ring (P80B) (1) spring (P80C) (1) outboard gasket (P80P) (1) inboard gasket (P80R) (1) casing gasket (P90) (1) impeller retainer (P24)
		EPDM	PRKDG-114ECER	PRKDG-114ESC	PRKDG-114ETC	
		silicone	PRKDG-114SCER	PRKDG-114SSC	PRKDG-114STC	
		FKM	PRKDG-114VCER	PRKDG-114VSC	PRKDG-114VTC	
	216	nitrile rubber	PRKDG-216BCER	PRKDG-216BSC	PRKDG-216BTC	
		EPDM	PRKDG-216ECER	PRKDG-216ESC	PRKDG-216ETC	
		silicone	PRKDG-216SCER	PRKDG-216SSC	PRKDG-216STC	
		FKM	PRKDG-216VCER	PRKDG-216VSC	PRKDG-216VTC	
	218/328	nitrile rubber	PRKDG-218BCER	PRKDG-218BSC	PRKDG-218BTC	
		EPDM	PRKDG-218ECER	PRKDG-218ESC	PRKDG-218ETC	
		silicone	PRKDG-218SCER	PRKDG-218SSC	PRKDG-218STC	
		FKM	PRKDG-218VCER	PRKDG-218VSC	PRKDG-218VTC	
BP	114	nitrile rubber	PRKDG-114BCERP	PRKDG-114BSCP	PRKDG-114BTCP	(1) seal seat (P80N) (1) carbon seal (P80) (1) seal cup (P80A) (1) seal O-ring (P80B) (1) spring (P80C) (1) outboard gasket (P80P) (1) inboard gasket (P80R) (1) casing gasket (P90) (2) impeller O-rings (P25A)
		EPDM	PRKDG-114ECERP	PRKDG-114ESCP	PRKDG-114ETCP	
		silicone	PRKDG-114SCERP	PRKDG-114SSCP	PRKDG-114STCP	
		FKM	PRKDG-114VCERP	PRKDG-114VSCP	PRKDG-114VTCP	
	216	nitrile rubber	PRKDG-216BCERP	PRKDG-216BSCP	PRKDG-216BTCP	
		EPDM	PRKDG-216ECERP	PRKDG-216ESCP	PRKDG-216ETCP	
		silicone	PRKDG-216SCERP	PRKDG-216SSCP	PRKDG-216STCP	
		FKM	PRKDG-216VCERP	PRKDG-216VSCP	PRKDG-216VTCP	
	218/328	nitrile rubber	PRKDG-218BCERP	PRKDG-218BSCP	PRKDG-218BTCP	
		EPDM	PRKDG-218ECERP	PRKDG-218ESCP	PRKDG-218ETCP	
		silicone	PRKDG-218SCERP	PRKDG-218SSCP	PRKDG-218STCP	
		FKM	PRKDG-218VCERP	PRKDG-218VSCP	PRKDG-218VTCP	
	441	nitrile rubber	PRKDG-441BCER	PRKDG-441BSC	PRKDG-441BTC	
		EPDM	PRKDG-441ECER	PRKDG-441ESC	PRKDG-441ETC	
		FKM	PRKDG-441VCER	PRKDG-441VSC	PRKDG-441VTC	

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DG Seal Conversion Kit

Series	Model #	Seal Seat Material			Items Included
		Ceramic	Silicon Carbide	Tungsten Carbide	
BC/BP	114	PCK-114DGCER	PCK-114DGSC	PCK-114DGTGTC	(1) DG backplate (P11H) (1) gland ring (P17J) (4) gland bolts (P17K) (1) seal seat (P80N) (1) outboard gasket (P80P) (1) inboard gasket (P80R)
	216	PCK-216DGCER	PCK-216DGSC	PCK-216DGTGTC	
	218/328	PCK-218DGCER	PCK-218BDGSC	PCK-218BDGTGTC	

ExD-Series Centrifugal Pump



High efficiency semi-open impeller designed for conveying low viscosity fluids in a broad range of applications like dairy, food, beverage, winery, and brewing markets.

Certifications

- 3A approved
- Elastomers meet FDA 21CFR 177.2600 and 3A 18-03 Class I

Size

- 1" - 2-1/2" outlet x 1" - 4" inlet

Features

- Seal options
 - Externally balanced seal with clamped in seat
 - Accommodates BC/BP-series DG single mechanical stationary and rotary seals
- Seal design
 - Robust single mechanical seal design with multiple material options
- Casing, front cover, and impeller machined from heavy duty forgings and precision castings
- Set and forget by simply setting the U.S. patent pending shaft sleeve with no gapping of the impeller required, even after a seal change
- Unique adapter slots make pump discharge easily adjustable from 90° to 180° without casing or front cover disassembly
- Wet end mounts to a standard NEMA C-face motor



Materials

- Product contact components: AISI 316L stainless steel, FKM, silicone, EPDM, PTFE
- Non-product contact components: AISI 304 stainless steel
- Product contact seals: 316L stainless steel, carbon, silicon carbide, tungsten carbide, and ceramic

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Specifications

- Standard connection: clamp
- Minimum operating temperature: **32°F (0°C)**
- Maximum operating temperature: **212°F (100°)**
- Viscosity range: 1 - 500 cP
- Surface Finish
 - Product contact metal components: ≤ 32 Ra
 - Non-product contact metal components: ≤ 63 Ra
- Seal type: single mechanical
- Performance characteristics
 - Nominal capacity: up to **500 GPM**
 - Nominal speed: up to 3500 RPM - 60 Hz
- Motors and mounting
 - Motor frame size: NEMA C-face
 - Speeds: 1750 and 3450 RPM
 - Enclosure: TENV or TEFC, stainless steel, or epoxy white washdown
- Cleaning method
 - CIP: clean-in-place

ExD-Series Centrifugal Pump - Part Number Key

ExD-Series Centrifugal Pump Part Number Key Example: EX100ACB1AA_A01		Series	Model	Impeller Key	Inlet/Outlet Connection	Elastomer	Seal Type	Frame Size	Options	Motor Type	Electrical	Motor Power (HP RPM)		
		EX	100	A	C	B	1	A	A	-	A	01		
Series	Code	EX												
ExD	EX													
Model	Code		100											
1" x 1"	100													
1-1/2" x 1"	110													
2" x 1-1/2"	120													
2-1/2" x 1-1/2"	130													
2-1/2" x 2"	200													
3" x 2"	210													
3" x 2-1/2"	220													
4" x 2-1/2"	230													
Impeller Key	Code			A										
-	-													
Inlet/Outlet Connection	Code		C											
Clamp x clamp	C													
Weld x weld	B													
Elastomer	Code				B									
Nitrile rubber	B													
EPDM/EPDM	E													
Silicone/EPDM	S													
FKM	V													
Seal Type	Code			1										
Single mechanical SC/C	1													
Single mechanical TC/TC	2													
Single mechanical CER/C	3													
Single mechanical SC/SC	4													
Frame Size	Code		A											
56C	A													
143/145TC	B													
182/184TC	C													
213/215TC	D													
254/256TC	E													
Options*	Code			A										
Drain A	A													
Drain D	D													
Drain J	J													
Drain K	K													
None	N													
Motor Type	Code		-											
Contact Dixon Sanitary for motor options at 800.789.1718.														
Electrical	Code				A									
1Ph/60 Hz 115/230V	A													
3Ph/60 Hz 208-230/460V	B													
3Ph/60 Hz/575V	C													
3Ph/50 Hz/190/380V	D													
3Ph/50 Hz/380/460V	E													
3Ph/50 Hz/220/380/440V	F													
3Ph/50 Hz 220/380/415V	G													

Model #	A	B	C	D	E	F	G	H	I
100/110	4.0	3.8	3.6	3.4	3.2	3.0	2.8	-	-
200/210	7.0	6.6	6.2	5.8	5.4	5.2	4.8	-	-
120/130	6.0	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
220/230	7.3	6.9	6.5	6.0	5.6	5.2	4.8	-	-

*Drain options can be found on page 415.



ExD-Series Centrifugal Pump - Part Number Key

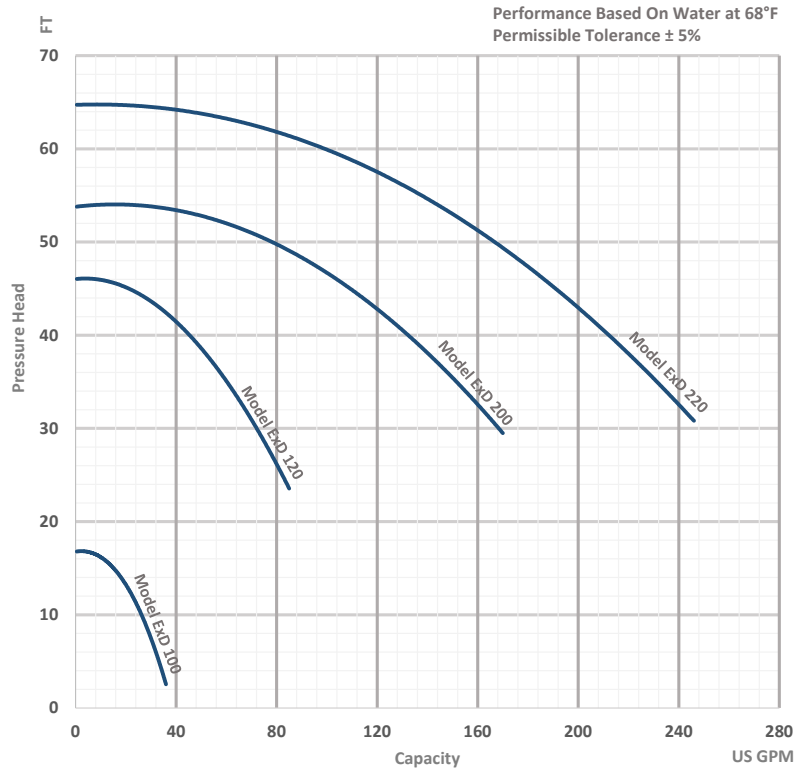
ExD-Series Centrifugal Pump Part Number Key Example: EX100ACB1AA_A01		Series	Model	Impeller Key	Inlet/Outlet Connection	Elastomer	Seal Type	Frame Size	Options	Motor Type	Electrical	Motor Power (HP RPM)
		EX	100	A	C	B	1	A	A	-	A	01
Motor Power (HP RPM)	Code											
1/3 1750	01	←										
1/2 1750	02											
3/4 1750	03											
1 1750	04											
1-1/2 1750	05											
2 1750	06											
3 1750	07											
5 1750	08											
7-1/2 1750	09											
10 1750	10											
15 1750	11											
20 1750	12											
25 1750	13											
30 1750	14											
40 1750	15											
50 1750	16											
60 1750	17											
1/3 3500	18											
1/2 3500	19											
3/4 3500	20											
1 3500	21											
1-1/2 3500	22											
2 3500	23											
3 3500	24											
5 3500	25											
7-1/2 3500	26											
10 3500	27											
15 3500	28											
20 3500	29											
25 3500	30											
30 3500	31											
40 3500	32											
50 3500	33											
60 3500	34											

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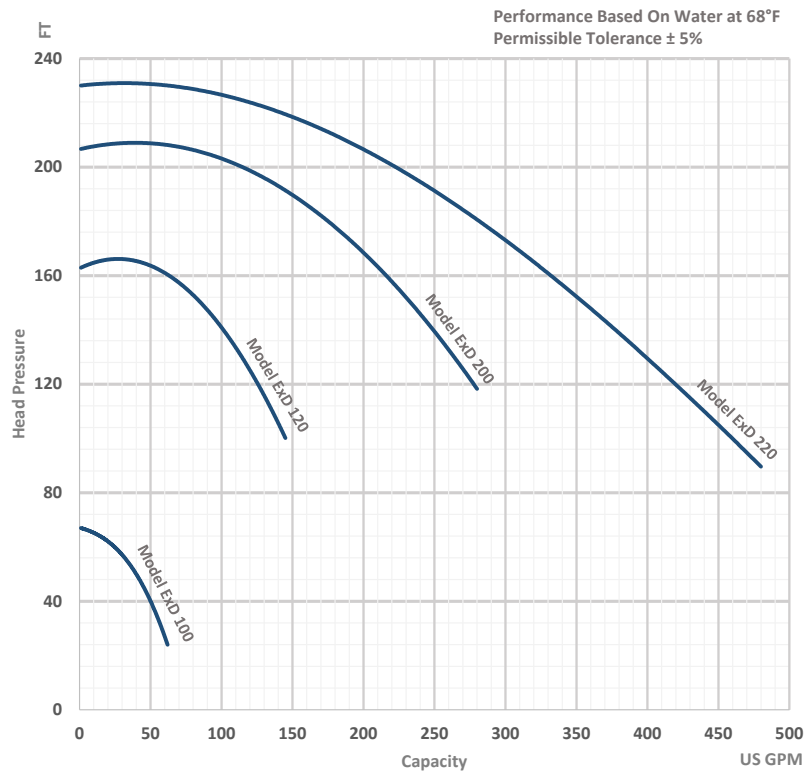
NOTE: Fluid end includes all parts required to assemble to your motor.
 Specify adjustable leg kits at time of order. Leg kits will be shipped to match the frame size as specified by model number.
 Leg kits will not be assembled.
 If there are options that are not listed above, please contact Dixon Sanitary for availability and pricing.

ExD-Series Centrifugal Pump - Pump Curves

1750 RPM

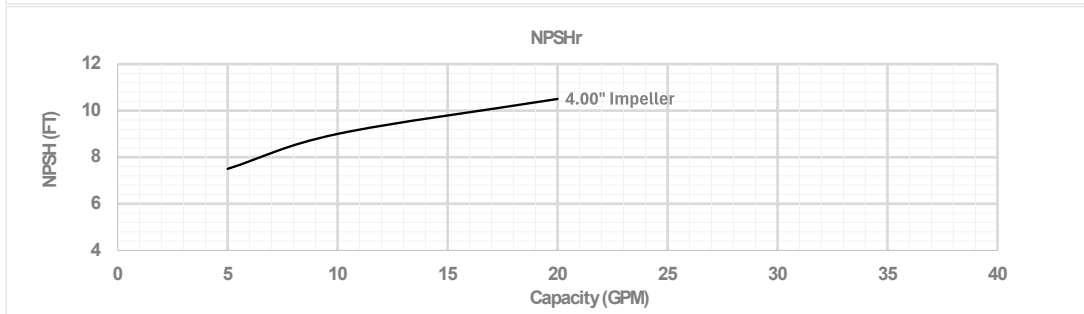
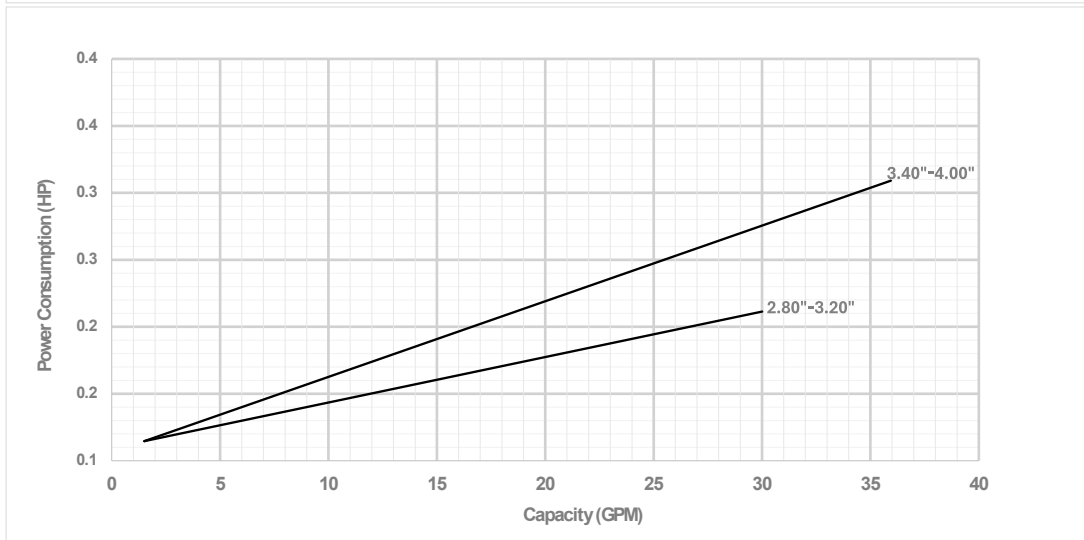
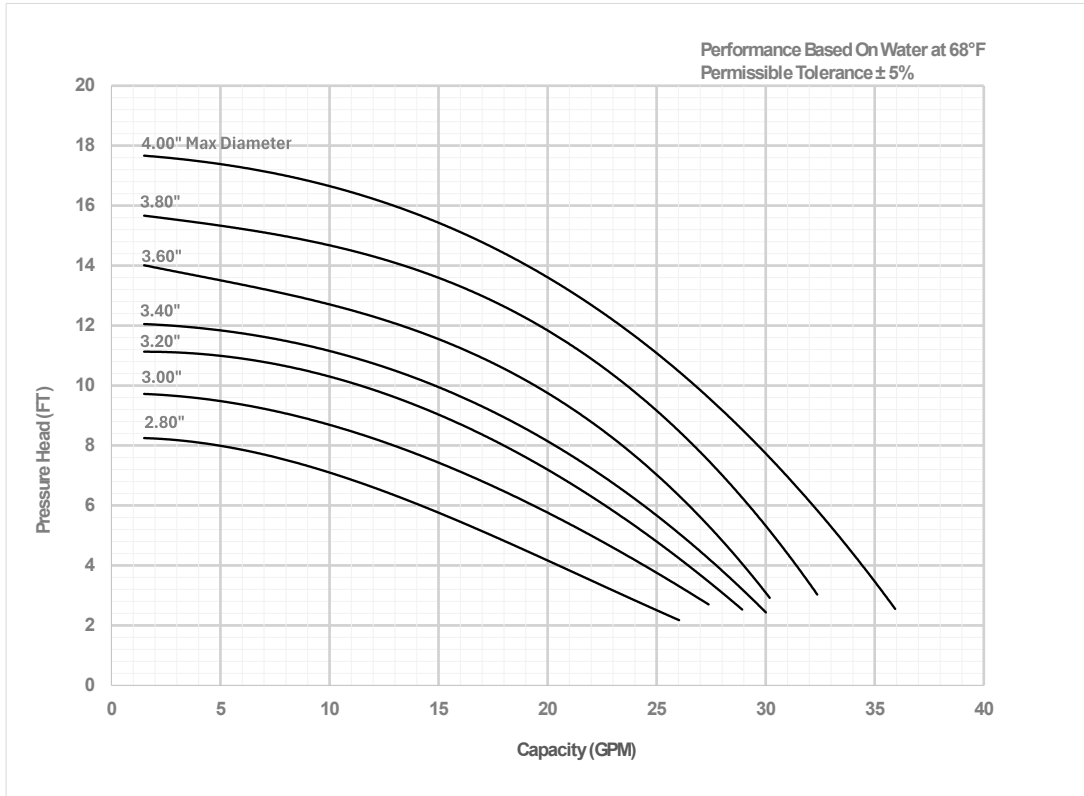


3500 RPM



ExD-Series Centrifugal Pump - Pump Curves

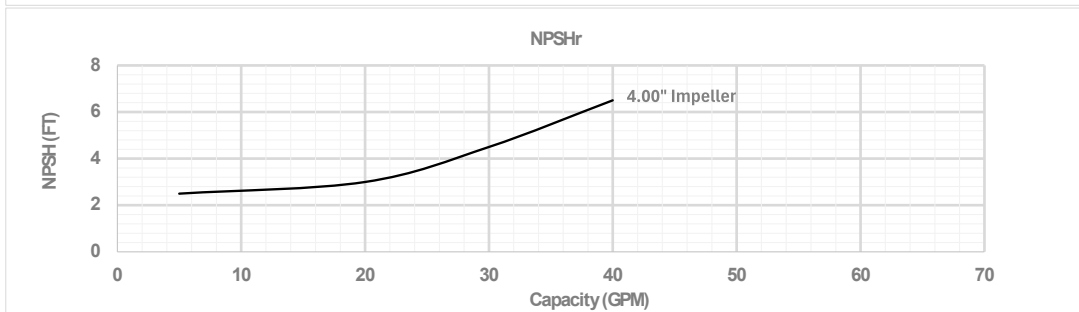
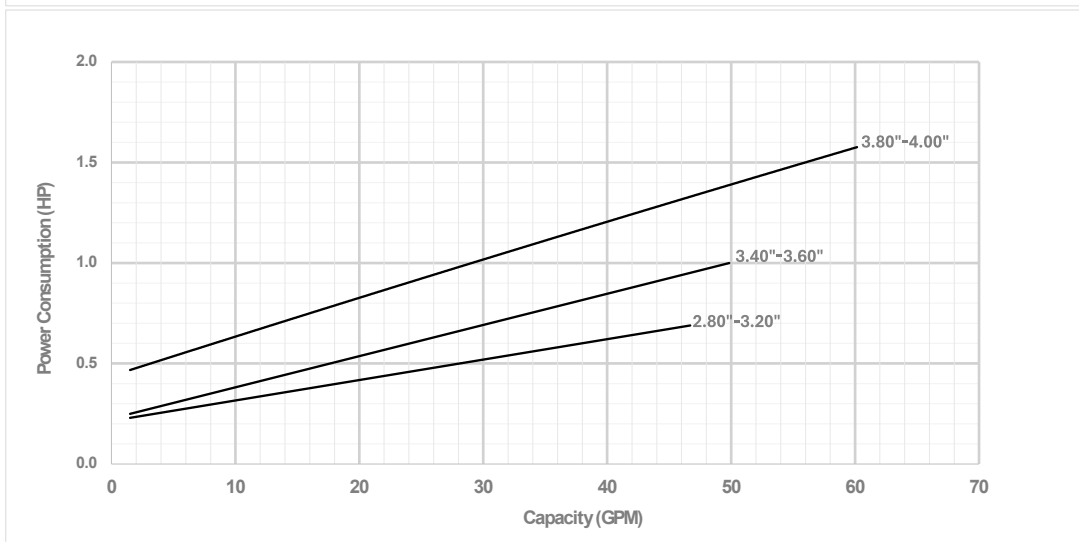
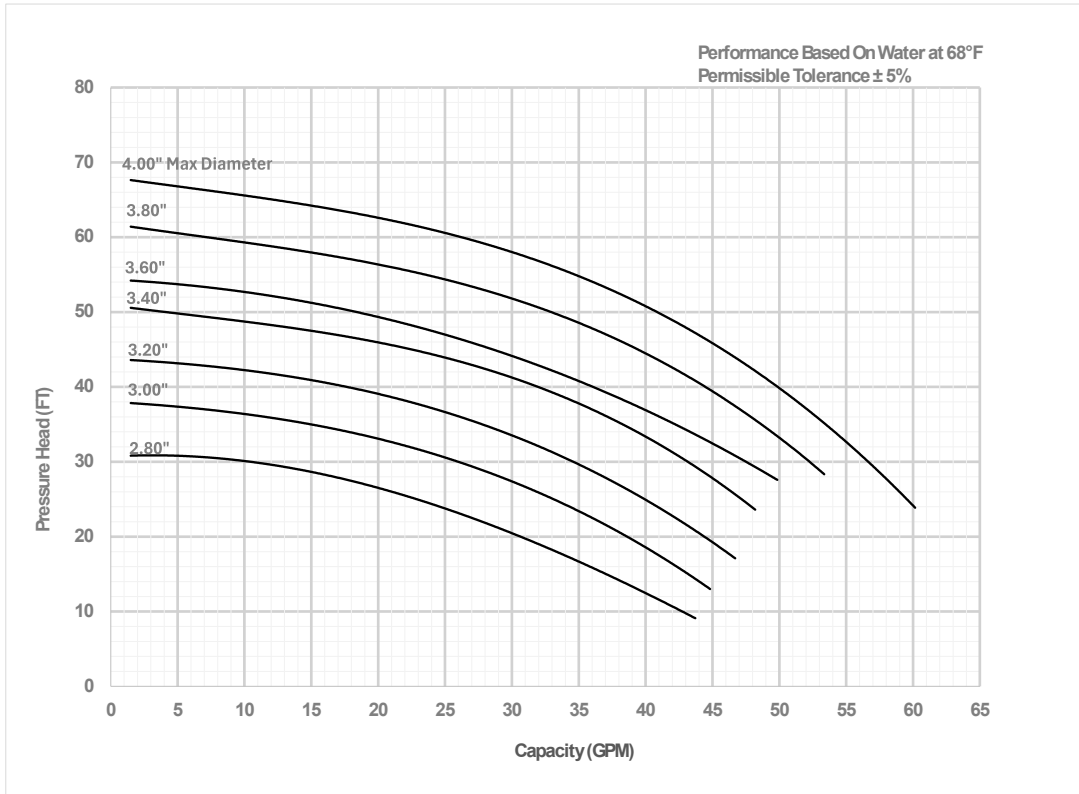
ExD 100-110 - 1750 RPM



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ExD-Series Centrifugal Pump - Pump Curves

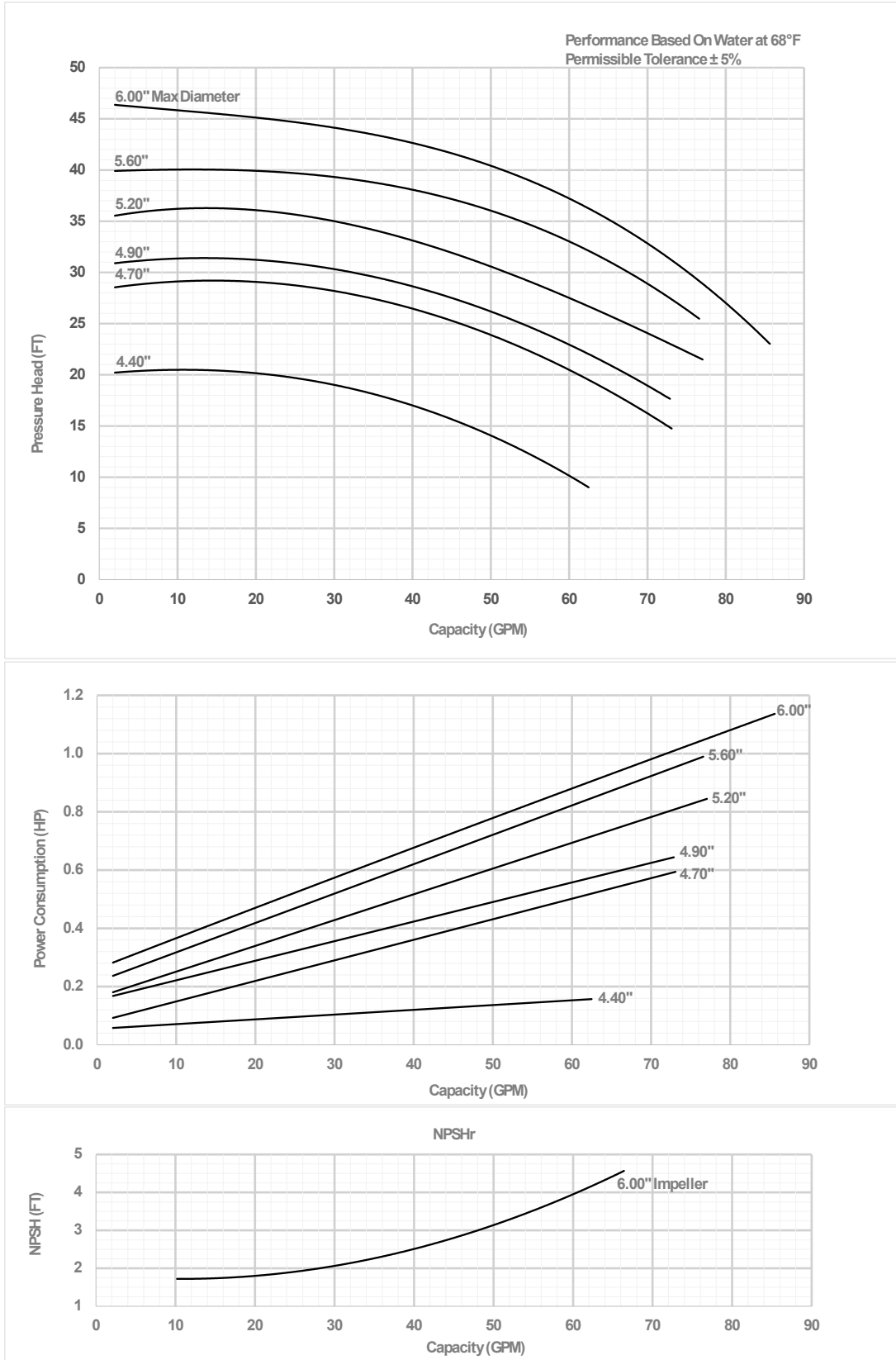
ExD 100-110 - 3500 RPM



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ExD-Series Centrifugal Pump - Pump Curves

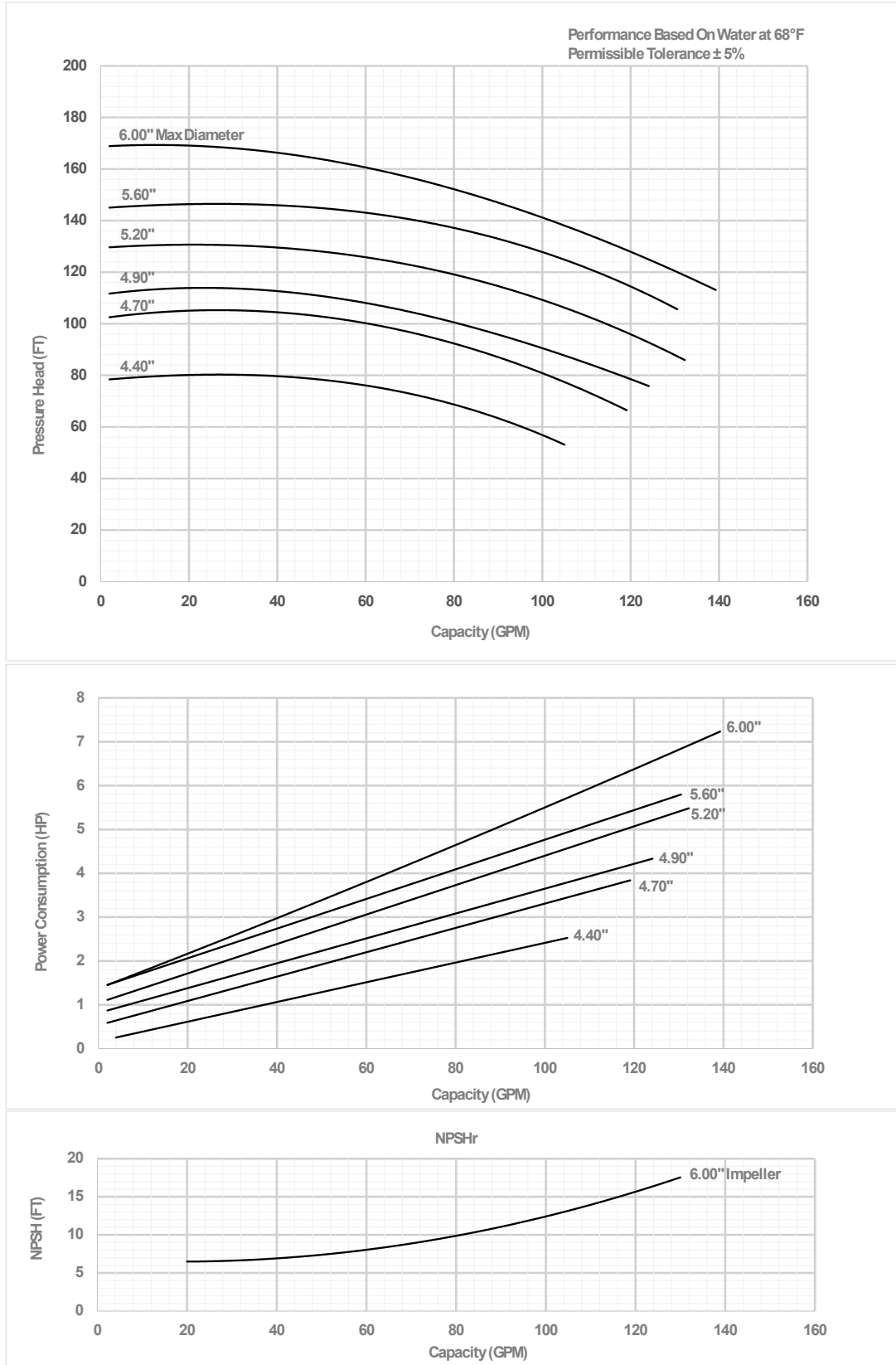
ExD 120-130 - 1750 RPM



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ExD-Series Centrifugal Pump - Pump Curves

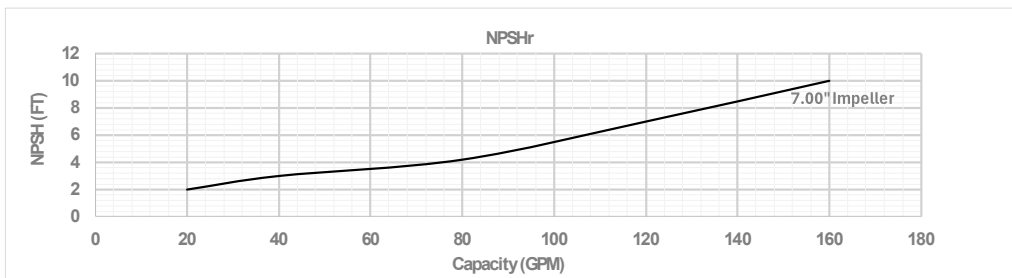
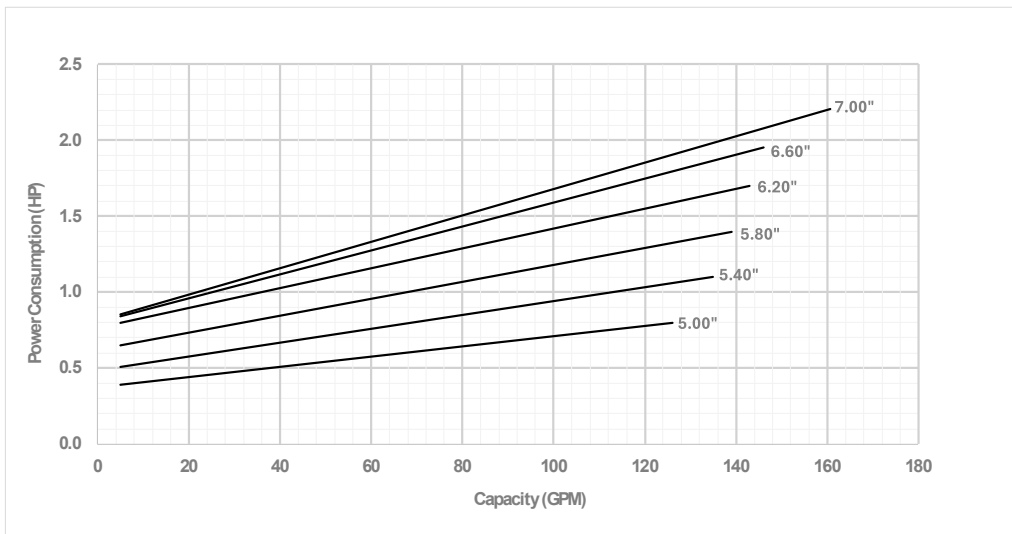
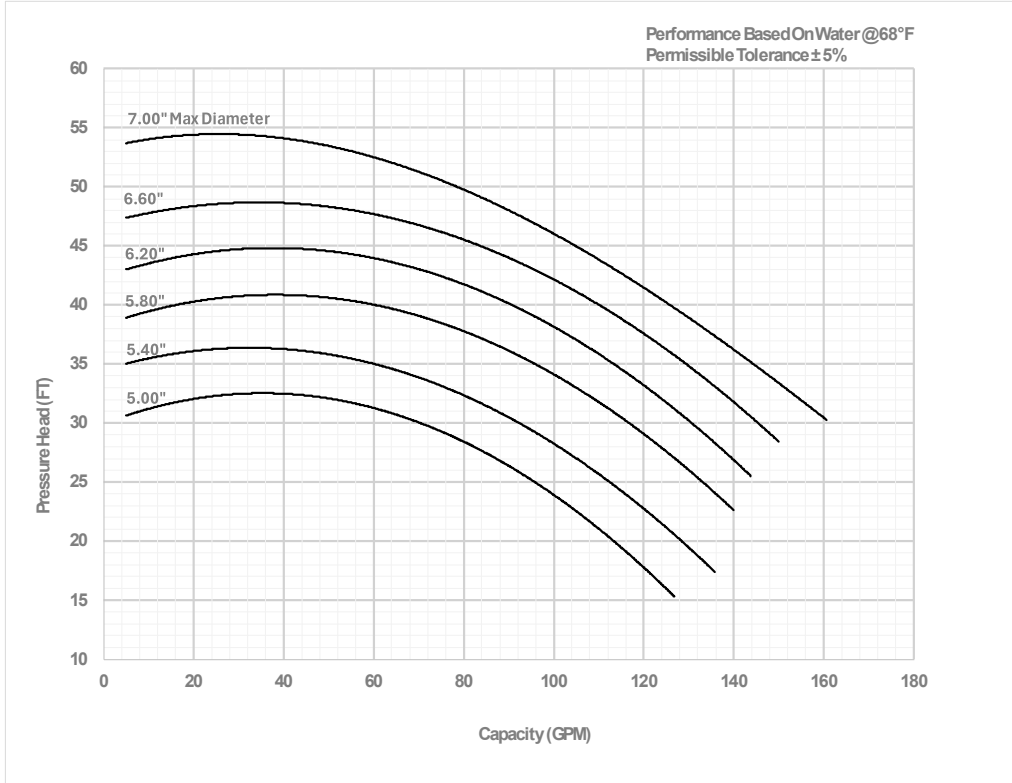
ExD 120-130 - 3500 RPM



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ExD-Series Centrifugal Pump - Pump Curves

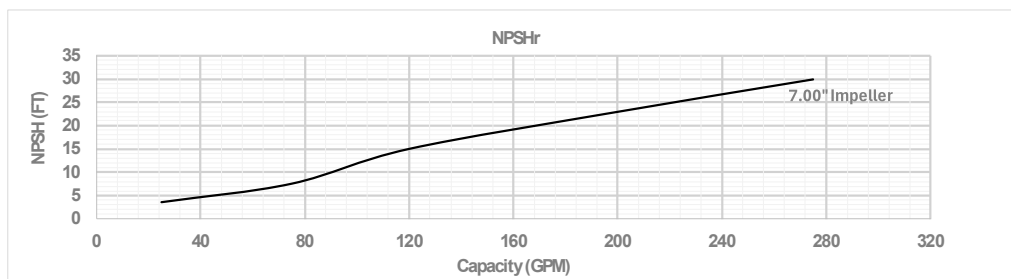
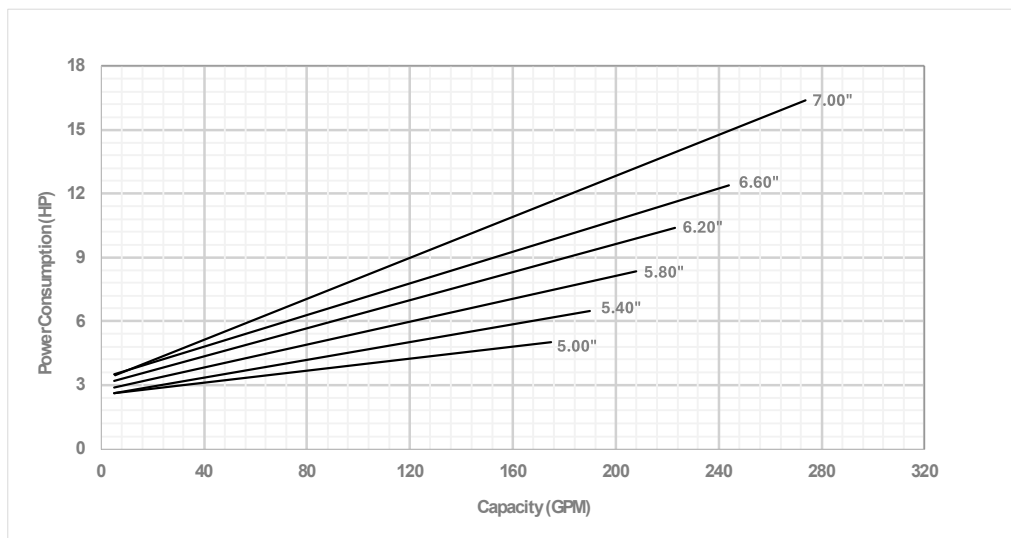
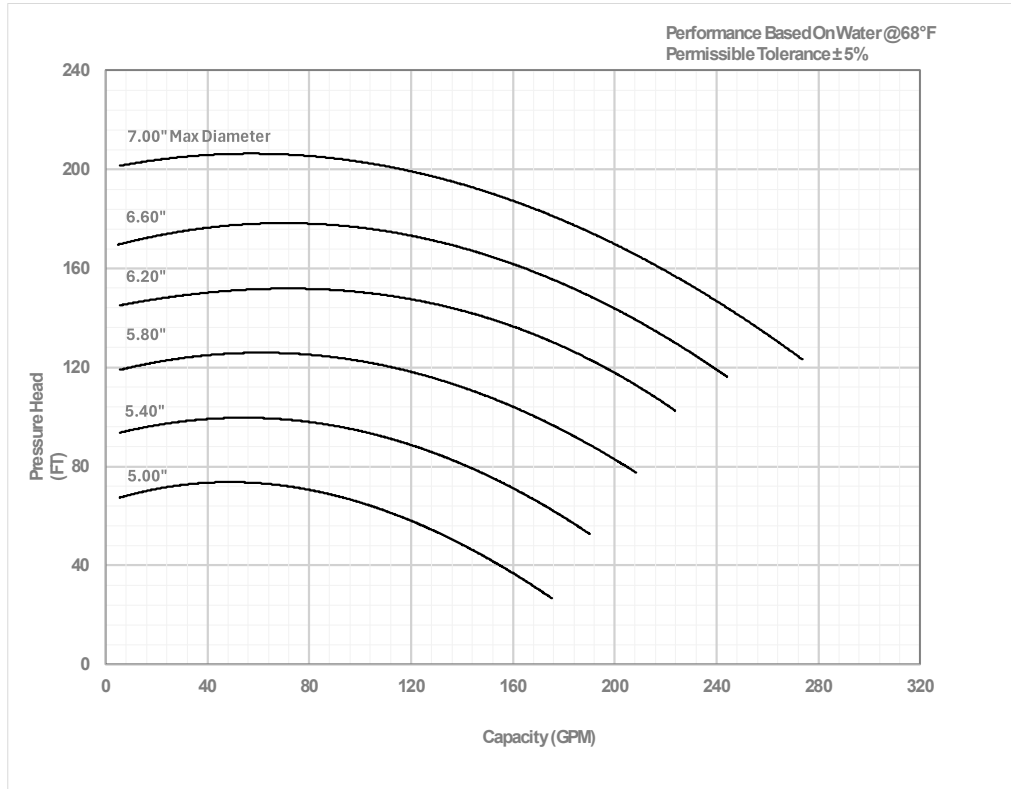
ExD 200-210 - 1750 RPM



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ExD-Series Centrifugal Pump - Pump Curves

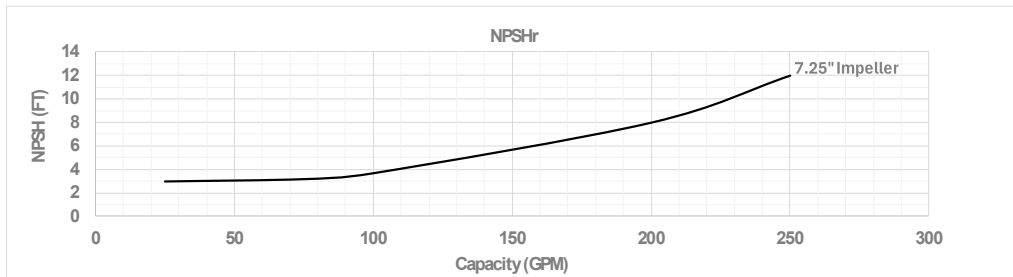
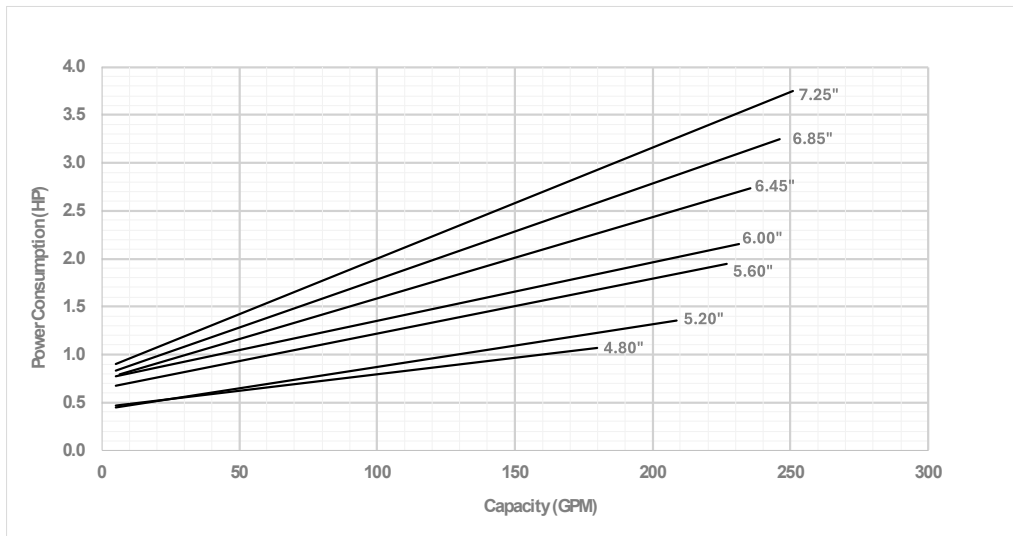
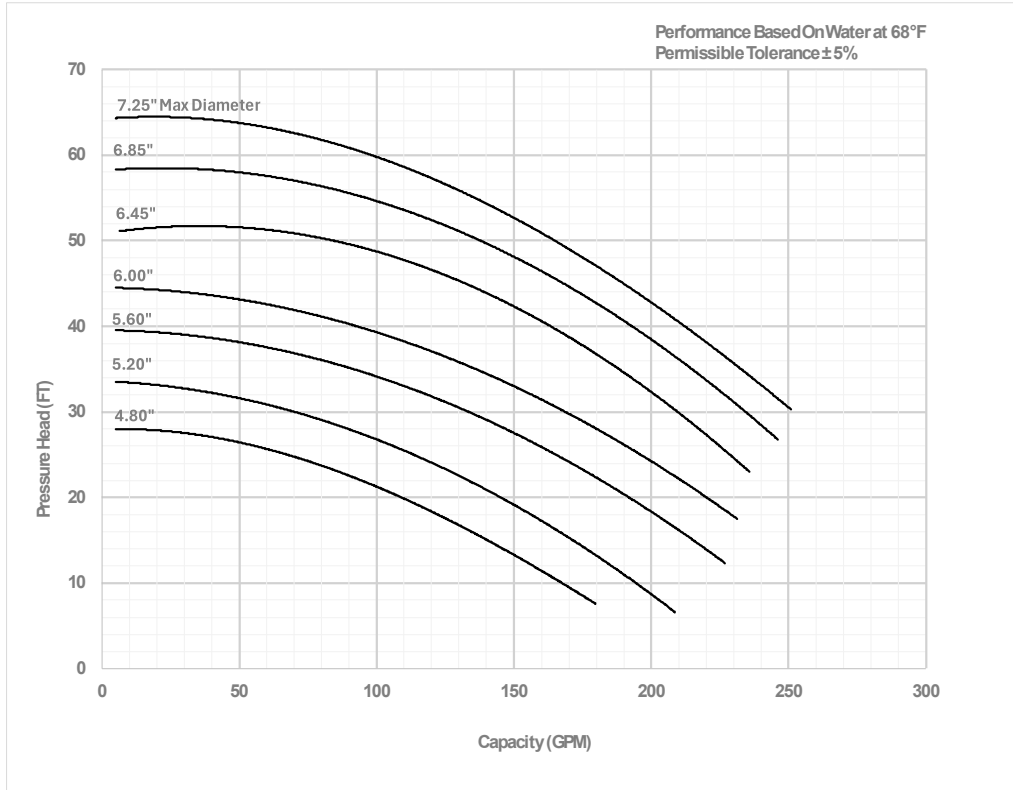
ExD 200-210 - 3500 RPM



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ExD-Series Centrifugal Pump - Pump Curves

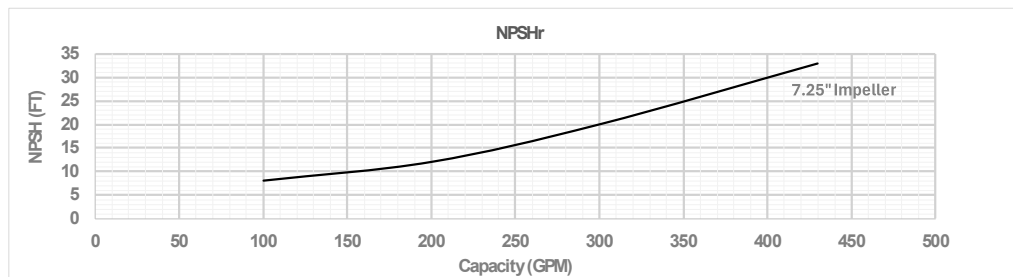
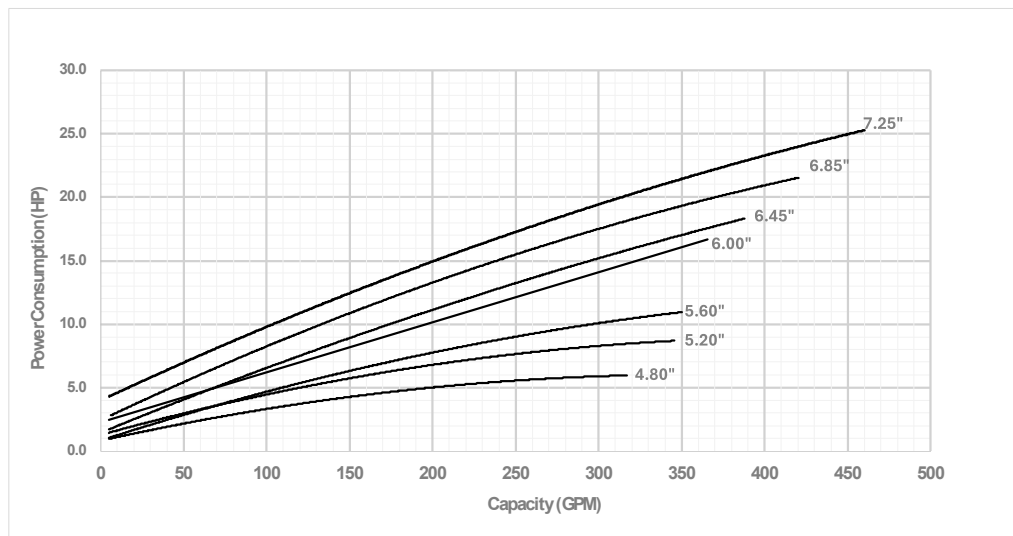
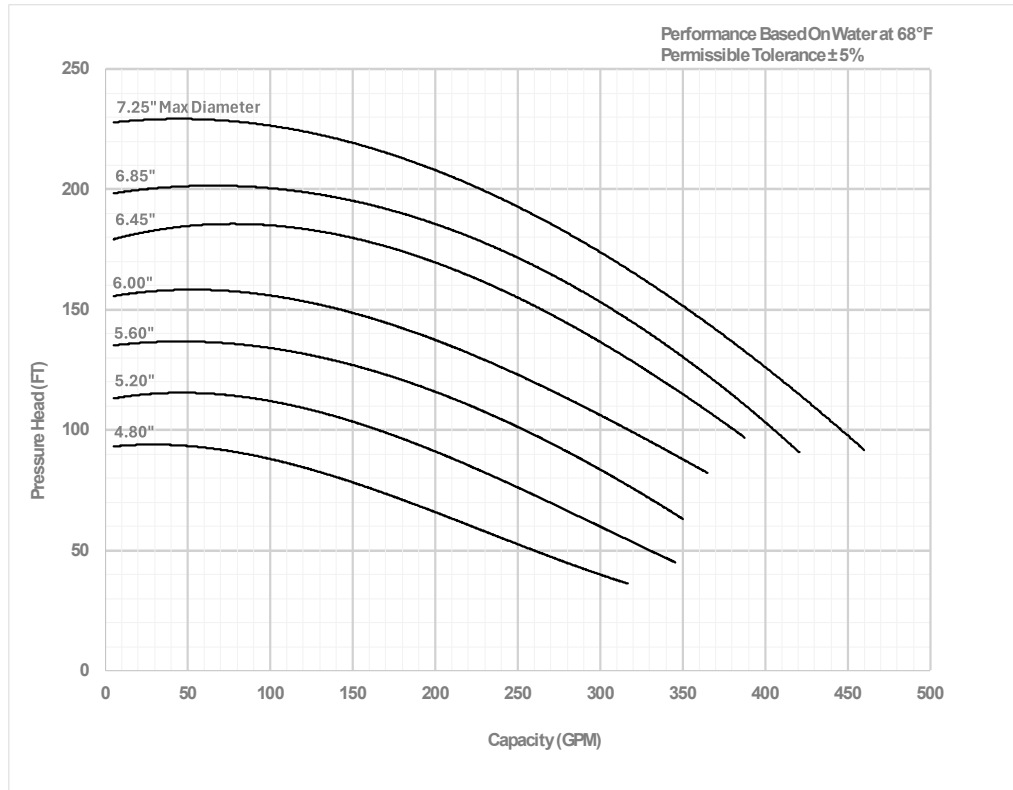
ExD 220-230 - 1750 RPM



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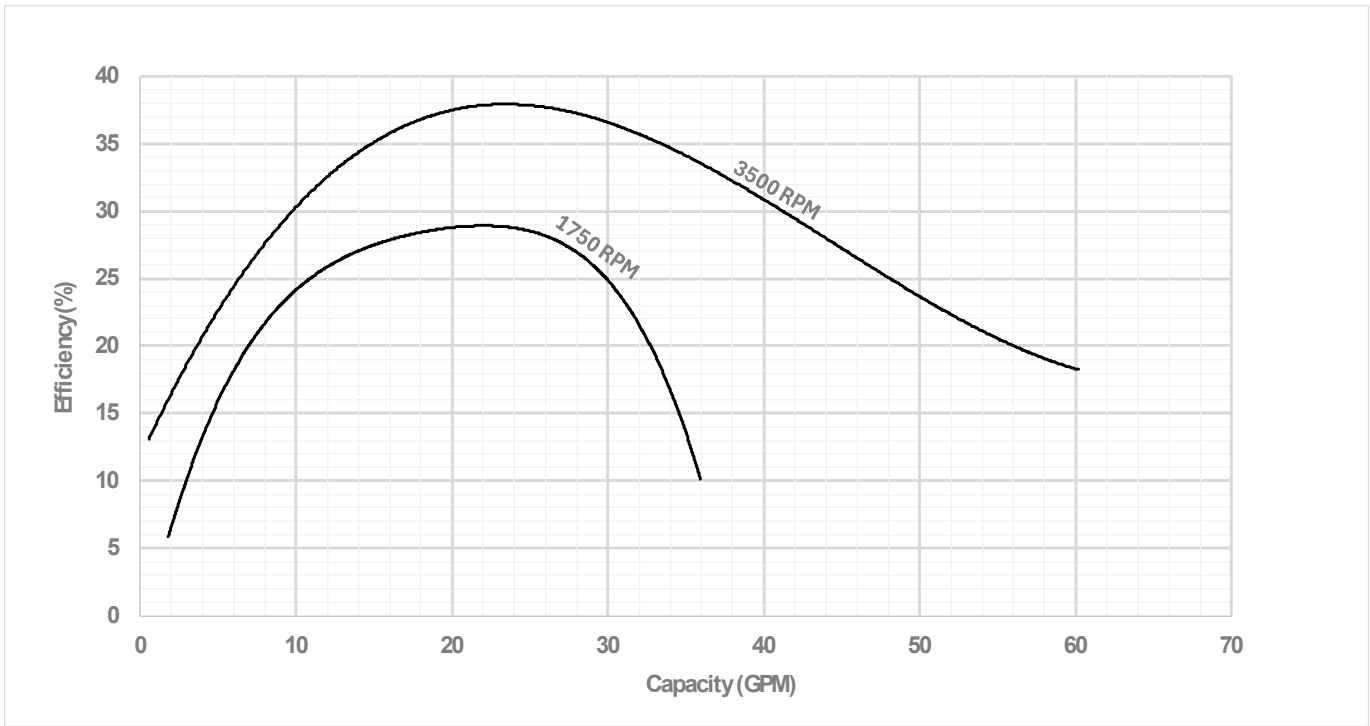
ExD-Series Centrifugal Pump - Pump Curves

ExD 220-230 - 3500 RPM

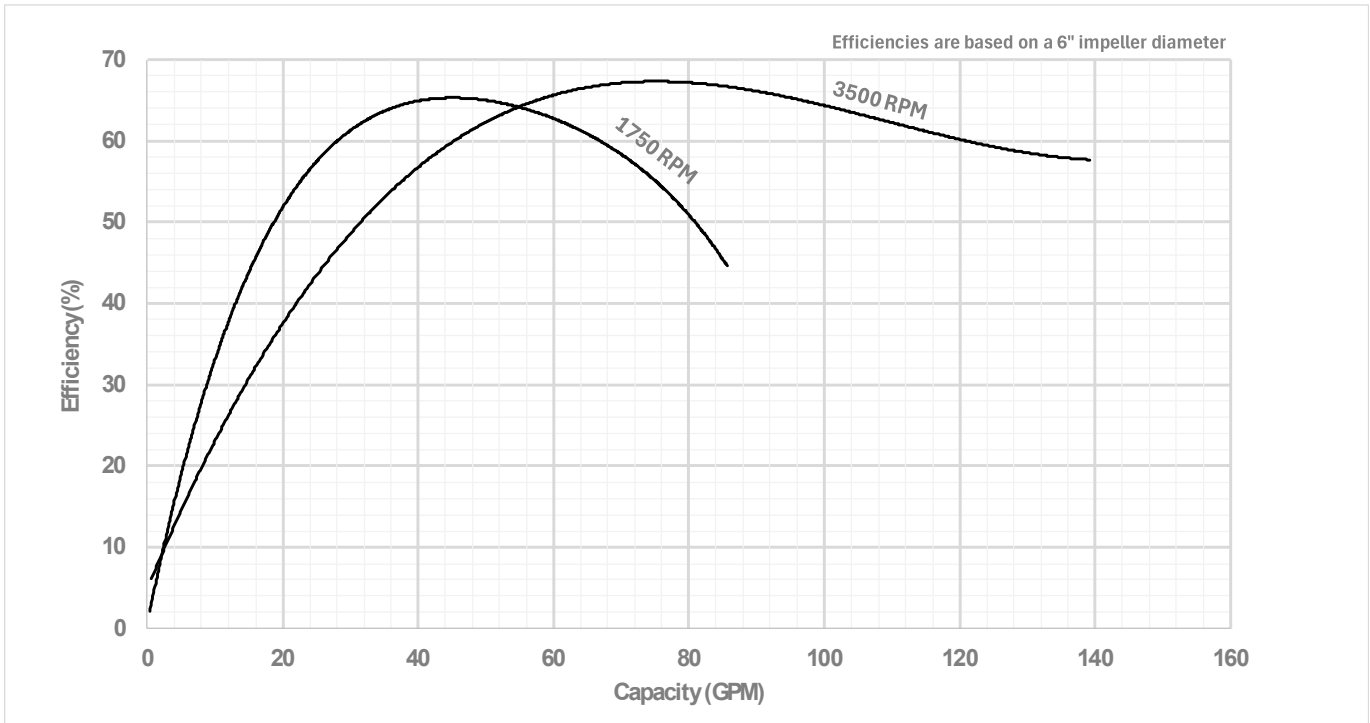


ExD-Series Centrifugal Pump - Pump Curves

ExD 100-110

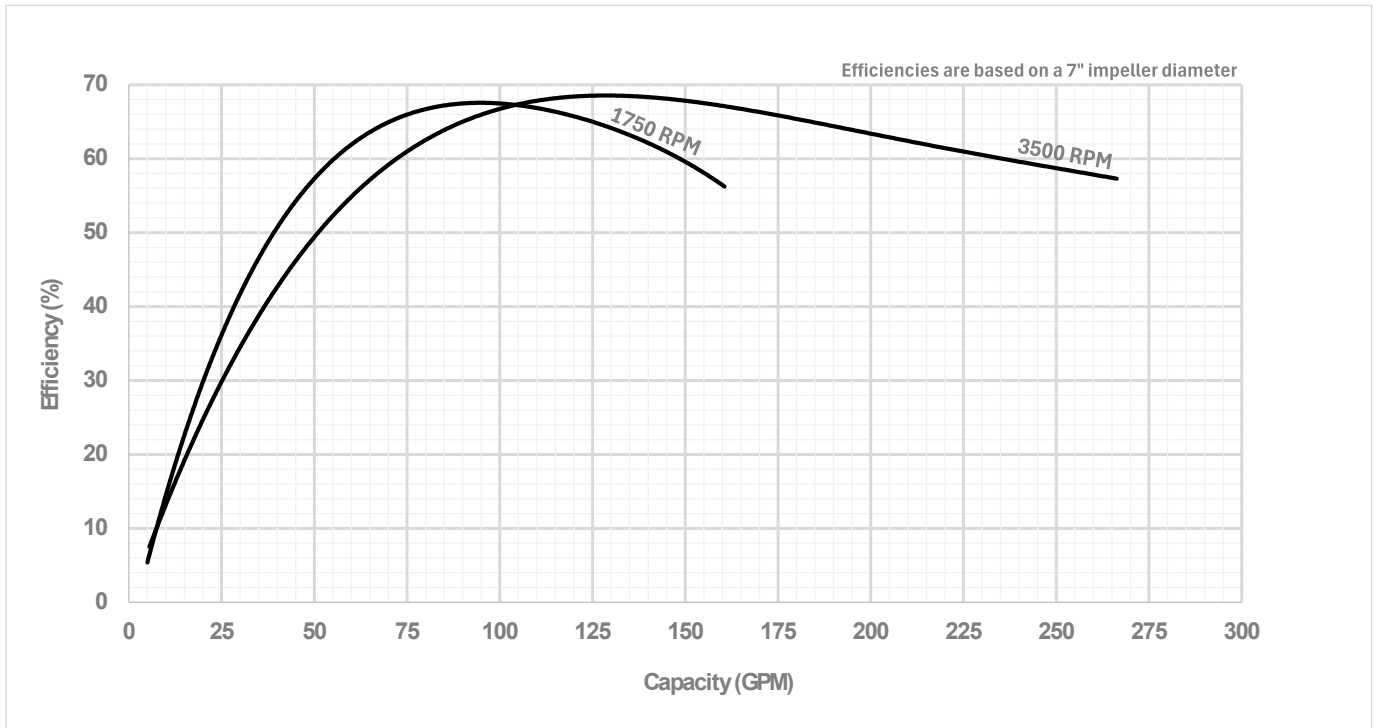


ExD 120-130

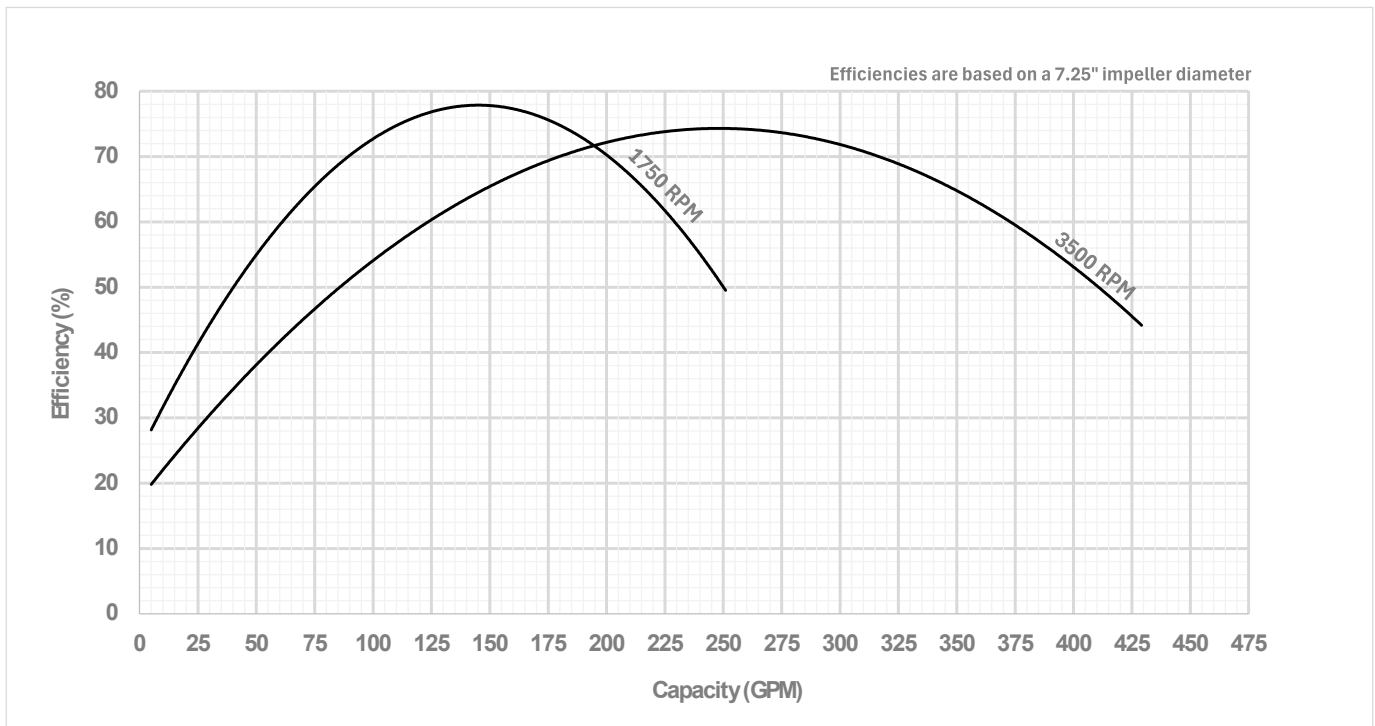


ExD-Series Centrifugal Pump - Efficiency Curves

ExD 200-210

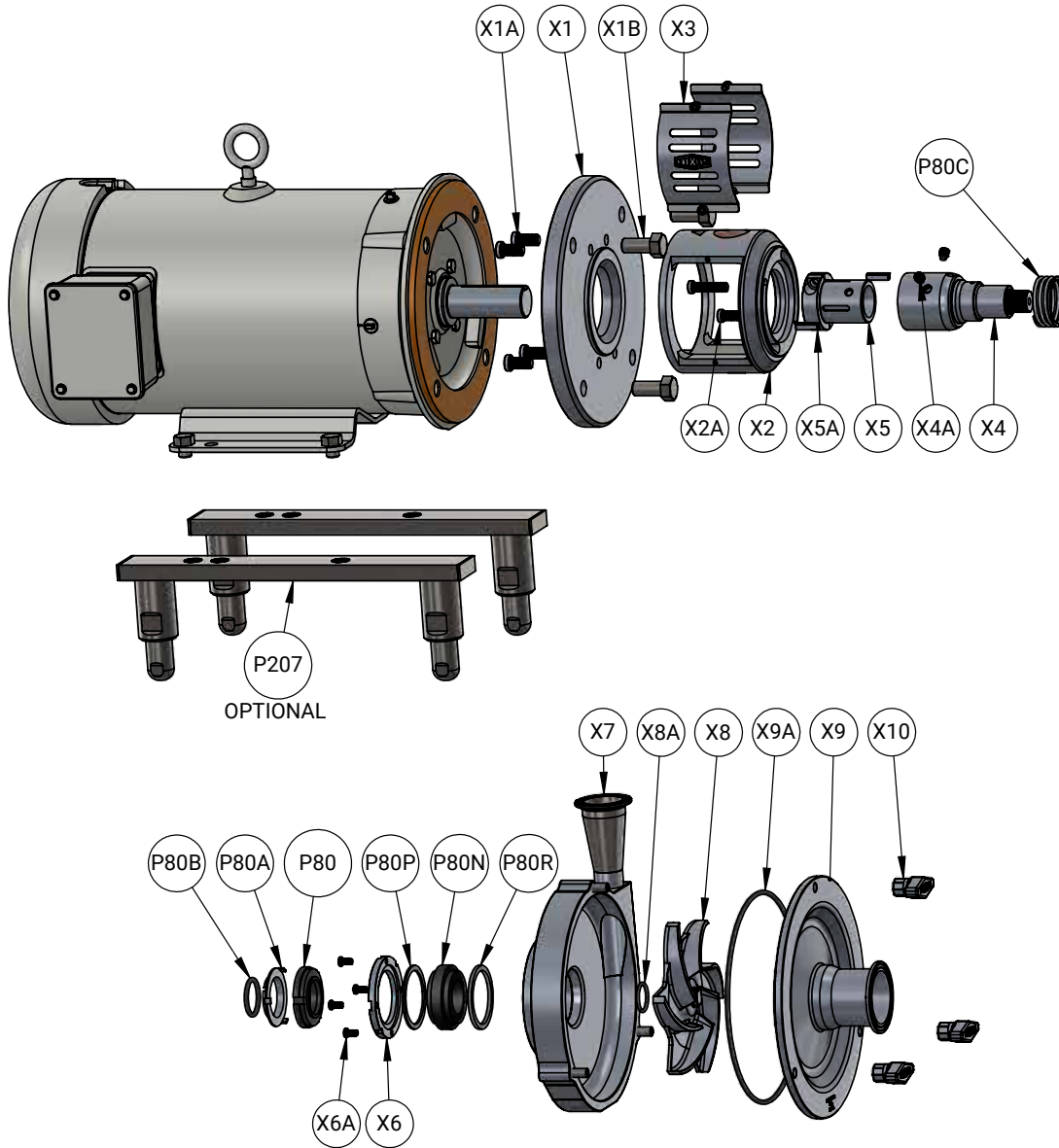


ExD 220-230



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-Series Centrifugal Pump - Bill of Materials



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ExD-Series Centrifugal Pump - Bill of Materials

ExD 100-110

Item #	Part #	Description	Qty
X1*	X1-100-5614AMF	100 series adapter to motor flange 56C and 143TC to 145TC	1
	X1-100-18AMF	100 series adapter to motor flange 182TC to 184 TC	1
X1A	X1A-100-FAB	100 series flange to adapter bolts	4
X1B*	X1B-100-FMB56	100 series flange to motor bolts and lock washers 56TC to 140TC frame	4
	X1B-100-FMB18	100 series flange to motor bolts and lock washers 180TC to 250TC frame	4
X2	X2-100-ADP	100 series adapter	1
X2A	X2A-100-ACB	100 series adapter to casing bolts and shaft sleeve bolts	4
X3	X3-100-GRD	100 series guard set with bolts	1
X4	X4-100-SH	100 series stub shaft	1
X4A	X4A-100-DPSS	100 series shaft dog point set screw	2
X5*	X5-100-SL56	100 series shaft sleeve for 56C frame	1
	X5-100-SL14	100 series shaft sleeve for 143TC to 145TC frame	1
	X5-100-SL18	10 series shaft sleeve for 182TC to 184TC frame	1
X5A	X5A-100-SKEY	100 series shaft sleeve key	2
X6	X6-100-SG	100 series seal gland	1
X6A	X6A-100-SGB	100 series seal gland bolt	4
P80*	P80-216CS	carbon rotary seal	1
	P80-216SC	silicon carbide rotary seal	1
	P80-216TC	tungsten carbide rotary seal	1
P80A	P80A-216CP	seal cup	1
P80B*	P80B-216SOE	seal O-ring EPDM	1
	P80B-216SOV	seal O-ring FKM	1
	P80B-216SOB	seal O-ring nitrile rubber	1
P80C	P80C-216SG	seal spring	1
P80P	P80P-216OG	stationary outboard gasket	1
P80N*	P80N-216SC	stationary seal silicon carbide	1
	P80N-216CER	stationary seal ceramic	1
	P80N-216TC	stationary seal tungsten carbide	1
P80R	P80R-216IG	stationary inboard gasket	1
X7	X7-100-CASE-C	100-110 series pump casing with clamp outlet	1
X8	X8-100-A400	100-110 series impeller 4" max diameter	1
	X8-100-AXXXX	100-110 series trimmed impeller	1
X8A*	X8A-100-IORE	100 series impeller O-ring EPDM	1
	X8A-100-IORV	100 series impeller O-ring FKM	1
	X8A-100-IORB	100 series O-ring nitrile rubber	1
X9*	X9-100-CVR-C	100 series pump cover with clamp inlet 1"	1
	X9-110-CVR-C	110 series pump cover with clamp inlet 1-1/2"	1
X9A*	X9A-100-COR-E	100-110 series cover/casing O-ring EPDM	1
	X9A-100-COR-V	100-110 series cover/casing O-ring FKM	1
	X9A-100-COR-B	100-110 series cover/casing O-ring nitrile rubber	1
X10	X10-100-WN	cover wing nuts	3

*Denotes variable parts

ExD-Series Centrifugal Pump - Bill of Materials

ExD 120-130

Item #	Part #	Description	Qty
X1*	X1-100-5614AMF	100 series adapter to motor flange 56C and 143TC to 145TC	1
	X1-100-18AMF	100 series adapter to motor flange 182TC to 184TC	1
X1A	X1A-100-FAB	100 series flange to adapter bolts	4
X1B*	X1B-100-FMB56	100 series flange to motor bolts and lock washers 56TC to 140TC frame	4
	X1B-100-FMB18	100 series flange to motor bolts and lock washers 180TC to 250TC frame	4
X2	X2-100-ADP	100 series adapter	1
X2A	X2A-100-ACB	100 series adapter to casing bolts and shaft sleeve bolts	4
X3	X3-100-GRD	100 series guard set with bolts	1
X4	X4-100-SH	100 series stub shaft	1
X4A	X4A-100-DPSS	100 series shaft dog point set screw	2
X5*	X5-100-SL56	100 series shaft sleeve for 56C frame	1
	X5-100-SL14	100 series shaft sleeve for 143TC to 145TC frame	1
	X5-100-SL18	100 series shaft sleeve for 182TC to 184TC frame	1
X5A	X5A-100-SKEY	100 series shaft sleeve key	2
X6	X6-100-SG	100 series seal gland	1
X6A	X6A-100-SGB	100 series seal gland bolt	4
P80*	P80-216CS	carbon rotary seal	1
	P80-216SC	silicon carbide rotary seal	1
	P80-216TC	tungsten carbide rotary seal	1
P80A	P80A-216CP	seal cup	1
P80B*	P80B-216SOE	seal O-ring EPDM	1
	P80B-216SOV	seal O-ring FKM	1
	P80B-216SOB	seal O-ring nitrile rubber	1
P80C	P80C-216SG	seal spring	1
P80P	P80P-216OG	stationary outboard gasket	1
P80N*	P80N-216SC	stationary seal silicon carbide	1
	P80N-216CER	stationary seal ceramic carbide	1
	P80N-216TC	stationary seal tungsten carbide	1
P80R	P80R-216IG	stationary inboard gasket	1
X7	X7-120-CASE-C	120-130 series pump casing with clamp outlet	1
X8	X8-120-A600	120-130 series impeller 6" max diameter	1
	X8-120-AXXXX	120-130 series trimmed impeller	1
X8A	X8A-100-IORE	100 series impeller O-ring EPDM	1
	X8A-100-IORV	100 series impeller O-ring FKM	1
	X8A-100-IORB	100 series impeller O-ring nitrile rubber	1
X9*	X9-120-CVR-C	120 series pump cover with clamp inlet 2"	1
	X9-130-CVR-C	130 series pump cover with clamp inlet 2-1/2"	1
X9A*	X9A-120-COR-E	120-130 series cover/casing O-ring EPDM	1
	X9A-120-COR-V	120-130 series cover/casing O-ring FKM	1
	X9A-120-COR-B	120-130 series cover/casing O-ring nitrile rubber	1
X10	X10-100-WN	cover wing nuts	3

Casing Drain Options: ExD 100, 110, 120, and 130

Item #	Part #	Description	Qty
X7	X7-100-CASE-C-A	ExD 100-110 pump casing with clamp outlet, Drain A	1
	X7-100-CASE-C-D	ExD 100-110 pump casing with clamp outlet, Drain D	1
	X7-100-CASE-C-J	ExD 100-110 pump casing with clamp outlet, Drain J	1
	X7-100-CASE-C-K	ExD 100-110 pump casing with clamp outlet, Drain K	1
	X7-120-CASE-C-A	ExD 120-130 pump casing with clamp outlet, Drain A	1
	X7-120-CASE-C-D	ExD 120-130 pump casing with clamp outlet, Drain D	1
	X7-120-CASE-C-J	ExD 120-130 pump casing with clamp outlet, Drain J	1
	X7-120-CASE-C-K	ExD 120-130 pump casing with clamp outlet, Drain K	1

*Denotes variable parts

ExD-Series Centrifugal Pump - Bill of Materials

ExD 200-210

Item #	Part #	Description	Qty
X1	X1-200-1825AMF	200 series adapter to motor flange 182TC to 184TC to 254TC to 256TC	1
X1A	X1A-100-FAB	100 series flange to adapter bolts	4
X1B*	X1B-100-FMB18	100 series flange to motor bolts and lock washers 180TC to 250TC frame	4
X2	X2-200-ADP	200 series adapter	1
X2A	X2A-200-ACB	200 series adapter to casing bolts and shaft sleeve bolts	4
X3	X3-200-GRD	200 series guard set with bolts	2
X4	X4-200-SH	200 series stub shaft	1
X4A	X4-200-DPSS	200 series shaft dog point set screw	2
X5*	X5-200-SL18	200 series shaft sleeve for 182TC to 184TC frame	1
	X5-200-SL21	200 series shaft sleeve for 213TC to 215TC frame	1
	X5-200-SL25	200 series shaft sleeve for 254TC to 256TC frame	1
X5A	X5A-200-SKEY	200 series shaft sleeve key	2
X6	X6-200-SG	200 series seal gland	1
X6A	X6A-200-SGB	200 series seal gland bolt	4
P80*	P80-218BCS	carbon rotary seal	1
	P80-218BSC	silicon carbide rotary seal	1
	P80-218BTC	tungsten carbide rotary seal	1
P80A	P80A-218BCP	seal cup	1
P80B*	P80B-218BSOE	seal O-ring EPDM	1
	P80B-218BSOV	seal O-ring FKM	1
	P80B-218BSOB	seal O-ring nitrile rubber	1
P80C	P80C-218BSG	seal spring	1
P80P	P80P-218BOG	stationary outboard gasket	1
P80N*	P80N-218BSC	stationary seal silicon carbide	1
	P80N-218BCER	stationary seal ceramic	1
	P80N-218BTC	stationary seal tungsten carbide	1
P80R	P80R-218BIG	stationary inboard gasket	1
X7	X7-200-CASE-C	200-210 series pump casing with clamp outlet	1
X8	X8-200-A700	200-210 series impeller 7" max diameter	1
	X8-200-AXXXX	200-210 series trimmed impeller	1
X8A*	X8A-200-IORE	200 series impeller O-ring EPDM	1
	X8A-200-IORV	200 series impeller O-ring FKM	1
	X8A-200-IORB	200 series impeller O-ring nitrile rubber	1
X9	X9-200-CVR-C	200 series pump cover with clamp inlet 2-1/2"	1
	X9-210-CVR-C	210 series pump cover with clamp inlet 3"	1
X9A*	X9A-200-COR-E	200-210 series cover/casing O-ring EPDM	1
	X9A-200-COR-V	200-210 series cover/casing O-ring FKM	1
	X9A-200-COR-B	200-210 series cover/casing O-ring nitrile rubber	1
X10	X10-200-WN	200 series cover wing nuts	4

*Denotes variable parts

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ExD-Series Centrifugal Pump - Bill of Materials

ExD 220 / ExD 230

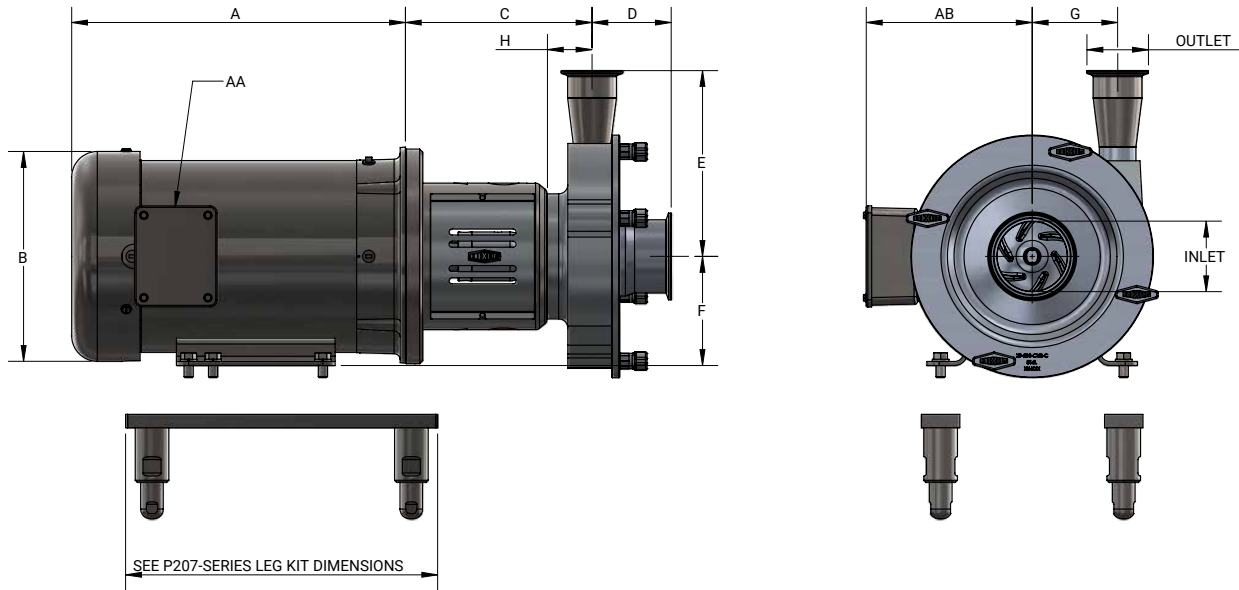
Item #	Part #	Description	Qty
X1	X1-200-1825AMF	200 series adapter to motor flange 182TC to 184TC to 254TC to 256TC	1
X1A	X1A-100-FAB	100 series flange to adapter bolts	4
X1B*	X1B-100-FMB18	100 series flange to motor bolts and lock washers 180TC to 250TC frame	4
X2	X2-200-ADP	200 series adapter	1
X2A	X2A-200-ACB	200 series adapter to casing bolts and shaft sleeve bolts	4
X3	X3-200-GRD	200 series guard with bolts	2
X4	X4-200-SH	200 series stub shaft	1
X4A	X4-200-DPSS	200 series shaft dog point set screw	2
X5*	X5-200-SL18	200 series shaft sleeve for 182TC to 184TC frame	1
	X5-200-SL21	200 series shaft sleeve for 213TC to 215TC frame	1
	X5-200-SL25	200 series shaft sleeve for 254TC to 256TC frame	1
X5A	X5A-200-SKEY	200 series shaft sleeve key	2
X6	X6-200-SG	200 series seal gland	1
X6A	X6A-200-SGB	200 series seal gland bolt	4
P80*	P80-218BCS	carbon rotary seal	1
	P80-218BSC	silicon carbide rotary seal	1
P80A	P80A-218BCP	seal cup	1
P80B*	P80B-218BSOE	seal O-ring EPDM	1
	P80B-218BSOV	seal O-ring FKM	1
	P80B-218BSOB	seal O-ring nitrile rubber	1
P80C	P80C-218BSG	seal spring	1
P80P	P80P-218BOG	stationary outboard gasket	1
P80N*	P80N-218BSC	stationary seal silicon carbide	1
	P80N-218BCER	stationary seal ceramic	1
	P80N-218BTC	stationary seal tungsten carbide	1
P80R	P80R-218BIG	stationary inboard gasket	1
X7	X7-220-CASE-C	220-230 series pump casing with clamp outlet	1
X8	X8-220-A725	220-230 series impeller 7-1/4" max diameter	1
	X8-220-AXXX	220-230 series trimmed impeller	1
X8A*	X8A-200-IORE	200 series impeller O-ring EPDM	1
	X8A-200-IORV	200 series impeller O-ring FKM	1
	X8A-200-IORB	200 series impeller O-ring nitrile rubber	1
X9	X9-220-CVR-C	220 series pump cover with clamp inlet 3"	1
	X9-230-CVR-C	230 series pump cover with clamp inlet 4"	1
X9A*	X9A-220-COR-E	220-230 series cover/casing O-ring EPDM	1
	X9A-220-COR-V	220-230 series cover/casing O-ring FKM	1
	X9A-220-COR-B	220-230 series cover/casing O-ring nitrile rubber	1
X10	X10-200-WN	200 series cover wing nuts	4

Casing Drain Options - ExD 200, 210, 220, and 230

Item #	Part #	Description	Qty
X7	X7-200-CASE-C-A	ExD 200-210 pump casing with clamp outlet, Drain A	1
	X7-200-CASE-C-D	ExD 200-210 pump casing with clamp outlet, Drain D	1
	X7-200-CASE-C-J	ExD 200-210 pump casing with clamp outlet, Drain J	1
	X7-200-CASE-C-K	ExD 200-210 pump casing with clamp outlet, Drain K	1
	X7-220-CASE-C-A	ExD 220-230 pump casing with clamp outlet, Drain A	1
	X7-220-CASE-C-D	ExD 220-230 pump casing with clamp outlet, Drain D	1
	X7-220-CASE-C-J	ExD 220-230 pump casing with clamp outlet, Drain J	1
	X7-220-CASE-C-K	ExD 220-230 pump casing with clamp outlet, Drain K	1

*Denotes variable parts

ExD-Series Centrifugal Pump - Dimensions

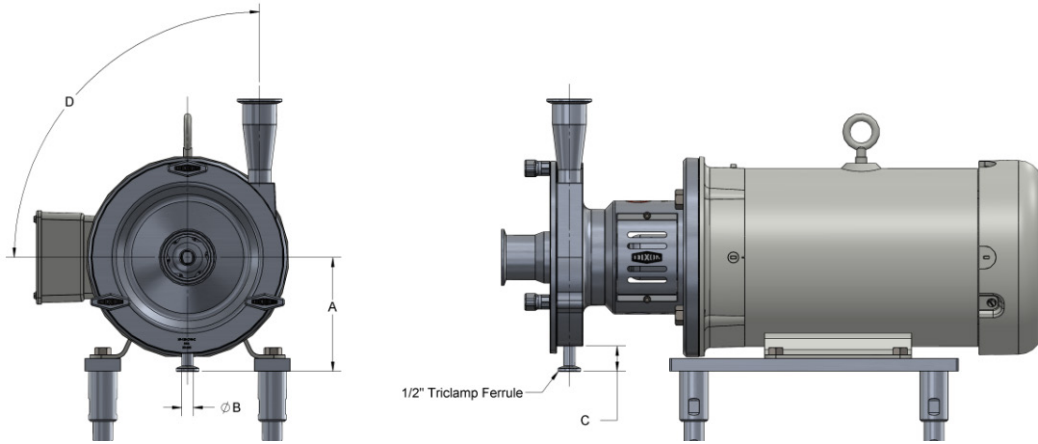


Pump Model	Frame Size	Inlet	Outlet	A (in)	AA (in) (conduit size)	AB (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)			
ExD 100	56C	1" (ExD 100)	1"	**	0.50	5.00	6.63	5.44	2.16	4.20	3.50	2.00			
	ExD 110				143/145TC	0.75							5.25	7.88	4.50
ExD 120	56C	2" (ExD 120)	1-1/2"		0.75	5.88	7.88	5.75	3.00	6.38	3.50	3.20			
	ExD 130				143/145TC	0.50							5.00	6.63	4.50
	182/183TC				2-1/2" (ExD 130)	0.75							5.88	7.88	4.50
ExD 200	182/183TC	2-1/2" (ExD 200)	2"		0.75	5.88	7.88	7.63	3.34	7.62	4.50	3.50			
	ExD 210			213/215TC	1.00	7.38	9.56						6.25		
	254/256TC			3" (ExD 210)	1.00	9.63	12.94						6.25		
ExD 220	182/183TC	3" (ExD 220)	2-1/2"	1.00	5.88	7.88	7.75	3.13	8.25	4.50	3.63				
	ExD 230			213/215TC	1.00	7.38						9.56	5.25		
	254/256TC			4" (ExD 230)	1.50	9.63						12.94	6.25		

**Contact Dixon Sanitary for exact measurement. Dimension is dependent on motor selection.

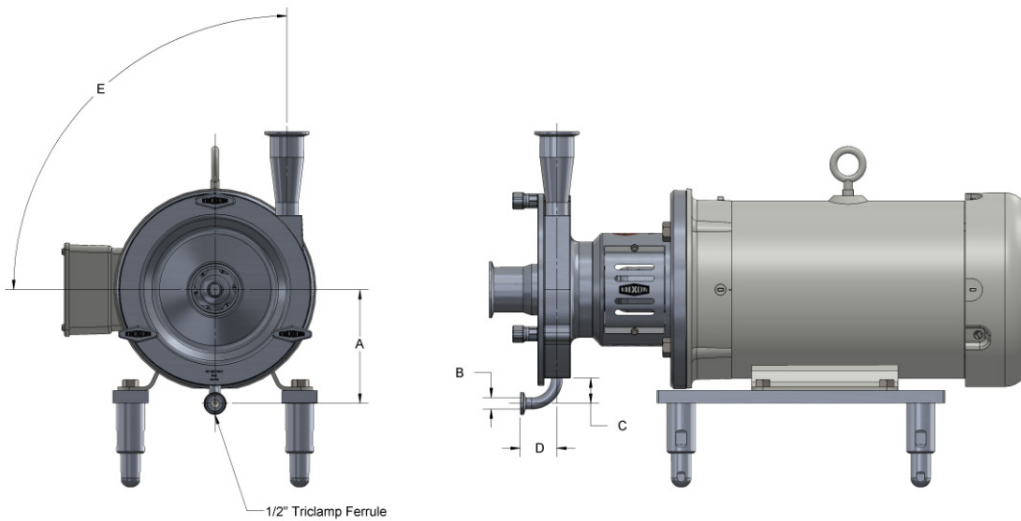
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ExD-Series Centrifugal Pump - Dimensions



Pump Model	Casing Drain Option	A (in)	ØB (in)	C (in)	D
ExD 100/110	option A	3.71	0.50	1.13	45°
	option J				90°
ExD 120/130	option A	5.06	0.50	1.13	45°
	option J				90°
ExD 200/210	option A	5.70	0.50	1.13	45°
	option J				90°
ExD 220/230	option A	5.98	0.50	1.13	45°
	option J				90°

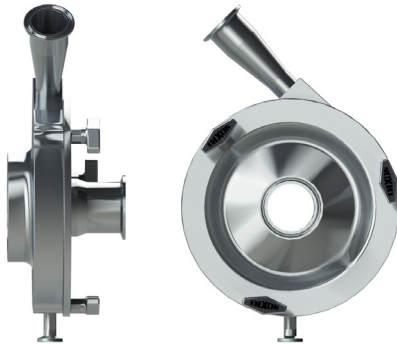
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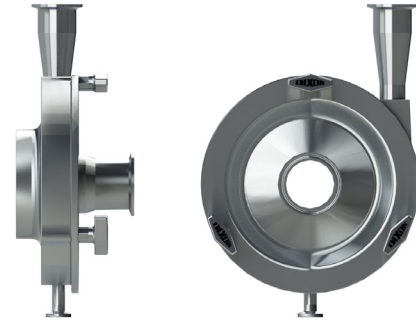
Pump Model	Casing Drain Option	A (in)	ØB (in)	C (in)	D (in)	E
ExD 100/110	option D	3.71	0.50	1.13	1.63	90°
	option K					45°
ExD 120/130	option D	5.06	0.50	1.13	1.63	90°
	option K					45°
ExD 200/210	option D	5.70	0.50	1.13	1.63	90°
	option K					45°
ExD 220/230	option D	5.98	0.50	1.13	1.63	90°
	option K					45°

ExD-Series Centrifugal Pump - Casing Drain Options

Drain A



Drain J



Drain K



Drain D



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ExD-Series Centrifugal Pump - Friction Loss Chart

Capacity in U.S. GPM	O.D. Tube Size																	
	1" I.D. = 0.870"			1-1/2" I.D. = 1.370"			2" I.D. = 1.870"			2-1/2" I.D. = 2.370"			3" I.D. = 2.870			4" I.D. = 3.834"		
	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee	Tube	Elbow	Tee
5	.035	.025	.25															
10	.12	.06	.40	.02	.01	.15	.005	.015	.10									
15	.25	.10	.80	.04	.02	.25	.013	.02	.15									
20	.43	.22	1.5	.06	.03	.30	.02	.025	.20	.005	.02	.10	.003	.02	.06			
25	.66	.40	2.3	.08	.04	.40	.025	.03	.25	.006	.03	.15	.004	.03	.08			
30	.93	.70	3.3	.105	.55	.55	.035	.05	.30	.008	.05	.20	.005	.04	.10			
35	1.22	1.25	5.2	.135	.80	.80	.04	.06	.40	.011	.06	.25	.006	.05	.13			
40				.17	1.0	1.0	.05	.08	.50	.015	.07	.30	.007	.06	.15			
45				.21	1.3	1.3	.063	.10	.60	.02	.09	.35	.008	.065	.18			
50				.25	1.6	1.6	.073	.12	.70	.022	.10	.40	.01	.07	.20			
60				.34	2.2	2.2	.10	.18	.90	.03	.12	.45	.015	.08	.25			
80				.57	3.7	3.7	.16	.30	1.5	.05	.15	.55	.02	.10	.40			
100				.85	5.8	5.8	.23	.44	2.3	.075	.18	.60	.03	.11	.50	.008	.04	.10
120				1.18	9.1	9.1	.32	.64	3.3	.105	.21	1.0	.04	.13	.60	.01	.05	.15
140							.42	.85	4.5	.14	.23	1.25	.05	.16	.80	.013	.06	.20
160							.54	1.13	5.8	.17	.28	1.6	.07	.20	1.1	.015	.07	.25
180							.67	1.45	7.4	.205	.31	2.0	.08	.21	1.3	.02	.08	.30
200							.81	1.82	9.0	.245	.35	2.5	.10	.26	1.6	.025	.09	.40
220							.95	2.22	11.0	.29	.41	3.0	.12	.30	1.9	.028	.10	.50
240							1.10	2.63	13.5	.34	.48	3.7	.14	.33	2.2	.035	.11	.55
260										.39	.53	4.5	.165	.39	2.5	.04	.115	.60
280										.45	.61	5.3	.19	.42	2.8	.045	.12	.65
300										.515	.70	6.2	.22	.50	3.1	.05	.13	.70
350										.68	1.05	8.5	.28	.67	4.1	.07	.15	.90
400										.86	1.55	11.0	.38	.88	5.2	.085	.18	1.2
450										1.05	2.25	13.5	.44	1.1	6.6	.105	.20	1.5
500													.54	1.4	8.0	.13	.23	1.75
550													.64	1.7	9.5	.15	.27	2.1
600													.75	2.05	10.2	.175	.30	2.5
650													.87	2.41	13.0	.20	.34	2.8
700													.10	2.8	15.0	.23	.40	3.4
750																.26	.43	3.8
800																.30	.50	4.4

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ExD-Series Centrifugal Pump - Viscosity Chart

N - Newtonian, T - Thixotropic, D - Dilatant

	Fluid	Specific Gravity	Viscosity CPS	Viscosity Type
Reference	Water	1.0	1.0	N
Adhesives	"box" adhesives	1+-	3,000	T
	PVA	1.3	100	T
	rubber and solvents	1.0	15,000	N
Bakery	batter	1.0	2,000	T
	butter (melted)	0.98	18 at 140°F	N
	egg (whole)	0.5	60 at 50°F	N
	emulsifier	-	20	T
	frosting	1.0	10,000	T
	lecithin	-	3,250 at 125°F	T
	77% sweetened condensed milk	1.3	10,000 at 77°F	N
	yeast slurry 15%	1.0	180	T
	Beer/Wine	beer	1.0	1.1 at 40°F
brewers concentrated yeast (80% solids)		-	16,000 at 40°F	T
wort		-	-	-
wine		1.0	-	-
Confectionery	caramel	1.2	400 at 140°F	-
	chocolate	1.1	17,000 at 120°F	T
	fudge (hot)	1.1	36,000	T
	toffee	1.2	87,000	T
Cosmetics/Soaps	face cream	-	10,000	T
	hair gel	1.4	5,000	T
	shampoo	-	5,000	T
	toothpaste	-	20,000	T
	hand cleanser	-	2,000	T
Dairy	cottage cheese	1.08	225	T
	cream	1.02	20 at 40°F	N
	milk	1.03	1.2 at 60°F	N
	process cheese	-	30,000 at 160°F	T
	yogurt	-	1,100	T
Detergents	detergent concentrate	-	10	N
Dyes and Inks	printers ink	1 to 1.38	10,000	T
	dye	1.1	10	N
	gum	-	5,000	T
Fats and Oils	corn oil	0.92	30	N
	lard	0.96	60 at 100°F	N
	linseed oil	0.93	30 at 100°F	N
	peanut oil	0.92	42 at 100°F	N
	soybean oil	0.95	36 at 100°F	N
	vegetable oil	0.92	3 at 300°F	N
Misc. Foods	black bean paste	-	10,000	T
	cream style corn	-	130 at 190°F	T
	ketchup	1.11	560 at 145°F	T
	pablum	-	4,500	T
	pear pulp	-	4,000 at 160°F	T
	mashed potato	1.0	20,000	T
	potato skins and caustic	-	20,000 at 100°F	T
	prune juice	1.0	60 at 120°F	T
	orange juice concentrate	1.1	5,000 at 38°F	T
	tapioca pudding	0.7	1,000 at 235°F	T
	mayonnaise	1.0	5,000 at 75°F	T
	33% tomato paste	1.14	7,000	T
	honey	1.5	1,500 at 100°F	-

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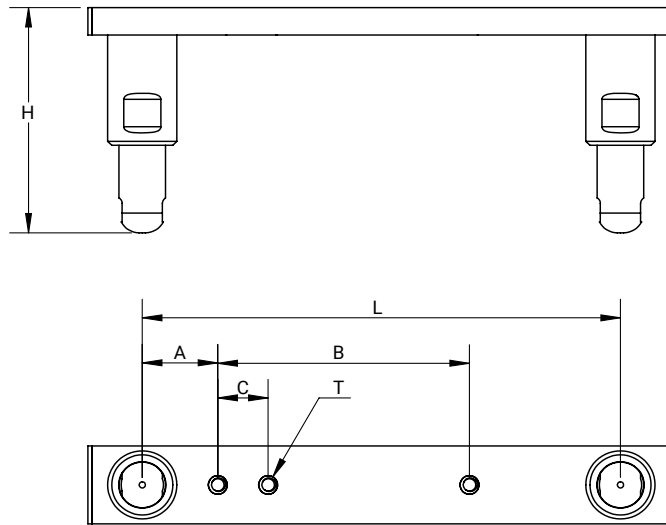
ExD-Series Centrifugal Pump - Viscosity Chart

N - Newtonian, T - Thixotropic, D - Dilatant

	Fluid	Specific Gravity	Viscosity CPS	Viscosity Type
Meat Products	melted animal fat	0.9	43 at 100°F	N
	ground beef fats	0.9	11,000 at 60°F	T
	meat emulsion	1.0	22,000 at 40°F	T
	pet food	1.0	11,000 at 40°F	T
	pork fat slurry	1.0	650 at 40°F	T
Misc. Chemicals	glycols	1.1	35 at range	-
Paint	metallic auto paints	-	220	T
	solvents	0.8 to 0.9	0.5 to 10	N
	titanium dioxide slurry	-	10,000	T
	varnish	1.06	140 at 100°F	-
	turpentine	0.86	2 at 60°F	-
Paper and Textile	black liquor tar	-	2,000 at 300°F	-
	paper coating 35%	-	400	-
	sulfide 6%	-	1,600	-
	black liquor	1.3	1,100 at 122°F	-
	black liquor soap	-	7,000 at 122°F	-
Petroleum and Petroleum Products	asphalt (unblended)	1.3	500 to 2,500	-
	gasoline	0.7	0.8 at 60°F	N
	kerosene	0.8	3 at 68°F	N
	fuel oil #6	0.9	660 at 122°F	N
	auto lube oil SAE 40	0.9	200 at 100°F	N
	auto lube oil SAE 90	0.9	320 at 100°F	N
	propane	0.46	0.2 at 100°F	N
Pharmaceuticals	tars	1.2	wide range	-
	castor oil	0.96	350	N
	cough syrup	1.0	190	N
	"stomach" remedy slurries	-	1,500	T
Plastic Resins ¹	pill pastes	-	5,000 +-	T
	butadiene	0.94	0.17 at 40°F	-
	polyester resin (typ)	1.4	3,000	T
Starches and Gums	PVA resin (typ)	1.3	65,000	-
	corn starch Sol 22°B	1.18	32	T
Sugars, Syrups, Molasses	corn starch Sol 25°B	1.21	300	T
	corn syrup 41 Be	1.39	15,000 at 60°F	N
	corn syrup 45 Be	1.45	12,000 at 130°F	N
	glucose	1.42	10,000 at 100°F	-
	molasses A	1.42	280 to 5,000 at 100°F	-
	molasses B	1.43 to 1.48	1,400 to 13,000 at 100°F	-
	molasses C	1.46 to 1.49	2,600 to 5,000 at 100°F	-
	sugar syrups	-	-	-
	60 Brix	1.29	75 at 60°F	N
68 Brix	1.34	360 at 60°F	N	
76 Brix	1.39	4,000 at 60°F	N	
Water and Waste Treatment	clarified sewage sludge	1.1	2,000 range	-

¹Wide variety of plastics can be pumped, viscosity varies greatly.

ExD-Series Centrifugal Pump - Leg Kits (Optional)



Frame Size	Part #	A (in)	B (in)	C (in)	H (in)		L (in)	T		
					Min	Max				
56C	P207-56LK-N	1.50	3.00	-	4.60	5.00	10.50	5/16"-18 UNC		
	P207-56LK-N-60				6.75	7.50				
140TC	P207-14LK-N		5.00	1.00	-	4.60	5.00		11.50	
	P207-14LK-N-60					6.75	7.50			
180TC	P207-18LK-N		5.50		-	-	4.60		5.00	12.63
	P207-18LK-N-60						6.75		7.50	
210TC	P207-21LK-N		7.00		1.50	-	4.60	5.00	15.88	
	P207-21LK-N-60						6.75	7.50		
250TC	P207-25LK-N		10.00	1.75	-	4.60	5.00	20.00		
	P207-25LK-N-60					6.75	7.50			
280TSC	P207-28LK-N		11.00	1.50	-	4.60	5.00	21.00		
	P207-28LK-N-60					6.75	7.50			
320TSC	P207-32LK-N	12.00	-		-	4.60	5.00	2.50		
	P207-32LK-N-60					6.75	7.50			

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ExD-Series Centrifugal Pump - Repair Kits

1 - rotary seal (P80)
 1 - seal cup (P80A)
 1 - seal O-ring (P80B)

1 - seal spring (P80C)
 1 - seal seat (P80N)
 1 - outboard gasket (P90)

1 - inboard gasket (P80R)
 1 - impeller O-ring (X8A)
 1 - casing/cover O-ring (X9A)

Model Number	Elastomer	Ceramic/Carbon	SC/Carbon	SC/SC	TC/TC
ExD 100 ExD 110	FKM	PRK-EXD100VCC-1	PRK-EXD100VSC-1	PRK-EXD100VSS-1	PRK-EXD100VTC-1
	nitrile rubber	PRK-EXD100BCC-1	PRK-EXD100BSC-1	PRK-EXD100BSS-1	PRK-EXD100BTC-1
	EPDM	PRK-EXD100ECC-1	PRK-EXD100ESC-1	PRK-EXD100ESS-1	PRK-EXD100ETC-1
ExD 120 ExD 130	FKM	PRK-EXD120VCC-1	PRK-EXD120VSC-1	PRK-EXD120VSS-1	PRK-EXD120VTC-1
	nitrile rubber	PRK-EXD120BCC-1	PRK-EXD120BSC-1	PRK-EXD120BSS-1	PRK-EXD120BTC-1
	EPDM	PRK-EXD120ECC-1	PRK-EXD120ESC-1	PRK-EXD120ESS-1	PRK-EXD120ETC-1
ExD 200 ExD 210	FKM	PRK-EXD200VCC-1	PRK-EXD200VSC-1	PRK-EXD200VSS-1	PRK-EXD200VTC-1
	nitrile rubber	PRK-EXD200BCC-1	PRK-EXD200BSC-1	PRK-EXD200BSS-1	PRK-EXD200BTC-1
	EPDM	PRK-EXD200ECC-1	PRK-EXD200ESC-1	PRK-EXD200ESS-1	PRK-EXD200ETC-1
ExD 220 ExD 230	FKM	PRK-EXD220VCC-1	PRK-EXD220VSC-1	PRK-EXD220VSS-1	PRK-EXD220VTC-1
	nitrile rubber	PRK-EXD220BCC-1	PRK-EXD220BSC-1	PRK-EXD220BSS-1	PRK-EXD220BTC-1
	EPDM	PRK-EXD220ECC-1	PRK-EXD220ESC-1	PRK-EXD220ESS-1	PRK-EXD220ETC-1

MB100-Series Centrifugal Pump



Designed for conveying low viscosity fluids in a broad range of applications such as food, dairy, beverage, winery, and brewing markets.

Certifications

- 3A approved
- Elastomers meet FDA 21CFR 177.2600 and 3A 18-03 Class I

Size

- 1" outlet x 1-1/2" inlet

Features

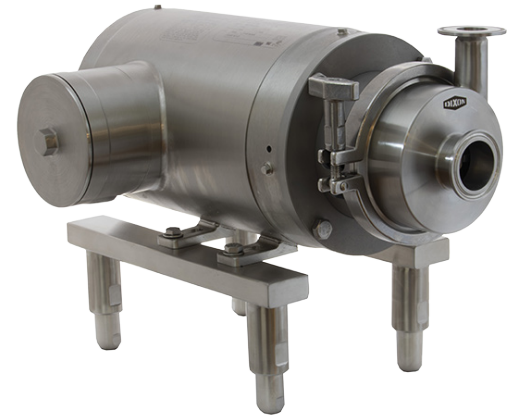
- Standard clamp
 - Uses a standard 4" tube clamp for easy removal and adjustment of the casing
 - Eliminates post and tab construction
- Seal design
 - Robust single mechanical seal design with silicon carbide stationary seal-face and carbon rotary seal-face
- Seal performance
 - Efficient seal path promotes seal cooling and provides less restrictions to adequately clean the seal
- Impeller and shaft design
 - Sealed impeller provides optimal hygienic performance while the split shaft compression collar improves shaft concentricity, reduces vibration, and improves seal life
- Drop-in replacement for other C-100 series pumps
- Wet end mounts to a standard 56C frame motor

Materials

- Product contact metal components: AISI 316L stainless steel, FKM, EPDM, PTFE
- Non-product contact components: AISI 304 stainless steel
- Product contact seals: carbon and silicon carbide

Specifications

- Standard connection: clamp
- Minimum operating temperature: **32°F (0°C)**
- Maximum operating temperature: **212°F (100°C)**
- Viscosity range: 1 - 500 cP
- Surface Finish
 - Product contact metal components: ≤ 32 Ra
 - Non-product contact metal components: ≤ 63 Ra
- Seal type: single mechanical
- Performance characteristics
 - Nominal capacity: up to **75 GPM**
 - Nominal speed: up to 3500 RPM - 60 Hz
- Motors and mounting
 - Motor frame size: NEMA 56C C-face
 - Speeds: 1750 and 3500 RPM
 - Enclosure: TENV or TEFC, stainless steel or epoxy white washdown
- Cleaning method
 - CIP: clean-in-place
- Weight: 9 lbs without motor



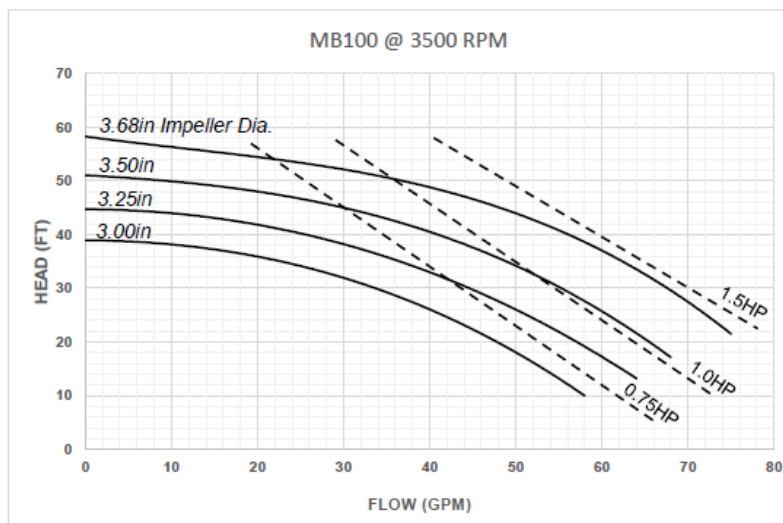
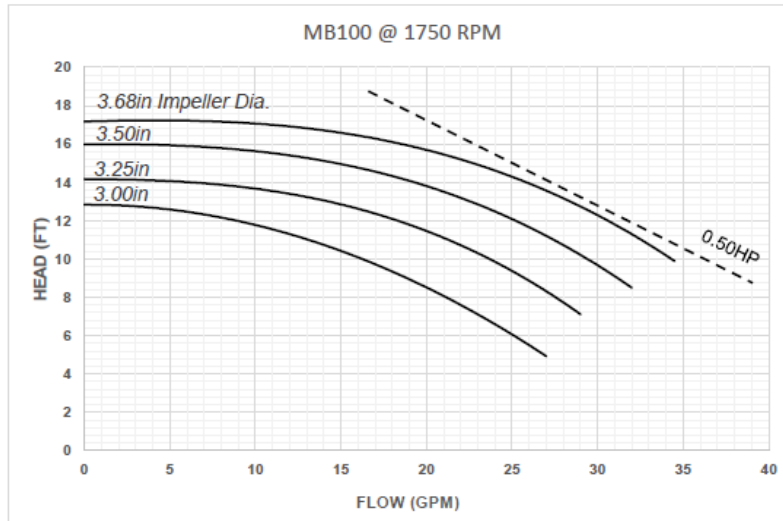
MB100-Series Centrifugal Pump - Part Number Key

MB100-Series Centrifugal Pump Part Number Key Example: MB15A01C1EA1A01		Series	Port Size	Finish	Impeller Size	Connections	Seal Type	Elastomer	Frame Size	Motor Type	Electrical	Power and Speed
		MB	15	A	01	C	1	E	A	1	A	01
Series	Code											
MB100	MB	←										
Port Size	Code											
1-1/2" inlet x 1" outlet	15	←										
Surface Finish	Code											
32 Ra (I.D. mech. polish)	A	←										
25 Ra (I.D. mech. polish)	B											
20 Ra (I.D. mech. polish)	C											
Impeller Size	Code											
3.68"	01	←										
3.5"	02											
3.25"	03											
3"	04											
Connections	Code											
Clamp	C	←										
Weld	B											
Female I-line	F											
Male I-line	M											
Threaded bevel	T											
Plain bevel	P											
Q-line	Q											
Seal Type	Code											
Single mechanical SC vs carbon	1	←										
Elastomer	Code											
EPDM	E	←										
FKM	V											
Frame Size	Code											
NEMA 56C	A	←										
Motor Type	Code											
Baldor SS washdown	1	←										
Sterling SS washdown	2											
Baldor white epoxy painted washdown	3											
Sterling white epoxy painted washdown	4											
Electrical	Code											
1PH/60Hz 115/230V	A	←										
3PH/60Hz 208-230/460V	B											
3PH/50Hz 190/380V	C											
3PH/50Hz 380/460V	D											
3PH/50Hz 220/380/440V	E											
3PH/50Hz 220/380/415V	F											
Power and Speed	Code											
0.75HP at 3500 RPM	01	←										
1.0HP at 3500 RPM	02											
1.5HP at 3500 RPM	03											
0.5HP at 1750 RPM	04											

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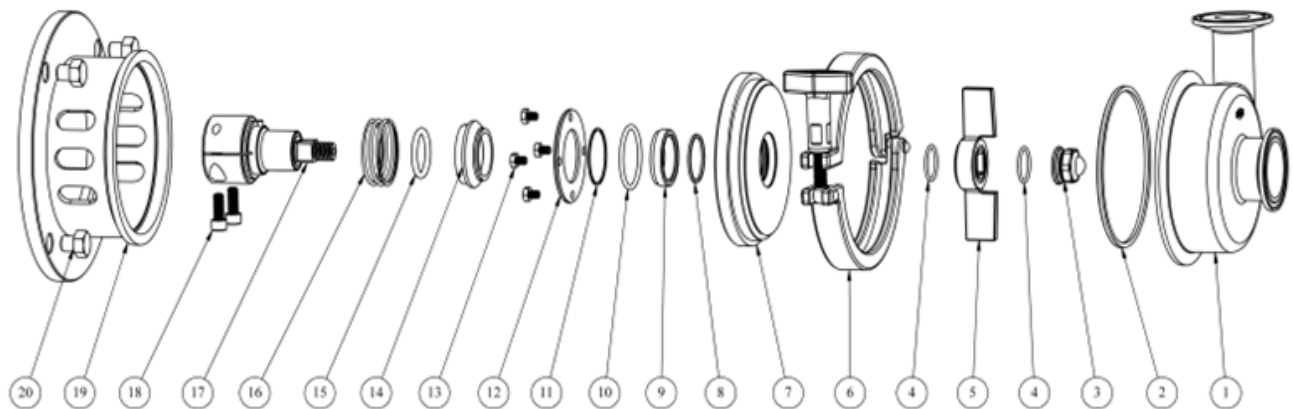
MB100-Series Centrifugal Pump - Pump Curve

Based on H₂O at 70°F (21°C)
 Frequency: 60 HZ
 RPM: 1750 and 3500
 Size: 1-1/2" x 1" x 3.68"



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MB100-Series Centrifugal Pump - Bill of Materials



MB100-Series Centrifugal Pump - Bill of Materials

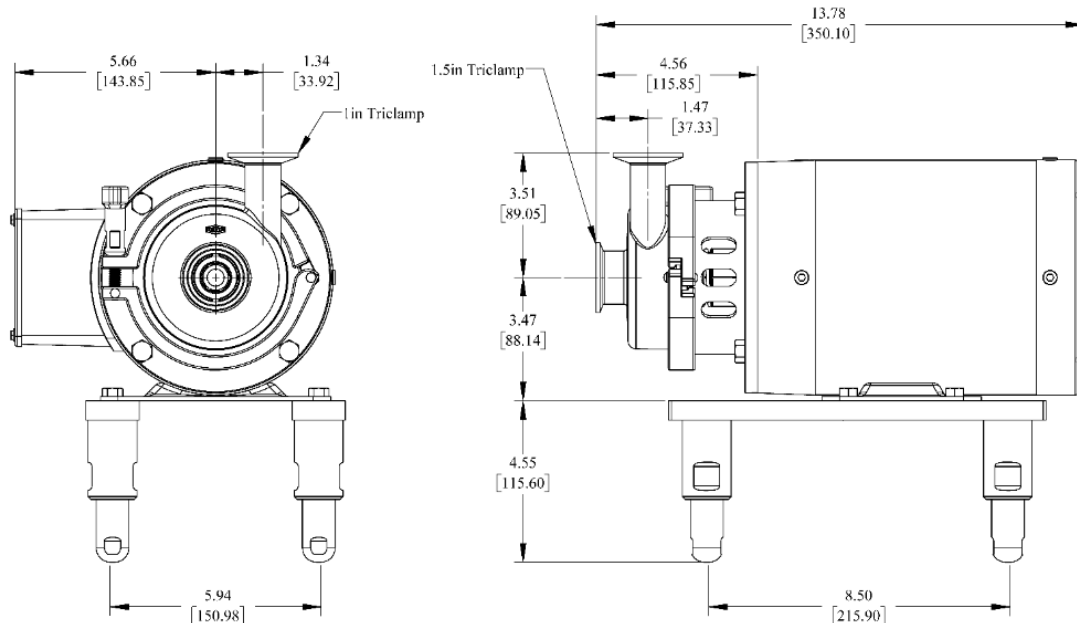
Item #	Description	Part #	Material	Qty
1	casing	MB100-PC-C	316L SS	1
2	casing seal*	MB100-PCOR-V	FKM	1
3	impeller nut	MB100-IN	316L SS	1
4	impeller O-ring*	MB100-NOR-V	FKM	2
5	impeller (3.680" diameter)	MB100-IMP-3680	CF3M	1
6	casing clamp	13MHHM400	CF8	1
7	backplate	MB100-BKPL	316L SS	1
8	stationary seal gasket - inner	MB100-SSIG	PTFE	1
9	stationary seal	MB100-SS-SC	sintered silicon carbide	1
10	stationary seal O-ring*	MB100-SSOR-V	FKM	1
11	stationary seal gasket - outer	MB100-SSOG	PTFE	1
12	backplate seal ring	MB100-SSP	304 SS	1
13	seal plate screw	MB100-SPS	18-8	4
14	rotary seal	MB100-RS-C	carbon	1
15	rotary seal O-ring*	MB100-RSOR-V	FKM	1
16	seal spring	MB100-SPR	304 SS	1
17	stub shaft (56C)	MB100-SHFT	316L SS	1
18	stub shaft bolt	MB100-SBOLT	18-8	1
19	adapter	MB100-ADP	304 SS	1
20	adapter bolt	P71B-114B-56AB	18-8	4

*Optional available materials (see table below for component part numbers).

Item #	Description	Part #	Material	Qty
2	casing seal*	MB100-PCOR-E	EPDM	1
4	impeller O-ring*	MB100-NOR-E	EPDM	2
10	stationary seal O-ring*	MB100-SSOR-E	EPDM	1
15	rotary seal O-ring*	MB100-RSOR-E	EPDM	1

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MB100-Series Centrifugal Pump - Dimensions



MB100-Series Centrifugal Pump - Repair Kits

Complete Rebuild Seal Repair Kits

Pump Model	Soft Seal Material	Rotary Seal Material	Stationary Seal Material	Kit Part #	Kit Includes (item #)	Repair Kit BOM		
						Item #	Part #	Qty
MB100	FKM	carbon	silicon carbide	MB100-SK1-V	2, 4, 8, 9, 10, 11, 14, 15	2	MB100-PCOR-V	1
						4	MB100-NOR-V	1
						8	MB100-SSIG	1
						9	MB100-SS-SC	1
						10	MB100-SSOR-V	1
						11	MB100-SSOG	1
						14	MB100-RS-C	1
						15	MB100-RSOR-V	1

Pump Model	Soft Seal Material	Rotary Seal Material	Stationary Seal Material	Kit Part #	Kit Includes (item #)	Repair Kit BOM		
						Item #	Part #	Qty
MB100	EPDM	carbon	silicon carbide	MB100-SK1-E	2, 4, 8, 9, 10, 11, 14, 15	2	MB100-PCOR-E	1
						4	MB100-NOR-E	1
						8	MB100-SSIG	1
						9	MB100-SS-SC	1
						10	MB100-SSOR-E	1
						11	MB100-SSOG	1
						14	MB100-RS-C	1
						15	MB100-RSOR-E	1

Soft Seal Repair Kits

Pump Model	Soft Seal Material	Kit Part #	Kit Includes (item #)	Repair Kit BOM		
				Item #	Part #	Qty
MB100	FKM	MB100-SK2-V	2, 4, 10, 15	2	MB100-PCOR-V	1
				4	MB100-NOR-V	1
				10	MB100-SSOR-V	1
				15	MB100-RSOR-V	1

Pump Model	Soft Seal Material	Kit Part #	Kit Includes (item #)	Repair Kit BOM		
				Item #	Part #	Qty
MB100	EPDM	MB100-SK2-E	2, 4, 10, 15	2	MB100-PCOR-E	1
				4	MB100-NOR-E	1
				10	MB100-SSOR-E	1
				15	MB100-RSOR-E	1

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Dixon®/Packo RZL-Series Rotary Lobe Pump



Designed for conveying fluids in the low to high viscosity range with gentle product handling in a broad range of applications from dairy, food, beverage, pharmaceutical, cosmetics, bakery, and chemical industries.

RZL-series pumps can be fitted with a variety of features and rotors to adapt to almost all hygienic pumping tasks. The pumps can be customized to achieve optimum function and performance for your process.

Sizes

- 1", 1-1/2", 2", 2-1/2", 3", 4", 5"

Features

- Universal mounting - pumps can be mounted with top or bottom shaft drive and vertical or horizontal inlet/outlet
- Stainless steel gear box with single oil reservoir made from precision casting offers paint free and rust free long lasting durability for 100-300 series
 - 400 series gear box is constructed of cast iron
- Helical timing gears drive the rotors with less vibration to extend pump efficiency and seal life
- Front loaded seals provide faster maintenance, easier cleaning, and less down time
- Stainless steel shims between the gearbox and casing make it easy to adjust rotor clearance without having to completely disassemble the gear box
- Base mount and cart packages available



Materials

- Product contact metal components: 316L stainless steel
- Product contact elastomers: EPDM, nitrile rubber, FKM

Specifications

- Standard connections: clamp
- Minimum operating temperature: **14°F (-10°C)**
- Maximum operating temperature (standard rotors): **248°F (120°C)**
- Maximum operating temperature (high temp rotors): **356°F (180°C)**
- Viscosity range: 1 - 1,000,000 cP
- Shaft seal data
 - Seal options: single mechanical, double mechanical, O-ring, and triple lip
 - Maximum flushing water pressure: **7 PSI (0.5 bar)**
 - Flushing water consumption: 30~60 cubic inches/min (0.25~0.5 liter/min)
 - Stationary seal ring material: tungsten carbide
 - Rotating seal ring material: tungsten carbide (standard), silicon carbide (optional)
 - Triple lip seal material: RTFE
- Surface Finish
 - Product Contact Metal Components: **Ra ≤ 32**
- Gearbox oil type: Shell Omala S2 G 150 or equivalent grade

RZL-Series Maximum RPM

Viscosity (cP)	RZL Model #								
	110	115	120	220	225	330	340	440	450
	Recommended Maximum RPM								
1 - 100	1000	800	800	700	700	600	600	500	500
100 - 1,000	667	533	533	467	467	400	400	333	333
1,000 - 5,000	417	333	333	292	292	250	250	208	208
5,000 - 10,000	250	200	200	175	175	150	150	125	125
10,000 - 20,000	167	133	133	117	117	100	100	83	83
20,000 - 50,000	117	93	93	82	82	70	75	58	58
50,000 - 100,000	83	67	67	58	58	50	50	42	42

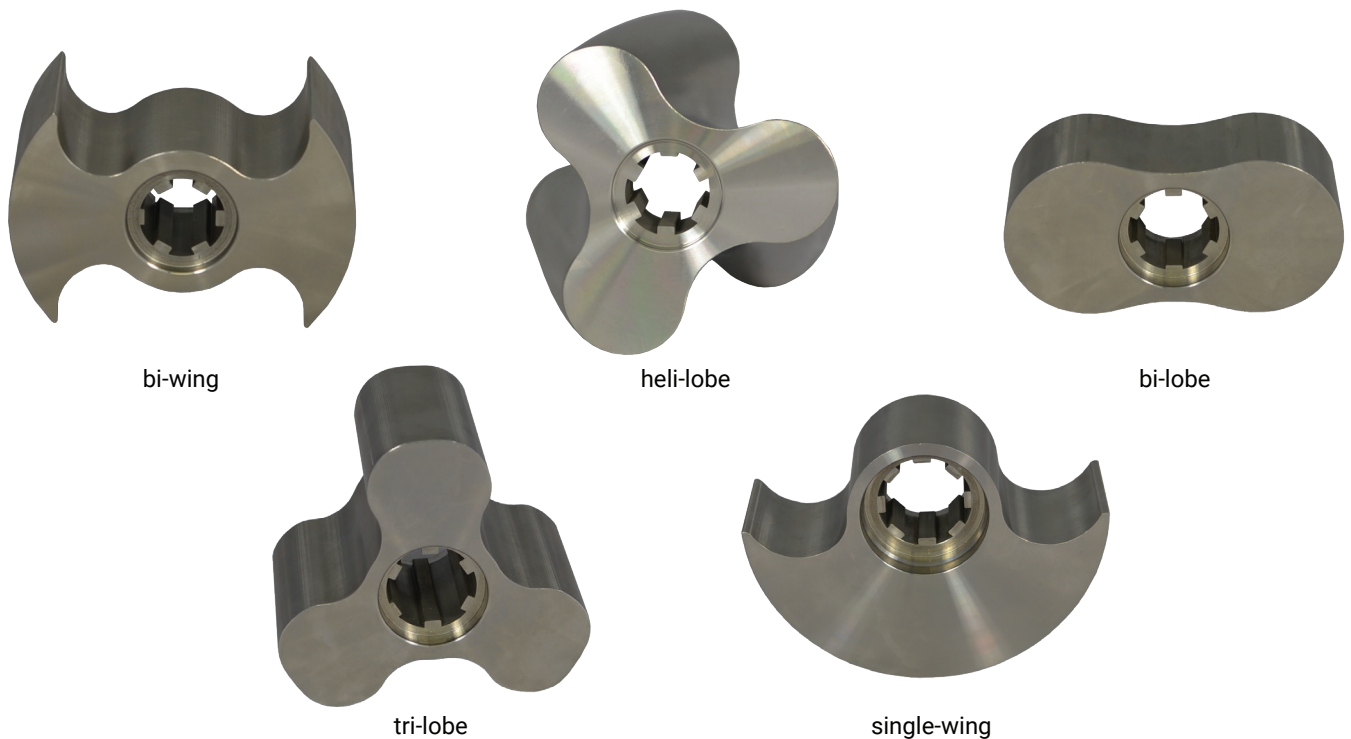
NOTE: This maximum RPM speed is calculated and estimated within the ideal operational condition. Pressure, solid (particle), operation hour, and other operational conditions effect this maximum RPM. High RPM is not recommended for pump durability.

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Dixon®/Packo RZL-Series Rotary Lobe Pump - Pump Models

Model	Gal/Rev	ΔP (PSI) ¹	Port Size	Max Solid Size (in)
RZL 105	0.005	300	1"	2 x 3/4
RZL 110	0.01	300	1"	
RZL 115	0.03	175	1-1/2"	
RZL 120	0.06	115	2"	
RZL 220	0.11	175	2"	2-1/2 x 1
RZL 225	0.16	115	2-1/2"	
RZL 330	0.27	175	3"	3 x 2
RZL 340	0.38	115	4"	
RZL 440	0.6	175	4"	4 x 2
RZL 450	0.88	115	5"	

RZL-Series Rotary Lobe Pump - Rotary Lobes



RZL-Series Rotary Lobe Pump - Maximum Speed (RPM) (1 - 100 cP)

Model	Bi-Wing	Heli-Lobe ¹	Bi-Lobe	Tri-Lobe	Single-Wing	Multi-Lobe
RZL 105	-	-	-	-	-	800
RZL 110	800	-	-	-	-	800
RZL 115	800	800	800	800	100	800
RZL 120	800	800	800	800	100	800
RZL 220	700	700	700	700	100	-
RZL 225	700	700	700	700	100	-
RZL 330	600	600	600	600	100	-
RZL 340	600	600	600	600	100	-
RZL 440	500	500	500	500	100	-
RZL 450	500	500	500	500	100	-

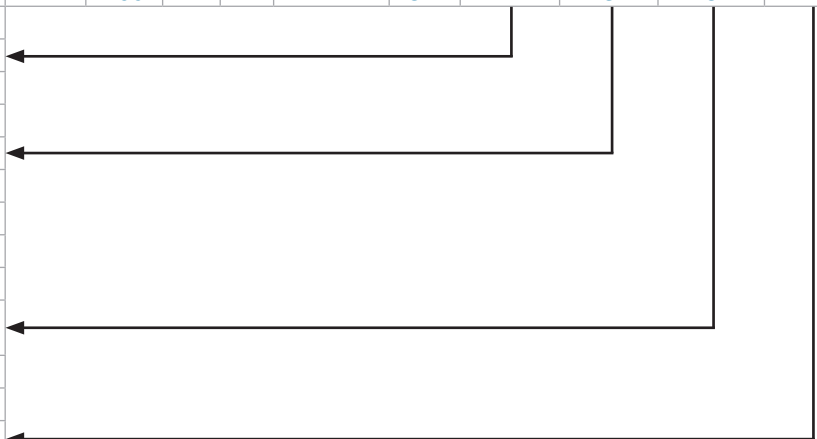
¹Pulsation free heli-lobe rotors give the pump increased capacity.

RZL-Series Rotary Lobe Pump - Part Number Key

RZL-Series Rotary Lobe Pump Part Number Key Example: RZL105M1ESWAGS_		Series	Model	Port	Seal	Elastomer	Rotor Type	Rotor Material	Position	Gear Casing Material	Options
		RZL	105	M	1	E	SW	A	G	S	
Series	Code										
RZL	RZL	←									
Model	Code										
105 - 1" port (0.005 gal/rev)	105	←									
110 - 1" port (0.01 gal/rev)	110										
115 - 1-1/2" port (0.03 gal/rev)	115										
120 - 2" port (0.06 gal/rev)	120										
220 - 2" port (0.11 gal/rev)	220										
225 - 2-1/2" port (0.16 gal/rev)	225										
330 - 3" port (0.27 gal/rev)	330										
340 - 4" port (0.38 gal/rev)	340										
440 - 4" port (0.60 gal/rev)	440										
450 - 5" port (0.88 gal/rev)	450										
Port	Code										
Clamp	M	←									
Weld	W										
Bevel seat	B										
150lb flange*	K										
Male NPT*	N										
Male NPT reduced to 1-1/2"	P										
DIN male	3										
SMS male	5										
Seal	Code										
Single O-ring*	1	←									
Single mechanical seal TC/TC - tungsten carbide vs tungsten carbide	2										
Triple lip seal*	3										
Double mechanical seal w flush TC/TC/C - carbon vs tungsten carbide vs tungsten carbide with flush	4										
Elastomer	Code										
EPDM	E	←									
nitrile rubber	B										
FKM	V										
Contact Dixon Sanitary for other options.											
Rotor Type	Code										
Single wing (not available in RZL105 and RZL110)	SW	←									
Bi-wing (standard) (not available in RZL105)	BW										
Bi-lobe (not available in RZL105 and RZL110)	BL										
Tri-lobe (not available in RZL105 and RZL110)	3L										
Multi-lobe (only available in RZL105, RZL110, RZL115, RZL120)	5L										
Heli-lobe (not available in RZL105 and RZL110)	HL										
Hot clearance bi-wing (not available in RZL105)	HB										
Hot clearance tri-lobe (not available in RZL105 and RZL110)	H3										
Hot clearance heli-lobe (not available in RZL105 and RZL110)	HH										

*Not 3A or EHEDGE certified

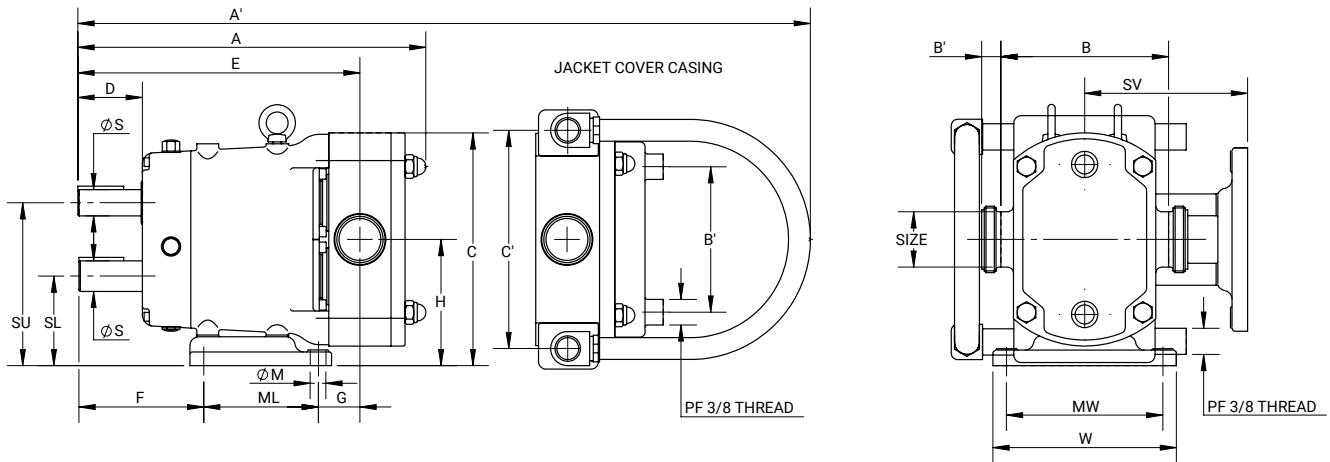
RZL-Series Rotary Lobe Pump - Part Number Key

RZL-Series Rotary Lobe Pump Part Number Key Example: RZL105M1ESWAGS_		Series	Model	Port	Seal	Elastomer	Rotor Type	Rotor Material	Position	Gear Casing Material	Options
		RZL	105	M	1	E	SW	A	G	S	
Rotor Material	Code										
Stainless steel	A										
Contact Dixon Sanitary for other options											
Position	Code										
Horizontal lower shaft	G										
Horizontal top shaft	H										
Vertical left shaft (view from front)	V										
Vertical right shaft (view from front)	W										
Gear Casing Material	Code										
Stainless steel (standard for 100-300 series, not available for 400 series)	S										
Epoxy painted	E										
Options	Code										
None	blank										
Front cover jacket	A										
Rectangular inlet	B										
Pressure relief valve cover	C										
Front bearing cover	D										
Casing jacket	G										
Special gearcase air relief valve	H										
Front cover and casing jacketed	J										
Special face to face dim	O										
Special rotor nut and tool	R										
6" extension	Z										
TC/TC self contained flush/acrylic (only used with double mechanical seal with flush)	7										
No foot plate	K										
Rectangular inlet with special gearcase air relief valve	L										

NOTE: Contact Dixon Sanitary for other options.



RZL-Series Rotary Lobe Pump - Dimensions



Model	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	Mounting Dimensions				Shaft Dimensions				Shaft Keyway	
									M ¹ (mm)	ML (in)	MW (in)	W (in)	S (mm)	SL (in)	SU (in)	SV (in)	Length (mm)	Width (mm)
RZL 105	10.40	5.98	7.80	1.85	8.62	3.78	1.54	4.29	9	3.31	5.28	6.22	22	3.03	5.55	5.55	34	8
RZL 110			7.68		8.35													
RZL 115	10.80	5.98	7.80	1.85	8.74	3.78	1.65	4.29	9	3.31	5.28	6.22	22	3.03	5.55	5.55	34	8
RZL 120	11.42		9.02		1.93													
RZL 220	14.84	7.40	10.12	2.32	12.09	5.08	1.81	5.63	11	5.20	7.09	8.27	32	3.98	7.28	7.28	53	10
RZL 225	15.75				16.60		2.13											
RZL 330	18.70	9.53	13.54	2.76	15.32	6.06	2.95	7.32	13	6.30	9.53	11.26	45	5.06	9.59	9.59	57	14
RZL 340	19.69				15.83		3.47											
RZL 440	24.41	12.76	18.03	3.15	19.88	7.80	3.94	9.72	15	8.27	12.60	14.96	55	6.69	12.76	12.76	67	14
RZL 450	25.79				20.55		4.61											

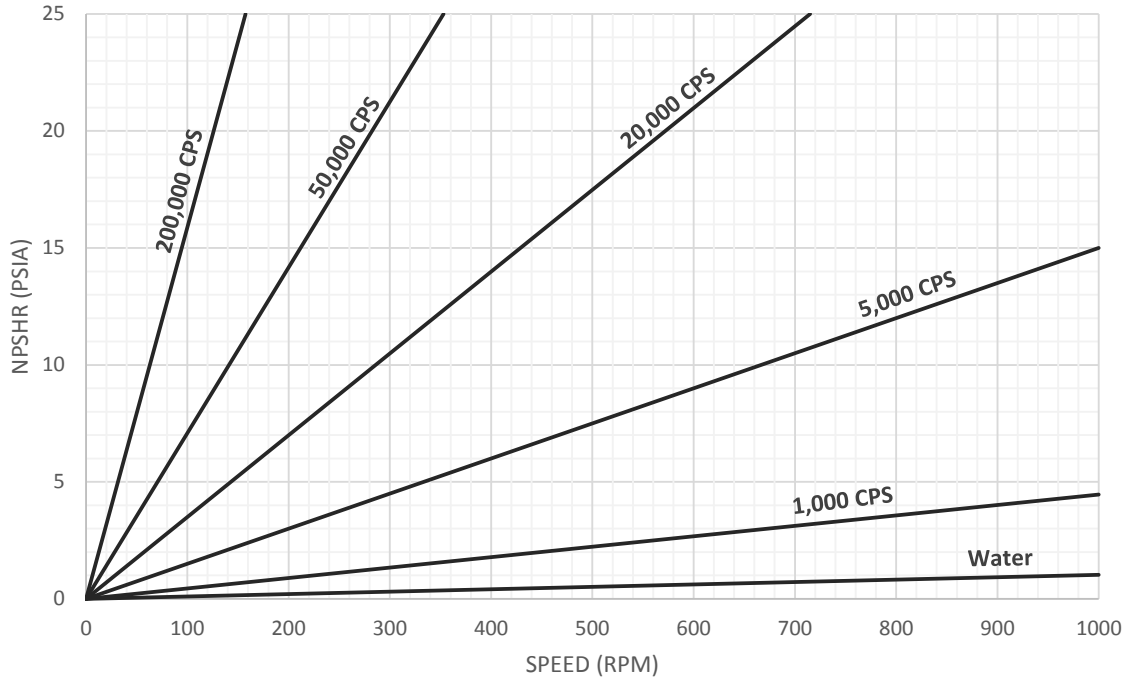
¹Quantity 4 mounting bolt holes

Model	Port Size	Dimension B' (in)				Jacket Cover Casing			Weight (lbs)	
		Clamp	Bevel Seat	DIN	SMS	Flange	A' (in)	B' (in)		C' (in)
RZL 105	1"	0.79	1.02	0.98	1.10	1.18	16.73	4.80	7.09	37
RZL 110	1"			1.18	0.79		16.93			
RZL 115	1-1/2"	0.87	1.02	1.18	0.87	1.18	17.32	6.77	9.25	44
RZL 120	2"						23.82			
RZL 220	2"	1.02	1.02	1.46	1.10	1.38	24.80	9.69	12.13	93
RZL 225	2-1/2"						1.57			
RZL 330	3"	1.10	1.02	1.65	1.10	1.57	28.29	14.09	16.54	207
RZL 340	4"						32.68			
RZL 440	4"	1.18	1.02	1.77	1.38	2.13	35.28	14.09	16.54	496
RZL 450	5"						1.81			

RZL-Series Rotary Lobe Pump - 100 Series Pump Curves

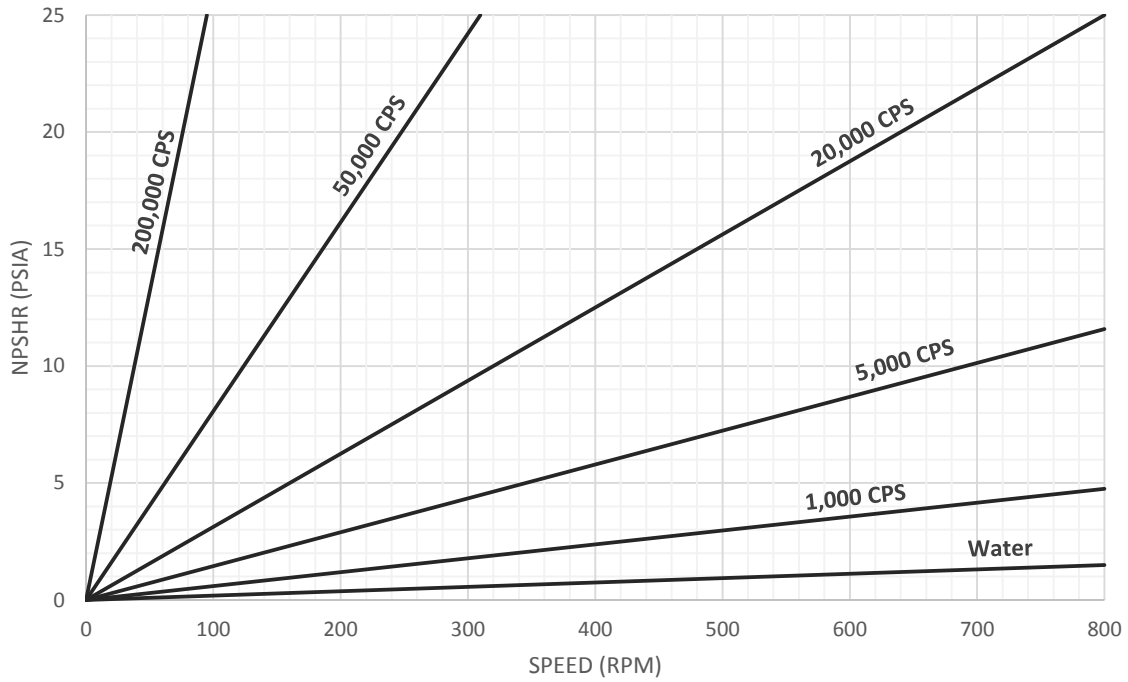
RZL 110 NPSHR

Port size: 1" x 1"



RZL 115 NPSHR

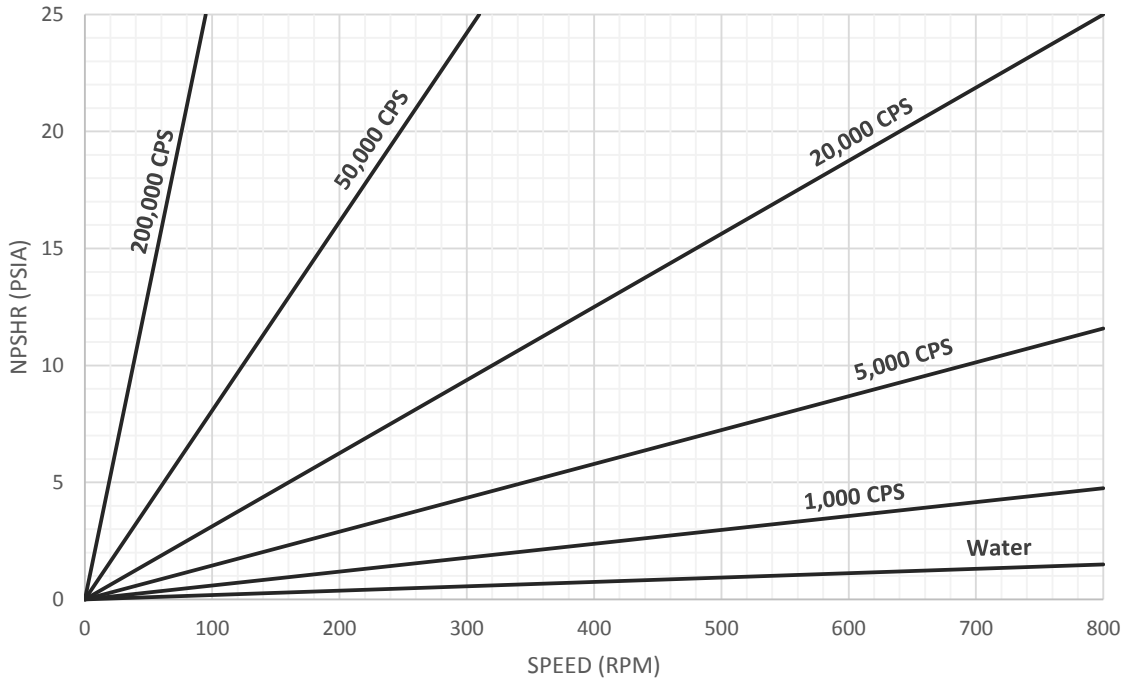
Port size: 1-1/2" x 1-1/2"



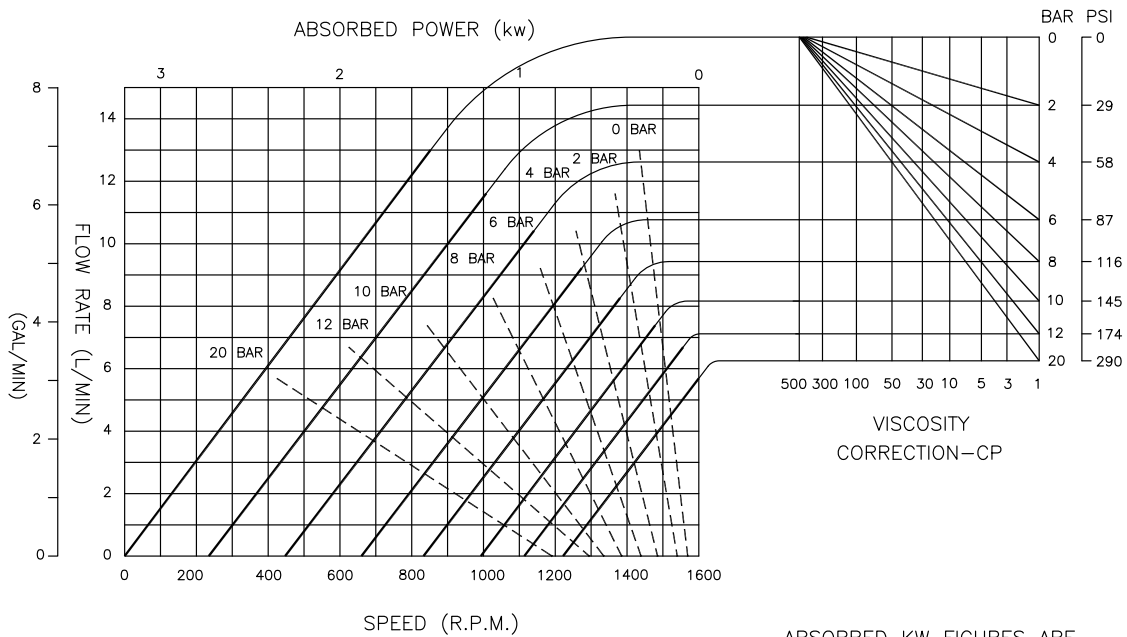
RZL-Series Rotary Lobe Pump - 100 Series Pump Curves

RZL 120 NPSHR

Port size: 2" x 2"



RZL 105 Multi-Lobe Capacity

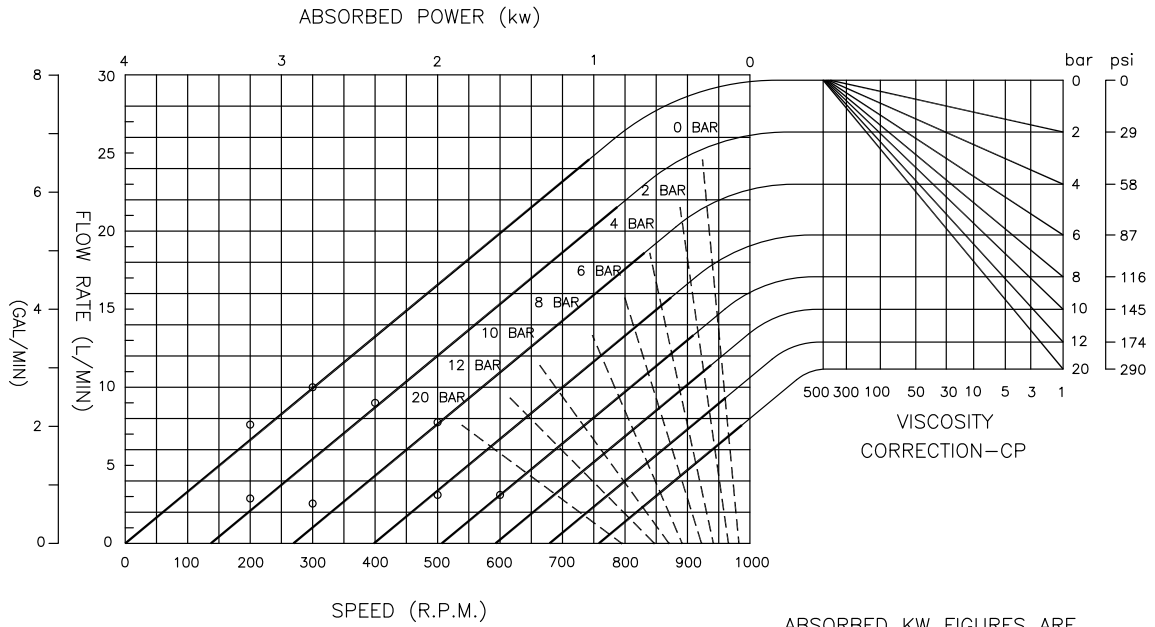


ABSORBED KW FIGURES ARE FOR 1CP VISCOSITY



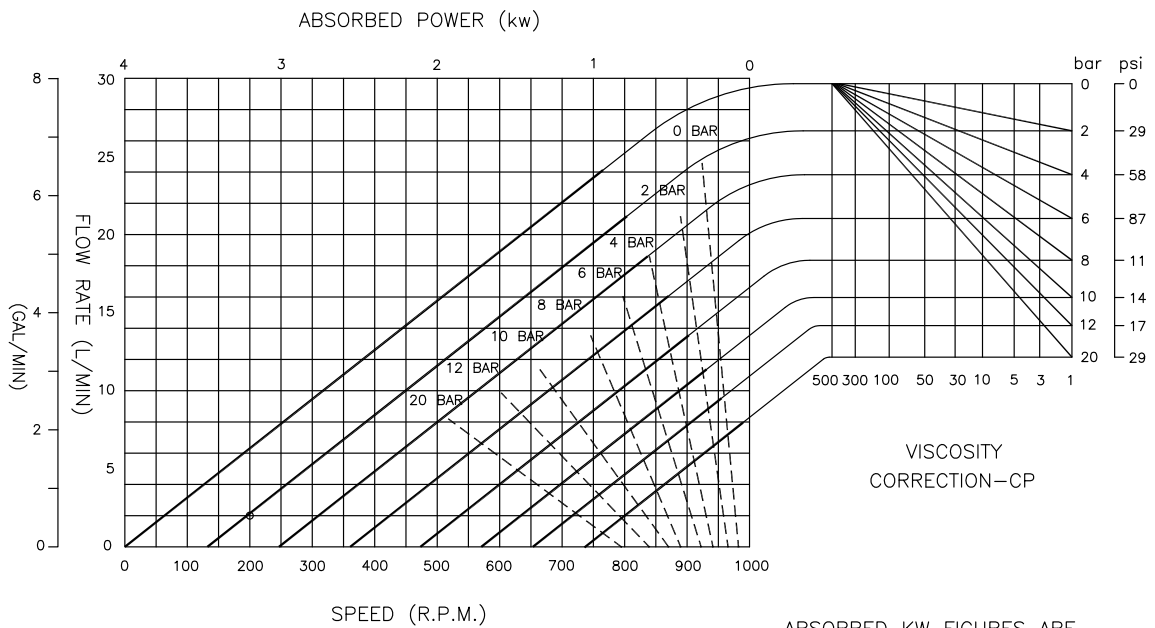
RZL-Series Rotary Lobe Pump - 100 Series Pump Curves

RZL 110 Bi-Wing Capacity



ABSORBED KW FIGURES ARE FOR 1CP VISCOSITY

RZL 110 Multi-Lobe Capacity

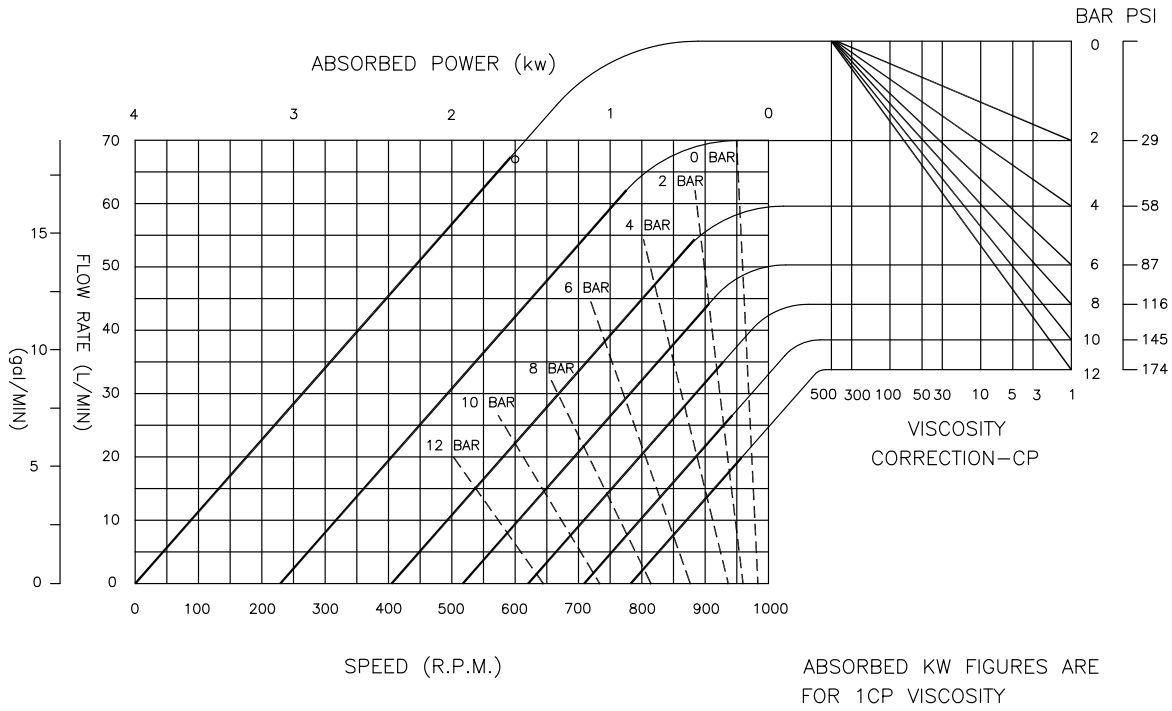


ABSORBED KW FIGURES ARE FOR 1CP VISCOSITY

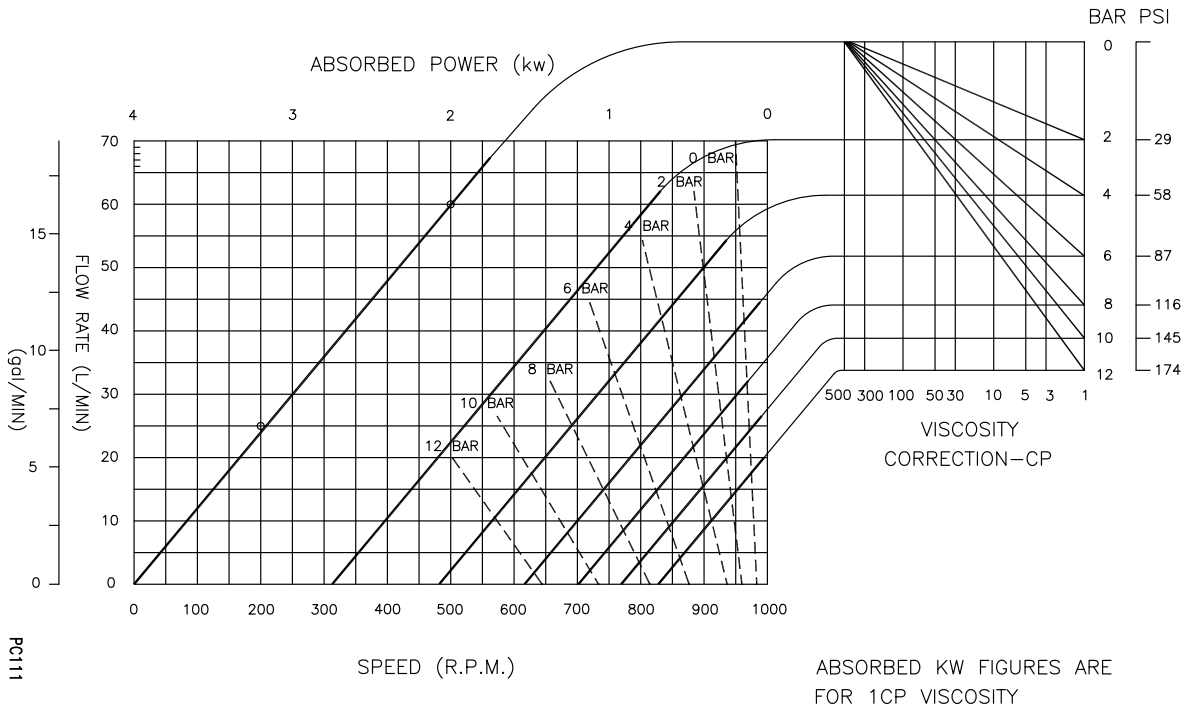


RZL-Series Rotary Lobe Pump - 100 Series Pump Curves

RZL 115 Bi-Wing Capacity



RZL 115 Heli-Lobe Capacity

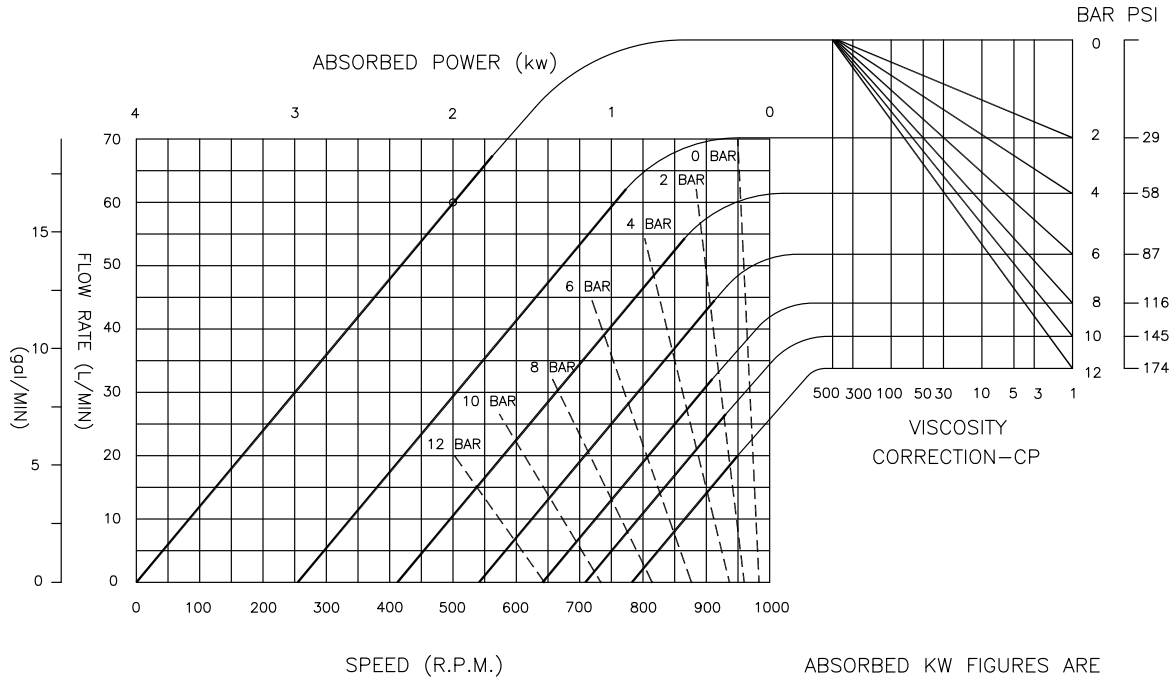


PC111

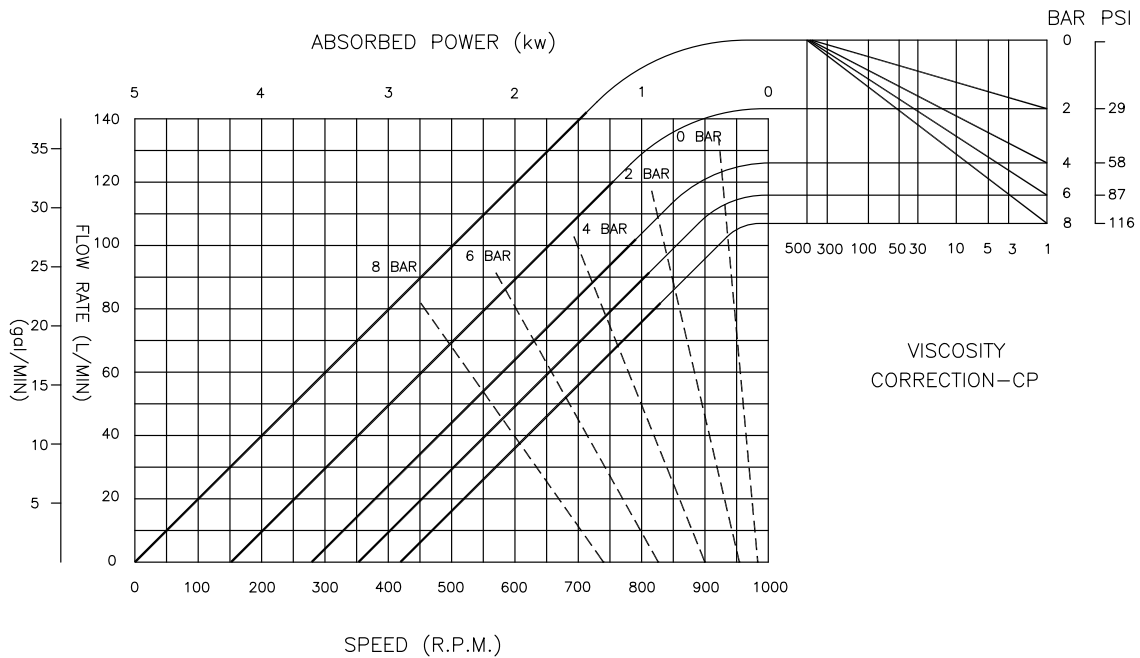
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RZL-Series Rotary Lobe Pump - 100 Series Pump Curves

RZL 115 Tri-Lobe Capacity

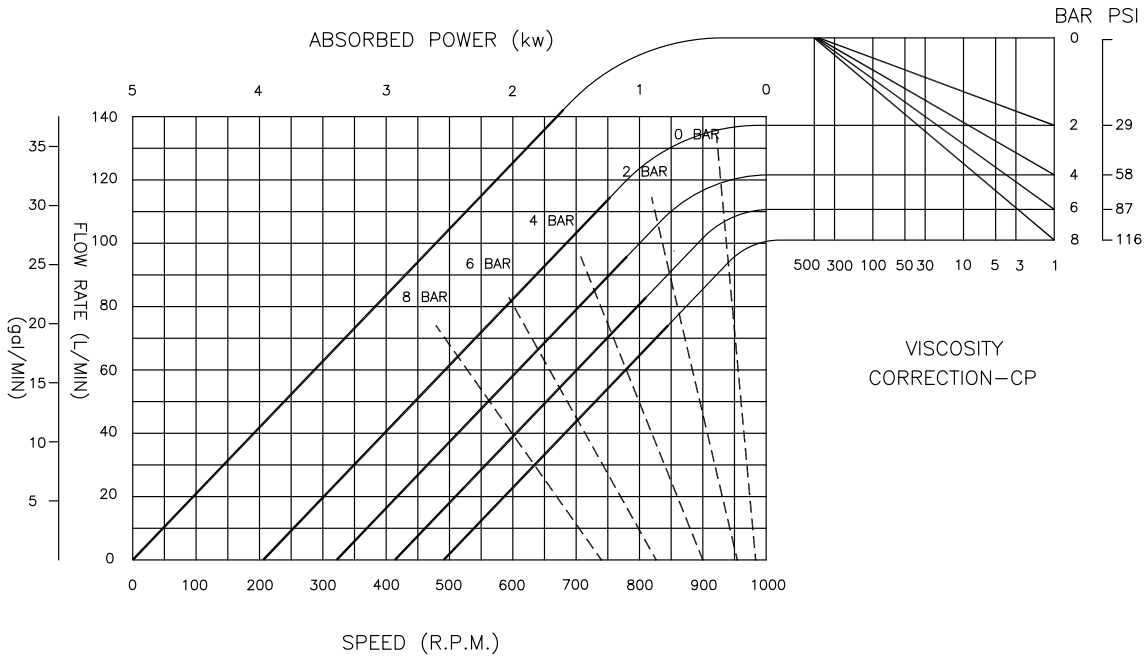


RZL 120 Bi-Wing Capacity

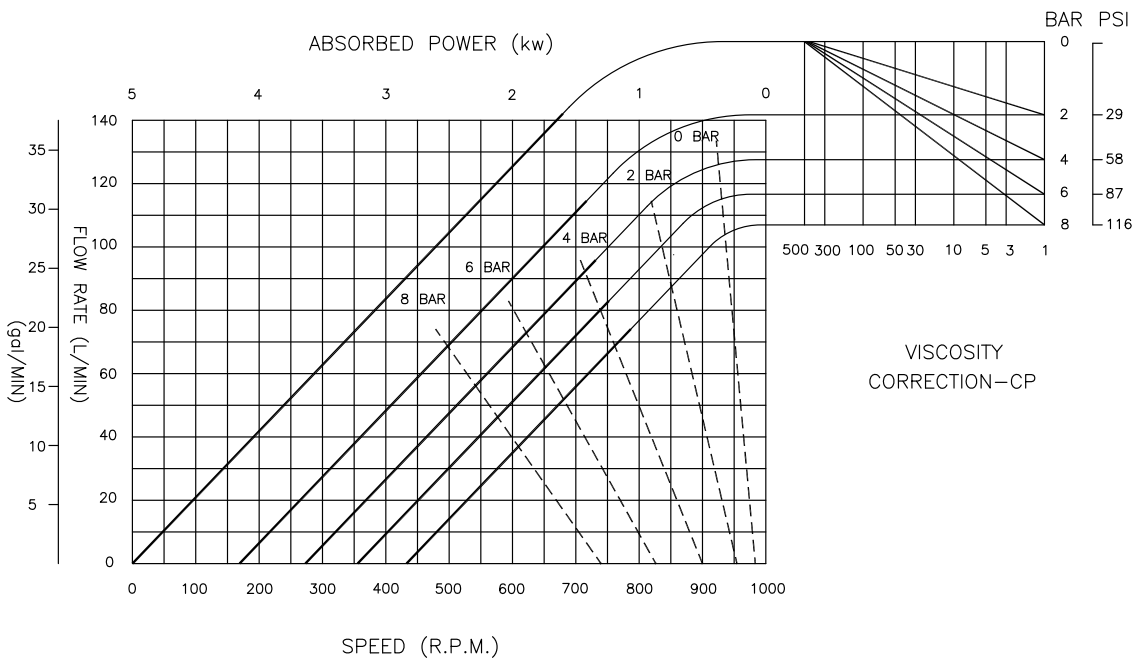


RZL-Series Rotary Lobe Pump - 100 Series Pump Curves

RZL 120 Heli-Lobe Capacity



RZL 120 Tri-Lobe Capacity

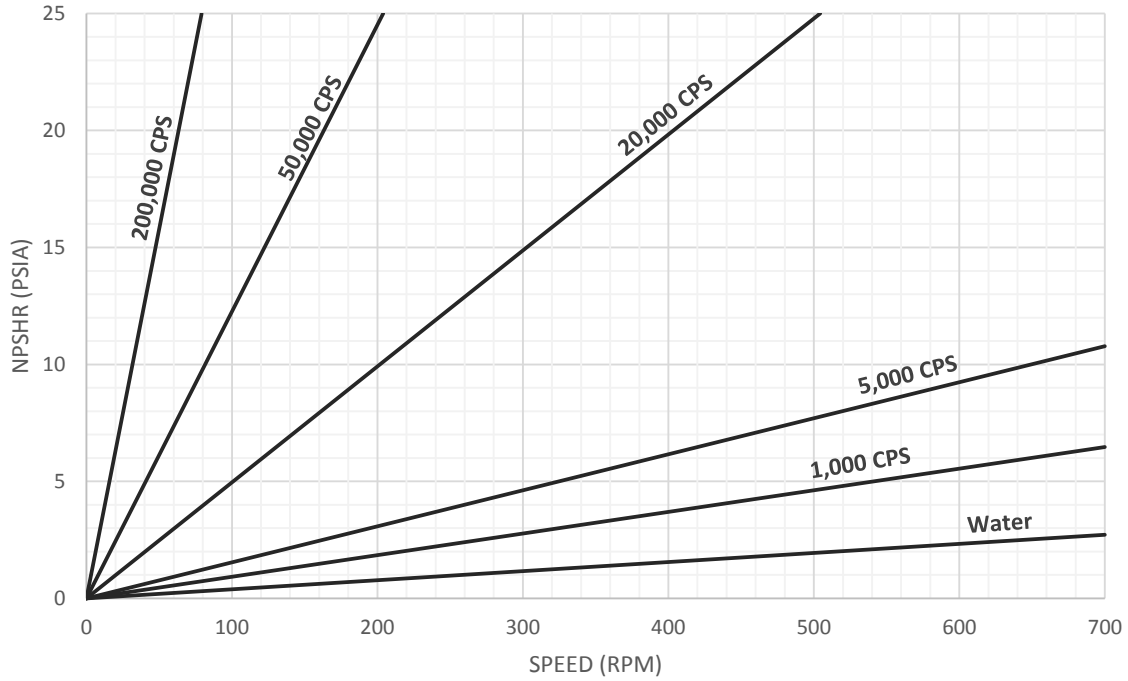


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RZL-Series Rotary Lobe Pump - 200 Series Pump Curves

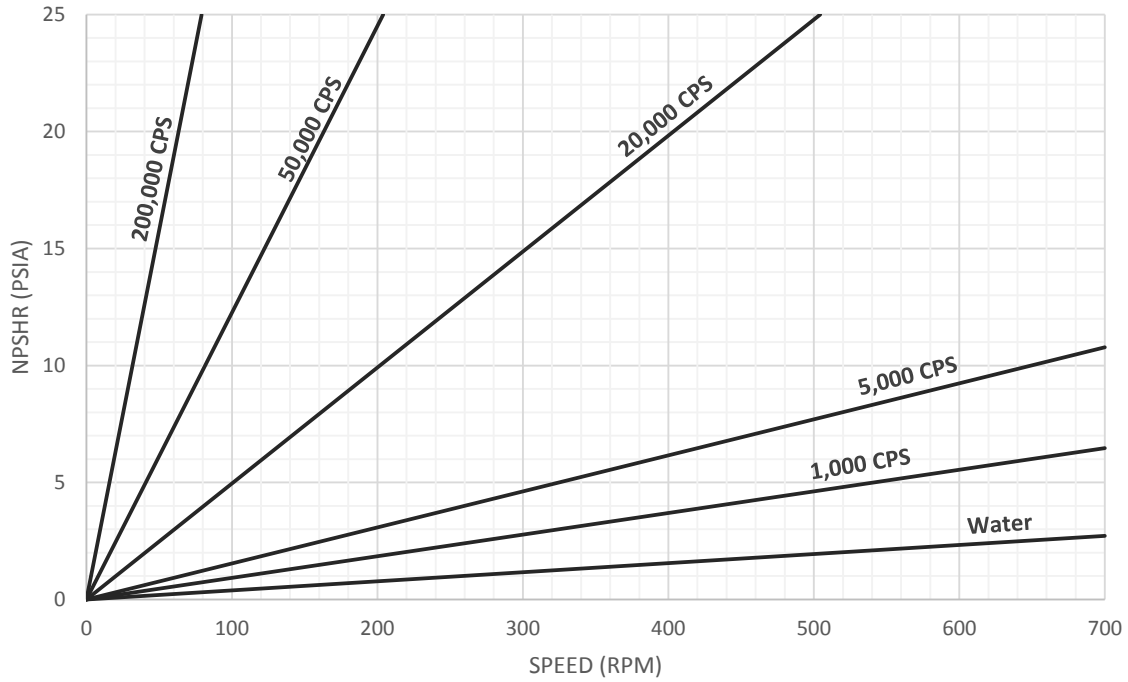
RZL 220 NPSHR

Port size: 2" x 2"



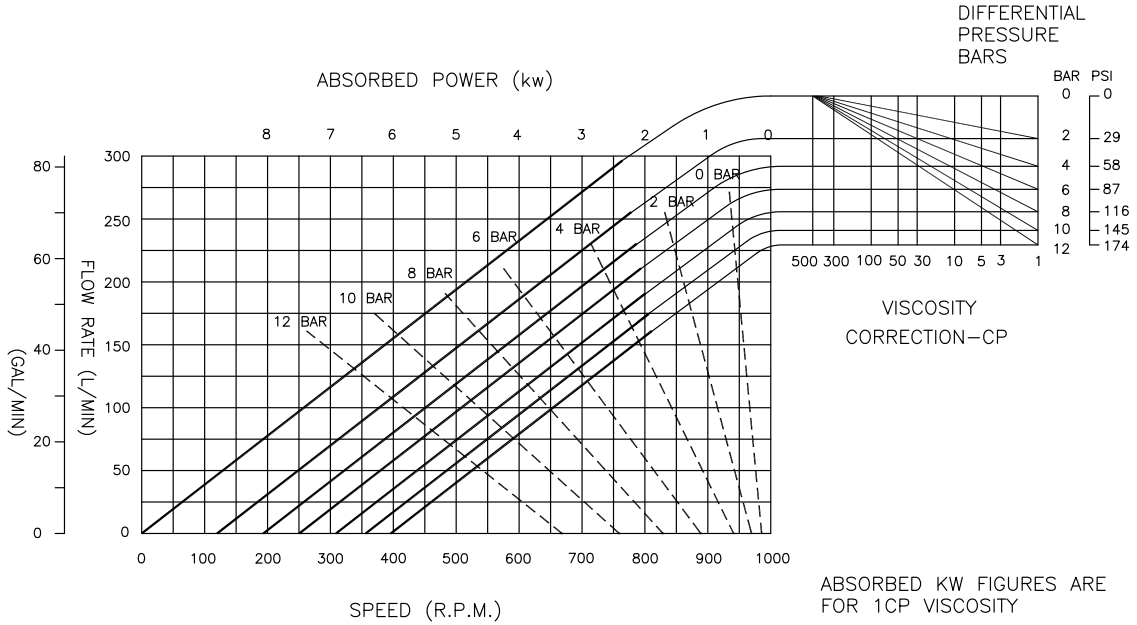
RZL 225 NPSHR

Port size: 2-1/2" x 2-1/2"

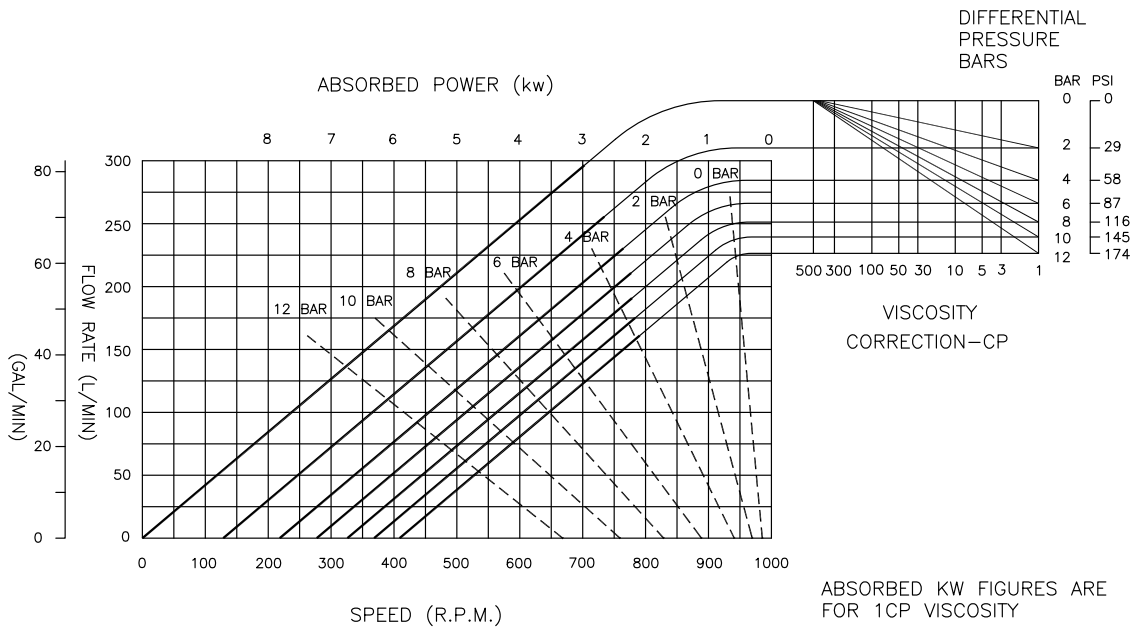


RZL-Series Rotary Lobe Pump - 200 Series Pump Curves

RZL 220 Bi-Wing Capacity



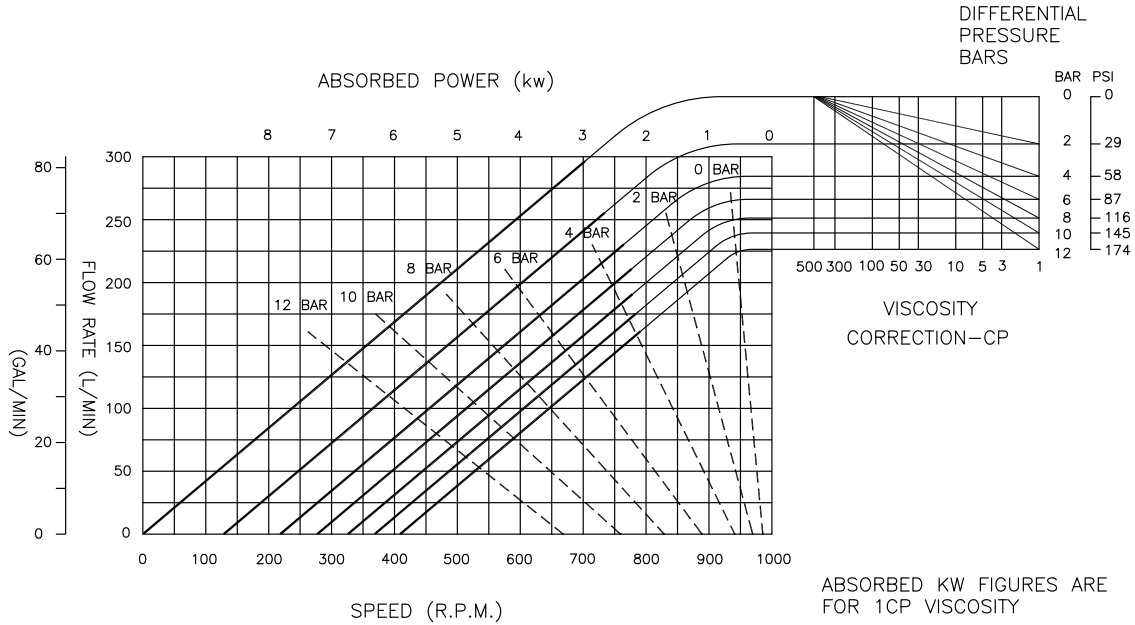
RZL 220 Heli-Lobe Capacity



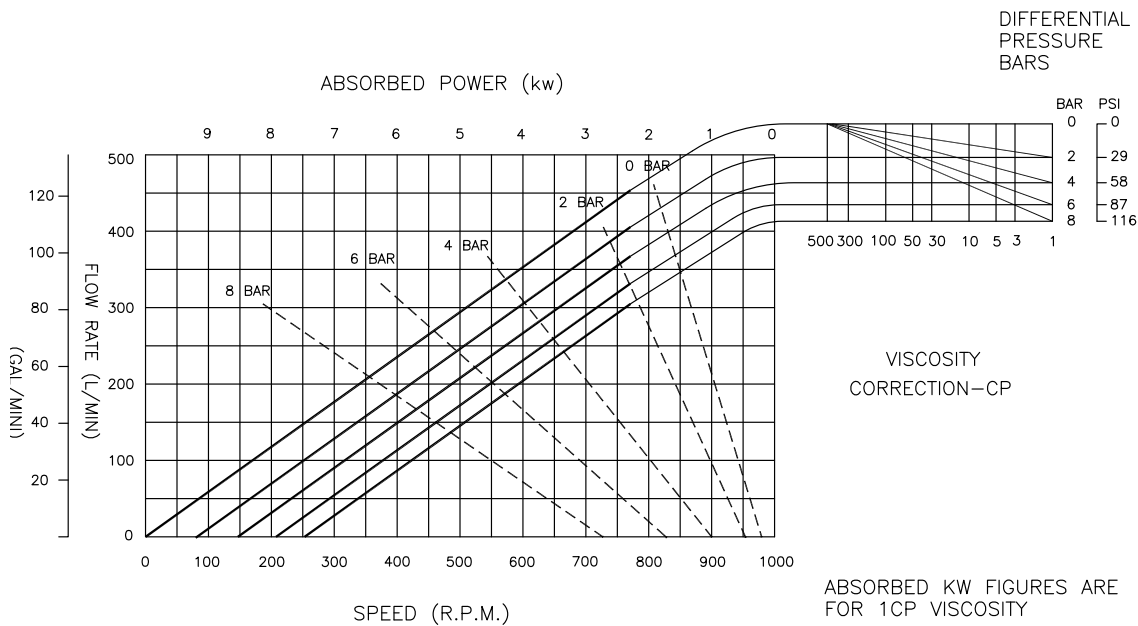
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RZL-Series Rotary Lobe Pump - 200 Series Pump Curves

RZL 220 Tri-Lobe Capacity

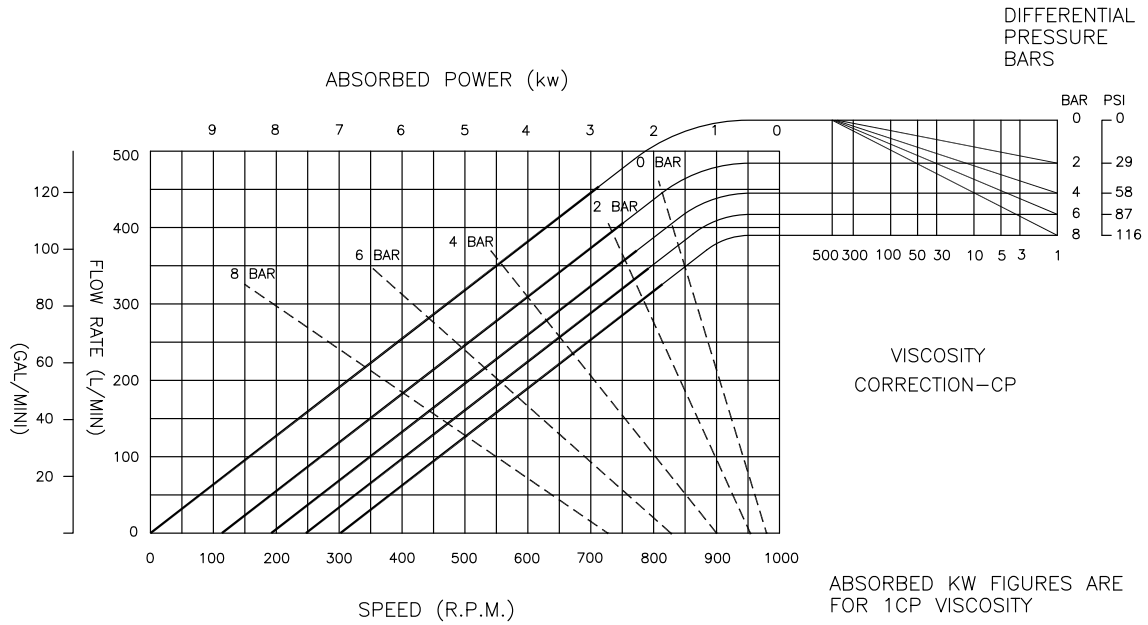


RZL 225 Bi-Wing Capacity

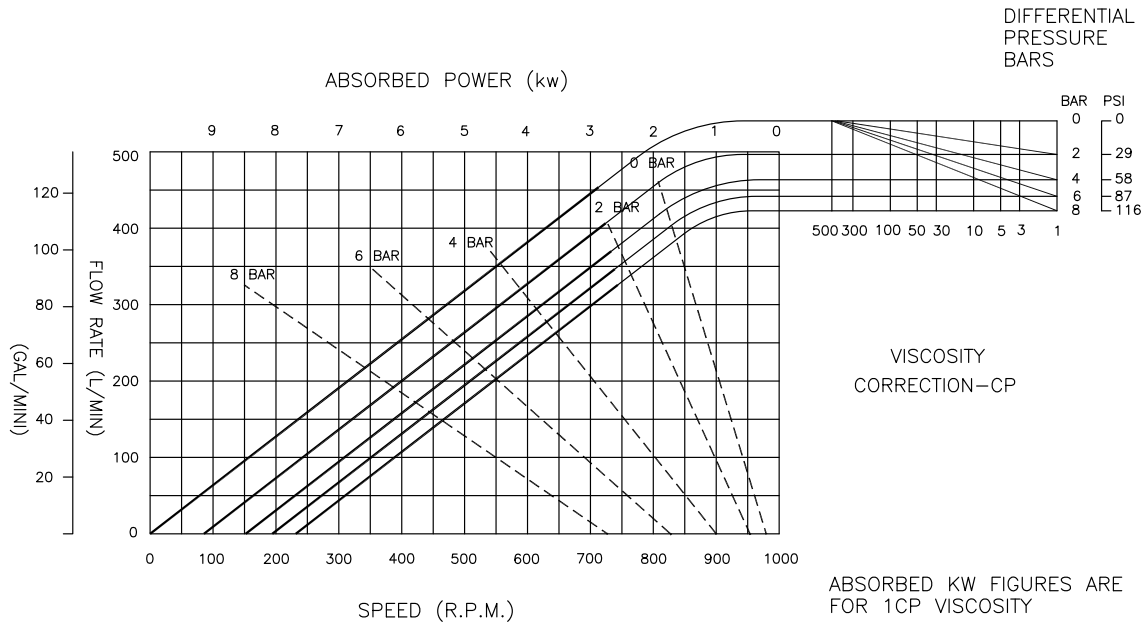


RZL-Series Rotary Lobe Pump - 200 Series Pump Curves

RZL 225 Heli-Lobe Capacity



RZL 225 Tri-Lobe Capacity

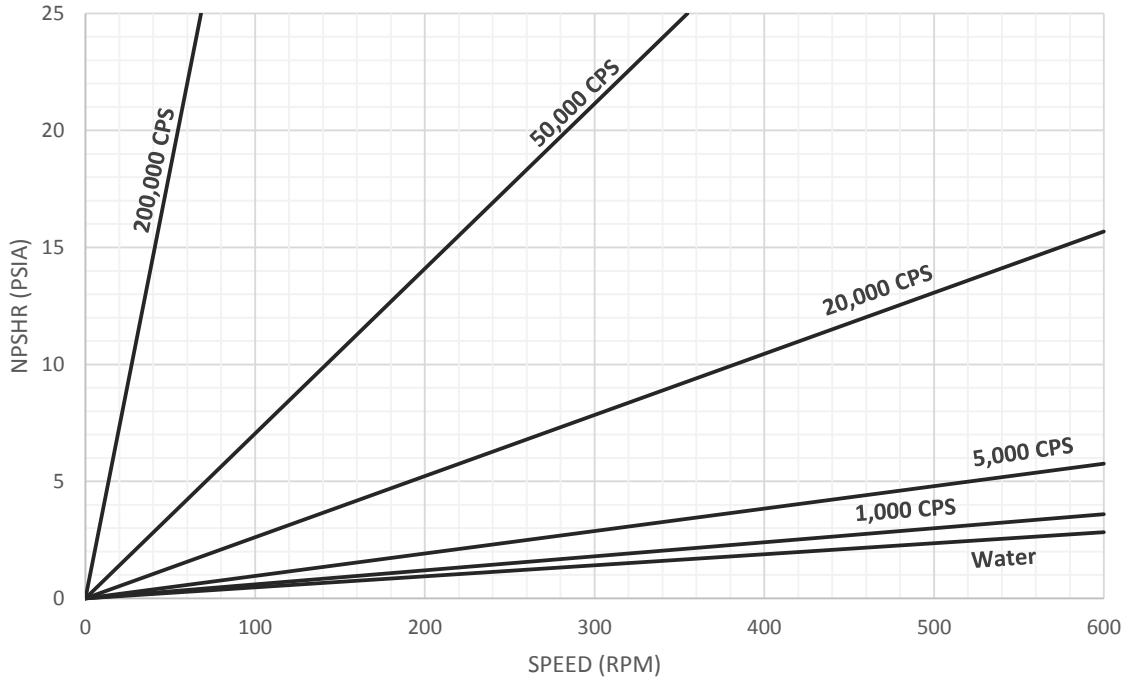


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RZL-Series Rotary Lobe Pump - 300 Series Pump Curves

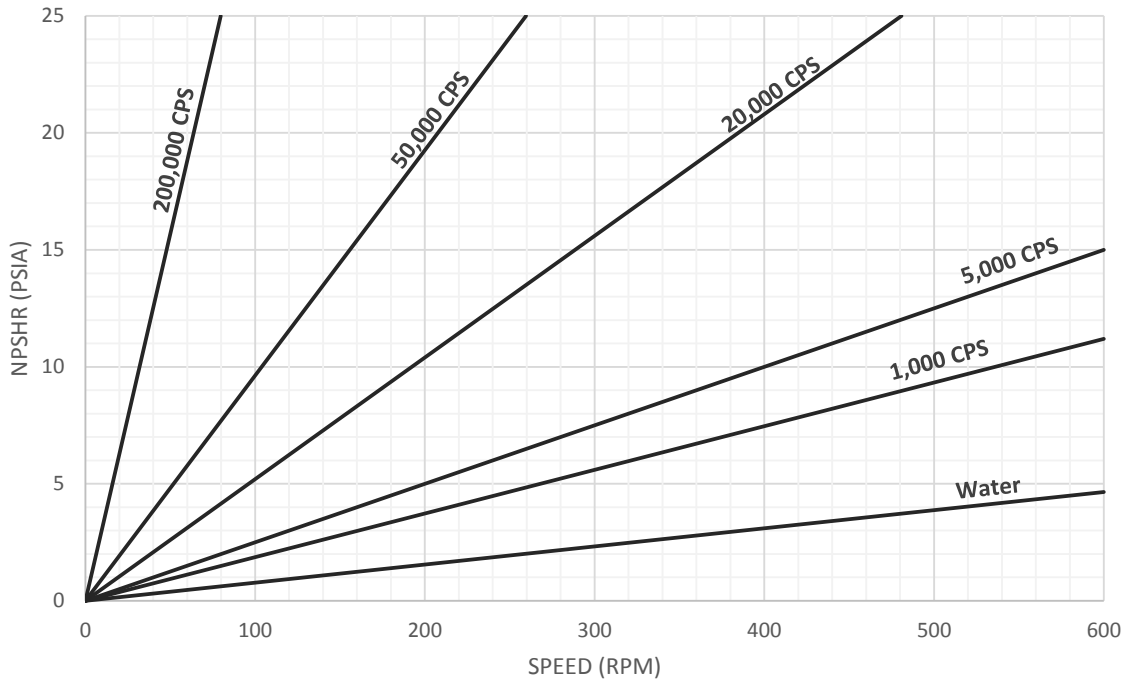
RZL 330 NPSHR

Port size: 3" x 3"



RZL 340 NPSHR

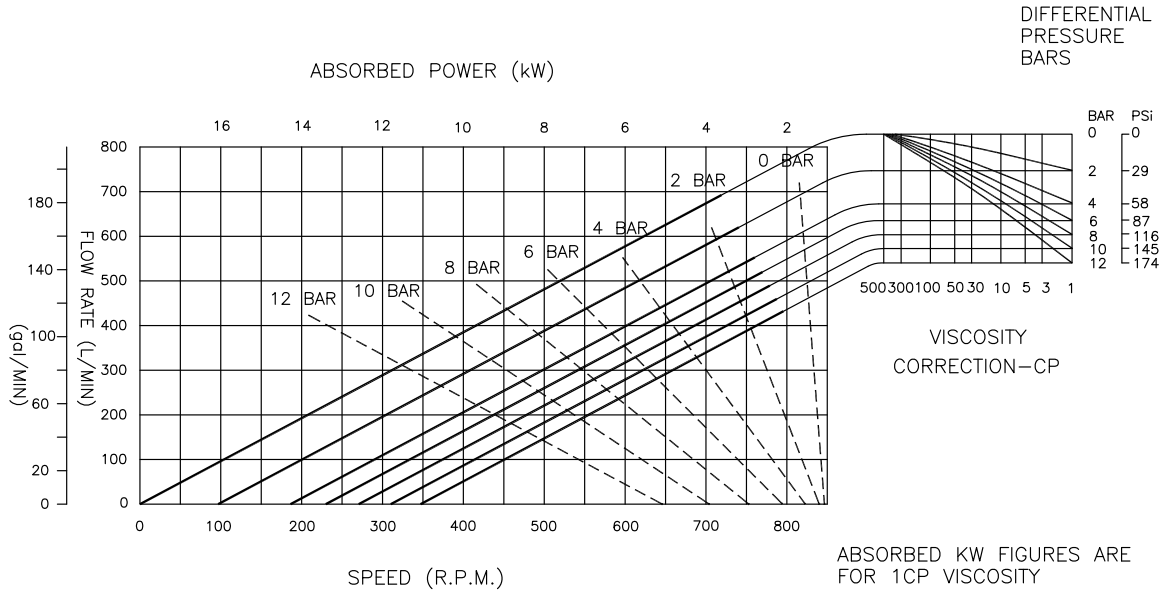
Port size: 4" x 4"



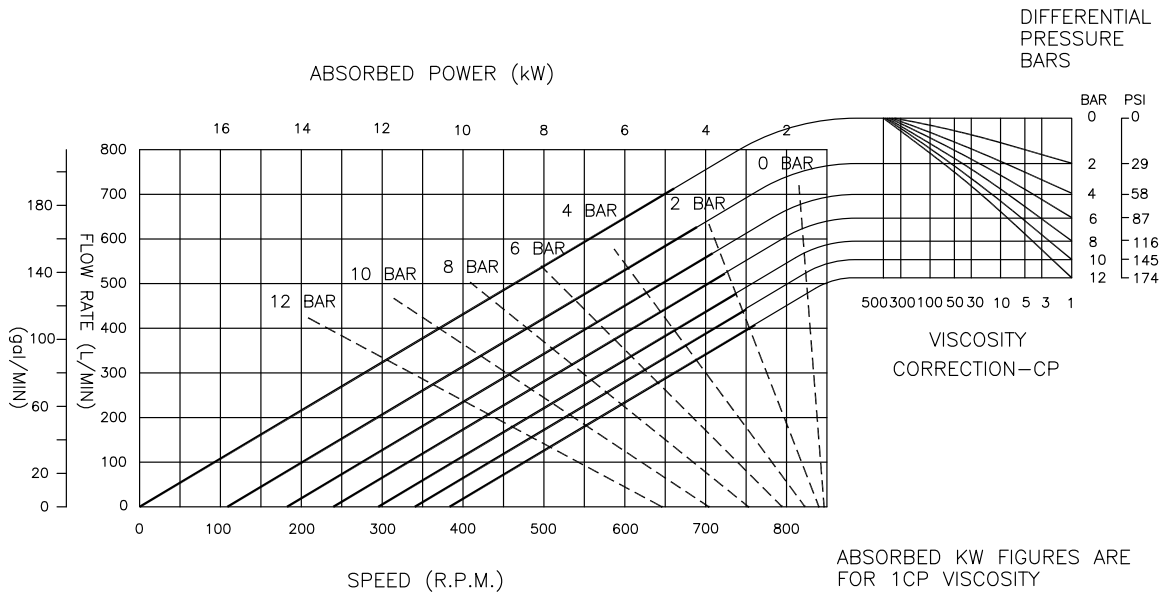
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RZL-Series Rotary Lobe Pump - 300 Series Pump Curves

RZL 330 Bi-Wing Capacity



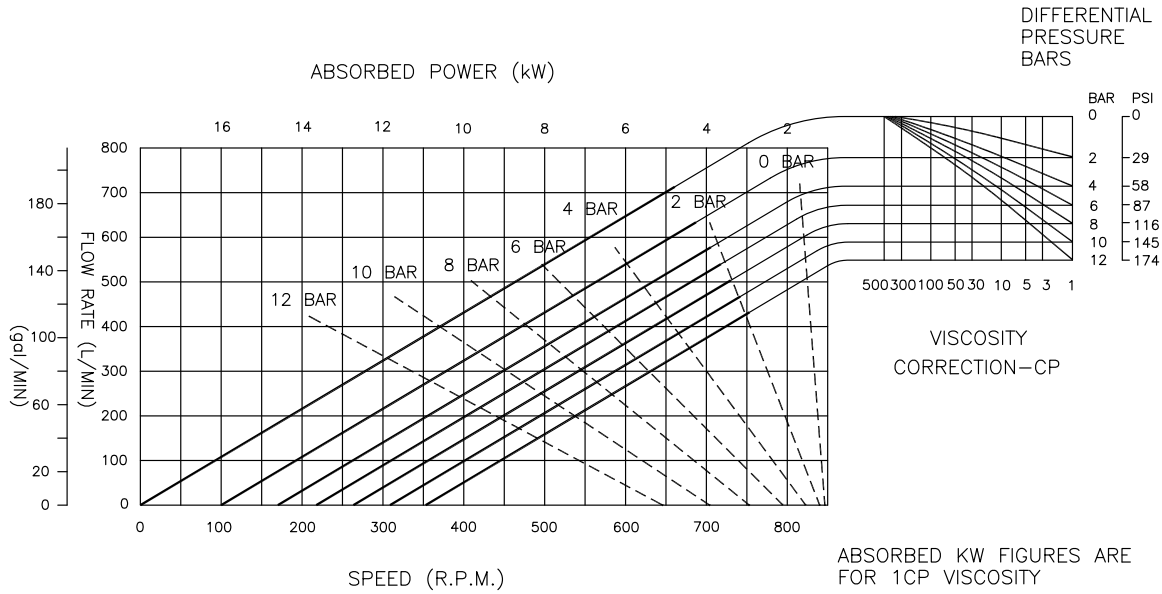
RZL 330 Heli-Lobe Capacity



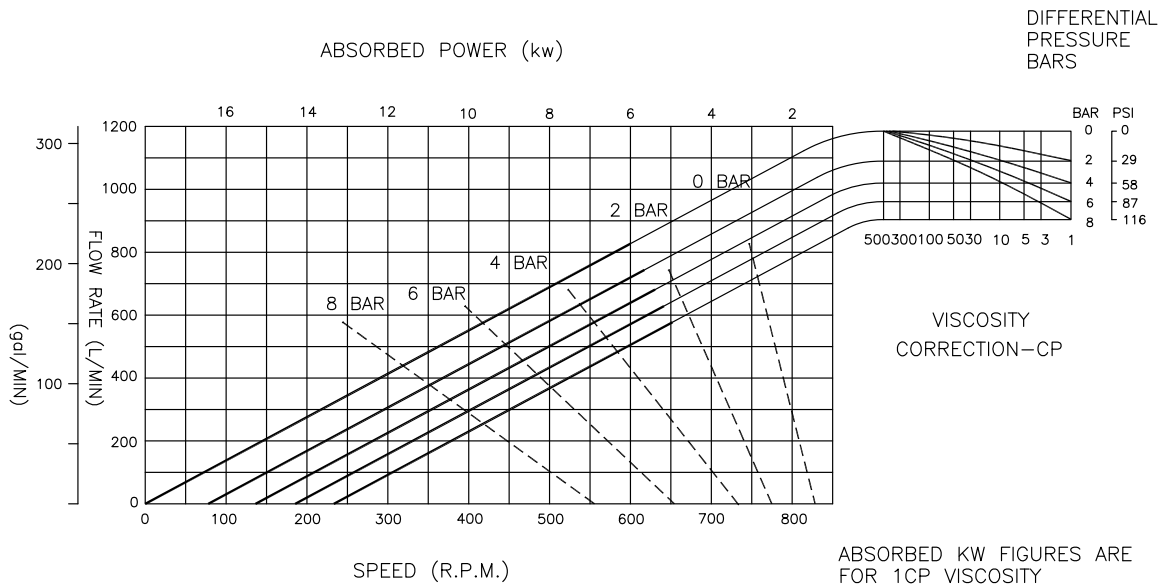
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RZL-Series Rotary Lobe Pump - 300 Series Pump Curves

RZL 330 Tri-Lobe Capacity

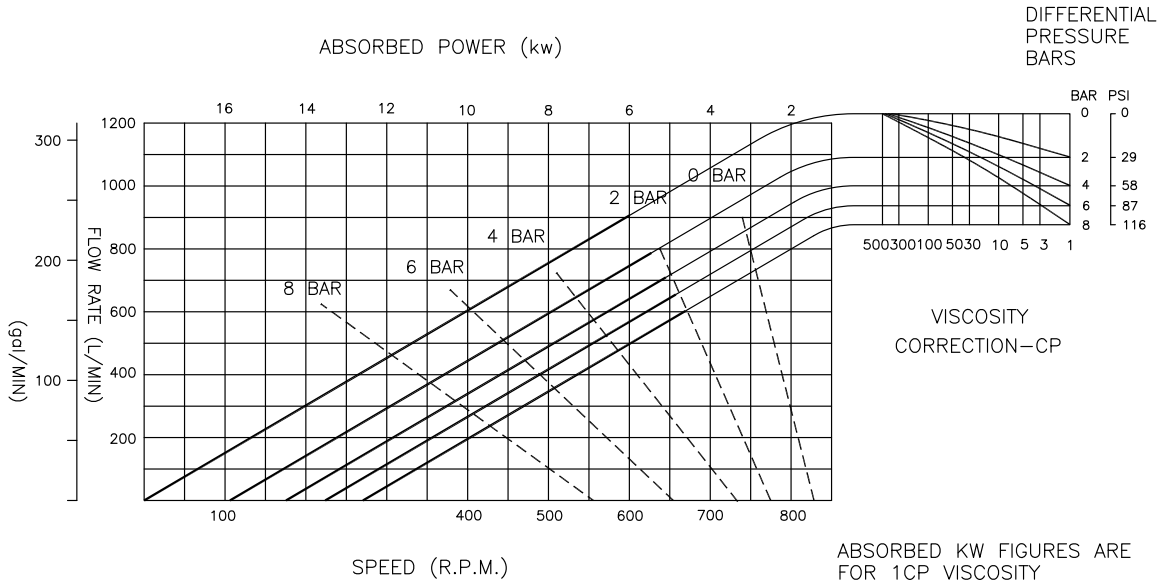


RZL 340 Bi-Wing Capacity

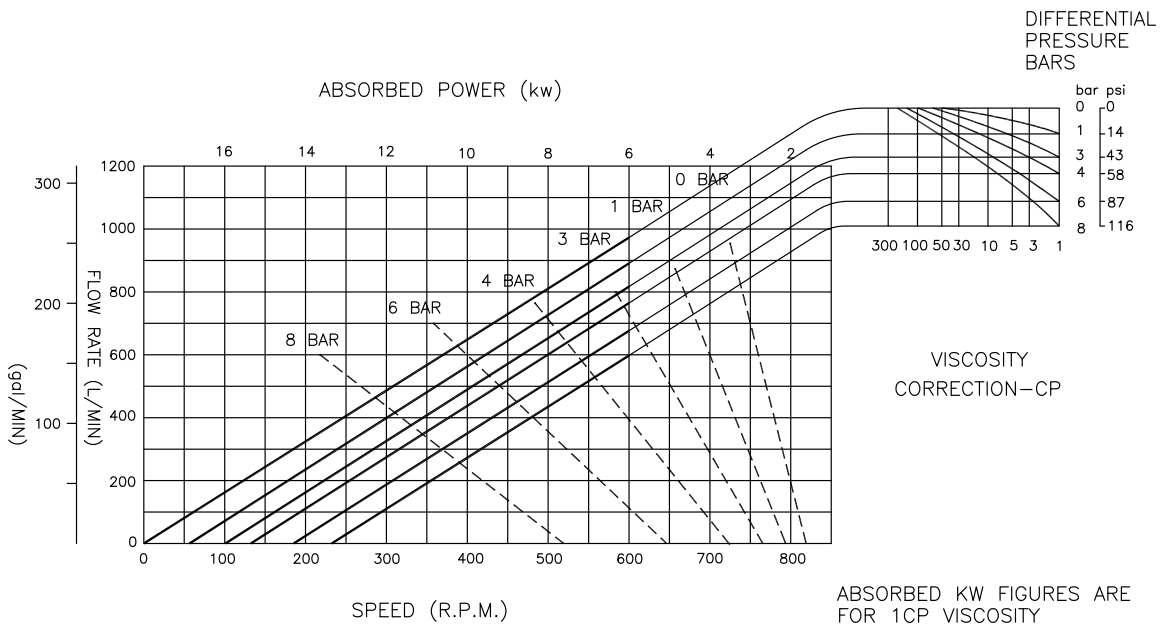


RZL-Series Rotary Lobe Pump - 300 Series Pump Curves

RZL 340 Heli-Lobe Capacity



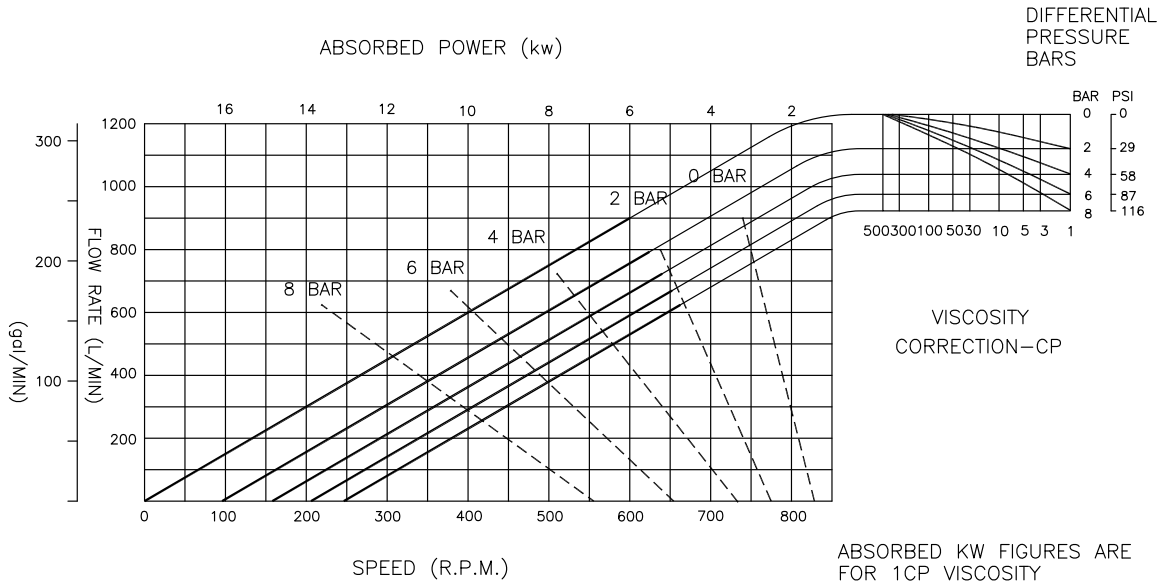
RZL 340 Rubber Heli-Lobe Capacity



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RZL-Series Rotary Lobe Pump - 300 Series Pump Curves

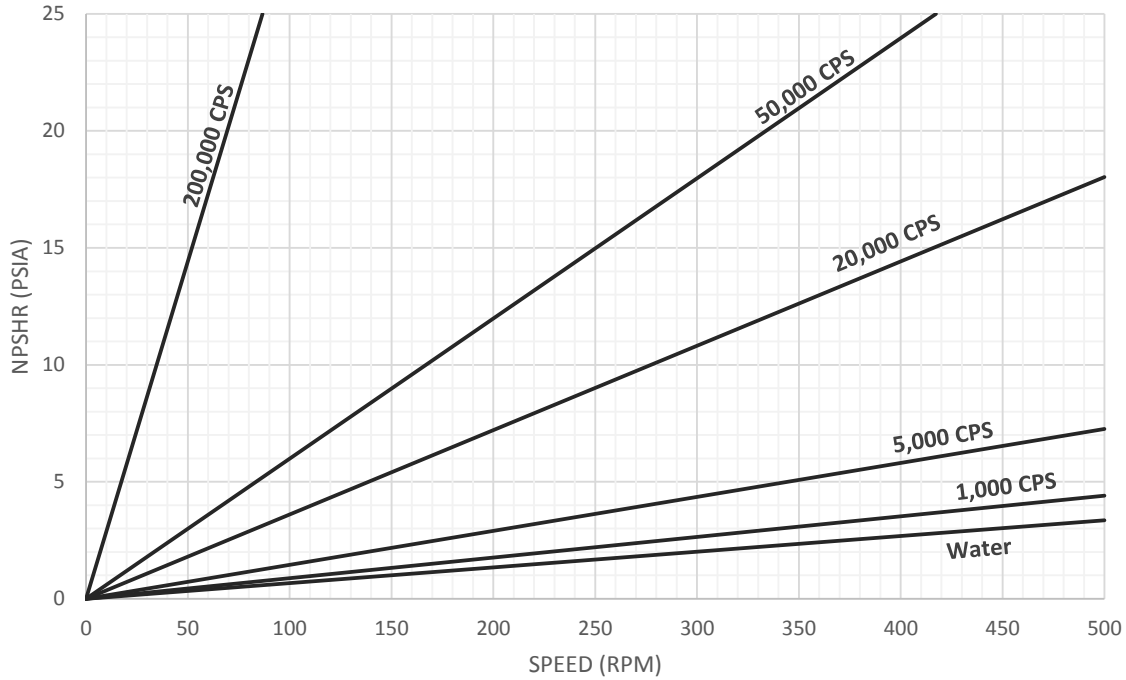
RZL 340 Tri-Lobe Capacity



RZL-Series Rotary Lobe Pump - 400 Series Pump Curves

RZL 440 NPSHR

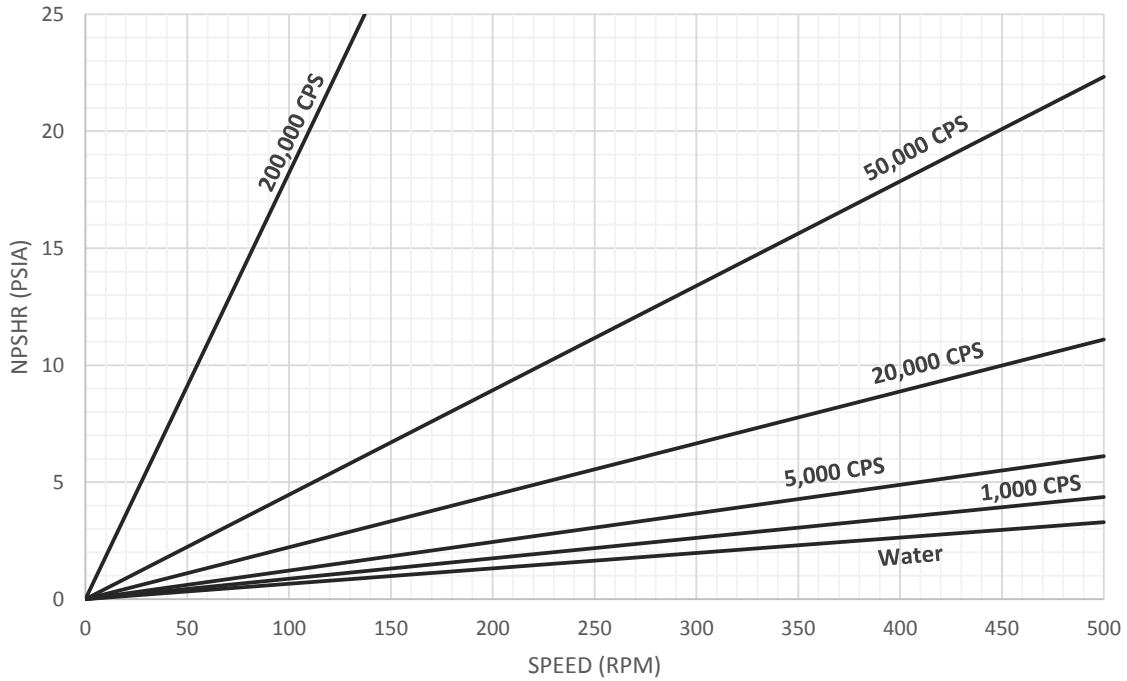
Port size: 4" x 4"



RZL-Series Rotary Lobe Pump - 400 Series Pump Curves

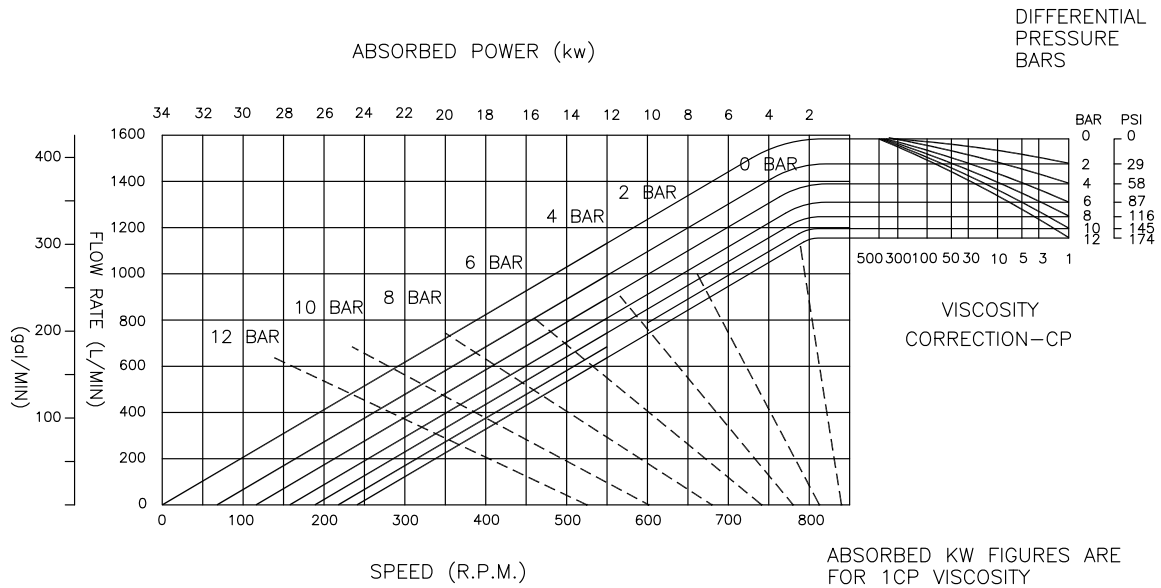
RZL 450 NPSHR

Port size: 5" x 5"



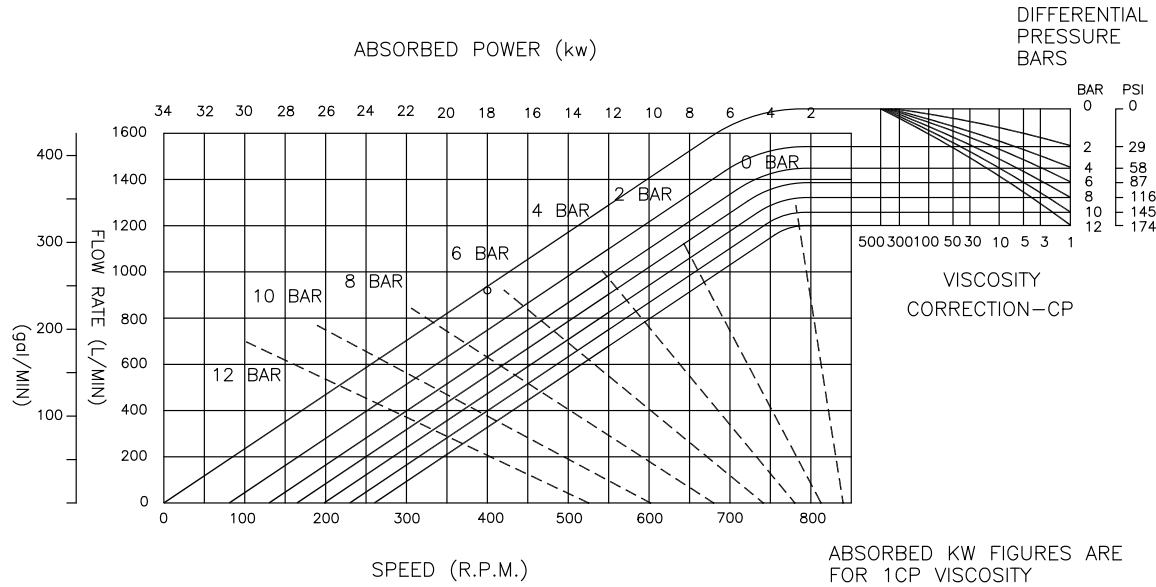
RZL 440 Bi-Wing Capacity

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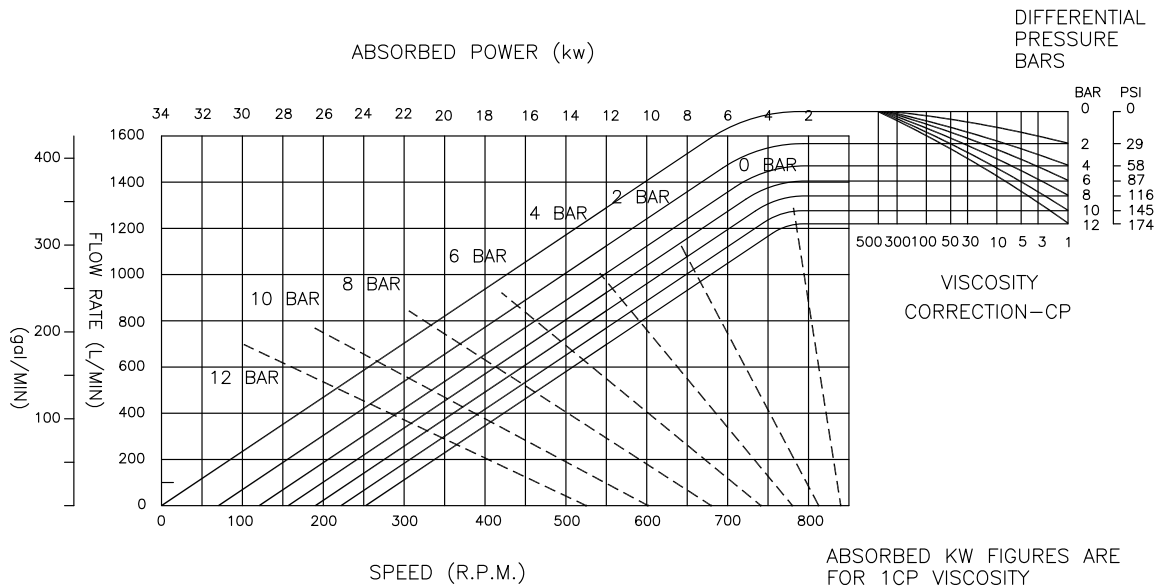


RZL-Series Rotary Lobe Pump - 400 Series Pump Curves

RZL 440 Heli-Lobe Capacity

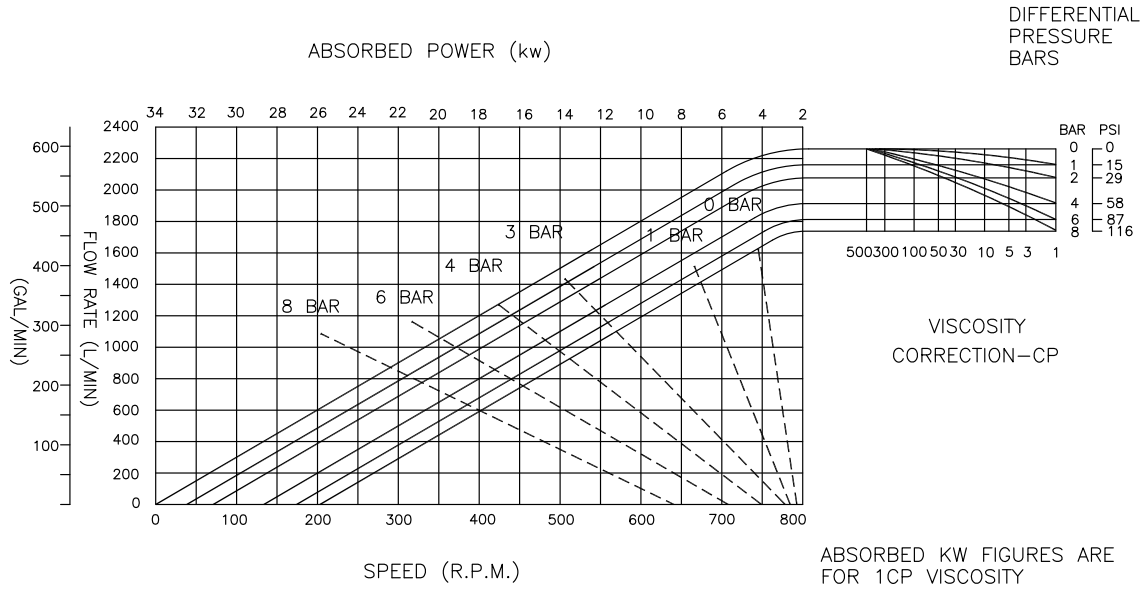


RZL 440 Tri-Lobe Capacity

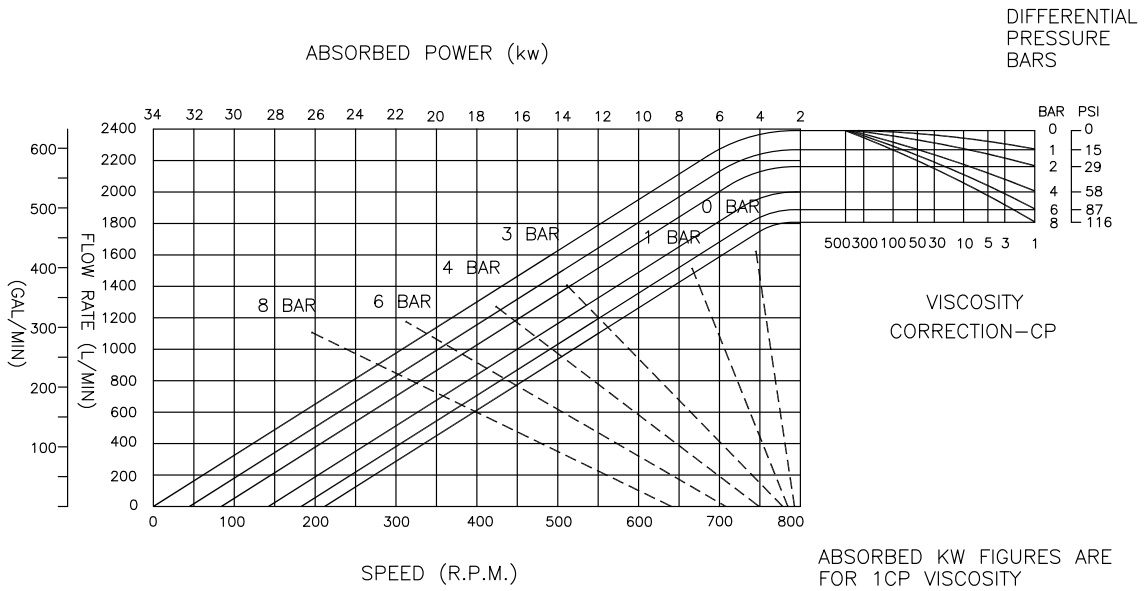


RZL-Series Rotary Lobe Pump - 400 Series Pump Curves

RZL 450 Bi-Wing Capacity



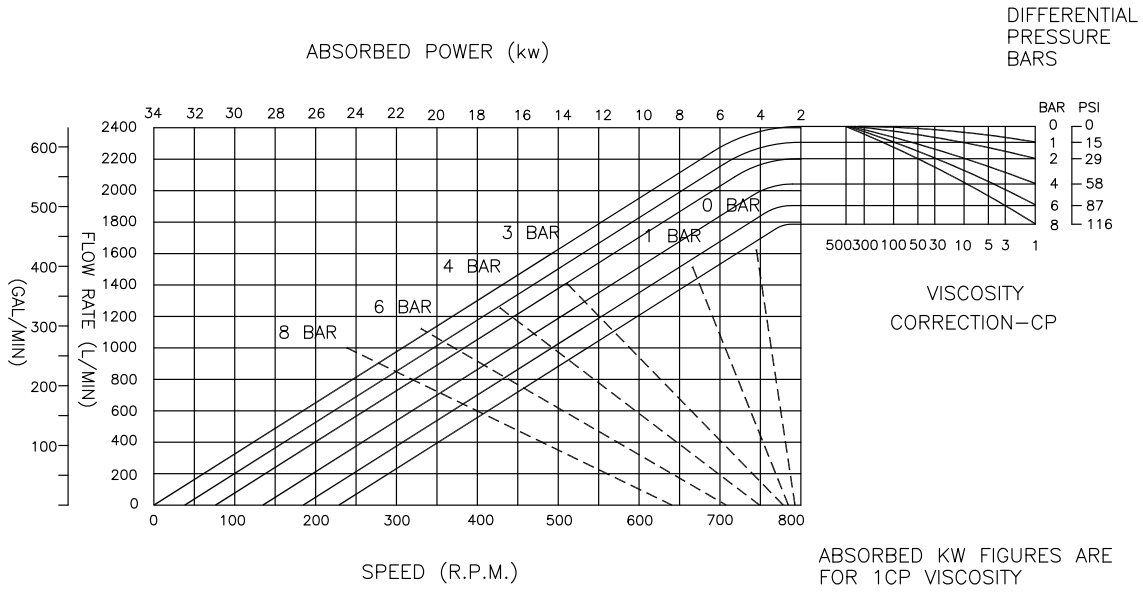
RZL 450 Heli-Lobe Capacity



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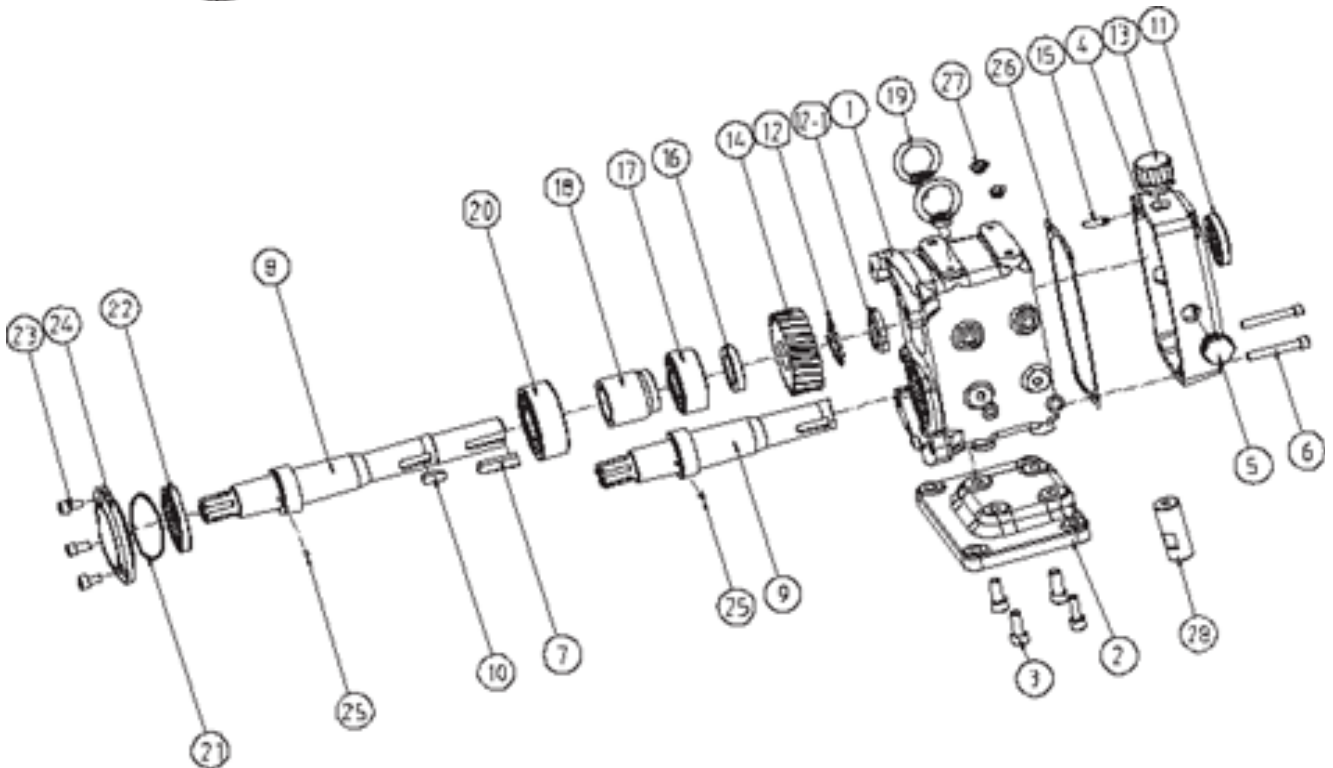
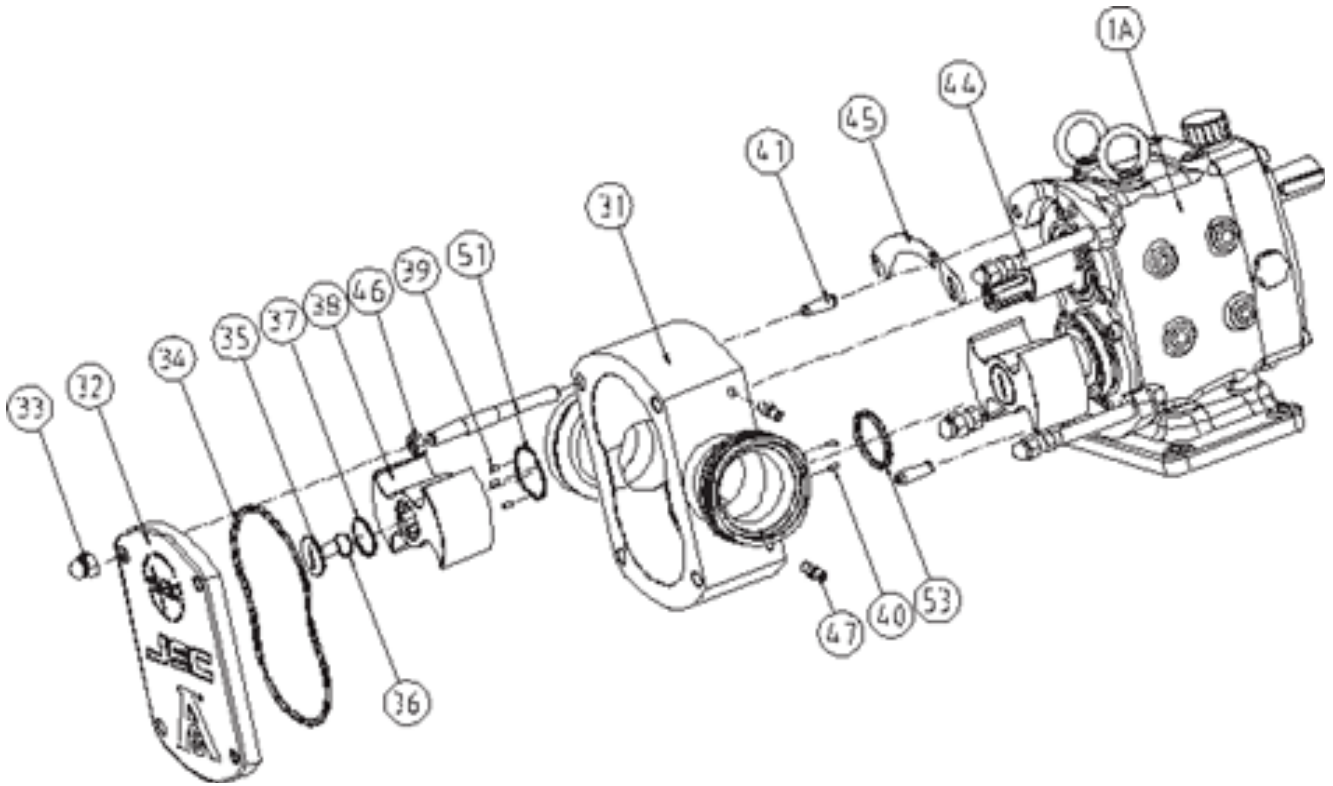
RZL-Series Rotary Lobe Pump - 400 Series Pump Curves

RZL 450 Tri-Lobe Capacity



RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Basic Assembly (Single M/Seal)



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RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Gear Box Assembly (Basic)

Item #	Part #	Description	Material	Used	Qty
1	RZL-115B-GBSS	gear box	SUS304	RZL 100	1
2	RZL-115B-GBSSB	base, gear box	SUS304	RZL 100	1
3	RZL-115B-BWB	wrench bolt, base (M8x20L)	SUS304	RZL 100	4
4	RZL-115B-GBCSS	cover, gear box	SUS304	RZL 100	1
5	RZL-115B-PLD	plug, level, drain	-	RZL100/200	3
6	RZL-115B-GBWB	wrench bolt, gear box cover (M6x45L)	S45C	RZL 100	4
7	RZL-115B-DSLEY	key, shaft (8x7x34)	S45C	RZL 100	1
8	RZL-115-DSHAFT	shaft, drive	SUS304	RZL 105/110/115	1
	RZL-120-DSHAFT	shaft, drive	SUS304	RZL 120	1
9	RZL-115-ISHAFT	shaft, idle	SUS304	RZL 105/110/115	1
	RZL-120-ISHAFT	shaft, idle	SUS304	RZL 120	1
10	RZL-115B-GKEY	key, gear (8x7x21)	S45C	RZL 100	2
11	RZL-115B-OSCB	oil seal, cover (23x43x7t)	nitrile rubber	RZL 100	1
	RZL-115B-OSCV	oil seal, cover (23x43x7t)	FKM	RZL 100	1
12	RZL-115B-TGWASH	lock washer	S45C	RZL 100	2
12-1	RZL-115B-TGNUT	lock nut	S45C	RZL 100	2
13	RZL-115B-RVLV	breather, gear box	PE	RZL 100/200	1
14	RZL-115B-TGHELG	helical gear	S45C	RZL 100	2
15	RZL-115B-GBDOW	dowel, gear box ϕ 6)	SUS304	RZL 100	2
16	RZL-115B-GSPAC	spacer, gear (ϕ 35x5L)	S45C	RZL 100/200/300/400	2
17	RZL-115B-RBEAR	bearing, rear (#5205)	-	RZL 100/200/300/400	2
18	RZL-115B-BSPAC	spacer, bearing	S45C	RZL 100/200/300/400	2
19	RZL-115B-IBOLT	I-bolt / M8	SUS304	RZL 100/200/300/400	2
20	RZL-115B-FBEAR	bearing, front (#5206)	-	RZL 100/200/300/400	2
21	RZL-115B-OSGOV	O-ring, oil seal gland (AN035)	FKM	RZL 100/200/300/400	2
22	RZL-115B-OSGB	oil seal, gear box (38x55x9t)	nitrile rubber	RZL 100/200/300/400	2
	RZL-115B-OSGV	oil seal, gear box (38x55x9t)	FKM	RZL 100/200/300/400	2
23	RZL-115B-OSGWB	wrench bolt, oil seal gland (M6x12L)	SUS304	RZL 100	6
24	RZL-115B-OSGLD	gland, oil seal	SUS304	RZL 100	2
25	RZL-115B-DSPIN	pin, double seal	SUS304	RZL 100	2
26	RZL-115B-GCGP	gasket	paper	RZL 100	1
27	RZL-115B-PLUG	plug (M8)	PE	RZL 100	8
28	RZL-115B-VADAPT	vertical adapter	SUS304	RZL 100	4
29	RZL-115B-LFP	pad, leg feet	SS + rubber	RZL series	4
30	RZL-115B-ERT	rotor tool, extraction	SUS304	RZL series	1
31A*	RZL-115B-GUARD	safety guard (casing)	SUS304	RZL 100	2
31B*	RZL-115B-GB	guard wrench bolt M5x8	SUS304	RZL 100/200	4

*Items are not pictured on the exploded view. For more information please contact Dixon Sanitary at 800.789.1718.

RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Pump Assembly

Item #	Part #	Description	Material	Used	Qty
1A	RZL-115-GBASS	gear box assembly	SUS304	RZL 115/110/105	1
	RZL-120-GBASS	gear box assembly	SUS304	RZL 120	1
31	See page 65	rotor case	SUS316L	RZL 100	1
32	RZL-105-FCVR	front cover	SUS316L	RZL 105	1
	RZL-110-FCVR	front cover	SUS316L	RZL 110	1
	RZL-115B-RCVR	front cover	SUS316L	RZL 115/120	1
33	RZL-115B-CNUT	cap nut	SUS304	RZL 115/120	4
34	RZL-105-FCORB	O-ring, front cover (AN246)	nitrile rubber	RZL 105	1
	RZL-105-FCORE	O-ring, front cover (AN246)	EPDM		1
	RZL-105-FCORV	O-ring, front cover (AN246)	FKM		1
	RZL-110-FCORB	O-ring, front cover (AN248)	nitrile rubber	RZL 110	1
	RZL-110-FCORE	O-ring, front cover (AN248)	EPDM		1
	RZL-110-FCORV	O-ring, front cover (AN248)	FKM		1
	RZL-115B-FCORB	O-ring, front cover (AN251)	nitrile rubber	RZL 115/120	1
	RZL-115B-FCORE	O-ring, front cover (AN251)	EPDM		1
RZL-115B-FCORV	O-ring, front cover (AN251)	FKM	1		
35	RZL-115B-RBOLT	rotor bolt	SUS316L	RZL 100	2
36	RZL-115B-RBW	rotor bolt spring washer	SUS304		2
37	RZL-115B-RB0RB	O-ring, rotor bolt (AN021)	nitrile rubber	RZL 100	2
	RZL-115B-RBORE	O-ring, rotor bolt (AN021)	EPDM		2
	RZL-115B-RBORV	O-ring, rotor bolt (AN021)	FKM		2
38	see page 453	rotor	SUS316L	RZL 100	2
39	RZL-115B-RTSLP	seal pin, rotor	SUS304	RZL 100	6
40	RZL-115B-CSSLP	seal pin, case	SUS304	RZL 100	4
41	RZL-115B-RCDOW	dowel, rotor case ($\phi 6$)	SUS304	RZL 100	2
44	RZL-105B-CSSB	stud bolt, case (M8)	SUS304	RZL 105/110	4
	RZL-115-CSSB	stud bolt, case (M8)	SUS304	RZL 115	4
	RZL-120-CSSB	stud bolt, case (M8)	SUS304	RZL 120	4
45	RZL-115B-SHIM05	shim, 0.05mm	SUS304	RZL 100	2
	RZL-115B-SHIM1	shim, 0.1mm	SUS304		2
46	RZL-115B-SBHYN	hex nut, stud bolt (M8)	SUS304	RZL 100	4
47	RZL-115B-FSNIP	nipple, flush (PT 1/8")	SUS304	RZL 100	2
51	RZL-115B-RTORB	O-ring, rotor (AN028)	nitrile rubber	RZL 100	2
	RZL-115B-RTORE	O-ring, rotor (AN028)	EPDM		2
	RZL-115B-RTORV	O-ring, rotor (AN028)	FKM		2
53	RZL-115B-RCORB	O-ring, rotor case (AN220)	nitrile rubber	RZL 100	2
	RZL-115B-RCORE	O-ring, rotor case (AN220)	EPDM		2
	RZL-115B-RCORV	O-ring, rotor case (AN220)	FKM		2

NOTE: Please contact Dixon Sanitary or a local distributor for purchased product (rotor case, front cover, gear box, stud bolt, and shim) before October, 2011.

RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

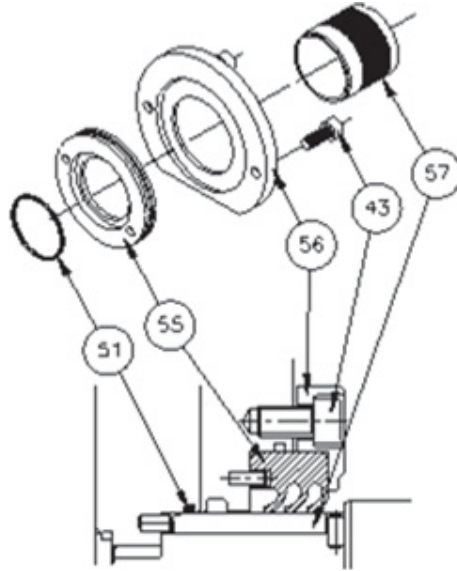
Rotor Case/Rotor

Item #	Part #	Description	Material	Used	Qty	
31	RZL-105-RCCLMP	rotor case - 1" tri-clamp	SUS316L	RZL 105/110	1	
	RZL-105-RCFLNG	rotor case - 1" flange	SUS316L		1	
	RZL-115-RCCLMP	rotor case - 1-1/2" tri-clamp	SUS316L	RZL 115	1	
	RZL-115-RCFLNG	rotor case - 1-1/2" flange	SUS316L		1	
	RZL-120-RCCLMP	rotor case - 2" tri-clamp	SUS316L	RZL 120	1	
	RZL-120-RCFLNG	rotor case - 2" flange	SUS316L		1	
38	RZL-105-MLA	rotor set (2), multi-lobe	SUS316L	RZL 105	2	
	RZL-105-MLARV	rotor set (2), multi-lobe, relief valve	SUS316L	RZL 105	2	
	RZL-110-BWA	rotor set (2), bi-wing	SUS316L	RZL 110	2	
	RZL-110-BWARV	rotor set (2), bi-wing, relief valve	SUS316L		2	
	RZL-110-BWTIA	rotor set (2), bi-wing, PTFE inserted	SUS316L/PTFE		2	
	RZL-110-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L		2	
	RZL-110-MLA	rotor set (2), multi-lobe	SUS316L		2	
	RZL-115-SWA	rotor set (2), single-wing	SUS316L		RZL 115	2
	RZL-115-BWA	rotor set (2), bi-wing	SUS316L	2		
	RZL-115-BWTIA	rotor set (2), bi-wing PTFE inserted	SUS316L/PTFE	2		
	RZL-115-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L	2		
	RZL-115-BLA	rotor set (2), bi-lobe	SUS316L	2		
	RZL-115-3LA	rotor set (2), tri-lobe	SUS316L	2		
	RZL-115-H3LA	rotor (2), tri-lobe, high temp clearance	SUS316L	2		
	RZL-115-HELIA	rotor set (2), heli-lobe	SUS316L	2		
	RZL-115-MLA	rotor set (2), multi-lobe	SUS316L	2		
	RZL-120-SWA	rotor set (2), single-wing	SUS316L	RZL 120		2
	RZL-120-BWA	rotor set (2), bi-wing	SUS316L			2
	RZL-120-BWTIA	rotor set (2), bi-wing PTFE inserted	SUS316L/PTFE			2
	RZL-120-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L		2	
	RZL-120-BLA	rotor set (2), bi-lobe	SUS316L		2	
	RZL-120-3LA	rotor set (2), tri-lobe	SUS316L		2	
	RZL-120-H3LA	rotor set (2), tri-lobe, high temp clearance	SUS316L		2	
	RZL-120-HELIA	rotor set (2), heli-lobe	SUS316L		2	
RZL-120-MLA	rotor set (2), multi-lobe	SUS316L	2			
	RZL-120-RHELIA	rotor set (2), heli-lobe	EPDM		2	

NOTE: All standard rotor cases do not have tap holes for flushing on jacketed options.

RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Triple Lip Seal

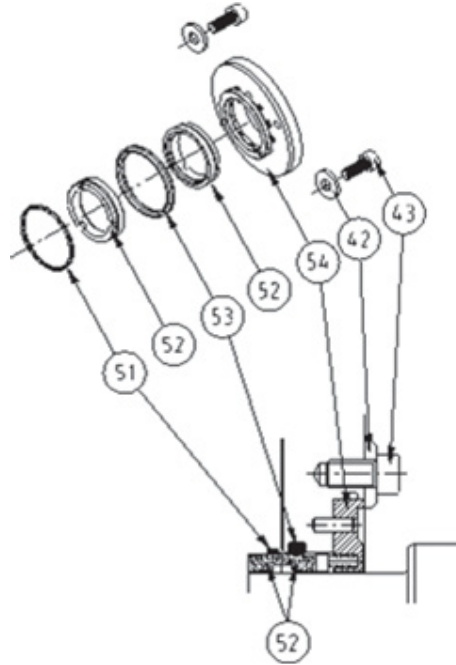


Item #	Part #	Description	Material	Used	Qty
43	RZL-115B-MSGWB	wrench bolt, M/seal gland (M6x10L)	SUS304	RZL 100	4
51	RZL-115B-RTORB	O-ring, rotor (AN028)	nitrile rubber		2
	RZL-115B-RTORE	O-ring, rotor (AN028)	EPDM		2
	RZL-115B-RTORV	O-ring, rotor (AN028)	FKM		2
56	RZL-115B-LSC	lip seal cover	SUS304		2
55	RZL-115B-TRPLSC	triple lip seal, product	PTFE + copper		2
	RZL-115B-TRPLS	triple lip seal, product	PTFE + glass		2
57	RZL-115B-CERCS	ceramic coated sleeve, product	ceramic/SUS304		2

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RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Single Mechanical Seal

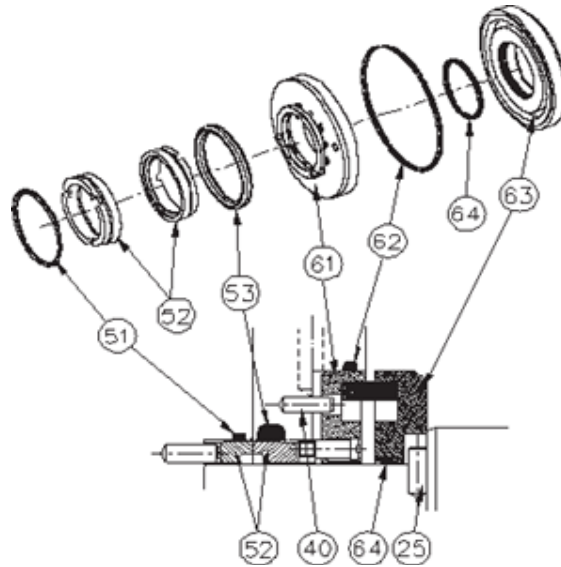


Item #	Part #	Description	Material	Used	Qty
42	RZL-115B-MSGFW	flat washer, M/Seal gland (φ6)	SUS304	RZL 100	4
43	RZL-115B-MSGWB	wrench bolt, M/seal gland (M6x10L)	SUS304		4
51	RZL-115B-RTORB	O-ring, rotor (AN028)	nitrile rubber		2
	RZL-115B-RTORE	O-ring, rotor (AN028)	EPDM		2
	RZL-115B-RTORV	O-ring, rotor (AN028)	FKM		2
52	RZL-115B-TCSEAL	seal ring	TC		4
53	RZL-115B-RCORB	O-ring, rotor case (AN220)	nitrile rubber		2
	RZL-115B-RCORE	O-ring, rotor case (AN220)	EPDM		2
	RZL-115B-RCORV	O-ring, rotor case (AN220)	FKM		2
54	RZL-115B-CSSB	single seal body, case	SUS304		2

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RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Double Mechanical Seal

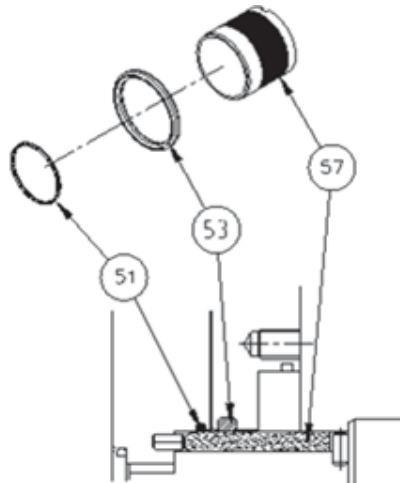


Item #	Part #	Description	Material	Used	Qty
51	RZL-115B-RTORB	O-ring, rotor (AN028)	nitrile rubber	RZL 100	2
	RZL-115B-RTORE	O-ring, rotor (AN028)	EPDM		2
	RZL-115B-RTORV	O-ring, rotor (AN028)	FKM		2
52	RZL-115B-TCSEAL	seal ring	TC		4
53	RZL-115B-RCORB	O-ring, rotor case (AN220)	nitrile rubber		2
	RZL-115B-RCORE	O-ring, rotor case (AN220)	EPDM		2
	RZL-115B-RCORV	O-ring, rotor case (AN220)	FKM		2
61	RZL-115B-CDSBTC	double seal body, case	TC/SUS304		2
	RZL-115B-CDHPTC	double seal body, case, high pressure	TC/SUS304		2
62	RZL-115B-CORDSB	O-ring, case, double seal (AN036)	nitrile rubber		2
	RZL-115B-CORDSE	O-ring, case, double seal (AN036)	EPDM		2
	RZL-115B-CORDSV	O-ring, case, double seal (AN036)	FKM		2
63	RZL-115B-SDSBC	rotation part, double seal, shaft	carbon/SUS304		2
64	RZL-115B-SORDSB	O-ring, shaft, double seal (AN023)	nitrile rubber		2
	RZL-115B-SORDSE	O-ring, shaft, double seal (AN023)	EPDM	2	
	RZL-115B-SORDSV	O-ring, shaft, double seal (AN023)	FKM	2	

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RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Single O-ring Seal

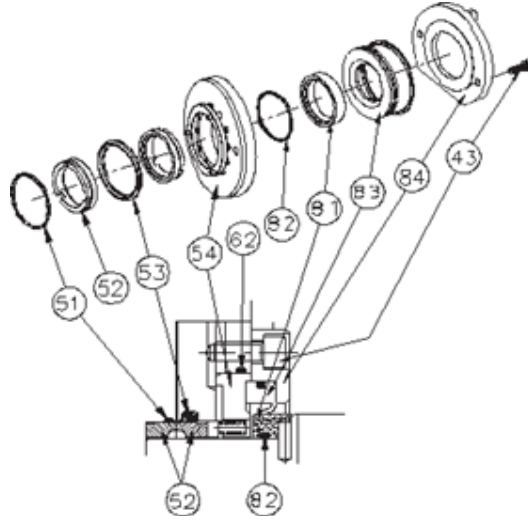


Item #	Part #	Description	Material	Used	Qty
42	RZL-115B-MSGFW	flat washer, seal gland (φ6)	SUS304	RZL 100	4
43	RZL-115B-MSGWB	wrench bolt, gland (M6x10L)	SUS304		4
51	RZL-115B-RTORB	O-ring, rotor (AN028)	nitrile rubber		2
	RZL-115B-RTORE	O-ring, rotor (AN028)	EPDM		2
	RZL-115B-RTORV	O-ring, rotor (AN028)	FKM		2
53	RZL-115B-RCORB	O-ring, rotor case (AN220)	nitrile rubber		2
	RZL-115B-RCORE	O-ring, rotor case (AN220)	EPDM		2
	RZL-115B-RCORV	O-ring, rotor case (AN220)	FKM		2
57	RZL-115B-CERCS	ceramic coated sleeve product	ceramic/ss		2

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RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Single Mechanical Seal with Flush



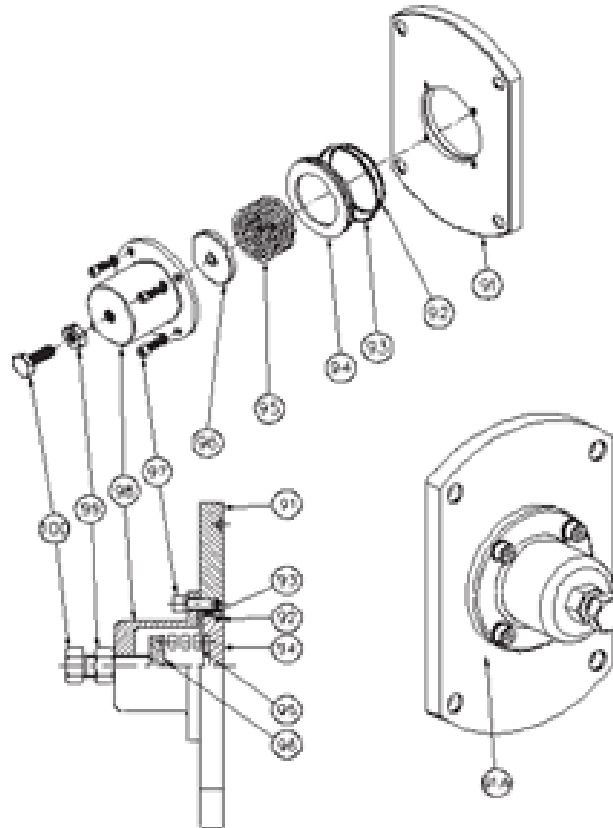
Item #	Part #	Description	Material	Used	Qty
43	RZL-115B-MSGWB	wrench bolt, lip seal gland (M6x10L)	SUS304	RZL 100	4
51	RZL-115B-RTORB	O-ring, rotor (AN028)	nitrile rubber		2
	RZL-115B-RTORE	O-ring, rotor (AN028)	EPDM		2
	RZL-115B-RTORV	O-ring, rotor (AN028)	FKM		2
52	RZL-115B-TCSEAL	mechanical seal ring	TC		4
53	RZL-115B-RCORB	O-ring, rotor case (AN220)	nitrile rubber		2
	RZL-115B-RCORE	O-ring, rotor case (AN220)	EPDM		2
	RZL-115B-RCORV	O-ring, rotor case (AN220)	FKM		2
54	RZL-115B-CSSB	single seal body, case	SUS304		2
62	RZL-CORDSB	O-ring, flushed seal case (AN036)	nitrile rubber		2
	RZL-115B-CORDSE	O-ring, flushed seal case (AN036)	EPDM		2
	RZL-115B-CORDSV	O-ring, flushed seal case (AN036)	FKM		2
81	RZL-115B-CERFL	ceramic sleeve, flushing	ceramic		2
82	RZL-115B-ORFLB	O-ring, ceramic sleeve, flushing (AN023)	nitrile rubber		2
	RZL-115B-ORFLE	O-ring, ceramic sleeve, flushing (AN023)	EPDM		2
	RZL-115B-ORFLV	O-ring, ceramic sleeve, flushing (AN023)	FKM		2
83	RZL-115B-LSFLT	lip seal, flushing	PTFE		2
84	RZL-115B-SLPFLG	gland, lip seal, flushing	SUS304		2

NOTE: Requires tapped casing.

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RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Pressure Relief Front Cover

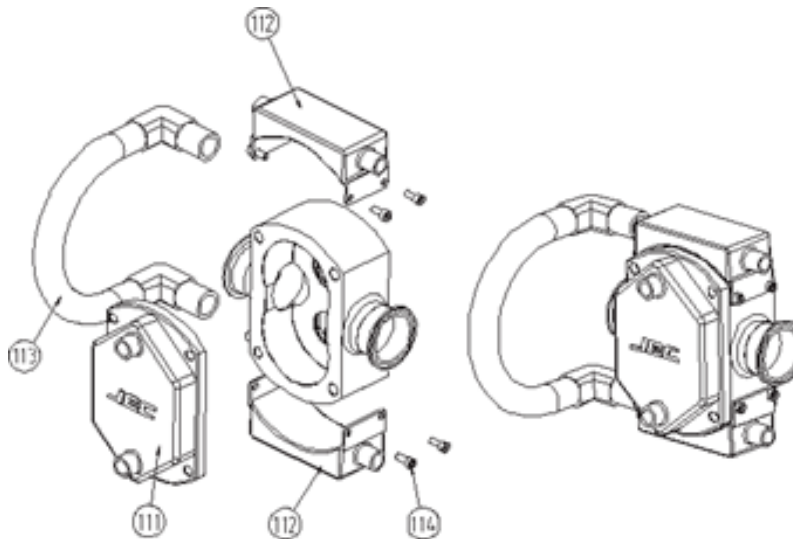


Item #	Part #	Description	Material	Used	Qty
91	RZL-105-RVFC	front cover, relief valve	SUS316L	RZL 105	1
	RZL-110-RVFC	front cover, relief valve	SUS316L	RZL 100	1
	RZL-115B-RVFC	front cover, relief valve	SUS316L	RZL 115/120	1
91A	RZL-105-C	pressure relief front cover assembly	SUS316L	RZL 105	1
	RZL-110-C	pressure relief front cover assembly	SUS316L	RZL 110	1
	RZL-115B-C	pressure relief cover assembly	SUS316L	RZL 115/120	1
92	RZL-115B-OR1B	O-ring, 1 stage, plate (AN138)	nitrile rubber	RZL 100	1
	RZL-115B-OR1E	O-ring, 1 stage, plate (AN138)	EPDM		1
	RZL-115B-OR1V	O-ring, 1 stage, plate (AN138)	FKM		1
93	RZL-115B-OR2B	O-ring, 2 stage, plate (AN135)	nitrile rubber		1
	RZL-115B-OR2E	O-ring, 2 stage, plate (AN135)	EPDM		1
	RZL-115B-OR2V	O-ring, 2 stage, plate (AN135)	FKM		1
94	RZL-115B-VP	plate, valve	SUS316L		1
95	RZL-115B-RVSP	spring	SS41 + Cr		1
96	RZL-115B-SPGP	plate, spring	SUS304		1
97	RZL-115B-RVWB	wrench bolt (M6x20) with washer	SUS304		4
98	RZL-115B-RVC	cover, relief valve	SUS304	1	
99	RZL-115B-RVLN	lock nut (M12)	SUS304	1	
100	RZL-115B-RVAB	adjusting bolt (M12x60)	SUS304	1	

NOTE: Must supply setting pressure.

RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Jacket Front Cover and Case

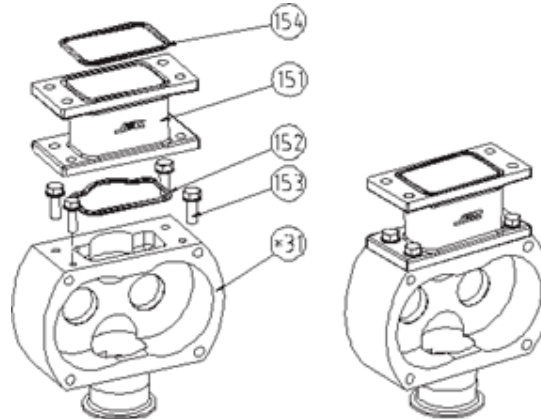


Item #	Part #	Description	Material	Used	Qty
111	RZL-105B-FCJ	jacket, front cover	SUS316L	RZL 105/110	1
	RZL-115B-FCJ	jacket, front cover	SUS316L	RZL 115/120	1
112	RZL-110B-CTJ	jacket, case top	SUS304	RZL 110/115	1
	RZL-110B-CBJ	jacket, case bottom	SUS304		1
	RZL-120-CTJ	jacket, case top	SUS304	RZL 120	1
	RZL-120-CBJ	jacket, case bottom	SUS304		1
113	RZL-115B-JT	tube, jacket	SUS304	RZL 100	1
114	RZL-115B-JWB	wrench bolt, jacket (M8x20)	SUS304	RZL 100	2

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RZL-Series Rotary Lobe Pump - 100 Series Bill of Materials

Rectangular Inlet

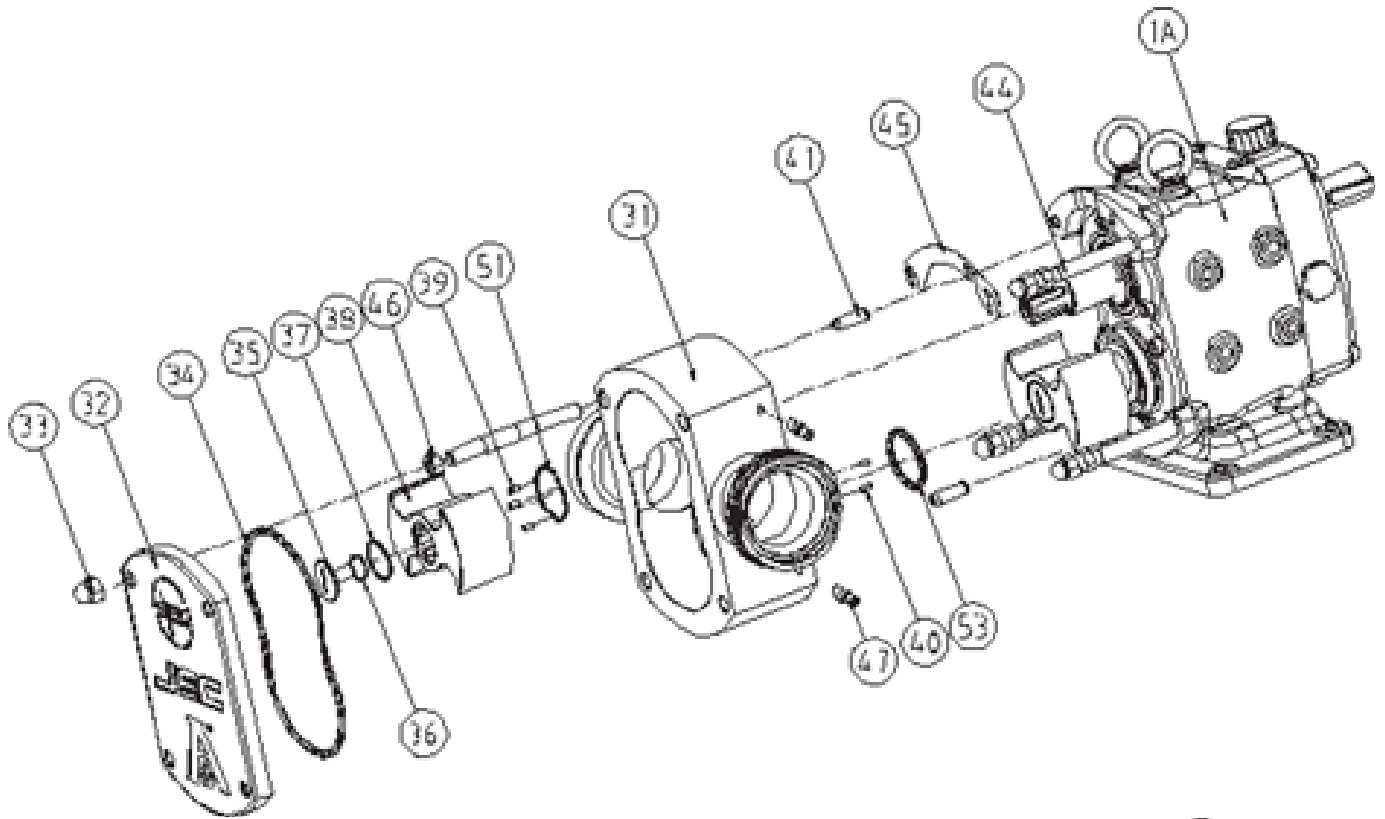


Item #	Part #	Description	Material	Used	Qty
151	RZL-120-RCRIA	adapter, rectangular inlet	SUS304	RZL 120	1
152	RZL-120RIORB	O-ring, rectangular inlet (AN233)	nitrile rubber		1
	RZL-120-RIOR	O-ring, rectangular inlet (AN233)	EPDM		1
	RZL-120-RIORV	O-ring, rectangular inlet (AN233)	FKM		1
153	RZL-120-RIHBSW	hex bolt and S/W (M8x25)	SUS304		4
154	RZL-120-ROORB	O-ring, rectangular adapter (AN234)	nitrile rubber		1
	RZL-120-ROOR	O-ring, rectangular adapter (AN234)	EPDM		1
	RZL-120-ROORV	O-ring, rectangular adapter (AN234)	FKM		1
31	RZL-120-RCRI2C	rotor case - rectangular inlet / 2" tri-clamp	SUS316L		1
	RZL-120-RFLG	rotor case - rectangular inlet / 2" flange	SUS316L		1

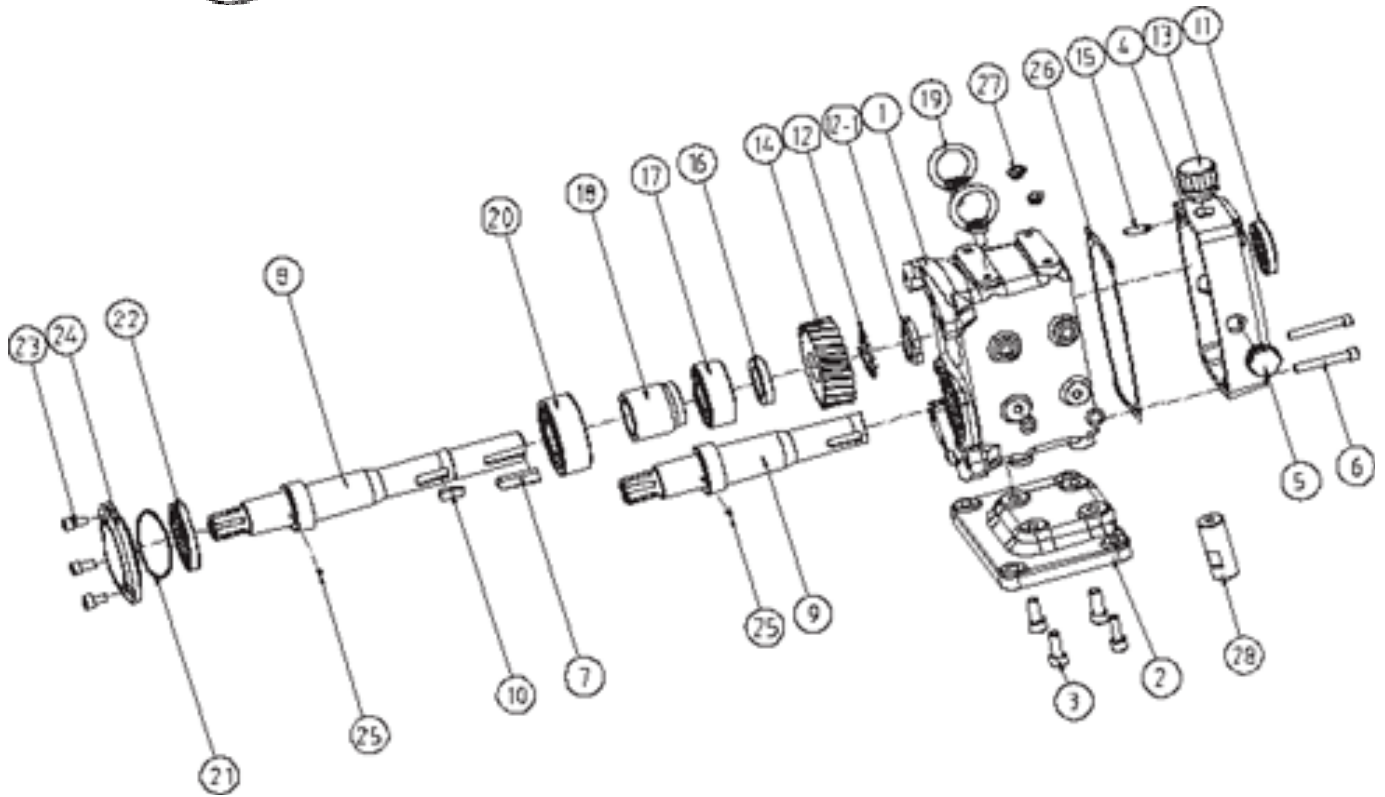
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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Basic Assembly (Single M/Seal)



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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Gear Box Assembly (Basic)

Item #	Part #	Description	Material	Used	Qty
1	RZL-220B-GBSS	gear box	SUS304	RZL200	1
2	RZL-220B-GBSSB	base, gear box	SUS304	RZL200	1
3	RZL-220B-BWB	wrench bolt, base (M10x25L)	SUS304	-	4
4	RZL-220B-GBCSS	cover, gear box	SUS304	RZL200	1
	RZL-220BCFI	cover, gear box, flange integrated	FCD40	-	1
5	RZL-115B-PLD	plug, level, drain	-	RZL100/RZL200	3
6	RZL-220B-GBWB	wrench bolt, gear box cover (M8x65L)	SUS304	-	4
7	RZL-220B-DSKEY	key, shaft (10x8x53)	S45C	-	1
8	RZL-220-DSHAFT	shaft, drive	SUS304	RZL220	1
	RZL-225-DSHAFT	shaft, drive	SUS304	RZL225	1
9	RZL-220-ISHAFT	shaft, idle	SUS304	RZL220	1
	RZL-225-ISHAFT	shaft, idle	SUS304	RZL225	1
10	RZL-220B-GKEY	key, gear (10x8x27)	S45C	RZL200	2
11	RZL-220B-OSCB	oil seal, cover (32x52x8t)	nitrile rubber		1
	RZL-220B-OSCV	oil seal, cover (32x52x8t)	FKM		1
12	RZL-220B-TGWASH	lock washer	S45C		2
12-1	RZL-220B-TGNUT	lock nut	S45C		2
13	RZL-220B-RVLV	breather, gear box	PE	RZL100/RZL200	1
14	RZL-220B-TGHELG	helical gear	S45C	RZL200	1
15	RZL-220B-GBDOW	dowel, gear box (φ10)	SUS304		2
16	RZL-220B-GSPAC	spacer, gear (φ35x6L)	S45C		2
17	RZL-220B-RBEAR	bearing, rear (#5207)	S45C		2
18	RZL-220B-BSPAC	spacer, bearing	S45C		2
19	RZL-220B-IBOLT	I-bolt/M10	SUS304		2
20	RZL-220B-FBEAR	bearing, front (#5208)	S45C		2
21	RZL-220B-OSGOV	O-ring, oil seal gland (AN041)	FKM		2
22	RZL-220B-OSGB	oil seal, gear box (48x70x12t)	nitrile rubber		2
	RZL-220B-OSGV	oil seal, gear box (48x70x12t)	FKM		2
23	RZL-220B-OSGWB	wrench bolt, oil seal gland (M8x15L)	SUS304	RZL200	6
24	RZL-220B-OSGLD	gland, oil seal	SUS304		2
25	RZL-220B-DSPIN	pin, double seal	SUS304		2
26	RZL-220B-GCGP	gasket	paper		1
27	RZL-220B-PLUG	plug (M10)	PE	8	
28	RZL-220B-VADPT	vertical adapter	SUS304	RZL200	4
29	RZL-115B-LFP	pad, leg feet	SS + rubber	RZL series	4
30	RZL-115B-ERT	rotor tool, extraction	SUS304	RZL series	1
31A*	RZL-220B-GUARD	safety guard (casing)	SUS304	RZL 200	2
31B*	RZL-115B-GB	guard wrench bolt M5x8	SUS304	RZL100/200	4

*Items are not pictured on the exploded view. For more information please contact Dixon Sanitary at 800.789.1718.

RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Pump Assembly

Item #	Part #	Description	Material	Used	Qty
1A	RZL-220-GBASS	gear box assembly	SUS304	RZL220	1
1A	RZL-225-GBASS	gear box assembly	SUS304	RZL225	1
31	see page 65**	rotor case	SUS316L	RZL200	1
32	RZL-220B-FCVR	front cover	SUS316L	RZL200	1
33	RZL-220B-CNUT	cap nut (M12)	SUS304	RZL200	4
34	RZL-220B-FCORB	O-ring for front cover (AN261)	nitrile rubber	RZL200	1
	RZL-220B-FCORE	O-ring for front cover (AN261)	EPDM		1
	RZL-220B-FCORV	O-ring for front cover (AN261)	FKM		1
36	RZL-220B-RBW	rotor bolt spring washer	SUS304		2
37	RZL-220B-RBORB	O-ring, rotor bolt (AN125)	nitrile rubber		2
	RZL-220B-RBORE	O-ring, rotor bolt (AN125)	EPDM		2
38	see page 465	rotor	SUS316L	RZL200	2
39	RZL-220B-RTSLP	seal pin, rotor	SUS304	RZL200	6
40	RZL-220B-CSSLP	seal pin, case	SUS304		4
41	RZL-220B-RCDOW	dowel, rotor case (φ8)	SUS304		2
44	RZL-220-CSSB	stud bolt, case (M10)	SUS304	RZL220	4
	RZL-225-CSSB	stud bolt, case (M10)	SUS304	RZL225	4
45	RZL-220B-SHIM05	shim (0.05mm)	SUS304	RZL200	2
	RZL-220B-SHIM1	shim (0.1mm)	SUS304	RZL200	2
46	RZL-220B-SBHYN	hex nut, stud bolt (M10)	SUS304	RZL200	4
47	RZL-220B-FSNIP	nipple, flush (PT 1/8")	SUS304	RZL200	2
51	RZL-220B-RTORB	O-ring, rotor (AN031)	nitrile rubber		2
	RZL-220B-RTORE	O-ring, rotor (AN031)	EPDM		2
	RZL-220B-RTORV	O-ring, rotor (AN031)	FKM	2	
53	RZL-220B-RTORB	O-ring, rotor case (AN225)	nitrile rubber	RZL200	2
	RZL-220B-RCORE	O-ring, rotor case (AN225)	EPDM		2
	RZL-220B-RCORV	O-ring, rotor case (AN225)	FKM		2

NOTE: Please contact Dixon Sanitary or local distributor for purchased product (rotor case, front cover, gear box, stud bolt, and shim) before October, 2011.

RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Rotor Case/Rotor

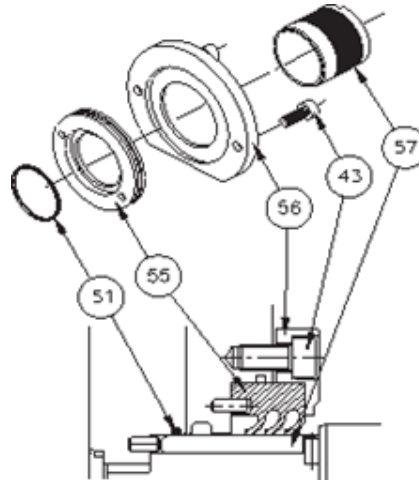
Item #	Part #	Description	Material	Used	Qty
31	RZL-220-RCCLMP	rotor case - 2" clamp	SUS316L	RZL220	1
	RZL-220-RCFLNG	rotor case - 2" flange	SUS316L		1
	RZL-225-RCCLMP	rotor case - 2-1/2" clamp	SUS316L	RZL225	1
	RZL-225-RCFLNG	rotor case - 2-1/2" flange	SUS316L		1
38	RZL-220-SWA	rotor set (2), single-wing	SUS316L	RZL220	2
	RZL-220-BWA	rotor set (2), bi-wing	SUS316L		2
	RZL-220-BWTIA	rotor set (2), bi-wing, PTFE inserted	SUS316L/PTFE		2
	RZL-220-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L		2
	RZL-220-BLA	rotor set (2), bi-lobe	SUS316L		2
	RZL-220-3LA	rotor set (2), tri-lobe	SUS316L		2
	RZL-220-H3LA	rotor set (2), tri-lobe, high temp clearance	SUS316L		2
	RZL-220-HELIA	rotor set (2), heli-lobe	SUS316L		2
	RZL-225-SWA	rotor set (2), single-wing	SUS316L	RZL225	2
	RZL-225-BWA	rotor set (2), bi-wing	SUS316L		2
	RZL-225-BWTIA	rotor set (2), bi-wing, PTFE inserted	SUS316L/PTFE		2
	RZL-225-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L		2
	RZL-225-BLA	rotor set (2), bi-lobe	SUS316L		2
	RZL-225-3LA	rotor set (2), tri-lobe	SUS316L		2
	RZL-225-H3LA	rotor set (2), tri-lobe, high temp clearance	SUS316L		2
	RZL-225-HELIA	rotor set (2), heli-lobe	SUS316L		2
	RZL-225-RHELIA	rotor set (2), heli-lobe	EPDM		2

NOTE: All standard rotor cases do not have tap holes for flushing on jacketed options.

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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Triple Lip Seal

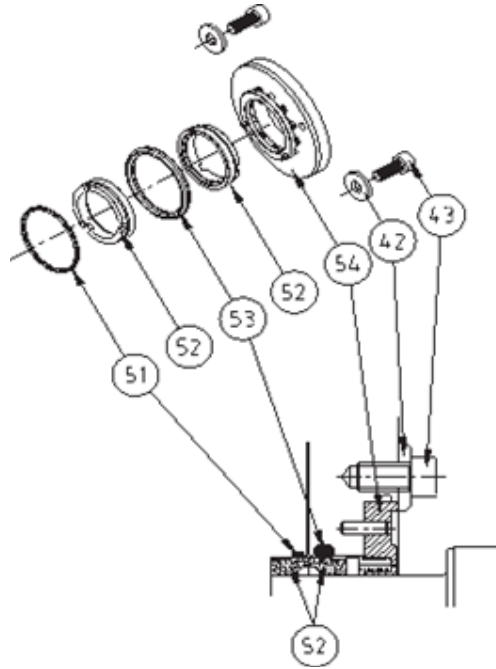


Item #	Part #	Description	Material	Used	Qty
43	RZL-220B-MSGWB	wrench bolt, M/seal gland (M6x10L)	SUS304	RZL200	4
51	RZL-220B-RTORB	O-ring, rotor (AN031)	nitrile rubber		2
	RZL-220B-RTORE	O-ring, rotor (AN031)	EPDM		2
	RZL-220B-RTORV	O-ring, rotor (AN031)	FKM		2
55	RZL-220B-TRPLSC	triple lip seal, product	PTFE + copper		2
	RZL-220B-TRPLS	triple lip seal, product	PTFE + glass		2
56	RZL-220B-LSC	lip seal cover	SUS304		2
57	RZL-220B-CERCS	ceramic coated sleeve, product	ceramic/SUS304		2

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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Single Mechanical Seal

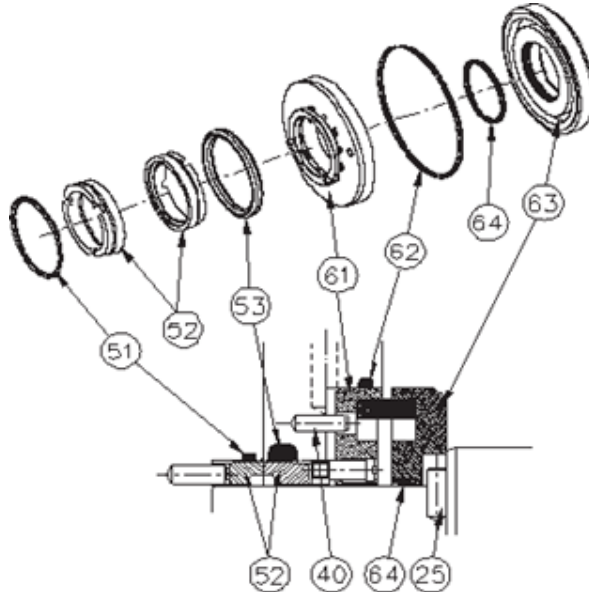


Item #	Part #	Description	Material	Used	Qty
42	RZL-220B-MSGFW	flat washer, M/Seal gland (φ6)	SUS304	RZL200	4
43	RZL-220B-MSGWB	wrench bolt, M/Seal gland (M6x10L)	SUS304		4
51	RZL-220B-RTORB	O-ring, rotor (AN031)	nitrile rubber	RZL200	2
	RZL-220B-RTORE	O-ring, rotor (AN031)	EPDM		2
	RZL-220B-RTORV	O-ring, rotor (AN031)	FKM		2
52	RZL-220B-TCSEAL	seal ring	TC	RZL225	4
53	RZL-220B-RCORB	O-ring, rotor case (AN225)	nitrile rubber	RZL200	2
	RZL-220B-RCORE	O-ring, rotor case (AN225)	EPDM		2
	RZL-220B-RCORV	O-ring, rotor case (AN225)	FKM		2
54	RZL-220B-CSSB	single seal body, case	SUS304		2

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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Double Mechanical Seal

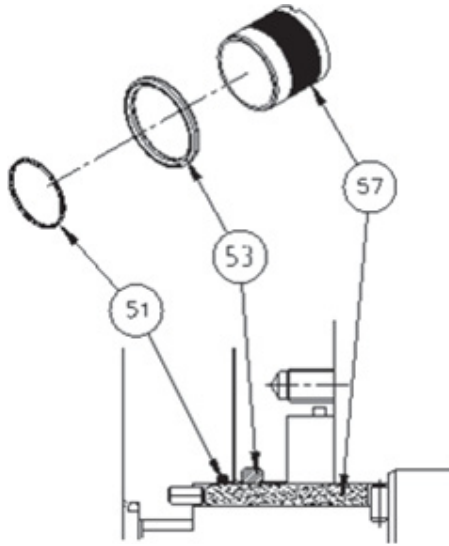


Item #	Part #	Description	Material	Used	Qty
51	RZL-220B-RTORB	O-ring, rotor (AN031)	nitrile rubber	RZL200	2
	RZL-220B-RTORE	O-ring, rotor (AN031)	EPDM		2
	RZL-220B-RTORV	O-ring, rotor (AN031)	FKM		2
52	RZL-220B-TCSEAL	seal ring	TC	RZL225	4
53	RZL-220B-RCORB	O-ring, rotor case (AN225)	nitrile rubber	RZL200	2
	RZL-220B-RCORE	O-ring, rotor case (AN225)	EPDM		2
	RZL-220B-RCORV	O-ring, rotor case (An225)	FKM		2
61	RZL-220B-CDSBTC	double seal body, case	TC/SUS304	RZL200	2
	RZL-220B-CDHPTC	double seal body, case, high pressure	TC/SUS304		2
62	RZL-220B-CORDSB	O-ring, case, double seal (AN039)	nitrile rubber	RZL200	2
	RZL-220B-CORDSE	O-ring, case, double seal (AN039)	EPDM		2
	RZL-220B-CORDSV	O-ring, case, double seal (AN039)	FKM		2
63	RZL-220B-SDSBC	rotation part, double seal, shaft	carbon/SUS304	RZL200	2
64	RZL-220B-SORDSB	O-ring, shaft, double seal (AN029)	nitrile rubber	RZL200	2
	RZL-220B-SORDSE	O-ring, shaft, double seal (AN029)	EPDM		2
	RZL-220B-SORDSV	O-ring, shaft, double seal (AN029)	FKM		2

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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Single O-ring Seal

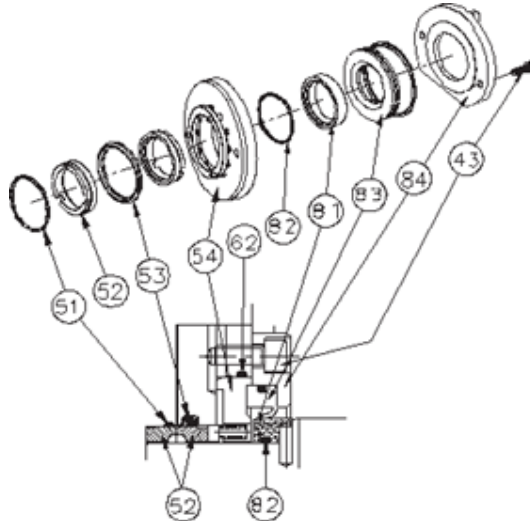


Item #	Part #	Description	Material	Used	Qty
51	RZL-220B-RTORB	O-ring, rotor (AN031)	nitrile rubber	RZL 200	2
	RZL-220B-RTORE	O-ring, rotor (AN031)	EPDM		2
	RZL-220B-RTORV	O-ring, rotor (AN031)	FKM		2
53	RZL-220B-RCORB	O-ring, rotor case (AN225)	nitrile rubber		2
	RZL-220B-RCORE	O-ring, rotor case (AN225)	EPDM		2
	RZL-220B-RCORV	O-ring, rotor case (AN225)	FKM		2
57	RZL-220B-CERCS	ceramic coated sleeve	ceramic/ss		2

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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Single Mechanical Seal with Flush

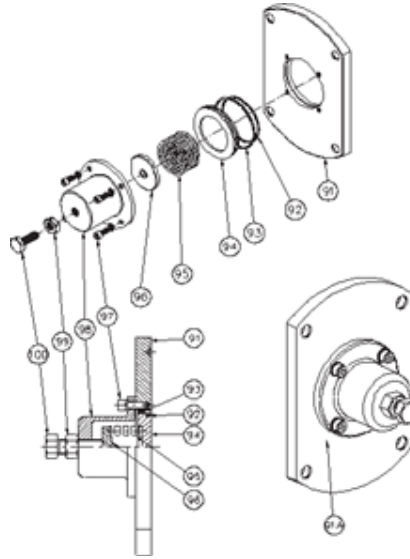


Item #	Part #	Description	Material	Used	Qty
43	RZL-220B-MSGWB	wrench bolt for lip seal gland (M6x10L)	SUS304	RZL200	4
51	RZL-220B-RTORB	O-ring, rotor (AN031)	nitrile rubber		2
	RZL-220B-RTORE	O-ring, rotor (AN031)	EPDM		2
	RZL-220B-RTORV	O-ring, rotor (AN031)	FKM	2	
52	RZL-220B-TCSEAL	mechanical seal ring	TC	RZL225	4
53	RZL-220B-RCORB	O-ring, rotor case (AN225)	nitrile rubber	RZL200	2
	RZL-220B-RCORE	O-ring, rotor case (AN225)	EPDM		2
	RZL-220B-RCORV	O-ring, rotor case (AN225)	FKM		2
62	RZL-220B-CORDSB	O-ring, flushing seal case (AN039)	nitrile rubber	RZL200	2
	RZL-220B-CORDSE	O-ring, flushing seal case (AN039)	EPDM		2
	RZL-220B-CORDSV	O-ring, flushing seal case (AN039)	FKM		2
54	RZL-220B-CSSB	seal base, single mechanical	SUS304	RZL200	2
81	RZL-220B-CERFL	ceramic sleeve for flushing	ceramic		2
82	RZL-220B-ORFLB	O-ring, ceramic sleeve, flushing (AN029)	nitrile rubber		2
	RZL-220B-ORFLE	O-ring, ceramic sleeve, flushing (AN029)	EPDM	2	
	RZL-220B-ORFLV	O-ring, ceramic sleeve, flushing (AN029)	FKM	2	
83	RZL-220B-LSFLT	PTFE - lip seal for flushing	PTFE		2
84	RZL-220B-SLPFLG	seal/lip seal gland for flushing	SUS304		2

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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Pressure Relief Front Cover

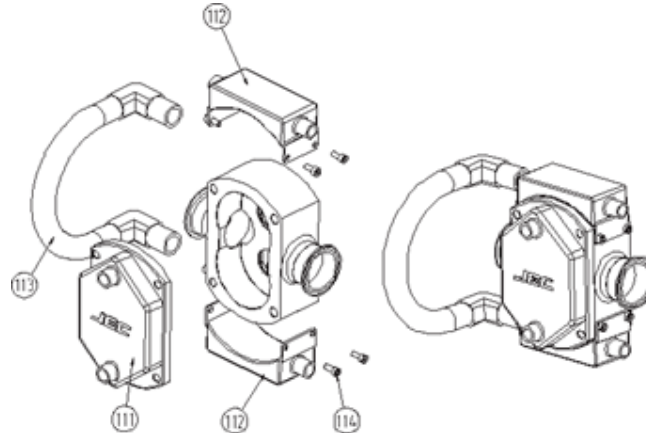


Item #	Part #	Description	Material	Used	Qty
91	RZL-220B-RVFC	front cover, relief valve	SUS316L	RZL200	1
91A	RZL-220B-C	pressure relief, front cover assembly	SUS316L		1
92	RZL-220B-OR1B	O-ring, 1 stage, plate (AN148)	nitrile rubber		1
	RZL-220B-OR1E	O-ring, 1 stage, plate (AN148)	EPDM		1
	RZL-220B-OR1V	O-ring, 1 stage, plate (AN148)	FKM		1
93	RZL-220B-OR2B	O-ring, 2 stage, plate (AN145)	nitrile rubber		1
	RZL-220B-OR2E	O-ring, 2 stage, plate (AN145)	EPDM		1
	RZL-220B-OR2V	O-ring, 2 stage, plate (AN145)	FKM		1
94	RZL-220B-VP	plate, valve	SUS316L		1
95	RZL-220B-RVSP	spring	SS41 + Cr		1
96	RZL-220B-SPGP	plate, spring	SUS304		1
97	RZL-220B-RVWB	wrench bolt (M6x20L)	SUS304		4
98	RZL-220B-RVC	cover, relief valve	SUS304		1
99	RZL-220B-RVLN	lock nut (M12)	SUS304		1
100	RZL-220B-RVAB	adjusting bolt (M12x60)	SUS304		1

NOTE: Must supply setting pressure.

RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Jacket Front Cover and Case

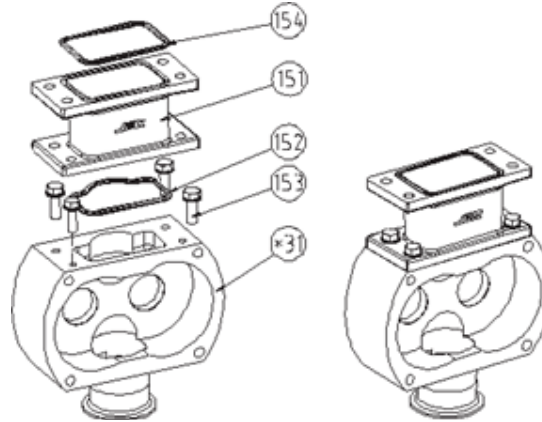


Item #	Part #	Description	Material	Used	Qty
111	RAL-220B-FCJ	front cover jacket	SUS316L	RZL200	1
112	RZL-220-CTJ	jacket, case top	SUS304	RZL200	1
	RZL-220-CBJ	jacket, case bottom	SUS304		1
	RZL-225-CTJ	jacket, case top	SUS304	RZL225	1
	RZL-225-CBJ	jacket, case bottom	SUS304		1
113	RZL-220B-JT	tube, jacket	SUS304	RZL225	1
114	RZL-220B-JWB	wrench bolt, jacket (M8x25)	SUS304	RZL100	2

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RZL-Series Rotary Lobe Pump - 200 Series Bill of Materials

Rectangular Inlet

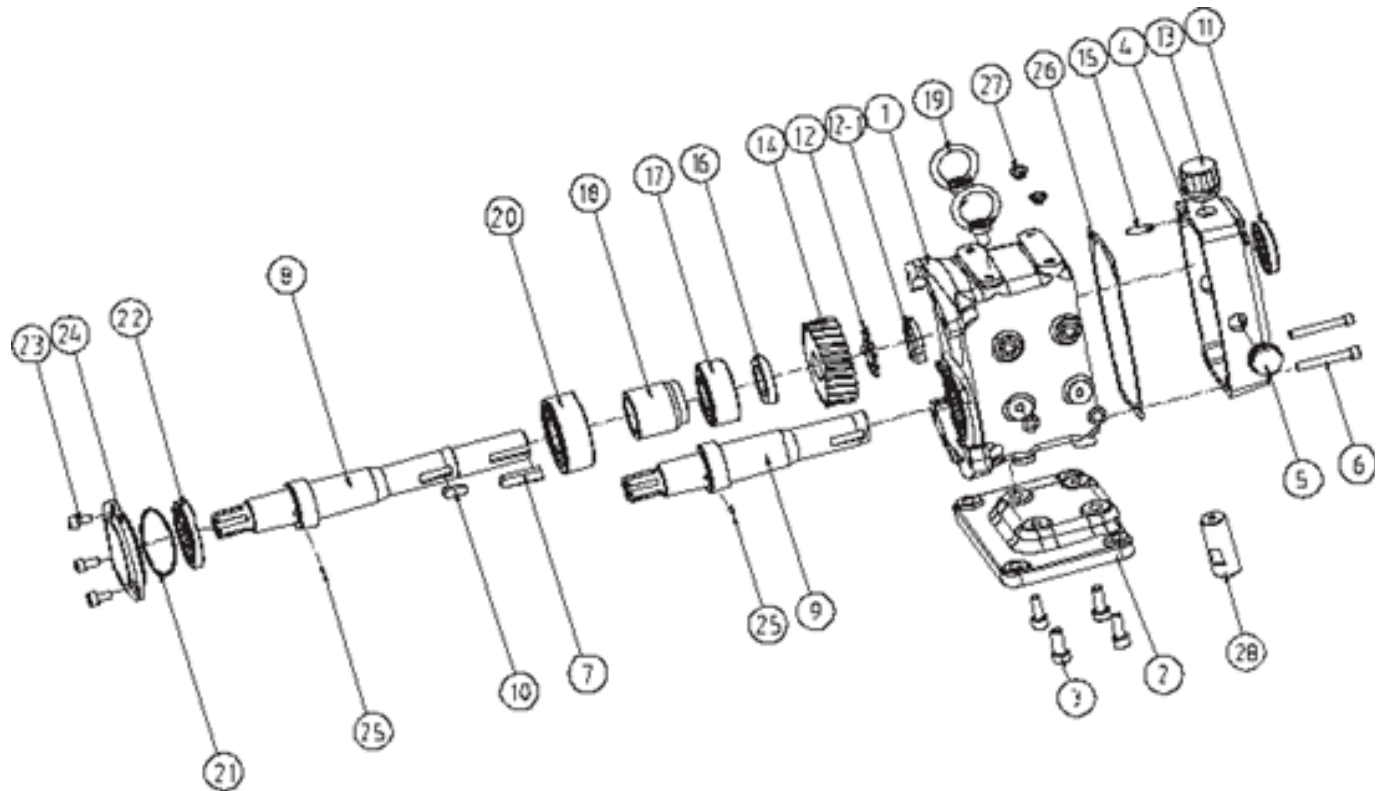
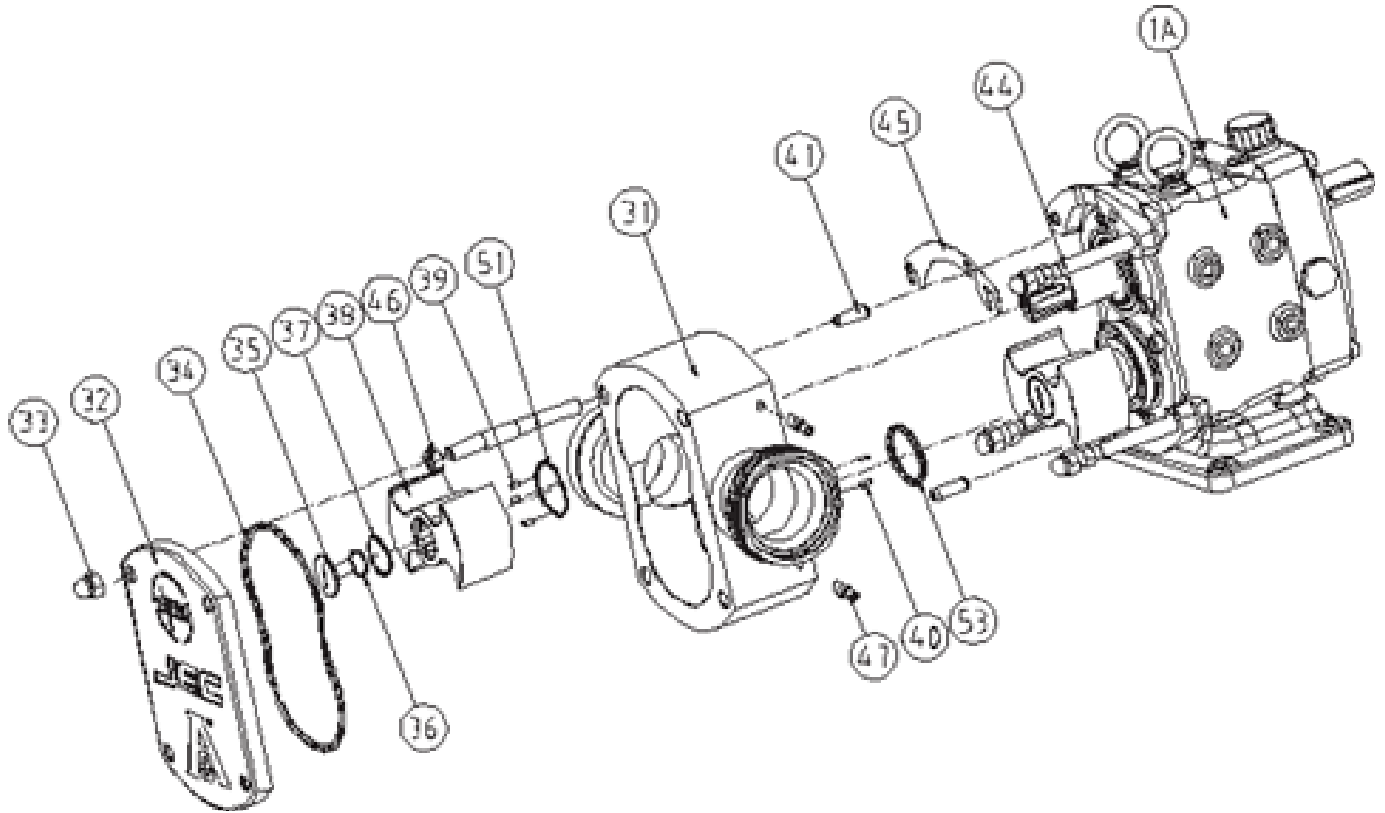


Item #	Part #	Description	Material	Used	Qty
151	RZL-220-RCRIA	adapter, rectangular inlet	SUS304	RZL220	1
	RZL-220-RCRIA	adapter, rectangular inlet	SUS304	RZL225	1
152	RZL-220-RIORB	O-ring, rectangular inlet (AN238)	nitrile rubber	RZL220	1
	RZL-220-RIOR	O-ring, rectangular inlet (AN238)	EPDM		1
	RZL-220-RIORV	O-ring, rectangular inlet (AN238)	FKM		1
	RZL-220-RIORB	O-ring, rectangular inlet (AN243)	nitrile rubber	RZL225	1
	RZL-225-RIOR	O-ring, rectangular inlet (AN243)	EPDM		1
	RZL-225-RIORV	O-ring, rectangular inlet (AN243)	FKM		1
153	RZL-220B-RIHB	hex bolt and S/W (M8x25)	SUS304	RZL200	4
154	RZL-220B-ROORB	O-ring, rectangular adapter (AN240)	nitrile rubber	RZL220	1
	RZL-220-ROOR	O-ring, rectangular adapter (AN240)	EPDM		1
	RZL-220-ROORV	O-ring, rectangular adapter (AN240)	FKM		1
	RZL-225-ROORB	O-ring, rectangular adapter (AN245)	nitrile rubber	RZL225	1
	RZL-225-ROOR	O-ring, rectangular adapter (AN245)	EPDM		1
	RZL-225-ROORV	O-ring, rectangular adapter (AN245)	FKM		1

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Basic Assembly (Single M/Seal)



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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Gear Box Assembly (Basic)

Item #	Part #	Description	Material	Used	Qty
1	RZL-330B-GBSS	gear box	SUS304	RZL300	1
2	RZL-330B-GBSSB	base, gear box	SUS304		1
3	RZL-330B-BWB	wrench bolt, base (M12x30L)	SUS304		4
4	RZL-330B-GBCSS	cover, gear box	SUS304		1
5	RZL-330B-PLD	plug, level, drain	-		3
6	RZL-330B-GBWB	wrench bolt, gear box cover (M8x70L)	SUS304		4
7	RZL-330B-DSKEY	key, shaft (14x9x53)	S45C		1
8	RZL-330-DSHAFT	shaft, drive	SUS304	RZL330	1
	RZL-340-DSHAFT	shaft, drive	SUS304	RZL340	1
9	RZL-330-ISHAFT	shaft, idle	SUS304	RZL330	1
	RZL-340-ISHAFT	shaft, idle	SUS304	RZL340	1
10	RZL-330B-GKEY	key, gear (14x9x35)	S45C	RZL300	2
11	RZL-330B-OSCB	oil seal, cover (45x70x12t)	nitrile rubber		1
	RZL-330B-OSCV	oil seal, cover (45x70x12t)	FKM		1
12	RZL-330B-TGWASH	lock washer	S45C		2
12-1	RZL-330B-TGNUT	lock nut	S45C		2
13	RZL-330B-RVLV	breather, gear box	PE		1
14	RZL-330B-TGHELG	helical gear	S45C		2
15	RZL-330B-GBDOW	dowel, gear box (φ8)	SUS304		2
16	RZL-330B-GSPAC	spacer, gear (φ35x6L)	S45C		2
17	RZL-330B-RBEAR	bearing, rear (#5210)	S45C		2
18	RZL-330B-BSPAC	spacer, bearing	S45C		2
19	RZL-330B-IBOLT	I-bolt / M8	SUS304		2
20	RZL-330B-FBEAR	bearing, front (#5212)	S45C		2
21	RZL-330B-OSGOV	O-ring, oil seal gland (AN045)	FKM		2
22	RZL-330B-OSGB	oil seal, gear box (65x90x12t)	nitrile rubber		2
	RZL-330B-OSGV	oil seal, gear box (65x90x12t)	FKM		2
23	RZL-330B-OSGWB	wrench bolt, oil seal gland (M12x25L)	SUS304		6
24	RZL-330B-OSGLD	gland, oil seal	SUS304	2	
25	RZL-330B-DSPIN	pin, double seal	SUS304	RZL300	2
26	RZL-330B-GCGP	gasket	paper	1	
27	RZL-330B-PLUG	plug (M12)	PE	8	
28	RZL-330B-VADPT	vertical adapter	SUS304	RZL300	4
29	RZL-115B-LFP	pad, leg feet	SS + rubber	RZL series	4
30	RZL-115B-ERT	rotor tool, extraction	FCD40	RZL series	1
31A*	RZL-330B-GUARD	safety guard (casing)	SUS304	RZL 300	2
31B*	RZL-330B-GB	guard wrench bolt M6x8	SUS304	RZL 300/400	4

*Items are not pictured on the exploded view. For more information please contact Dixon Sanitary at 800.789.1718.

RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Pump Assembly

Item #	Part #	Description	Material	Used	Qty	
					Per Assembly	Per Pump
1A	RZL-330-GBASS	gear box assembly - stainless steel	SUS304	RZL330	1	1
	RZL-340-GBASS	gear box assembly - stainless steel	SUS304	RZL340	1	1
31	see page 54	rotor case	SUS316L	RZL300	1	1
32	RZL-330B-FCVR	front cover	SUS316L		1	1
33	RZL-330B-CNUT	cap nut	SUS304		1	4
34	RZL-330B-FCORB	O-ring, front cover (AN271)	nitrile rubber		1	1
	RZL-330B-FCORE	O-ring, front cover (AN271)	EPDM		1	1
	RZL-330B-FCORV	O-ring, front cover (AN271)	FKM		1	1
36	RZL-330B-RBW	rotor bolt and spring washer	SUS304		1	2
37	RZL-330B-RBORB	O-ring, rotor bolt (AN225)	nitrile rubber		1	2
	RZL-330B-RBORE	O-ring, rotor bolt (AN225)	EPDM		1	2
	RZL-330B-RBORV	O-ring, rotor bolt (AN225)	FKM		1	2
38	see page 477	rotor	SUS316L		1	2
39	RZL-330B-RTSLP	seal pin, rotor	SUS304		3	6
40	RZL-330B-CSSLP	seal pin, case	SUS304		2	4
41	RZL-330B-RCDOW	dowel, rotor case (φ13)	SUS304		1	2
44	RZL-330-CSSB	stud bolt, case	SUS304		RZL330	1
	RZL-340-CSSB	stud bolt, case	SUS304	RZL340	1	4
45	RZL-330B-SHIM05	shim (0.05mm)	SUS304	RZL300	1	2
	RZL-330B-SHIM1	shim (0.1mm)	SUS304	RZL300	1	2
	RZL-330B-SHIM2	shim (0.2mm)	SUS304	RZL300	1	2
46	RZL-330B-SBHYN	hex nut, stud bolt (M14)	SUS304	RZL300	2	4
47	RZL-330B-FSNIP	nipple, flush (PT 1/8")	SUS304	RZL300	1	2
51	RZL-330B-RTORB	O-ring, rotor (AN142)	nitrile rubber		1	2
	RZL-330B-RTORE	O-ring, rotor (AN142)	EPDM		1	2
	RZL-330B-RTORV	O-ring, rotor (AN142)	FKM	1	2	
53	RZL-330B-RCORB	O-ring, rotor case (AN230)	nitrile rubber	RZL300	1	2
	RZL-330B-RCORE	O-ring, rotor case (AN230)	EPDM		1	2
	RZL-330B-RCORV	O-ring, rotor case (AN230)	FKM		1	2

NOTE: Please contact Dixon Sanitary or local distributor for purchased product (rotor case, front cover, gear box, stud bolt, and shim) before October, 2011.

RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Rotor Case/Rotor

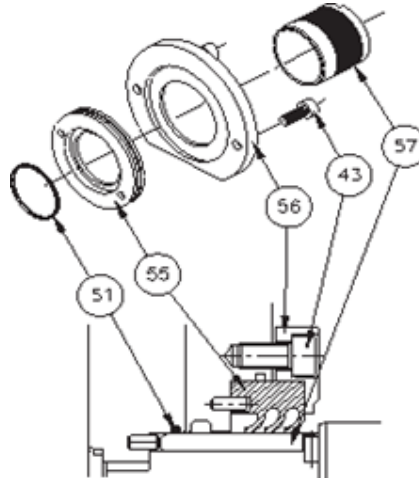
Item #	Part #	Description	Material	Used	Qty
31	RZL-330-RCCLMP	rotor case - 3" tri-clamp	SUS316L	RZL330	1
	RZL-330-RCFLNG	rotor case - 3" flanger	SUS316L		1
	RZL-340-RCCLMP	rotor case - 4" tri-clamp	SUS316L	RZL340	1
	RZL-340-RCFLNG	rotor case 4" flange	SUS316L		1
38	RZL-330-SWA	rotor set (2), single-wing	SUS316L	RZL330	1
	RZL-330-BWA	rotor set (2), bi-wing	SUS316L		1
	RZL-330-BWTIA	rotor set (2), bi-wing, PTFE inserted	SUS316L / PTFE		1
	RZL-330-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L		1
	RZL-330-BLA	rotor set (2), bi-lobe	SUS316L		1
	RZL-330-3LA	rotor set (2), tri-lobe	SUS316L		1
	RZL-330-H3LA	rotor set (2), tri-lobe, high temp clearance	SUS316L		1
	RZL-330-HELIA	rotor set (2), heli-lobe	SUS316L		1
	RZL-340-SWA	rotor set (2), single-wing	SUS316L	RZL340	1
	RZL-340-BWA	rotor set (2), bi-wing	SUS316L		1
	RZL-340-BWTIA	rotor set (2), bi-wing, PTFE inserted	SUS316L / PTFE		1
	RZL-340-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L		1
	RZL-340-BLA	rotor set (2), bi-lobe	SUS316L		1
	RZL-340-3LA	rotor set (2), tri-lobe	SUS316L		1
	RZL-340-H3LA	rotor set (2), tri-lobe, high temp clearance	SUS316L		1
	RZL-340-HELIA	rotor set (2), heli-lobe	SUS316L		1
RZL-340-RHELIA	rotor set (2), heli-lobe	EPDM	1		

NOTE: All standard rotor cases do not have tap holes for flushing on jacketed options.

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Triple Lip Seal

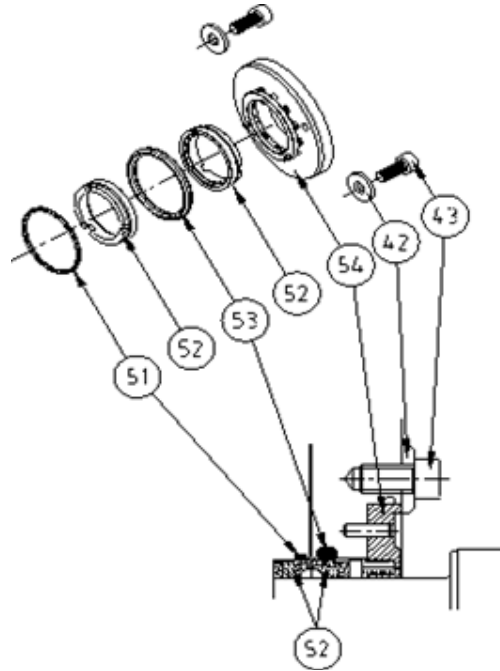


Item #	Part #	Description	Material	Used	Qty
43	RZL-330B-MSGWB	wrench bolt, M/Seal gland (M6x10L)	SUS304	RZL300	4
51	RZL-330B-RTORB	O-ring, rotor (AN142)	nitrile rubber		2
	RZL-330B-RTORE	O-ring, rotor (AN142)	EPDM		2
	RZL-330B-RTORV	O-ring, rotor (AN142)	FKM		2
55	RZL-330B-TRPLSC	triple lip seal, product	PTFE + copper		2
	RZL-330B-TRPLS	triple lip seal, product	PTFE + glass		2
56	RZL-330B-LSC	lip seal cover	SUS304		2
57	RZL-330B-CERCS	ceramic coated sleeve, product	ceramic SUS304		2

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Single Mechanical Seal

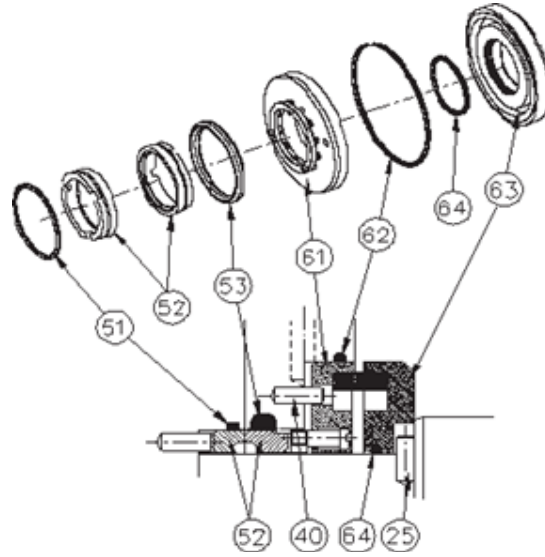


Item #	Part #	Description	Material	Used	Qty
42	RZL-330B-MSGFW	flat washer, M/Seal gland (φ6)	SUS304	RZL300	4
43	RZL-330B-MSGWB	wrench bolt, M/Seal gland (M6x10L)	SUS304		4
51	RZL-330B-RTORB	O-ring, rotor (AN142)	nitrile rubber	RZL300	2
	RZL-330B-RTORE	O-ring, rotor (AN142)	EPDM		2
	RZL-330B-RTORV	O-ring, rotor (AN142)	FKM		2
52	RZL-330B-TCSEAL	seal ring	TC	RZL340	4
	RZL-340-RHLTCSR	seal ring, rubber heli-lobe	TC		4
53	RZL-330B-RCORB	O-ring, rotor case (AN230)	nitrile rubber	RZL300	2
	RZL-330B-RCORE	O-ring, rotor case (AN230)	EPDM		2
	RZL-330B-RCORV	O-ring, rotor case (AN230)	FKM		2
54	RZL-330B-CSSB	single seal body, case	SUS304		2

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Double Mechanical Seal

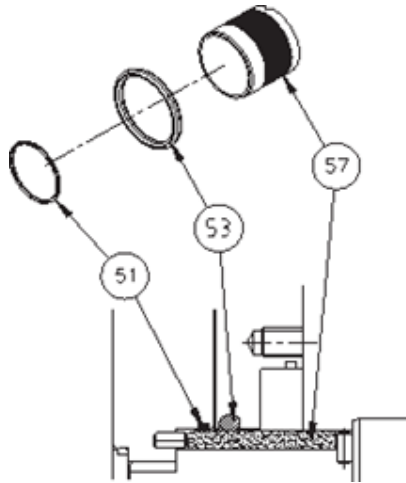


Item #	Part #	Description	Material	Used	Qty
51	RZL-330B-RTORB	O-ring, rotor (AN142)	nitrile rubber	RZL300	2
	RZL-330B-RTORE	O-ring, rotor (AN142)	EPDM		2
	RZL-330B-RTORV	O-ring, rotor (AN142)	FKM		2
52	RZL-330B-TCSEAL	seal ring	TC	RZL340	4
	RZL-340-RHLTCSR	seal ring, rubber heli-lobe	TC		4
53	RZL-330B-RCORB	O-ring, rotor case (AN230)	nitrile rubber	RZL300	2
	RZL-330B-RCORE	O-ring, rotor case (AN230)	EPDM		2
	RZL-330B-RCORV	O-ring, rotor case (AN230)	FKM		2
61	RZL-330B-CDSBTC	double seal body case	TC/SUS304	RZL300	2
	RZL-330B-CDHPTC	double seal body, case, high pressure	TC/SUS304		2
62	RZL-330B-CORDSB	O-ring, case, double seal (AN043)	nitrile rubber	RZL300	2
	RZL-330B-CORDSE	O-ring, case, double seal (AN043)	EPDM		2
	RZL-330B-CORDSV	O-ring, case, double seal (AN043)	FKM		2
63	RZL-330B-SDSBC	rotation part, double seal, shaft	carbon/SUS304	RZL300	2
64	RZL-330B-SORDSB	O-ring, shaft, double seal (AN033)	nitrile rubber	RZL300	2
	RZL-330B-SORDSE	O-ring, shaft, double seal (AN033)	EPDM		2
	RZL-330B-SORDSV	O-ring, shaft, double seal (AN033)	FKM		2

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Single O-ring Seal

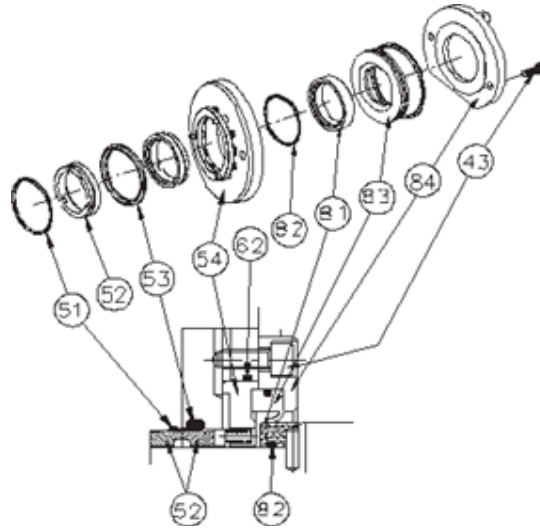


Item #	Part #	Description	Material	Used	Qty
51	RZL-330B-RTORB	O-ring, rotor (AN142)	nitrile rubber	RZL 300	2
	RZL-330B-RTORE	O-ring, rotor (AN142)	EPDM		2
	RZL-330B-RTORV	O-ring, rotor (AN142)	FKM		2
53	RZL-330B-RCORB	O-ring, rotor case (AN230)	nitrile rubber		2
	RZL-330B-RCORE	O-ring, rotor case (AN230)	EPDM		2
	RZL-330B-RCORV	O-ring, rotor case (AN230)	FKM		2
57	RZL-330B-CERCS	ceramic coated sleeve	ceramic/SUS304		2

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Single Mechanical Seal with Flush

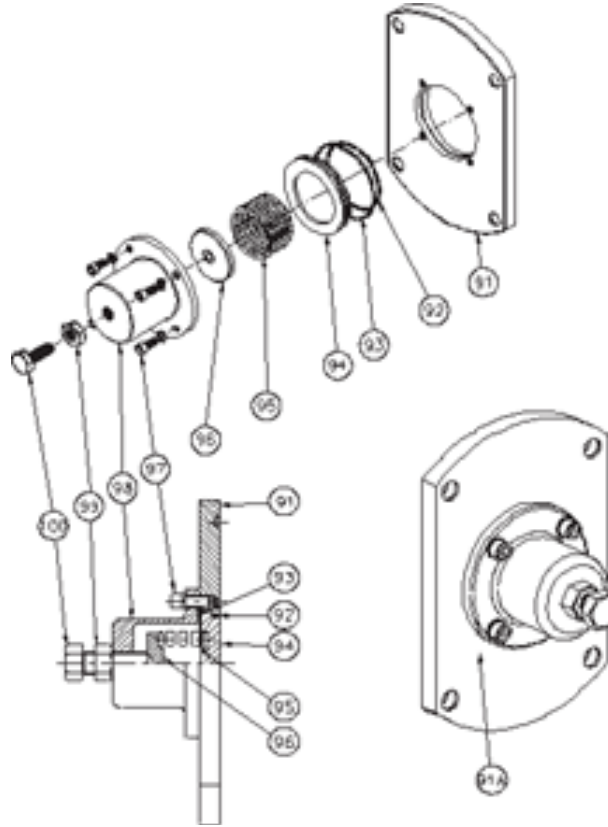


Item #	Part #	Description	Material	Used	Qty
43	RZL-330B-MSGWB	wrench bolt, lip seal gland (M6x10L)	SUS304	RZL300	4
51	RZL-330B-RTORB	O-ring, rotor (AN142)	nitrile rubber		2
	RZL-330B-RTORE	O-ring, rotor (AN142)	EPDM		2
	RZL-330B-RTORV	O-ring, rotor (AN142)	FKM	2	
52	RZL-330B-TCSEAL	mechanical seal ring	TC	RZL340	4
53	RZL-330B-RCORB	O-ring, rotor case (AN230)	nitrile rubber	RZL300	2
	RZL-330B-RCORE	O-ring, rotor case (AN230)	EPDM		2
	RZL-330B-RCORV	O-ring, rotor case (AN230)	FKM		2
54	RZL-330B-CSSB	seal base, single mechanical	SUS304		2
62	RZL-330B-CORDSB	O-ring, flushed seal case (AN042)	nitrile rubber	RZL300	2
	RZL-330B-CORDSE	O-ring, flushed seal case (AN042)	EPDM		2
	RZL-330B-CORDSV	O-ring, flushed seal case (AN042)	FKM		2
81	RZL-330B-CERFL	ceramic sleeve, flushing	ceramic		2
83	RZL-330B-LSFLT	lip seal, flushing	PTFE		2
82	RZL-330B-ORFLB	O-ring, ceramic sleeve, flushing (AN033)	nitrile rubber	RZL300	2
	RZL-330B-ORFLE	O-ring, ceramic sleeve, flushing (AN033)	EPDM		2
	RZL-330B-ORFLV	O-ring, ceramic sleeve, flushing (AN033)	FKM		2
84	RZL-330B-SLPFLG	gland, flushing	SUS304		2

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Pressure Relief Front Cover

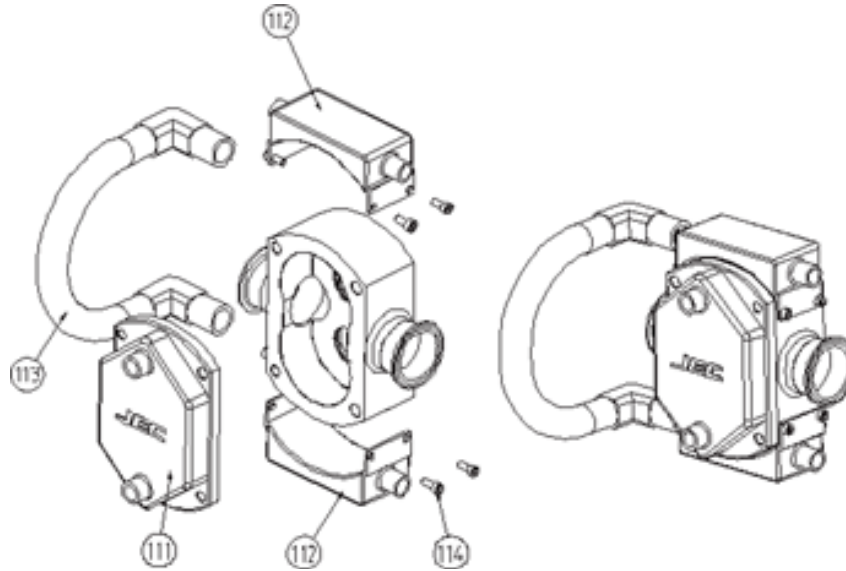


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Item #	Part #	Description	Material	Used	Qty
91	RZL-330B-RVFC	front cover, relief valve	SUS316L	RZL300	1
91A	RZL-330B-C	pressure relief front cover assembly	SUS316L		1
92	RZL-330B-OR1B	O-ring, 1 stage, plate (AN242)	nitrile rubber		1
	RZL-330B-OR1E	O-ring, 1 stage, plate (AN242)	EPDM		1
	RZL-330B-OR1V	O-ring, 1 stage, plate (AN242)	FKM		1
93	RZL-330B-OR2B	O-ring, 2 stage, plate (AN239)	nitrile rubber		1
	RZL-330B-OR2E	O-ring, 2 stage plate (AN239)	EPDM		1
	RZL-330B-OR2V	O-ring, 2 stage plate (AN239)	FKM		1
94	RZL-330B-VP	plate, valve	SUS316L		1
95	RZL-330B-RVSP	spring	SS41 + Cr		1
96	RZL-330B-SPGP	plate, spring	SUS304		1
97	RZL-330B-RVWB	wrench, bolt	SUS304		4
98	RZL-330B-RVC	cover relief valve (M8x25)	SUS304		1
99	RZL-330B-RVLN	lock nut (M20)	SUS304		1
100	RZL-330B-RVAB	adjusting bolt (M20x80L)	SUS304		1

RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Jacket Front Cover and Case

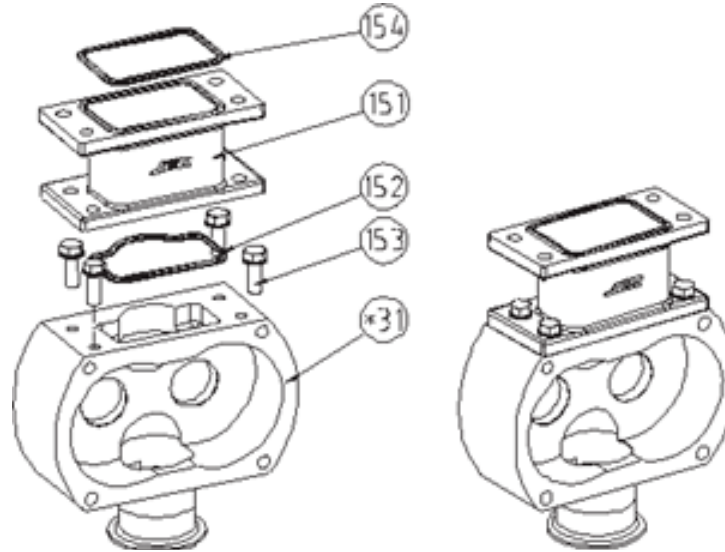


Item #	Part #	Description	Material	Used	Qty
111	RZL-330B-FCJ	front cover jacket	SUS316L	RZL300	1
112	RZL-330-CTJ	jacket, case top	SUS304	RZL330	1
	RZL-330-CBJ	jacket, case bottom	SUS304		1
	RZL-340-CTJ	jacket, case top	SUS304	RZL340	1
	RZL-340-CBJ	jacket, case bottom	SUS304		1
113	RZL-330-JT	tube, jacket	SUS304	RZL330	1
	RZL-340-JT	tube, jacket	SUS304	RZL340	1
114	RZL-330B-JWB	wrench bolt, jacket	SUS304	RZL300	4

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RZL-Series Rotary Lobe Pump - 300 Series Bill of Materials

Rectangular Inlet

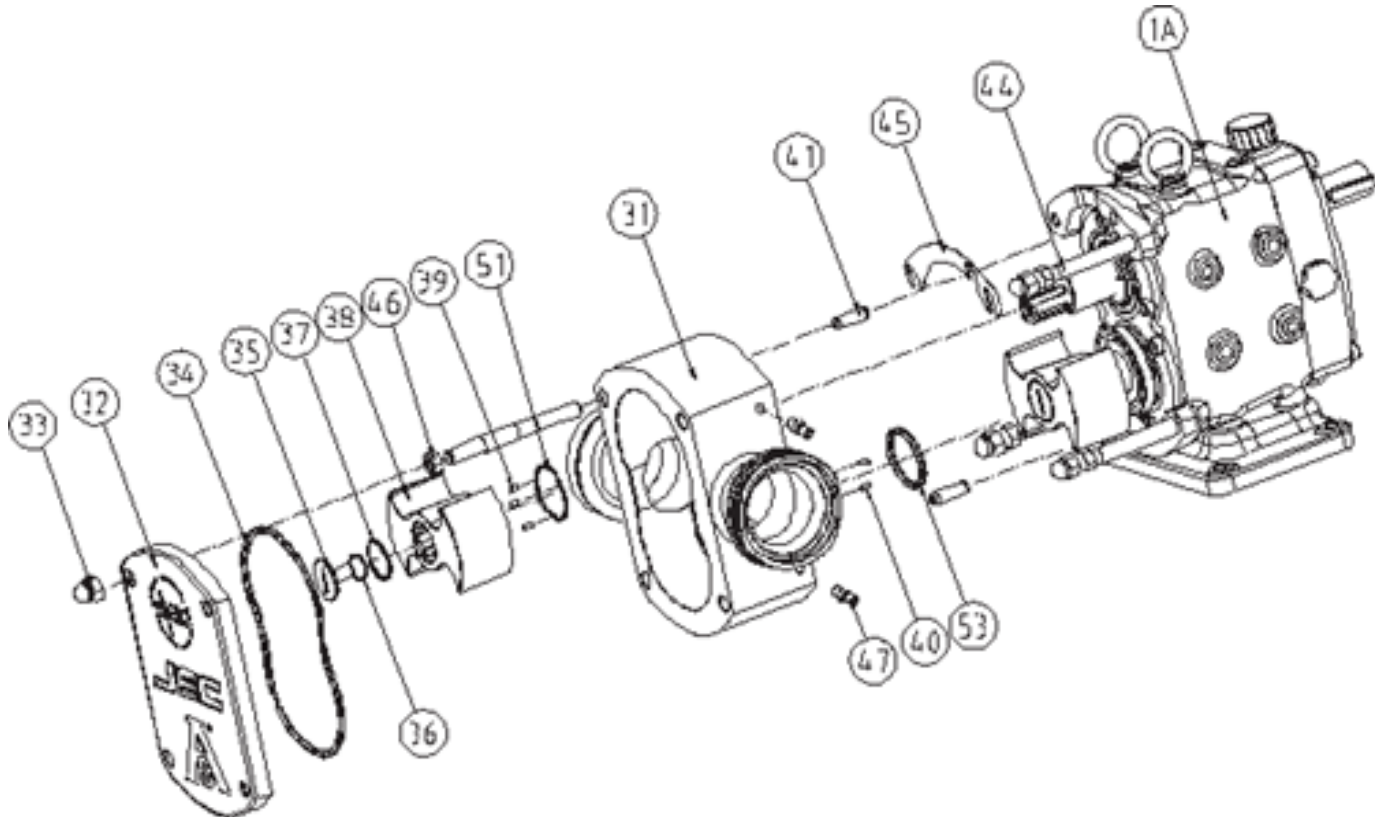


Item #	Part #	Description	Material	Used	Qty
151	RZL-330-RCRIA	adapter, rectangular inlet	SUS304	RZL330	1
	RZL-330-RCRIA	adapter, rectangular inlet	SUS304	RZL340	1
152	RZL-330-RIORB	O-ring, rectangular inlet (AN248)	nitrile rubber	RZL330	1
	RZL-330-R10R	O-ring, rectangular inlet (AN248)	EPDM		1
	RZL-330-RIORV	O-ring, rectangular inlet (AN248)	FKM	1	
	RZL-340-RIORB	O-ring, rectangular inlet (AN248)	nitrile rubber	RZL340	1
	RZL-340-RIOR	O-ring, rectangular inlet (AN248)	EPDM		1
	RZL-340-RIORV	O-ring, rectangular inlet (AN248)	FKM		1
153	RZL-330B-RIHB	hex bolt and S/W (M10x30)	SUS304	RZL300	4
154	RZL-330-ROORB	O-ring, rectangular adapter (AN257)	nitrile rubber	RZL330	1
	RZL-330-ROOR	O-ring, rectangular adapter (AN257)	EPDM		1
	RZL-330-ROORV	O-ring, rectangular adapter (AN257)	FKM		1
	RZL-340-ROORB	O-ring, rectangular adapter (AN260)	nitrile rubber	RZL340	1
	RZL-340-ROOR	O-ring, rectangular adapter (AN260)	EPDM		1
	RZL-340-ROORV	O-ring, rectangular adapter (AN260)	FKM		1
31	RZL-330-RCRI2C	rotor case - rectangular inlet / 3" tri-clamp	SUS316L	RZL300	1
	RZL-330B-RFLG	rotor case - rectangular inlet / 3" JIS flange	SUS316L		1

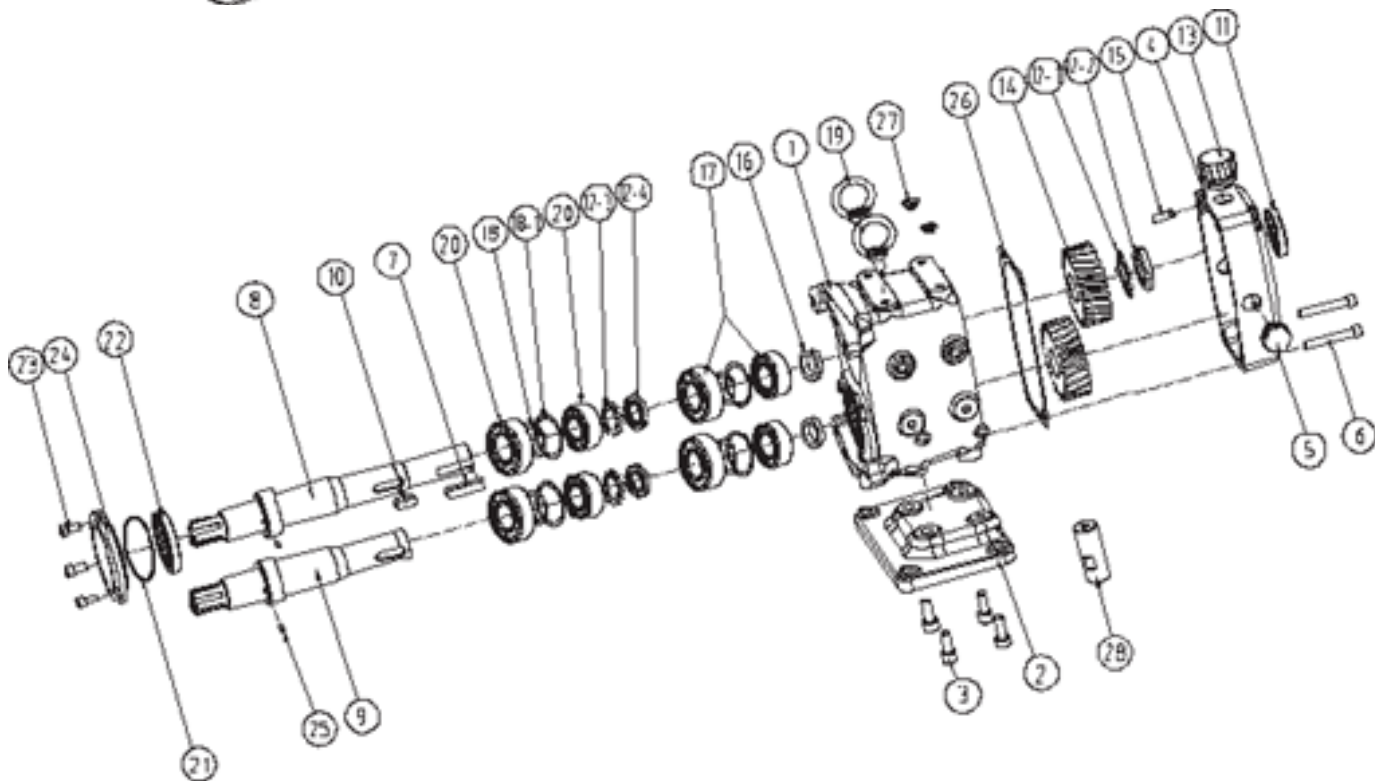
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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Basic Assembly (Single M/Seal)



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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Gear Box Assembly (Basic)

Item #	Part #	Description	Material	Used	Qty
1	RZL-440B-GBCI	gear box	FCD40	RZL400	1
2	RZL-440B-GBCIB	base, gear box	FCD40	RZL400	1
3	RZL-440B-BWB	wrench bolt, base (M14x35L)	SUS304		4
4	RZL-440B-GBCCI	cover, gear box	FCD40		1
	RZL-440B-GBCSS	cover, gear box	SUS304		1
5	RZL-330B-PLD	plug, level, drain	-	RZL300/400	3
6	RZL-440B-GBWB	wrench bolt, gear box cover (M10x90L)	SUS304	RZL440	4
7	RZL-440B-DSKEY	key, gear (14x9x67)	S45C		2
8	RZL-440-DSHAFT	shaft, drive	SUS304		1
	RZL-450-DSHAFT	shaft, drive	SUS304	RZL450	1
9	RZL-440-ISHAFT	shaft, idle	SUS304	RZL440	1
	RZL-450-ISHAFT	shaft, idle	SUS304	RZL450	1
10	RZL-440B-GKEY	key, gear (14x9x53)	S45C	RZL400	2
11	RZL-440B-OSCB	oil seal, cover (55x82x12t)	nitrile rubber		1
	RZL-440B-OSCV	oil seal, cover (55x82x12t)	FKM		1
12-1	RZL-440B-TGWSHD	lock washer, drive shaft	S45C	RZL400	2
12-2	RZL-440B-TGNUTD	lock nut, drive shaft	S45C		2
12-3	RZL-440B-TGWSHI	lock washer, idle shaft	S45C		2
12-4	RZL-440B-TGNUTI	lock nut, idle shaft	S45C		4
13	RZL-440B-RVLV	breather, gear box	PE	RZL400	1
14	RZL-440B-TGHELG	helical gear	S45C		2
15	RZL-440B-GBDOW	dowel, gear box (φ8)	SUS304		2
16	RZL-440B-GSPAC	spacer, gear (φ35x5L)	S45C	RZL400	2
17	RZL-440B-RBEAR	bearing, rear (#E32213J)	-		4
18	RZL-440B-BSPCI	spacer, bearing (inner)	S45C		4
18-1	RZL-440B-BSPCO	spacer, bearing (outer)	S45C		4
19	RZL-440B-IBOLT	I-bolt / M14	SUS		2
	RZL-440B-FBEAR	bearing, front (#E32215J)	-		4
21	RZL-440B-OSGOV	O-ring, oil seal gland (AN049)	FKM		2
22	RZL-440B-OSGB	oil seal, gear box (85x110x13t)	nitrile rubber		2
	RZL-440B-OSGV	oil seal, gear box (85x110x13t)	FKM		2
23	RZL-440B-OSGWB	wrench bolt, oil seal gland (M12x25L)	SUS304		8
24	RZL-440B-OSGLD	gland, oil seal	SUS304		2
25	RZL-440B-DSPIN	pin, double seal	SUS304		4
26	RZL-440B-GCGP	gasket	paper		1
27	RZL-440B-PLUG	plug (M14)	PE	8	
28	RZL-440B-VADPT	vertical adapter	SUS304	RZL400	4
29	RZL-115B-LFP	pad, leg feet	SS + rubber	RZL series	4
30	RZL-115B-ERT	rotor tool, extraction	SUS304	RZL series	1
31A*	RZL-440B-GUARD	safety guard (casing)	SUS304	RZL 400	2
31B*	RZL-330B-GB	guard wrench bolt M6x8	SUS304	RZL 300/400	4

*Items are not pictured on the exploded view. For more information please contact Dixon Sanitary at 800.789.1718.

RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Pump Assembly

Item #	Part #	Description	Material	Used	Qty
1A	RZL-440-GBAW	gear box assembly - white	FCD40	RZL440	1
	RZL-450-GBAW	gear box assembly - white	FCD40		1
31	see page 54	rotor case	SUS316L	RZL400	1
32	RZL-440B-FCVR	front cover	SUS316L	RZL400	1
33	RZL-440B-CNUT	cap nut	SUS304		4
34	RZL-440B-FCORB	O-ring, front cover (AN278)	nitrile rubber		1
	RZL-440B-FCORE	O-ring, front cover (AN278)	EPDM		1
	RZL-440B-FCORV	O-ring, front cover (AN278)	FKM		1
36	RZL-440B-RBW	spring washer	SUS304		2
37	RZL-440B-RBORB	O-ring, rotor bolt (AN228)	nitrile rubber		2
	RZL-440B-RBORE	O-ring, rotor bolt (AN228)	EPDM		2
	RZL-440B-RBORV	O-ring, rotor bolt (AN228)	FKM		2
38	see page 489	rotor	SUS304		
39	RZL-440B-RTSLP	rotor, seal pin	SUS316L	RZL400	2
40	RZL-440B-CSSLP	seal pin, case	SUS304	RZL400	4
41	RZL-440B-RCDOW	dowel, rotor case (φ15)	SUS304	RZL400	2
44	RZL-440-CSSB	stud bolt, case (M20x198L)	SUS304	RZL440	4
	RZL-450-CSSB	stud bolt, case (M20x223L)	SUS304	RZL450	4
45	RZL-440B-SHIM05	shim (0.05 mm)	SUS304	RZL400	2
	RZL-440B-SHIM1	shim (0.1 mm)	SUS304		2
	RZL-440B-SHIM2	shim (0.2 mm)	SUS304		2
46	RZL-440B-SBHYN	hex nut, stud bolt (M10, 14mm)	SUS304		4
47	RZL-440B-FSNIP	nipple, flush	SUS304		2
51	RZL-440B-RTORE	O-ring, rotor (AN151)	EPDM		2
	RZL-440B-RTORV	O-ring, rotor (AN151)	FKM		2
53	RZL-440B-RCORE	O-ring, rotor case (AN235)	EPDM		2
	RZL-440B-RCORV	O-ring, rotor case (AN235)	FKM		2

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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Rotor Case/Rotor

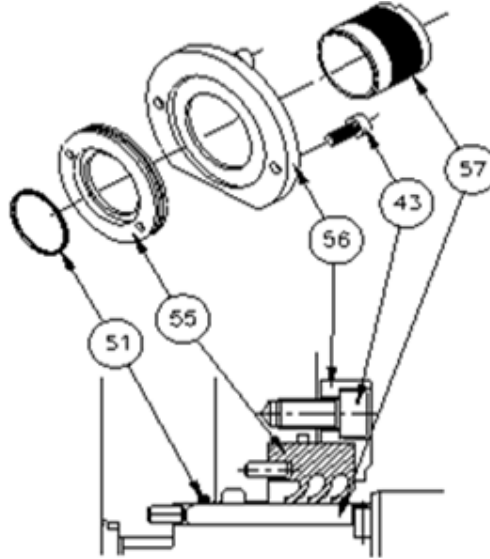
Item #	Part #	Description	Material	Used	Qty
31	RZL-440-RCCLMP	rotor case - 4" tri-clamp	SUS316L	RZL440	1
31	RZL-450-RCCLMP	rotor case - 5" tri-clamp / 5" tri-clamp	SUS316L	RZL450	1
	RZL-450-RCFLNG	rotor case - 5" flanger	SUS316L		1
38	RZL-440-SWA	rotor set (2), single-wing	SUS316L	RZL440	2
	RZL-440-BWA	rotor set (2), bi-wing	SUS316L		2
	RZL-440-BWTIA	rotor set (2), bi-wing, PTFE inserted	SUS316L/PTFE		2
	RZL-440-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L		2
	RZL-440-BLA	rotor set (2), bi-lobe	SUS316L		2
	RZL-440-3LA	rotor set (2), tri-lobe	SUS316L		2
	RZL-440-HTLA	rotor set (2), tri-lobe, high temp clearance	SUS316L		2
	RZL-440-HELIA	rotor set (2), heli-lobe	SUS316L		2
	RZL-450-SWA	rotor set (2), single-wing	SUS316L		RZL450
	RZL-450-BWA	rotor set (2), bi-wing	SUS316L	2	
	RZL-450-BWTIA	rotor set (2), bi-wing, PTFE inserted	SUS316L	2	
	RZL-450-HWA	rotor set (2), bi-wing, high temp clearance	SUS316L	2	
	RZL-450-BLA	rotor set (2), bi-lobe	SUS316L	2	
	RZL-450-3LA	rotor set (2), tri-lobe	SUS316L	2	
	RZL-450-HTLA	rotor set (2), tri-lobe, high temp clearance	SUS316L	2	
	RZL-450-HELIA	rotor set (2), heli-lobe	SUS316L	2	

NOTE: All standard rotor cases do not have tap holes for flushing on jacketed options.



RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Triple Lip Seal

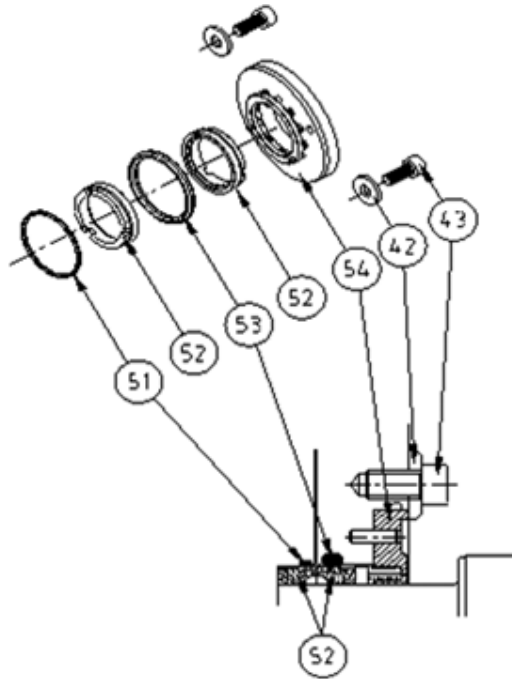


Item #	Part #	Description	Material	Used	Qty
43	RZL-440B-MSGWB	wrench bolt, M/Seal gland (M6x10L)	SUS304	RZL400	4
51	RZL-440B-RTORB	O-ring, rotor (AN151)	nitrile rubber		2
	RZL-440B-RTORE	O-ring, rotor (AN151)	EPDM		2
	RZL-440B-RTORV	O-ring, rotor (AN151)	FKM		2
55	RZL-440B-TRPLSC	triple lip seal, product	PTFE + copper		2
	RZL-440B-TRPLS	triple lip seal, product	PTFE + glass		2
56	RZL-440B-LSC	lip seal cover	SUS304		2
57	RZL-440B-CERCS	ceramic coated sleeve, product	ceramic/304		2

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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Single Mechanical Seal

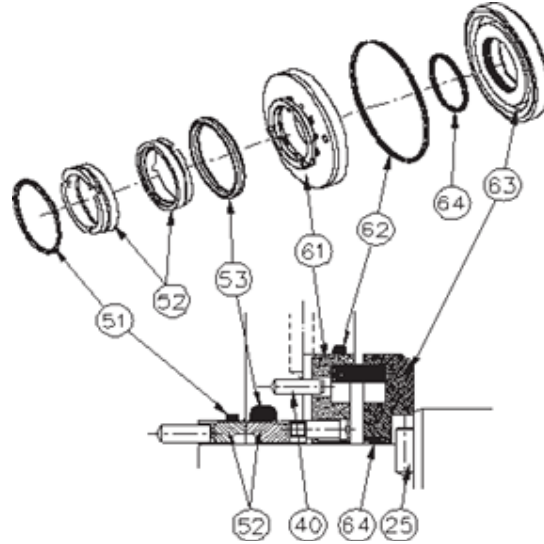


Item #	Part #	Description	Material	Used	Qty
42	RZL-440B-MSGFW	flat washer, M/Seal gland (φ6)	SUS304	RZL400	4
43	RZL-440B-MSGWB	wrench bolt, M/Seal gland (M6x10L)	SUS304		4
51	RZL-440B-RTORB	O-ring, rotor (AN151)	nitrile rubber	RZL400	2
	RZL-440B-RTORE	O-ring, rotor (AN151)	EPDM		2
	RZL-440B-RTORV	O-ring, rotor (AN151)	FKM		2
52	RZL-440B-TCSEAL	seal ring	TC	RZL450	4
53	RZL-440B-RCORB	O-ring, rotor case (AN234)	nitrile rubber	RZL400	2
	RZL-440B-RCORE	O-ring, rotor case (AN234)	EPDM		2
	RZL-440B-RCORV	O-ring, rotor case (AN234)	FKM		2
54	RZL-440B-CSSB	single seal body, case	SUS304		2

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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Double Mechanical Seal

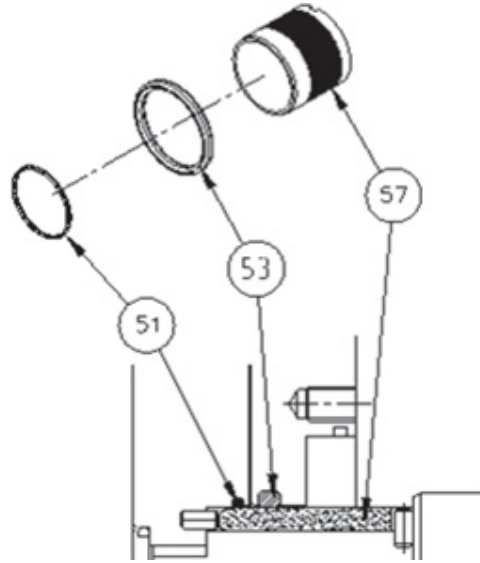


Item #	Part #	Description	Material	Used	Qty
51	RZL-440B-RTORB	O-ring, rotor (AN151)	nitrile rubber	RZL400	2
	RZL-440B-RTORE	O-ring, rotor (AN151)	EPDM		2
	RZL-440B-RTORV	O-ring, rotor (AN151)	FKM		2
52	RZL-440B-TCSEAL	seal ring	TC	RZL450	4
53	RZL-440B-RCORB	O-ring, rotor case (AN234)	nitrile rubber	RZL400	2
	RZL-440B-RCORE	O-ring, rotor case (AN234)	EPDM		2
	RZL-440B-RCORV	O-ring, rotor case (AN234)	FKM		2
61	RZL-440B-CDSBTC	double seal body, case	TC/SUS304	RZL400	2
	RZL-440B-CDHPTC	double seal body, case, high pressure	TC/SUS304		2
62	RZL-440B-CORDSB	O-ring, case, double seal (AN045)	nitrile rubber	RZL400	2
	RZL-440B-CORDSE	O-ring, case, double seal (AN045)	EPDM		2
	RZL-440B-CORDSV	O-ring, case, double seal (AN045)	FKM		2
63	RZL-440B-SDSBC	rotation part, double seal, shaft	carbon/SUS304	RZL400	2
64	RZL-440B-SORDSB	O-ring, shaft, double seal (AN038)	nitrile rubber	RZL400	2
	RZL-440B-SORDSE	O-ring, shaft, double seal (AN038)	EPDM		2
	RZL-440B-SORDSV	O-ring, shaft, double seal (AN038)	FKM		2

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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Single O-ring Seal

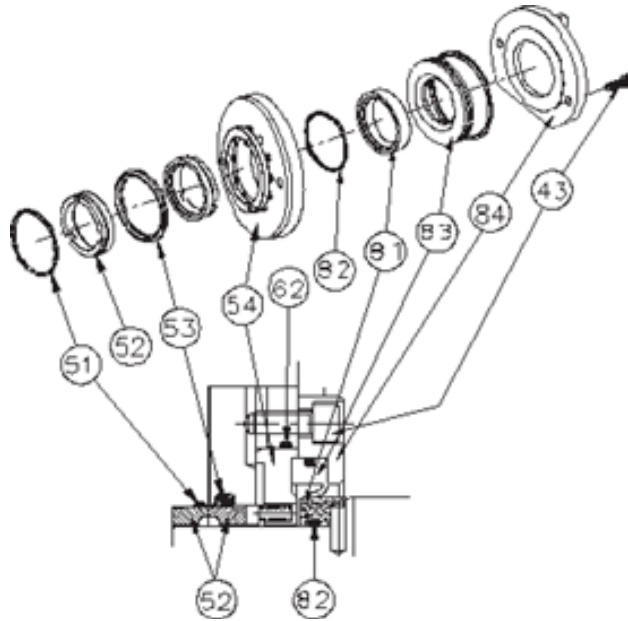


Item #	Part #	Description	Material	Used	Qty
51	RZL-440B-RTORB	O-ring, rotor (AN151)	nitrile rubber	RZL 400	2
	RZL-440B-RTORE	O-ring, rotor (AN151)	EPDM		2
	RZL-440B-RTORV	O-ring, rotor (AN151)	FKM		2
53	RZL-440B-RCORB	O-ring, rotor case (AN234)	nitrile rubber		2
	RZL-440B-RCORE	O-ring, rotor case (AN234)	EPDM		2
	RZL-440B-RCORV	O-ring, rotor case (AN234)	FKM		2
57	RZL-440B-CERCS	ceramic coated sleeve	ceramic/ss		2

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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Single Mechanical Seal with Flush

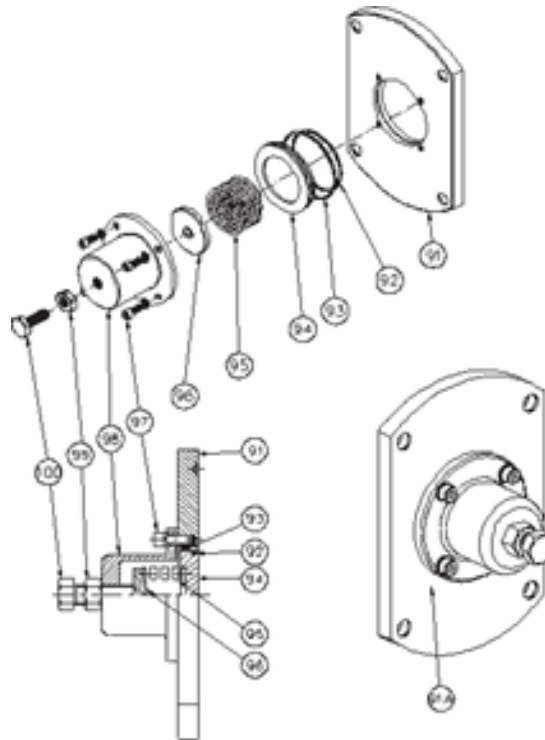


Item #	Part #	Description	Material	Used	Qty
43	RZL-440B-MSGWB	wrench bolt, lip seal gland (M6x10L)	SUS304	RZL400	4
51	RZL-440B-RTORB	O-ring, rotor (AN151)	nitrile rubber		2
	RZL-440B-RTORE	O-ring, rotor (AN151)	EPDM		2
	RZL-440B-RTORV	O-ring, rotor (AN151)	FKM		2
52	RZL-440B-TCSEAL	seal ring	TC	RZL450	4
53	RZL-440B-RCORB	O-ring, rotor case (AN234)	nitrile rubber	RZL400	2
	RZL-440B-RCORE	O-ring, rotor case (AN234)	EPDM		2
	RZL-440B-RCORV	O-ring, rotor case (AN234)	FKM		2
54	RZL-440B-CSSB	seal base, single mech.	SUS304		4
62	RZL-440B-CORDSB	O-ring, flushed seal, case (AN045)	nitrile rubber	RZL400	2
	RZL-440B-CORDSE	O-ring, flushed seal, case (AN045)	EPDM		2
	RZL-440B-CORDSV	O-ring, flushed seal, case (AN045)	FKM		2
81	RZL-440B-CERFL	ceramic sleeve, flushing	ceramic		2
82	RZL-440B-ORFLB	O-ring, ceramic sleeve, flushing (AN038)	nitrile rubber		2
	RZL-440B-ORFLE	O-ring, ceramic sleeve, flushing (AN038)	EPDM		2
	RZL-440B-ORFLV	O-ring, ceramic sleeve, flushing (AN038)	FKM		2
83	RZL-440B-LSFLT	lip seal, flushing	PTFE		4
84	RZL-440B-SLPFLG	gland, lip seal, flushing	SUS304		2

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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Pressure Relief Front Cover

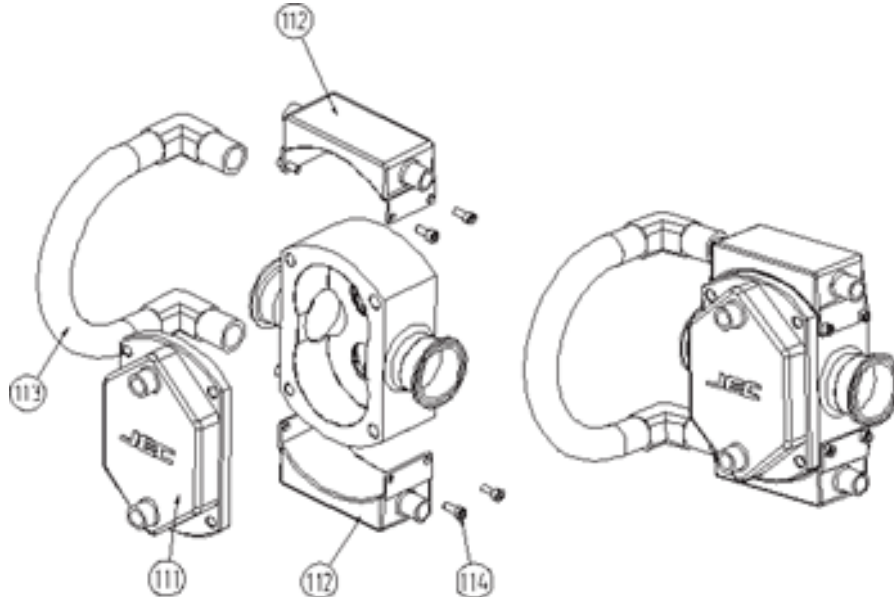


Item #	Part #	Description	Material	Used	Qty
91	RZL-440B-RVFC	front cover, relief valve	SUS316L	RZL400	1
91A	RZL-440B-C	pressure relief front cover assembly	SUS316L		1
92	RZL-440B-OR1B	O-ring, 1 stage, plate (AN252)	nitrile rubber		1
	RZL-440B-OR1E	O-ring, 1 stage, plate (AN252)	EPDM		1
	RZL-440B-OR1V	O-ring, 1 stage, plate (AN252)	FKM		1
93	RZL-440B-OR2B	O-ring, 2 stage, plate (AN249)	nitrile rubber		1
	RZL-440B-OR2E	O-ring, 2 stage, plate (AN249)	EPDM		1
	RZL-440B-OR2V	O-ring, 2 stage, plate (AN249)	FKM		1
94	RZL-440B-VP	plate, valve	SUS316L		1
95	RZL-440B-RVSP	spring	SS41 + Cr		1
96	RZL-440B-SPGP	plate, spring	SUS304		1
97	RZL-440B-RVWB	wrench bolt (M8x25)	SUS304		4
98	RZL-440B-RVC	cover, relief valve	SUS304		1
99	RZL-440B-RVLN	lock nut (M20)	SUS304		1
100	RZL-440B-RVAB	adjusting bolt (M20x80)	SUS304	1	

NOTE: Must supply setting pressure.

RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Jacket Front Cover and Case

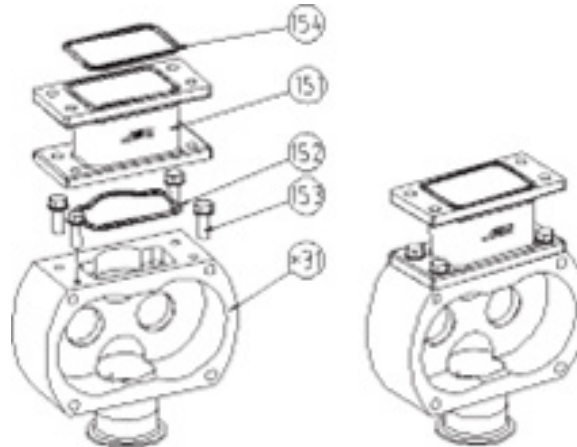


Item #	Part #	Description	Material	Used	Qty
111	RZL-440B-FCJ	front cover jacket	SUS316	RZL400	1
112	RZL-440-CTJ	jacket, case top	SUS304	RZL440	1
	RZL-440-CBJ	jacket, case bottom	SUS304		1
	RZL-450-CTJ	jacket, case top	SUS304	RZL450	1
	RZL-450-CBJ	jacket, case bottom	SUS304		1
113	RZL-440B-JT	tube, jacket	SUS304	RZL400	1
	RZL-440B-JWB	wrench bolt, jacket (M8x15L)	SUS304		8

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RZL-Series Rotary Lobe Pump - 400 Series Bill of Materials

Rectangular Inlet



Item #	Part #	Description	Material	Used	Qty
31	RZL-440-RCRI2C	rotor case - rectangular inlet / 5" tri-clamp	SUS316L	RZL400	1
	RZL-440B-RFLG	rotor case - rectangular inlet / 5" flange	SCS14		1
152	RZL-440B-RIORB	O-ring, rectangular inlet (AN262)	nitrile rubber		1
	RZL-440B-RIOR	O-ring, rectangular inlet (AN262)	EPDM		1
	RZL-440B-RIORV	O-ring, rectangular inlet (AN262)	FKM		4

RZL-Series Rotary Lobe Pump - 100 Series Repair Kits

Complete Replacement Seal Kits

Part #	Description	Material
RZL-115B-3E-KIT	triple lip seal repair kit	EPDM
RZL-115B-3V-KIT	triple lip seal repair kit	FKM
Repair kit includes items 51, 55, 56, and 57		
RZL-115B-2E-KIT	single mech. seal repair kit TC/TC	EPDM
RZL-115B-2V-KIT	single mech. seal repair kit TC/TC	FKM
Repair kit includes items 51, 52, and 53		
RZL-115B-4E-KIT	double mech. seal repair kit TC/TC	EPDM
RZL-115B-4V-KIT	double mech. seal repair kit TC/TC	FKM
Repair kit includes items 51, 52, 53, 62, and 64		

Pump Elastomers Only

Part #	Description	Material
RZL-115B-3E-EK	triple lip seal EPDM elastomers	EPDM
RZL-115B-3V-EK	triple lip seal FKM elastomers	FKM
Repair kit includes items 34, 37, 51, and 55		
RZL-115B-2E-EK	single mech. seal EPDM elastomers	EPDM
RZL-115B-2V-EK	single mech. seal FKM elastomers	FKM
Repair kit includes items 34, 37, 51, and 53		
RZL-115B-4E-EK	double mech. seal EPDM elastomers	EPDM
RZL-115B-4V-EK	double mech. seal FKM elastomers	FKM
Repair kit includes items 34, 37, 51, 53, 62, and 64		

Set of TC Seats

Part #	Description	Material
RZL-115B-TC-SET	TC seal ring	-
Repair kit includes item 52		

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RZL-Series Rotary Lobe Pump - 200 Series Repair Kits

Complete Replacement Seal Kits

Part #	Description	Material	Kit Includes
RZL-220B-3E-KIT	triple lip seal repair kit	EPDM	items 51, 55, 56, and 57
RZL-220B-3V-KIT	triple lip seal repair kit	FKM	
RZL-220B-2E-KIT	single mech. seal repair kit TC/TC	EPDM	items 51, 52, and 53
RZL-220B-2V-KIT	single mech. seal repair kit TC/TC	FKM	
RZL-220B-4E-KIT	double mech. seal repair kit TC/TC	EPDM	items 51, 52, 53, 62, and 64
RZL-220B-4V-KIT	double mech. seal repair kit TC/TC	FKM	

Pump Elastomers Only

Part #	Description	Material	Kit Includes
RZL-220B-3E-EK	triple lip seal EPDM elastomers	EPDM	items 34, 37, 51, and 55
RZL-220B-3V-EK	triple lip seal FKM elastomers	FKM	
RZL-220B-2E-EK	single mech. seal EPDM elastomers	EPDM	items 34, 37, 51, and 53
RZL-220B-2V-EK	single mech. seal FKM elastomers	FKM	
RZL-220B-4E-EK	double mech. seal EPDM elastomers	EPDM	items 34, 37, 51, 53, 62, and 64
RZL-220B-4V-EK	double mech. seal FKM elastomers	FKM	

Set of TC Seats

Part #	Description	Material	Kit Includes
RZL-220B-TC-SET	TC seal ring	-	item 52

RZL-Series Rotary Lobe Pump - 300 Series Repair Kits

Complete Replacement Seal Kits

Part #	Description	Material	Kit Includes
RZL-330B-3E-KIT	triple lip seal repair kit	EPDM	items 51, 55, 56, and 57
RZL-330B-3V-KIT	triple lip seal repair kit	FKM	
RZL-330B-2E-KIT	single mech. seal repair kit TC/TC	EPDM	items 51, 52, and 53
RZL-330B-2V-KIT	single mech. seal repair kit TC/TC	FKM	
RZL-330B-4E-KIT	double mech. seal repair kit TC/TC	EPDM	items 51, 52, 53, 62, and 64
RZL-330B-4V-KIT	double mech. seal repair kit TC/TC	FKM	

Pump Elastomers Only

Part #	Description	Material	Kit Includes
RZL-330B-3E-EK	triple lip seal elastomers	EPDM	items 34, 37, 51, and 55
RZL-330B-3V-EK	triple lip seal elastomers	FKM	
RZL-330B-2E-EK	single mech. seal elastomers	EPDM	items 34, 37, 51, and 53
RZL-330B-2V-EK	single mech. seal elastomers	FKM	
RZL-330B-4E-EK	double mech. seal elastomers	EPDM	items 34, 37, 51, 53, 62, and 64
RZL-330B-4V-EK	double mech. seal elastomers	FKM	

Set of TC Seats

Part #	Description	Material	Kit Includes
RZL-330B-TC-SET	TC seal ring	-	item 52

RZL-Series Rotary Lobe Pump - 400 Series Repair Kits

Complete Replacement Seal Kits

Part #	Description	Material	Kit Includes
RZL-440B-3E-KIT	triple lip seal repair kit	EPDM	items 51, 55, 56, and 57
RZL-440B-3V-KIT	triple lip seal repair kit	FKM	
RZL-440B-2E-KIT	single mech. seal repair kit TC/TC	EPDM	items 51, 52, and 53
RZL-440B-2V-KIT	single mech. seal repair kit TC/TC	FKM	
RZL-440B-4E-KIT	double mech. seal repair kit TC/TC	EPDM	items 51, 52, 53, 62, and 64
RZL-440B-4V-KIT	double mech. seal repair kit TC/TC	FKM	

Pump Elastomers Only

Part #	Description	Material	Kit Includes
RZL-440B-3E-EK	triple lip seal elastomers	EPDM	items 34, 37, 51, and 55
RZL-440B-3V-EK	triple lip seal elastomers	FKM	
RZL-440B-2E-EK	single mech. seal elastomers	EPDM	items 34, 37, 51, and 53
RZL-440B-2V-EK	single mech. seal elastomers	FKM	
RZL-440B-4E-EK	double mech. seal elastomers	EPDM	items 34, 37, 51, 53, 62, and 64
RZL-440B-4V-EK	double mech. seal elastomers	FKM	

Set of TC Seats

Part #	Description	Material	Kit Includes
RZL-440B-TC-SET	TC seal ring	-	item 52

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