

General Description

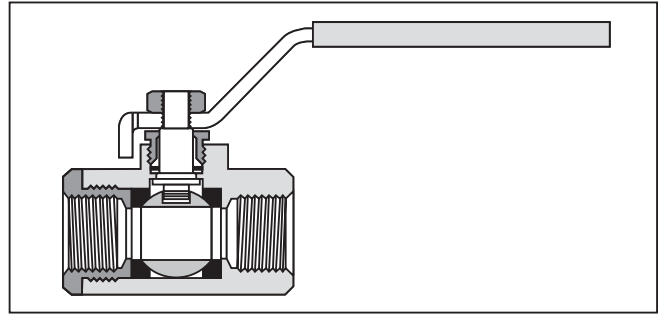
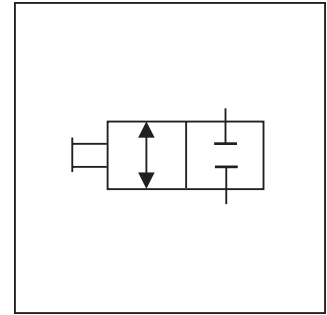
Series 500 low pressure ball valves provide total shut-off capability for services up to 41 Bar (600 PSI). Series 500 consists of NPT female/female ports, Series 510 and 501 are male/female in SAE and NPT respectively, and Series 506 are female/female in SAE. Series 502 features panel mounting capability.

Operation

A quarter turn of the handle is on or off. Ball valves are not intended for use as a throttling valve. Attempting to use it in these applications may result in premature seal failure and/or inability to turn the valve handle.

Features

- Ball valve bodies are machined from high quality CA377 forgings which provide extended service life and resist failure caused by severe temperature conditions.
- Highly inert PTFE seats and seals provide resistance to chemical corrosion.
- Blowout proof stem design, chrome plated brass ball and a special design handle enable increased turn and leverage for ease of opening and closing.
- Padlocking handle option provides lock-out capability where required.
- Venting option relieves downstream pressure in pneumatic applications.



Specifications

Maximum Working Pressure	41 Bar (600 PSI) Vented up to 17 Bar (250 PSI) Saturated Steam up to 10 Bar (150 PSI) Vacuum service to 29 in. Hg
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Ordering Information

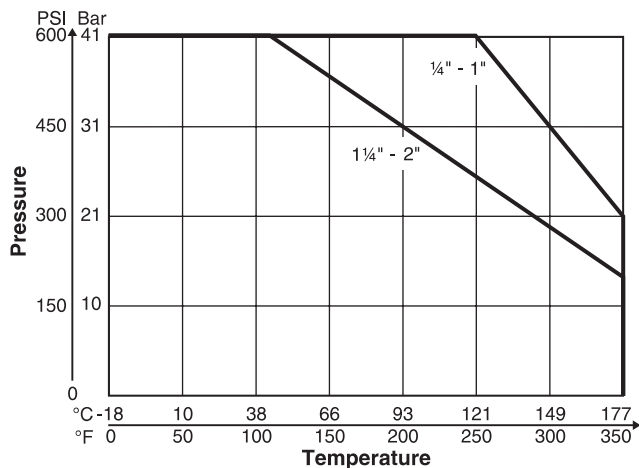
<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Style</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Ports</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; text-align: center; font-weight: bold; font-size: 12px;">P</div> <p>Material</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Size</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Options</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 10px; height: 10px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 10px; height: 10px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 10px; height: 10px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 10px; height: 10px;"></div> </div> <p>Design Series</p> <p>NOTE: Not required when ordering.</p>																																																							
<table border="0" style="width: 100%;"> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> <tr> <td>V</td> <td>Valve</td> </tr> <tr> <td>VP *</td> <td>Valve, Padlocking Handle</td> </tr> <tr> <td>VV **</td> <td>Valve, Vented</td> </tr> <tr> <td>VVP **</td> <td>Valve Vented, Padlocking Handle</td> </tr> </table> <p>* Only available up to #16 SAE in Series 506. ** Not available in Series 506 and only available up to size 16 in other series.</p>	Code	Description	V	Valve	VP *	Valve, Padlocking Handle	VV **	Valve, Vented	VVP **	Valve Vented, Padlocking Handle	<table border="0" style="width: 100%;"> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> <tr> <td>P</td> <td>Brass</td> </tr> </table>	Code	Description	P	Brass	<table border="0" style="width: 100%;"> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> <tr> <td>500</td> <td>Female/Female NPT Ports</td> </tr> <tr> <td>501</td> <td>Male/Female NPT Ports</td> </tr> <tr> <td>502</td> <td>Female/Female NPT Ports Panel Mount</td> </tr> <tr> <td>506</td> <td>Female/Female Straight Thread O-ring Ports</td> </tr> <tr> <td>510</td> <td>Male/Female Straight Thread O-ring Ports</td> </tr> </table>	Code	Description	500	Female/Female NPT Ports	501	Male/Female NPT Ports	502	Female/Female NPT Ports Panel Mount	506	Female/Female Straight Thread O-ring Ports	510	Male/Female Straight Thread O-ring Ports	<table border="0" style="width: 100%;"> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Size</th> </tr> <tr> <td>4</td> <td>1/4" NPT</td> </tr> <tr> <td>6</td> <td>3/8" NPT</td> </tr> <tr> <td>8</td> <td>1/2" NPT</td> </tr> <tr> <td>12</td> <td>3/4" NPT</td> </tr> <tr> <td>16</td> <td>1" NPT</td> </tr> <tr> <td>20*</td> <td>1 1/4" NPT</td> </tr> <tr> <td>24*</td> <td>1 1/2" NPT</td> </tr> <tr> <td>32*</td> <td>2" NPT</td> </tr> </table> <p>* Available only in 500 Type</p>	Code	Size	4	1/4" NPT	6	3/8" NPT	8	1/2" NPT	12	3/4" NPT	16	1" NPT	20*	1 1/4" NPT	24*	1 1/2" NPT	32*	2" NPT	<table border="0" style="width: 100%;"> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> <tr> <td>Omit</td> <td>No option</td> </tr> <tr> <td>01</td> <td>Stainless Steel Ball & Stem (Size 4 to 16 only)</td> </tr> <tr> <td>02</td> <td>Stainless Steel Handle & Nut</td> </tr> <tr> <td>03</td> <td>Stainless Steel Ball, Stem, Handle & Nut (Size 4 to 16 only)</td> </tr> <tr> <td>04</td> <td>T Handle</td> </tr> </table>	Code	Description	Omit	No option	01	Stainless Steel Ball & Stem (Size 4 to 16 only)	02	Stainless Steel Handle & Nut	03	Stainless Steel Ball, Stem, Handle & Nut (Size 4 to 16 only)	04	T Handle
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WARNING: This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Cat3300_02.indd, ddp, 04/19



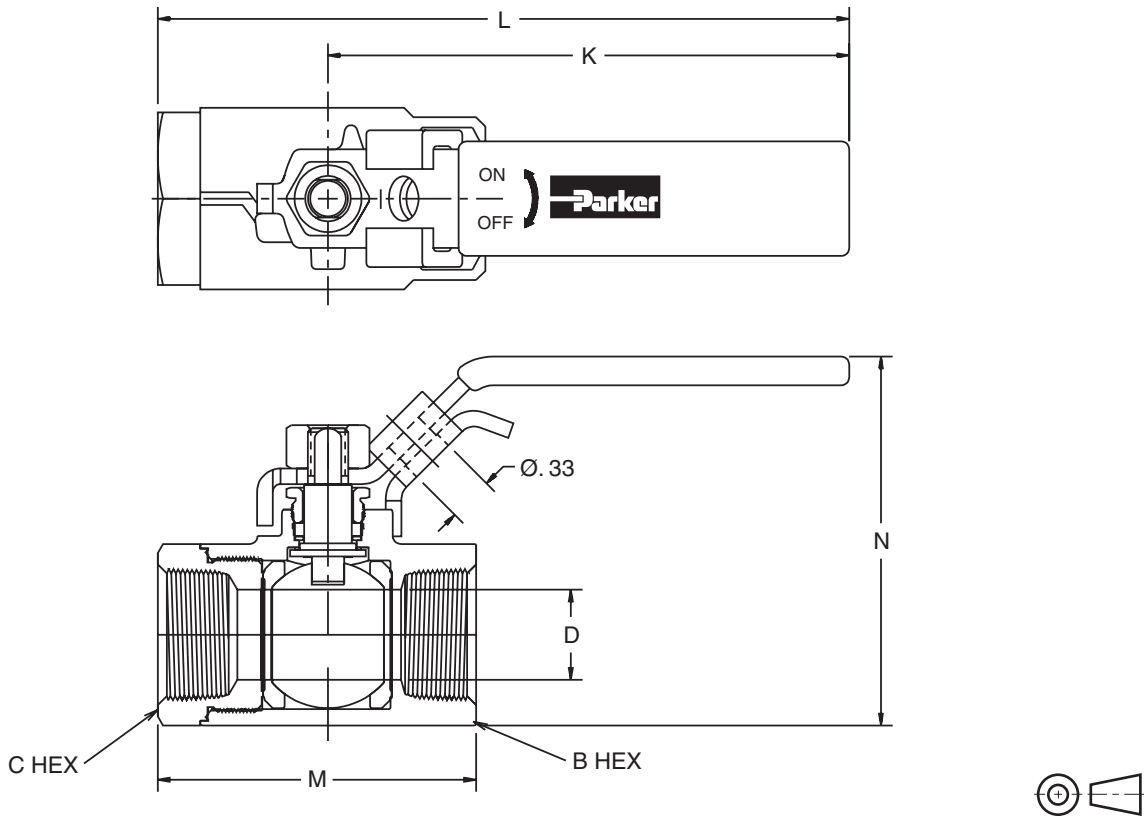
Performance Curves



Flow Data

Type 500, 502		Type 510		Type 501		Type 506	
Valve Size	C _v	Valve Size	C _v	Valve Size	C _v	Valve Size	C _v
1/4"	4.0	#4	0.8	1/4"	6.3	#4	4.0
3/8"	5.8	#6	2.1	3/8"	5.7	#6	5.8
1/2"	12.0	#8	5.3	1/2"	10.0	#8	12.0
3/4"	25.0	#12	13.0	3/4"	25.0	#12	25.0
1"	35.0	#16	33.0	1"	35.0	#16	35.0
1-1/4"	57.0	-	-	-	-	#20	57.0
1-1/2"	92.0	-	-	-	-	#24	92.0
2"	224.0	-	-	-	-	#32	224.0

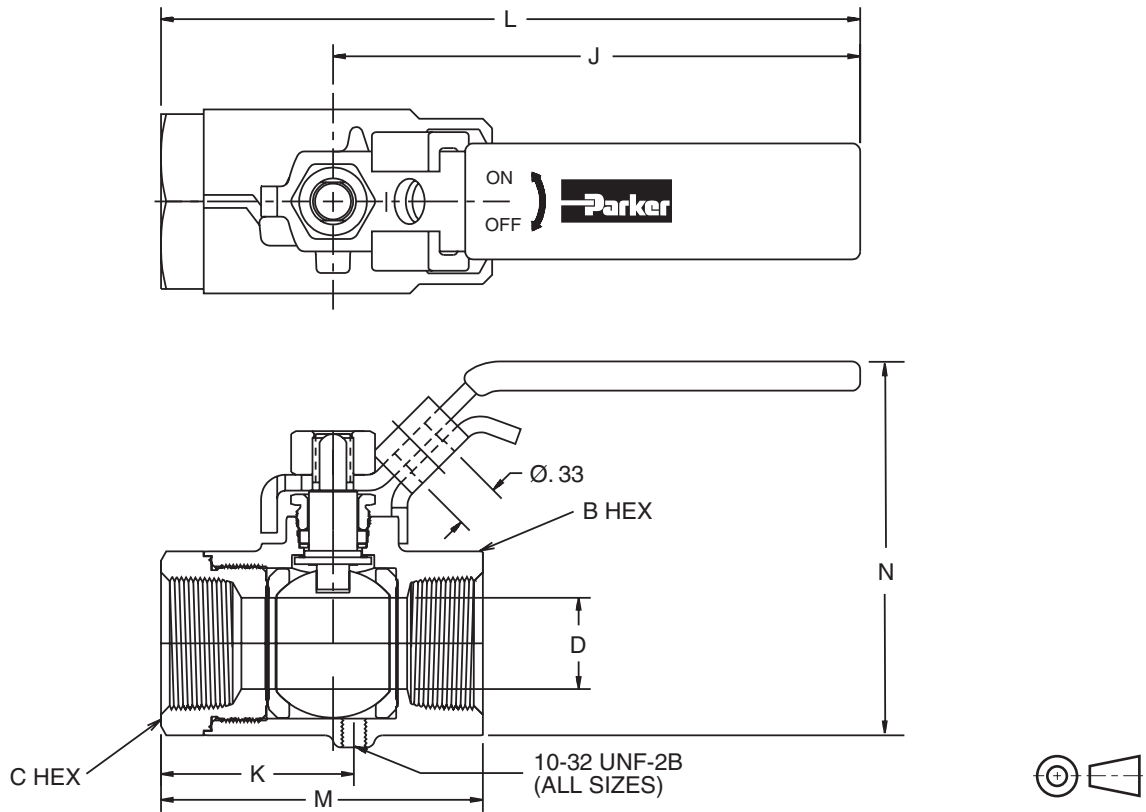
Model V500P and VP500P



Part Number	Pipe Thread (PTF)	B Hex	C Hex	Dimensions mm (in)				D Flow Ø
				K	L	M	N	
Female-Female Pipe Ends V500P								
V500P4	1/4"	15/16"	15/16"	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
V500P6	3/8"	15/16"	15/16"	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
V500P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
V500P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
V500P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)
Locking Handle, Female Pipe Ends VP500P (Shown above)								
VP500P4	1/4"	15/16"	15/16"	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VP500P6	3/8"	15/16"	15/16"	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VP500P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
VP500P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
VP500P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)

Locking handle parts: For use with 5/16" Ø shank lock; 33Ø

Model VV500P and VVP500P



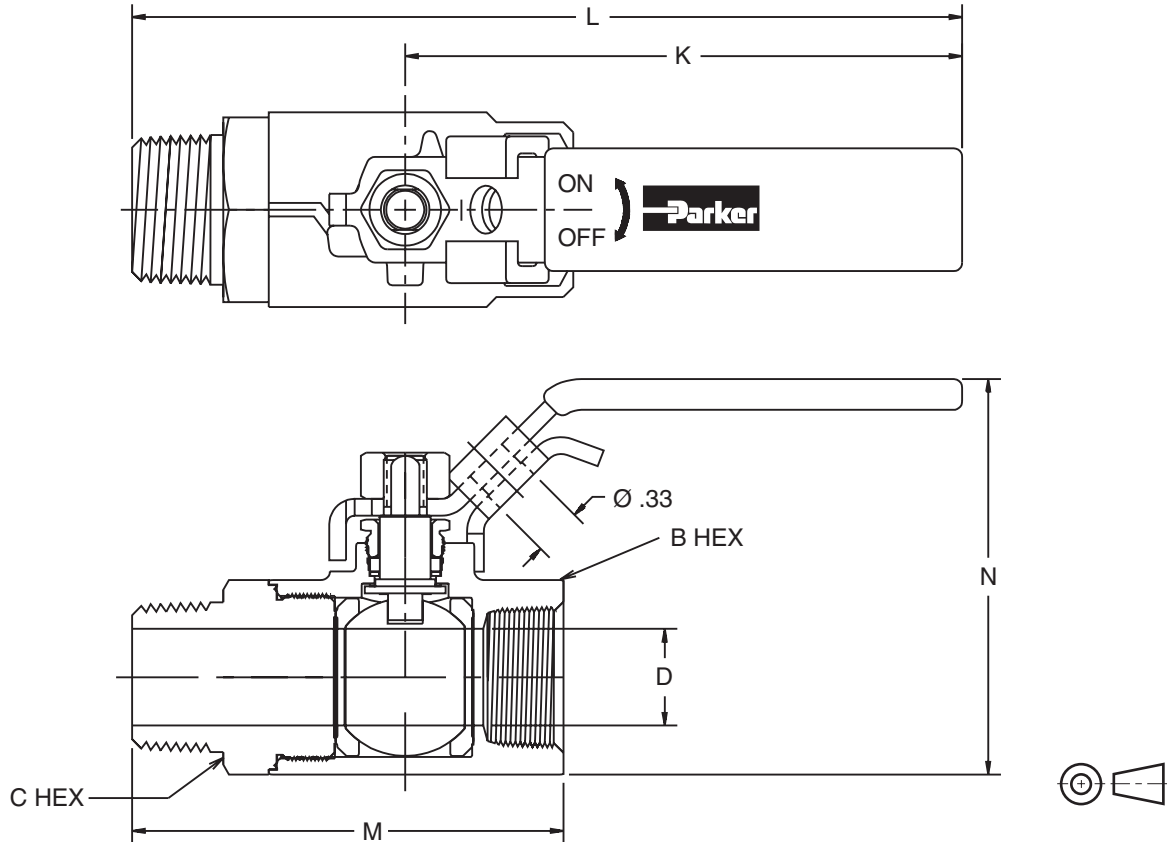
Part Number	Pipe Thread	B Hex	C Hex	Dimensions mm (in)					D Flow Ø
				J	K	L	M	N	
Vented, Female Pipe Ends VV500P									
VV500P4	1/4"	15/16"	15/16"	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VV500P6	3/8"	15/16"	15/16"	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VV500P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	31.2 (1.23)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
VV500P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	36.8 (1.45)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
VV500P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	40.1 (1.58)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)
OSHA 29 CFR Part 1910 Vented, Locking Handle, Female Pipe Ends VVP500P (Shown above)									
VVP500P4	1/4"	15/16"	15/16"	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VVP500P6	3/8"	15/16"	15/16"	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VVP500P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	31.2 (1.23)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
VVP500P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	36.8 (1.45)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
VVP500P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	40.1 (1.58)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)

Locking handle parts: For use with 5/16" Ø shank lock

Cat3300_02.indd, ddp, 04/19



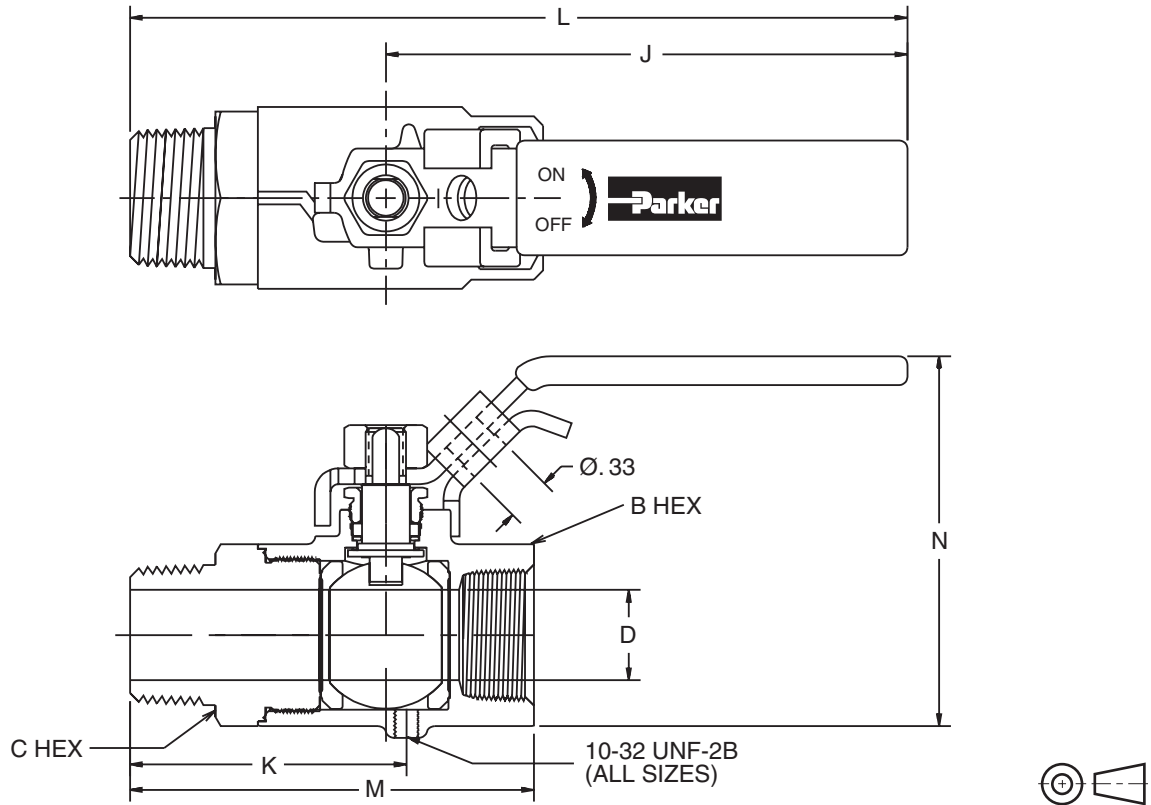
Model V501P and VP501P



Part Number	Pipe Thread	B Hex	C Hex	Dimensions mm (in)				D Flow Ø
				K	L	M	N	
Male-Female Pipe Ends V501P								
V501P4	1/4"	15/16"	15/16"	100.6 (3.96)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	8.7 (0.344)
V501P6	3/8"	15/16"	15/16"	100.6 (3.96)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	9.5 (0.375)
V501P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	146.1 (5.75)	74.9 (2.95)	65.5 (2.58)	12.7 (0.500)
V501P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	148.1 (5.83)	76.2 (3.00)	71.4 (2.81)	17.4 (0.685)
V501P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	157.2 (6.19)	91.4 (3.60)	78.2 (3.08)	22.2 (0.875)
Locking Handle, Male-Female Pipe Ends VP501P (Shown above)								
VP501P4	1/4"	15/16"	15/16"	100.6 (3.96)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	8.7 (0.344)
VP501P6	3/8"	15/16"	15/16"	100.6 (3.96)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	9.5 (0.375)
VP501P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	146.1 (5.75)	74.9 (2.95)	65.5 (2.58)	12.7 (0.500)
VP501P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	148.1 (5.83)	76.2 (3.00)	71.4 (2.81)	17.4 (0.685)
VP501P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	157.2 (6.19)	91.4 (3.60)	78.2 (3.08)	22.2 (0.875)

Locking handle parts: For use with 5/16" Ø shank lock

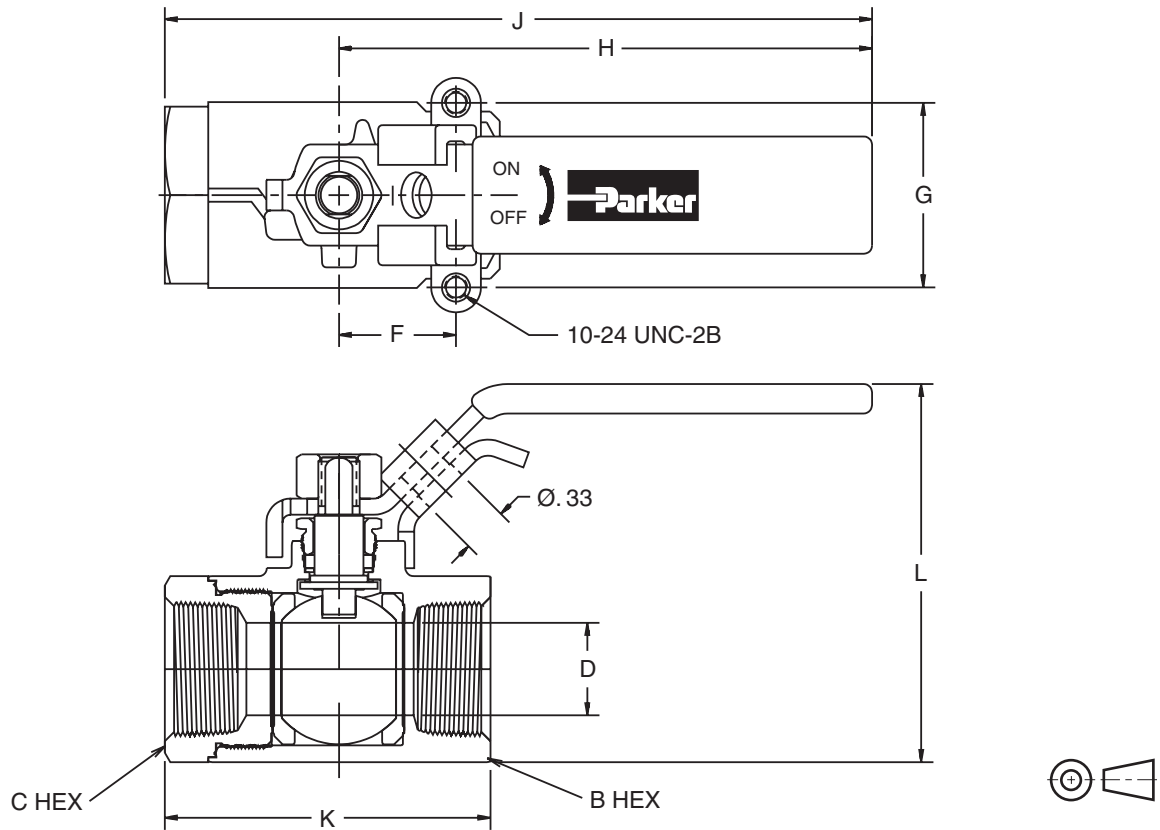
Model VV501P and VVP501P



Part Number	Pipe Thread (PTF)	B Hex	C Hex	Dimensions mm (in)					D Flow Ø
				J	K	L	M	N	
Vented, Male-Female Pipe Ends VV501P									
VV501P4	1/4"	15/16"	15/16"	100.6 (3.96)	42.4 (1.67)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	8.7 (0.344)
VV501P6	3/8"	15/16"	15/16"	100.6 (3.96)	42.4 (1.67)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	9.5 (0.375)
VV501P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	50.3 (1.98)	146.1 (5.75)	74.9 (2.95)	65.5 (2.58)	12.7 (0.500)
VV501P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	51.6 (2.03)	148.1 (5.83)	76.2 (3.00)	71.4 (2.81)	17.4 (0.685)
VV501P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	61.7 (2.43)	157.2 (6.19)	91.4 (3.60)	78.2 (3.08)	22.2 (0.875)
OSHA 29 CFR Part 1910 Vented, Locking Handle, Male-Female Pipe Ends VVP501P (Shown above)									
VVP501P4	1/4"	15/16"	15/16"	100.6 (3.96)	42.4 (1.67)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	8.7 (0.344)
VVP501P6	3/8"	15/16"	15/16"	100.6 (3.96)	42.4 (1.67)	138.7 (5.46)	65.8 (2.59)	62.7 (2.47)	9.5 (0.375)
VVP501P8	1/2"	1-1/16"	1-1/16"	100.6 (3.96)	50.3 (1.98)	146.1 (5.75)	74.9 (2.95)	65.5 (2.58)	12.7 (0.500)
VVP501P12	3/4"	1-1/4"	1-5/16"	100.6 (3.96)	51.6 (2.03)	148.1 (5.83)	76.2 (3.00)	71.4 (2.81)	17.4 (0.685)
VVP501P16	1"	1-1/2"	1-9/16"	100.6 (3.96)	61.7 (2.43)	157.2 (6.19)	91.4 (3.60)	78.2 (3.08)	22.2 (0.875)

Locking handle parts: For use with 5/16" Ø shank lock

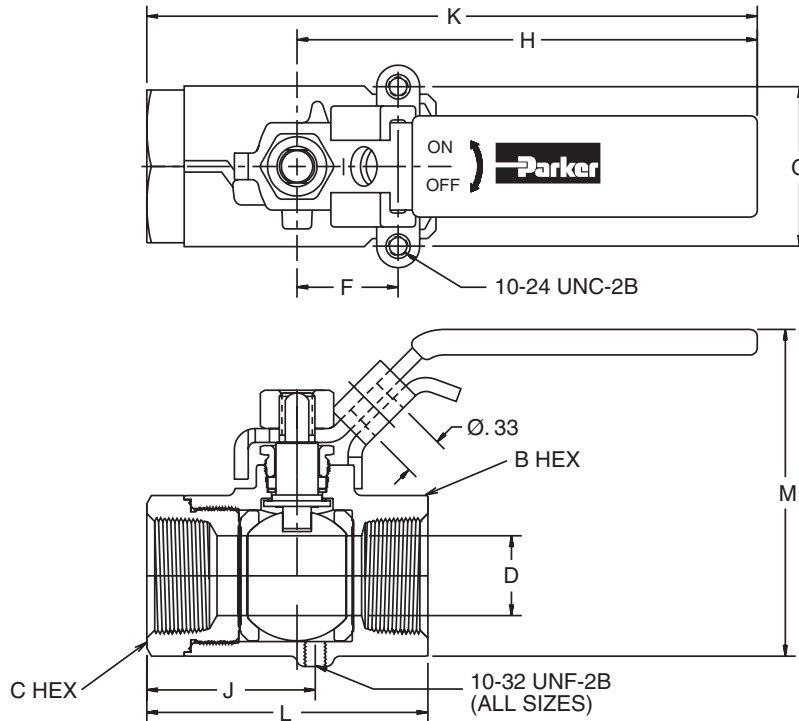
Model V502P and VP502P



Part Number	Pipe Thread	B Hex	C Hex	Dimensions mm (in)						D Flow Ø
				F	G	H	J	K	L	
Female-Female Pipe Ends, Panel Mount V502P										
V502P4	1/4"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
V502P6	3/8"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
V502P8	1/2"	1-1/16"	1-1/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
V502P12	3/4"	1-1/4"	1-5/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
V502P16	1"	1-1/2"	1-9/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)
Locking Handle, Female Pipe Ends, Panel Mount VP502P (Shown above)										
VP502P4	1/4"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VP502P6	3/8"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VP502P8	1/2"	1-1/16"	1-1/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
VP502P12	3/4"	1-1/4"	1-5/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
VP502P16	1"	1-1/2"	1-9/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)

Locking handle parts: For use with 5/16" Ø shank lock

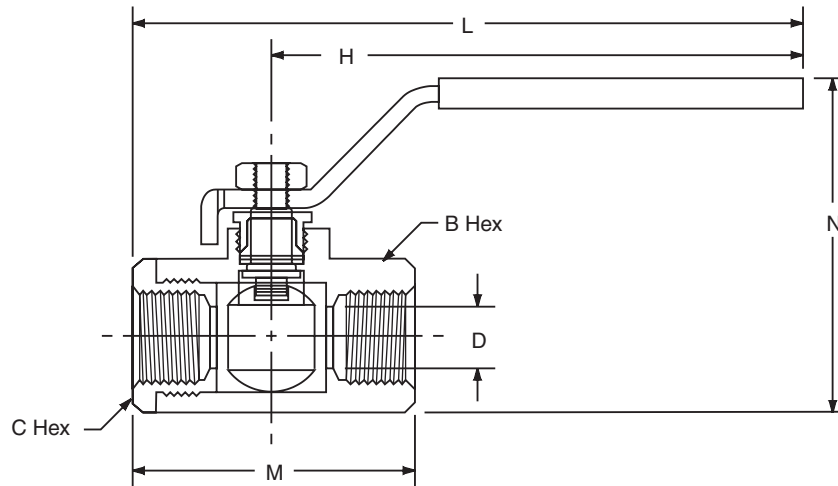
Model VV502P and VVP502P



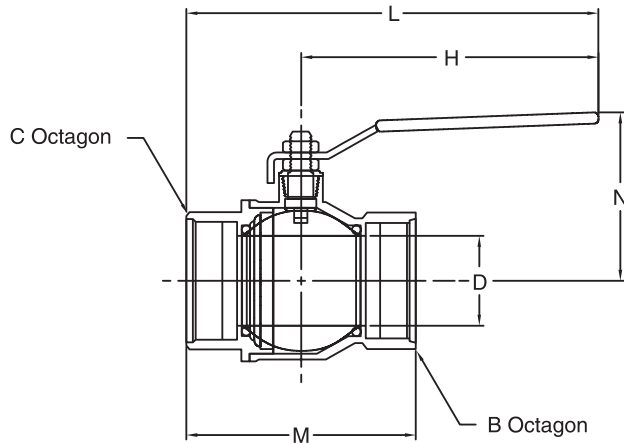
Part Number	Pipe Thread	B Hex	C Hex	Dimensions mm (in)							D Flow Ø
				F	G	H	J	K	L	M	
Vented, Female-Female Pipe Ends, Panel Mount VV502P											
VV502P4	1/4"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VV502P6	3/8"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VV502P8	1/2"	1-1/16"	1-1/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	31.2 (1.23)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
VV502P12	3/4"	1-1/4"	1-5/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	36.8 (1.45)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
VV502P16	1"	1-1/2"	1-9/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	40.1 (1.58)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)
OSHA 29 CFR Part 1910 Vented, Locking Handle, Female Pipe Ends, Panel Mount VVP502P (Shown above)											
VVP502P4	1/4"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VVP502P6	3/8"	15/16"	15/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	28.2 (1.11)	124.5 (4.90)	51.6 (2.03)	62.7 (2.47)	9.5 (0.375)
VVP502P8	1/2"	1-1/16"	1-1/16"	12.7 (0.50)	28.4 (1.12)	100.6 (3.96)	31.2 (1.23)	127.0 (5.00)	55.9 (2.20)	65.5 (2.58)	12.7 (0.500)
VVP502P12	3/4"	1-1/4"	1-5/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	36.8 (1.45)	133.4 (5.25)	61.5 (2.42)	71.4 (2.81)	17.4 (0.685)
VVP502P16	1"	1-1/2"	1-9/16"	22.1 (0.87)	34.8 (1.37)	100.6 (3.96)	40.1 (1.58)	135.6 (5.34)	69.9 (2.75)	78.2 (3.08)	22.2 (0.875)

Locking handle parts: For use with 5/16" Ø shank lock

Model V506P

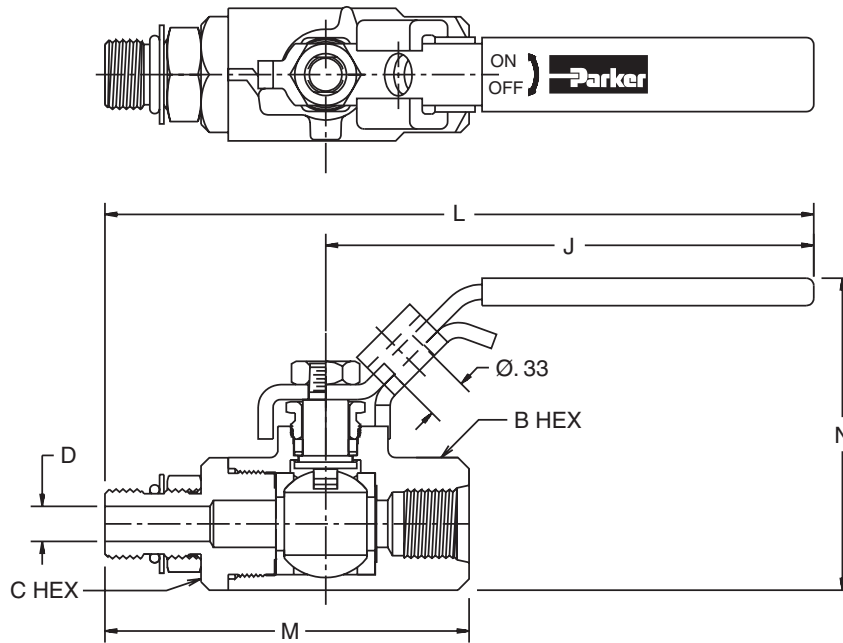


Part Number	Straight Thread	B Hex	C Hex	Dimensions mm (in)				D Flow Ø
				H	L	M	N	
Female/Female, Straight Thread O-Ring Port V506P								
V506P4	7/16-20	15/16"	15/16"	100.6 (3.96)	127.3 (5.01)	55.9 (2.20)	62.7 (2.47)	9.5 (0.375)
V506P6	9/16-18	15/16"	15/16"	100.6 (3.96)	128.8 (5.07)	57.4 (2.26)	62.7 (2.47)	9.5 (0.375)
V506P8	3/4-16	1-1/16"	1-1/16"	100.6 (3.96)	131.6 (5.18)	61.5 (2.42)	66.0 (2.60)	12.7 (0.500)
V506P12	1 1/16-12	1-1/4"	1-5/16"	100.6 (3.96)	149.1 (5.87)	87.9 (3.46)	71.4 (2.81)	17.4 (0.685)
V506P16	1 5/16-12	1-1/2"	1-9/16"	100.6 (3.96)	151.4 (5.96)	93.5 (3.68)	78.2 (3.08)	22.2 (0.875)



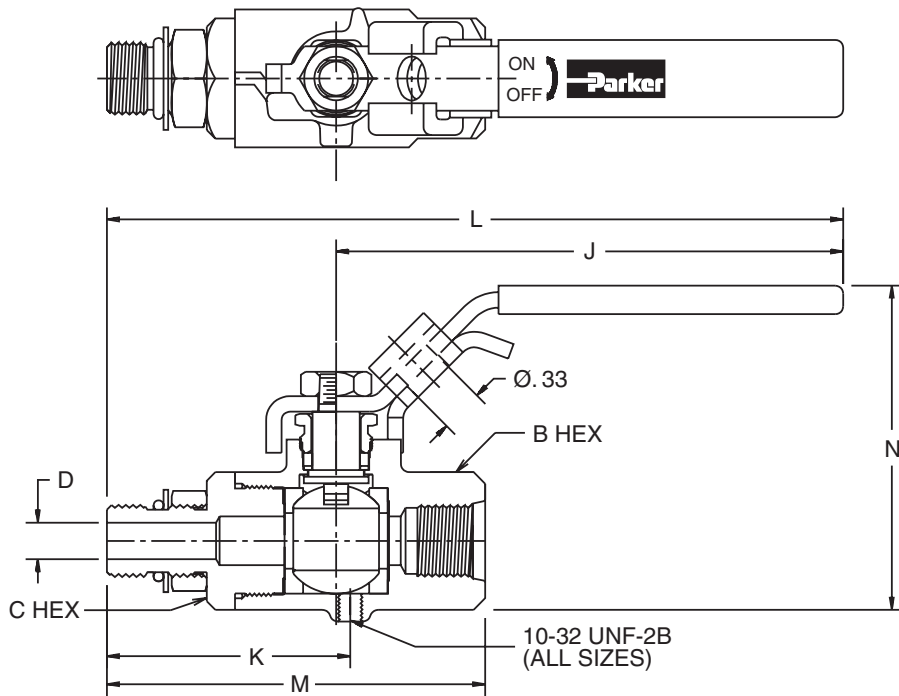
Part Number	Straight Thread	B Octagon	C Octagon	Dimensions mm (in)				D Flow Ø
				H	L	M	N	
Female/Female, Straight Thread O-Ring Port V506P								
V506P20	1 5/8-12	49.0 (1.93)	49.0 (1.93)	158.0 (6.22)	204.5 (8.05)	93.0 (3.66)	76.5 (3.01)	30.0 (1.18)
V506P24	1 7/8-12	54.1 (2.13)	54.1 (2.13)	158.0 (6.22)	209.0 (8.23)	102.1 (4.02)	82.6 (3.25)	38.1 (1.50)
V506P32	2 1/2-12	72.4 (2.85)	72.4 (2.85)	158.0 (6.22)	218.4 (8.60)	120.9 (4.76)	89.4 (3.52)	48.0 (1.89)

Model V510P and VP510P



Part Number	Straight Thread	B Hex	C Hex	Dimensions mm (in)				D Flow Ø
				K	L	M	N	
Male-Female, Straight Thread O-Ring Port V510P								
V510P4	7/16-20	15/16"	15/16"	100.6 (3.96)	142.5 (5.61)	72.4 (2.85)	62.7 (2.47)	4.8 (0.188)
V510P6	9/16-18	15/16"	15/16"	100.6 (3.96)	144.3 (5.68)	74.2 (2.92)	62.7 (2.47)	7.1 (0.281)
V510P8	3/4-16	1-1/16"	1-1/16"	100.6 (3.96)	149.4 (5.88)	80.5 (3.17)	65.5 (2.58)	10.7 (0.422)
V510P12	1-1/16-12	1-1/4"	1-5/16"	100.6 (3.96)	163.6 (6.44)	102.4 (4.03)	71.4 (2.81)	16.7 (0.656)
V510P16	1-5/16-12	1-1/2"	1-9/16"	100.6 (3.96)	166.6 (6.56)	108.7 (4.28)	78.2 (3.08)	22.2 (0.875)
Locking Handle, Straight Thread O-Ring Port VP510P (Shown above)								
VP510P4	7/16-20	15/16"	15/16"	100.6 (3.96)	142.5 (5.61)	72.4 (2.85)	62.7 (2.47)	4.8 (0.188)
VP510P6	9/16-18	15/16"	15/16"	100.6 (3.96)	144.3 (5.68)	74.2 (2.92)	62.7 (2.47)	7.1 (0.281)
VP510P8	3/4-16	1-1/16"	1-1/16"	100.6 (3.96)	149.4 (5.88)	80.5 (3.17)	65.5 (2.58)	10.7 (0.422)

Model VV510P and VVP510P



Part Number	Straight Thread	B Hex	C Hex	Dimensions mm (in)					D Flow Ø
				J	K	L	M	N	
Vented, Straight Thread O-Ring Port VV510P									
VV510P4	7/16-20	15/16"	15/16"	100.6 (3.96)	46.2 (1.82)	142.5 (5.61)	72.4 (2.85)	62.7 (2.47)	4.8 (0.188)
VV510P6	9/16-18	15/16"	15/16"	100.6 (3.96)	48.0 (1.89)	144.3 (5.68)	74.2 (2.92)	62.7 (2.47)	7.1 (0.281)
VV510P8	3/4-16	1-1/16"	1-1/16"	100.6 (3.96)	53.8 (2.12)	149.4 (5.88)	80.5 (3.17)	65.5 (2.58)	10.7 (0.422)
VV510P12	1-1/16-12	1-1/4"	1-5/16"	100.6 (3.96)	67.1 (2.64)	163.6 (6.44)	102.4 (4.03)	71.4 (2.81)	16.7 (0.656)
OSHA 29 CFR Part 1910									
Vented, Locking Handle, Male-Female, Straight Thread O-Ring Port VV510P (Shown above)									
VVP510P4	7/16-20	15/16"	15/16"	100.6 (3.96)	46.2 (1.82)	142.5 (5.61)	72.4 (2.85)	62.7 (2.47)	4.8 (0.188)
VVP510P6	9/16-18	15/16"	15/16"	100.6 (3.96)	48.0 (1.89)	144.3 (5.68)	74.2 (2.92)	62.7 (2.47)	7.1 (0.281)
VVP510P8	3/4-16	1-1/16"	1-1/16"	100.6 (3.96)	53.8 (2.12)	149.4 (5.88)	80.5 (3.17)	65.5 (2.58)	10.7 (0.422)

General Description

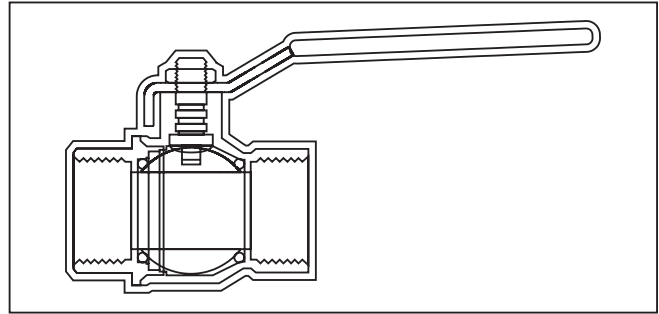
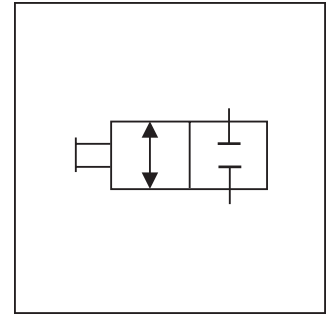
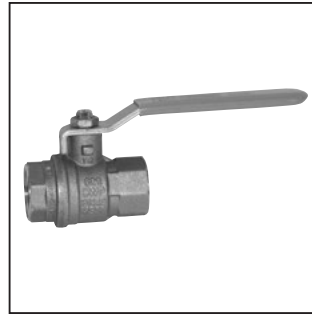
Series 520 low pressure ball valves provide total shut-off capability for services up to 41 Bar (600 PSI). This economical ball valve is available in female pipe sizes.

Operation

A quarter turn of the handle is on or off. Ball valves are not intended for use as a throttling valve. Attempting to use it in these applications may result in premature seal failure and/or inability to turn the valve handle.

Features

- Ball valve bodies are machined forgings which provide extended service life and resist failure caused by severe temperature conditions.
- Full flow design assures maximum system efficiency.
- Highly inert PTFE seats provide resistance to chemical corrosion.
- Two fluorocarbon o-rings at the stem provide maximum safety with no maintenance.
- Blowout proof stem design, chrome plated brass ball and a special design handle enable increased turn and leverage for ease of opening and closing.



Specifications

Maximum Working Pressure	Sizes 1/4" - 2"	41 Bar (600 PSI)
	Sizes 2 1/2" - 3"	31 Bar (450 PSI)
	Saturated Steam up to 10 Bar (150 PSI) and 177°C (350°F)	
	Vacuum service to 29 in. Hg	

Ordering Information

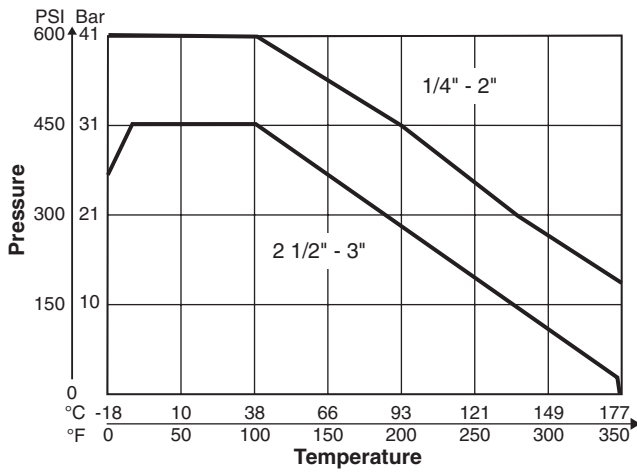
V Style	520 Type	P Material	□ Size	┌ ┐ └ ┘ Design Series NOTE: Not required when ordering.																																		
<table border="1"> <thead> <tr><th>Code</th><th>Description</th></tr> </thead> <tbody> <tr><td>V</td><td>Valve</td></tr> </tbody> </table>	Code	Description	V	Valve	<table border="1"> <thead> <tr><th>Code</th><th>Description</th></tr> </thead> <tbody> <tr><td>520</td><td>Female/Female NPT Ports</td></tr> </tbody> </table>	Code	Description	520	Female/Female NPT Ports	<table border="1"> <thead> <tr><th>Code</th><th>Description</th></tr> </thead> <tbody> <tr><td>P</td><td>Brass</td></tr> </tbody> </table>	Code	Description	P	Brass	<table border="1"> <thead> <tr><th>Code</th><th>Size</th></tr> </thead> <tbody> <tr><td>4</td><td>1/4" NPT</td></tr> <tr><td>6</td><td>3/8" NPT</td></tr> <tr><td>8</td><td>1/2" NPT</td></tr> <tr><td>12</td><td>3/4" NPT</td></tr> <tr><td>16</td><td>1" NPT</td></tr> <tr><td>20</td><td>1 1/4" NPT</td></tr> <tr><td>24</td><td>1 1/2" NPT</td></tr> <tr><td>32</td><td>2" NPT</td></tr> <tr><td>40</td><td>2 1/2" NPT</td></tr> <tr><td>48</td><td>3" NPT</td></tr> </tbody> </table>	Code	Size	4	1/4" NPT	6	3/8" NPT	8	1/2" NPT	12	3/4" NPT	16	1" NPT	20	1 1/4" NPT	24	1 1/2" NPT	32	2" NPT	40	2 1/2" NPT	48	3" NPT	
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24	1 1/2" NPT																																					
32	2" NPT																																					
40	2 1/2" NPT																																					
48	3" NPT																																					

WARNING: This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

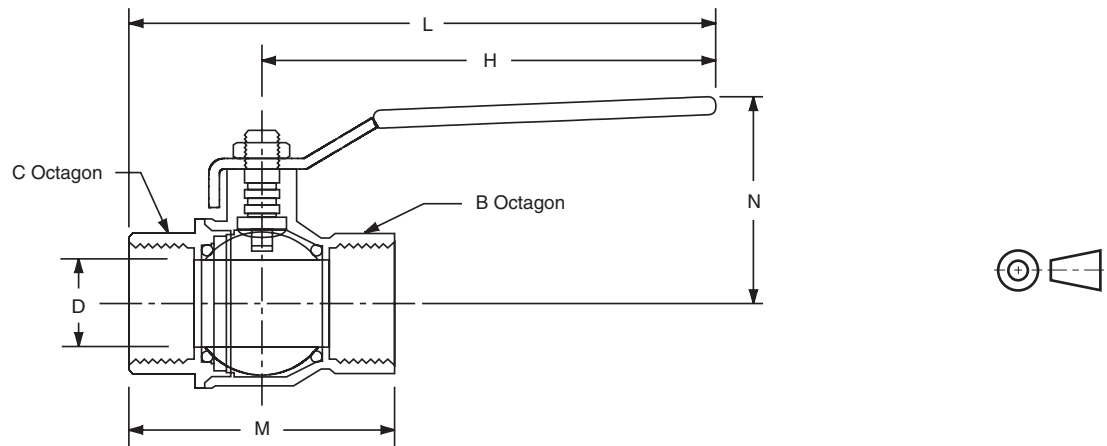
Cat3300_02.indd, ddp, 04/19



Performance Curves



Dimensions



Part Number	Pipe Thread	B Octagon	C Octagon	Dimensions mm (in)				D Flow Ø
				H	L	M	N	
Brass Ball Valve V520P								
V520P4	1/4-18	20.1 (0.79)	20.1 (0.79)	100.1 (3.94)	122.7 (4.83)	45.0 (1.77)	38.1 (1.50)	7.9 (0.310)
V520P6	3/8-18	20.1 (0.79)	20.1 (0.79)	100.1 (3.94)	122.7 (4.83)	45.0 (1.77)	38.1 (1.50)	10.2 (0.400)
V520P8	1/2-14	24.9 (0.98)	24.9 (0.98)	100.1 (3.94)	129.5 (5.10)	58.9 (2.32)	42.9 (1.69)	15.2 (0.600)
V520P12	3/4-14	31.0 (1.22)	31.0 (1.22)	119.9 (4.72)	151.9 (5.98)	64.0 (2.52)	50.0 (1.97)	20.1 (0.790)
V520P16	1 -11.5	39.9 (1.57)	39.9 (1.57)	119.9 (4.72)	160.5 (6.32)	81.0 (3.19)	54.1 (2.13)	25.4 (1.000)
V520P20	1 1/4	49.0 (1.93)	49.0 (1.93)	158.0 (6.22)	204.5 (8.05)	93.0 (3.66)	71.6 (2.82)	31.8 (1.250)
V520P24	1 1/2	54.1 (2.13)	54.1 (2.13)	158.0 (6.22)	209.0 (8.23)	102.1 (4.02)	77.7 (3.06)	39.9 (1.570)
V520P32	2	68.3 (2.69)	68.3 (2.69)	158.0 (6.22)	217.9 (8.58)	120.9 (4.76)	84.6 (3.33)	50.8 (2.000)
V520P40	2 1/2	85.1 (3.35)	85.1 (3.35)	255.0 (10.04)	333.0 (13.11)	156.0 (6.14)	132.1 (5.20)	64.0 (2.520)
V520P48	3	98.8 (3.89)	98.8 (3.89)	255.0 (10.04)	343.4 (13.52)	177.0 (6.97)	140.0 (5.51)	76.2 (3.000)

General Description

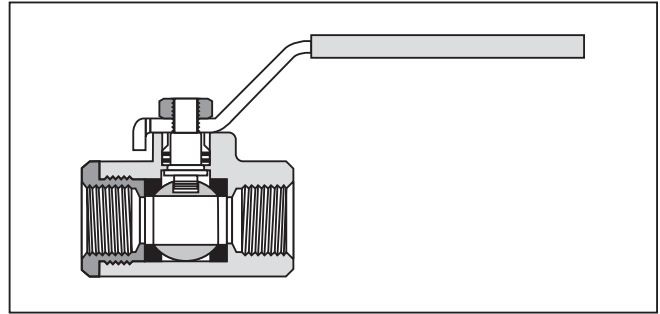
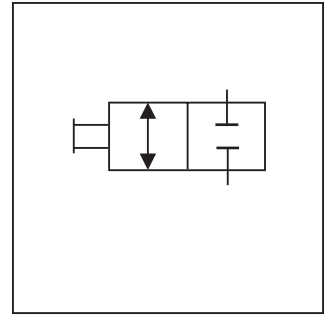
Series 500CS low pressure carbon steel ball valves provide total shut-off capability for services up to 138 Bar (2000 PSI).

Operation

A quarter turn of the handle is on or off. Ball valves are not intended for use as a throttling valve. Attempting to use it in these applications may result in premature seal failure and/or inability to turn the valve handle.

Features

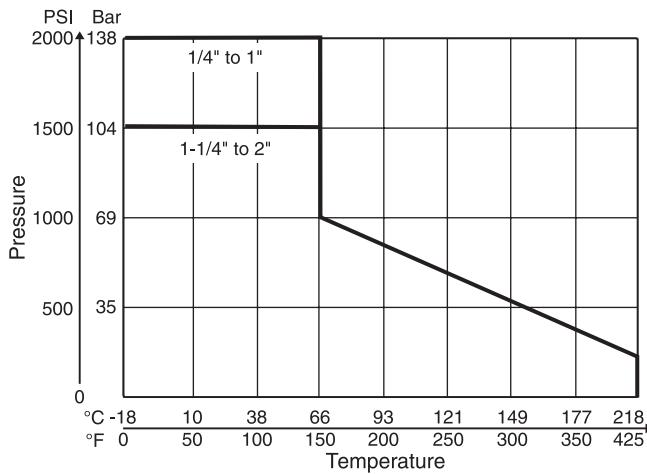
- Ball valve bodies are machined from high quality carbon steel and phosphate coated forgings providing superior corrosion resistance.
- Highly inert PTFE seats and seals provide resistance to chemical corrosion.
- Blowout proof stem design, chrome plated brass ball and a special design handle enable increased turn and leverage for ease of opening and closing.
- Padlocking handle options provides lock-out capability where required.
- In-line or panel mount options provide installation flexibility.



Specifications

Maximum Working Pressure	Sizes 1/4" - 1" 138 Bar (2000 PSI)
	Sizes 1 1/4" - 2" 103 Bar (1500 PSI)
	Saturated Steam up to 10 Bar (150 PSI) and 177C (350°F)
Body Material	Carbon Steel, Phosphate Coated

Performance Curves

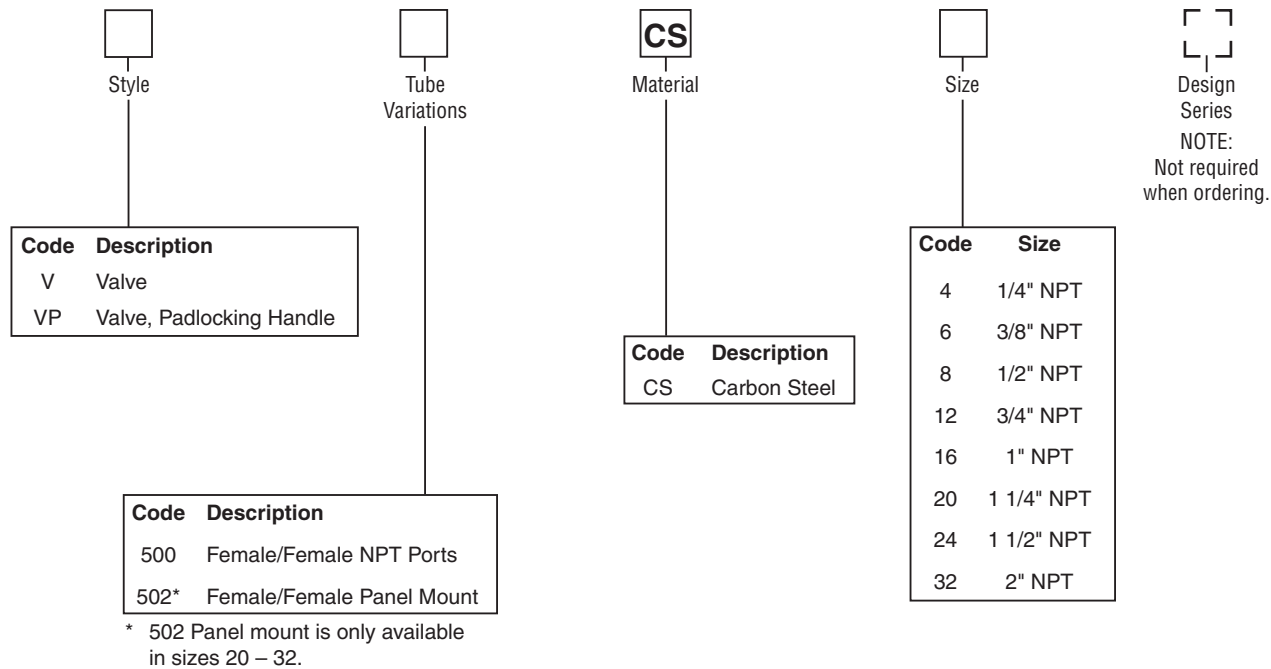


Flow Data

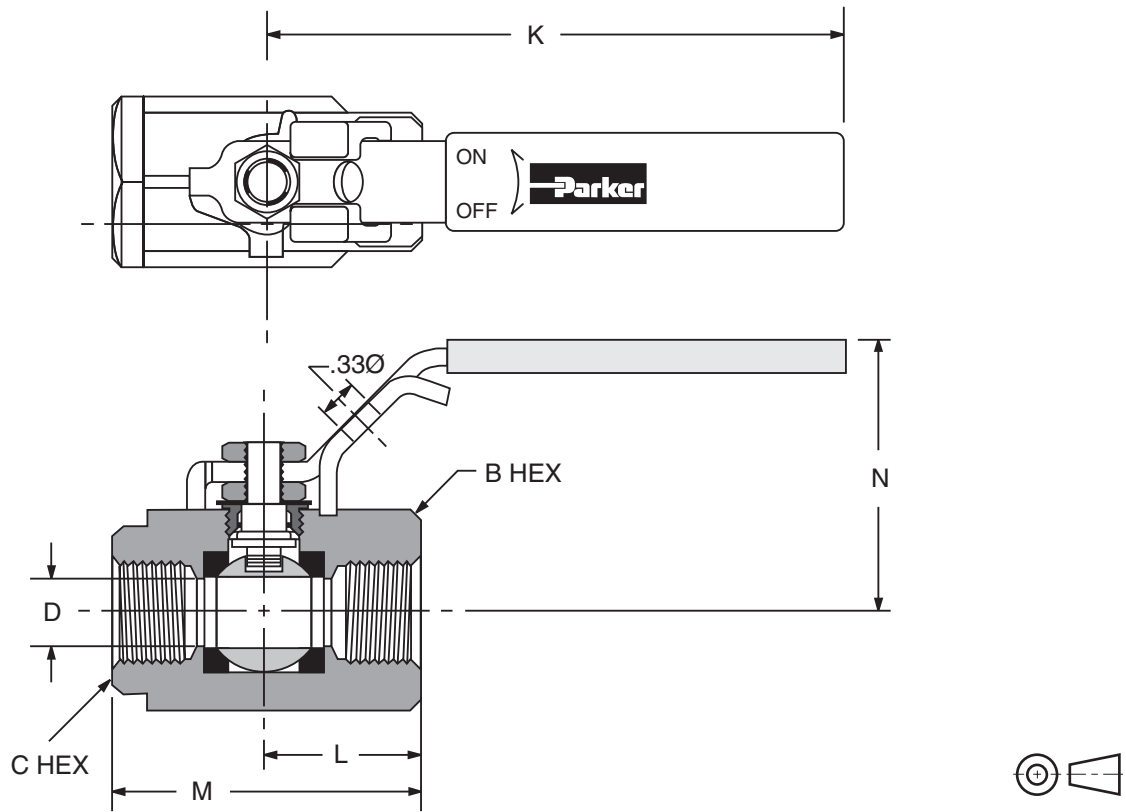
Type 500CS, 502CS	
Valve Size	C _v
1/4"	6.0
3/8"	12.0
1/2"	15.0
3/4"	23.0
1"	36.0
1-1/4"	44.0
1-1/2"	64.0
2"	114.0

WARNING: This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Cat3300_02.indd, ddp, 04/19

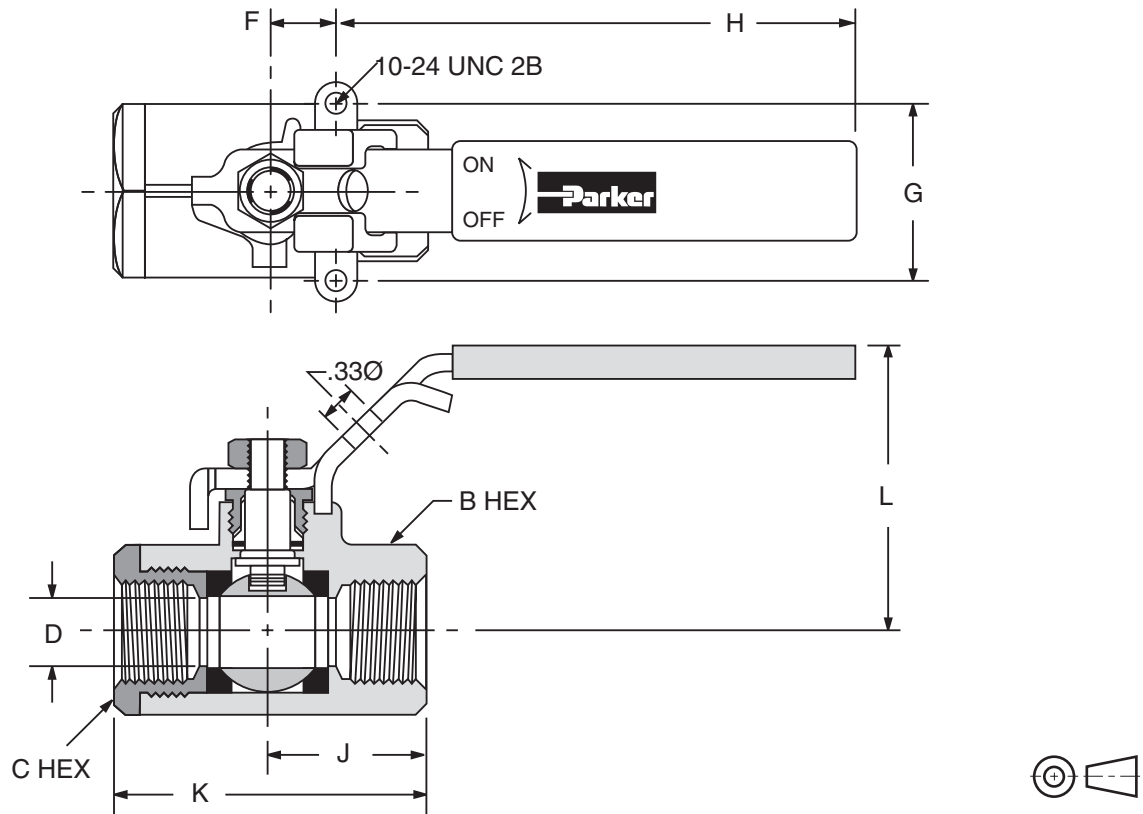


Model V500CS and VP500CS



Part Number	Pipe Thread	B Hex	C Hex	Dimensions mm (in)				D Flow Ø
				K	L	M	N	
Female-Female Pipe Ends V500CS								
V500CS4	1/4"	1-1/16"	15/16"	96.0 (3.78)	25.4 (1.00)	50.8 (2.00)	41.4 (1.63)	10.2 (0.400)
V500CS6	3/8"	1-1/16"	15/16"	96.0 (3.78)	25.4 (1.00)	50.8 (2.00)	41.4 (1.63)	10.2 (0.400)
V500CS8	1/2"	1-1/4"	1-1/16"	96.0 (3.78)	31.8 (1.25)	60.2 (2.37)	43.9 (1.73)	13.7 (0.540)
V500CS12	3/4"	1-5/8"	1-3/8"	129.5 (5.10)	38.1 (1.50)	73.7 (2.90)	52.8 (2.08)	17.3 (0.680)
V500CS16	1"	2"	1-5/8"	129.5 (5.10)	44.7 (1.76)	86.6 (3.41)	58.4 (2.30)	22.4 (0.880)
Locking Handle, Female Pipe Ends VP500CS (Shown above)								
VP500CS4	1/4"	1-1/16"	15/16"	104.9 (4.13)	25.4 (1.00)	50.8 (2.00)	56.6 (2.23)	10.2 (0.400)
VP500CS6	3/8"	1-1/16"	15/16"	104.9 (4.13)	25.4 (1.00)	50.8 (2.00)	56.6 (2.23)	10.2 (0.400)
VP500CS8	1/2"	1-1/4"	1-1/16"	104.9 (4.13)	31.8 (1.25)	60.2 (2.37)	56.6 (2.23)	13.7 (0.540)
VP500CS12	3/4"	1-5/8"	1-3/8"	127.0 (5.00)	38.1 (1.50)	73.7 (2.90)	71.1 (2.80)	17.3 (0.680)
VP500CS16	1"	2"	1-5/8"	127.0 (5.00)	44.7 (1.76)	86.6 (3.41)	75.4 (2.97)	22.4 (0.880)

Model V502CS and VP502CS



Part Number	Pipe Thread	B Hex	C Hex	Dimensions mm (in)						D Flow Ø
				F	G	H	J	K	L	
Female-Female Pipe Ends, Panel Mount V502CS										
V502CS20	1-1/4"	2"	2-1/4"	23.9 (0.94)	38.1 (1.50)	154.9 (6.10)	47.5 (1.87)	96.5 (3.80)	70.1 (2.76)	25.4 (1.000)
V502CS24	1-1/2"	2-5/16"	2-1/2"	23.9 (0.94)	38.1 (1.50)	154.9 (6.10)	57.7 (2.27)	115.6 (4.55)	75.7 (2.98)	31.8 (1.250)
V502CS32	2"	2-3/4"	3"	26.2 (1.03)	50.8 (2.00)	218.4 (8.60)	61.5 (2.42)	122.7 (4.83)	89.9 (3.54)	38.1 (1.500)
Locking Handle, Female Pipe Ends, Panel Mount VP502CS (Shown above)										
VP502CS20	1-1/4"	2"	2-1/4"	23.9 (0.94)	38.1 (1.50)	190.5 (7.50)	47.5 (1.87)	96.5 (3.80)	80.0 (3.15)	25.4 (1.000)
VP502CS24	1-1/2"	2-5/16"	2-1/2"	23.9 (0.94)	38.1 (1.50)	190.5 (7.50)	57.7 (2.27)	115.6 (4.55)	85.6 (3.37)	31.8 (1.250)
VP502CS32	2"	2-3/4"	3"	26.2 (1.03)	50.8 (2.00)	222.3 (8.75)	61.5 (2.42)	122.7 (4.83)	87.9 (3.46)	38.1 (1.500)

General Description

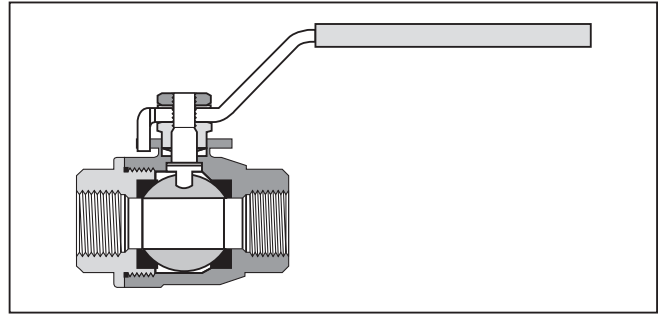
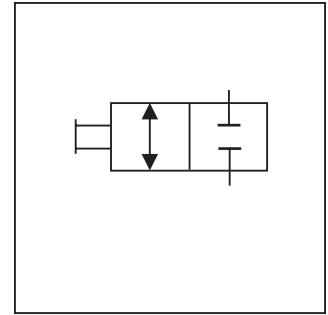
Series 50*SS low pressure, stainless steel ball valves provide total shut-off capability for services up to 138 Bar (2000 PSI).

Operation

A quarter turn of the handle is on or off. Ball Valves are not intended for use as a throttling valve. Attempting to use it in these applications may result in premature seal failure and/or inability to turn the valve handle.

Features

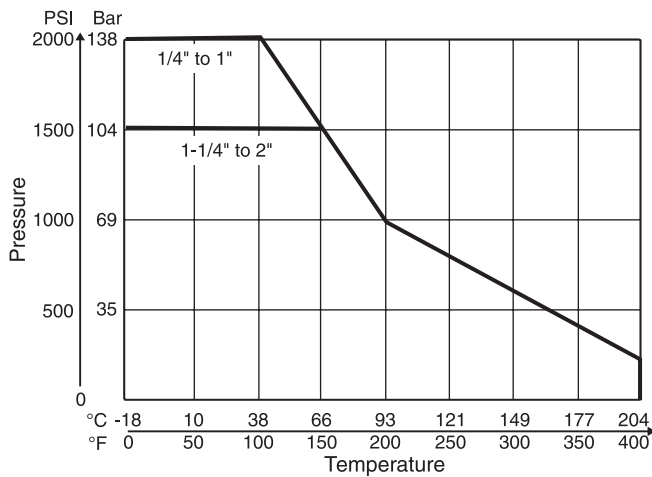
- Ball valve bodies are machined from CF-8M stainless steel castings, equivalent of 316 stainless steel which is suited for corrosive environments.
- Highly inert PTFE seats and seals provide resistance to chemical corrosion.
- Blowout proof stem design, 316 stainless ball and a special design handle enable increased turn and leverage for ease of opening and closing.
- Padlocking handle option provides lock-out capability where required.
- Style 502 allows panel mounting for installation flexibility.



Specifications

Maximum Working Pressure	Sizes 1/4" - 1" 138 Bar (2000 PSI) Sizes 1 1/4" - 2" 103 Bar (1500 PSI) Saturated Steam up to 10 Bar (150 PSI) and 177°C (350°F) Vacuum service to 29 in. Hg
Body Material	CF-8M Stainless Steel 316 SS Cast Equivalent
Ball Material	Stainless Steel

Performance Curves



Flow Data

Type 501SS		Type 502SS	
Valve Size	C _v	Valve Size	C _v
1/4"	4.0	1/4"	4.0
3/8"	6.0	3/8"	6.0
1/2"	14.0	1/2"	14.0
3/4"	35.0	3/4"	35.0
1"	54.0	1"	54.0
		1-1/4"	74.0
		1-1/2"	120.0
		2"	226.0

WARNING: This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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□
Style

Code	Description
V	Valve
VP*	Valve, Locking Handle

* Locking handle style is only available in 502 series.

□
Type

Code	Description
501	Male/Female NPT Ports
502	Female/Female NPT Ports Panel Mount

SS
Material

Code	Description
SS	Stainless Steel

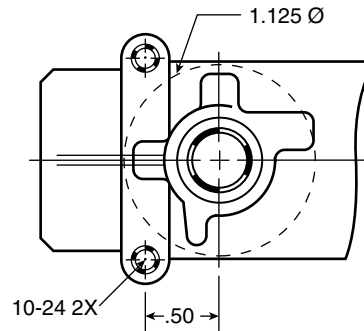
□
Size *

Description			
501	502	Code	Size
Y	Y	4	1/4" NPT
Y	Y	6	3/8" NPT
Y	Y	8	1/2" NPT
Y	Y	12	3/4" NPT
Y	Y	16	1" NPT
N	Y	20	1 1/4" NPT
N	Y	24	1 1/2" NPT
N	Y	32	2" NPT

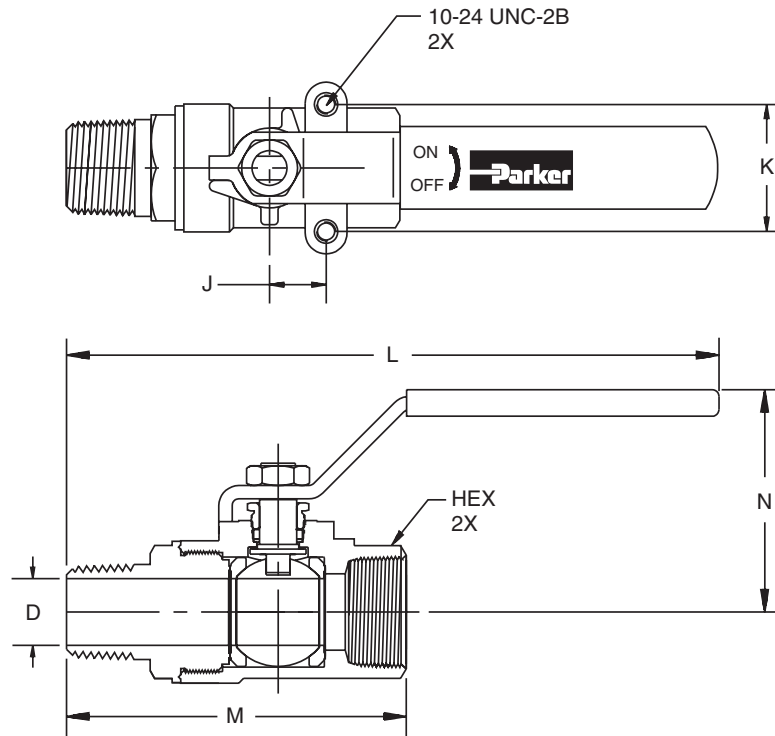
*Note: Y = Yes, it is available in this type
N = Not available in this type

□ □
Design Series
NOTE:
Not required when ordering.

Mounting Detail

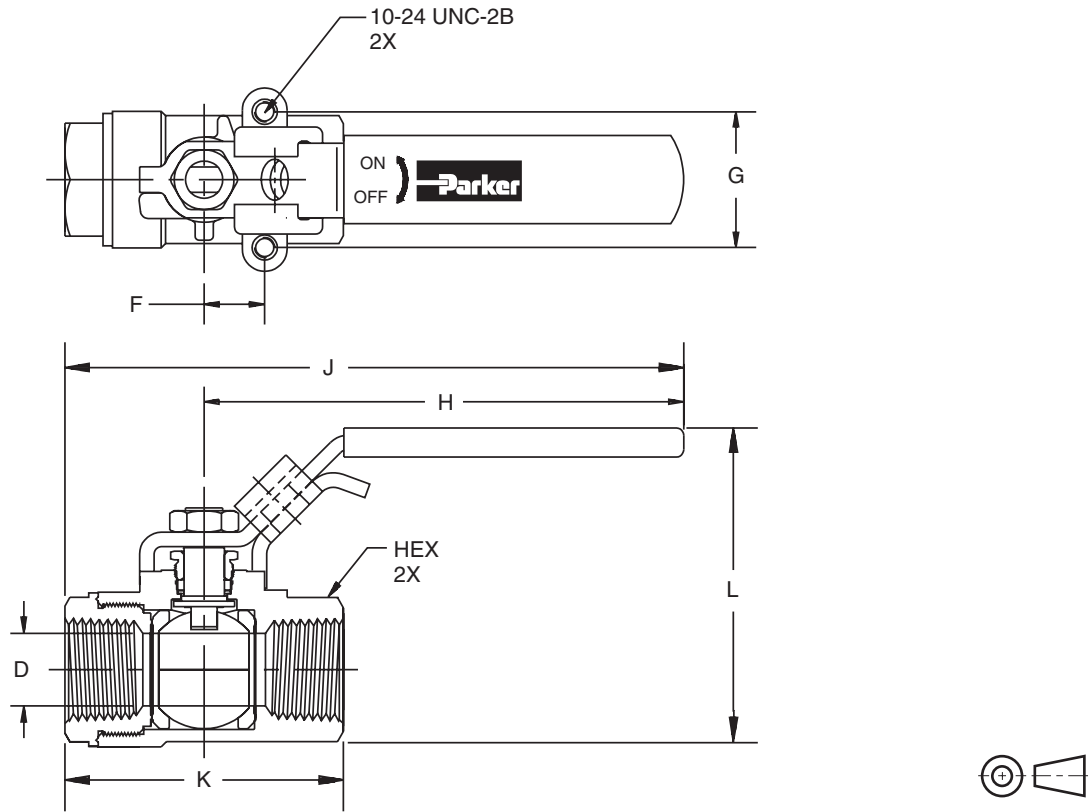


Model V501SS



Part Number	Pipe Thread	Hex	Dimensions mm (in)					D Flow Ø
			J	K	L	M	N	
Male-Female Pipe Ends V501SS								
V501SS4	1/4"	15/16"	12.7 (0.50)	28.4 (1.12)	142.2 (5.60)	67.3 (2.65)	50.0 (1.97)	7.1 (0.280)
V501SS6	3/8"	15/16"	12.7 (0.50)	28.4 (1.12)	142.2 (5.60)	67.3 (2.65)	50.0 (1.97)	9.5 (0.375)
V501SS8	1/2"	1-1/16"	12.7 (0.50)	28.4 (1.12)	148.6 (5.85)	77.5 (3.05)	50.8 (2.00)	12.7 (0.500)
V501SS12	3/4"	1-3/8"	22.4 (0.88)	34.8 (1.37)	184.7 (7.27)	97.8 (3.85)	64.8 (2.55)	18.3 (0.720)
V501SS16	1"	1-5/8"	22.4 (0.88)	34.8 (1.37)	190.0 (7.48)	108.0 (4.25)	68.1 (2.68)	23.9 (0.940)

Model V502SS and VP502SS



Part Number	Pipe Thread	Hex	Dimensions mm (in)						D Flow Ø	Panel Mount Thread
			F	G	H	J	K	L		
Female to Female Panel Mount										
V*502SS4	1/4"	15/16"	12.7 (0.50)	28.6 (1.13)	101.6 (4.00)	127.8 (5.03)	52.6 (2.07)	64.0 (2.52)	9.5 (0.38)	10-24 UNC
V*502SS6	3/8"	15/16"	12.7 (0.50)	28.6 (1.13)	101.6 (4.00)	127.8 (5.03)	52.6 (2.07)	64.0 (2.52)	9.5 (0.38)	10-24 UNC
V*502SS8	1/2"	1-1/16"	12.7 (0.50)	28.6 (1.13)	101.6 (4.00)	130.3 (5.13)	57.7 (2.27)	67.3 (2.65)	12.7 (0.50)	10-24 UNC
V*502SS12	3/4"	1-3/8"	22.2 (0.88)	34.9 (1.38)	127.0 (5.00)	169.4 (6.67)	85.1 (3.35)	87.9 (3.46)	20.1 (0.79)	10-24 UNC
V*502SS16	1"	1-5/8"	22.2 (0.88)	34.9 (1.38)	127.0 (5.00)	172.0 (6.77)	89.9 (3.54)	95.0 (3.74)	25.4 (1.00)	10-24 UNC
V*502SS20	1-1/4"	2"	25.4 (1.00)	38.1 (1.50)	177.8 (7.00)	228.6 (9.00)	101.6 (4.00)	115.6 (4.55)	31.8 (1.25)	1/4-20 UNC
V*502SS24	1-1/2"	2-3/8"	25.4 (1.00)	38.1 (1.50)	177.8 (7.00)	182.6 (7.19)	111.3 (4.38)	137.7 (5.42)	38.1 (1.50)	1/4-20 UNC
V*502SS32	2"	3"	25.4 (1.00)	38.1 (1.50)	177.8 (7.00)	247.7 (9.75)	139.7 (5.50)	144.3 (5.68)	50.8 (2.00)	1/4-20 UNC

Locking handle parts: For use with 5/16" diameter shank lock

General Description

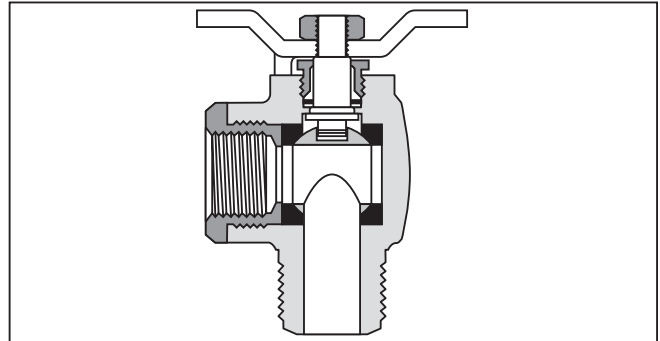
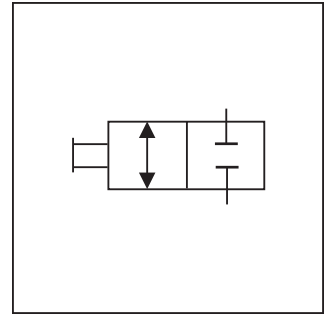
Series 590 low pressure 90° ball valves provide total shut-off capability for services up to 17 Bar (250 PSI).

Operation

A quarter turn of the handle is on or off. Ball valves are not intended for use as a throttling valve. Attempting to use it in these applications may result in premature seal failure and/or inability to turn the valve handle.

Features

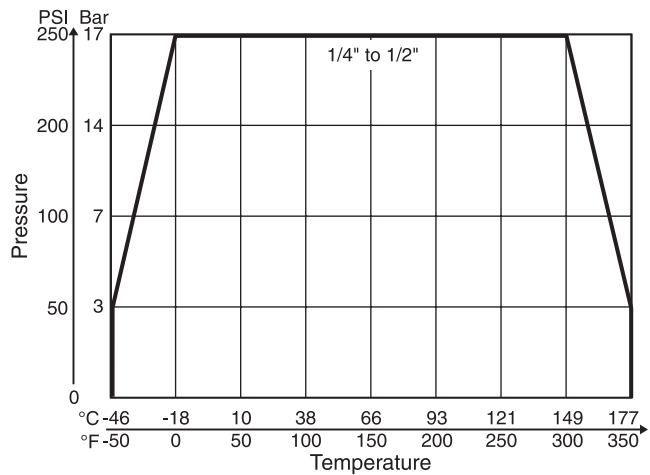
- Ball Valve bodies are machined from high quality CA377 forgings which provide extended service life and resist failure caused by severe temperature conditions.
- Highly inert PTFE seats and seals provide resistance to chemical corrosion.
- Blowout proof stem design, chrome plated brass ball and a special design handle enable increased turn and leverage for ease of opening and closing.



Specifications

Working Pressure	17 Bar (250 PSI)
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Performance Curve



Ordering Information



Style



Type



Material



Size



Design Series

Code	Description
590	90° Male/Female NPT Ports
591	90° Male/Male NPT Ports

Code	Description
P	Brass

Code	Size
4	1/4" NPT
6	3/8" NPT
8	1/2" NPT

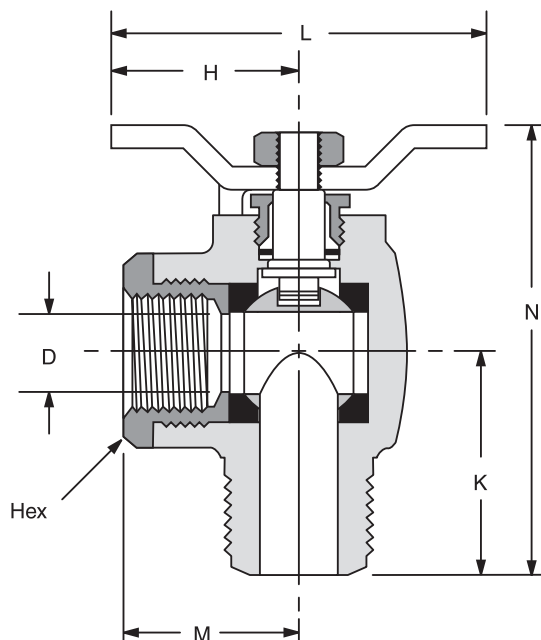
NOTE:
 Not required when ordering.

WARNING: This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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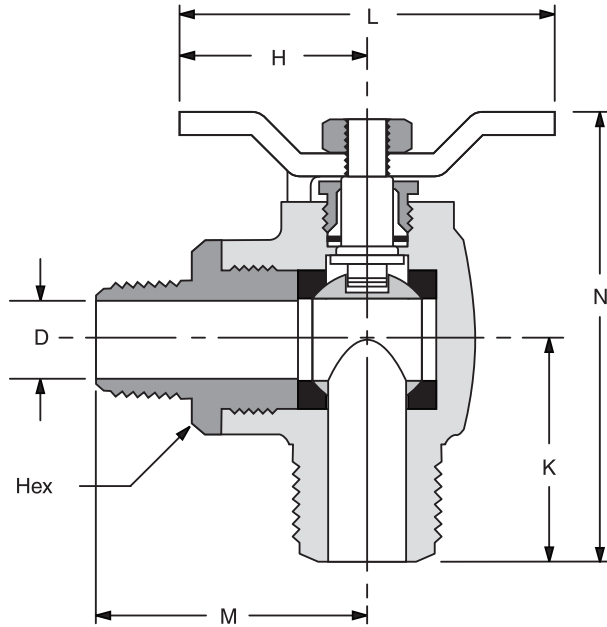


Model V590P



Part Number	Pipe Thread	Hex	Dimensions mm (in)					D Flow Ø
			H	K	L	M	N	
90° Flow, Male-Female Pipe Ends V590P								
V590P-4	1/4"	15/16"	31.8 (1.25)	27.4 (1.08)	63.5 (2.50)	25.4 (1.00)	61.5 (2.42)	9.5 (0.375)
V590P-6	3/8"	15/16"	31.8 (1.25)	27.7 (1.09)	63.5 (2.50)	25.4 (1.00)	61.7 (2.43)	9.5 (0.375)
V590P-8	1/2"	1-1/16"	31.8 (1.25)	33.0 (1.30)	63.5 (2.50)	27.4 (1.08)	67.8 (2.67)	12.7 (0.500)

Model V591P



Part Number	Pipe Thread (PTF)	Hex	Dimensions mm (in)					D Flow Ø
			H	K	L	M	N	
90° Flow, Male-Female Pipe Ends V591P								
V591P-4	1/4"	15/16"	31.8 (1.25)	27.4 (1.08)	63.5 (2.50)	39.6 (1.56)	61.5 (2.42)	9.5 (0.375)
V591P-6	3/8"	15/16"	31.8 (1.25)	27.7 (1.09)	63.5 (2.50)	39.6 (1.56)	61.7 (2.43)	9.5 (0.375)
V591P-8	1/2"	1-1/16"	31.8 (1.25)	33.0 (1.30)	63.5 (2.50)	46.7 (1.84)	67.8 (2.67)	12.7 (0.500)