



# Industrial Hydraulic Valves

Directional Control, Pressure Control, Sandwich, Subplates & Manifolds, Accessories

Catalog HY14-2500/US

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
**hydraulics**  
pneumatics  
process control  
sealing & shielding



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**SAFETY GUIDE**

For safety information, see Safety Guide SG HY14-1000 at [www.parker.com/safety](http://www.parker.com/safety) or call 1-800-CParker.

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Cat HY14-2500-frtcvr.indd, dd



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**General Description**

Series 2F1C 2-way flow control valves provide pressure and viscosity compensated flow from port A to port B. The counter direction is blocked (standard) or can be open via an integral reverse flow check valve (optional).

**Operation**

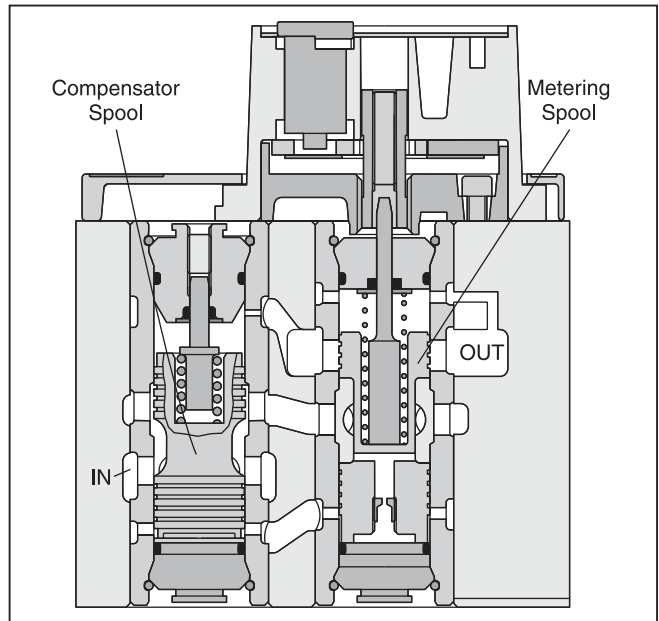
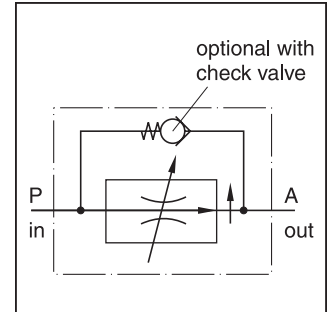
The compensator spool is located in front of the metering spool. The metering spool is closed in the neutral position to avoid undesired initial actuator motion. The oil flow to open the metering spool has to pass a needle valve (not shown in the sectional drawing). The needle valve can be adjusted from the front panel to set the response time of the 2F1C.

The metering spool is adjusted by the main control knob. The key lock has three positions:

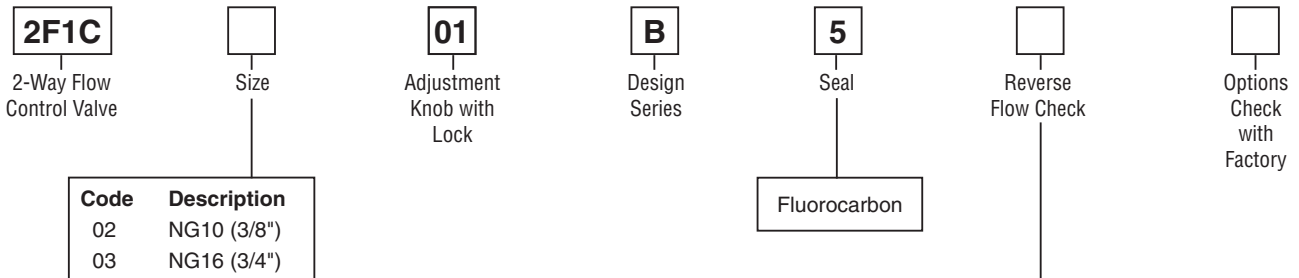
- Lock: Adjustment is locked.
- Adjust: Full adjustment is permitted.
- Trim: Fine adjustment of  $\pm 5\%$  is possible.

**Features**

- 2 way flow control valve.
- Subplate mounting according to ISO 6263.
- Excellent fine adjustment.
- Adjustable response time.
- Closed in neutral position.
- Optional reverse flow check valve.
- 2 sizes: NG10 (3/8"), NG16 (3/4").



**Ordering Information**

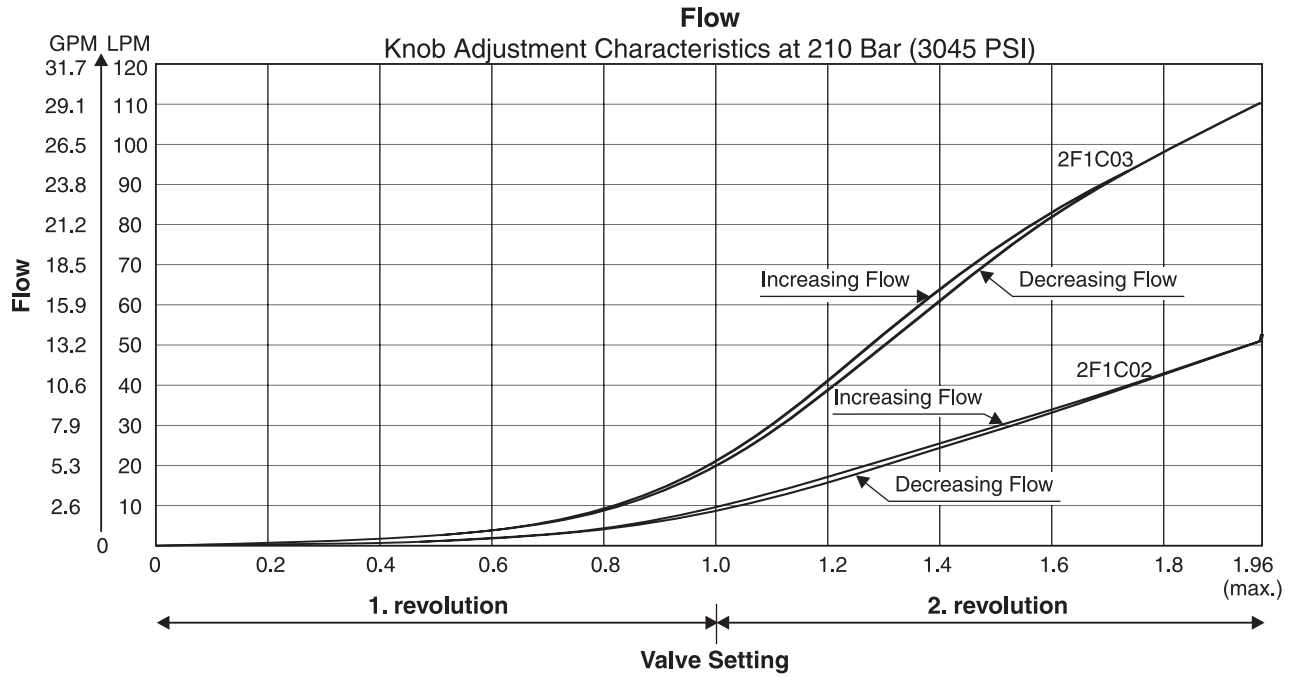


**Weight:**

2F1C02	6.0 kg (13.2 lbs.)
2F1C03	9.0 kg (19.8 lbs.)

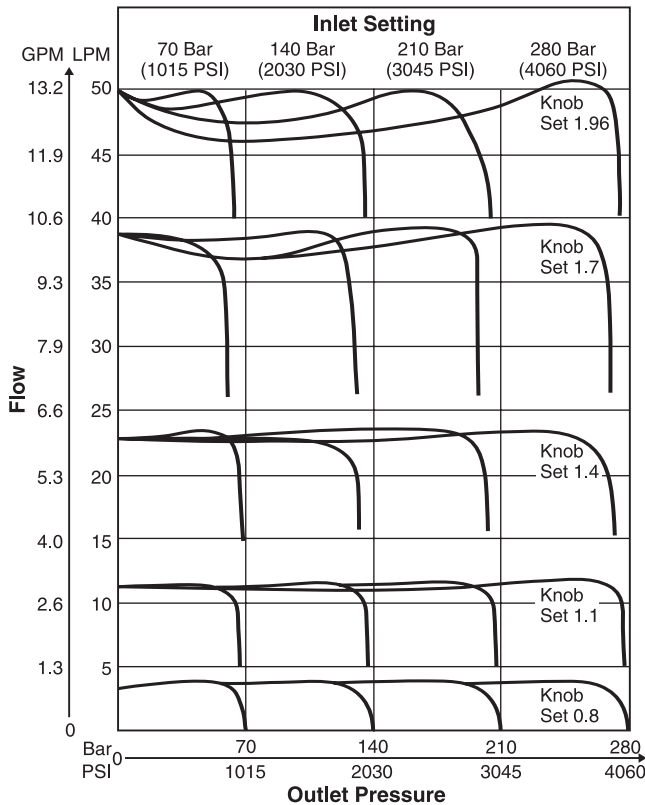
Size		NG10	NG16
Actuator		Manual flow rate adjustment	
Mounting Type		ISO 6263	
Mounting Position		Unrestricted	
Fluid Temperature		+70°C (+158°F) Maximum	
Ambient Temperature		-25°C to +50°C (-13°F to +122°F)	
Viscosity Range		2.8 to 400 cSt / mm <sup>2</sup> /s (13 to 1854 SSU)	
Filtration		ISO 4406 (1999); 18/16/13 (meet NAS 1638:7)	
Maximum Pressure Difference		See Diagram	
Maximum Operating Pressure	Port A	<b>2F1C02</b> 14 - 280 Bar (203 - 4060 PSI) 0 - 270 Bar (0 - 3915 PSI)	<b>2F1C03</b> 14 - 350 Bar (203 - 5075 PSI) 0 - 340 Bar (0 - 4930 PSI)
	Port B		
Flow Direction	A-B	Flow control function	
	B-A	Blocked or free flow through check valve	

E



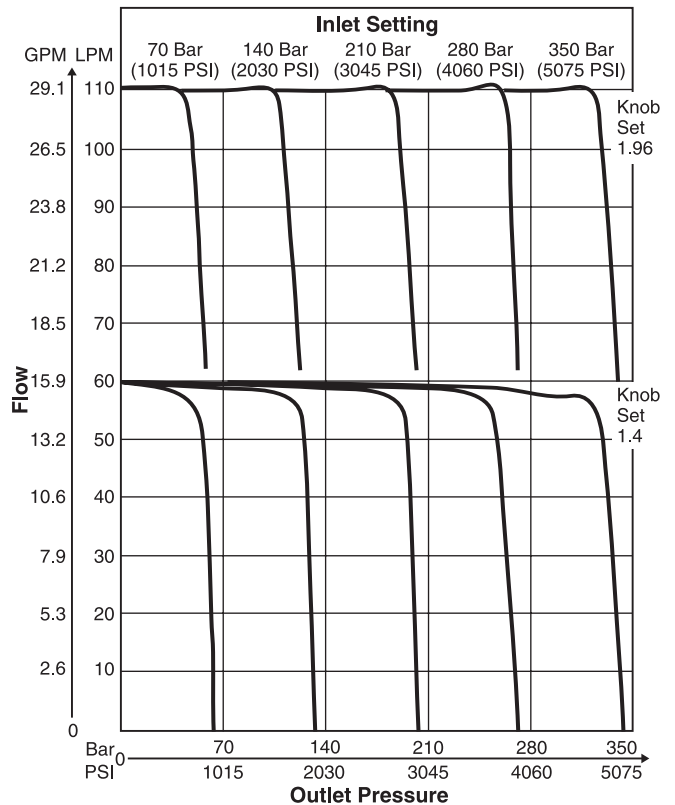
**2F1C02**

**Flow / Pressure Drop**  
 Constant Inlet Pressure – Variable Outlet Pressure



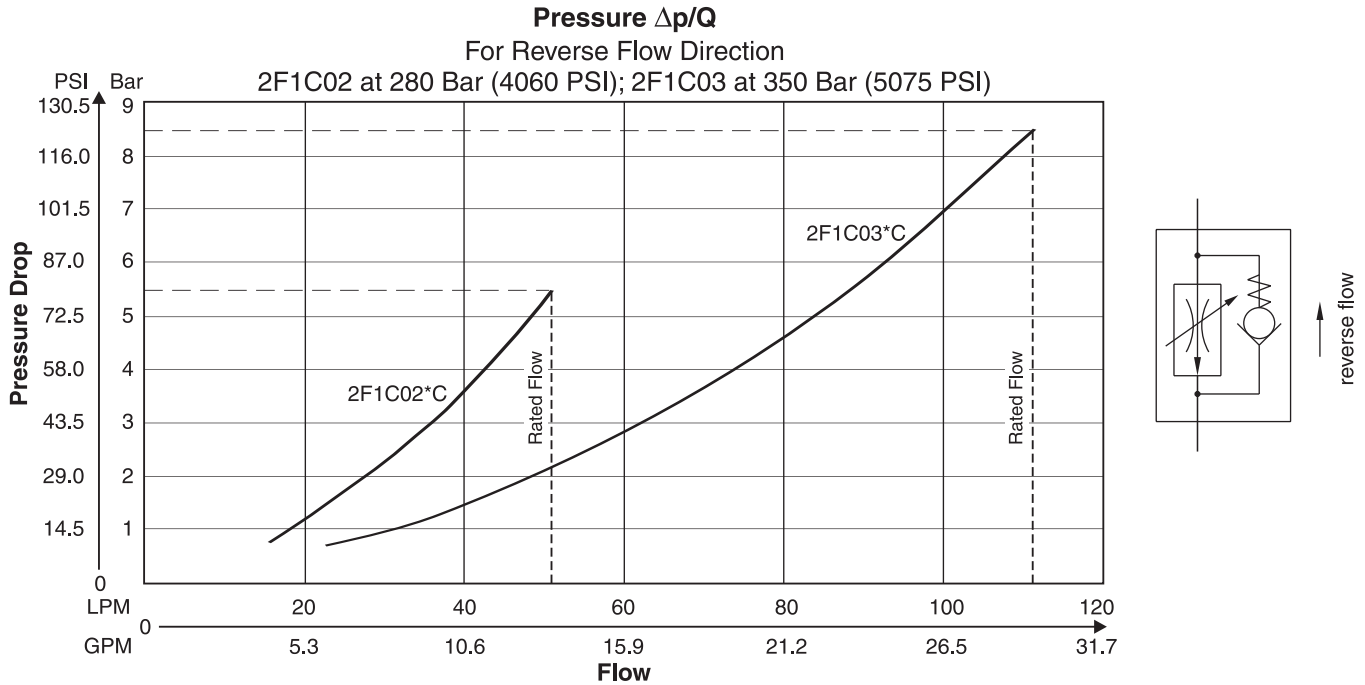
**2F1C03**

**Flow / Pressure Drop**  
 Constant Inlet Pressure – Variable Outlet Pressure



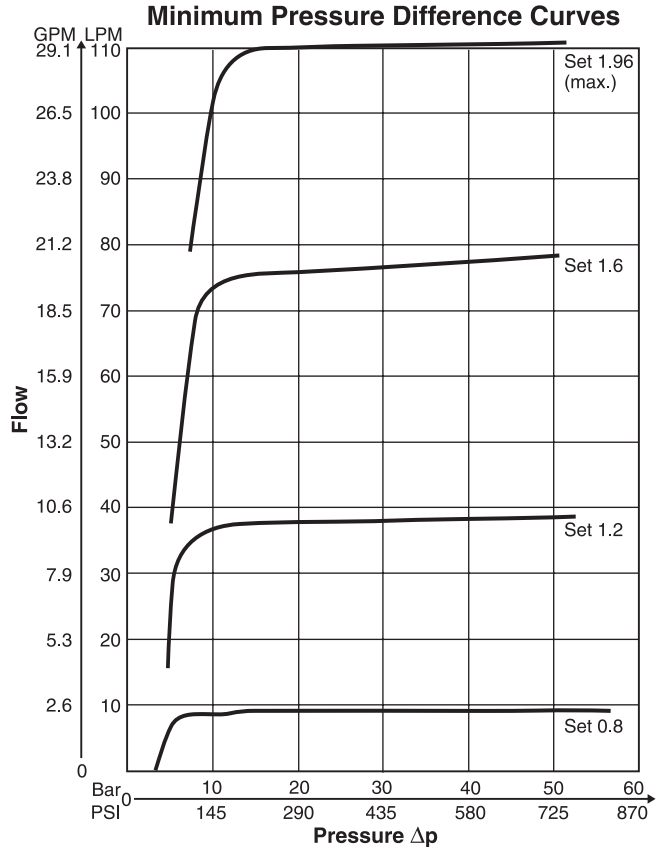
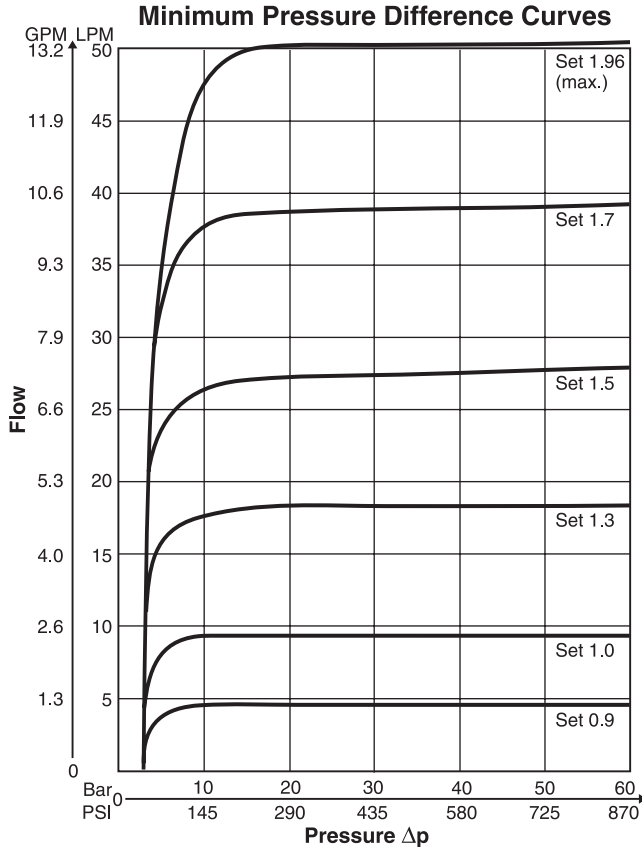
Fluid viscosity 40 cSt at 50°C (122°F)

2F1C.indd, dd



**2F1C02**

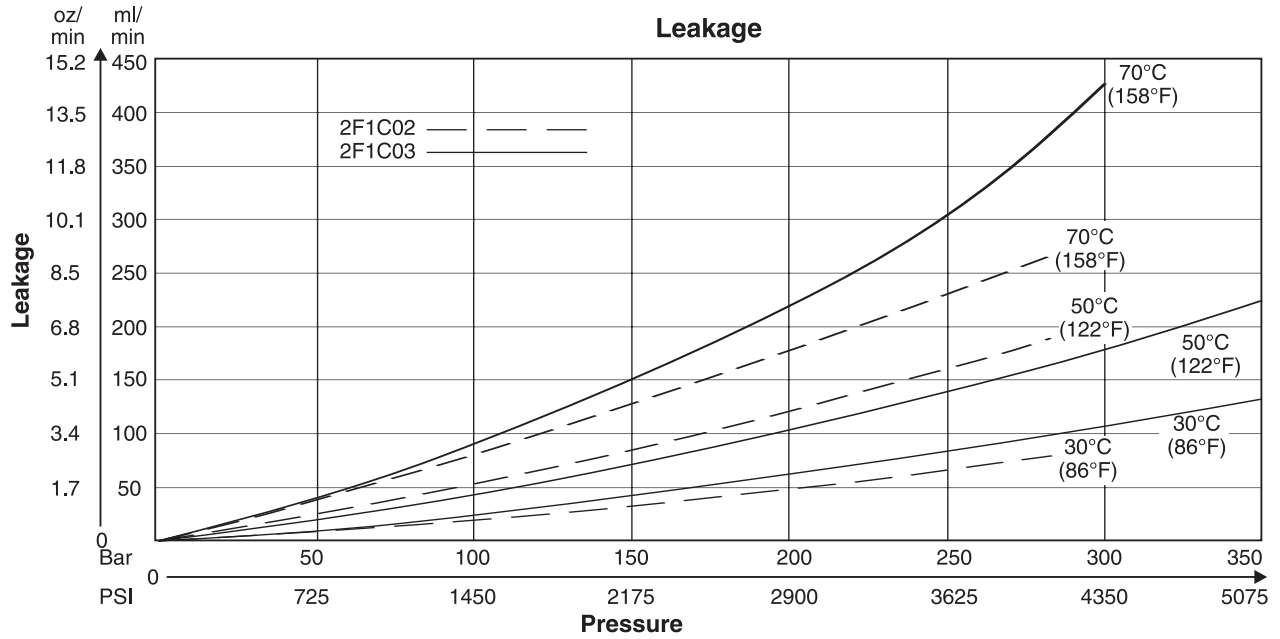
**2F1C03**



Fluid viscosity 40 cSt at 50°C (122°F)

2F1C.indd, dd



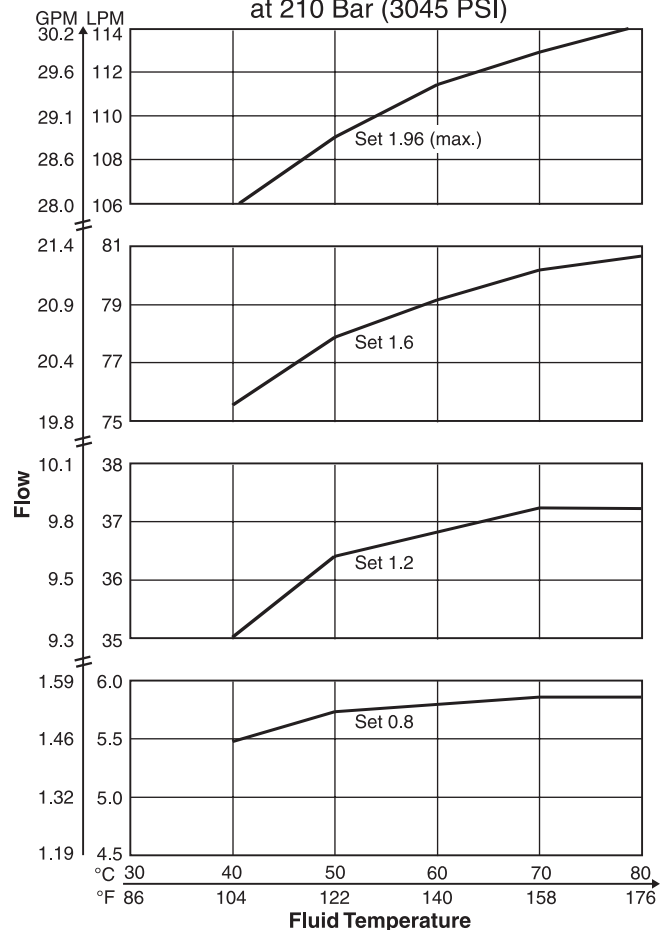
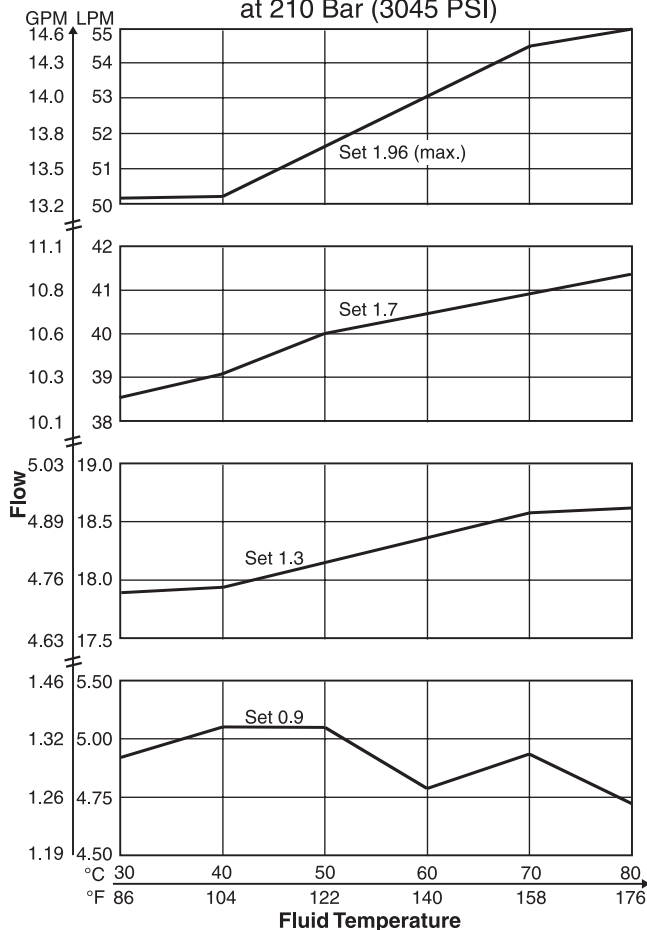


**2F1C02**

**2F1C03**

**Flow / Temperature Curves  
 at 210 Bar (3045 PSI)**

**Flow / Temperature Curves  
 at 210 Bar (3045 PSI)**

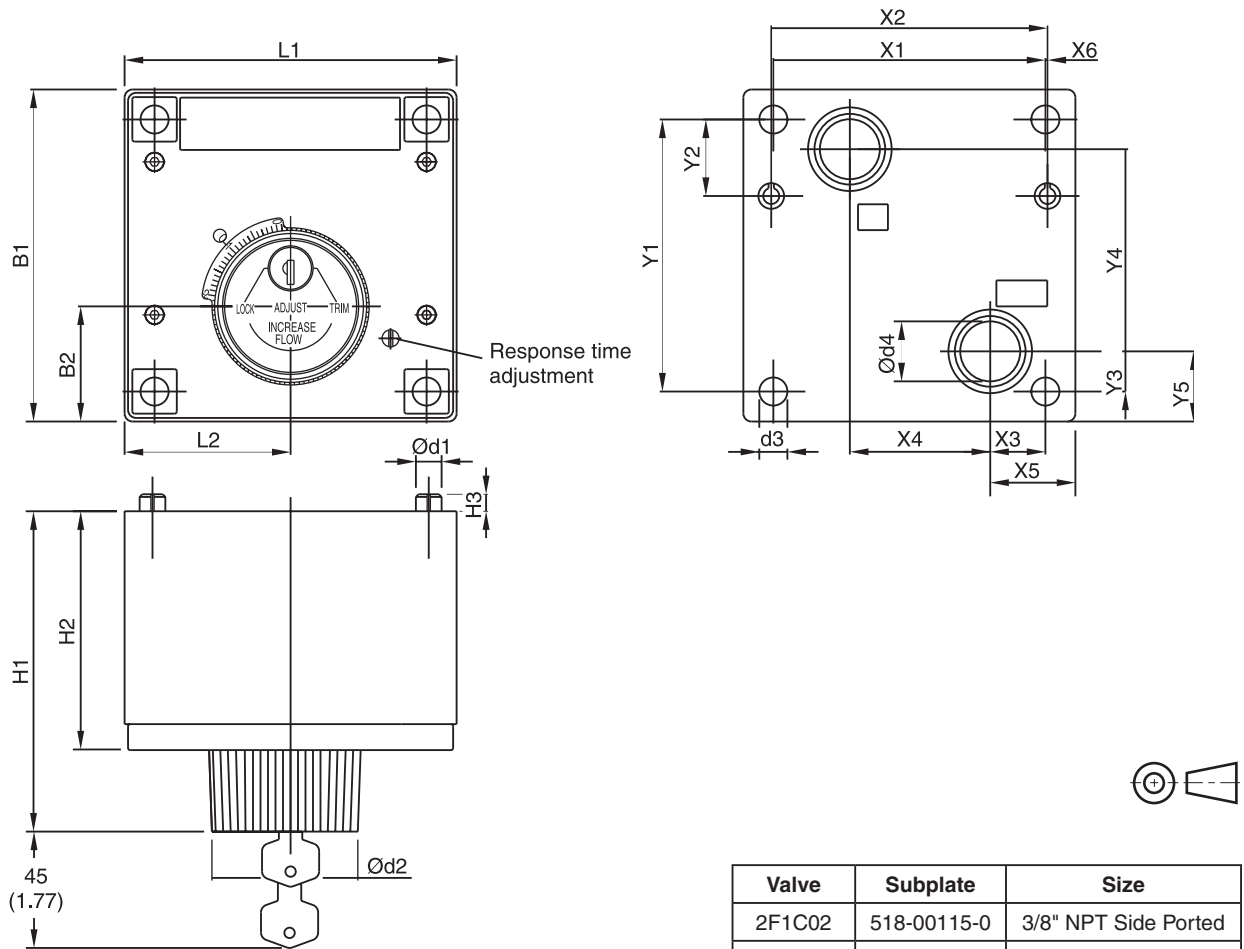


Fluid viscosity 40 cSt at 50°C (122°F)

2F1C.indd, dd



Inch equivalents for millimeter dimensions are shown in (\*\*)



Valve	Subplate	Size
2F1C02	518-00115-0	3/8" NPT Side Ported
2F1C03	518-00118-0	1/2" NPT Side Ported

Size	ISO-code	x1	x2	x3	x4	x5	x6	y1	y2	y3	y4	y5
02	6263-AM-07-2-A	76.2 (3.00)	79.4 (3.13)	9.5 (0.37)	44.5 (1.75)	19.0 (0.75)	-	82.5 (3.25)	23.8 (0.94)	30.2 (1.19)	41.3 (1.63)	39.7 (1.56)
03	6263-AK-06-2-A	101.6 (4.00)	103.2 (4.06)	20.6 (0.81)	52.4 (2.06)	31.8 (1.25)	0.8 (0.03)	101.6 (4.00)	28.6 (1.13)	15.1 (0.59)	75.4 (2.97)	26.2 (1.03)

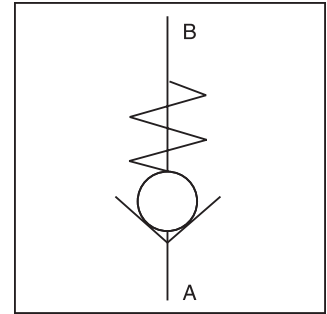
Size	ISO-code	B1	B2	H1	H2	H3	L1	L2	d1	d2	d3	d4
02	6263-AM-07-2-A	101.6 (4.00)	38.1 (1.50)	119.6 (4.71)	87.4 (3.44)	6.4 (0.25)	95.2 (3.75)	47.6 (1.87)	6.4 (0.25)	57.2 (2.25)	8.7 (0.34)	14.2 (0.56)
03	6263-AK-06-2-A	123.8 (4.87)	42.9 (1.69)	121.4 (4.78)	89.2 (3.51)	6.4 (0.25)	123.8 (4.87)	61.9 (2.44)	9.5 (0.37)	57.2 (2.25)	10.5 (0.41)	22.4 (0.88)

Size	ISO-Code	Bolt Kit  DIN912 12.9		Seal  Kit Fluorocarbon	Surface Finish
02	6263-AM-07-2-A	BK-700-70842-8 4xM8x100	31.8 Nm (23.5 lb.-ft.) ±15%	S26-98617-5	$\sqrt{R_{max}6.3}$
03	6263-AK-06-2-A	BK395 4xM10x100	63 Nm (46.5 lb.-ft.) ±15%		



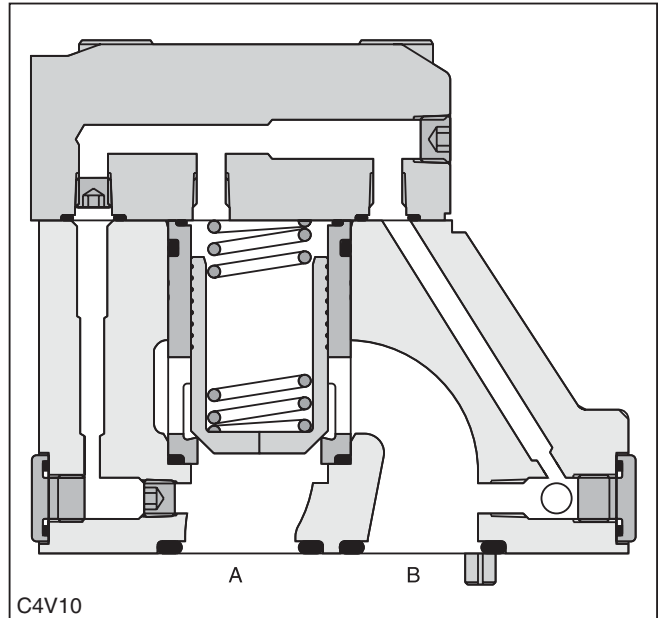
### General Description

Series C4V direct operated check valves allow free flow from A to B. The counter direction is blocked. Series C4V valves are equipped with a leak-free seat type cartridge.



### Operation

The pressure arising in port A lifts the poppet from the valve seat and releases the flow to B. In the counter direction, the spring and the pressure on top of the cartridge hold the poppet onto the seat and block the flow.



## E

### Features

- High flow, low pressure drop design.
- Minimal internal leakage.
- Six crack pressure options.

### Ordering Information

<b>C4V</b>	□	—	<b>5</b>	<b>3</b>	<b>0</b>	□	<b>B</b>	□	□
Direct Operated Check Valve	Size		Maximum Pressure 350 Bar (5075 PSI)	Subplate Mounting		Approximate Cracking Pressure	Design Series	Seal	Options Check with Factory

Code	Description
03	NG10
06	NG25
10	NG32

Code	Description
1	Nitrile
5	Fluorocarbon

#### Weight:

C4V03	2.8 kg (6.2 lbs)
C4V06	4.6 kg (10.1 lbs.)
C4V10	6.1 kg (13.5 lbs.)

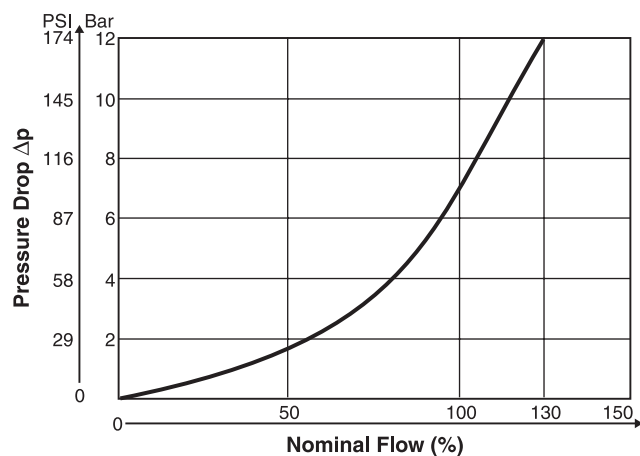
Code	Description	Description
	<b>C4V03</b>	<b>C4V06 / C4V10</b>
1	2.8 Bar (40.6 PSI)	3.5 Bar (50.8 PSI)
2	0.5 Bar (7.3 PSI)	0.5 Bar (7.3 PSI)
3	0.3 Bar (4.4 PSI)	0.3 Bar (4.4 PSI)
4	2.2 Bar (31.9 PSI)	2.2 Bar (31.9 PSI)
5	—	9.0 Bar (130.5 PSI)
6	1.2 Bar (17.4 PSI)	1.2 Bar (17.4 PSI)
7	3.0 Bar (43.5 PSI)	—

### Specifications

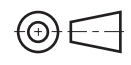
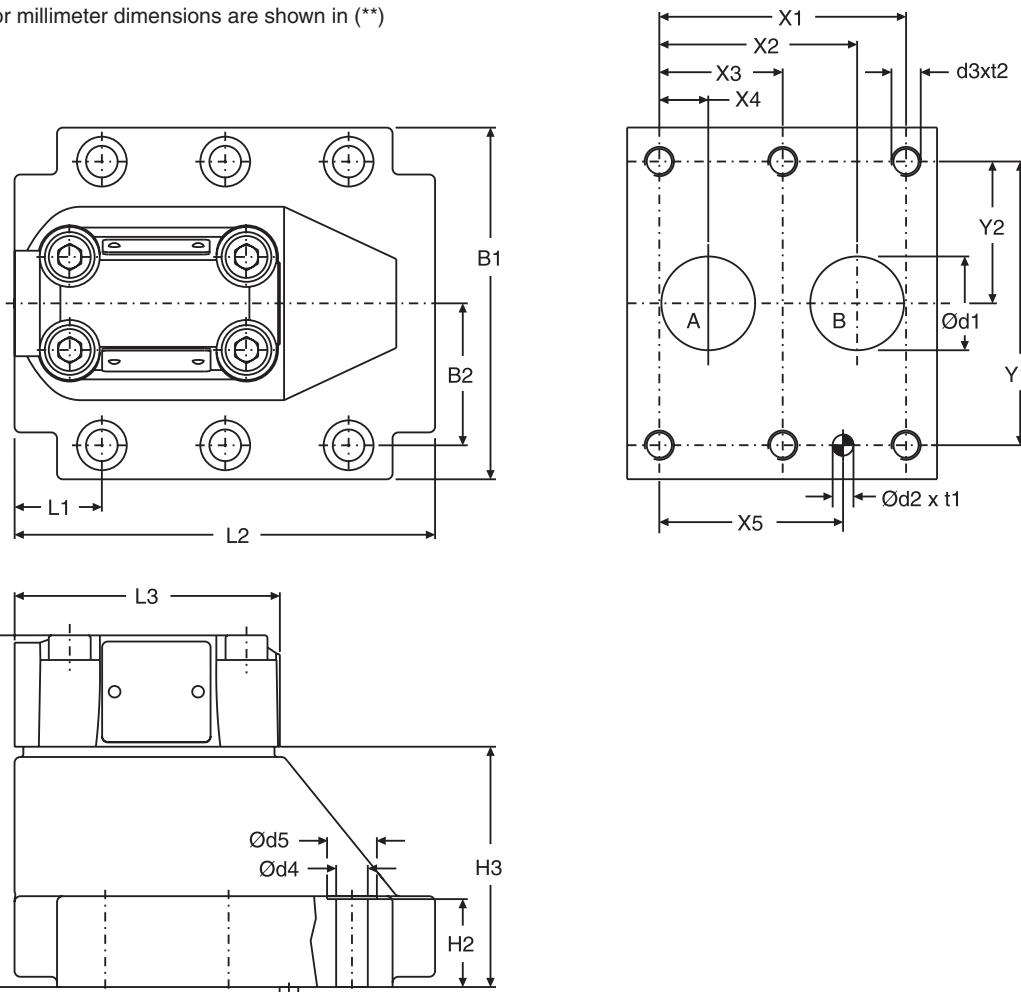
General				
Size	NG10		NG25	NG32
Subplate Mounting	ISO 5781			
Mounting Position	Unrestricted			
Ambient Temperature Range	-20°C to +80°C (-4°F to +176°F)			
Hydraulic				
Maximum Operating Pressure	350 Bar (5075 PSI)			
Pressure Range	105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)			
Nominal Flow	150 LPM (39.7 GPM)	270 LPM (71.4 GPM)	450 LPM (119.0 GPM)	
Fluid	Hydraulic oil to DIN 51524			
Viscosity	<b>Recommended Permitted</b>	30 to 50 cSt / mm <sup>2</sup> /s (139 to 232 SSU) 20 to 380 cSt / mm <sup>2</sup> /s (93 to 1761 SSU)		
Fluid Temperature	<b>Recommended Permitted</b>	+30°C to +50°C (86°F to +122°F) -20°C to +70°C (-4°F to +158°F)		
Filtration	ISO Class 4406 (1999) 18/16/13 (meet NAS 1638:7)			



### Performance Curve



Inch equivalents for millimeter dimensions are shown in (\*\*)



NG	ISO-code	x1	x2	x3	x4	x5	y1	y2	B1	B2	H1	H2	H3	L1	L2
10	5781-06-07-0-00	42.9 (1.69)	35.8 (1.41)	-	7.2 (0.28)	31.8 (1.25)	66.7 (2.63)	33.4 (1.31)	87.3 (3.44)	33.4 (1.31)	83.0 (3.27)	21.0 (0.83)	45.0 (1.77)	29.0 (1.14)	94.8 (3.73)
25	5781-08-10-0-00	60.3 (2.37)	49.2 (1.94)	-	11.1 (0.44)	44.5 (1.75)	79.4 (3.13)	39.7 (1.56)	105.0 (4.13)	39.7 (1.56)	109.5 (4.31)	29.0 (1.14)	71.5 (2.81)	34.7 (1.37)	126.8 (4.99)
32	5781-10-13-0-00	84.2 (3.31)	67.5 (2.66)	42.1 (1.66)	16.7 (0.66)	62.7 (2.47)	96.8 (3.81)	48.4 (1.91)	120.0 (4.72)	48.4 (1.91)	120.0 (4.72)	29.0 (1.14)	82.0 (3.23)	30.6 (1.20)	144.3 (5.68)

Tolerance for all dimensions ±0.2 mm (0.01 inches)

NG	ISO-code	d1max	d2	t1	d3	t2	d4	d5
10	5781-06-07-0-00	15.0 (0.59)	7.1 (0.28)	8.0 (0.31)	M10	16.0 (0.63)	10.8 (0.43)	17.0 (0.67)
25	5781-08-10-0-00	23.4 (0.92)	7.1 (0.28)	8.0 (0.31)	M10	18.0 (0.71)	10.8 (0.43)	17.0 (0.67)
32	5781-10-13-0-00	32.0 (1.26)	7.1 (0.28)	8.0 (0.31)	M10	20.0 (0.79)	10.8 (0.43)	17.0 (0.67)

NG	ISO-code	Bolt Kit			Seal Kit		Surface finish
					Nitrile	Fluorocarbon	
10	5781-06-07-0-00	BK505	4xM10 x 35 DIN 912 12.9	68 Nm (50.2 lb-ft) ±15%	S16-39362-0	S16-39362-5	
25	5781-08-10-0-00	BK485	4xM10 x 45 DIN 912 12.9	68 Nm (50.2 lb-ft) ±15%	S16-39364-0	S16-39364-5	
32	5781-10-13-0-00	BK506	6xM10 x 45 DIN 912 12.9	68 Nm (50.2 lb-ft) ±15%	S16-39366-0	S16-39366-5	

C4V-DO.indd, dd



**General Description**

Series C4V hydraulically pilot operated check valves allow free flow from A to B. The counter-flow direction is blocked.

When pressure is applied to control port X, the ring chamber flow from B to A is released.

Up to four different pilot control ratios are available (see Ordering Information).

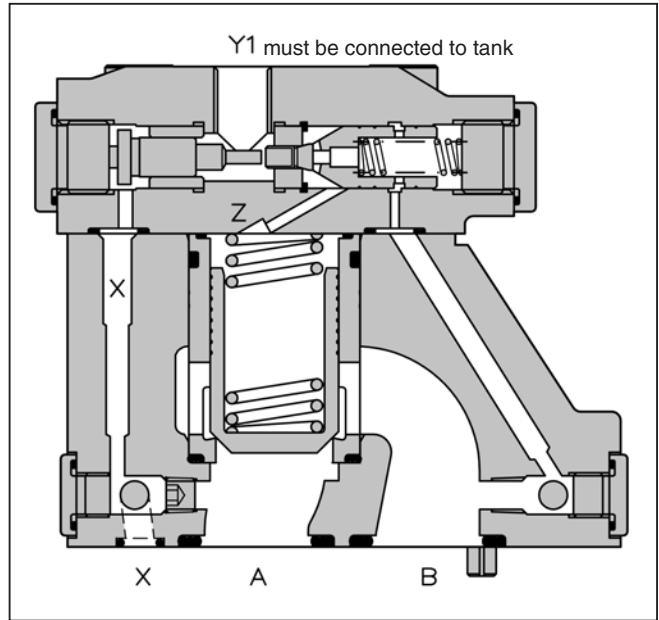
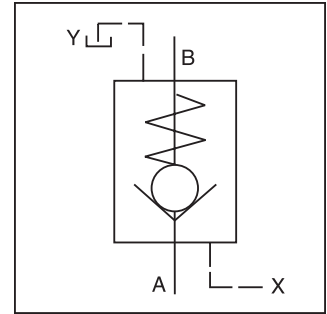
Check valves allow free flow from A to B. The counter direction is blocked. The C4V series are equipped with a leak-free seat type cartridge.

**Operation**

When no pressure is applied to the X-port, the flow from B to A is blocked, because the pressure in B is also in effect on top of the poppet.

Pressurizing the X port relieves the area on top of the poppet to the drain port and allows flow from B to A.

The seat design of the C4V valve series provides leak-free separation of port A and B in the closed position.



**E**

**Features**

- High flow, low pressure drop design.
- Minimal internal leakage.

**Ordering Information**

<div style="border: 1px solid black; padding: 2px; width: 40px; margin: 0 auto;">C4V</div> <p>Pilot Operated Check Valve</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Size</p>	<p>—</p> <div style="border: 1px solid black; padding: 2px; width: 40px; margin: 0 auto;">5</div> <p>Maximum Pressure 350 Bar (5075 PSI)</p>	<div style="border: 1px solid black; padding: 2px; width: 40px; margin: 0 auto;">9</div> <p>Y1 Port G1/4"</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Opening Ratio</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Approximate Cracking Pressure</p>	<div style="border: 1px solid black; padding: 2px; width: 40px; margin: 0 auto;">B</div> <p>Design Series</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Seal</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Options Check with Factory</p>																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>03</td> <td>NG10</td> </tr> <tr> <td>06</td> <td>NG25</td> </tr> <tr> <td>10</td> <td>NG32</td> </tr> </tbody> </table>		Code	Description	03	NG10	06	NG25	10	NG32	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1:1</td> </tr> <tr> <td>3</td> <td>3:1</td> </tr> <tr> <td>8</td> <td>8:1</td> </tr> <tr> <td>9</td> <td>10:1</td> </tr> </tbody> </table>		Code	Description	1	1:1	3	3:1	8	8:1	9	10:1	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Nitrile</td> </tr> <tr> <td>5</td> <td>Fluorocarbon</td> </tr> </tbody> </table>			Code	Description	1	Nitrile	5	Fluorocarbon
Code	Description																													
03	NG10																													
06	NG25																													
10	NG32																													
Code	Description																													
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3	3:1																													
8	8:1																													
9	10:1																													
Code	Description																													
1	Nitrile																													
5	Fluorocarbon																													

**Weight:**

C4V03	2.8 kg (6.2 lbs)
C4V06	4.6 kg (10.1 lbs.)
C4V10	6.1 kg (13.5 lbs.)

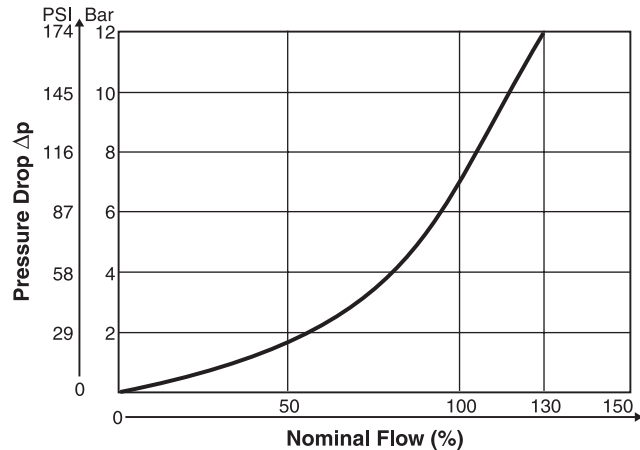
Code	Description	Flow A to B	Flow A to B
		<b>C4V03</b>	<b>C4V06 / C4V10</b>
2	1.0 Bar (14.5 PSI)	1.0 Bar (14.5 PSI)	1.0 Bar (14.5 PSI)
4	4.0 Bar (58.0 PSI)	3.5 Bar (50.8 PSI)	3.5 Bar (50.8 PSI)
6	2.0 Bar (29.0 PSI)	2.2 Bar (31.9 PSI)	2.2 Bar (31.9 PSI)
		<b>Flow B to A</b>	<b>Flow B to A</b>
		<b>C4V03</b>	<b>C4V06 / C4V10</b>
2	1.5 Bar (21.8 PSI)	1.7 Bar (24.7 PSI)	1.7 Bar (24.7 PSI)
4	5.5 Bar (79.8 PSI)	6.0 Bar (87.0 PSI)	6.0 Bar (87.0 PSI)
6	3.0 Bar (43.5 PSI)	3.8 Bar (55.1 PSI)	3.8 Bar (55.1 PSI)

## Specifications

General				
Size	NG10		NG25	NG32
Subplate Mounting	ISO 5781			
Mounting Position	Unrestricted			
Ambient Temperature Range	-20°C to +80°C (-4°F to +176°F)			
Hydraulic				
Maximum Operating Pressure	350 Bar (5075 PSI)			
Nominal Flow	150 LPM (39.7 GPM)	270 LPM (71.4 GPM)	450 LPM (119.0 GPM)	
Fluid	Hydraulic oil to DIN 51524			
Viscosity	<b>Recommended Permitted</b>	30 to 50 cSt / mm <sup>2</sup> /s (139 to 232 SSU)		
		20 to 380 cSt / mm <sup>2</sup> /s (93 to 1761 SSU)		
Fluid Temperature	<b>Recommended Permitted</b>	+30°C to +50°C (86°F to +122°F)		
		-20°C to +70°C (-4°F to +158°F)		
Filtration	ISO Class 4406 (1999) 18/16/13 (meet NAS 1638:7)			



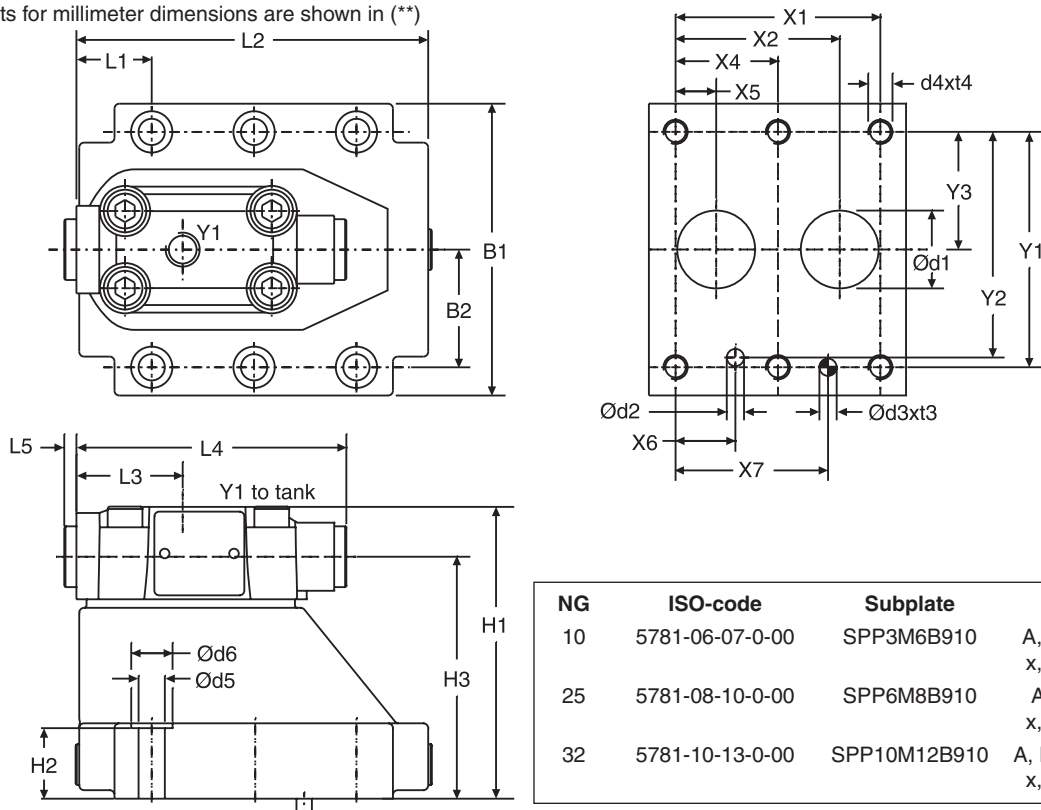
## Performance Curve



**Dimensions**

**Series C4V (Pilot Operated)**

Inch equivalents for millimeter dimensions are shown in (\*\*)



NG	ISO-code	Subplate	Size
10	5781-06-07-0-00	SPP3M6B910	A, B = 3/4" BSPP x, y = 1/4" BSPP
25	5781-08-10-0-00	SPP6M8B910	A, B = 1" BSPP x, y = 1/4" BSPP
32	5781-10-13-0-00	SPP10M12B910	A, B = 1 1/2" BSPP x, y = 1/4" BSPP

NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	5781-06-07-0-00	42.9 (1.69)	35.8 (1.41)	-	-	7.2 (0.28)	21.5 (0.85)	31.8 (1.25)	66.7 (2.63)	58.8 (2.31)	33.4 (1.31)	-	-	-
25	5781-08-10-0-00	60.3 (2.37)	49.2 (1.94)	-	-	11.1 (0.44)	20.6 (0.81)	44.5 (1.75)	79.4 (3.13)	73.0 (2.87)	39.7 (1.56)	-	-	-
32	5781-10-13-0-00	84.2 (3.31)	67.5 (2.66)	-	42.1 (1.66)	16.7 (0.66)	24.6 (0.97)	62.7 (2.47)	96.8 (3.81)	92.8 (3.65)	48.4 (1.91)	-	-	-

Tolerance for all dimensions ±0.2 mm (0.01 inches)

NG	ISO-code	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6
10	5781-06-07-0-00	87.3 (3.44)	33.4 (1.31)	83.0 (3.27)	21.0 (0.83)	62.5 (2.46)	-	-	-	29.4 (1.16)	95.2 (3.75)	43.7 (1.72)	111.0 (4.37)	5.0 (0.20)	-
25	5781-08-10-0-00	105 (4.13)	39.7 (1.56)	109.5 (4.31)	29.0 (1.14)	89.0 (3.50)	-	-	-	35.1 (1.38)	127.2 (5.01)	43.7 (1.72)	111.0 (4.37)	5.0 (0.20)	-
32	5781-10-13-0-00	120 (4.72)	48.4 (1.91)	120.0 (4.72)	29.0 (1.14)	99.5 (3.92)	-	-	-	31.0 (1.22)	144.7 (5.70)	43.7 (1.72)	111.0 (4.37)	5.0 (0.20)	-

NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	5781-06-07-0-00	15.0 (0.59)	7.0 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	16.0 (0.63)	10.8 (0.43)	17.0 (0.67)
25	5781-08-10-0-00	23.4 (0.92)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	18.0 (0.71)	10.8 (0.43)	17.0 (0.67)
32	5781-10-13-0-00	32.0 (1.26)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	20.0 (0.79)	10.8 (0.43)	17.0 (0.67)

NG	ISO-code	Bolt Kit			Seal Kit		Surface finish
					Nitrile	Fluorocarbon	
10	5781-06-07-0-00	BK505	4xM10 x 35 DIN 912 12.9	68 Nm (50.2 lb-ft) ±15%	S16-39362-0	S16-39362-5	
25	5781-08-10-0-00	BK485	4xM10 x 45 DIN 912 12.9	68 Nm (50.2 lb-ft) ±15%	S16-39364-0	S16-39364-5	
32	5781-10-13-0-00	BK506	6xM10 x 45 DIN 912 12.9	68 Nm (50.2 lb-ft) ±15%	S16-39366-0	SS16-39366-5	

C4V-PO.indd, dd



### General Description

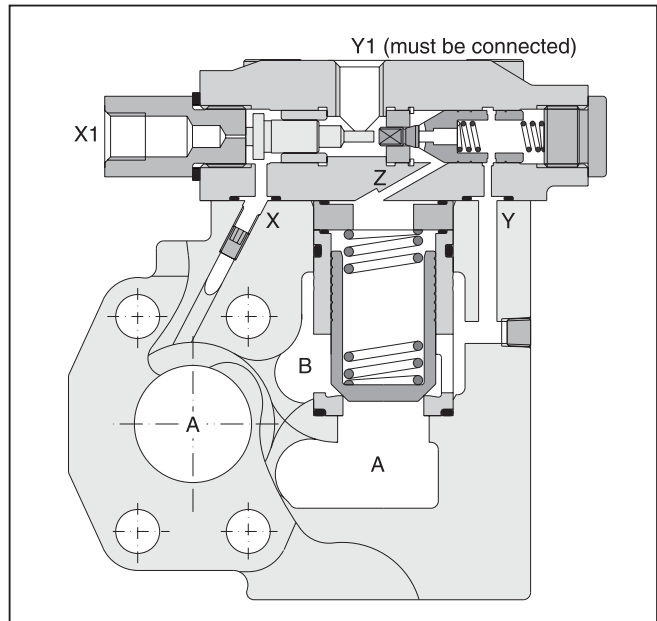
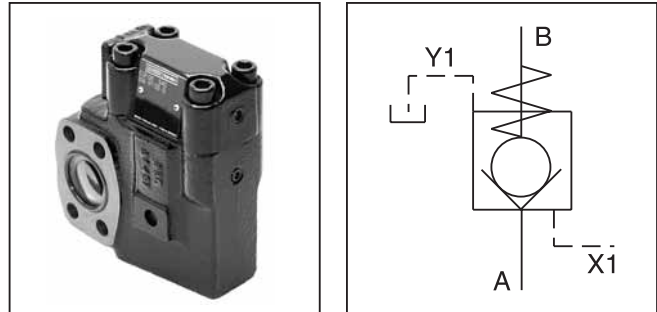
Series C5P pilot operated check valves have a similar design to the subplate mounted C5V series. The SAE flanges allow to mount directly on the flanges of actuators to achieve a very compact design.

### Operation

When no pressure is applied to the X-port, the flow from B to A is blocked, because the pressure in B is also in effect on top of the poppet.

Pressurizing the X port relieves the area on top of the poppet to the drain port and allows flow from B to A.

The seat design of the C5P valve series provides leak-free separation of port A and B in the closed position.



### Features

- Pilot operated check valve.
- 2-port body with SAE 61 flange.
- 3 sizes (SAE 3/4", 1", 1 1/4").
- 4 opening ratios.
- Valves with position control are available on request.

### Ordering Information

<b>C5P</b> Pilot Operated Check Valve	Size	SAE 61 Interface	<b>2</b> Pilot Ports	Opening Ratio	Cracking Pressure	<b>A</b> Design Series	Seal	Options Check with Factory
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Code	Description
06	SAE 3/4"
08	SAE 1"
10	SAE 1 1/4"

Code	Description
X1 and Y1 = SAE 4	

Code	Description
1	Pilot Operated 1:1 Ratio
3	Pilot Operated 3:1 Ratio
8	Pilot Operated 8:1 Ratio
9	Pilot Operated 10:1 Ratio

Code	Description
1	Nitrile
5	Fluorocarbon

Code	Size	Flow A-B	Flow B-A
2	06	1.0 Bar (14.5 PSI)	1.5 Bar (21.8 PSI)
	08/10	1.0 Bar (14.5 PSI)	1.7 Bar (24.7 PSI)
4	06	4.0 Bar (58.0 PSI)	5.5 Bar (79.8 PSI)
	08/10	3.5 Bar (50.8 PSI)	6.0 Bar (87.0 PSI)
6	06	2.0 Bar (29.0 PSI)	3.0 Bar (43.5 PSI)
	08/10	2.2 Bar (31.9 PSI)	3.8 Bar (55.1 PSI)

#### Weight:

- C5P06 3.9 kg (8.6 lbs.)
- C5P08 4.4 kg (9.7 lbs.)
- C5P10 5.7 kg (12.6 lbs.)

C5Pindd, dd





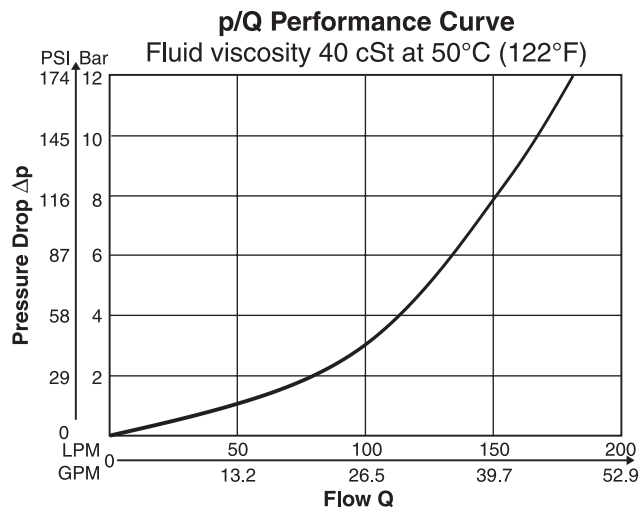
**Specifications**

General				
<b>Size</b>		<b>06 (3/4")</b>	<b>08 (1")</b>	<b>10 (1 1/4")</b>
<b>Mounting</b>	2-port in-line flange SAE 61			
<b>Mounting Position</b>	Unrestricted			
<b>Ambient Temperature</b>	-20°C to +50°C (-4°F to +122°F)			
Hydraulic				
<b>Maximum Operating Pressure</b>	<b>Ports A, B Port Y1</b>	350 Bar (5075 PSI) 30 Bar (435 PSI)	350 Bar (5075 PSI) 30 Bar (435 PSI)	280 Bar (4060 PSI) 30 Bar (435 PSI)
<b>Nominal Flow</b>		180 LPM (47.6 GPM)	360 LPM (95.2 GPM)	600 LPM (158.7 GPM)
<b>Fluid</b>	Hydraulic oil in accordance with DIN 51524...51525			
<b>Fluid Temperature</b>	-20°C to +80°C (-4°F to +176°F)			
<b>Viscosity</b>	<b>Permitted Recommended</b>	10 to 650 cSt / mm <sup>2</sup> /s (46 to 3013 SSU) 30 cSt / mm <sup>2</sup> /s (139 SSU)		
<b>Filtration</b>	ISO 4406 (1999) 18/16/13 (acc. NAS 1638:7)			

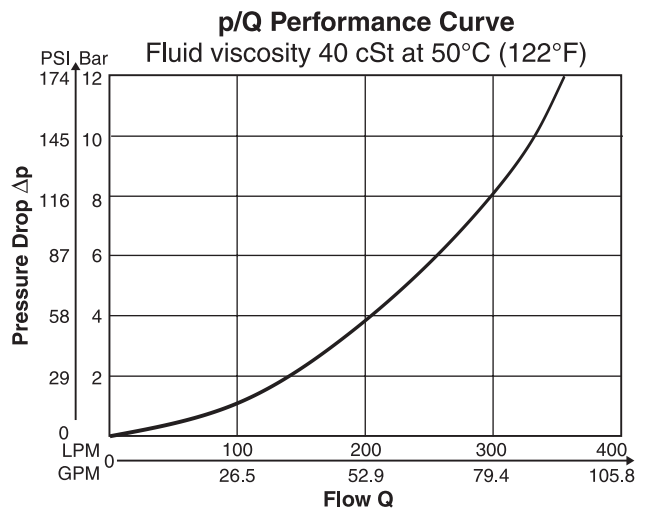
**Performance Curves**



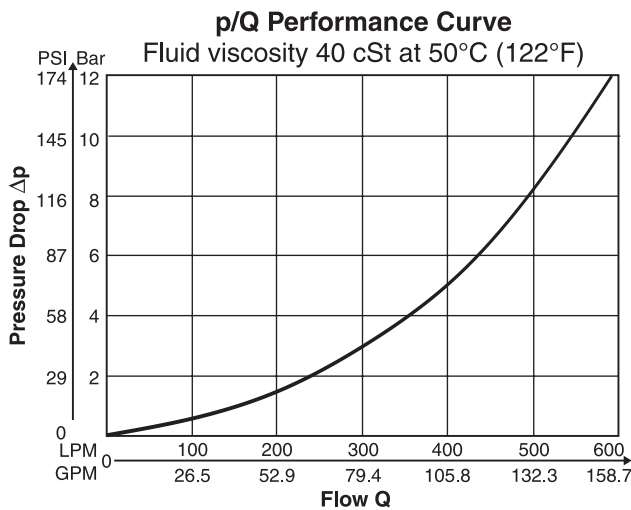
**C5P06**



**C5P08**



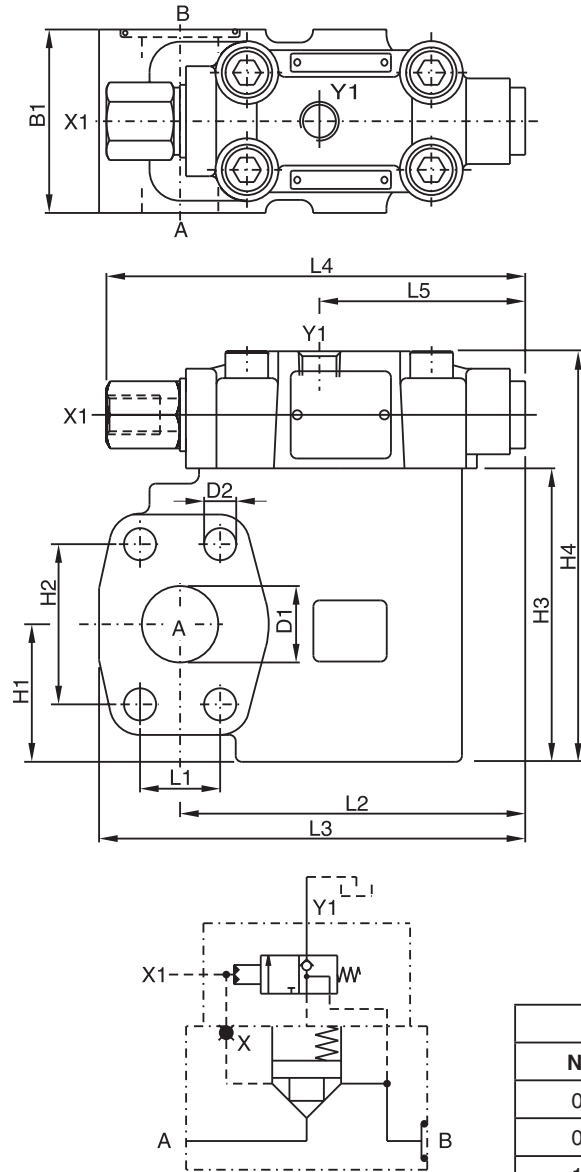
**C5P10**



C5Pindd, dd



Inch equivalents for millimeter dimensions are shown in (\*\*)



Seal Kits		
NG	Nitrile	Fluorocarbon
06	S26-59404-0	S26-59404-5
08	S26-59405-0	S26-59405-5
10	S26-59406-0	S26-59406-5

**Dimensions**

Series	L1	L2	L3	L4	L5	B1	H1	H2	H3	H4	D1	D2
C5P06	22.2 (0.87)	95.8 (3.77)	119.8 (4.72)	137.0 (5.39)	67.3 (2.65)	60.0 (2.36)	37.0 (1.46)	47.6 (1.87)	90.0 (3.54)	128.0 (5.04)	19.0 (0.75)	10.5 (0.41)
C5P08	26.2 (1.03)	112.9 (4.44)	139.4 (5.49)	137.0 (5.39)	67.3 (2.65)	60.0 (2.36)	45.0 (1.77)	52.4 (2.06)	96.0 (3.78)	134.0 (5.28)	25.0 (0.93)	10.5 (0.41)
C5P10	30.2 (1.19)	112.9 (4.44)	146.9 (5.78)	137.0 (5.39)	67.3 (2.65)	75.0 (2.95)	48.0 (1.39)	58.7 (2.31)	109.0 (4.29)	147.0 (5.79)	32.0 (1.26)	12.5 (0.49)

**Ports**

Port	Function	Port Size		
		C5P06	C5P08	C5P10
A	Inlet or Outlet	3/4" SAE 61	1" SAE 61	1 1/4" SAE 61
B	Outlet or Inlet	3/4" SAE 61	1" SAE 61	1 1/4" SAE 61
X1	External Pilot Port	SAE 4		
Y1	External Pilot Drain	SAE 4		

C5Pindd, dd



### General Description

Series C5V direct operated check valves provide free flow in one direction and block the flow in the counter direction.

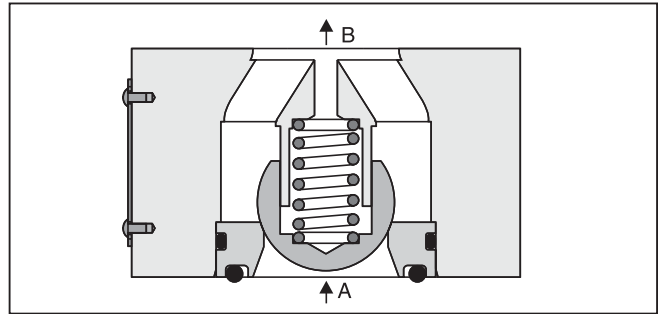
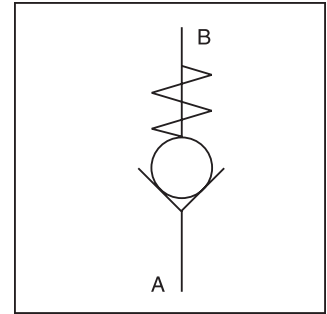
The SAE flanges allow to mount the C5V directly on the pressure port of pumps for protection against pressure shocks from the system.

### Operation

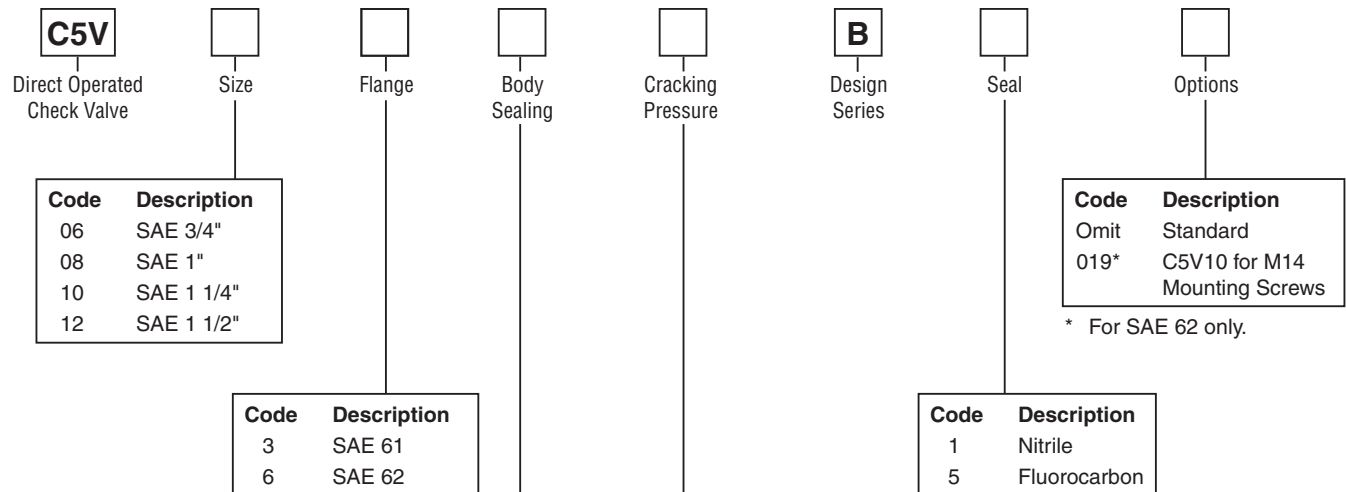
The ball is held on its seat by a spring under zero pressure condition. When flow is increased to the cracking pressure, free flow is allowed from port A to port B. Blocked flow is created when operating pressure and spring on Port B exceed pressure on port A.

### Features

- Direct operated check valve.
- SAE 61 and SAE 62 flanges.
- 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2").
- 3 springs.
- 2 different seal configurations.



### Ordering Information



\* For combination with R5U Unloading Valve (SAE 61 only).

#### Weight:

C5V06	0.6 kg (1.3 lbs.)
C5V08	0.9 kg (2.0 lbs.)
C5V10	1.3 kg (2.9 lbs.)
C5V12	1.8 kg (4.0 lbs.)

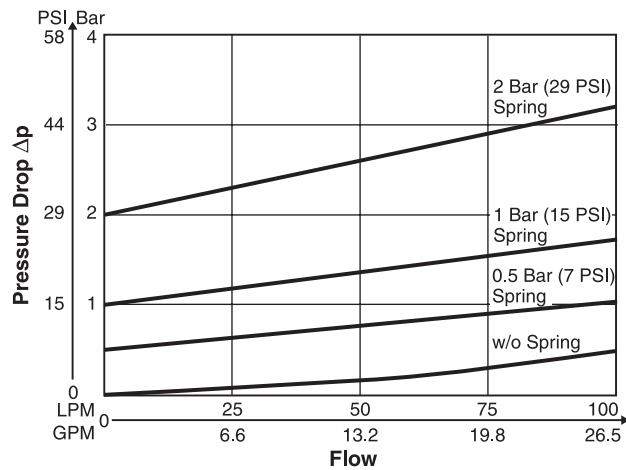
**Specifications**

General					
Size	06 (3/4")	08 (1")	10 (1 1/4")	12 (1 1/2")	
Mounting	2-port in-line flange SAE 61 and SAE 62				
Mounting Position	Unrestricted				
Ambient Temperature	-20°C to +50°C (-4°F to +122°F)				
Hydraulic					
Maximum Operating Pressure	SAE 61	350 Bar (5075 PSI)	350 Bar (5075 PSI)	280 Bar (4060 PSI)	210 Bar (3045 PSI)
	SAE 62	420 Bar (6090 PSI)	420 Bar (6090 PSI)	420 Bar (6090 PSI)	420 Bar (6090 PSI)
Nominal Flow	100 LPM (26.5 GPM)	200 LPM (52.9 GPM)	400 LPM (105.8 GPM)	750 LPM (198.4 GPM)	
Fluid	Hydraulic oil in accordance with DIN 51524...51525				
Fluid Temperature	-20°C to +80°C (-4°F to +176°F)				
Viscosity	Permitted Recommended	10 to 650 cSt / mm <sup>2</sup> /s (46 to 3013 SSU)			
		30 cSt / mm <sup>2</sup> /s (139 SSU)			
Filtration	ISO 4406 (1999) 18/16/13 (acc. NAS 1638:7)				

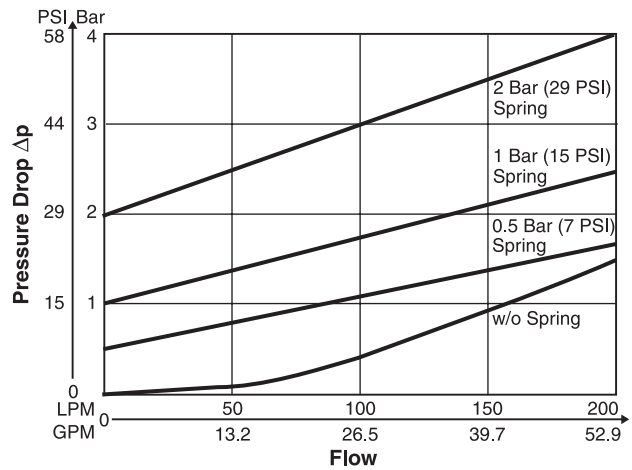


**Performance Curves**

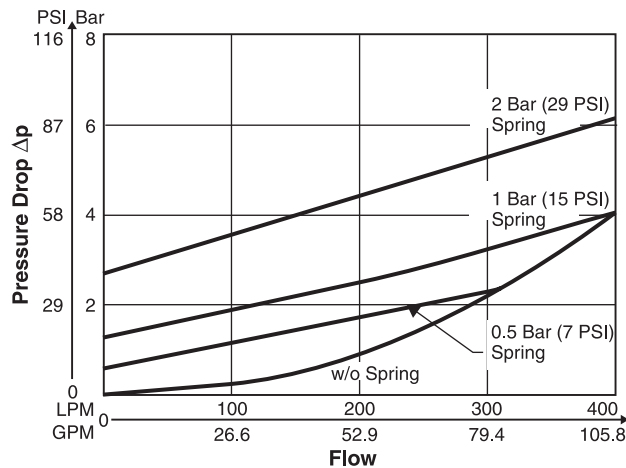
**C5V06**



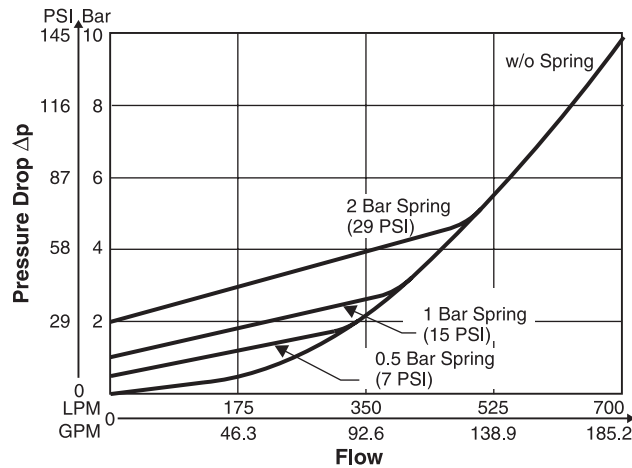
**C5V08**



**C5V10**



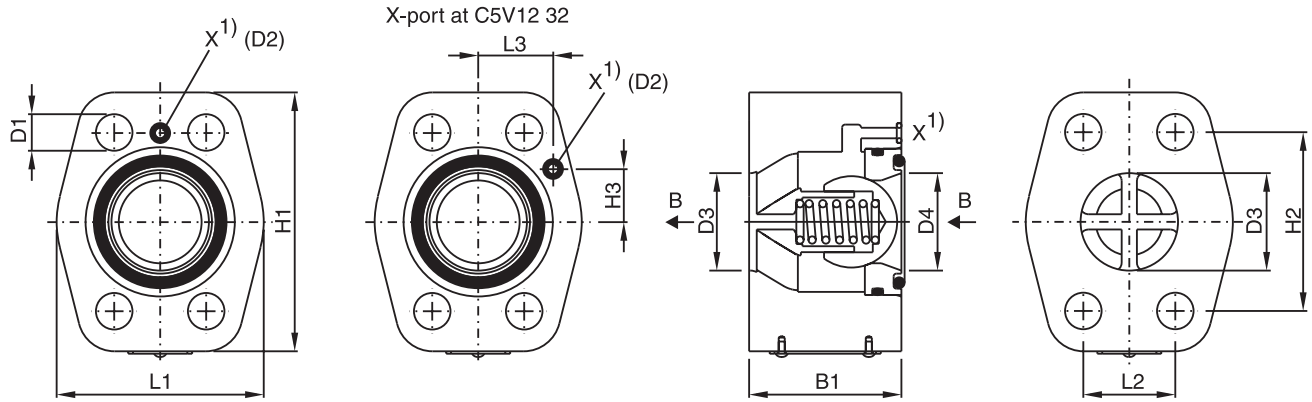
**C5V12**



C5V.indd, dd



Inch equivalents for millimeter dimensions are shown in (\*\*)



Position of O-ring seal according to ordering information

<sup>1)</sup> X1 port for C5V\*32\* (for use with Unloading Valve R5U)

Series	Nominal Size		L1	L2	L3	H1	H2	H3	B1	D1	D2	D3 + 0.8	D4
C5V06	3/4"	SAE 61	48.0 (1.89)	22.2 (0.87)	27.2 (1.07)	64.0 (2.52)	47.6 (1.87)	22.4 (0.88)	45.0 (1.77)	10.5 (0.41)	Ø3.0 (0.12)	19.0 (0.75)	19.0 (0.75)
		SAE 62	48.0 (1.89)	23.8 (0.94)	27.2 (1.07)	64.0 (2.52)	50.8 (2.00)	22.4 (0.88)	45.0 (1.77)	10.5 (0.41)	-	19.0 (0.75)	19.0 (0.75)
C5V08	1"	SAE 61	60.0 (2.36)	26.2 (1.03)	27.2 (1.07)	74.0 (2.91)	52.4 (2.06)	22.4 (0.88)	45.0 (1.77)	10.5 (0.41)	Ø3.0 (0.12)	25.0 (0.98)	25.0 (0.98)
		SAE 62	60.0 (2.36)	27.8 (1.09)	27.2 (1.07)	74.0 (2.91)	57.2 (2.25)	22.4 (0.88)	45.0 (1.77)	12.5 (0.49)	-	25.0 (0.98)	25.0 (0.98)
C5V10	1 1/4"	SAE 61	68.0 (2.68)	30.2 (1.19)	27.2 (1.07)	85.0 (3.35)	58.7 (2.31)	22.4 (0.88)	50.0 (1.97)	12.5 (0.49)	Ø3.0 (0.12)	32.0 (1.26)	32.0 (1.26)
		SAE 62	68.0 (2.68)	31.8 (1.25)	27.2 (1.07)	85.0 (3.35)	66.7 (2.63)	22.4 (0.88)	50.0 (1.97)	13.5* (0.53)	-	32.0 (1.26)	32.0 (1.26)
C5V12	1 1/2"	SAE 61	80.0 (3.15)	35.7 (1.41)	27.2 (1.07)	104.0 (4.09)	69.8 (2.75)	22.4 (0.88)	50.0 (1.97)	13.5 (0.53)	Ø3.0 (0.12)	42.0 (1.65)	38.0 (1.50)
		SAE 62	80.0 (3.15)	36.5 (1.44)	27.2 (1.07)	104.0 (4.09)	79.4 (3.13)	22.4 (0.88)	50.0 (1.97)	17.0 (0.67)	-	42.0 (1.65)	38.0 (1.50)

\* D1 = 15 (0.59) at option code 019 for M14 mounting screws.

Seal Kits		
NG	Nitrile	Fluorocarbon
3	S26-75409-0	S26-75409-5
6	S26-75410-0	S26-75410-5
10	S26-75411-0	S26-75411-5
12	S26-75412-0	S26-75412-5

### General Description

Series C5V direct operated check valves provide free flow in one direction and block the flow in the counter direction.

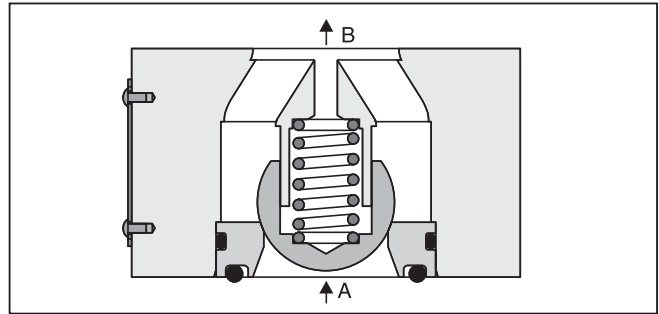
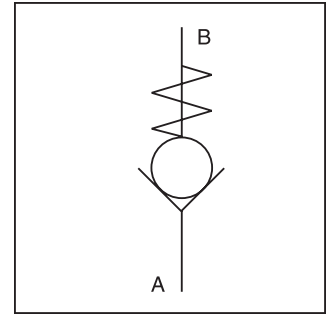
The SAE flanges allow to mount the C5V directly on the pressure port of pumps for protection against pressure shocks from the system.

### Operation

The ball is held on its seat by a spring under zero pressure condition. When flow is increased to the cracking pressure, free flow is allowed from port A to port B. Blocked flow is created when operating pressure and spring on Port B exceed pressure on port A.

### Features

- Direct operated check valve.
- SAE 61 and SAE 62 flanges.
- 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2").
- 3 springs.
- 2 different seal configurations.



### Ordering Information

<div style="border: 1px solid black; padding: 2px; width: 40px; margin: 0 auto;">C5V</div> <p>Direct Operated Check Valve</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>Flange</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Body Sealing</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Cracking Pressure</p>	<div style="border: 1px solid black; padding: 2px; width: 40px; margin: 0 auto;">B</div> <p>Design Series</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Seal</p>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>Options</p>																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr><td>06</td><td>SAE 3/4"</td></tr> <tr><td>08</td><td>SAE 1"</td></tr> <tr><td>10</td><td>SAE 1 1/4"</td></tr> <tr><td>12</td><td>SAE 1 1/2"</td></tr> </tbody> </table>	Code	Description	06	SAE 3/4"	08	SAE 1"	10	SAE 1 1/4"	12	SAE 1 1/2"	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr><td>3</td><td>SAE 61</td></tr> <tr><td>6</td><td>SAE 62</td></tr> </tbody> </table>	Code	Description	3	SAE 61	6	SAE 62	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr><td>1</td><td>Sealing for Port A</td></tr> <tr><td>2*</td><td>Sealing for Ports A and X</td></tr> <tr><td>3</td><td>Without Sealing</td></tr> </tbody> </table> <p>* For combination with R5U Unloading Valve (SAE 61 only).</p>	Code	Description	1	Sealing for Port A	2*	Sealing for Ports A and X	3	Without Sealing	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr><td>0</td><td>0.5 Bar (7 PSI)</td></tr> <tr><td>1</td><td>1.0 Bar (15 PSI)</td></tr> <tr><td>2</td><td>2.0 Bar (29 PSI)</td></tr> </tbody> </table>	Code	Description	0	0.5 Bar (7 PSI)	1	1.0 Bar (15 PSI)	2	2.0 Bar (29 PSI)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr><td>1</td><td>Nitrile</td></tr> <tr><td>5</td><td>Fluorocarbon</td></tr> </tbody> </table>	Code	Description	1	Nitrile	5	Fluorocarbon	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Code</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr><td>Omit</td><td>Standard</td></tr> <tr><td>019*</td><td>C5V10 for M14 Mounting Screws</td></tr> </tbody> </table> <p>* For SAE 62 only.</p>	Code	Description	Omit	Standard	019*	C5V10 for M14 Mounting Screws
Code	Description																																																
06	SAE 3/4"																																																
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Omit	Standard																																																
019*	C5V10 for M14 Mounting Screws																																																
							<p><b>Weight:</b></p> <p>C5V06 0.6 kg (1.3 lbs.)</p> <p>C5V08 0.9 kg (2.0 lbs.)</p> <p>C5V10 1.3 kg (2.9 lbs.)</p> <p>C5V12 1.8 kg (4.0 lbs.)</p>																																										

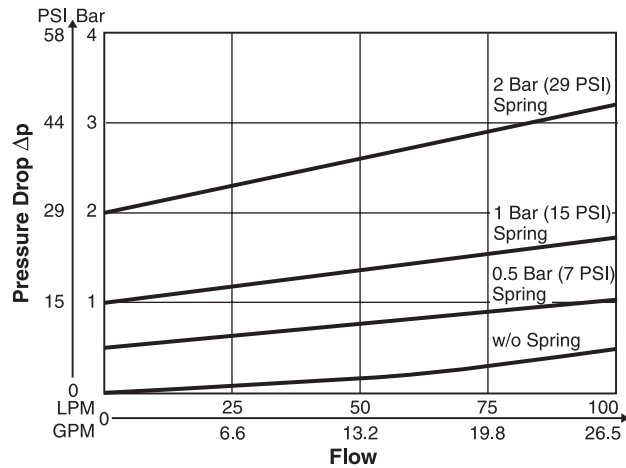
**Specifications**

General					
Size	06 (3/4")	08 (1")	10 (1 1/4")	12 (1 1/2")	
Mounting	2-port in-line flange SAE 61 and SAE 62				
Mounting Position	Unrestricted				
Ambient Temperature	-20°C to +50°C (-4°F to +122°F)				
Hydraulic					
Maximum Operating Pressure	SAE 61	350 Bar (5075 PSI)	350 Bar (5075 PSI)	280 Bar (4060 PSI)	210 Bar (3045 PSI)
	SAE 62	420 Bar (6090 PSI)	420 Bar (6090 PSI)	420 Bar (6090 PSI)	420 Bar (6090 PSI)
Nominal Flow	100 LPM (26.5 GPM)	200 LPM (52.9 GPM)	400 LPM (105.8 GPM)	750 LPM (198.4 GPM)	
Fluid	Hydraulic oil in accordance with DIN 51524...51525				
Fluid Temperature	-20°C to +80°C (-4°F to +176°F)				
Viscosity	Permitted Recommended	10 to 650 cSt / mm <sup>2</sup> /s (46 to 3013 SSU)			
		30 cSt / mm <sup>2</sup> /s (139 SSU)			
Filtration	ISO 4406 (1999) 18/16/13 (acc. NAS 1638:7)				

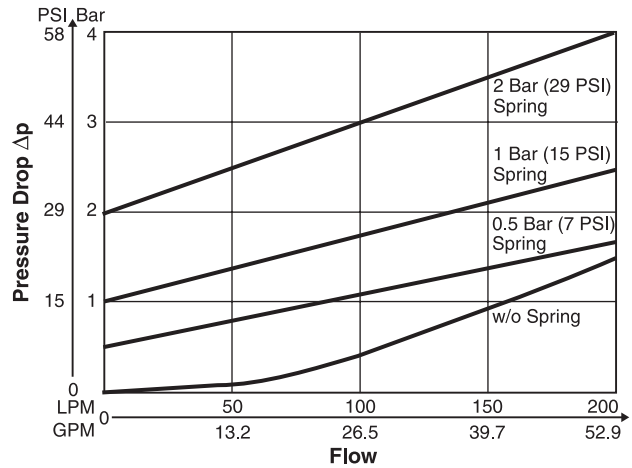


**Performance Curves**

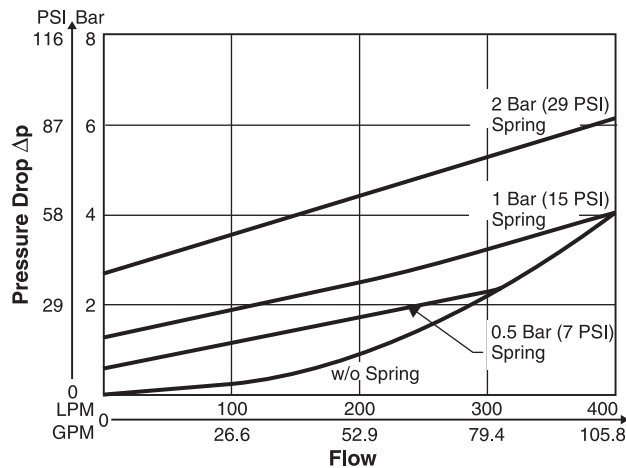
**C5V06**



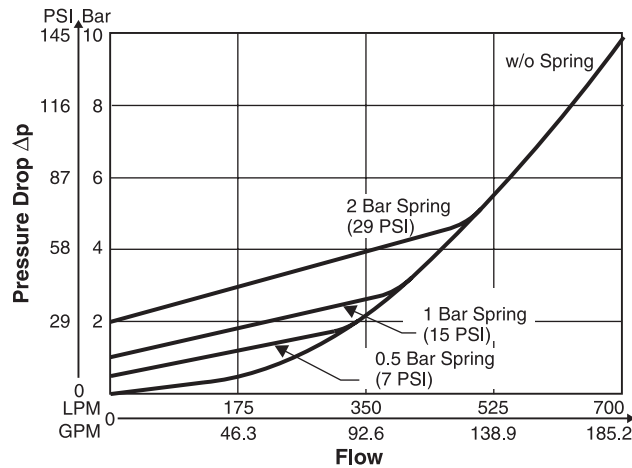
**C5V08**



**C5V10**

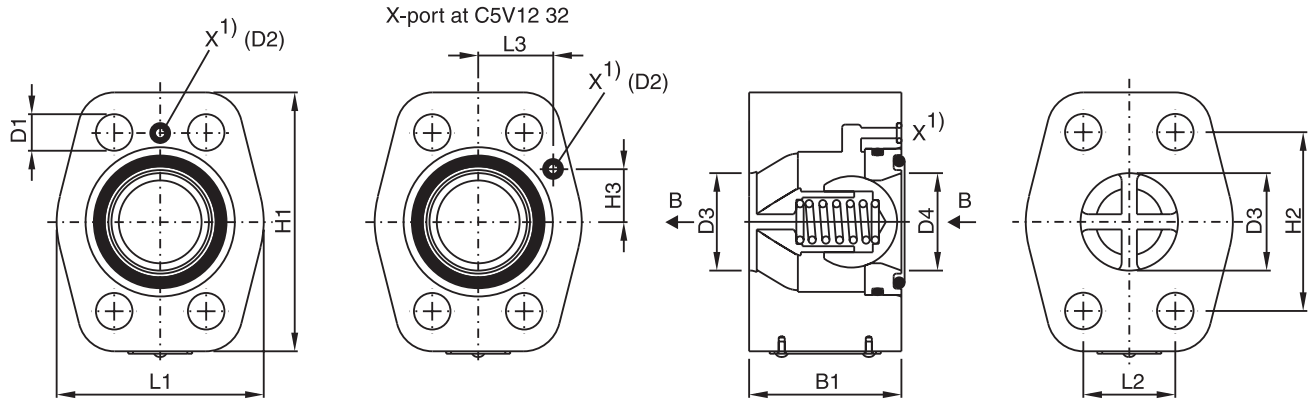


**C5V12**



C5V.indd, dd

Inch equivalents for millimeter dimensions are shown in (\*\*)



Position of O-ring seal according to ordering information

<sup>1)</sup> X1 port for C5V\*32\* (for use with Unloading Valve R5U)

Series	Nominal Size		L1	L2	L3	H1	H2	H3	B1	D1	D2	D3 + 0.8	D4
C5V06	3/4"	SAE 61	48.0 (1.89)	22.2 (0.87)	27.2 (1.07)	64.0 (2.52)	47.6 (1.87)	22.4 (0.88)	45.0 (1.77)	10.5 (0.41)	Ø3.0 (0.12)	19.0 (0.75)	19.0 (0.75)
		SAE 62	48.0 (1.89)	23.8 (0.94)	27.2 (1.07)	64.0 (2.52)	50.8 (2.00)	22.4 (0.88)	45.0 (1.77)	10.5 (0.41)	-	19.0 (0.75)	19.0 (0.75)
C5V08	1"	SAE 61	60.0 (2.36)	26.2 (1.03)	27.2 (1.07)	74.0 (2.91)	52.4 (2.06)	22.4 (0.88)	45.0 (1.77)	10.5 (0.41)	Ø3.0 (0.12)	25.0 (0.98)	25.0 (0.98)
		SAE 62	60.0 (2.36)	27.8 (1.09)	27.2 (1.07)	74.0 (2.91)	57.2 (2.25)	22.4 (0.88)	45.0 (1.77)	12.5 (0.49)	-	25.0 (0.98)	25.0 (0.98)
C5V10	1 1/4"	SAE 61	68.0 (2.68)	30.2 (1.19)	27.2 (1.07)	85.0 (3.35)	58.7 (2.31)	22.4 (0.88)	50.0 (1.97)	12.5 (0.49)	Ø3.0 (0.12)	32.0 (1.26)	32.0 (1.26)
		SAE 62	68.0 (2.68)	31.8 (1.25)	27.2 (1.07)	85.0 (3.35)	66.7 (2.63)	22.4 (0.88)	50.0 (1.97)	13.5* (0.53)	-	32.0 (1.26)	32.0 (1.26)
C5V12	1 1/2"	SAE 61	80.0 (3.15)	35.7 (1.41)	27.2 (1.07)	104.0 (4.09)	69.8 (2.75)	22.4 (0.88)	50.0 (1.97)	13.5 (0.53)	Ø3.0 (0.12)	42.0 (1.65)	38.0 (1.50)
		SAE 62	80.0 (3.15)	36.5 (1.44)	27.2 (1.07)	104.0 (4.09)	79.4 (3.13)	22.4 (0.88)	50.0 (1.97)	17.0 (0.67)	-	42.0 (1.65)	38.0 (1.50)

\* D1 = 15 (0.59) at option code 019 for M14 mounting screws.

Seal Kits		
NG	Nitrile	Fluorocarbon
3	S26-75409-0	S26-75409-5
6	S26-75410-0	S26-75410-5
10	S26-75411-0	S26-75411-5
12	S26-75412-0	S26-75412-5