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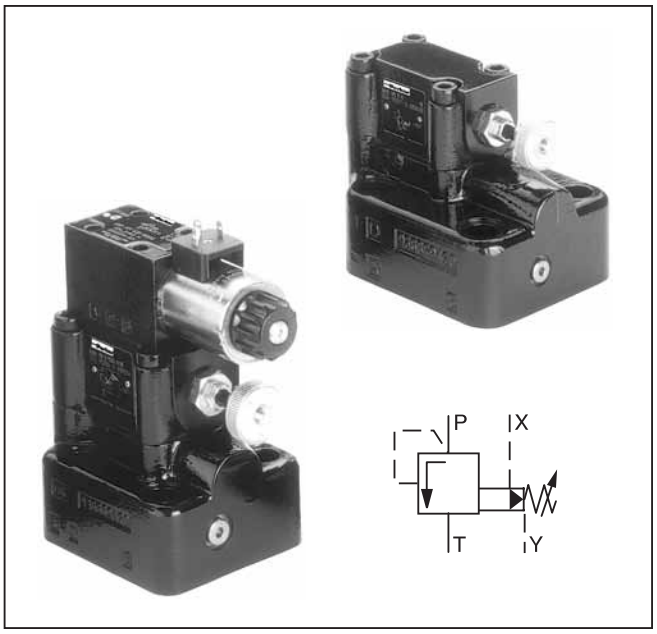
General Description

Series R4V and R6V pressure relief valves feature a manual adjustment pilot stage which controls a seated type main stage.

A vent function with a solenoid operated directional valve is available for circulation at minimum pressure.

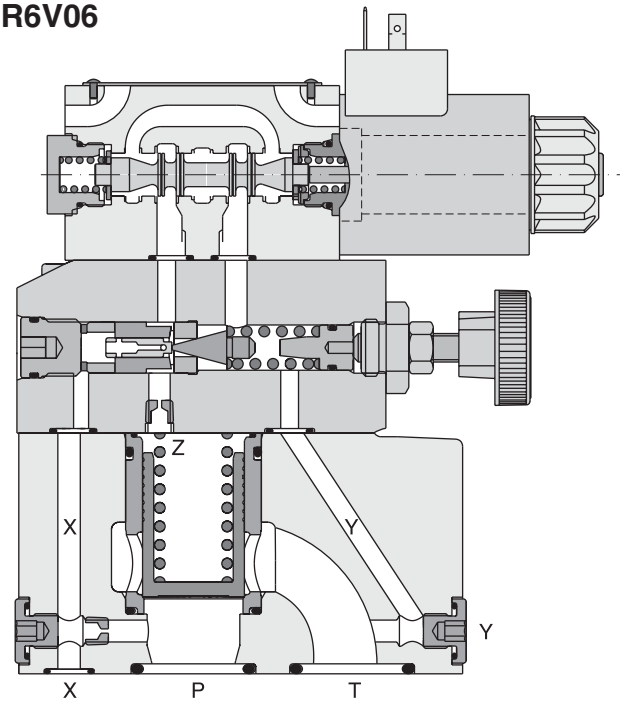
Features

- Pilot operated with manual adjustment.
- 2 interfaces:
  - Subplate, ISO 6264 (DIN 24340 Form D) with VV01 vent valve (R4V)
  - Subplate, ISO 6264 (DIN 24340 Form E) with CETOP 03 vent valve (R6V)
- 3 pressure ranges.
- 3 adjustment modes:
  - Hand knob
  - Acorn nut with lead seal
  - Key lock
- Remote control via port X.



D

R6V06



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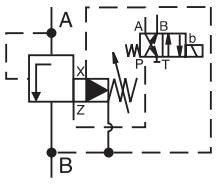

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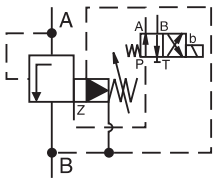


Function

System pressure in port P is applied via the X gallery to the spring loaded cone in the pilot head. The pilot head controls the pressure in the Z area on top of the main cartridge which is additionally kept close by the main spring.

If the pilot pressure exceeds the setting pressure the pilot cone opens and thus limits the pilot pressure.

When the system pressure exceeds the pilot pressure plus the spring force, the main cartridge opens to port T and limits the pressure in port P to the adjusted level.

Additionally to the relief function, a solenoid operated vent valve connects the Z area to tank. This allows oil circulation from P to T at minimum pressure drop. The vent valve can either be a standard CETOP 03 valves (mounting form E) or a sandwich unit (mounting form D). For both types the vent position can be either at the energized or de-energized solenoid.

R — [ ] — 5 — [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

R	Interface	V	Size	5	Drain Port	Pressure Range	Adjustment	Pilot Oil Drain Line	Design Series	Seal	Options
Pressure Relief Valve		Relief Function		Maximum Pressure 350 Bar (5075 PSI)							Check with Factory

Code	Description
03	NG10
06	NG25
10	NG32

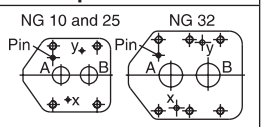
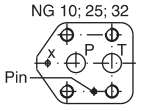
Code	Description
1	Nitrile
5	Fluorocarbon

Code	Interface	Drain	Aux Port
3	R4V	Y-port	NPT
7	R4V	Y-port	SAE
9	R4V	Y-port	BSP
9	R6V	Y-port	BSP

Code	Description
A	R4V
B	R6V

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 PSI)

Code	Description
1	Hand Knob 32mm dia. (Standard)
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
4	Subplate Mounting ISO 6264 
6	Subplate Mounting ISO 6264 

Code	Description
0 [1]	Internal
1 [2]	External from Subplate
2 [3]	External from Valve Body (Y-port)

1) Only with drain port 3
2) R4V only
3) R6V only

Weight:

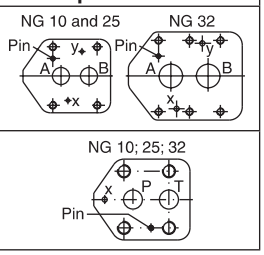
R4V03	2.7 kg (6.0 lbs.)
R4V06	4.5 kg (9.9 (lbs.)
R4V10	6.0 kg (13.2 lbs.)
R6V03	4.5 kg (9.9 lbs.)
R6V06	5.8 kg (12.8 lbs.)
R6V10	7.8 kg (17.2 lbs.)

R		V		–	5											
Pressure Relief Valve	Interface	Relief Function	Size		Maximum Pressure 350 Bar (5075 PSI)	Drain Port	Pressure Range	Adjustment	Pilot Oil Drain Line	Vent Valve Function	Solenoid Voltage	Design Series	Seal		Modifications

Code	Description
03	NG10
06	NG25
10	NG32

Code	Interface	Drain	Aux Port
3	R4V	Y-port	NPT
7	R4V	Y-port	SAE
9	R4V	Y-port	BSP
9	R6V	Y-port	BSP

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 PSI)

Code	Description
4	Subplate Mounting ISO 6264 
6	

Code	Description
1	Hand Knob (Standard)
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
G0R	12V
G0Q	24V
GAR	98V
GAG	205V
W30	110V / 50 Hz 120V / 60 Hz
W31	230V / 50 Hz 240V / 60 Hz

Code	Description
A	R4V
B	R6V

Code	Description
09	Solenoid not activated unpress. circulation
11	Solenoid activated unpress. circulation

Code	Description
0 [1]	Internal
1 [2]	External from Subplate
2 [3]	External from Valve Body (Y-port)

1) Only with drain port 3
2) R4V only
3) R6V only

Code	Description
031 [2]	Vent Function w/ Slow Unloading
VFM [3]	Vent Function w/ Slow Unloading

2) R4V only
3) R6V only

Code	Description
1	Nitrile
5	Fluorocarbon

Weight:

R4V03	4.4 kg (9.7 lbs.)
R4V06	6.2 kg 13.7 (lbs.)
R4V10	7.7 kg (17.0 lbs.)
R6V03	5.9 kg (13.0 lbs.)
R6V06	7.2 kg (15.9 lbs.)
R6V10	9.2 kg (20.3 lbs.)

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R4V and R6V

General				
Size		**NG10**	**NG25**	**NG32**
Interface		Subplate mounting acc. ISO 6264 (DIN 24340)		
Mounting Position		As desired, horizontal mounting preferred		
Ambient Temperature		-20°C to +80°C (-4°F to +176°F)		
Hydraulic				
Operating Pressure		Ports P or A and X up to 350 Bar (5075 PSI), Port T or B and Y depressurized		
Pressure Range		105, 210, 350 Bar (1523, 3045, 5075 PSI)		
Nominal Flow	**Series R4V**	150 LPM (39.7 GPM)	350 LPM (92.6 GPM)	650 LPM (172.0 GPM)
	Series R6V	250 LPM (66.1 GPM)	500 LPM (132.3 GPM)	650 LPM (172.0 GPM)
Fluid		Hydraulic oil according to DIN 51524 ... 51525		
Viscosity	**Recommended**	30 to 50 cSt / mm²/s (139 to 232 SSU)		
	Permitted	20 to 380 cSt / mm²/s (93 to 1761 SSU)		
Fluid Temperature				
	Recommended	+30°C to +50°C (+86°F to +122°F)		
	Maximum	-20°C to +70° (-4°F to +158°F)		
Filtration		ISO 4406 (1999), 18/16/13		

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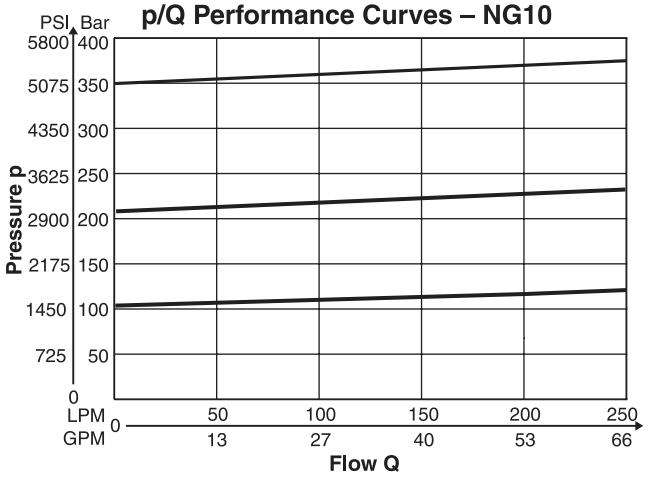
R4V and R6V with Vent Function

General				
Size		**NG10**	**NG25**	**NG32**
Interface		Subplate mounting acc. ISO 6264 (DIN 24340)		
Mounting Position		As desired, horizontal mounting preferred		
Ambient Temperature		-20°C to +80°C (-4°F to +176°F)		
Hydraulic				
Operating Pressure		Ports P or A and X up to 350 Bar (5075 PSI), Port T or B and Y depressurized		
Pressure Range		105, 210, 350 Bar (1523, 3045, 5075 PSI)		
Nominal Flow	**Series R4V**	150 LPM (39.7 GPM)	350 LPM (92.6 GPM)	650 LPM (172.0 GPM)
	Series R6V	250 LPM (66.1 GPM)	500 LPM (132.3 GPM)	650 LPM (172.0 GPM)
Fluid		Hydraulic oil according to DIN 51524 ... 51525		
Viscosity	**Recommended**	30 to 50 cSt /mm²/s (139 to 232 SSU)		
	Permitted	20 to 380 cSt / mm²/s (93 to 1761 SSU)		
Fluid Temperature		-20°C to +70° (-4°F to +158°F)		
Filtration		ISO 4406 (1999), 18/16/13		
Electrical (solenoid)				
Duty Cycle		100% ED CAUTION: Coil temperature up to 180°C (356°F)		
Solenoid Connector		Connector acc. to EN 175301-803		
Protection Class		IP65 in accordance with EN 60529 (plugged and mounted)		

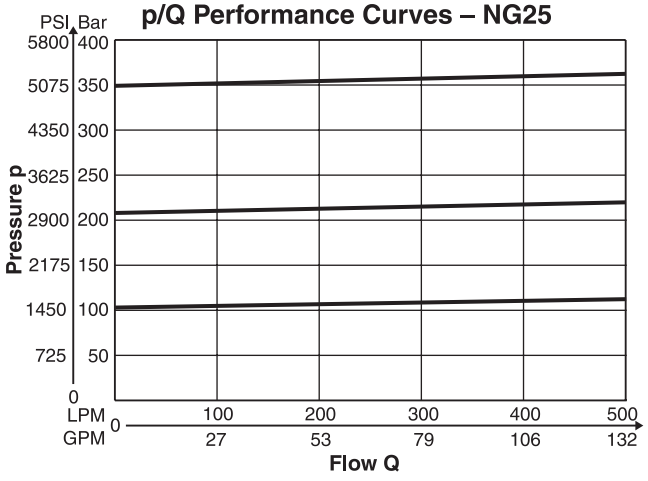
	Code	**G0R**	**G0Q**	**GAR**	**GAG**	**W30**	**W31**
Supply Voltage		12V	24V	98V	205V	110 at 50Hz 120 at 60Hz	230 at 50Hz 240 at 60Hz
Supply Tolerance		+5...-10	+5...-10	+5...-10	+5...-10	+5...-10	+5...-10
Power Consumption	**Hold**	31W	31W	31W	31W	78W	78W
	In Rush	31W	31W	31W	31W	264W	264W

Switching Frequency	16,000 (DC), 7200 (AC) switchings/hour maximum
Wiring Minimum	3 x 1.5 mm² Recommended
Wiring Length Maximum	50 m (164 ft.) Recommended

p/Q Performance Curves – NG10



p/Q Performance Curves – NG25



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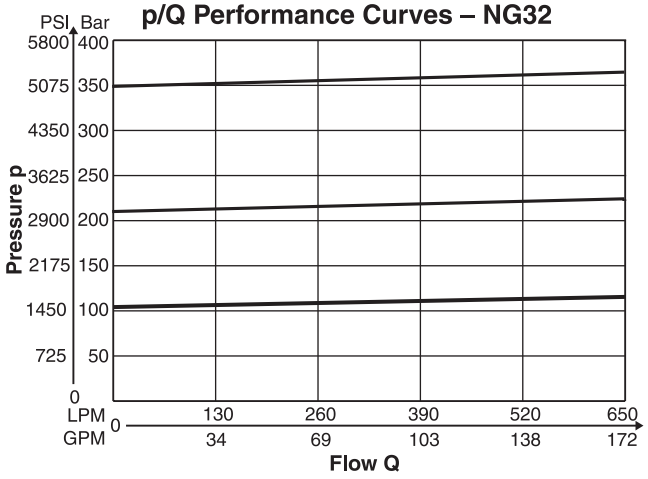
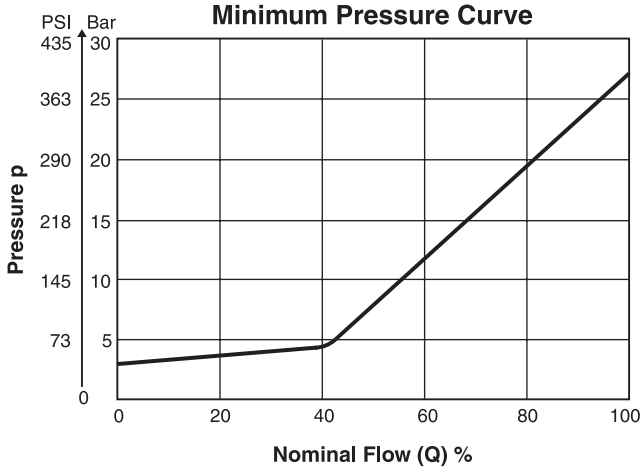
p/Q Performance Curves – NG32



The performance curves are measured with external drain.
For internal drain the tank pressure has to be added to curve.

Minimum Pressure Curve



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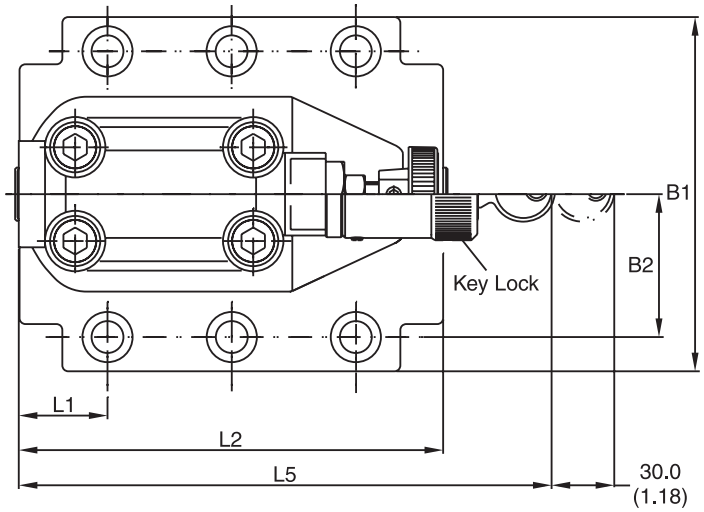
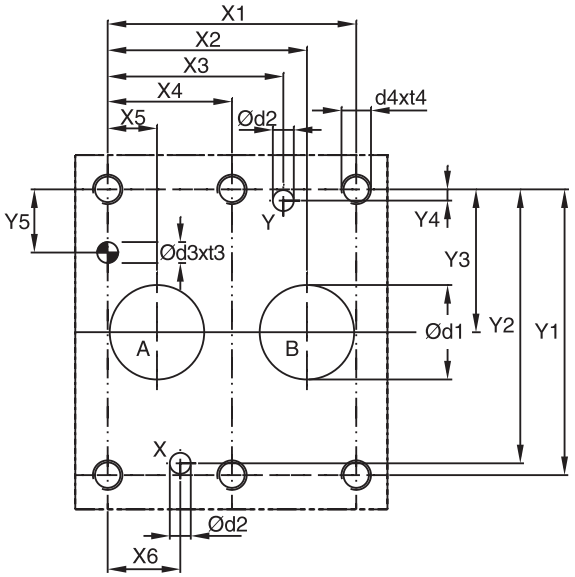
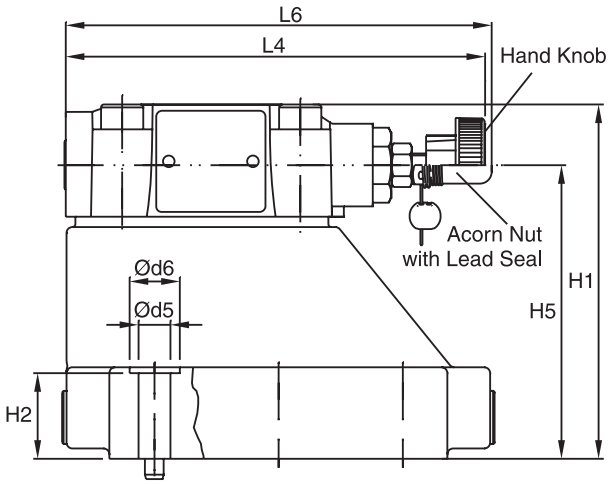

B1
B2
Key Lock
L1
L2
L5
30.0
(1.18)


X1
X2
X3
X4
X5
Ød2
d4xt4
Y5
Y
Y4
Ød3xt3
Y3
A
B
Ød1
Y2
Y1
X
Ød2
X6


L6
L4
Hand Knob
Acorn Nut
with Lead Seal
Ød6
Ød5
H1
H5
H2

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

NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	6264-06-07-*-97	42.9 (1.69)	35.8 (1.41)	21.5 (0.85)	– –	7.2 (0.28)	21.5 (0.85)	0.0 (0.00)	66.7 (2.63)	58.8 (2.31)	33.4 (1.31)	7.9 (0.31)	14.3 (0.56)	– –
25	6264-08-11-*-97	60.3 (2.37)	49.2 (1.94)	39.7 (1.56)	– –	11.1 (0.44)	20.6 (0.81)	0.0 (0.00)	79.4 (3.13)	73.0 (2.87)	39.7 (1.56)	6.4 (0.25)	15.9 (0.63)	– –
32	6264-10-15-*-97	84.2 (3.31)	67.5 (2.66)	59.5 (2.34)	42.1 (1.66)	16.7 (0.66)	24.6 (0.97)	0.0 (0.00)	96.8 (3.81)	92.8 (3.65)	48.4 (1.91)	3.8 (0.15)	21.4 (0.84)	– –

Tolerance at X and Y pin holes and screw holes ±0.1, at port holes ±0.2.

NG	ISO-code	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6
10	6264-06-07-*-97	87.3 (3.44)	33.4 (1.31)	83.0 (3.27)	21.0 (0.83)	– –	– –	62.5 (2.46)	– –	29.0 (1.14)	94.8 (3.73)	– –	143.0 (5.63)	181.0 (7.13)	144.8 (5.76)
25	6264-08-11-*-97	105.0 (4.13)	39.7 (1.56)	109.5 (4.31)	29.0 (1.14)	– –	– –	89.0 (3.50)	– –	34.7 (1.37)	126.8 (4.99)	– –	143.0 (5.63)	181.0 (7.13)	144.8 (5.76)
32	6264-10-15-*-97	120.0 (4.72)	48.4 (1.91)	120.0 (4.72)	29.0 (1.14)	– –	– –	99.5 (3.92)	– –	30.6 (1.20)	144.3 (5.68)	– –	143.0 (5.63)	181.0 (7.13)	144.8 (5.76)

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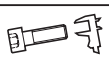
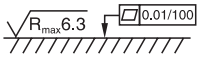
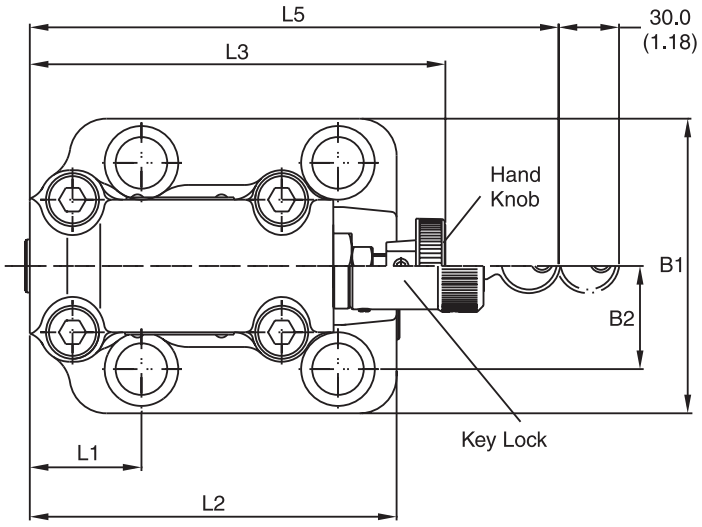
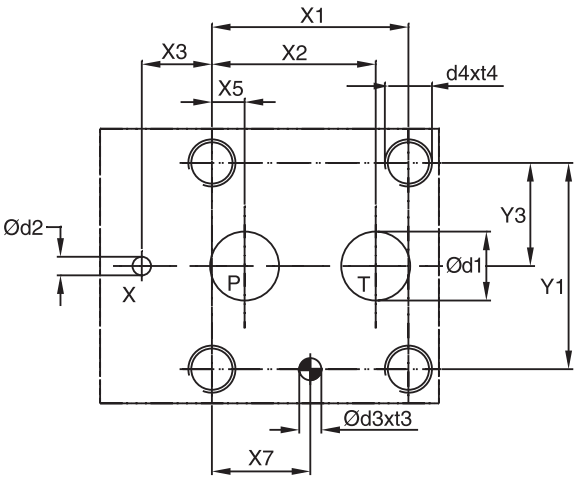
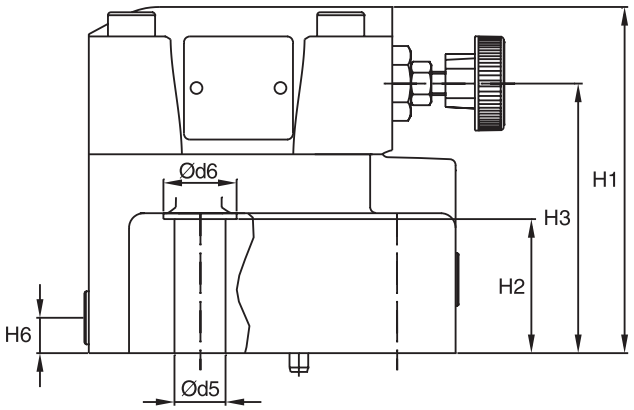
NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	6264-06-07-*-97	15.0 (0.59)	7.0 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	16.0 (0.63)	10.8 (0.43)	17.0 (0.67)
25	6264-08-11-*-97	23.4 (0.92)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	18.0 (0.71)	10.8 (0.43)	17.0 (0.67)
32	6264-10-15-*-97	32.0 (1.26)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	20.0 (0.79)	10.8 (0.43)	17.0 (0.67)

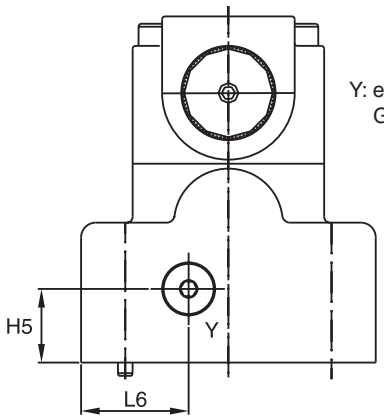
NG	ISO-code	Bolt Kit			Seal Kit Nitrile	 Fuorocarbon	Surface Finish
10	6264-06-07-*-97	BK505	4xM10 x 35-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58507-0	S26-58507-5	
25	6264-08-11-*-97	BK485	4xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58475-0	S26-58475-5	
32	6264-10-15-*-97	BK506	6xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58508-0	S26-58508-5	

NG	ISO-code	Subplate	Size
10	6264-06-07-*-97	SPP3M6B910	A, B = 3/4" BSPP x, y = 1/4" BSPP
25	6264-08-11-*-97	SPP6M8B910	A, B = 1" BSPP x, y = 1/4" BSPP
32	6264-10-15-*-97	SPP10M12B910	A, B = 1 1/2" BSPP x, y = 1/4" BSPP









Y: external drain port
G 1/8"

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

NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	6264-06-09-*-97	53.8 (2.12)	47.5 (1.87)	0.0 (0.00)	– –	22.1 (0.87)	– –	22.1 (0.87)	53.8 (2.12)	– –	26.9 (1.06)	– –	– –	– –
25	6264-08-13-*-97	66.7 (2.63)	55.6 (2.19)	23.8 (0.94)	– –	11.1 (0.44)	– –	33.4 (1.31)	70.0 (2.76)	– –	35.0 (1.38)	– –	– –	– –
32	6264-10-17-*-97	88.9 (3.50)	76.2 (3.00)	31.8 (1.25)	– –	12.7 (0.50)	– –	44.5 (1.75)	82.6 (3.25)	– –	41.3 (1.63)	– –	– –	– –

Tolerance at X and Y pin holes and screw holes ±0.1, at port holes ±0.2.

NG	ISO-code	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6
10	6264-06-09-*-97	80.0 (3.15)	26.9 (1.06)	114.0 (4.49)	27.0 (1.06)	88.0 (3.46)	– –	25.0 (0.98)	25.0 (0.98)	52.5 (2.07)	118.5 (4.67)	141.0 (5.55)	– –	180.0 (7.09)	29.5 (1.16)
25	6264-08-13-*-97	100.0 (3.94)	35.0 (1.38)	117.5 (4.63)	45.5 (1.79)	91.5 (3.60)	– –	25.0 (0.98)	12.0 (0.47)	37.9 (1.49)	124.5 (4.90)	141.0 (5.55)	– –	180.0 (7.09)	36.5 (1.44)
32	6264-10-17-*-97	120.0 (4.72)	41.3 (1.63)	123.0 (4.83)	52.0 (2.05)	97.0 (3.82)	– –	25.0 (0.98)	13.5 (0.53)	45.0 (1.77)	153.0 (6.02)	141.0 (5.55)	– –	180.0 (7.09)	36.5 (1.83)

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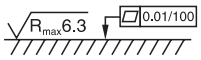
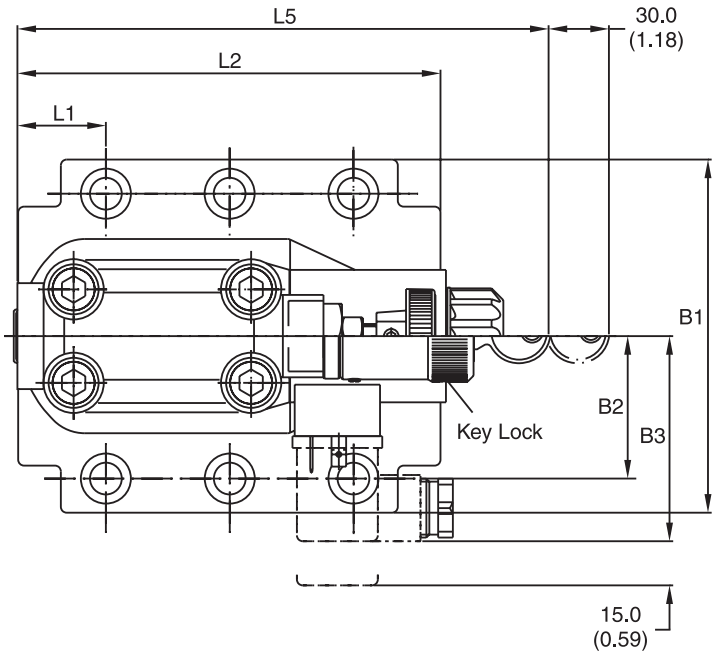
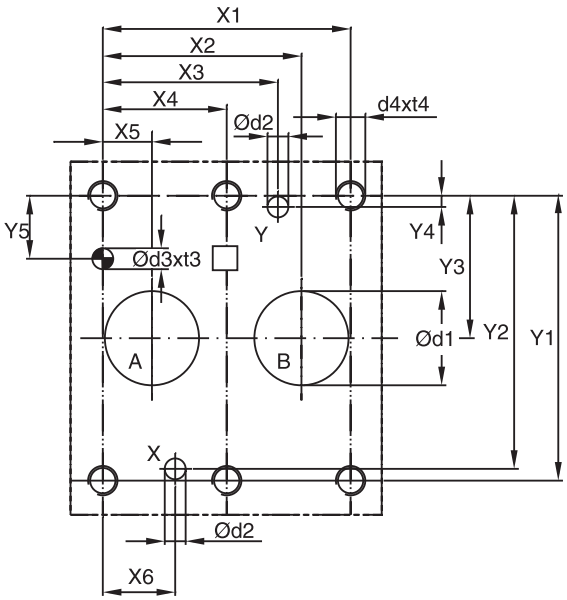
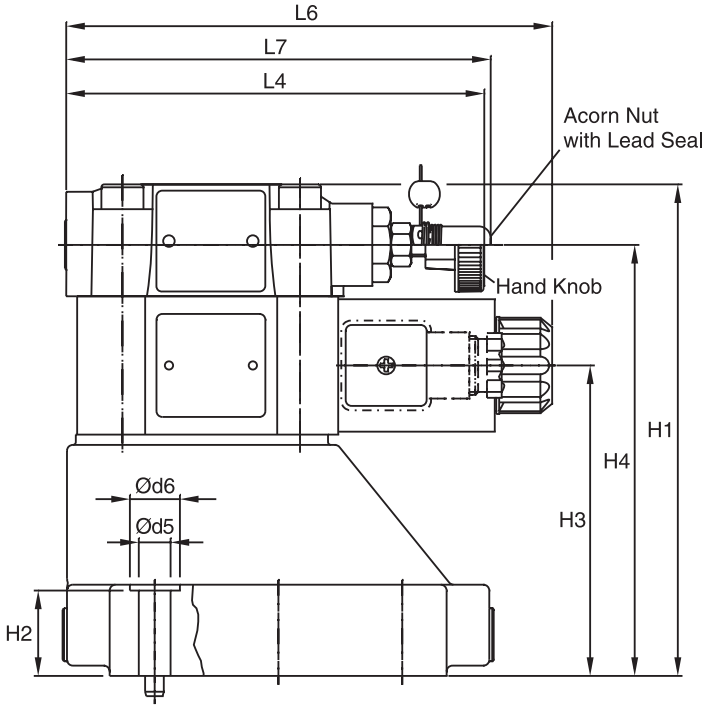
NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	6264-06-09-*-97	14.7 (0.58)	4.8 (0.19)	7.5 (0.30)	10.0 (0.39)	M12	20.0 (0.79)	13.5 (0.53)	20.0 (0.79)
25	6264-08-13-*-97	23.4 (0.92)	6.3 (0.25)	7.5 (0.30)	10.0 (0.39)	M16	27.0 (1.06)	17.5 (0.69)	25.0 (0.98)
32	6264-10-17-*-97	32.0 (1.26)	6.3 (0.25)	7.5 (0.30)	10.0 (0.39)	M18	28.0 (1.10)	20.0 (0.79)	30.0 (1.18)

NG	ISO-code	Bolt Kit			Seal Kit Nitrile	Seal Kit Fluorocarbon	Surface Finish
10	6264-06-09-*-97	BK494	4xM12 x 45-DIN 912 12.9	108 Nm (79.6 lb.-ft.) ±15%	S26-96396-0	S26-96396-5	
25	6264-08-13-*-97	BK366	4xM16 x 70-DIN 912 12.9	264 Nm (194.7 lb.-ft.) ±15%	S26-96589-0	S26-96589-5	
32	6264-10-17-*-97	BK507	4xM18 x 75-DIN 912 12.9	398 Nm (293.5 lb.-ft.) ±15%	S26-96392-0	S26-96392-5	

NG	ISO-code	Subplate	Size
10	6264-06-09-*-97	SPP3R6B910	P, T = 3/4" BSPP x = 1/4" BSPP
25	6264-08-13-*-97	SPP6R8B910	P, T = 1 1/4" BSPP x = 1/4" BSPP
32	6264-10-17-*-97	SPP10R12B910	P, T = 1 1/2" BSPP x, y = 1/4" BSPP


L5
30.0
(1.18)
L2
L1
B1
B2
B3
Key Lock
15.0
(0.59)


X1
X2
X3
X4
X5
Ød2
d4xt4
Y5
Y
Y4
Y3
Ød3xt3
A
B
Ød1
Y2
Y1
X
Ød2
X6


L6
L7
L4
Acorn Nut
with Lead Seal
Hand Knob
H1
H4
H3
Ød6
Ød5
H2

D

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

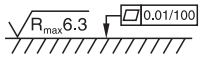
NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	6264-06-07-*-97	42.9 (1.69)	35.8 (1.41)	21.5 (0.85)	– –	7.2 (0.28)	21.5 (0.85)	0.0 (0.00)	66.7 (2.63)	58.8 (2.31)	33.4 (1.31)	7.9 (0.31)	14.3 (0.56)	– –
25	6264-08-11-*-97	60.3 (2.37)	49.2 (1.94)	39.7 (1.56)	– –	11.1 (0.44)	20.6 (0.81)	0.0 (0.00)	79.4 (3.13)	73.0 (2.87)	39.7 (1.56)	6.4 (0.25)	15.9 (0.63)	– –
32	6264-10-15-*-97	84.2 (3.31)	67.5 (2.66)	59.5 (2.34)	42.1 (1.66)	16.7 (0.66)	24.6 (0.97)	0.0 (0.00)	96.8 (3.81)	92.8 (3.65)	48.4 (1.91)	3.8 (0.15)	21.4 (0.84)	– –

Tolerance at X and Y pin holes and screw holes ±0.1, at port holes ±0.2.

NG	ISO-code	B1	B2	B3	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7
10	6264-06-07-*-97	87.3 (3.44)	33.4 (1.31)	70.0 (2.76)	130.0 (5.12)	21.0 (0.83)	68.5 (2.70)	109.5 (4.31)	29.0 (1.14)	94.8 (3.73)	– –	143.0 (5.63)	181.0 (7.13)	165.6 (6.52)	144.8 (5.70)
25	6264-08-11-*-97	105.0 (4.13)	39.7 (1.59)	70.0 (2.76)	156.5 (6.16)	29.0 (1.14)	95.0 (3.74)	136.0 (5.35)	34.7 (1.37)	126.8 (4.99)	– –	143.0 (5.63)	181.0 (7.13)	165.6 (6.52)	144.8 (5.70)
32	6264-10-15-*-97	120.0 (4.72)	48.4 (1.91)	70.0 (2.76)	167.0 (6.57)	29.0 (1.14)	105.5 (4.15)	146.5 (5.77)	30.6 (1.20)	144.3 (5.68)	– –	143.0 (5.63)	181.0 (7.13)	165.6 (6.52)	144.8 (5.70)

D

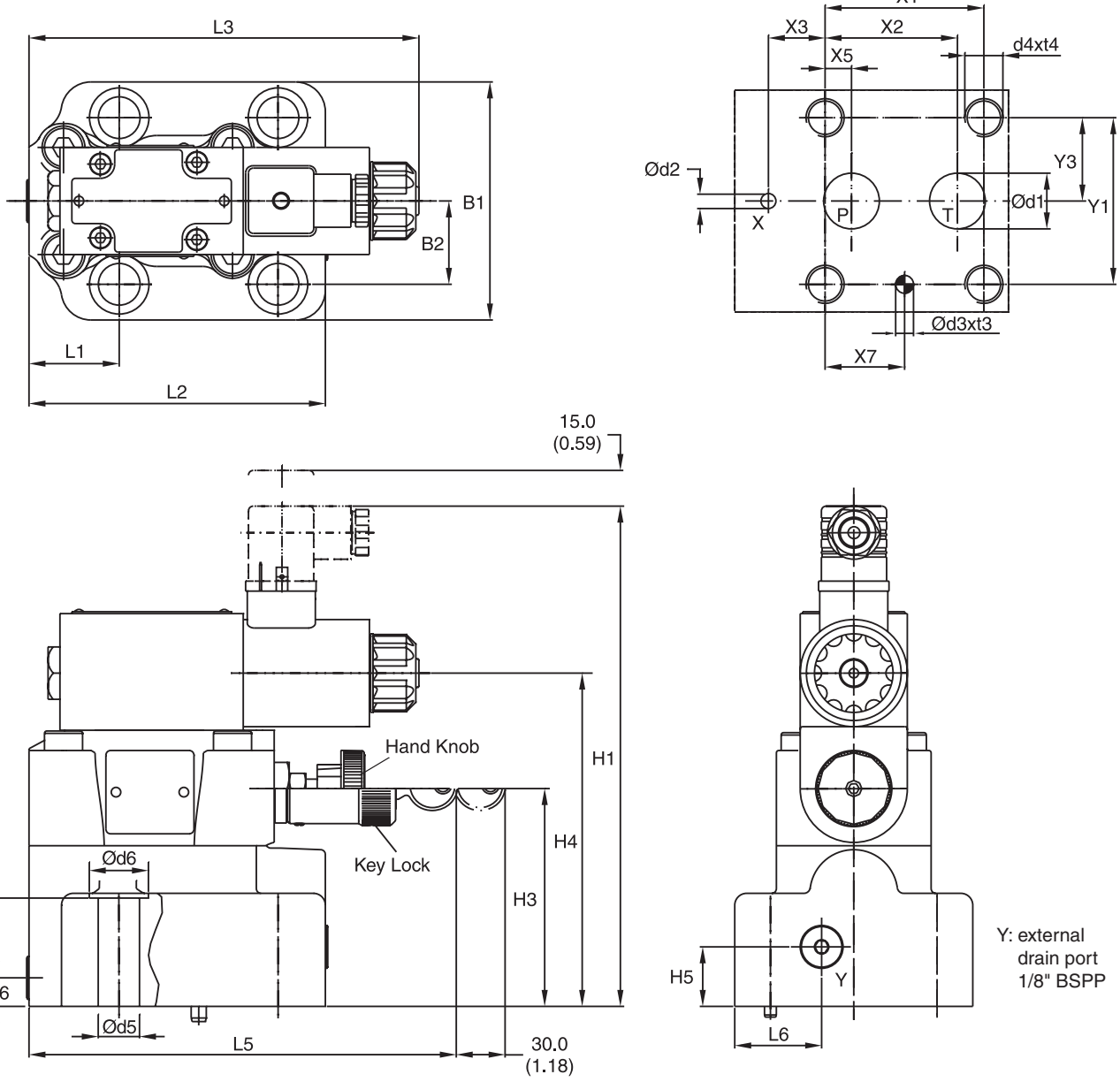
NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	6264-06-07-*-97	15.0 (0.59)	7.0 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	16.0 (0.63)	10.8 (0.43)	17.0 (0.67)
25	6264-08-11-*-97	23.4 (0.92)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	18.0 (0.71)	10.8 (0.43)	17.0 (0.67)
32	6264-10-15-*-97	32.0 (1.26)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	20.0 (0.79)	10.8 (0.43)	17.0 (0.67)

NG	ISO-code	Bolt Kit			Seal Kit Nitrile	Fluorocarbon	Surface Finish
10	6264-06-07-*-97	BK505	4xM10 x 35-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58507-0	S26-58507-5	
25	6264-08-11-*-97	BK485	4xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58475-0	S26-58475-5	
32	6264-10-15-*-97	BK506	6xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58508-0	S26-58508-5	
VV01*					S56-40609-0	S56-40609-5	

*Please combine seal kit of one size with seal kit of VV01 solenoid for complete seal kit.

NG	ISO-code	Subplate	Size
10	6264-06-07-*-97	SPP3M6B910	A, B = 3/4" BSPP x, y = 1/4" BSPP
25	6264-08-11-*-97	SPP6M8B910	A, B = 1" BSPP x, y = 1/4" BSPP
32	6264-10-15-*-97	SPP10M12B910	A, B = 1 1/2" BSPP x, y = 1/4" BSPP

D


L3
B1
B2
L1
L2
X1
X3
X2
X5
d4xt4
Ød2
Y3
Ød1
Y1
X
P
T
Ød3xt3
X7
15.0
(0.59)
Hand Knob
H1
H4
Key Lock
H3
Ød6
H2
H6
Ød5
L5
30.0
(1.18)
H5
Y
L6
Y: external
drain port
1/8" BSPP

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

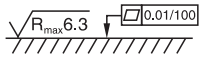
NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	6264-06-09-*-97	53.8 (2.12)	47.5 (1.87)	0.0 (0.00)	– –	22.1 (0.87)	– –	22.1 (0.87)	53.8 (2.12)	– –	26.9 (1.06)	– –	– –	– –
25	6264-08-13-*-97	66.7 (2.63)	55.6 (2.19)	23.8 (0.91)	– –	11.1 (0.44)	– –	33.4 (1.31)	70.0 (2.76)	– –	35.0 (1.38)	– –	– –	– –
32	6264-10-17-*-97	88.9 (3.50)	76.2 (3.00)	31.8 (1.25)	– –	12.7 (0.50)	– –	44.5 (1.75)	82.6 (3.25)	– –	41.3 (1.63)	– –	– –	– –

Tolerance at X and Y pin holes and screw holes ±0.1, at port holes ±0.2.

NG	ISO-code	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6
10	6264-06-09-*-97	80.0 (3.15)	26.9 (1.06)	206.0 (8.11)	27.0 (1.06)	88.0 (3.46)	136.5 (5.37)	25.0 (0.98)	12.0 (0.47)	52.5 (2.07)	118.5 (4.67)	163.8 (6.45)	– –	180.0 (7.09)	36.5 (1.44)
25	6264-08-13-*-97	100.0 (3.94)	35.0 (1.38)	210.0 (8.27)	45.5 (1.79)	91.5 (3.60)	140.0 (5.51)	25.0 (0.98)	12.0 (0.47)	37.9 (1.49)	124.5 (4.90)	163.8 (6.45)	– –	180.0 (7.09)	36.5 (1.44)
32	6264-10-17-*-97	120.0 (4.72)	41.3 (1.63)	215.5 (8.48)	52.0 (2.05)	97.0 (3.82)	145.5 (5.73)	25.0 (0.98)	12.0 (0.47)	45.0 (1.77)	153 (6.02)	163.8 (6.45)	– –	180.0 (7.09)	36.5 (1.44)

D

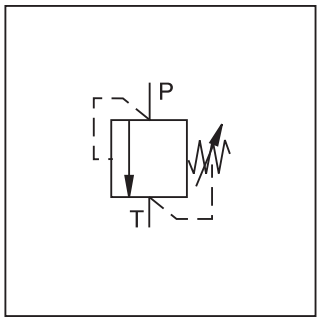
NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	6264-06-09-*-97	14.7 (0.58)	4.8 (0.19)	7.5 (0.30)	10.0 (0.39)	M12	20.0 (0.79)	13.5 (0.53)	20.0 (0.79)
25	6264-08-13-*-97	23.4 (0.92)	6.3 (0.25)	7.5 (0.30)	10.0 (0.39)	M16	27.0 (1.06)	17.5 (0.69)	25.0 (0.98)
32	6264-10-17-*-97	32.0 (1.26)	6.3 (0.25)	7.5 (0.30)	10.0 (0.39)	M18	28.0 (1.10)	20.0 (0.79)	30.0 (1.18)

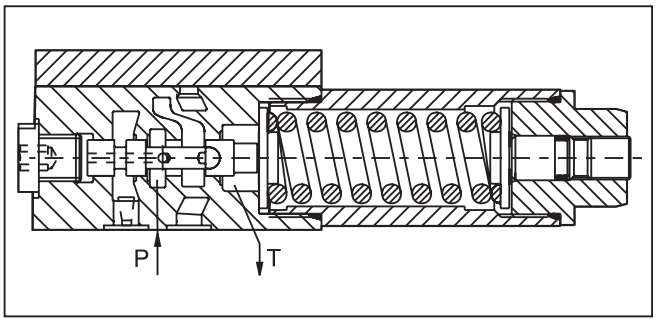
NG	ISO-code	Bolt Kit			Seal Kit Nitrile	 Fluorocarbon	Surface Finish
10	6264-06-09-*-97	BK494	4xM12 x 45-DIN 912 12.9	108 Nm (79.6 lb.-ft.) ±15%	S26-96395-0	S26-96395-5	
25	6264-08-13-*-97	BK366	4xM16 x 70-DIN 912 12.9	264 Nm (194.7 lb.-ft.) ±15%	S26-96589-0	S26-96589-5	
32	6264-10-17-*-97	BK507	4xM18 x 75-DIN 912 12.9	398 Nm (293.5 lb.-ft.) ±15%	S26-96392-0	S26-96392-5	

NG	ISO-code	Subplate	Size
10	6264-06-09-*-97	SPP3R6B910	P, T = 3/4" BSPP x = 1/4" BSPP
25	6264-08-13-*-97	SPP6R8B910	P, T = 1 1/4" BSPP x = 1/4" BSPP
32	6264-10-17-*-97	SPP10R12B910	P, T = 1 1/2" BSPP x, y = 1/4" BSPP

General Description

Series VS pressure relief valve is a direct operated spool valve for subplate mounting with internal drain to port T. The connection and function is according to ISO 6264.





Specifiactions

Size	NFPA D03 / NG6
Mounting Interface	ISO 6264
Mounting Position	Unrestricted
Ambient Temperature Range	-20°C to +70°C (-4°F to +158°F)
Working Pressure	Port P: 350 Bar (5075 PSI) Port T: depressurized
Pressure Range	25 Bar (363 PSI) 64 Bar (928 PSI) 160 Bar (2320 PSI) 210 Bar (3045 PSI) 350 Bar (5075 PSI)
Nominal Flow	25 LPM (6.6 GPM)
Pressure Fluid	Hydraulic oil as per DIN 51524 ... 525
Fluid Temperature **Recommended** **Permitted**	 +30°C to +50°C (+86°F to +122°F) -20°C to +70°C (-4°F to +158°F)
Viscosity **Recommended** **Permitted**	 30 to 50 cSt/mm²/s (139 to 232 SSU) 20 to 380 cSt / mm²/s (93 to 1761 SSU)
Filtration	ISO 4406 (1999), 18/16/13

Features

- Spool type valve.
- Manifold mounting.
- 5 pressure ranges.
- 2 adjustment modes.

Ordering Information

VS — Pressure Relief Valve

[ ] — Pressure Range

Code	Description
025	25 Bar (363 PSI)
064	64 Bar (928 PSI)
160	160 Bar (2320 PSI)
210	210 Bar (3045 PSI)
350	350 Bar (5075 PSI)

A — Adjustment Screw with Hexagon Socket

06 — Size

Code	Description
06	NFPA D03 / NG6

V — Seal Fluorcarbon

[ ] — Gage Port

Code	Description
G	BSPP 1/4"
M	M 12x1.5

[ ] — Lock

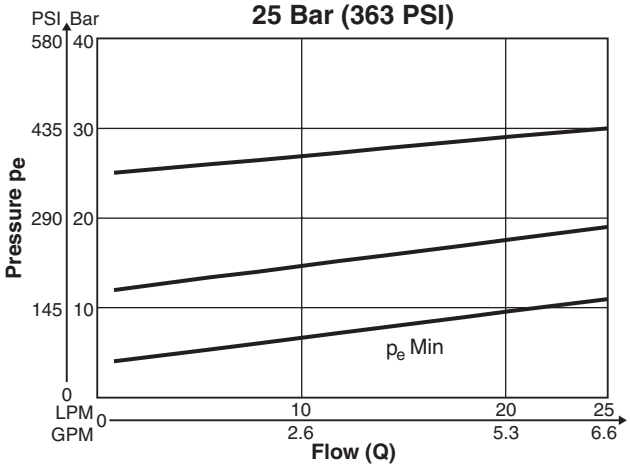
Code	Description
Omit	Normal
Z	Cylinder Lock

[ ] — Design Series

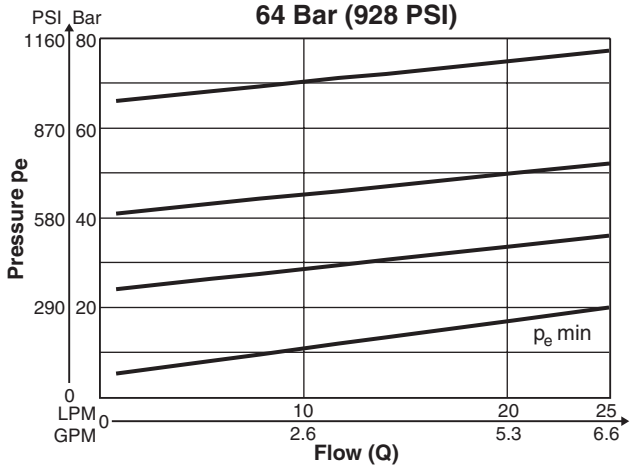
NOTE: Not required when ordering.

Weight: 1.3 kg (2.9 lbs.)

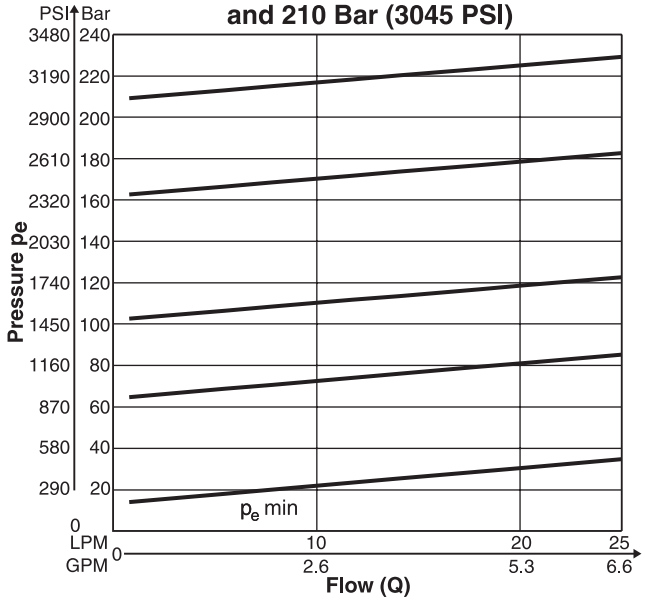
Maximum Setting Pressure
25 Bar (363 PSI)



Maximum Setting Pressure
64 Bar (928 PSI)

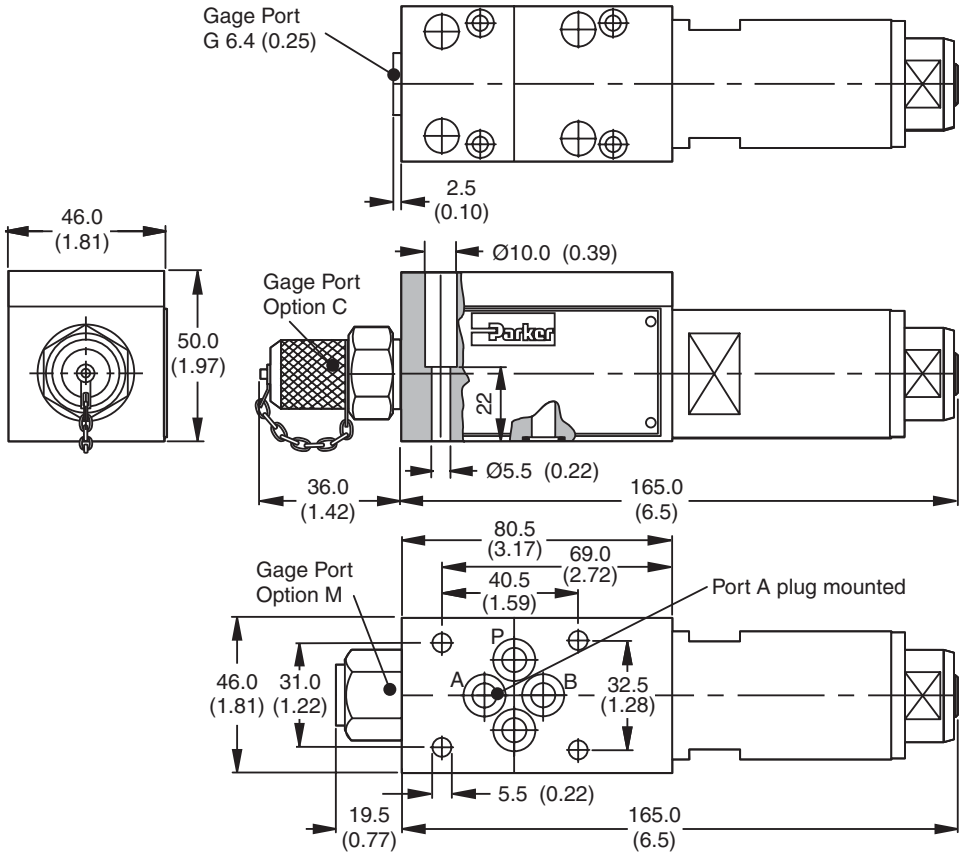


Maximum Setting Pressures
160 Bar (2320 PSI)
and 210 Bar (3045 PSI)



D

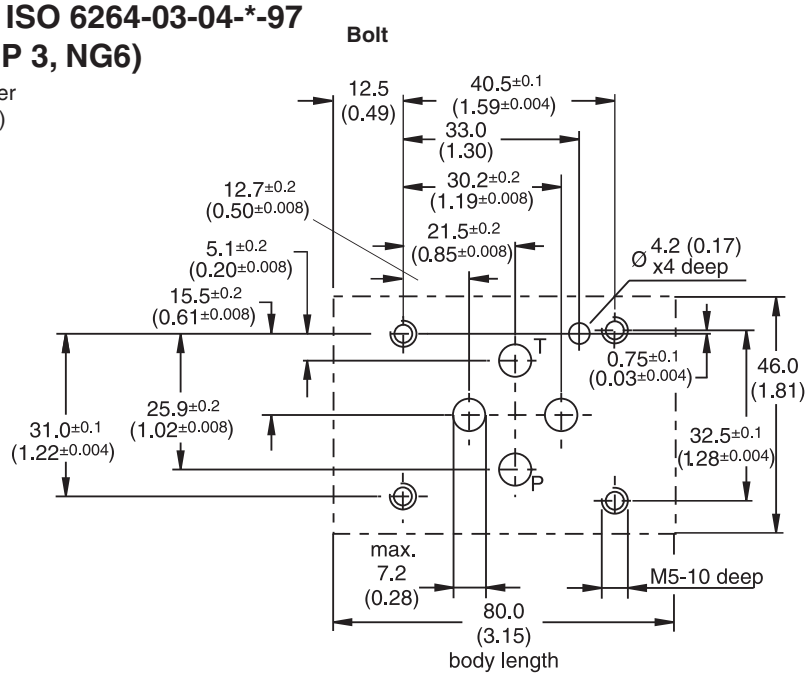
Inch equivalents for millimeter dimensions are shown in (**)



Surface Finish	Bolt kit DIN912 12.9		Seal Kit Fluorocarbon
R_{max}6.3 0.01/100	M5x30-4pcs	8.1Nm (6.0 lb.-ft.)	SK-VB/VM/VS V

Mounting Pattern ISO 6264-03-04-*-97 (NFPA D03, CETOP 3, NG6)

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



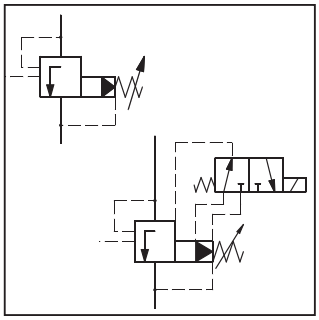
VS.indd, dd

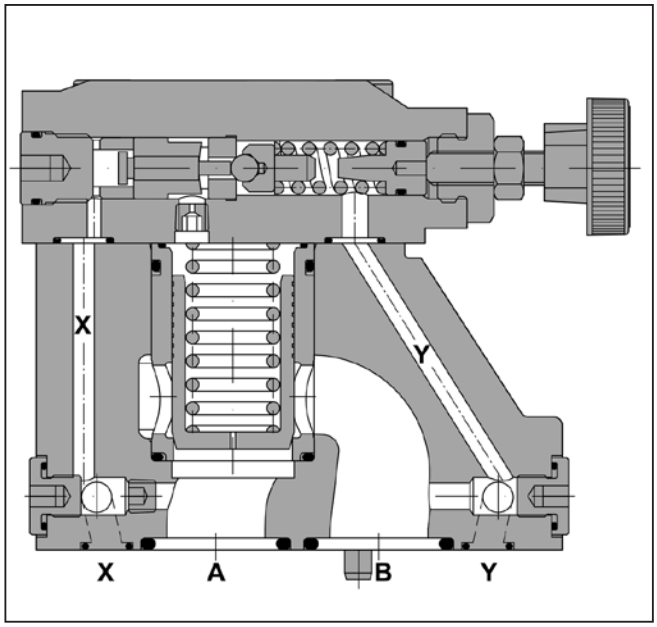
General Description

Series R4U subplate mounted unloading valves are used to unload a circuit at low pressure. The mechanically adjustable pressure signal to unload the main stage has to be applied to port X. The pressure differential between opening and closing is nominal 15% or 28% of the setting pressure:
15% for pressure ranges 350 Bar (5075 PSI) and
28% for 105 Bar (1523 PSI) and 210 Bar (3045 PSI).

Typical applications are to unload the pumps in an accumulator circuit and to unload the low pressure stage of a double pump.

In addition, Series R4U with vent function is vented by electrical operation.



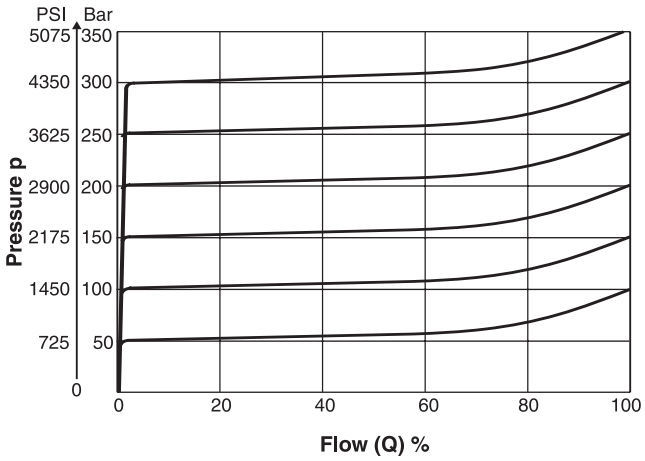


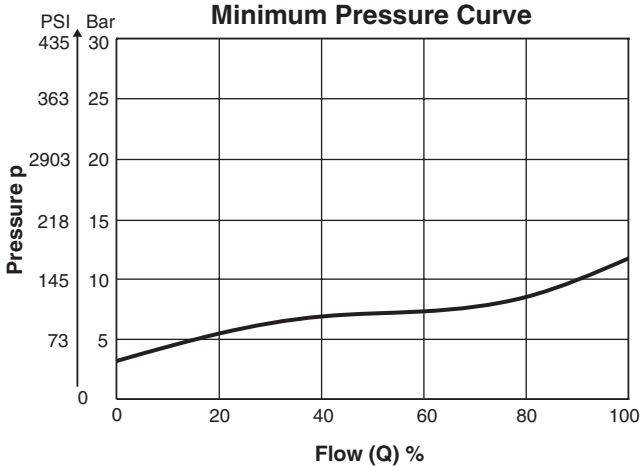
D

Features

- Pilot operated unloading valve.
- 3 pressure ranges.
- 2 switching types (series R4U with vent function).
- 3 adjustment modes:
  - – Hand knob
  - – Screw with locknut
  - – Key lock

Performance Curves





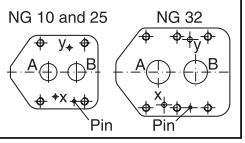
The performance curves are measured with external drain.
For internal drain the tank pressure has to be added to curve.

R	4	U		—	5	3						A		
Pressure Valve	Interface	Unloading Function	Valve Size		Maximum Pressure 350 Bar (5075 PSI)	Body Mounting	Pressure Range	Adjustment	Pilot Oil Drain Line	Vent Valve Function	Solenoid Voltage	Design Series	Seal	Options Check with Factory

Code	Description
03	NG10
06	NG25
10	NG32

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 PSI)

Code	Description
1	Nitrile
5	Fluorocarbon

Code	Interface	
4	Subplate Mounting ISO 5781	NG 10 and 25 / NG 32 

Code	Description
1	Hand Knob 32mm dia. Std.
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
1	Internal
2	External from Subplate

Code	Description
Omit	Standard without Vent Option
G0R	12 VDC
G0Q	24 VDC
GAR	98 VDC
GAG	205 VDC
W30	110V 50Hz/ 120V 60Hz
W31	230V 50Hz/ 240V 60Hz

Code	Description
Omit	Standard without Vent Option
09	Solenoid not active unpress. circulation
11	Solenoid activivated unpress. circulation

Weight:

R4U03:	2.7 kg	(6.0 lbs.)
R4U06:	4.5 kg	(9.9 lbs.)
R4U10:	6.0 kg	(13.2 lbs.)

Weight: with Vent

R4U03:	4.4 kg	(9.7 lbs.)
R4U06:	6.2 kg	(13.7 lbs.)
R4U10:	7.7 kg	(17.0 lbs.)

D

General			
Size	**NG10**	**NG25**	**NG32**
Interface	Subplate mounting acc. ISO 5781		
Mounting Position	As desired, horizontal mounting preferred		
Ambient Temperature	-20°C to +80°C (-4°F to +176°F)		
Hydraulic			
Operating Pressure	Ports A and X up to 350 Bar (5075 PSI), Ports B and Y depressurized		
Pressure Range	105, 210, 350 Bar (1523, 3045, 5075 PSI)		
Pressure Differential	15% for pressure range 350 Bar (2538 PSI) 28% for pressure ranges 105 Bar (1523 PSI) and 250 Bar (3625 PSI)		
Nominal Flow	150 LPM (39.7 GPM)	350 LPM (92.6 GPM)	650 LPM (172.0 GPM)
Pressure Fluid	Hydraulic oil according to DIN 51524 ... 525		
Viscosity Recommended **Maximum**	30 to 50 cSt / mm²/s (139 to 232 SSU) 20 to 380 cSt / mm²/s (93 to 1761 SSU)		
Pressure Fluid Temperature **Recommended** **Maximum**	 +30°C to +50°C (+86°F to +122°F) -20°C to +70°C (-4°F to +158°F)		
Filtration	ISO 4406 (1999), 18/16/13		

D

With Vent Function

General						
Size	**NG10**		**NG25**		**NG32**	
Interface	Subplate mounting acc. ISO 5781					
Mounting Position	As desired, horizontal mounting preferred					
Ambient Temperature	-20°C to +80°C (-4°F to +176°F)					
Hydraulic						
Operating Pressure	Ports A and X up to 350 Bar (5075 PSI), Ports B and Y depressurized					
Pressure Range	105, 210, 350 Bar (1523, 3045, 5075 PSI)					
Pressure Differential	15% for pressure range 350 Bar (5075 PSI) 28% for pressure ranges 105 Bar (1523 PSI) and 250 Bar (3625 PSI)					
Nominal Flow	150 LPM (39.7 GPM)		350 LPM (92.6 GPM)		650 LPM (172.0 GPM)	
Pressure Fluid	Hydraulic oil according to DIN 51524 ... 525					
Viscosity Recommended **Maximum**	30 to 50 cSt / mm²/s (139 to 232 SSU) 20 to 380 cSt / mm²/s (93 to 1761 SSU)					
Pressure Fluid Temperature **Recommended** **Maximum**	 +30°C to +50°C (+86°F to +122°F) -20°C to +70°C (-4°F to +158°F)					
Filtration	ISO 4406 (1999), 18/16/13					
Electrical (solenoid)						
Duty Cycle	100% ED CAUTION: Coil temperature up to 180°C (356°F) possible					
Max. Switching Frequency	16,000 (DC), 7200 (AC)					
Protection Class	IP65 in accordance with EN 60529 (plugged and mounted)					
Code	**G0R**	**G0Q**	**GAR**	**GAG**	**W30**	**W31**
Supply Voltage	12V	24V	98V	205V	110 at 50Hz 120 at 60Hz	230 at 50Hz 240 at 60Hz
Supply Tolerance	+5...-10	+5...-10	+5...-10	+5...-10	+5...-10	+5...-10
Power Consumption Hold	31W	31W	31W	31W	78W	78W
In Rush	31W	31W	31W	31W	264W	264W
Solenoid Connection	Connector as per EN 175301-803					
Wiring Minimum	3 x 1.5 mm² recommended					
Wiring Length Maximum	50 m (164 ft.) recommended					

R4U.indd, dd

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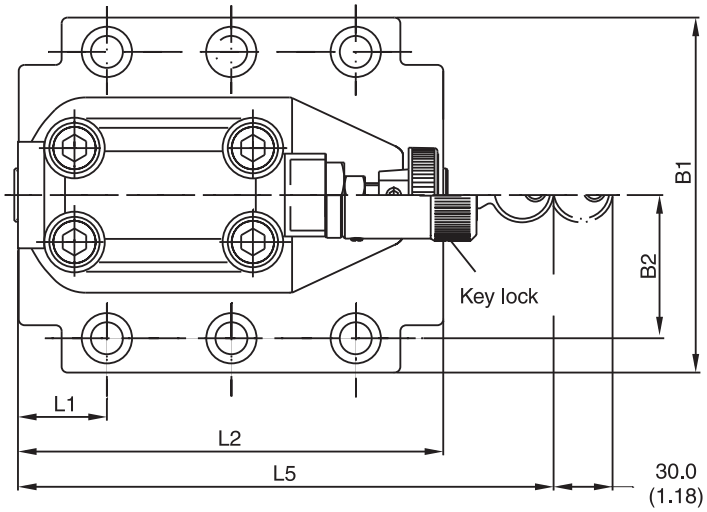
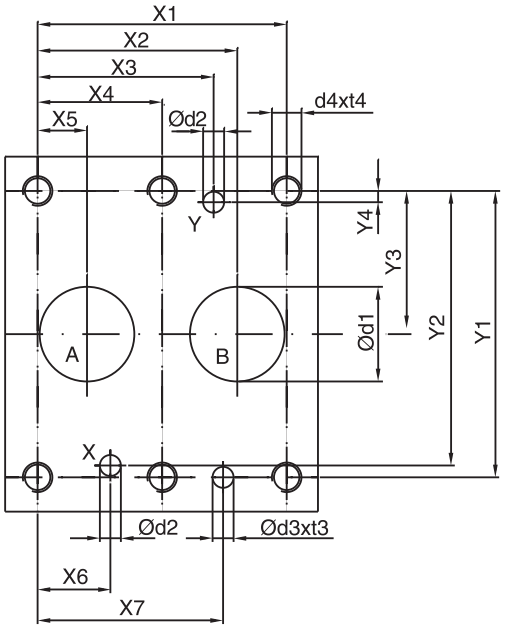
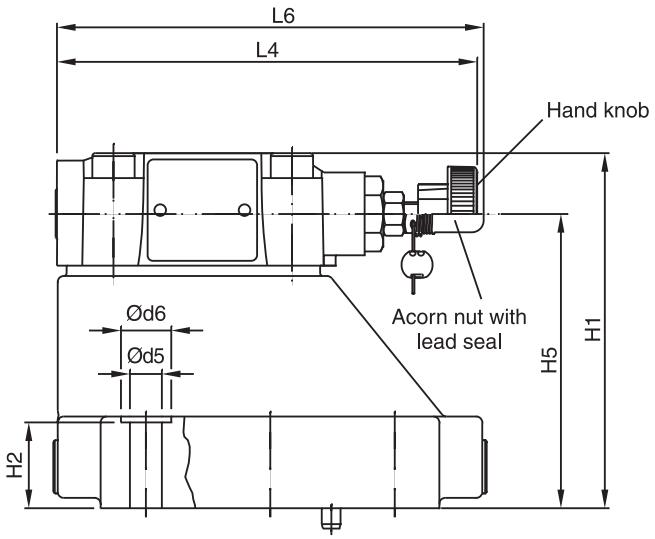
Hydraulic Valve Division
Elyria, Ohio, USA

D


B1
B2
Key lock
L1
L2
L5
30.0
(1.18)


X1
X2
X3
X4
X5
Ød2
d4xt4
Y
Y4
Y3
Y2
Y1
A
B
Ød1
X
Ød2
Ød3xt3
X6
X7


L6
L4
Hand knob
Acorn nut with
lead seal
Ød6
Ød5
H5
H1
H2

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

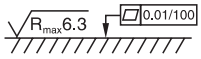
NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	5781-06-07-0-00	42.9 (1.69)	35.8 (1.41)	21.5 0.85)	–	7.2 (0.28)	21.5 (0.85)	31.8 (1.25)	66.7 (2.63)	58.8 (2.31)	33.4 (1.31)	7.9 (0.31)	–	–
25	5781-08-10-0-00	60.3 (2.37)	49.2 (1.94)	39.7 (1.56)	–	11.1 (0.44)	20.6 (0.81)	44.5 (1.75)	79.4 (3.13)	73.0 (2.87)	39.7 (1.56)	6.4 (0.25)	–	–
32	5781-10-13-0-00	84.2 (3.31)	67.5 (2.66)	59.5 (2.34)	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)	3.8 (0.15)	–	–

Tolerance at X and Y pin holes and screw holes ±0.1, at port holes ±0.2.

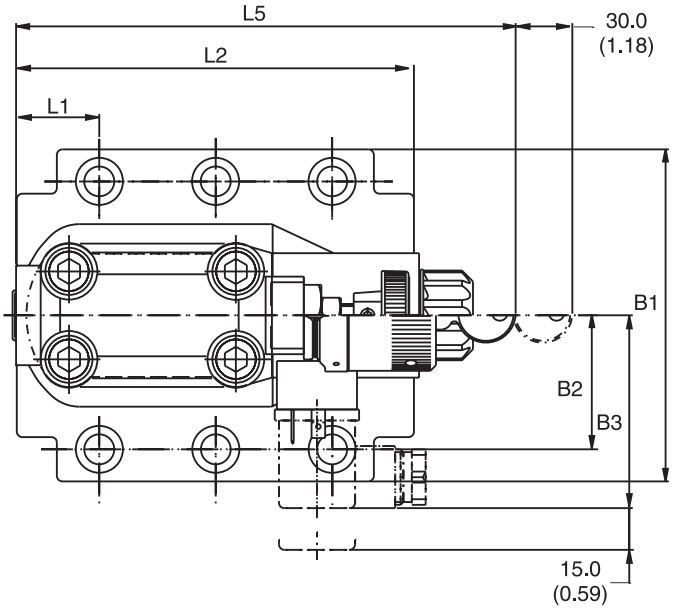
NG	ISO-code	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6
10	5781-06-07-0-00	87.3 (3.44)	33.4 (1.31)	83.0 (3.27)	21.0 (0.83)	62.5 (2.46)	–	–	–	29.0 (1.14)	94.8 (3.73)	–	141.0 (5.55)	181.0 (7.13)	–
25	5781-08-10-0-00	105.0 (4.13)	39.7 (1.56)	109.5 (4.31)	29.0 (1.14)	89.0 (3.50)	–	–	–	34.7 (1.37)	126.8 (4.99)	–	141.0 (5.55)	181.0 (7.13)	–
32	5781-10-13-0-00	120.0 (4.72)	48.4 (1.91)	120.0 (4.72)	29.0 (1.14)	99.5 (3.92)	–	–	–	30.6 (1.20)	144.3 (5.68)	–	141.0 (5.55)	181.0 (7.13)	–

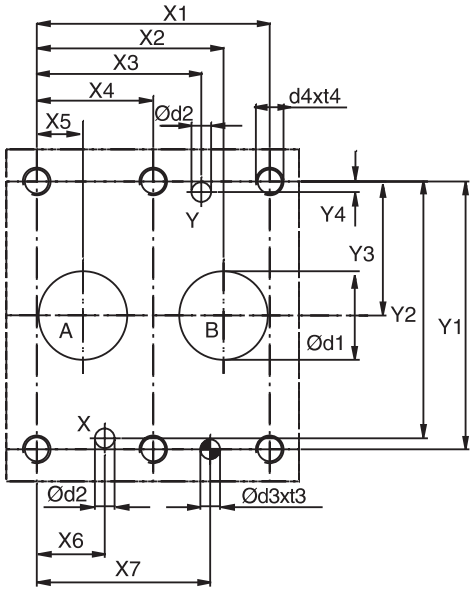
D

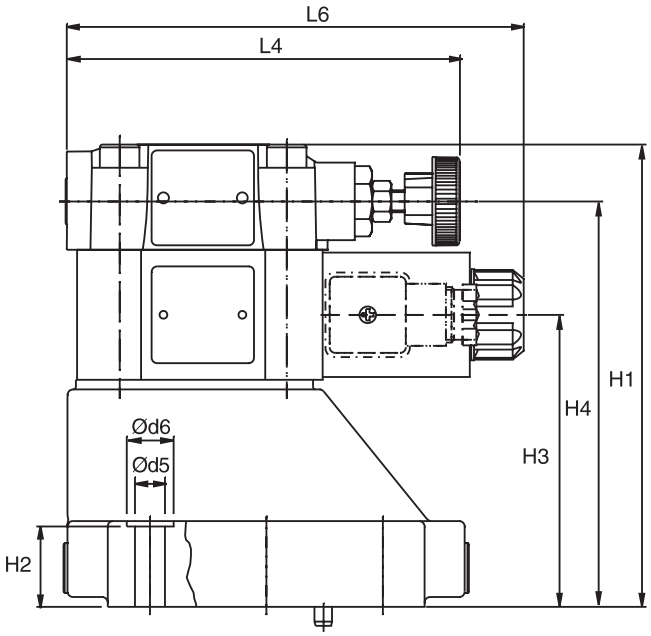
NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	5781-06-07-0-00	15.0 (0.59)	7.0 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	16.0 (0.63)	10.8 (0.43)	17.0 (0.67)
25	5781-08-10-0-00	23.4 (0.92)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	18.0 (0.71)	10.8 (0.43)	17.0 (0.67)
32	5781-10-13-0-00	32.0 (1.26)	7.1 (0.28)	7.1 (0.28)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

NG	ISO-code	Bolt Kit			Seal Kit Nitrile	Fluorocarbon	Surface Finish
10	5781-06-07-0-00	BK505	4xM10 x 35-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58507-0	S26-58507-5	
25	5781-08-10-0-00	BK485	4xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58475-0	S26-58475-5	
32	5781-10-13-0-00	BK506	6xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58508-0	S26-58508-5	

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


L5
30.0
(1.18)
L2
L1
B1
B2
B3
15.0
(0.59)


X1
X2
X3
X4
X5
Ød2
d4xt4
Y
Y4
Y3
Y2
Y1
A
B
Ød1
X
Ød2
Ød3xt3
X6
X7


L6
L4
H1
H4
H3
Ød6
Ød5
H2

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

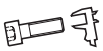
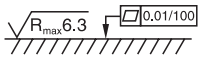
NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	5781-06-07-0-00	42.9 (1.69)	35.8 (1.41)	21.5 (0.85)	–	7.2 (0.28)	21.5 (0.85)	31.8 (1.25)	66.7 (2.63)	58.8 (2.31)	33.4 (1.31)	7.9 (0.31)	–	–
25	5781-08-10-0-00	60.3 (2.37)	49.2 (1.94)	39.7 (1.56)	–	11.1 (0.44)	20.6 (0.81)	44.5 (1.75)	79.4 (3.13)	73.0 (2.87)	39.7 (1.56)	6.4 (0.25)	–	–
32	5781-10-13-0-00	84.2 (3.31)	67.5 (2.66)	59.5 (2.34)	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)	3.8 (0.15)	–	–

Tolerance at X and Y pin holes and screw holes ±0.1, at port holes ±0.2.

NG	ISO-code	B1	B2	B3	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)	70.0 (2.76)	130.0 (5.12)	21.0 (0.83)	68.5 (2.70)	109.5 (4.13)	–	–	29.0 (1.14)	94.8 (3.73)	–	141.0 (5.55)	181.0 (7.13)	165.6 (6.52)
25	5781-08-10-0-00	105.0 (4.13)	39.7 (1.56)	70.0 (2.76)	156.5 (6.16)	29.0 (1.14)	95.0 (3.74)	136.0 (5.35)	–	–	34.7 (1.37)	126.8 (4.99)	–	141.0 (5.55)	181.0 (7.13)	165.6 (6.52)
32	5781-10-13-0-00	120.0 (4.72)	48.4 (1.91)	70.0 (2.76)	167.0 (6.57)	29.0 (1.14)	105.5 (4.15)	146.5 (5.77)	–	–	30.6 (1.20)	144.3 (5.68)	–	141.0 (5.55)	181.0 (7.13)	165.6 (6.52)

D

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)

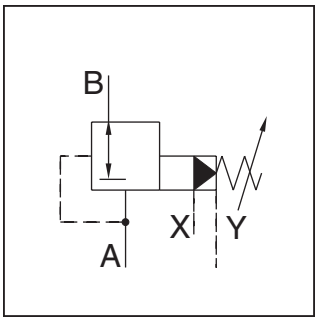
NG	ISO-code	Bolt Kit			Seal Kit Nitrile	Fluorocarbon	Surface Finish
10	5781-06-07-0-00	BK505	4xM10 x 35-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58507-0*	S26-58507-5*	
25	5781-08-10-0-00	BK485	4xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58475-0*	S26-58475-5*	
32	5781-10-13-0-00	BK506	6xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58508-0*	S26-58508-5*	
VV01					S56-40609-0	S56-40609-5	

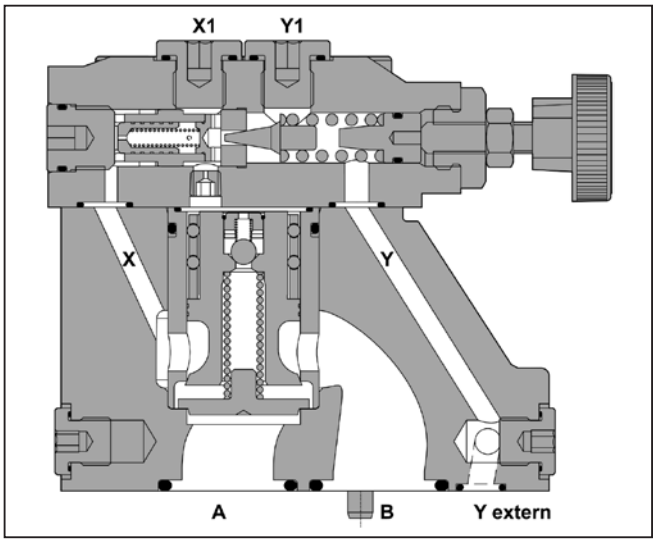
*Please combine seal kit of one size with seal kit of VV01 DC / AC solenoid for complete seal kit.

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

General Description

Series R4R pressure reducing valves are used to control the pressure in the secondary part of the hydraulic system. Independent of the primary pressure the secondary pressure is reduced to the pressure setting. In order to avoid undesired motion the valves are normally closed.





Specifications

Size	NG10, NG25, NG32
Interface	Subplate mounting acc. ISO 5781
Mounting Pos.	As desired, horizontal mounting preferred
Ambient Temp.	-20°C to +80°C (-4°F to +176°F)
Max. Oper. Pressure	Ports A, B and X: 350 Bar (5075 PSI), Port Y: depressurized
Pressure Range	up to 105, 210, 350 Bar (1523, 3045, 5075 PSI)
Nominal Flow	Size NG10: 150 LPM (39.7 GPM) Size NG25: 350 LPM (92.6 GPM) Size NG32: 500 LPM (132.3 GPM)
Pressure Fluid	Hydraulic oil according to DIN 51524... 51525
Pressure Fluid Temperature	Recommended: +30C to +50°C (86°F to +122°F) Maximum: -20°C to +70°C (-4°F to +158°F)
Viscosity	Recommended: 30 to 50 cSt (mm^2/s) Maximum: 20 to 380 cSt (mm^2/s)
Filtration	ISO 4406 (1999), 18/16/13

Features

- Subplate mounting acc. to ISO 5781.
- Normally closed to avoid unintended motion.
- 3 pressure ranges.
- Three adjustment modes:
  – Hand knob
  – Acorn nut with lead seal
  – Key lock

Ordering Information

R	4	R	☐	—	5	7	☐	☐	☐	B	☐	☐
Pressure Reducing Valve	Interface	Reducing Function	Size		Maximum Pressure 350 Bar (5075 PSI)	Body Mounting	Pressure Range	Adjustment	Pilot Oil	Design Series	Seal	Options Check with Factory

Code	Description
03	NG10
06	NG25
10	NG32

Mounting: Subplate mounting

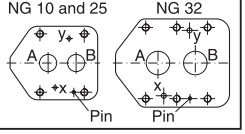
Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 PSI)

Code	Description
1	Hand Knob 32mm dia. Std.
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
1	Nitrile
5	Fluorocarbon

Code	Description	
	Pilot	Drain
1	Internal	External from Y
2	Internal	External from Y1

Code	Interface
4	Subplate Mounting ISO 5781



Weight:

R4R03:	4.8 kg	(10.6 lbs.)
R4R06:	7.2 kg	(15.9 lbs.)
R4R10:	13.5 kg	(29.8 lbs.)

R4R.indd, dd

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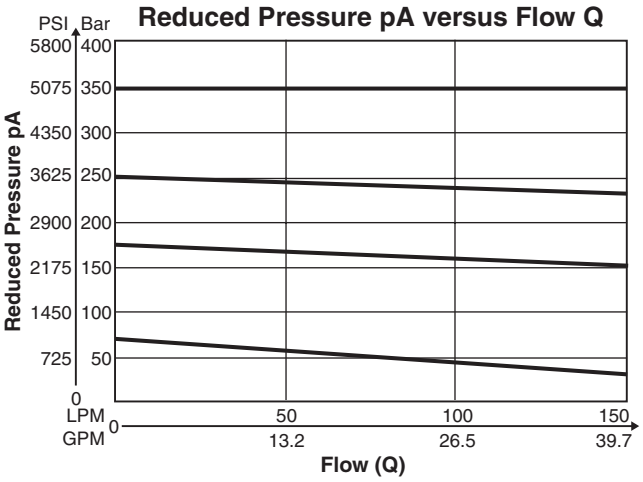
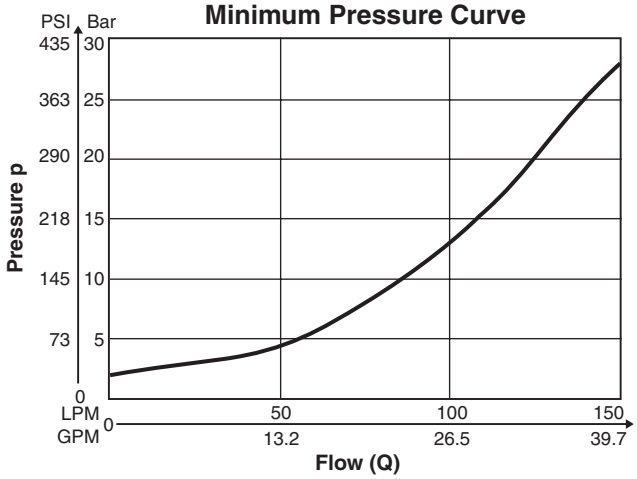
Hydraulic Valve Division
Elyria, Ohio, USA

R4R03 [1)]





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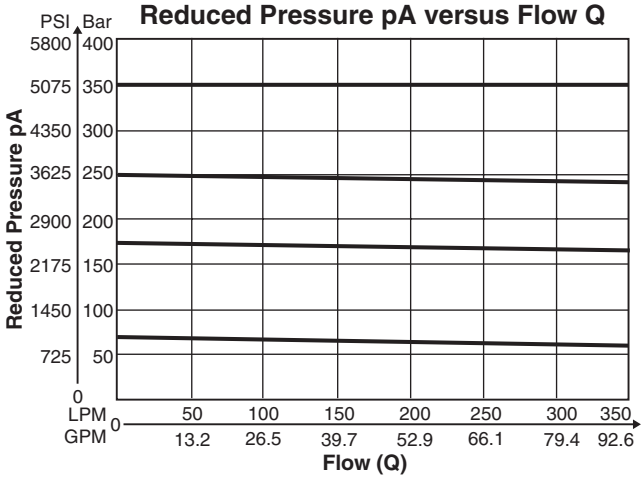
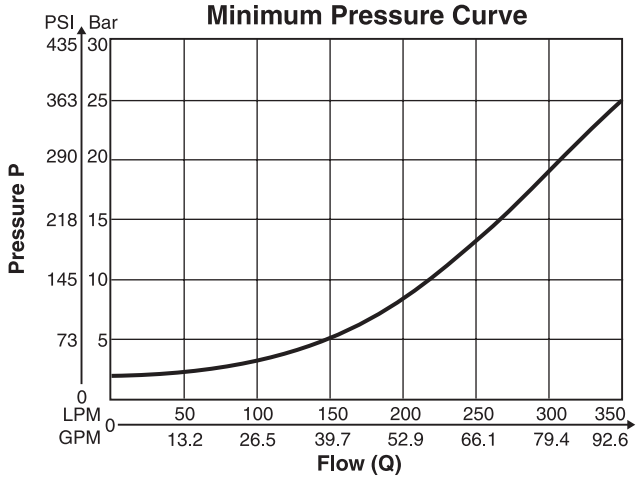
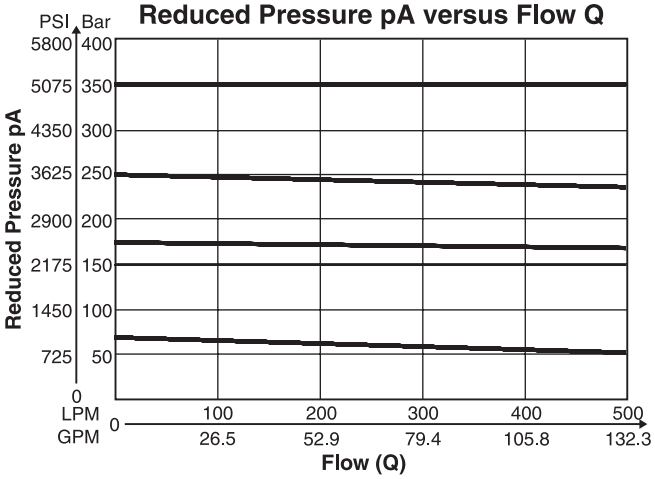
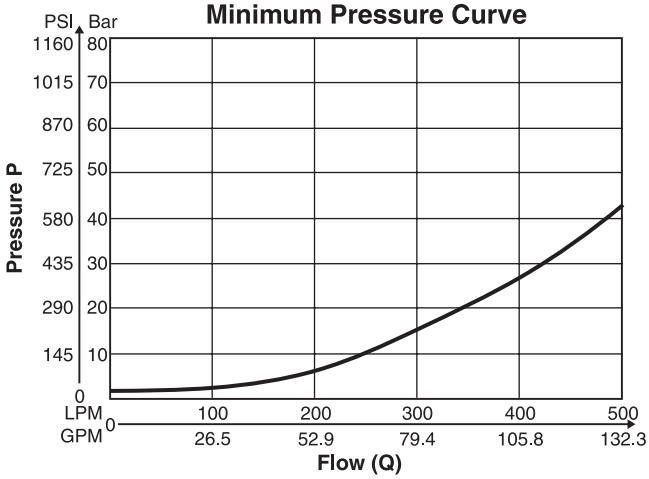
R4R06 [1)]





R4R10 [1)]





[1)] Measured at 350 Bar (5075 PSI) primary pressure pB.

R4R.indd, dd

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Hydraulic Valve Division
Elyria, Ohio, USA

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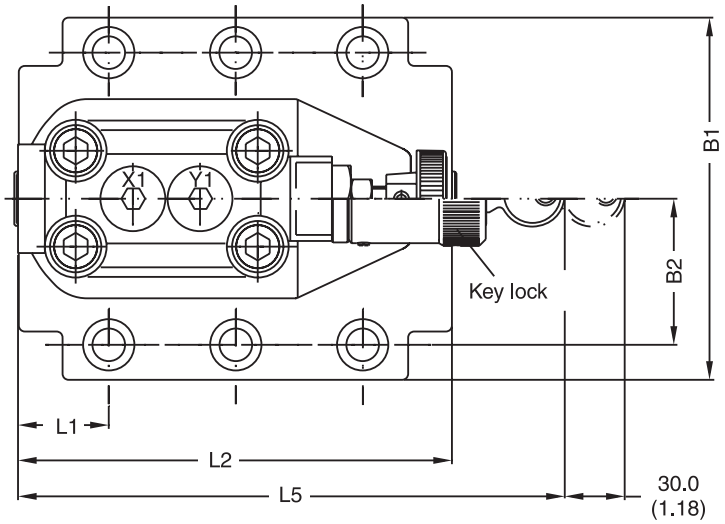
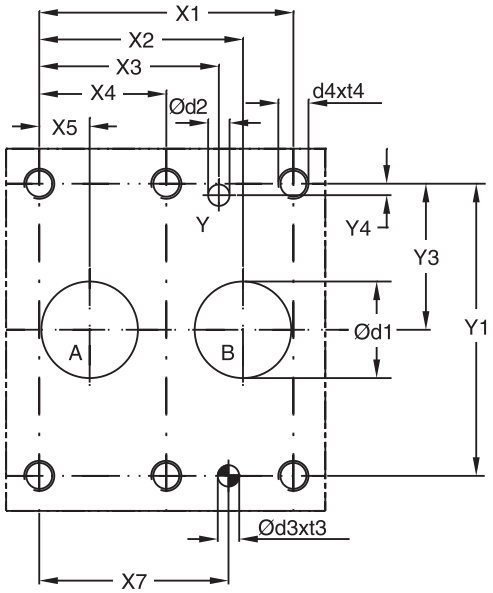
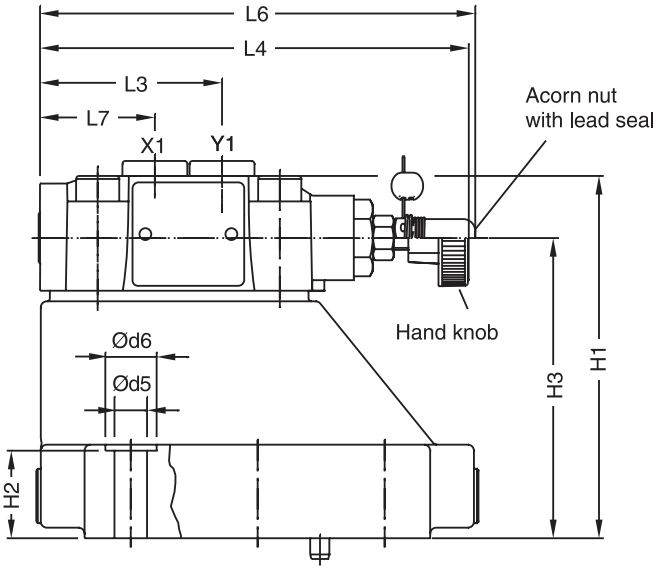

X1
Y1
B1
B2
Key lock
L1
L2
L5
30.0
(1.18)


X1
X2
X3
X4
X5
Ød2
d4xt4
Y
Y4
Y3
Y1
Ød1
A
B
Ød3xt3
X7


L6
L4
L3
L7
X1
Y1
Acorn nut
with lead seal
Hand knob
Ød6
Ød5
H2
H3
H1

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

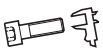
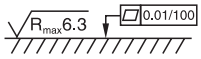
NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	5781-06-07-0-00	42.9	35.8	21.5	–	7.2	–	31.8	66.7	–	33.4	7.9	–	–
		(1.69)	(1.41)	(0.85)	–	(0.28)	–	(1.25)	(2.63)	–	(1.31)	(0.31)	–	–
25	5781-08-10-0-00	60.3	49.2	39.7	–	11.1	–	44.5	79.4	–	39.7	6.4	–	–
		(2.37)	(1.94)	(1.56)	–	(0.44)	–	(1.75)	(3.13)	–	(1.56)	(0.25)	–	–
32	5781-10-13-0-00	84.2	67.5	59.5	42.1	16.7	–	62.7	96.8	–	48.4	3.8	–	–
		(3.31)	(2.66)	(2.34)	(1.66)	(0.66)	–	(2.47)	(3.81)	–	(1.92)	(0.15)	–	–

Tolerance for all dimensions ±0.2

NG	ISO-code	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L7
10	5781-06-07-0-00	87.3	33.4	83.0	21.0	62.5	–	–	–	29.0	94.8	60.8	141.0	181.0	38.6
		(3.44)	(1.31)	(3.27)	(0.83)	(2.46)	–	–	–	(1.14)	(3.73)	(2.39)	(5.55)	(7.13)	(1.52)
25	5781-08-10-0-00	105.0	39.7	109.5	29.0	89.0	–	–	–	34.7	126.8	60.8	141.0	181.0	38.6
		(4.13)	(1.56)	(4.31)	(1.14)	(3.50)	–	–	–	(1.37)	(4.99)	(2.39)	(5.55)	(7.13)	(1.52)
32	5781-10-13-0-00	120.0	48.4	120.0	29.0	99.5	–	–	–	30.6	144.3	60.8	141.0	181.0	38.6
		(4.72)	(1.91)	(4.72)	(1.14)	(3.92)	–	–	–	(1.20)	(5.68)	(2.39)	(5.55)	(7.13)	(1.52)

D

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

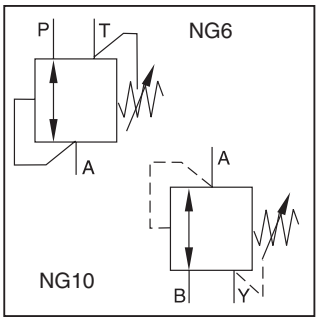
NG	ISO-code	Bolt Kit			Seal Kit Nitrile	Fluorocarbon	Surface Finish
10	5781-06-07-0-00	BK505	4xM10 x 35-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58507-0	S26-58507-5	
25	5781-08-10-0-00	BK485	4xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58475-0	S26-58475-5	
32	5781-10-13-0-00	BK506	6xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58508-0	S26-58508-5	

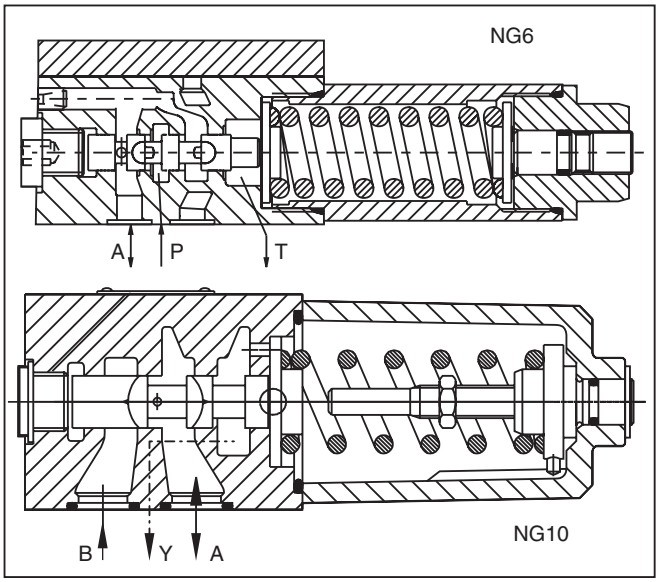
NG	ISO-code	Subplate	Size
10	5781-06-07-0-00	SPP3M6B910	A, B = 3/4" BSPP x, y = 1/4" BSPP
25	5781-08-10-0-00	SPP6M8B910	A, B = 1" BSPP x, y = 1/4" BSPP
32	5781-10-13-0-00	SPP10M12B910	A, B = 1 1/2" BSPP x, y = 1/4" BSPP

General Description

Series VM direct operated, pressure reducing valve with manual adjustment. Series VM is a direct-controlled, spring loaded 3-way pressure reducing valve, that is open in neutral position. The valve closes the connection from P to A (NG6) or B to A (NG10) when the pre-set pressure is exceeded.

If the pressure increases due to an external influence in connection A, the spool moves and opens the connection from A to T (NG6) or A to Y (NG10) until the pre-set pressure is reached.





D

Features

- Spool type valve.
- Manifold mounting acc. to ISO 5871.
- 5 pressure ranges at NG6.
- 3 pressure ranges at NG10.
- 2 adjustment modes.

Ordering Information

V	M	☐	A	☐	V	☐	☐	⌜⌝
	Pressure Reducing Valve	Maximum Pressure Setting	Adjustment Screw with Hexagon Socket	Size	Seal Fluorocarbon	Gage Port	Lock	Design Series NOTE: Not required when ordering.

Code	Description	
025[1]	25 Bar	(363 PSI)
064	64 Bar	(928 PSI)
125[2]	125 Bar	(1813 PSI)
160[1]	160 Bar	(2320 PSI)
210	210 Bar	(3045 PSI)
350[1]	350 Bar	(5075 PSI)

[1] NG6 only
[2] NG10 only

Code	Description
06	NG6
10	NG10

Code	Description
G[1]	1/4" BSPP
M	M18x1.5 [2] M12x1.5 [1]

[1] NG6 only
[2] NG10 only

Code	Description
Omit	No Lock
Z	Cylinder Lock

Weight:

VM*A06	1.3 kg (2.9 lbs.)
VM*A10	3.7 kg (8.2 lbs.)

General		
Size	**NG6**	**NG10**
Interface	Subplate mounting acc. ISO 5781	
Mounting Position	Unrestricted	
Ambient Temperature	-20°C to +70° (-4°F to +158°F)	
Hydraulic		
Working Pressure	Ports P and A 350 Bar (5075 PSI) Port T depressurized	Ports A and B 210 Bar (3045 PSI) Port Y depressurized
Pressure Range	25, 64, 160, 210, 350 Bar (363, 928, 2320, 3045, 5075 PSI)	64, 125, 210 Bar (928, 1813, 3045 PSI)
Nominal Flow	25 LPM (6.6 GPM)	60 LPM (15.9 GPM)
Pressure Fluid	Hydraulic oil according to DIN 51524 ... 525	
Viscosity Recommended **Maximum**	30 to 50 cSt / mm²/s (139 to 232 SSU) 20 to 380 cSt / mm²/s (93 to 1761 SSU)	
Pressure Fluid Temperature **Recommended** **Permitted**	 +30°C to +50°C (+86°F to +122°F) -20°C to +70° (-4°F to +158°F)	
Filtration	ISO 4406 (1999), 18/16/13	

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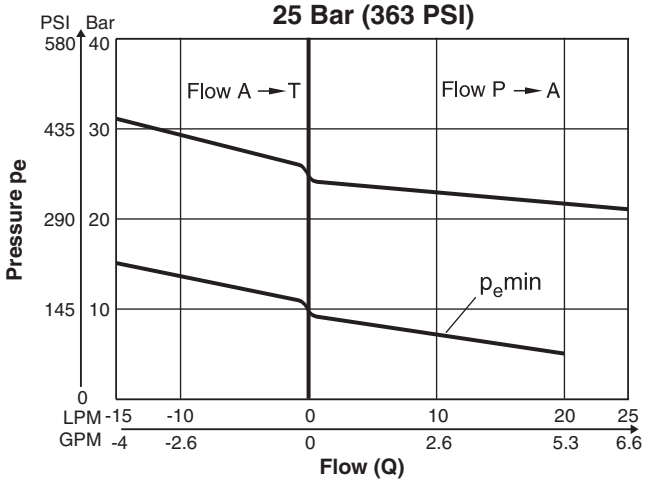
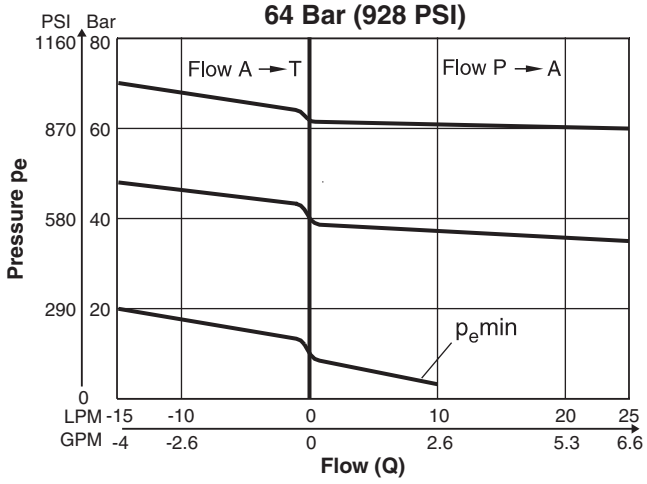
VM*06

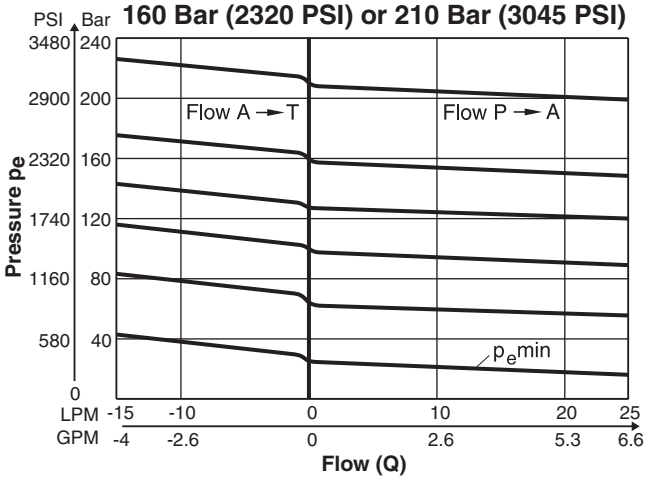
Maximum Pressure Setting
25 Bar (363 PSI)



Maximum Pressure Setting
64 Bar (928 PSI)

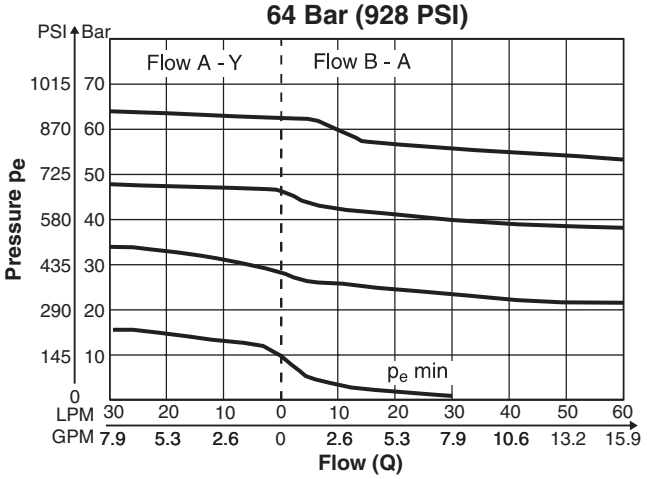


Maximum Pressure Setting
160 Bar (2320 PSI) or 210 Bar (3045 PSI)

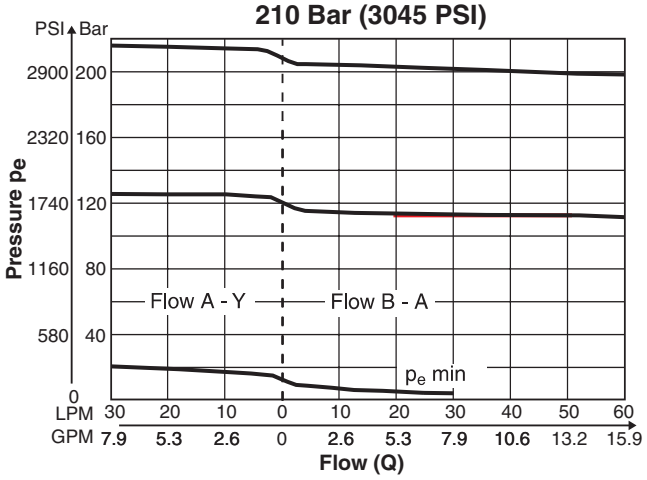


VM*10

Maximum Pressure Setting
64 Bar (928 PSI)



Maximum Pressure Setting
210 Bar (3045 PSI)

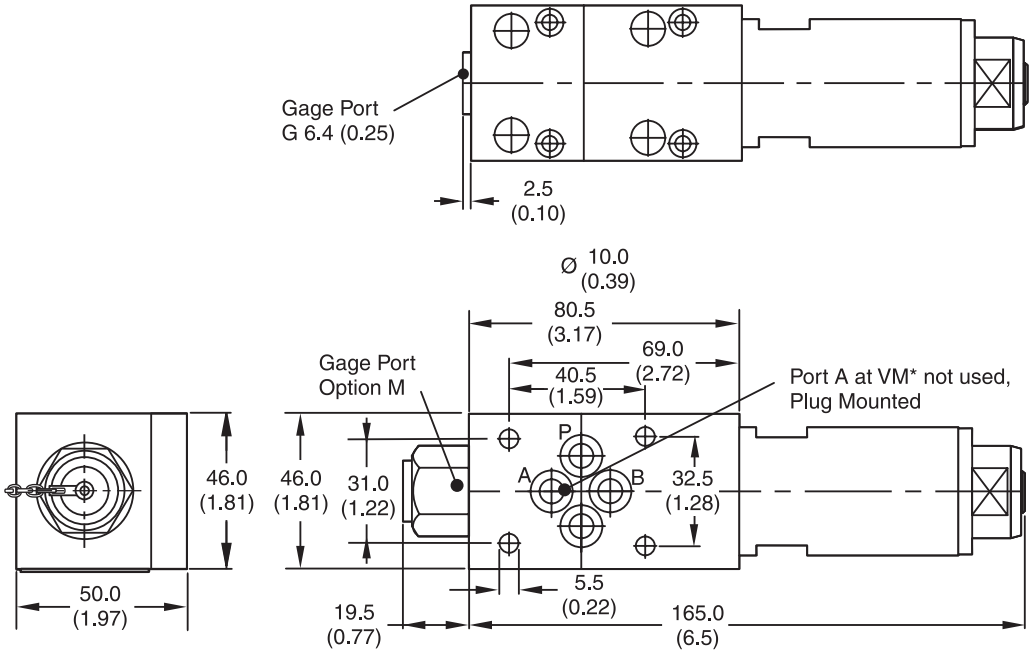


VM.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

VM*06

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



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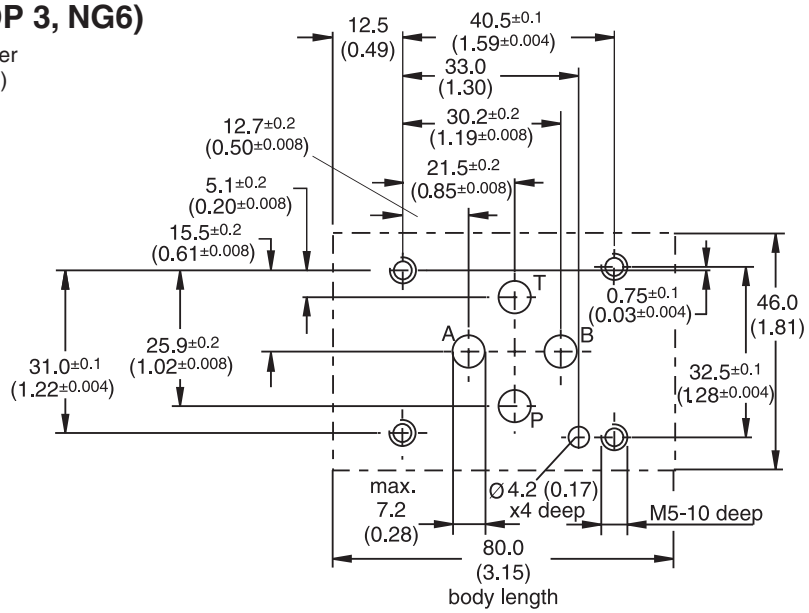
Surface Finish	Bolt Kit DIN912 12.9		Seal Kit Fluorocarbon
R_{max}6.3 ▱ 0.01/100	BK375 4x M5x30	8.1 Nm (6.0 lb.-ft.)	SK-VB/VM/VS-V

Mounting Pattern ISO 5871-03-04-0-00 (NFPA D03, CETOP 3, NG6)

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

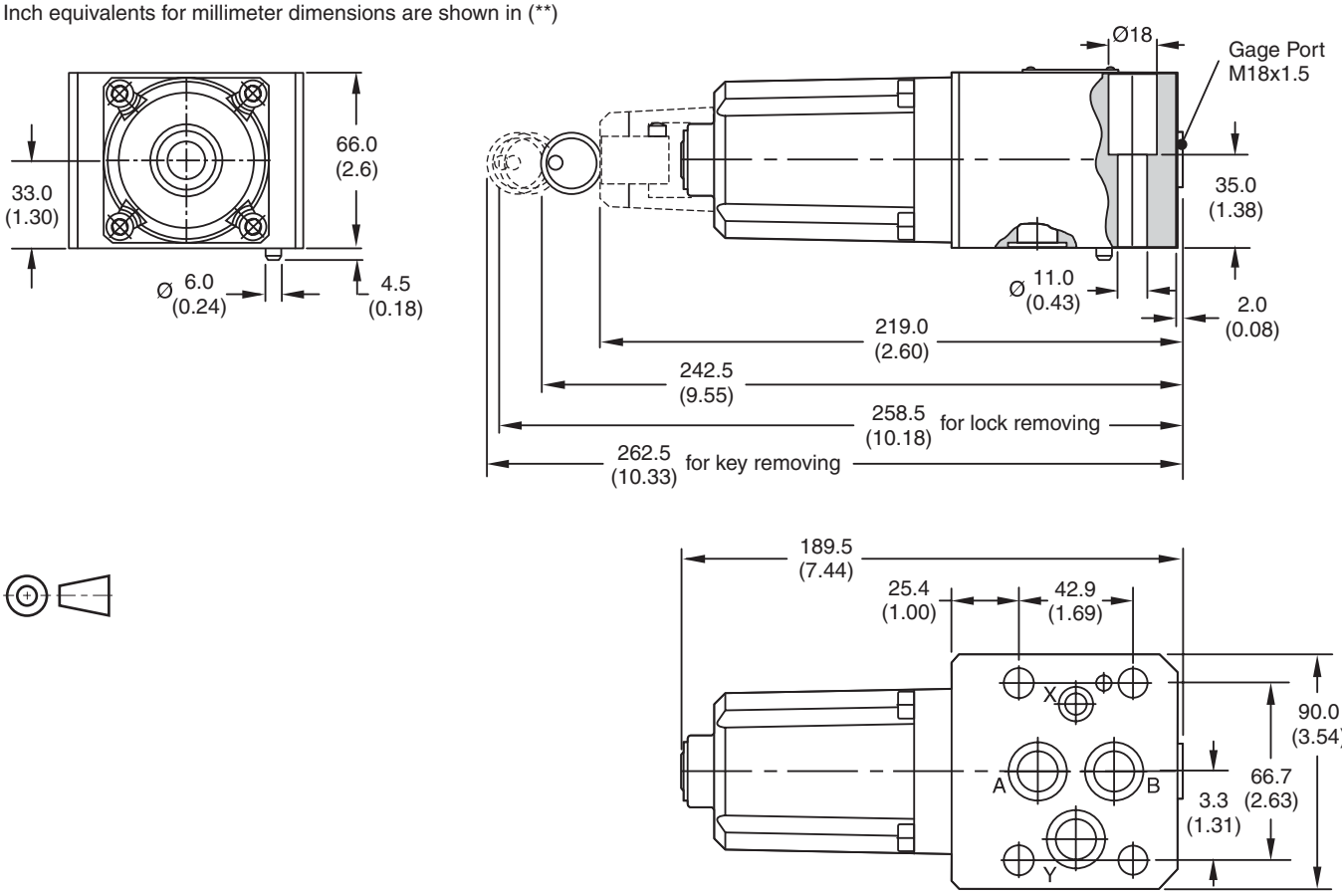


VM.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

VM*10

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



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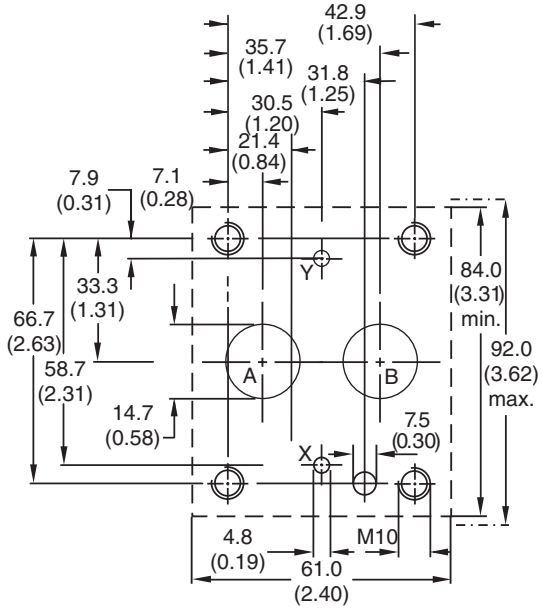
Surface Finish	Bolt Kit DIN912 12.9		Seal Kit Fluorocarbon
R_{max}6.3 0.01/100	BK389 4x M10x50	65 Nm (47.9 lb.-ft.)	SK-VB/VM-A10V

Mounting Pattern ISO 5871-06-07-0-00

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

Subplate	Size
SPP3M6B910	A, B = 3/4" BSPP x, y = 1/4" BSPP

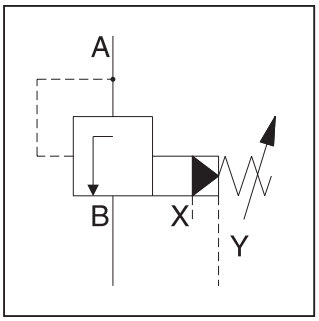


VM.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

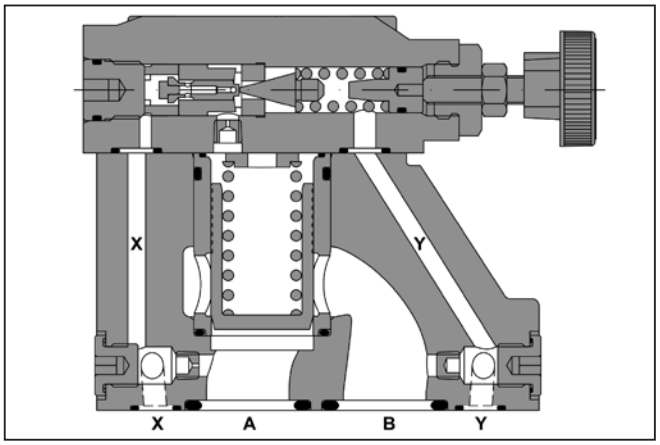
General Description

Series R4S pilot operated sequence valves enable a hydraulic system to operate in a pressure sequence. When the system pressure reaches the setting pressure the valve opens and permits flow to the secondary sub-system.



Features

- Pilot-operated sequence valve.
- 3 pressure ranges.
- 3 adjustment modes:
  - – Hand knob
  - – Acorn nut with lead seal
  - – Key lock



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Ordering Information

R	4	S	☐	—	5	7	☐	☐	1	A	☐
Pressure Valve	Interface	Relief Function	Size		Maximum Pressure 350 Bar (5075 PSI)	Body Mounting	Pressure Range	Adjustment	External Drain from Subplate	Design Series	Seal

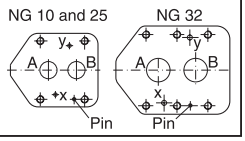
Code	Description
03	NG10
06	NG25
10	NG32

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 PSI)

Code	Description
1	Hand Knob 32mm dia. Std.
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
1	Nitrile
5	Fluorocarbon

Code	Interface
4	Subplate Mounting ISO 5781



Weight:

R4S03:	2.7 kg	(6.0 lbs.)
R4S06:	4.5 kg	(9.0 lbs.)
R4S10:	6.0 kg	(13.2 lbs.)

Specifications

General			
Size	**NG10**	**NG25**	**NG32**
Interface	Subplate mounting acc. ISO 5781		
Mounting Position	As desired, horizontal mounting preferred		
Ambient Temperature	-20°C to +80°C (-4°F to +176°F)		
Hydraulic			
Operating Pressure	Ports A, B and X up to 350 Bar (5075 PSI), Port Y: depressurized		
Pressure Range	up to 105, 210, 350 Bar (1523, 3045, 5075 PSI)		
Nominal Flow	150 LPM (39.7 GPM)	350 LPM (92.6 GPM)	650 LPM (172.0 GPM)
Pressure Fluid	Hydraulic oil according to DIN 51524 ... 51525		
Viscosity **Recommended** **Maximum**	30 to 50 cSt / mm²/s (139 to 232 SSU) 20 to 380 cSt / mm²/s (93 to 1761 SSU)		
Pressure Fluid Temperature **Recommended** **Maximum**	+30°C to +50°C (+86°F to +122°F) -20°C to +70° (-4°F to +158°F)		
Filtration	ISO 4406 (1999), 18/16/13		

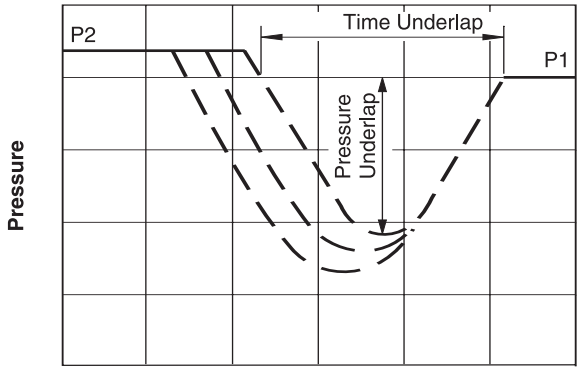
D

Performance Curves

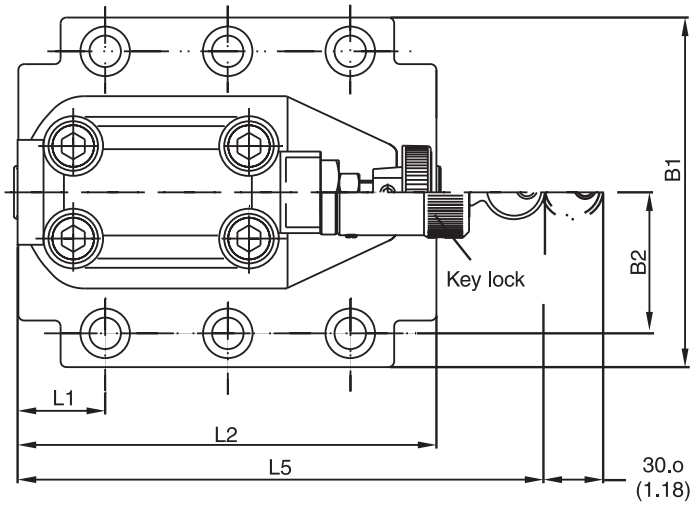
Typical pressure curves at closing point

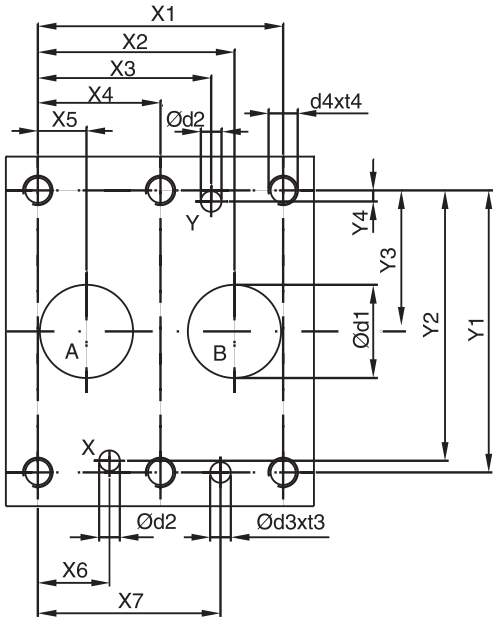
P1 = setting pressure

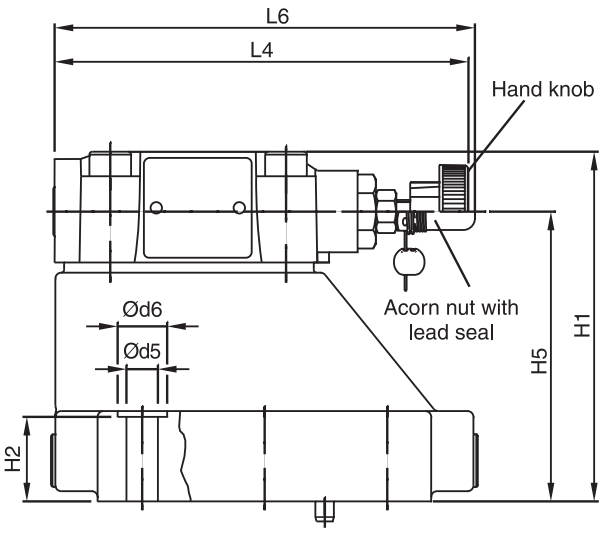
P2 = operating pressure



Note:
Time and pressure underlap depend on the characteristics of a specific system.


B1
B2
Key lock
L1
L2
L5
30.o
(1.18)


X1
X2
X3
X4
X5
Ød2
d4xt4
Y
Y4
Y3
Y2
Y1
Ød1
A
B
X
Ød2
Ød3xt3
X6
X7


L6
L4
Hand knob
Acorn nut with
lead seal
Ød6
Ød5
H1
H5
H2

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

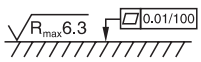
NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	5781-06-07-0-00	42.9 (1.69)	35.8 (1.41)	21.5 (0.85)	–	7.2 (0.28)	21.5 (0.85)	31.8 (1.25)	66.7 (2.63)	58.8 (2.31)	33.4 (1.31)	7.9 (0.31)	–	–
25	5781-08-10-0-00	60.3 (2.37)	49.2 (1.94)	39.7 (1.56)	–	11.1 (0.44)	20.6 (0.81)	44.5 (1.75)	79.4 (3.13)	73.0 (2.87)	39.7 (1.56)	6.4 (0.25)	–	–
32	5781-10-13-0-00	84.2 (3.31)	67.5 (2.66)	59.5 (2.34)	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)	3.8 (0.15)	–	–

Tolerance at X and Y pin holes and screw holes ±0.1, at port holes ±0.2.

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)	–	–	–	29.0 (1.14)	94.8 (3.73)	–	141.0 (5.55)	181.0 (7.13)	–
25	5781-08-10-0-00	105.0 (4.13)	39.7 (1.56)	109.5 (4.31)	29.0 (1.14)	89.0 (3.50)	–	–	–	34.7 (1.37)	126.8 (4.99)	–	141.0 (5.55)	181.0 (7.13)	–
32	5781-10-13-0-00	120.0 (4.72)	48.4 (1.91)	120.0 (4.72)	29.0 (1.14)	99.5 (3.92)	–	–	–	30.6 (1.20)	144.3 (5.68)	–	141.0 (5.55)	181.0 (7.13)	–

D

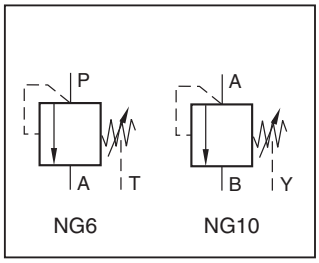
NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	5781-06-07-0-00	15.0 (0.59)	7.0 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	16.0 (0.63)	10.8 (0.43)	17.0 (0.67)
25	5781-08-10-0-00	23.4 (0.92)	7.1 (0.28)	7.1 (0.28)	8.0 (0.31)	M10	18.0 (0.71)	10.8 (0.43)	17.0 (0.67)
32	5781-10-13-0-00	32.0 (1.26)	7.1 (0.28)	7.1 (0.28)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

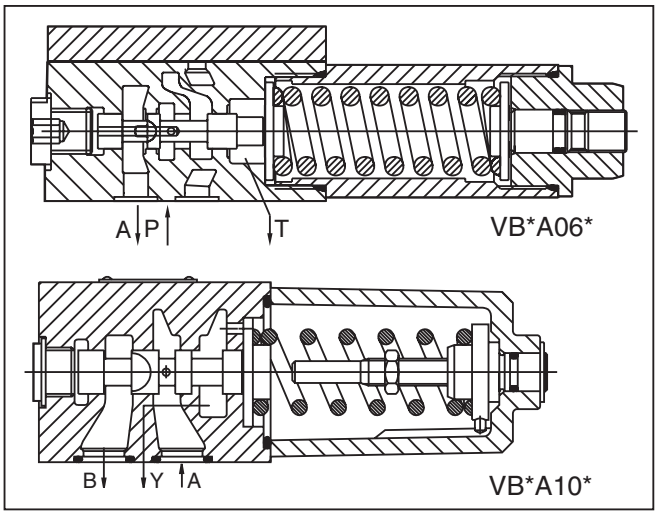
NG	ISO-code	Bolt Kit			Seal Kit Nitrile	Fluorocarbon	Surface Finish
10	5781-06-07-0-00	BK505	4xM10 x 35-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58507-0	S26-58507-5	
25	5781-08-10-0-00	BK485	4xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58475-0	S26-58475-5	
32	5781-10-13-0-00	BK506	6xM10 x 45-DIN 912 12.9	63 Nm (46.5 lb.-ft.) ±15%	S26-58508-0	S26-58508-5	

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

General Description

Series VB are direct operated pressure relief valves with manual adjustment. Series VB valves can also be used as pressure sequence valves because of the high pressure capability in the outlet port and the external drain port.





Specifications

Size	NG6, NG10
Interface	ISO 5791
Mounting Pos.	Unrestricted
Ambient Temp.	-20°C to +80°C (-4°F to +176°F)
Max. Operating Pressure	Size 6: Ports P and A 350 Bar (5075 PSI), Port T depressurized Size 10: Ports A and B 315 Bar (4568 PSI), Port Y depressurized
Pressure Range	Size 6: 25, 64, 160, 210, 350 Bar (363, 928, 2320, 3045, 5075 PSI) Size 10: 64, 125, 210 Bar (928, 1813, 3045 PSI)
Nominal Flow	Size 6: 25 LPM (6.6 GPM) Size 10: 60 LPM (15.9 GPM)
Pressure Fluid	Hydraulic oil according to DIN 51524 ... 525
Pressure Fluid Temperature	Recommended: +30C to +50°C (+86°F to +122°F) Permitted: -20°C to +70°C (-4°F to +158°F)
Viscosity	Recommended: 30 to 50 cSt (mm²/s) Permitted: 20 to 380 cSt (mm²/s)
Filtration	ISO 4406 (1999), 18/16/13

Features

- Spool valve.
- Manifold mounting.
- Five pressure ranges at NG6.
- Three pressure ranges at NG10.
- Two adjustment modes.

Ordering Information

VB	☐	A	☐	V	☐	☐	☐
Sequence Valve	Maximum Pressure Setting	Adjustment Screw with Hexagon Socket	Size	Seal Fluorocarbon	Gauge Port	Lock	Design Series

NOTE: Not required when ordering.

Code	Description	
025[1]	25 Bar	(363 PSI)
064	64 Bar	(938 PSI)
125[2]	125 Bar	(1813 PSI)
160[1]	160 Bar	(2320 PSI)
210	210 Bar	(3045 PSI)
350[1]	350 Bar	(5075 PSI)

Code	Description
06	NG6
10	NG10

Code	Description
G[1]	G 1/4"
M	M12x1.5

Code	Description
Omit	No Lock
Z	Cylinder Lock

[1] only NG6
[2] only NG10

[1] only NG6

Weight:
VB*A06 1.3 kg (2.9 lbs.)
VB*A10 3.7 kg (8.2 lbs.)

VB.indd, dd

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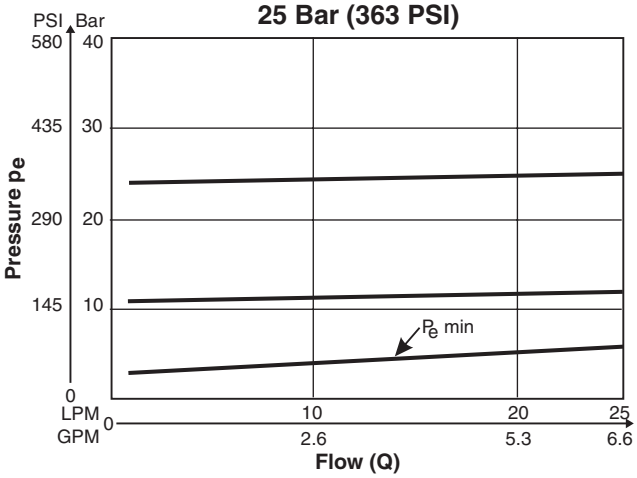
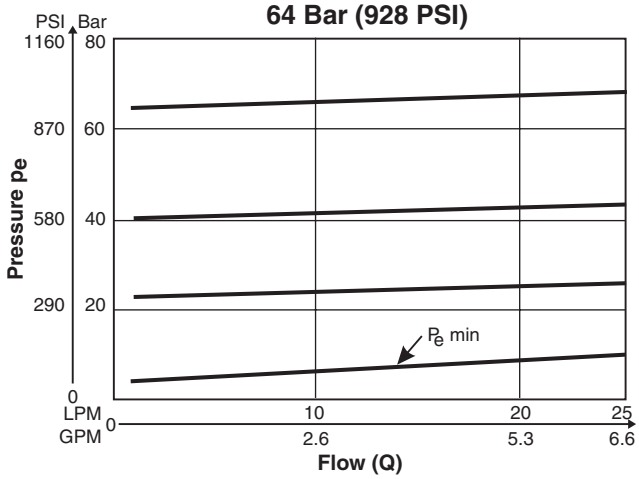
Hydraulic Valve Division
Elyria, Ohio, USA

VB*06

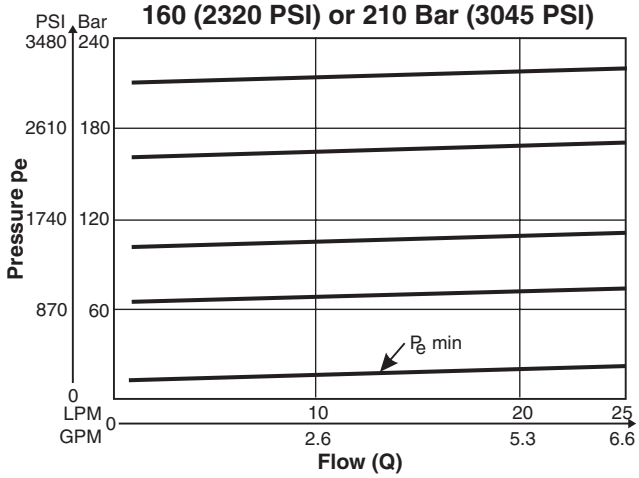
Maximum Setting Pressure
25 Bar (363 PSI)



Maximum. Setting Pressure
64 Bar (928 PSI)

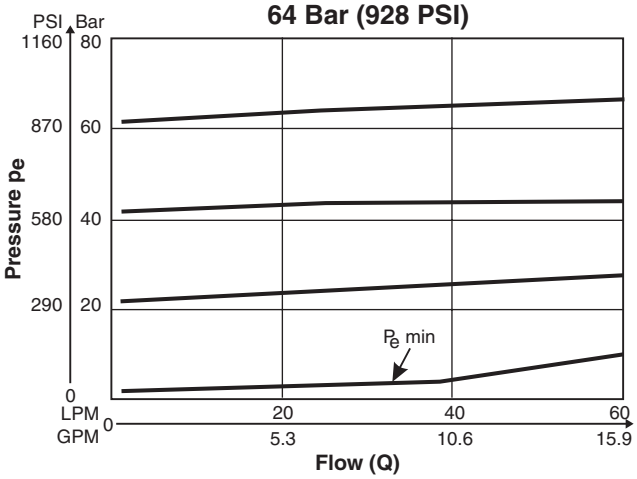


Maximum Setting Pressure
160 (2320 PSI) or 210 Bar (3045 PSI)

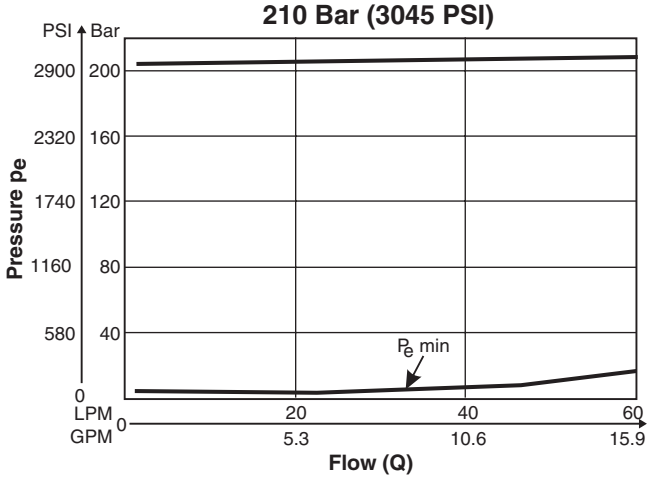


VB*10

Maximum Setting Pressure
64 Bar (928 PSI)



Maximum Setting Pressure
210 Bar (3045 PSI)

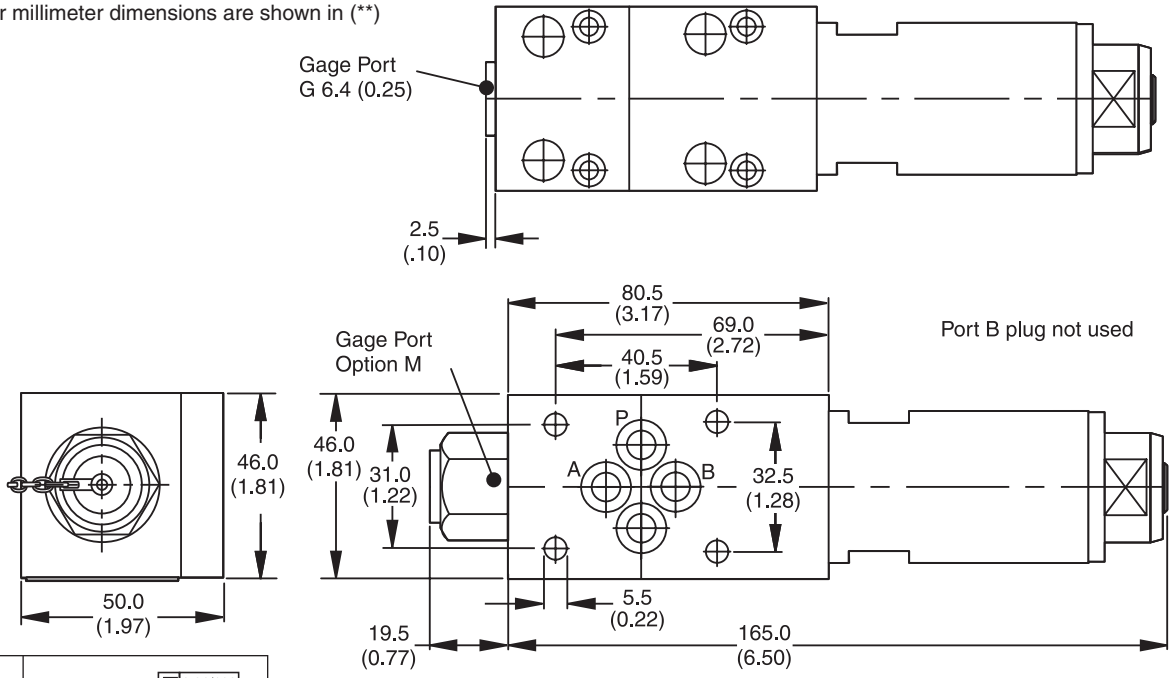


D

VB.indd, dd

VB*06

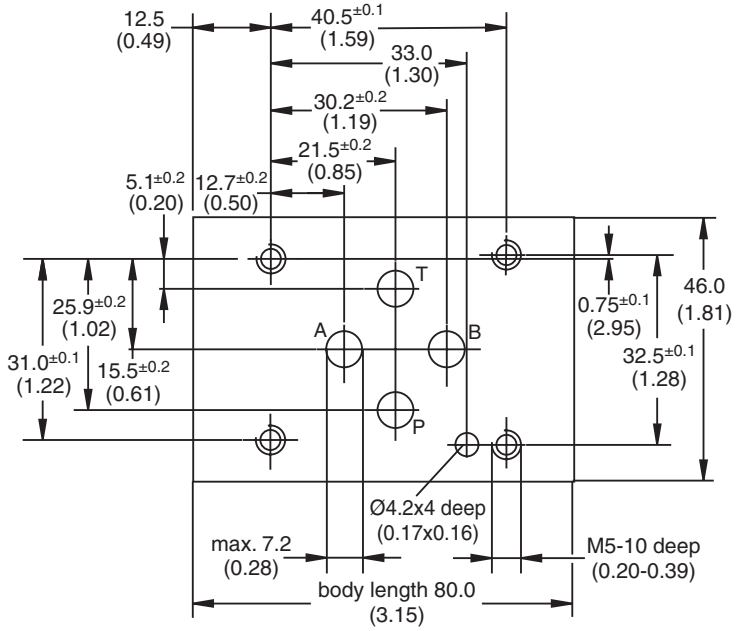
Inch equivalents for millimeter dimensions are shown in (**)



Surface Finish	R_{max}6.3 0.01/100
Bolt Kit **DIN912 12.9**	BK375 4x M5x30
	7.6 Nm (5.6 lb.-ft.) ±15%
Seal Kit **Fluorocarbon**	SK-VB/VM/VS V

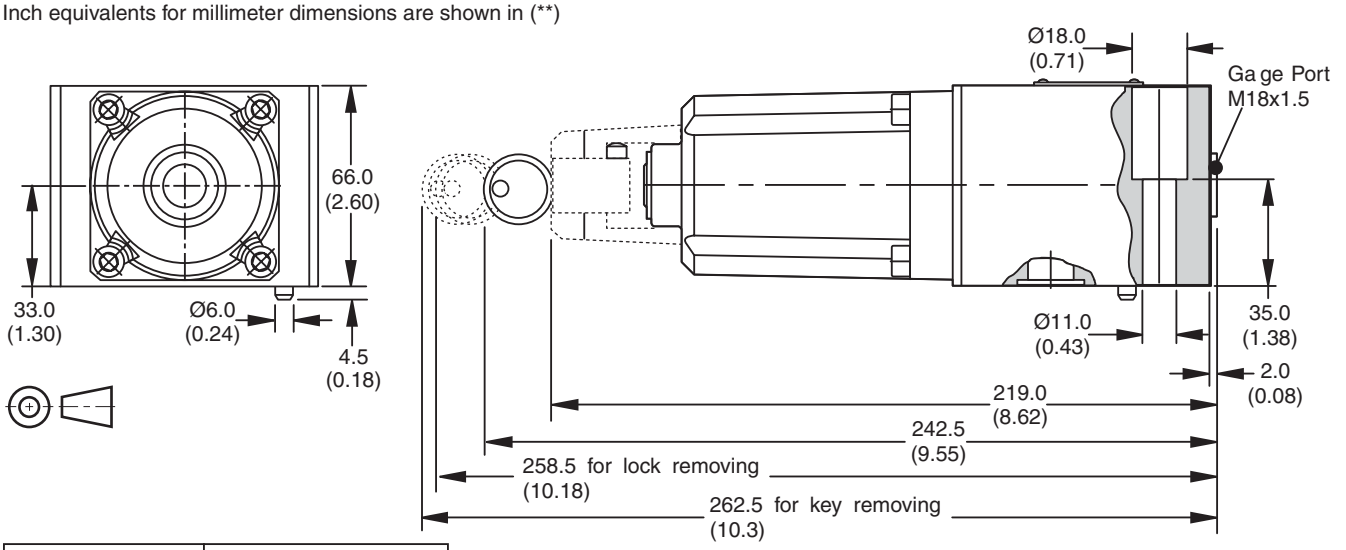
Mounting Pattern ISO 5781-03-04-0-00 (NFPA D03, CETOP 3, NG6)

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

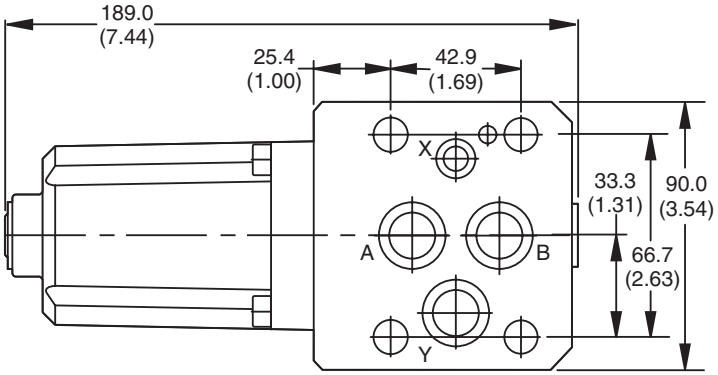


VB*10

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



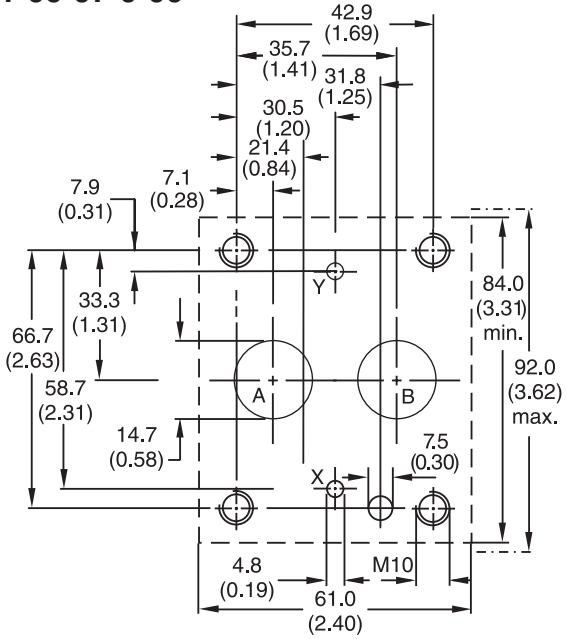
Surface Finish	R_{max}6.3 ⏥ 0.01/100
Bolt Kit **DIN912 12.9**	BK389 4x M10x50
	65 Nm (48 lb.-ft.) ±15%
Seal Kit **Fluorocarbon**	SK-VB/VM-A10V



Subplate	Size
SPP3M6B910	A, B = 3/4" BSPP x, y = 1/4" BSPP

Mounting Pattern ISO 5781-06-07-0-00

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



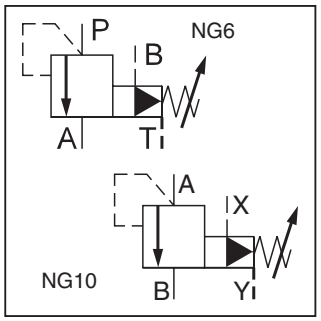
VB.indd, dd

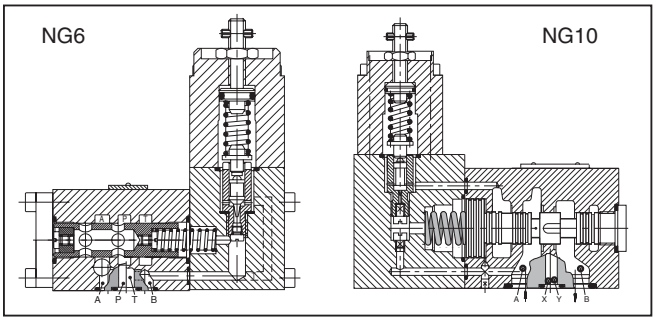
Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

General Description

Series VBY pilot operated sequence valves consist of a pilot with manual adjustment and a main part with spool execution. The valve has an external drain.

This valve can also be used as a pressure relief valve. Please observe hydraulic connection.





Features

- Manifold mounting acc. to ISO 5781.
- Type VBY with external drain.
- Main stage spool type valve.
- Pilot stage seated type valve.
- 4 pressure ranges.
- 2 adjustment modes
  - – Screw with hexagon socket
  - – DIN knob

D

Specifications

Size	NG6	NG10
Mounting Pattern	ISO 5781	
Mounting Position	As desired	
Ambient Temperature	-20°C to +80°C (-4°F to +176°F)	
Operating Pressure, Ports **External Drain Port Pressure**	P, A, B up to 315 Bar (4568 PSI) T up to 100 Bar (1450 PSI)	A, B, X up to 315 Bar (4568 PSI) Y up to 100 Bar (1450 PSI)
Pressure Range	64, 160, 210, 315 Bar (928, 2320, 3045, 4568 PSI)	
Pressure Fluid Temperature	-20°C to +70°C (-4°F to +158°F)	
Viscosity Range **Recommended** **Permitted**	 30 to 50 cSt / mm²/s (139 to 232 SSU) 20 to 380 cSt / mm²/s (93 to 1761 SSU)	
Filtration	ISO 4406 (1999), 18/16/13	
Pilot Oil Flow	approx. 500 cm³/min	approx. 1000 cm³/min

Ordering Information

VBY — Pressure Relief Valve

□ — Pressure Range

Code	Description
064	64 Bar (928 PSI)
160	160 Bar (2320 PSI)
210	210 Bar (3045 PSI)
315	315 Bar (4568 PSI)

□ — Adjustment

Code	Description
A	Adjustment Screw with Hexagon Socket
H	Turning Knob with Cylinder Lock

□ — Size

Code	Description
06	NG6
10	NG10

□ — Seal

Code	Description
N	Nitrile
V	Fluorocarbon

□ — Design Series

NOTE: Not required when ordering.

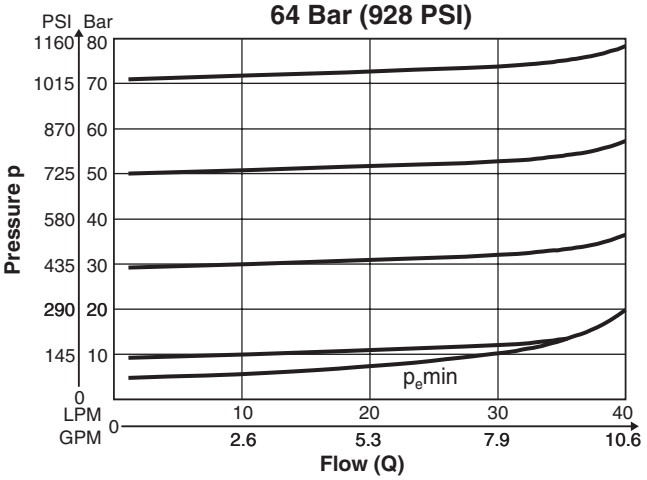
Weight:

VBY*06 2.4 kg (5.29 lbs.)
VBY*10 4.5 kg (9.92 lbs.)

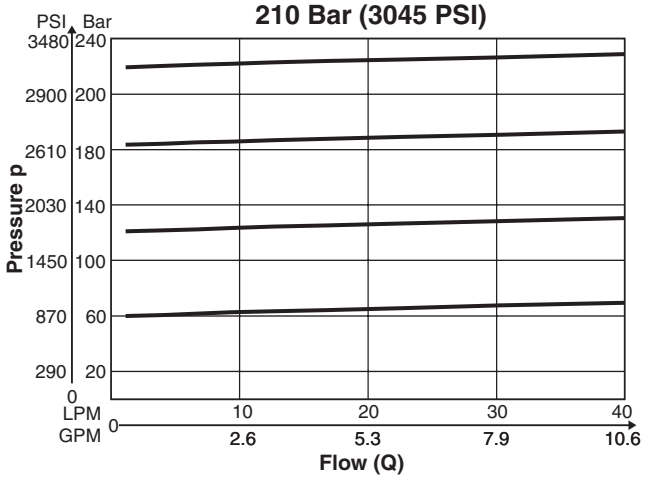
VBY*06

p/Q measured at t = 50°C (122°F) and v = 36mm²/s

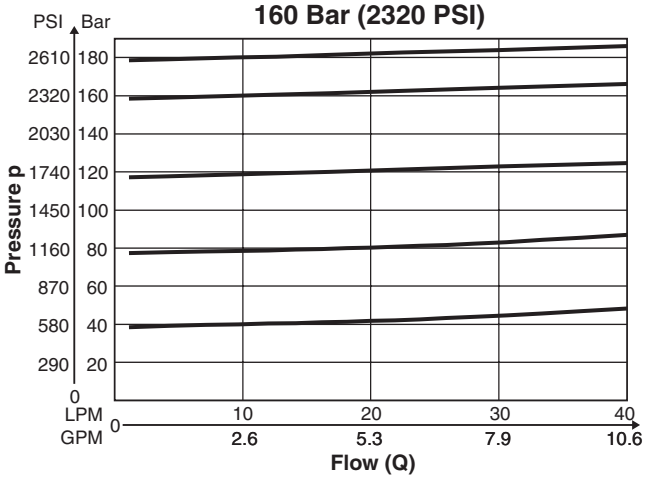
Maximum Setting Range
64 Bar (928 PSI)



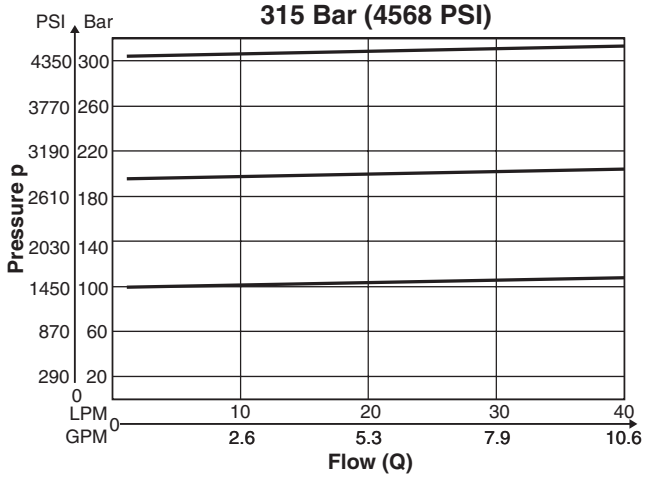
Maximum Setting Range
210 Bar (3045 PSI)



Maximum Setting Range
160 Bar (2320 PSI)



Maximum Setting Range
315 Bar (4568 PSI)

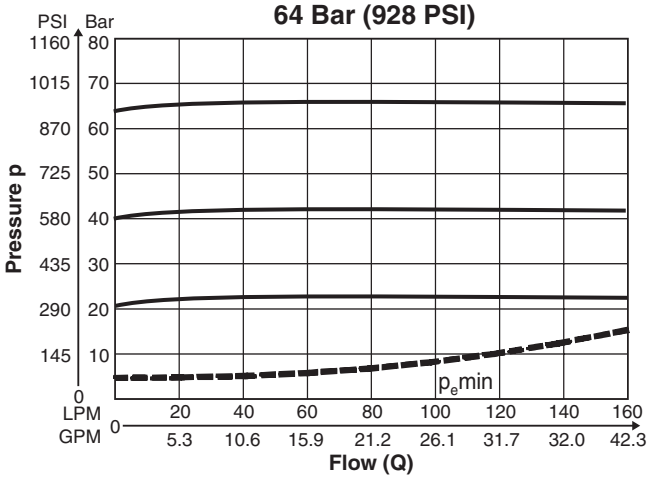


D

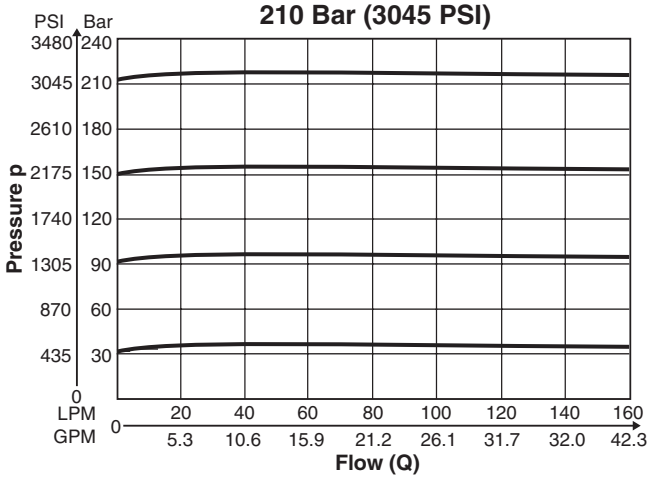
VBY*10

p/Q measured at t = 50°C (122°F) and v = 36mm²/s

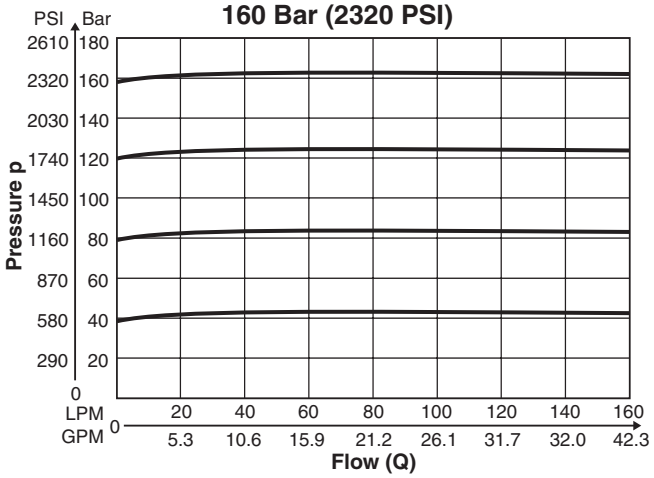
Maximum Setting Range
64 Bar (928 PSI)



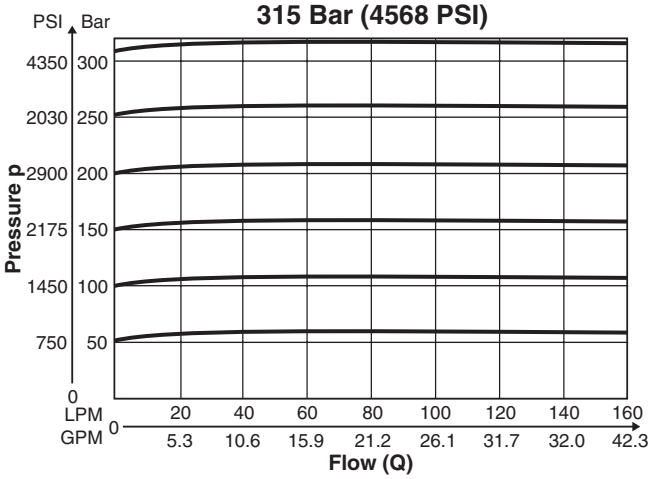
Maximum Setting Range
210 Bar (3045 PSI)



Maximum Setting Range
160 Bar (2320 PSI)

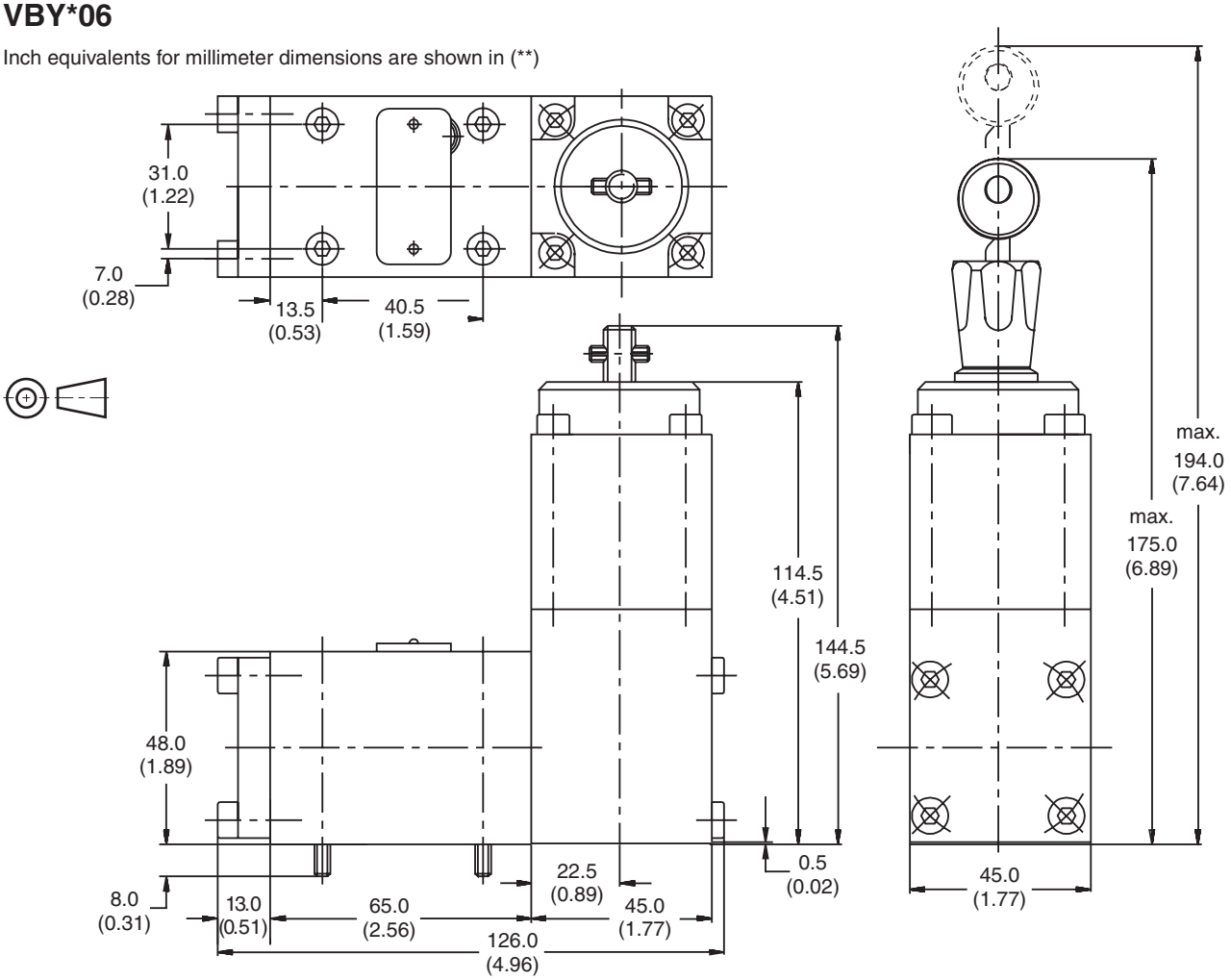


Maximum Setting Range
315 Bar (4568 PSI)



VBY*06

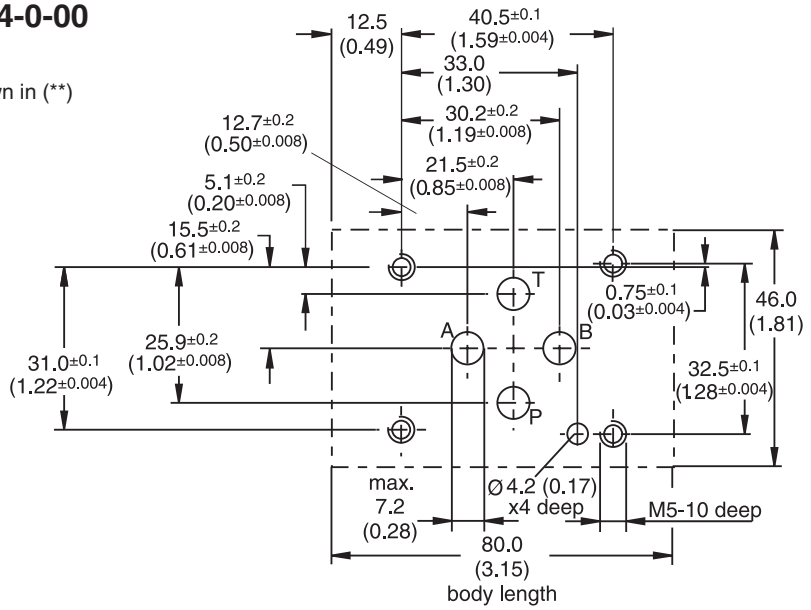
Inch equivalents for millimeter dimensions are shown in (**)



Surface Finish	Bolt Kit DIN912 12.9		Seal Kit
$\sqrt{R_{max}6.3}$ 0.01/100	BK375 4x M5x30	7.5 Nm (5.5 lb.-ft.)	Nitrile: SK-VB/VM/VS Fluorocarbon: SK-VB/VM/VS V

Mounting Pattern ISO 5781-03-04-0-00 (NFPA D03, CETOP 3, NG6)

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



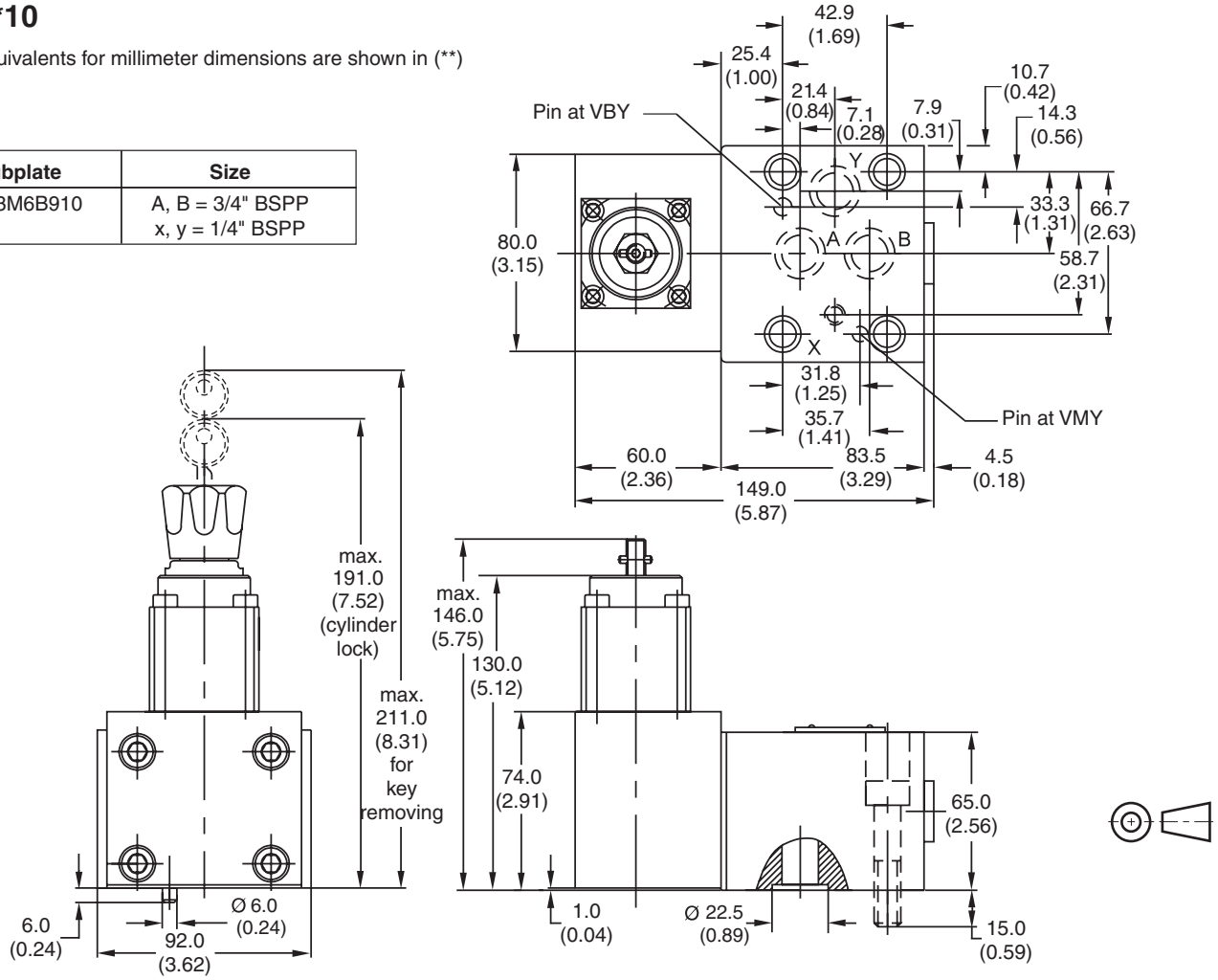
VBY.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

VBY*10

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

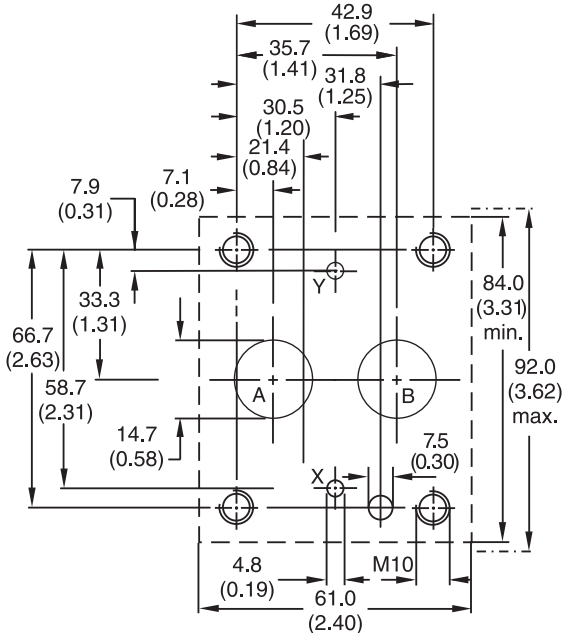
Subplate	Size
SPP3M6B910	A, B = 3/4" BSPP x, y = 1/4" BSPP



Surface Finish	Bolt Kit DIN912 12.9		Seal Kit
$\sqrt{R_{max}6.3}$ 0.01/100	BK389 4x M10x50	65 Nm (47.9 lb.-ft.)	Nitrile: SK-VB/VM-A10 Fluorocarbon: SK-VB/VM-A10V

Mounting Pattern ISO 5781-06-07-0-00

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

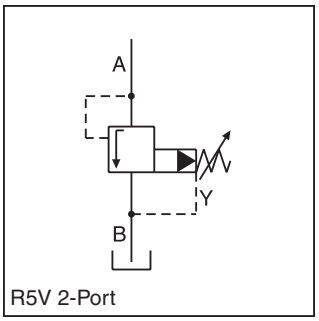


General Description

Series R5V pilot operated pressure relief valves have a similar design to the subplate mounted R4V series. The SAE flanges allow to mount the valves directly on the outlet flanges of pumps or inlet flanges of actuators to achieve a very compact design.

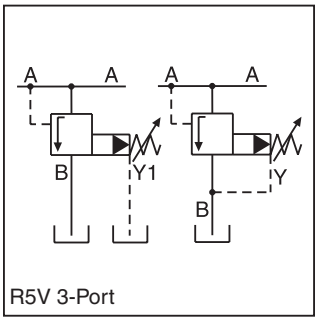
Valves with SAE flanges can also be bolted together to combine functions without the need of a manifold block.


R5V 2-Port



R5V 2-Port


R5V 3-Port



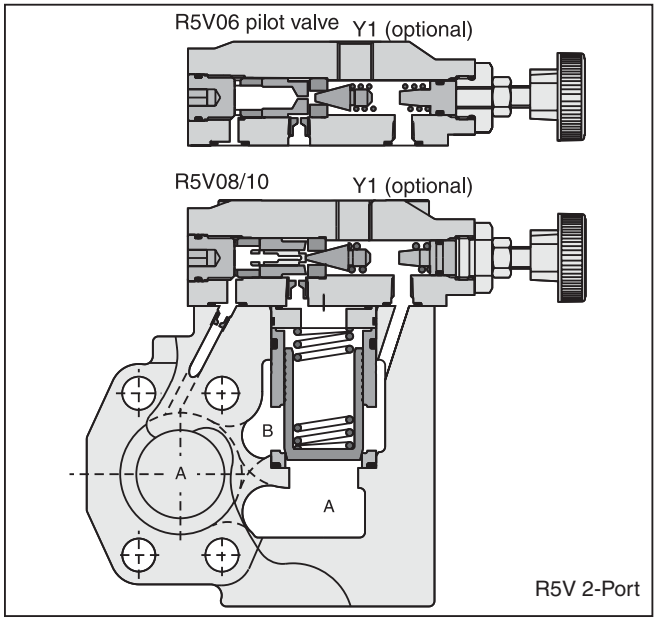
R5V 3-Port

Operation

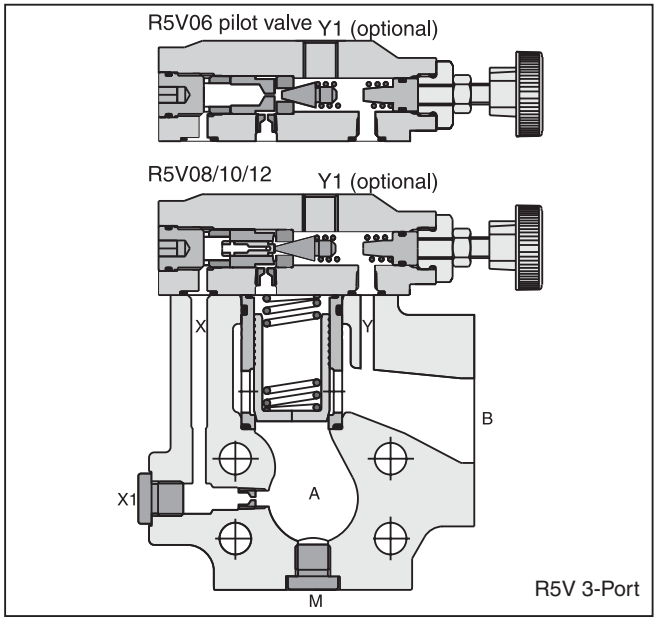
The system pressure in Port A is applied to the pilot valve and to the top surface of the main poppet via an orifice in X. The hydraulically balanced main poppet is held against the seat by the main spring. In this state there is no flow through the valve. The adjusted spring force acting on the pilot cone determines the relief pressure. If the pressure in Port A exceeds the set point, the pilot cone is lifted from its seat, releasing a small pilot flow to tank. The flow through the control orifice in X creates a pressure drop which limits the pressure at the top of the main poppet to the set point. The higher system pressure in Port A now lifts the main poppet off its seat and allows flow to Port B. In the resulting float position only enough flow is passed from Port A to Port B to maintain the inlet pressure in Port A at the set point. When the pressure in Port A falls below the set point, the hydraulic balance on the main poppet is restored. The main spring then forces the main poppet to close.

Features

- Pilot operated with manual adjustment.
- R5V with 2-port body:
  – 3 sizes (SAE 3/4", 1", 1-1/4")
  – SAE 61 flange
- R5V with 3-port body:
  – 4 sizes (SAE 3/4", 1", 1-1/4", 1-1/2")
  – SAE 61 and SAE 62 flange
- 3 pressure stages.
- 3 adjustment modes:
  – Hand knob
  – Acorn nut with lead seal
  – Key lock
- With optional vent function.



R5V 2-Port



R5V 3-Port

R5V.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

R5V □ — □ □ □ □ □ □ □ **A** □ □

Pressure Relief Valve | Size | SAE Interface | Pilot Ports | Pressure Range | Adjustment | Pilot Oil | Switching Type | Solenoid Voltage | Design Series | Seal | Options

Code	Description
06	SAE 3/4"
08	SAE 1"
10	SAE 1-1/4"
12*	SAE 1-1/2"

* R5V 3-Port only

Code	Description
Omit	Standard w/o vent function
G0R	12V
G0Q	24V
GAR	98V
GAG	205V
W30	110V 50Hz/ 120V 60Hz
W31	220V 50Hz/ 240V 60Hz

Code	Description
1	Nitrile
5	Fluorocarbon

SAE 61

Code	Size	Maximum Pressure
3	12	210 Bar (3045 PSI)
4	10	280 Bar (4060 PSI)
5	06/08	350 Bar (5075 PSI)

SAE 62

Code	Size	Maximum Pressure
6*	06/08/ 10/12	350 Bar (5075 PSI)

* R5V 3-Port only.

Code	Description
Omit	Standard w/o vent function
09*	Solenoid not activ. unpress. circulation
11**	Solenoid activated unpress. circulation

* Sol. de-energized: open to tank
Sol. energized: vent line blocked.

** Sol. de-energized: vent line blocked
Sol energized: open to tank.

2-Port Body

Code	Description
4	No Ports* X1 = 1/4" NPT
5	Y1 = SAE 4*

3-Port Body

Code	Description
1	No Ports X1 = 1/4" NPT
3	Y1**, X1, M = SAE 4

* 2-port for internal drain (pilot oil code 2).

** 3-Port: Y1 only available at external drain (pilot oil code 6).

Code	Drain Line
2	Internal
6	External from Y1-Port

Code	Description
Omit	Standard
008	Vent function with slow unloading

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 Bar)

Code	Description
1	Hand Knob
3	Acorn Nut with Lead Seal
4	Key Lock

Weight:	2-Port	3-Port
R5V06	4.0 kg (8.8 lbs.)	3.6 kg (7.9 lbs.)
R5V08	4.6 kg (10.1 lbs.)	4.6 kg (10.1 lbs.)
R4V10	5.9 kg (13.0 lbs.)	5.2 kg (11.5 lbs.)
R5V12	–	8.0 kg (17.6 lbs.)

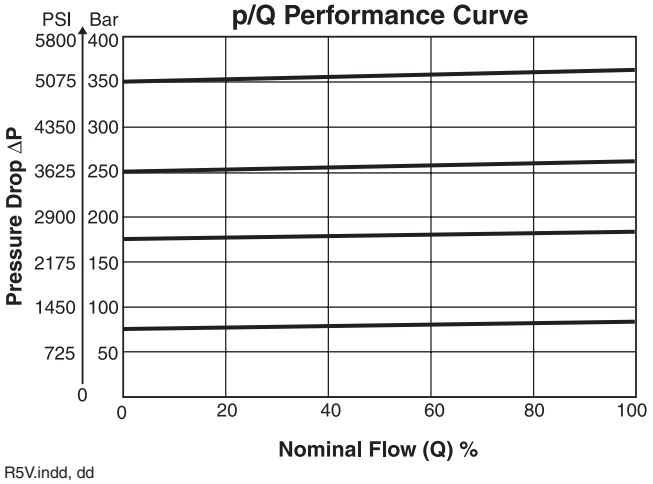
R5V.indd, dd

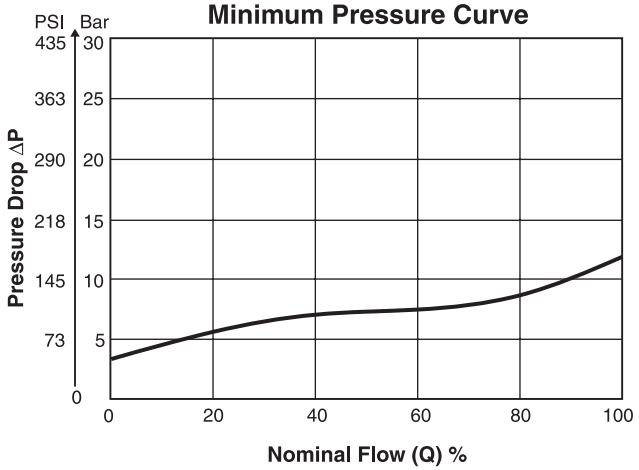
Specifications

General						
Size		**06**	**08**	**10**	**12**	
Mounting		Flanged according to SAE 61 / SAE 62				
Mounting Position		Unrestricted				
Ambient Temperature Range		-20°C to +50°C (-4°F to +122°F)				
Hydraulic						
Maximum Operating Pressure	**SAE 61 Ports A, B**	350 Bar (5075 PSI)	350 Bar (5075 PSI)	280 Bar (4060 PSI)	210 Bar (3045 PSI)	
	SAE 61 Port Y1	30 Bar (435 PSI)	30 Bar (435 PSI)	30 Bar (435 PSI)	30 Bar (435 PSI)	
	SAE 62 Ports A, B	350 Bar (5075 PSI)	350 Bar (5075 PSI)	350 Bar (5075 PSI)	350 Bar (5075 PSI)	
	SAE 62 Port Y1	30 Bar (435 PSI)	30 Bar (435 PSI)	30 Bar (435 PSI)	30 Bar (435 PSI)	
Pressure Ranges		105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)				
Nominal Flow		90 LPM (23.8 GPM)	300 LPM (79.4 GPM)	600 LPM (158.7 GPM)	600 LPM (158.7 GPM)	
Fluid		Hydraulic oil as per DIN 51524 to 51525				
Fluid Temperature		-20°C to +80°C (-4°F to +176°F)				
Viscosity	**Permitted**	10 to 650 cSt / mm^2/s (46 to 3013 SSU)				
	Recommended	30 cSt / mm^2/s (139 SSU)				
Filtration		ISO Class 4406 (1999) 18/16/13 (acc. NAS 1638: 7)				
Electrical (Solenoid)						
Duty Ratio		100%				
Solenoid Connection		Connector as per EN175301-803				
Protection Class		IP65 in accordance with EN60529 (plugged and mounted)				
	Code	**G0R**	**G0Q**	**GAR**	**GAG**	**W30**	**W31**
Supply Voltage		12V	24V	98V	205V	110V at 50Hz/ 120V at 60Hz	220V at 50Hz/ 240V at 60Hz
Tolerance Supply Voltage		+5 to -10	+5 to -10	+5 to -10	+5 to -10	±5	±5
Power Consumption	**Hold**	31W	31W	31W	31W	78W	78W
	In Rush	31W	31W	31W	31W	264W	264W
Response Time		Energized / De-energized AC 20/18ms, DC 46/27 ms					
Maximum Switching Frequency		AC up to 7200 switchings/hour; DC up to 16,000 switchings/hour					
Coil Insulation Class		H (180°C) (356°F)					

D

Performance Curves



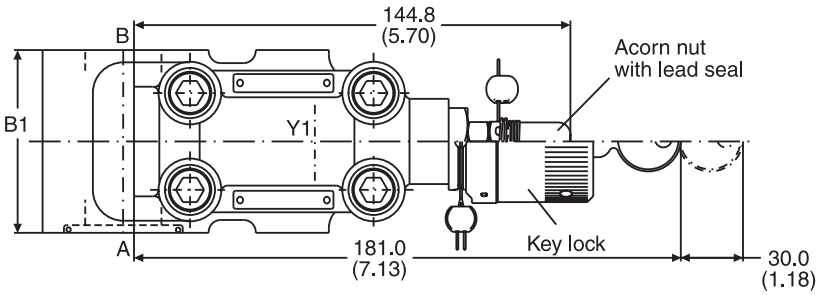


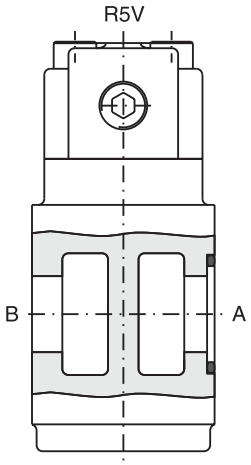
R5V.indd, dd

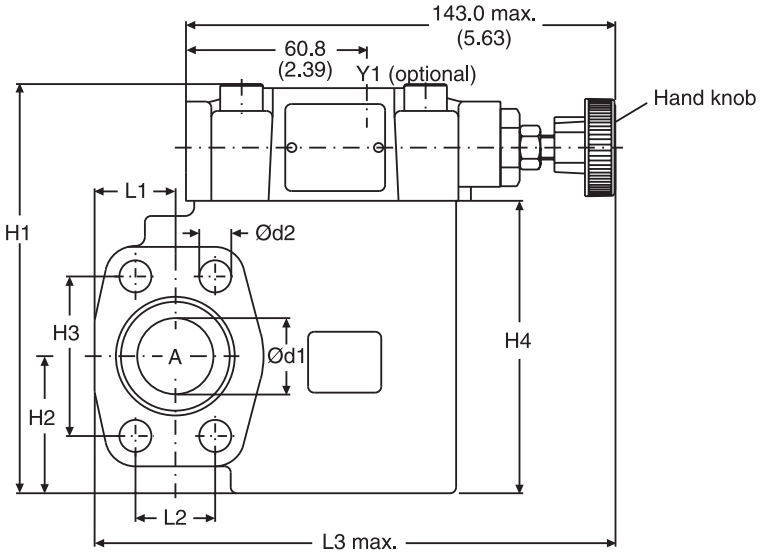
Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

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

2-Port







Seal Kits		
Size	**Nitrile**	**Fluorocarbon**
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

SAE 61

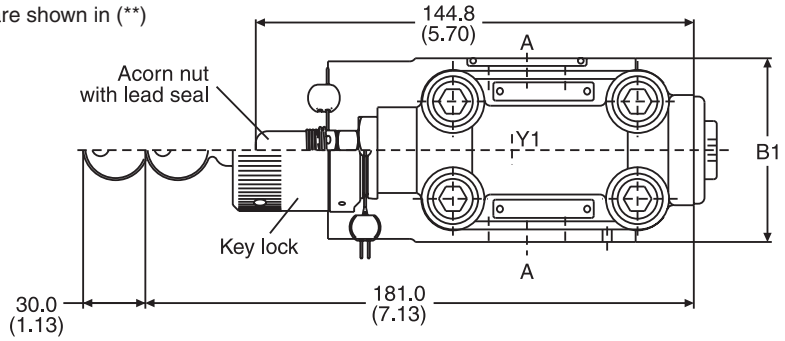
Size	B1	H1	H2	H3	H4	L1	L2	L3	d1	d2
06	60.0 (2.36)	131.6 (5.18)	37.0 (1.46)	47.6 (1.87)	90.0 (3.54)	24.6 (0.97)	22.2 (0.89)	152.0 (5.98)	19.0 (0.75)	10.5 (0.41)
08	60.0 (2.36)	137.6 (5.42)	45.0 (1.77)	52.4 (2.06)	96.0 (3.78)	26.5 (1.04)	26.2 (1.03)	171.0 (6.73)	25.0 (0.98)	10.5 (0.41)
10	75.0 (2.95)	150.6 (5.93)	48.0 (1.89)	58.7 (2.31)	109.0 (4.29)	34.0 (1.34)	30.2 (1.19)	179.0 (7.05)	32.0 (1.26)	12.5 (0.49)

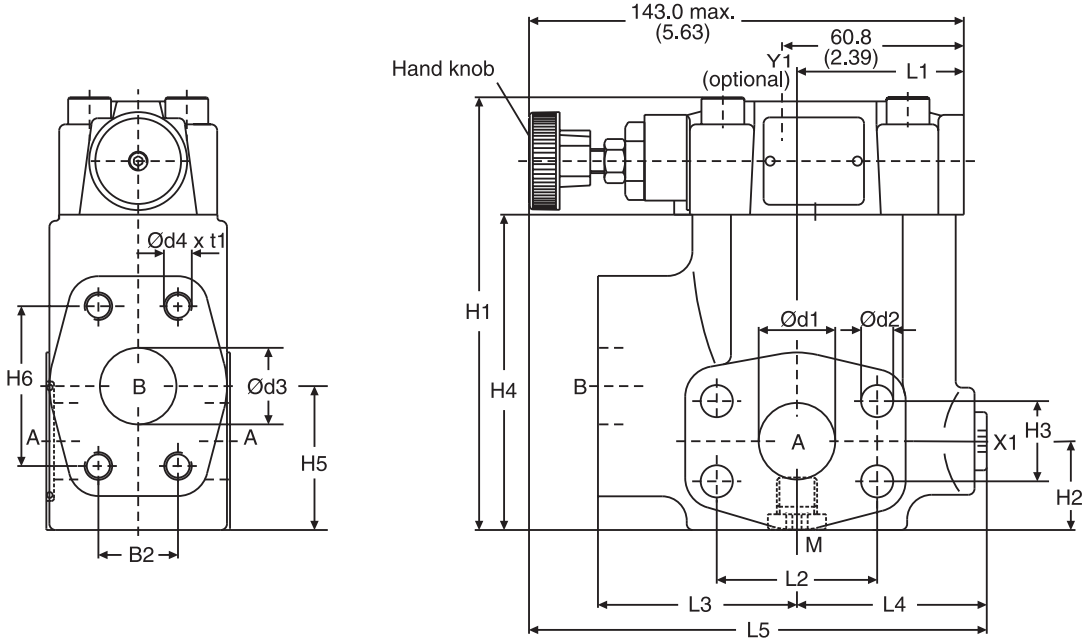
Port	Function	Port Size		
		R5V06	**R5V08**	**R5V10**
A	Pressure	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61
B	Tank	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61
Y1	External Drain	SAE 4		

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

3-Port

Seal Kits		
Size	**Nitrile**	**Fluorocarbon**
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5
12	S26-27421-0	S26-27421-5





SAE 61

Size	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	t1
06	60.0 (2.36)	22.2 (0.87)	119.0 (4.69)	28.0 (1.10)	22.2 (0.87)	81.0 (3.19)	41.6 (1.64)	47.6 (1.87)	50.3 (1.98)	47.6 (1.87)	63.0 (2.48)	56.0 (2.20)	152.0 (5.98)	19.0 (0.75)	10.5 (0.41)	19.0 (0.75)	20.0 (0.79)
08	60.0 (2.36)	26.2 (1.03)	141.0 (5.55)	29.0 (1.14)	26.2 (1.03)	103.0 (4.06)	47.0 (1.85)	52.4 (2.06)	55.8 (2.20)	52.4 (2.06)	65.0 (2.56)	58.0 (2.28)	149.0 (5.87)	25.0 (0.98)	10.5 (0.41)	25.0 (0.98)	23.0 (0.91)
10	75.0 (2.95)	30.2 (1.19)	151.0 (5.94)	34.5 (1.36)	30.2 (1.19)	113.0 (4.45)	64.0 (2.52)	58.7 (2.31)	57.8 (2.28)	58.7 (2.31)	61.0 (2.40)	62.0 (2.44)	150.5 (5.93)	32.0 (1.26)	12.5 (0.49)	32.0 (1.26)	22.0 (0.87)
12	80.0 (3.15)	35.7 (1.41)	178.0 (7.01)	34.0 (1.34)	35.7 (1.41)	140.0 (5.51)	73.0 (2.87)	69.8 (2.75)	37.3 (1.47)	69.8 (2.75)	92.5 (3.64)	55.2 (2.17)	171.2 (6.74)	38.0 (1.50)	13.5 (0.53)	38.0 (1.50)	27.0 (1.06)

SAE 62

Size	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	t1
06	60.0 (2.36)	23.8 (0.94)	119.0 (4.69)	28.0 (1.10)	23.8 (0.94)	81.0 (3.19)	41.6 (1.64)	50.8 (2.00)	50.3 (1.98)	50.8 (2.00)	63.0 (2.48)	56.0 (2.20)	152.0 (5.98)	19.0 (0.75)	10.5 (0.41)	19.0 (0.75)	20.0 (0.79)
08	60.0 (2.36)	27.8 (1.09)	141.0 (5.55)	29.0 (1.14)	27.8 (1.09)	103.0 (4.06)	47.0 (1.85)	57.2 (2.25)	55.8 (2.20)	57.2 (2.25)	65.0 (2.56)	58.0 (2.28)	149.0 (5.87)	25.0 (0.98)	12.5 (0.49)	25.0 (0.98)	22.0 (0.87)
10	75.0 (2.95)	31.8 (1.25)	151.0 (5.94)	34.5 (1.36)	31.8 (1.25)	113.0 (4.45)	64.0 (2.52)	66.7 (2.63)	57.8 (2.28)	66.7 (2.63)	61.0 (2.40)	62.0 (2.44)	150.5 (5.93)	32.0 (1.26)	13.5 (0.53)	32.0 (1.26)	24.0 (0.94)
12	80.0 (3.15)	36.5 (1.44)	178.0 (7.01)	34.0 (1.34)	36.5 (1.44)	140.0 (5.51)	73.0 (2.87)	79.4 (3.13)	37.3 (1.47)	79.4 (3.13)	92.5 (3.64)	55.2 (2.17)	171.2 (6.74)	38.0 (1.50)	17.0 (0.67)	38.0 (1.50)	33.0 (1.30)

Port	Function	Port size			
		R5V06	R5V08	R5V10	R5V12
A (2)	Pressure	3/4" SAE 61/62	1" SAE 61/62	1-1/4" SAE 61/62	1-1/2" SAE 61/62
B	Tank	3/4" SAE 61/62	1" SAE 61/62	1-1/4" SAE 61/62	1-1/2" SAE 61/62
X1	External pilot port *	SAE 4			
Y1	External drain	SAE 4			
M	Pressure gauge	SAE 4			

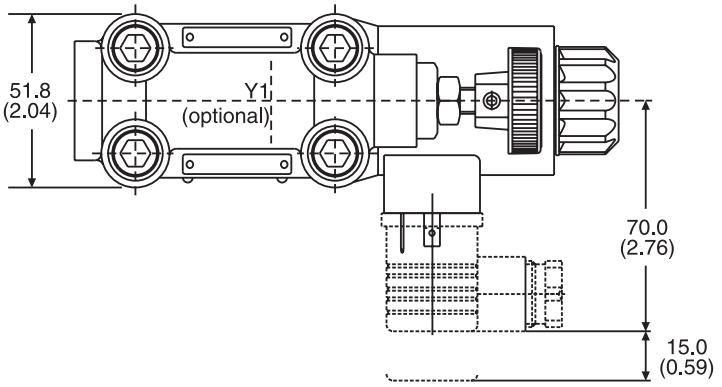
* closed when supplied.

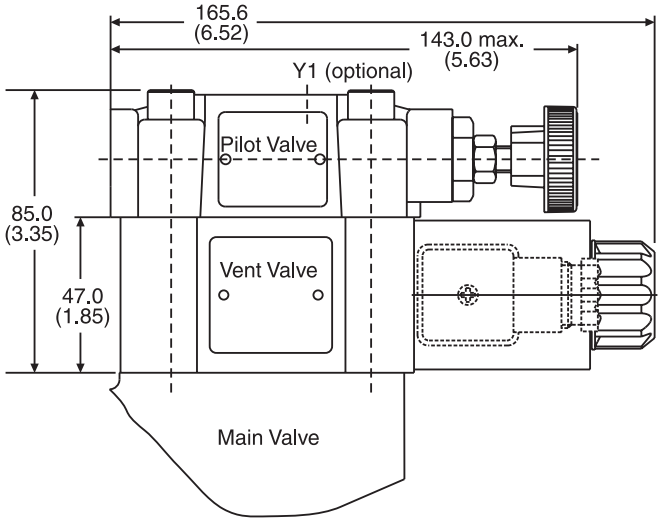
R5V.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

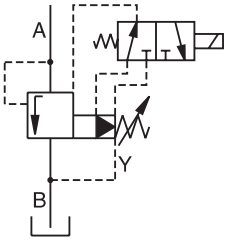
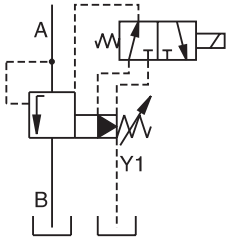
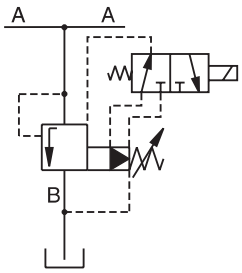
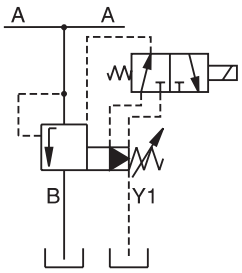
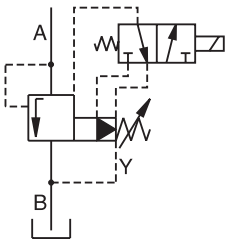
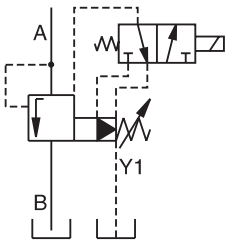
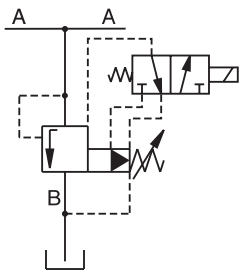
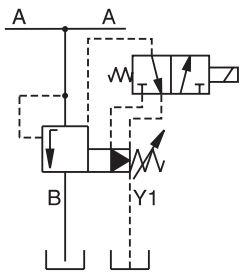
Inch equivalents for millimeter dimensions are shown in (**)

with Vent Function





Vent Valve Seal Kits	
Nitrile	**Fluorocarbon**
DC Solenoid	
S26-58515-0	S26-58515-5
AC Solenoid	
S26-35237-0	S26-35237-5

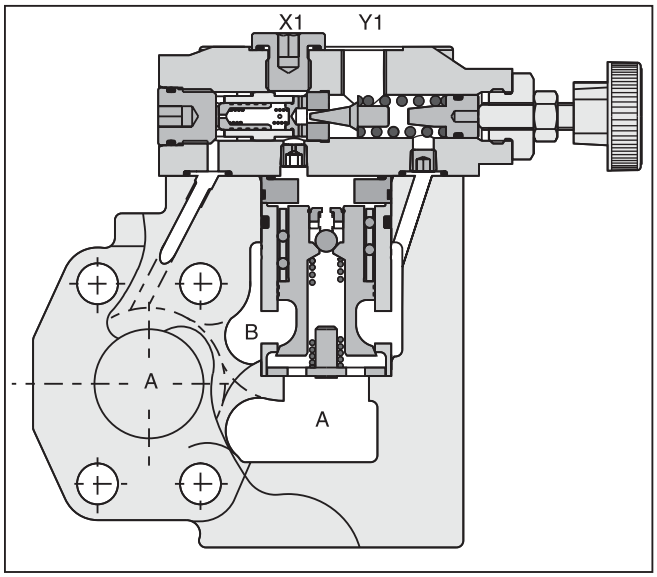
Code	R5V 2-Port		R5V 3-Port	
	Internal Drain	External Drain	Internal Drain	External Drain
11				
09				

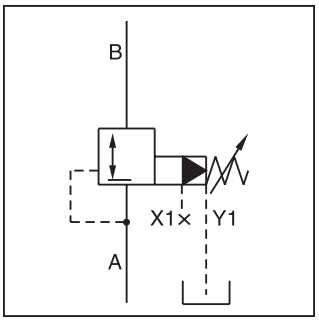
R5V.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

General Description

Series R5R pilot operated pressure reducing valves have a similar design as the subplate mounted R4R series. The SAE flanges allow to mount the valves directly on the inlet flanges of actuators to achieve a very compact design.





Features

- Pilot operated with manual adjustment.
- Normally closed to avoid unintended motion.
- 2-port body with SAE61 flange.
- 3 sizes (SAE 3/4", 1", 1-1/4").
- 3 pressure stages.
- 3 adjustment modes:
  – Hand knob
  – Acorn nut with lead seal
  – Key lock
- With optional vent function.
- Flow direction B → A.

D

Ordering Informaton

R5R	☐	—	☐	2	☐	☐	6	☐	☐	A	☐	☐
Pressure Reducing Valve	Size		SAE 61 Interface	2-Port Body X1, Y1 = SAE 4	Pressure Range	Adjustment	External Drain from Y1 Port	Switching Type	Solenoid Voltage	Design Series	Seal	Options Check with Factory

Code	Description
06	SAE 3/4"
08	SAE 1"
10	SAE 1-1/4"

Code	Description
1	Hand Knob
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
Omit	Standard w/o vent function
G0R	12V
G0Q	24V
GAR	98V
GAG	205V
W30	110V 50Hz/ 120V 60Hz
W31	220V 50Hz/ 240V 60Hz

Code	Description
1	Nitrile
5	Fluorocarbon

Code	Size	Max. Pressure
4	10	280 Bar (4060 PSI)
5	06/08	350 Bar (5075 PSI)

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 Bar)

Code	Description
Omit	Standard w/o vent function
09*	Solenoid not activ. unpress. circulation
11**	Solenoid activated unpress. circulation

* Sol. de-energized: open to tank
Sol. energized: vent line blocked

** Sol. de-energized: vent line blocked
Sol energized: open to tank

Further options on request.

Weight:

R5R06 4.0 kg (8.8 lbs.)
R5R08 4.6 kg (10.1 lbs.)
R5R10 5.9 kg (13.0 lbs.)

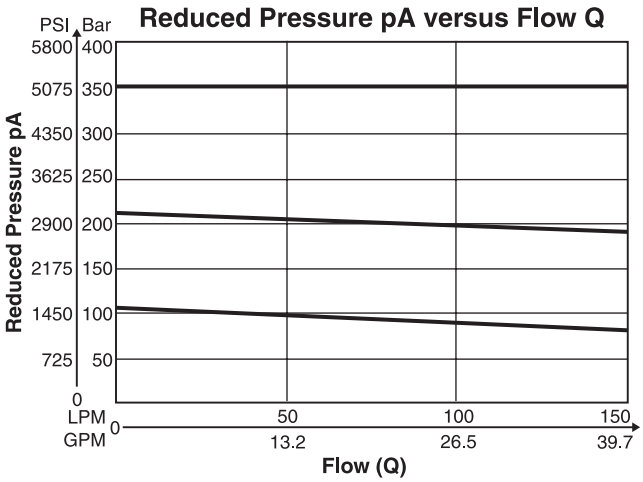
R5R.indd, dd

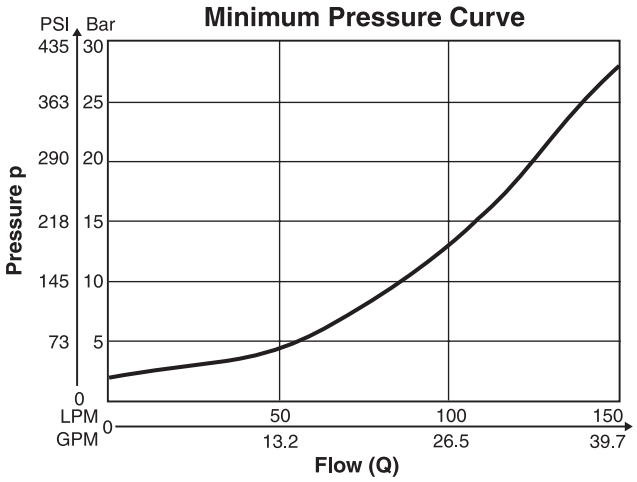
Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

General						
Size	**06**		**08**		**10**	
Mounting	Flanged according to SAE 61					
Mounting Position	Unrestricted					
Ambient Temperature Range	-20°C to +50°C (-4°F to +122°F)					
Hydraulic						
Max. Operating Pressure **Ports A,B, X1**	350 Bar (5075 PSI)		350 Bar (5075 PSI)		280 Bar (4060 PSI)	
Port Y1	30 Bar (435 PSI)		30 Bar (435 PSI)		30 Bar (435 PSI)	
Pressure Ranges	105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)					
Nominal Flow	90 LPM (23.8 GPM)		300 LPM (79.4 GPM)		500 LPM (132.3 GPM)	
Fluid	Hydraulic oil as per DIN 51524 ... 51525					
Fluid Temperature	-20°C to +80°C (-4°F to +176°F)					
Viscosity Permitted **Recommended**	10 to 650 cSt / mm^2/s (46 to 3013 SSU) 30 cSt / mm^2/s (139 SSU)					
Filtration	ISO Class 4406 (1999) 18/16/13 (acc. NAS 1638: 7)					
Electrical (Solenoid)						
Duty Ratio	100%					
Solenoid Connection	Connector as per EN175301-803					
Protection Class	IP65 in accordance with EN60529 (plugged and mounted)					
Code	**G0R**	**G0Q**	**GAR**	**GAG**	**W30**	**W31**
Supply Voltage	12V	24V	98V	205V	110V at 50Hz 120V at 60Hz	2200V at 50Hz 240V at 60Hz
Tolerance Supply Voltage	+5 to -10	+5 to -10	+5 to -10	+5 to -10	±5	±5
Power Consumption Hold	31W	31W	31W	31W	78W	78W
In Rush	31W	31W	31W	31W	264W	264W
Response Time	Energized / De-energized AC 20/18ms, DC 46/27 ms					
Max. Switching Frequency	AC up to 7200, DC 70 to 16,000 switchings/hour					
Coil Insulation Class	H (180°C) (356°F)					

D

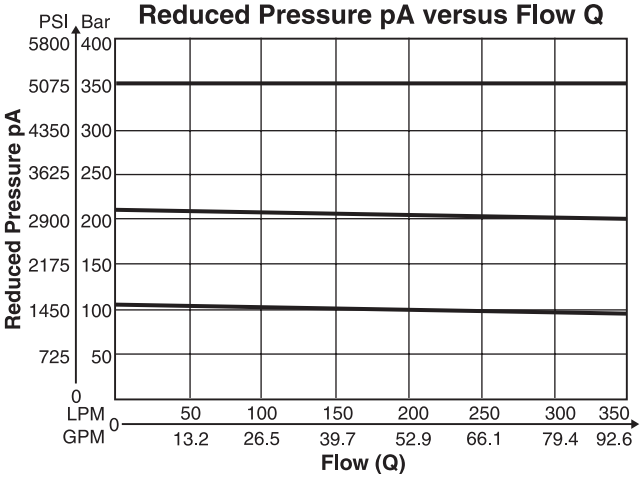
R5R06*

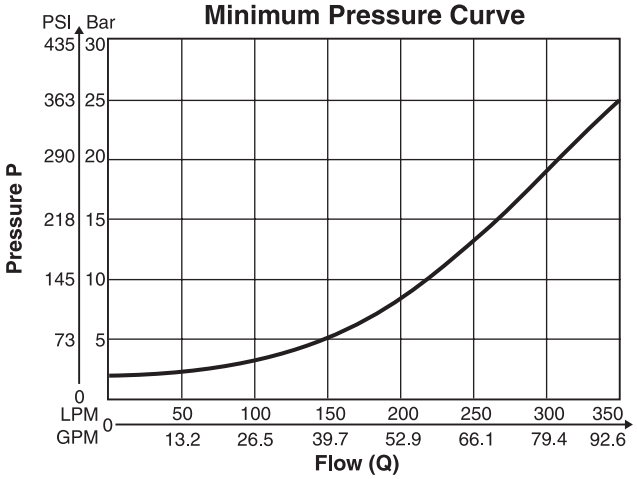




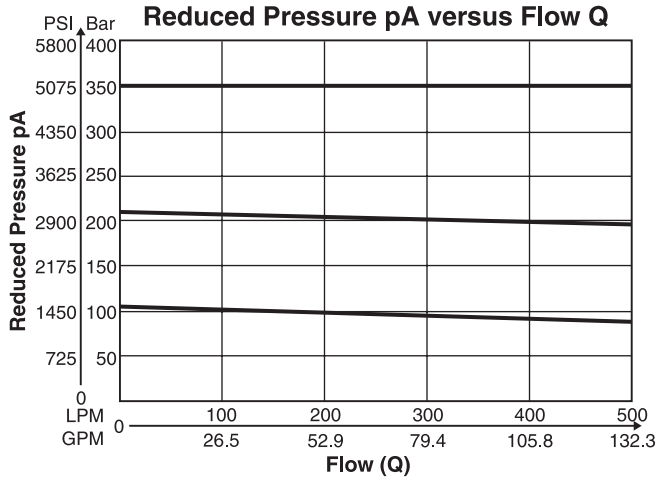
D

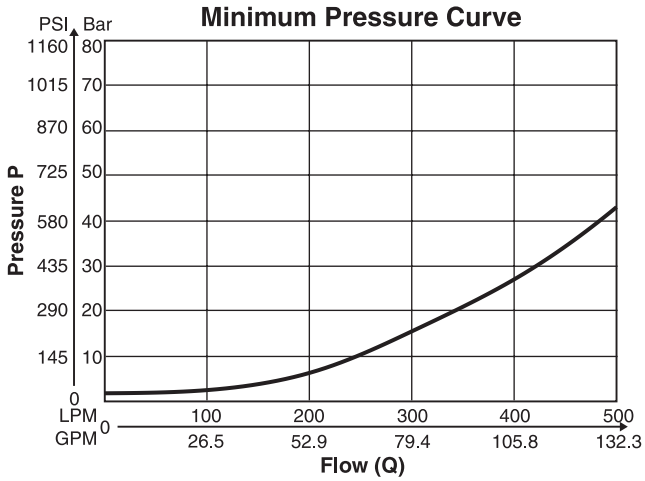
R5R08*





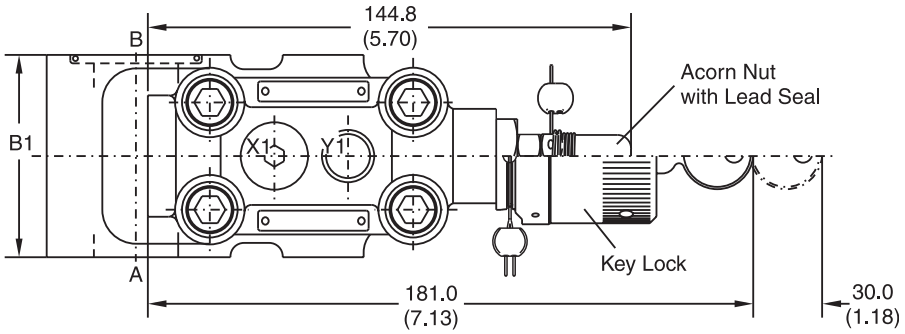
R5R10*

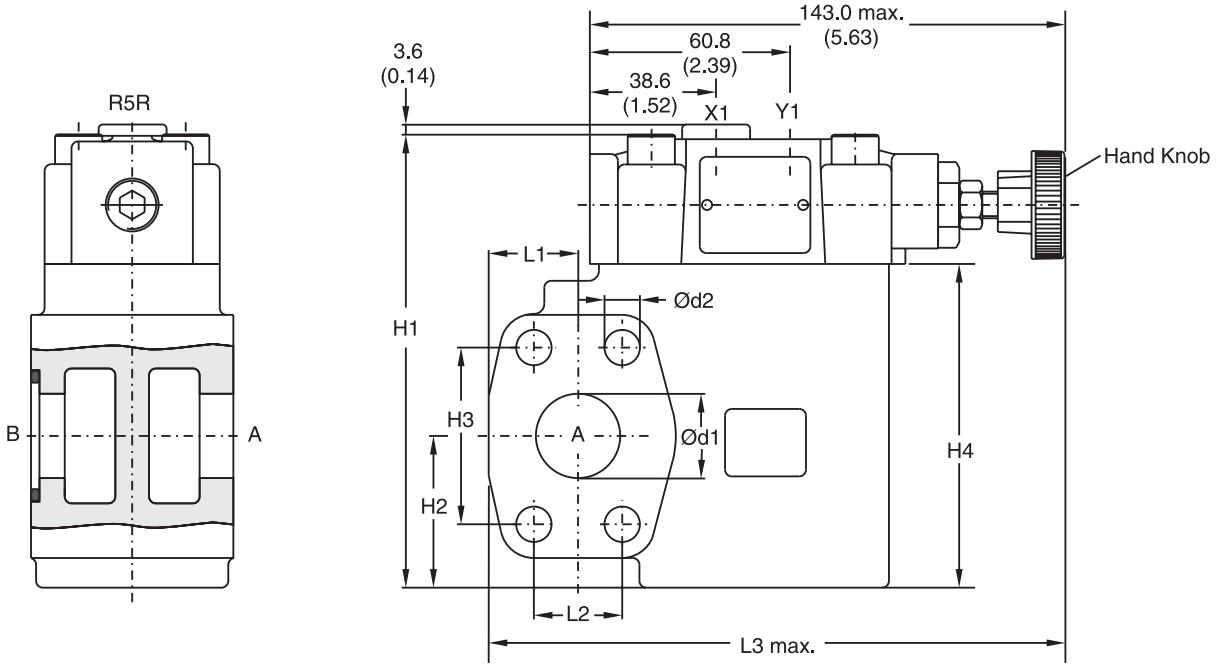




*Measured at 350 Bar (5075 PSI) primary pressure pB.

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





Seal Kits		
Size	**Nitrile**	**Fluorocarbon**
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

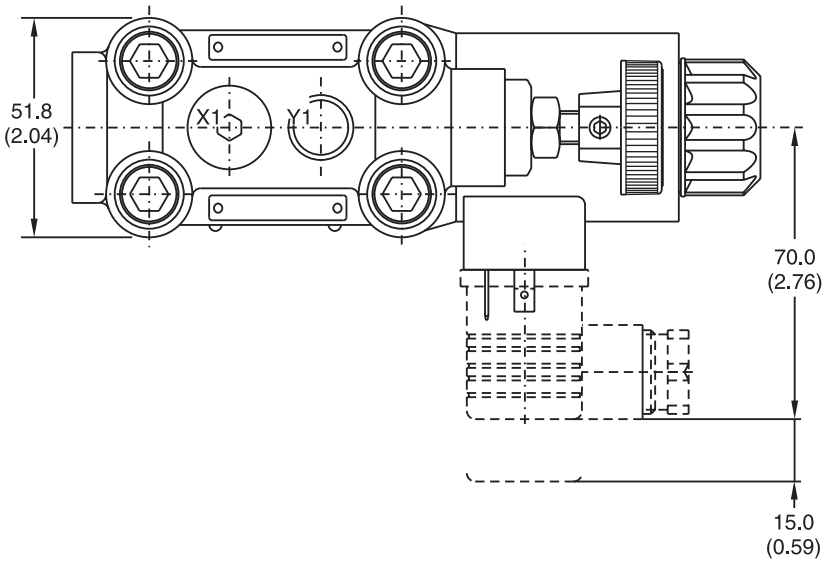
Size	B1	H1	H2	H3	H4	L1	L2	L3	d1	d2
06	60.0 (2.36)	131.6 (5.18)	37.0 (1.46)	47.6 (1.87)	90.0 (3.54)	24.6 (0.97)	22.2 (0.87)	152.0 (5.98)	19.0 (0.75)	10.5 (0.41)
08	60.0 (2.36)	137.6 (5.42)	45.0 (1.77)	52.4 (2.06)	96.0 (3.78)	26.5 (1.04)	26.2 (1.03)	171.0 (6.73)	25.0 (0.98)	10.5 (0.41)
10	75.0 (2.95)	150.6 (5.93)	48.0 (1.89)	58.7 (2.31)	109.0 (4.29)	34.0 (1.34)	30.2 (1.19)	179.0 (7.05)	32.0 (1.26)	12.5 (0.49)

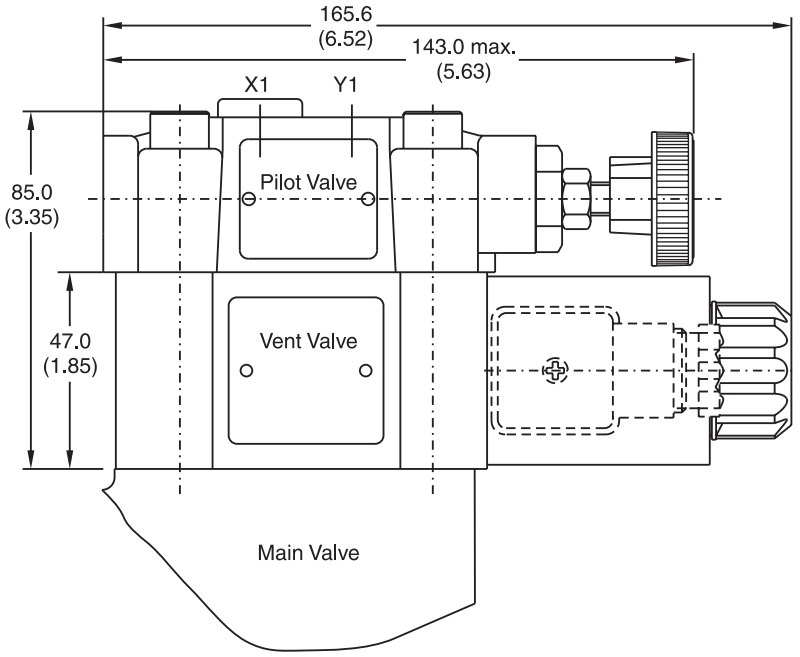
Port	Function	Port Size		
		R5R06	**R5R08**	**R5R10**
B	Inlet Pressure	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61
A	Reduced Outlet Pressure	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61
Y1	External Drain	SAE 4		
X1	Pressure Gauge	SAE 4		

R5R.indd, dd

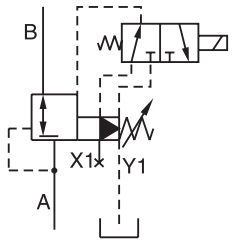
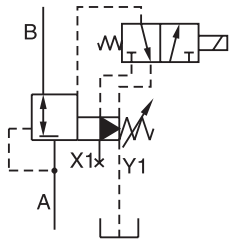
Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

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





External Drain

Code 11	Code 09
	

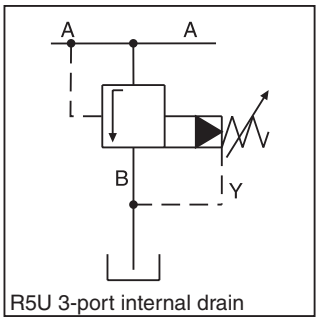
Vent Valve Seal Kits	
Nitrile	**Fluorocarbon**
DC Solenoid	
S26-58515-0	S26-58515-5
AC Solenoid	
S26-35237-0	S26-35237-5

R5R.indd, dd

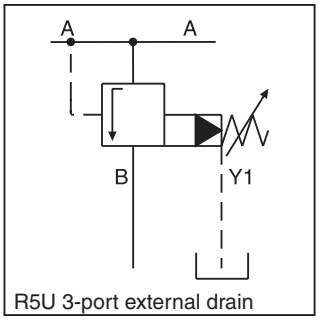
General Description

Series R5U pilot operated, pressure unloading valves have a similar design to the subplate mounted R4U series. The SAE flanges allow to mount the valve directly on the outlet flanges of pumps.

A typical application is the unloading of a pump in an accumulator circuit. The combination of an R5U, C5V and R5V on a double pump generates a high pressure / low pressure pump system without the need of a manifold block or piping between the valves.



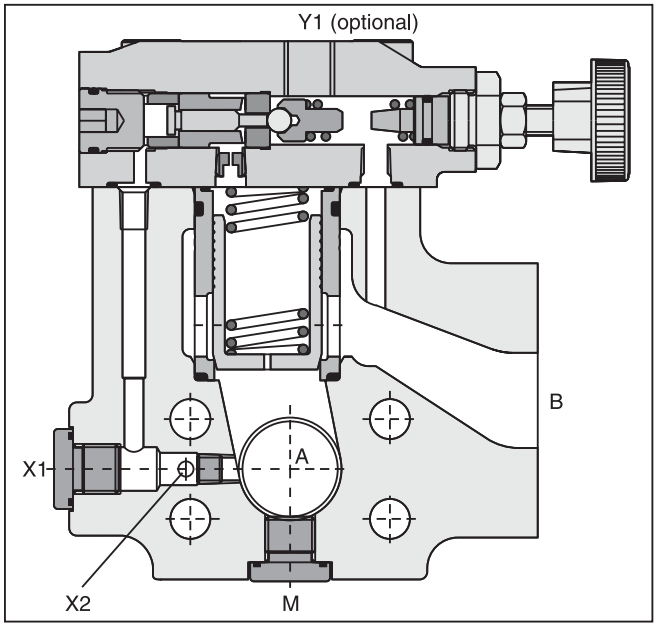
R5U 3-port internal drain



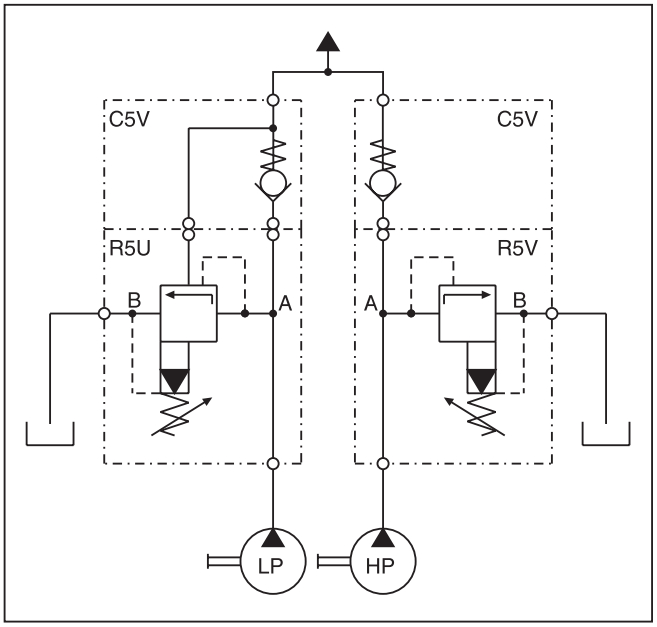
R5U 3-port external drain

Features

- Pilot operated unloading valve.
- 3-port body with SAE 61 flange.
- 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2").
- 3 pressure stages.
- 3 adjustment modes:
  – Hand knob
  – Acorn nut with lead seal
  – Key lock
- With optional vent function.



High Pressure / Low Pressure System



Ordering Information

R5U [ ] — [ ] **3** [ ] [ ] [ ] [ ] [ ] **A** [ ] [ ]

Pressure Unloading Valve | Size | SAE61 Interface | 3-Port Body | Pressure Range | Adjustment | Pilot Oil | Switching Type | Solenoid Voltage | Design Series | Seal | Options Check with Factory

3-Port Body: M, Y1, X = SAE 4

Code	Description
06	SAE 3/4"
08	SAE 1"
10	SAE 1-1/4"
12	SAE 1-1/2"

Code	Description
1	Hand Knob
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
Omit	Standard w/o vent function
G0R	12V
G0Q	24V
GAR	98V
GAG	205V
W30	110V 50Hz/ 120V 60Hz
W31	220V 50Hz/ 240V 60Hz

Code	Description
1	Nitrile
5	Fluorocarbon

Code	Size	Max. Pressure
3	12	210 Bar (3045 PSI)
4	10	280 Bar (4060 PSI)
5	06/08	350 Bar (5075 PSI)

Code	Pilot	Drain
4	External via port X1 or X2	External
5	External via port X1 or X2	Internal

Code	Pressure Stage	Pressure Differential
1	up to 105 Bar (1523 PSI)	28%
3	up to 210 Bar (3045 PSI)	28%
5	up to 350 Bar (5075 Bar)	15%

Code	Description
Omit	Standard w/o vent function
09*	Solenoid not activ. unpress. circulation
11**	Solenoid activated unpress. circulation

* Sol. de-energized: open to tank
Sol. energized: vent line blocked

** Sol. de-energized: vent line blocked
Sol energized: open to tank

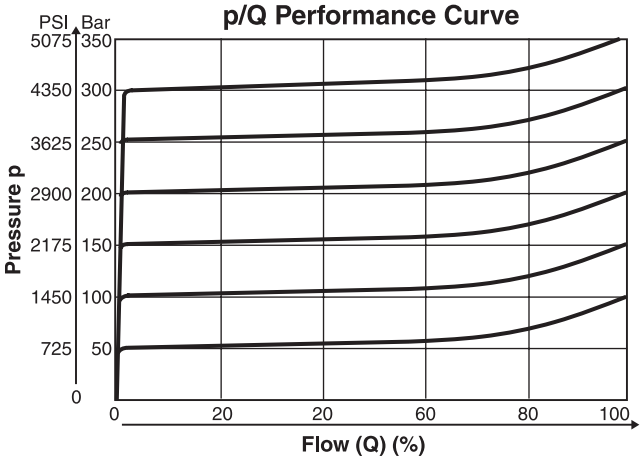
Weight:

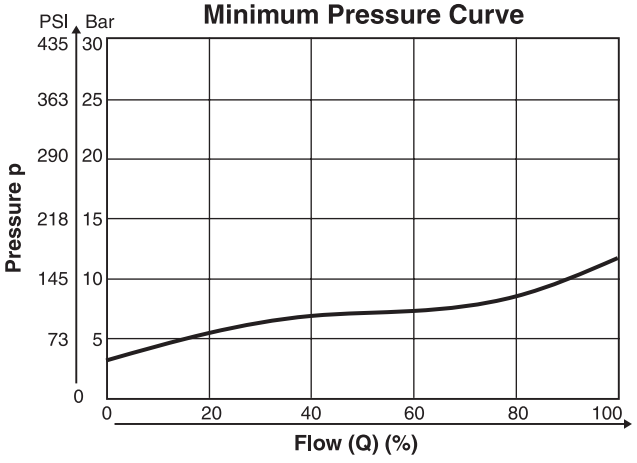
R5U06	3.6 kg (7.9 lbs)
R5U08	4.6 kg (10.1 lbs.)
R5U10	5.2 kg (11.5 lbs.)
R5U12	8.0 kg (17.6 lbs.)

Further options on request.

D

Performance Curves





The performance curves are measured with external drain.
For internal drain the tank pressure has to be added to curve.

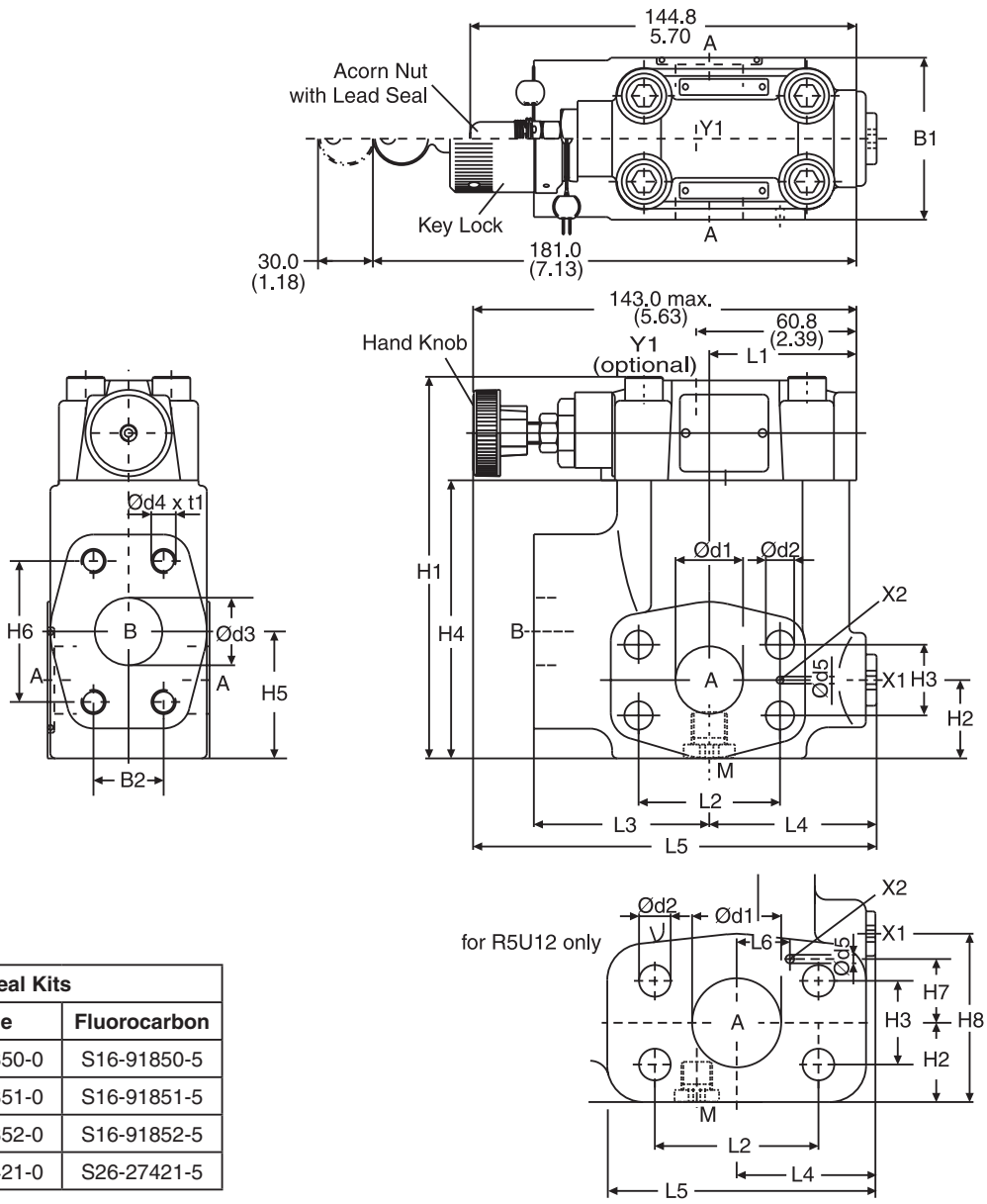
R5U.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

General						
Size	**06**	**08**	**10**	**12**		
Mounting	Flanged according to SAE 61					
Mounting Position	Unrestricted					
Ambient Temperature	-20°C to +50°C (-4°F to +122°F)					
Hydraulic						
Maximum Operating Pressure **Ports A,B, X**	350 Bar (5075 PSI)	350 Bar (5075 PSI)	280 Bar (4060 PSI)	210 Bar (3045 PSI)		
Ports Y, Y1	30 Bar (435 PSI)	30 Bar (435 PSI)	30 Bar (435 PSI)	30 Bar (435 PSI)		
Pressure Ranges	105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)					
Nominal Flow	90 LPM (23.8 GPM)	300 LPM (79.4 GPM)	600 LPM (158.7 GPM)	600 LPM (158.7 GPM)		
Fluid	Hydraulic oil as per DIN 51524 ... 51525					
Fluid Temperature	-20°C to +80°C (-4°F to +176°F)					
Viscosity Permitted Recommended	10 to 650 cSt / mm^2/s (46 to 3013 SSU) 30 cSt / mm^2/s (139 SSU)					
Filtration	ISO Class 4406 (1999) 18/16/13 (acc. NAS 1638: 7)					
Electrical						
Duty Ratio	100%					
Solenoid Connection	Connector as per EN175301-803					
Protection Class	IP65 in accordance with EN60529 (plugged and mounted)					
Code	**G0R**	**G0Q**	**GAR**	**GAG**	**W30**	**W31**
Supply Voltage	12V	24V	98V	205V	110V at 50Hz 120V at 60Hz	220V at 50Hz 240V at 60Hz
Tolerance Supply Voltage	+5 to -10	+5 to -10	+5 to -10	+5 to -10	±5	±5
Power Consumption Hold	31W	31W	31W	31W	78W	78W
In Rush	31W	31W	31W	31W	264W	264W
Response Time	Energized / De-energized AC 20/18ms, DC 46/27 ms					
Maximum Switching Frequency	AC up to 7200 switchings/hour DC up to 16,000 switchings/hour					
Coil Insulation Class	H (180°C) (356°F)					

D

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



Seal Kits		
Size	**Nitrile**	**Fluorocarbon**
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5
12	S26-27421-0	S26-27421-5

Size	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	d4	t1	d5	L6	H7	H8
06	60.0 (2.36)	22.2 (0.87)	119.0 (4.69)	28.0 (1.10)	22.2 (0.87)	81.0 (3.19)	41.6 (1.64)	47.6 (1.87)	50.0 (1.98)	47.6 (1.87)	63.0 (2.48)	56.0 (2.20)	152.0 (5.98)	19.0 (0.75)	10.5 (0.41)	19.0 (0.75)	3/8"-16 UNC	20.0 (0.79)	3.0 (0.12)	–	–	–
08	60.0 (2.36)	26.2 (1.03)	141.0 (5.55)	29.0 (1.14)	26.2 (1.03)	103.0 (4.06)	47.0 (1.85)	52.4 (2.06)	55.8 (2.20)	52.4 (2.06)	65.0 (2.56)	58.0 (2.28)	149.0 (5.87)	25.0 (0.98)	10.5 (0.41)	25.0 (0.98)	3/8"-16 UNC	23.0 (0.91)	3.0 (0.12)	–	–	–
10	75.0 (2.95)	30.2 (1.19)	151.0 (5.94)	34.5 (1.36)	30.2 (1.19)	113.0 (4.45)	64.0 (2.52)	58.7 (2.31)	57.8 (2.28)	58.7 (2.31)	61.0 (2.40)	62.0 (2.44)	150.5 (5.93)	32.0 (1.26)	12.5 (0.49)	32.0 (1.26)	7/16"-14 UNC	22.0 (0.87)	3.0 (0.12)	–	–	–
12	80.0 (3.15)	35.7 (1.41)	178.0 (7.01)	34.0 (1.34)	35.7 (1.41)	140.0 (5.51)	73.0 (2.87)	69.8 (2.75)	37.3 (1.47)	69.8 (2.75)	92.5 (3.64)	55.2 (2.17)	171.2 (6.74)	38.0 (1.50)	13.5 (0.53)	38.0 (1.50)	1/2"-13 UNC	27.0 (1.06)	3.0 (0.12)	22.4 (0.88)	27.2 (1.07)	73.0 (2.87)

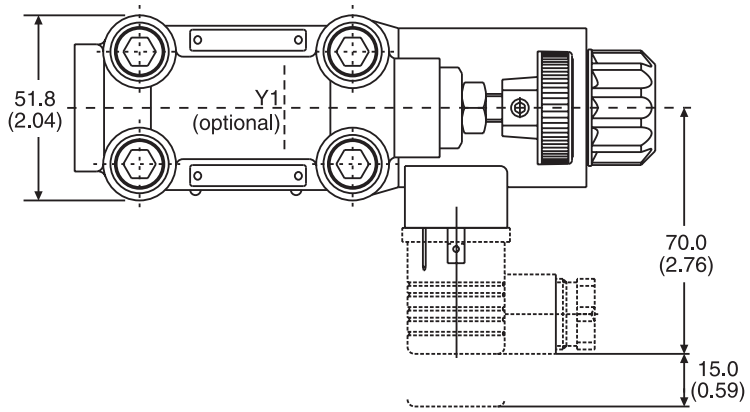
Port	Function	Port Size			
		R5U06	**R5U08**	**R5U10**	**R5U12**
A (2)	Pressure	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61	1-1/2" SAE 61
B	Tank	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61	1-1/2" SAE 61
X1	External Pilot Port*	SAE 4			
Y1	External Drain	SAE 4			
M	Pressure Gauge	SAE 4			

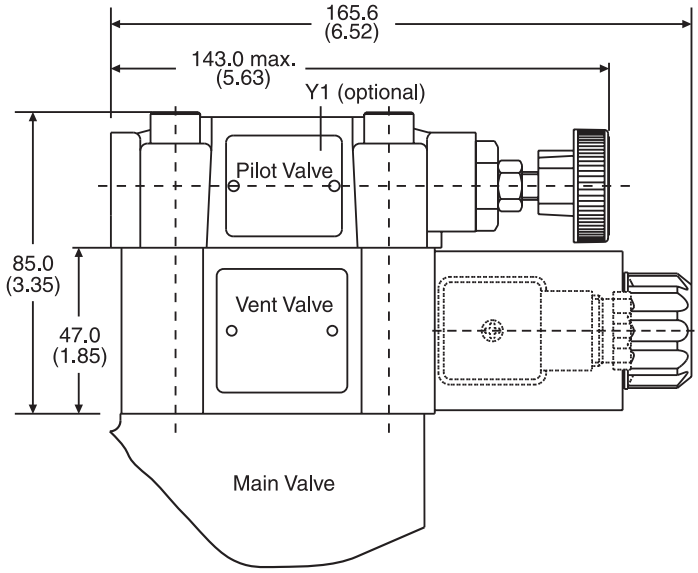
* closed when supplied.

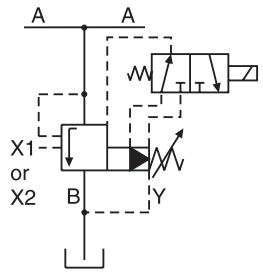
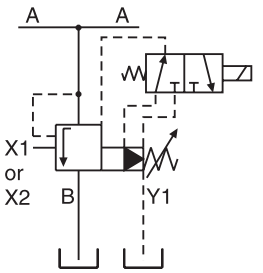
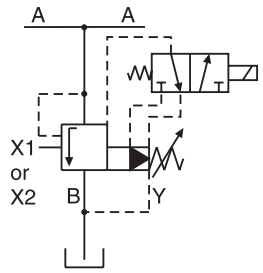
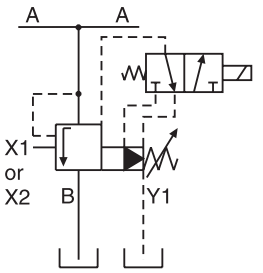
R5U.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

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



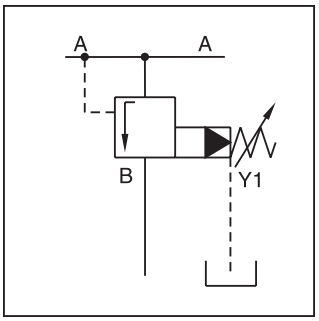


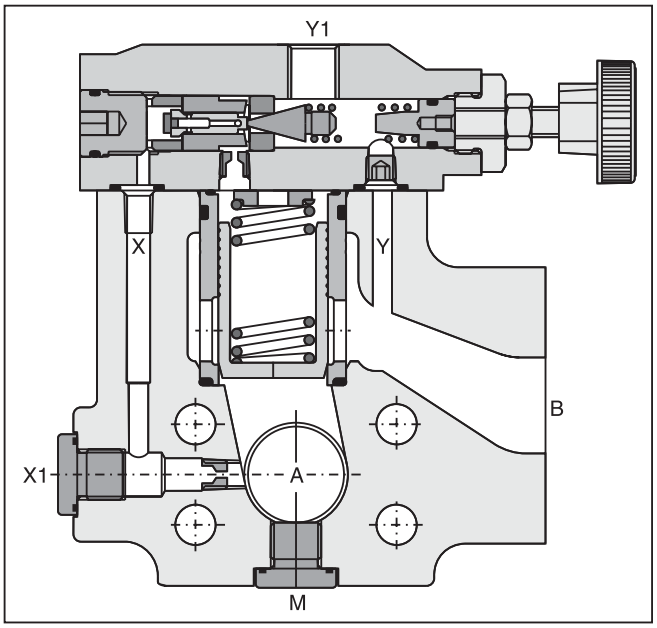
Code	Internal Drain	External Drain
11		
09		

Vent Valve Seal Kits	
Nitrile	**Fluorocarbon**
DC Solenoid	
S26-58515-0	S26-58515-5
AC Solenoid	
S26-35237-0	S26-35237-5

General Description

Series R5S pilot operated sequence valves have a similar design to the subplate mounted R4S series. The SAE flanges allow to mount the valve directly on the inlet flanges of actuators or outlet flanges of pumps to achieve a very compact design.





Features

- Pilot operated with manual adjustment.
- 3-port body with SAE61 flange.
- 3 sizes (SAE 3/4", 1", 1-1/4").
- 3 pressure stages:
- 2 adjustment modes:
  – Hand knob
  – Acorn nut with lead seal

D

Ordering Information

R5S	☐	—	☐	3	☐	☐	6	A	☐	☐
Pressure Sequence Valve	Size		SAE 61 Interface	3-Port Body Y1, M = SAE 4	Pressure Range	Adjustment	External Drain from Y1 Port	Design Series	Seal	Options Check with Factory

Code	Description
06	SAE 3/4"
08	SAE 1"
10	SAE 1-1/4"

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 Bar)

Code	Description
1	Nitrile
5	Fluorocarbon

Code	Size	Max. Pressure
4	10	280 Bar (4060 PSI)
5	06/08	350 Bar (5075 PSI)

Code	Description
1	Hand Knob
3	Acorn Nut with Lead Seal
4	Key Lock

Weight:

R5S06	3.6 kg (7.9 lbs.)
R5S08	4.6 kg (10.1 lbs.)
R5S10	5.2 kg (11.5 lbs.)

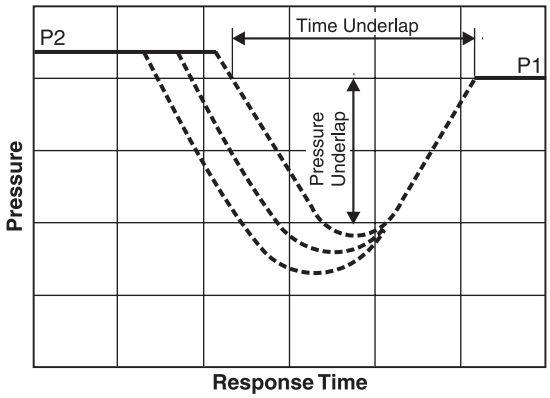
Specifications

General				
Size		**06**	**08**	**10**
Mounting		Flanged according to SAE 61		
Mounting Position		Unrestricted		
Ambient Temperature Range		-20°C to +50°C (-4°F to +122°F)		
Hydraulic				
Max. Operating Pressure	**Ports A,B**	350 Bar (5075 PSI)	350 Bar (5075 PSI)	280 Bar (4060 PSI)
	Ports Y, Y1	30 Bar (435 PSI)	30 Bar (435 PSI)	30 Bar (435 PSI)
Pressure Ranges		105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)		
Nominal Flow		90 LPM (23.3 GPM)	300 LPM (79.4 GPM)	600 LPM (158.7 GPM)
Fluid		Hydraulic oil as per DIN 51524 ... 51525		
Fluid Temperature		-20°C to 80°C (-4°F to 176°F)		
Viscosity	**Permitted** **Recommended**	10 to 650 cSt / mm²/s (46 to 3013 SSU) 30 cSt / mm²/s (139 SSU)		
Filtration		ISO Class 4406 (1999) 18/16/13 (acc. NAS 1638: 7)		

D

Performance Curve

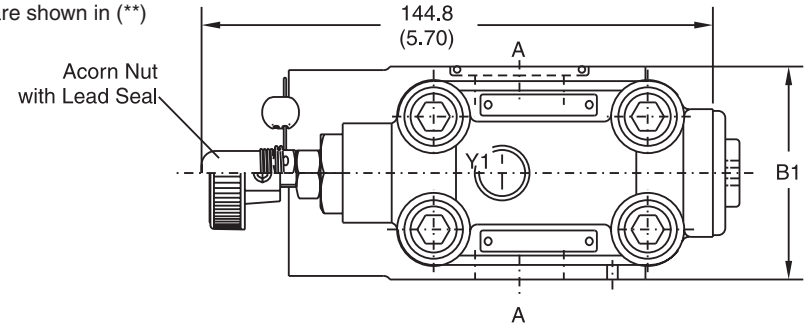
Typical Pressure Characteristics at Closing Point

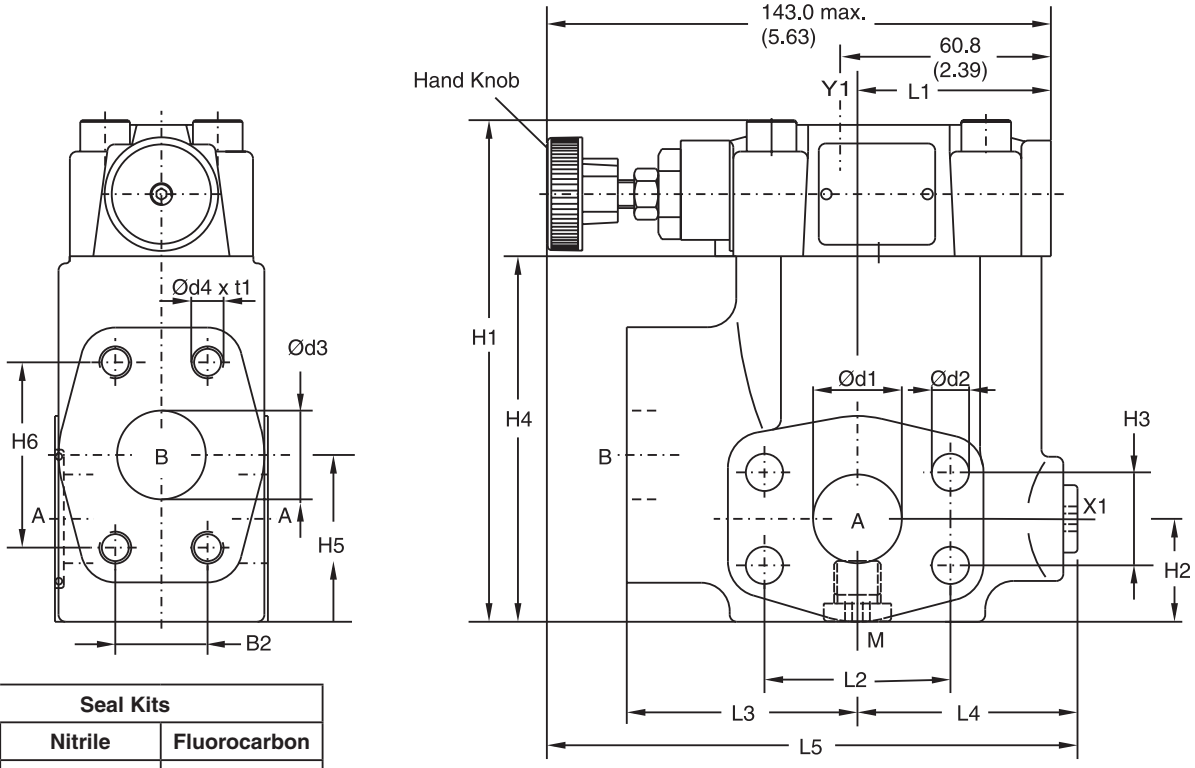


P1 = Setting Pressure
P2 = Operating Pressure

Time and pressure underlap depend on the characteristics of the specific system.

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





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Seal Kits		
Size	**Nitrile**	**Fluorocarbon**
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

SAE 61

Size	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	d4 (option 152)	t1
06	60.0 (2.36)	22.2 (0.87)	119.0 (4.69)	28.0 (1.10)	22.2 (0.87)	81.0 (3.19)	41.6 (1.64)	47.6 (1.87)	50.3 (1.98)	47.6 (1.87)	63.0 (2.48)	56.0 (2.20)	152.0 (5.98)	19.0 (0.75)	10.5 (0.41)	19.0 (0.75)	3/8"-16 UNC (M10)	20.0 (0.79)
08	60.0 (2.36)	26.2 (1.03)	141.0 (5.55)	29.0 (1.14)	26.2 (1.03)	103.0 (4.06)	47.0 (1.85)	52.4 (2.06)	55.8 (2.20)	52.4 (2.06)	65.0 (2.56)	58.0 (2.28)	149.0 (5.87)	25.0 (0.93)	10.5 (0.41)	25.0 (0.98)	3/8"-16 UNC (M10)	23.0 (0.91)
10	75.0 (2.95)	30.2 (1.19)	151.0 (5.94)	34.5 (1.36)	30.2 (1.19)	113.0 (4.45)	64.0 (1.52)	58.7 (2.31)	57.8 (2.28)	58.7 (2.31)	61.0 (2.40)	62.0 (2.44)	150.5 (5.93)	32.0 (1.26)	12.5 (0.49)	32.0 (1.26)	7/16"-14 UNC (M12)	22.0 (0.87)

Port	Function	Port Size		
		R5S06	**R5S08**	**R5S10**
A (2)	Pressure	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61
B	Secondary Port	3/4" SAE 61	1" SAE 61	1-1/4" SAE 61
X1	External Pilot Port*	SAE 4		
Y1	External Drain	SAE 4		
M	Pressure Gauge	SAE 4		

* closed when supplied.

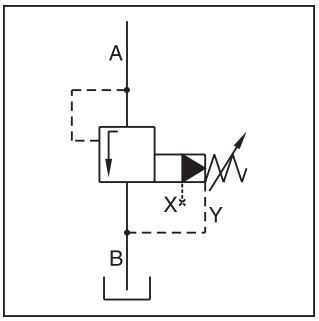
R5S.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

General Description

Series R4V pilot operated, pressure relief valves for in-line mounting have a similar design to the subplate mounted R4V series. For single functions where no manifold blocks are used, the valves can be directly placed in the pipework.

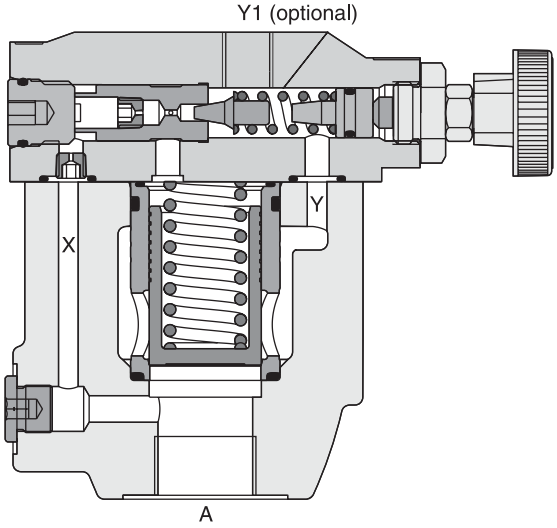
The R4V valves are available with 2 ports (L-body) for in-line relief function or with 3 ports (T-body) for relief functions in the bypass.



Operation

The system pressure in Port A is applied to the pilot valve and to the top surface of the main poppet via an orifice in X. The hydraulically balanced main poppet is held against the seat by the main spring. In this state there is no flow through the valve. The adjusted spring force acting on the pilot cone determines the relief pressure. If the pressure in Port A exceeds the set point, the pilot cone is lifted from its seat, releasing a small pilot flow to tank. The flow through the control orifice in X creates a pressure drop which limits the pressure at the top of the main poppet to the set point. The higher system pressure in Port A now lifts the main poppet off its seat and allows flow to Port B. In the resulting float position only enough flow is passed from Port A to Port B to maintain the inlet pressure in Port A at the set point. When the pressure in Port A falls below the set point, the hydraulic balance on the main poppet is restored. The main spring then forces the main poppet to close.

R4V06 L-Body



Features

- Pilot operated with manual adjustment.
- 2 interfaces:
  - L-body (R4V06-SAE 12, R4V10-SAE 20)
  - T-body (R4V03-SAE 8, R4V06-SAE 16)
- 3 pressure stages.
- 3 adjustment modes:
  - Hand knob
  - Acorn nut with lead seal
  - Key lock
- With optional vent function.

Ordering Information

R4V ☐ — **5** ☐ ☐ ☐ ☐ ☐ ☐ ☐ **A** ☐ ☐

Pressure Relief Valve	Size	Max Pressure 350 Bar (5075 PSI)	Body	Pressure Range	Adjustment	Drain Line	Switching Type	Solenoid Voltage (Optional)	Design Series	Seal	Options Check with Factory

Code	Description
03	NG10 (SAE 8)
06	NG25 (SAE 16 – T-Body) (SAE 12 – L-Body)
10	NG32 (SAE 20)

Code	Description
4	R4V03 T-Body R4V06 T-Body
B	R4V06 L-Body R4V10 L-Body

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 Bar)

Code	Description
1	Hand Knob
3	Acorn Nut with Lead Seal
4	Key Lock

Code	Description
0	Internal
2	External from Pilot Head (Y1)

Code	Description
Omit	Standard w/o vent function
09*	Solenoid not activ. unpress. circulation
11**	Solenoid activated unpress. circulation

* Sol. de-energized: open to tank
Sol. energized: vent line blocked

** Sol. de-energized: vent line blocked
Sol energized: open to tank

Code	Description
Omit	Standard w/o vent function
G0R	12V
G0Q	24V
GAR	98V
GAG	205V
W30	110V 50Hz/ 120V 60Hz
W31	220V 50Hz/ 240V 60Hz

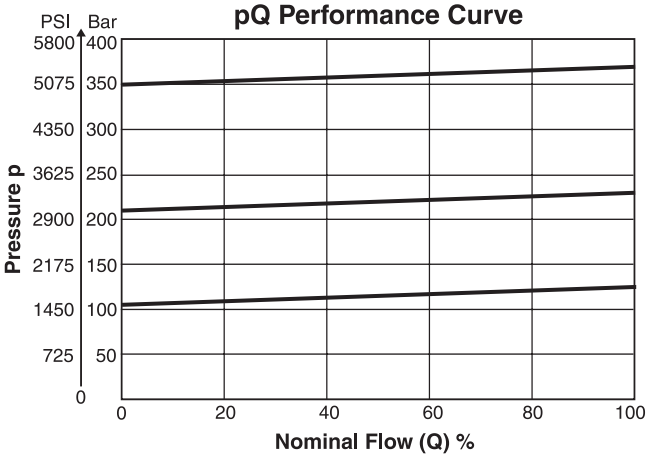
Code	Description
1	Nitrile
5	Fluorocarbon

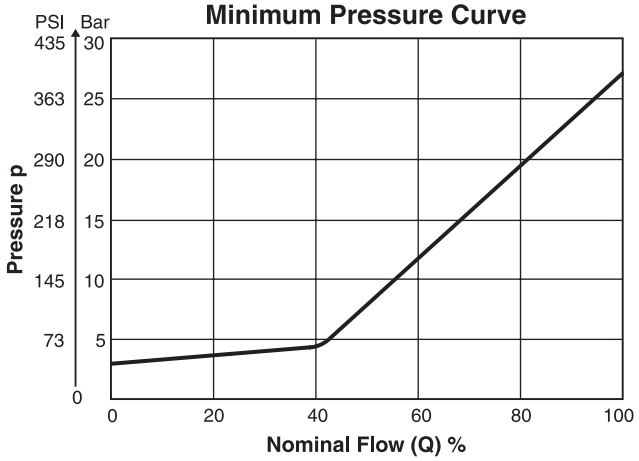
Weight:

R4V03 3.2 kg (7.1 lbs.)
R4V06*4 6.6 kg (14.6 lbs.)
R4V06*B 3.3 kg (8.2 lbs.)
R4V10 5.6 kg (12.3 lbs.)

D

Performance Curves*





* The performance curves are measured with external drain. For internal drain, the tank pressure has to be added to the curve.

R4V.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

R4V

General				
	T-Body		L-Body	
Size	**03 (SAE 8)**	**06 (SAE 16)**	**06 (SAE 12)**	**10 (SAE 20)**
Mounting	Threaded Body			
Mounting Position	Unrestricted			
Ambient Temp. Range	-20°C to +50°C (-4°F to +122°F)			
Hydraulic				
Max. Operating Pressure	Ports A and X up to 350 Bar (5075 PSI); Ports B and Y 30 Bar (435 PSI)			
Pressure Ranges	105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)			
Nominal Flow	60 LPM (15.9 GPM)	200 LPM (52.9 GPM)	200 LPM (52.9 GPM)	450 LPM (119.0 GPM)
Fluid	Hydraulic oil as per DIN 51524 ... 51525			
Fluid Temperature	-20°C to +80°C (-4°F to +176°F)			
Viscosity **Permitted** **Recommended**	 10 to 650 cSt / mm^2/s (46 to 3013 SSU 30 cSt / mm^2/s (139 SSU)			
Filtration	ISO Class 4406 (1999) 18/16/13 (acc. NAS 1638: 7)			

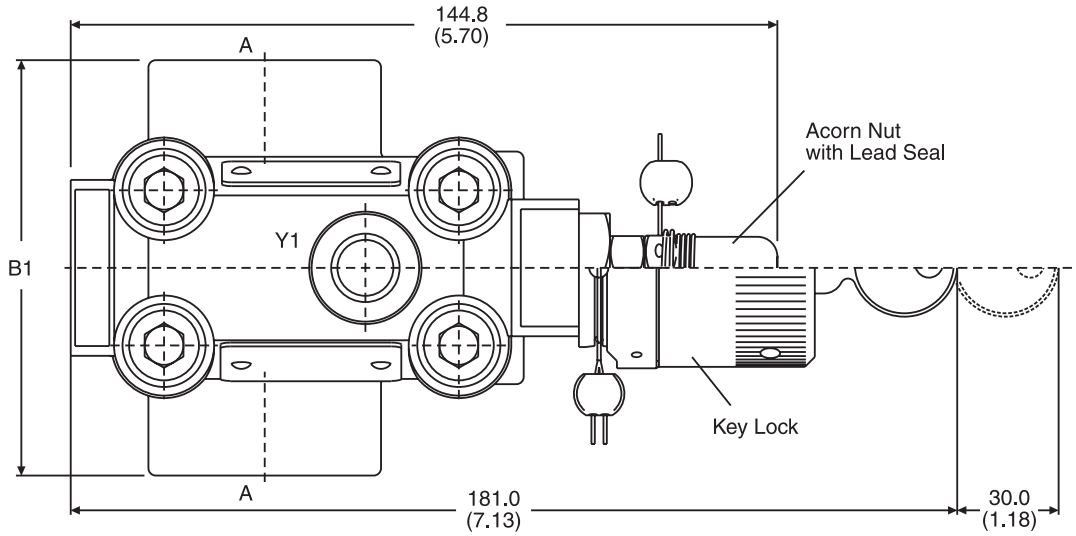
D

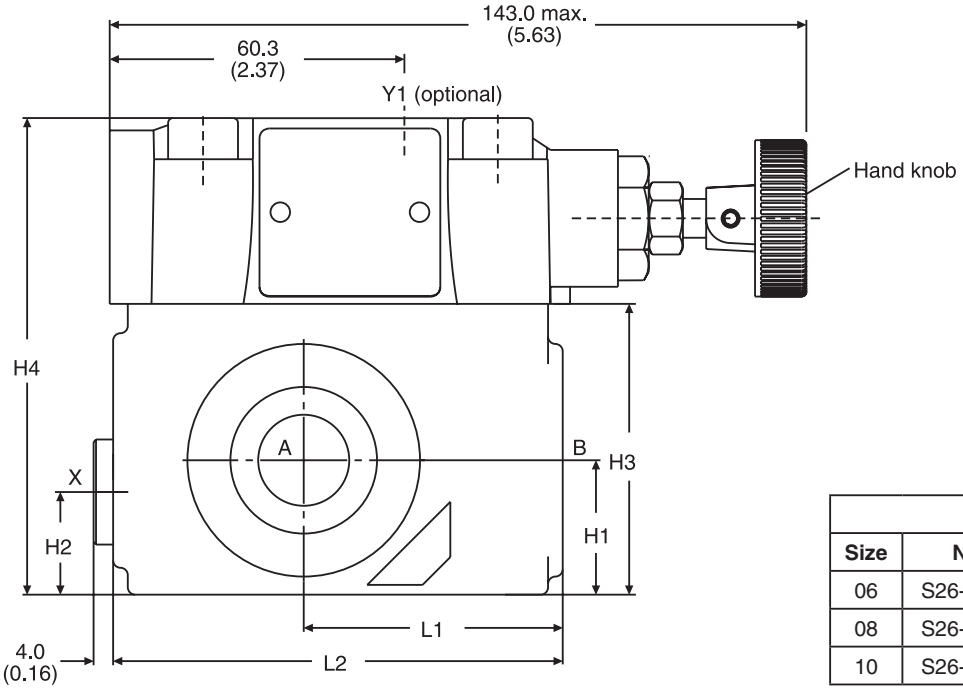
R4V with Vent Function

General						
	T-Body		L-Body			
Size	**03 (SAE 8)**	**06 (SAE 16)**	**06 (SAE 12)**	**10 (SAE 20)**		
Mounting	Threaded Body					
Mounting Position	Unrestricted					
Ambient Temp. Range	-20°C to +50°C (-4°F to +122°F)					
Weight	3.2 kg (7.0 lbs)	6.6 kg (14.5 lbs)	3.3 kg (7.3 lbs)	5.6 kg (12.3 lbs)		
Electrical (Solenoid)						
Duty Ratio	100%					
Response Time	Energized / De-energized AC: 20/18ms, DC: 46/27 ms					
Code	**G0R**	**G0Q**	**GAR**	**GAG**	**W30**	**W31**
Supply Voltage	12V	24V	98V	205V	110V at 50Hz 120V at 60Hz	220V at 50Hz 240V at 60Hz
Tolerance Supply Voltage	+5 to -10	+5 to -10	+5 to -10	+5 to -10	±5	±5
Power Consumption Hold	31W	31W	31W	31W	78W	78W
In Rush	31W	31W	31W	31W	264W	264W
Maximum Switching Frequency	AC up to 7,200 switchings per hour DC up to 16,000 switchings per hour					
Solenoid Connection	Connector as per EN175301-803					
Protection Class	IP65 in accordance with EN60529 (plugged and mounted)					
Coil Insulation Class	H (180°C) (356°F)					

T-Body

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





Seal Kits		
Size	**Nitrile**	**Fluorocarbon**
06	S26-58507-0	S26-58507-5
08	S26-58475-0	S26-58475-5
10	S26-58508-0	S26-58508-5

Size	Body	B1	B2	B3	B4	H1	H2	H3	H4	H5	H6	H7	H8	L1	L2	L3
03	T-body	85.0 (3.35)	–	–	–	27.5 (1.08)	21.0 (0.83)	59.5 (2.34)	97.5 (3.84)	–	–	–	–	53.0 (2.09)	92.0 (3.62)	–
06	T-body	136.0 (5.35)	–	–	–	38.0 (1.50)	28.0 (1.10)	93.0 (3.66)	131.0 (5.16)	–	–	–	–	66.5 (2.62)	117.5 (4.63)	–

Ports	Function	Port size	
		R4V03 T-body	**R4V06 T-body**
A	Pressure (inlet)	SAE 8	SAE 16
B	Tank (outlet)	SAE 8	SAE 16
X[1)]	Ext. Remote Control or Vent Connection	SAE 4	
Y1[2)]	External Drain		

[1)] closed when supplied

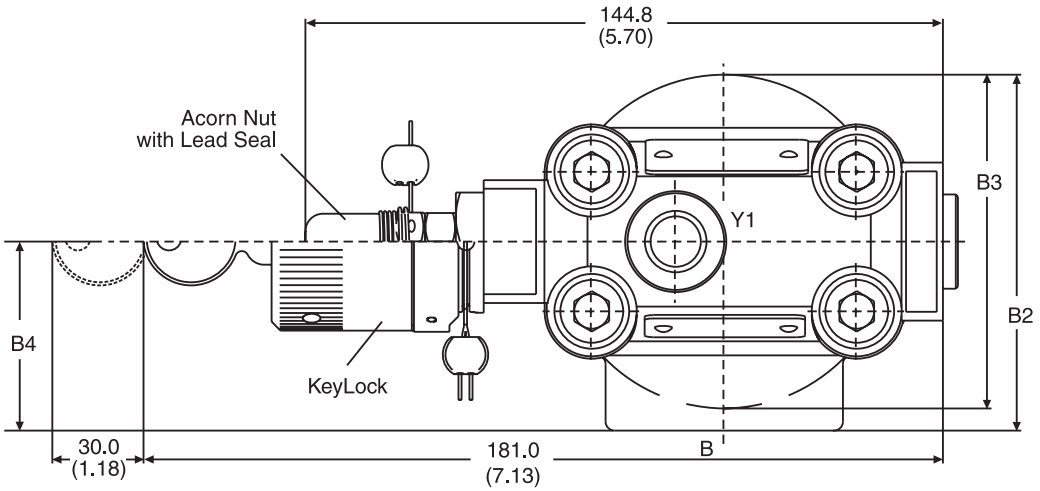
[2)] port Y1 is only available at drain line (code 2) external from the pilot head

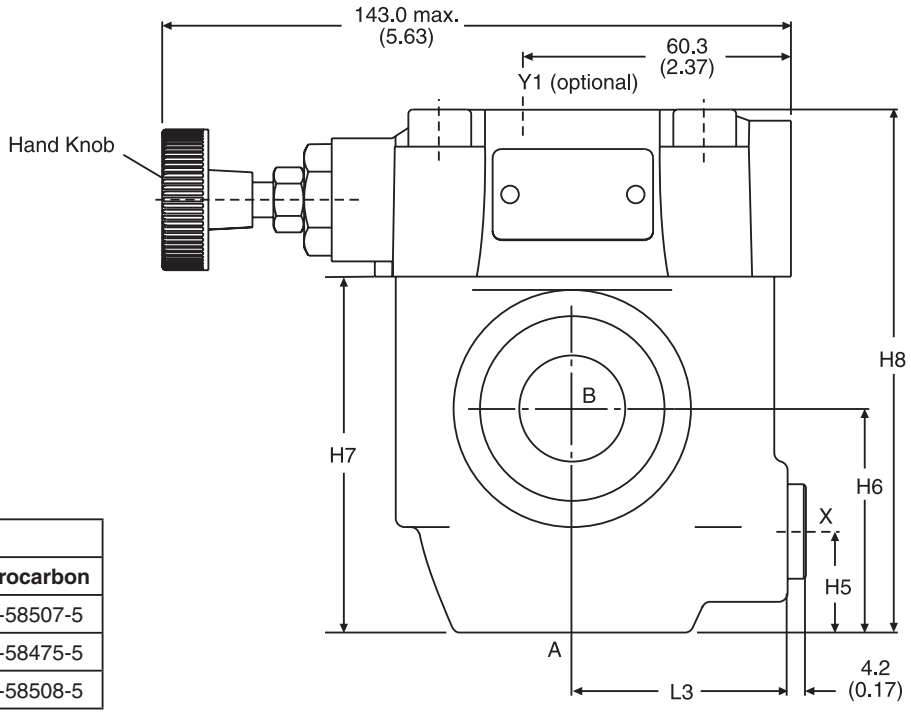
R4V.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

L-Body

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





Seal Kits		
Size	**Nitrile**	**Fluorocarbon**
06	S26-58507-0	S26-58507-5
08	S26-58475-0	S26-58475-5
10	S26-58508-0	S26-58508-5

Size	Body	B1	B2	B3	B4	H1	H2	H3	H4	H5	H6	H7	H8	L1	L2	L3
06	L-body	–	81.0 (3.19)	76.0 (2.99)	43.0 (1.69)	–	–	–	–	23.0 (0.91)	51.0 (2.01)	81.0 (3.19)	119.0 (4.69)	–	–	49.0 (1.93)
10	L-body	–	120.7 (4.75)	85.8 (3.38)	77.8 (3.06)	–	–	–	–	31.8 (1.25)	50.8 (2.00)	96.0 (3.78)	134.0 (5.78)	–	–	49.8 (1.96)

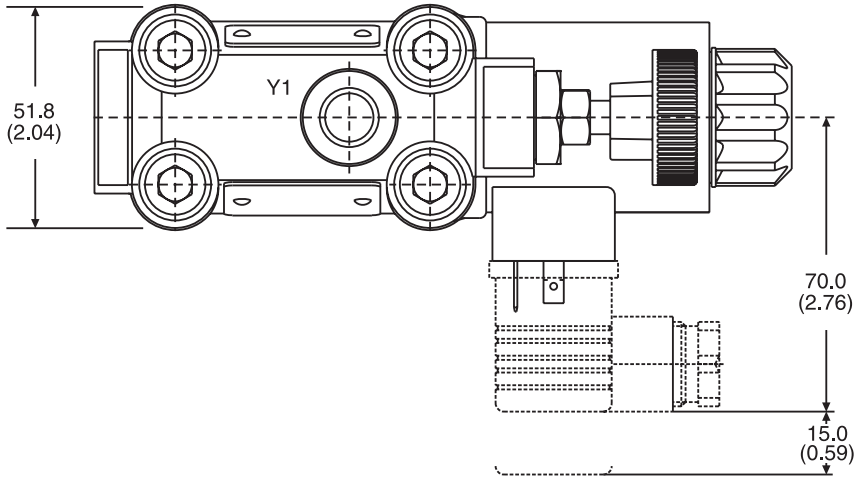
Ports	Function	Port size	
		R4V06 L-body	R4V10 L-body
A	Pressure (inlet)	SAE 12	SAE 20
B	Tank (outlet)	SAE 12	SAE 20
X[1)]	Ext. Remote Control or Vent Connection	SAE 4	
Y1[2)]	External Drain		

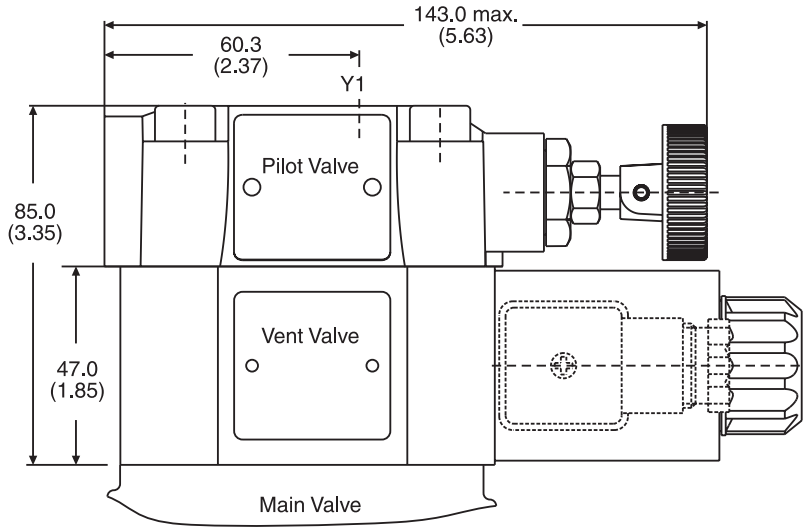
[1)] closed when supplied

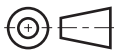
[2)] port Y1 is only available at drain line (code 2) external from the pilot head

R4V.indd, dd

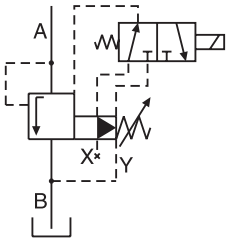
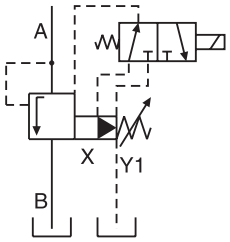
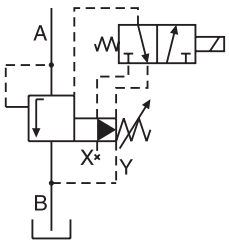
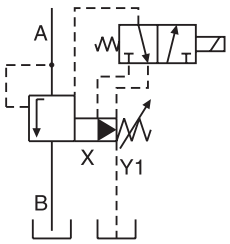
Inch equivalents for millimeter dimensions are shown in (**)







Vent Valve Seal Kits	
Nitrile	**Fluorocarbon**
DC Solenoid	
S26-58515-0	S26-58515-5
AC Solenoid	
S26-35237-0	S26-35237-5

Code	Internal Drain	External Drain
11		
09		

R4V.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

General Description

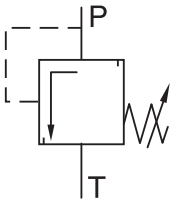
Series R1E02 direct operated, pressure relief valves are seated type valves typically used for remote pressure controls. In applications where the reliabilitiy and simplicity of a hydraulic remote control are preferred to an electrohydraulic system, Series R1E02 is an ideal solution.

Typically pilot operated pressure valves or compensators of variable pumps are controlled.

Foot Mounting

Front Panel Mounting

Subplate Mounting

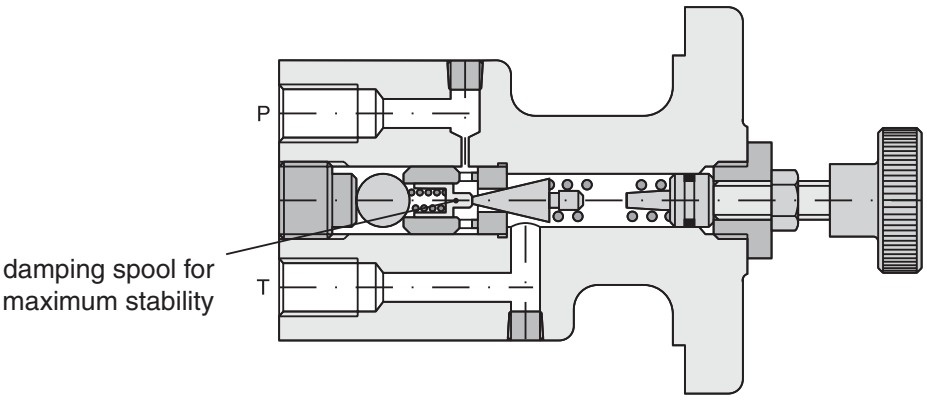


Features

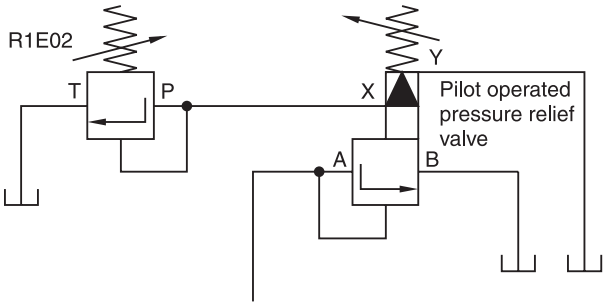
- Seated type valve.
- 3 body variants:
  - foot mounting
  - front panel mounting
  - subplate mounting
- 3 pressure ranges.
- 3 adjustment modes:
  - hand knobs
  - acorn nut with lead seal
  - adjusting with lock

D

Front Panel Mounting



Typical Configuration as Remote Pilot Valve



Ordering Information

R1E02	☐	☐	2	☐	A	1	☐
Pressure Relief Valve	Interface	Pressure Range	Connections G1/4"	Adjustment	Design Series	Seal Nitrile	Options Check with Factory

Code	Description
1	Foot Mounting
2	Front Panel Mounting
3	Subplate Mounting

Code	Description
1	up to 105 Bar (1523 PSI)
3	up to 210 Bar (3045 PSI)
5	up to 350 Bar (5075 PSI)

Code	Description
1	Hand Knob Ø32mm
3	Acorn Nut with Lead Seal
4 *	Adjusting Device with Lock (Key Order No. 700-70619)

* on bodies for subplate mounting use plate S16-64188.

Weight:

R1E021	2.1 kg (4.6 lbs.)
R1E022	2.1 kg (4.6 lbs.)
R1E023	1.0 kg (2.2 lbs.)

Seal Kit:

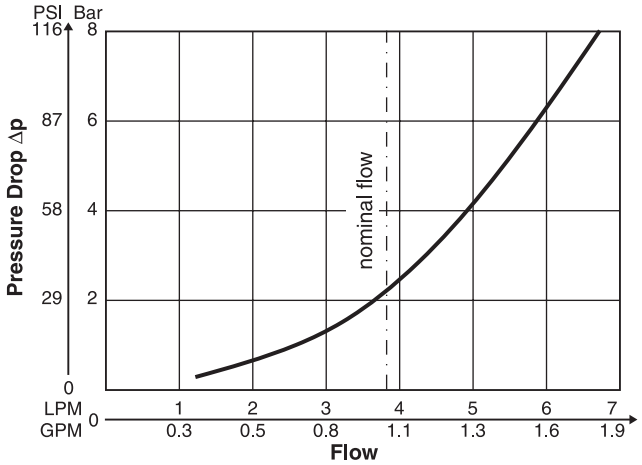
R1E021	S26-58466-0
R1E022	S26-58466-0
R1E023	S16-91963-0

D

Specifications

General	
Size	1/4"
Interface	Foot mounting, Front panel mounting, Subplate mounting
Mounting Position	Unrestricted
Ambient Temperature Range	-20°C to +70°C (-4°F to +158°F)
Hydraulic	
Maximum Operating Pressure	Port P 350 Bar (5075 PSI); Port T depressurized
Pressure Range	105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)
Fluid	Hydraulic oil as per DIN 51524 ... 51525
Fluid Temperature	-20°C to +70°C (-4°F to +158°F)
Nominal Flow	3.8 LPM (1.0 GPM)
Minimum Pressure Setting	7 Bar (102 PSI)
Viscosity **Permitted** **Recommended**	10 to 650 cSt / mm²/s (46 to 3013 SSU) 30 cSt / mm²/s (139 SSU)
Filtration	ISO Class 4406 (1999) 18/16/13

Performance Curve



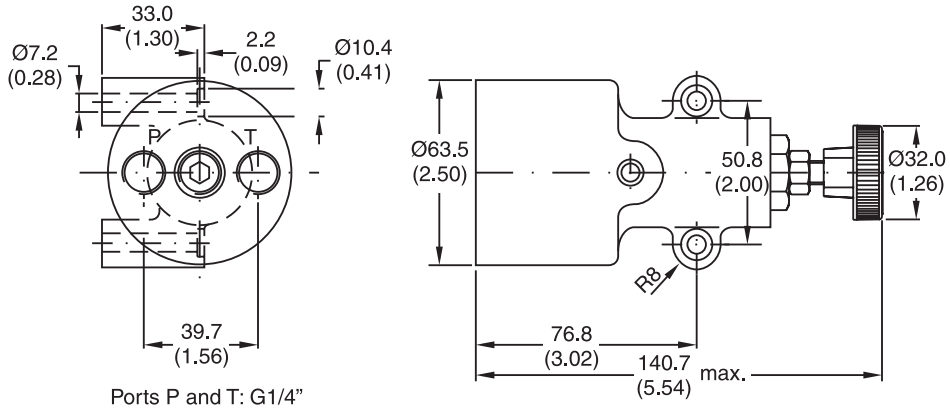
Fluid viscosity 35 cSt at 50°C (122°F) ± 5°C (41°F)

R1E02.indd, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

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

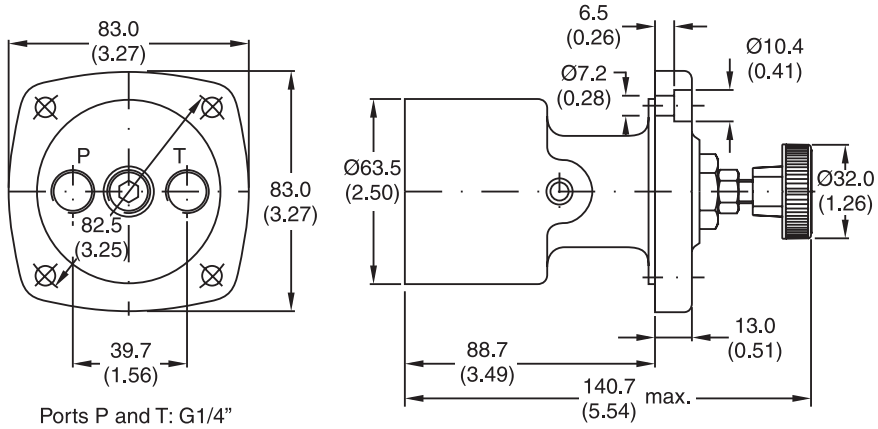
Foot Mounting



Ports P and T: G1/4”

D

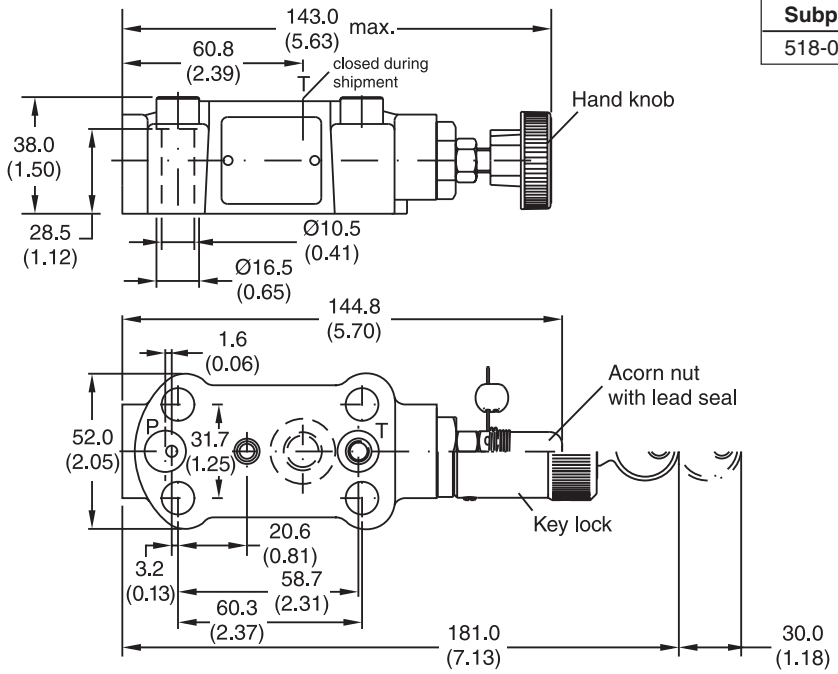
Front Panel Mounting



Ports P and T: G1/4”

Subplate Mounting

Subplate	Size
518-00139-0	3/8" NPT



R1E02.indd, dd