

Part number:

096-10435

**HYDROMA**

HYDRAULICKÉ SYSTÉMY

**HIDROMA**  
SYSTEMS

UKŁADY HYDRAULICZNE

**HYDROMA**

ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

## Proportional Pressure Relief Valves Series R4V and R6V (Offboard Electronics)

### Technical Information

#### General Description

Series R4V and R6V proportional pressure relief valves for external electronics feature a proportionally adjusted pilot stage which controls a seated type main stage. The valves are equipped with a mechanical maximum pressure stage (optional for R6V).

The optimum performance can be achieved in combination with the digital amplifier module PCD00A-400.

#### Features

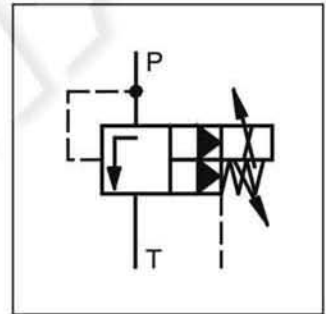
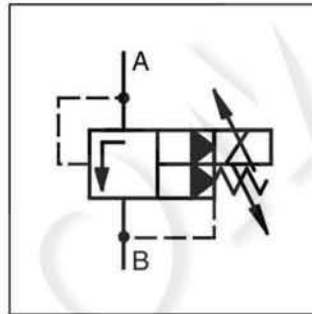
- Pilot operated with proportional solenoid.
- Continuous adjustment by proportional solenoid.
- 3 pressure ranges.
- Optional mechanical maximum pressure adjustment.
- 2 interfaces  
R4V Subplate ISO 6264 (DIN 24340 Form D)  
R6V Subplate ISO 6264 (DIN 24340 Form E).



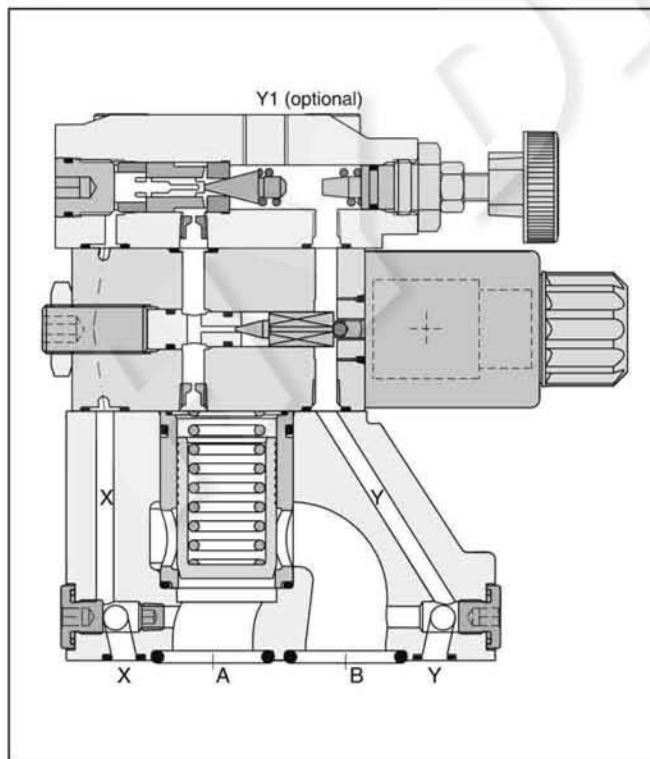
R4V



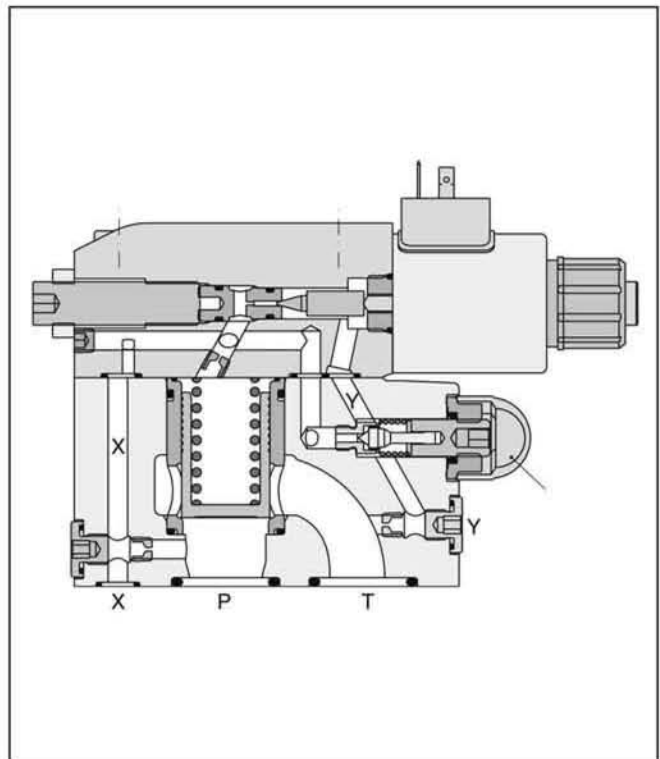
R6V



#### R4V



#### R6V



**B**

# Ordering Information

# Proportional Pressure Relief Valves Series R4V and R6V (Offboard Electronics)

**B**

<b>R</b>	□	<b>V</b>	□	—	<b>5</b>	□	□	□	□	□	<b>G0R</b>	□	□	□
Pressure Relief Valve	Interface	Relief Function	Size		Maximum Pressure 350 Bar (5075 PSI)	Drain Port	Pressure Range	Mechanical Adjustment	Pilot Oil	Options	Solenoid Voltage 12V 2.3A	Design Series	Seal	Options Check with Factory

Code	Description
03	NG10
06	NG25
10	NG32

Code	Interface	Drain
3	R4V	Y-port in mounting pattern
9	R6V	Y-port = G1/8"

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

Code	Interface	Mechanical Adj.
P <sup>1)</sup>	R6V	Hexagon Screw with Lock Nut
1	R4V	Hand Knob
3	R4V	Acorn Nut with Lead Seal

<sup>1)</sup> Use Code P also for valve without mechanical adjustment.

Code	Description
P2	with Mechanical maximum adjustment
PS <sup>4)</sup>	without Mechanical maximum adjustment

<sup>4)</sup> R6V only

Code	Drain Port
0	Internal
1 <sup>2)</sup>	External from Subplate
2	External from Valve Body (Y-port)

<sup>2)</sup> R4V only

Code	Description
4	Subplate Mounting
6	ISO 6264

NG 10 and 25      NG 32

NG 10; 25; 32

- Bolt Kits:**
- R4V03    BK505
  - R4V06    BK485
  - R4V10    BK506
  - R6V03    BK494
  - R6V06    BK366
  - R6V10    BK507

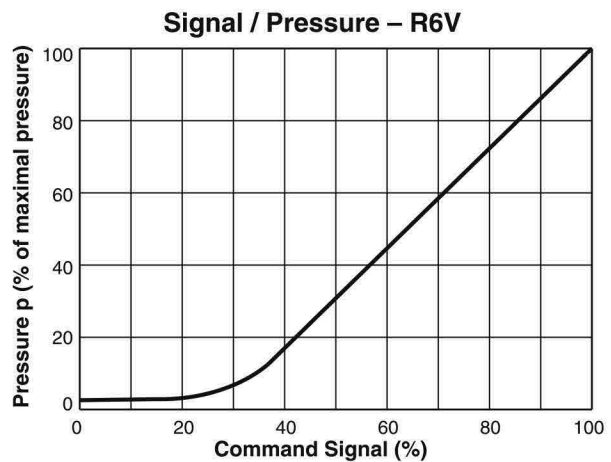
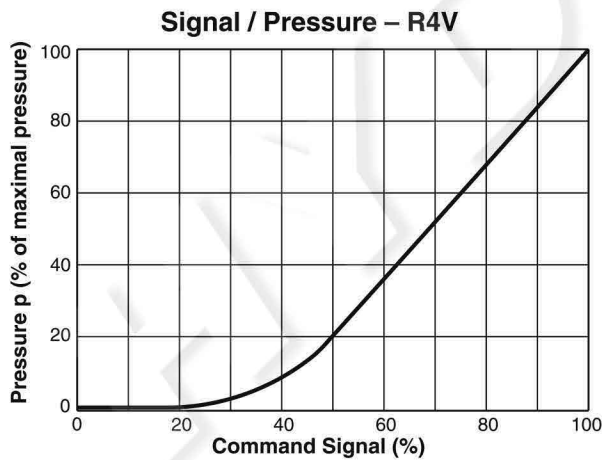
- Weight:**
- R4V03    4.5 kg (9.9 lbs.)
  - R4V06    6.3 kg 13.9 (lbs.)
  - R4V10    7.8 kg (17.2 lbs.)
  - R6V03    5.2 kg (11.5 lbs.)
  - R6V06    6.4 kg (14.1 lbs.)
  - R6V10    8.3 kg (18.3 lbs.)

Specifications

General				
Size		NG10	NG25	NG32
Interface	Subplate Mounting acc. ISO 6264			
Mounting Position	As desired, horizontal position preferred			
Ambient Temperature Range	-20°C to +80°C (-4°F to +176°F)			
Hydraulic				
Maximum Operating Pressure	Ports P (or A) and X 350 Bar (5075 PSI); Port T (or B) and Y depressurized			
Pressure Range	105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 Bar (5075 PSI)			
Nominal Flow	R4V R6V	150 LPM (39.7 GPM) 250 LPM (66.1 GPM)	350 LPM (92.6 GPM) 500 LPM (132.3 GPM)	650 LPM (172.0 GPM) 650 LPM (172.0 GPM)
Fluid	Hydraulic oil as per DIN 51524 ... 51525			
Fluid Temperature	-20°C to +70°C (-4°F to +158°F)			
Viscosity	Permitted Recommended	20 to 380 cSt / mm <sup>2</sup> /s (93 to 1761 SSU) 30 to 50 cSt / mm <sup>2</sup> /s (139 to 232 SSU)		
Filtration	ISO Class 4406 (1999) 18/16/13			
Electrical (Proportional Solenoid)				
Duty Ratio	100% ED			
Protection Class	IP65 in accordance with EN60529 (plugged and mounted)			
Supply Voltage	12 VDC (maximum current 2.3 amps) or 16 VDC (maximum current 1.3 amps)			
Coil Resistance	4 Ohm at 20°C (68°F)			
Solenoid Connectors	Connector as per EN 175301-803			
Power Amplifier, Recommended	PCD00A-400			

B

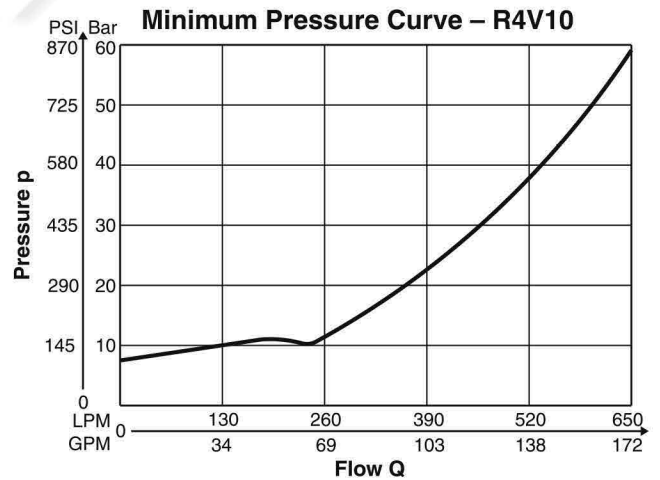
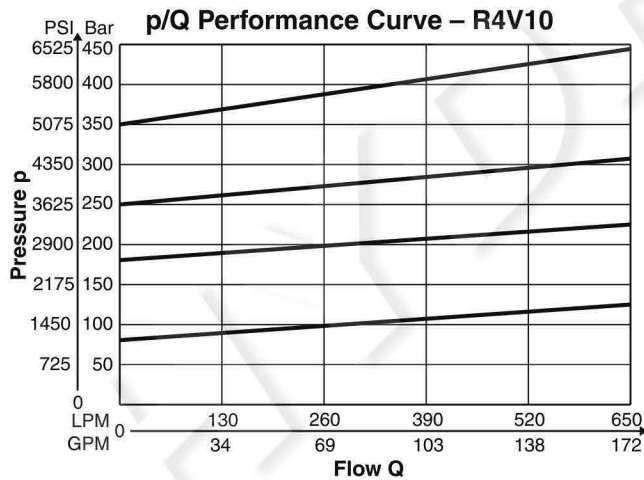
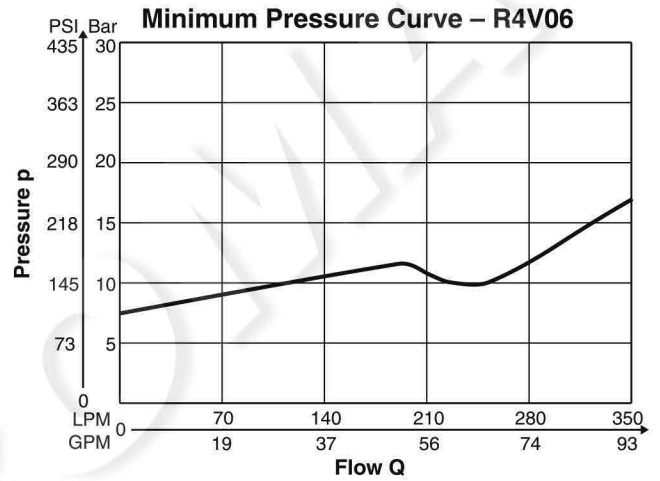
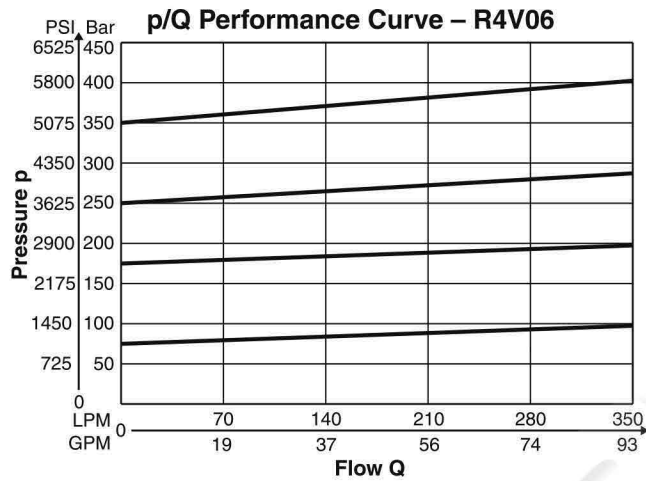
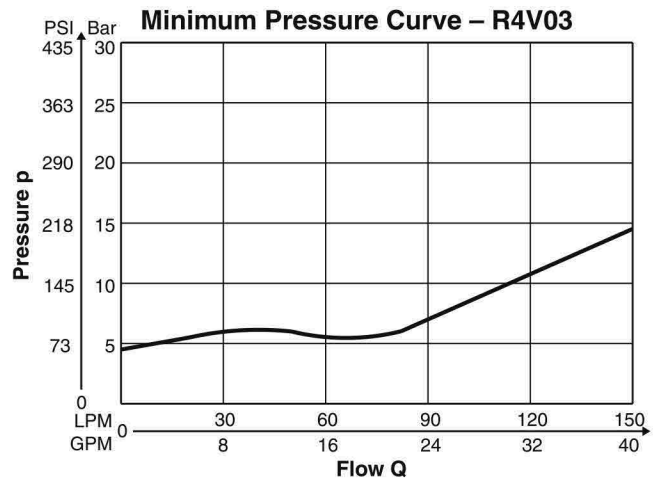
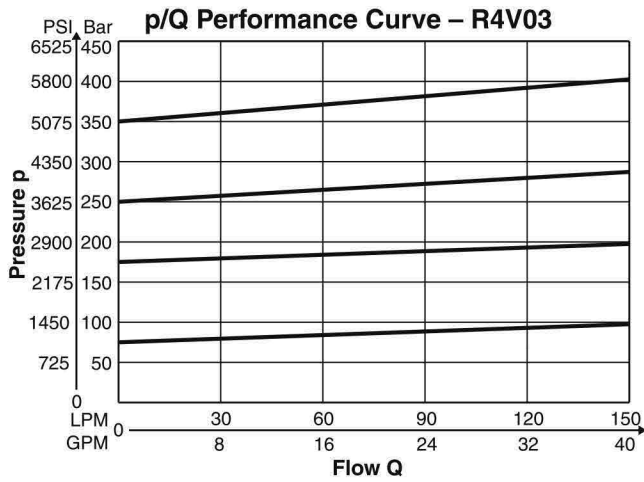
Performance Curves



# Performance Curves

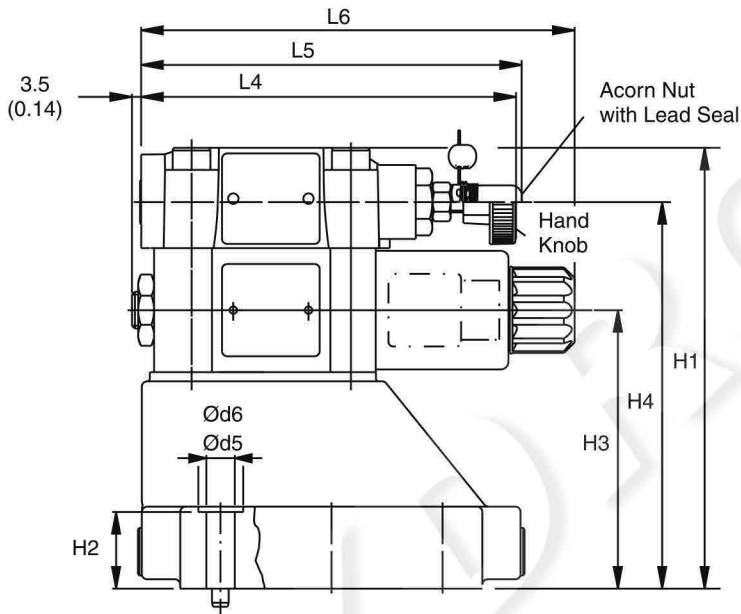
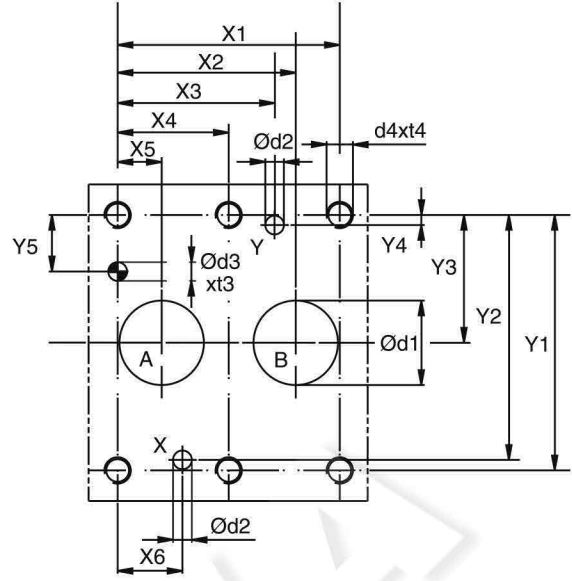
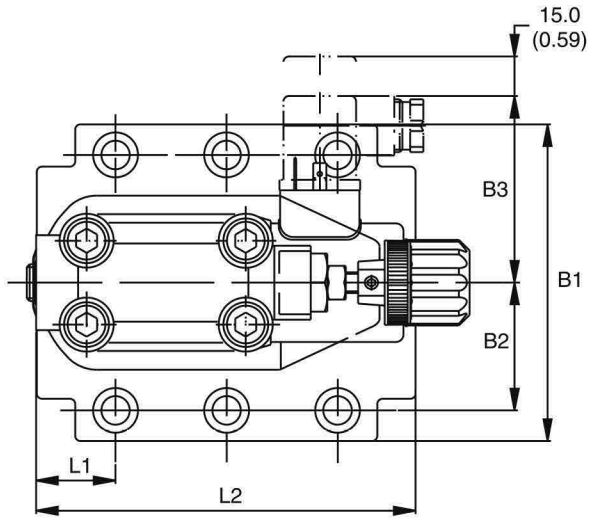
## Proportional Pressure Relief Valves Series R4V (Offboard Electronics)

**B**



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

**B**



## Proportional Pressure Relief Valves Series R4V (Offboard Electronics)

### Dimensions

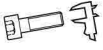

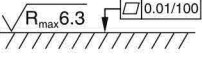
Inch equivalents for millimeter dimensions are shown in (\*\*)

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	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	79.4 (3.13)	73 (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	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  $\pm 0.1$ , at port holes  $\pm 0.2$ .

NG	ISO-code	B1	B2	B3	H1	H2	H3	H4	H6	L1	L2	L3	L4	L5	L6
10	6264-06-07-*-97	87.3 (3.44)	33.4 (1.31)	71.0 (2.80)	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)	144.8 (5.70)	164.8 (6.49)
25	6264-08-11-*-97	105.0 (4.13)	39.7 (1.56)	71.0 (2.80)	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)	144.8 (5.70)	164.8 (6.49)
32	6264-10-15-*-97	120.0 (4.72)	48.4 (1.91)	71.0 (2.80)	167.0 (6.57)	29.0 (1.14)	105.5 (4.15)	146.5 (5.77)	–	30.6 (1.18)	143.3 (5.68)	–	143.0 (5.63)	144.8 (5.70)	164.8 (6.49)

NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6	Subplate
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)	SPP3M6B910
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)	SPP6M8B910
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)	SPP10M12B910

NG	ISO-code	Bolt Kit			Seal Kit		Surface Finish
					Nitrile	Fluorocarbon	
10	6264-06-07-*-97	BK505	4x M10 x 35 DIN912 12.9	63 Nm	S26-58507-0	S26-58507-5	
25	6264-08-11-*-97	BK485	4x M10 x 45 DIN912 12.9	(46.5 lb.-ft.)	S26-58475-0	S26-58475-5	
32	6264-10-15-*-97	BK506	6x M10 x 45 DIN912 12.9	$\pm 15\%$	S26-58508-0	S26-58508-0	
Prop Section P2*					S26-58473-0	S26-58473-5	

\* Please combine seal kit of one size with seal kit of Prop. Section P2 for complete seal kit.

**B**

**General Description**

Series R4V and R6V proportional pressure relief valves feature onboard electronics based on the functionality of the digital amplifier PCD00.

The digital onboard electronic is situated in a robust metal housing and can be used in rough environments.

The nominal values of the valves are factory set. Additionally the ProPxD software permits the editing of all parameters. The software is also used for the digital electronic modules. The cable for connection to a serial RS232 interface is available as accessory.

The electrical connection is available in 2 options:

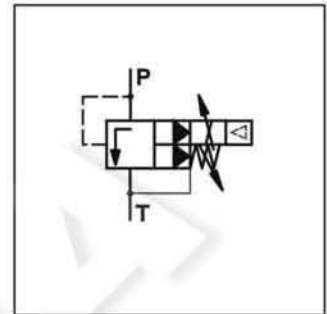
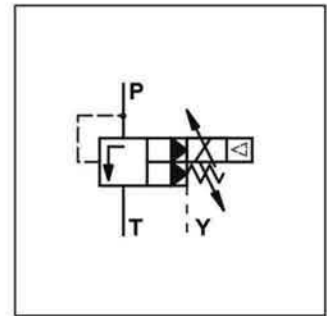
Code 10V: 6 + PE central connection  
0...+10V command signal (preset)  
+10V reference voltage output

Code 4MA: 6 + PE central connection  
4...20mA command signal (preset)

The proportional solenoid operated pilot stage with integrated electronics controls a seated type main stage. The valves are available with an optional mechanical maximum pressure adjustment.

**Features**

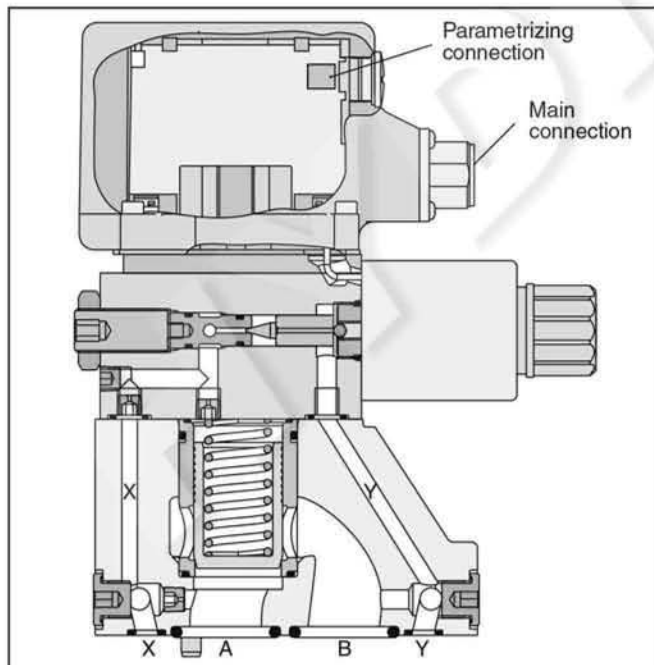
- Pilot operated pressure relief valve.
- Onboard electronics.
- Factory set.
- Ramp time adjustment.
- Linearized characteristics.



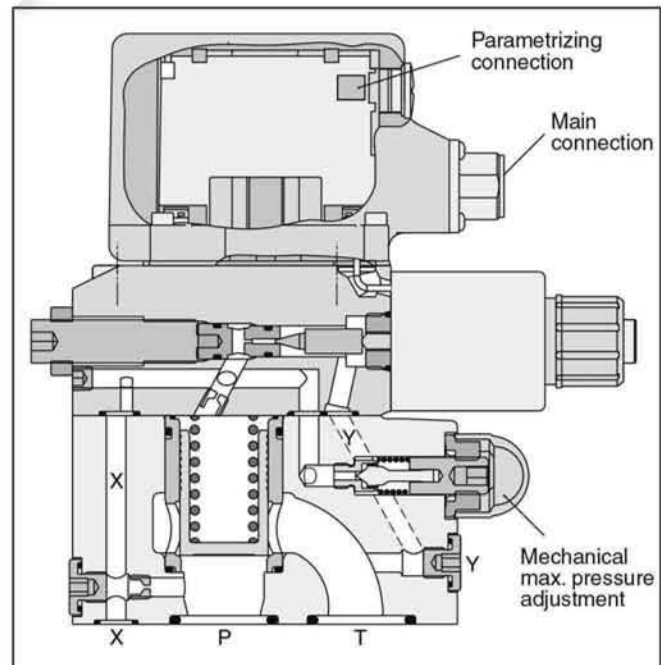
**B**

- 3 pressure ranges.
- 2 interfaces:  
R4V Subplate, ISO 6264 (DIN 24340 Form D)  
R6V Subplate, ISO 6264 (DIN 24340 Form E)
- Optional mechanical maximum pressure adjustment.

**R4V OBE**



**R6V OBE**



Ordering Information

B

<b>R</b>		<b>V</b>		<b>5</b>			<b>P</b>						
Pressure Relief Valve	Interface	Relief Function	Size	Maximum Pressure 350 Bar (5075 PSI)	Drain Port	Pressure Range	Proportional Operation	Pilot Oil	Options	Input Signal	Design Series	Seal	Options Check with Factory

Code	Description
03	NG10
06	NG25
10	NG32

Code	Interface	Drain
3	R4V	Y-port in mounting pattern
9	R6V	Y-port = 1/8"

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
10V	0...+10V with ref. output +10V
4MA	4...20mA

Code	Description
A	R4V
B	R6V

Code	Description
PN	without Mechanical maximum adjustment
PM	with Mechanical maximum adjustment

Code	Description
4	Subplate Mounting ISO 6264
6	

Code	Drain Port
0	Internal
1 <sup>1)</sup>	External from Subplate
2	External from Valve Body (Y-port)

<sup>1)</sup> R4V only

Bolt Kits:

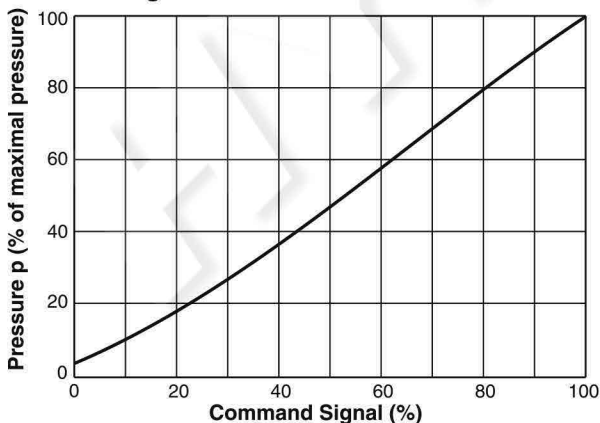
R4V03	BK505
R4V06	BK485
R4V10	BK506
R6V03	BK494
R6V06	BK366
R6V10	BK507

Weight:

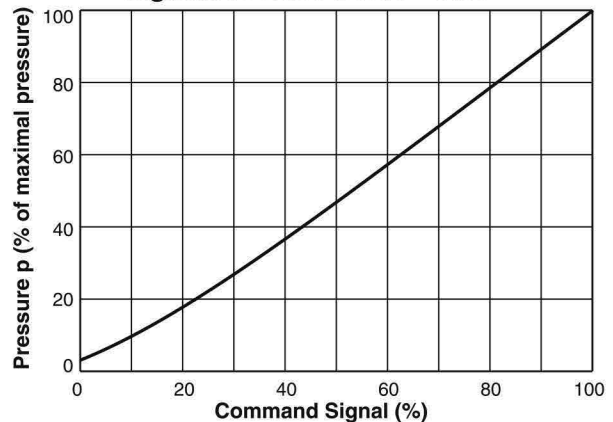
R4V03	4.5 kg (9.9 lbs.)
R4V06	6.3 kg (13.9 lbs.)
R4V10	7.8 kg (17.2 lbs.)
R6V03	5.4 kg (11.9 lbs.)
R6V06	6.6 kg (14.6 lbs.)
R6V10	8.6 kg (19.0 lbs.)

Performance Curves

Signal/Pressure Curve – R4V



Signal/Pressure Curve – R6V





# Specifications

# Proportional Pressure Relief Valves Series R4V and R6V (Onboard Electronics)

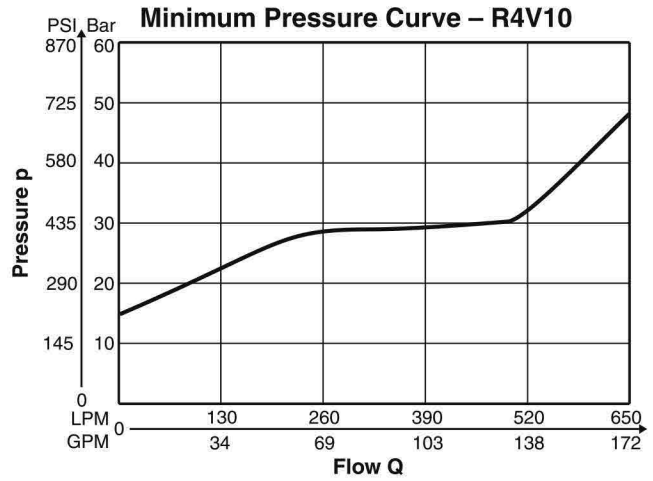
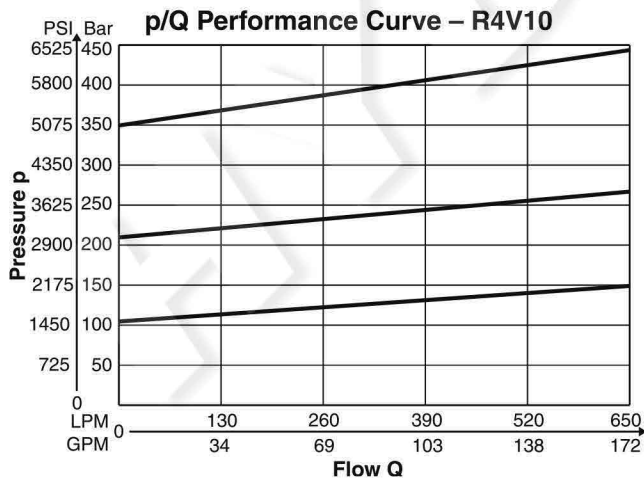
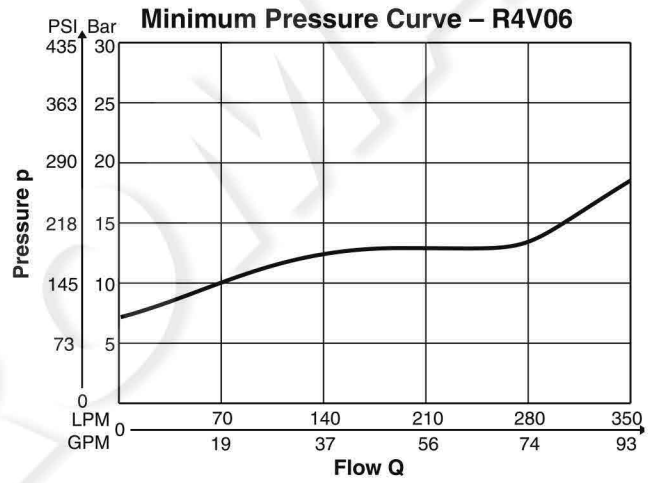
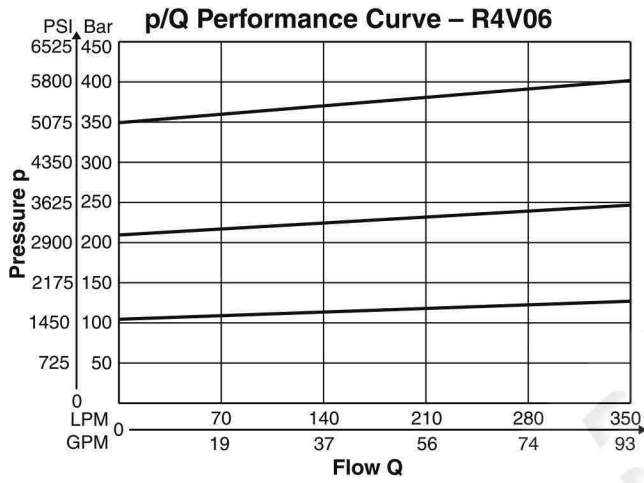
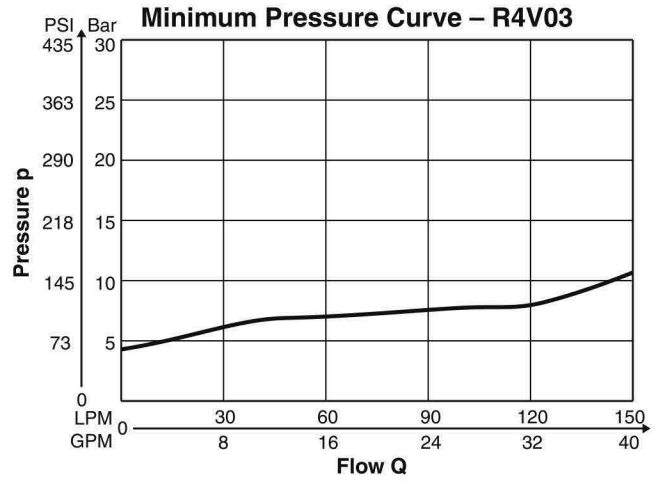
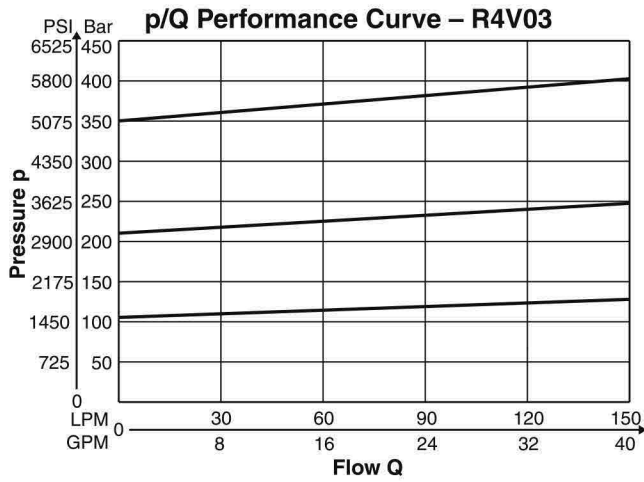
General				
Size		NG10	NG25	NG32
Interface		Subplate mounting acc. ISO 6264		
Mounting Position		as desired, horizontal mounting preferred		
Ambient Temperature	[°C]	-20...+60; (-4°F ... +140°F)		
MTTF <sub>D</sub> Value	[years]	50		
Vibration Strength	[g]	10 sinus 5...2000 Hz acc. to IEC 68-2-6 30 noise 20...2000 Hz acc. to IEC 68-2-36 15 shock acc. to IEC 68-2-27		
Hydraulic				
Maximum Operating Pressure		Ports P (or A) and X up to 350 Bar (5075 PSI), port T (or B) and Y 30 Bar (435 PSI)		
Pressure Range		105 Bar (1523 PSI), 210 Bar (3045 PSI), 350 (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 ... 525		
Viscosity				
Recommended	[cSt] / [mm²/s]	30 ... 50 (139 ... 232 SSU)		
Permitted	[cSt] / [mm²/s]	20 ... 380 (93 ... 1761 SSU)		
Fluid Temperature	[°C]	-20 ... +60; (-4°F ... +140°F)		
Filtration		ISO 4406 (1999); 18/16/13		
Hysteresis	[%]	< 1.5		
Electrical				
Duty Ratio ED	[%]	100		
Supply Voltage	VDC	18...30, ripple < 5% eff., surge free		
Current Consumption Maximum	[A]	2.0		
Pre-fusing	[A]	2.5 medium lag		
Potentiometer Supply	[V]	+10 / ±5% max. 10mA		
Command Signal				
Code 10V Voltage	[V]	0...+10, ripple < 0.01 % eff., surge free, Ri = 100 kOhm		
Code 4MA Current	[mA]	4...20, ripple < 0.01 % eff., surge free, Ri = 200 Ohm < 3.6 mA = enable off, > 3.8 mA = enable on (acc. NAMUR NE43)		
Differential Input Voltage Max.	[V]	30 for terminal D and E against PE (terminal G)		
	[V]	11 for terminal D and E against 0V (terminal B)		
Adjustment Ranges				
Minimum current	[%]	0...50		
Maximum current	[%]	50...100		
Ramp	[s]	0...32.5		
Interface		RS 232, parametrizing connection 5pole		
EMC		EN 61000-6-2, EN 61000-6-4		
Central Connection		6 + PE acc. EN 175201-804		
Cable Specification	[mm²]	7 x 1.0 (AWG 18) overall braid shield		
Cable Length Maximum	[m]	50 (164 ft.)		

**B**

# Performance Curves

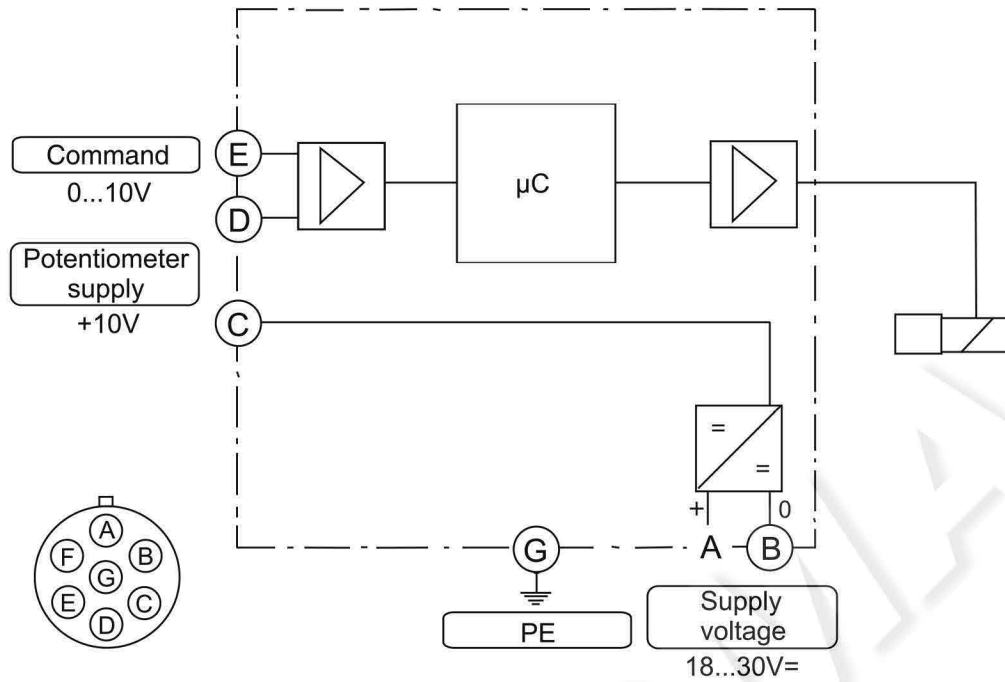
# Proportional Pressure Relief Valves Series R4V (Onboard Electronics)

**B**

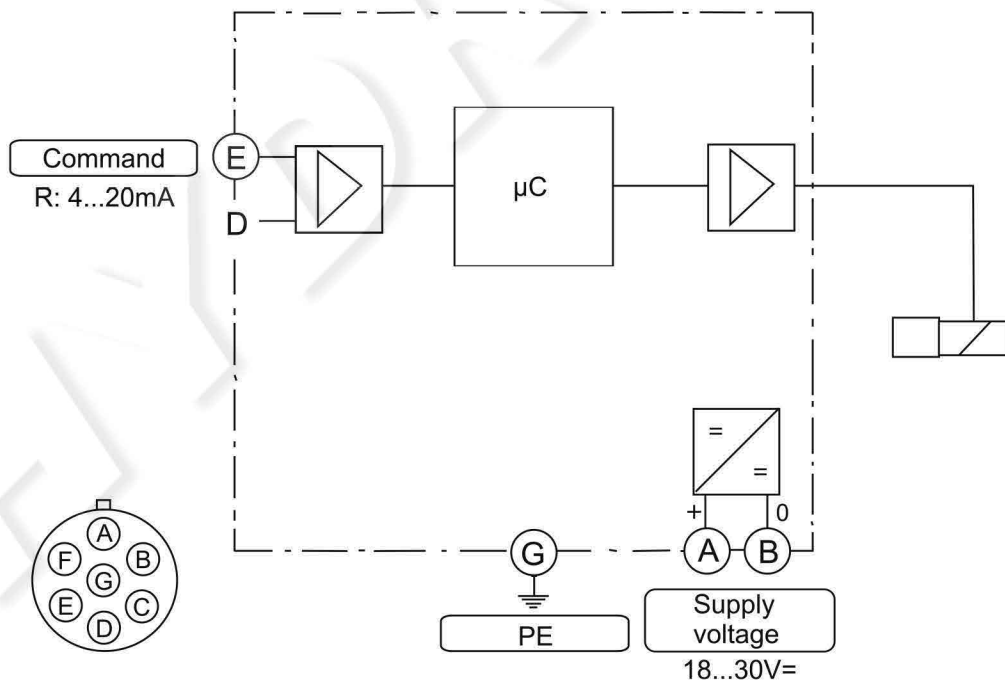


**Code 10V**  
6 + PE acc. EN 175201-804

**B**



**Code 4MA**  
6 + PE acc. EN 175201-804



### ProPxD Interface Program

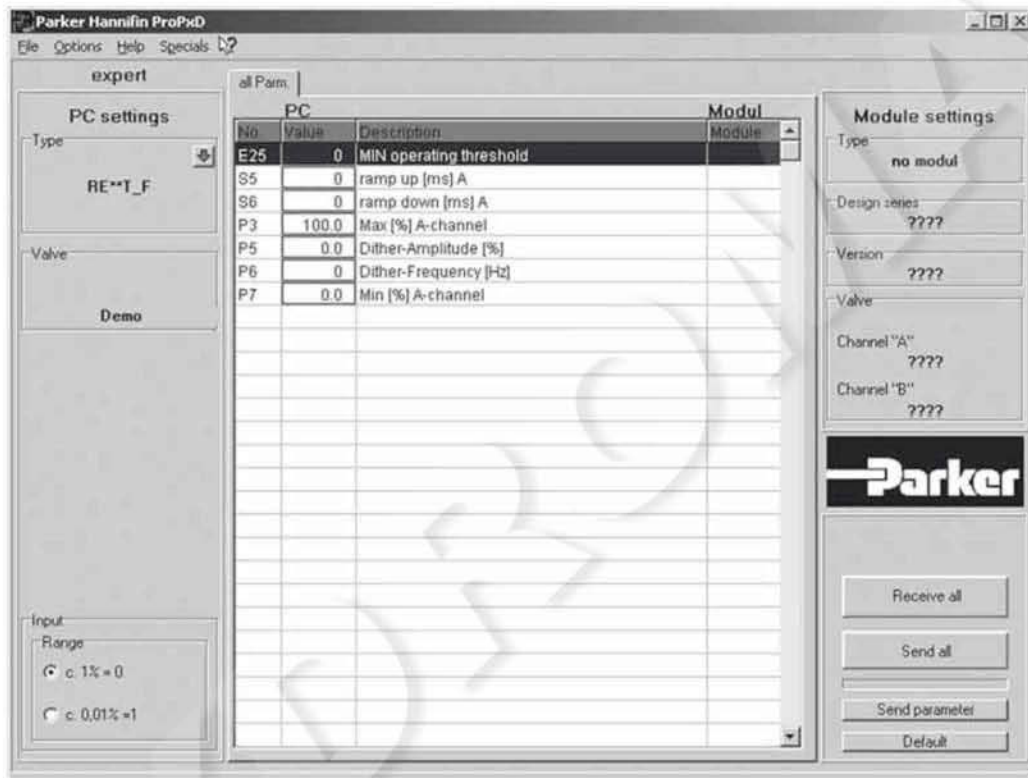
The new ProPxD software permits comfortable parameter setting for the electronic modules series PCD, PWD, PZD, PID and PWDXX.

Via the clearly arranged entry mask the parameters can be displayed and modified. Storage of complete parameter sets is possible as well as printout or record as a text file for further documentation. Stored parameter sets may be loaded anytime and transmitted to the electronic module in the same manner as the basic parameters which are available for all usable valve series. Inside the electronic a nonvolatile memory stores the data with the option for recalling or modification.

### Features

- Simple editing of all parameters.
- Storage and loading of optimized parameter adjustments.
- Executable with all Windows® operating systems from Windows® 95 upwards.
- Communication between PC and electronic via serial interface RS-232 and null modem cable.
- Simple to use PC user software, free of charge:  
[www.parker.com/euro\\_hcd](http://www.parker.com/euro_hcd)  
– see “Software Downloads”

**B**

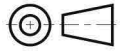
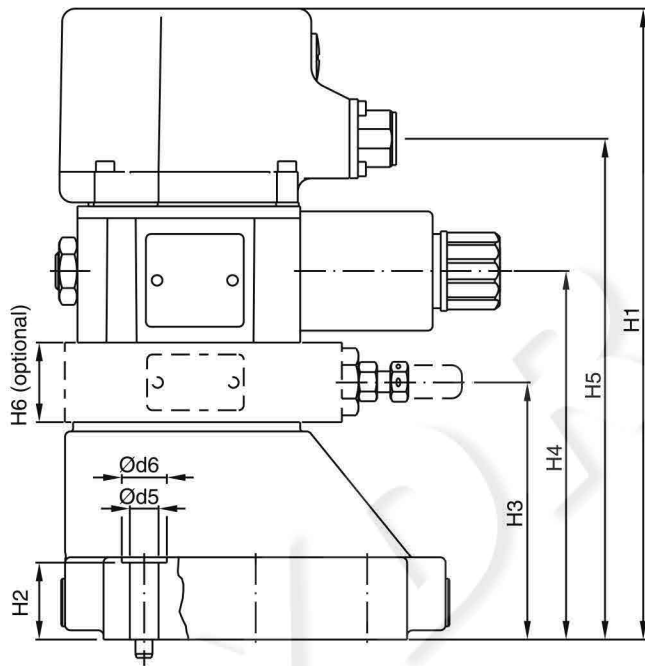
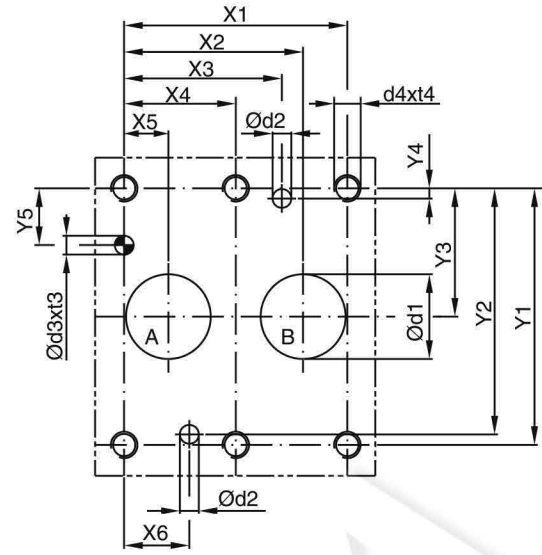
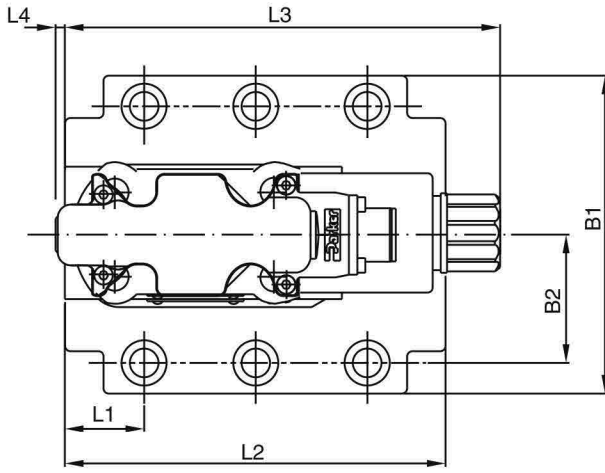


The parametrizing cable may be ordered under item no. 40982923.

# Dimensions

# Proportional Pressure Relief Valves Series R4V (Onboard Electronics)

**B**



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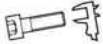

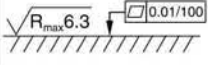
Inch equivalents for millimeter dimensions are shown in (\*\*)

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	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	79.4 (3.13)	73 (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	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  $\pm 0.1$ , at port holes  $\pm 0.2$ .

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)	200.3 (7.89)	21.0 (0.83)	60.0 (2.36)	102.0 (4.02)	151.0 (5.94)	30.0 (1.18)	28.3 (1.11)	94.1 (3.70)	164.2 (6.46)	4.5 (0.18)	–	–
25	6264-08-11*-97	105.0 (4.13)	39.7 (1.56)	226.8 (8.93)	29.0 (1.14)	86.5 (3.41)	128.5 (5.06)	184.0 (7.24)	30.0 (1.18)	34.0 (1.34)	126.1 (4.96)	164.2 (6.46)	4.5 (0.18)	–	–
32	6264-10-15*-97	120.0 (4.72)	48.4 (1.91)	237.3 (9.34)	29.0 (1.14)	97.0 (3.82)	139.0 (5.47)	194.5 (7.66)	30.0 (1.18)	29.9 (1.18)	143.6 (5.65)	164.2 (6.46)	4.5 (0.18)	–	–

NG	ISO-Code	d1max	d2max	d3	t3	d4	t4	d5	d6	Subplate
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)	SPP3M6B910
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)	SPP6M8B910
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)	SPP10M12B910

NG	ISO-Code	Bolt Kit			Seal Kit		Surface Finish
					Nitrile	Fluorocarbon	
10	6264-06-07*-97	BK505	4x M10 x 35 DIN912 12.9	63 Nm (46.5 lb.-ft.) $\pm 15\%$	S26-58507-0*	S26-58507-5*	
25	6264-08-11*-97	BK485	4x M10 x 45 DIN912 12.9	63 Nm (46.5 lb.-ft.) $\pm 15\%$	S26-58475-0*	S26-58475-5*	
32	6264-10-15*-97	BK506	6x M10 x 45 DIN912 12.9	63 Nm (46.5 lb.-ft.) $\pm 15\%$	S26-58508-0*	S26-58508-5*	
Prop. Section P2*					S26-58473-0	S26-58473-5	

\* Please combine seal kit of one size with seal kit of Prop. Section P2 for complete seal kit.

**B**