



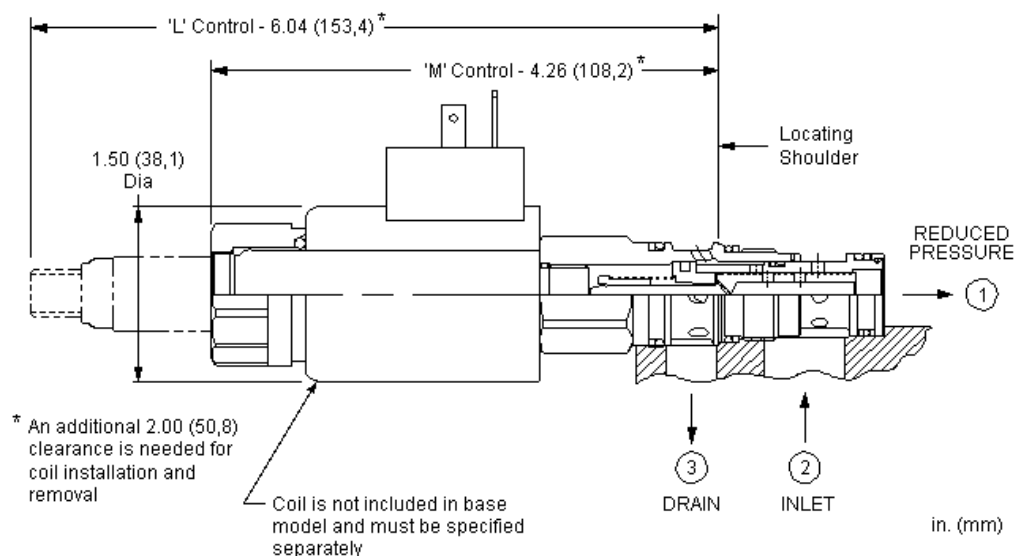
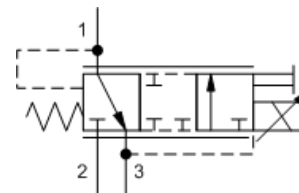
Electro-proportional, direct-acting, pressure reducing/relieving valve

Capacity:
5 gpm (20 L/min.)

Model:
PRDP

Product Description

This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is closed in the transition between reducing and relieving resulting in very low consumption of oil. Optional full manual control is available.

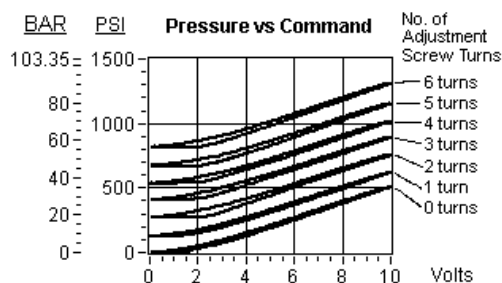
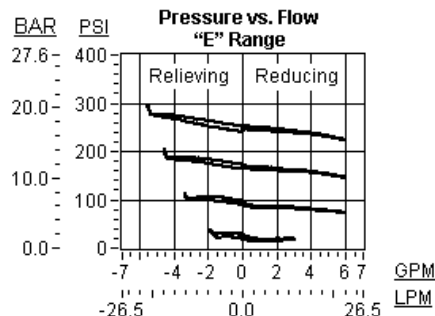
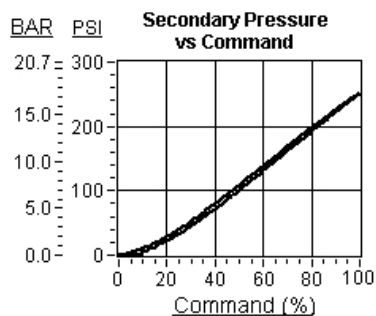


Technical Features

- Maximum pressure at port 3 should be limited to 3000 psi (210 bar).
- Pressure at port 3 is directly additive to the valve setting at a 1:1 ratio and should not exceed 3000 psi (210 bar).
- Leakage specified in Technical Data is out of port 3 with a supply pressure of 2000 psi (140 bar) and the valve set at mid range. This leakage is directly proportional to pressure differential and inversely proportional to viscosity expressed in centistokes.
- The transition from reducing to relieving is closed. The result is very low leakage. However, there is a transitional step increase in pressure between reducing and relieving modes. This step equals about 5% of the high end of the adjustment range, independent of the valve setting.
- For optimum performance, an amplifier with current sensing and adjustable dither should be used. Dither should be adjustable between 100 - 250 Hz.
- Handknob control for this valve is available in kit form only and can not be ordered from the factory in this configuration. See kits 991-211 and 991-034.
- NOTE: There is no upper limit to the pressure setting when using the M control. The more force you exert on the manual override, the higher the resulting pressure.
- Suitable for accumulator circuits since the absence of pilot control flow results in reduced secondary circuit leakage.
- Direct acting concept provides highly reliable operation in contaminated systems, especially at dead headed conditions.
- All three-port pressure reducing and reducing/relieving cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size). When considering mounting configurations, it is sometimes recommended that a full capacity return line (port 3) be used with reducing/relieving cartridges.
- Full reverse flow from reduced pressure (port 1) to inlet (port 2) may cause the main spool to close. If reverse free flow is required in the circuit, consider adding a separate check valve to the circuit.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

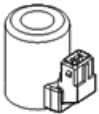
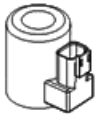
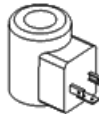
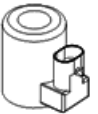
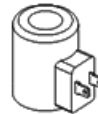
Technical Data

	U.S. Units	Metric Units
Cavity	T-11A	
Capacity	5 gpm	20 L/min.
Hysteresis (with dither)	<4%	
Hysteresis with DC input	<8%	
Linearity (with dither)	<2%	
Repeatability (with dither)	<2%	
Recommended dither frequency	140 Hz	
Maximum Operating Pressure	5000 psi	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in ³ /min.	41 cc/min.
Series (from Cavity)	Series 1	
Adjustment - Number of Clockwise Turns to Increase Setting	5	
Solenoid Tube Diameter	.75 in.	19 mm
Valve Hex Size	7/8 in.	22,2 mm
Valve Installation Torque	30 - 35 lbf ft	40 - 50 Nm
Adjustment Screw Internal Hex Size	5/32 in.	4 mm
Adjustment Locknut/Cap Hex Size	9/16 in.	15 mm
Adjustment Nut Torque	80 - 90 lbf in.	9 - 10 Nm
Model Weight (with coil)	1.20 lb	0,55 kg
Seal Kits - Cartridge	Buna: 990-511-007	
Seal Kits - Cartridge	Viton: 990-511-006	
Seal Kits - Coil	Viton: 990-770-006	
Model Weight	0.72 lb.	0.33 kg.



PRDP-MDN-***

Control	Operating Range	Seal Material	Coil
Preferred Options	Preferred Options	Preferred Options	*** See Coil Options Below
M Manual Override (Standard)	D 50 - 500 psi (3,5 - 35 bar)	N Buna-N	
Standard Options	E 25 - 250 psi (1,7 - 18 bar)	Standard Options	
E Twist Manual Override		V Viton	
L Standard Screw Adjustment	B 100 - 1200 psi (7 - 80 bar)		
X No Manual Override			
Standard Coil Options			

					
AMP Junior Timer	Deutsch DT04-2P	DIN 43650 4 pin (Hirschman)	Metri-Pack	SAE J858A	Twin Lead

*** no coil

212 DIN 43650 4 pin
(Hirschman) 12 VDC224 DIN 43650 4 pin
(Hirschman) 24 VDC

524 SAE J858A 24 VDC

612 AMP Junior Timer 12 VDC

624 AMP Junior Timer 24 VDC

712 Twin Lead 12 VDC

724 Twin Lead 24 VDC

812 Metri-Pack 12 VDC

824 Metri-Pack 24 VDC

912 Deutsch DT04-2P 12 VDC

924 Deutsch DT04-2P 24 VDC

Embedded Coil Options ([Click Here](#))2B12A DIN 43650 4 pin
(Hirschman) command
common on fourth pin 12
VDC 0-20 mA2B12V DIN 43650 4 pin
(Hirschman) command
common on fourth pin 12
VDC 0-10V2B24A DIN 43650 4 pin
(Hirschman) command
common on fourth pin 24
VDC 0-20 mA2B24V DIN 43650 4 pin
(Hirschman) command
common on fourth pin 24
VDC 0-10V2C12A DIN 43650 4 pin
(Hirschman) +5V reference
on fourth pin 12 VDC 0-20
mA2C12V DIN 43650 4 pin
(Hirschman) +5V reference
on fourth pin 12 VDC 0-10V2C24A DIN 43650 4 pin
(Hirschman) +5V reference
on fourth pin 24 VDC 0-20
mA2C24V DIN 43650 4 pin
(Hirschman) +5V reference
on fourth pin 24 VDC 0-10V2D12A DIN 43650 4 pin
(Hirschman) enable input on
fourth pin 12 VDC 0-20 mA2D12V DIN 43650 4 pin
(Hirschman) enable input on
fourth pin 12 VDC 0-10V2D24A DIN 43650 4 pin
(Hirschman) enable input on
fourth pin 24 VDC 0-20 mA2D24V DIN 43650 4 pin
(Hirschman) enable input on
fourth pin 24 VDC 0-10V2F12V DIN 43650 4 pin
(Hirschman) programmable
ramps, separate rise and fall
12 VDC 0-10V2F24V DIN 43650 4 pin
(Hirschman) programmable
ramps, separate rise and fall
24 VDC 0-10V4A12A Deutsch DT04-6P all
functions enabled (separate
command common, 5 v
reference, and an enable) 12
VDC 0-20 mA4A12V Deutsch DT04-6P all
functions enabled (separate
command common, 5 v
reference, and an enable) 12
VDC 0-10V4A24A Deutsch DT04-6P all
functions enabled (separate
command common, 5 v
reference, and an enable) 24
VDC 0-20 mA4A24V Deutsch DT04-6P all
functions enabled (separate
command common, 5 v
reference, and an enable) 24
VDC 0-10V4F12V Deutsch DT04-6P
programmable ramps,
separate rise and fall 12
VDC 0-10V4F24V Deutsch DT04-6P
programmable ramps,
separate rise and fall 24
VDC 0-10V**Additional Options** ([Click Here](#))**Additional Coils**

512 SAE J858A 12 VDC

Customer specified setting stamped on hex.