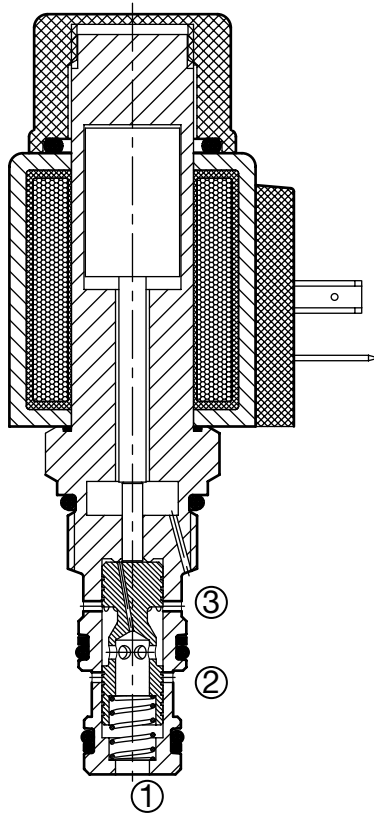
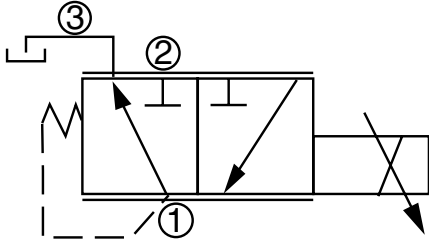


PDR08-01 Pressure Reducing/Relieving Direct Acting, Spool Type 3 gpm (12 l/min) • 5000 psi (350 bar)

Hydraulic Symbol



Description

A screw-in cartridge, direct acting, spool type, pressure reducing/relieving valve, intended for use as a pressure control device, which can proportionally control the reduced pressure across the specified range using variable electrical input signal. Reduced pressure output is proportional to DC current input. This valve maintains a constant reduced pressure regardless of pressure variations in the primary system. In addition to the reducing function, this valve also provides a relief function from the reduced pressure port to the tank port if pressure in the secondary circuit exceeds the set pressure.

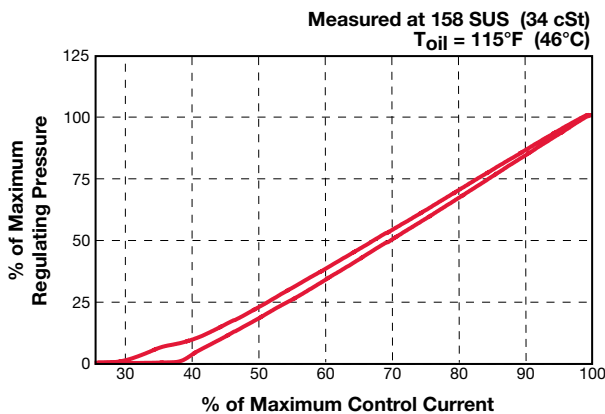
Operation

When de-energized the PDR08-01 allows flow from port 1 (*reduced pressure port*) to port 3 (*tank*). Port 2 (*inlet*) is blocked. When current signal is applied, the solenoid armature moves the control spool and sets the control (*reduced*) pressure at port 1. Increasing the current applied will increase the reduced pressure proportionally. Port 3 is vented to tank. Back pressure on port 3 is directly additive to the pressure setting.

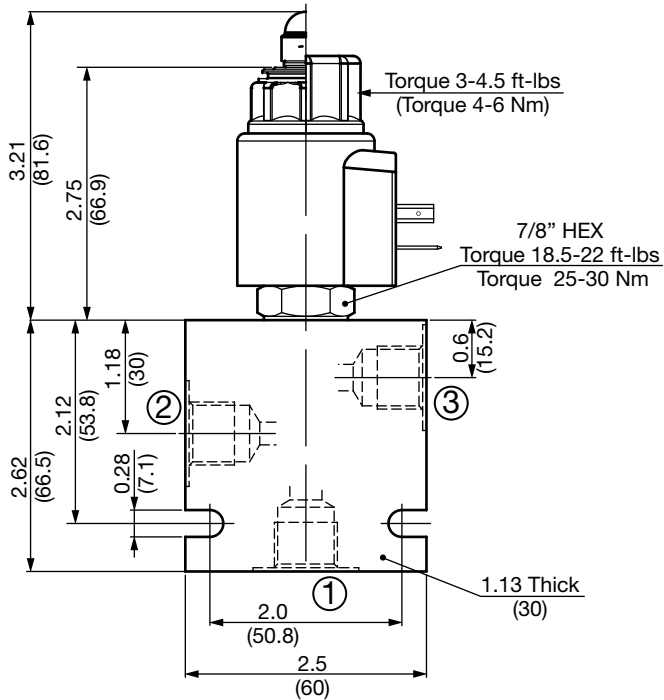
Specifications

Operating Pressure	5000 psi (350 bar) max at port 2
Nominal Flow	3 gpm (12 l/min)
Flow Path	De-energized: Free flow, 1 to 3 Energized: Reduced, 2 to 1; Relieving, 1 to 3
Internal Leakage	3.75 cu in/min. at 5000 psi and 158 SUS (55 cc/min at 350 bar and 34 cSt)
Reducing/Relieving Pressure Ranges (0 to maximum control current)	0 to 200 psi (0 to 14 bar) 0 to 300 psi (0 to 20 bar) 0 to 500 psi (0 to 35 bar) 0 to 700 psi (0 to 48 bar) 0 to 1100 psi (0 to 75 bar) 0 to 2000 psi (0 to 138 bar)
Maximum Control Current	2.1 amps for 12VDC coil (2.2 Ohms) 1.05 amps for 24VDC coil (8.8 Ohms)
Dither Frequency	160 to 250 Hz
Hysteresis With Dither	2-4% of maximum control current
Typical Step Response Time	ON: approx 40 ms, OFF: approx. 30 ms
Repeatability	<= 2% of maximum pressure range
Reversal Span	<= 2% of maximum
Response Sensitivity	<= 1% of maximum control current
Ambient Temperature Range	-4° to 140°F (-20° to +60°C)
Fluid Operating Temp. Range	-4° to 248°F (-20° to +120°C) (Consult factory for usage at temp. outside range.)
Fluid Compatibility	Mineral-based or synthetics with lubricating properties
Viscosity	50 to 2000 SUS (7.4 to 420 cSt)
Filtration	21/19/16 or cleaner (per ISO 4406). Use with filter rated $\beta_3 \geq 200$.
Installation	No orientation restrictions
Cavity	FC08-3 (see <i>Line Bodies & Cavities</i> section)
Cavity Tools	Rougher: 02580086 Finisher: 02580087
Cartridge Weight	0.38 Lbs. (0.17 kg)
Coil Weight	0.42 Lbs. (0.19 kg)
Cartridge Material	Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N or Viton® o-rings, and PTFE back-up rings.
Coil Material	Class N high temperature magnet wire steel shell, polyamid encapsulation
Seal Kits	Buna-N P/N: 03054795 Viton® P/N: 02591059

Performance

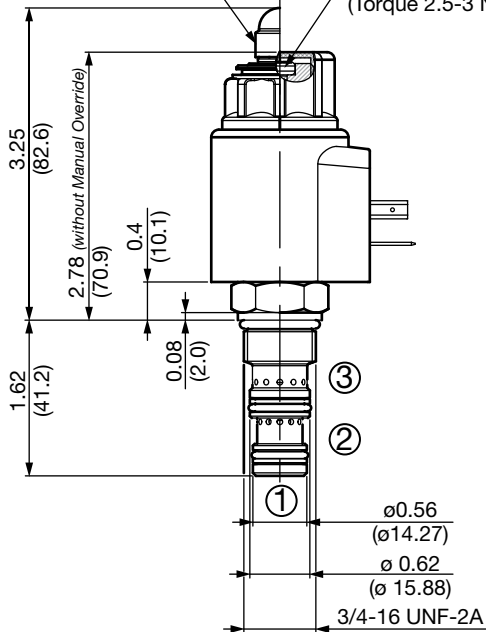


Dimensions



Manual Override
(Emergency pressure adjustment)
Torque 7.4-8.1 ft-lbs
(Torque 10-11 Nm)

Air Bleed Screw
Torque 1.8-2.2 ft-lbs
(Torque 2.5-3 Nm)



All measurements in inches (mm).
Subject to technical modifications

Standard Line Bodies*

Code	Part No	Material	Pressure Rating	Weight
FH083-AS6	03011424	Aluminum, anodized	3500 psi (245 bar)	0.58 lb (0.26 kg)
FH083-SS6	00560920	Steel, zinc plated	6000 psi (420 bar)	1.70 lb (0.77 kg)

*Please refer to Line Bodies & Cavities section for details

Model Code

PDR08-01-M-C-N-110-24 PG 8.8

Valve Model

Override Options

- (omit) = No manual override
- M = Manual override

Body & Ports

- C = Cartridge only
- AS6 = SAE-6 ports, aluminum body
- SS6 = SAE-6 ports, steel body

Seals

- N = Buna-N
- V = Viton®

Pressure Range

- 20 = 0 to 200 psi (0 to 14 bar)
- 30 = 0 to 300 psi (0 to 20 bar)
- 50 = 0 to 500 psi (0 to 35 bar)
- 70 = 0 to 700 psi (0 to 48 bar)
- 110 = 0 to 1100 psi (0 to 75 bar)
- 200 = 0 to 2000 psi (0 to 138 bar)

Coil Voltage

- 0 = No coil, cartridge only
- 12 = 12 VDC
- 24 = 24 VDC

Coil Connector

- PG = EN 175301-803-A
- PL = Leadwires (2) - 18" long (46 cm)
- PN = Deutsch™ DT04-2P, molded, axial (IP69K Rated)
- PT = Amp Junior Timer™, molded, radial mount

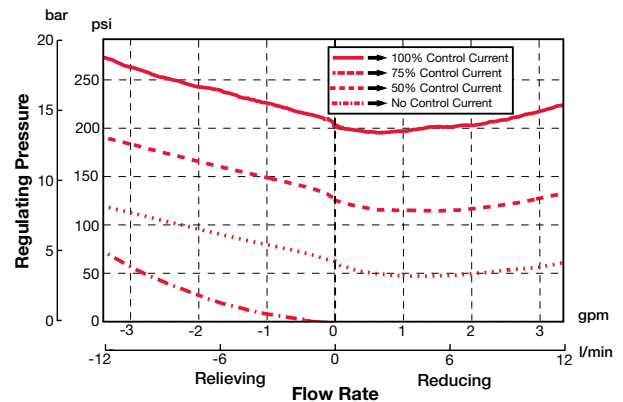
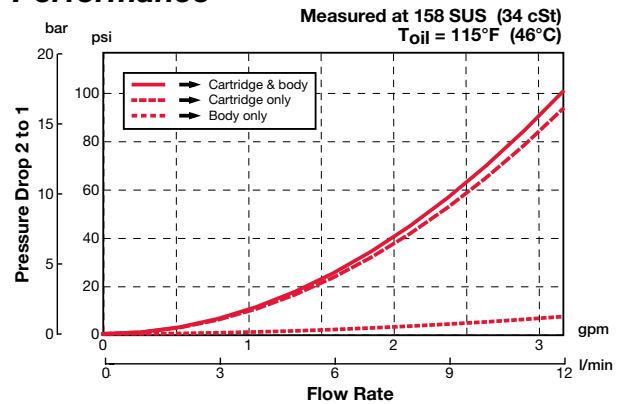
Coil Resistance

- 2.2 = 2.2 Ohms (12 VDC)
- 8.8 = 8.8 Ohms (24 VDC)

Coil Model

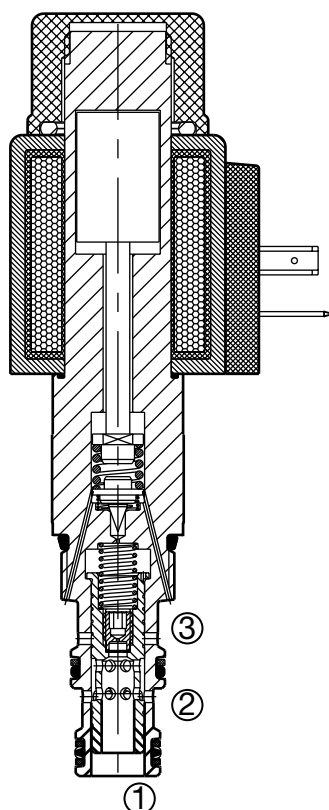
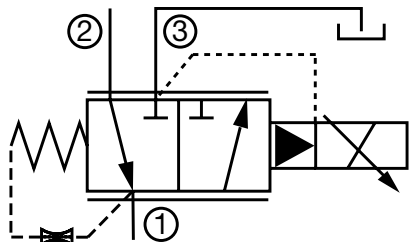
P-40-1836
For other coil connector types consult factory

Performance



PDR08P-01 Pressure Reducing/Relieving Pilot Operated, Spool Type 16 gpm (60 l/min) • 5000 psi (350 bar)

Hydraulic Symbol



Description

A screw-in cartridge, pilot operated, spool type, pressure reducing/relieving valve, intended for use as a pressure control device, which can proportionally control the reduced pressure across the specified range using a variable electrical input signal. Reduced pressure output is proportional to DC current input. This valve maintains a constant reduced pressure regardless of pressure variations in the primary system. In addition to the reducing function, this valve also provides a relief function from the reduced pressure port to the tank port, if pressure in the secondary circuit exceeds the set pressure.

Operation

The PDR08P-01 allows flow from port 2 to port 1 until sufficient pressure is reached at port 1 to open the pilot section by offsetting the electrically induced solenoid force. Increasing electrical current will increase the control (reduced) pressure at port 1. Any pressure on port 3 is additive to the pressure setting. With no current applied to the solenoid, the valve will maintain pressure at approximately 75 psi, regardless of the pressure at port 2.

Features

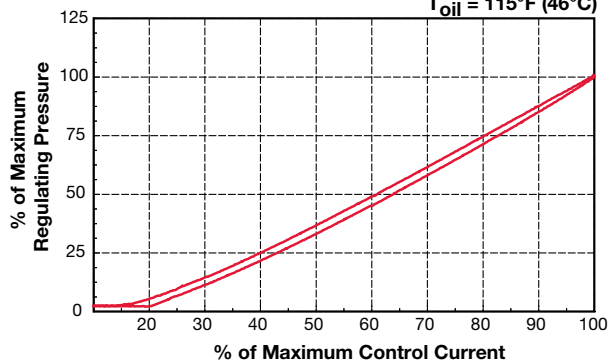
- Screen on pilot orifice to enhance safety
- 12 and 24 volt proportional waterproof coils
- Manual override option

Specifications

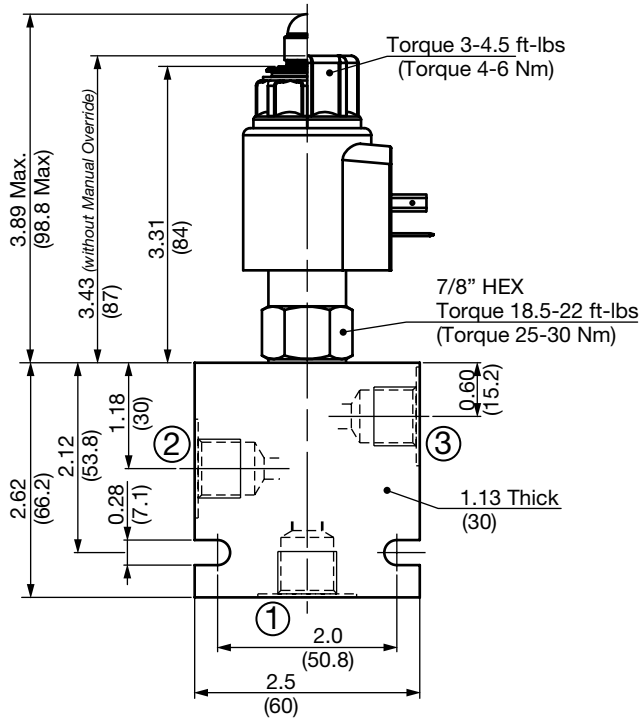
Operating Pressure	5000 psi (350 bar) max at port 2
Nominal Flow	16 gpm (60 l/min)
Flow Path	De-energized: 1 to 2 & 2 to 1 Energized: 2 to 1; Relieving: 1 to 3
Maximum Pilot Flow	3.75 cu in/min. at 5000 psi (0.5 l/min at 350 bar)
Reducing/Relieving Pressure Ranges	75 to 870 psi (5 to 60 bar) 75 to 3300 psi (5 to 230 bar) (0 to maximum control current) 75 to 5500 psi (5 to 350 bar)
Maximum Control Current	2.1 amps for 12VDC coil (2.2 Ohms) 1.05 amps for 24VDC coil (8.8 Ohms)
Dither Frequency	160 to 250 Hz
Hysteresis With Dither	2-4% of maximum control current
Typical Step Response Time	ON: approx 60 ms, OFF: approx. 40 ms
Repeatability	<= 1.5% of maximum pressure range
Reversal Span	<= 2% of maximum
Response Sensitivity	<= 1% of maximum control current
Ambient Temperature Range	-4° to 140°F (-20° to 60°C)
Fluid Operating Temp. Range	-4° to 248°F (-20° to 120°C) (Consult factory for usage at temp. outside range.)
Fluid Compatibility	Mineral-based or synthetics with lubricating properties
Viscosity	50 to 2000 SUS (7.4 to 420 cSt)
Filtration	18/16/13 or cleaner (per ISO 4406) Use with filter rated $\beta_3 \geq 200$.
Installation	No orientation restrictions
Cavity	FC08-3 (see Line Bodies & Cavities section)
Cavity Tools	Rougher: 02580086 Finisher: 02580087
Cartridge Weight	0.57 Lbs. (0.26 kg)
Coil Weight	0.42 Lbs. (0.19 kg)
Cartridge Material	Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N or Viton® o-rings, and PTFE back-up rings.
Coil Material	Class N high temperature magnet wire steel shell, polyamid encapsulation
Seal Kits	Buna-N P/N: 03054795 Viton® P/N: 02591059

Performance

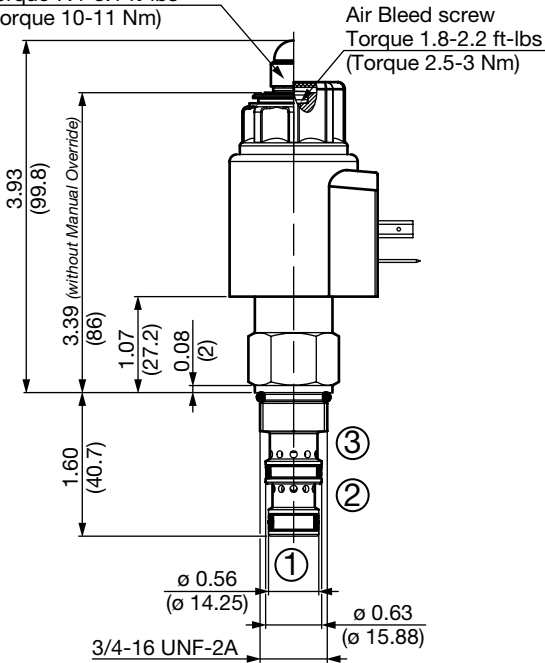
Measured at 158 SUS (34 cSt)
 $T_{oil} = 115^\circ\text{F} (46^\circ\text{C})$



Dimensions



Manual Override
(Emergency pressure adjustment)
Torque 7.4-8.1 ft-lbs
(Torque 10-11 Nm)



All measurements in inches (mm).
Subject to technical modifications

Standard Line Bodies*

Code	Part No	Material	Pressure Rating	Weight
FH083-AS6	03011424	Aluminum, anodized	3500 psi (245 bar)	0.58 lb (0.26 kg)
FH083-SS6	00560920	Steel, zinc plated	6000 psi (420 bar)	1.70 lb (0.77 kg)

*Please refer to Line Bodies & Cavities section for details

Model Code

PDR08P-01-M-C-N-330-24 PG 8.8

Valve Model

Override Options

- (omit) = No manual override
- M = Manual override

Body & Ports

- C = Cartridge only
- AS6 = SAE-6 ports, aluminum body
- SS6 = SAE-6 ports, steel body

Seals

- N = Buna-N
- V = Viton®

Pressure Range

- 87 = 75 to 870 psi (5 to 60 bar)
- 330 = 75 to 3300 psi (5 to 230 bar)
- 500 = 75 to 5000 psi (5 to 350 bar)

Coil Voltage

- 0 = No coil, cartridge only
- 12 = 12 VDC
- 24 = 24 VDC

Coil Connector

- PG = EN 175301-803-A
- PL = Leadwires (2) - 18" long (46 cm)
- PN = Deutsch™ DT04-2P, molded, axial (IP69K Rated)
- PT = Amp Junior Timer™, molded, radial mount

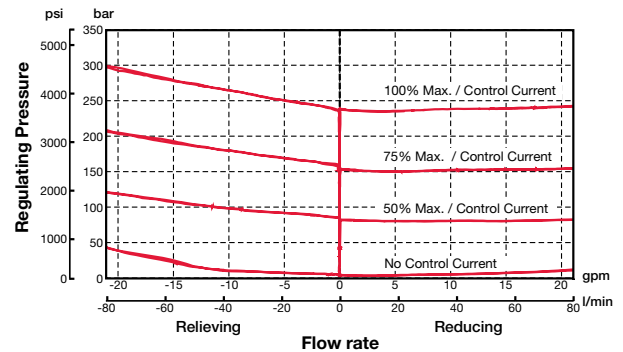
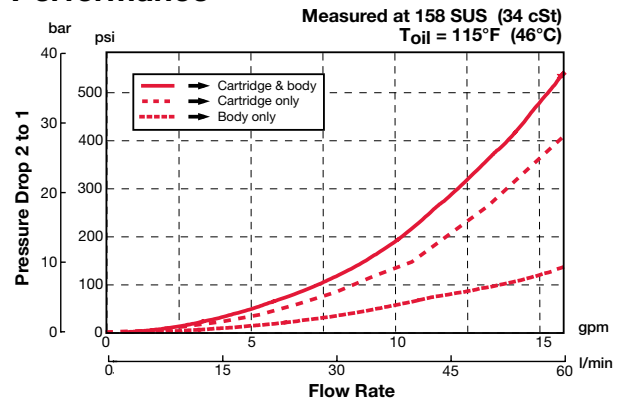
Coil Resistance

- 2.2 = 2.2 Ohms (12 VDC)
- 8.8 = 8.8 Ohms (24 VDC)

Coil Model

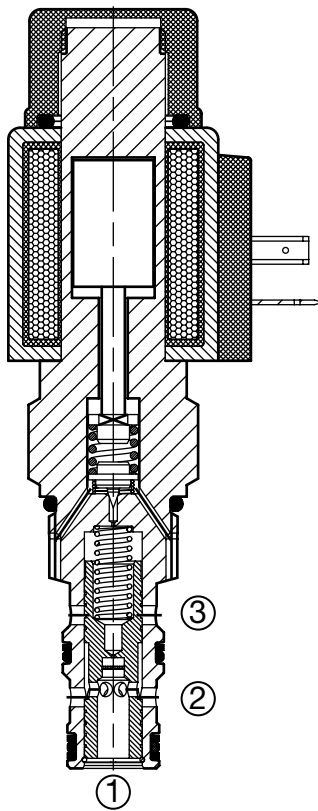
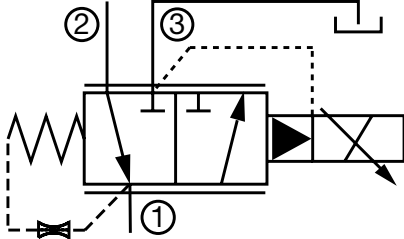
P-40-1836
For other coil connector types consult factory

Performance



PDR10P-01 Pressure Reducing/Relieving, Pilot Operated, Spool Type 21 gpm (80 l/min) • 5000 psi (350 bar)

Hydraulic Symbol



Description

A screw-in cartridge, pilot operated, spool type, pressure relieving/reducing valve, intended for use as a pressure control device, which can proportionally control the reduced pressure across the specified range using a variable electrical input signal. Reduced pressure output is proportional to DC current input. This valve maintains a constant reduced pressure regardless of pressure variations in the primary system. In addition to the reducing function, this valve also provides a relief function from the reduced pressure port to the tank port, if pressure in the secondary circuit exceeds the set pressure.

Operation

The PDR10P-01 allows flow from port 2 to port 1 until sufficient pressure is reached at port 1 to open the pilot section by offsetting the electrically induced solenoid force. Increasing electrical current will increase the control (reduced) pressure at port 1. Any pressure on port 3 is additive to the pressure setting. With no current applied to the solenoid, the valve will maintain pressure at approximately 90 psi, regardless of the pressure at port 2.

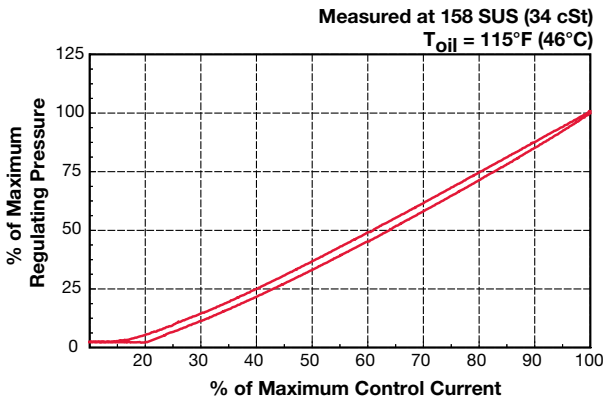
Features

- Screen on pilot orifice to enhance safety
- 12 and 24 volt proportional waterproof coils
- Manual override option

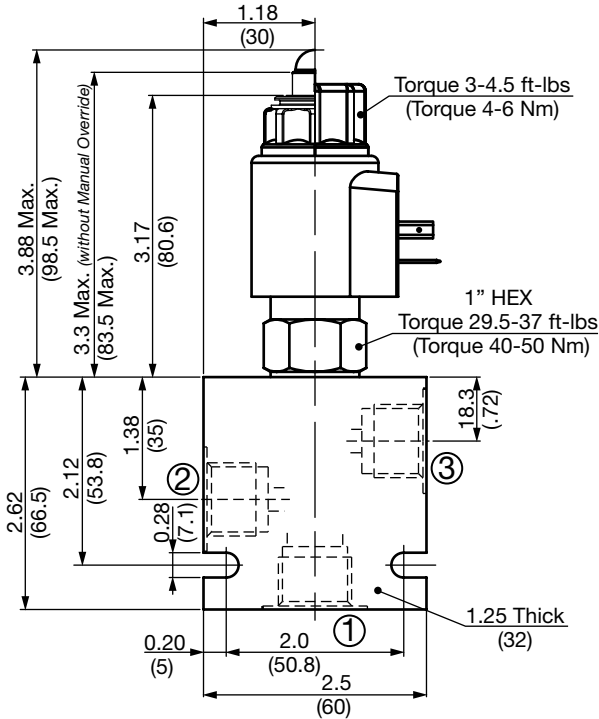
Specifications

Operating Pressure	5000 psi (350 bar) max at port 2
Nominal Flow	21 gpm (80 l/min)
Flow Path	De-energized: 1 to 2 & 2 to 1 Energized: 2 to 1; Relieving: 1 to 3
Maximum Pilot Flow	3.75 cu in/min. at 5000 psi (0.5 l/min at 350 bar)
Reducing/Relieving Pressure Ranges (0 to maximum control current)	90 to 870 psi (6 to 60 bar) 90 to 2600 psi (6 to 180 bar) 90 to 3300 psi (6 to 230 bar) 90 to 5000 psi (6 to 350 bar)
Maximum Control Current	2.1 amps for 12VDC coil (2.2 Ohms) 1.05 amps for 24VDC coil (8.8 Ohms)
Dither Frequency	160 to 250 Hz
Hysteresis With Dither	2-4% of maximum control current
Typical Step Response Time	ON: approx 60 ms, OFF: approx. 40 ms
Repeatability	<= 1.5% of maximum pressure range
Reversal Span	<= 2% of maximum
Response Sensitivity	<= 1% of maximum control current
Ambient Temperature Range	-4° to 140°F (-20° to +60°C)
Fluid Operating Temp. Range	-4° to 248°F (-20° to +120°C) <i>(Consult factory for usage at temp. outside range.)</i>
Fluid Compatibility	Mineral-based or synthetics with lubricating properties
Viscosity	50 to 2000 SUS (7.4 to 420 cSt)
Filtration	18/16/13 or cleaner (per ISO 4406) Use with filter rated $\beta_3 \geq 200$.
Installation	No orientation restrictions
Cavity	FC10-3 (see <i>Line Bodies & Cavities</i> section)
Cavity Tools	Rougher: 02580092 Finisher: 02580093
Cartridge Weight	0.57 Lbs. (0.26 kg)
Coil Weight	0.51 Lbs. (0.23 kg)
Cartridge Material	Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N or Viton® o-rings, and PTFE back-up rings.
Coil Material	Class N high temperature magnet wire steel shell, polyamid encapsulation
Seal Kits	Buna-N P/N: 03071274 Viton® P/N: 03049443

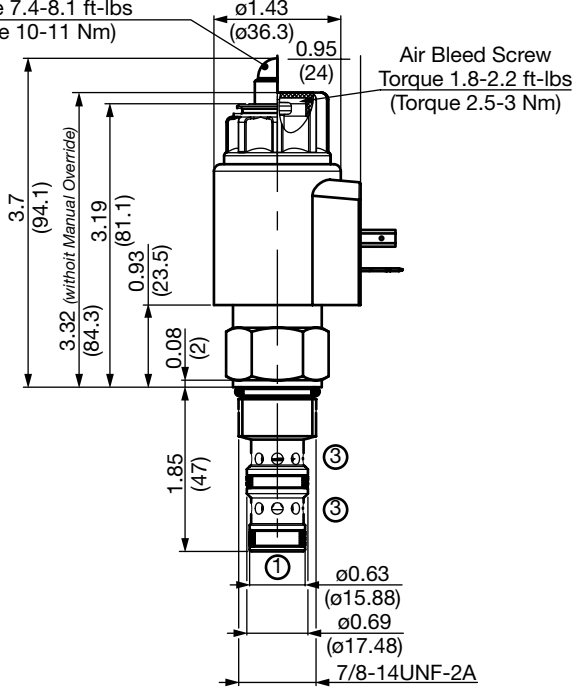
Performance



Dimensions



Manual Override
(Emergency pressure adjustment)
Torque 7.4-8.1 ft-lbs
(Torque 10-11 Nm)



All measurements in inches (mm).
Subject to technical modifications

Standard Line Bodies*

Code	Part No	Material	Pressure Rating	Weight
FH103-AS8	03038095	Aluminum, anodized	3500 psi (245 bar)	0.60 lb (0.27 kg)
FH103-SS8	03037704	Steel, zinc plated	6000 psi (420 bar)	1.74 lb (0.79 kg)

*Please refer to Line Bodies & Cavities section for details

Model Code

PDR10P-01-M-C-N-330-24 PG 8.8

Valve Model

Override Options

- (omit) = No manual override
- M = Manual override

Body & Ports

- C = Cartridge only
- AS8 = SAE-8 ports, aluminum body
- SS8 = SAE-8 ports, steel body

Seals

- N = Buna-N
- V = Viton®

Pressure Range

- 87 = 90 to 870 psi (6 to 60 bar)
- 260 = 90 to 2600 psi (6 to 180 bar)
- 330 = 90 to 3300 psi (6 to 230 bar)
- 500 = 90 to 5000 psi (6 to 350 bar)

Coil Voltage

- 0 = No coil, cartridge only
- 12 = 12 VDC
- 24 = 24 VDC

Coil Connector

- PG = EN 175301-803-A
- PL = Leadwires (2) - 18" long (46 cm)
- PN = Deutsch™ DT04-2P, molded, axial (IP69K Rated)
- PT = Amp Junior Timer™, molded, radial mount

Coil Resistance

- 2.2 = 2.2 Ohms (12 VDC)
- 8.8 = 8.8 Ohms (24 VDC)

Coil Model P-40-1836

For other coil connector types consult factory

Performance

