DYNEX
High Pressure Hydraulics

ENGINEERING SPECIFICATIONS

8800 Series Poppet Style Pressure Control Valve

40 U.S. gpm (151 L/min) Nominal
Standard 3000 psi (210 bar)
HP Option 5000 psi (350 bar)

Pilot operated valves provide fast response to regulate pressure. The rugged design is ideal for systems with extreme changes in pressure.

SPECIFICATIONS

Mounting

8800 Series, Line Connected.
P8800 Series, Subplate Mounted (available in Size 06 only).

Rated Flow

Size 03:
Nominal, U.S. 15 gpm (57 L/min).
Maximum, U.S. 25 gpm (95 L/min).
Size 06:
Nominal, 40 U.S. gpm (151 L/min).
Maximum, 60 U.S. gpm (227 L/min).

Rated Pressure

Standard: 3000 psi (210 bar).
HP Option: 5000 psi (350 bar).

Pressure Adjustment

Standard Pressure Range:
100 to 3000 psi (7 to 210 bar).
HP Option:
100 to 5000 psi (7 to 350 bar).
LP Option:
50 to 1000 psi (4 to 70 bar).

Pressure is manually set by turning the maximum pressure adjustment (knurled knob or optional handwheel). Turning clockwise increases pressure. The setting is held by a locknut.

ELECTRIC VENT OPTION

Electrically operated pressure controls are available (normally-open, EO; or normally-closed, EC). Pressure is automatically controlled by an integrally mounted D03 valve.

With this option, relief valves can control two pressure levels in a circuit. When the solenoid valve is open, system pressure drops to its lowest level.



When the solenoid valve is closed, pressure rises to the control knob setting on the relief valve.

Unloading valves can provide automatic control, diverting pump output to tank during idle portions of the machine cycle.

APPLICATION NOTES

Standard Seals

All valves use Fluorocarbon (Viton® or Fluorel®) or equivalent. EPR (Ethylene-Propylene Rubber) is also available as an option.

Fluid Recommendations

Viscosity: 50 to 1500 SUS (7 to 325 cSt).
Temperature Range: -20° to +200° F (-29° to +93° C).

Filtration

Use filtration to provide fluid which meets ISO cleanliness level 19/17/14 (ISO Code 4406) or cleaner.

Pressure Surges

Consistent with standard practice, the system should be protected from pressure surges.

Regulation of internally drained valves may be affected by surges in a common tank line serving multiple valves. A separate line is recommended.

Pressure Drop (ΔP)①

Size	Flow		Vented ΔP	
	U.S. gpm	L/min	psi	bar
03	9	34	35	2,4
	25	95	165	11,4
06	27	102	20	1,4
	60	227	115	7,9

① *Pressure drop is comparable for all pressure ranges.*

VALVE FUNCTIONS AND OPERATION

Relief Valves

Relief valves are normally-closed controls that regulate pressure to a desired preset maximum.

Their most common use is to protect against excessive pressure. The valve is adjusted so it opens at a pressure slightly higher than the load requirement. When reached, the valve diverts excess pump output flow to tank. See Figure 1.

Pressure can be controlled by a remote pressure source, such as a Dynex 8820 Series panel mounted valve.

Relief valves also provide an unloading function, venting pump output flow during idle portions of a machine cycle. Venting can be controlled by a two-position directional control valve (a Dynex D03 valve, for example) in the circuit.

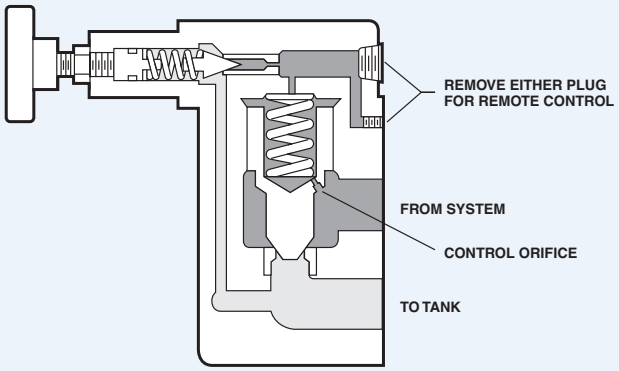


Figure 1: Poppet Style Relief Valve

Unloading Valves

Unloading valves are normally-closed controls that divert pump output flow directly to tank in response to an external pressure (pilot) signal.

These valves can be used in an accumulator unloading circuit, which provides both relief protection and unloading to divert pump output when the desired accumulator pressure is reached. See Figure 2.

The valve closes when the accumulator is discharged to about 85% of the pre-set pressure. This differential unloading characteristic provides faster accumulator recharge.

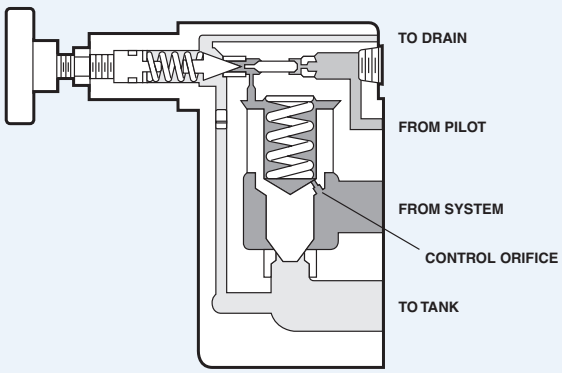


Figure 2: Poppet Style Unloading Valve

Integral Vent Valve

Pressure controls with optional electric vent can automatically divert pump output flow to tank during idle portions of a machine cycle.

Pressure is controlled by an integrally mounted Dynex D03 valve. See Figure 3.

This vent option is available in normally-open (EO) or normally-closed (EC) configurations.

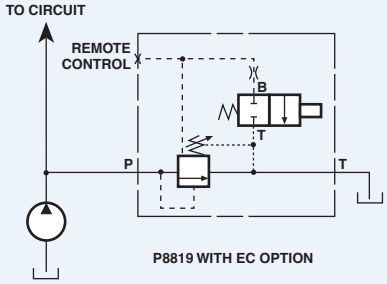


Figure 3: Typical Venting Circuit

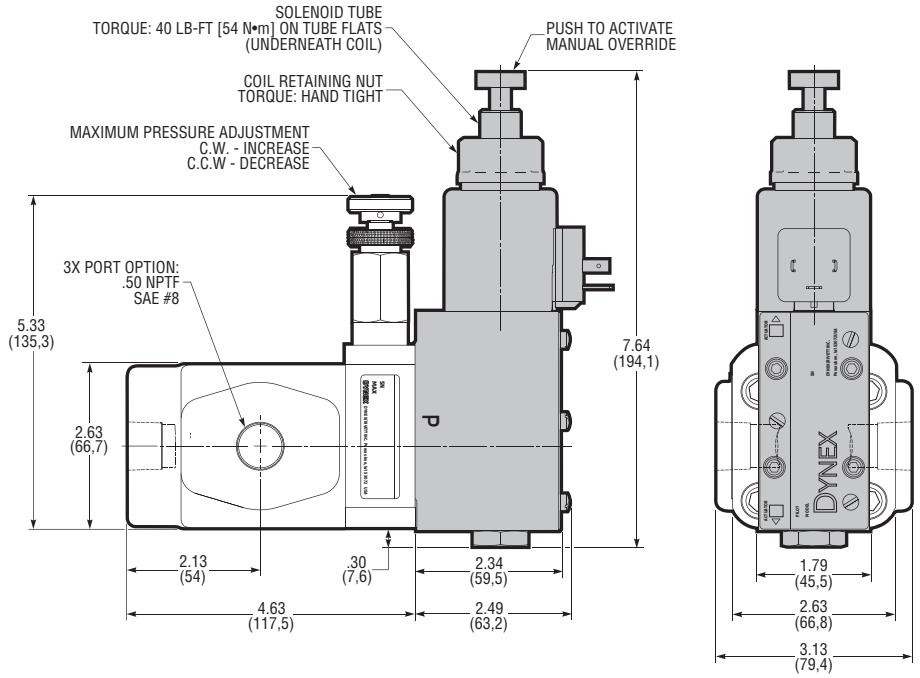
INSTALLATION

Line and Subplate Models

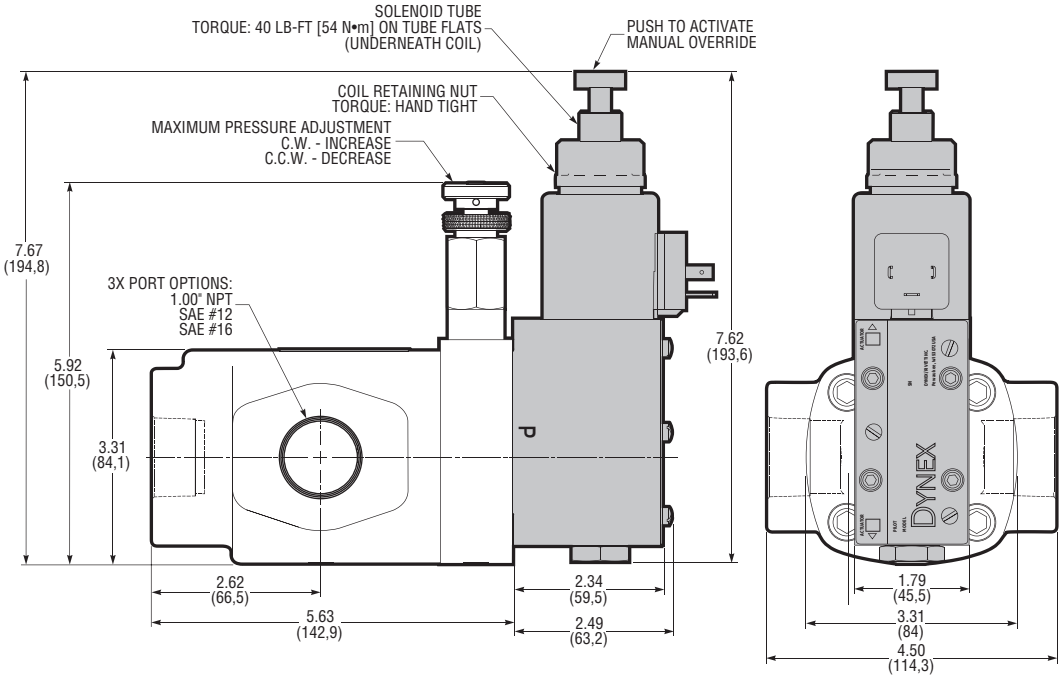
Contact Dynex Sales for installation of other coil options.

Weight (Mass):

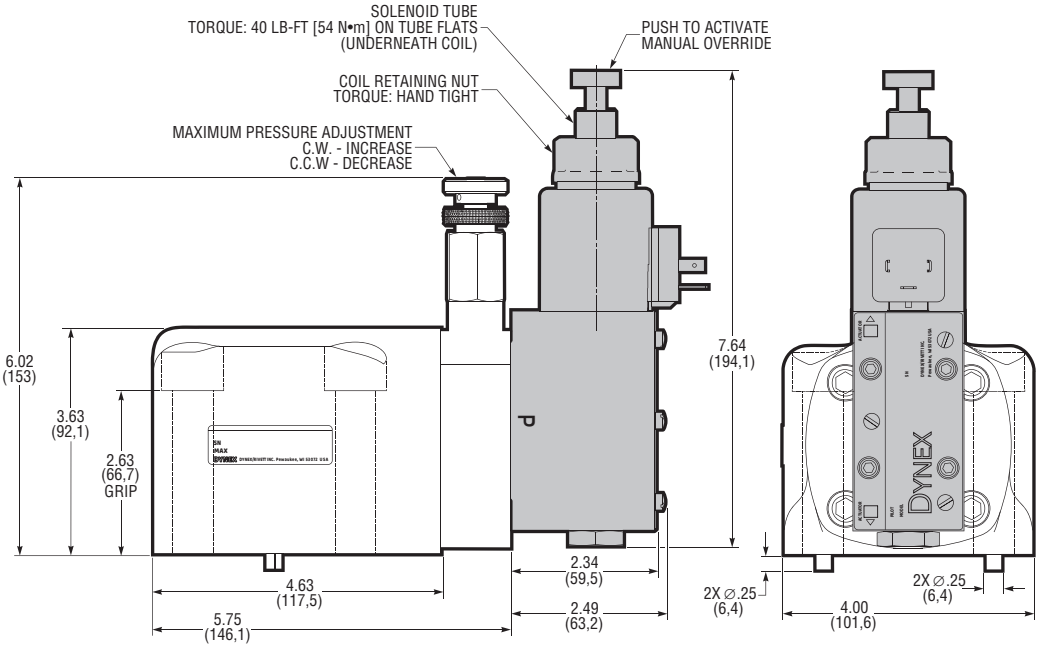
Size 03: 17 lb (7,7 kg).
Size 06: Subplate Mounted,16 lb (7,3 kg).
Size 06: Line Connected, 20 lb (9,1 kg).
Electric Vent option adds 4.3 lb (1,9 kg).



8800 Series, Line Connected, Electric Vent Option (Size 03)



8800 Series, Line Connected, Electric Vent Option (Size 06)



8800 Series, Subplate Mount, Electric Vent Option, (Size 06 only)
Note: Subplate mount not available in Size 03.

Mounting

Orientation: Unrestricted for all models.

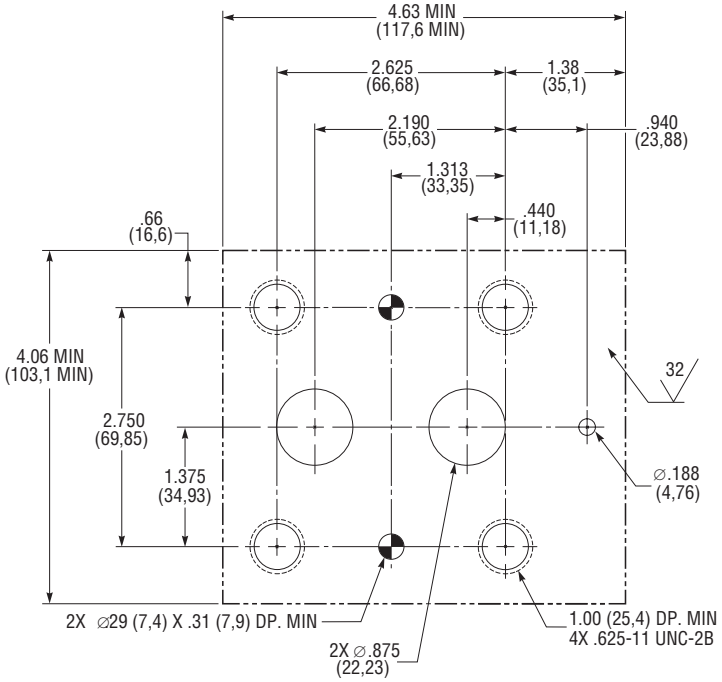
Subplate Models: Port o-rings are included. Bolts must be ordered separately, .625-11 UNC Threaded x 3.50 inches (88,9 mm). Recommended torque is 40 LB-FT (54 N•m).

Mounting Bolt Kits and Minimum Surface (P88xx-06)

Mounting bolts are not included when ordering valve alone. The table includes available mounting bolt kits.

P8800 Series (Poppet Style)

Item: Part Number	Description
Bolt Kit: P17-BK	Four .625-11 UNC Threaded x 3.50 inches (88,9 mm)



8800 Series, Minimum Mounting Surface (Size 06)

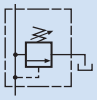
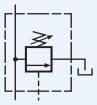
TYPICAL MODEL CODE

P 88 19 — 06 – 1 — EC —115DA – HP — E — 5 0

Valve Mounting	
No Code	Line Connected
P①	Subplate Mounted

① *Size 06 models only.*

Valve Type	
88	Pressure Control

Functions		Subplate	Line
19	Relief		
39	Accumulator Unloading①		

① *Accumulator Unloading function available in Size 06 only.*

Nominal Size	
06 – 1	1" NPT Ports, Line Connected
06	Subplate Mounted

Electric Vent	
No Code	Manual Adjust
EC	Electric Vent, Normally Closed
EO	Electric Vent, Normally Open

Seals	
No Code	Fluorocarbon (Viton® or Fluorel®)
E	EPR (Ethylene-Propylene Rubber)

Options		
Pressure	No Code	Standard, adjustable 100 to 3000 psi (7 to 210 bar)
	HP	Adjustable 100 psi to 5000 psi (7 to 350 bar)
	LP	Adjustable 50 psi to 1000 psi (4 to 70 bar)
	LLP	Adjustable 40 psi to 500 psi (3 to 35 bar)
Adjustment	No Code	Adjustment knob 1" ∅
	CR	Corrosion Resistant Control
	HW	Handwheel adjustment 2" ∅

Electric Vent Options			
*AC Solenoids Deutsch Connector:*①		*DC Solenoids Deutsch Connector:*①	
115DA	115V/60Hz, 110V/50Hz	12DD	12VDC
230DA	230V/60Hz, 220V/50Hz	24DD	24VDC
24DA	24V/60Hz, 24V50Hz		
*AC Solenoids DIN Connector:*②		*DC Solenoids DIN Connector:*②	
115HA	115V/60Hz, 110V/50Hz	12HD	12VDC
230HA	230V/60Hz, 220/50Hz	24HD	24VDC
*AC Explosion Proof:*③④		*DC Explosion Proof:*③④	
115EP	120V/60Hz	24EP	24VDC

① *Fits Deutsch DT04-2P Connector.*
② *Fits DIN 43650 Form A (Hirschmann Type) Connector.*
③ *Junction box with 1/2" NPT entry for cable glands.*
④ *Consult Dynex Sales for Dust Rated solenoid availability.*

Modification Number

Design Number



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