

High Pressure / High Flow Proportional Relief Valves

H8819 SERIES

50 gpm at 15000 psi (190 L/min at 1040 bar)
75 gpm at 9000 psi (284 L/min at 620 bar)

Control pressure and protect your circuit with these high pressure relief valves rated to 50 gpm at 15000 psi (190 L/min at 1040 bar), or 75 gpm at 9000 psi (284 L/min at 620 bar).

Select from models with manual, electric vent, or proportional control.

Their compatibility with a wide range of fluids including low-viscosity and phosphate ester fluids make these valves ideal for use on test-stands, aerospace ground support equipment, and other applications requiring special fluids.

Compatible Fluids

Conventional high-grade premium petroleum-based oil.

Various MIL-SPEC fluids, such as MIL-PRF-5606 and MIL-PRF-83282.

Skydrol and other phosphate ester fluids.

Seals

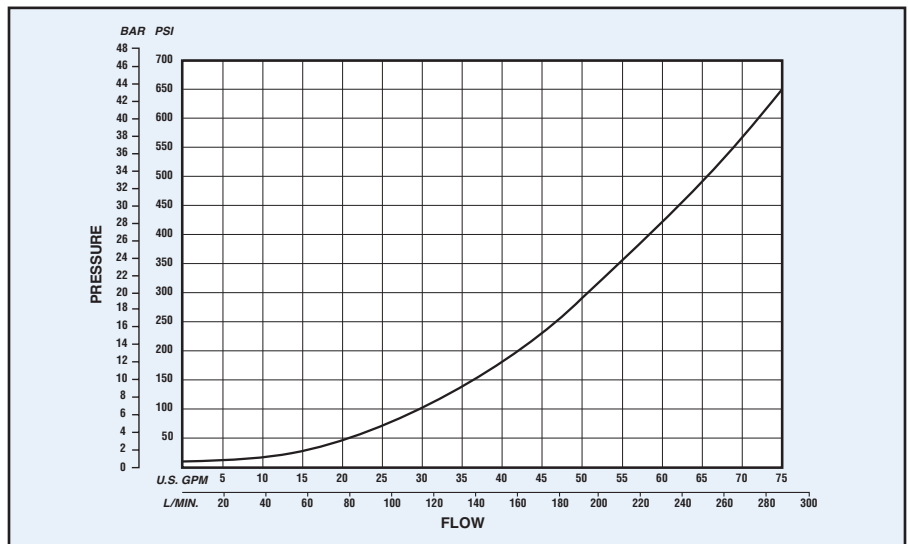
Fluorocarbon (Viton® or Fluorel®) standard; EPR (Ethylene-Propylene Rubber) for use with some phosphate ester fluids. Consult seal or fluid suppliers to determine the suitable seals for your specific operating conditions.

PERFORMANCE

Typical performance curves are based on the use of 100 SUS (20 cSt) petroleum-based fluid at 120° F (50° C).



Vented Pressure Drop (ΔP)



Selection Table^③

Models	Rated Pressure		Rated Flow		Mounting	Port Sizes			
	psi	bar	U.S. gpm	L/min		Pressure	Tank	Drain	Remote
H8819-7509	9000	620	75	284	Line Connected	SAE No. 16	SAE No. 24	SAE No. 6	SAE No. 6
H8819-5015	15000	1040	50	190	Line Connected	Coned and Threaded ^①	SAE No. 24	SAE No. 6	Coned and Threaded ^②
MH8819-7509	9000	620	75	284	Manifold Mounted	Manifold	SAE No. 24	SAE No. 6	None
MH8819-5015	15000	1040	50	190	Manifold Mounted	Manifold	SAE No. 24	SAE No. 6	None

① Port fits 1 3/8" Medium Pressure Coned and Threaded (Autoclave, Butech, or equivalent fitting).

② Port fits 7/16" High Pressure Coned and Threaded (Autoclave, Butech, or equivalent fitting).

③ For complete ordering information, refer to "Typical Model Code" on page 6.

MANUAL CONTROL

Relief valves with manual control allow you to simply adjust maximum pressure by turning the hand wheel. The pressure setting can be held using a threaded locknut.

SPECIFICATIONS

Weight (Mass)

26 lb (12 kg).

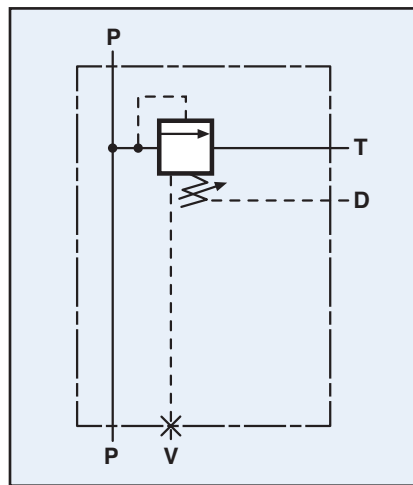
Max Tank Pressure

3000 psi (210 bar).

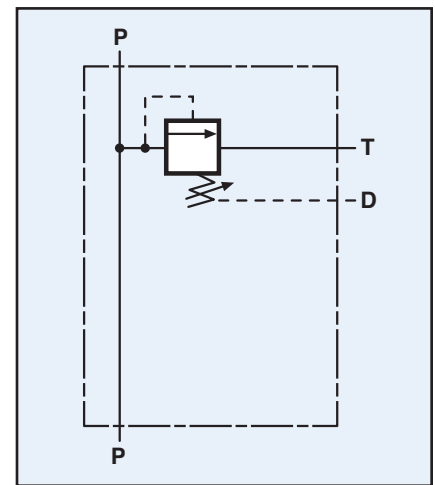
Filtration

25 micron absolute.

Schematic Symbol



LINE MOUNTED



MANIFOLD MOUNTED

Mounting

Line Connected:

See *Selection Table* on page 1 for port sizes.

Manifold Mounted:

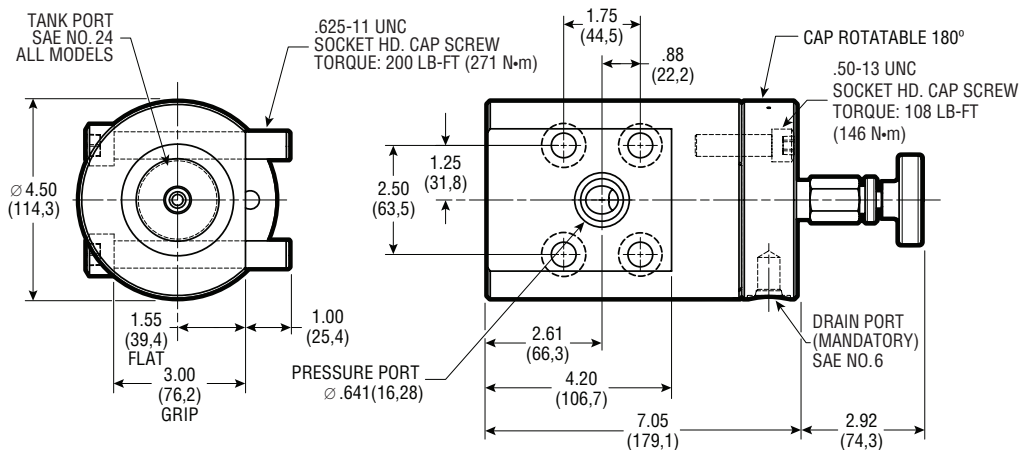
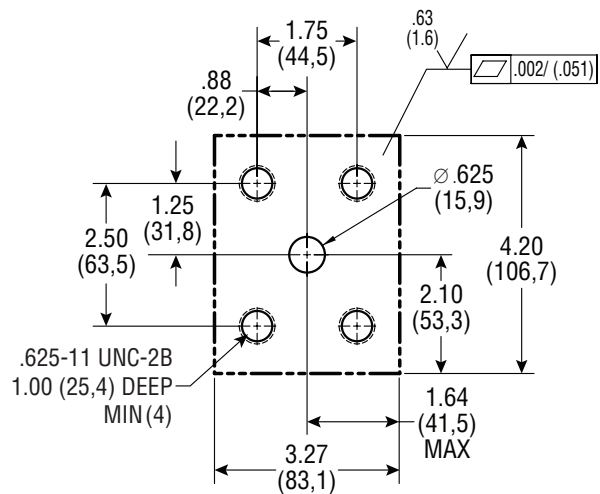
For direct mounting onto a hydraulic pump or other manifold surface.

Dynex does NOT supply manifolds for this valve.

Note: Installation drawing dimensions are shown in inches (millimeters in parentheses) and are nominal.

Minimum Mounting Surface

(Customer to provide)



Manual Control (Manifold Mounted Version Shown)

ELECTRIC VENT CONTROL

These valves can provide an unloading function, diverting pump output directly to tank in response to an external electrical signal.

Venting is controlled by a solenoid valve integrally mounted on the relief valve.

Typically, unloading valves control two pressure levels in a system. When the solenoid valve is open, pressure drops to its lowest level. When the solenoid valve is closed, pressure rises to the higher level determined by the handwheel setting on the relief valve.

SPECIFICATIONS

Models with electric vent control are available in these configurations:

(EO) Normally-open

(EC) Normally-closed

Weight (Mass) 31 lb (14 kg).

Max Tank Pressure 3000 psi (210 bar).

Filtration 25 micron absolute.

Notes

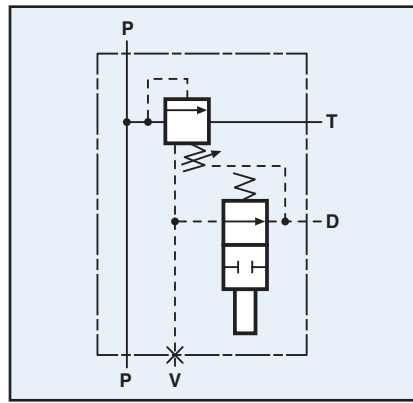
Electric Vent models have a mandatory pilot drain.

Vent Port permits additional parallel maximum pressure signal or venting capability.

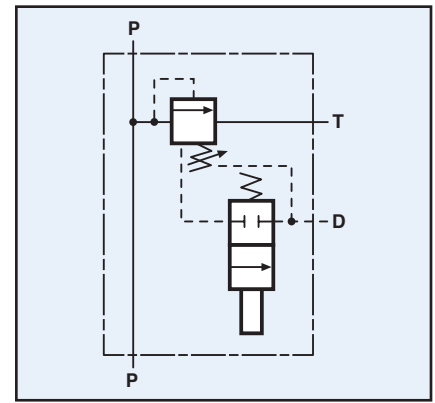
Electrical Connections

Plug-In-Terminal Solenoids fit Deutsch DT04-2P Connector, or DIN 43650 Form A (Hirschmann Type) Connector.

Schematic Symbols



LINE MOUNTED
(NORMALLY-OPEN SHOWN)



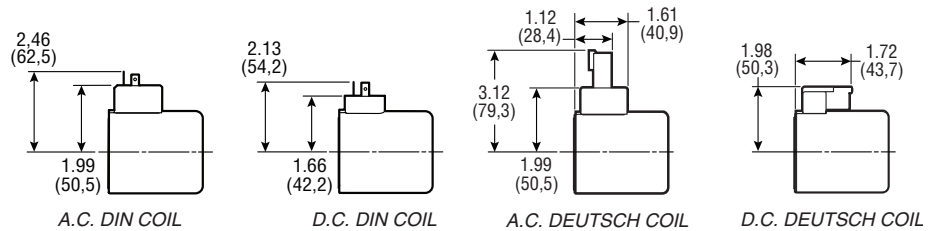
MANIFOLD MOUNTED
(NORMALLY-CLOSED SHOWN)

Solenoid Electrical Data

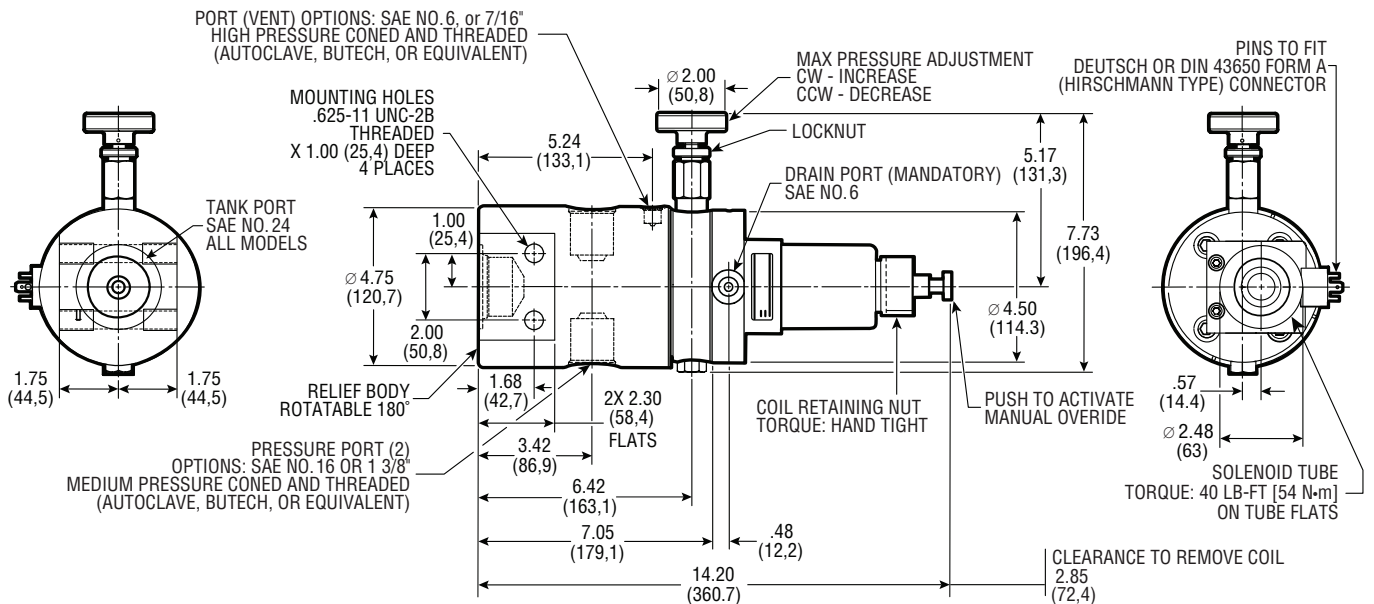
Solenoid Type ^①	Volts	Frequency (Hz) ^②	Coil Resistance (Ohms) @ +77° F (+25°C)	Power (Watts)
AC Standard	24AC	60	10.45 - 11.55	36
	115AC	60	250 - 276	36
	230AC	60	—	36
DC Standard	12DC	—	3.8 - 4.2	36
	24DC	—	15.1 - 16.9	36
	125DC	—	368 - 408	36

① See "Typical Model Code" on page 6 for connector options.

② Information shown is for 60Hz models only. At other frequencies the coil characteristics must be revised.



Electrical Connector Options



Electric Vent Control (Line Connected Version Shown)

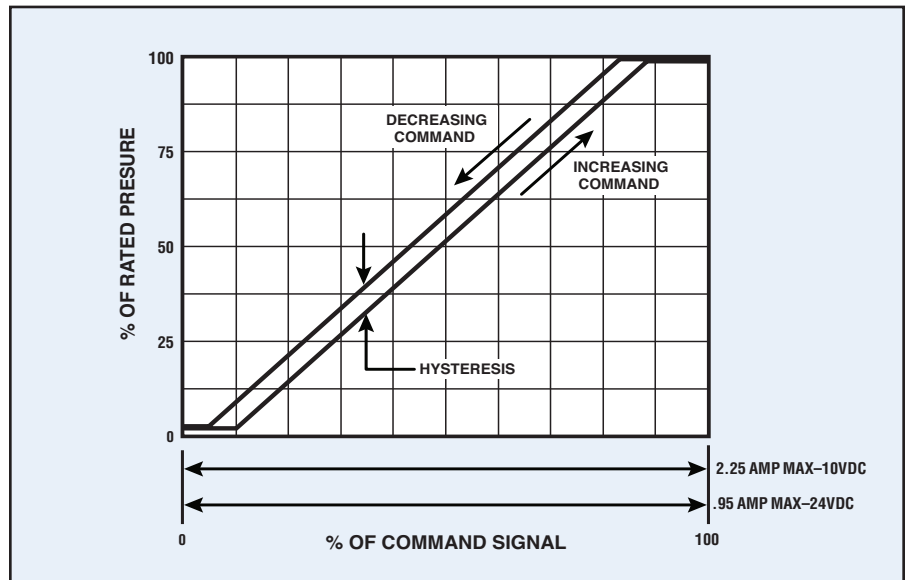
PROPORTIONAL PILOT CONTROL

Proportional models provide remote control for infinitely variable pressure settings up to the maximum pressure.

These models let you remotely control the relief pressure setting, proportional to a variable electrical input signal (10 VDC or 24 VDC).

In these models, the manual pressure adjustment is set slightly higher than maximum system pressure and acts as a system relief pressure backup.

Electrical Signal vs. Pressure



① Hysteresis is the difference between the increasing and decreasing pressure divided by the maximum output.

ELECTRICAL INFORMATION

This proportional pressure control device uses a "controlled current" type control.

Setup of these systems will vary with each application and input device selected.

The images to the right provide reference as to how Dynex operates and tests these valves. Your setup may differ.

SPECIFICATIONS

Input Voltage: 10 or 24 VDC nominal;

10 VDC Input Current: 2.25 Amp;

24 VDC Input Current: .95 Amp.

Make sure that proportional valve controller (driver card and wiring) used is adequate to maintain these values at the solenoid.

Coil Resistance:

10 VDC: $4.45 \Omega \pm 5\%$ @20°C;

24 VDC: $24.28 \Omega \pm 5\%$ @20°C.

Dither: 140 Hz (recommended starting).

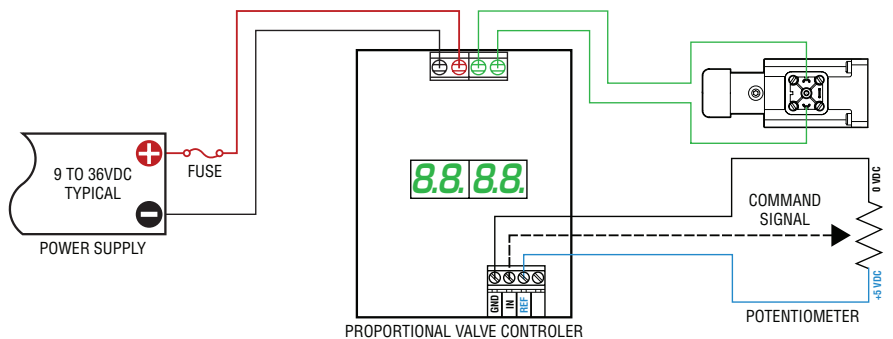
Solenoid Connection:

DIN 43650 Form A (Hirschmann Type).

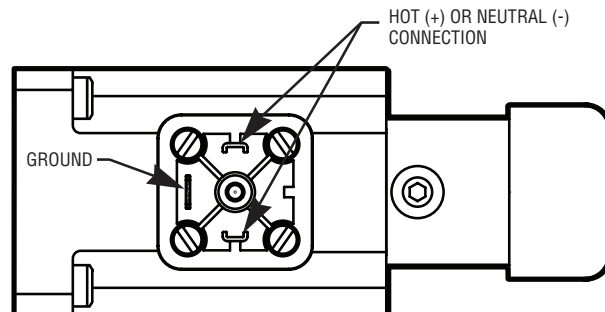
Wiring Connection

The valve requires a two wire connection from the selected controller.

Either terminal can be selected as the "Hot"(+) or "Neutral"(-) connection.



Example Controller Configuration



Solenoid Wiring Connection

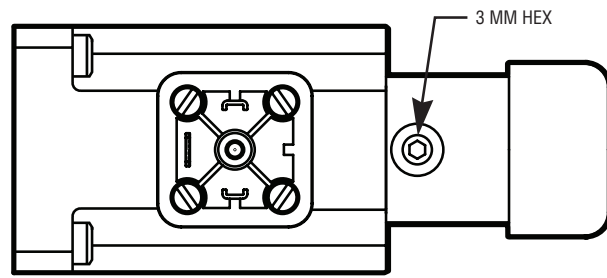
Solenoid Air Bleeding

During initial startup, it will be important to purge all air from the valve. To do this, the bleed screw can be loosened to allow for all air to be bled from the solenoid. Use a 3mm hex key to loosen the bleed screw.

Caution: Oil will flow from this connection.

Once the air has been purged, the plug can be tightened until snug.

Do not overtighten.



Solenoid Bleed Screw

SPECIFICATIONS

Weight (Mass)

36 lb (16.3 kg).

Max Tank Pressure

3000 psi (210 bar).

Filtration

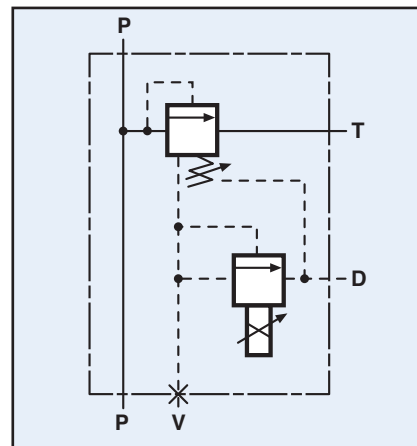
5 micron absolute.

Notes

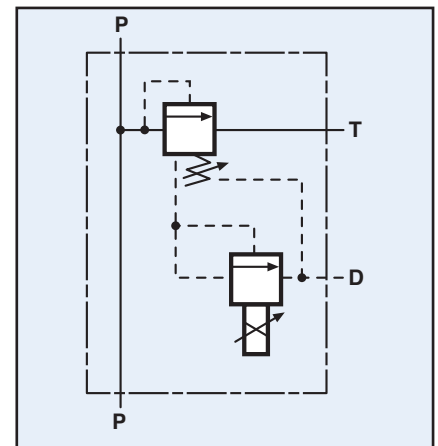
Proportional models have a mandatory pilot drain.

Please consult the Dynex Sales department for any application which requires operating above rated pressures and flows.

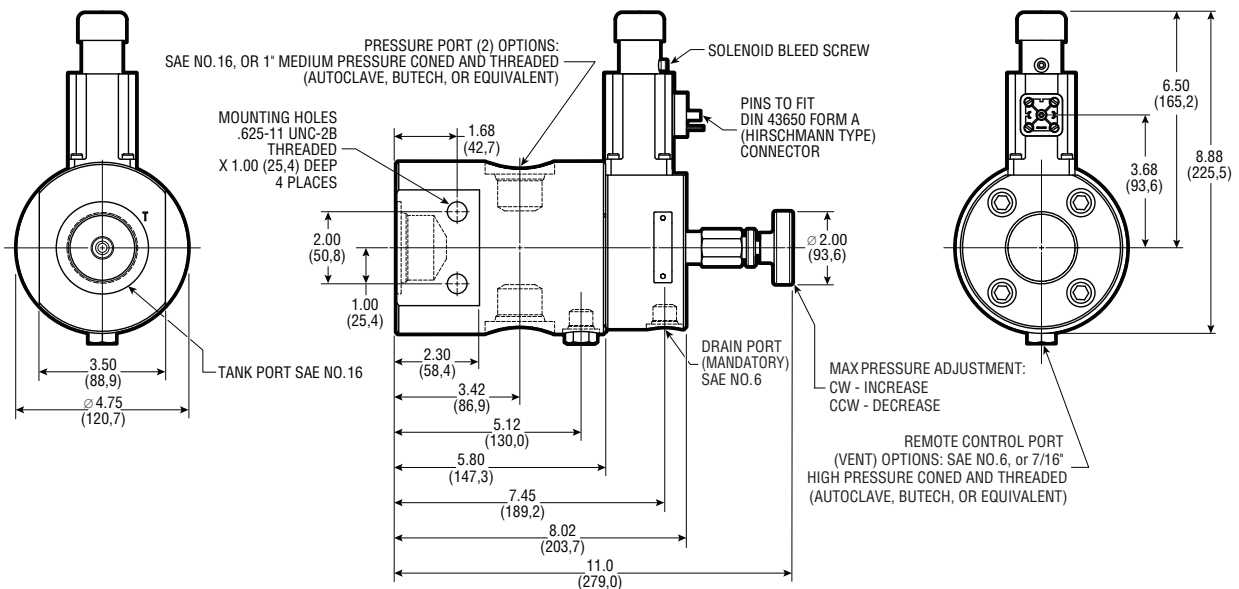
Schematic Symbol



LINE MOUNTED



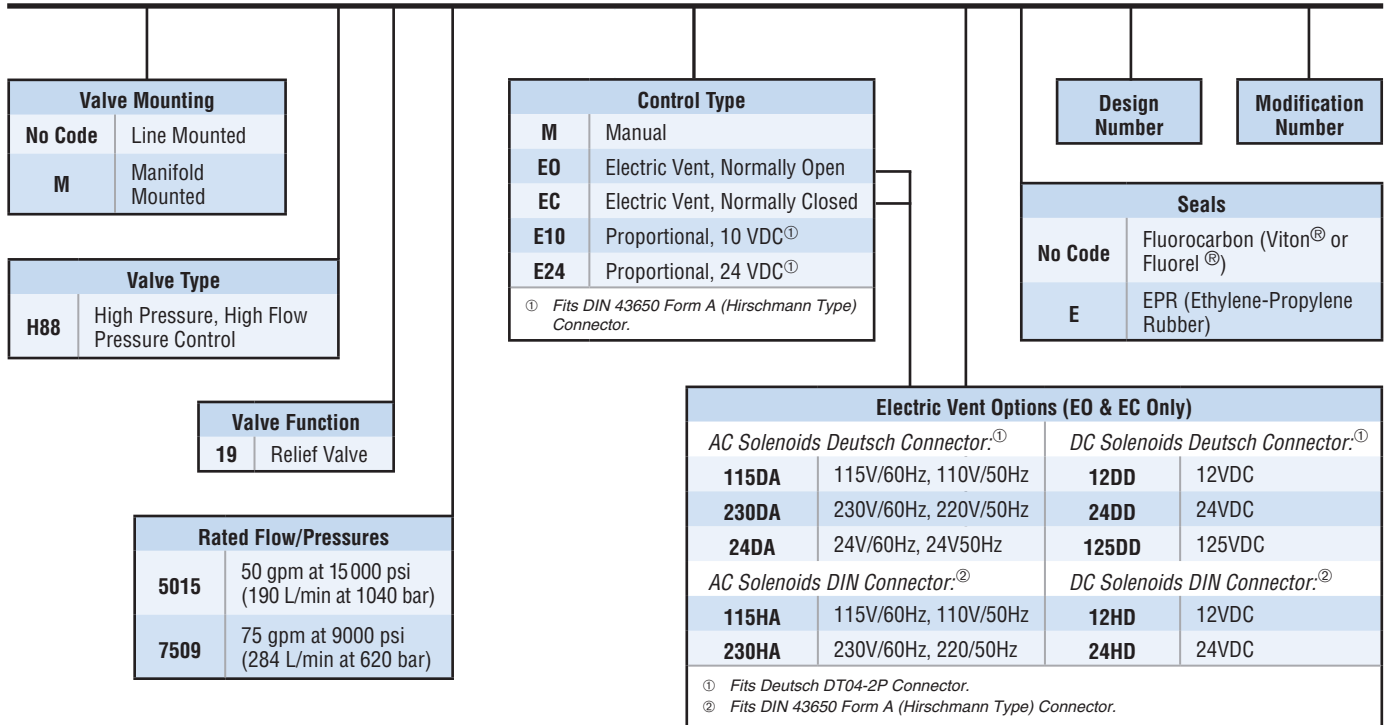
MANIFOLD MOUNTED



Proportional Pilot Model (Line Connected Version Shown)

TYPICAL MODEL CODE

M H88 19 – 5015 – EO – 115DA – E – 3 0



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