TS12-37F Proportional Pressure Reducing/Relieving



ISO SYMBOL



PERFORMANCE



Typical Pressure vs. Flow at Zero Current Body & Line Relieving ∆P: 4.5 bar @ 189.3 lpm (65 psi @ 50 gpm) Body & Line Reducing ∆P: 4.8 bar @ 189.3 lpm (70 psi @ 50 gpm) Reducing Pressure (Gauge) Relieving Pressure (Differential) 276/4000 241/3500 MAXIMUM SETTING 207/3000 172/2500 138/2000 103/1500 bar/psi MINIMUM SETTING 69/1000 34/500 JRE Typical Pressure Drop vs. Flor / (Cartridge & Body) Reducing Pressure (Port 2 to Port 1) Relieving Pressure (Port 1 to Port 3) Coil Energized to 1.26 Amp Coil De-eneraiz 103/1500 69/1000 34/500 189 151 40 113 76 20 38 10 38 10 76 20 114 151 40 189 50 30 FLOW (gpm/lpm 30

DESCRIPTION

A pilot-operated, spool type, proportional pressure reducing/relieving valve. The regulated pressure is inversely proportional to the input electrical current. This valve is factory pre-set to a specified pressure range.

OPERATION

In its steady state, the **TS12-37F** allows flow from port 2 to 1 with the spring chamber constantly drained at port 3. Upon attainment of a pre-determined pressure at port 1, the spool shifts to restrict inlet flow from port 2, thereby regulating pressure at port 1. In this mode, the valve will also relieve port 1 to 3.

FEATURES

- Factory pre-set to specified pressure range.
- 12 and 24 volt coils, standard or optional waterproofed.

RATINGS

Pressure Rating: 276 bar (4000 psi) at port 2.

Proof Pressure: 414 bar (6000 psi) at port 1 297 bar (3000 psi) at port 2.

Burst Pressure: 814 bar (11,800 psi) at all ports.

Crack Pressure Range at 0 Current: 241 to 55 bar (3500 to 800 psi) Note: Tank port pressure is additive to valve setting.

Minimum Reducing Pressure Range: 6.9 bar (100 psi) at max current

Electrical Parameters:

Coil	Typical Max. Current (A) at 0 gpm		Typical Resistance ± 5% @ 20°C (ohms)		Typical Apparent Inductance (mH)	
	12 VDC	24 VDC	12 VDC	24 VDC	12 VDC	24 VDC
D-Coil	1.3 - 0.75	0.65 - 0.37	6.7 ±5%	25.0 ±5%	134 mH	500 mH
E-Coil	1.35 - 0.8	0.68 - 0.4	7.32 ±5%	29.0 ±5%	139 mH	560 mH

Dither Frequency: 200 Hz

Hysteresis: (PWM 200 Hz): 4% maximum

Maximum Leakage from Port 1: 320 ml/min. 20 cu. in./min.

Maximum Pilot Flow: 454 ml/min. (0.12 gpm)

Flow Rating: 190 lpm (50 gpm)

Temperature: -40 to 100°C (-40 to 212°F) with Buna N seals; -26 to 204°C (-15 to

400°F) with fluorocarbon seals; -54 to 107°C (-65 to 225°F) with polyurethane seals **Filtration:** See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of

7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1 **Cavity:** VC12-3; See page 9.112.1

Cavity Tool: CT12-3XX; See page 8.600.1

Cavity 1001. C112-5XX, See page 8.000.1

Seal Kit: SK12-3X-BM; See page 8.650.1

Coil Nut: Part No. 4526330; For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

Valve

TS12-37F

DIMENSIONS



Recommended Electronic Controllers: See page 2.001.1 or our Electronics catalog.

MATERIALS

- **Cartridge:** Weight: 0.30 kg. (0.66 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-ups standard. Optional polyurethane seals with fluorocarbon back-up recommended for pressures over 240 bar (3500 psi).
- Standard Ported Body: Weight: 0.23 kg. (0.50 lbs.); Anodized high-strength aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ; consult factory. See page 8.012.1
- Standard Coil: Weight: 0.32 kg. (0.7 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnet-wire. See page 3.200.1
- E-Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

