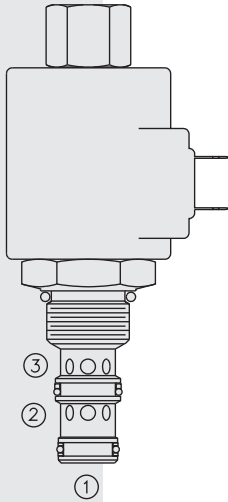
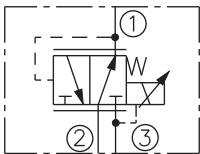


## TS10-36 Proportional Electric Reducing/Relieving

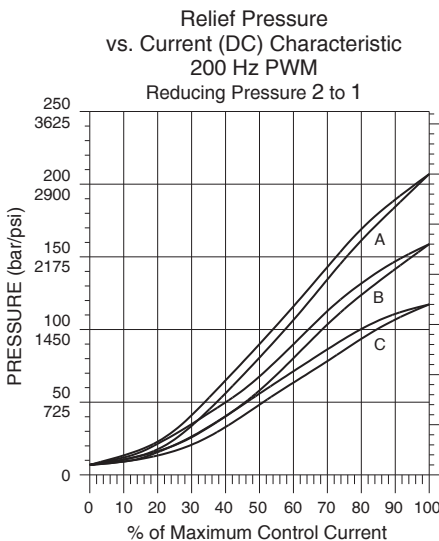
U.S. Patent  
7,137,406



### ISO SYMBOL



### PERFORMANCE



### DESCRIPTION

A screw-in, cartridge-style, pilot-operated, spool-type reducing/relieving valve, which can be infinitely adjusted across a prescribed range using a variable electric input. Pressure output is proportional to DC current input. This valve is intended for use as a pressure limiting device in demanding applications.

### OPERATION

With current applied to the valve coil, the **TS10-36** blocks flow from 2 to 1 until sufficient pressure is present at 1 to open the pilot section by offsetting the electrically induced solenoid force. Increasing electric current will increase the control (reduced) pressure at 1. With no current applied to the solenoid, the valve will relieve pressure at 1 at approximately 6,9 bar (100 psi), regardless of pressure at 2.

The TS10-36 has an optional manual override feature. This allows the valve to be set when the electric supply is lost. The manual setting is added to the electric setting, so when using the manual override feature to establish a minimum setting, care is required to prevent the system from becoming over-pressurized.

### FEATURES

- Manual override option.
- Industry common cavity.
- 12 and 24 volt coils standard.
- Optional waterproof E-Coils rated up to IP69K.

### RATINGS

**Maximum Operating Pressure:** 241 bar (3500 psi)

**Electrical Parameters:**

Coil	Typical Max. Current (A) at 0 gpm		Typical Resistance $\pm$ 5% @ 20°C (ohms)		Typical Apparent Inductance (mH)	
	12 VDC	24 VDC	12 VDC	24 VDC	12 VDC	24 VDC
<b>D-Coil</b>	1.10	0.55	7.25 $\pm$ 5%	28.35 $\pm$ 5%	141	626
<b>E-Coil</b>	1.20	0.60	7.3 $\pm$ 5%	29.4 $\pm$ 5%	139	600

### Relief Pressure Range from Zero to Maximum Control Current:

**A:** 6.9–207 bar (100–3000 psi)

**B:** 6.9–159 bar (100–2300 psi)

**C:** 6.9–117 bar (100–1700 psi)

**Rated Flow:** 57 lpm (15 gpm),  $\Delta P=22.8$  bar (330 psi), Cartridge only, 1 to 3 coil de-energized

**Maximum Pilot Flow:** 0.21 lpm (0.08 gpm)

**Flow Path:** Free Flow: 1 to 3 coil de-energized; Reduced: 2 to 1 coil energized; Relieving: 1 to 3 coil energized

**Temperature:** -40 to 100°C (-40 to 212°F) for Buna N seals  
-26° to 204°C (-15° to 400°F) with Fluorocarbon V 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

**Installation Recommendation:** When possible, the valve should be mounted below the reservoir oil level. This will maintain oil in the armature preventing trapped air instability. If this is not feasible, mount the valve horizontally for best results.

**Cavity:** VC10-3; See page 9.110.1

**Cavity Tool:** CT10-3XX; See page 8.600.1

**Seal Kit:** SK10-3X-BM; See page 8.650.1 (X = seal option)

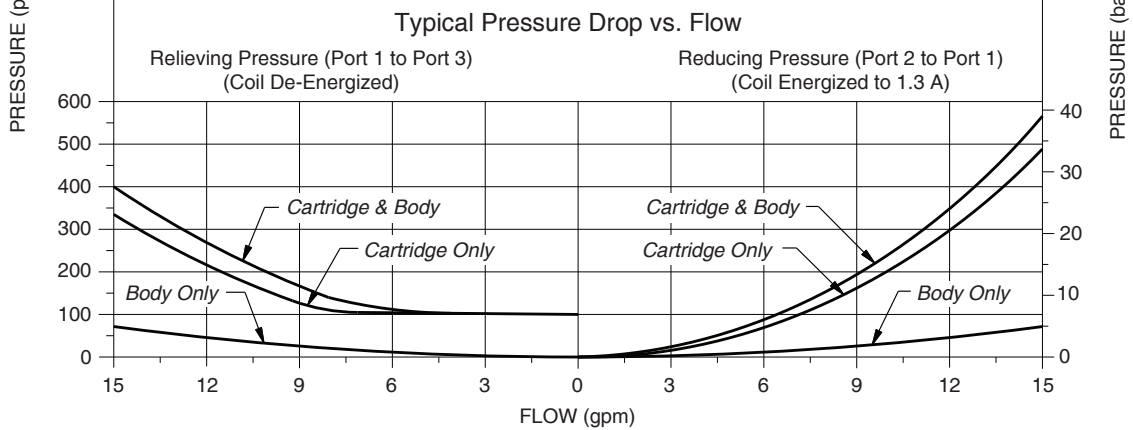
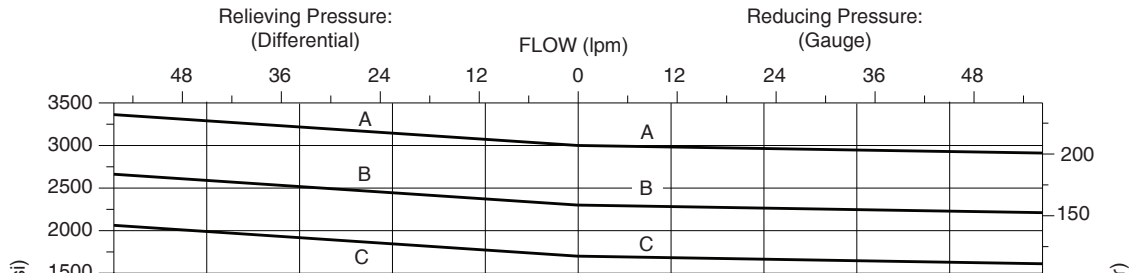
**Coil Nut:** Part No. 4540560; For E-coils made prior to 1-1-04, see page 3.400.1

# Valve w/Internally Piloted Spool

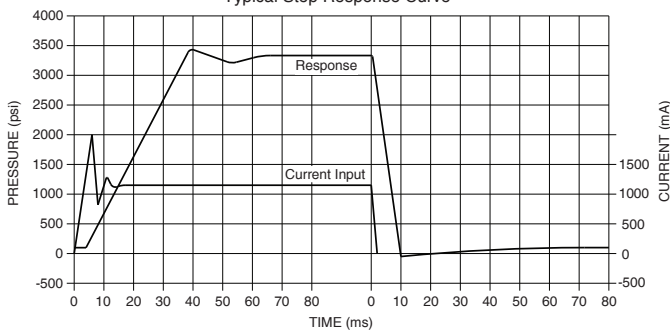
# TS10-36

## PERFORMANCE (cont'd)

Typical Relieving/Reducing Pressure vs. Flow @ Maximum Current  
Cartridge in Body Shown for TS10-36A, B and C



Typical Step Response Curve



Typical Frequency Response Curves

