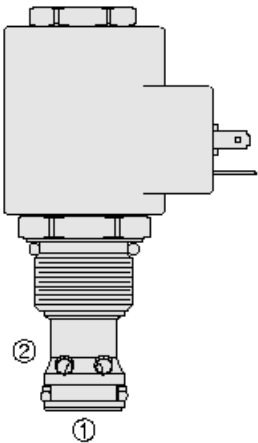


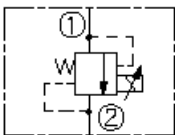


## Overview



### Symbol

USAS/ISO:



### Description

TS12-27X is a pilot-operated, spool-type, proportional, pressure relieving valve which CAN be infinitely adjusted across a prescribed range using a variable electric input. The regulated pressure is inversely proportional to the input electrical current. The valve is intended for use as a pressure limiting device in demanding applications.

### Operation

The TS12-27X blocks flow from port 1 to port 2 until sufficient pressure is present at port 1 to open the pilot section by overcoming the induced spring force. With no current applied, the valve will relieve at maximum set pressure. Applying current to the coil proportionally decreases the pressure required to open the valve from port 1 to port 2.

### Features

- Several adjustable pressure ranges plus factory preset fixed pressure model.
- Hardened parts for long life.
- 12 and 24 volt coils standard.
- Industry common cavity.
- Optional waterproof E-Coils rated up to IP69K.

## Ratings

### Pressure Ratings

Pressure rating	275.8 bar (4000 psi) 103.4 bar (1500 psi) 103.4 bar (1500 psi) condition	- <b>Note:</b> Port 1 - <b>Note:</b> Port 2 - <b>Note:</b> Maximum tank port pressure dynamic
Proof pressure	413.7 bar (6000 psi) 206.8 bar (3000 psi)	- <b>Note:</b> Port 1 - <b>Note:</b> Port 2
Burst pressure	813.6 bar (11800 psi)	
Pressure rise	0.29 bar/lpm (16 psi/gpm) 0.24 bar/lpm (13 psi/gpm) 0.18 bar (10 psi/gpm)	- <b>Note:</b> A - <b>Note:</b> B - <b>Note:</b> C
Operating pressure range	6.9 to 207 bar (100 to 3000 psi) 6.9 to 138 bar (100 to 2000 psi) 6.9 to 69 bar (100 to 1000 psi)	- <b>Note:</b> Tested at range A 7.5 lpm (2 gpm) - <b>Note:</b> Tested at range b 7.5 lpm (2 gpm) - <b>Note:</b> Tested at range c 7.5 lpm (2 gpm)
Note	Minimum pressure CAN be factory set to 6.2 to 10.3 bar (90 to 150 psi)	

### Flow Ratings

Flow rating	189 lpm (50 gpm)	- <b>Note:</b> Delta-p (cartridge only) port 1-2 (coil de-energized) 15.1 to 18.9 bar (220 to 275 psi)
Maximum pilot flow	0.76 lpm (0.2 gpm)	
Hysteresis per cent	2.5 % 3.4 % 6 %	- <b>Note:</b> (a) - <b>Note:</b> (b) - <b>Note:</b> (c)

### Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F) -26 to 204 °C (-15 to 400 °F) -54 to 107 °C (-65 to 225 °F)	- <b>Note:</b> With buna N seals - <b>Note:</b> With fluorocarbon seals - <b>Note:</b> With polyurethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

### Other Ratings

Corrosion protection	960 hr salt spray per ASTM b117
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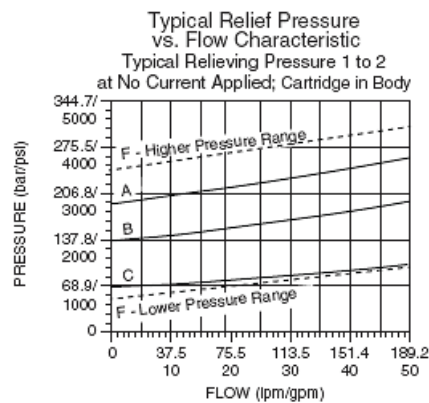
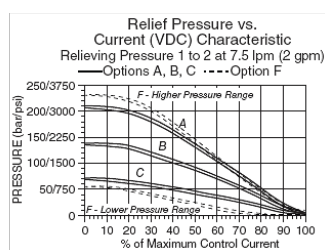
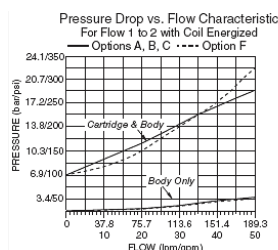
## Operating Parameters

Fluids	Mineral based or synthetic with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406

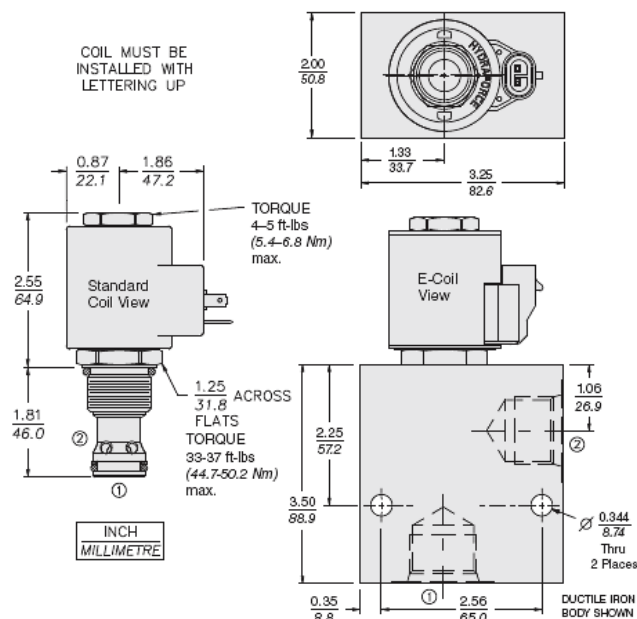
## Properties

Unit weight	0.25 kg (0.56 lb)
Internal wetted surface area	244 cm <sup>2</sup> (37.8 in <sup>2</sup> )

## Performance



## Dimensions



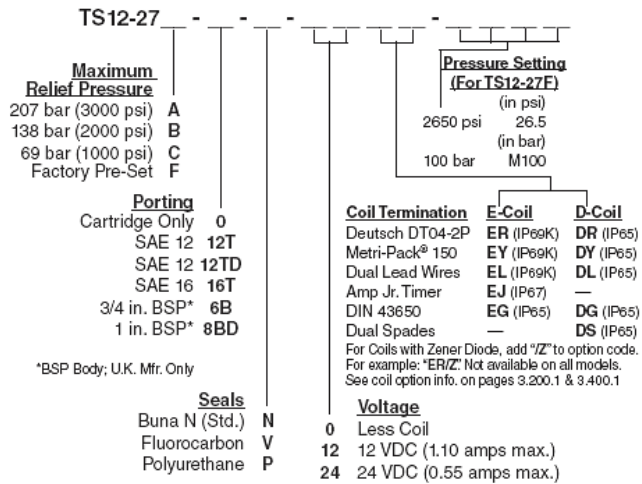
## Installation Specifications

Cavity	VC12-2
Cartridge installation torque	44.7 to 50.2 N-m (33 to 37 ft-lb)
Coil nut torque	5.4 to 6.8 N-m (4 to 5 ft-lb)
Orientation restriction	None

## Accessories

Seal kit	SK12-2X-B	- Note: X = seal option
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## Order Code



## Model Options

### TS12-27D-H-J-L

#### D Regulating Pressure Range

CODE	DESCRIPTION
A	206.8 to 6.9 bar (3000 to 100 psi) Pressure Range
B	137.9 to 6.9 bar (2000 to 100 psi) Pressure Range
C	68.9 to 6.9 bar (1000 to 100 psi) Pressure Range
F	248.2 to 55.2 bar (3600 to 800 psi) Crack Pressure at Zero Current

#### H Line Body

CODE	DESCRIPTION
0	No Body
10T	Aluminum SAE 10
12T	Aluminum SAE 12
16T	Aluminum SAE 16
12TD	Ductile Iron SAE 12
16TD	Ductile Iron SAE 16
8B	Aluminum BSPP 1" (8)
8BD	Ductile Iron BSPP 1" (8)

#### J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane
U	PPDI Urethane

#### L Coil

CODE	DESCRIPTION
0	No Coil
10DG	10 VDC, D-Coil, DIN 43650
10DL	10 VDC, D-Coil, Dual Lead Wires
10DS	10 VDC, D-Coil, Dual Spade
10EL	10 VDC, E-Coil, Dual Lead Wires
10ER	10 VDC, E-Coil, Deutsch



CODE	DESCRIPTION
12DG	12 VDC, D-Coil, DIN 43650
12DL	12 VDC, D-Coil, Dual Lead Wires, 18 inches long
12DL/36	12 VDC, D-Coil, Dual Lead Wires, 36 inches long
12DL/W	12 VDC, D-Coil, Dual Lead Wires with Weatherpak
12DR	12 VDC, D-Coil, Deutsch
12DS	12 VDC, D-Coil, Dual Spade
12EG	12 VDC, E-Coil, DIN 43650
12EJ	12 VDC, E-Coil, AMP Jr.
12EL	12 VDC, E-Coil, Dual Lead Wires, 18 inches long
12EL/36	12 VDC, E-Coil, Dual Lead Wires, 36 inches long
12ER	12 VDC, E-Coil, Deutsch
12EY	12 VDC, E-Coil, Metri-Pack 150
20DS	20 VDC, D-Coil, Dual Spade
20ER	20 VDC, E-Coil, Deutsch
24AG	24 VDC, D-Coil, DIN 43650
24AP	24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires
24DG	24 VDC, D-Coil, DIN 43650
24DL	24 VDC, D-Coil, Dual Lead Wires
24DL/W	24 VDC, D-Coil, Dual Lead Wires with Weatherpak
24DP	24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires
24DR	24 VDC, D-Coil, Deutsch
24DS	24 VDC, D-Coil, Dual Spade
24EG	24 VDC, E-Coil, DIN 43650
24EJ	24 VDC, E-Coil, AMP Jr.
24EL	24 VDC, E-Coil, Dual Lead Wires, 18 inches long
24EL/36	24 VDC, E-Coil, Dual Lead Wires, 36 inches long
24ER	24 VDC, E-Coil, Deutsch
24EY	24 VDC, E-Coil, Metri-Pack 150
36DS	36 VDC, D-Coil, Dual Spade