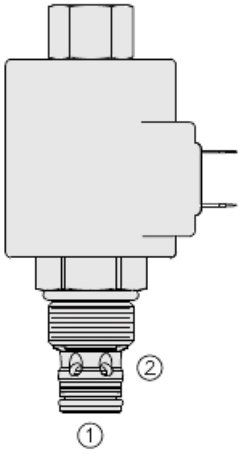
Overview



Description

The TS10-26X is a screw-in, cartridge style, pilot-operated, spool-type, relief valve which CAN be infinitely adjusted across a prescribed range using a variable electric current. The regulated pressure is proportional to the input electrical current.

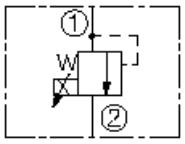
Operation

The TS10-26X blocks flow from port 1 to port 2 until sufficient pressure is present at port 1 to open the pilot section by offsetting the electrically induced solenoid force. With no current applied, the valve will relieve at approximately 100 psi [6,9 bar].

Features

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

Symbol



Ratings

Pressure Ratings

Pressure rating	241.3 bar (3500 psi) 206.8 bar (3000 psi)	**- Note:** Port 1 **- Note:** Port 2
Proof pressure	344.7 bar (4000 psi)	
Burst pressure	827.4 bar (12000 psi)	**- Note:** With coil assembled
Adjustable pressure range	6.9 to 206.8 bar (100 to 3000 psi) 6.9 to 158.6 bar (100 to 2300 psi) 6.9 to 117.2 bar (100 to 1700 psi)	**- Note:** Model code A **- Note:** Model code b **- Note:** Model code c

Flow Ratings

Flow rating	94.6 lpm (25 gpm)	**- Note:** At Î”P (cartridge only) port 1 to 2 (coil de-energized) 9.6 bar (190 psi)
Maximum pilot flow	0.76 lpm (0.2 gpm)	

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)	**- Note:** With buna N seals **- Note:** With fluorocarbon seals **- Note:** 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

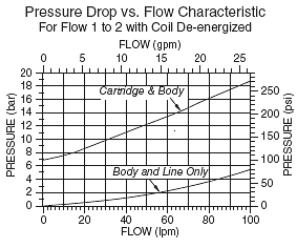
Operating Parameters

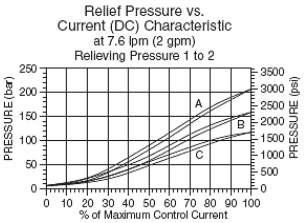
Fluids	Mineral based or synthetic with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406

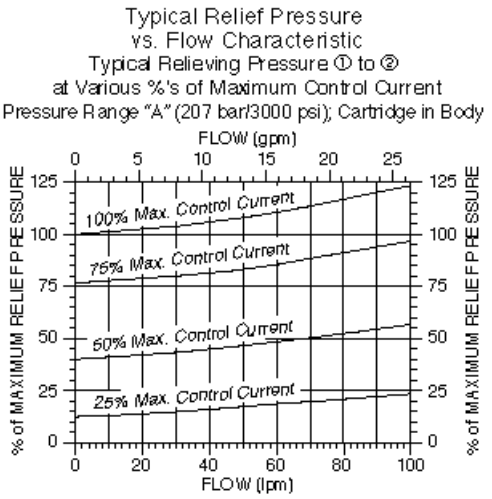
Properties

Unit weight	0.25 kg (0.55 lb)	
Internal wetted surface area	163 cm² (25.2 in²)	**- Note:** TS10-26X
	168 cm² (26.1 in²)	**- Note:** TS10-26XM

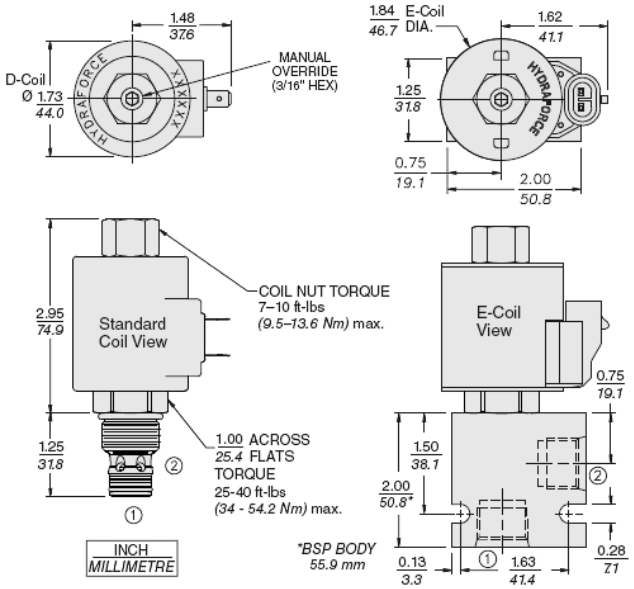
Performance







Dimensions



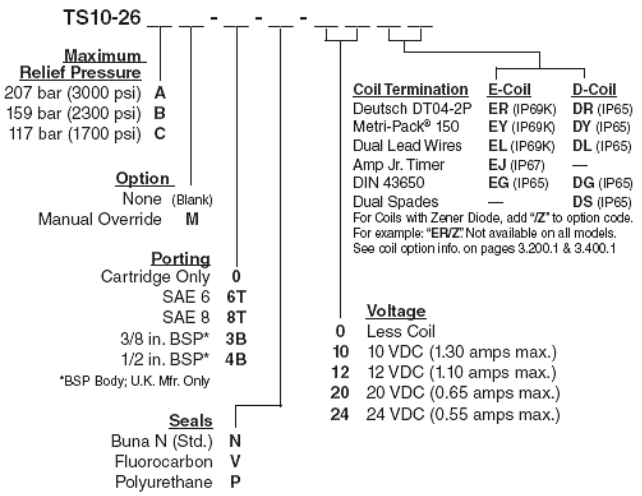
Installation Specifications

Cavity	VC10-2
Cartridge installation torque	34 to 36.7 N-m (25 to 27 ft-lb)
Maximum allowable torque	54.2 N-m (40 ft-lb)
Coil nut torque	9.5 to 13.6 N-m (7 to 10 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK10-2X-B	**- Note:** X = seal option

Order Code



Model Options

TS10-26DE-H-J-L

D Regulating Pressure Range

CODE	DESCRIPTION
A	6.9 to 206.8 bar (100 to 3000 psi) Pressure Range
B	6.9 to 158.6 bar (100 to 2300 psi) Pressure Range
C	6.9 to 117.2 bar (100 to 1700 psi) Pressure Range

E Manual Override

CODE	DESCRIPTION
BLANK	NONE
M	Minimum Regulated Pressure Override, 3/16" Internal Hex

H Line Body

CODE	DESCRIPTION
0	No Body
6T	Aluminum SAE 6
8T	Aluminum SAE 8
6TD	Ductile Iron SAE 6
8TD	Ductile Iron SAE 8
2B	Aluminum BSPP 1/4" (2)
3B	Aluminum BSPP 3/8" (3)
4B	Aluminum BSPP 1/2" (4)
4BD	Ductile Iron BSPP 1/2" (4)

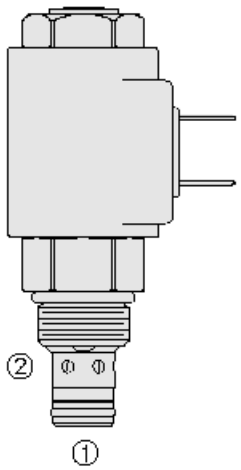
J Seal

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
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

Overview



Description

TS08-27F is a pilot operated spool type, proportional pressure relieving valve. The regulated pressure is inversely proportional to the input electrical current.

Operation

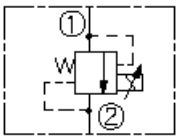
The TS08-27F blocks flow from port 1 to port 2 until sufficient pressure is present at port 1 to open the valve by overcoming the preset induced spring force. Applying current to the coil decreases the induced spring force, thereby reducing the valve setting.

Features

- Several adjustable pressure settings 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.

Symbol

USASI/ISO:



Ratings

Pressure Ratings

Pressure rating	241 bar (3500 psi)	**- Note:** Port 1
Proof pressure	413.7 bar (6000 psi) 206.8 bar (3000 psi)	**- Note:** Port 1 **- Note:** Port 2
Burst pressure	814 bar (11800 psi)	**- Note:** At all ports
Pressure setting	41.4 to 248.2 bar (600 to 3600 psi)	

Flow Ratings

Flow rating	26.5 lpm (7 gpm)	
Hysteresis per cent	3.2 % 3.0 % 4.8 %	**- Note:** (A) **- Note:** (B) **- Note:** (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)	**- Note:** With buna N seals **- Note:** With fluorocarbon seals **- Note:** 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

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

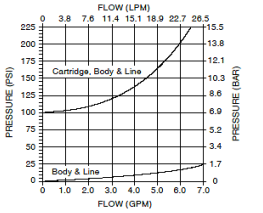
Unit weight	0.15 kg (0.33 lb)
Internal wetted surface area	124 cm² (19.2 in²)

Electrical Parameters

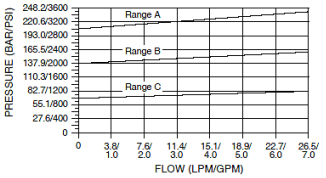
Dither PWM frequency	200 Hz	
Valve inductance	134 mH	- **Note:** D-series coil 12 V
	500 mH	- **Note:** D-series coil 24 V
	139 mH	- **Note:** E-series coil 12 V
	560 mH	- **Note:** E-series coil 24 V
Maximum control current	1.15 A	- **Note:** D-series coil 12 V
	0.57 A	- **Note:** D-series coil 24 V
	1.20 A	- **Note:** E-series coil 12 V
	0.60 A	- **Note:** E-series coil 24 V

Performance

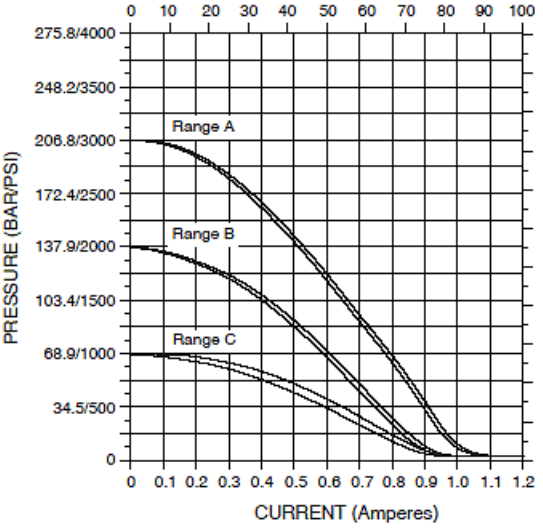
PRESSURE DROP VS. FLOW CHARACTERISTIC
Flow from Port 1 to Port 2 with Coil Energized, at Maximum Set Current



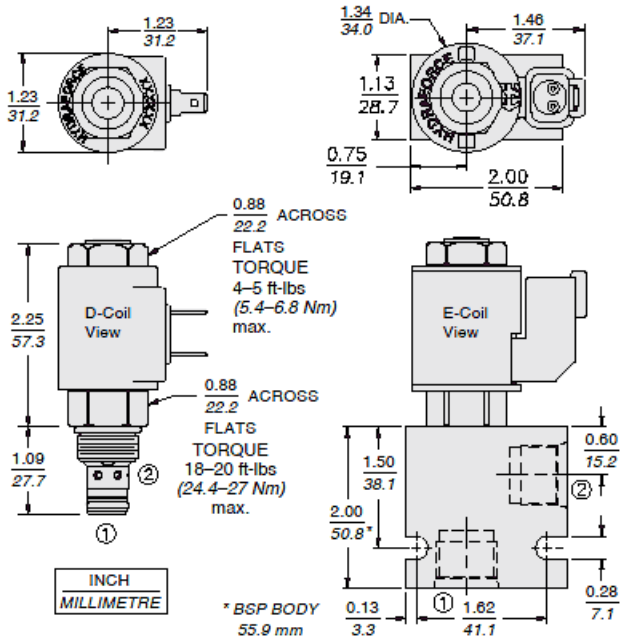
TYPICAL RELIEF PRESSURE VS. FLOW CHARACTERISTIC
Typical Relieving Pressure Port 1 to Port 2 at No Current Applied With Constant Flow 7.1 lpm/2 gpm; Cartridge in Body



RELIEF PRESSURE
vs. CURRENT (DC) CHARACTERISTIC
Relieving Pressure Port 1 to Port 2
With Constant Flow 7.6 lpm/2 gpm



Dimensions



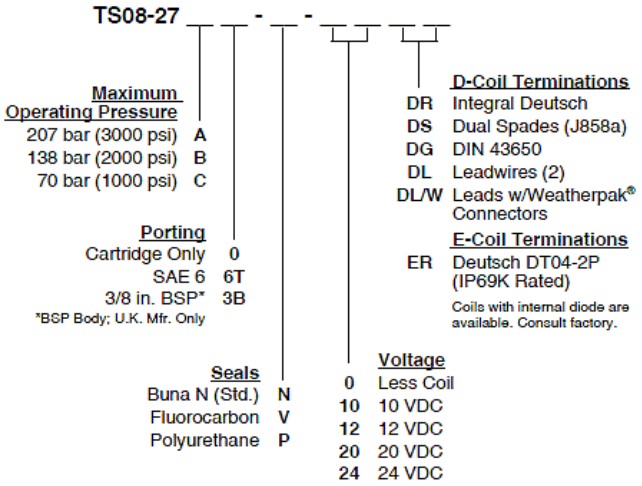
Installation Specifications

Cavity	VC08-2	
Cartridge installation torque	25.8 to 28.5 N-m (19 to 21 ft-lb)	**- Note:** Per 7708xxx
Coil nut torque	5.4 to 6.8 N-m (4 to 5 ft-lb)	
Orientation restriction	None	

Accessories

Seal kit	SK08-2X-B	**- Note:** X=seal option

Order Code



Model Options

TS08-27D-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 41.1 bar (3600 to 600 psi) Crack Pressure at Zero Current

H Line Body

CODE	DESCRIPTION
0	No Body
4T	Aluminum SAE 4
6T	Aluminum SAE 6
8T	Aluminum SAE 8
6TD	Ductile Iron SAE 6
8TD	Ductile Iron SAE 8
2B	Aluminum BSPP 1/4" (2)
3B	Aluminum BSPP 3/8" (3)
3BD	Ductile Iron BSPP 3/8" (3)

J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon

CODE	DESCRIPTION
P	Polyurethane
U	PPDI Urethane

L Coil

CODE	DESCRIPTION
0	No Coil
12DG	12 VDC, D-Coil, DIN 43650
12ER	12 VDC, E-Coil, Deutsch
12EY	12 VDC, E-Coil, Metri-Pack 150
24DG	24 VDC, D-Coil, DIN 43650
24DL	24 VDC, D-Coil, Dual Lead Wires
24DS	24 VDC, D-Coil, Dual Spade
24ER	24 VDC, E-Coil, Deutsch