HY–TS10–36 (Proportional Pilot–operated Pressure Reducing/ Relief Valve)

Introduction

Description:
A screw–in, cartridge–style, pilot–operated, spool–type hydraulic 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.

Opeartion:
With current applied to the valve coil, the TS10–36 blocks flow from ① to ② 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 ② at approximately 6.9 bar (100 psi), regarding of pressure at ①.
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.

Technical specification (for application beyond these parameters, please contact with us)

Model	HY–TS10–36
Installation position	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.
Storage temperature (℃)	–20℃ To +55℃
Ambient temperature (℃)	–20℃ To +50℃

Hydraulic specification

Max.operating pressure	241 Bar (3500 psi)
Minimum operating Dither/ pulse frequency	When ① to ③ coil de–energized, reduced pressure is 22.8 bar (330 psi): 56.8 lpm (15 gpm)
Flow path	Free flow: ① to ② coil de–energized; Relieving: ① to ② coil energized
Max. pilot flow	0.76 Lpm(0.2 gpm)
Hydraulic fluid	Mineral oil, phosphate–ester
Fluids	7.4~420 cSt (50~2000 sus)
Temperature	–40℃~+120℃（–40~250°F），with NBR seals
Cavity	HY10–3,see page H.1.4

Electrical specification

Max. control current	12 VDC coils:1.10A; 24 VDC coils:0.55A
Relief pressure range (From zero to max. 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)

HY–TS10–36 (Proportional Pilot–operated Pressure Reducing/ Relief Valve)

Model instruction

HY–TS10–36 – * – * – * – * * *

Proportional pilot–operated
Pressure reducing/ relief valve

Maximum relief pressure
A 207 bar (3000psi)
B 159 bar (2300psi)
C 117 bar (1700psi)

Option
None blank
Manual override M

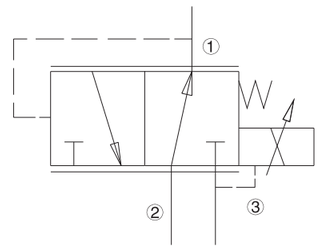
Porting
0 Cartridge only
6T SAE6
8T SAE8
3B 3/8 in. BSP*
4B 1/2 in. BSP*

Std. coil termination (VDC)
DG DIN 43650
ER Deutsch DT04–2P

Voltage
0 Less coil
12 12 VDC(1.10amps max.)
24 24 VDC(0.55amps max.)

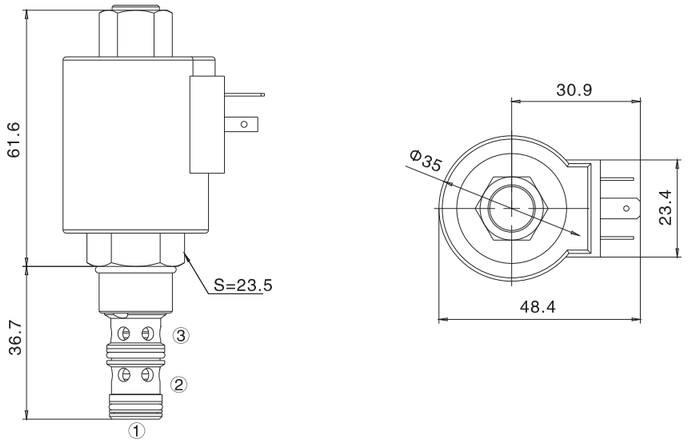
Seals
N NBR Seals
V FPM Seals

Code symbol

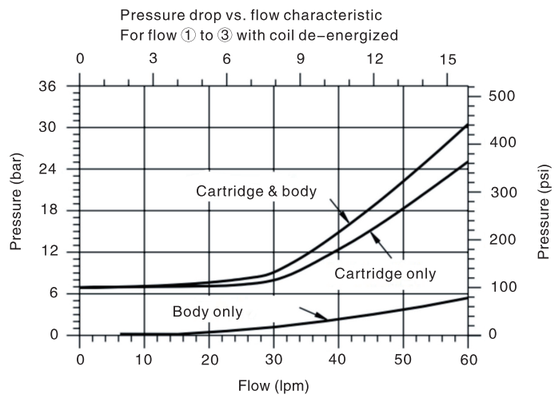


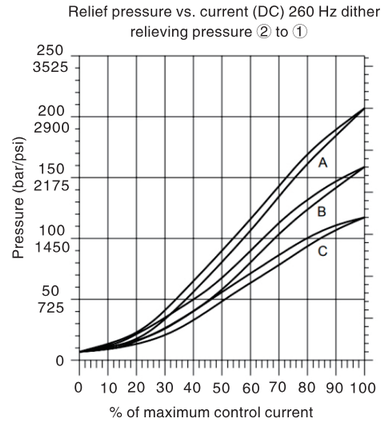
HY–TS10–36 (Proportional Pilot–operated Pressure Reducing/ Relief Valve)

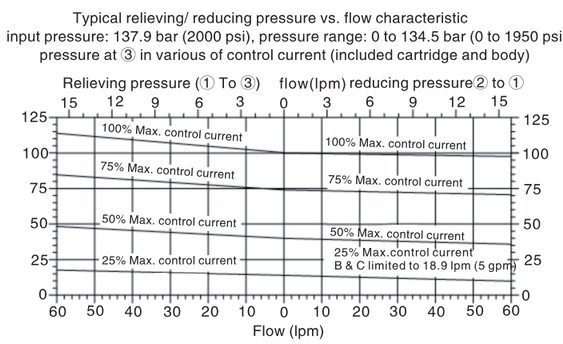
External dimensions



Specification performance







HY–TS38–20 (Proportional Relief Valve)

Introduction

Description:
A screw–in, cartridge–style, direct acting, single stage, poppet–type hydraulic relief valve, which can be infinitely adjusted across a prescribed range using a variable electric Pressure output is proportional to DC current input. This valve is intended for use as a pressure limiting device in demanding applications.

Opeartion:
The TS38–20 blocks flow from ① to ② until sufficient pressure is present at ? to offset the electrically induced solenoid force. With no current applied to the solenoid, the valve will free flow from ① to ②.
Note: Back pressure on ② becomes additive to the pressure setting at a 1:1 ratio.

Technical specification (for application beyond these parameters, please contact with us)

Model	HY–TS38–20
Installation position	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.
Storage temperature (℃)	–20℃ To +55℃
Ambient temperature (℃)	–20℃ To +50℃

Hydraulic specification

Max.operating pressure	241 Bar (3500 psi)
Rated flow	A: 11.4 lpm (3 gpm) at 20 bar (290 psi) pressure drop; B: 11.4 lpm (3 gpm) at 10 bar (150 psi) pressure drop; C: 11.4 lpm (3 gpm) at 5.5 bar (80 psi) pressure drop
Flow path	Free flow: ① to ② coil de–energized; Relieving: ① to ② coil energized
Hysteresis (with dither of 250 Hz)	3.3% (Without dither: 7% maximum)
Dither frequency	150 Hz or higher
Step reponse	T on <50 ms; T off <7 ms
Hydraulic fluid	Mineral oil, phosphate–ester
Fluids	7.4~420 cSt (50~2000 sus)
Temperature	–40℃~+120℃（–40~250°F），With NBR seals
Cavity	HY08–2,see page H.1.2
Max. pilot flow	0.76 Lpm (0.2 gpm)

Electrical specification

Max. control current	12 VDC coils:1.10A; 24 VDC coils: 0.55A
Relief pressure range (from zero to max. control current)	A:0–207 bar (0–3000 psi); B:0–138 bar (0–2000 psi); C:0–69 bar (0–1000 psi)
Control signal	DC or PWM (Significant improvements in valve performance occur with superimposed dither, with either control method.)