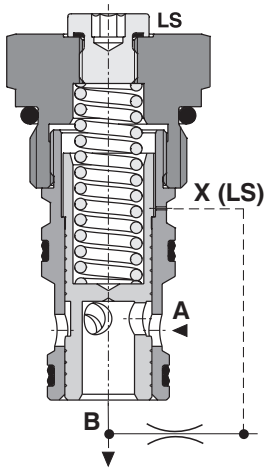
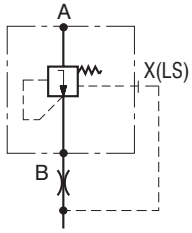
TV2-102/S

M27x2 • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)

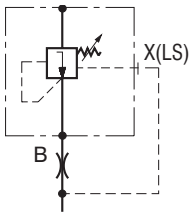
TV2-102/S*C



TV2-102/S*C



TV2-102/S*S(RP)



Technical Features

- Screw-in cartridge 2-way pressure compensator, spool-type
- High flow capacity
- The valve maintains a constant pressure drop on a flow control valve (e.g. proportional directional control valve) and thus a constant volumetric flow independent of actuator load
- Rapid and smooth response to load changes
- Stable function throughout the whole flow range
- Precisely manufactured and hardened key parts
- Integrated stroke limiter of compensator spool for reliable function
- Pressure drop setting by adjusting screw in the range from 4 to 14 bar (58 – 203 PSI)
- Possible external sensing of LS signal by means of an adapter, mounted instead of the end plug with an adjusting screw on the spring side
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227. Enhanced surface protection for mobile sector available for the steel parts (ISO 9227, 520 h salt spray)

Functional Description

The 2-way pressure compensator maintains a constant pressure drop on the flow control valve and thus a constant volumetric flow independent of actuator load changes or pump power fluctuation. The spool position of the compensator is controlled by pressure drop sensed upstream (B) and downstream (X) from the valve. The set pressure drop is defined by spring pressure acting on the spool face and is maintained by flow throttling (A → B) on the spool control edge. In the basic position the compensator is open. The volumetric flow, and thus the moving velocity of piston rod or hydraulic motor sharf can be regulated by change of flow cross section on the flow control valve or by change the set pressure drop on the pressure compensator with the adjusting screw.
The pressure compensator is connected between the pump and flow control valve (meter-in connection) in the case of positive acting load on the actuator, it means in the opposite direction to the movement.
The pressure compensator is connected between the flow control valve and actuator in one or both pipelines of the actuator (meter-out connection) in the case of negative acting load on the actuator, it means in the same direction to the movement, e.g. et the lowering the load. The pressure drop is stabilised in the flow direction A → T and B → T. In the opposite flow direction (to the actuator) the fluid flows freely through the parallel connected bypass check valve. The optional adapter allows external LS signal sensing.

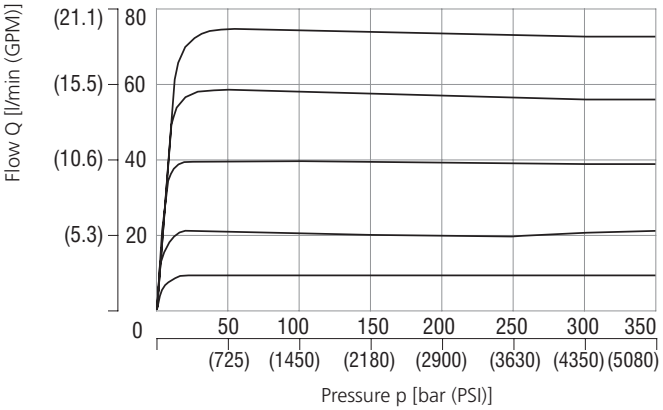
Technical Data

Valve size / Cartridge cavity			M27x2 / QM3
Max. operating pressure		bar (PSI)	350 (5080)
Max. flow		l/min (GPM)	80 (21.1)
Control pressure differential		bar (PSI)	4 ... 14 (58 ... 203)
Fluid temperature range (NBR)		°C (°F)	-30 ... +100 (-22 ... +212)
Fluid temperature range (FPM)		°C (°F)	-20 ... +120 (-4 ... +248)
Weight		kg (lbs)	0.15 (0.3)
		Data Sheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	Sandwich mounted	SB-04(06)_0028	SB-*QM3*
Cavity details		SMT_0019	SMT-QM3*
Spare parts		SP_8010	

Characteristics measured at ν = 32 mm²/s (156 SUS)

Regulated flow related to input pressure

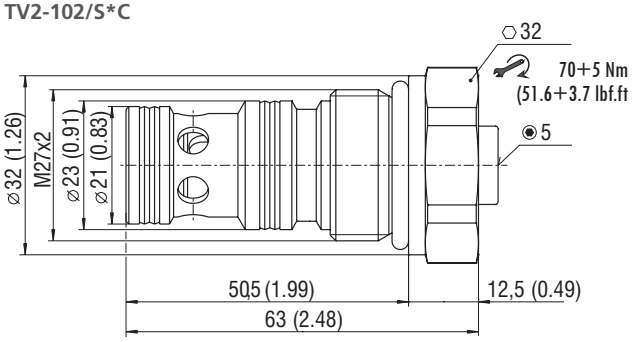
The characteristic of the pressure compensator corresponds to the flow rate of a PRM2-103Z11/60 proportional directional valve.



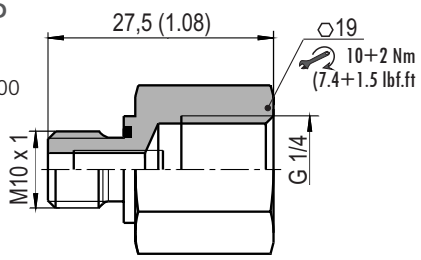
If the pressure resistance increases due to a flow rate increase, the pressure differential also has to increase in order to ensure correct regulation.

Dimensions in millimeters (inches)

TV2-102/S*C

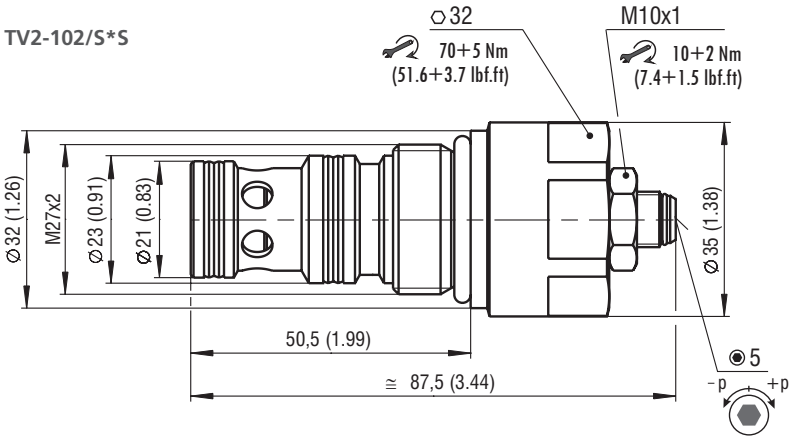


Adapter M10x1/G1/4-ED
addition of equipment
for external LS connection
Ordering number:19860700

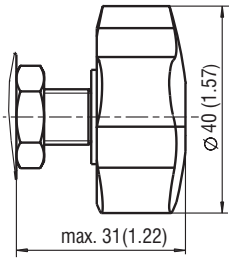


Applicable only for „TV*C" versions. (Fixed setting, not adjustable)

TV2-102/S*S

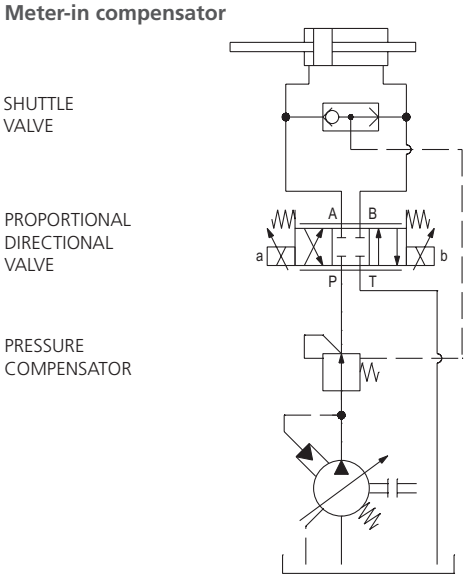


TV2-102/S*RP

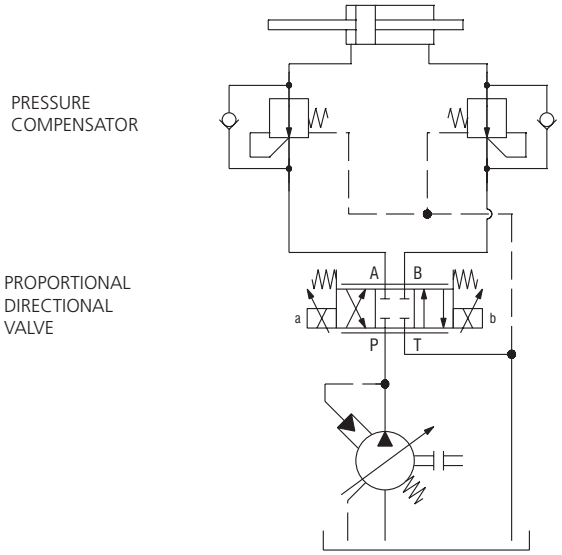


Application Example

Meter-in compensator



Meter-out compensator



Ordering Code

TV2-102/S ☐ ☐ ☐ - ☐

2-Way pressure compensator, spool-type, direct-acting

Nominal size 10
M27x2 / QM3

2-way pressure compensator

Cartridge design

Control pressure differential

4 - 12 bar (58 - 174 PSI), 10 bar (145 PSI) "C" Model	1
10 - 14 bar (145 - 203 PSI), 14 bar (203 PSI) "C" Model	2

Adjustment option

C	fixed setting, not adjustable
S	allen key (hex. 5), without protective cap
RP	hand knob, plastic

Seals

No designation	NBR
V	FPM (Viton)

Surface treatment

A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)