

MODULAR VALVES 3-WAY PRESSURE COMPENSATOR WITH LOAD SENSING

AM3-LS-P3

40 l/min - 32 MPa (320 bar)

1 DESCRIPTION

3 way pressure compensator normally used together with proportional directional valves in order to control the flow independently from pressure variations. The selection of the piloting pressure is made by the use of the integrated shuttle valve which controls the ports A and B.



2 ORDERING CODE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
AM3	-	LS	-	P	3	/ / 10

(1) AM3: 4-way modular valve CETOP 03

(2) LS: pressure compensator with "Load sensing" function and adjustable QP

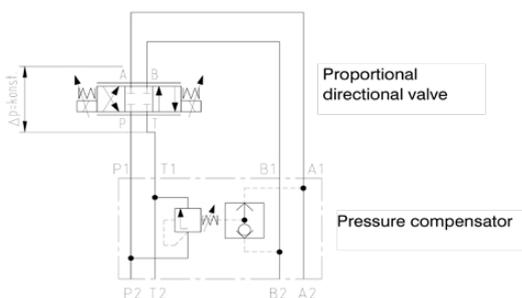
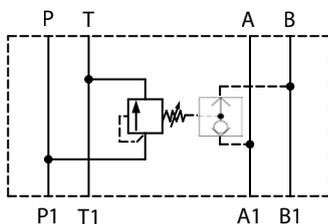
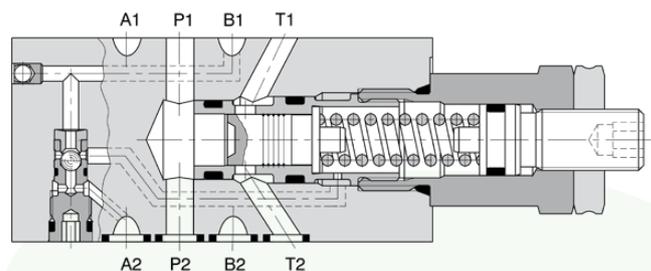
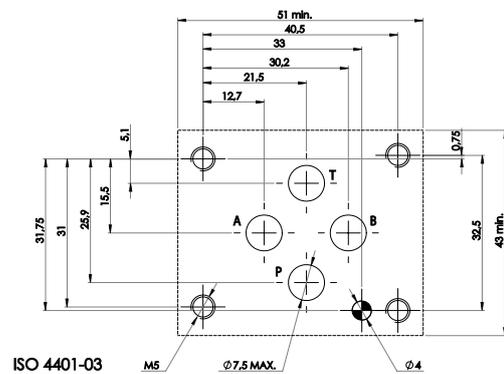
(3) P: control on P line

(4) 3: 3-way compensator with unloading of exceed pressure in T

(5) Control versions:
 no designation: control in A and B
 A: control in A
 B: control in B

(6) Code reserved for more options and variants
 M= adjustment knob

(7) Design number (progressive) of the valves



example of application

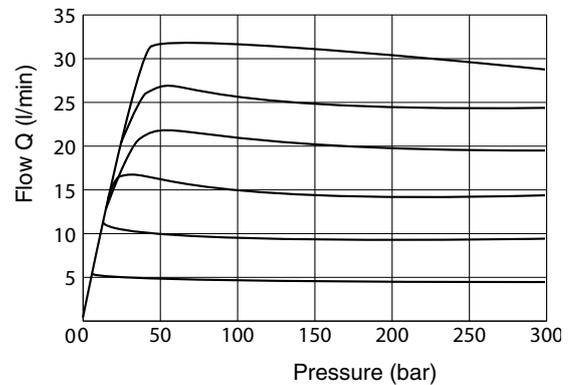
The valve is a 3-way pressure compensator, with direct action, modular version with the mounting surface correspondent to CETOP and ISO standards. Its function is a maintenance of pressure drops DP characteristics between the P and A or B. Normally used in a combination with directional proportional valves in order to provide control of the flow independently from the variations of the pressure. The selection of the pressure of the pilot on A and B lines is automatically executed by a check valve incorporated in the compensator

3 TECHNICAL DATA

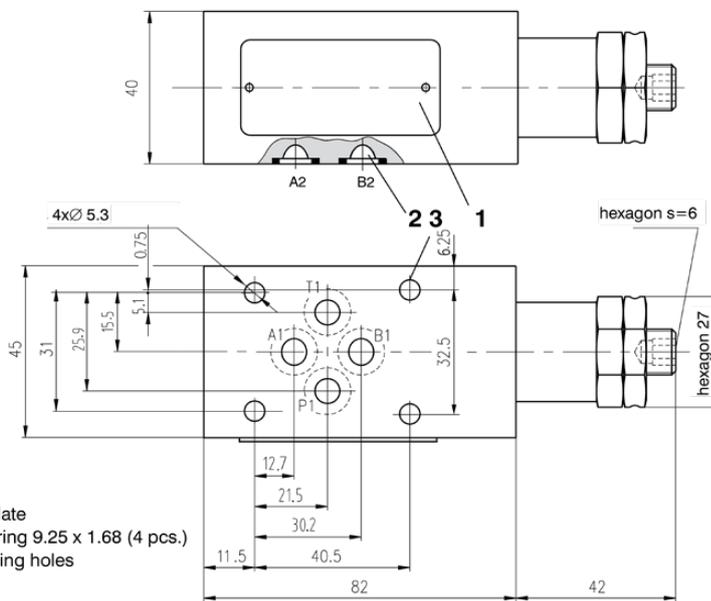
Maximum rec. flow rate	0,66 dm ³ /s (40 l/min)
Maximum nominal pressure	32 MPa (320 bar)
Setting calibration ΔP	adjustable from 0,5 to 4 MPa (5-40 bar)
Installation and dimensions	see 5
Mass	1kg

4 TYPICAL DIAGRAMS

In order to ensure the correct control function the outside pressure difference has to be increased when increasing the flow resistance due to a flow rate increase



5 INSTALLATION DIMENSIONS (mm)



- 1 Name plate
- 2 Square ring 9.25 x 1.68 (4 pcs.)
- 3 4 mounting holes

The valves AM3-LS-P3* conform to ISO and CETOP standards with regards to mounting surface. Height of stacking is 40 mm. The sealing between the valve and mounting surface is insured by 4 seals type OR 2037 or Quad-ring.

6 CALIBRATION OF ΔP

Efficient calibration of ΔP of the valve AM3-LSP3 is fundamental procedure for setting range of flow to utensils. Increasing DP, according to the non-linear law, increases also value of compensated flows, that pass through regulating organ (throttle with variable orifice) independently of working pressure of the system. For example in a system illustrated in Typical applications p.1, composed of AM3-LSP3 and proportional valve HD3-PS-3RC-xx (see table HD3-PS), with DP of the valve of 1 MPa (10 bar), the flow to the actuator will be between 0 and 16 l/min, with ΔP of the valve of 3 MPa (30 bar), the flow to the actuator will be between 0 and 28 l/min (always independently of working pressure of the system). Therefore it is essential in order to optimize functioning of the system to regulate ΔP of the compensator. This can be done by acting with CH6 mm on the pin regulator after locking nut has been loosen to CH27 mm: it is suggested to loosen the spring completely by turning the pin with thread pitch 1,25 mm anticlockwise until full mechanical stop.

Thereafter by turning clockwise you obtain:

- $\Delta P = 0,4$ MPa (4 bar) run 2,5 mm* (2 turns)
- $\Delta P = 1,2$ MPa (12 bar) run 3,75 mm* (3 turns)
- $\Delta P = 2,1$ MPa (21 bar) run 5 mm* (4 turns)
- $\Delta P = 3$ MPa (30 bar) run 6,25 mm* (5 turns)
- $\Delta P = 3,9$ MPa (39 bar) run 7,5 mm* (6 turns)

* including one initial "dead" turn of appr. 2 mm (1,5 turns).

After desired calibration was done, lock with the fixing nut 1 to CH27 mm.