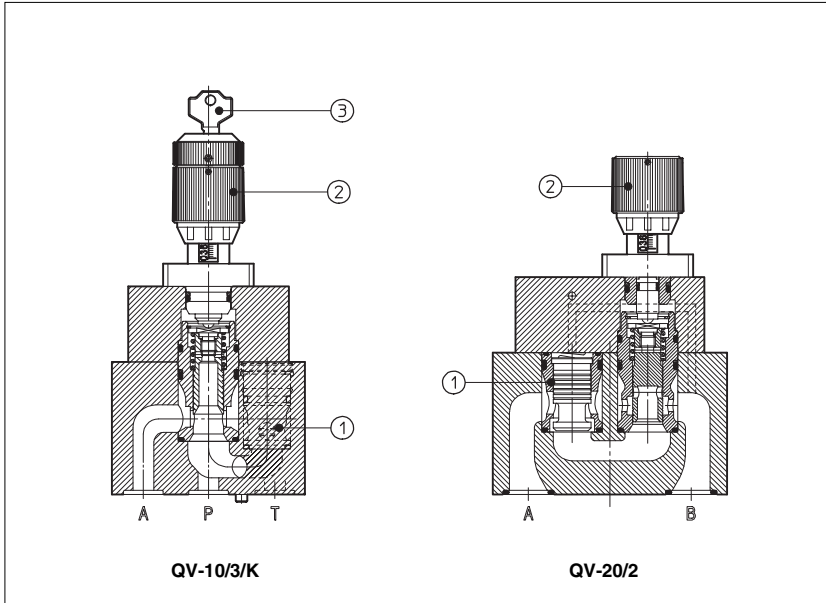


Flow control valves type QV-10, QV-20

pressure compensated, two or three way, ISO 6263 sizes 10 and 20



QV are flow control valves with pressure compensator ① (the controlled flow rate is independent of pressure variations), designed to operate in oil hydraulic systems.

The two-way type are available with a built-in check valve to allow the free flow in the opposite direction.

The flow adjustment is done by turning a graduate micrometer knob ②. Clockwise rotation increases the throttling (reduced passage). Optional versions with locking key ③ on the adjustment knob are available on request.

QV-10 = ISO 6263 size 10 interface: max flow 60 l/min, max pressure 250 bar.

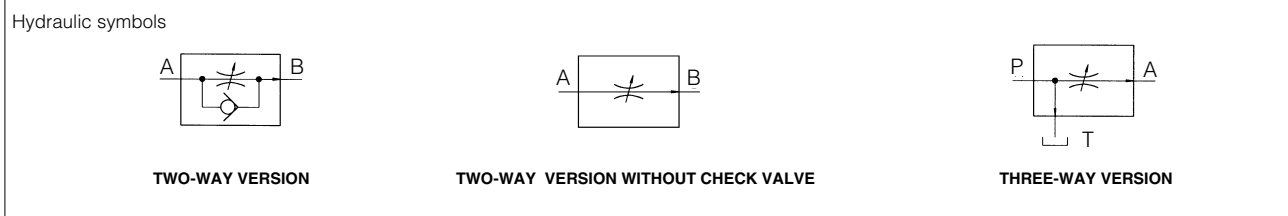
QV-20 = ISO 6263 size 20 interface: flow up to 180 l/min (three-way version), max pressure 250 bar.

1 MODEL CODE

QV	-	10	/	3	/	K	**	/*	
Pressure compensated flow control valve								Synthetic fluids: WG = water-glycol PE = phosphate ester	
Size: 10 20								Design number	
2 = two-way valve 3 = three-way valve								Options: K = with lock key for the setting knob only for two way valves V = without by-pass check valve	

2 HYDRAULIC CHARACTERISTICS

Valve model	QV-10/2	QV-10/2/V	QV-10/3	QV-20/2	QV-20/2/V	QV-20/3
Max regulated flow [l/min]	60			130	160	180
Min regulated flow [cm ³ /min]	120			120		
Max flow B → A through check valve (2-way versions) [l/min]	80	-	-	160	-	-
Regulating Δp [bar]	≥ 6		6	≥ 7		8
Max flow on port P (only 3-way versions) [l/min]	-	-	60	-	-	180
Max pressure [bar]	250			250		



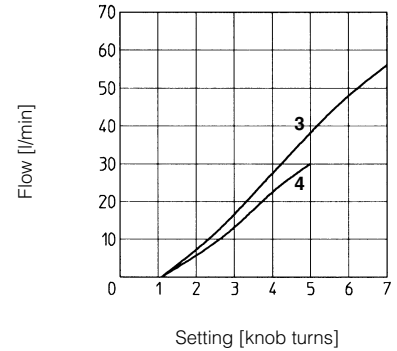
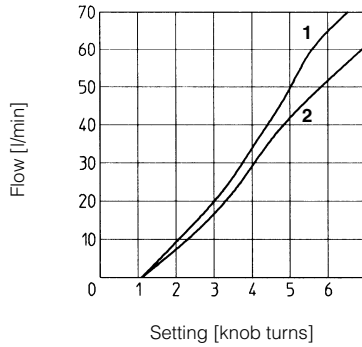
3 MAIN CHARACTERISTICS OF FLOW CONTROL VALVES TYPE QV-10 AND QV-20

Assembly position	Any position
Subplate surface finishing	Roughness index $\sqrt{0.4}$, flatness ratio 0,01/100 (ISO 1101)
Ambient temperature	-20°C to + 70°
Fluid	Hydraulic oil as per DIN 51524...535, for other fluids see section I
Recommended viscosity	15 ÷ 100 mm ² /s at 40°C (ISO VG 15 ÷ 100)
Fluid contamination class	ISO 19/16, achieved with in line filters at 25 µm value and $\beta_{25} \geq 75$ (recommended)
Fluid temperature	-20°C +60°C (standard and /WG seals) -20°C +80°C (/PE seals)

4 DIAGRAMS OF QV-10 based on mineral oil ISO VG 46 at 50°C

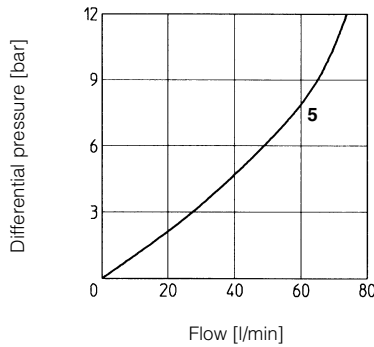
4.1 Regulation diagram

- 1 = QV-10/2
- 2 = QV-10/2/V
- 3 = QV-10/3 with 60 l/min of inlet flow
- 4 = QV-10/3 with 30 l/min of inlet flow



4.2 Q/Δp diagram through the check valve for free flow B → A (two-way valve)

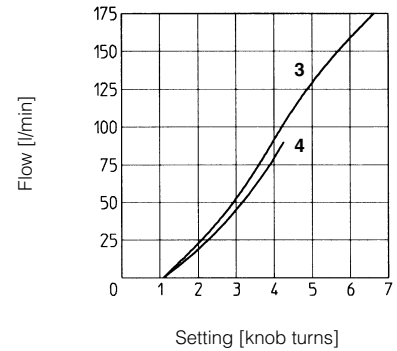
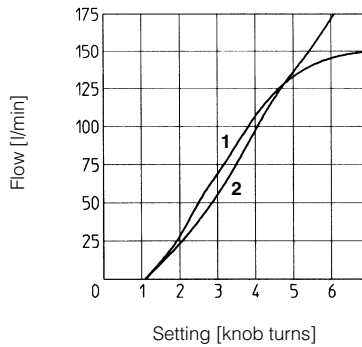
- 5 = QV-10/2



5 DIAGRAMS OF QV-20 based on mineral oil ISO VG 46 at 50°C

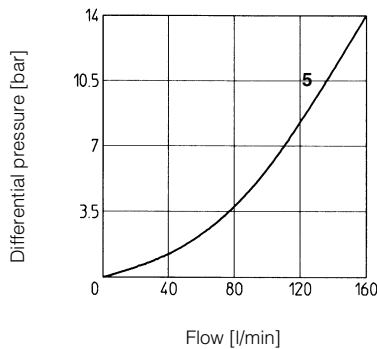
5.1 Regulation diagram

- 1 = QV-20/2
- 2 = QV-20/2/V
- 3 = QV-20/3 with 180 l/min of inlet flow
- 4 = QV-20/3 with 90 l/min of inlet flow

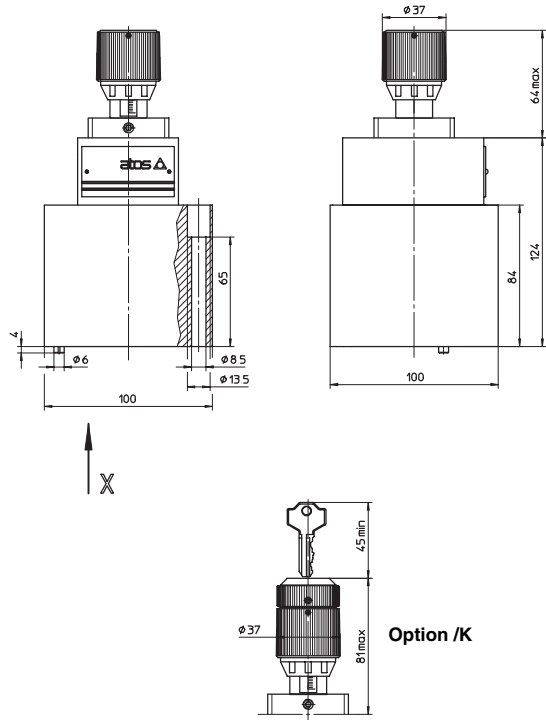


5.2 Q/Δp diagram through the check valve for free flow B → A (two-way valve)

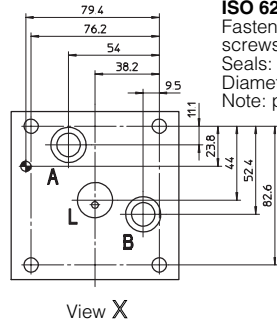
- 5 = QV-20/2



6 DIMENSIONS OF QV-10 [mm]



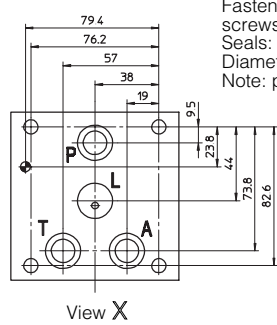
2-WAY VERSION



Mounting surface
ISO 6263-AK-06-2-A size 10
 Fastening bolts: 4 socket head screws M8x80
 Seals: 3 OR 121
 Diameter of ports A, B : $\varnothing = 14$ mm
 Note: port L is not used

Mass: 7,3 Kg

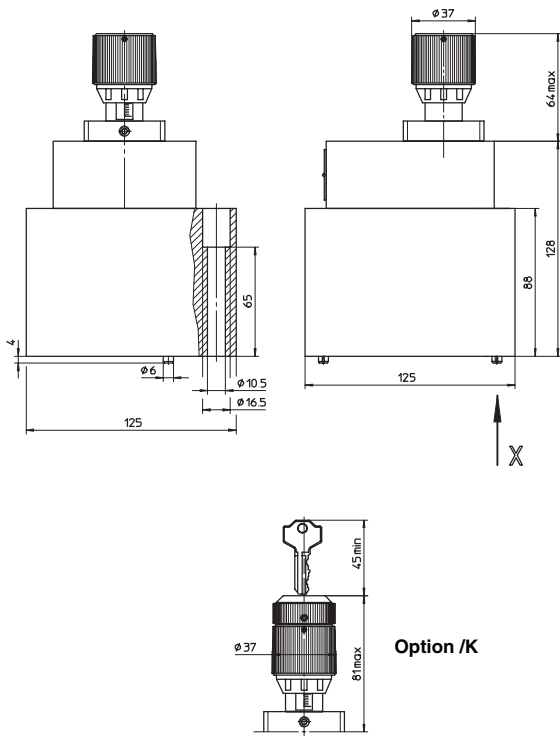
3-WAY VERSION



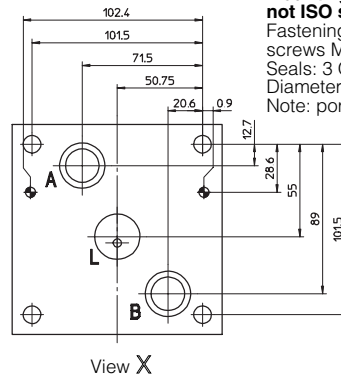
Mounting surface
ISO 6263-AL-06-3-A size 10
 Fastening bolts: 4 socket head screws M8x80
 Seals: 4 OR 121
 Diameter of ports A, P, T : $\varnothing = 14$ mm
 Note: port L is not used

Mass: 7,3 Kg

7 DIMENSIONS OF QV-20 [mm]



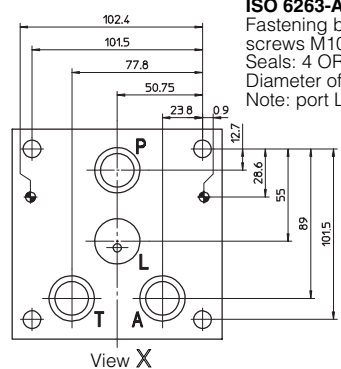
2-WAY VERSION



Mounting surface
not ISO standard
 Fastening bolts: 4 socket head screws M10x80
 Seals: 3 OR 130
 Diameter of ports A, B : $\varnothing = 20$ mm
 Note: port L is not used

Mass: 11,9 Kg

3-WAY VERSION



Mounting surface
ISO 6263-AC-07-3-A size 20
 Fastening bolts: 4 socket head screws M10x80
 Seals: 4 OR 130
 Diameter of ports A, P, T : $\varnothing = 20$ mm
 Note: port L is not used

Mass: 11,9 Kg

8 MOUNTING SUBPLATES

Valve	Subplate model	Port location	Ports A, B, P, T	\varnothing Counterbore [mm] A, B, P, T	Mass [Kg]
QV-10/2	BA-320	Ports A, B, underneath;	G 1/2"	30	4,2
QV-10/3	BA-322	Ports A, P, T, underneath;	G 1/2"	30	3,9
QV-20/2	BA-420	Ports A, B, underneath;	G 3/4"	36,5	5,5
QV-20/3	BA-422	Ports A, P, T, underneath;	G 3/4"	36,5	5,2
QV-20/2	BA-520	Ports A, B, underneath;	G 1"	46	5,5
QV-20/3	BA-522	Ports A, P, T, underneath;	G 1"	46	5,2