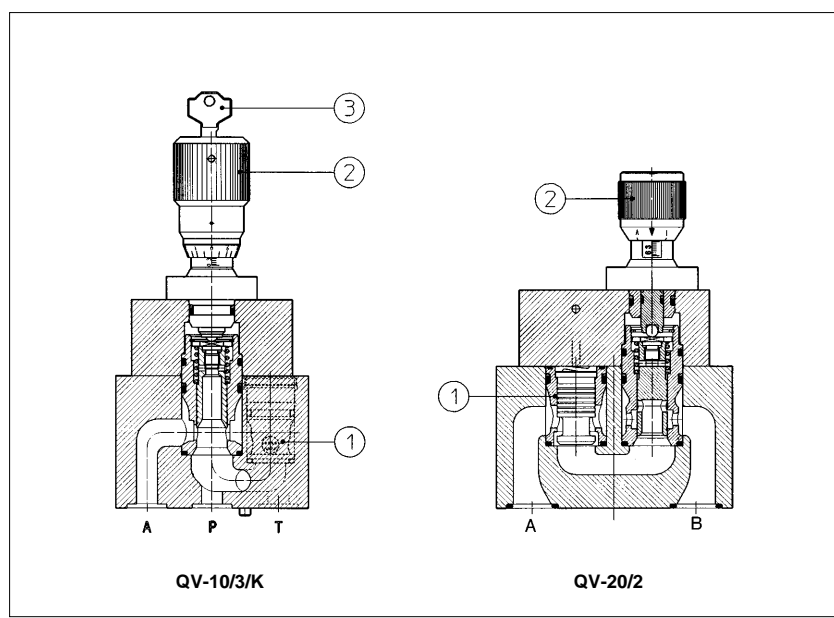


Flow control valves type QV-10, QV-20

pressure compensated, two or three way, ISO/Cetop sizes 06 and 07



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 (passage reduced). Optional versions with locking key ③ on the adjustment knob are available on request.

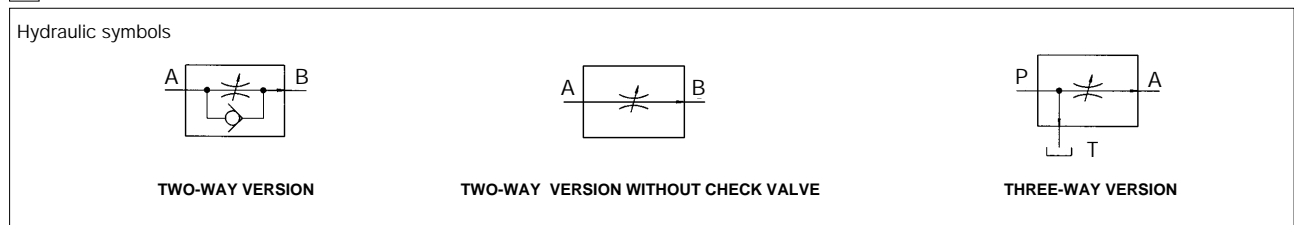
QV-10 = ISO/Cetop 06 interface: max flow 60 l/min, max pressure 250 bar.

QV-20 = ISO/Cetop 07 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 = ISO/Cetop 06 20 = ISO/Cetop 07				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		

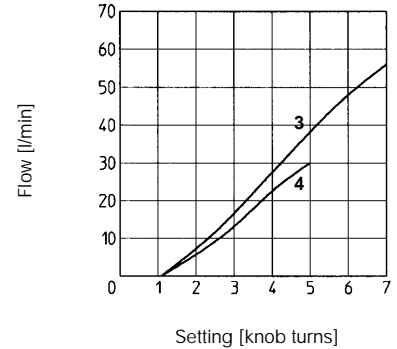
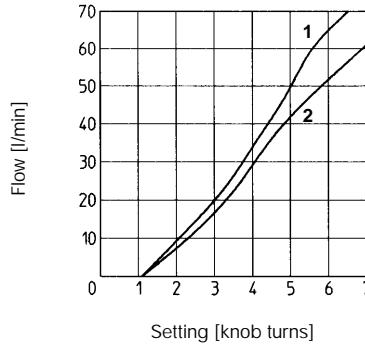
3 MAIN CHARACTERISTICS OF FLOW CONTROL VALVES TYPE QV-10 AND QV-20

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 1
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	T ≤ 80°C if T ≥ 60°C select /PE seals

4 DIAGRAMS OF QV-10 based on fluid viscosity of 25 mm² at 40°C

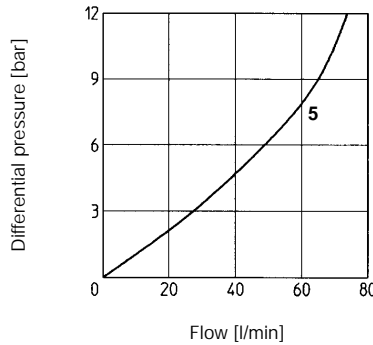
4.1 Regulation diagram

- 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)

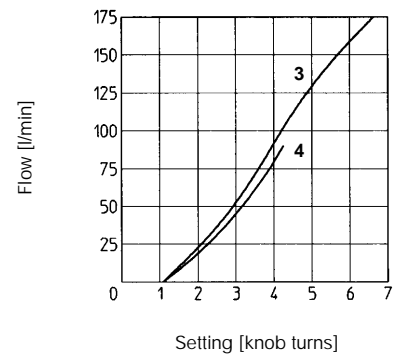
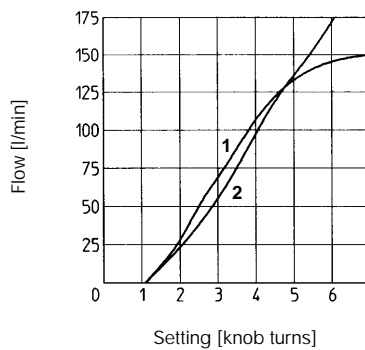
- 5 = QV-10/2



5 DIAGRAMS OF QV-20 based on fluid viscosity of 25 mm² at 40°C

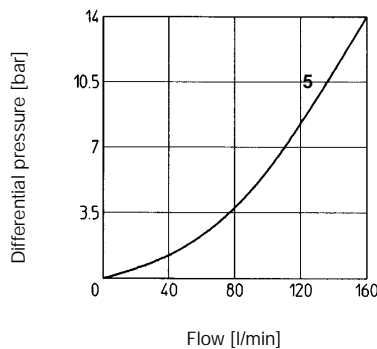
5.1 Regulation diagram

- 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

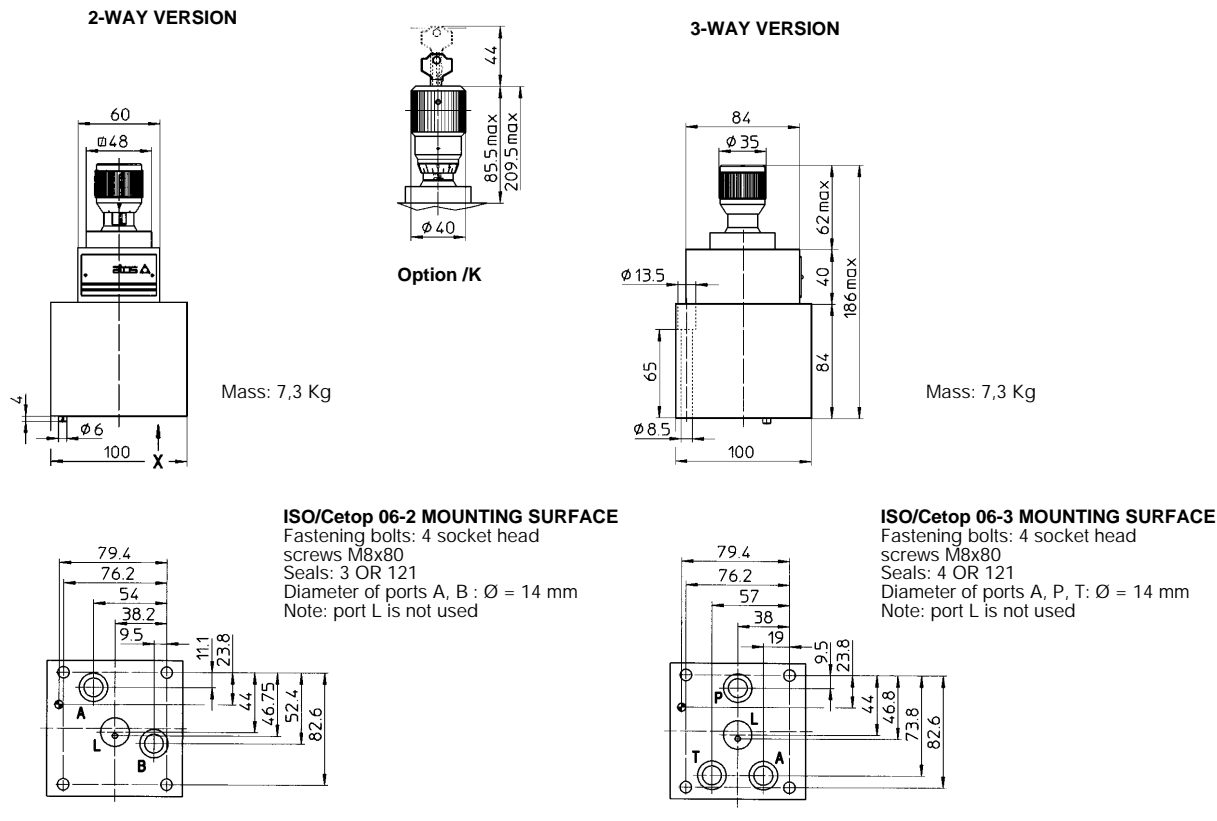


5.2 Q/Δp diagram through the check valve for free flow B → A (two-way valve)

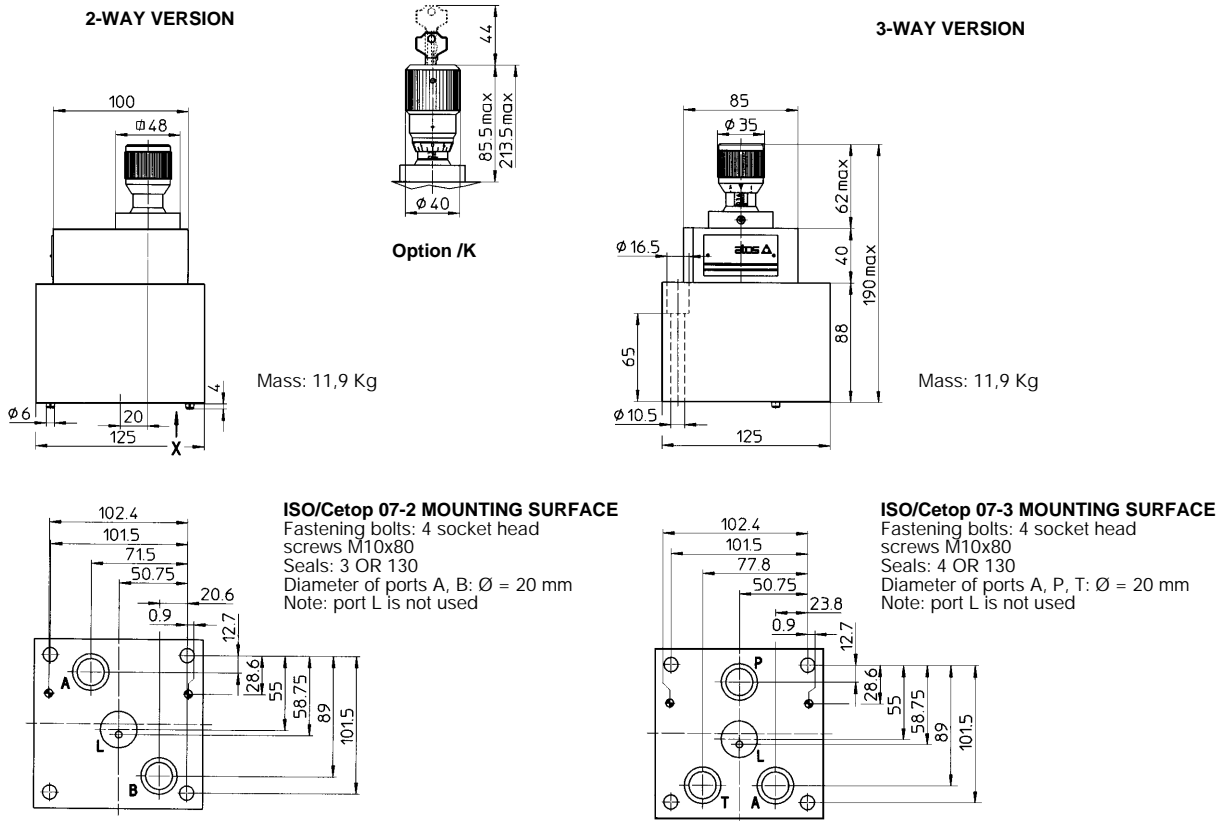
- 5 = QV-20/2



6 DIMENSIONS OF QV-10 [mm]



7 DIMENSIONS OF QV-20 [mm]



8 MOUNTING SUBPLATES

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