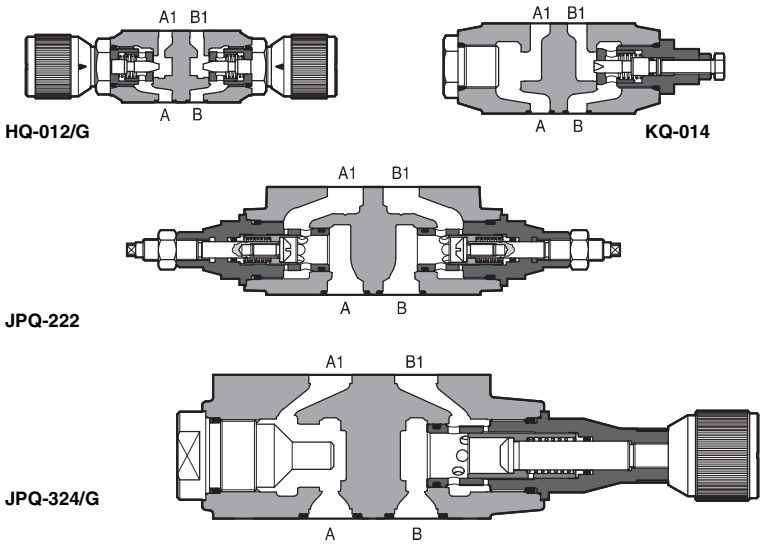
Modular throttle valves type HQ, KQ, JPQ

flow control, ISO 4401 sizes 06, 10, 16 and 25



HQ, KQ and JPQ are flow throttling valves, not compensated, and with check valve to allow free flow in the opposite direction.

The flow adjustement is done by turning the setting screw in the normal model. Optional versions with a graduate micrometer knob are available on request.

Clockwise rotation increases the throttling (passage reduced).

HQ-0 = ISO 4401 size 06 interface: flow up to 25 l/min for /U option, up to 80 l/min for standard, pressure up to 350 bar

KQ-0 = ISO 4401 size 10 interface: flow up to 160 l/min, pressure up to 315 bar.

JPQ-2 = ISO 4401 size 16 interface: flow up to 200 l/min, pressure up to 350 bar.

JPQ-3 = ISO 4401 size 25 interface: flow up to 300 l/min, pressure up to 350 bar.

Valves designed to operate in hydraulic systems with hydraulic mineral oil or synthetic fluid having similar lubricating characteristics.

1 MODEL CODE

HQ-0	13	/G	**	/*

HQ-0
Modular flow control valve, size:
HQ-0 = 06
KQ-0 = 10
JPQ-2 = 16
JPQ-3 = 25

13
Configuration, see section 2

control of flow discharged from the actuator:
12 = double, acting on port A and B
13 = single, acting on port A
14 = single, acting on port B

control of flow entering the actuator:
22 = double, acting on port A and B
23 = single, acting on port A
24 = single, acting on port B

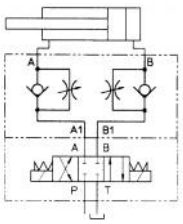
/G
Options
/U = better accuracy for reduced flow (only for HQ-0)
/G = adjustment by graduated micrometer

******
Series number

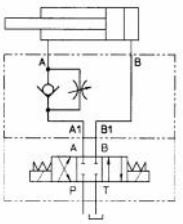
/*
Synthetic fluids:
WG = water-glycol
PE = phosphate ester

2 VALVE CONFIGURATION

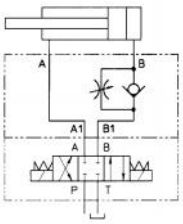
HQ-012
KQ-012
JPQ-212
JPQ-312



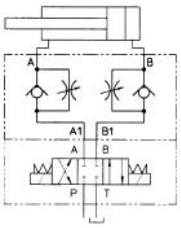
HQ-013
KQ-013
JPQ-213
JPQ-313



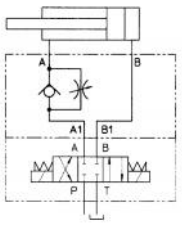
HQ-014
KQ-014
JPQ-214
JPQ-314



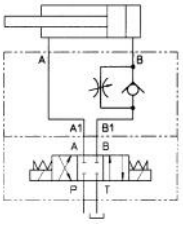
HQ-022
KQ-022
JPQ-222
JPQ-322



HQ-023
KQ-023
JPQ-223
JPQ-323



HQ-024
KQ-024
JPQ-224
JPQ-324

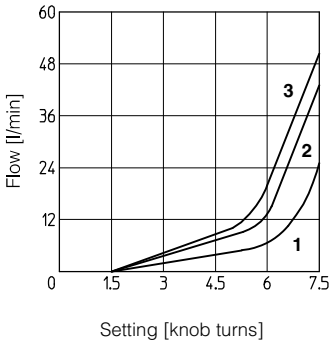


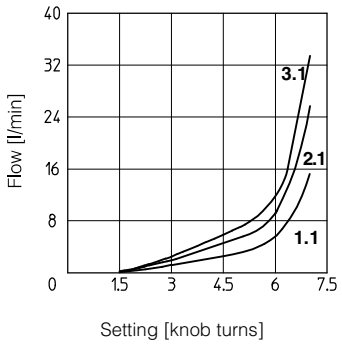
3 MAIN CHARACTERISTICS OF MODULAR FLOW CONTROL VALVES TYPE HQ, KQ, JPQ

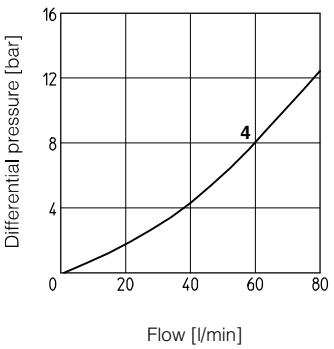
Assembly position	Any position. JPQ cannot be associated with directional valves having hydraulic centring device because JPQ don't have the drain port.
Subplate surface finishing	Roughness index $\sqrt{}^{0,4}$, flatness ratio 0,01/100 (ISO 1101)
Ambient temperature	-20°C to + 70°C
Fluid	Hydraulic oil as per DIN 51524...535, for other fluids see section 1
Recommended viscosity	15 ÷ 100 mm²/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 HQ-0 based on mineral oil ISO VG 46 at 50°C

1 = Regulation diagram at Δp 10 bar (1.1 = option /U)
2 = Regulation diagram at Δp 30 bar (2.1 = option /U)
3 = Regulation diagram at Δp 50 bar (3.1 = option /U)
4 = Q/Δp diagram for free flow through the non-return valve

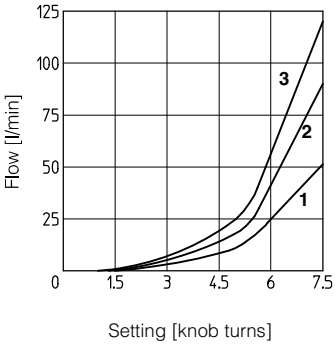


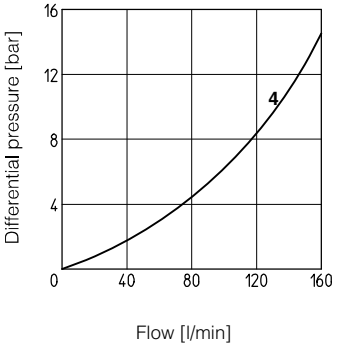




5 DIAGRAMS OF KQ-0 based on mineral oil ISO VG 46 at 50°C

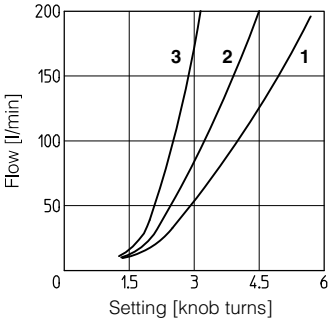
1 = Regulation diagram at Δp 10 bar
2 = Regulation diagram at Δp 30 bar
3 = Regulation diagram at Δp 50 bar
4 = Q/Δp diagram for free flow through the non-return valve

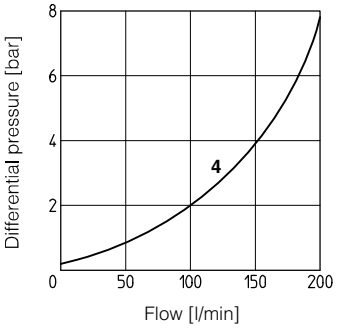




6 DIAGRAMS OF JPQ-2 based on mineral oil ISO VG 46 at 50°C

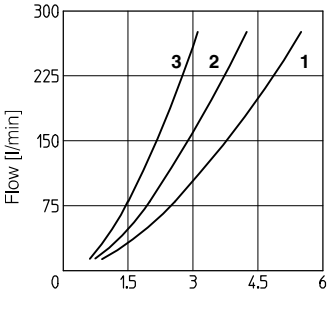
1 = Regulation diagram at Δp 10 bar
2 = Regulation diagram at Δp 30 bar
3 = Regulation diagram at Δp 50 bar
4 = Q/Δp diagram for free flow through the non-return valve

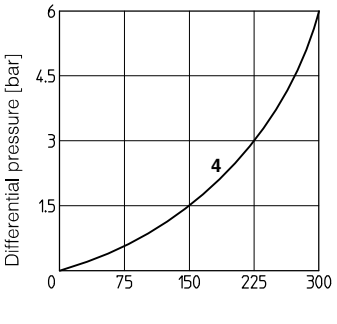




7 DIAGRAMS OF JPQ-3 based on mineral oil ISO VG 46 at 50°C

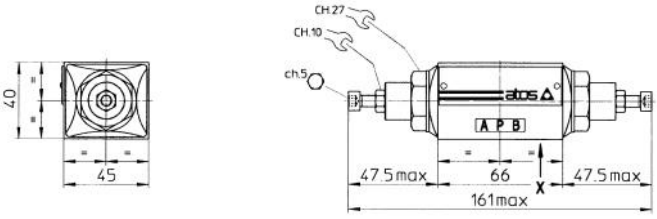
1 = Regulation diagram at Δp 10 bar
2 = Regulation diagram at Δp 30 bar
3 = Regulation diagram at Δp 50 bar
4 = Q/Δp diagram for free flow through the non-return valve





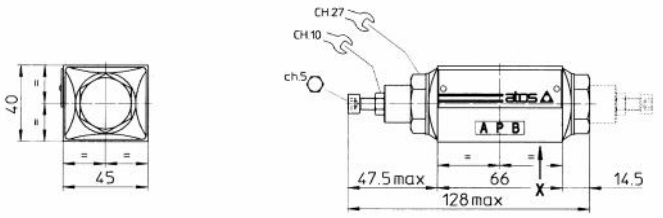
8 INSTALLATION DIMENSIONS OF HQ-0 VALVES [mm]

HQ-012
HQ-022



Mass: 1,1 Kg

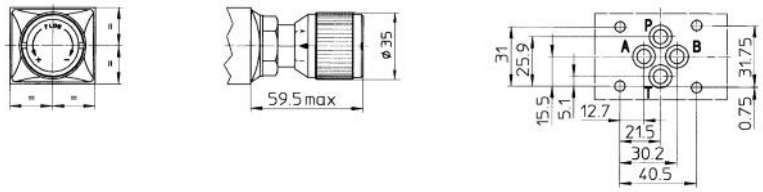
HQ-013
HQ-014
HQ-023
HQ-024



In version -014 and -024 the regulating element is on side of port B (dotted line) instead of side of port A.

Mass: 1,2 Kg

/G OPTION

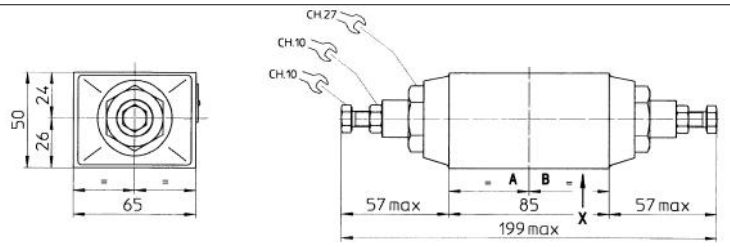


ISO 4401: 2005
Mounting surface: 4401-03-02-0-05
Diameter of ports A, B, P, T: Ø = 7,5 mm (max)
Seals: 4 OR 108

Fastening bolts: n° 4 socket head screws M5. The lenght depends on number and type of modular elements associated.

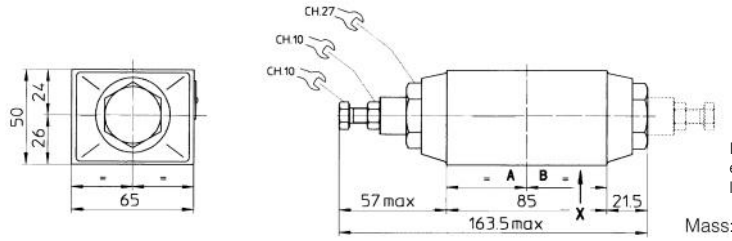
9 INSTALLATION DIMENSIONS OF KQ-0 VALVES [mm]

KQ-012
KQ-022



Mass: 2 Kg

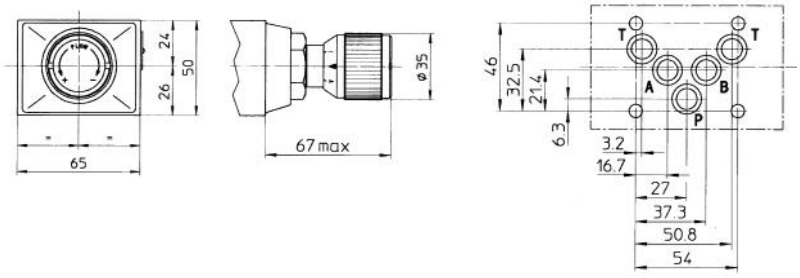
KQ-013
KQ-014
KQ-023
KQ-024



In version -014 and -024 the regulating element is on side of port B (dotted line) instead of side of port A.

Mass: 2,2 Kg

/G OPTION

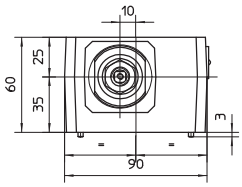


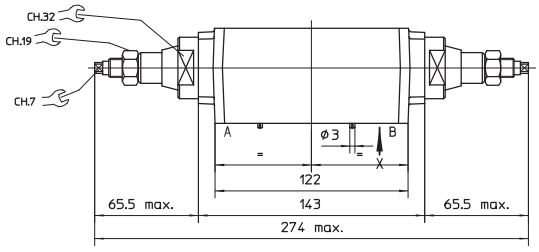
ISO 4401: 2005
Mounting surface: 4401-05-04-0-05
Diameter of ports, A, B, P, T: Ø = 11,2 mm (max)
Seals: 5 OR 2050

Fastening bolts: n° 4 socket head screws M6. The lenght depends on number and type of modular elements associated.

10 INSTALLATION DIMENSIONS OF JPQ-2 VALVES [mm]

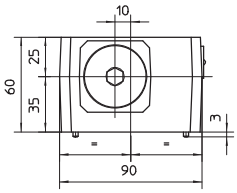
JPQ-212
JPQ-222

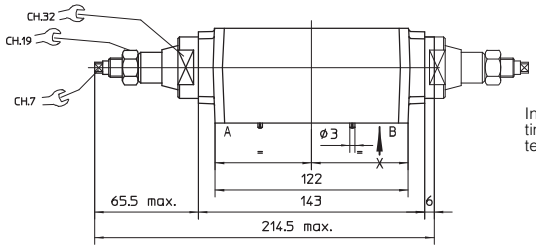




Mass: 4,6 Kg

JPQ-213
JPQ-214
JPQ-223
JPQ-224

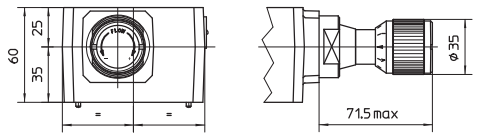


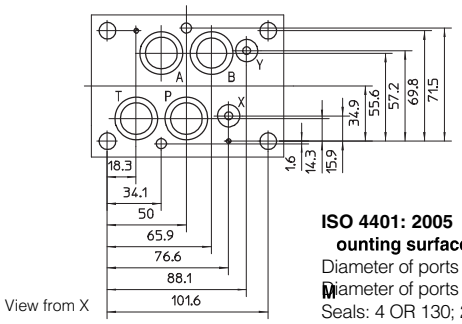


In version -214 and -224 the regulating element is on side of port B (dotted line) instead of side of port A.

Mass: 4,3 Kg

/G OPTION





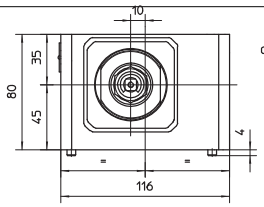
View from X

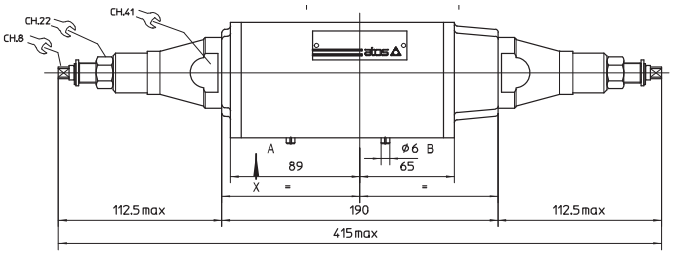
ISO 4401: 2005
ounting surface: 4401-07-07-0-05
Diameter of ports A, B, P, T: Ø = 20 mm
Diameter of ports X, Y: Ø = 7 mm
Seals: 4 OR 130; 2 OR 109

Fastening bolts: n° 4 socket head screws M10 and n° 2 M6. The lenght depends on number and type of modular elements associated.

11 INSTALLATION DIMENSIONS OF JPQ-3 VALVES [mm]

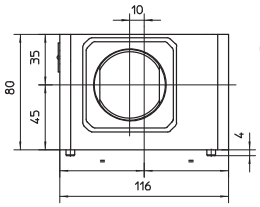
JPQ-312
JPQ-322

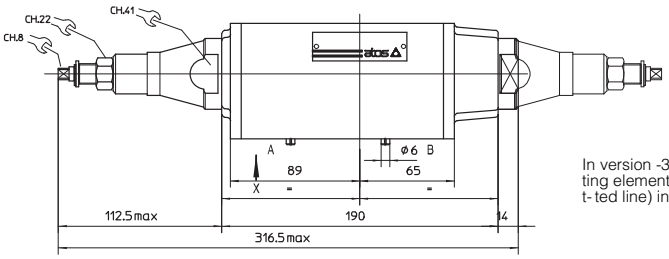




Mass: 10,7 Kg

JPQ-313
JPQ-314
JPQ-323
JPQ-324

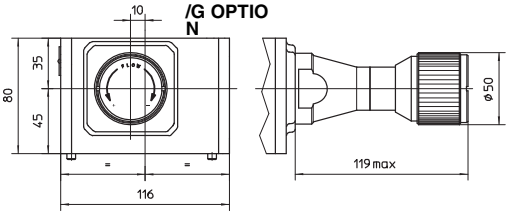


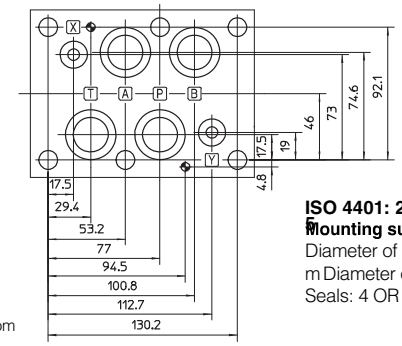


In version -314 and -324 the regulating element is on side of port B (dot- ted line) instead of side of port A.

Mass: 9,5 Kg

/G OPTION





View from X

ISO 4401: 200
Mounting surface: 4401-08-08-0-05
Diameter of ports A, B, P, T: Ø = 24 mm
Diameter of ports X, Y: Ø = 7 mm
Seals: 4 OR 4112; 2 OR 3056

Fastening bolts: n° 6 socket head screws M12. The lenght depends on number and type of modular elements associated.