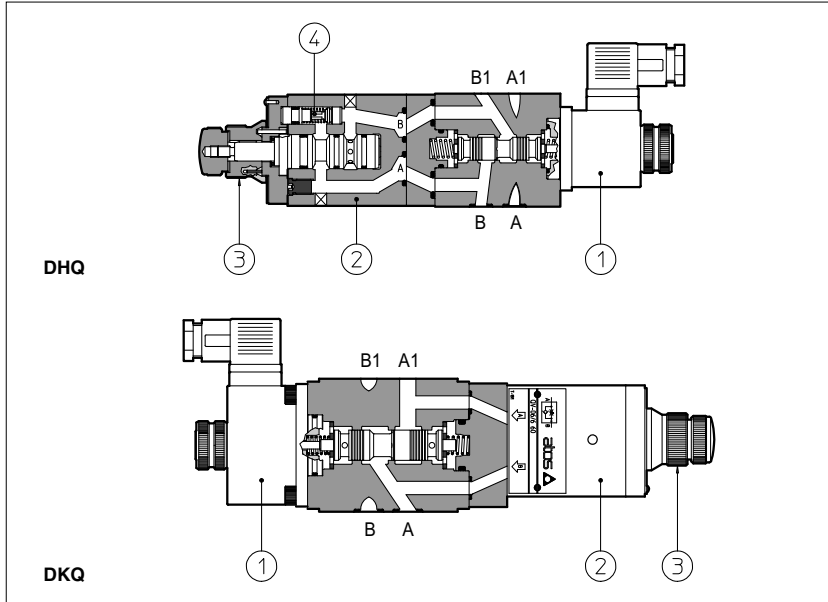


# Modular fast/slow valves type DHQ and DKQ

compensated flow control and by-pass solenoid valve, ISO 4401 sizes 06 and 10



DHQ and DKQ are modular units composed by one by-pass solenoid valve (1) and one 2-way flow control valve (2) type QV-06 (tab. C210) with pressure compensator (the controlled flow rate is independent of pressure variations).

The flow control valve has a built-in check valve (4) to allow the free flow in the opposite direction.

The flow adjustment is done by turning a graduate micrometer knob (3). Clockwise rotation increases the throttling (passage reduced).

Optional versions with locking key on the adjustment knob are available on request.

DHQ = ISO 4401 size 06 interface; controlled flow up to 1,5-6-11-16-24 l/min (depending on models); free flow up to 36 l/min.

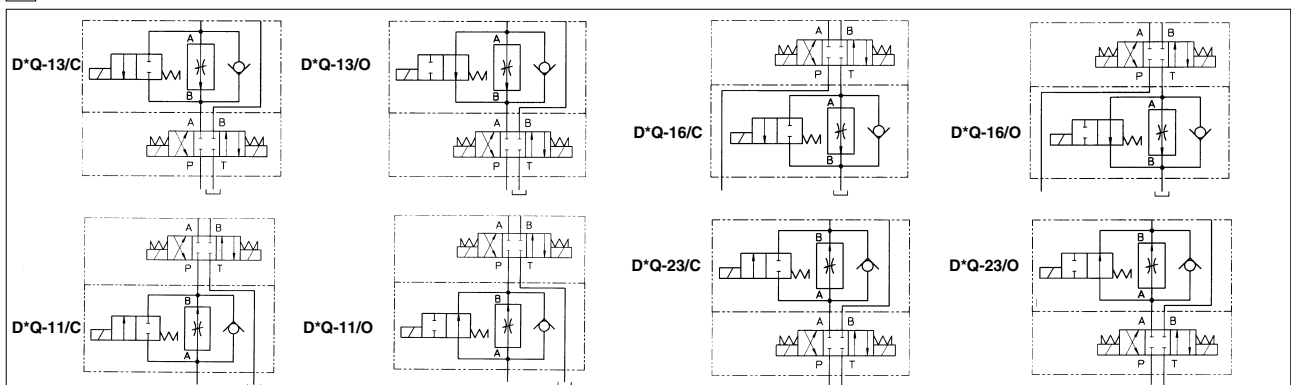
DKQ = ISO 4401 size 10 interface; controlled flow up to 1,5-6-11-16-24 l/min (depending on models); free flow up to 75 l/min.

Pressure up to 250 bar.

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

<b>1</b>	<b>MODEL CODE</b>	<b>13</b>	<b>/</b>	<b>C</b>	<b>/</b>	<b>6</b>	<b>/K</b>	<b>-</b>	<b>I</b>	<b>X</b>	<b>24DC</b>	<b>**</b>	<b>/*</b>
Modular flow control unit, pressure compensated, size: <b>DHQ-0</b> = 06 <b>DKQ-0</b> = 10										Supply voltage, see section 4 <b>00</b> = unit without coil		Series number	Synthetic fluids: <b>WG</b> = water glycol <b>PE</b> = phosphate ester
Configuration, see section 2  control of flow discharged from the actuator <b>13</b> = on port A <b>14</b> = on port B <b>16</b> = on port T										Type of solenoid: for DHQ: <b>I</b> = solenoid OI for AC and DC supply <b>U</b> = solenoid OU for DC supply for DKQ: <b>I</b> = solenoid AI for AC and DC supply <b>U</b> = solenoid AU for DC supply			
control of flow entering the actuator: <b>11</b> = on port P <b>23</b> = on port A <b>24</b> = on port B										X = without connector - See section 4			
<b>C</b> = flow controlled when solenoid is de-energized <b>O</b> = flow controlled when solenoid is energized										/K = with lock key for the setting knob /V = without by-pass check valve /L1, L2, L3 = device for switching time control, see tab. E010.			
										Maximum adjustable controlled flow: <b>1</b> = 1,5 l/min; <b>6</b> = 6 l/min; <b>11</b> = 11 l/min; <b>16</b> = 16 l/min; <b>24</b> = 24 l/min			

## 2 HYDRAULIC CHARACTERISTICS



D\*Q-014/\*, D\*Q-024/\* are similar to corresponding D\*Q-013/\*, D\*Q-023/\* but control the flow through port B of solenoid valve

Valve model	DHQ-0**/1 DKQ-0**/1	DHQ-0**/6 DKQ-0**/6	DHQ-0**/11 DKQ-0**/11	DHQ-0**/16 DKQ-0**/16	DHQ-0**/24 DKQ-0**/24
Max regulated flow [l/min]	1,5	6	11	16	24
Min regulated flow [cm³/min]	50	50	50	50	50
Regulating Δp [bar]	3	3	5	6,5	8
Max flow through check valve [l/min]	24				
Max free flow	36 l/min for DHQ; 75 l/min for DKQ				
Max flow on port A [l/min]	24				
Max pressure [bar]	250				

### 3 MAIN CHARACTERISTICS OF FLOW CONTROL UNITS TYPE DHQ AND DKQ

Assembly position / location	Any position
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 <b>I</b>
Recommended viscosity	15 ÷ 100 mm <sup>2</sup> /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 ELECTRIC/ELECTRONIC CONNECTORS AND ELECTRIC FEATURES

For electric/electronic connectors (to be ordered separately) and electric features of DHQ units, see tab. E010.  
For electric/electronic connectors (to be ordered separately) and electric features of DKQ units, see tab. E025.

### 5 OPERATING LIMITS

#### DHQ

**A** = DHQ with OI or OU solenoid and E-SA or E-SE electronic connector

**B** = DHQ with OU solenoid and other connectors

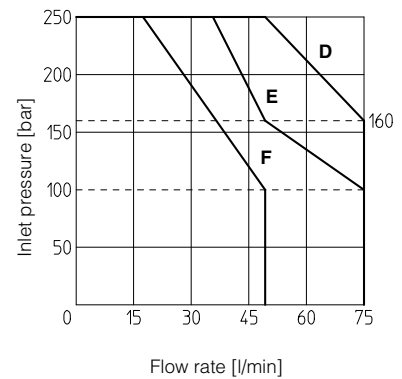
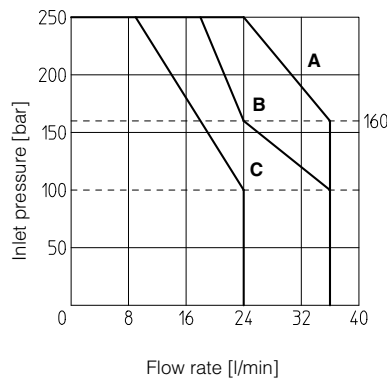
**C** = DHQ with OI solenoid and other connectors

#### DKQ

**D** = DKQ with AI or AU solenoid and E-SA or E-SE electronic connector

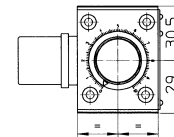
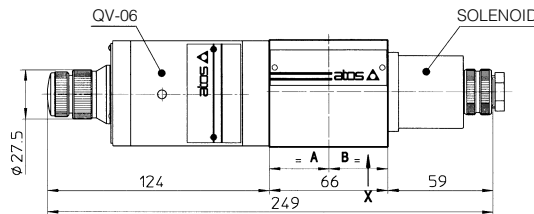
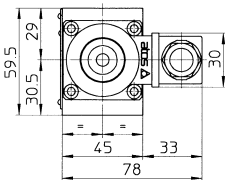
**E** = DKQ with AU solenoid and other connectors

**F** = DKQ with AI solenoid and other connectors



### 6 INSTALLATION DIMENSIONS [mm]

#### DHQ



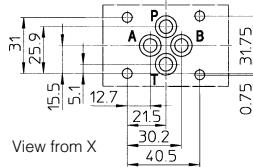
Mass: 2,5 kg

#### ISO 4401: 2005

#### Mounting surface: 4401-03-02-0-05

Diameter of ports P, A, B, T:  $\varnothing = 7,5$  mm (max)

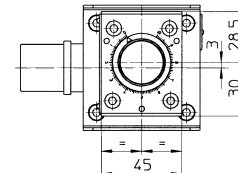
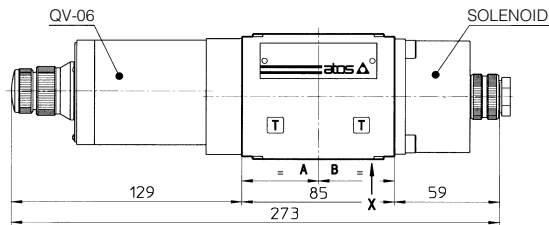
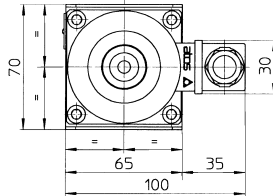
Seals: 4 OR 108



In versions -014 and -024 the position of valve QV-06 and of solenoid are inverted.

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

#### DKQ



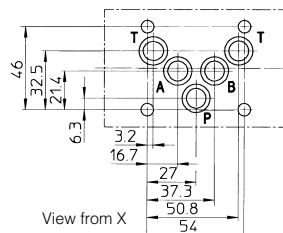
Mass: 3 kg

#### ISO 4401: 2005

#### Mounting surface: 4401-05-04-0-05

Diameter of ports P, A, B, T:  $\varnothing = 11,2$  mm (max)

Seals: 5 OR 2050



In versions -014 and -024 the position of valve QV-06 and of solenoid are inverted.

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

Overall dimensions refer to valves with connectors type SP-666