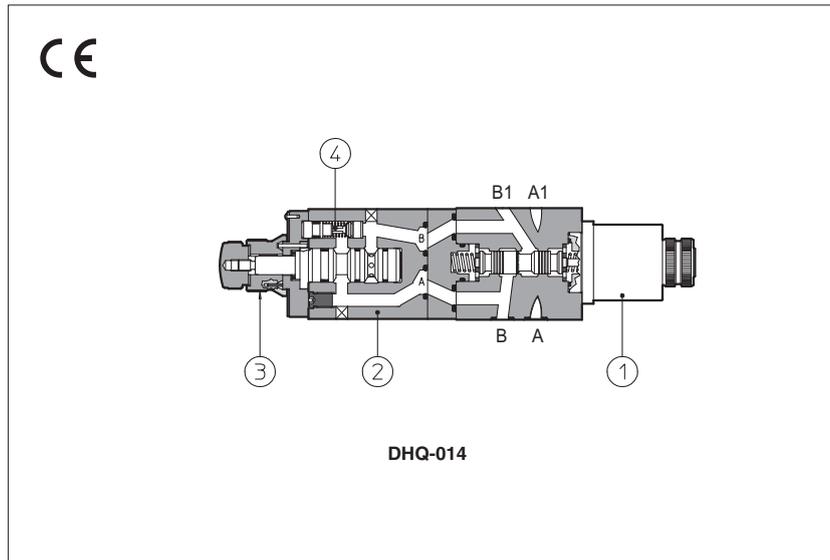




Table **D170-9/E**

# Modular fast/slow valves type **DHQ**

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



**DHQ** are modular units composed by one by-pass solenoid valve (1) and one 2-way pressure compensated flow control valve (2) type QV-06 (tab. C210).

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

The flow adjustment is obtained by turning the graduated micrometer knob (3). Clockwise rotation decreases the throttling (passage reduced).

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

Mounting surface:

**ISO 4401 size 06**

Max controlled flow: up to 1,5-6-11-16-24 l/min (depending on models);

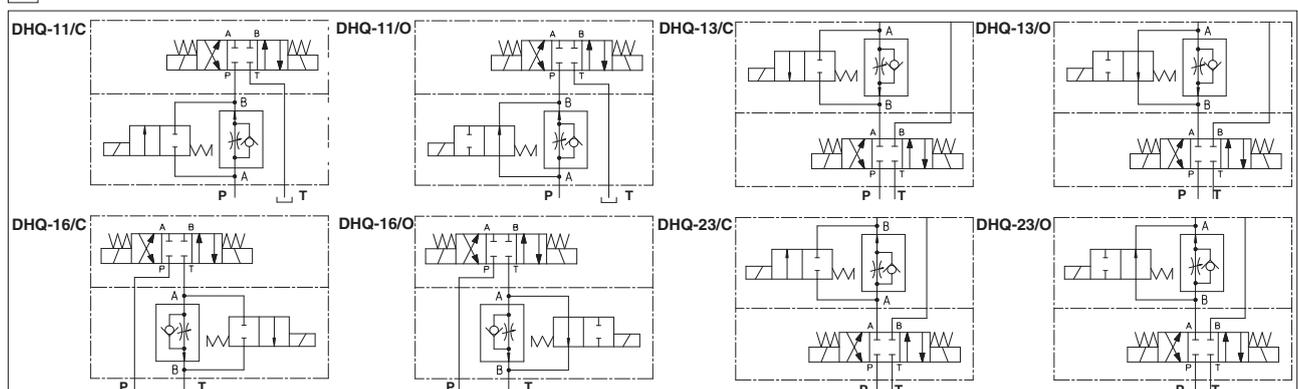
Free flow up to 36 l/min.

Max pressure: up to **250 bar**

## 1 MODEL CODE

<b>DHQ-0</b>	<b>13</b>	/	<b>C</b>	/	<b>6</b>	/	<b>K</b>	-	<b>I</b>	<b>X</b>	<b>24DC</b>	<b>**</b>	/	<b>*</b>
Modular flow control unit, pressure compensated, size: <b>DHQ-0 = 06</b>											Supply voltage, see section 4	Series number		Seals material, see section 3: - = NBR <b>PE</b> = FKM <b>BT</b> = HNBR
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 control of flow entering the actuator: <b>11</b> = on port P <b>23</b> = on port A <b>24</b> = on port B										<b>X</b> = without connector (1): See section 7 for available connectors, to be ordered separately <b>-00</b> = solenoid valve without coils				
<b>C</b> = flow controlled when solenoid is de-energized <b>O</b> = flow controlled when solenoid is energized										Type of solenoid: <b>I</b> = solenoid OI for AC and DC supply with <b>cURus</b> certification				
										Options: <b>K</b> = with lock key for the setting knob <b>V</b> = without by-pass check valve				
										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 <b>00</b> = whitout flow control valve				

## 2 HYDRAULIC CHARACTERISTICS



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

Valve model		/1	/6	/11	/16	/24
Max regulated flow	[l/min]	1,5	6	11	16	24
Min regulated flow	[cm <sup>3</sup> /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				
Max flow on port A	[l/min]	24				
Max pressure	[bar]	250				

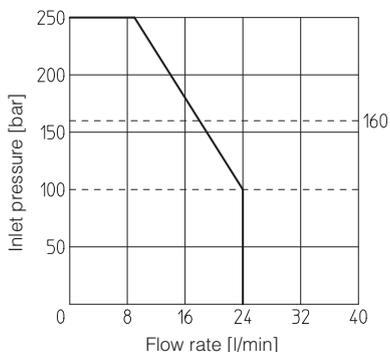
**3 MAIN CHARACTERISTICS, SEALS and HYDRAULIC FLUID** - for other fluids not included in below table, consult our technical office

Assembly position / location	Any position		
Subplate surface finishing	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)		
Compliance	CE to Low Voltage Directive 2014/35/EU and Machine Directive 2006/42/EC. RoHS Directive 2011/65/EU as last update by 2015/65/EU REACH Regulation (EC) n°1907/2006		
Ambient temperature	<b>Standard</b> = -30°C ÷ +80°C / <b>PE</b> option = -20°C ÷ +70°C / <b>BT</b> option = -40°C ÷ +70°C		
Seals, recommended fluid temperature	NBR seals (standard) = -20°C ÷ +60°C, with HFC hydraulic fluids = -20°C ÷ +50°C FKM seals (/PE option)= -20°C ÷ +80°C HNBR seals (/BT option)= -40°C ÷ +60°C, with HFC hydraulic fluids = -40°C ÷ +50°C		
Recommended viscosity	15÷100 mm <sup>2</sup> /s - max allowed range 2.8 ÷ 500 mm <sup>2</sup> /s		
Max fluid contamination level	ISO4406 class 20/18/15 NAS1638 class 9, see also filter section at www.atos.com or KTF catalog		
<b>Hydraulic fluid</b>	<b>Suitable seals type</b>	<b>Classification</b>	<b>Ref. Standard</b>
Mineral oils	NBR, FKM, HNBR	HL, HLP, HLPD, HVLP, HVLPD	DIN 51524
Flame resistant without water	FKM	HFDU, HFDR	ISO 12922
Flame resistant with water	NBR, HNBR	HFC	

**4 ELECTRIC/ELECTRONIC CONNECTORS AND ELECTRIC FEATURES**

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

**5 OPERATING LIMITS**



**6 INSTALLATION DIMENSIONS [mm]**

**ISO 4401: 2005**

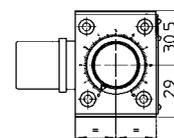
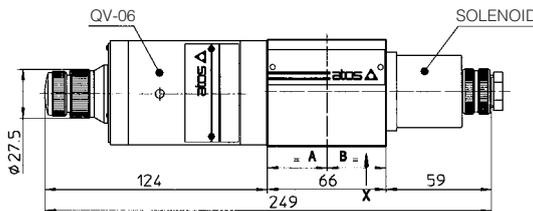
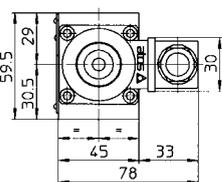
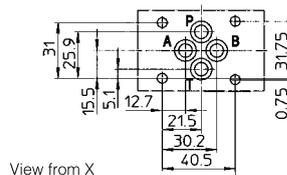
**Mounting surface: 4401-03-02-0-05**

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

Seals: 4 OR 108

Fastening bolts: 4 socket head screws M5.

The length depends on number and type of modular elements associated



Mass: 2,5 kg

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

Overall dimensions refer to valves with connectors type 666