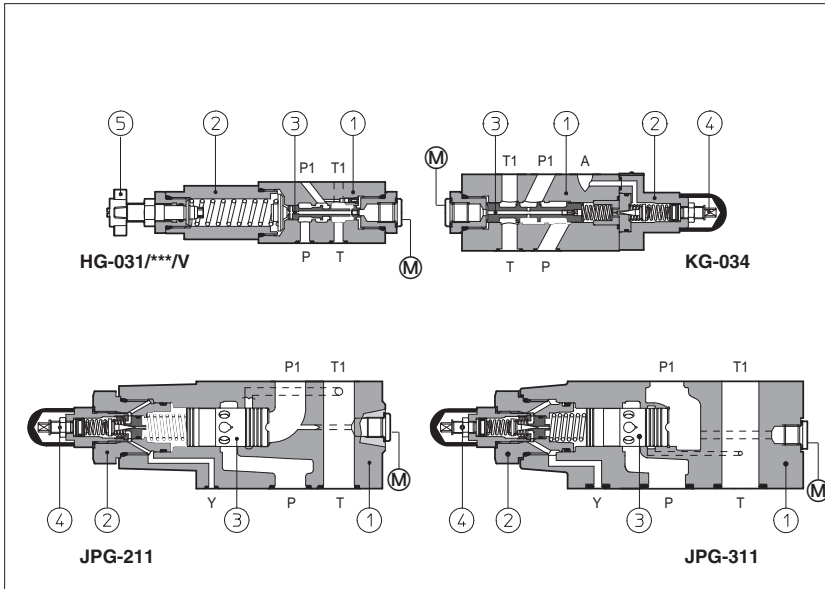


# Modular reducing valves type HG, KG, JPG-2 and JPG-3

spool type, ISO 4401 sizes 06, 10, 16 and 25



**HG, KG, JPG** are pressure reducing valves, spool type (3), designed to operate in oil hydraulic systems.

HG are direct, three way valves;

KG are double stage (1) (2), three way valves;

JPG are double stage (1) (2), two way valves.

Clockwise rotation increases the pressure.

Valve size and max flow:

**HG** = size 06 flow up to 50 l/min;

**KG** = size 10 flow up to 100 l/min;

**JPG-2** = size 16 flow up to 250 l/min;

**JPG-3** = size 25 flow up to 300 l/min;

Mounting surface:

**ISO 4401 size 06, 10, 16 and 25**

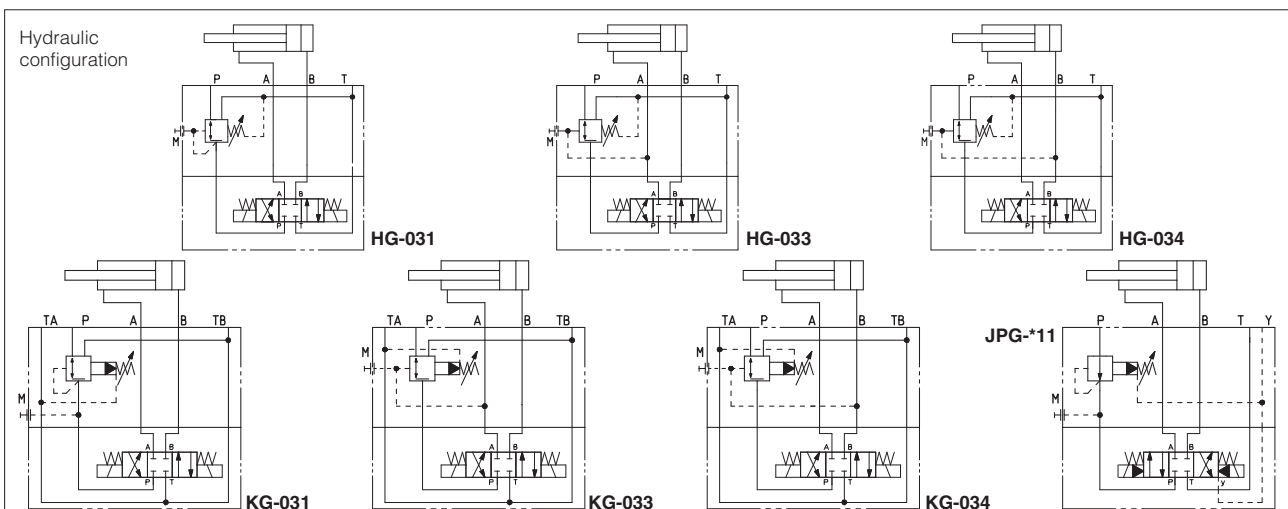
Max pressure: **350 bar** for HG

**315 bar** for KG and JPG

## 1 MODEL CODE

<b>HG-0</b>	<b>31</b>	/	<b>210</b>	/	<b>V</b>	/	<b>**</b>	/	<b>*</b>
Modular pressure reducing valve, size: <b>HG-0</b> = 06 <b>JPG-2</b> = 16 <b>KG-0</b> = 10 <b>JPG-3</b> = 25					Options: <b>V</b> = setting adjustment by handwheel instead of a grub screw protected by cap Only for HG: <b>VF</b> = regulating knob/ <b>VS</b> = regulating knob with safety locking		Series number		Seals material, see section 3: - = NBR <b>PE</b> = FKM <b>BT</b> = HNBR
Configuration, see section 2 two way ( <b>only for JPG</b> ): <b>11</b> = reduced pressure on P port three way ( <b>only for HG-0 and KG-0</b> ): <b>31</b> = reduced pressure on P port <b>33</b> = reduced pressure on A port <b>34</b> = reduced pressure on B port			Pressure range <b>HG</b> <b>32</b> = 3 - 32 bar <b>100</b> = 20 - 100 bar <b>50</b> = 2 - 50 bar <b>210</b> = 50 - 210 bar <b>75</b> = 10 - 75 bar		<b>KG</b> <b>100</b> = 7 - 100 bar <b>210</b> = 8 - 210 bar		<b>JPG</b> <b>100</b> = 6 - 100 bar <b>210</b> = 70 - 210 bar		

## 2 HYDRAULIC CHARACTERISTICS



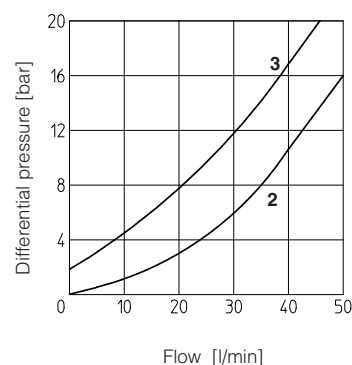
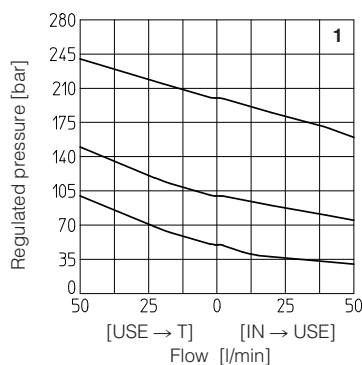
Valve model	HG-03*/32	HG-03*/50	HG-03*/75	HG-03*/100	HG-03*/210	KG-03*/100	KG-03*/210	JPG-211/100	JPG-211/210	JPG-311/100	JPG-311/210
Max flow [l/min]	50					100		250		300	
Pressure range [bar]	3 ÷ 32	2 ÷ 50	10 ÷ 75	20 ÷ 100	50 ÷ 210	7 ÷ 100	8 ÷ 210	6 ÷ 100	70 ÷ 210	6 ÷ 100	70 ÷ 210
Max inlet pressure [bar]	350					315		315		315	
Max pressure on port T [bar]	160					160		160		160	

**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)		
MTTFd values according to EN ISO 13849	150 years, for further details see technical table P007		
Compliance	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 option</b> = -20°C ÷ +70°C <b>/BT option</b> = -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 <a href="http://www.atos.com">www.atos.com</a> 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	

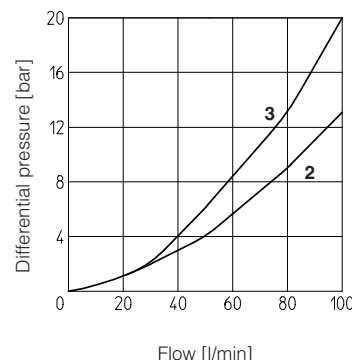
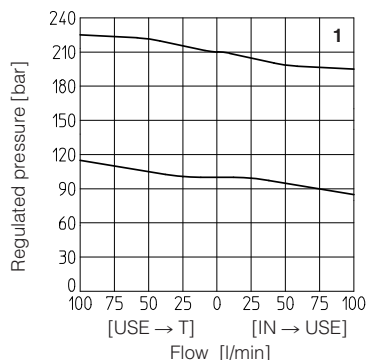
**4 DIAGRAMS OF HG-03\***  
based on mineral oil ISO VG 46 at 50°C

- 1** = regulated pressure variation versus flow:  
- between use port and discharge port  
- between inlet port and use port
- 2** = differential pressure variation versus flow between inlet port and use port
- 3** = differential pressure variation versus flow between use port and discharge port



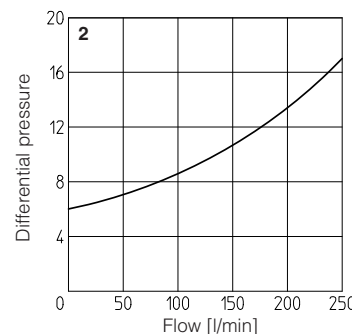
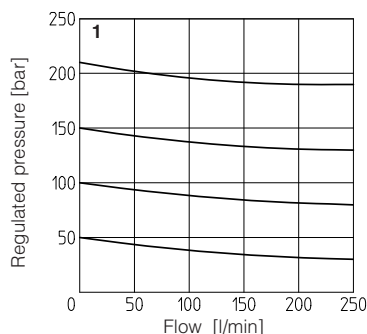
**5 DIAGRAMS OF KG-03\***  
based on mineral oil ISO VG 46 at 50°C

- 1** = regulated pressure variation versus flow:  
- between use port and discharge port  
- between inlet port and use port
- 2** = differential pressure variation versus flow between inlet port and use port
- 3** = differential pressure variation versus flow between use port and discharge port



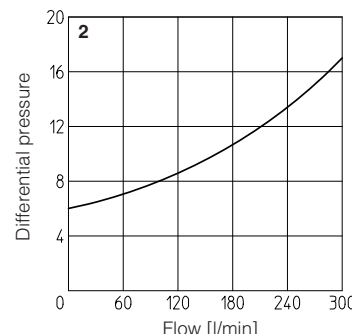
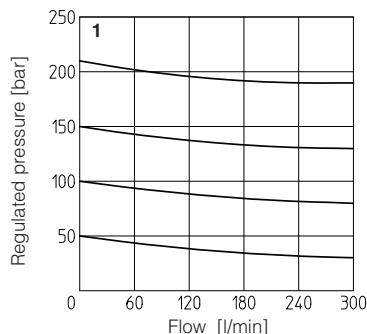
**6 DIAGRAMS OF JPG-211**  
based on mineral oil ISO VG 46 at 50°C

- 1** = regulated pressure variation versus flow between inlet port and use port
- 2** = differential pressure variation versus flow between use port and discharge port



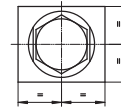
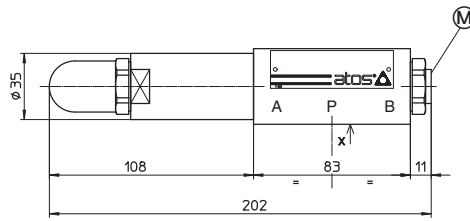
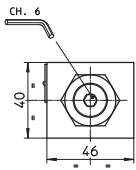
**7 DIAGRAMS OF JPG-311**  
based on mineral oil ISO VG 46 at 50°C

- 1** = regulated pressure variation versus flow between inlet port and use port
- 2** = differential pressure variation versus flow between use port and discharge port



8 INSTALLATION DIMENSIONS OF HG-0 VALVES [mm]

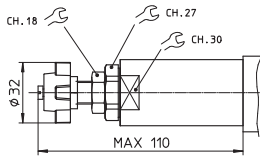
HG-03\*



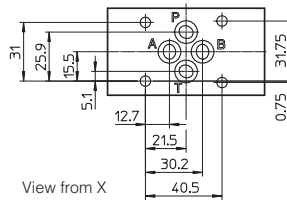
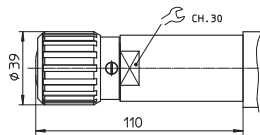
(M) = Pressure gauge port = G 1/4"

Adjustment device for option /V

Mass: 2,3 Kg



Adjustment device for option /VF and /VS



ISO 4401: 2005

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

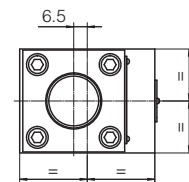
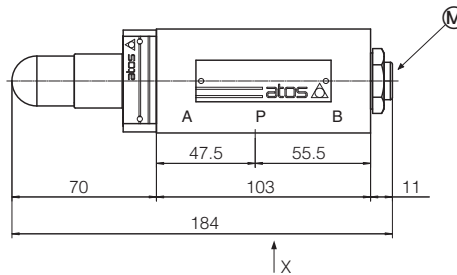
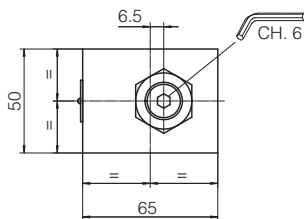
Diameter of ports A, B, P, T:  $\varnothing = 7,5$  mm

Seals: 4 OR 108

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

9 INSTALLATION DIMENSIONS OF KG-0 VALVES [mm]

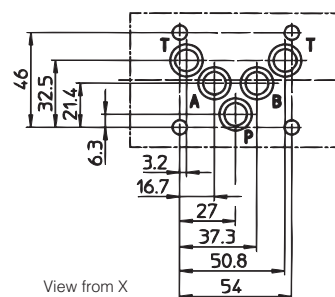
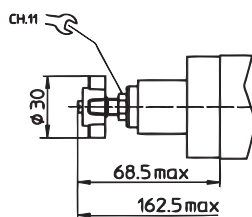
KG-03\*



(M) = Pressure gauge port = G 1/4"

Mass: 3,8 Kg

Adjustment device for option /V



ISO 4401: 2005

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

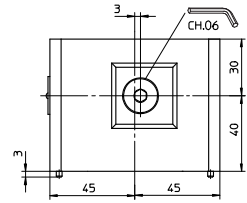
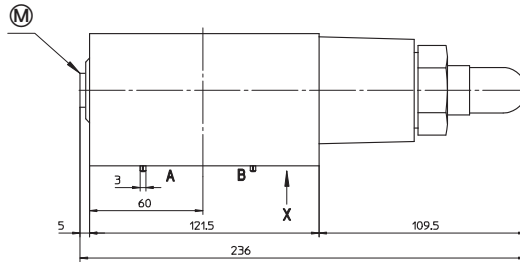
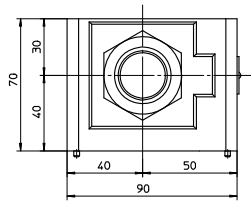
Diameter of ports A, B, P, T:  $\varnothing = 11,2$  mm

Seals: 5 OR 2050

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

10 INSTALLATION DIMENSIONS OF JPG-2 VALVES [mm]

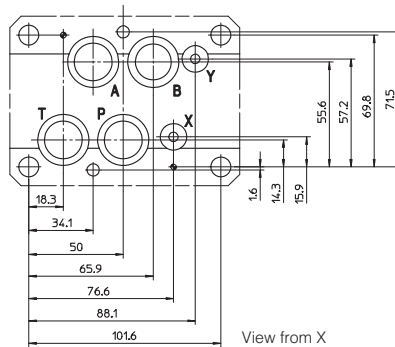
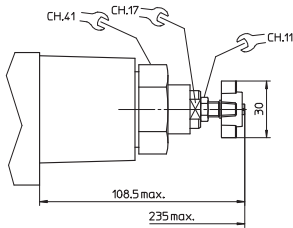
JPG-211



Ⓜ = Pressure gauge port = G 1/4"

Mass: 9 Kg

Adjustment device for option /V

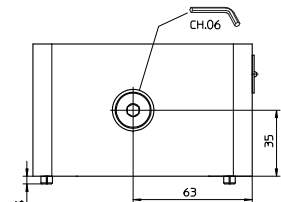
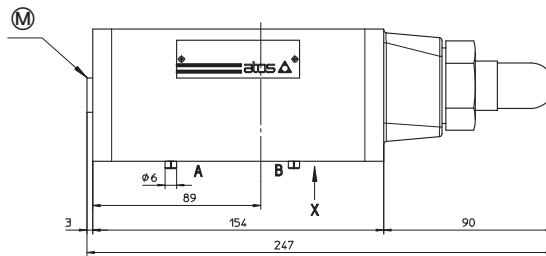
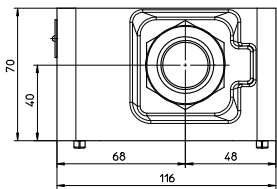


ISO 4401: 2005  
**Mounting surface: 4401-07-07-0-05**  
 Diameter of ports A, B, P, T:  $\varnothing = 20$  mm  
 Diameter of ports X, Y:  $\varnothing 7$  mm  
 Seals: 4 OR 130: 2 OR 109

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

11 INSTALLATION DIMENSIONS OF JPG-3 VALVES [mm]

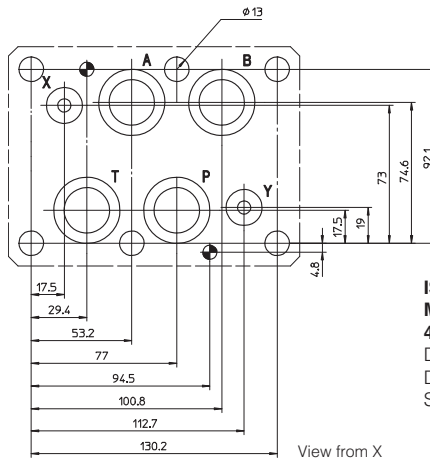
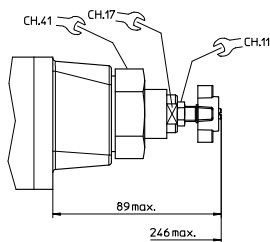
JPG-311



Ⓜ = Pressure gauge port = G 1/4"

Mass: 9 Kg

Adjustment device for option /V



ISO 4401: 2005  
**Mounting surface: 4401-08-08-0-05 (without port L)**  
 Diameter of ports A, B, P, T:  $\varnothing = 24$  mm  
 Diameter of ports X, Y:  $\varnothing 7$  mm  
 Seals: 4 OR 4112: 2 OR 3056

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