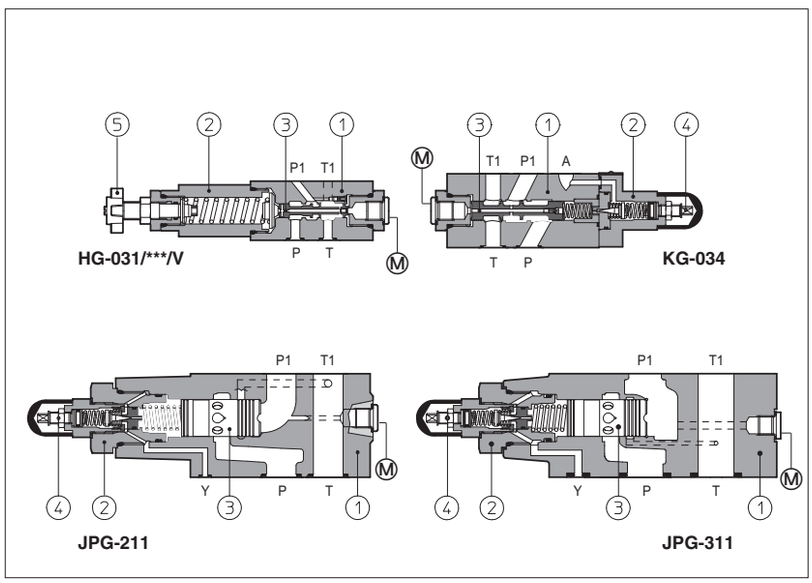
Modular reducing valves type HG, KG, JPG-2 and JPG-3

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

HG-0	31	/	210	/	V	**	/	*

HG-0 Modular pressure reducing valve, size:
HG-0 = 06 **JPG-2** = 16
KG-0 = 10 **JPG-3** = 25

Configuration, see section 2
two way (**only for JPG**):
11 = reduced pressure on P port
three way (**only for HG-0 and KG-0**):
31 = reduced pressure on P port
33 = reduced pressure on A port
34 = reduced pressure on B port

Pressure range

HG	KG	JPG
32 = 3 - 32 bar	**100** = 7 - 100 bar	**100** = 6 - 100 bar
50 = 2 - 50 bar	**210** = 8 - 210 bar	**210** = 70 - 210 bar
75 = 10 - 75 bar		
100 = 20 - 100 bar		
210 = 50 - 210 bar		

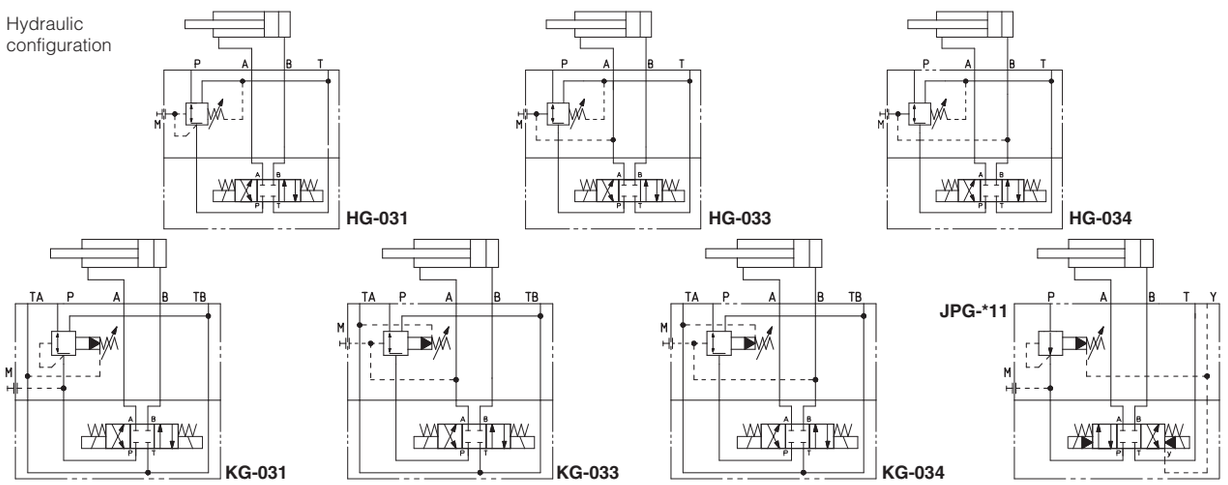
Options:
V = setting adjustment by handwheel instead of a grub screw protected by cap
Only for HG:
VF = regulating knob/**VS** = regulating knob with safety locking

Series number

Seals material, see section 3:
- = NBR
PE = FKM
BT = HNBR

2 HYDRAULIC CHARACTERISTICS

Hydraulic configuration



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

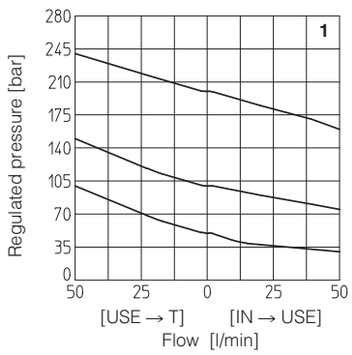
Assembly position / location	Any position		
Subplate surface finishing	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)		
MTTFd values according to EN ISO 13849	150 years, for further details see technical table P007		
Compliance	RoHS Directive 2011/65/EU as last update by 2015/65/EU REACH Regulation (EC) n°1907/2006		
Ambient temperature	**Standard** = -30°C ÷ +80°C **/PE** option = -20°C ÷ +70°C **/BT** 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 mm²/s - max allowed range 2.8 ÷ 500 mm²/s		
Max fluid contamination level	ISO4406 class 20/18/15 NAS1638 class 9, see also filter section at www.atos.com or KTF catalog		
Hydraulic fluid	**Suitable seals type**	**Classification**	**Ref. Standard**
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	

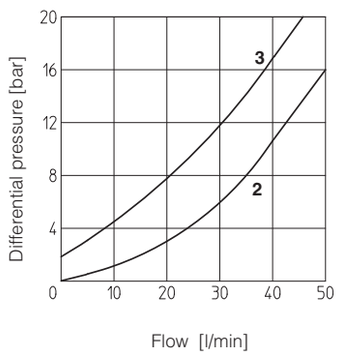
4 **DIAGRAMS OF HG-03***
based on mineral oil ISO VG 46 at 50°C

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



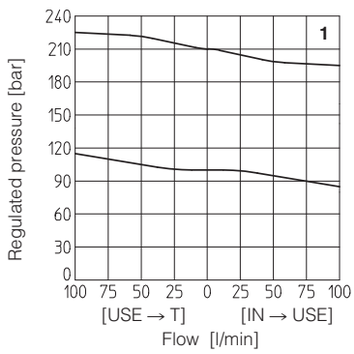


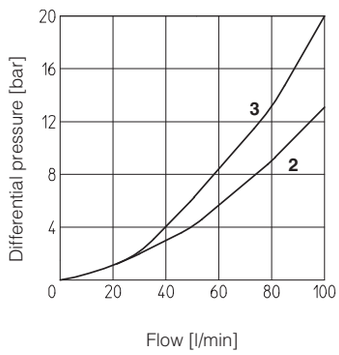
5 **DIAGRAMS OF KG-03***
based on mineral oil ISO VG 46 at 50°C

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

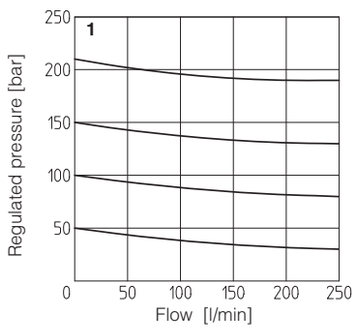


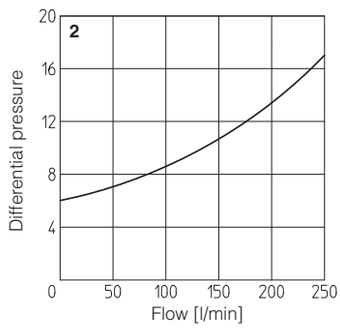


6 **DIAGRAMS OF JPG-211**
based on mineral oil ISO VG 46 at 50°C

1 = regulated pressure variation versus flow between inlet port and use port

2 = differential pressure variation versus flow between use port and discharge port

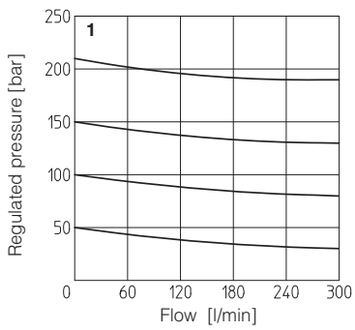


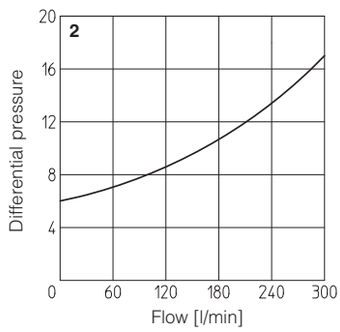


7 **DIAGRAMS OF JPG-311**
based on mineral oil ISO VG 46 at 50°C

1 = regulated pressure variation versus flow between inlet port and use port

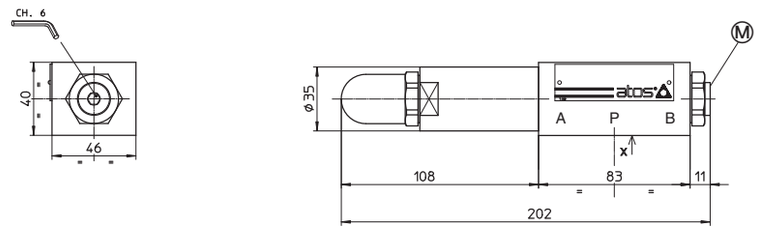
2 = differential pressure variation versus flow between use port and discharge port





8 INSTALLATION DIMENSIONS OF HG-0 VALVES [mm]

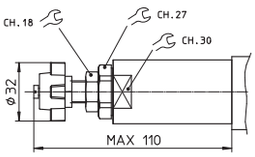
HG-03*



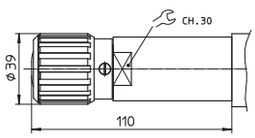
Ⓜ = Pressure gauge port = G 1/4"

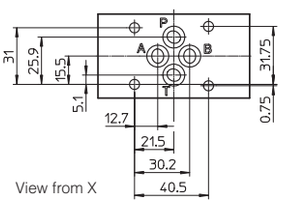
Mass: 2,3 Kg

Adjustment device for option /V



Adjustment device for option /VF and /VS



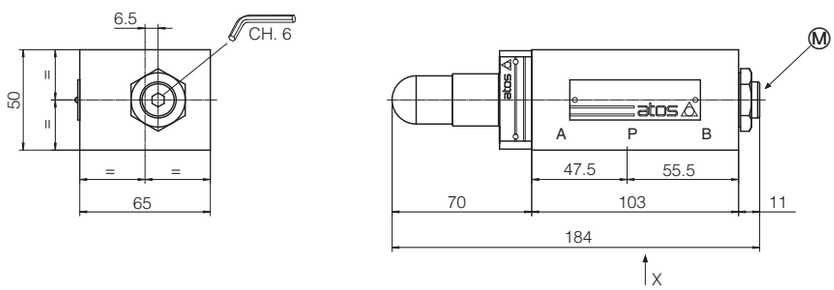


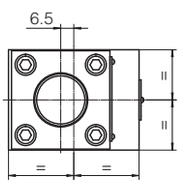
ISO 4401: 2005
Mounting surface: 4401-03-02-0-05
Diameter of ports A, B, P, T: Ø = 7,5 mm
Seals: 4 OR 108

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

9 INSTALLATION DIMENSIONS OF KG-0 VALVES [mm]

KG-03*

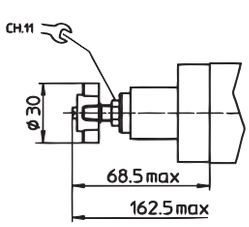


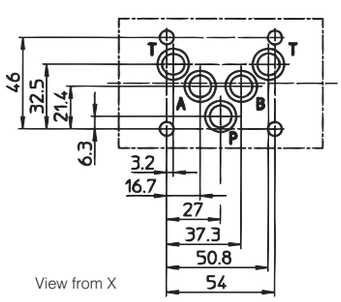


Ⓜ = Pressure gauge port = G 1/4"

Mass: 3,8 Kg

Adjustment device for option /V



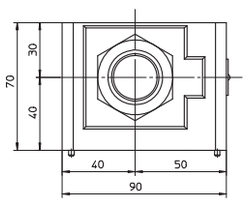


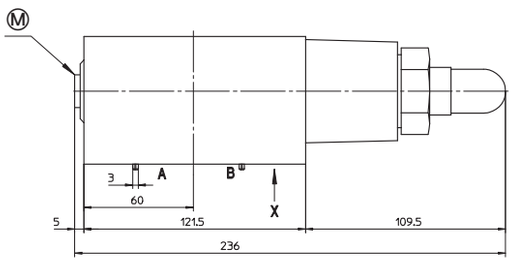
ISO 4401: 2005
Mounting surface: 4401-05-04-0-05
Diameter of ports A, B, P, T: Ø = 11,2 mm
Seals: 5 OR 2050

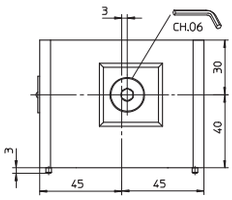
Fastening bolts: n° 4 socket head screws M6. The lenght depends on number and type of modular elements associated.

10 INSTALLATION DIMENSIONS OF JPG-2 VALVES [mm]

JPG-211



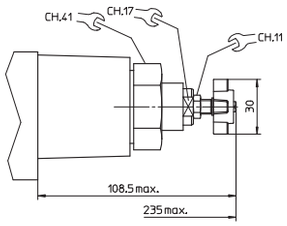


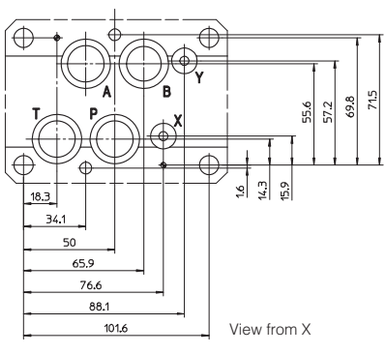


Ⓜ = Pressure gauge port = G 1/4"

Mass: 9 Kg

Adjustment device for option /V





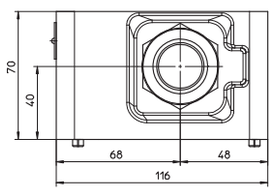
View from X

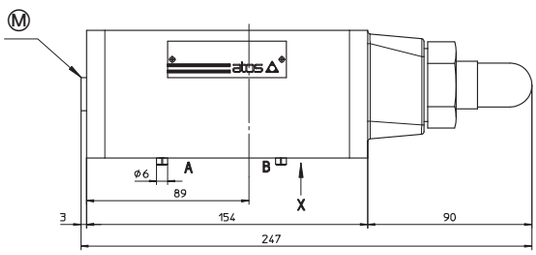
ISO 4401: 2005
Mounting surface: 4401-07-07-0-05
Diameter of ports A, B, P, T: Ø = 20 mm
Diameter of ports X, Y: Ø 7 mm
Seals: 4 OR 130: 2 OR 109

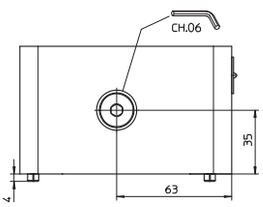
Fastening bolts: n° 4 socket head screws M10 and n° 2 M6. The lenght depends on number and type of modular elements associated.

11 INSTALLATION DIMENSIONS OF JPG-3 VALVES [mm]

JPG-311



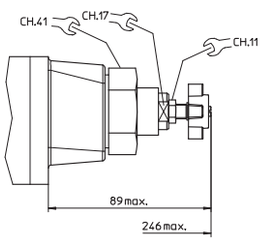


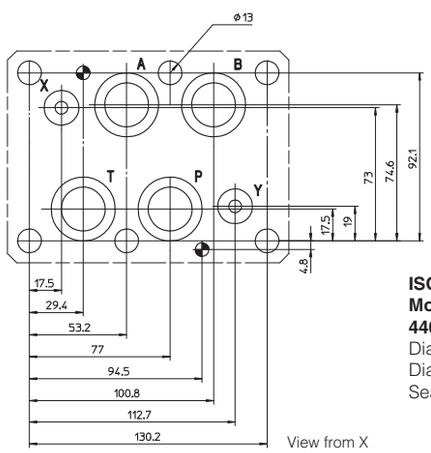


Ⓜ = Pressure gauge port = G 1/4"

Mass: 9 Kg

Adjustment device for option /V





View from X

ISO 4401: 2005
Mounting surface:
4401-08-08-0-05 (without port L)
Diameter of ports A, B, P, T: Ø = 24 mm
Diameter of ports X, Y: Ø 7 mm
Seals: 4 OR 130: 2 OR 109

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