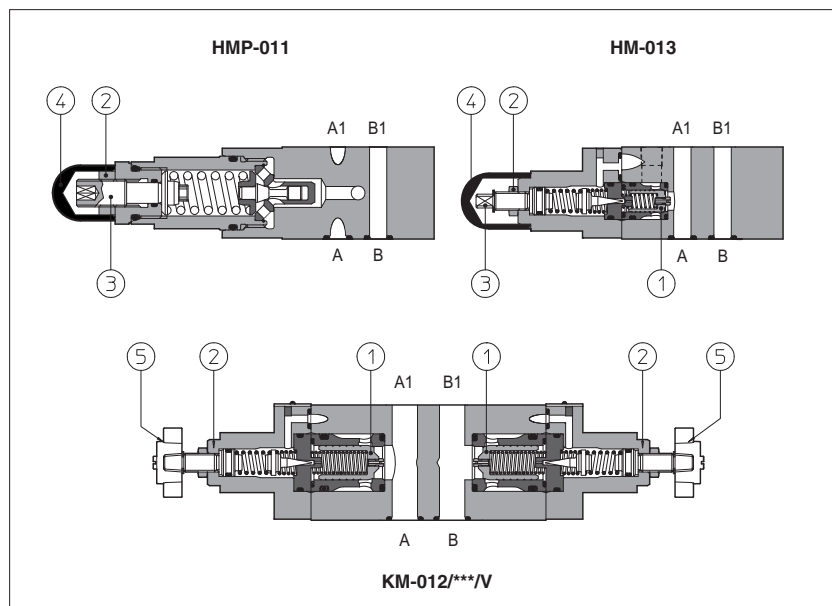


Modular relief valves type HMP, HM, KM

ISO 4401 sizes 06 and 10



HMP are direct operated pressure relief valves.

HM and **KM** are double stage pressure relief valves with balanced poppet (1).

The pressure adjustment is operated by loosening the locking nut (2) and turning the screw (3) protected by cap (4). Optional versions with setting adjustment by handwheel (5) instead of the screw are available on request. Clockwise rotation increases the pressure.

Valve size and max flow:

HMP = size 06, max flow: 35 l/min

HM = size 06, max flow: 60 l/min

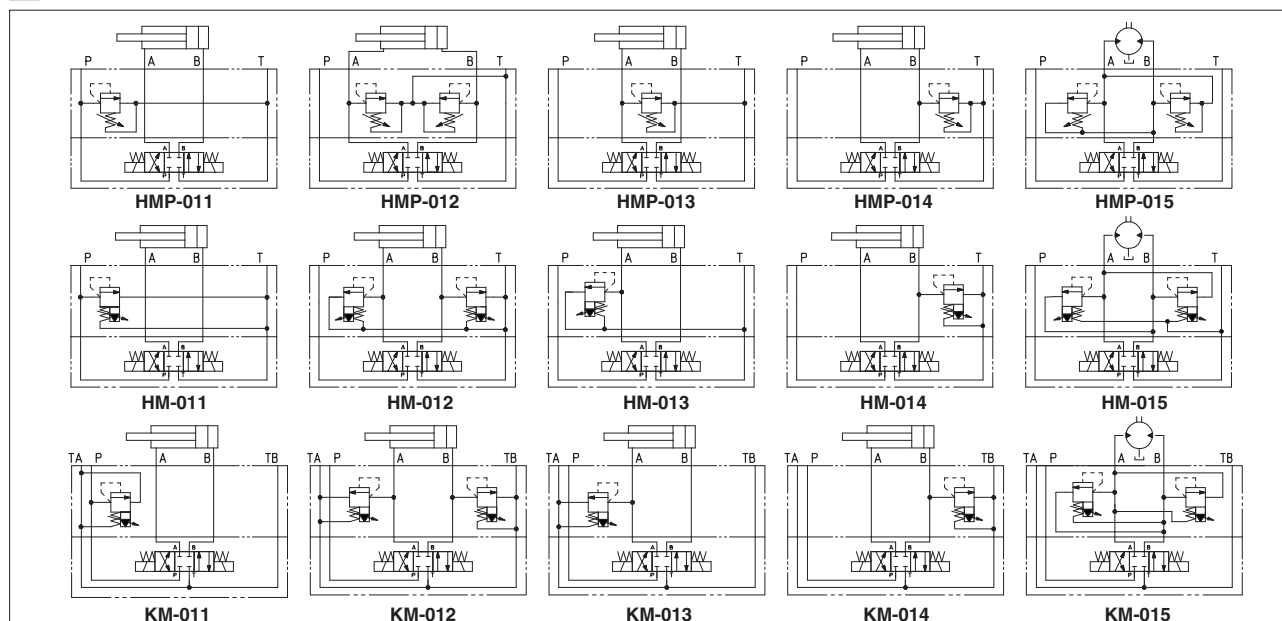
KM = size 10, max flow: 120 l/min

Mounting surface: **ISO 4401 size 06, 10**
Max pressure: up to **350 bar**

1 MODEL CODE

HM	-	011	/	210	/	V	**	/	*
Modular pressure relief valve size:									Seals material, see section 5:
HMP = 06									- = NBR
HM = 06									PE = FKM
KM = 10									BT = HNBR
Configuration, see section 2									Options:
011 = single on port P, discharge to port T									V = setting adjustment by handwheel instead of a grub screw protected by cap
012 = double on ports A and B, discharge to port T									Only for HMP:
013 = single on port A, discharge to port T									R = reduced leakage for special applications
014 = single on port B, discharge to port T									VF = regulating knob
015 = double on ports A and B, with the relieved pressure cross-discharged									VS = regulating knob with safety locking
Pressure range									
HMP:									HM and KM:
50 = 2÷ 50 bar									50 = 4÷ 50 bar
100 = 3÷100 bar									100 = 5÷100 bar
210 = 10÷210 bar									210 = 5÷210 bar
350 = 15÷350 bar									350 = 5÷350 bar

2 HYDRAULIC CONFIGURATION



3 GENERAL CHARACTERISTICS

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
Ambient temperature	Standard execution = -30°C ÷ +70°C /PE option = -20°C ÷ +70°C /BT option = -40°C ÷ +70°C
Compliance	RoHS Directive 2011/65/EU as last update by 2015/863/EU REACH Regulation (EC) n°1907/2006

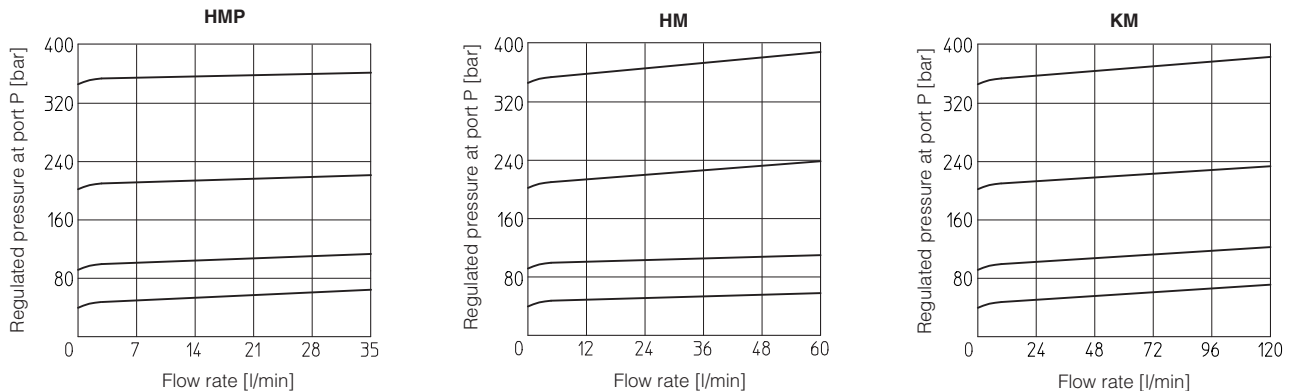
4 HYDRAULIC CHARACTERISTICS

Valve model	HMP	HM	KM
Max flow [l/min]	35	60	120
Pressure range [bar]	2÷50; 3÷100; 10÷210; 15÷350	4÷50; 5÷100; 5÷210; 5÷350	

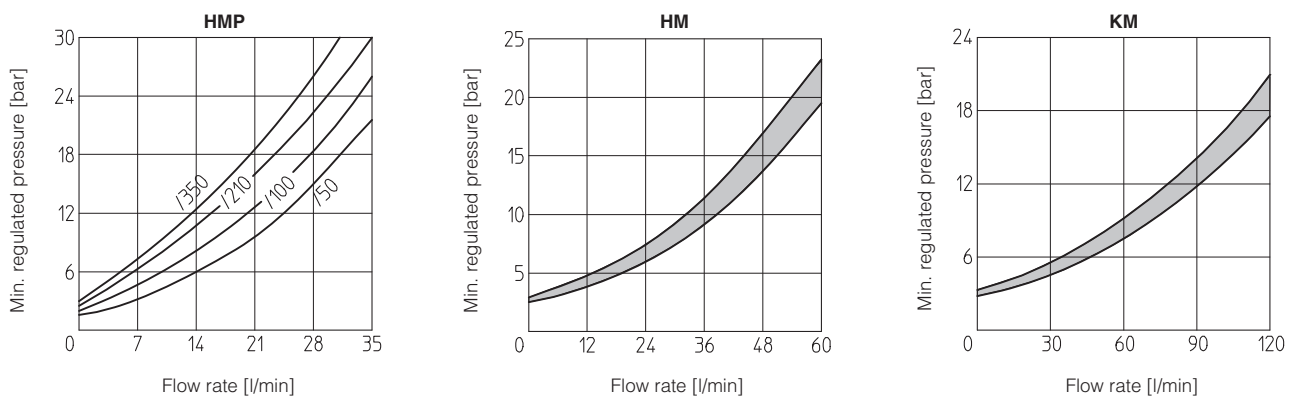
5 SEALS and HYDRAULIC FLUIDS - for other fluids not included in below table, consult our technical office

Seals, recommended fluid temperature	NBR seals (standard) = -20°C ÷ +80°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	

6 REGULATED PRESSURE VERSUS FLOW DIAGRAMS (Based on mineral oil ISO VG 46 at 50°C)

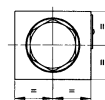
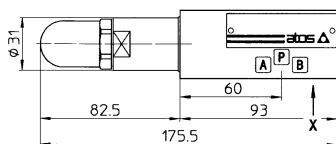
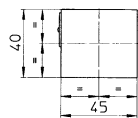


7 MINIMUM PRESSURE VERSUS FLOW DIAGRAMS (Based on fluid viscosity of 25 mm²/s at 40°C)



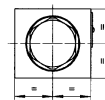
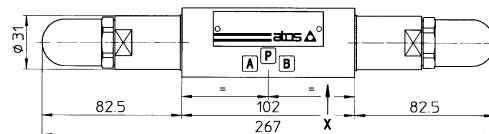
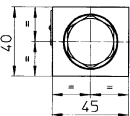
8 INSTALLATION DIMENSIONS OF HMP VALVES [mm]

HMP-011



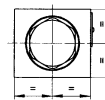
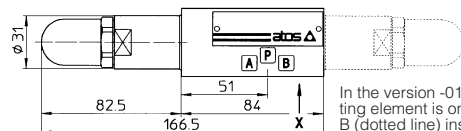
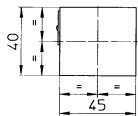
Mass: 1,4 Kg

HMP-012



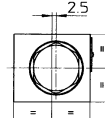
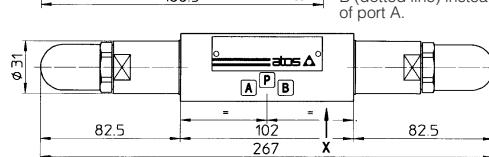
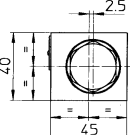
Mass: 1,7 Kg

**HMP-013
HMP-014**



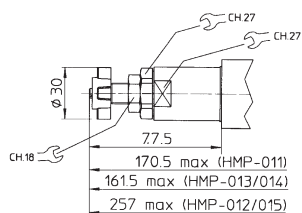
Mass: 1,2 Kg

HMP-015



Mass: 1,7 Kg

Adjustment device for option /V

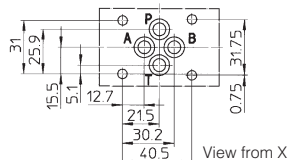


ISO 4401: 2005

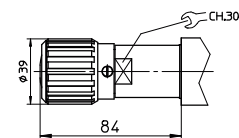
Mounting surface: 4401-03-02-0-05

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

Seals: 4 OR 108



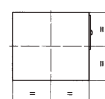
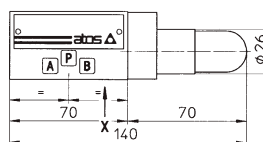
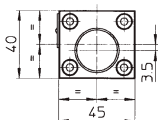
**Adjustment device
for option /VF and /VS**



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

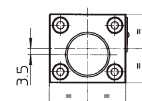
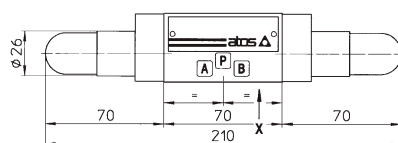
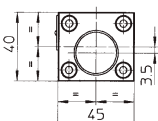
9 INSTALLATION DIMENSIONS OF HM VALVES [mm]

**HM-011
HM-014**



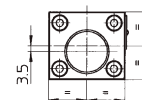
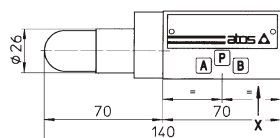
Mass: 1,1 Kg

**HM-012
HM-015**



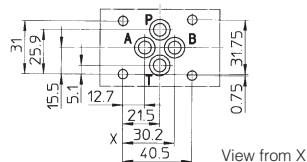
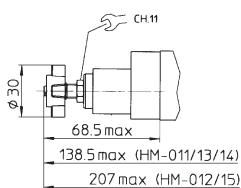
Mass: 1,3 Kg

HM-013



Mass: 1,1 Kg

Adjustment device for option /V



ISO 4401: 2005

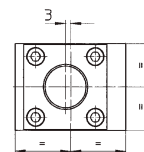
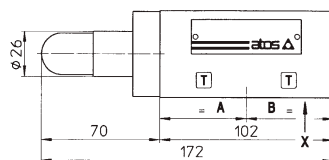
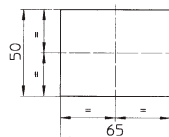
Mounting surface: 4401-03-02-0-05

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

Seals: 4 OR 108

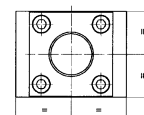
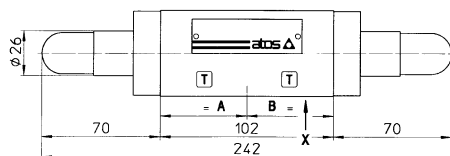
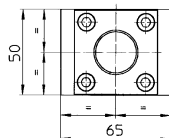
Fastening bolts: n° 4 socket head screws M5. The length depends on number and type of modular elements associated.

KM-011



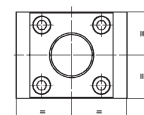
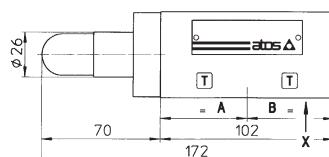
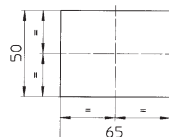
Mass: 2,5 Kg

KM-012



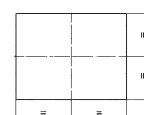
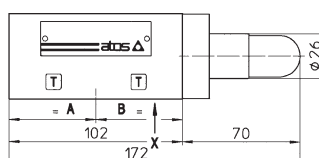
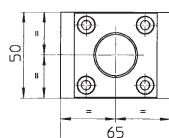
Mass: 2,8 Kg

KM-013



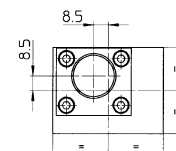
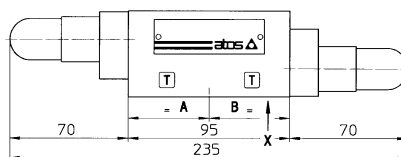
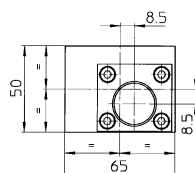
Mass: 2,5 Kg

KM-014



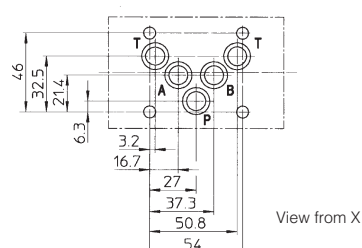
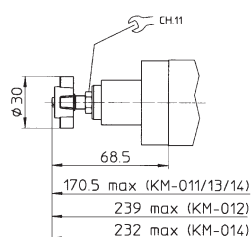
Mass: 2,5 Kg

KM-015



Mass: 2,5 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 lenght depends on number and type of modular elements associated.