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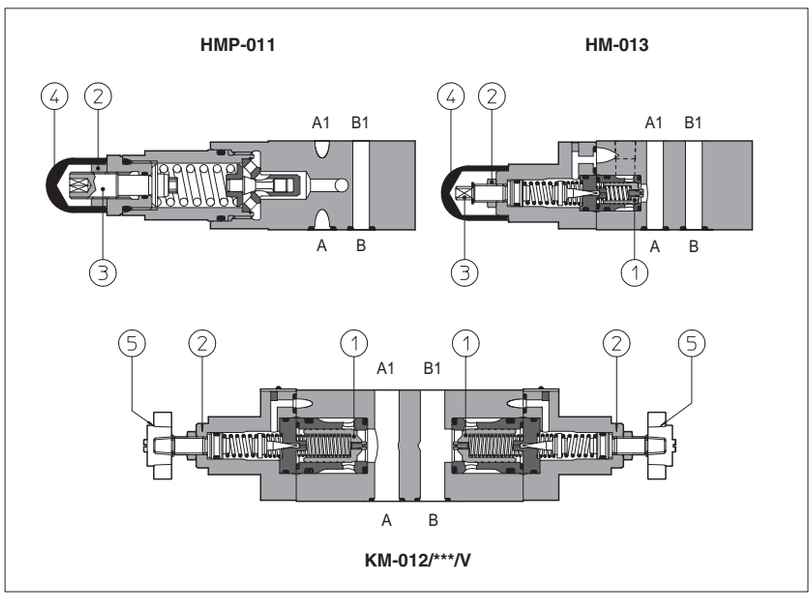
Servicio de Att. al Cliente



# 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:
**HMP** = 06
**HM** = 06
**KM** = 10

Configuration, see section 2
**011** = single on port P, dicharge to port T
**012** = double on ports A and B, discharge to port T
**013** = single on port A, discharge to port T
**014** = single on port B, discharge to port T
**015** = double on ports A and B, with the relieved pressure cross-discharged

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 |

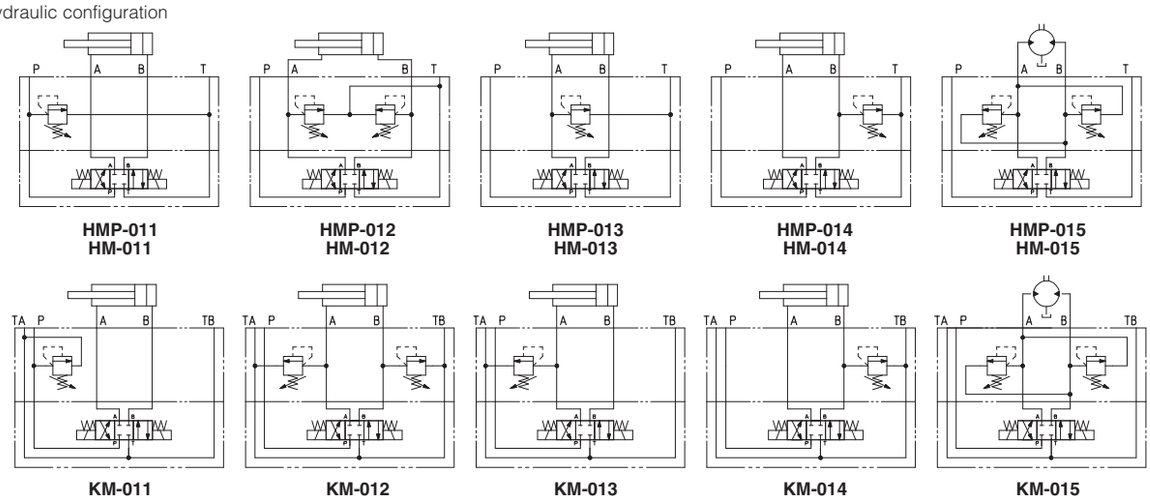
Options:
**V** = setting adjustment by handwheel instead of a grub screw protected by cap
Only for HMP:
**R** = reduced leakage for special applications
**VF** = regulating knob
**VS** = regulating knob with safety locking

Series number

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

## 2 HYDRAULIC CHARACTERISTICS

Hydraulic configuration




| Valve model | | 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 | |



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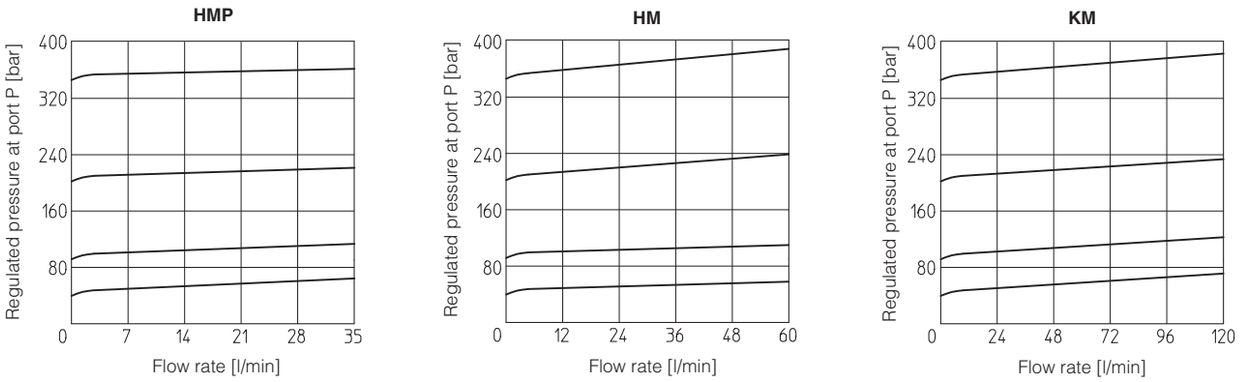
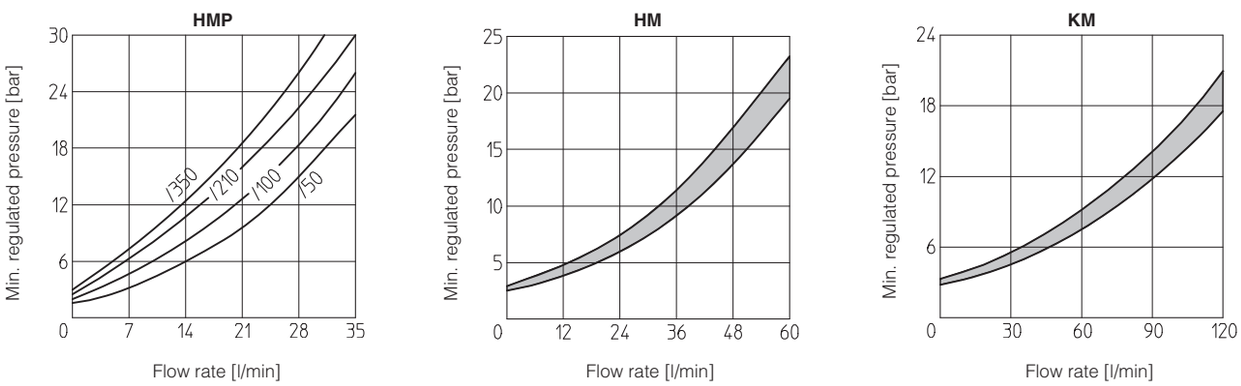
**3** **MAIN CHARACTERISTICS, SEALS and HYDRAULIC FLUIDS** - for other fluids not included in below table, consult our technical office

| | | | |
|---|---|---|---|
| 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<br>REACH Regulation (EC) n°1907/2006 | | |
| Ambient temperature | Standard execution = -30°C ÷ +70°C<br>/PE option = -20°C ÷ +70°C<br>/BT option = -40°C ÷ +70°C | | |
| Seals, recommended fluid temperature | NBR seals (standard) = -20°C ÷ +80°C, with HFC hydraulic fluids = -20°C ÷ +50°C<br>FKM seals (/PE option)= -20°C ÷ +80°C<br>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** **REGULATED PRESSURE VERSUS FLOW DIAGRAMS** (Based on mineral oil ISO VG 46 at 50°C)

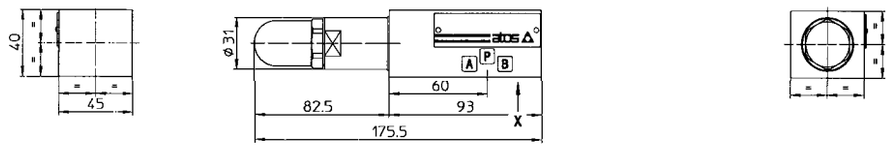



**5** **MINIMUM PRESSURE VERSUS FLOW DIAGRAMS** (Based on fluid viscosity of 25 mm²/s at 40°C)



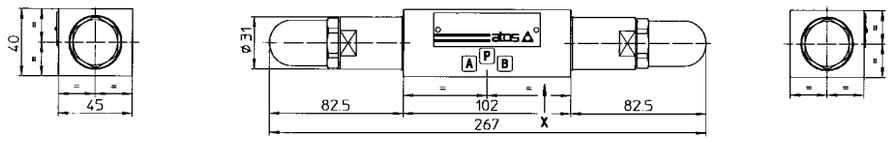
## 6 INSTALLATION DIMENSIONS OF HMP VALVES [mm]

**HMP-011**



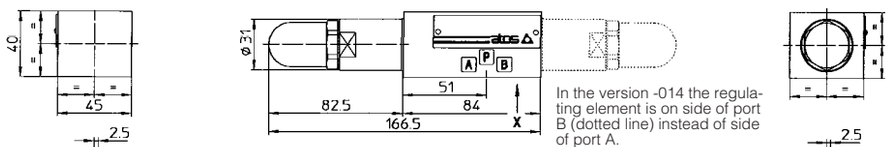

Mass: 1,4 Kg

**HMP-012**




Mass: 1,7 Kg

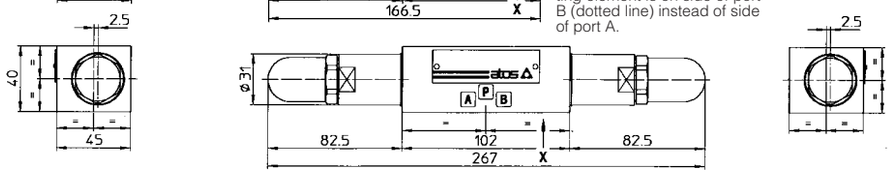
**HMP-013**
**HMP-014**




In the version -014 the regulating element is on side of port B (dotted line) instead of side of port A.

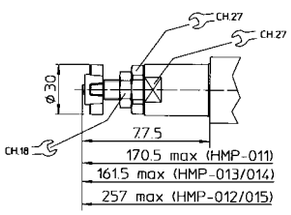
Mass: 1,2 Kg

**HMP-015**

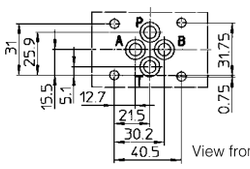



Mass: 1,7 Kg

**Adjustment device for option /V**

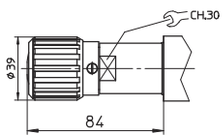



**ISO 4401: 2005**
**Mounting surface: 4401-03-02-0-05**
Diameter of ports A, B, P, T: Ø = 7,5 mm
Seals: 4 OR 108




View from X

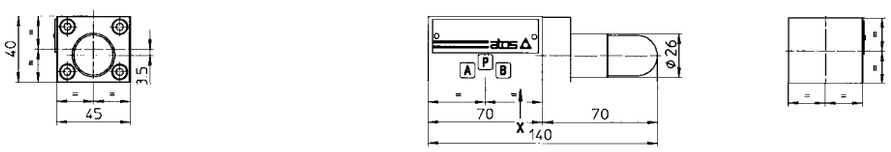
**Adjustment device for option /VF and /VS**




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

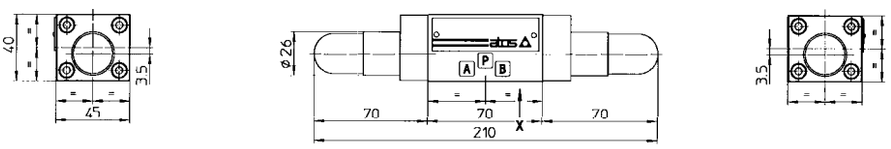
## 7 INSTALLATION DIMENSIONS OF HM VALVES [mm]

**HM-011**
**HM-014**



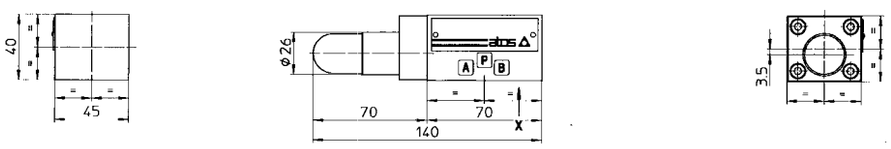

Mass: 1,1 Kg

**HM-012**
**HM-015**



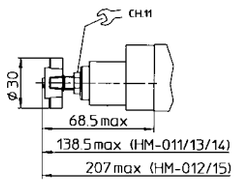

Mass: 1,3 Kg

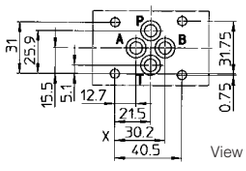
**HM-013**




Mass: 1,1 Kg

**Adjustment device for option /V**



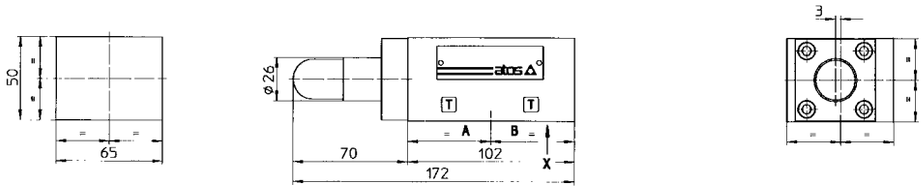

View from X

**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.

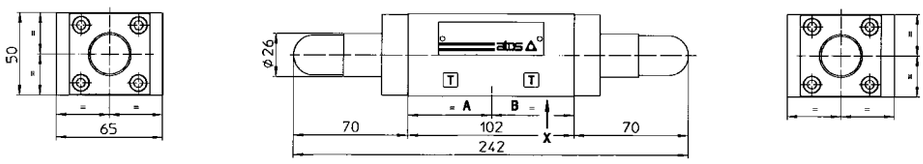
## 8 INSTALLATION DIMENSIONS OF KM VALVES [mm]

**KM-011**



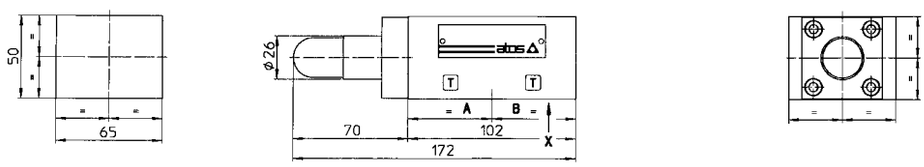

Mass: 2,5 Kg

**KM-012**



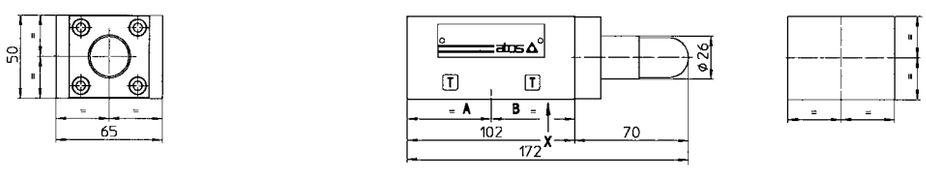

Mass: 2,8 Kg

**KM-013**



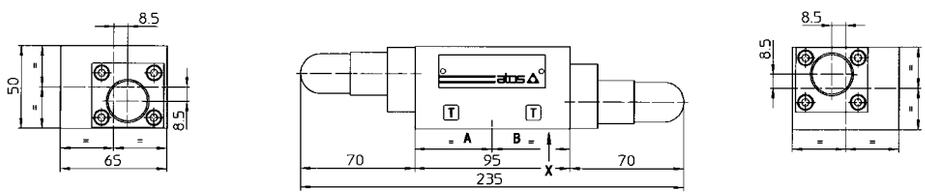

Mass: 2,5 Kg

**KM-014**



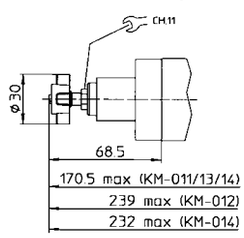

Mass: 2,5 Kg

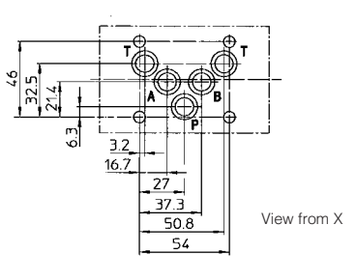
**KM-015**




Mass: 2,5 Kg

**Adjustement device for option /V**




View from X

**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.

01/20