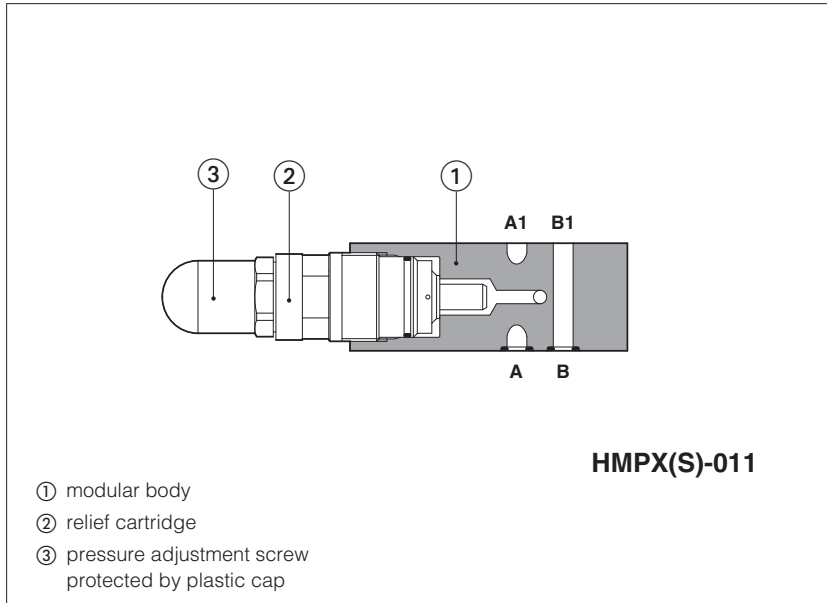


Stainless steel pressure relief valves

direct, modular



HMPX, HMPXS

Pressure relief valves made in modular execution for stack mounting with stainless steel directional valves ISO size 06. They are made in two different stainless steel executions for corrosive environments and fluids:

- X** stainless steel for external and internal parts, to withstand extreme and corrosive environmental conditions, and to ensure full compatibility also with water base and special fluids.
- XS** stainless steel for external parts to withstand extreme and corrosive environmental conditions.

Size: **06** - ISO 4401

Max flow: up to **35 l/min**

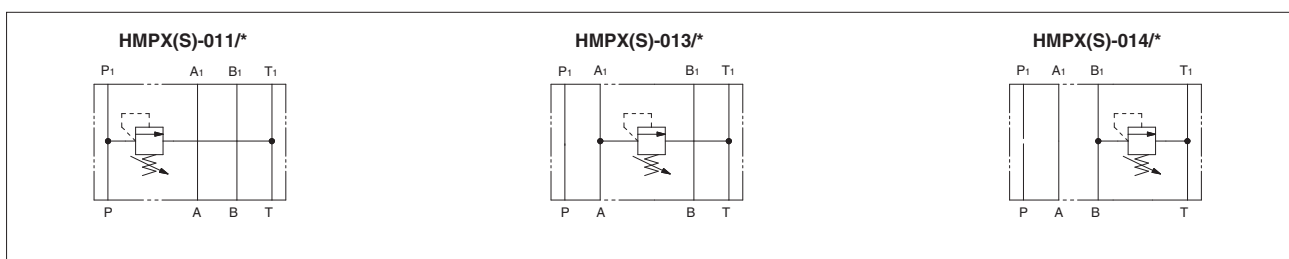
Max pressure: up to **350 bar**

1 MODEL CODE OF MODULR VALVES

| | | | | | | | | | | | |
|---|----------|---|------------|---|------------|---|------------------|---|----------|---|---|
| HMP | X | - | 011 | / | 350 | / | ** | / | * | / | * |
| Modular pressure relief valve ISO 4401 size 06 | | | | | | | Series number | | | | Test fluid , only for X execution: H = mineral oil W = pure water |
| X = Stainless steel execution for all parts XS = Stainless steel execution for external parts | | | | | | | | | | | |
| Configuration , see section 2 011 013 014 | | | | | | | | | | | |
| Pressure range: 50 = 50 bar 210 = 210 bar 100 = 100 bar 350 = 350 bar | | | | | | | | | | | |
| Seals material , see section 4: - = NBR low temp. -40°C PE = FKM BBT = FVMQ fluorosilicon -60°C (1) | | | | | | | | | | | |

(1) Only for full stainless steel "X" execution

2 HYDRAULIC SYMBOLS



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 = -40°C ÷ +70°C /PE option = -20°C ÷ +70°C /BBT option = -60°C ÷ +70°C |
| Storage temperature range | Standard = -40°C ÷ +80°C /PE option = -20°C ÷ +80°C /BBT option = -60°C ÷ +80°C |
| Compliance | RoHs Directive 2011/65/EU as last update by 2015/65/EU REACH Regulation (EC) n°1907/2006 |

4 MATERIALS SPECIFICATION

| Valve code | Valve type | Valve body | Internal parts | Spring | Seals | | |
|--------------|------------|------------|----------------------|----------|--------------------|-------------|----------------------|
| | | | | | std | /PE | /BBT |
| HMPX | Modular | AISI 316L | AISI 316L, 420B, 630 | AISI 302 | NBR 70 Sh low temp | FKM (viton) | FMVQ (fluorosilicon) |
| HMPXS | Modular | AISI 316L | Carbon steel | AISI 302 | NBR 70 Sh low temp | FKM (viton) | - |

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

| Seals, recommended fluid temperature (1) | NBR seals (standard) = -40°C ÷ +60°C FKM seals (/PE option) = -20°C ÷ +80°C FVMQ seals (/BBT option) = -60°C ÷ +60°C | | |
|---|--|---------------------------|---------------|
| Recommended viscosity | 115 ÷ 100 mm ² /s - max allowed range 2.8 ÷ 500 mm ² /s min = 0,9 mm ² /s for X full stainless steel execution with pure water | | |
| 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 low temp., FKM, FVMQ | HL, HLP, HLPD, HVL, HVLDP | DIN 51524 |
| Flame resistant without water | FKM, FVMQ | HFDU, HFDR | ISO 12922 |
| Flame resistant with water | NBR low temp. | HFA-E, HFA-S, HFB, HFC | |

(1) The operating temperature of the fluid must be compatible with the maximum viscosity range allowed for the valve

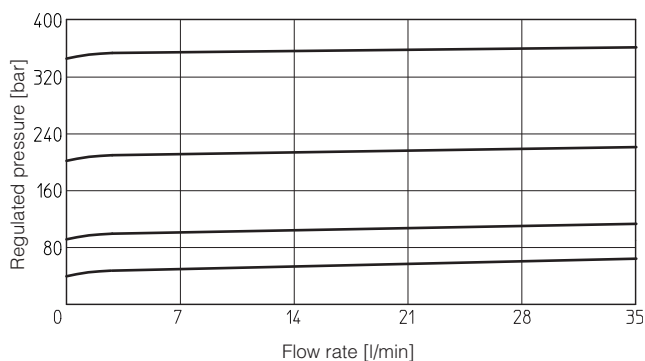
6 HYDRAULICS CHARACTERISTICS

| Valve model | | HMPX HMPXS |
|---------------------------------|--|--|
| Max pressure [bar] | | Ports P, A, B = 350; Port T = 50 |
| Max pressure setting [bar] | | 50, 100, 210, 350 |
| Pressure range (1) [bar] | | 2 ÷ 50, 3 ÷ 100, 10 ÷ 210, 15 ÷ 350 |
| Max flow [l/min] | | 35 |

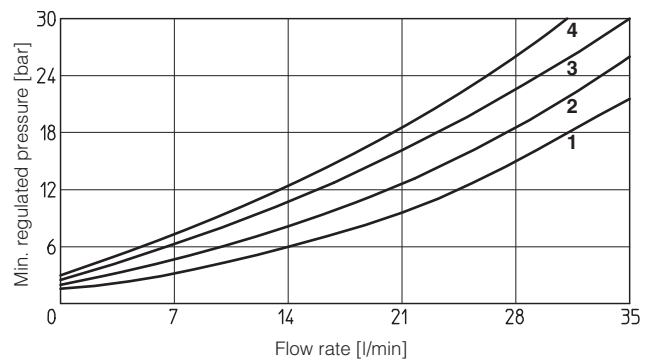
(1) The values correspond to the min and max regulation of the valve's craking pressure

7 DIAGRAMS (based on mineral oil ISO VG 46 at 50°C)

7.1 Regulated pressure versus flow diagram



7.2 Minimum pressure versus flow diagram



1 = HMPX(S)-*/50
2 = HMPX(S)-*/100

3 = HMPX(S)-*/210
4 = HMPX(S)-*/350

8 FASTENING BOLTS AND SEALS

| Type | Size | Fastening bolts | Seals |
|-------|---------------|--|------------|
| HMPX | 06 (ISO 4401) | n°4 M5xL-A4-70 Tightening torque = 5,5Nm | n°4 OR-108 |
| HMPXS | 06 (ISO 4401) | n°4 M5xL-A4-70 Tightening torque = 5,5Nm | n°4 OR-108 |

9 INSTALLATION DIMENSIONS OF MODULAR VALVES

ISO 4401: 2005

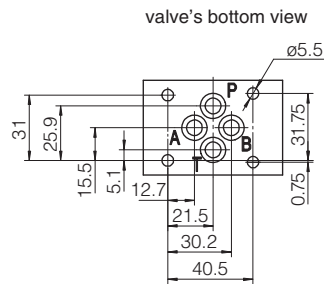
Mounting surface: 4401-03-02-0-05

Fastening bolts: M5x**-A4-70

Tightening torque = 5,5 Nm

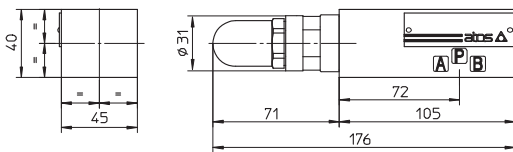
Seals: 4 OR 108

Ports P,A,B,T: Ø = 7.5 mm (max)



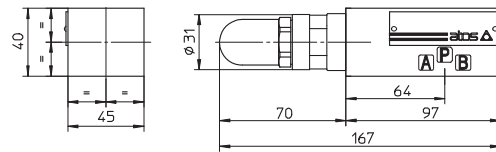
P = PRESSURE PORT
A, B = USE PORT
T = TANK PORT

HMPX(S)-011/*



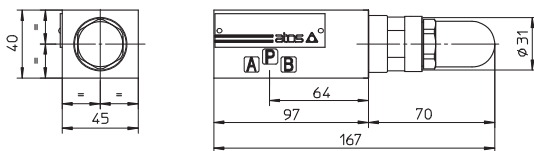
Mass [kg] 1,4

HMPX(S)-013/*



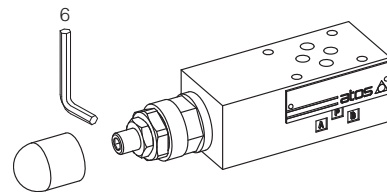
Mass [kg] 1,2

HMPX(S)-014/*



Mass [kg] 1,2

Pressure adjustment screw



10 RELATED DOCUMENTATION

- W010** Basics for electrohydraulics in corrosive environments
- W020** Summary of Atos stainless steel components
- EW900** Operating and maintenance information for stainless steel on-off valves