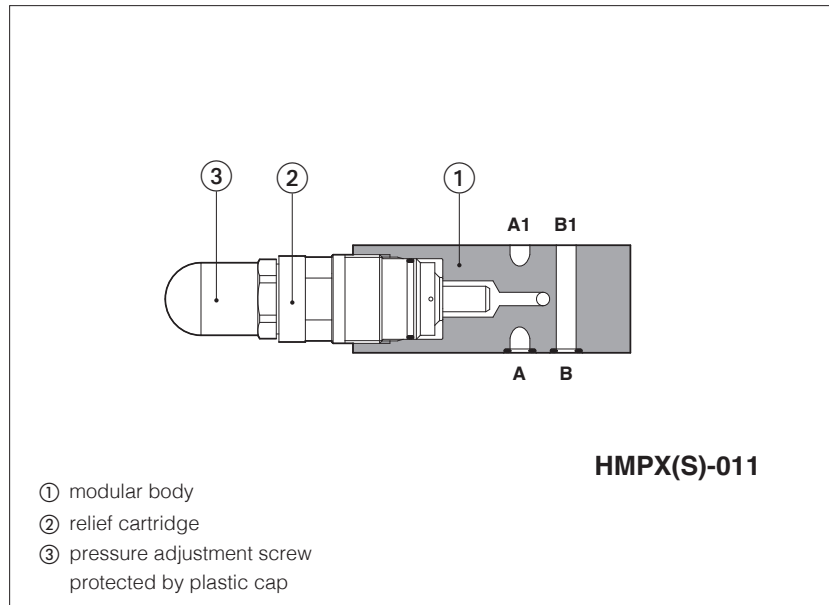


Stainless steel pressure relief valves

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**

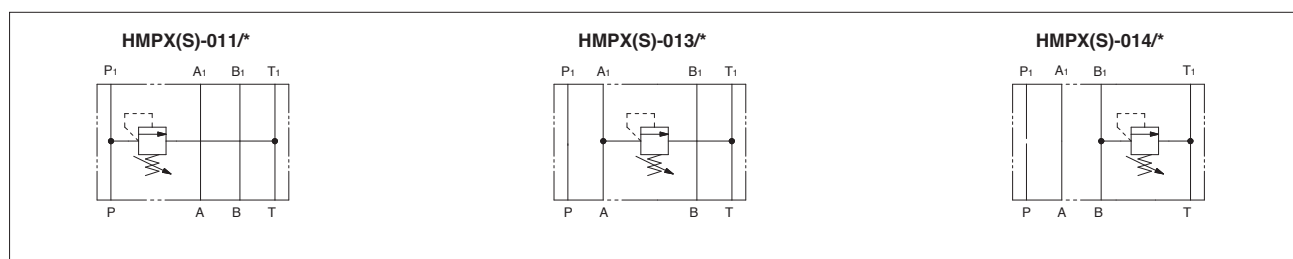
Max pressure: up to **350 bar**

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 100 = 100 bar 210 = 210 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 2015/863/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 mm²/s - max allowed range 2.8 ÷ 500 mm²/s min = 0,9 mm²/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, HVLP, HVLPD	DIN 51524
Flame resistant without water	FKM, FVMQ	HFDR, 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

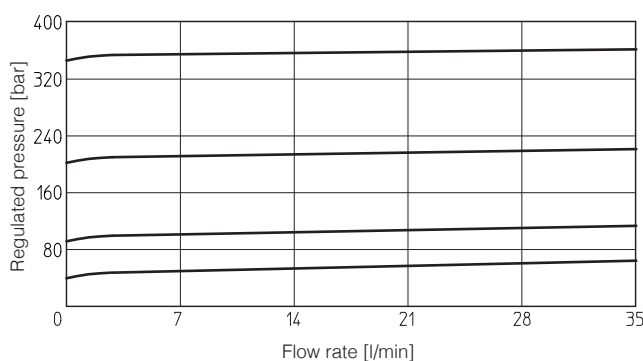
6 HYDRAULICS CHARACTERISTICS

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

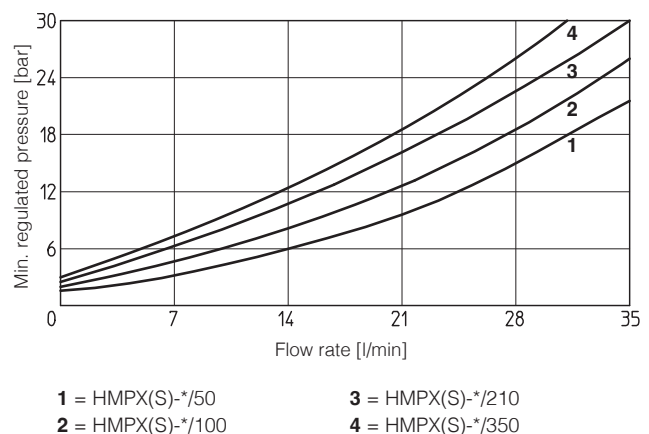
(1) The values correspond to the min and max regulation of the valve's craking pressure

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



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

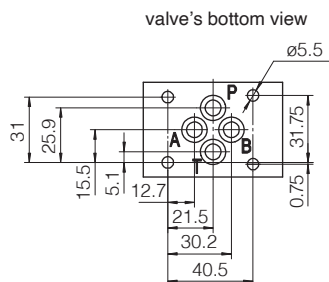
Mounting surface: 4401-03-02-0-05

Fastening bolts: M5x**-A4-70

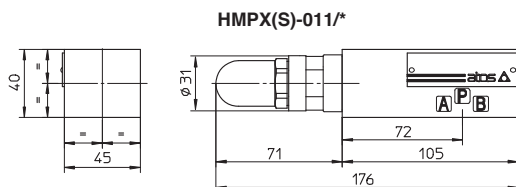
Tightening torque = 5,5 Nm

Seals: 4 OR 108

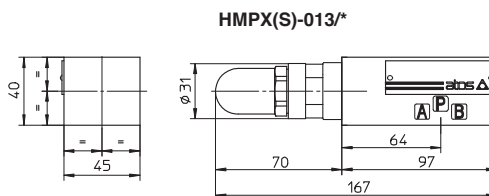
Ports P,A,B,T: $\varnothing = 7.5$ mm (max)



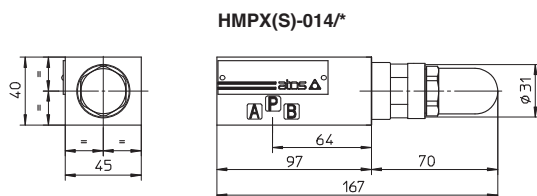
P = PRESSURE PORT
A, B = USE PORT
T = TANK PORT



Mass [kg] 1,4

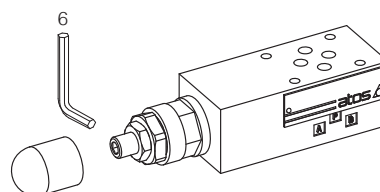


Mass [kg] 1,2



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