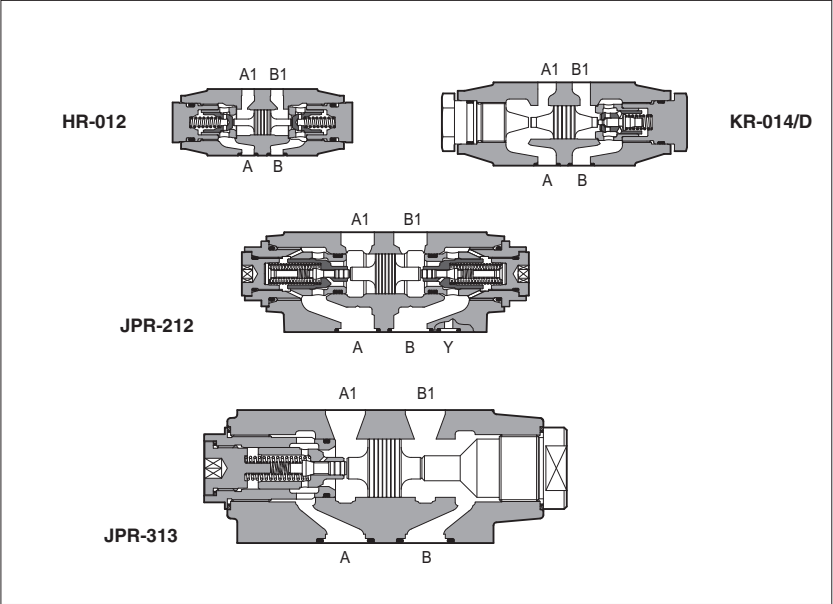


Modular check valves type **HR, KR, JPR**
direct or pilot operated, ISO 4401 sizes 06, 10, 16 and 25



HR, KR are check valves available as direct or pilot operated models.
JPR are pilot operated check valves.

Optional versions with decompression are available on request for some models of KR.

HR-0 = size 06: flow up to 60 l/min, pressure up to 350 bar.

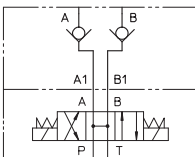
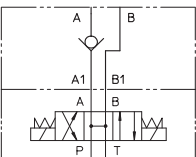
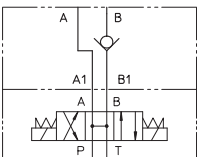
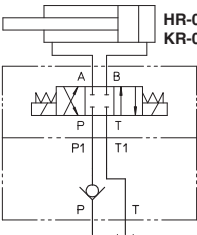
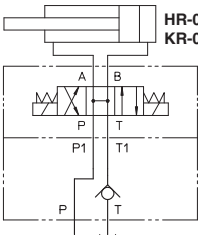
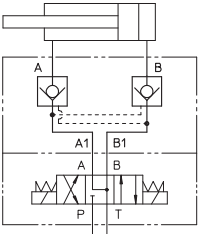
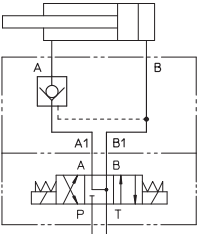
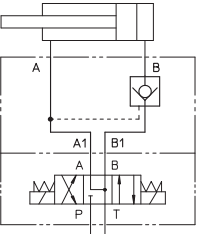
KR-0 = size 10: flow up to 120 l/min, pressure up to 315 bar.

JPR-2 = size 16: flow up to 200 l/min, pressure up to 350 bar.

JPR-3 = size 25: flow up to 300 l/min, pressure up to 350 bar.

Valves are designed to operate in hydraulic systems with hydraulic mineral oil or synthetic fluid having similar lubricating characteristics.

1 MODEL CODE					
HR-0		12	/	4	/ *
Modular check valve, size: HR-0 = 06 KR-0 = 10 JPR-2 = 16 JPR-3 = 25				**	*
Configuration, see section 2 direct operated (only for HR and KR): 02 = double, acting on port A and B 03 = single, acting on port A 04 = single, acting on port B 11 = single, acting on port P 16 = single, acting on port T pilot operated: 12 = double, acting on port A and B 13 = single, acting on port A 14 = single, acting on port B				Series number	Seals material, see section 3: - = NBR PE = FKM BT = HNBR
				Options (only for KR-012, -013, -014): D = with decompression (only with cracking pressure standard = 1 bar)	
				Spring cracking pressure: for HR and KR – = 0,5 bar (std.) 4 = 4 bar 2 = 2 bar 8 = 8 bar	
				for JPR – = 0,5 bar (std.)	

2 VALVE CONFIGURATION							
HR-002 KR-002 		HR-003 KR-003 		HR-004 KR-004 			
HR-011 KR-011 		HR-016 KR-016 					
HR-012 KR-012 JPR-212 JPR-312 		HR-013 KR-013 JPR-213 JPR-313 		HR-014 KR-014 JPR-214 JPR-314 			
The pilot pressure applied through ports A or B opens the valve acting on ports B and A, respectively. The minimum pilot pressure is a function of the area ratio, see the following table.							
VALVE TYPE		AREA RATIO					
HR		3,3:1					
KR		3,3:1 (standard); 11:1 (option /D decompression system)					
JPR-2		13,6:1 (standard version equipped with decompression system)					
JPR-3		17:1 (standard version equipped with decompression system)					

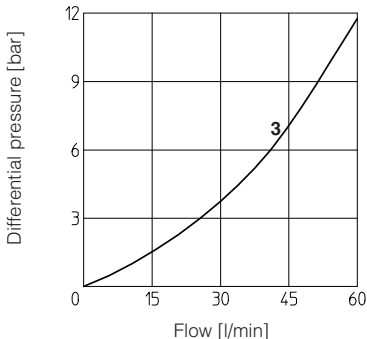
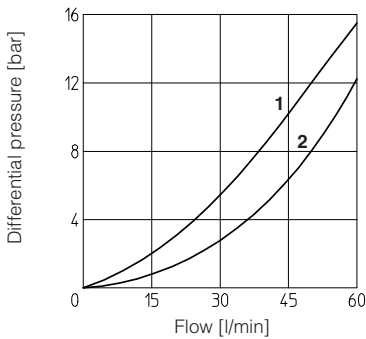
3 MAIN CHARACTERISTICS, SEALS and HYDRAULIC FLUID - for other fluids not included in below table, consult our technical office

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		
Ambient temperature	Standard execution = -30°C ÷ +70°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		
Fluid contamination class	ISO 4406 class 21/19/16 NAS 1638 class 10, in line filters of 25 µm (β10 ≥75 recommended)		
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 HR-0 based on mineral oil ISO VG 46 at 50°C

Flow through check valve:

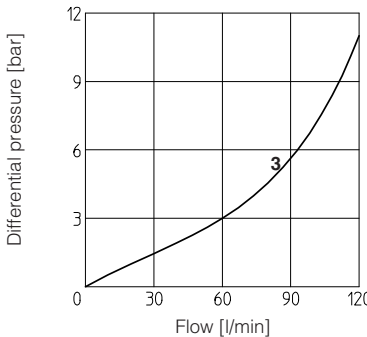
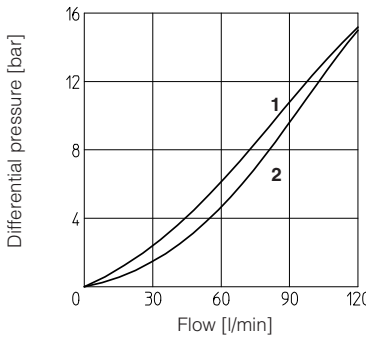
- 1** = A→A₁; B→B₁ of
HR-012, HR-013, HR-014
- 2** = A₁→A; B₁→B of
HR-012, HR-013, HR-014
- 3** = HR-011, HR-016



5 DIAGRAMS OF KR-0 based on mineral oil ISO VG 46 at 50°C

Flow through check valve:

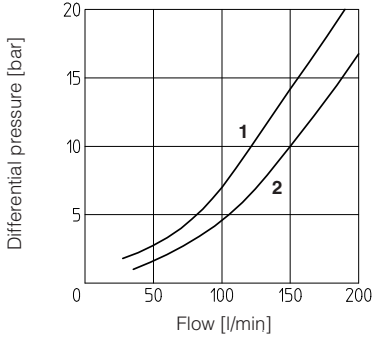
- 1** = A→A₁; B→B₁ of
KR-012, KR-013, KR-014
- 2** = A₁→A; B₁→B of
KR-012, KR-013, KR-014
- 3** = KR-011, KR-016



6 DIAGRAMS OF JPR-2 based on mineral oil ISO VG 46 at 50°C

Flow through check valve:

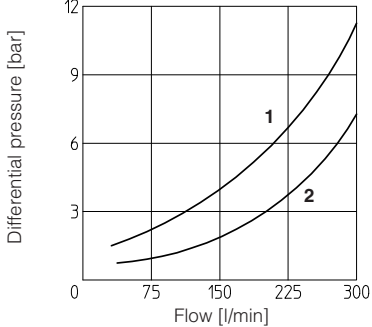
- 1** = A→A₁; B→B₁ of
JPR-212, JPR-213, JPR-214
- 2** = A₁→A; B₁→B of
JPR-212, JPR-213, JPR-214



7 DIAGRAMS OF JPR-3 based on mineral oil ISO VG 46 at 50°C

Flow through check valve:

- 1** = A→A₁; B→B₁ of
JPR-312, JPR-313, JPR-314
- 2** = A₁→A; B₁→B of
JPR-312, JPR-313, JPR-314



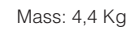
8 INSTALLATION DIMENSIONS OF HR-0 VALVES [mm]

HR-002 HR-003 HR-004 HR-012 HR-013 HR-014	LATERAL VIEW Mass: 1 Kg
HR-011 HR-016	LATERAL VIEW Mass: 0,7 Kg
ISO 4401: 2005 Mounting surface: 4401-03-02-0-05 Diameter of ports A, B, P, T: Ø = 7,5 mm (max) Seals: 4 OR 108	View from X Fastening bolts: n° 4 socket head screws M5. The lenght depends on number and type of modular elements associated.

9 INSTALLATION DIMENSIONS OF KR-0 VALVES [mm]

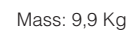
KR-012 KR-002 KR-003 KR-004 KR-013 KR-014	LATERAL VIEW Massa: 2,3 Kg
KR-016	LATERAL VIEW Mass: 2,5 Kg
KR-011	LATERAL VIEW Mass: 1,7 Kg
ISO 4401: 2005 Mounting surface: 4401-05-04-0-05 Diameter of ports, A, B, P, T: Ø = 11,2 mm (max) Seals: 5 OR 2050	View from X Fastening bolts: n° 4 socket head screws M6. The lenght depends on number and type of modular elements associated.

JPR-212
JPR-213
JPR-214



View from X

JPR-312
JPR-313
JPR-314



View from X

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