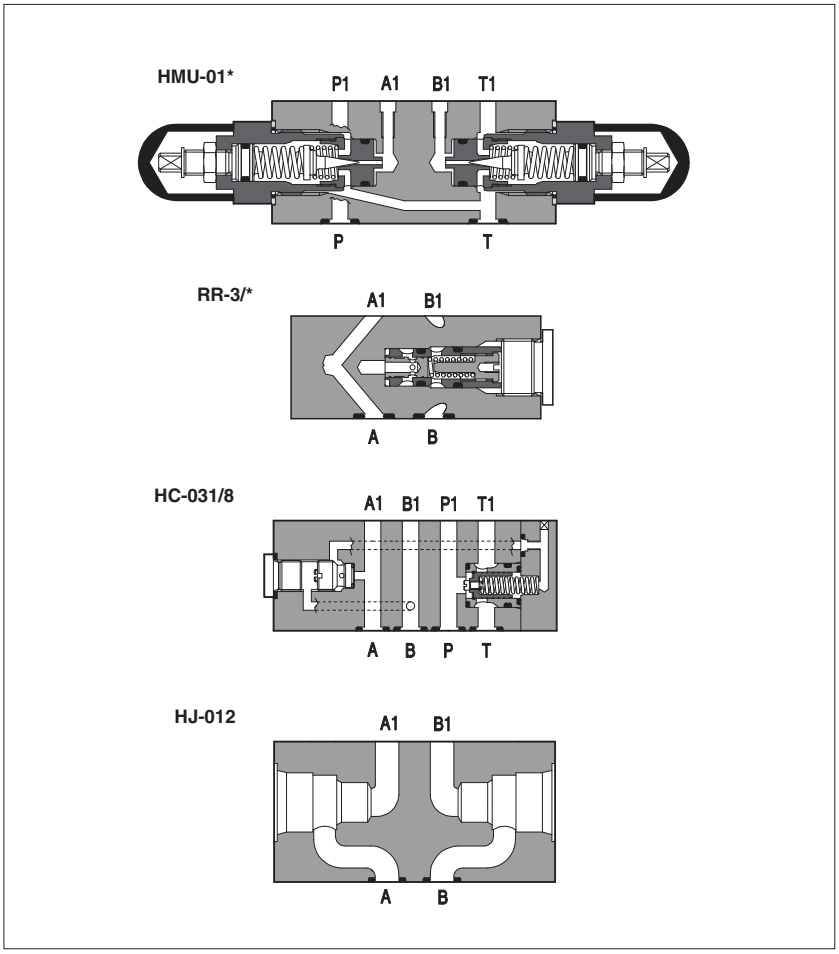
Modular valves HMU, RR-3/*, HC-031 and plates type HJ-012

pressure relief, pressure reducing, pressure compensator, modular plate for cartridge valves



HMU-01 are pressure relief valves in modular execution with ISO4401 size 06 mounting surface, specific for fine pressure control at low flow.
They are mainly used for piloting lines and as pilot stage for AGAM and ARAM pressure relief valves.

RR-3/* are 2 way pressure reducing valves in modular execution with ISO4401size 06 mounting surface, specific for piloting lines.
The reduced pressure has a fixed setting correspondent to the load value of the regulation spring.
The standard setting is 30 bar, available optional settings 7, 14, 24 bar
They are mainly used on DPZO proportional valves to ensure a stable reduced pressure to the pilot valve.

HC-031/8 is a 3 way pressure compensator in modular execution with ISO4401, size 06 mounting surface.
When assembled with directional proportional valves, it provides a constant pressure drop = 8 bar (fixed setting) across the lines P-A or P-B
In this way the flow controlled by the proportional valve is independent to the load variations at the user ports.
They are mainly used in sky lift for the basket levelling control.

HJ-012 is a modular plate with ISO4401size 06 mounting surface, predisposed for the installation on A and B lines of cartridge valves type JO-DL-4-2 (see KT, tab. E115)
In modular combination with directional valves they are used to intercept the A and B user lines and thus prevent the undesired movement of the actuator.

1 MODEL CODE of HMU pressure relief valve

HMU	-	011	/	210	/V	**	/*

HMU: Modular pressure relief valve

011: Configuration, see section 2
011 = single; acting on port P, dicharge to port T
012 = double, acting on ports A and B, discharge to port T
013 = single, acting on port A, discharge to port T
014 = single, acting on port B, discharge to port T

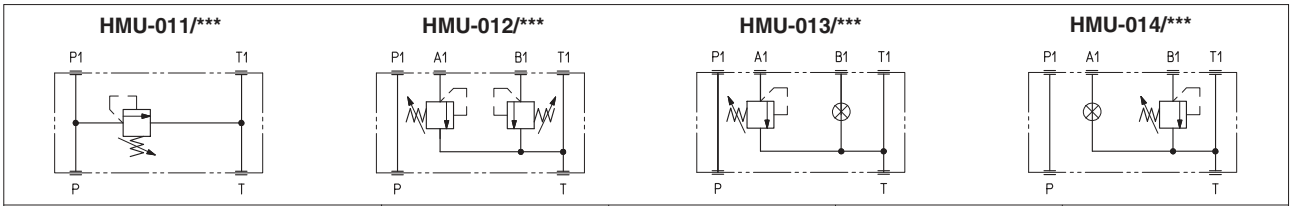
210: Pressure range
50 = 2÷ 50 bar
100 = 3÷100 bar
210 = 10÷210 bar
350 = 15÷350 bar

/V: Options:
/V = setting adjustment by handwheel instead of a grub screw protected by cap

******: Series number

/*: Seals material
- = NBR
PE = FKM

2 HYDRAULIC CHARACTERISTICS of HMU pressure relief valve



Setting	[bar]	/50	/100	/210	/350
Pressure range	[bar]	2÷50	3÷100	7÷210	8÷350
Max flow	[l/min]	2,5			

3 MODEL CODE of RR pressure reducing valve

RR - 3	/	*	**	/*

Modular
pressure reducing valve

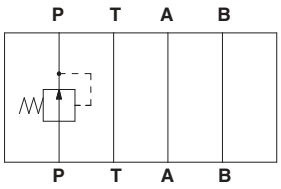
Pressure setting:

- = omit for 30 bar
- **7** = 7 bar
- **14** = 14 bar
- **24** = 24 bar

Series number

Seals material
- **-** = NBR
- **PE** = FKM

4 HYDRAULIC CHARACTERISTICS of RR pressure reducing valve



Valve model		RR-3	RR-3/7	RR-3/14	RR-3/24
Reduced pressure	[bar]	30	7	14	24
Max pressure	[bar]	350			
Max flow	[l/min]	4			

5 MODEL CODE of HC modular pressure compensator

HC	-	0	/	31	/	8	**	/*

Modular pressure
compensator

0 = Size 06

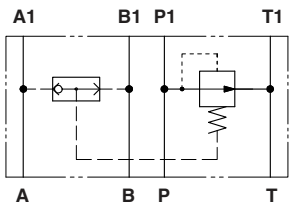
3 way execution with constant Δp between P and user ports

Fixed Δp = 8 bar

Series number

Seals material
- **-** = NBR
- **PE** = FKM

6 HYDRAULIC CHARACTERISTICS of HC pressure compensator



Regulating Δp	[bar]	8 (fixed)
Max pressure	[bar]	350
Max flow	[l/min]	34

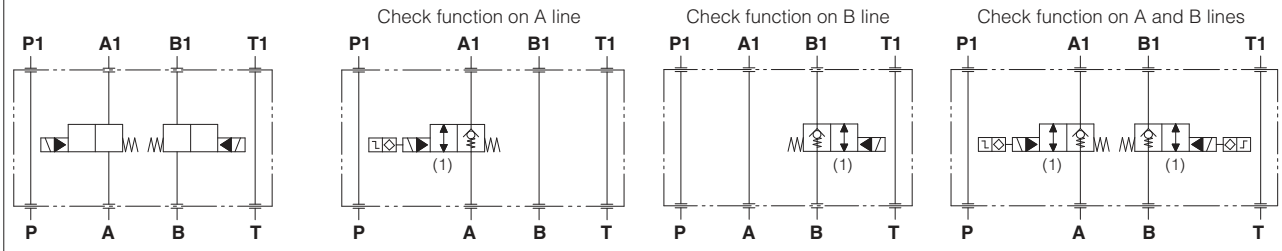
7 MODEL CODE of HJ modular plate

HJ	-	012	**	/*
Modular plate		Predisposed for JO-DL-4 assembling on A and B users lines	Series number	Seals material - = NBR PE = FKM

Y-207504 = model code of threaded plug

8 HYDRAULIC CHARACTERISTICS of HJ modular plate

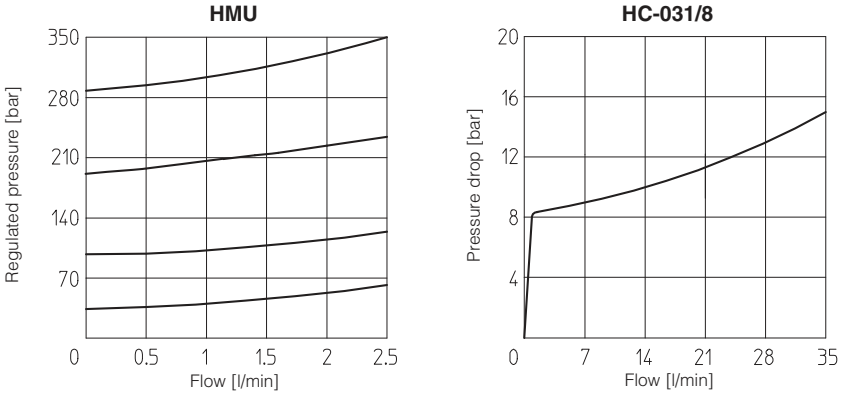
EXAMPLES OF HYDRAULIC CONFIGURATIONS



Max pressure	[bar]	250
Max flow	[l/min]	40

(1) Poppet type, screw-in cartridge valves type JO-DL-4-2* to be ordered separately, see KT table E115

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



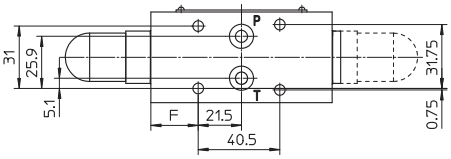
10 MAIN CHARACTERISTICS

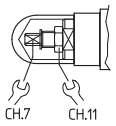
Assembly position / location	Any position
Subplate surface finishing	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)
Ambient temperature	-20°C to +70°
Fluid	Hydraulic oil as per DIN 51524 ... 535; for other fluids see section 1
Recommended viscosity	15 ÷100 mm^2/s at 40°C (ISO VG 15 ÷ 100)
Fluid contamination class	ISO 4401 class 21/19/16 NAS 1638 class 10 (filters at 25 μm value with $\beta_{25} \geq 75$ recommended)
Fluid temperature	-20°C +60°C (standard seals) -20°C +80°C (/PE seals)

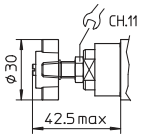
11 DIMENSIONS of HMU pressure relief valve

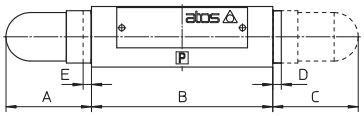
ISO 4401: 2005
Mounting surface: 4401-03-02-0-05 (see section 15)
Ports P,T: Ø = 7.5 mm (max)
Seals: 2 OR 108

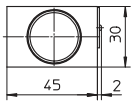
Option **/V**



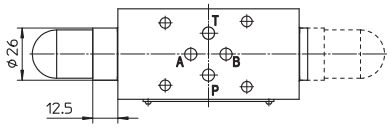








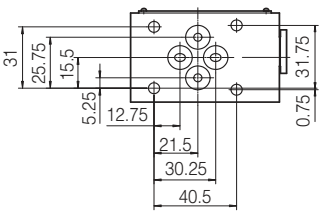
For version HMU-014/*** the regulating element is at side of port B (instead of A)

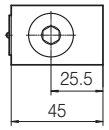


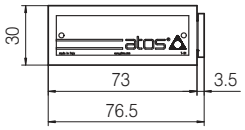
VALVE	A	B	C	D	E
HMU-011	42,5	71	-	-	-
HMU-012	42,5	90	42,5	-	-
HMU-013	42,5	90	-	4,5	-
HMU-014	-	90	42,5	-	4,5

12 DIMENSIONS of RR-3 pressure reducing valve

ISO 4401: 2005
Mounting surface: 4401-03-02-0-05 (see section 15)
Ports A, B, P, T: Ø = 7.5 mm (max)
Seals: 4 OR 108

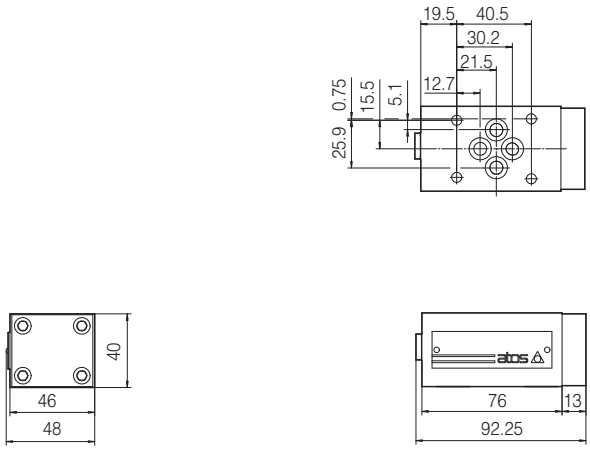






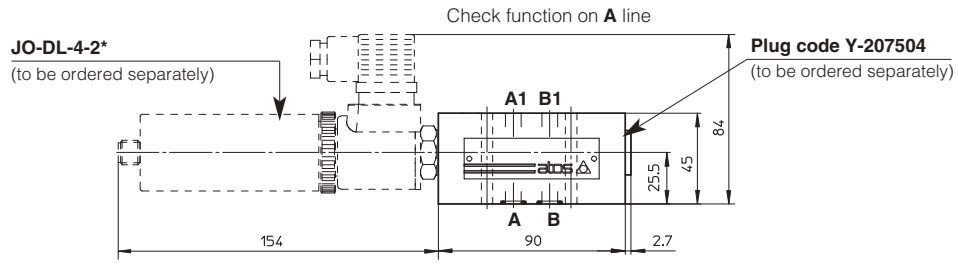
13 DIMENSIONS of HC-031/8 pressure compensator

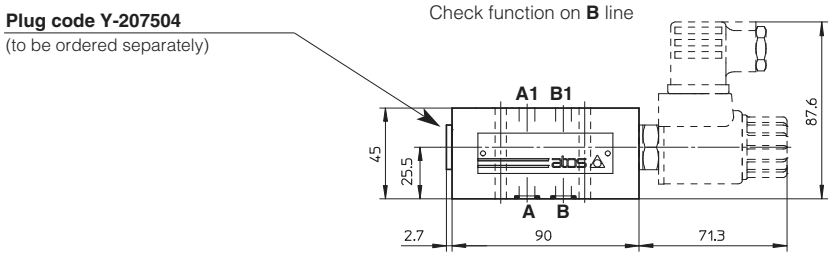
ISO 4401: 2005
Mounting surface: 4401-03-02-0-05 (see section 15)
Ports A, B, P, T: Ø = 7.5 mm (max)
Seals: 4 OR 108

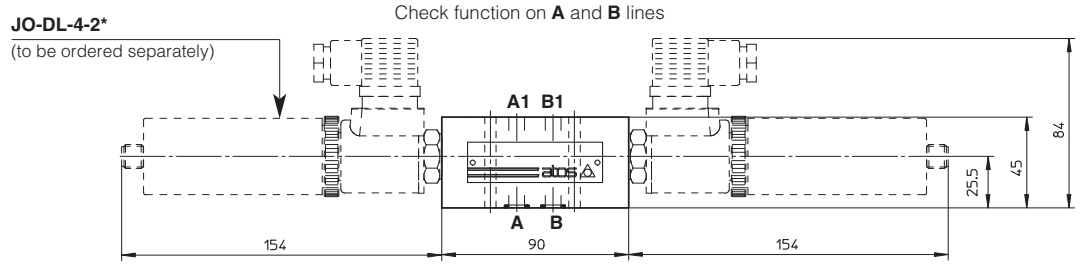


14 DIMENSIONS of HJ modular plate

ISO 4401: 2005
Mounting surface: 4401-03-02-0-05 (see section 15)
Ports A, B: Ø = 7.5 mm (max)
Seals: 4 OR 108

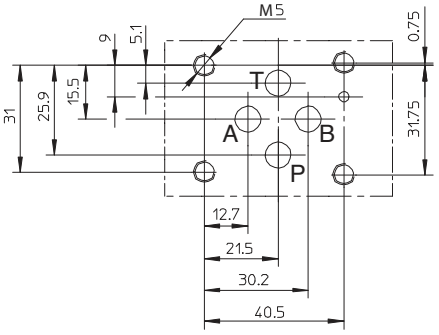






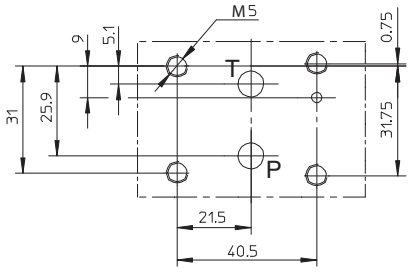
15 MOUNTING SURFACE dimensions [mm]

ISO 4401: 2005
Mounting surface: 4401-03-02-0-05
Fastening bolts:
4 socket head screws M5 class 12.9
Tightening torque = 8 Nm
Seals: OR 108
Ports P,A,B,T: Ø = 7.5 mm (max).



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

ISO 4401: 2005
Mounting surface: 4401-03-02-0-05
without ports A and B
Fastening bolts:
4 socket head screws M5 class 12.9
Tightening torque = 8 Nm
Seals: OR 108
Ports P,T: Ø = 7.5 mm (max).



P = PRESSURE PORT
T = TANK PORT