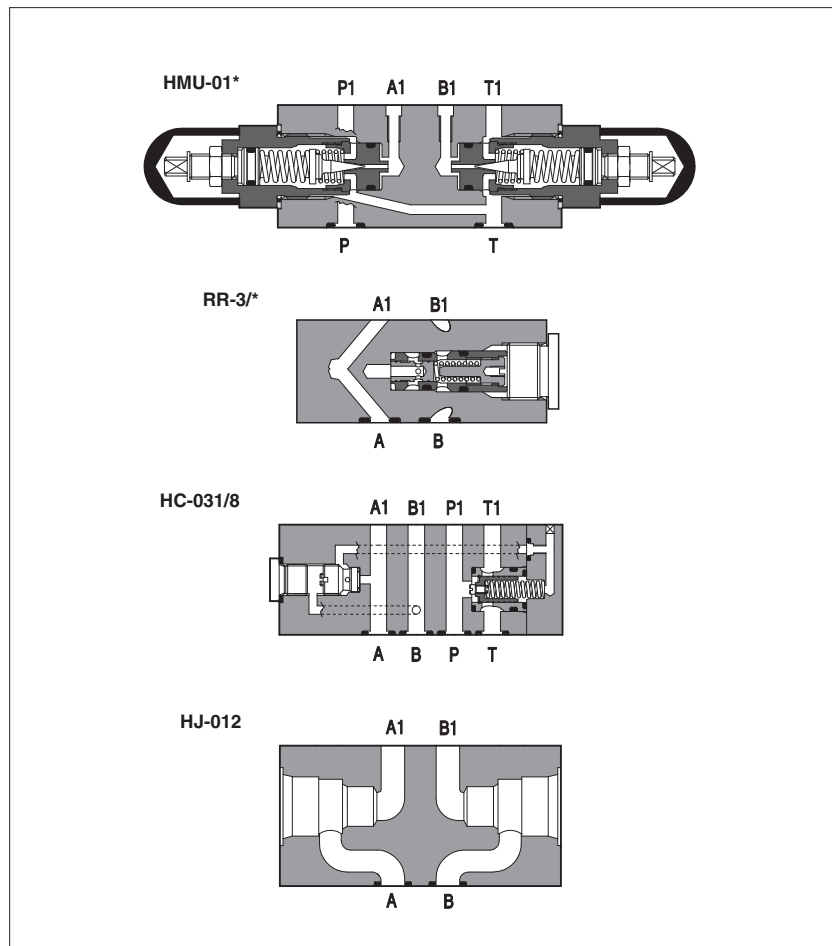


Modular valves HMU, RR-3/*, HC-031 and plates type HJ-012

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

Available only on request



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.

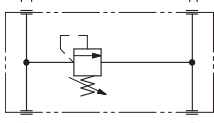
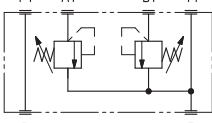
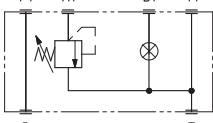
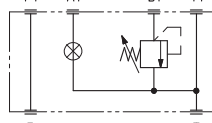
HJ-012 is a modular plate with ISO4401size 06 mounting surface, predisposed for the installation on A and B lines of cartridge valves type JO-DL-4-2 (see KT, tab. E115)

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	**	/*
Modular pressure relief valve							Seals material - = NBR PE = FKM
Configuration, see section 2					Options: /V = setting adjustment by handwheel instead of a grub screw protected by cap	Series number	
011 = single; acting on port P, discharge to port T				Pressure range 50 = 2÷ 50 bar	100 = 3÷100 bar		
012 = double, acting on ports A and B, discharge to port T				210 = 10÷210 bar	350 = 15÷350 bar		
013 = single, acting on port A, discharge to port T							
014 = single, acting on port B, discharge to port T							

2 HYDRAULIC CHARACTERISTICS of HMU pressure relief valve

HMU-011/**		HMU-012/**		HMU-013/**		HMU-014/**	
							
Setting	[bar]	/50		/100		/210	
Pressure range	[bar]	2÷50		3÷100		7÷210	
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 **14** = 14 bar
7 = 7 bar **24** = 24 bar

/	*
---	---

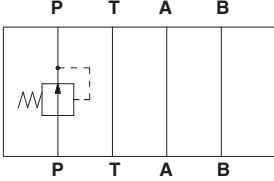
**

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
Reduced pressure [bar]		30	7	14
Max pressure [bar]		350		
Max flow [l/min]		4		

5 MODEL CODE of HC modular pressure compensator

HC

Modular pressure
compensator

0 = Size 06

3 way execution with constant Δp between P and user ports

- **0** / **31** / **8**

**

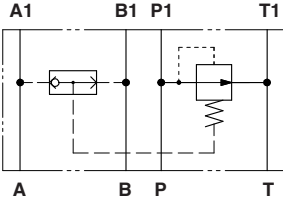
Series number

/*

Seals material
 - = NBR
PE = FKM

Fixed Δp = 8 bar

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				Seals material - = NBR PE = FKM
Predisposed for JO-DL-4 assembling on A and B users lines			Series number	

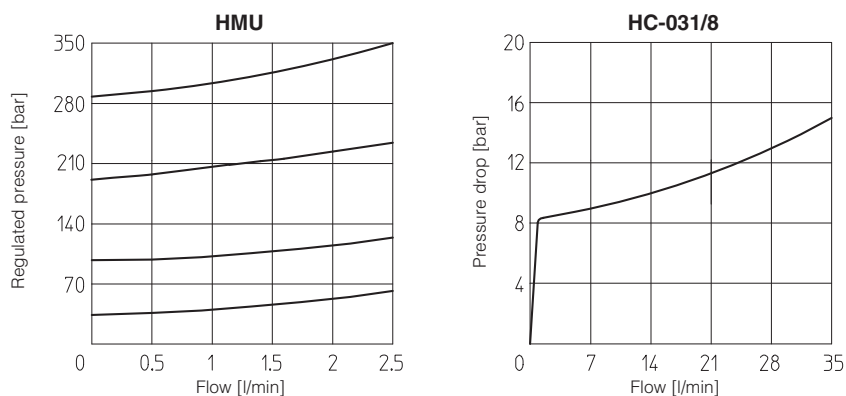
Y-207504 = model code of threaded plug

8 HYDRAULIC CHARACTERISTICS of HJ modular plate

EXAMPLES OF HYDRAULIC CONFIGURATIONS				
	Check function on A line		Check function on B line	
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 mm²/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 β ₂₅ 75 recommended)
Fluid temperature	-20°C +60°C (standard seals) -20°C +80°C (/PE seals)

11 DIMENSIONS of HMU pressure relief valve

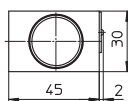
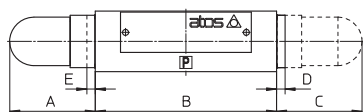
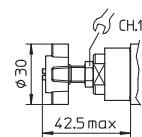
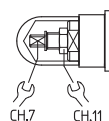
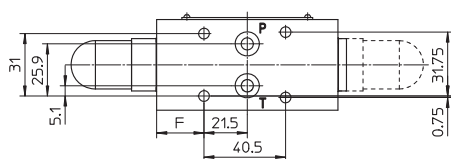
ISO 4401: 2005

Mounting surface: 4401-03-02-0-05 (see section 15)

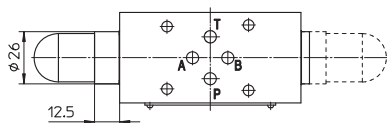
Ports P,T: $\varnothing = 7.5$ mm (max)

Seals: 2 OR 108

Option **IV**



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

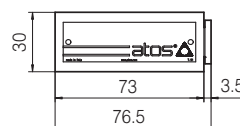
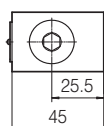
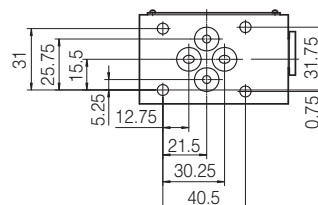
12 DIMENSIONS of RR-3 pressure reducing valve

ISO 4401: 2005

Mounting surface: 4401-03-02-0-05 (see section 15)

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

Seals: 4 OR 108



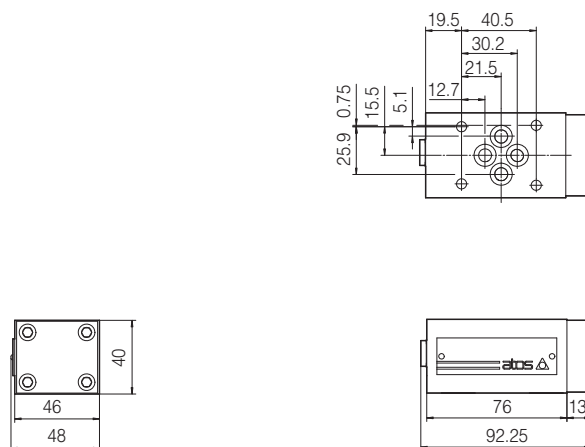
13 DIMENSIONS of HC-031/8 pressure compensator

ISO 4401: 2005

Mounting surface: 4401-03-02-0-05 (see section 15)

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

Seals: 4 OR 108



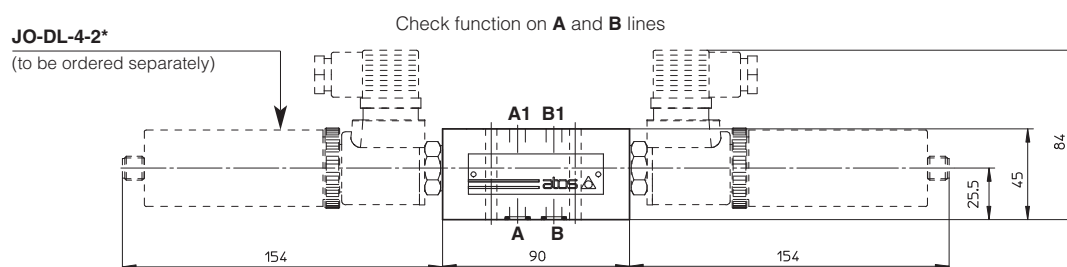
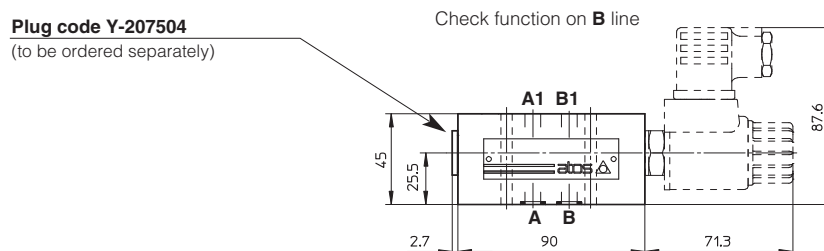
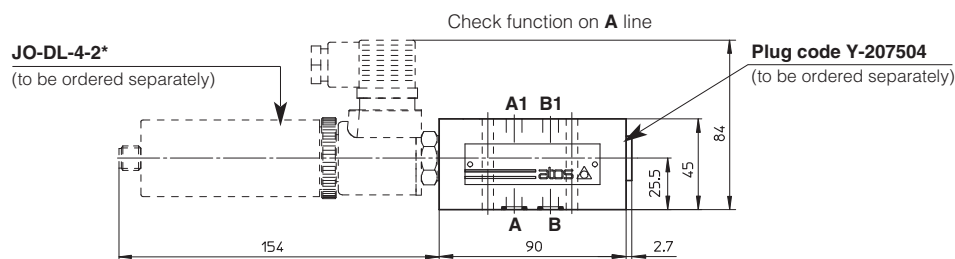
14 DIMENSIONS of HJ modular plate

ISO 4401: 2005

Mounting surface: 4401-03-02-0-05 (see section 15)

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

Seals: 4 OR 108



15 MOUNTING SURFACE dimensions [mm]

ISO 4401: 2005

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

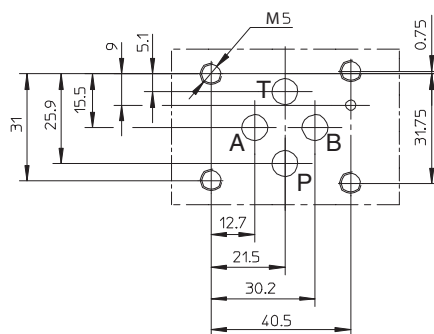
Fastening bolts:

4 socket head screws M5 class 12.9

Tightening torque = 8 Nm

Seals: OR 108

Ports P,A,B,T: $\varnothing = 7.5$ 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

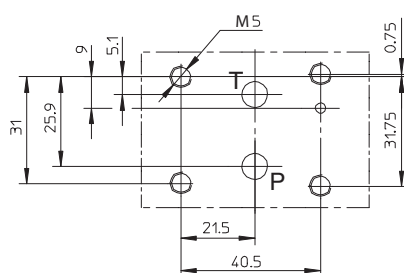
Fastening bolts:

4 socket head screws M5 class 12.9

Tightening torque = 8 Nm

Seals: OR 108

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



P = PRESSURE PORT

T = TANK PORT