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ADPH.5... PILOTED VALVES CETOP 5/NG10 WITH CETOP 2/NG4 PILOT VALVE



These ADPH 5 valves are used primarily for controlling the starting, stopping and direction of fluid flow. These kind of distributors are composed by a main stage crossed by the big flow from the pump (ADPH.5) and by a cetop 2 pilot directional solenoid valve (AD.2.E) available with different mounting type.

When a short response time is requested, a special version of solenoids with high dynamics is available with the code AD.2.E.**.*.*FF.2 (Please, contact our Technical Aron Service).

HYDRAULIC SYMBOL

ORDERING CODE

ADPH

Piloted valve

The pilot valves AD.2.E... must be ordered separately

5

CETOP 5/NG10

Spool type (Table next page)

Mounting (Table next page) Standard orifice at port P: Ø 1mm

* Orifice type on

Cetop 2 valves (Table 1)

0 = none

A/B/C/D/E/F/G = orifice

on line A

H/I/L/M/N/P/Q = orifice

on line B

Piloting and draining type (Tab.2)

I = internal piloting internal draining

E = internal piloting external draining

X = external piloting internal draining (special body)

No variant

1

00

Serial No.

TAB.1 - ORIFICE ON LINE A/E				
line A	On line B	ø(mm)		
1	0	None		

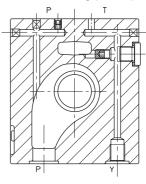
On line A	On line B	ø(mm)
0	0	None
Α	Н	0,5
В	I	0,6
С	L	0,7
D	М	0,8
E	N	0,9
F	P	1
G	Q	1,2

TAB.2 - PLUGS DISPOSAL

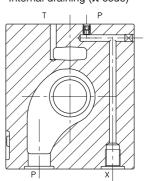
Internal piloting

Internal draining (I code)

Internal piloting External draining (E code)



External piloting Internal draining (X code)



HYDRAULIC SYMBOLS, SPOOLS AND MOUNTING

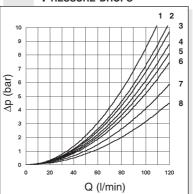
HYDRAULIC SYMBOLS, SPOOLS AND MOUNTING				
	"A" MOUNTING			
Pilot Piloted				
Scheme				
Spool type	AB	Covering	Transient position	
01	X_{1}^{+}	+		
02		-		
03	X	-		
04*		-		
06	XH	+		
15	X	-		
16		+	X 1 1 1	

	"C" MOUNTING		
Pilot Piloted			
Scheme			
Spool type	A, B a o b	Covering	Transient position
01	XIIII	+	XXXIII
02		-	
03		-	
04*		-	
06	XHIII	+	XIIIII

(* Spools with price increasing)

	"B" MOUNTING		
Pilot Piloted			
Scheme			
Spool type	AB O D	Covering	Transient position
01		+	
02		-	
03		-	
04*		-	
06		+	
15	XIII	-	XHD
16	XIII	+	X 1.1

PRESSURE DROPS



The diagram at the side shows the pressure drop curves for spools during normal usage. The used fluid is a mineral oil with a viscosity of $46\,\text{mm}^2\text{/s}$ at $40\,^\circ\text{C}$; the tests have been carried out at a fluid temperature of $40\,^\circ\text{C}$. For flow rates higher than those in the diagram, the losses will be those expressed by the following formula:

$$\Delta p1 = \Delta p \times (Q1/Q)^2$$

where Δp will be the value for the losses for a specific flow rate Q which can be obtained from the diagram, $\Delta p1$ will be the value of the losses for the flow rate Q1 that is used.

Spool type	Connections				
type	P→A	P→B	A→T	B→T	P→T
01	4	4	7	7	
02	6	6	8	8	7
03	3	3	8	8	
04	4	4	2	2	3
06	4	4	7	8	
15	2	2	5	5 2	
16	1	1	2	2	
	Curve No.				

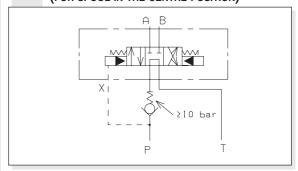


PILOT SOLENOID CONTROL VALVE SPECIFICATIONS

Max. operating pressure: ports P/A/B	250 bar
Max. operating pressure: port T (dynamic)	70 bar
Max. piloting pressure	250 bar
Min. piloting pressure	10 bar
Max. flow	120 l/min
Switching times (*see note below)	Energizing: 20 ms
	De-energizing: 50 ms
Piloting oil volume for engagement	1 cm ³
Hydraulic fluid	mineral oil DIN 51524
Fluid viscosity	$10 \div 500 \text{ mm}^2/\text{s}$
Fluid temperature	-20°C ÷ 75°C
Max. contamination level	class 10 in accordance
	with NAS 1638 with filter B ₂₅ ≥75
Mounting	plate
Weight ADPH5 without pilot valve	3,4 Kg
Weight ADPH5 with pilot valve with one so	elenoid 4,3 Kg
Weight ADPH5 with pilot valve with two so	lenoids 4,5 Kg

(*) All the tests have been carried out with AD.2.E pilot valve with variant FF, mounting type C, spool 03, flow 100 l/min,pressure 160 bar, back pressure on the T line of 2 bar and oil temperature 40°C.

EXTERNAL BACK PRESSURE ON LINE P (FOR SPOOL IN THE CENTRE POSITION)



When the main spool connect P to T in the centre position, the minimum pressure of 10 bar is needed to move the main spool (see the "Specifications"); for this reason a check valve on the P line (see the drawing above) is necessary.

OVERALL DIMENSIONS AND MOUNTING SURFACE

