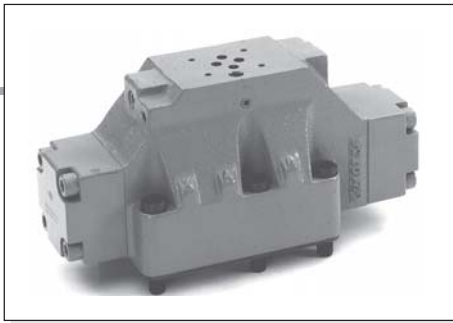


# ADH.8...4/3 AND 4/2 PILOTED VALVES CETOP 8/NG25



1



Type ADH.8 distributors are intended for interrupting, inserting and diverting a hydraulics system flow.

Normally these distributors are composed of a main stage, crossed by circuit main flow, and of a pilot stage available in several versions.

Various types of controls are available, used either individually or in combination for, among other functions, stroke limitation and main spool movement speed control, in order to optimize the hydraulic system operation where this type of valve is employed.

In those cases where normally to drain spools are used, it is necessary to remember that the minimum changeover pressure due to the opposing springs is equal to approximately 5 bar (see the operating features table next pages) and it is consequently necessary to specify when ordering the check valve incorporated in the P line, if required (as shown below).

- Mounting surface in accordance with UNI ISO 4401 - 08 - 07 - 0 - 94 standard (ex CETOP R 35 H 4.2-4-08).
- Pilot operated spool, solenoid controller.
- Stroke control of main spool.
- Presetting for pressure reducing valve mounting.
- Presetting for single-acting throttle valve mounting.

|                               |               |
|-------------------------------|---------------|
| <b>ADH.8...</b>               |               |
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| TECH. SPECIFICATIONS ADH.8... | CH. I PAGE 59 |
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| AD.3.E...                     | CH. I PAGE 11 |
| "D15" DC COILS                | CH. I PAGE 18 |
| "K12" AC SOLENOIDS            | CH. I PAGE 18 |
| STANDARD CONNECTORS           | CH. I PAGE 19 |

### ORDERING CODE

|            |                                                                                                                                                                                                        |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ADH</b> | Piloted valve<br>(Pilot valves and any modulating valves should be ordered separately)                                                                                                                 |
| <b>8</b>   | CETOP 8/NG25                                                                                                                                                                                           |
| <b>*</b>   | Mounting type (see next page)                                                                                                                                                                          |
| <b>**</b>  | Spool type (see next page)                                                                                                                                                                             |
| <b>*</b>   | Piloting and draining<br><b>I</b> = X internal / Y internal<br><b>IE</b> = X internal / Y external<br><b>EI</b> = X external / Y internal<br><b>E</b> = X external / Y external<br>(see Tab.1 at side) |
| <b>R</b>   | Check valve incorporated at port P<br>- setting 5 bar (Tab. 2 below)<br>Only for <b>I, IE</b> versions<br>(Omit if not required)                                                                       |
| <b>**</b>  | <b>00</b> = No variant<br><b>LC</b> = Main spool stroke limiter                                                                                                                                        |
| <b>1</b>   | Serial No.                                                                                                                                                                                             |

**Tab.1 - PLUGS ARRANGEMENT FOR THE PILOT AND DRAIN LINES**

Plugs type used: M6x6 both for pilot and drain

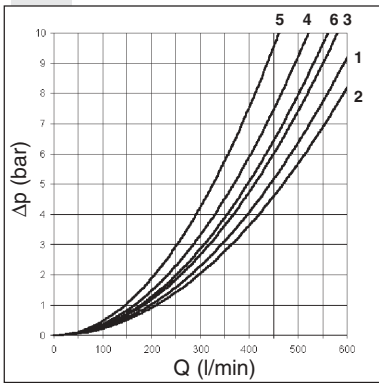
|  |                                                                          |
|--|--------------------------------------------------------------------------|
|  | <p><b>ADH.8...I</b><br/>X internal piloting<br/>Y internal draining</p>  |
|  | <p><b>ADH.8...IE</b><br/>X internal piloting<br/>Y external draining</p> |
|  | <p><b>ADH.8...EI</b><br/>X external piloting<br/>Y internal draining</p> |
|  | <p><b>ADH.8...E</b><br/>X external piloting<br/>Y external draining</p>  |

**Tab.2 - INTERNAL CHECK ON P**

• For the spools 02-04-14-28 the piloting is normally external; the internal piloting is possible with the internal check valve (R).

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**PRESSURE DROPS**



The diagram shows the pressure drops in relation to spools adopted for normal usage (see table). The fluid used was a mineral based oil with a viscosity of 35 mm<sup>2</sup>/s at 50° C.

| Spool type                                                                              | Connections               |                       |                       |                       |                       |                  |
|-----------------------------------------------------------------------------------------|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|
|                                                                                         |                           | P→A                   | P→B                   | A→T                   | B→T                   | P→T              |
| 01                                                                                      | ENERGIZING                | 1                     | 1                     | 2                     | 3                     |                  |
| 02                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 2                     | 2                     | 1                     | 2                     | 6 <sup>(1)</sup> |
| 03                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 1                     | 1                     | 4 <sup>(2)</sup><br>1 | 4 <sup>(3)</sup><br>2 |                  |
| 04                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 6                     | 6                     | 3                     | 4                     | 5                |
| 05                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 4 <sup>(2)</sup><br>2 | 4 <sup>(2)</sup><br>2 | 2                     | 3                     |                  |
| 66                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 1                     | 1                     | 2                     | 4<br>2                |                  |
| 10                                                                                      | ENERGIZING                | 1                     | 1                     | 2                     | 3                     |                  |
| 14                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 6                     | 6                     | 3                     | 4                     | 5 <sup>(2)</sup> |
| 28                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 6                     | 6                     | 4                     | 3                     | 5 <sup>(2)</sup> |
| 23                                                                                      | DE-ENERGIZ.<br>ENERGIZING | 1                     | 4<br>2                | 2                     | 3                     |                  |
| Curve No.                                                                               |                           |                       |                       |                       |                       |                  |
| Notes: <sup>(1)</sup> A/B stopped - <sup>(2)</sup> B stopped - <sup>(3)</sup> A stopped |                           |                       |                       |                       |                       |                  |

**SPOOLS AND MOUNTING TYPE**

(\* Spools with price increasing)

(\*) For the E mounting the locating spring works only with the steady system

|                      | C mounting                   | A mounting                   | B mounting                   | E mounting                   | P mounting                    |
|----------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| <b>Pilot Piloted</b> | AD.3.E.03.C...<br>ADH.8.C... | AD.3.E.03.E...<br>ADH.8.A... | AD.3.E.03.F...<br>ADH.8.B... | AD.3.E.16.E...<br>ADH.8.E... | AD3E16E/AD3E16F<br>ADH.8.P... |
| <b>Scheme</b>        |                              |                              |                              |                              |                               |
| <b>Spool type</b>    |                              |                              |                              |                              |                               |
| 01                   |                              |                              |                              |                              |                               |
| 02                   |                              |                              |                              |                              |                               |
| 03                   |                              |                              |                              |                              |                               |
| 04*                  |                              |                              |                              |                              |                               |
| 05                   |                              |                              |                              |                              |                               |
| 66                   |                              |                              |                              |                              |                               |
| 10*                  |                              |                              |                              |                              |                               |
| 14*                  |                              |                              |                              |                              |                               |
| 28*                  |                              |                              |                              |                              |                               |
| 23*                  |                              |                              |                              |                              |                               |

## PILOT SOLENOID CONTROL VALVE SPECIFICATIONS

FOR DIFFERENT CONTROLS, PLEASE CONTACT OUR TECHNICAL ARON SERVICE

|                                                      |                                                                       |
|------------------------------------------------------|-----------------------------------------------------------------------|
| Max. operating pressure ports P/A/B                  | 320 bar                                                               |
| Max. operating pressure port T (int. drainage)       | 160 bar                                                               |
| Max. operating pressure port T (ext. drainage)       | 250 bar                                                               |
| Max. piloting pressure                               | 210 bar                                                               |
| Min. piloting pressure                               | 5 bar                                                                 |
| Max. flow with 04-14-28 spools                       | 500 l/min a 210 bar                                                   |
|                                                      | 450 l/min a 320 bar                                                   |
| Max. flow with all other spools                      | 600 l/min a 210 bar                                                   |
|                                                      | 500 l/min a 320 bar                                                   |
| Piloting oil volume for engagement 3 position valves | 11.1 cm <sup>3</sup>                                                  |
| Piloting oil volume for engagement 2 position valves | 22.12 cm <sup>3</sup>                                                 |
| Hydraulic fluid                                      | mineral oil DIN 51524                                                 |
| Fluid viscosity                                      | 2.8 ÷ 380 mm <sup>2</sup> /s                                          |
| Fluid temperature                                    | -20°C ÷ 70°C                                                          |
| Ambient temperature                                  | -20°C ÷ 50°C                                                          |
| Max. contamination level                             | class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$ |
| Weight ADH8 without pilot valve                      | 13,1 Kg                                                               |
| Weight ADH8 with pilot valve with 1 AC solenoid      | 14,3 Kg                                                               |
| Weight ADH8 with pilot valve with 1 DC solenoid      | 14,5 Kg                                                               |
| Weight ADH8 with pilot valve with 2 AC solenoids     | 14,6 Kg                                                               |
| Weight ADH8 with pilot valve with 2 DC solenoids     | 15,1 Kg                                                               |

## Switching time

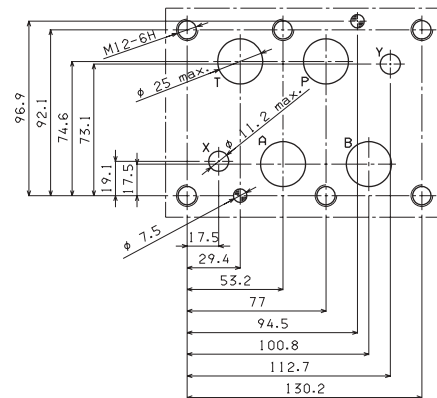
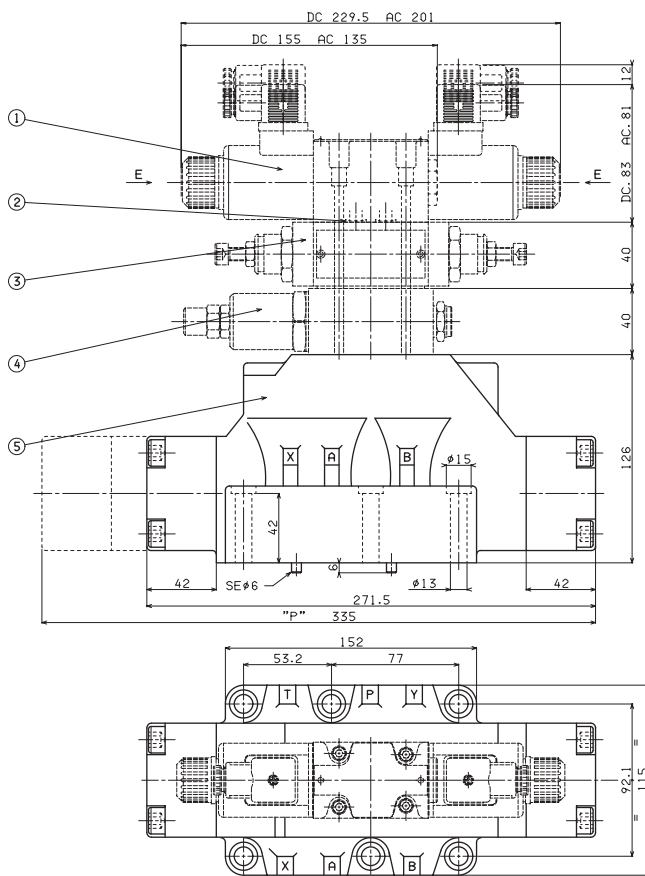
Such values refer to a solenoid valve with P = 100 bar pressure using a mineral oil at 50°C with 36 mm<sup>2</sup>/sec viscosity PA and BT connections.

## SWITCHING TIMES PILOTED VALVE

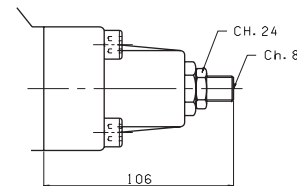
| Solenoids | ENERGIZING ±10% (ms) |          | DE-ENERGIZING ±10% (ms) |          |
|-----------|----------------------|----------|-------------------------|----------|
|           | 2 posit.             | 3 posit. | 2 posit.                | 3 posit. |
| AC        | 60                   | 45       | 90                      | 60       |
| DC        | 75                   | 55       | 90                      | 60       |

## OVERALL DIMENSIONS

## CETOP 8 MOUNTING SURFACE



- Piloted valve fixing: n° 6 screws T.C.E.I. M12x60
- Tightening torque: 69 Nm
- Seals: n° 4 OR 2-123 PARKER (type 3118)  
n° 2 OR 2-117 PARKER (type 3081)



## SPOOL STROKE ADJUSTMENT

- 1 Piloted solenoid valve type AD3E... CETOP 3/NG6
- 2 Calibrated diaphragms AD3E...
- 3 Flow regulation valve type AM3QF..C
- 4 Pressure reduction valve type AM3RD..C
- 5 Main valve type ADH7..E