

Valves type AD3.E...J* with spool movement speed control

These ON-OFF type valves are used a lower spool movement speed than usual for conventional solenoid valves is required to prevent impacts which could adversely affect the smooth running of the system. The system consist of reducing the transfer section for the fluid from one solenoid to the other by means of calibrated orifices.

- This version can only be used with a direct current (DC) and also involves a **reduction in the limits of use so that we suggest to always test the valve in your application**

- To order AD.3...J* version valves, specify the orifices code.
- The operation is linked to a minimum counter-pressure on T line (1 bar min.)
- The switching time referred to the spool travel detected by a LVDT transducer can vary for the NG6 valve from a minimum of 100 to a maximum of 300 ms depending on 5 fundamental variables:
 - 1) Diameter of the calibrated orifices (see table)
 - 2) Hydraulic power for clearance referring to flow and pressure values through valve
 - 3) Spool type
 - 4) Oil viscosity and temperature
 - 5) Counter-pressure at T line
- **Possible mountings: C / E / F / G / H**
- **16 / 19 / 20 / 21** spools not planned for AD.3.E...J*

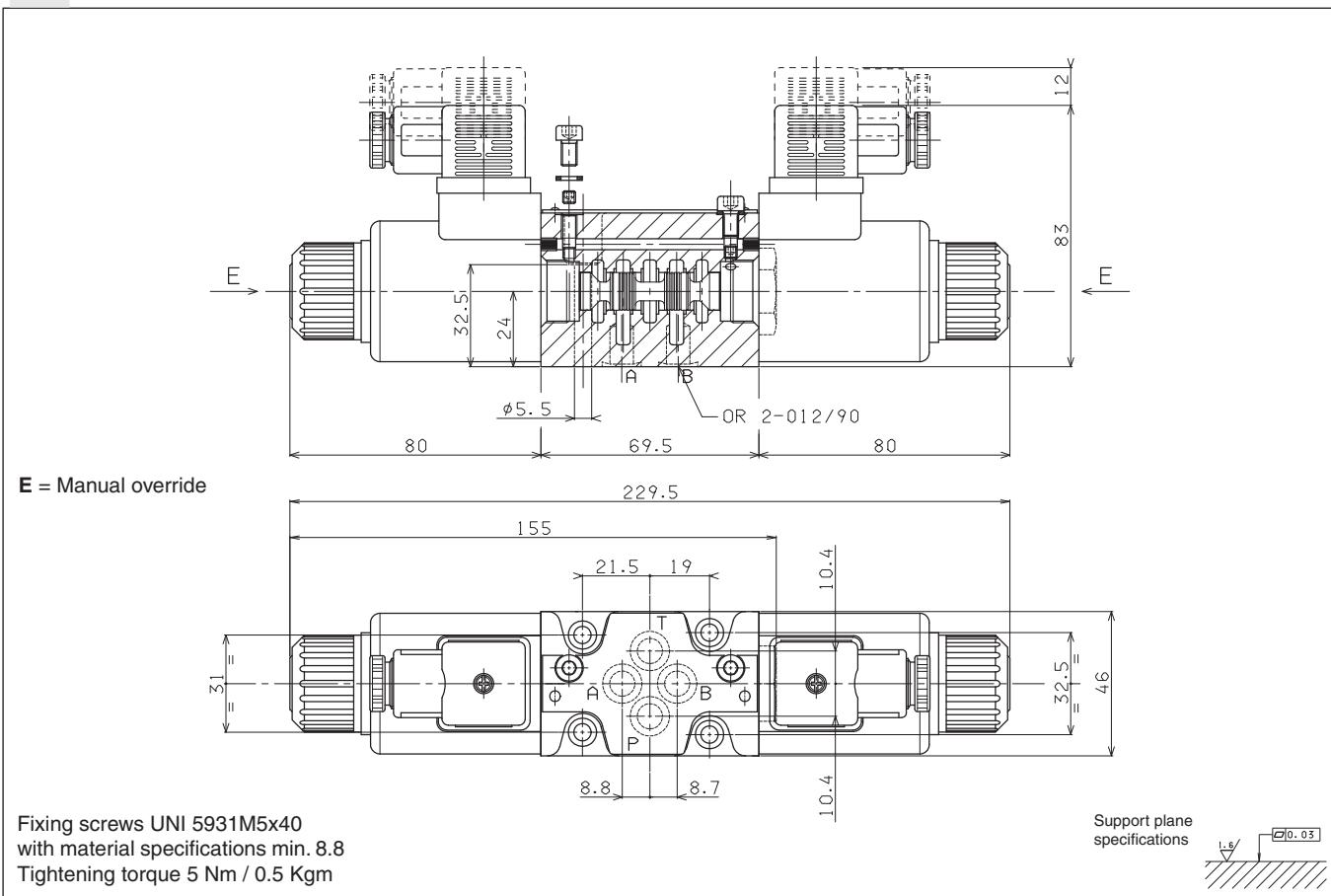
| | |
|--|-----------------------------|
| Max. pressure ports P/A/B | 320 bar |
| Max. pressure port T (*) | 250 bar |
| Max. flow | 30 l/min |
| Max. excitation frequency | 2 Hz |
| Duty cycle | 100% ED |
| Fluid viscosity | 10 ÷ 500 mm ² /s |
| Fluid temperature | -25°C ÷ 75°C |
| Ambient temperature | -25°C ÷ 60°C |
| Weight with one DC solenoid | 1,65 Kg |
| Weight with two solenoids DC solenoids | 2 Kg |

(*) Pressure dynamic allowed for 2 millions of cycles.

| CALIBRATED ORIFICES AVAILABLE | | |
|----------------------------------|-------------|-------------|
| Ø (mm) | M4x4 | Code |
| 0.3 | M89.10.0028 | 3S (J3+S1)* |
| 0.4 | M89.10.0029 | JS (J4+S1)* |
| 0.5 | M89.10.0006 | 5S (J5+S1)* |
| 0.6 | M89.10.0030 | 6S (J6+S1)* |

* Old code

OVERALL DIMENSIONS



ORDERING CODE

| | |
|----|--|
| AD | Directional valve |
| 3 | CETOP 3/NG6 |
| E | Type of operator For other operator see next pages |
| ** | Spool see page I•10 |
| * | Mounting type (table 1) |
| * | Voltage (table 2) |
| ** | Variants (table 3) |
| * | Serial No. |
| | 3 = DC voltage ("D15" coil) 3 = AC voltage ("B14" solenoid) |

TAB.2 - VOLTAGE

| AC SOLENOID B14 | |
|---|-----------------------|
| A | 24V/50-60 Hz |
| B | 48V/50-60 Hz |
| J | 115V/50Hz - 120V/60Hz |
| Y | 230V/50Hz - 240V/60Hz |
| K | AC without coils |
| Other voltages available on request. | |
| DC COIL D15 (30W) | |
| L | 12V |
| M | 24V |
| V | 28V* |
| N | 48V* |
| Z | 102V* |
| P | 110V* |
| X | 205V* |
| W | DC without coils |
| 115Vac/50Hz 120Vac/60Hz with rectifier | |
| 230Vac/50Hz 240Vac/60Hz with rectifier | |
| Voltage codes are not stamped on the plate, their are readable on the coils. | |
| (*) Special voltage | |

- AMP Junior coils (with or without diode) and coils with flying leads and coils type Deutsch, are available in 12V or 24V DC voltage only.
- The plastic type coil (RS variant) is available in 12V, 24V, 28V or 110V DC voltage only.

TAB.1 - MOUNTING

| STANDARD | |
|----------------------------------|--|
| C | |
| D | |
| E | |
| F | |
| SPECIALS (WITH PRICE INCREASING) | |
| G | |
| H | |
| I | |
| L | |
| M | |

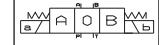
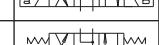
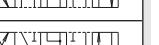
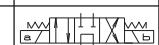
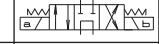
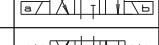
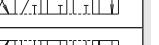
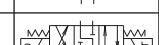
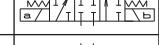
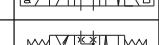
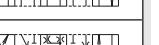
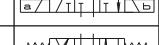
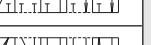
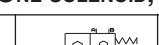
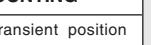
• **Mounting type D** is only for valves with detent

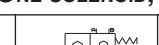
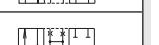
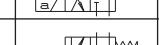
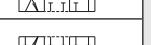
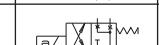
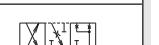
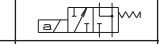
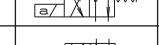
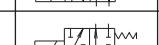
• In case of **mounting D** with detent a maximum supply time of 2 sec is needed (only for AC coils).

TAB.3 - VARIANTS (*)

| VARIANT | CODE | ◆ | PAGE |
|---|------|---|------------|
| No variant (without connectors) | S1 | | |
| Viton | SV | | |
| Emergency control lever for directional control valves type ADC3 and AD3E | LF | | I•20 |
| Emergency button | ES | | I•18 |
| Rotary emergency button | P2 | | I•18 |
| Rotary emergency button (180°) | R5 | | I•18 |
| Preset for microswitch (E/F/G/H mounting only) (see below note ♦) | MS | ◆ | I•11- I•14 |
| Cable gland "PG 11" | C1 | | I•19 |
| Emergency button+ Viton | VU | | |
| 5 micron clearance | SQ | ◆ | |
| Spool movement speed control (only VDC) with ø 0.3 mm orifice | 3S | ◆ | I•12 |
| Spool movement speed control (only VDC) with ø 0.4 mm orifice | JS | ◆ | I•12 |
| Spool movement speed control (only VDC) with ø 0.5 mm orifice | 5S | ◆ | I•12 |
| Spool movement speed control (only VDC) with ø 0.6 mm orifice | 6S | ◆ | I•12 |
| AMP Junior coil - for 12V or 24V DC voltage only | AJ | | I•18 |
| AMP Junior coil and integrated diode - for 12V or 24V DC voltage only | AD | | I•18 |
| Coil with flying leads (175 mm) - for 12V or 24V DC voltage only | SL | | I•18 |
| D15 plastic type coil - for 12V, 24V, 28V or 110V DC voltage only | RS | | I•18 |
| Deutsch DT04-2P coil - for 12V or 24V DC voltage only | CZ | | I•18 |
| Other variants relate to a special design | | | |
| ♦ = Maximum counter-pressure on T port: 8 bar | | | |
| ◆ = Variant codes stamped on the plate | | | |

(*) All variants are considered without connectors. The connectors must be order separately.
See Ch. I Page 19

| TWO SOLENOIDS, SPRING CENTRED "C" MOUNTING | | | |
|--|---|----------|---|
| Spool type |  | Covering | Transient position |
| 01 |  | + |  |
| 02 |  | - |  |
| 03 |  | + |  |
| 04* |  | - |  |
| 44* |  | - |  |
| 05 |  | + |  |
| 66 |  | + |  |
| 06 |  | + |  |
| 07* |  | + |  |
| 08* |  | + |  |
| 09* |  | + |  |
| 10* |  | + |  |
| 22* |  | + |  |
| 11* |  | + |  |
| 12* |  | + |  |
| 13* |  | + |  |
| 14* |  | - |  |
| 28* |  | - |  |

| ONE SOLENOID, SIDE A "E" MOUNTING | | | |
|-----------------------------------|---|----------|---|
| Spool type |  | Covering | Transient position |
| 01 |  | + |  |
| 02 |  | - |  |
| 03 |  | + |  |
| 04* |  | - |  |
| 44* |  | - |  |
| 05 |  | + |  |
| 66 |  | + |  |
| 06 |  | + |  |
| 08* |  | + |  |
| 10* |  | + |  |
| 12* |  | + |  |
| 15 |  | - |  |
| 16 |  | + |  |
| 17 |  | + |  |
| 14* |  | - |  |
| 28* | | - | |

DIRECTIONAL CONTROL VALVES STANDARD SPOOLS CETOP 3/NG6



NOTE

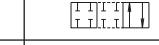
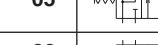
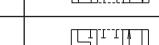
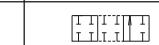
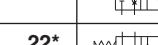
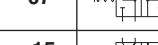
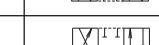
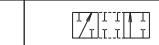
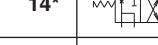
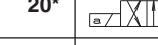
(*) Spool with price increasing

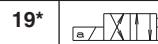
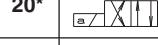
• With spools 15 / 16 / 17 only mounting E / F are possible

• 16 / 19 / 20 / 21 spool not planned for AD.3.E...J*

• For lever operated the spools used are different.

Available spools for this kind of valve are: 01 / 02 / 03 / 04 / 05 / 06 / 66 / 07
22 / 13 / 15 / 16 / 17

| ONE SOLENOID, SIDE B "F" MOUNTING | | | |
|-----------------------------------|--|----------|---|
| Spool type |  | Covering | Transient position |
| 01 |  | + |  |
| 02 |  | - |  |
| 03 |  | + |  |
| 04* |  | - |  |
| 44* |  | - |  |
| 05 |  | + |  |
| 66 |  | + |  |
| 06 |  | + |  |
| 08* |  | + |  |
| 09* |  | + |  |
| 10* |  | + |  |
| 22* |  | + |  |
| 12* |  | + |  |
| 13* |  | + |  |
| 07* |  | + |  |
| 15 |  | - |  |
| 16 |  | + |  |
| 17 |  | + |  |
| 14* |  | - |  |
| 28* |  | - |  |

| TWO SOLENOIDS "D" MOUNTING | | | |
|----------------------------|--|----------|---|
| Spool type |  | Covering | Transient position |
| 19* |  | - |  |
| 20* |  | + |  |
| 21* |  | + |  |