

1

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*

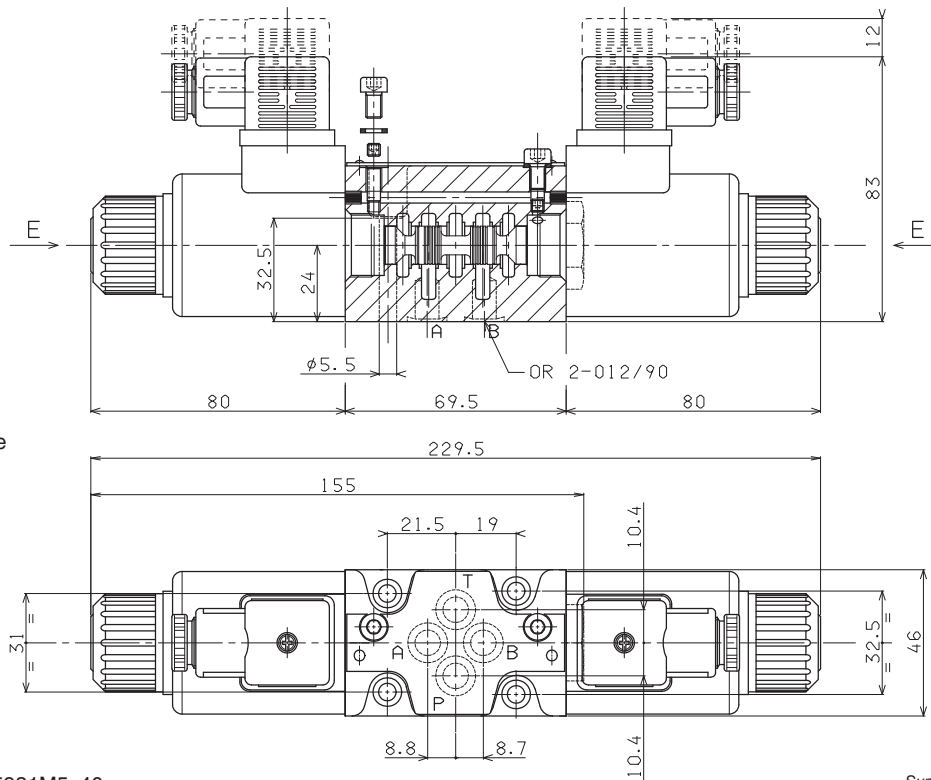
Max. pressure ports P/A/B	320 bar
Max. pressure port T (*)	250 bar
Max. flow	30 l/min
Max. excitation frequency	2 Hz
Duty cycle	100% ED
Fluid viscosity	10 ÷ 500 mm ² /s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Weight with one DC solenoid	1,65 Kg
Weight with two solenoids DC solenoids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

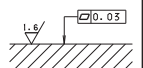
* Old code

OVERALL DIMENSIONS



Fixing screws UNI 5931M5x40
with material specifications min. 8.8
Tightening torque 5 Nm / 0.5 Kgm

Support plane
specifications



ORDERING CODE

AD

Directional valve

3

CETOP 3/NG6

E

Type of operator

For other operator see next pages

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Spool see page I•10

*

Mounting type (table 1)

*

Voltage (table 2)

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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 rectifier230Vac/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 pastic 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




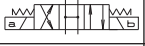






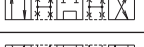
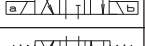
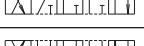
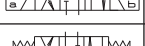

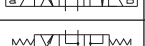
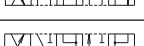
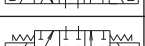
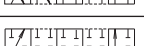






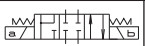











• In case of **mounting D** with detent a maximum supply time of 2 sec is needed (only for AC coils).

TAB.3 - VARIANTS (*)

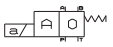










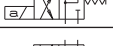
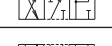
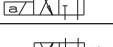
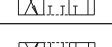

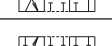
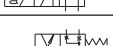
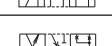
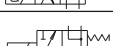
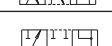
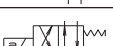











VARIANT	CODE	◆	PAGE
No variant (without connectors)	S1		
Viton	SV		
Emergency control lever for directional control valves type ADC3 and AD3E	LF		I•20
Emergency button	ES		I•18
Rotary emergency button	P2		I•18
Rotary emergency button (180°)	R5		I•18
Preset for microswitch (E/F/G/H mounting only) (see 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		
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




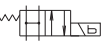








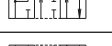
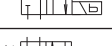
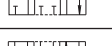

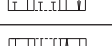
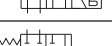
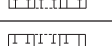
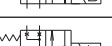
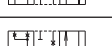












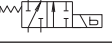




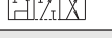


• With spools 15 / 16 / 17 only mounting E / F are possible

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






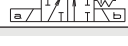
• For lever operated the spools used are different.

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*		+	