

Valves type AD5.E... with spool movement speed control.

These ON-OFF type valves are used when 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 consists of reducing the transfer section for the fluid from one solenoid to the other by means of calibrated orifice.

• 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 AD5.J* version valves, specify the orifices code.
- The operation is linked to a minimum counter-pressure on the T line (1 bar min.)
- The switching time referred to the spool travel detected by a LVDT transducer can vary for the NG10 valve a minimum of 200 to a maximum of 400 ms depending on 5 fundamental variables:
 - 1) Diameter of the calibrated orifice (see table)
 - 2) Hydraulic power for clearance referring to flow and pressure values through the valve
 - 3) Spool type
 - 4) Oil viscosity and temperature
 - 5) Counter-pressure at T line
- **Possible mounting: C / E / F / G / H**
- **19 / 20 / 21 spools not planned for AD5.E...J***

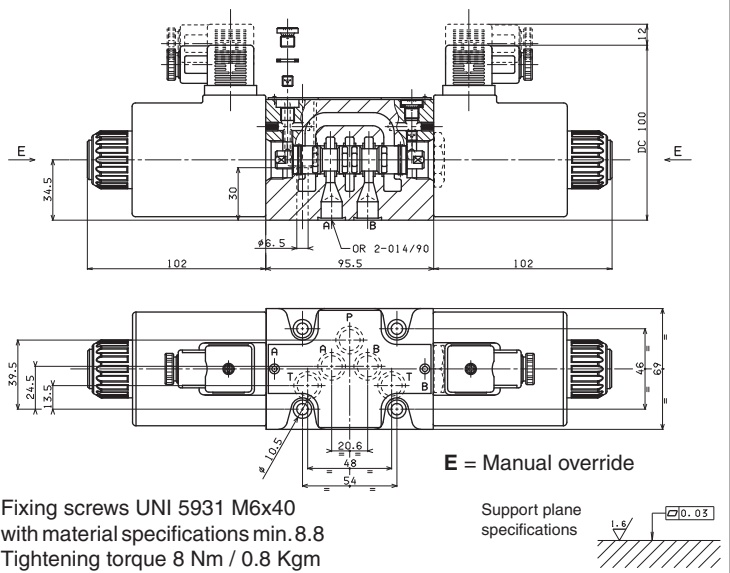
CALIBRATED ORIFICE AVAILABLE		
ø (mm)	M6x6	Code
0.5	M89.10.0031	5S (J5+S1)*
0.6	M89.10.0026	6S (J6+S1)*
0.7	M89.10.0032	7S (J7+S1)*
0.8	M89.10.0033	8S (J8+S1)*

* Old code

EAD5E...J\$ - 00/2000/e

Max. pressure ports P/A/B	320 bar
Max. pressure port T - see note (*)	250 bar
Max. flow	100 l/min
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	3,6 Kg
Weight with two DC solenoids	4,5 Kg

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



AD.5.E...Q5 VALVES WITH EXTERNAL DRAINING SOLENOID - VARIANT Q5

Valves type AD5.E...Q5 with external draining solenoid.

This involves valves with solenoid drainage chambers separated by line T in the CETOP 5 interface distinguished by the letter L. This solution makes it possible to operate with a maximum counter-pressure at T up to 320 bar using only 12.9 material fixing screws to ensure the maximum safety of the solenoid valve fixing and use of an additional drain. This version can be used for direct current (DC) and alternating current (AC), but involves a reduction in the limits of usage depending on the pressure at T.

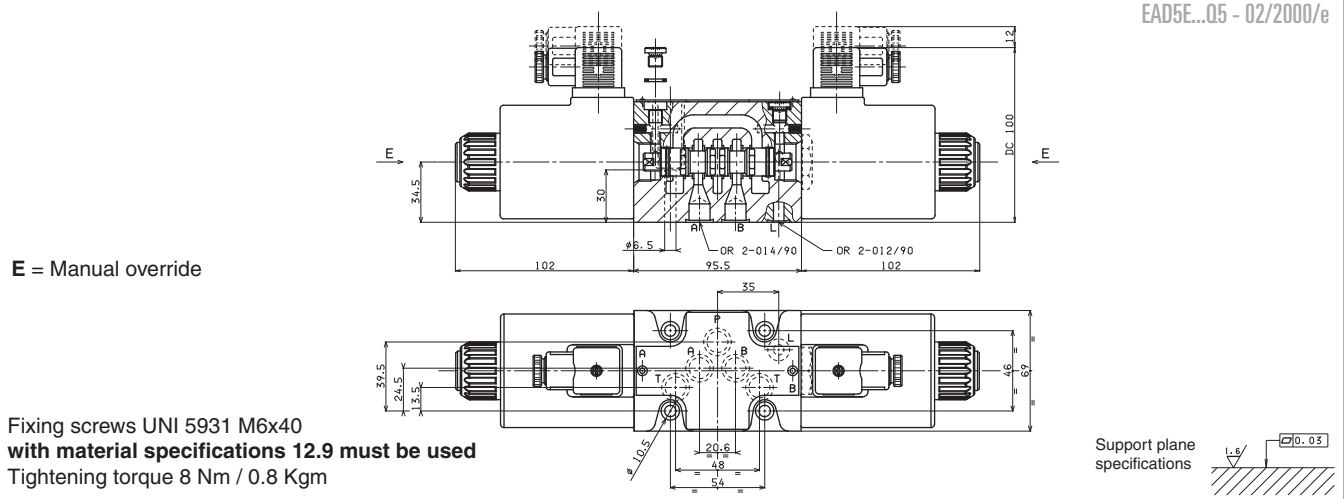
- **Mounting possible: C / D / E / F / G / H / I / L / M**
- **For subplate see BSH.5.31..**

Max. pressure ports P/A/B/T	320 bar
Max. pressure port L (DC coils) see note (*)	250 bar
Max. pressure port L (AC coils)	160 bar
Max. flow	100 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	3,6 Kg
Weight with two DC solenoids	4,5 Kg
Weight with one AC solenoid	3,5 Kg
Weight with two AC solenoids	4,3 Kg

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

OVERALL DIMENSIONS

EAD5E...Q5 - 02/2000/e



ORDERING CODE

AD	Directional valve
5	CETOP 5/NG10
*	Type of operator (tab.1)
**	Spools (see tables on page I•30)
*	Mounting type (tab.2)
*	Voltage (tab.3)
**	Variants (tab.4)
2	Serial No.

TAB.1

TYPE OF OPERATOR

E	Electrical
D	Direct mechanical
O	Oleo-pneumatic
L	Lever

TAB.3 - "E" TYPE OPERATION

AC VOLTAGE

A	24V/50Hz
B	48V/50Hz*
J	115V/50Hz - 120V/60Hz
Y	230V/50Hz - 240V/60Hz
E	240V/50Hz*
F	24V/60Hz*

DC VOLTAGE

L	12V
M	24V
N	48V*
P	110V*
Z	102V*
X	205V*
K	Without AC coils
W	Without DC coils
Z	other controls

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

TAB.2

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).

• The springs for the version with detent (mounting **D**) are different from those for standard versions.

TAB.4 - VARIANTS

VARIANT	CODE	◆	PAGE
No variant (without connectors)	S1		
Viton	VS		
Emergency button	ES		I•35
Preset for microswitch - (E/F/G/H only) see below note ◇	MS	◆	I•31- I•34
Rotary emergency button	P2		I•35
Marine version (AD.5.O..)	H1	◆	
Emergency + Viton	VU		
Preset for microswitch + Viton	MV	◆	
Spool movement speed control (VDC only) with ø 0.5 mm diameter orifice	5S	◆	I•32
Spool movement speed control (VDC only) with ø 0.6 mm diameter orifice	6S	◆	I•32
Spool movement speed control (VDC only) with ø 0.7 mm diameter orifice	7S	◆	I•32
Spool movement speed control (VDC only) with ø 0.8 mm diameter orifice	8S	◆	I•32
External draining solenoid (electrically operated only)	S5	◆	I•32
Microswitch+ Detent (for lever operation)	MD	◆	
Detent for lever control	D1	◆	

◇ = Maximum counter-pressure on T port: 4 bar

◆ = Variant codes stamped on the plate

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

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

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

STANDARD SPOOLS

(*) Spool with price increasing

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

• 19 / 20 / 21 spool not planned for AD.5.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*		-	
05		+	
66		+	
06		+	
08*		+	
10*		+	
22*		+	
12*		+	
13*		+	
07*		+	
15		-	
16		+	
17		+	
14*		-	
28*		-	

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