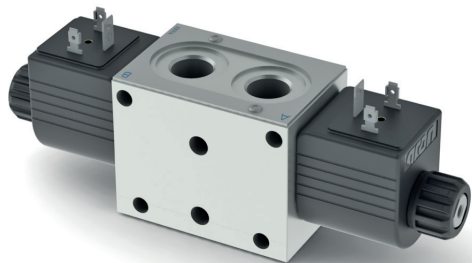


DIRECTIONAL CONTROL BANKABLE VALVE WITH A09 COILS



- Directional control bankable valve CDC3 with single or double solenoid.
- Centring achieved by means of calibrated length springs which immediately reposition the spool in the neutral position when the electrical signal is shut off.
  - Different springs used for each spool to improve the valve performance.
  - Emergency control.
  - Body for parallel or series connections
  - Threaded ports sizes G3/8" or 9/16"-18UNF (SAE 6), with or without LS line.
  - Coils protection IP65
  - Power supply DC or AC (with rectifier).
  - Standard connectors DIN 43650 ISO 4400, AMP Junior, flying leads and Deutsch
  - Maximum flow until 30 l/min.
  - Cast iron zinc plated body.

Connector to be ordered separately, see page 86.

ORDERING CODE

CDC	Directional control bankable valve (with A09 coil)
3	Size
*	Body type (tab. 1)
E	Electrical operator
**	Spool (tab.2)
*	Mounting (tab.3)
*	Voltage (tab.4)
**	Variants (tab.5)
2	Serial No.

FEATURES

Max. pressure ports P/A/B/T	250 bar
Max. Flow	30 l/min
Max excitation frequency	3 Hz
Duty cycle	100% ED
Hydraulic fluid	DIN 51524 Mineral oils
Fluid viscosity	10 ÷ 500 mm²/s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level (filter $\beta_{25} \geq 75$ )	ISO 4406:1999: class 21/19/16 NAS 1638: class 10
Weight with one DC solenoid	1.25 kg
Weight with two DC solenoids	1.50 kg

## ORDERING CODE

**Tab.1 - Body type**

Code	Body
<b>A</b>	Ports G3/8" parallel
<b>B</b>	Ports 9/16" - 18UNF parallel
<b>D</b> (1)	Ports G3/8" series
<b>E</b> (1)	Ports 9/16" - 18UNF series
<b>G</b>	Attachment style Parallel presetting for modular valves
<b>H</b> (1)	Attachment style Series presetting for modular valves
<b>L</b>	Ports G3/8" parallel - LS vers.
<b>M</b>	Attachment style, parallel-LS vers. Presetting for modular valves
<b>S</b>	Special connection B-P-A (see outlet module unit FUS3 pag .53)
<b>U</b>	Ports G3/8" parallel - P-T closed (not require the outlet module units)

**Tab.2 - Standard spools**

Two solenoids, spring centred "C" Mounting			
Code		Covering	Transient position
<b>01</b>		+	
<b>02</b>		-	
<b>03</b>		+	
<b>04</b> (2)		-	

One solenoid, side A "E" Mounting			
Code		Covering	Transient position
<b>01</b>		+	
<b>02</b>		-	
<b>03</b>		+	
<b>04</b> (2)		-	
<b>15</b>		-	
<b>16</b>		+	

One solenoid, side B "F" Mounting			
Code		Covering	Transient position
<b>01</b>		+	
<b>02</b>		-	
<b>03</b>		+	
<b>04</b> (2)		-	
<b>15</b>		-	
<b>16</b>		+	

**Tab.3 - Mounting**

Code	Symbol
<b>C</b>	
<b>E</b>	
<b>F</b>	
<b>G</b> (2)	
<b>H</b> (2)	

**Tab.4 - Coils A09 voltage (7)**

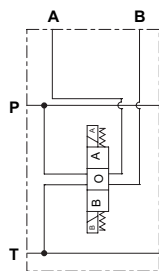
Code	Voltage	Max. winding temperature (Ambient temperature 25°C)	Rated power W	Resistance @ 20°C (Ohm) ±7%
<b>L</b>	12 Vdc	123 °C	27	5.3
<b>M</b>	24 Vdc	123 °C	27	21.3
<b>N</b> (3)	48 Vdc	123 °C	27	85.3
<b>Z</b> (4)	102 Vdc	123 °C	27	392
<b>P</b> (3)	110 Vdc	123 °C	27	448
<b>X</b> (5)	205 Vdc	123 °C	27	1577
<b>W</b> (6)	Without coils			

**Tab.5 - Variants (7-8)**

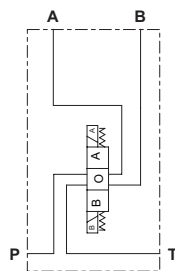
Code	Variant
<b>S1</b>	No variant
<b>SV</b>	Viton
<b>LF</b> (11)	Emergency control lever (see page 32)
<b>LR</b>	Emergency control lever 180° rotated (see page 32)
<b>ES</b>	Emergency button (see page 32)
<b>P2</b> (9)	Rotary emergency button (see page 32)
<b>R5</b> (9)	Rotary emergency b. 180° (see page 32)
<b>3T</b>	First elem. for series connec.
<b>AJ</b> (10)	AMP Junior connection (see page 88)
<b>FL</b> (10)	Coil with flying leads 250 mm (see page 88)
<b>LD</b> (10)	Coil with flying leads 130 mm and integrated diode (see page 88)
<b>CX</b> (10)	Deutsch connection with bidirectional diode (see page 88)

- (1) For series connection configuration, a special individual bankable valve CDC3\*E04\*\*3T2 (A B or G parallel body type only, with spool 04 type, 3T variant) must always be used as first element. For other individual bankable valve must use body D E or H connector series type with spool 04 only.
- (2) Specials with price increasing
- (3) Special voltage
- (4) Require connector with rectifier: 115 VAC/50Hz - 120 VAC/60Hz
- (5) Require connector with rectifier: 230 VAC/50Hz - 240 VAC/60Hz
- (6) Performance are guaranteed only using valves completed with BFP coil
- (7) Connector to be ordered separately, see page 86;
- Coils technical data, see page 88;
- Voltage codes are not stamped on the plate, their are readable on the coils
- (8) Other variants available on request
- (9) Tightening torque max. 6÷9 Nm (CH n. 22)
- (10) Available in 12V or 24V DC voltage only
- (11) For the body type G - H - M order LR variant (Emergency control lever 180° rotated)

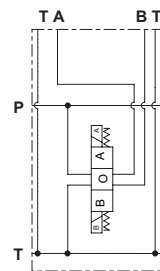
## HYDRAULIC SYMBOLS



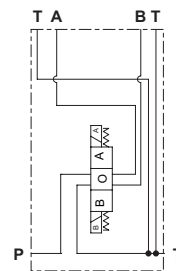
CDC3 A ... CDC3 B ...



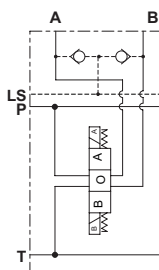
CDC3 D ... CDC3 E ...



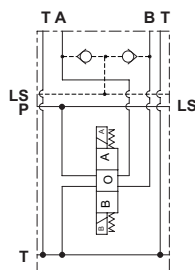
CDC3 G ...



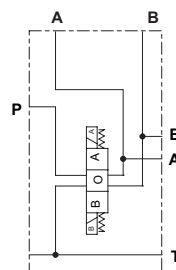
CDC3 H ...



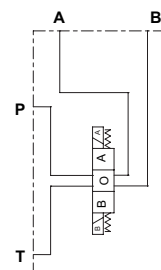
CDC3 L ...



CDC3 M ...



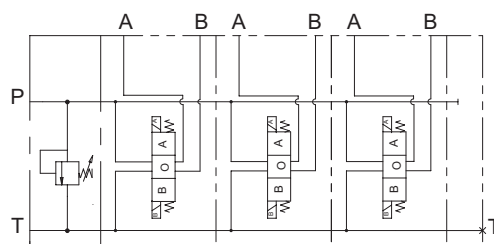
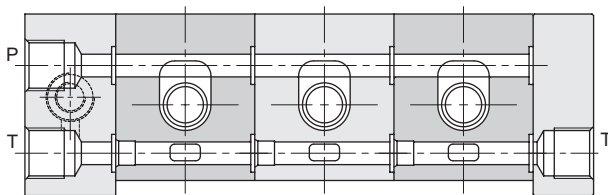
CDC3 S ...



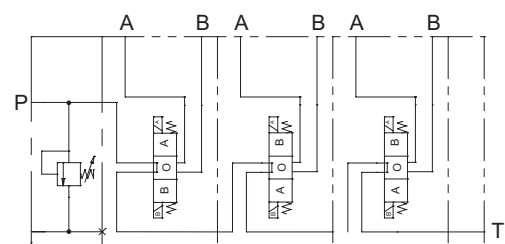
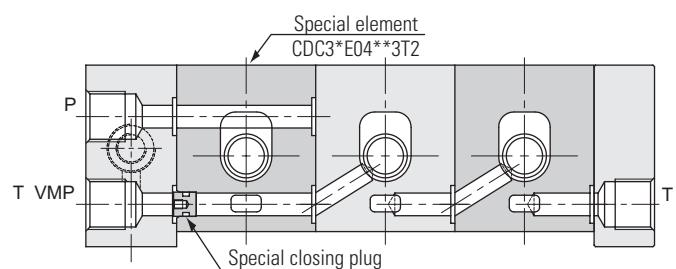
CDC3 U ...

## HYDRAULIC SYMBOLS AND INSTRUCTION OF CONNECTION

### PARALLEL CONNECTION

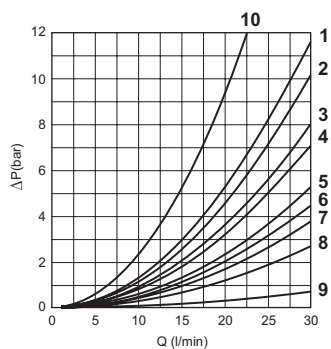


### SERIES CONNECTION



For series connection configuration, a special individual valve bank section (CDC3\*E04\*\*3T2) must always be used as first element (see ordering code page 23).

PRESSURE DROPS - DIRECTIONAL CONTROL BANKABLE VALVE



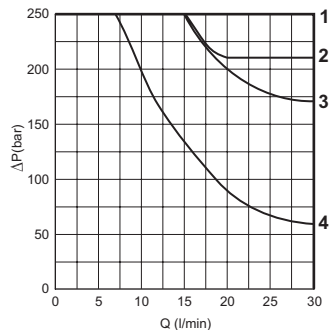
Spool type	Connections					
	P → A	P → B	A → T	B → T	P → T	P/T passing
01	4	4	4	4	—	9
02 (p)	7	7	6	6	7	9
02 (s)	7	7	6	6	8	—
03	4	4	6	6	—	9
04 (p)	2	2	1	1	5	9
04 (s)	2	2	1	1	3	—
15-16 (E)	6	6	10	10	—	9
15-16 (F)	6	6	5	5	—	9

Curve No.

The diagram at the side shows the pressure drop curves for spools during normal usage.  
The fluid used is a mineral oil with a viscosity of 46 mm<sup>2</sup>/s at 40 C°; the tests have been carried out at a fluid temperature of 40 C°.

(p) Parallel connections  
(s) Series connections  
(E) Mounting E  
(F) Mounting F

LIMITS OF USE (MOUNTING C-E-F)



Spool type	Curve No.
01	1
02	1
03	3
04	2
15-16	1 (4)

(4) = 15 and 16 spools used as 2 or 3 way, follow the curve No. 4

The tests have been carried out with solenoids at operating temperature and a voltage 10% less than rated voltage with a fluid temperature of 50 C°. The fluid used was a mineral oil with a viscosity of 46 mm<sup>2</sup>/s at 40 degrees C. The values in the diagram refer to tests carried out with the oil flow in two directions simultaneously (e.g. from P to A and at the same time B to T).

**In the cases where valves 4/2 and 4/3 are used with the flow in one direction only, the limits of use could have variations which may even be negative (See curve No 4 and Spool No 16 used as 2 or 3 ways). The tests were carried out with a counter-pressure of 2 bar at T port.**

**NOTE: The limits of use are valid for the C, E, F mounting.**

**Body "S"**  
**connection B-P-A**

10.5 10.5

13

16

A B T

Technical drawing of the 2000 series motor, showing front and side views with dimensions in millimeters.

**Front View Dimensions:**

- Total height: 140
- Top mounting flange height: 54.5
- Flange thickness: 25
- Flange to base distance: 19
- Base height: 24
- Base to terminal box distance: 13
- Terminal box height: 16
- Terminal box width: 86
- Terminal box mounting flange height: 59
- Terminal box mounting flange thickness: 49
- Terminal box mounting flange to base distance: 69.5
- Terminal box mounting flange to base distance (center): 178.5

**Side View Dimensions:**

- Terminal box mounting flange to base distance: 69.5
- Terminal box mounting flange to base distance (center): 178.5

**Other Details:**

- 2 x O-Ring 2-012 90Sh
- N° 4 Ø 6.5