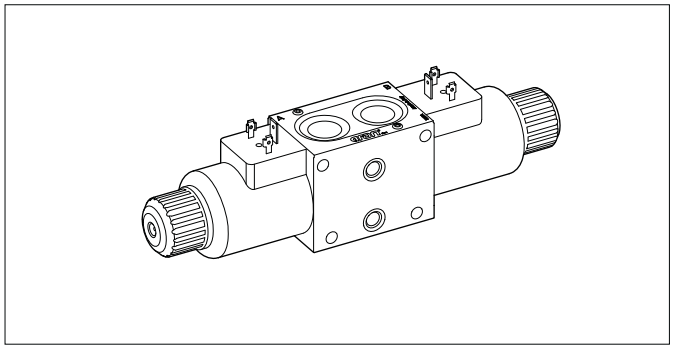
DIRECTIONAL CONTROL BANKABLE VALVE WITH D15 COILS



Connector to be ordered separately, see page 58.

Directional control bankable valve body is available in two different sizes: G3/8" or 9/16"-18UNF (SAE 6).
The operation of the directional valve is electrical. The centring is achieved by means of calibrated length springs which immediately reposition the spool in the neutral position when the electrical signal is shut off. To improve the valve performance, different springs are used for each spool. The solenoids, constructed with a protection class of IP66 in accordance with DIN 40050 standards, are available in direct current form and different voltage. The electrical supply connectors meet DIN 43650 ISO 4400 standards.
The body valve is white zinc plated.
On request are available connectors AMP Junior, AMP Junior and integrated diode, flying leads, Deutsch DT 04 - 2P coil type, connectors are also available with built in rectifiers or pilot lights.

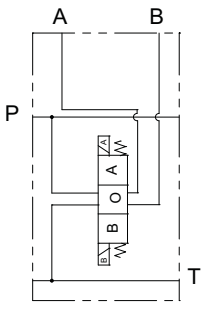
ORDERING CODE

CD	Directional control bankable valve (with D15 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.

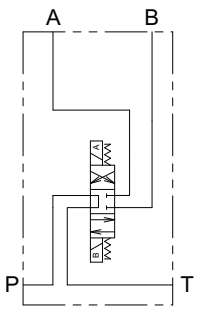
FEATURES

Max. pressure ports P/A/B/T	310 bar
Max. pressure port T	250 bar
Max. Flow	40 l/min
Max excitation frequency	3 Hz
Duty cycle	100% ED
Hydraulic fluid	DIN 51524 Mineral oils
Fluid viscosity	10 ÷ 500 mm^2/s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level (filter $ß_{25} \geq 75$)	ISO 4406:1999: class 21/19/16 NAS 1638: class 10
Weight with one DC solenoid Weight with two DC solenoids	1.389 kg 1.778 kg

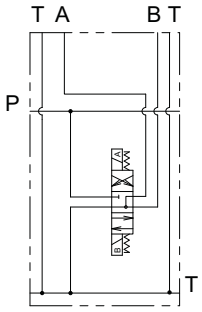
HYDRAULIC SYMBOLS



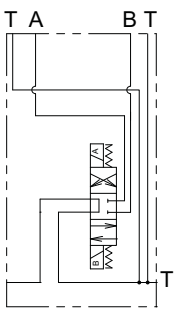
CD3 A ... CD3 B ...



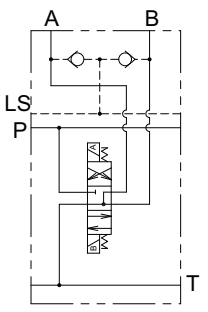
CD3 D ... CDC3 E ...



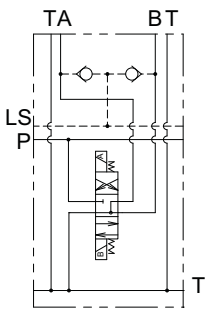
CD3 G ...



CD3 H ...



CD3 L ...



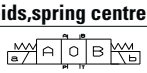
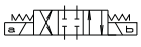
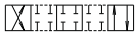
CD3 M ...

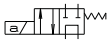
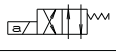
ORDERING CODE

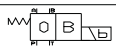
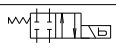
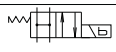
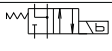
Tab.1 - Body type

Code	Body
A	Ports G3/8" parallel
B	Ports 9/16" - 18UNF parallel
D (1)	Ports G3/8" series
E (1)	Ports 9/16" - 18UNF series
G	Attachment style Parallel presetting for modular valves
H (1)	Attachment style Series presetting for modular valves
L	Ports G3/8" parallel - LS vers.
M	Attachment style, parallel-LS vers. Presetting for modular valves

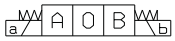
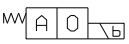
Tab.2 - Standard spools

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

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

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

Tab.3 - Mounting

Code	Symbol
C	
E	
F	
G (2)	
H (2)	

Tab.4 - Coils D15 voltage (7)

Code	Voltage	Max. winding temperature (Ambient temperature 25°C)	Rated power W	Resistance @ 20°C (Ohm) ±10%
L	12 Vdc	110 °C	30	4.8
M	24 Vdc	110 °C	30	18.8
V (3)	28 Vdc	110 °C	30	25.6
N (3)	48 Vdc	110 °C	30	75.2
Z (4)	102 Vdc	110 °C	30	340
P (3)	110 Vdc	110 °C	30	387
X (5)	205 Vdc	110 °C	30	1375
W (6)	Without coils			

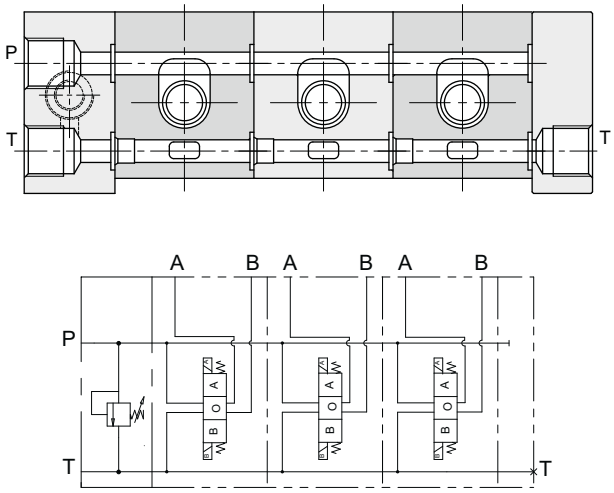
Tab.5 - Variants (7-8)

Code	Variant
S1	No variant
SV	Viton
LF (12)	Emergency control lever (see page 26)
LR	Emergency control lever180° rotated (see page 26)
ES	Emergency button (see page 26)
P2 (9)	Rotary emergency button (see page 26)
R5 (9)	Rotary emergency b. 180° (see page 26)
3T	First elem. for series connec.
AJ (10)	AMP Junior connection (see page 61)
AD (10)	AMP Junior and integr diode (see page 61)
SL (10)	Coil with flying leads 175 mm (see page 61)
CZ (10)	Coil with Deutsch DT04-2P (see page 62)
RS (11)	Plastic type coil (see page 62)

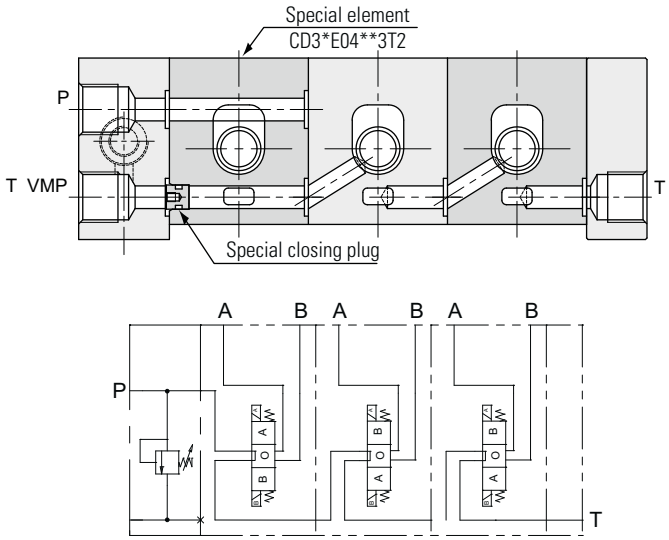
(1) For series connection configuration, a special individual bankable valve CD3*E04**3T2 (A B or G parallel body type only, with spool 04 type, 3T variant) must always be used as first element. For other individual bankable valve must use body D E or H connector series type with spool 04 only
(2) Specials with price increasing
(3) Special voltage
(4) With rectifier: 115 VAC/50Hz - 120 VAC/60Hz
(5) 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 58;
Coils technical data, see page 61 - 62;
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) Available in 12V, 24V, 28V or 110V DC voltage only
(12) For the body type G - H - M order LR variant (Emergency control lever180° rotated)

HYDRAULIC SYMBOLS AND INSTRUCTION OF CONNECTION

PARALLEL CONNECTION

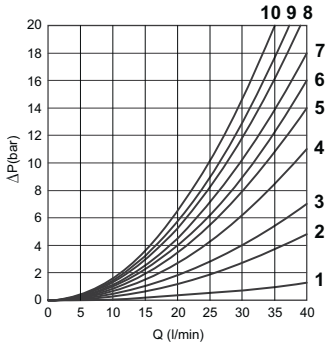


SERIES CONNECTION



For series connection configuration, a special individual valve bank section (CD3*E04**3T2) must always be used as first element (see ordering code page 22).

PRESSURE DROPS - DIRECTIONAL CONTROL BANKABLE VALVE

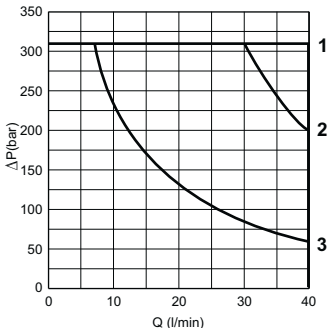


Spool type		Connections					
		P → A	P → B	A → T	B → T	P → T	P/T passing
01		6	6	6	6	—	1
02	(p)	5	5	4	4	2	1
02	(s)	5	5	5	5	3	—
03		6	6	5	5	—	1
04	(p)	9	10	8	8	4	1
04	(s)	9	9	8	8	5	—
15-16	(E)	5	7	5	9	—	1
15-16	(F)	7	5	9	5	—	1
		Curve No.					

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 mm²/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	1
04	2
15	3
16	1

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 mm²/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).

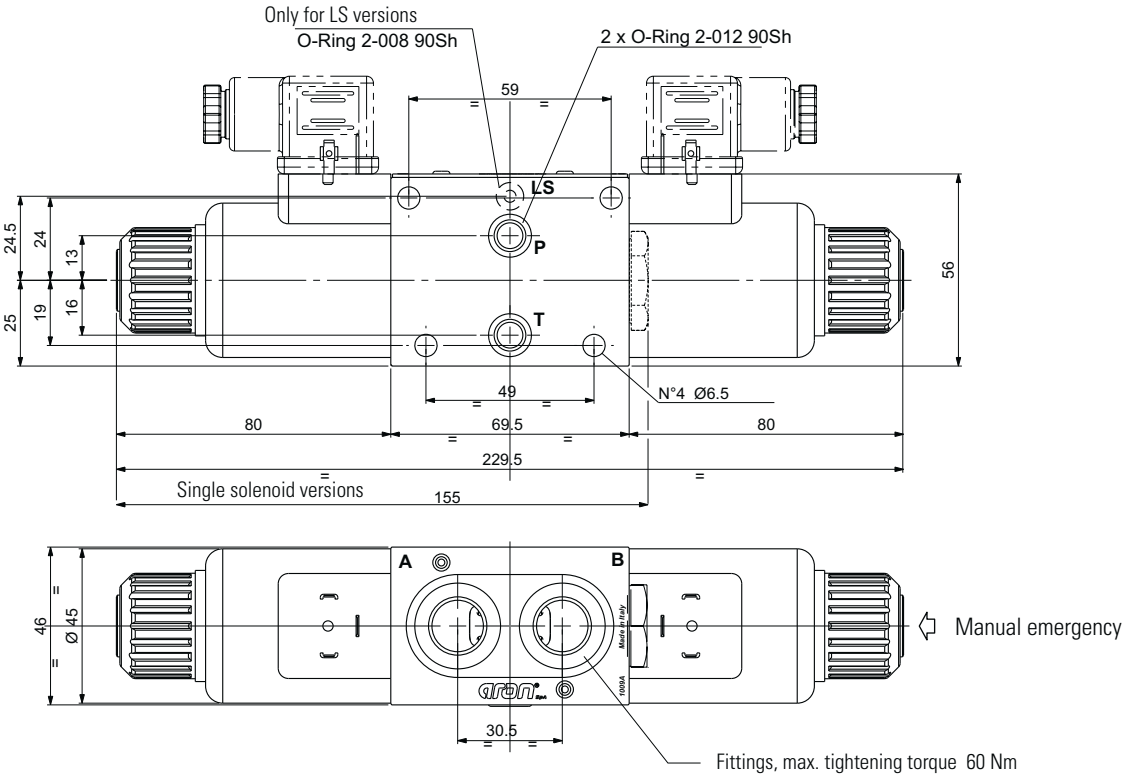
In the cases where valves 4/2 and 4/3 are used with the flow in one direction only, the limits of use could have variations which may even be negative (See curve No 3 and Spool No 16 used as 2 or 3 ways). The tests were carried out with a counter-pressure of 2 bar at T port.

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

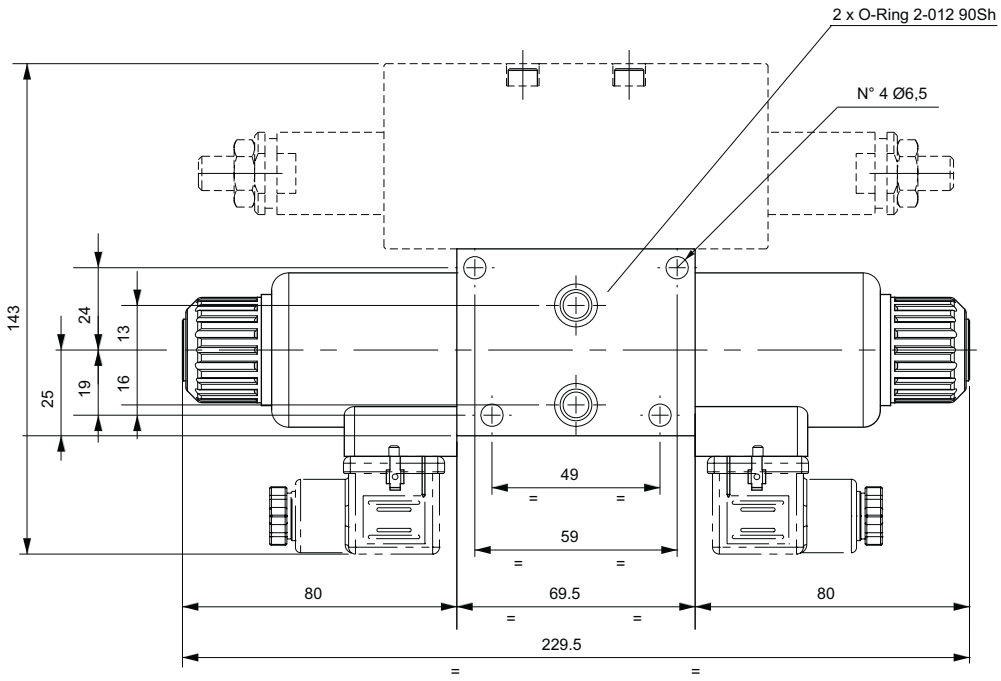
(3) = 16 spools used as 2 or 3 way, follow the curve No. 3

OVERALL DIMENSIONS

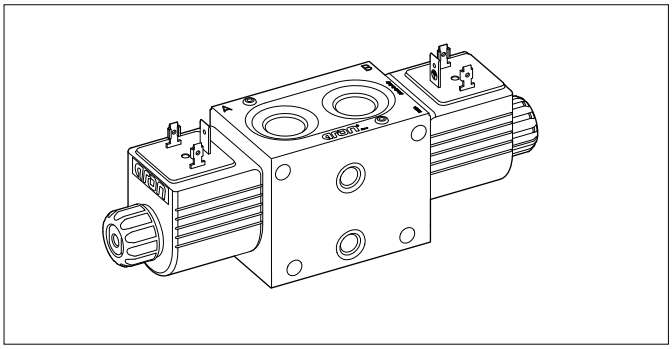
Parallel body



Parallel body
Presetting for modular valves



DIRECTIONAL CONTROL BANKABLE VALVE WITH A09 COILS



Connector to be ordered separately, see page 58.

Directional control bankable valve body is available in two different sizes: G3/8" or 9/16"-18UNF (SAE 6).
The operation of the directional valve is electrical. The centring is achieved by means of calibrated length springs which immediately reposition the spool in the neutral position when the electrical signal is shut off. To improve the valve performance, different springs are used for each spool.
The solenoids are available in direct current form and different voltage. The electrical controls are equipped with an emergency manual control inserted in the tube.
The electrical supply connectors meet DIN 43650 ISO 4400 standards. On request, could be available the following coil connection variants: AMP Junior connections; flying leads connections, with or without integrated diode; Deutsch connections with bidirectional integrated diode.
The body valve is white zinc plated.

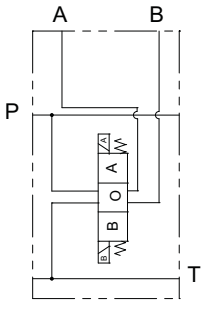
ORDERING CODE

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.

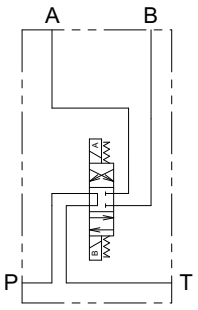
FEATURES

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 mm^2/s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level (filter $ß_{25} \geq 75$)	ISO 4406:1999: class 21/19/16 NAS 1638: class 10
Weight with one DC solenoid Weight with two DC solenoids	1.25 kg 1.50 kg

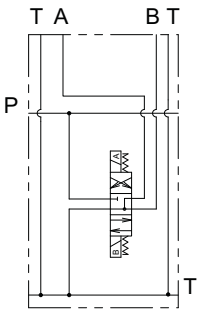
HYDRAULIC SYMBOLS



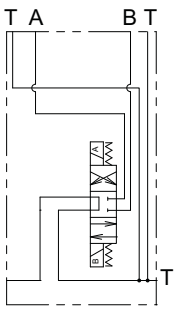
CDC3 A ... CDC3 B ...



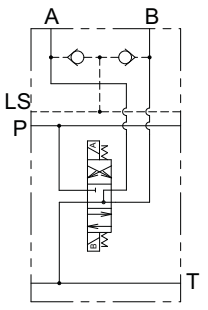
CDC3 D ... CDC3 E ...



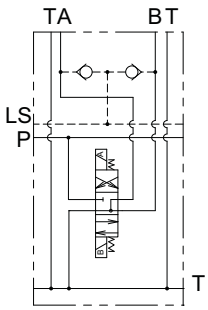
CDC3 G ...



CDC3 H ...



CDC3 L ...



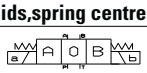
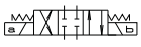
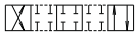
CDC3 M ...

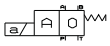
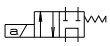
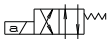
ORDERING CODE

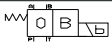
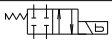
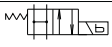
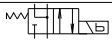
Tab.1 - Body type

Code	Body
A	Ports G3/8" parallel
B	Ports 9/16" - 18UNF parallel
D (1)	Ports G3/8" series
E (1)	Ports 9/16" - 18UNF series
G	Attachment style Parallel presetting for modular valves
H (1)	Attachment style Series presetting for modular valves
L	Ports G3/8" parallel - LS vers.
M	Attachment style, parallel-LS vers. Presetting for modular valves

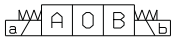
Tab.2 - Standard spools

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

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

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

Tab.3 - Mounting

Code	Symbol
C	
E	
F	
G (2)	
H (2)	

Tab.4 - Coils A09 voltage (7)

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

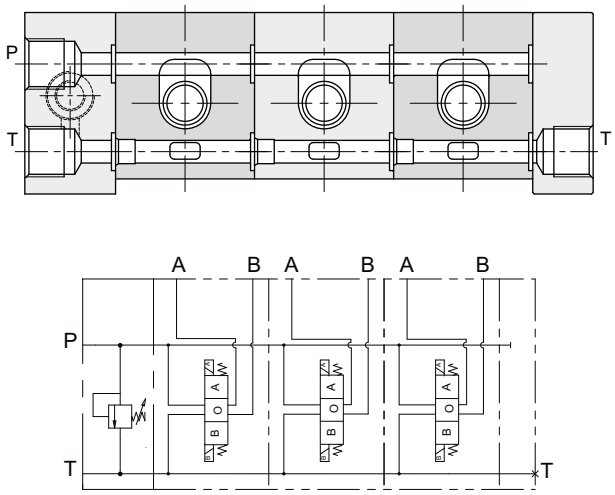
Tab.5 - Variants (7-8)

Code	Variant
S1	No variant
SV	Viton
LF (12)	Emergency control lever (see page 21)
LR	Emergency control lever 180° rotated (see page 21)
ES	Emergency button (see page 21)
P2 (9)	Rotary emergency button (see page 21)
R5 (9)	Rotary emergency b. 180° (see page 21)
3T	First elem. for series connec.
AJ (10)	AMP Junior connection (see page 60)
FL (10)	Coil with flying leads 250 mm (see page 60)
LD (10)	Coil with flying leads 130 mm and integrated diode (see page 60)
CX (11)	Deutsch connecection with bidirectional diode (see page 60)

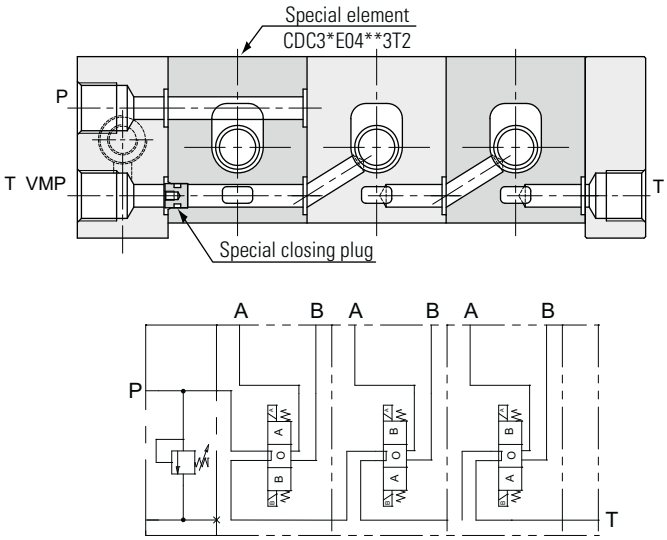
(1) For series connection configuration, a special individual bankable valve CDC3*E04**3T2 (A B or G parallel body type only, with spool 04 type, 3T variant) must always be used as first element. For other individual bankable valve must use body D E or H connector series type with spool 04 only.
(2) Specials with price increasing
(3) Special voltage
(4) With rectifier: 115 VAC/50Hz - 120 VAC/60Hz
(5) 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 58;
Coils technical data, see page 60;
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) Available in 12V, DC voltage only
(12) For the body type G - H - M order LR variant (Emergency control lever180° rotated)

HYDRAULIC SYMBOLS AND INSTRUCTION OF CONNECTION

PARALLEL CONNECTION

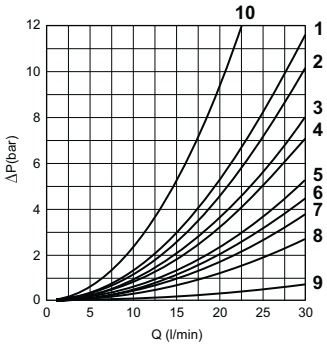


SERIES CONNECTION



For series connection configuration, a special individual valve bank section (CDC3*E04**3T2) must always be used as first element (see ordering code page 13).

PRESSURE DROPS - DIRECTIONAL CONTROL BANKABLE VALVE

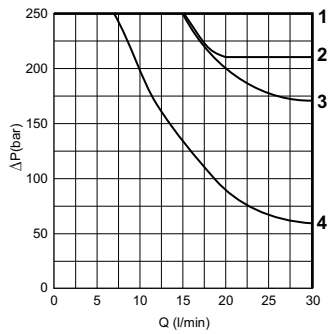


Spool type		Connections					
		P → A	P → B	A → T	B → T	P → T	P/T passing
01		4	4	4	4	—	9
02	(p)	7	7	6	6	7	9
02	(s)	7	7	6	6	8	—
03		4	4	6	6	—	9
04	(p)	2	2	1	1	5	9
04	(s)	2	2	1	1	3	—
15-16	(E)	6	6	10	10	—	9
15-16	(F)	6	6	5	5	—	9
		Curve No.					

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 mm²/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)

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 mm²/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).

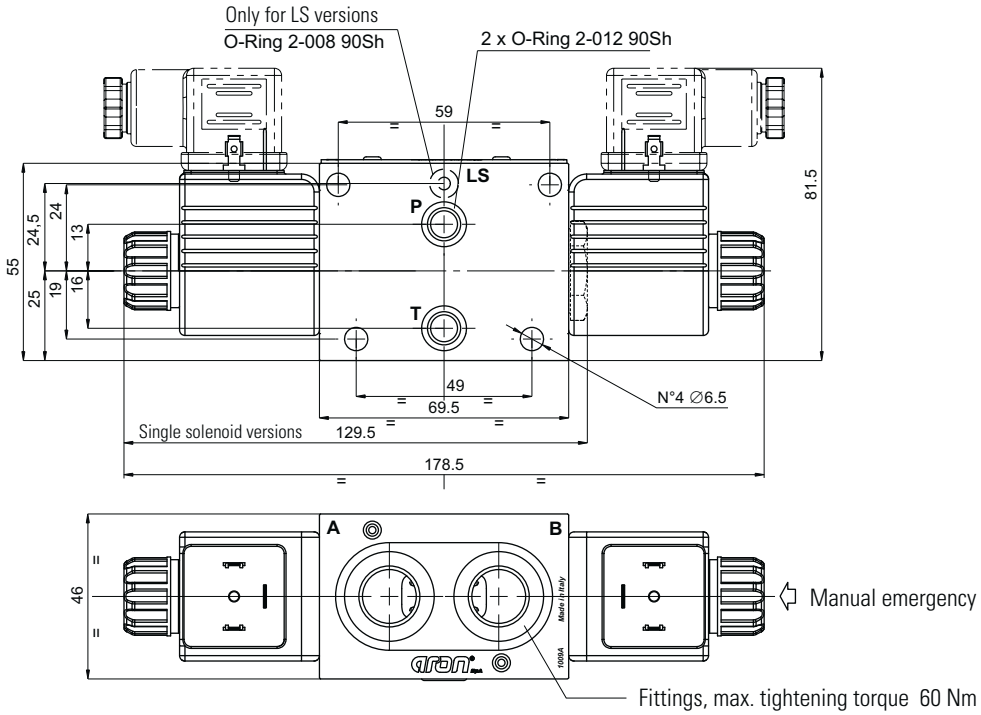
In the cases where valves 4/2 and 4/3 are used with the flow in one direction only, the limits of use could have variations which may even be negative (See curve No 4 and Spool No 16 used as 2 or 3 ways). The tests were carried out with a counter-pressure of 2 bar at T port.

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

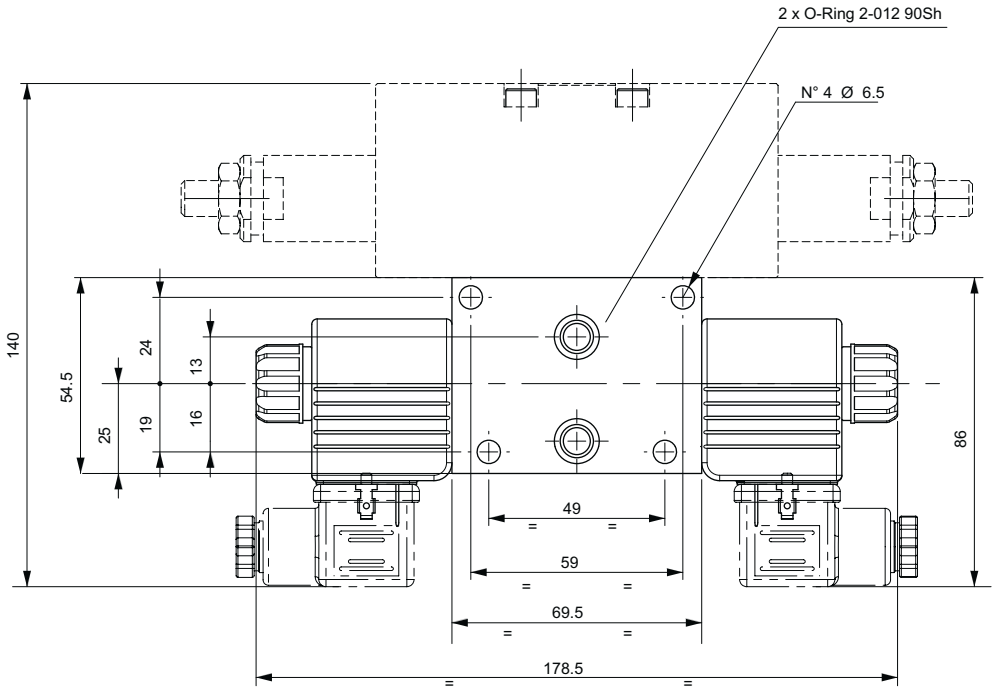
(4) = 15 and 16 spools used as 2 or 3 way, follow the curve No. 4

OVERALL DIMENSIONS

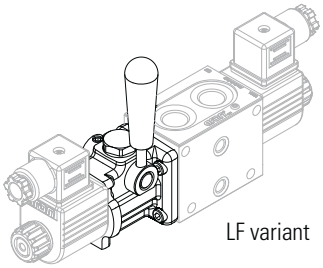
Parallel body



Parallel body
Presetting for modular valves

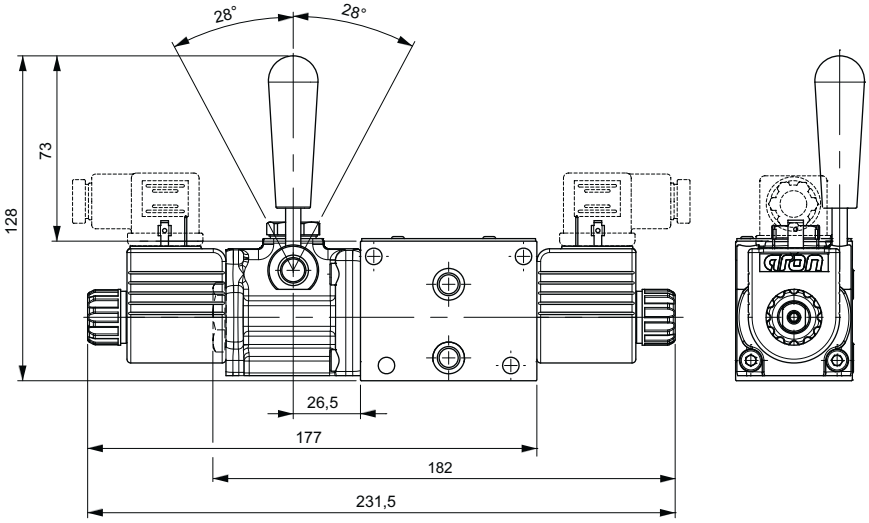


"LF" AND "LR" VARIANTS - EMERGENCY CONTROL LEVER

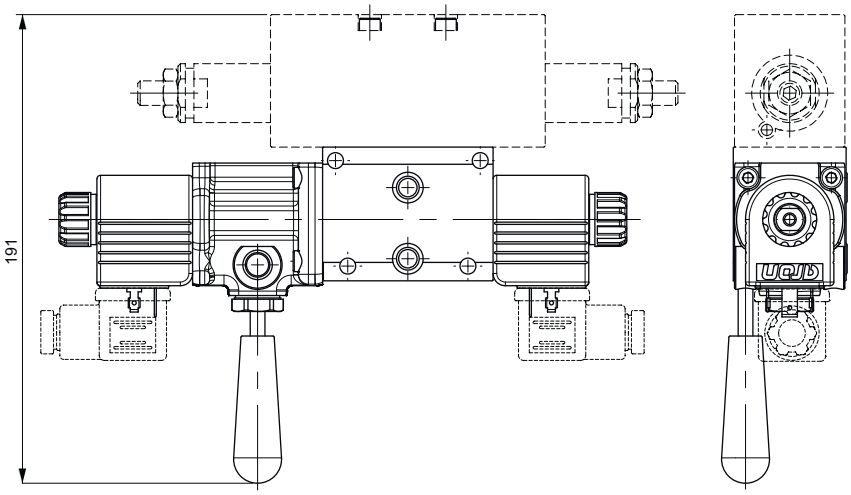


LF variant

The emergency control lever for solenoid valves by Aron, represents a develop in terms of safety and flexibility among applied hydraulic components.
Thanks to his flexibility, the component was designed to be inserted between the valve body and the spool, providing total interchangeability between the different types of solenoid body valves manufactured by Aron. It is compatible with the standard CETOP 3 and bankable valves with threaded connections –G3/8" or 9/16"-18UNF (SAE 6). The component is available for both directional control and proportional valves (for the last type of control please consult our Technical Department).
As an emergency lever applied to solenoid valves, the control can be used as a safety device in conformity with the industry standards , also playing an useful role in the event of power cuts. The control can be used in agricultural and mobile fields; the manual action can be used to carry out periodic maintenance work on mobile components of the vehicle , in perfectly safe working conditions.

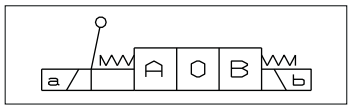


LF variant



LR variant

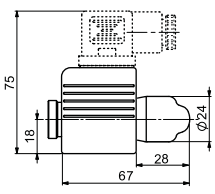
HYDRAULIC SYMBOL



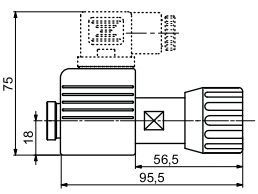
Max operating pressure port T	dynamic	160 bar
	static	210 bar
Max operating pressure port P for series connection configuration		160 bar
Mounting type		C - F - H
Spools type		01 - 02 04 - 16

OTHER VARIANTS

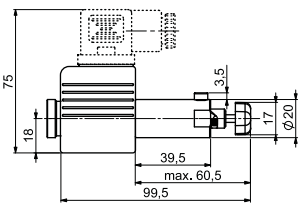
"ES"
Manual emergency



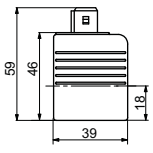
"P2"
Rotary emergency



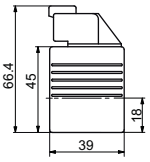
"R5"
Rotary emergency 180°



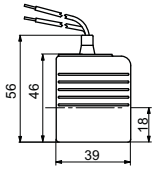
"AJ"
AMP Junior



"CX"
Deutsch with diode

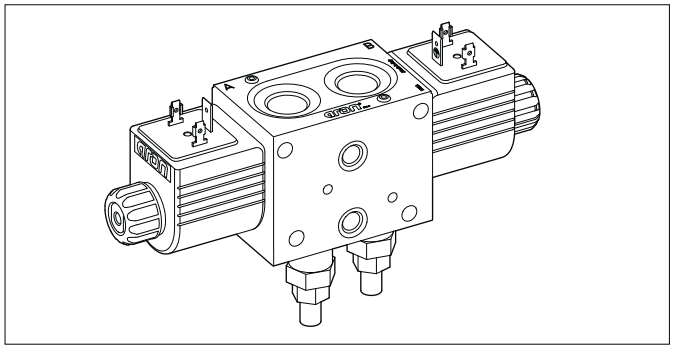


"FL" Flying leads
"LD" Flying leads/diode



Emergency P2 and P5, tightening torque max. 6÷9 Nm (CH n. 22)

DIRECTIONAL CONTROL BANKABLE VALVE WITH PRESSURE RELIEF VALVE AND A09 COILS



Connector to be ordered separately, see page 58.

CDCM3 module provide one or two pressure relief valves with adjustable setting. Adjustment with internal screw hex. The element is provided with two threaded ports (P and T), size G3/8"
The operation of the directional valve is electrical. The centring is achieved by means of calibrated length springs which immediately reposition the spool in the neutral position when the electrical signal is shut off. To improve the valve performance, different springs are used for each spool.
The solenoids are available in direct current form and different voltage. The electrical controls are equipped with an emergency manual control inserted in the tube.
The electrical supply connectors meet DIN 43650 ISO 4400 standards. On request, could be available the following coil connection variants: AMP Junior connections; flying leads connections, with or without integrated diode; Deutsch connections with bidirectional integrated diode.
The body valve is white zinc plated.

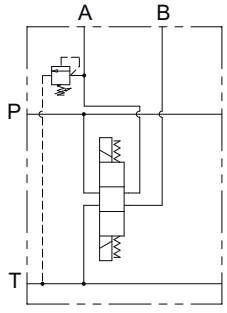
ORDERING CODE

CDCM	Directional control bankable valve with relief valve (A09 coil)
3	Size
*	Body type (tab. 1)
E	Electrical operator
**	Spool (tab.2)
*	Mounting (tab.3)
*	Voltage (tab.4)
*	Pressure relief valve setting on A (tab. 5)
*	Pressure relief valve setting on B (tab. 5, omitted if equal to A)
**	Variants (tab.6)
2	Serial No.

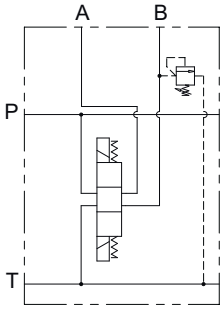
FEATURES

Max. pressure ports P/A/B/T	250 bar
Max. flow	30 l/min
Max. flow - Pressure relief valve	see diagrams page 19
Max excitation frequency	3 Hz
Duty cycle	100% ED
Hydraulic fluid	DIN 51524 Mineral oils
Fluid viscosity	10 ÷ 500 mm^2/s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level (filter $ß_{25} \geq 75$)	ISO 4406:1999: class 21/19/16 NAS 1638: class 10
Weight with one DC solenoid Weight with two DC solenoids	1.40 kg 1.65 kg

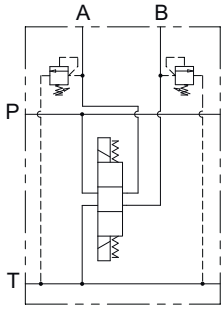
HYDRAULIC SYMBOLS



CDCM3 O ..



CDCM3 P ..



CDCM3 N ..

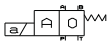
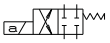
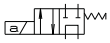
ORDERING CODE

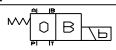
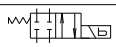
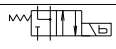
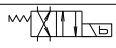
Tab.1 - Body type

Code	Body
O	Ports G3/8" parallel with relief valve on A
P	Ports G3/8" parallel with relief valve on B
N	Ports G3/8" parallel with relief valve on A and B

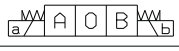
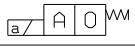
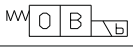
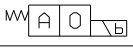
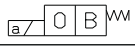
Tab.2 - Standard spools

Two solenoids,spring centred "C" Mounting			
Code		Covering	Transient position
01		+	
02		-	
03		+	
04 (1)		-	

One solenoid, side A "E" Mounting			
Code		Covering	Transient position
01		+	
02		-	
03		+	
04 (1)		-	
15		-	
16		+	

One solenoid, side B "F" Mounting			
Code		Covering	Transient position
01		+	
02		-	
03		+	
04 (1)		-	
15		-	
16		+	

Tab.3 - Mounting

Code	Symbol
C	
E	
F	
G (1)	
H (1)	

Tab.4 - Coils A09 voltage (6)

Code	Voltage	Max. winding temperature (Ambient temperature 25°C)	Rated power W	Resistance @ 20°C (Ohm) ±7%
L	12 Vdc	123 °C	27	5.3
M	24 Vdc	123 °C	27	21.3
N (2)	48 Vdc	123 °C	27	85.3
Z (3)	102 Vdc	123 °C	27	392
P (2)	110 Vdc	123 °C	27	448
X (4)	205 Vdc	123 °C	27	1577
W (5)	Without coils			

Tab.5 - Pressure relief valve settings

Code	Setting
1	25 ÷ 100 bar
2	100 ÷ 200 bar
3	200 ÷ 350 bar (7)

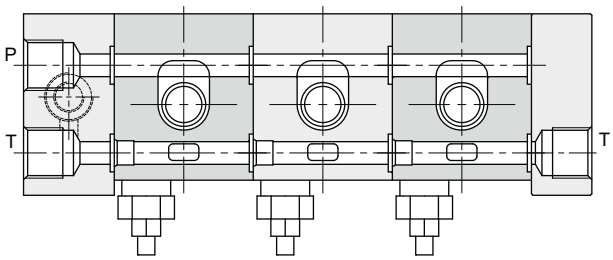
Tab.6 - Variants (6-8)

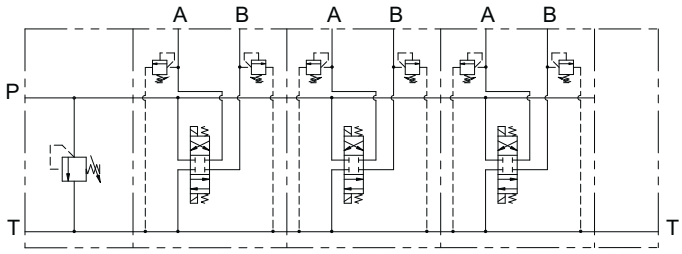
Code	Variant
S1	No variant
LF	Emergency control lever (see page 21)
ES	Emergency button (see page 21)
P2 (9)	Rotary emergency button (see page 21)
R5 (9)	Rotary emergency b. 180° (see page 21)
AJ (10)	AMP Junior connection (see page 60)
FL (10)	Coil with flying leads 250 mm (see page 60)
LD (10)	Coil with flying leads 130 mm and integrated diode (see page 60)
CX (11)	Deutsch connecection with bidirectional diode (see page 60)

(1) Specials with price increasing
(2) Special voltage
(3) With rectifier: 115 VAC/50Hz - 120 VAC/60Hz
(4) With rectifier: 230 VAC/50Hz - 240 VAC/60Hz
(5) Performance are guaranteed only using valves completed with BFP coil
(6) Connector to be ordered separately, see page 58;
Coils technical data, see page 60;
Voltage codes are not stamped on the plate, their are readable on the coils
(7) Setting referred to the maximum pressure reached from the relief valve. Do not exceed the maximum working pressure 250 bar
(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) Available in 12V, DC voltage only

HYDRAULIC SYMBOLS AND INSTRUCTION OF CONNECTION

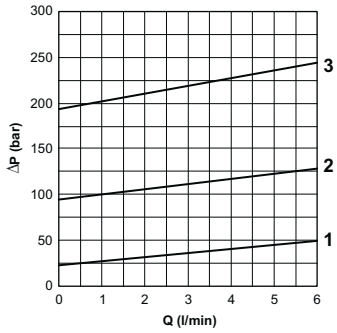
PARALLEL CONNECTION



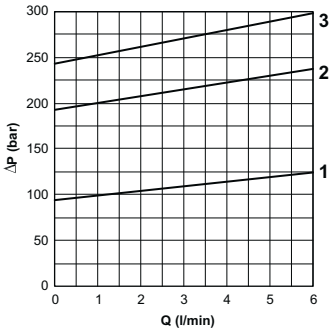


DIAGRAMS - PRESSURE RELIEF VALVES

MAX PRESSURE SETTING



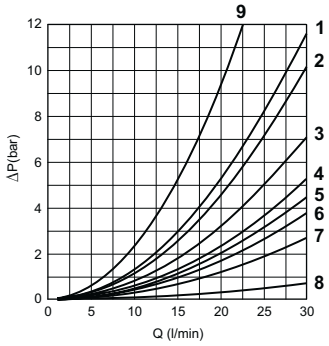
MIN.SETTING PRESSURE



1 = 25 ÷ 100 bar
2 = 100 ÷ 200 bar
3 = 200 ÷ 350 bar

Fluid used: mineral based oil with viscosity 46 mm²/s at 40°C.

PRESSURE DROPS - DIRECTIONAL CONTROL BANKABLE VALVE

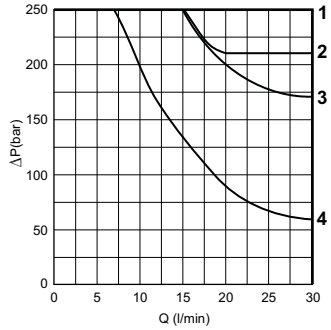


Spool type	Connections					
	P → A	P → B	A → T	B → T	P → T	P/T passing
01	3	3	3	3	—	8
02 (p)	6	6	5	5	6	8
03	3	3	5	5	—	8
04 (p)	2	2	1	1	4	8
15-16 (E)	5	5	9	9	—	8
15-16 (F)	5	5	4	4	—	8
	Curve No.					

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 mm²/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)

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 mm²/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.

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

OVERALL DIMENSIONS