

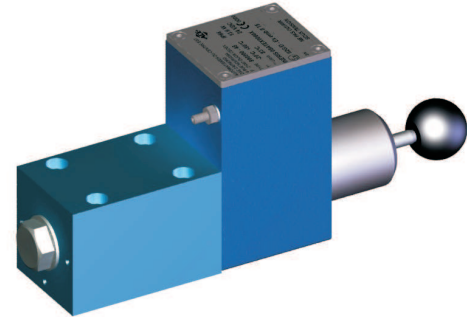
CARACTERISTICS

Hydraulic :

Cetop 3.
Maximum pressure in service : 250 Bar.
Nominal flow. : 32 l/mn.
37 hydraulic symbols.

Electric :

Protection index : IP 66.
Directive ATEX or IECEx
Ex dmb ou Ex emb Gb, II 2 GD IIC T6,T5 or T4
Ex d or Ex de, I M2.



4 ED6 D6X/EX900 24-DC-T6 PA H1e

DESCRIPTION DE FONCTIONNEMENT

Directional control valves type ED 6 are solenoid operated directional spool valves.
They control start, stop and direction of an oil flow.

These valves basically consist of the housing (1), one or two solenoids (2), the control spool (3), and return springs (4).

In unoperated condition the control spool (3) is held in the neutral or starting position by the return springs (4) (except for type O and OF).
The operation of the control spool is by means of oil immersed solenoids (2).

The force of the solenoid (2) acts via the plunger (5) on the control spool (3) and pushes it from its rest position into the required end position.

When the solenoid is de-energised (2), the control spool (3) is returned to its original by the return springs (4).

An hand emergency button, allows movement of the control spool (3) without solenoid energisation.

Type : ED6 C or D 6X/O

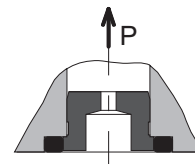
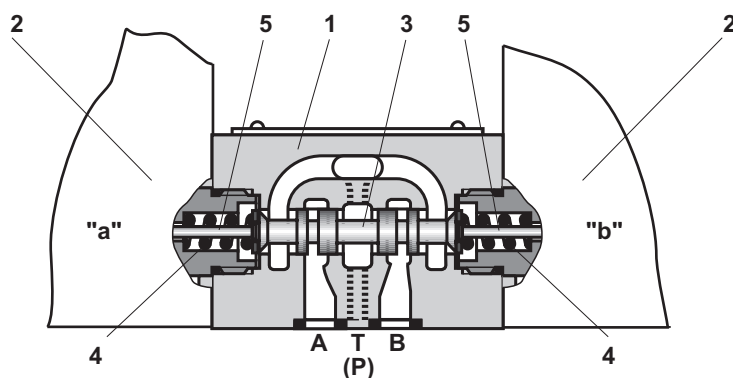
these are directional valves with 2 switching positions and 2 solenoids without locking.
When the solenoid is energised there is no median position (without return springs).

Type : ED6 C or D 6X/OF

these are directional valves with 2 switching positions and 2 solenoids with locking in position.

Cardridge Throttle

Use of the cardridge throttle is necessary when, because of the given operating conditions, flow larger than that allowed by the valve operating limits arise during spool cross-over.



GENERALITY OF FONCTION

Oil immersed direct curent solenoid (1) impervious to 100 bar maximum pressure, its mechanical impact strength is approved by the CENELEC for explosion proof equipment.

Insulation to IP 66, it can work in tropical climates.

The plunger operate in oil to reduce friction, dissipate head and cushions and drives control spool.

Direct curent solenoid has the advantages of :

- slow movement of the control spool.
- energized maintenance of the control valve in intermediary position, is not detrimental to the solenoid.

RACCORDEMENT ÉLECTRIQUE

Junction in box

The electrical connector on the outlet terminal box (6) can be arranged horizontally (on terminal box 3) suitable for cable gland.

One earth connection (5) is available inside or outside the terminal box .

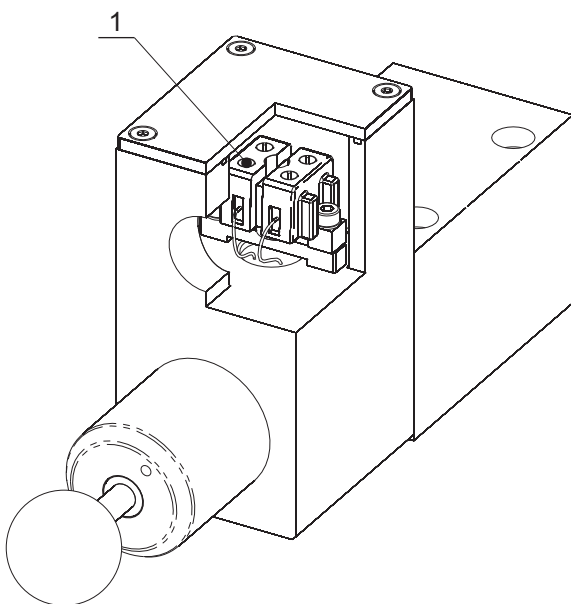
2 differents protection modes.

1) Protection Ex "d"

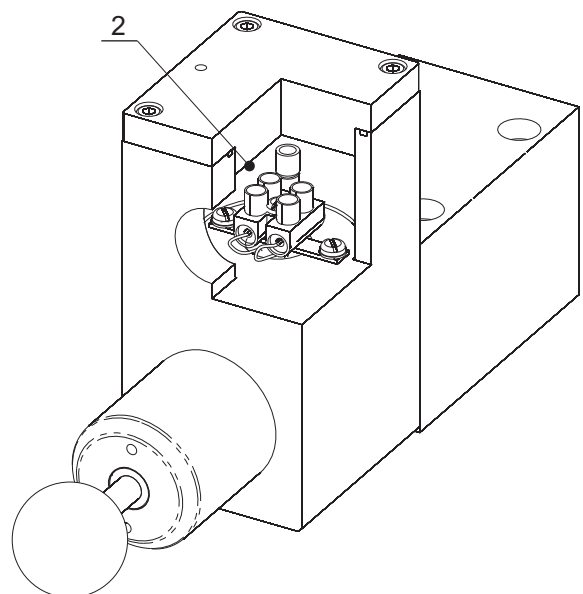
On terminal strip inside the explosion proof terminal box suitable for 0.5 to 2 mm² with cable gland Ex "d".

2) Protection Ex "e"

On terminal strip inside the increased safety terminal box suitable for 0.5 to 2 mm² with cable gland Ex "e".



Ex emb



Ex dmb

RACCORDEMENT ÉLECTRIQUE

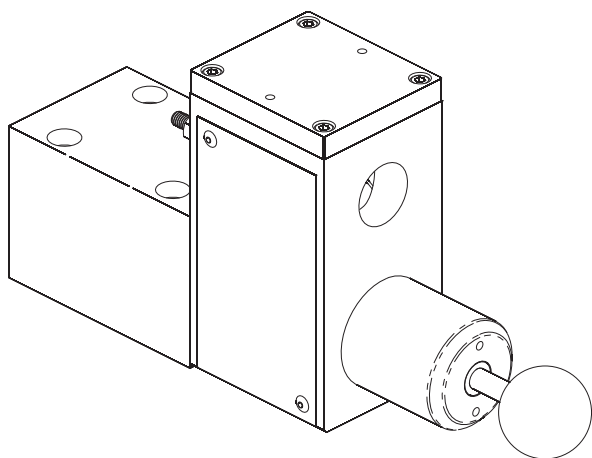
Connection

The electrical connector on the outlet terminal box can be arranged horizontally suitable for cable gland.

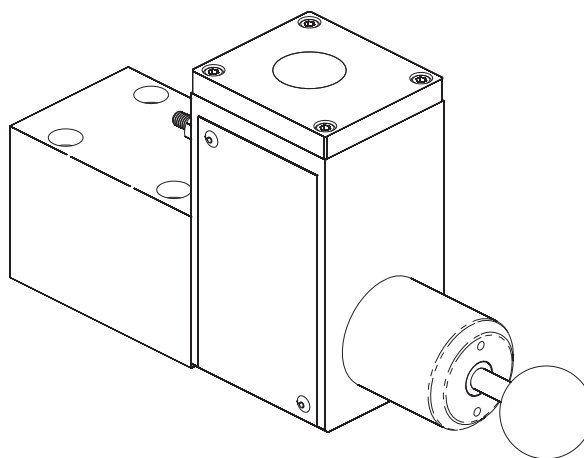
One earth connection is available inside or outside the terminal box.

In standard the connection is horizontal.

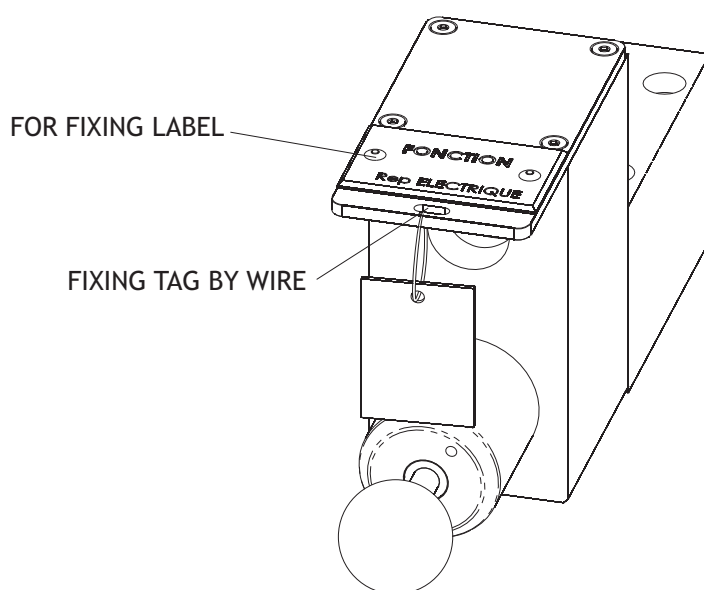
Horizontal connexion



Vertical connection



OPTION FOR IDENTIFICATION TAG IN VERSION Ex e mb



HYDRAULIC CODE

		ED6	6X				
3 service ports		3					
4 service ports		4					
							D
							Y
				OF			D
				O			D
							E
							J
							G
Middle position	Normal position						
Hydraulic housing series number.			6X				
<i>The above refer to symbols D, Y only.</i> Without return spring, with locking control spool. Without return spring. With return springs : No code							OF O
<i>The above refer to E, J, G, ... Ect.</i> With one solenoid side A. With one solenoid side B. With one solenoid side A and side B.: No code							A B
For use when the flow is greater than the valve capacity, fitted in P line.							Throttle Ø 0,8 MM : B08 Throttle Ø 1,0 MM : B10 Throttle Ø 1,2 MM : B12 Without throttle : No code

ELECTRIC CODE

900 - 24 DC

T For identification tag (only Ex em)
Without: standard plate

ed For protection Ex emb.
For protection Ex dmb.
For mining Ex dmb.

1 : 1/2" NPT
2 : PG 11 (Only EX me)
3 : PG 13.5 (Only EX me)
4 : PG 16 (Only EX me)
5 : M 16 x 1.50
6 : M 20 x 1.50
7 : M 22 x 1.50

H Horizontal connection on the box.
V Vertical connexion (only Ex md)

PB Control pushbutton Side B of Valve.
CB Punch operating with locking position
SB Screw Control
No code : Without control pushbutton

PA Control pushbutton Side A of Valve.
CA Punch operating with locking position
SA Screw Control
No code : Without control pushbutton

T...

DC Solenoid energized in direct current.

24 solenoid power supply in Volt. 24VDC.
See table on page 6 for correspondance with the temperature range T4,T5,T6.

900 Serie 800900

EX Solenoid european standard (DIRECTIVES ATEX).

IEC Solenoid international standard. (IECEX)



CARACTERISTICS

GENERALITY

Mounthing position		Optional - Horizontal preferred
Weight	(Kg)	2.3
	(Kg)	3.3
Painting		RAL on demand

HYDRAULIC

Max. operating pressure	Ports A, B, P .	bar	250
	Port T .	bar	100
With spool type A and B, port T must be used as a drain port, if the operating pressure lies above 100 Bar.			
Pressure drop			see operating curves of pressure drop
Hydraulic fluid			Mineral oils
Fluid temperature range		°C	-20 à +70°C
Viscosity range		mm ² /s	2.8 à 350
Degree of pollution			Class 9 under NAS 1638

Standard symbol

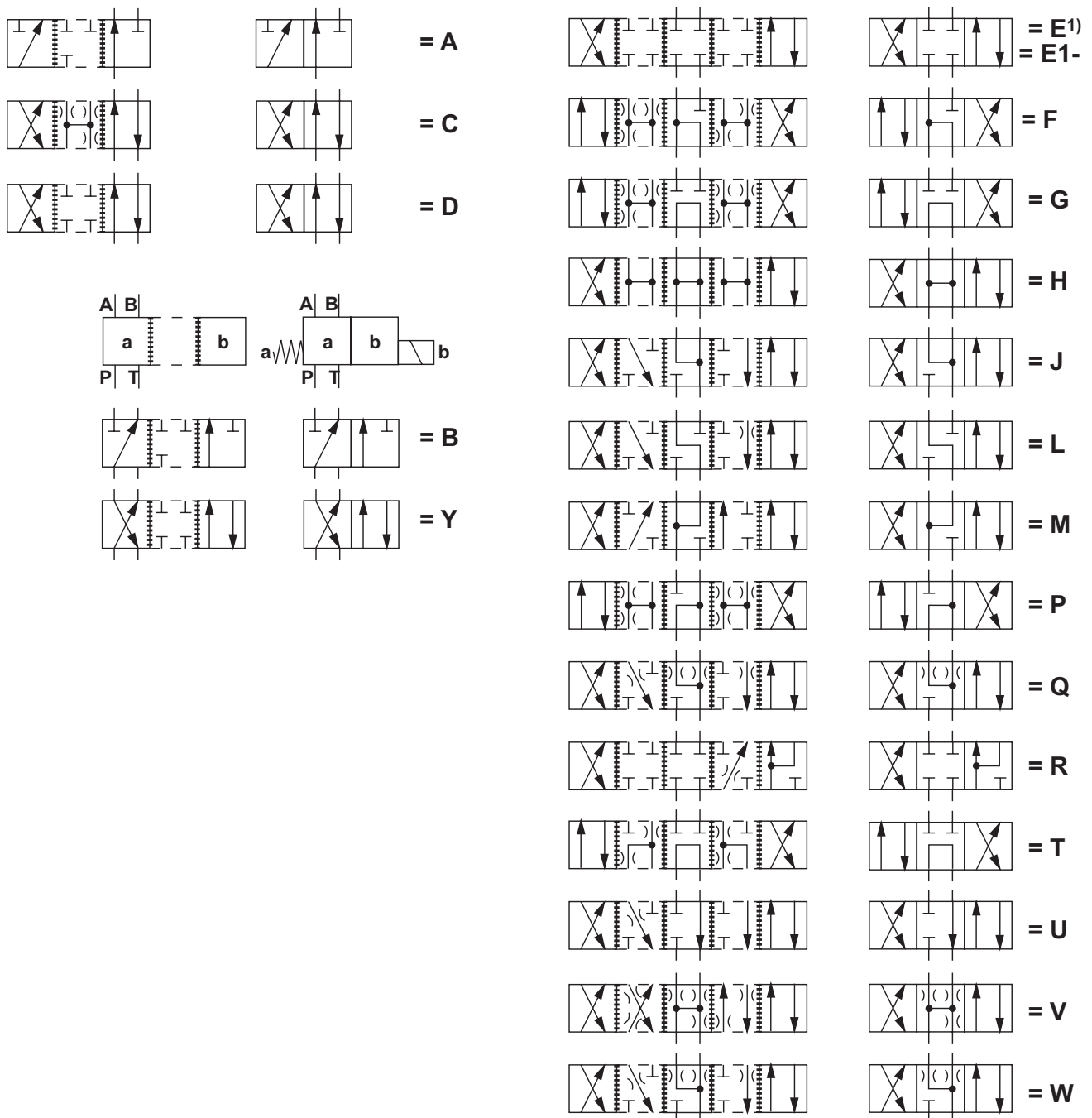
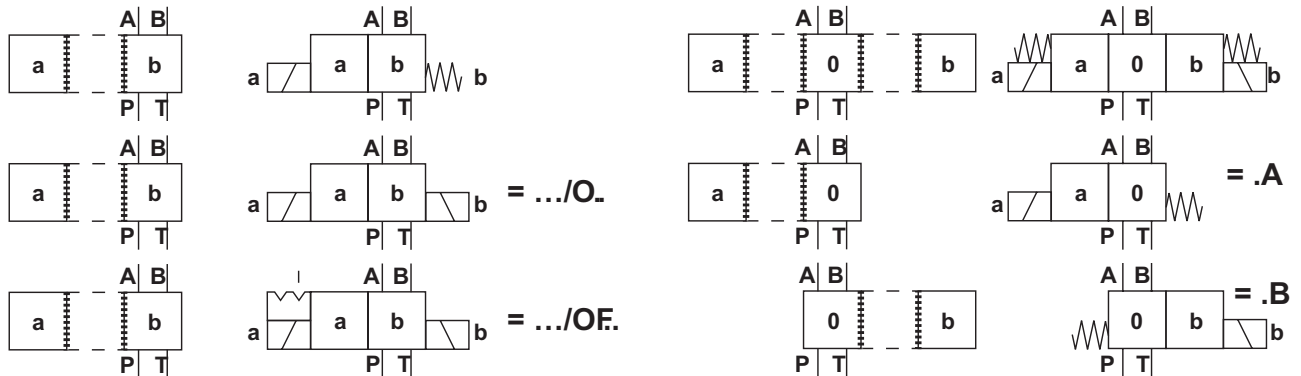
ELECTRICAL

Continous voltages available	V/DC	24	
Temperature range with ambiente 40°C		T6	85°C
Temperature range with ambiente 50°C		T5	100°C
Temperature range with ambiente 60°C		T5	100°C
Power requirement	VA	11.5	
Protection index			IP66
Duty cycle			100%
Mini Temperature range			-25°C
Outlet connection on terminal box			1/2"NPT-PG11-PG13.5-PG16-M16x1.5-M20x1.5-M22x1.5

CERTIFICATE OF CONFORMITY

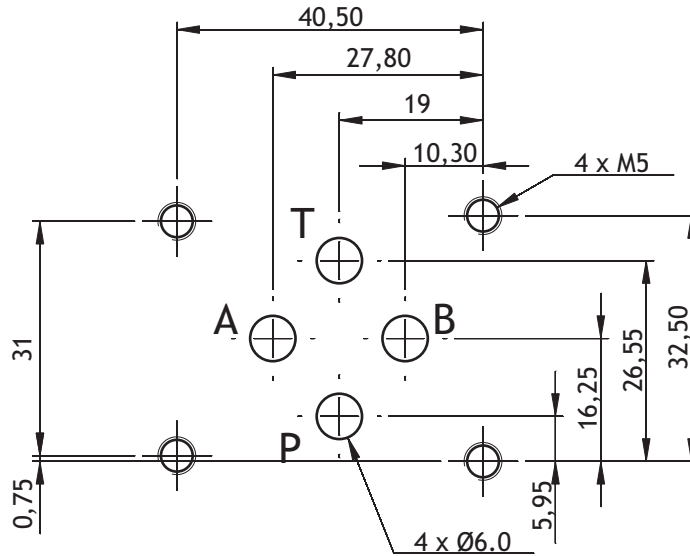
European classification code	II2GD ou IM2 c Ex d mb I Mb ou c Ex d mb IIC Tx Gb ou c Ex e mb IIC Tx Gb c Ex tb IIIC Txx Db IP66	INERIS 11ATEX0018X INERIS 03 ATEXQ718
	Internatinal classification code	Ex d mb I Mb ou Ex d mb IIC Tx Gb ou Ex e mb IIC Tx Gb Ex tb IIIC Txx Db IP66

HYDRAULIC VARIATION SYMBOLS



HYDRAULIC VALVE CONNECTION

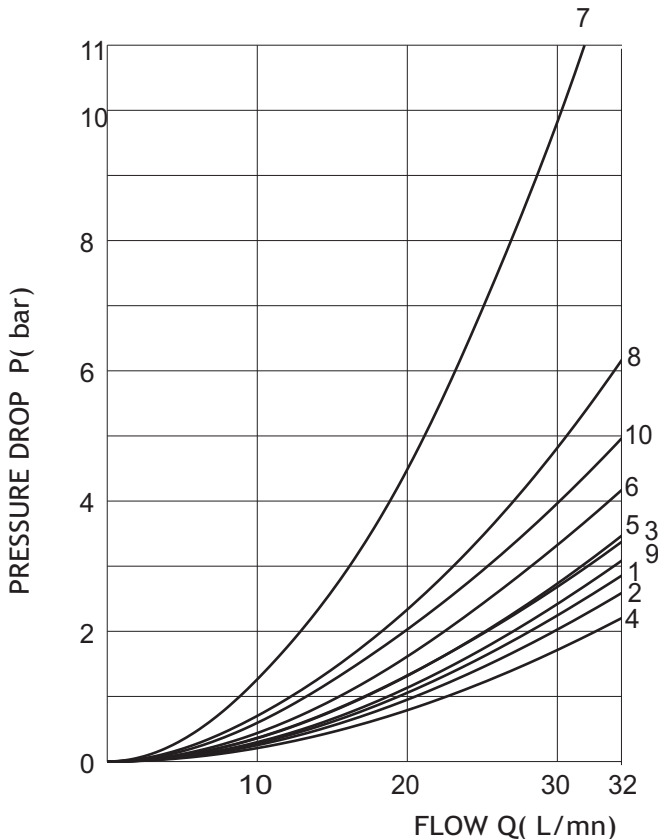
HYDRAULIC VALVE CONNECTION CETOP3



CURVES OF PRESSURE DROP

CURVE 7 : SYMBOL "R" IN SWITCHING POSITION : B - A

CURVE 8 : SYMBOL "G" IN NEUTRAL POSITION : P - T



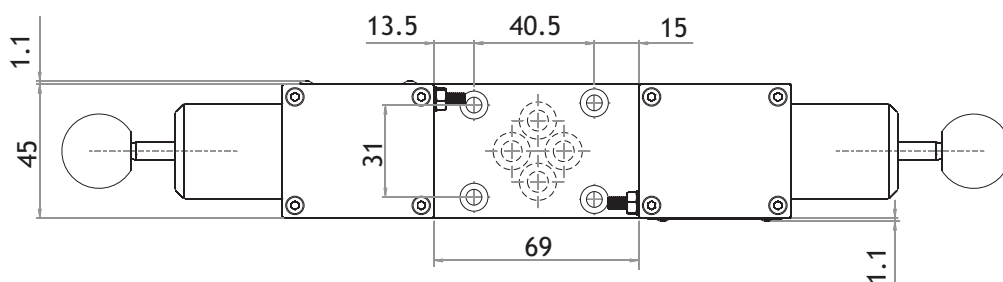
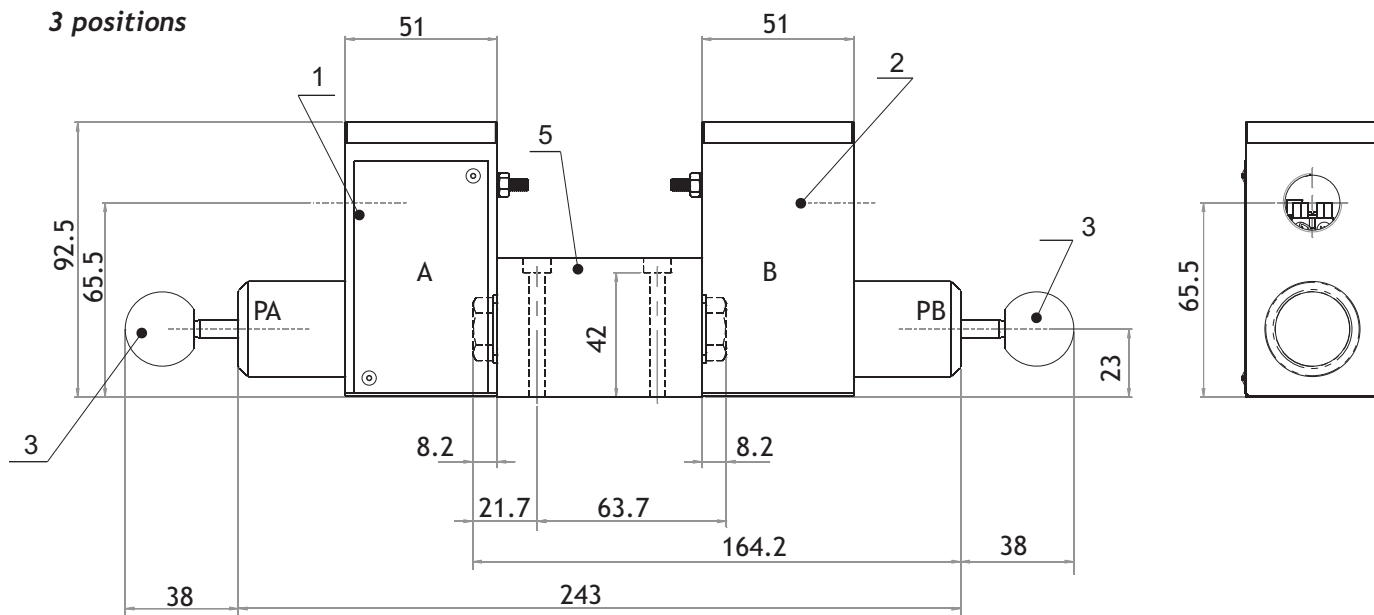
Mesured at $V : 36 \text{ mm}^2 / S$, $t : 50^\circ \text{C}$

SYMBOL	FLOW DIRECTION			
	P->A	P->B	A->T	B->T
A	3	3	-	-
B	3	3	-	-
C	1	1	3	1
D	5	5	3	3
E	3	3	1	1
F	1	3	1	1
G	6	6	9	9
H	2	4	2	2
J	1	1	2	1
L	3	3	4	9
M	2	4	3	3
P	3	1	1	1
Q	1	1	2	1
R	5	5	4	-
T	10	10	9	9
U	3	3	9	4
V	1	2	1	1
W	1	1	2	2
Y	5	5	3	3

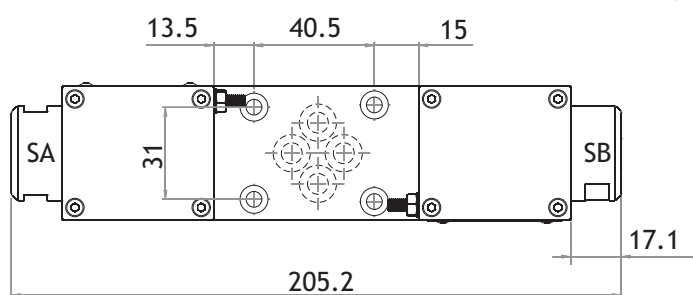
ENCOMBREMENTS

CONNECTION WITH A BOX AND A TERMINAL BLOCK

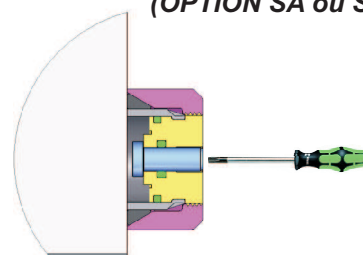
3 positions



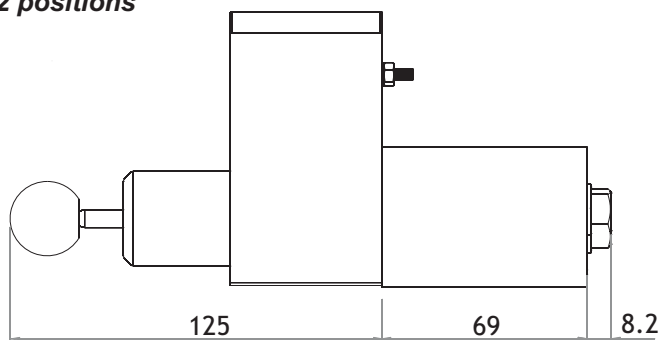
3 positions



(OPTION SA ou SB)

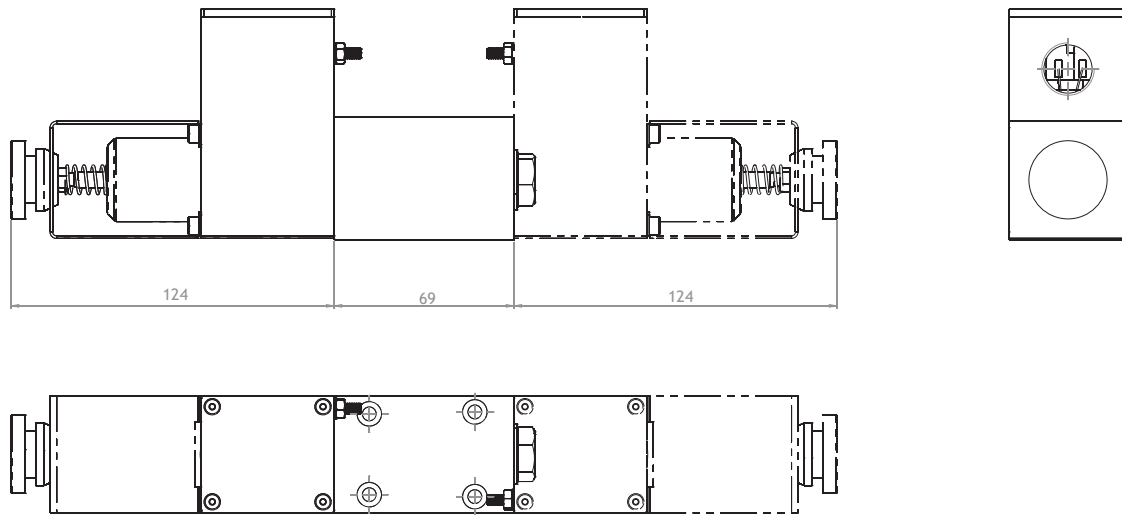


2 positions

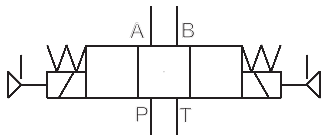


- 1 : Solenoid housing side A
- 2 : Solenoid housing side B
- 3 : Without pushbutton housing
- 4 : Control pushbutton
- 5 : Hydraulic housing
- 6 : 4 fixing screws M5 x 50 DIN 912-10.9, to be ordered separately
- 7 : 4 rectangular seals 9,81 x 1,5 x 1,78

Punch operating with locking position



SYMBOLIC



ORIENTATION OF SOLENOID

