

## CARACTERISTICS

### Hydraulic :

Cetop 3.  
Maximum service pressure : 250 Bar.  
Nominal flow max. : 11 l/mn.  
4 hydraulic symbols : 4/2 et 3/2.  
No leakage inside.  
With or without pushbutton.

### Electric :

Protection index : IP 66.  
**CENELEC Standard & ATEX Directive**  
**Non-Mining : II 2 GD EExd or EExde, Group I or IIB+H2.**  
Temperature range : T6, T5, T4.  
**Mining : EEx"d" ou EEx"de", I M2.**  
Connections on terminal box or taped flange.



M-3 SEW6 C 3X-7 / 420 / Ex700 24-DC-T5 H1d

## DESCRIPTION OF FUNCTION

Operated check valve type SEW6, are solenoid operated directional ball valves. They control start stop and direction of oil flow.

The valves basically consist of the housing (1), one solenoid (2) seat-valve unit (3), hardened steel ball (4). The force of the solenoid (2) acts via the lever (6) on the check (7) and on the control push (8) .

The filter in alimentation protect the check valve from too much clog.

The spring (9) lock the check on the valve seat in neutral position from the solenoid (2) in work position.

### VALVE 3/2 :

#### Symbol U valve with 1 check :

- neutral position : flow from P to A, T locked without leakage.
- work position : flow from A to T, P locked without leakage.

#### Symbol C valve with 2 checks

- neutral position: flow from A to T, P locked without leakage
- work position: flow from P to A, T locked without leakage.

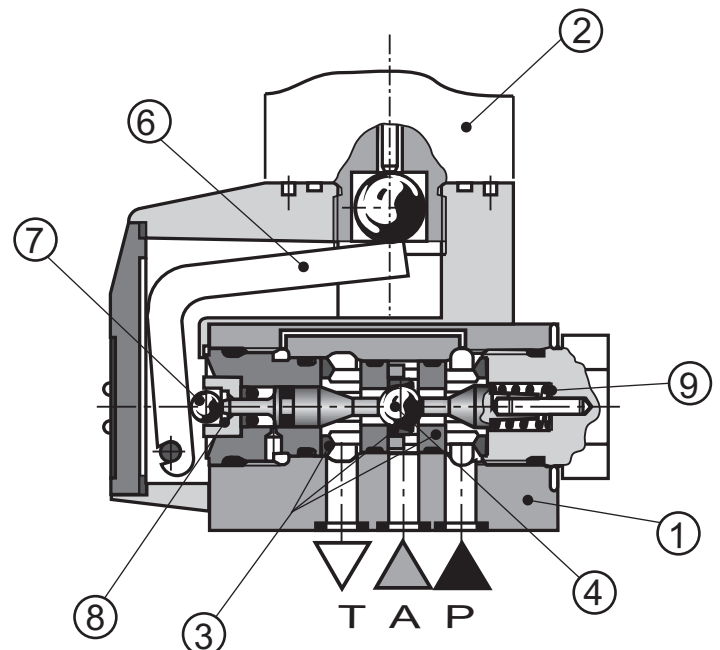
### VALVE 4/2 :

#### Symbol D :

3/2 valve symbol U with 1 check and with 1 plate.

#### Symbol Y :

3/2 valve symbol C with 2 checks and with 1 plate.



## GENERALITY

Direct current solenoid (1) its mechanical impact strength is approved by the CENELEC for explosion proof equipment.

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

Direct current 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.

The solenoid housing can be oriented in steps of 90° on hydraulic valve.

## ELECTRIC CONNECTION

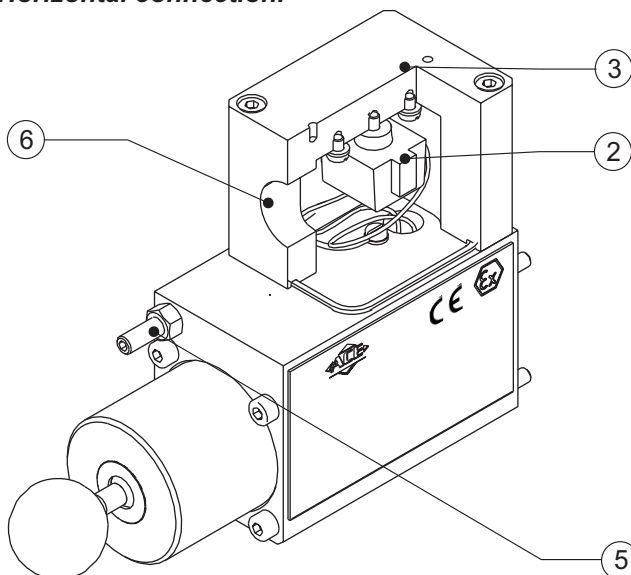
### Junction in box for group I and IIB+H2

The terminal box (3) can be oriented in steps of 45° on the solenoid housing (1).

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 .

### Model H1, H2, ... (Box) Horizontal connection.



### 2 different protection modes.

1) Protection EEx "d"  
On terminal strip (2A) inside the explosion proof terminal (3A) box suitable for 0.5 to 1.5 mm<sup>2</sup> with cable gland EEx "d".

2) Protection EEx "e"  
On terminal strip (2B) inside the increased safety terminal box (3B) suitable for 0.5 to 2.5 mm<sup>2</sup> with cable gland EEx "e".

The terminal box is produced in aluminium as standard, but production in STEEL possible on request.

## ELECTRIC CONNECTION

### **Junction On Female Taped Flange For Group II Only.**

Connection with threaded rigid conduit approved in group II only.  
Seal integrated in the housing.

It is produced according to the "d" protection mode using a certified type of rigid conduit (threaded tube).

Seal integrated in the housing.

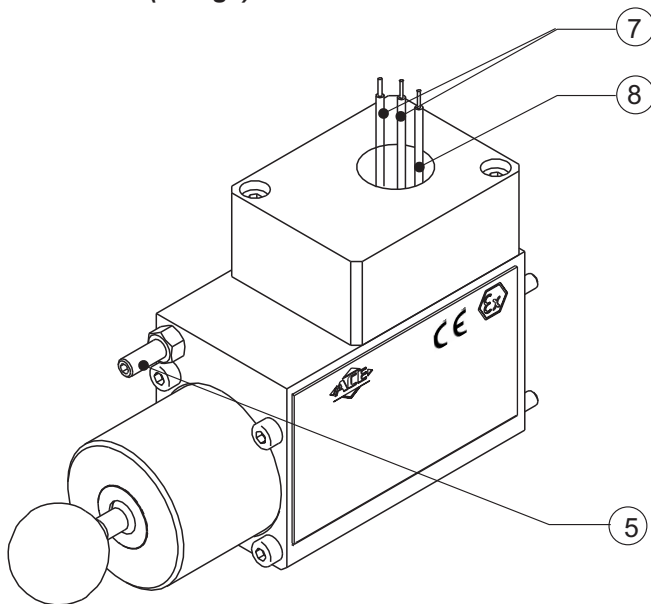
Available with either a horizontal (BH) or vertical (BI) electrical output .

Earth connexion (5).

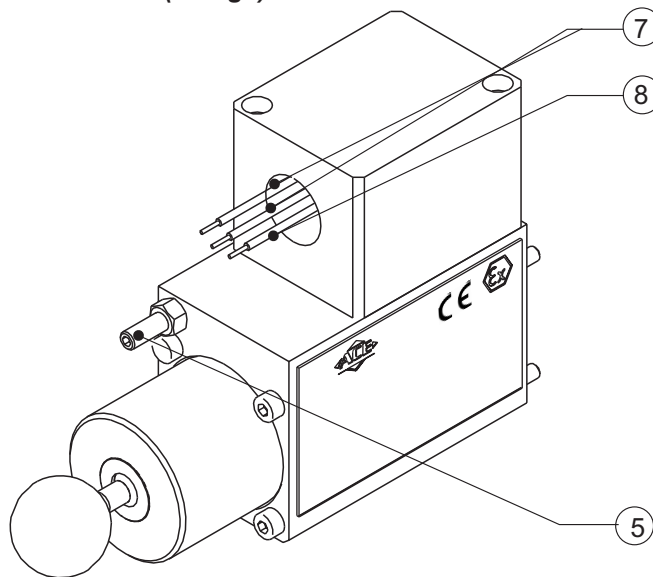
The lead wire length normally supplied is 1.5 meter.  
Active lead wires (7).  
Earth lead wire (8).

Other lengths to order.

**Model "BI" (Flange)**



**Model "BH" (Flange)**



### **Cable Gland Recognized**

PE option (see page 5)

Cable gland for unarmored cable EEx"d" IIC recognized in 1/2" NPT and with a diameter of Ø6 to Ø9 mm over a sealing shield.

Also available in EEx"d", EEx"e" group I or group IIC for armored, unarmored or mineral cable : Consult us.

# HYDRAULIC

## REFERENCES

**- SEW6 3X-7 / 420**

Mineral Oil

**M**

3/2 switching position symbol C & U  
4/2 switching position symbol D & Y

**3**  
**4**



**C**  
**U**



**Y**  
**D**

Serie number 30 to 39

**3X-7**

Hydraulic Housing serie


**420**

*For use when the flow is greater than the valve capacity, fitted in P line.*

**B12**  
**B15**  
**B18**  
**B20**  
**B22**

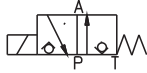
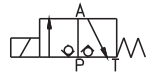

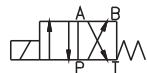
Without check valve  
With check valve

**P**

- Ex700 - -									
<b>PE</b>	Other cable gland, consult us. With standard cable gland. No code : Without cable gland.								
<b>d</b> <b>e</b>	With EEx"d" box . With EEx"e" box. No code. : For EEx"d" taped flange								
<b>1</b> : : : <b>7</b>	<table border="0"> <tr> <td><b>1</b> : 1/2" NPT</td> <td><b>5</b> : M 16 x 1.50</td> </tr> <tr> <td><b>2</b> : PG 11</td> <td><b>6</b> : M 20 x 1.50</td> </tr> <tr> <td><b>3</b> : PG 13.5</td> <td><b>7</b> : M 22 x 1.50</td> </tr> <tr> <td><b>4</b> : PG 16</td> <td></td> </tr> </table>	<b>1</b> : 1/2" NPT	<b>5</b> : M 16 x 1.50	<b>2</b> : PG 11	<b>6</b> : M 20 x 1.50	<b>3</b> : PG 13.5	<b>7</b> : M 22 x 1.50	<b>4</b> : PG 16	
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<b>4</b> : PG 16									
<b>H</b> <b>V</b> <b>B</b>	<p><b>H</b> Horizontal connection on the box.</p> <p><b>V</b> Vertical connection. On cover of the box.</p> <p><b>B</b> For taped flange, Group II only.</p>								
<b>P</b>	Control pushbutton .  No code : Whithout control pushbutton.								
<b>T5</b>	Temperature range (For group II only).								
<b>DC</b>	Solenoid energized in continous current.								
<b>24</b>	Solenoid power supply in Volt. 24 ...								
<b>Ex700</b>	Explosion proof European standards (CENELEC) & ATEX Directive.  SERIES 800700								
<b>M</b>	Solenoid for use in mining ( Group I).  No code : Solenoid for use in explosive atmosphere ( Group II).								

## CARACTERISTICS

### HYDRAULIC

Maximum operating pressure : Ports A, B, P.	Bar	Up to ... 250
Maximum operating pressure : Port T.	Bar	Up to ... 100
Maximum flow	L/Mn	(see operating curves of pressure drop page 8)
Hydraulic fluid	.	Mineral oils
Viscosity range	mm <sup>2</sup> /s	1 .....380
Fluid temperature range	(°C)	-30° .....+70
Weight :	- valve without plate (Kg) - valve with plate (Kg)	4.0 4.4
Mounting position :	- 3 Positions - 2 Positions	Optional Optional
Standard symbol :	- 2 positions - 3 positions	 <b>U</b>  <b>C</b>  <b>D</b>  <b>Y</b>

### ELECTRICAL

Continous voltages available.	V/DC					24							
Temperature range with ambiente 40°C.	T					T5							
Temperature range with ambiente 50°C	T					T4							
Power requirement.	VA					16.4							
Protection index.		IP 66 / Tropicalised											
Duty cycle.		100 %											
Maximum coil temperature.	(°C).	130°C											
Outlet connection on terminal box or taped flange		1/2"NPT, PG11, PG13.5, PG16, M16 x 1.5, M20 x1.5, M22 x 1.5.											

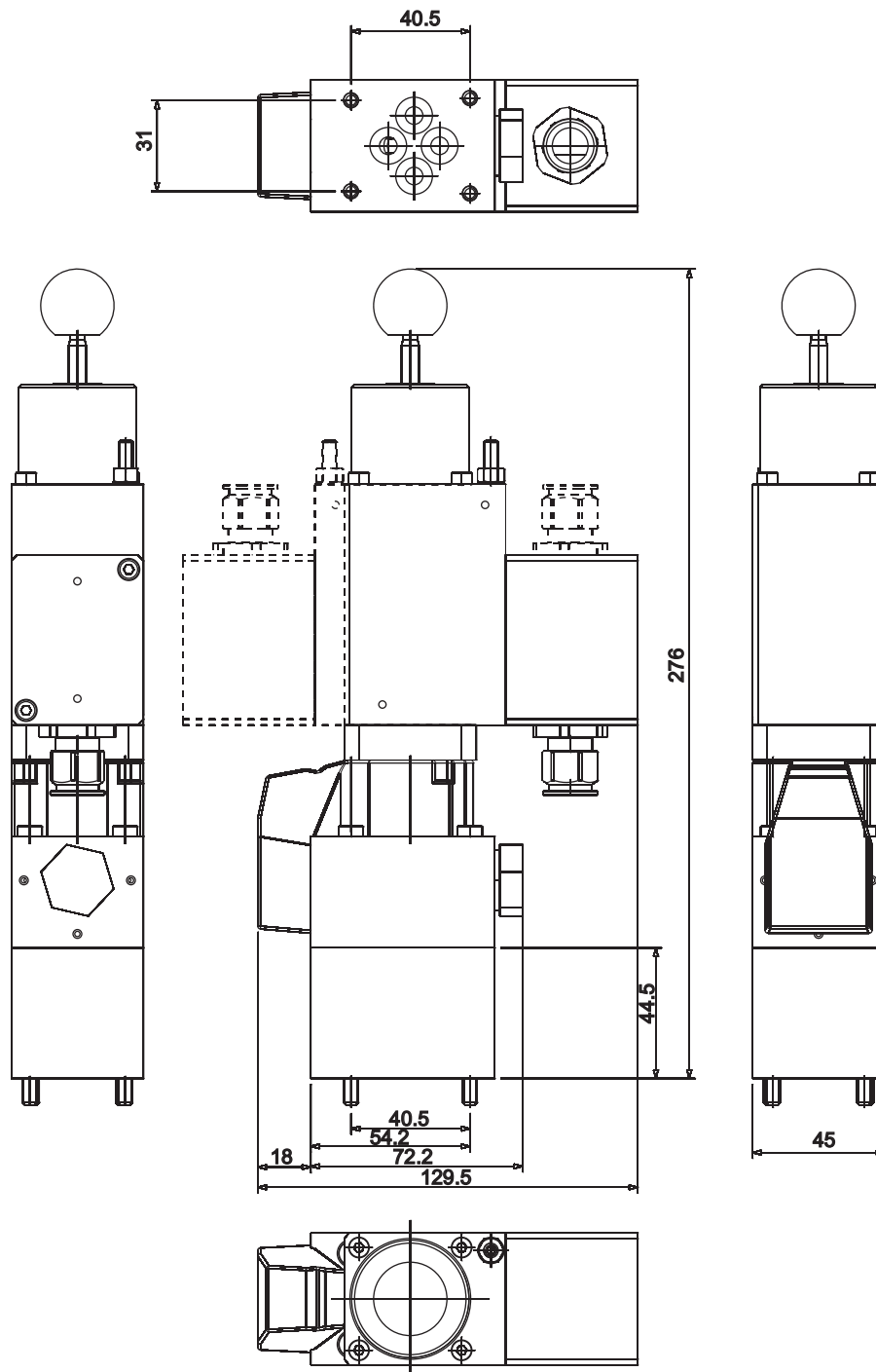
### CERTIFICATE OF CONFORMITY

European classification code	Group IIB+H2	Group I
Explosion proof	EEx"d" IIB+H2	EEx"d" I.
Increased safety	EEx"de" IIB+H2	EEx"de" I.
Approval number INERIS	02 ATEX 0024 X	02 ATEX 0024 X

### STANDARD

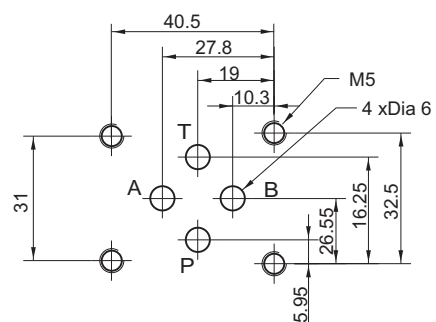
Conformity to European Standards from 94/9/CE.	Europe		
	EN 50 014	-JUNE	1997 + AMENDMENT 1 ET 2
	EN 50 018	-NOVEMBER	2000
	EN 50 019	-JULY	2000
	EN 50 50281-1-1	-SEPTEMBER	1998

## DIMENSIONS



## HYDRAULIC VALVE CONNECTION

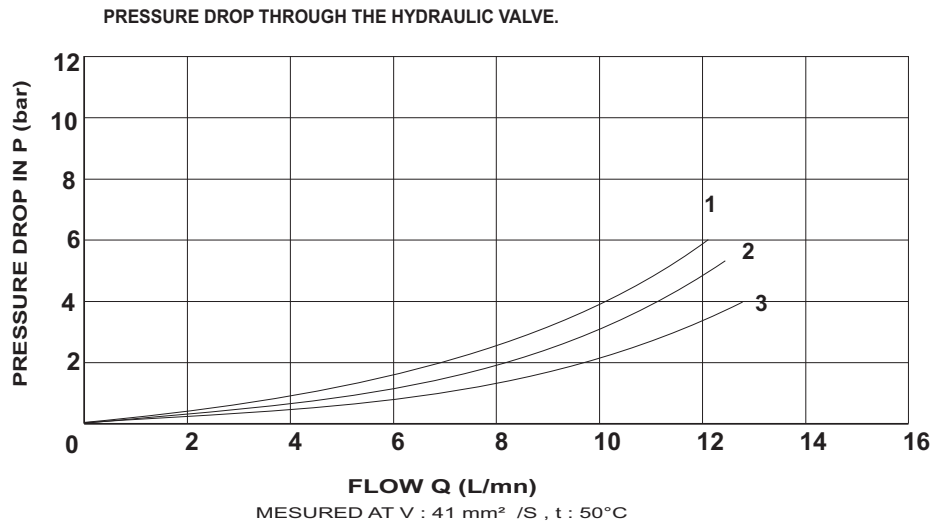
HYDRAULIC VALVE  
CONNECTION  
SIZE 6 TYPE CETOP 3



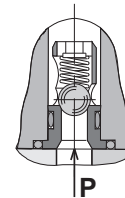
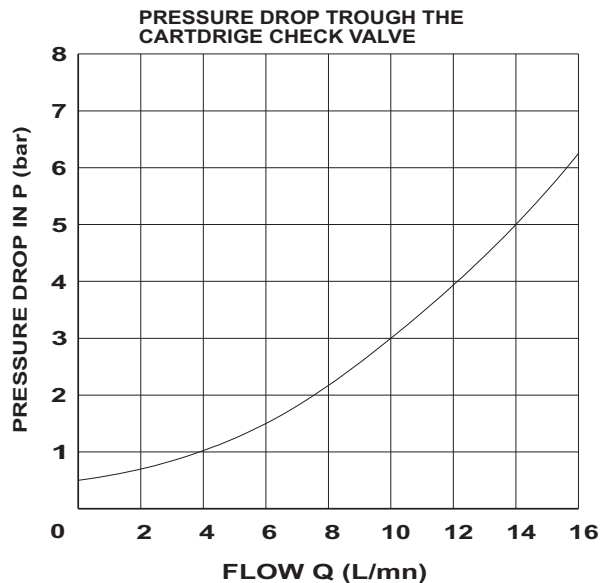
## CURVES OF PRESSURE DROP

### VALVES 3 And 4 PORTS - 2 POSITIONS

- 1 : M-3SEW6 U or C , A to T
- 2 : M-3SEW6 U , P to A
- 3 : M-3SEW6 C , P to A



## CARTDRIGE CHECK VALVE



CARTDRIGE CHECK VALVE

For the valves 3/2 the cartridge is inserted in port P of the check valve.

For the valves 4/2 the cartridge is inserted in port P of the plate N+1.

## CARTRIDGE THROTTLE

### CARTRIDGE THROTTLE :

For use when the flow is greater than the valve capacity, fitted in P line.

For the valves 3/2 the cartridge is inserted in port P of the check valve.

For the valves 4/2 the cartridge is inserted in port P of the plate N+1.

