

PILOT OPERATED SOLENOID VALVE CEME 2/2 ESM 87 NO

MAIN CHARACTERISTICS

The ESM 87 solenoid valve is a 2/2 piloted valve dedicated to the shut off of clean and non-aggressive fluids. The operation way is normally opened. The standard construction includes quality brass body and cover, internal parts in stainless steel and diaphragm is NBR. This solenoid valve is also available with several diaphragm materials and various coil voltages. The ESM 87 W version 1/2 " , 3/4 " and 1 " have the French homologation ACS for the drinking water.

AVAILABLE MODELS

ESM87 : G 3/8" to G 3"

ESM87W : G 1/2" to G 1"

Diaphragm : NBR, EPDM et FPM.

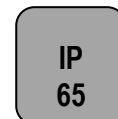
Voltages : See on page 3.

BSP Screwed end connections.

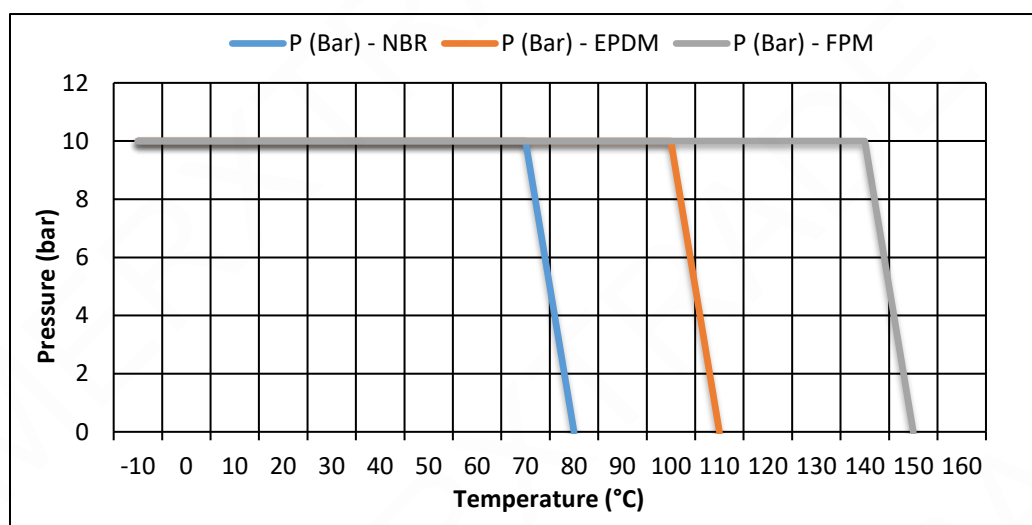


LIMITS OF USE

| | | | |
|---|---------------|---------------|---------------|
| Electric protection | IP 65 | | |
| Max allowed fluid pressure : PS | 0 - 10 bar | | |
| Max allowed fluid temperature : TS | NBR | EPDM | FPM |
| | -5°C / +80°C | -5°C / +110°C | -5°C / +150°C |
| Room temperature | -10°C / +80°C | | |



* In direct current, over 40°C, the maximum differential pressure can be reduced.

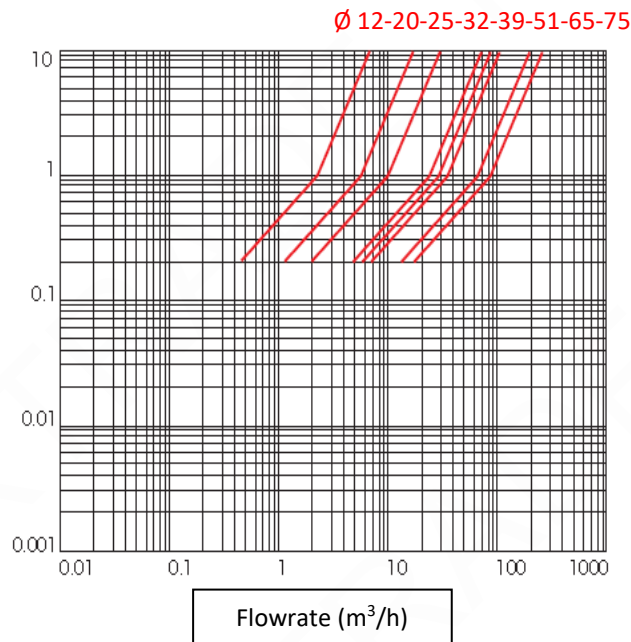


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REGULATIONS AND STANDARDS OF CONSTRUCTION

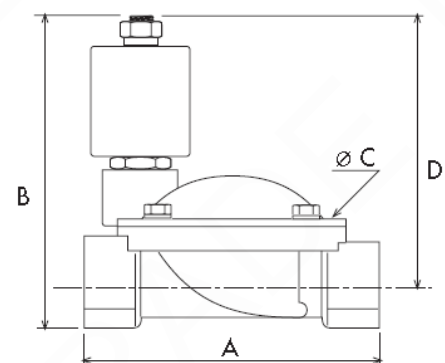
| Item | Standard | Item | Standard |
|---|------------------------------|--------------------------|----------------------|
| Pressure Equipement Directive CE 2014/68 | 3/8" to 1" : A3 § 3 excluded | Brass materials | EN 1503-4 |
| | 1"1/4 to 3" : category I | | |
| Low voltage directive CE 73/23 | category I | BSP thread | ISO 228 |
| Connector | DIN 43650 | Drinking water (ESM87 W) | 1/2" : 10 ACC LY 343 |
| | | | 3/4" : 10 ACC LY 343 |
| | | | 1" : 10 ACC LY 343 |

PRESSURE LOSS DIAGRAM (BAR)



DIMENSIONS (mm) AND WEIGHT (kg)

| DN | A | B | C | D | Weight (Kg) |
|----------|-----|-----|-----|-----|-------------|
| G 3/8" | 61 | 95 | 48 | 83 | 0,6 |
| G 1/2" | 61 | 95 | 48 | 83 | 0,6 |
| G 3/4" | 87 | 107 | 69 | 91 | 1 |
| G 1" | 100 | 113 | 80 | 93 | 1,2 |
| G 1" 1/4 | 131 | 128 | 112 | 101 | 2,8 |
| G 1" 1/2 | 146 | 135 | 128 | 105 | 3,5 |
| G 2" | 174 | 151 | 146 | 114 | 4,8 |
| G 2" 1/2 | 245 | 186 | 184 | 140 | 11,4 |
| G 3" | 250 | 196 | 184 | 145 | 12 |



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HYDRAULIC CHARACTERISTICS

| DN | Port (mm) | Kv (m ³ /h) | Min diff. pressure (bar) | Max diff. pressure (bar) | Coil | Operating time |
|----------|-----------|------------------------|--------------------------|--------------------------|------|----------------|
| G 3/8" | 10 | 1,86 | 0,3 | 10 | B 6 | 20-60 ms |
| G 1/2" | 12 | 2,1 | 0,3 | 10 | | |
| G 3/4" | 20 | 5,7 | 0,3 | 10 | | |
| G 1" | 25 | 9,6 | 0,3 | 10 | | 50-80 ms |
| G 1" 1/4 | 32 | 22 | 0,3 | 10 | | |
| G 1" 1/2 | 39 | 27 | 0,3 | 10 | | |
| G 2" | 51 | 35 | 0,3 | 10 | | |
| G 2" 1/2 | 65 | 63 | 0,3 | 10 | | |
| G 3" | 75 | 83 | 0,3 | 10 | | |

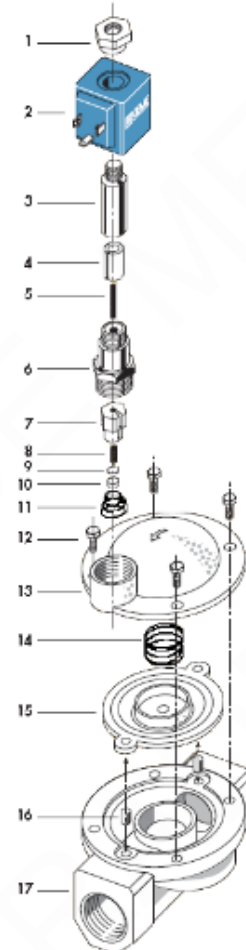
ELECTRIC CHARACTERISTICS

Coil classified H. Duty 100%. Connecting by connector T30.

| Coil | Current | Available voltages (V) | | | | | | Frequency | | Power consumption | |
|------|---------|------------------------|----|----|-----|-----|-----|-----------|-------|-------------------|-------|
| | | 12 | 24 | 48 | 110 | 230 | 400 | 50 Hz | 60 Hz | Holding | Rush |
| B 6 | AC Coil | 12 | 24 | 48 | 110 | 230 | 400 | 50 Hz | 60 Hz | 15 VA | 25 VA |
| | DC Coil | 12 | 24 | 48 | 110 | | | | | 16 W | |

CONSTRUCTION

| N° | Item | Material |
|----|------------|--------------------------|
| 1 | Lock nut | Zincated steel |
| 2 | Coil | PBT + 30% G.F. |
| 3 | Tube guide | Stainless steel AISI 430 |
| 4 | Plunger | Stainless steel AISI 430 |
| 5 | Spring | Stainless steel AISI 430 |
| 6 | Tube guide | Stainless steel AISI 430 |
| 7 | Shutter | Stainless steel AISI 303 |
| 8 | Spring | Steel |
| 9 | Support | Stainless steel |
| 10 | Seal | NBR |
| 11 | Spring | Steel |
| 12 | Screw | Stainless steel |
| 13 | Cover | Brass CW 617 N |
| 14 | Spring | Steel |
| 15 | Diaphragm | NBR/EPDM/EPDM KTW/FPM |
| 16 | Bush | Brass |
| 17 | Body | Brass CW 617 N |



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USE ON DRINKING WATER

The W version of the ESM 87 in diameters 1/2 " , 3/4 " and 1 " can be used on the networks of drinking water. It has the French homologation ACS.

RISK OF CONDENSATION

In case of use in a wet area or on a network of cooling fluid, there is a risk of condensation between the coil and the pilot-tube. This phenomenon can cause damage to the coil. Consult for other alternative solution.

RISK OF FREEZING

If the fluid of the network is likely to freeze, intend to provide a heating system adapted to the solenoid valve.

MOUNTING

Installation in every position except horizontal pipe with coil towards the bottom.

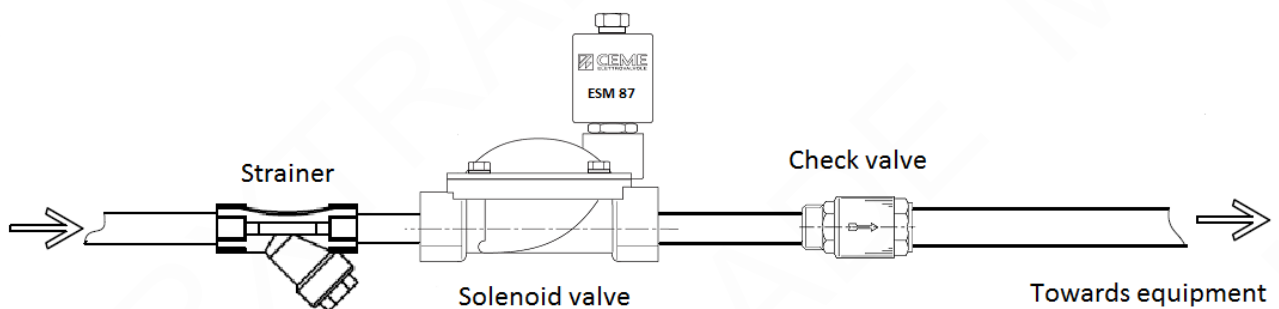
Respect the sense of flow indicated by the arrow marked on the body.

For an use on liquids, the installation of a strainer for upstream protection is recommended.

Check-valve :

A solenoid valve cannot be used as a check-valve. A de-energized normally closed solenoid valve can be crossed by a downstream counterflow. If a both side tightness is required, please add a check-valve downstream of the solenoid valve.

Example



Scaling :

A solenoid valve used on hard water and kept energized during long period can face scaling problem that can block the operation. For this kind of application, please consult.



Conform also to the assembly instructions supplied with the solenoid valve.

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SPARE PARTS

| B 6 - B 6S coil type (Number A) | | | | | | | Connector | | |
|---------------------------------|-----------|----------|----------|-----------|-----------|-----------|-----------|--------|----|
| Voltage | 230V 50Hz | 24V 50Hz | 48V 50Hz | 110V 50Hz | 12V cc | 24V cc | T30 | | |
| Code | 980330 | 980331 | 980333 | 980334 | 980335 | 980336 | 980696 | | |
| Voltage | 230V 60Hz | 24V 60Hz | 48V cc | 110V cc | 12V 50 Hz | 380V 50Hz | | | |
| Code | 980320 | 980321 | 980317 | 980318 | 980312 | 980319 | | | |
| Diaphragm (Number 15) | | | | | | | | | |
| DN | 3/8" | 1/2" | 3/4" | 1" | 1" 1/4 | 1" 1/2 | 2" | 2" 1/2 | 3" |
| NBR | 980604 | | 980632 | 980605 | 980634 | 980606 | 980607 | 980608 | |
| EPDM | 980614 | | 980642 | 980615 | 980644 | 980616 | 980617 | | |
| FPM | 980624 | | 980652 | 980625 | 980654 | 980626 | 980627 | | |
| EPDM W | | 980661 | 980662 | 980663 | | | | | |

CEME TRANSLATIONS REFERENCES

| ∅ Diameter | 3/8" | 1/2" | 3/4" | 1" | 1" 1/4 | 1" 1/2 | 2" | 2" 1/2 | 3" |
|------------|-----------------|------|------|------|--------|--------|------|--------|------|
| CEME | 8713 | 8714 | 8715 | 8716 | 8717 | 8718 | 8719 | 8720 | 8721 |
| SECTORIEL | See WEB catalog | | | | | | | | |