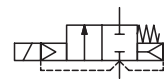




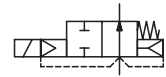
# SOLENOID VALVES

pilot operated  
built-in pilot, floating diaphragm  
3/8 to 2

NC



NO



2/2  
Series  
238

## FEATURES

- Minimum operating pressure differential  $\Delta P$  0,3/0,5 bar
- Two way valves for automatic control of water, air and inert gas and other gases/liquids compatible with the sealing materials used
- Interchangeability of magnetic heads, AC and DC
- The solenoid valves satisfy all relevant EU Directives

## GENERAL

|                           |  |     |     |     |       |       |      |
|---------------------------|--|-----|-----|-----|-------|-------|------|
| Differential pressure     | See «SPECIFICATIONS» [1 bar = 100 kPa] |     |     |     |       |       |      |
| Ambient temperature range | -10°C to +60°C                         |     |     |     |       |       |      |
| Maximum viscosity         | 40 cSt (mm <sup>2</sup> /s)            |     |     |     |       |       |      |
| Response time             | 3/8                                    | 1/2 | 3/4 | 1   | 1 1/4 | 1 1/2 | 2    |
| opening time (ms)         | 25                                     | 30  | 55  | 70  | 300   | 300   | 1500 |
| closing time (ms)         | 40                                     | 90  | 110 | 200 | 1000  | 1000  | 2000 |

| fluids (*)                        | temperature range (TS) | seal materials (*)    |
|-----------------------------------|------------------------|-----------------------|
| DN ≤ 25: air, inert gas and water | -10°C to +85°C         | NBR (nitrile)         |
| DN > 25: air and water            |                        | FPM (fluoroelastomer) |

## MATERIALS IN CONTACT WITH FLUID

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

|                        |                           |
|------------------------|---------------------------|
| Body                   | Brass                     |
| Internal parts         | Stainless steel and brass |
| Springs                | Stainless steel           |
| Diaphragm & valve disc | NBR                       |
| Seals and pilot disc   | FPM                       |
| Shading coil           | Copper                    |

## ELECTRICAL CHARACTERISTICS

|                                       |  |
|---------------------------------------|--|
| Coil insulation class                 | F  |
| Connector                             | Spade plug (cable Ø 6-8 mm or Ø 6-10 mm) |
| Connector specification               | DIN 43650, 11 mm, industry standard B    |
| for power coil: 4 W/6,9 W             | ISO 4400 / EN 175301-803, form A         |
| for power coil: 5/6,9W-8/9W-12,5/9W   | IEC 335                                  |
| Electrical safety                     | Moulded IP65 (EN 60529)                  |
| Electrical enclosure protection       | DC (=) : 24V - 48V                       |
| Standard voltages                     | AC (~) : 24V - 48V - 115V - 230V / 50 Hz |
| (Other voltages and 60 Hz on request) |  |

| prefix option | power ratings |           |            |       | operator ambient temperature range (TS) (C°) | replacement coil |            | type <sup>(1)</sup> |
|---------------|---------------|-----------|------------|-------|--|------------------|------------|---------------------|
|               | inrush ~      | holding ~ | hot/cold = |       |  | ~                | =          |                     |
|               | (VA)          | (VA)      | (W)        | (W)   |  | 230 V/50 Hz      | 24 V DC    |                     |
| SC            | 12            | 6         | 4          | 5/6,9 | -10 to +60                                   | 400127-197       | 400127-142 | 01 <sup>(2)</sup>   |
|               | 10,4          | 6         | 5          | 5/6,9 | -10 to +60                                   | 400727-117       | 400727-185 | 02                  |
|               | 23            | 14        | 8          | 7,5/9 | -10 to +50                                   | 511239-009       | 511239-002 | 03                  |
|               | 28            | 20        | 12,5       | 7,5/9 | -10 to +50                                   | 511239-014       | 511239-002 | 03                  |

<sup>(1)</sup> Refer to the dimensional drawings on the following page.

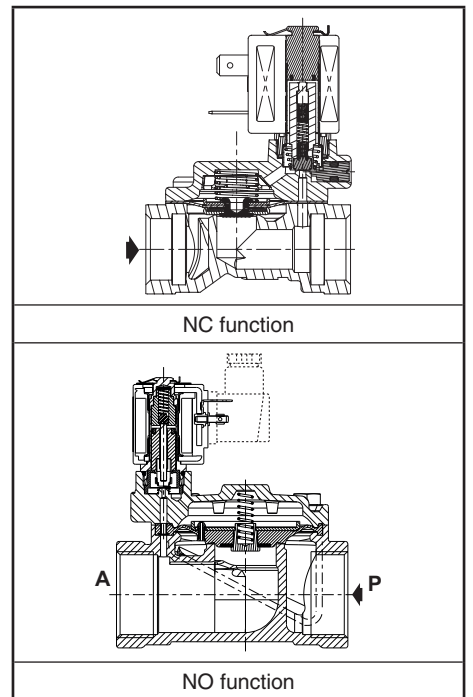
<sup>(2)</sup> UL/CSA certified.

## SPECIFICATIONS

| pipe size                   | orifice size | flow coefficient Kv |     | operating pressure differential (bar) |                 |    |      | power coil (W) |            | catalogue number | options |                          |            |      |
|-----------------------------|--------------|---------------------|-----|---------------------------------------|-----------------|----|------|----------------|------------|------------------|---------|--------------------------|------------|------|
|                             |              |                     |     | min.                                  | max. (PS)       |    | ~    |                |            |                  | =       | maintained man. operator | FPM        | EPDM |
|                             |              |                     |     |                                       | air / water (*) |    |      |                |            |                  |         |                          |            |      |
| <b>NC - Normally closed</b> |              |                     |     |                                       |                 |    |      |                |            |                  |         |                          |            |      |
| G* 3/8                      | 12           | 2,4                 | 40  | 0,3                                   | 10              | 10 | 4    | 6,9            | SCE238D001 | MO               | V       | E                        |            |      |
|                             |              |                     |     |                                       | 16              | 16 | 5    | 6,9            |            |                  |         |                          | SCE238D006 | MO   |
| G* 1/2                      | 12           | 2,4                 | 40  | 0,3                                   | 10              | 10 | 4    | 6,9            | SCE238D002 | MO               | V       | E                        |            |      |
|                             |              |                     |     |                                       | 16              | 16 | 5    | 6,9            | SCE238D007 | MO               | V       | E                        |            |      |
|                             | 15           | 4,2                 | 70  | 0,3                                   | 10              | 10 | 4    | 6,9            | SCE238D003 | MO               | V       | E                        |            |      |
|                             |              |                     |     |                                       | 16              | 16 | 5    | 6,9            | SCE238D008 | MO               | V       | E                        |            |      |
| G* 3/4                      | 20           | 6,6                 | 110 | 0,3                                   | 10              | 10 | 4    | 6,9            | SCE238D004 | MO               | V       | E                        |            |      |
|                             |              |                     |     |                                       | 16              | 16 | 5    | 6,9            | SCE238D009 | MO               | V       | E                        |            |      |
| G* 1                        | 25           | 9,9                 | 165 | 0,3                                   | 10              | 10 | 4    | 6,9            | SCE238D005 | MO               | V       | E                        |            |      |
|                             |              |                     |     |                                       | 16              | 16 | 5    | 6,9            | SCE238D010 | MO               | V       | E                        |            |      |
| G 1 1/4                     | 30           | 15                  | 250 | 0,5                                   | 10              | 10 | 8    | 9              | SCG238E016 | MO               | V       | -                        |            |      |
| G 1 1/2                     | 45           | 27                  | 450 | 0,5                                   | 10              | 10 | 8    | 9              | SCG238E017 | MO               | V       | -                        |            |      |
| G 2                         | 45           | 34                  | 566 | 0,5                                   | 10              | 10 | 8    | 9              | SCG238E018 | MO               | V       | -                        |            |      |
| <b>NO - Normally open</b>   |              |                     |     |                                       |                 |    |      |                |            |                  |         |                          |            |      |
| G 1 1/4                     | 30           | 15                  | 250 | 0,5                                   | 10              | 10 | 12,5 | 9              | SCG238E019 | -                | V       | -                        |            |      |
| G 1 1/2                     | 45           | 27                  | 450 | 0,5                                   | 9               | 9  | 12,5 | 9              | SCG238E020 | -                | V       | -                        |            |      |
| G 2                         | 45           | 34                  | 566 | 0,5                                   | 9               | 9  | 12,5 | 9              | SCG238E021 | -                | V       | -                        |            |      |



C




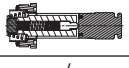
### OPTIONS

- Valves can also be supplied with FPM (fluorelastomer), EPDM (ethylene-propylene) seals, diaphragm and disc. Use the appropriate optional suffix letter for identification
- Explosionproof enclosures for use in zones 1/21-2/22, categories 2-3 to ATEX Directive 2014/34/EU (see "Explosionproof solenoids" section)
- Oxygen service, suffix NV, example: SCE238D002NVMO (Except pipe size G 1 1/4, G 1 1/2 and G 2)
- Plug with visual indication and peak voltage suppression or with cable length of 2 m (see Solenoids, Coils & Accessories section)

### INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Pipe connections (G\*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connections (G) have standard combination thread according to ISO 228/1
- Installation/maintenance instructions are included with each valve

### SPARE PARTS KIT

| catalogue number       | spare parts kit no. <sup>(1)</sup>  |   |
|------------------------|---|---|
|                        |  |  |
|                        | ~/=   | ~/=   |
| SCE238D001/002/006/007 | <b>C131600</b>  | <b>C140262V</b>   |
| SCE238D003/D008        | <b>C131618</b>  | <b>C140262V</b>   |
| SCE238D004/D009        | <b>C131606</b>  | <b>C140262V</b>   |
| SCE238D005/D010        | <b>C131609</b>  | <b>C140262V</b>   |

<sup>(1)</sup> Standard suffixes are also applicable to kits.

### ORDERING EXAMPLES:

|    |   |     |   |     |                |
|----|---|-----|---|-----|----------------|
| SC | E | 238 | D | 001 | 230V / 50 Hz   |
| SC | E | 238 | D | 008 | V 115V / 50 Hz |
| SC | E | 238 | D | 004 | E 24V / DC     |
| SC | G | 238 | E | 016 | 230V / 50 Hz   |

prefix — pipe thread — basic number — voltage — suffix

### ORDERING EXAMPLES KITS:

|                        |   |
|------------------------|---|
| C131600 <sup>(1)</sup> |   |
| C131618                | V |
| C140262                | E |

basic number — suffix

### DIMENSIONS (mm), WEIGHT (kg)



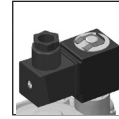
**TYPE 01**  
Prefix "SC" Solenoid  
Epoxy moulded  
IEC 335 / DIN 43650  
IP65

SCE238D001/002/004/005  
SCE238D003



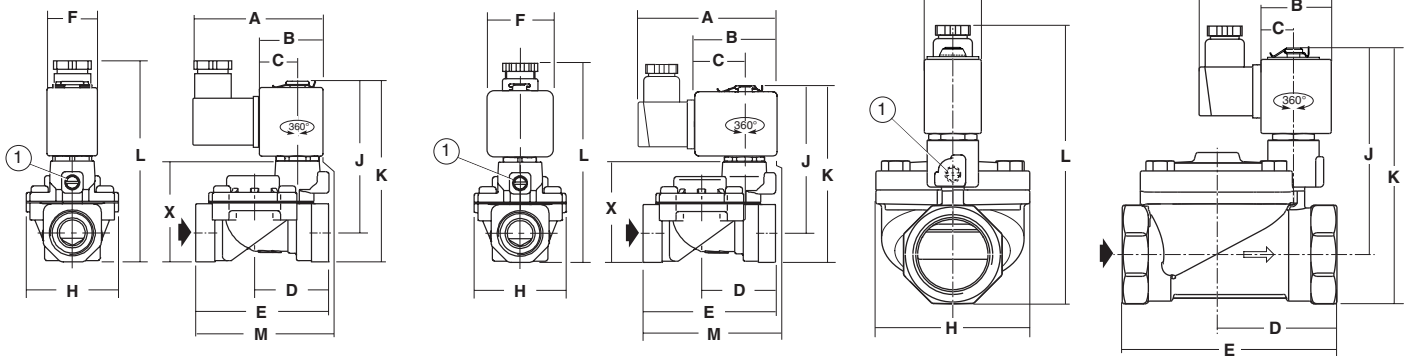
**TYPE 02**  
Prefix "SC" Solenoid  
Epoxy moulded  
IEC 335 / ISO 4400  
IP65

SCE238D006/007/009/010  
SCE238D008



**TYPE 03**  
Prefix "SC" Solenoid  
Black PPS moulded  
IEC 335 / ISO 4400  
IP65

SCG238E016/017/018  
SCG238E019/020/021



| type | prefix option | catalogue number | A    | B    | C    | D    | E     | F  | H   | J    | K    | L     | M    | X    | weight <sup>(2)</sup> |
|------|---------------|------------------|------|------|------|------|-------|----|-----|------|------|-------|------|------|-----------------------|
| 01   | SC            | SCE238D001/002   | 60,5 | 27,5 | 17   | 34,5 | 62    | 22 | 43  | 68,5 | 81   | 98    | 57,5 | 47   | 0,4                   |
|      |               | SCE238D003       | 60,5 | 27,5 | 17   | 45,5 | 81,5  | 22 | 57  | 71   | 83,5 | 100   | 73,5 | 49,5 | 0,5                   |
|      |               | SCE238D004       | 60,5 | 27,5 | 17   | 53   | 95    | 22 | 68  | 79,5 | 94,5 | 111   | 85,5 | 60,5 | 0,8                   |
|      |               | SCE238D005       | 60,5 | 27,5 | 17   | 58   | 105,5 | 22 | 87  | 84,5 | 104  | 121   | 93   | 70   | 1,0                   |
| 02   | SC            | SCE238D006/007   | 76   | 38   | 23   | 34,5 | 62    | 30 | 43  | 69,5 | 83   | 100,5 | 61,5 | 47   | 0,5                   |
|      |               | SCE238D008       | 76   | 38   | 23   | 45,5 | 81,5  | 30 | 57  | 72   | 85,5 | 103   | 77,5 | 49,5 | 0,6                   |
|      |               | SCE238D009       | 76   | 38   | 23   | 53   | 95    | 30 | 68  | 80,5 | 96,5 | 114   | 89,5 | 60,5 | 0,9                   |
|      |               | SCE238D010       | 76   | 38   | 23   | 58   | 105,5 | 30 | 87  | 85,5 | 106  | 123,5 | 97   | 70   | 1,1                   |
| 03   | SC            | SCG238E016/019   | 76   | 36,6 | 21,6 | 63   | 113   | 30 | 81  | 108  | 134  | 150   | -    | -    | 1,7                   |
|      |               | SCG238E017/020   | 76   | 36,6 | 21,6 | 76   | 140   | 30 | 110 | 112  | 142  | 157   | -    | -    | 2,6                   |
|      |               | SCG238E018/021   | 76   | 36,6 | 21,6 | 85   | 157   | 30 | 110 | 116  | 152  | 168   | -    | -    | 2,9                   |

<sup>(1)</sup> Manual operator location

<sup>(2)</sup> Incl. coil(s) and connector(s).