# STAINLESS STEEL ATEX 2/2 SOLENOID VALVE SPU225-X NF

## MAIN CHARACTERISTICS

The SPU 225-X is a pilot operated ATEX 2/2 solenoid valve in stainless steel. It's intented for the shut-off the networks of agressive fluids no charged in hazardous explosives atmospheres, areas 1, 2, 21 et 22. Normally closed operating. The standard construction is with stainless steel and diaphragm is FPM. This solenoid valve, exists in numerous types. Operating normally closed with 0,5 bar minimum differential pressure.

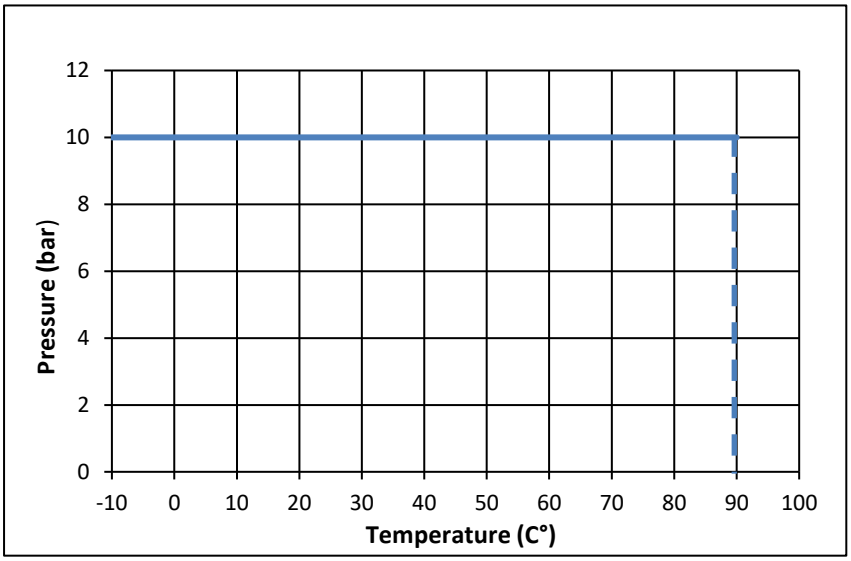



SPU225X : G 3/8'' to G 2''
Diaphragm : FPM.
Voltages : See on page 3.
BSP Screwed end connections.

## LIMITS OF USE

| | |
|---|---|
| **Electric protection :** | IP 65 |
| **Hazardous explosives atmosphere :** | 1, 2, 21 and 22 |
| **Max allowed fluid pressure : PS** | 10 bar |
| **Minimum +ΔP :** | 0,5 bar |
| **Max viscosity:** | 50 Cst |
| **Max allowed fluid temperature : TS** | -10°C / +90°C |
| **Room temperature* :** | -10°C / +60°C |

* In direct current, over 40°C, the maximum differentiel Pressure can be reduced.



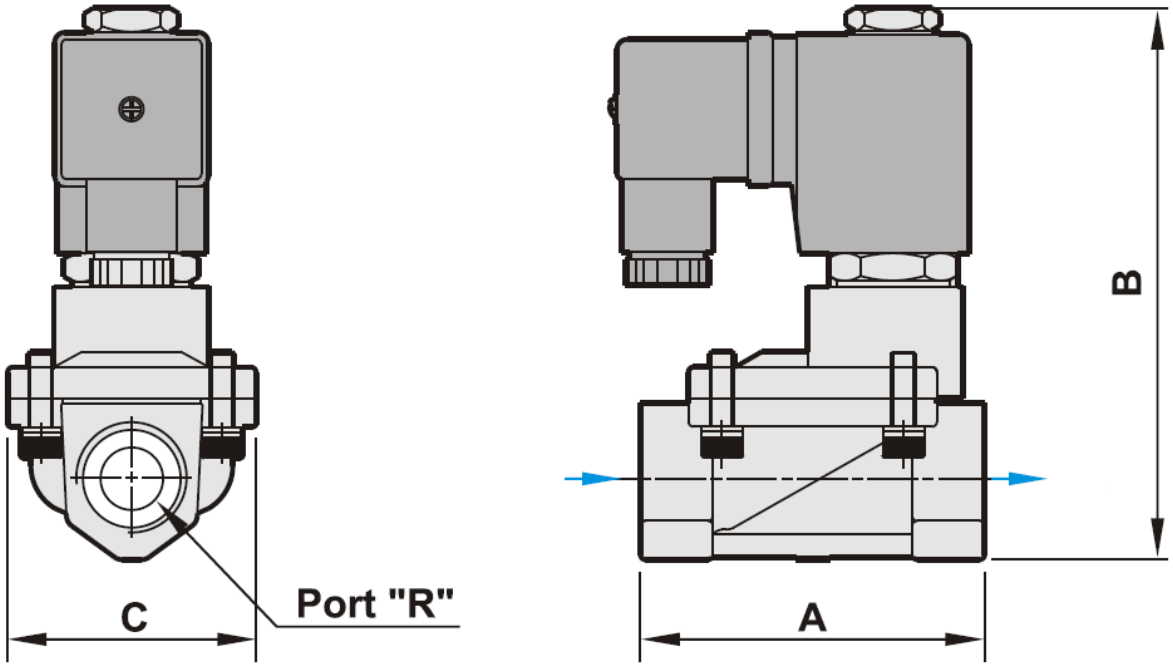

Information given as on indication only, and subject to possible modifications

## REGULATIONS AND STANDARD OF CONSTRUCTION

| Item | Standard | Item | Standard |
|---|---|---|---|
| Pressure Equipment Directive 2014/68 | **3/8" to 1"**: A4 § 3 | Stainless steel | EN 1503-1 |
| Low voltage directive 2014/35 | **1" 1/4 to 2"**: category I | BSP Thread | ISO 228 |
| Directive ATEX | Category 2 | Size | EN 12516-1 |
| Coil : II 2G/D EEx m II T4 | PTB 03 ATEX 2086 X | Body : II 2G/D EEx c II T4 | SIRA 09 ATEX 6180 X |

## DIMENSIONS (mm) AND WEIGHT (kg)

| DN | A | B | C | Weight (kg) |
|---|---|---|---|---|
| **3/8''** | 66,5 | 106,5 | 48 | 1,11 |
| **1/2''** | 66,5 | 106,5 | 48 | 1,09 |
| **3/4''** | 99 | 126,5 | 70 | 1,91 |
| **1''** | 99 | 126,5 | 70 | 1,77 |
| **1'' 1/4** | 131 | 145,5 | 96 | 3,11 |
| **1'' 1/2** | 131 | 145,5 | 96 | 2,92 |
| **2''** | 160 | 160,5 | 112 | 2,90 |




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## HYDRAULICS CHARACTERISTICS

| DN | Port (R) (mm) | Kv ($m^3/h$) | Max Diff Pressure (bar) | Min Diff Pressure (bar) | Operating time (s) |
|---|---|---|---|---|---|
| **3/8 ''** | 13 | 3,4 | 10 | 0,5 | 20-60 ms |
| **1/2''** | 13 | 3,4 | 10 | 0,5 | 20-60 ms |
| **3/4 ''** | 25 | 8,9 | 10 | 0,5 | 20-60 ms |
| **1''** | 25 | 8,9 | 10 | 0,5 | 20-60 ms |
| **1'' 1/4** | 38 | 15,8 | 10 | 0,5 | 50-80 ms |
| **1'' 1/2** | 38 | 21,3 | 10 | 0,5 | 50-80 ms |
| **2''** | 50 | 34,1 | 10 | 0,5 | 50-80 ms |

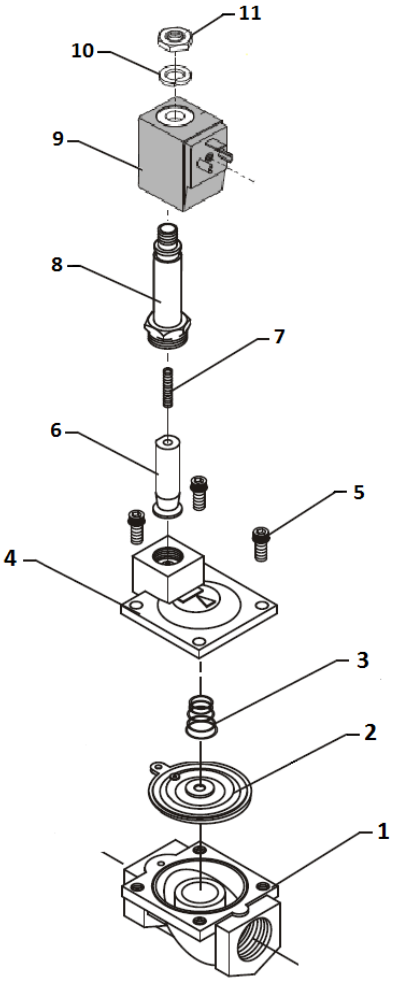
## ELECTRIC CHARACTERISTICS

Coil classified F. Duty 100%. Connecting by thread

| Coil ATEX | Current | Available voltages (V) | | Frequency | | Power consumption |
|---|---|---|---|---|---|---|
| | AC Coil | 24 | 230 | 50 Hz | 60 Hz | 18,1 VA |
| | DC Coil | 24 | | | | 15 W |

## CONSTRUCTION

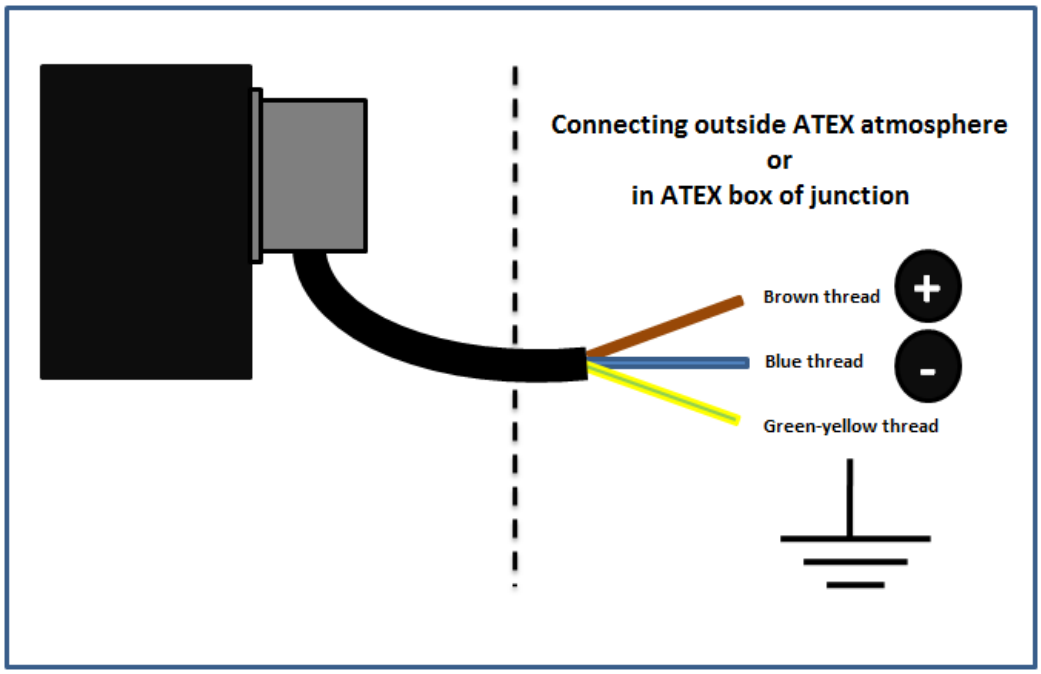
| n° | Item | Material |
|---|---|---|
| **1** | Body | Stainless steel 1.4408 |
| **2** | Diaphragm | FPM |
| **3** | Spring | Stainless steel |
| **4** | Cover | Stainless steel 1.4408 |
| **5** | Screw | Stainless steel 1.4301 |
| **6** | Plunger | Stainless steel 1.4301 |
| **7** | Spring | Stainless steel |
| **8** | Tube-guide | Stainless steel 1.4301 |
| **9** | Coil | PBT +30 % GF |
| **10** | Washer | Stainless steel |
| **11** | Nut | Stainless steel |




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## SPECIAL INSTRUCTIONS OF MOUNTING AND MAINTENANCE IN HAZARDOUS EXPLOSIVE ATMOSPHERE

1 - It is recommended to install the solenoid valve at his reception. If this equipment must be stored, it has to be made in a dry place and protected from the bad weather.
2 - The installation of the solenoid valve can be realized only by an authorized person to work in explosive area.
3 - Wear protection equipments necessary for this type of intervention : Glasses and gloves.
4 - The installation of the solenoid valve is not recommended in wet environment.
5 - Verify the compatibility of the solenoid valve with the category of the potentially explosive zone and with his surface's temperature.
6 - Verify the voltage and the frequency of the electric current of supply. The coil must be switched off if it is not installed on the body of the solenoid valve.
7 - Before any operation, Depressurize the piping and wait for its cooling at room temperature.
8 - The preliminary cleaning of the pipings and the tank is compulsory and must be realized with the great care.
9 - The installation of a strainer of protection upstream to the solenoid valve is strongly recommended.
10 - Respect the sense of flow indicated by the arrow marked on the body.
11 - The power cable must be linked with a box on screw outside of the explosive atmosphere or in ATEX approved Box. Plan a protection's fuse of the feeding system of the solenoid valve.

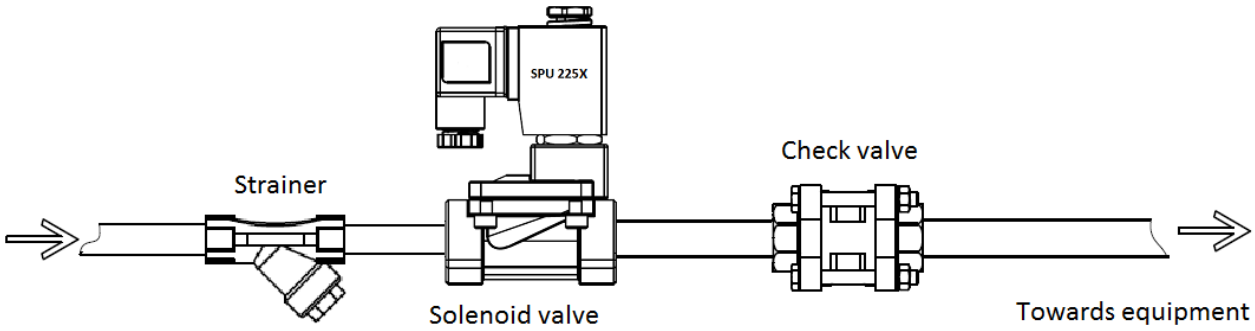



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## NOTA:

**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.

## SPARE PARTS

| Coil ATEX (item 9) | | | | | |
|---|---|---|---|---|---|
| Voltage | 230V 50/60Hz | | 24V 50/60Hz | 24V cc | |
| Code | 980540 | | 980541 | 980542 | |
| **Diaphragm (item 2)** | | | | | |
| **DN** | **3/8" - 1/2"** | **3/4" - 1"** | **1" 1/4** | **1" 1/2** | **2"** |
| FPM | 980570 | 980571 | 980572 | 980573 | 980574 |
| EPDM | 980585 | 980586 | 980587 | 980588 | 980589 |

## OPTION

Diaphragm : EPDM
NPT thread according to ANSI B1.20

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