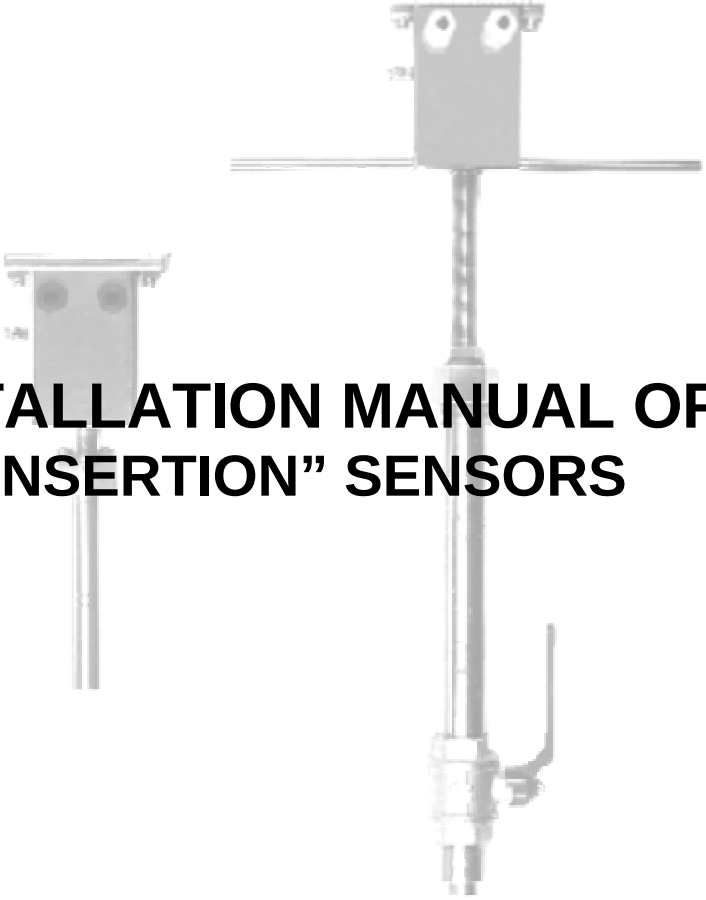
**ELECTROMAGNETIC FLOW METER**



# INSTALLATION MANUAL OF "INSERTION" SENSORS

## ❑ INTRODUCTION

- **This manual is integral part of the product. Read carefully the instructions contained in it since it contains important indications for the safety of use and of maintenance.**
- **The technical information and the relative products of this manual could undergo modifications without any previous notice.**
- **The flow meter must be used for the use it has been built for. The improper use, possible tampering of the instrument or parts of it and substitutions of any components not original, makes the warranty to decay automatically.**
- **The manufacturer is considered responsible only if the instrument in used in his original configuration.**
- **It's forbidden the reproduction of the present manual and of possible software supplied with the instrument.**

## ❑ START UP AND MAINTENANCE OF THE INSTRUMENTS

- **Before starting up the instrument, always make a sure connection to ground as suitable to page 5**
- **verify periodically: the integrity of the power supply cables, the tightening of the sealing elements (cable glands, covers, etc.), the mechanical fixing of the instrument on the pipe or on the wall stand.**

## ❑ SAFETY

**Before using the instrument, always make a sure connection to ground**

**Avoid any attempt to repair the instrument. If the instrument is not functioning properly, please call the nearest assistance service**

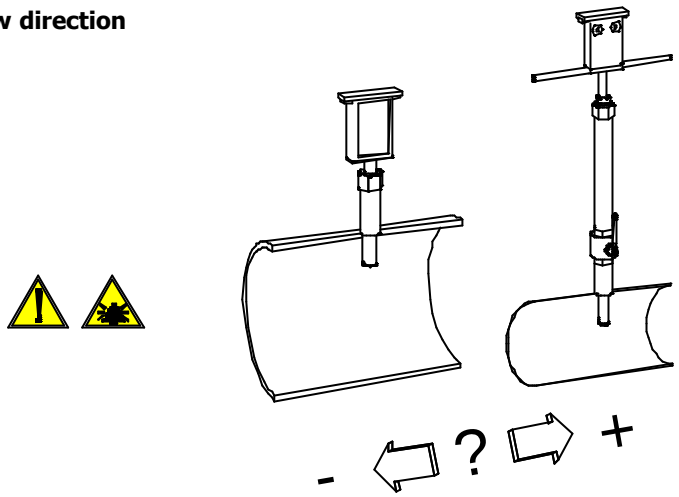
**Pay maximum attention during the operations**

**ATTENTION !!!**

**DANGER !!!**

## ❑ GENERAL INFORMATION ON THE SENSORS

### o Flow direction

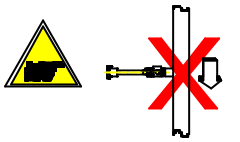
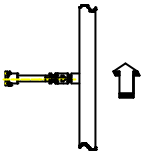
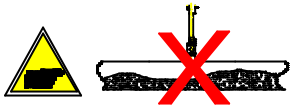
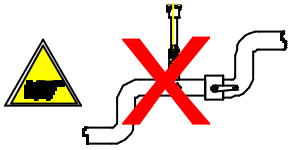
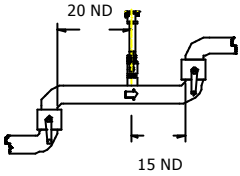
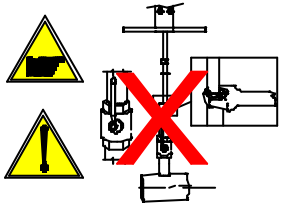
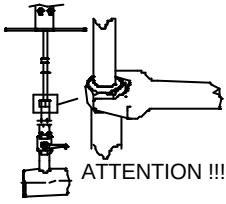



Before install the sensor locate the direction of the liquid in the piping
The sign of the flow rate **is positive**, when the flow direction it's from **– to +** as printed on the tag plate.
If after the installation, for plant request becomes necessary reverse the sign of the flow, it's enough reverse the sign of the coefficient KA

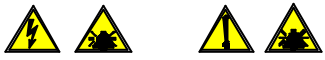
## ❑ OPERATIVE TEMPERATURES

| | PTFE LINING | | | |
|---|---|---|---|---|
| | Liquid Temp. | | Ambient Temp. | |
| | Min. | Max | Min. | Max |
| ° C | -20 | 150 | -10 | 60 |
| ° F | -4 | 302 | 14 | 140 |

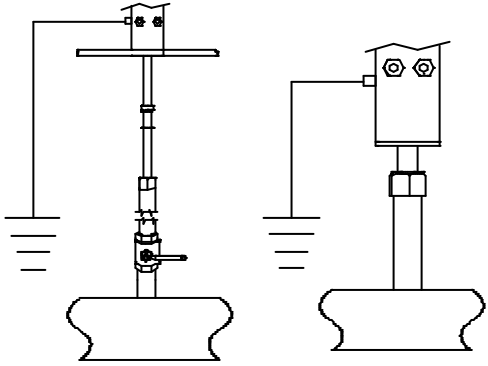
## o Shrewdnesses and precautions

| NO | YES |
|---|---|
|  For vertical installations with descending flow direction contact the manufacturer |  For vertical installations is preferable an ascending flow |
|  Avoid the functioning with the pipe partially empty |  During the functioning the pipe must be completely full of liquid, or completely empty |
|  Avoid the installation near curves or hydraulic accessories |   Install the sensor away from curves and hydraulic accessories |
|  The opening of the ball valve before tighten the fixing nut could cause the expulsion of the sensor from the pipe line |   Before opening the ballù valve lock the centring bush with the grain in endowment |

## ❑ GROUNDING INSTRUCTION



For correct operation of the meter is NECESSARY that the sensor and the liquid are equipotential, so ALWAY connect the sensor and converter to ground.
For grounding with chatode protection pipe contact the manufacturer.

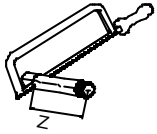


## ❑ Sensor Installation – Model For Mounting **In Not Pressurized** Pipe

Install the sensor following the order of the pictures

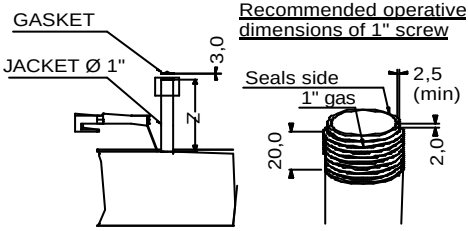
### Pic. 1

Cut the jacket Ø 1" like in picture 1.
( SEE PIC. 6 )
ATTENTION: consider the necessary over-metal for welding



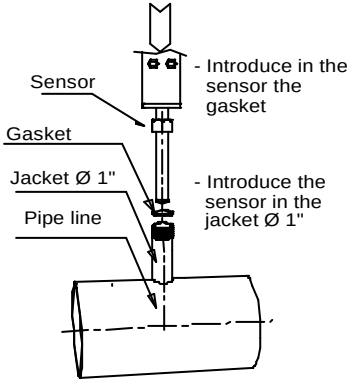

Z=L-S-1/8D-32

### Pic. 2

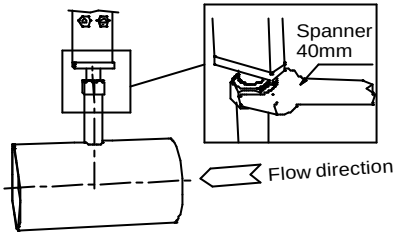



weld the jacket to to the pipe line

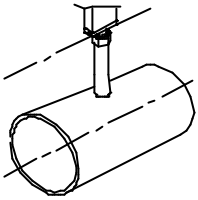
### Pic. 3




### Pic. 4




### Pic. 5

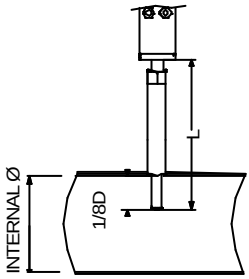


- Line up longitudinally the connector box with pipe line axle
- Tighten the nut with spanner maintaining the alignment. The fixing of nut must assure the seal of the inside gasket

### Pic. 6

| SIZE | ND RANGE | L |
|---|---|---|
| SIZE 1 | DN 80 UP TO DN 500 | 176 |
| SIZE 2 | DN 80 UP TO DN 1000 | 244 |
| SIZE 3 | DN 80 UP TO DN 2000 | 462 |

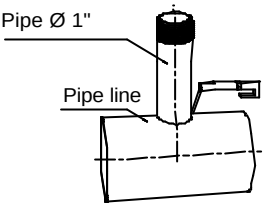
Sensor installed



## ❑ Sensor Installation – Model For Mounting **In Pressurized** Pipe

Install the sensor following the order of the pictures

Pic. 1




- Weld to the pipeline a pipe Ø 1".
  ATTENTION: verify "X" dimension (pic. 2)

Pic. 2

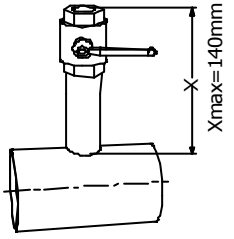
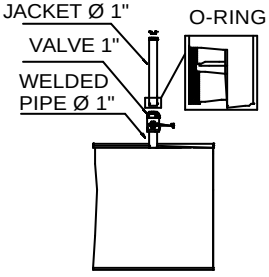
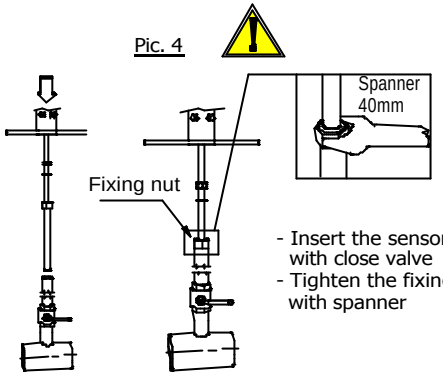



Fig. 3



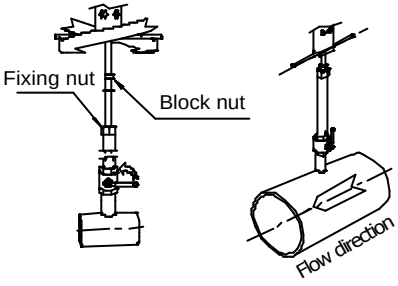

- Screw the 1" jacket to the valve
  ATTENTION: the O-Ring in the jacket must be place underside (near valve)

Pic. 4




- Insert the sensor with close valve
- Tighten the fixing nut with spanner

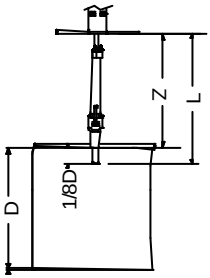
Pic. 5




- Open the valve
- Screw the sensor up to "Z" dimension
- Verify the line up
- Tighten the block nut manteining the aligment

Pic. 6

| SIZE | ND RANGE | L |
|---|---|---|
| SIZE 1 | from ND 80 up to ND 500 | 480 |
| SIZE 2 | from ND 80 up to ND 1000 | 621 |
| SIZE 3 | from ND 80 up to ND 2000 | 880 |




Z=L-S-1/8D