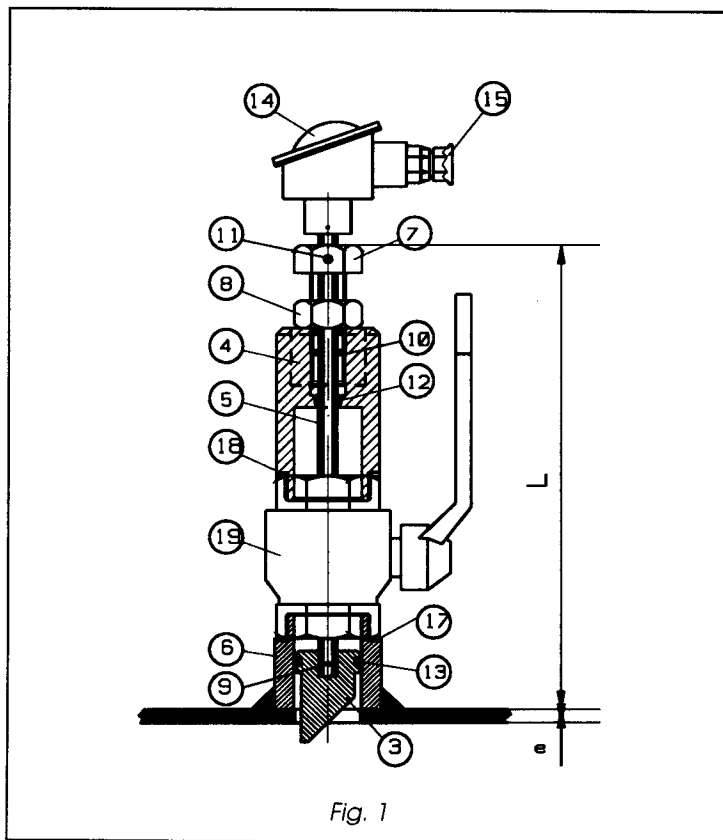


Insertion system :

Probe and support



Overall view of

Probe / Support

GENERAL DATA

- **P**robe for liquid flowmetering.
- **O**ne pair of probes is needed.
- Insertion system for pipes under pressure.
- **M**aximum nominal pressure : 16 bars.
- **O**peration temperature : - 10 / + 60° C.
- **T**otal length on steel pipe :
 - 500 mm working space required
 - 340 mm space required in operation
- **B**oring diameter of pipe wall : 36 mm.
- **A**ssociated to an IS converter or module, the referenced probes are EExi approved.

*This document is relative to standard ref. 1612 probes (int at 45°) used in the Direct mode.
Please consult Ultraflux in the cases of the Reflex mode (30° int probes) or of 0° int probes.*

Instruction for tapping

- Avoid to install probes in a vertical diametral plane.
- Check that you have enough space for tapping machine.
- Straight length : . upstream : min. **10** ϕ
. downstream : min. **3** ϕ
- Tolerances : $\alpha = 90^\circ \pm 2^\circ$

$$d = \phi_{\text{int}} \pm \frac{\phi}{100} \pm 2 \text{ mm.}$$

Applications

- Nature of pipes :
 - . Steel : thickness < 20 mm.
 - . Cast iron : assembly with a clamp saddle tee female 1" 1/2 ; replace part (6) by 1" 1/2 nipple (special length probe).
 - . Concrete : assembly possible on non pressurized pipe ; wall thickness to be specified with purchase order.
- Nature of fluid : . Treated water : ϕ 500 to 2 500.
. Raw water : ϕ 400 to 2 000.
. Other liquids : *consult us.*

Under pressure installation

- Check that $P < 16$ bars.
- Draw the location of the tappings (fig.2)
- Weld the bosses (6).
- Install valve (19) with the seal (18).
- Open the valve.
- Install the tapping machine. Perform the bore.
- Extract the tool and close the valve.
- Remove the tapping machine.

Insertion of probe

- Unscrew the guide (7) and insert the probe (3) entirely into the gland (4).
- Install the gland on valve, do not forget seal (17).
- Slowly open valve.
- Insert probe by pressing on the junction box (14) and screw 5 threads of the guide (7) into the gland.
- Adjust probe insertion with the guide in order to obtain $L = 278 - e$ (cf figure 1).
- Stop the guide with the stop nut (8).
- Set the probes in order that their emitting sides face each other ; acoustic beam direction corresponds to the direction of cable exit (15).
- Stop the screw (11).

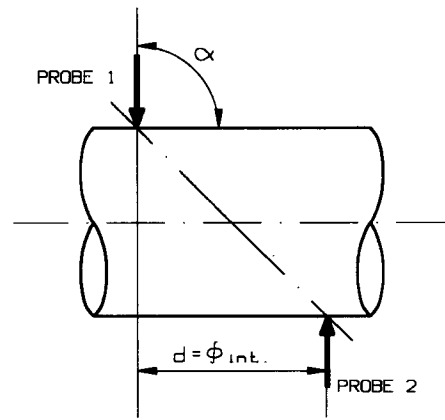


Fig. 2

Probe removal

- Loosen the screw (11) and nut (8).
- Beware of a sudden kick back of the probe (100 mm).
- Loosen up the guide (7).
- Move the probe up to the guard inside the part (4).
- Close the valve and take down the gland (4).

Cable

- **TWINAX** cable only or twin conductor cable as per manufacturer recommendation.

Cable connexions

- Unscrew the cap of the junction box (14).
- Connect following figure 3 below.

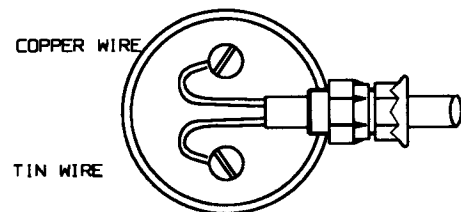


Fig. 3

Electrical data

- Ultrasonic frequency : 1 MHz.
- Galvanic separation between probe and piping.