CLAIMS

1. A device for determining a physical value of a liquid flowing in a pipe, without contact with said liquid, said device comprising:

- a sensor (3) for sensing said physical value;
- a connector (2) to insert into said pipe and comprising:
  - an internal passage (13) extending between two apertures (11, 12),
  - a flexible membrane (6) ~~for~~ adapted to cooperate with a pressure sensor (100)~~,~~ to determine the pressure of said flowing liquid, and also adapted to cooperate with a temperature sensor to determine the temperature of said flowing liquid, said flexible membrane forming a wall of said internal passage (13); and
  - means (27, 62) for fastening said sensor (3) onto said connector (2);

~~characterized in that~~ wherein said sensor is a temperature sensor (3) fastened to said connector (2) with the sensitive part of said sensor (3) turned towards said membrane (6).

2. A device according to claim 1, ~~characterized in that~~ wherein said sensor (3) comprises an infrared temperature probe (40); and a sheath (41) enveloping said probe (40) and comprising at one of its longitudinal ends, a stiff plate (58) provided with an aperture (57); said plate being disposed between said membrane (6) and said sensitive part to stiffen said membrane (6).

3. A device according to claim 2, ~~characterized in that~~ wherein said sensor (3) comprises an obturating lid (42) formed from an opaque film, said lid (42) covering the face of said plate (58) turned towards said membrane (6).

4. A device according to claim 3, ~~characterized in that~~ wherein it comprises means (28, 56) for positioning said sensor (3) relative to said connector (2) in order for said lid (42) to be in contact with a face (32) of said membrane (6).

5. A device according to claim 4, ~~characterized in that~~ wherein said positioning means comprise a shoulder (28) adapted to cooperate in abutment with a collar (56).

6. A device according to ~~one of~~ claim~~s~~ 3 ~~to 5~~, ~~characterized in that~~ wherein said lid (42) has constant emissivity in the temperature range from 4 to 40 degrees Celsius;

7. A device according to ~~one of~~ claim~~s~~ 2 ~~to 6~~, ~~characterized in that~~ wherein said sheath (41) comprises a cup (41a) and a cap (41b) assembled together by screwing.

8. A device according to claim 7, ~~characterized in that~~ wherein said cap (41b) comprises a breech (55) of which the back is formed by said stiff plate (58).

9. A device according to ~~one of~~ claim~~s~~ 1 ~~to 8~~, ~~characterized in that~~ wherein said sensor (3) comprises an infrared temperature probe (40), and said probe (40) comprises a head (46) accommodating a converging lens.

10. A device according to ~~one of~~ claim~~s~~ 1 ~~to 9~~, ~~characterized in that~~ wherein said fastening means comprise a tapping (27) adapted to cooperate with a screw thread (62).

11. A device according to ~~one of~~ claim~~s~~ 1 ~~to 10~~, ~~characterized in that~~ wherein said connector (2) is disposable whereas said sensor (3) is re-usable.

12. A device according to claim 1, wherein said connector has a T-shaped profile.