Claims:

1. In a system which uses at least two measuring instruments to measure the magnitude of a physical variable, those instruments comprising a density meter and a pressure differential meter, a process comprising:

using the density meter to measure the density of a fluid;

using the pressure differential meter to measure the flow rate of that fluid; and

responsive to the degree of change in density as measured by the density meter, automatically re-calibrating the pressure differential meter.

2. A process as claimed in claim 1, in which the density meter is a Coriolis meter.

3. A process as claimed in claim 1 or claim 2, in which the pressure differential meter measures at least one of the mass flow rate and the density flow rate of the fluid.

4. A process as claimed in any one of the preceding claims, in which the monitoring of changes in the density of the fluid and in the flow rate of the fluid are performed substantially continuously.

5. Apparatus for measuring the flow rate of a fluid, comprising:

a density meter to measure the density of the fluid;

a pressure differential meter to measure the flow rate of the fluid; and

means responsive to changes in the magnitude of the density of the fluid as measured by the density meter to re-calibrate the pressure differential meter.

6. Apparatus for measuring the magnitude of a physical variable as claimed in claim 5, in which the density meter is a Coriolis meter.

7. Apparatus for measuring the magnitude of a physical variable as claimed in claim 5 or claim 6, in which the pressure differential meter measures at least one of the mass flow rate and the density flow rate of the fluid.

8. Apparatus as claimed in any one of claims 4 to 7, substantially as described with reference to figure 2.

9. Apparatus substantially as described with reference to figure 2.

Claims:

1. In a system which uses at least two measuring instruments to measure the magnitude of a physical variable, those instruments comprising a density meter and a pressure differential meter, a process comprising:

using the density meter to measure the density of a fluid;

using the pressure differential meter to measure the flow rate of that fluid; and

responsive to the degree of change in density as measured by the density meter, automatically re-calibrating the pressure differential meter.

2. A process as claimed in claim 1, in which the density meter is a Coriolis meter.

3. A process as claimed in claim 1 or claim 2, in which the pressure differential meter measures at least one of the mass flow rate and the density flow rate of the fluid.

4. A process as claimed in any o ne of the preceding claims, in which the monitoring of changes in the density of the fluid and in the flow rate of the fluid are performed substantially continuously.

5. Apparatus for measuring the flow rate of a fluid, comprising:

a density meter to measure the density of the fluid;

a pressure differential meter to measure the flow rate of the fluid; and

means responsive to changes in the magnitude of the density of the fluid as measured by the density meter to re-calibrate the pressure differential meter.

6. Apparatus for measuring the magnitude of a physical variable as claimed in claim 5, in which the density meter is a Coriolis meter.

7. Apparatus for measuring the magnitude of a physical variable as claimed in claim 5 or claim 6, in which the pressure differential meter measures at least one of the mass flow rate and the density flow rate of the fluid.