

ABSTRACT

The present invention is to provide a pressure sensor to make it possible to detect pressure accurately regardless of its service period by automatically correcting the time-varying zero drift of the pressure sensor, and also a pressure control device and a flow rate control device wherein the pressure sensor is employed.

Concretely, with the pressure sensor, for which a semiconductor pressure sensitive element is used, to measure fluid pressure, the output voltage from the pressure sensor is outputted to the outside through the amplifier, the afore-mentioned sensor output voltage is inputted to the time-varying zero point drift correction means through the D/A converter, a judgment is made to determine if the afore-mentioned sensor output voltage is larger than the set value at the sensor output judgment means of the said time-varying zero point drift correction means, and further the operating conditions of the pressure sensor are judged at the operating condition judgment means of the afore-mentioned time-varying zero point drift correction means, and the time-varying zero point drift of the pressure sensor is cancelled by inputting the voltage for the zero point correction, which is identical to the afore-mentioned sensor output voltage and with reversed polarity, to the offset terminal of the afore-mentioned amplifier through the D/A converter when it is found that the afore-mentioned sensor output voltage is larger than the set value and the operating conditions of the pressure sensor are under the operating conditions previously set.