

Laboratory instrumentation and software

Water level electronic float gauge



Key features

Excellent linearity

Versatile display unit

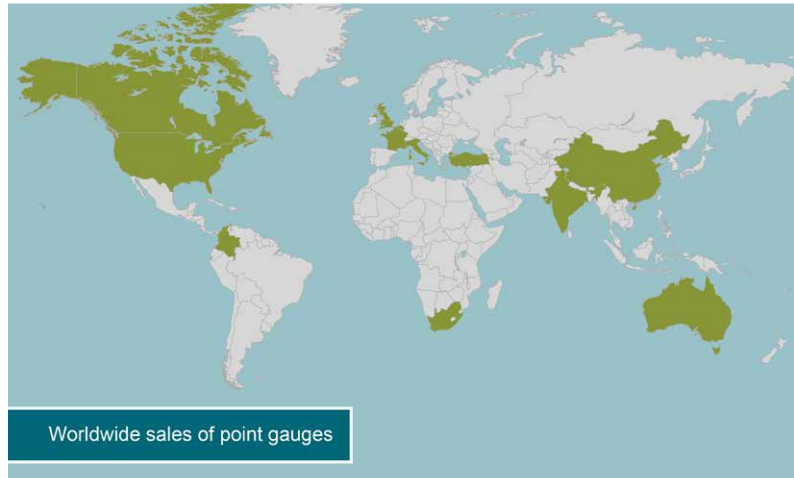
Easy to use

Rugged design

Non contacting

HR Wallingford's water level electronic float gauge uses a float which moves up and down a displacement transducer to measure static water levels, typically used in flumes or 3D basins. The water level is determined by accurately measuring the distance from the head of the transducer to the magnetic field produced by a magnet mounted inside the float.

The advantage of this method is that there is no contact, and therefore no friction, between the float and the transducer.



Transducer

The transducer consists of a 10mm diameter stainless steel tube, which contains a stretched magnetostrictive wire. The tube is welded to a stainless steel head which contains all the electronics for the transducer.

The electronics send short current pulses down the wave guide and when these pulses interact with the magnetic field, magnetostriction causes a momentary torsional strain in the wire. This strain travels back to the head and is converted into an electrical pulse. By measuring the time difference between the transmitted and received pulses, the position of the magnet, and hence the float, can be accurately determined.

Display unit

The water level float gauge can be supplied with a dedicated Network Instrument Display unit that is used to power the float gauge instrument and provides a local display of the gauge output. In addition this unit provides a 0-5Vdc analogue output and also allows connection directly to a data acquisition PC through a standard RJ45 type network cable to digitally record the output. It is also possible to link the display unit up with seven other devices. The separate power supply allows the instrument to be used with either 110V AC or 220V AC supplies.

Specifications

Transducer

Range	300, 600, 900 mm*
Transducer diameter	10.5 mm
Float diameter	51 mm
Transducer and float material	Stainless steel grade 304
Linearity	0.05 %
Response time	<1 ms
Transducer supply	24 V DC
Transducer output	0-10 V DC
Cable length	5 m*

* other lengths available on request

Display unit

Display supply	100 – 240V AC (40 – 60Hz)
System resolution	12 Bit
Unit output - analogue	0-5V DC
Unit output - digital	RJ45 Ethernet (UDP)
Case dimensions	128 x 33 x 180 mm (Including connectors)
Unit weight	750g (1.65Kgs including the power supply pack)