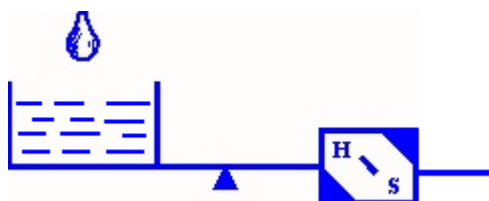




TRIDENT HYDROSTATIC LEVEL SENSOR MODEL HS-30

- Hydrostatic level sensor
- 'Ultra' low power consumption (30mA continuous)
- Maximum water head 30m (100 ft)
- In-built air compressor and dryer system
- Powder coated steel enclosure
- Low Power Consumption
- Used in conjunction with the Gas Chamber Orifice Model GCO1
- Maintenance free for up to 8 years
- Up to 200 Metres river line



CERTIFIED QUALITY
MANAGEMENT SYSTEM
ISO9001

HYDROLOGICAL SERVICES PTY LTD

Design, Development & Manufacturing of Scientific Instruments & Equipment for Water Level, Water Flow & Meteorology

DESCRIPTION:

The HS-30 is Hydrological Services latest innovation, when used in conjunction with the GCO1, the HS-30 forms a complete Hydrostatic Level Sensor for measuring water level in dams, rivers, canals and tanks with up to 30 mH₂O (100 ft).

The unit can be used with any pressure transducer. The accuracy of water level measurement depends on the accuracy of the pressure transducer itself.

The HS-30, when used in conjunction with Hydrological Services WL3100 pressure transducer, allows the measurement of water to an accuracy of $\pm 0.02\%$ F.S.

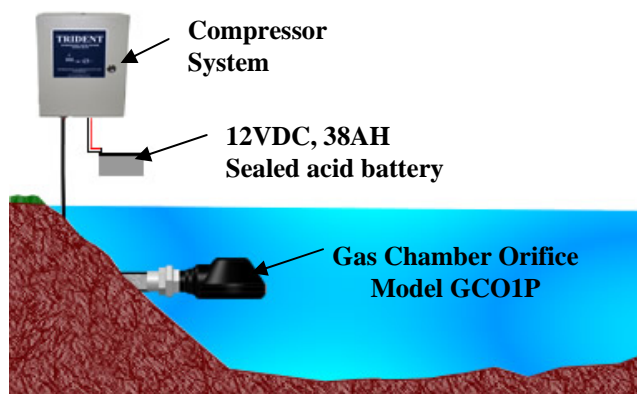


Fig2. HS-30

OPERATION:

The HS-30 compressor system is designed to maintain a constant and stable pressure inside the GCO1 in proportion to the head pressure being measured. The unit is not a bubbler system, but a static pressure measurement system. In other words, the HS-30 will only vent excess air during a purging cycle or when the water level is falling. To maintain accuracy within the system, a purge sequence is performed every 3 hours and when the water level increases by 100mm (4") or more.

The purge sequence consists of the river line being switched through to the pump, which then purges the river line for 5 seconds. The GCO pressure should then return to normal within 30 seconds, at which time the river line is switched back to the pressure transducer for normal water level monitoring. (During this purging time, the pressure on the pressure transducer is held relatively constant through the solenoid valve – causing a minimum effect to the water level measurements) When the water level is falling, excess pressure vents automatically from the GCO – so a purge is not necessary.

If the battery voltage falls below 10.0V at any time (even during a purge) a low battery indication is given (red LED) and the purge pump will not be operated until the battery voltage rises to 12.0V, allowing battery recovery.

SPECIFICATION:

Enclosure: Powder Coated Steel, 400 x 300 x 200 mm (16"x 12"x 8")

Operating Temperature Range: -30°C to +70°C

Power:

Operating Voltage: 12V DC Nominal

Recommended Battery:

- 12V DC, (38Ah) Sealed Lead Acid, this will provide approx 40 days continuous operation (no solar).
- 12V DC, (26Ah) Sealed Lead Acid, this will provide approx 30 days continuous operation (no solar).

Solar:

A small 5Watt solar panel is sufficient to keep the battery fully charged.

Low Battery cut-out: 10.0 V DC

Battery recharge recovery: 12.0V DC

Operation:

Up to 30m (100') of head (water pressure) with 200 metres (600 ft) of river line

Purge:

Compressor Current: 15.5 Amps for 5 secs
Solenoid Current: 0.6 Amps for 30 secs
Electronics Quiescent: 10 mA
Max Pump Pressure: 600kPa
Min Pump Pressure: 400kPa

Average battery consumption:

30mA continuous (based on 7 x 3hr purges and a 1m water level rise)

Purge Sequence:

5 secs - compressor "ON"
25 secs - solenoid valve remains "OFF"
Once every 3 hours (fixed) and when water level increases by 100mm (4 inches) or manual purge

Air Dryer:

8 year maintenance free "Self Purging" Hydrophobic filter

Transducer Pressure Connection: ¼ inch tube

River Line Pressure Connection: 1/8 inch tube

Weight: 13Kg (29 lbs)

Note:

Specifications are subject to change at anytime without notice.

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