Guidance for the Operation of Flowmeters

JWA supplied "Wotman" flowmeters, for on-the-go applications where accurate results are critical.

They provide accurate and reliable monitoring of pumped water volume for load measurements in situations where a load cell is not suitable:

- When using JWA load test bags, if the headroom is limited between the hook and ground/water
- With JWA Lifeboat Test Kits, where the load maybe split between two davits/hooks
- On walkways and platforms

Wotman is the name of the original designer of these flowmeters, which are specifically designed to measure clean water at medium to high flow rates. JWA flowmeters employ flanged connections to accommodate high-volume water supply.

General Guidelines

- Except where stated, the equipment covered by these instructions is suitable for use in all ATEX ATEX (Atmosphères Explosibles).
- JWA flowmeters are MID UK (Measuring Instruments Directive/Regulations) approved, ensuring accuracy and compliance of measurement.
- Maximum water supply pressure is 16 bar
  Note – be aware that sea water is roughly 2.5% to 3% heavier by mass per unit volume.
  One litre of seawater weighs c. 1.025kg, while a litre of freshwater weighs approximately 0.997–1.000kg

Pre Use Checks

1. Check the condition of the transit case.
2. Inspect the contents and ensure all parts are present.
3. Ensure that the dial of the unit is not cracked or damaged.
   Note – any issues with parts or equipment must be notified immediately to info@jwarentals.com

Rigging and Preparation

Note – these guidance notes assume the flowmeter is being used with a water weight load test bag.

1. Take the reading on the main dial of the flow meter and record it (see below).
   Note – the readings on the main dial cannot be set back to zero.
2. Flush the water feed thoroughly to remove debris and any air pockets.
3. Install the meter with the register (dial) facing upwards, avoid mounting the meter upside down.
4. Ensure the water flows in the direction of the arrow indicated on the meter body.
5. For accurate readings, install in a straight section of pipe, typically ensuring sufficient clearance upstream and downstream, especially if a valve or elbow is nearby.
6. Connect the water supply to the input end on the flowmeter.
7. Connect the output end to the bag supply system (manifold, direct hose etc).
8. Initiate the test in accordance with the relevant JWA Guidance Note
   - *No: JWAGN -002 Water Weight Load Test Bags*
   - *No: JWAGN -003 Lifeboat & Walkway Load Test Kits*
9. Once the final load reading has been taken, subtract the initial reading and this will give the actual load.

After use, any issues with the flowmeter during use or packing should be noted and reported, so that an inspection and any subsequent action can be taken.

Taking Readings

The numerical readout is in cubic metres/m^3
1 m^3 = 1000 litres = 1000kg = 1 metric tonne
The reading here is 53m^3
= 53,000 litres = 53,000 kgs = 53 tonnes

The smaller dial is in hectolitres/hL
1hL = 100 litres = 100kg
The lower reading her is 6hL
= 600 litres = 600kg

This larger third dial is decalitres/daL
1daL = 10 litres = 10kg
The lower reading here is 0daL
= 0 litres = 0kg

The final dial is litres/L
1L = 1 litres = 1kg
The lower reading here is 8L
= 8L = 8kg

Therefore, the full reading for the three dials combined would be:
(53,000kg + 600kg + 0kg + 8kg) = 53,608kg or 53.608 tonnes