Mobile flow calibration service
Quick, convenient, on-site flowmeter calibration
Measurement made easy
Why come to us, when we can come to you?

Maximum uptime of your assets and plant in a cost-effective way

Schedule calibrations during your normal maintenance activities

No need to send your flow meter away for calibration reducing logistical effort and dead time
Description of service and calibration methodology

The mobile calibration rig is designed to run potable water through a closed loop between two trolleys. Trolley one comprises a pump, variable speed driver and water tank for generating the water flow around the loop, trolley two comprises the reference flow meters and the customer flow meter for testing. All measurement data is controlled by a PLC which is also used to control the flow rate and the generation of a calibration certificate.

The mobile flow calibration service utilizes the comparison method of calibration. In this method, the flowmeter under calibration is installed in a pipeline downstream of a reference, or master, flowmeter with a known calibration. Once the flow of water through both meters is stable, a timer is started and the outputs of both meters are simultaneously monitored. After a set period, the timer is stopped. Using the data from the calibration run enables the average flowrate of the meter under test to be compared with the master meter, with the difference being the error.

The comparison master Coriolis flow meters have been calibrated to high accuracy (+/- 0.1%) via gravimetric methodology in ABB’s Goettingen flow laboratory according to national traceable standards.

DIMENSIONS – FLOW CALIBRATION RIG
Dimensions in mm
DIMENSIONS – FLOW CALIBRATION VEHICLE
Dimensions in mm

Half height full width bulkhead

Trolley 1
Trolley 2
### Specification

**Customer flow meter**

**Supported communications / outputs**
- HART
- MODBUS
- 4 to 20 mA active and passive
- Pulse output
- Others upon request

**Supported power supply options**
- 230 V AC
- 110 V AC
- 24 V DC
- Battery

**Supported flow technologies**
- Electromagnetic flow meter
- Coriolis flow meter

**Supported pipe connections**
- Food industry fittings acc. DIN 11851
- Tri-clamp ISO 2852
- PN10-40 EN1092 flange
- ASME CL150 flange
- Wafer
- Others on request

**Supported pipe diameters**
- DN15
- DN25
- DN32
- DN40
- DN50

**Supported manufacturers**
- ABB
- 3rd party manufacturers

### Flow calibration rig

**Weight**
- Water trolley = 250 kg*
- Reference flow meter trolley = 230 kg*

**Ambient operating temperature**
- 10 to 60 °C**

**Storage temperature**
- –20 to 60 °C

**Process temperature**
- 5 to 25 °C

**Process liquid**
- Potable water

**Process liquid conductivity**
- >5 uS/cm

**Operating humidity**
- Up to 95 % RH, non-condensing

**Ingress protection**
- IP44

**Power supply requirements**
- Power supply voltage
  - 230 V AC, 50 Hz
  - Maximum current 13 A

**EMC**
- Emissions and immunity
  - EN 61326-1 / IEC 61326 industrial specification

**Safety**
- General safety
  - CE (EN61010)

**Wetted materials**
- Stainless steel
- PTFE
- Nitrile

### Flow calibration vehicle

**Weight**
- Fully loaded weight: 3500 kg

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*Excluding water and connecting pipework / MUT  
** Calibration accuracy is referenced to 20 °C standard laboratory conditions
...Specification

Mobile flow calibration rig and accuracy
Maximum flow rate (assuming 13A power supply) = 7.5 l/s
# Ordering information

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To be ordered in conjunction with a mobilization part number:
- 3KXS082100L0064 – On-site Calibration Services Half Day
- 3KXS082100L0065 – On-site Calibration Services Full Day
- 3KXS082100L0066 – On-site Calibration Services Two Days
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