

Webtec Hydraulic Flow & Pressure Calibration Service

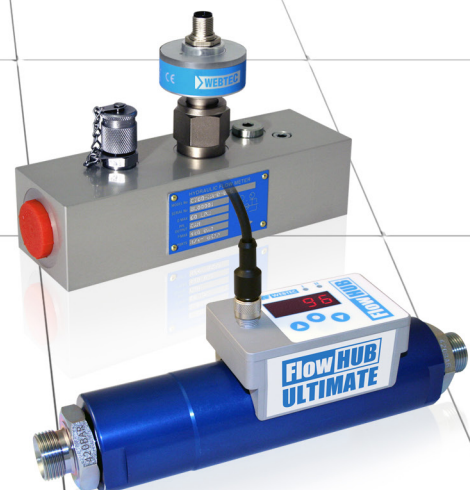
Reliable, repeatable measurements every time from your instruments. Total confidence in quantity measurements.



Make it **BLUE**

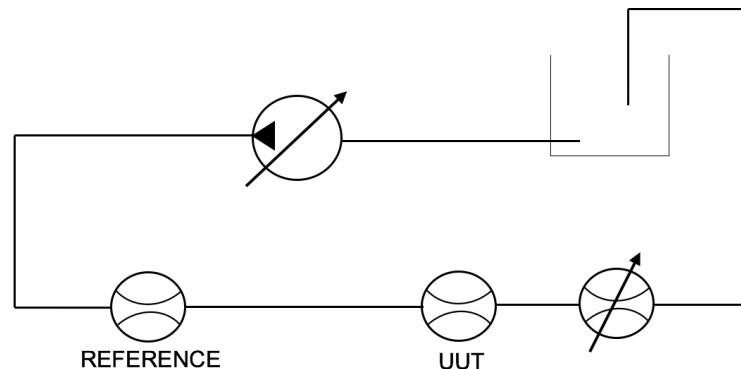
Features

- Calibrations traceable to national and international standards.
- Robust monitoring system ensures consistent compliance.
- All instrumentation employed has full traceability.
- Calibration certificate demonstrating traceability; suitable for ISO9001 compliance.
- Calibration lead time is typically less than 2 weeks.



Flow Calibration Method

Below is the simplified hydraulic circuit employed in the calibration of all flow meters. It is a ratio-metric system whereby the oil is pumped in series through a reference meter and a Unit Under Test (UUT). Comparison of the reference and UUT flow shows the deviation and the UUT calibration factor can be adjusted accordingly.



Typical Calibration

Flow meters are checked at various points throughout their range to ensure they meet the exacting criteria. If any of the flow points fail to meet the accuracy specification repairs or adjustments are made.

Reference Meter Traceability

Reference meters are calibrated in a laboratory that maintains traceability to national and international standards, PTB (Germany), LNE (France), UKAS (UK) and NIST (USA).

The laboratory maintains an overall measurement uncertainty of 0.03% and has ISO9001 accreditation. It also complies with the ANSI/NCSL Z540-1-1994 laboratory standards. The laboratory operates within a Quality Management System according to ISO 9001:2008 and ISO/IEC 17025:2005.

Webtec reference meters are calibrated annually and are maintained using a rolling system whereby meters are calibrated on removal after their installation anniversary. This provides confidence in the past 12 months use and certainty at the beginning of the next 12 months.

Calibration uncertainty around our reference meters is <math><0.2\%</math> and all meters produce stable results within this limit. During reference meter calibration viscosity variance is kept <math><1\text{cSt}</math> so as to have negligible effect.

Flow Calibration Test Equipment

Webtec use a C2000 data acquisition system with a customised interface unit that conditions signals appropriately. The interface unit is monitored under the internal calibration system and all signal conversions are checked annually to maintain errors at better than <math><0.01\%</math>. Instruments used for the checks are calibrated annually by a UKAS accredited laboratory.

Oil condition is continually monitored through a particle counter to ensure it meets good cleanliness standards (NAS 8 or better). The oil is also sent for analysis annually to provide external verification.

Temperature sensors engaged to measure the test fluid temperature are monitored under the internal calibration system and are checked annually to maintain accuracy at better than $\pm 1^\circ\text{C}$. Instruments used for these checks are calibrated annually by a UKAS accredited laboratory.

Fluid Viscosity

Flow meters are typically calibrated at a mean viscosity of 21cSt which is equivalent to ISO32 oil at 50°C. This temperature is accurately maintained to ensure a viscosity variance of <math><5\text{cSt}</math> during any calibration. Calibration at other viscosities is possible, please contact sales.

