

The right fit whatever your flow calibration needs



Count on us for calibration

Regular calibration is essential - not only to ensure that the measuring instruments controlling your quality-critical processes remain in spec but also to gather information about the current condition of the device.

Fluctuating measurements can impact on process stability and operating costs and potentially have legal and regulatory consequences. Yet the needs of every industry are different. This is why Endress+Hauser offers a full range of calibration services, from laboratory calibration to on-site calibration and verification. Whatever your requirements, you can count on us!

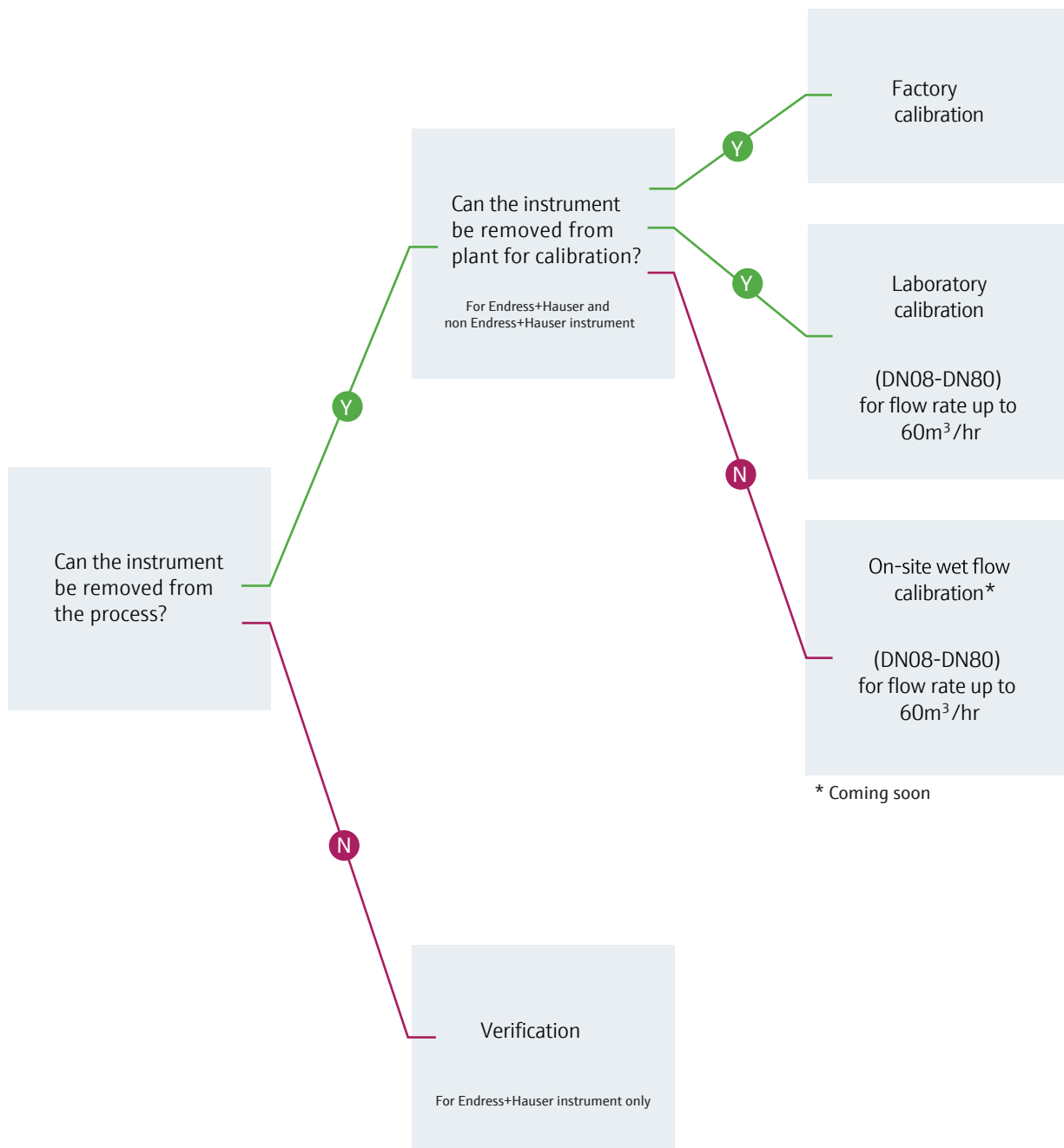
Both Endress+Hauser and third-party devices can be calibrated either on-site or at Endress+Hauser facilities. The main objective is to check the accuracy of measurements by comparing your device's measurements with those of known traceable references. The results of the comparisons are recorded in clear and concise calibration certificates.

Cost-effective, reliable calibration when you need it:

- Benefit from full compliance and audit readiness with complete and traceable calibration.
- Secure accurate and repeatable results for your devices over their entire life cycle by putting our metrology expertise to work for you.
- Keep all your processes working reliably and your devices in spec. Our on-site calibration services deliver precise, dependable and cost-effective calibration.
- Make safe procedures a priority to prevent harm to users, consumers and the environment. Compliant calibration ensures the safety of your processes and products.



Calibration vs. Verification



Laboratory calibration

Calibration performed in a laboratory offers the best calibration uncertainty and the widest calibration ranges.



Highest accuracy At Endress+Hauser Malaysia, our flow rig incorporate the latest developments in flow technology to provide high quality calibrations.

Flowmeters from DN8 - DN80 are calibrated against Endress+Hauser Promass Coriolis dual reference meters. Our flow rig is flexible and ready to connect with a wide range of process connections namely DIN/ANSI flanges, screwed threads or hygienic process connections.

Requirements:

- Endress+Hauser calibration data sheet

Turnaround time:

- From 2 working days up to 3 units

Maximum flow rate:

- 60 m³/hr

Third party instrument requirements:

- Process connection details
- Order code
- Manufacturer
- Output type (mA, pulse)

On-site wet flow calibration*

Calibration close to operating conditions - on-site calibration is performed by highly trained engineers.



Convenient and cost effective, it removes the need to send instruments off-site as our specialists come to you, keeping downtime to an absolute minimum. It also offers the highest flexibility as calibration can be scheduled according to the needs of your process. Our qualified and experienced field service engineers can perform adjustments, diagnose faults and recalibrate instantly where necessary, regardless of manufacturer. Our mobile rigs are fully traceable to international standards.

Requirements:

- Is a site induction required?
- Allow adequate space to set up the mobile flow rig - 5m (L) x 3m (W) x 3m (H) and weight 800 kg when empty. To be places indoor only
- 3 phase 400VAC electricity and water supply are present within a 20m distance
- The meters being calibrated are required to be taken out of line
- Is the process hygienic?

Pipe diameters:

- Coriolis, mag and Vortex – DN8 – DN80 up to 60m³/hr
- We can also calibrate 3rd party flowmeters

Third party instrument requirements:

- Process connection details
- Order code
- Manufacturer
- Output type (mA, pulse)

*coming soon

Verification

On-site flowmeter verification of Endress+Hauser flowmeters – a simple and proven way to extend calibration intervals.



Endress+Hauser's Fieldcheck® verification tool or our new Heartbeat technology provides a healthcheck for a flowmeter, ensuring key device parameters remain within Endress+Hauser's original specification. Instruments can be verified and be back in operation within minutes and are not required to be removed from the line.

Requirements:

- Is a site induction required?
- The engineer will disconnect the instrument's outputs to perform the test – except for Heartbeat verification where outputs are not required to be disconnected
- Safe access is required to the instrument(s) requiring verification



Heartbeat Verification This verification functionality, integrated into all new Proline flowmeters, allows you to monitor your device permanently and verify its performance at any time – guaranteeing high measurement quality:

- Audited and attested self-monitoring and verification (by TÜV)
- Without process interruption
- Metrologically traceable
- Seamless quality documentation acc. to ISO 9001



Calibration and verification of flowmeters

Our service at a glance



Calibration (Factory)



Onsite calibration/laboratory



Onsite verification



	Onsite verification	
Method Test equipment	Stationary calibration facilities ■ Gravimetric (G) measurement with weighing system ■ Volumetric (V) measurement with piston prover ■ Master meter (MM) method with Coriolis flowmeters or magmeters as reference	Mobile calibration facilities ■ Comparison with in series master meter ■ Mobile calibration rig with Coriolis flowmeters as reference(mass, volume).
Traceability	To national standards (accreditation according to ISO/IEC 17025)	To national standards (accredited or accreditation is in progress)
Maximum measuring uncertainty	G: $\pm 0.015\%$ (PremiumCal) $\pm 0.05\%$ (Standard) V: ± 0.022 to $\pm 0.05\%$ MM: $\pm 0.08\%$	Measurement uncertainty for mass flow with Coriolis meter: 0.12%
Verification points	3 or 5 points (more on request)	5 points (others on request)
Time required (per device)	2 to 5 days in house (depending on nominal diameter)	1 to 2 hours per measuring point (depending on plant type with/without bypass, nominal diameter, etc.)
Benefits	■ Highest level of accuracy ■ Calibration over a wide range of nominal diameters	■ Calibration is conducted in the field with water
	Heartbeat Verification ■ Verification function integrated into the measuring electronics ■ Available for flowmeters of the new Proline generation	Fieldcheck tester/simulator Verification measurement with Fieldcheck (external tester and simulator)
	Traceable, device-internal references	Traceable test instrument
	Verification ensures that measuring device operates within specified accuracy of diagnosis coverage > 95% (rate of undiscovered dangerous errors < 5% in compliance with IEC 61508)	Depending on process conditions
	Some minutes	4 to 5 points
	Regulation-compliant verification of the entire signaling chain:	Approx. 15 to 45 minutes
	■ Integrated function, accessible at all times ■ Simple handling ■ No process interruption ■ Output of electronic test report	■ Meter is not removed for testing ■ Results automatically logged ■ Traceable instrument ■ Conclusions can be drawn with regard to stability and operability of the device under test

Malaysia

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