

Information regarding the requirements of the Pressure Equipment Directive 2014/68/EU.

Dovre Sertifisering AS Technical Note

Information regarding Pressure gauge calibration

Pressure equipment needs to be tested during (final) inspection. To perform a correct pressure test the gauges used to indicate the pressure need to be calibrated.

This applies to conformity modules A2, B (production type), C2, D, D1, E, E1, F, G and H1. The pressure gauges used during the hydrostatic test under supervision of a Notified Body need to be calibrated.

What are acceptable methods for the calibration of pressure gauges?

The following options are acceptable.

1. Notified Body uses his own NATL calibrated gauge.
2. Notified Body has a calibrated mother gauge, NATL calibrated.
This gauge can be used for calibration of the manufacturer's testing gauges, used during the hydrostatic test for the final inspection.
3. Manufacturer uses calibrated mother gauge, NATL calibrated. This gauge can be used for
calibration of pressure gauges (ref. EN13445-5 §10).
4. Manufacturer uses only test gauges calibrated by a NATL (ref. EN13445-5 §10).
5. Manufacturer has no calibrated mother gauge and uses a service supplier or sub contractor for calibrating the testing gauges. The service or sub contractors gauge must be calibrated by a NATL.

Note: (NATL = National Accredited Testing Laboratory).

Note: If necessary the Notified Body can require to inspect the calibration and facilities used for calibration.

Notes to 3 and 5:

For this option the Notified Body performing the proof testing shall verify the calibration done by the manufacturer or the subcontractor.

Notified Body shall inspect and review the calibration reports, mother gauge calibration certificates and method statements of calibration.

Background

This information explains the requirements in the Pressure Equipment directive (2014/68/EU) regarding Final assessment in Annex 1 Essential safety requirements §3.2.2 Proof test).

- **2014/68/EU §3.2.2 informs us with the following.**

Final assessment of pressure equipment shall include a test for the pressure containment aspect, which will normally take the form of a hydrostatic pressure test at a pressure at least equal, where appropriate, to the value laid down in point 7.4.

For category I series-produced pressure equipment, this test may be performed on a statistical basis.

Where the hydrostatic pressure test is harmful or impractical, other tests of a recognised value may be carried out. For tests other than the hydrostatic pressure test, additional measures, such as non-destructive tests or other methods of equivalent validity, shall be applied before those tests are carried out.

- **Interpretation from EN13445-5 §10.2.3.11 Pressure gauges**

Dial indicating and recording pressure gauges shall have a dial indicator that is graduated over a range no less than 1,5 times nor more than 4 times the intended maximum pressure.

For large vessels and/ or systems where more than one gauge is specified, or required, a recording type gauge is recommended. This device substitutes one of the indicating type gauges.

All indicating and recording type gauges used shall be calibrated by a NATL and being re-calibrated at least once a year, unless specified differently by EN13445.

The gauges used shall provide results that are accurate within the listed accuracy of the standard. The gauges shall be re-calibrated if there is reason to believe the values are in error.