

Gauge Calibration Plans

The efforts for maintaining master data is one aspect of the introduction of computer-based software that is often neglected. How big this efforts are becomes evident not before the required tasks have been finished. At the end it is realized that the costs have been very high in relation to the actual investment in the software product itself. This is especially true for the planning of gauge calibration. iQ-PMPL (Gauge Inspection Plans) frees you from the burden of creating standard-conform plans for many of the standard measuring and test equipment.

The following table contains the range of inspection plans of directive 2618. These inspection plans require no further planning. You can start the calibration immediately after selecting the corresponding gauge or gauge type without any preparation.

| Sheet | VDI/VDE/DGQ 2618 Directive |
|-------|--|
| 3.1 | Gauge blocks |
| 4.1 | Cylindrical domes, mandril gauges and gauging rings |
| 4.2 | Test prods/test prods for screw threads |
| 4.4 | Adjusting dimension for outside micrometers with co-planar or spherical measuring surfaces and depth gauges |
| 4.6 | Testing cylinders and test pins |
| 4.7 | Gap gauges |
| 4.8 | Cylindrical screw thread readout gauge, screw thread mandril gauges and screw thread test pins |
| 4.9 | Cylindrical screw thread setting rin gauges and screw thread gauging rings |
| 4.12 | Conic etalon and taper gauges |
| 6 | Micrometer depth gauges |
| 6.1 | Coplanar inspection windows |
| 7.1 | 90 degrees angle brackets |
| 7.2 | Protractors |
| 9.1 | Caliper gauge for outer, inner and depth measuring |
| 9.2 | Depth gauges |
| 9.3 | Height gauges |
| 10.1 | Micrometer gauges |
| 10.2 | Micrometer gauges with interchangeable measuring inserts for screw thread measuring and other inspection assignments |
| 10.3 | Dial comparator micrometer gauge |
| 10.4 | Built-in micrometer gauges |
| 10.5 | Depth gauges |
| 10.6 | Height gauges |
| 10.7 | Internal measuring gauges with two point tangency |
| 10.8 | Internal measuring gauges with three line tangency |
| 11 | Dial indicators |
| 11.1 | Dial indicators |
| 11.2 | Mechanical dial comparators |
| 11.3 | Dial test indicators (lever-type) |
| 12.1 | Lever-type gauges (quick indicator) for external gauging |
| 13.1 | Lever-type gauges (quick indicator) for internal gauging |
| 13.2 | Internal measuring gauge with two point tangency |
| 14 | Internal measuring gauge with two point tangency at the test specimen |
| 14.1 | Inspection requirements for electronical length measuring gauges consisting of inductive caliper and measuring tool |
| 16.1 | Vertical length measuring tools |
| 18 | Flat bed spacer |
| 19 | Straightedge |
| 22 | 90 degrees angle bracket (flat bed, limit stop angle bracket) |
| 26 | Electronical length measuring device with inductive caliper and indicator |

Regulations marked yellow will also be available after their final release.

The concluded inspection plans of the VDI/VDE/DGQ-regulations can of course be copied and adjusted to your own requirements (e.g. in order to reduce the inspection range). You can also adjust the tolerances to your plant-specific demands.

Due to the gauge details (e.g. screw limit plug gauge M10x1,5-6H) all attributes are generated automatically with the correct set points and dimensions according to DIN charts. During inspection you are presented with the correct wire or spherical diameter.

calibrate gauge

Gauging order: PU101122
Measuring task: 10
Test eq.: GEWINDEGRENZLEHRDORN M10/1
reference standards: Thread plug gauge M10 No 1

Attributive inspection: Thread gauge

Scrap

| Item | Description | Value | U _z | Acceptance |
|------|-------------------------------------|-------|----------------|------------|
| 61 | 1. outside diameter fore not go end | 9,52 | U _z | 77% |
| 62 | 2. outside diameter fore not go end | 9,518 | U _z | 59% |
| 63 | 1. outside diameter back not go end | 9,521 | U _z | 86% |

GO side

| Item | Description | Value | U _z |
|------|---------------------------------|-------|----------------|
| 41 | 1. outside diameter fore go end | | U _z |
| 42 | 2. outside diameter fore go end | | U _z |
| 43 | 1. outside diameter back go end | | U _z |

Test item: 30
Reference value: 790
Hardness test: 760

Selection of wire-/ball diameter

Test eq.: Thread plug gauge
Thread description: M10x1,5-6H
Most favorable diameter: 0,866 mm

Measuring strength: 2,00 N

Procedure: Three wire method
Reference: Zeiss series

Selected diameter: 0,895 mm

Furthermore there is a variety of more gauges for which no standardized inspection directives are available. The following chart shows all those gauges for which all arrangements have been made, also without any planning, in order to start calibration immediately. Tolerances can be indicated through an easy chart system.

| Inspection plans for other gauges | Inspection plans for other gauges |
|--|--|
| Torques | Electronical counters |
| Pressure, tension and force | Digital multimeter |
| Test plates | Oscilloscopes |
| Form calipers | Precision balance |
| Taper gauge | Tread projector |
| Screw thread revolving jaw type gauges | Digital caliper Heidenhain, Sylvac |
| Screw thread gap gauge - master gauges | Length measuring dev. (counter) Heidenhain, Sylvac |
| Base tangent length comb (analogue) | Digital dial indicator |
| Base tangent length micrometer gauges (analogue) | elec. Dial comparator (mech.) SKW 0,01mm |
| | elec. Dial comparator (mech.) SKW 0,001 mm |

Example of a dial indicator calibration:

