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THREAD GAUGING

TECHNICAL INFORMATION

Thread gauging of cylindrical threads

For checking the dimensional accuracy of cylindrical threads by using thread gauges, a GO-gauge and a NO-GO-gauge is needed.

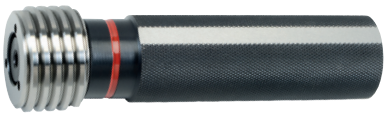
Cylindrical internal threads are tested with thread plug gauges. These are designed as limit plug gauges up to thread size M36 (the GO and NO-GO gauge sides are on one handle). For larger thread sizes, the thread gauges are available as separate GO- and NO-GO-plug gauges.

The inspection of cylindrical external threads is carried out with thread ring gauges (GO-ring gauges and NO-GO ring gauges).

(Limit) Plug Gauge

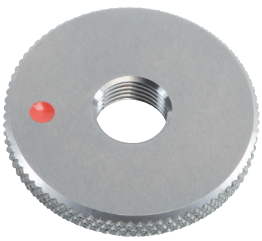
GO-side NO-GO-side

GO-Plug gauge



NO-GO-Plug gauge

GO-Ring gauge



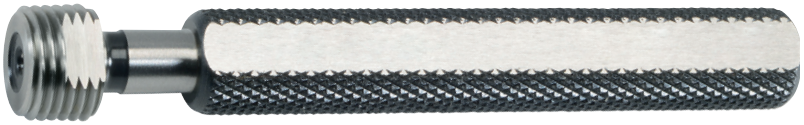
NO-GO-Ring gauge

Test criterion for thread gauging of cylindrical threads.
The GO thread gauge must be screwed in without much resistance.
The NO-GO thread gauge must only be screwed in up to a maximum of 2 pitches.
If this is not the case, the tested thread is not correct (NOK).

Thread gauging of taper threads

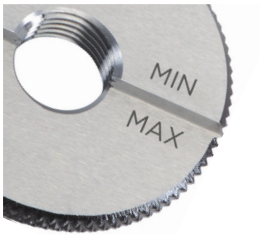
For taper threads, such as the NPT pipe thread,
limit ring gauges or limit plug gauges with only one side are used.
These are equipped with test steps (step "MIN" and step "MAX").

(Limit) Plug Gauge



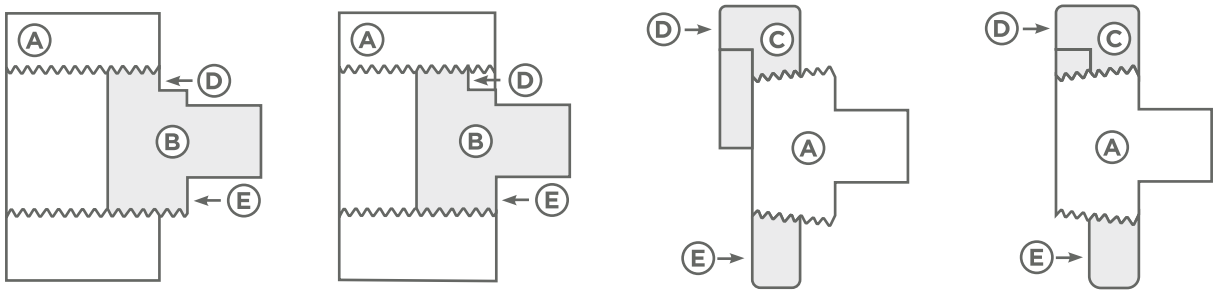
Step "MIN" and "MAX"

Limit Ring gauge
Front side



Limit Ring gauge
Back side

Test criterion for thread gauging of taper threads.
It must be possible to screw the gauge (in or on) to such an extent that it lies on or within the two test steps when it is screwed on.
If this is not the case, the tested thread is not correct (NOK).



A Workpiece
B Limit Plug Gauge
C Limit Ring Gauge
D Step MIN
E Step MAX

DLC coating for GO-thread plug gauges

Since GO thread plug gauges are completely screwed into threads when they are used, they are subject to a certain amount of wear, which will increase when they are used in materials with an abrasive surface.

For this reason, VÖLKEL offers limit plug gauges for very frequently used metric standard threads of sizes M3 to M24, where the GO-side is coated with a DLC coating.

The DLC coating (Diamond like Carbon) has some of the properties of diamond. This armorphous structured coating offers a very high surface hardness with a simultaneously very low sliding friction, which is even lower than that of teflon.

Advantages of the DLC-Coating.

- Very hard surface (up to 3.500 HV)
- Temperature resistance up to 350°C
- High resistance to abrasion
- Very low sliding friction (friction coefficient 0,08 to 0,1)

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