

Additional information about production drawings

The relevant production drawings are applicable as the basis for both internal and external processing and machining of products from Kistler Instrumente AG, Winterthur.

For all drawings that do not include a reference to the tolerancing principle (as per ISO 8015), the envelope principle (envelope requirement, as previously standardized in DIN 7167:1987-01) continues to apply.

This principle must be applied even though ISO 14405-1 (2010-12), the new international norm, describes the two-point size – and therefore the principle of independence – as standard.

Downstream processes such as mass finishing (trowalizing), flow grinding and sandblasting, etc. or reworking with a polishing cloth or rubber, grindstone/whetstone, etc. which are not defined on the production drawing may only be applied after consulting KISTLER.

The attached/enclosed documentation applies with higher priority overall.

Purpose

This documentation is intended to ensure the quality of all KISTLER products that are processed and/or machined both internally and externally.

Regulation

By signing this documentation, the supplier company undertakes to comply with the quality requirements.

Confirmation

The supplier company acknowledges receipt of the document by signing it and returning the signed copy to KISTLER.

Supplier company (stamp):	Received on:	Signature:

Änderung 100034153	Datum 03-Aug-2020	Ersatz für	Erste Projekt-Nr.	Status	Kopie Datum 10-Sep-2020
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Instruction
Additional indications to drawings

Gez.	28-May-2020	Mok		KISTLER measure. analyze. innovate.	Nr.-Verweis			
Gepr.	03-Aug-2020	Mok	Pek		Blatt 1/5	Dokument-Nr.	300.001.831	Ver. c
Ges.	03-Aug-2020	Mok	Boz					

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Guidelines for optical inspection

Inspection equipment

A microscope comparable to the Leica or Zeiss brands, equipped with cold light LED ring illumination, must be used for the optical inspection.

Inspection

The magnification prescribed for the optical inspection is noted in the definition of the relevant drawing specification (see below).

General optical inspections of small parts with a diameter of up to 25 mm must be performed with magnification of at least 6.3X.

Guidelines for dimensional inspection

The basic rule is: gage before you measure, i.e. inner diameters are checked with the help of a limit plug gage, or alternatively with test pins.

We require documented certification of the measuring equipment.

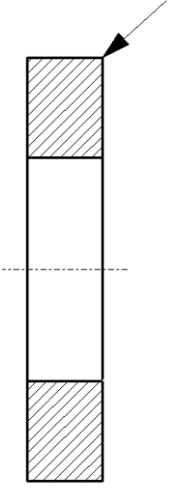
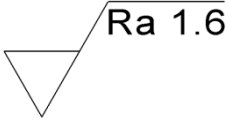
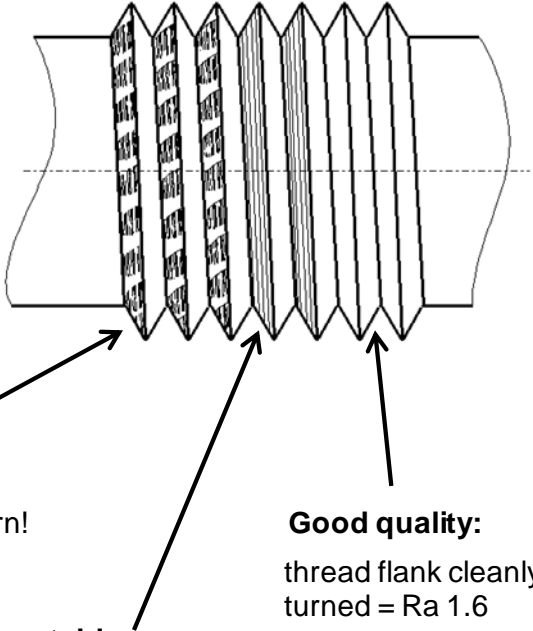
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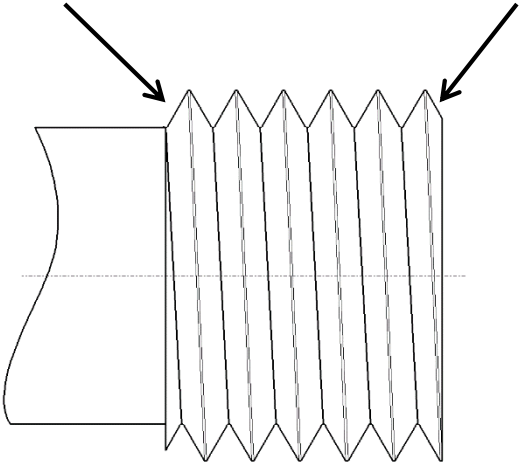
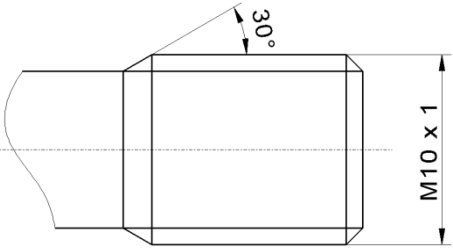
Drawing specifications	Definition
<p>[Sharp edge, without burrs]</p> <p>Kante scharf, ohne Grat</p> 	<p>This edge must be machined with geometric accuracy, be free of burrs and may not be damaged in any way (material indentations or structure).</p> <p>The edge can be produced with Rmax 0.03 mm or as a chamfer, max. 0.03 x 45°.</p> <p>(Based on DIN / ISO 13715)</p> <p>Optical inspection with 16X magnification</p>
	<p>The requirement for the quality of surfaces also applies to thread flanks.</p> 

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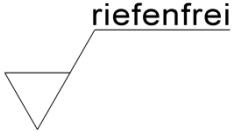
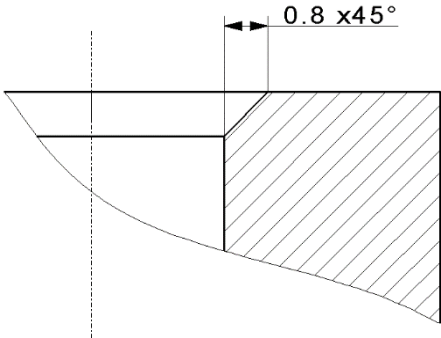
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Drawing specifications	Definition
<p>Outer edges</p> <p>Outer edges generally beveled</p> <p>or</p> <p>defined bevel on outer edges according to drawing</p>	<p>a) Machined edges must be free of ridges</p> <p>b) No ridges may be present at the beginning and end of a thread</p> <p>(applies to external and internal threads)</p>  <p>Optical inspection with 16X magnification</p>
	<p>1 Chamfers on the thread</p> <p>Without specification = 45°</p> <p>2 Tolerance range on thread</p> <p>Without specification:</p> <ul style="list-style-type: none"> - External thread = 6g - Internal thread = 6H

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Drawing specifications	Definition
<p>[free of scoring marks]</p> 	<p>Means a homogeneous surface. Machining marks/grooves are still visible. However, the surface must not be torn!</p> <p>The objective is that no dirt particles can adhere to this part during our assembly process.</p> <p>Compliance with this requirement is primarily ensured by optical inspection.</p> <p>Optical inspection with 16X magnification</p>
<p>General tolerances according to DIN ISO 2768</p> <p>To be applied for chamfers and radii, according to the drawing.</p> 	<p>In divergence from the standard, the deviations (tolerances) for the linear dimensions of this standard apply to chamfers and rounding radii (radii) on KISTLER products.</p> <p>.</p>

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