

# Bedienungsanleitung *Users Manual*



## **Spannkraftprüfer** *Pull Force Gauge*

HSK-25 - HSK-100  
SK30 - SK50

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## **2 Description**

This manual is part of the technical documentation for PullForce Gauges manufactured by Gühring oHG.

This users manual contains information required for proper use of the units. The content corresponds with the technical specification of the gauge units as of the date of purchase. We reserve the right to make changes to reflect technical or design improvements.

### **Contents**

This users manual contains information needed to use the gauges safely and correctly. This is important to prevent significant repair costs.

### **Attention**

Please store the packaging of the gauges for use when returning for repair or recalibration.

## **1.1 General**

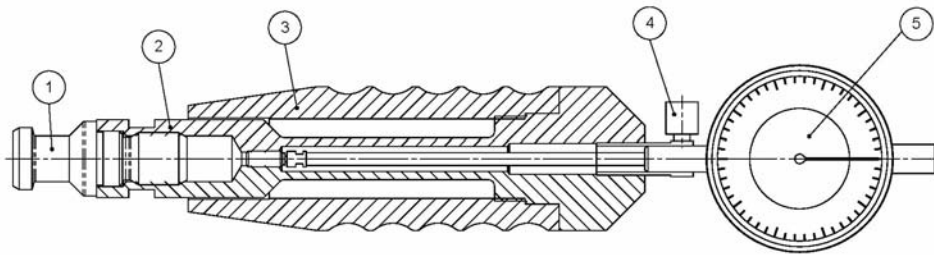
Die Bedienungsanleitung enthält wichtige Hinweise den Spannkraftprüfer sicher, sachgerecht und wirtschaftlich zu betreiben, Gefahren zu vermeiden, Reparaturkosten und Ausfallzeiten zu vermindern, sowie die Zuverlässigkeit und Lebensdauer des Spannkraftprüfer zu erhöhen.

Die Betriebsanleitung besteht aus 10 Kapiteln.

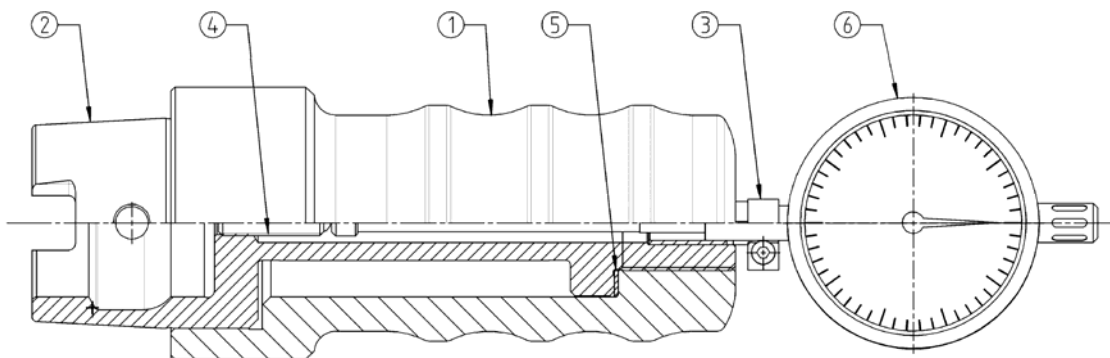
In der Fußzeile steht links die Anlagenbezeichnung, mittig das Erstelldatum und rechts die Seitennummer.

**2 Design of the PullForce Gauges for SK, ANSI, BT and HSK Tapers****2.1 Design of the PullForce Gauge for SK, ANSI, BT Tapers**

- ① Pull Stud, ② Cylinder, ③ Taper Sleeve,
- ④ Indicator Clamp, ⑤ Indicator

**2.2 Design of the PullForce Gauge for HSK Tapers**

- ① Pull Stud, ② Cylinder, ③ Taper Sleeve,
- ④ Indicator Clamp, ⑤ Indicator



### **3 Preparation of the PullForce Gauge**

How to adjust the PullForce Gauge

5. Install the Pull Stud in the thread of the taper (SK/ANSI/BT Versions)
6. Clean the spindle taper
7. Clean the taper of the PullForce Gauge
8. Set Indicator to „0“ position (see 2.1)

### **4 PullForce Check**

Hold the PullForce Gauge in the taper of the machine and activate the clamping system of the spindle. The indicator will show the pull force in kN (kiloNewton). For minimum suggested pull forces see the following table 5.0.

### **5 Minimum suggested Drawbar Pullforce**

Minimum Pull Force Of taper size	
Taper Size HSK25	2,8 kN
Taper Size HSK-32	5,0 kN
Taper Size HSK-40	6,8 kN
Taper Size HSK-50	11,0 kN
Taper Size HSK-63	18,0 kN
Taper Size HSK-80	28,0 kN
Taper Size HSK-100	45,0 kN
Taper Size SK-30	6,0 kN
Taper Size SK-40	12,0 kN
Taper Size SK-50	25,0 kN

### 6 Measuring range of the Pullforce gauges SK and HSK

Taper size	Measuring range	
	von	bis
HSK / SK		
HSK-25	3,0 kN	6,0 kN
HSK-32	3,0 kN	6,0 kN
HSK-40	7,5 kN	15 kN
HSK-50	10,0 kN	20,0 kN
HSK-63	15,0 kN	30,0 kN
HSK-80	20,0 kN	40,0 kN
HSK-100	30,0 kN	60,0 kN
-	-	-
SK-30	4,0 kN	8,0 kN
SK-40	8,0 kN	14,0 kN
SK-50	20,0 kN	26,0 kN

### 7 Accessories for PullForce Gauge SK

Order-No.	Retention Knob	d5	d1	d2	L1	L2	a
70.010.012	DIN69872.A	M12	13	9	44	24	15°
70.010.016	DIN69872.A	M16	19	14	54	26	15°
70.010.020	DIN69872.A	M20	23	17	65	30	15°
70.010.024	DIN69872.A	M24	28	21	74	34	15°
70.015.016	ISO 7388 B	M16	18,95	12,95	44,5	16,4	45°
70.020.024	ISO 7388 B	M24	29,1	19,6	65,5	25,55	45°
70.020.016	Ott-Grove	M16	25	21,1	53,2	25	15°
70.020.024	Ott-Grove	M24	39,6	32	65,1	25,1	90 °

## **7.1 Installation of the Indicator**

### Disassembling:

Using the thumb-wheel, release the indicator clamp and remove the indicator from the unit. Unscrew the probe and install the probe in replacement indicator.

### Installation:

Install the new indicator in the bore, move the indicator forward till the dial indicator moves to midpoint of travel. Tighten the indicator clamp and set indicator to "0" by turning the housing.

### **Attention:**

Avoid binding the indicator cylinder by over-tightening the clamp.

## **8 Repairs**

Gühring PullForce Gauges are a modular system. When a component is damaged, only the damaged component needs to be replaced. We recommend returning any damaged gauge to the manufacturer, Gühring oHG or a certified service station for recalibration and certification. Periodic recalibration of gauge master is also recommended.

## **9 Cleaning and Lubrication**

Clean the unit with a cleaning towel and oil carefully.

**10 Maintenance and Recalibration of your PullForce Gauge**

New gauges are calibrated and certified before shipping

We recommend annual re-calibration and re-certification per ISO 9000, and offer this service at minimal charge.

Recalibration by the manufacturer of the gauges ensures the highest standard of accuracy for your gauges.

To send your gauge in for service:

- Please return the unit in the original packaging.
- Your gauge will be re-calibrated and re-certified to original accuracy levels in accordance with ISO 9000.
- If repairs are needed that are not included in the standard service, we will send you a quotation by fax or e-mail prior to the repair.
- We offer a one week turnaround on all standard services.

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