

Table of contents

| | | |
|----------|---|-----------|
| 1 | Product Description..... | 3 |
| 1.1 | Remarks..... | 3 |
| 1.1.1 | Force measuring within the tolerancefield of spindle and tool possible..... | 4 |
| 1.2 | Technical Data..... | 5 |
| 1.3 | Order numbers..... | 5 |
| 1.3.1 | Basic unit..... | 5 |
| 1.3.2 | Adapter for HSK..... | 5 |
| 1.3.3 | Adapter for steep taper..... | 6 |
| 2 | Assembly of adapter..... | 7 |
| 2.1 | Preparation..... | 7 |
| 2.2 | HSK to nominal size A 63/B 80..... | 7 |
| 2.3 | HSK over nominal size A 80/B 100..... | 8 |
| 2.4 | Steep taper..... | 8 |
| 3 | Measuring..... | 9 |
| 3.1 | Measuring conditions..... | 9 |
| 3.2 | Adjustment of the adjustable range..... | 9 |
| 3.3 | Measuring procedure..... | 10 |
| 4 | Maintenance..... | 10 |
| 5 | Inspections..... | 11 |

OTT

Spanntechnik

JAKOB

Product Information

**The pull-force measurement
system**

POWER-CHECK

95.100.230.D.E / 1999-11

OTT-JAKOB GmbH & Co
Spanntechnik KG
Industriestraße 3 - 7
D-87663 Lengenwang

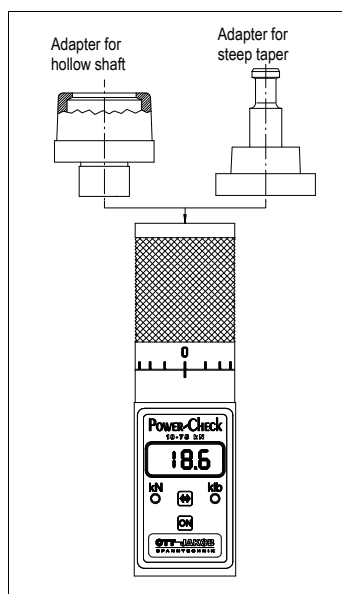
Phone: (+49) 08364 /98 21 -0
Fax: (+49) 08364 /98 21 -10
E-mail: TechDoku@Ott-Jakob.de
Service: (+49) 08364 /98 21 -59

**JAKOB
GRUPPE**

1 Product Description

Easy and fast measuring of the pull force of all common clamping systems. Using interchangeable adapters, it is possible to measure the pull force on steep tapers as well as on hollow shaft tapers.

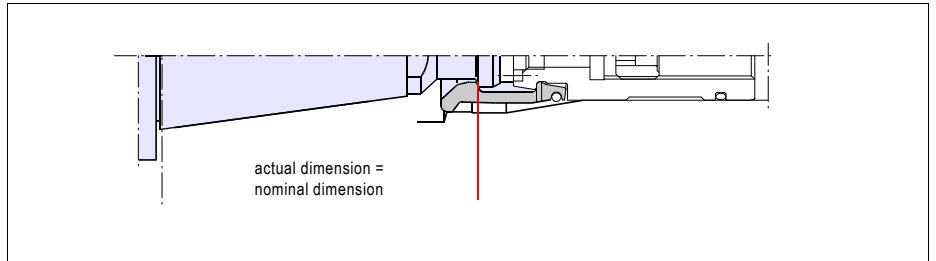
1.1 Remarks



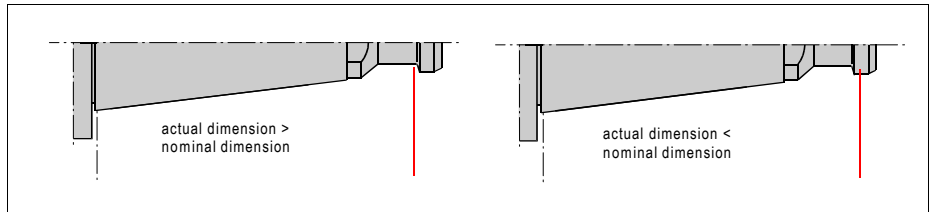
- universal application for all common steep taper and hollow shaft taper standards
- pull force measuring mechanism integrated in base unit
- no power connection required
- auto power off
- display in newton and lbs
- display with maximum value memory

1.1.1 Force measuring within the tolerancefield of spindle and tool possible

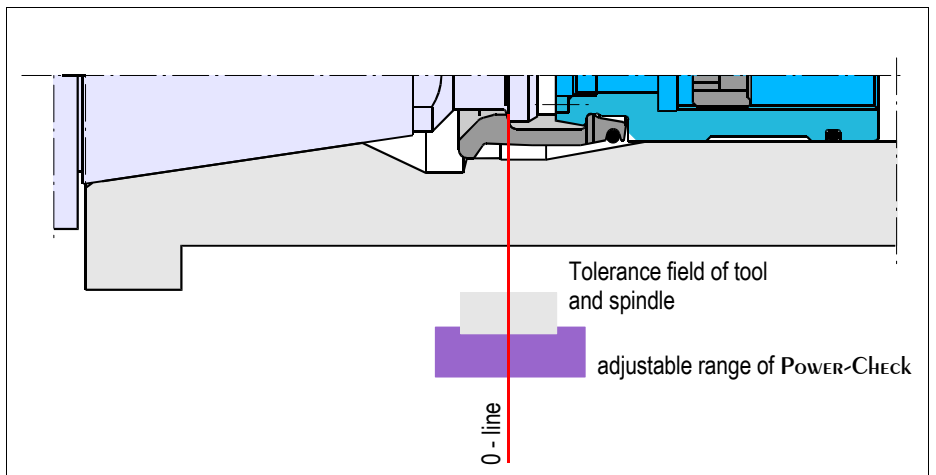
Common powercheck gages measure only the nominal dimensions of the taper.



If the part dimensions deviate, the measured value would be wrong.



The **POWER CHECK** offers the possibility to take those tolerances in its consideration.



1.2 Technical Data

| | |
|-------------------|--|
| Measuring range | 2 - 15 kN and 10 - 75 kN |
| Measuring system | Straingage |
| Display | big 3.5 digit LCD.-display |
| Power source | 9 volt battery |
| Weight | max. 6.6 lbs |
| Temperature range | 14 °F to 122 °F |

1.3 Order numbers

1.3.1 Basic unit

| Order number | Measuring range |
|----------------|-----------------|
| 95.101.712.2.2 | 2 - 15 kN |
| 95.101.600.2.2 | 10 - 75 kN |

1.3.2 Adapter for HSK

| Nominal size | Order number |
|---------------|----------------|
| E 25 / F 32 | 95.600.069.9.2 |
| A 32 / B 40 | 95.600.070.9.2 |
| A 40 / B 50 | 95.600.071.9.2 |
| A 50 / B 63 | 95.600.072.9.2 |
| A 63 / B 80 | 95.600.073.9.2 |
| A 80 / B 100 | 95.600.074.9.2 |
| A 100 / B 125 | 95.600.075.9.2 |
| A 125 / B 160 | 95.600.076.9.2 |

1.3.3 Adapter for steep taper

| Nominal size | DIN 69871 / 69872 ISO 7388 / 1 / 2 type A | ANSI B 5.50-78 ISO 7388 / 1 / 2 type B | MAS 403-1982 BT / PT-I (45°) | MAS 403-1982 BT / PT-II (30°) |
|--------------|--|--|---------------------------------|----------------------------------|
| SK 30 | 95.101.582.9.2 | 95.101.583.9.2 | 95.101.584.9.2 | 95.101.585.9.2 |
| SK 40 | 95.101.586.9.2 | 95.101.587.9.2 | 95.101.588.9.2 | 95.101.589.9.2 |
| SK 45 | 95.101.590.9.2 | 95.101.591.9.2 | 95.101.592.9.2 | 95.101.593.9.2 |
| SK 50 | 95.101.594.9.2 | 95.101.595.9.2 | 95.101.596.9.2 | 95.101.597.9.2 |
| SK 60 | 95.101.598.9.2 | 95.101.599.9.2 | 95.101.601.9.2 | 95.101.602.9.2 |

Other adapters available on request!

2 Assembly of adapter

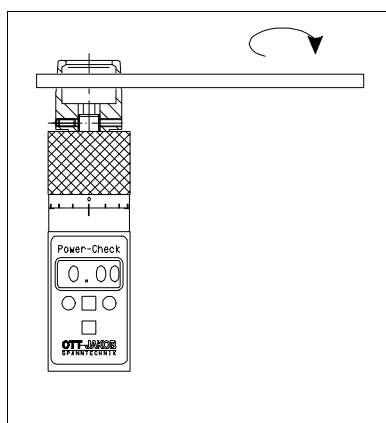
2.1 Preparation

Important 

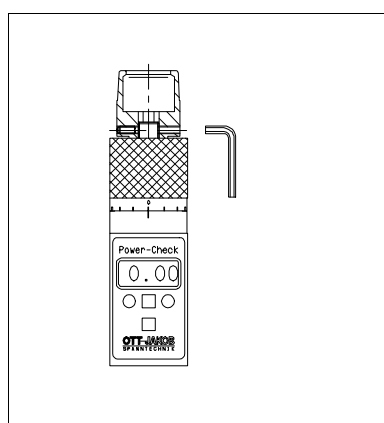
The contact surfaces of the basic unit and the adapter must be clean and undamaged.

2.2 HSK to nominal size A 63/B 80

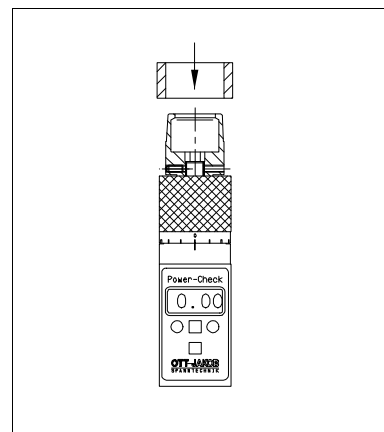
- Screw on pull stud and tighten



- Secure pull stud

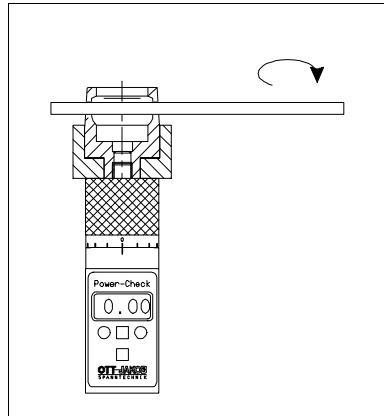
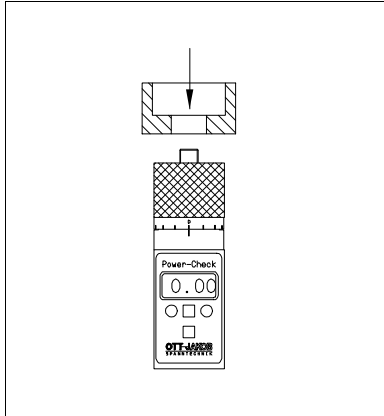


- Attach compression ring; secured by a spring loaded ball



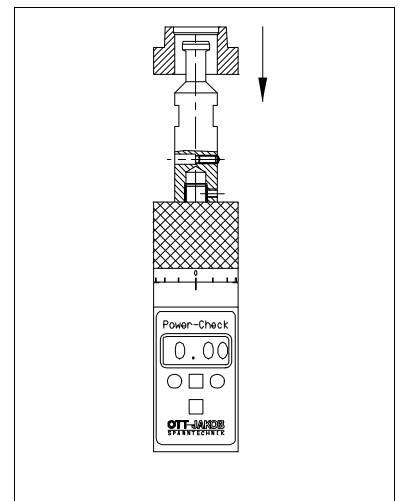
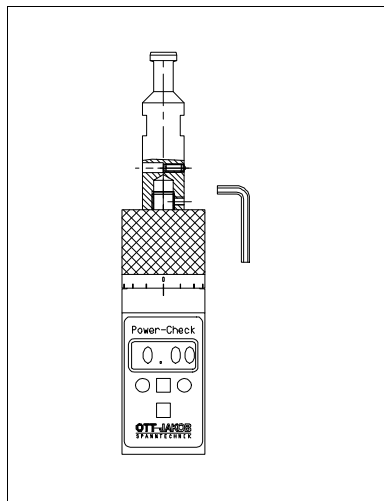
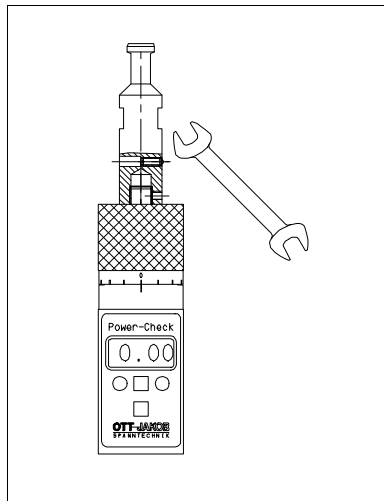
2.3 HSK over nominal size A 80/B 100

- Attach compression ring
- Screw on pull stud and tighten



2.4 Steep taper

- Screw on pull stud and tighten
- Secure pull stud
- Attach compression ring; secured by a spring loaded ball



3 Measuring

Important 

The Power-Check is a precision instrument
Please handle with care!

Important 

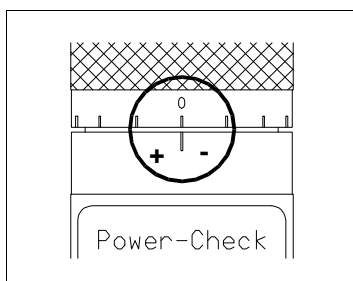
3.1 Measuring conditions

The following requirements must definitely be fulfilled in order to get accurate measurements

- Temperature range within 59 °F and 95 °F
- use only within the proper range of the basic unit; either 2-15 kN or 10 to 75 kN
- use suitable adapter,
observe the proper steep taper standard!

3.2 Adjustment of the adjustable range

- Screw in knurled sleeve delicately to the shoulder
- Turn back knurled sleeve after it passed the 0-mark the first time



The **POWER-CHECK** with the adapter now is set to the medium tolerance field of the corresponding tool standard

Turning the knurled sleeve toward "+" makes the adapter longer,
turning it toward "-" makes the adapter shorter

The permissible adjusting range is:

for **HSK** according to DIN 69893

- +/- 0.1mm is +/- 1 index on the knurled sleeve

for **steep taper** per ISO 7388 type A and B
DIN 2080
MAS 403

- +/- 0.3mm is +/- 3 indexing on the knurled sleeve

3.3 Measuring procedure

- Insert **POWER-CHECK** into the spindle and preload it.



- Switch on **Power-CHECK**

If needed



- Select measurement unit; display on LED
- Adjust adjustable range (see above); press ON button again
- Repeat measuring by pressing ON again

POWER-CHECK turns off automatically!

4 Maintenance

When malfunction, remove and reinsert battery

- Change battery if display shows LOW BAT
- Have OTT-JAKOB inspect the Power-Check once a year

5 Inspections

Serial No.

Serial No. of display

Serial No. of power sensor

Technical data

Measurement rangekN

Accuracy class 1 % of maximal value

Nominal temperature 59 °F to 95 °F

actual temperature°C

force limit: 130 % of the maximal value

break force > 300 % of the maximal value

Test protocol

| Date | Inspector | Nominal value | | | | |
|------|-----------|---------------|-------|-------|-------|--|
| | | 2-15 kN | 5 kN | 10 kN | 15 kN | |
| | | 10-75 kN | 25 kN | 50 kN | 75 kN | |
| | | Actual value | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

