Clamping Force Tester IFT

For process-reliable rotational speed monitoring

Hand in hand for tomorrow

Universally applicable clamping force tester for 2, 3 and 6-jaw lathe chucks up to 6,000 RPM

Field of application

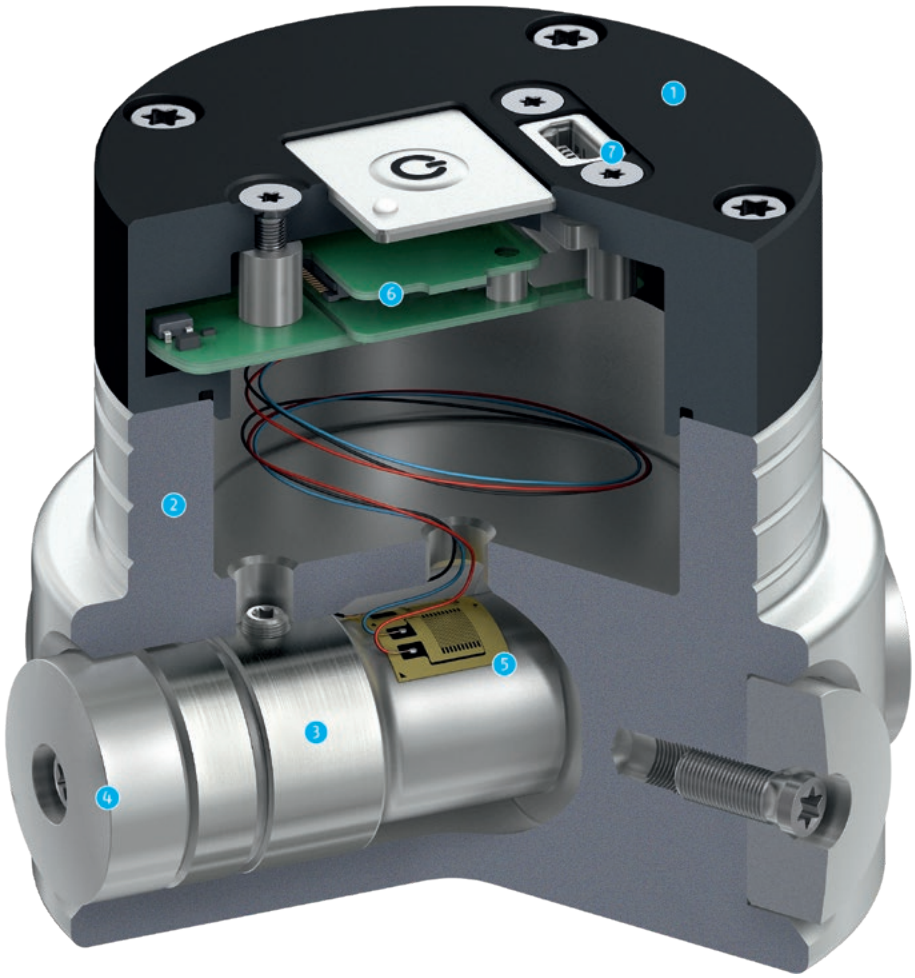
The versatile clamping force tester IFT is specially designed to ensure maximum process reliability and efficiency of lathe chucks in daily operations. It can be used on 2-, 3- and 6-jaw chucks with up to 6,000 RPM independent from the chuck manufacturer, and at a maximum clamping force of 90 kN per chuck jaw. Using adjustable extensions, it is possible to vary the clamping diameter between 72 mm, 96 mm and 136 mm.

Advantages – Your benefits

- **Universally applicable**
  Manufacturer-independent for 2, 3 or 6-jaw chucks
- **Flexibly adjustable clamping range**
  Measuring of different clamping diameters
- **Wireless data transfer via app to an industrial tablet and export to other end devices**
  Quick and easy data evaluation without troublesome cables
- **Direct display of the clamping force/RPM diagram in the app**
  No further external devices required
- **Integrated database in the app**
  Chuck history can be called up quickly and easily at any time
- **Extremely fast transmission of measured values**
  High-resolution and extremely accurate clamping force – RPM diagrams
- **Long battery service life of the measuring head**
  No constant recharing required
- **Loading duration of the measuring head below three minutes**
  The measuring head is quickly ready for use even after a longer period of non-use

Function IFT

The clamping force tester IFT allows measurement of clamping forces both in static and dynamic operation with 2, 3, and 6-jaw chucks. By means of a precise force transducer in the measuring head, the mechanical forces that occur are converted into an electric signal and amplified by the integrated electronics. The electric signals are then transmitted from the measuring head to an industrial tablet computer.



1. **Electronics housing**
   Robust protection of sensitive electronics
2. **Hardened and extremely rigid base body**
   For precise measuring results
3. **Force transducer**
   For absorption of mechanical forces from the lathe chuck
4. **Adjustable clamping extensions**
   For individual adjustment of the clamping range
5. **High-resolution strain gauge**
   For converting the mechanical force into an electric signal
6. **Integrated electronics**
   For amplification, evaluation and transfer of electric signals
7. **Mini USB connection**
   For rapid and simple loading of the measuring head in less than three minutes

Case Content IFT Set

The IFT clamping force tester is delivered in a convenient yet robust case. The case contains all of the necessary tools for conducting clamping force measurements on the machine.

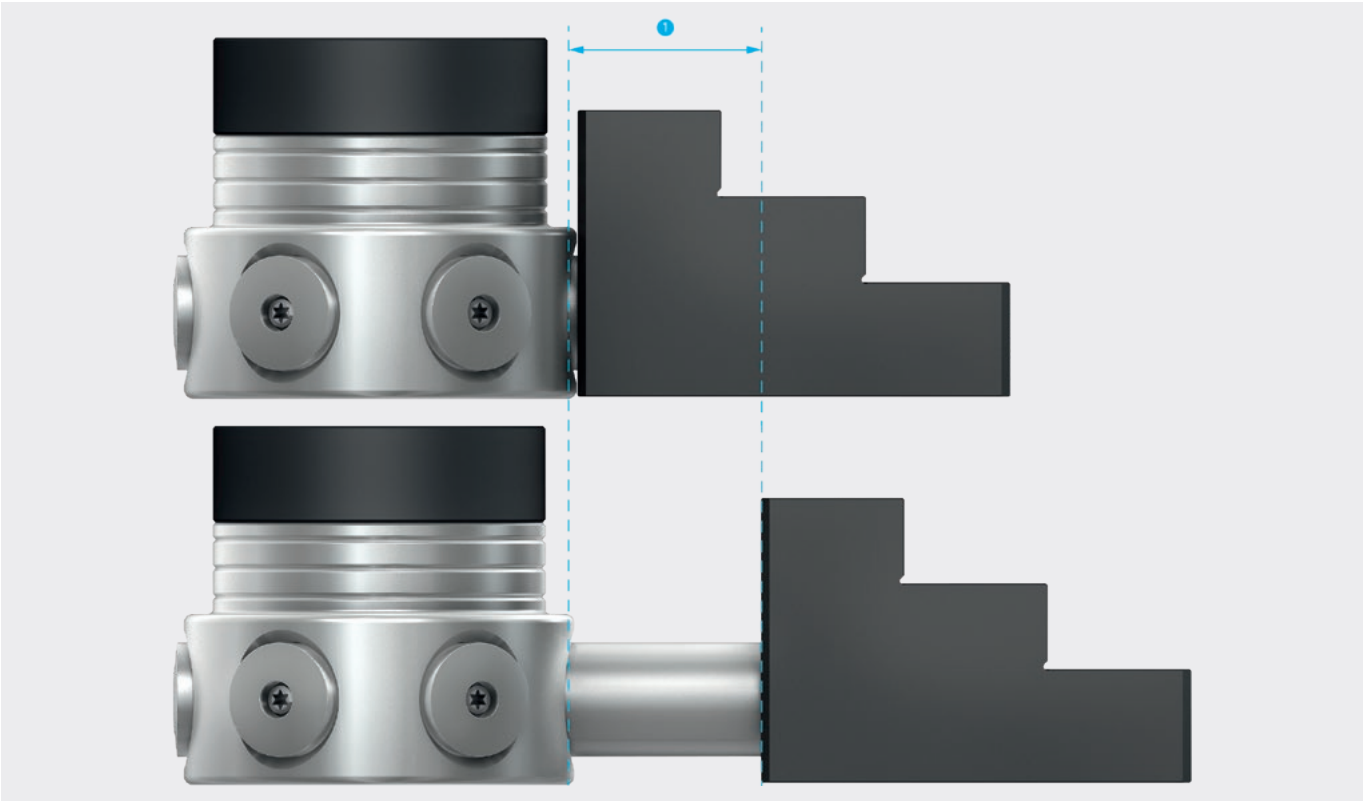
1. **Industrial tablet computer**
   With intuitive user interface and integrated database, where the measured values can be stored based on the relevant machine and chuck
2. **Measuring head**
   For determining the clamping force of 2-, 3- and 6-jaw chucks
3. **Insertion aid**
   For defined insertion of the measuring head into the chuck
4. **Intermediate piece**
   Flexible adjustment of the measuring head to different chuck sizes
5. **USB charging adapter (worldwide)**
   For universal charging of the tablet PC as well as the measuring head, no matter where on this earth it is located
6. **USB charging cable**
   Available as USB mini and USB micro version, for charging the tablet and clamping head
7. **Case**
   In a convenient and robust design

Clamping Force Tester IFT

With the measuring head IFT-M1, clamping forces of 2-, 3-, and 6-jaw chucks can be measured quickly and with high accuracy. The measured values are transmitted wirelessly from the measuring head to an industrial tablet computer and displayed there in an app. In the integrated database, the measured values can be stored based on the relevant machine and chuck. These can then be called up again at any time, for example in case of maintenance.

1. **2-jaw chuck**
   From the ROTA NC plus 2 series
2. **3-jaw chuck**
   From the ROTA NCE series
3. **6-jaw chuck**
   From the ROTA NCR-A series
4. **Measuring head IFT-M1**
   For absorption of jaw clamping forces (max. 90 kN per chuck jaw)
5. **Wireless signal transmission**
   With a frequency of 2.4 GHz
6. **Industrial tablet computer**
   For displaying high-resolution clamping force/speed diagrams including an integrated database

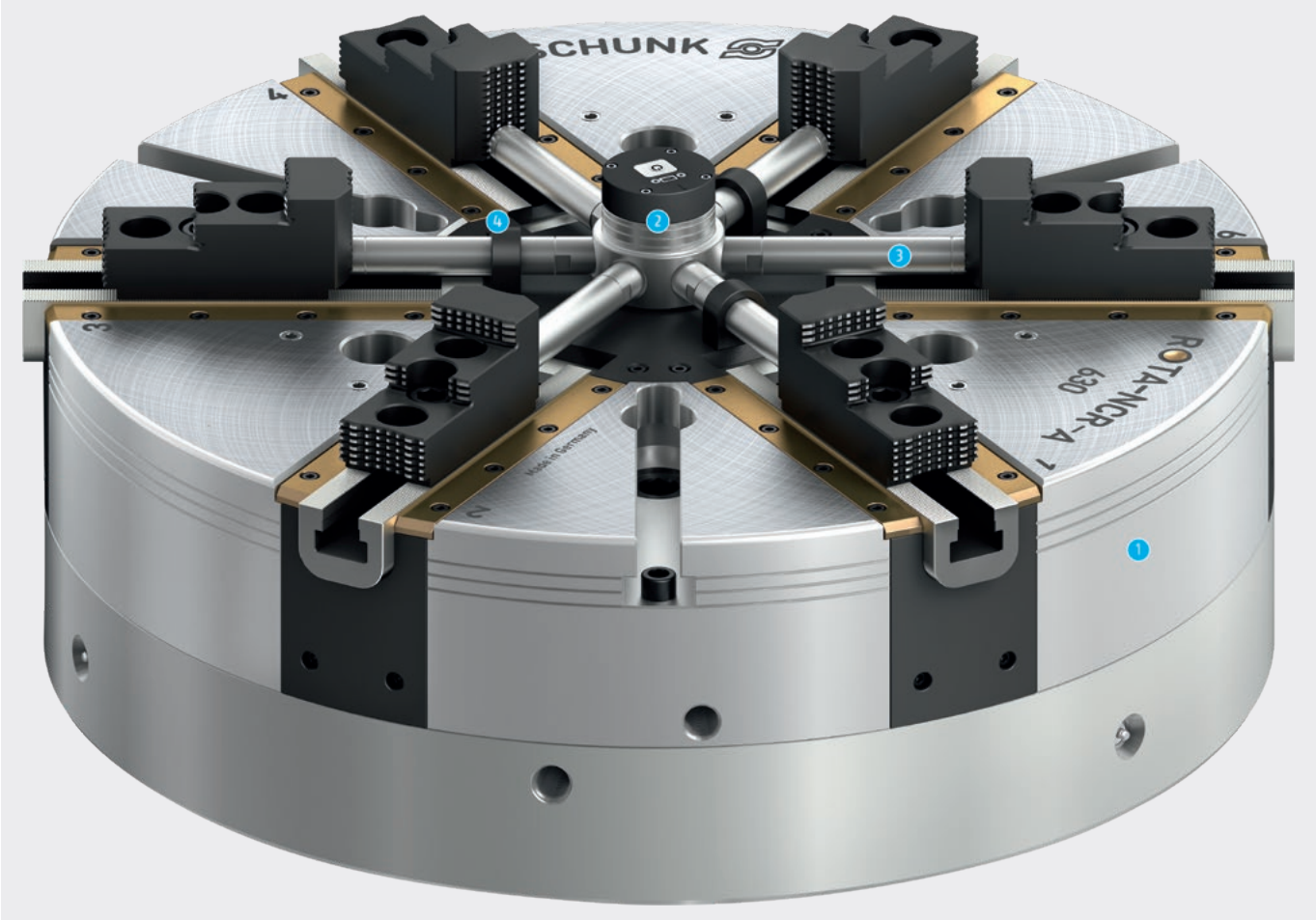
Large Range of Measurement



With the new measuring head a large clamping range of the clamping device can be covered. Depending on the size of the clamping device, the clamping range can be individually adjusted via extensions. Three clamping diameters can be set as standard. A screw connection between measuring head and extension ensures a quick and safe change.

1 **Large clamping range**
Lengths Ø 72, Ø 96 and Ø 136 mm as standard

Extension set for large lathe chucks



The standard measuring head of the IFT covers the measurement of clamping diameters Ø 72 mm/Ø 96 mm/Ø 136 mm. For larger clamping diameters, the measuring head can also be equipped with extensions. Thanks to the extension set, measuring diameters from Ø 216 mm to Ø 380 mm can now also be realized.
Attention: The chuck is not allowed to be rotating during the measurement with the extension set!

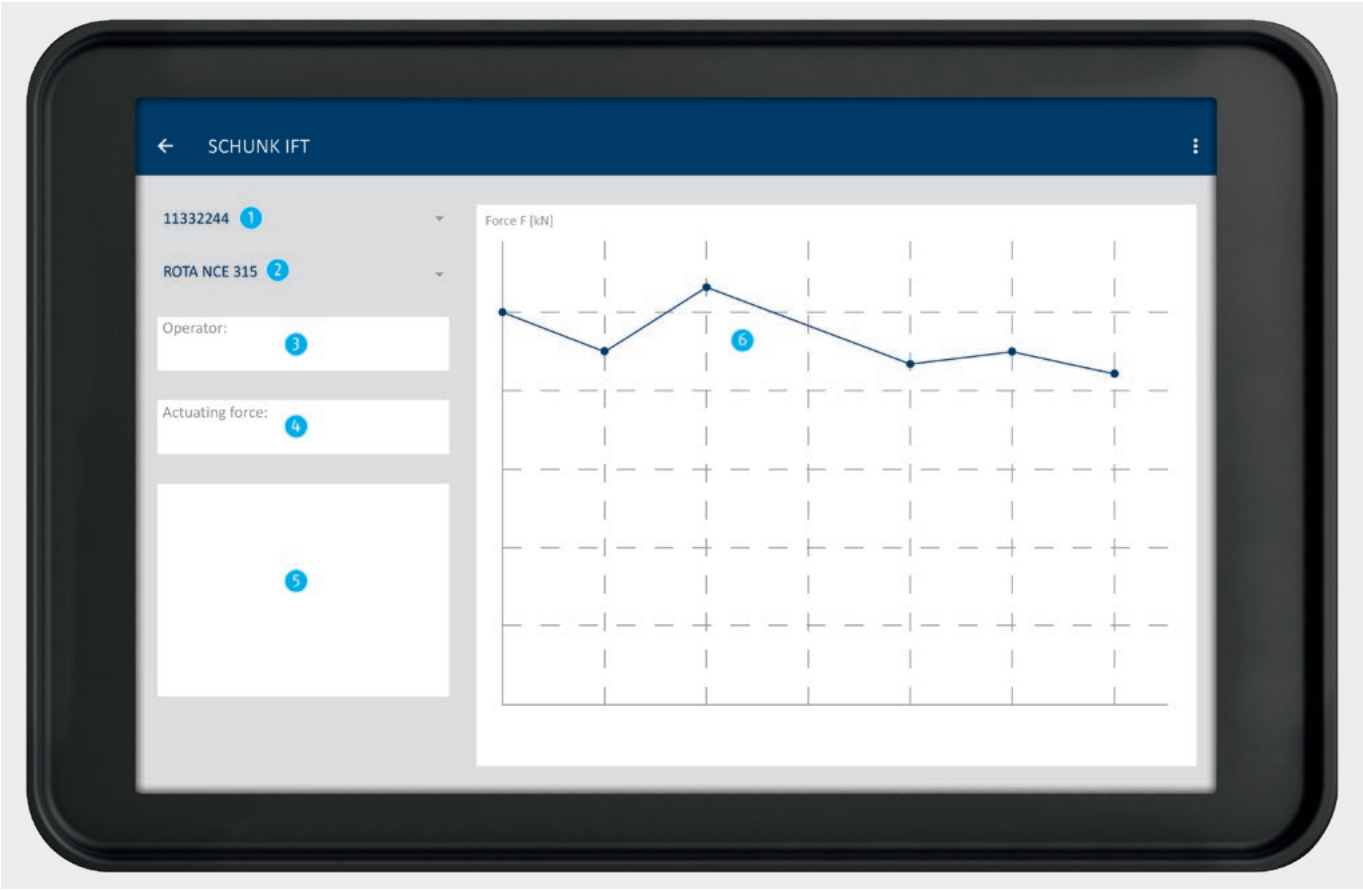
1. **Lathe chucks**
   A 6-jaw compensation chuck ROTA NCR-A by way of example
2. **Measuring head IFT-M1**
   For absorption of jaw clamping forces (max. 90 kN per chuck jaw)
3. **Interchangeable extensions**
   In three different lengths
4. **Support elements**
   To support the extensions

Intuitive User Interface

A particularly user-friendly operator interface enables all users to operate the clamping force tester intuitively. Depending on the application, the app offers an optionally adapted interface. An example of this is the high-resolution clamping force/speed diagram for dynamic clamping force measurement.

1. **Clamping force**
2. **Speed**
3. **Temperature**
5. **Save data**
6. **Export data**
7. **Change display**

Display of the Chuck History



The integrated database allows access to stored measured values. Each clamping device is stored in a machine-related way. This allows the measured values to be visualized at any time via the app.
Advantage: The history of the clamping device can be viewed directly and without additional equipment. The course of the clamping force provides information on the maintenance condition of the clamping device.

1. **Machine number**
2. **Chuck designation**
3. **Name of the operator**
4. **Actuation force**
5. **Remarks**

Clamping force tester

For static and dynamic clamping force measurement

Scope of delivery

Industrial tablet computer including app, measuring head, insertion tool, intermediate pieces for clamping diameter Ø 72/Ø 96/Ø136 mm, spare screws, Torx tool key, stator for measurement of RPM, USB charger (worldwide), USB charging cable, calibration certificate, operating manual

Technical data

Description	ID	Weight [kg]
IFT Set	1404235	4

Tablet technical data

Description		
Display size		8"
Operating system		Android
Charger connection		USB micro
Operating temperature	[°C]	0 .. 40
Protection class		IP67
Transmission/receiving frequency	[GHz]	2.4
Data exchange		MicroSD; USB micro

Technical data measuring head

Description		
Power supply		Internal energy storage
Capacity energy storage		approx. 1.5 h @ 100% d.c.
Charging process	[Minutes]	< 3
Charger connection		USB mini
Number of jaws		2, 3 and 6 jaws, can be set
Measuring range of force	[kN]	0 .. 180 kN (2 jaws) 0 .. 270 kN (3 jaws) 0 .. 540 kN (6 jaws)
Force measurement accuracy	[fsr]	< 3 %
Speed measurement	[min-1]	approx. 200 ... 6000
Speed measurement accuracy	[% fsr]	< 1
Clamping range	[mm]	Ø 72, Ø 96, Ø 136
Measured value transmission rate	[ms]	500
Dimensions	[mm]	Ø 68/58 x 63
Operating temperature	[°C]	0 .. 40
Protection class		IP67
Transmitting frequency	[GHz]	2.4
Distance hand-held unit/measuring head	[m]	<10 (depending on ambient conditions)
Weight	[kg]	0.7 (without extensions)

Accessories

Measuring head adapter for 4-jaw clamping

For use as an extension of the IFT measuring head for measuring the jaw clamping force of 4-jaw chucks.

Suitable for	Description	ID
IFT Set	IFT MA4	1452686

Extension set for large chucks

For use as an extension of the IFT measuring head for measuring the jaw clamping force of large chucks of Ø 400 mm and more.

Suitable for	Description	ID
IFT Set	IFT adapter set	1498512

Grease

LINOMAX plus

High-performance grease as standard for regularly lubricating SCHUNK manual and power lathe chucks and steady rests.

Bundle	Description	ID
Cartridge	LINOMAX plus cartridge	1342585
Can	LINOMAX plus can	1342586
Bucket	LINOMAX plus bucket	1342587

Grease gun

Auxiliary tools for lubrication of all kinds of SCHUNK products. The grease gun can be used for cartridges of all types of SCHUNK grease.

Bundle	Description	ID
Cartridge	Grease gun	9900543

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