



**THE F-SENSO 2.  
FROM RÖHM.**



**MEASURING THE FORCE  
TO TAKE YOU OVER  
THE FINISH LINE**



# THE F-SENSO 2. FROM RÖHM.

The F-SENSO 2 is a modular system for measuring the clamping force of clamping devices. It is used in the workshop, in the production area or in the laboratory for checking the clamping force before and after maintenance or repair of the clamping device and for checking the clamping system in the machine tool. The F-SENSO 2 consists of the Senso-Module and a module, which varies depending on the clamping device. The measured results are displayed either on the optionally supplied tablet PC or on your own windows device.

The F-SENSO 2 is available with the Chuck module for measuring the clamping force in manual chucks and power chucks as well as vises. The HSK module can be used to measure the pull-in force of clamping sets with hollow shank tapers. The corresponding SPK modules are used to measure the pull-in force in clamping heads.

When ordering an F-SENSO 2, you can choose between two versions (with or without a tablet PC) and additionally between the different modules. The software for visualizing and archiving data either pre-installed on the tablet PC or supplied on a USB stick if the application is to run on your own windows device.

The F-SENSO 2 replaces the clamping force measuring devices F-Senso Chuck and F-Senso Spindle.

## DESIGNED FOR?

Vises, clamping heads,  
manual and power chucks,  
HSK clamping sets in production areas,  
repair workshops or in the laboratory.

## APPLICATION

Measuring and checking the clamping force including during stationary and running operation and the pull-in force in static condition

## BENEFITS

- Modular system, one Senso-Module for all modules
- Static measurement or under speed
- Robust design
- Wireless transmission of measurement data
- Comprehensive software for visualization, archiving and management

## WHY IT'S A WISE INVESTMENT?

### F-SENSO 2 CHUCK MODULE

- 32 mm - 120 mm clamping diameter
- up to 225 kN (size 65, 3-jaws)

### F-SENSO 2 MODULE HSK

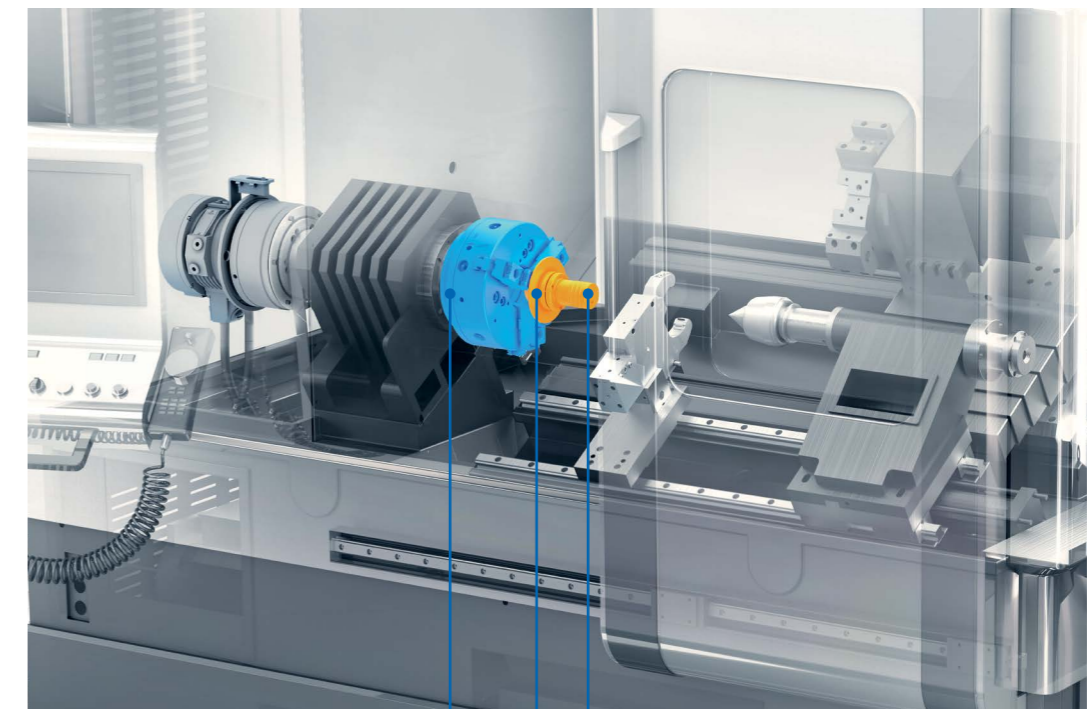
- HSK 40, 50, 63, 100
- up to 90 kN (HSK 100)

### F-SENSO 2 MODULE SPK

- SPK 125, 140
- up to 50 kN

# MAKING SURE YOU KNOW WHERE YOUR PROCESS PARAMETERS ARE

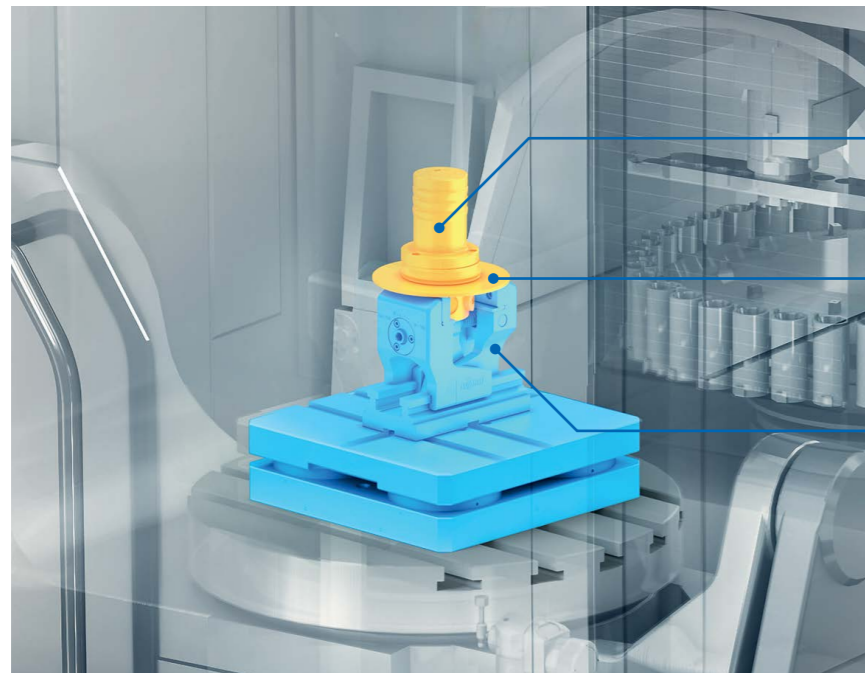
For measuring the clamping force on chucks ...



Power chuck  
(here: The Duro-A RC  
from RÖHM.)

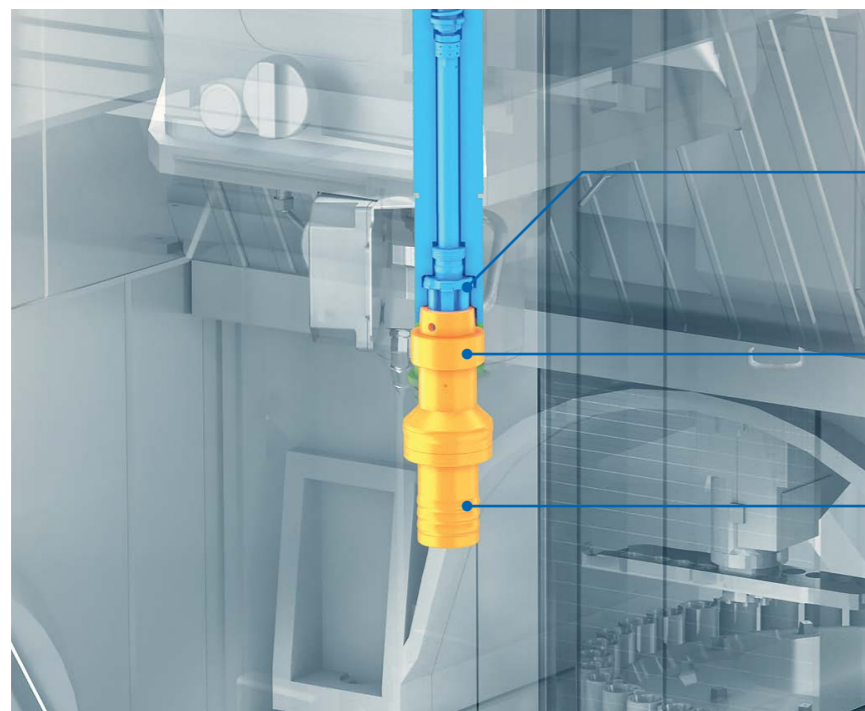
Senso-Module  
F-SENSO 2  
Chuck module

... in Vises ...



- Senso-Module
- F-SENSO 2  
Chuck module
- Vise  
(here: The RZM.  
From RÖHM.)

... in clamping sets with hollow shank tapers



- Clamping set  
(here: HSK clamping  
set. From RÖHM.)
- F-SENSO 2  
HSK module
- Senso-Module

# MEASURE SO YOU KNOW

## One Senso-Module for all measuring tasks

The F-SENSO 2 has a modular design. The Senso-Module contains all the electronic components for data processing and wireless data transmission. This means that the Senso-Module can be used for all measuring tasks. You only require one Senso-Module and the appropriate module for the relevant task. The required F-SENSO 2 module is simply screwed onto the Senso-Module.

Senso-Module



+

F-SENSO-Module



*F-SENSO 2  
Chuck module  
(external voltage)  
in sizes 32 and 65*

*F-SENSO 2  
HSK module  
(pull-in force measurement)  
in sizes 40, 50, 63, and 100*

*F-SENSO 2  
SPK module  
(pull-in force measurement)  
in sizes 125 and 140*

Do you have a special measuring task? With special measuring geometry? We would be happy to design and manufacture your individual module. Thanks to the modular system, it fits onto your existing Senso-Module via the universal interface.

## CONFIGURATION

# TO YOUR DESIRED SET IN TWO STEPS

The right F-SENSO 2 set for you can be configured in just two steps as follows:

1. Selection of the appropriate design and
2. Selection of the desired type and size of the module

# 1.

## Choosing the right design

There are two design variants to choose from:

### Version 1

contains a tablet PC.

### Version 2

is supplied without a tablet PC. This is intended for customers who, due to existing company guidelines, do not allow the use of third-party devices or who already own a windows device. Each version contains a USB stick with the appropriate software for operating the F-SENSO 2.

The two versions are supplied in a Röhm case and consist of the following in detail:

### Scope of delivery of version 1 (Id. No. 1414057)

1. Senso-Module with charging cable
2. RPM Sensor
3. Tablet PC with charging cable
4. Torx key with 3x Torx screws
5. Small case with foam insert
6. Large case with foam insert

Also included in the set:  
test report of the measuring module,  
instructions: F-SENSO 2 ,  
instructions: quality card, laptop warranty card,  
declaration of conformity



### Scope of delivery of version 2 (Id. No. 1414056)

1. Senso-Module with charging cable
2. RPM Sensor
3. Torx key with 3x Torx screws
4. Small case with foam insert
5. Large case with foam insert

Also included in the set:  
test report of the measuring module,  
instructions: F-SENSO 2 ,  
instructions: quality card, declaration  
of conformity



## CONFIGURATION

## 2.

## Selection of the desired type and size of the module

In the second step, you can now determine a suitable module in the required size. Depending on your application requirements, you can choose between the Chuck, HSK and SPK modules.

Scope of delivery  
Chuck module

1. Hard case with foam insert
2. Module with measuring segments for 2- and 3-jaw measurements
3. Service logbook

Size 32: (ID. no. 10016798)  
Size 65: (ID. no. 10016799)

Scope of delivery  
HSK module

1. Hard case with foam insert
2. Module for pull-in force measurements for HSK interfaces
3. Service logbook

Size 40: (ID. no. 10016800)  
Size 50: (ID. no. 10016801)  
Size 63: (ID. no. 10016802)  
Size 100: (ID. no. 10016803)

Scope of delivery  
SPK module

1. Hard case with foam insert
2. Module for pull-in force measurements for HSK interfaces
3. Service logbook

Size 125: (ID. no. 1414048)  
Size 140: (ID. no. 1414049)



Further information on the F-SENSO 2 can be found on our website:

[roehm.biz/f-senso-2](https://roehm.biz/f-senso-2)

## FUNCTION

# HOW THE F-SENSO 2 FROM RÖHM WORKS

The F-SENSO 2 measurement device is made up of the universal Senso-Module and a separate measuring module, which varies depending on the product to be measured. The Senso-Module and measuring module are screwed together with three screws using the tool included.

The measuring module contains the sensor for the force measurements. The electronics for processing the force signals, measuring the speed, and transmitting the data are contained in the Senso-Module. The data is transmitted wirelessly from the Senso-Module to the paired device via Bluetooth.

### Measuring pins for 2- or 3-jaw measurement and different diameters

In order for the F-SENSO 2 Chuck module to measure accurately, measuring pins are required that are precisely adapted to the radius of the contour to be measured. The measuring pins are simply screwed onto the module.



*For the different clamping diameters, there are suitable measuring bolts that are screwed onto the module.*

Diameter	32	32	42	52	65	65	80	100	120
F-SENSO 2 Chuck module 32	x	x	x	x	x				
F-SENSO 2 Chuck module 65						x	x	x	x
2-Point clamping force gauges	x					x	x	x	x
3-Point clamping force gauges		x	x	x	x	x	x	x	x
Ident #	10016898	10016804	10016805	10016806	10016899	10016807	10016808	10016809	10016810

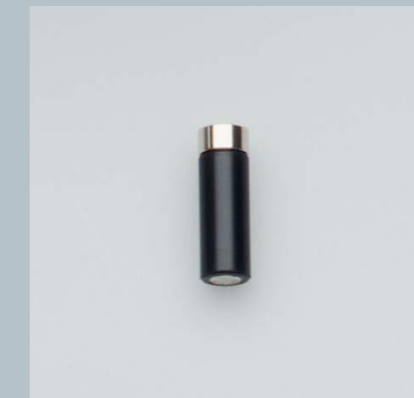
# HOW DOES THE F-SENSO 2 GET ONTO YOUR MACHINE TOOL?

Quite simply: just clamp it

Different modules are available for the various measuring tasks. After screwing the appropriate measuring head onto the Senso-Module, the F-SENSO 2 is simply inserted into the clamping device to be measured. It is then clamped. The clamping force applied activates the F-SENSO 2, which transmits the measured data wirelessly to the tablet PC.

### Speed measurement

The Senso-Module also houses the sensors and electronics for measuring the speed. The speed sensor is the magnet included in the scope of delivery. It is positioned stationary (using a suitable auxiliary device, as is available in any workshop) in the immediate vicinity of the back of the Senso-Module.



*Speed sensor*

# FUNCTION

## THE SOFTWARE

Another important component of F-SENSO 2 is its software. This is what enables convenient working with the product and opens up a wide range of options for analyzing the measured clamping and pull-in forces or the speeds. Three main control blocks can be operated via the intuitive interface: data input, measurement datadisplay and data management.

### Establishing the connection, entering the measurement parameters and reading the measurement results

This interface is used to establish the connection to the F-SENSO 2, to enter the measuring parameters and for directly reading off the current clamp or pull-in force.



Clamping or pull-in force display

Information about the module currently connected to the Senso-Module that is automatically transferred to the software

Button for establishing a connection to your F-SENSO 2

Select the clamping device to be measured and the measuring points used (3-point, 2-point or Vise measurement)

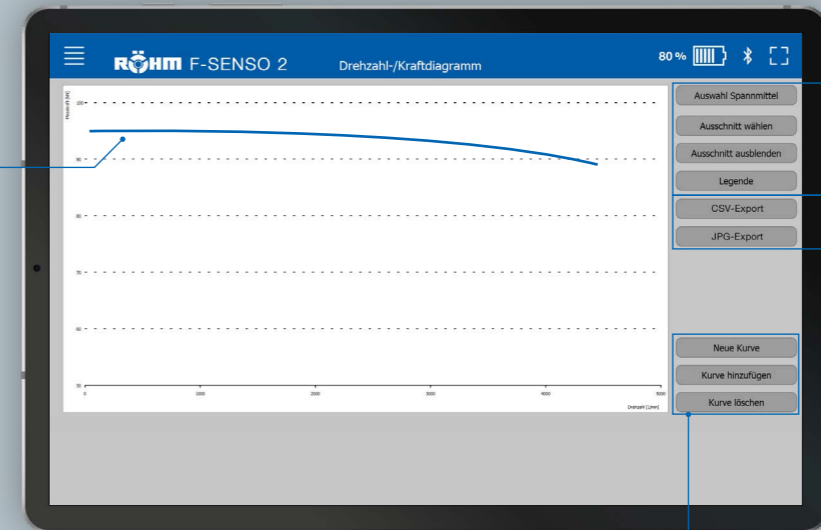
Button for creating the measurement report for the measured clamping or pull-in force

MEASUREMENT LOG	
ID no. of clamping device	783920
Clamping device	Testmaschine
Date	06 March 2024 13:41
Clamping pressure / torque	20 bar
TARGET measuring force	30 kN
ACTUAL measuring force	30 kN
Tolerance	10%
Reviewer	Mr Müller
Measure	
Comment	
Serial number of Senso-Module	19789
F-SENSO Module	Chuck 32
F-SENSO Module serial number	97003
Assessment	OK
Machine/location	Hall 4

### Graphic display and export of measurement results

The F-SENSO 2 can be used to measure not only the clamping and pull-in force, but also the rotational speed applied during rotation.

The software also offers the option of graphically displaying the clamping force in relation to the applied speed.



Visualization of the measurement results as a foundation for possible fluctuations

Adjusting the basic settings of the speed/force diagram

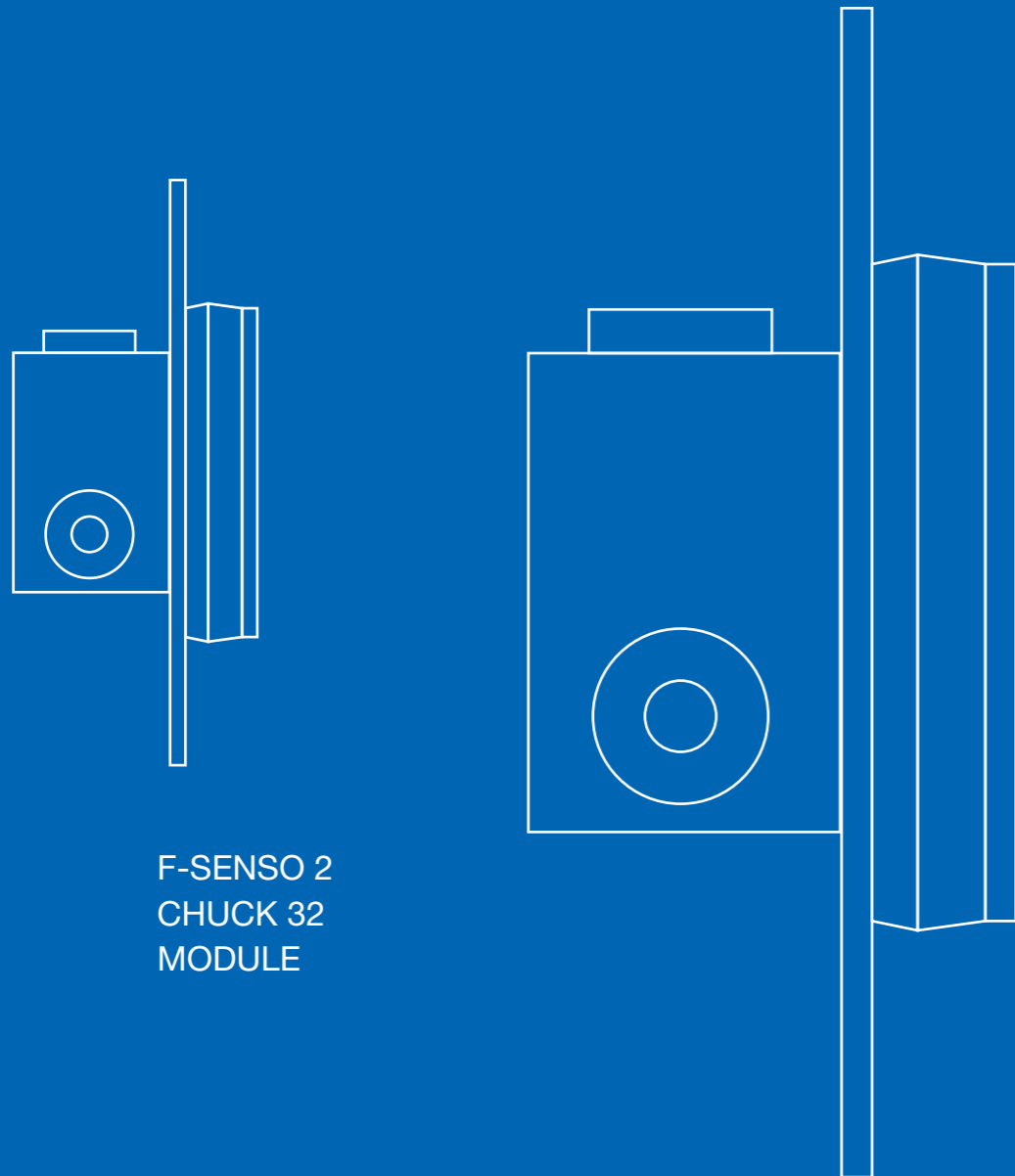
Export of measurement data in CSV format for further evaluation and export of graphics in JPG format

Management of the curves to be displayed with the possibility to display several curves to visualize optimization potentials



TECHNOLOGY

MODULES FOR TESTING  
CHUCKS, VISES,  
HSK CLAMPING SETS AND  
SPK CLAMPING HEADS



F-SENSO 2  
CHUCK 32  
MODULE

F-SENSO 2  
CHUCK 65  
MODULE

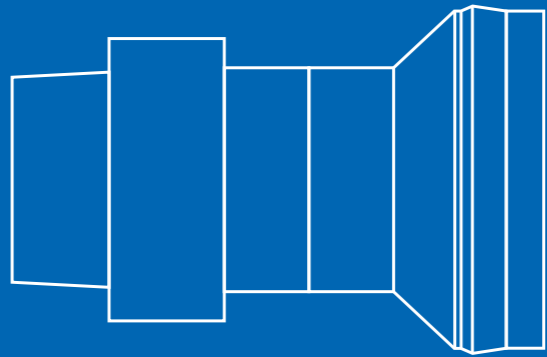
F-SENSO 2 Chuck

Size	32	65
Clamping diameter	32	65
Measuring range, 3 measuring points [kN]	0 - 140	0 - 225
Measuring range, 2 measuring points [kN]	0 - 90	0 - 150
max. rotational speed [rpm]	8000	6000
<b>Ident #</b>	<b>10016798</b>	<b>10016799</b>

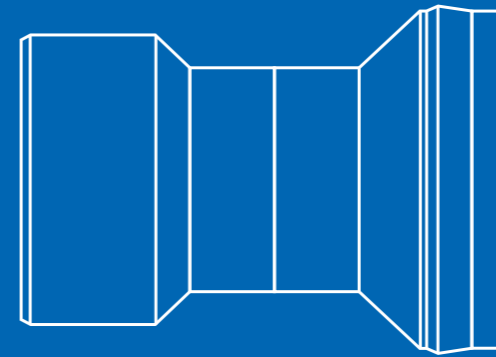
*Note: The measuring bolts for measuring the different diameters are not included in the scope of delivery. Please order them separately.*



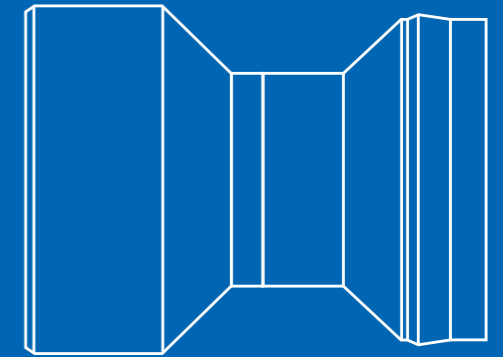
# TECHNOLOGY



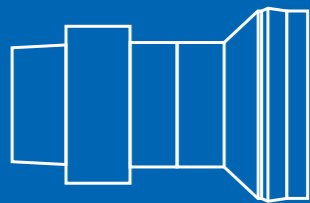
F-SENSO 2  
HSK100 MODULE



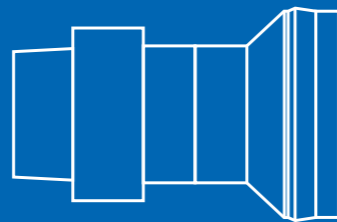
F-SENSO 2  
MODULE  
SPK 125



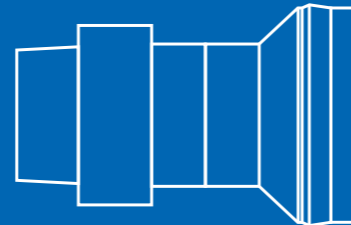
F-SENSO 2  
MODULE  
SPK 140



F-SENSO 2  
HSK40  
MODULE



F-SENSO 2  
HSK50  
MODULE



F-SENSO 2  
HSK63  
MODULE

## F-SENSO 2 HSK

Size	HSK 40	HSK 50	HSK 63	HSK 100
Measuring range, axial [kN]	0 - 20	0 - 20	0 - 50	0 - 90
Ident #	10016800	10016801	10016802	10016803

## F-SENSO 2 SPK

Size	SPK 125	SPK 140
Measuring range, axial [kN]	0 - 50	0 - 50
Ident #	1414048	1414049

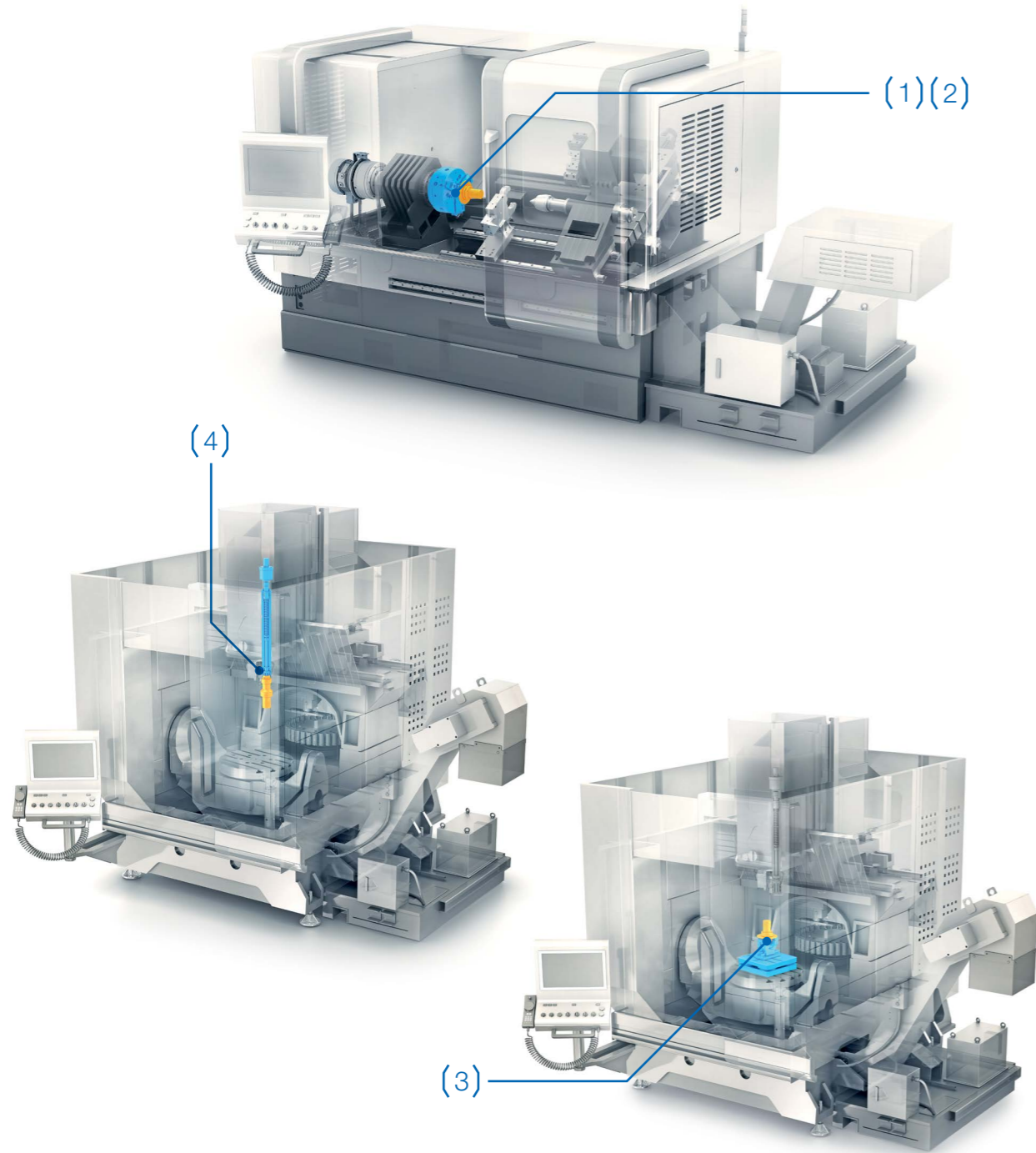


For a quick order of your  
F-SENSO 2 set, scan the QR code  
or call +49 7325 16500

[eshop247.roehm.biz/DE-de/f-senso-2](https://eshop247.roehm.biz/DE-de/f-senso-2)

## YOU NEED THE WHOLE SYSTEM...

The F-SENSO 2 can be used to measure and check the clamping forces of your clamping devices. But precise clamping requires powerful clamping devices. We have the complete system for this.



(1)



... to clamp turned parts manually.  
RÖHM offers manual chucks for this purpose.

(2)



... to clamp turned parts automatically. RÖHM offers automatic power chucks for this purpose. The matching clamping cylinders are also available from RÖHM.

(3)



... to clamp parts for milling.  
RÖHM offers Vises for table-side clamping.

(4)



... to clamp tools with an HSK interface. RÖHM offers powerful clamping sets for installation in tool clamps.



You can conveniently buy clamping and gripping technology from RÖHM in our online shop 24/7.

[eshop247.roehm.biz](https://eshop247.roehm.biz)

# PERHAPS YOU NEED SOMETHING A BIT DIFFERENT...

... because you want to measure during machining. And in real time. This is where our iJaw measuring jaw comes in. It is the measuring devices that can also clamp and, at the same time, the jaw that can also measure. Via the wireless IO-Link Wireless protocol, the data is transmitted wirelessly to a gateway and from there to your machine, to the cloud or to a smart devices for visualization, storage or further processing.

More at: [roehm.biz/en/products/ijaw/](https://roehm.biz/en/products/ijaw/)



... because you want to measure your installation contour (clamping angle) on spindles for automatic HSK clamping sets. For this purpose, our measuring gauges are available for all standard HSK sizes



.... because you want to maintain the clamping force of your HSK clamping sets in the long term. Our patent-pending Lubritool lubrication tool is designed for this purpose. Simply place it in the tool magazine of your tool magazine of your machine tool and insert it as programmed. A defined quantity of lubricant is automatically dispensed and your clamping set is lubricated.

