

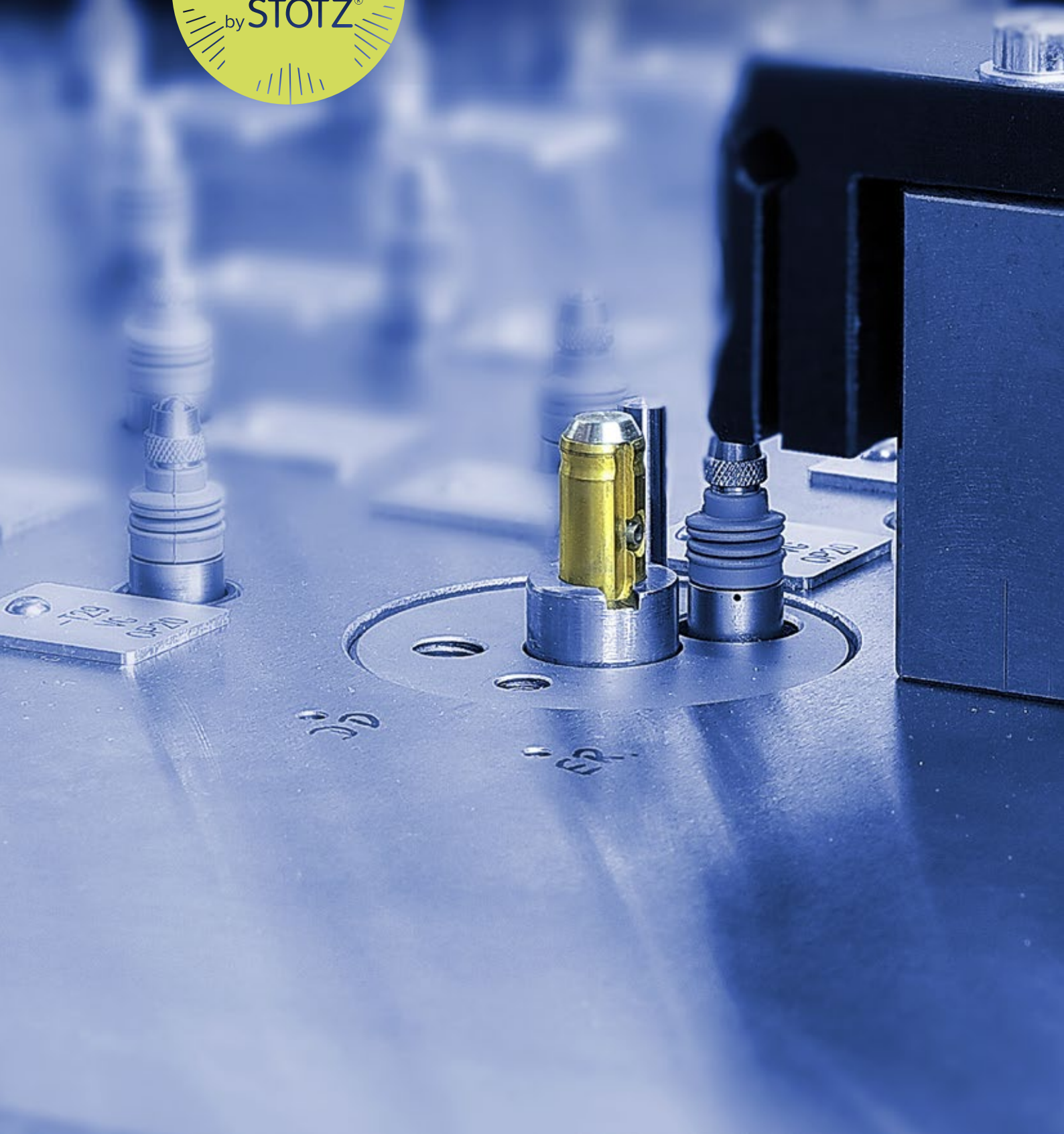
STOTZ®

Measuring with a System



Measuring System Solutions
made-to-measure and from a single source

► www.stotz.com



Contents

STOTZ	4
STOTZ measuring stations, automation and devices	9
STOTZ measuring computers + software	24
STOTZ measuring electronics	38
Pneumatic hand-held measuring instruments	49
STOTZ diameter measuring instruments	49
STOTZ taper measuring instruments	58
STOTZ Service + Retrofit	75
STOTZ Academy	82

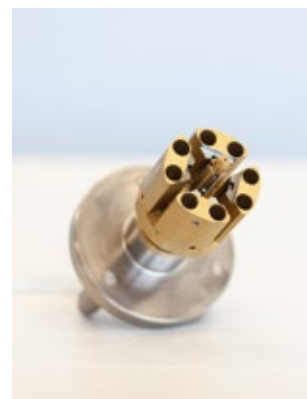
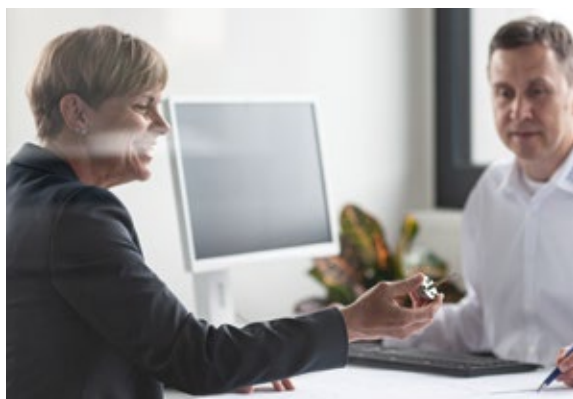
Innovation since 1952

STOTZ is redefining the future of pneumatic measuring technology

Founded in 1952 by Otto Stotz as a sales company for manual air measuring instruments, STOTZ GmbH has developed into a leading company in the field of pneumatic measuring technology, for the high-precision recording of diameters, lengths as well as shape and position tolerances.

The main users are medical technology, tool, machine and automotive manufacturers, as well as their suppliers.

Our manufacturing capabilities range from mechanical adjustment standards and measuring instruments to production-integrated automated measuring systems. Numerous patent applications confirm our position as a trendsetter in measuring technology and in the development and production of pneumatic and electronic measuring instruments and evaluation devices.



At STOTZ, we are proud of our long tradition in the measuring technology industry and our innovative strength, which has made us a leading company. With a clear view to the future and a committed team, we are ready to tackle the challenges of tomorrow and support our customers worldwide with precise measuring solutions. STOTZ offers you test reports and DAkkS calibration certificates for your master gauges. Our calibration laboratory is a conformity assessment body accredited by the DAkkS in accordance with EN ISO / IEC 17025.

At the end of 2021, our measuring laboratory was accredited by the German Accreditation Body (DAkkS) according to DIN EN ISO 17025:2018.



Our measuring solutions are characterized by high precision and short measuring and cycle times. This is particularly advantageous if several features have to be tested on one component. For this purpose, we integrate all necessary measuring points into one workpiece-specific fixture and carry out the measurements simultaneously.

In addition to pneumatic sensors, other measuring principles can also be used, such as tactile measurements. Our specially-developed software evaluates the measuring signals, visualizes the results on site and forwards the necessary data to higher-level interfaces.

STOTZ air jet measuring mandrel



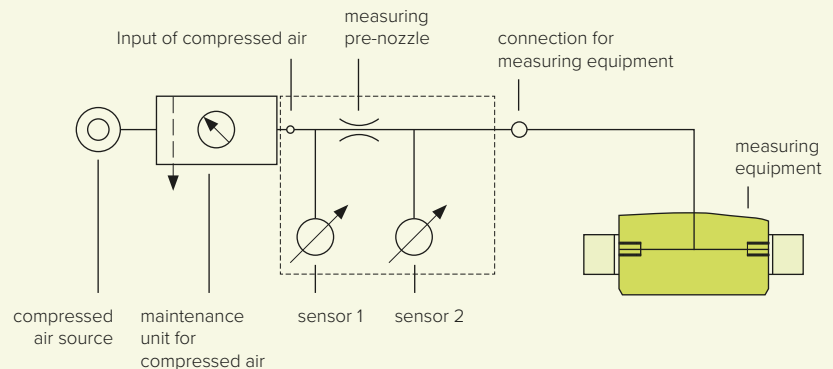
Pneumatic measuring technology – Basic principle

Pneumatic measuring technology is a technology for the precise measurement of distances and dimensions by means of compressed air. It is used in quality control and in the manufacturing industry.

Basic principle:

Pneumatic measuring technology uses compressed air, which is directed through one or more nozzles onto the workpiece to be measured. The air flow and the pressure are influenced by the distance between the nozzles and the workpiece, which draws conclusions about the characteristic to be measured on the component and its deviations in shape and position from the ideal shape.

Measuring principle:



Measurement method:

- **Nozzle and workpiece:** The nozzles, which emit compressed air, are positioned close to the workpiece to a fixed dimension.
- **Air flow and dynamic pressure:** The air flow strikes the workpiece surface and generates a dynamic pressure. This depends on the distance between the nozzle and the workpiece surface.
- **Pressure measurement:** The dynamic pressure is measured with a pressure sensor. The measured pressure correlates directly with the distance between the nozzle and the workpiece.

Calibration and reference curves:

The calibration creates reference curves that show how the dynamic pressure correlates with different distances. These curves are used to derive the actual workpiece dimensions from the pressure measurements.

How to use it:

- **Internal diameter measurement:** Two or more measuring nozzles are inserted into a bore, and the dynamic pressure provides information about the internal diameter.
- **Outer diameter measurement:** Two or more measuring nozzles are positioned to a fixed dimension close to the outer diameter of a cylindrical workpiece.
- **Flatness measurement:** The dynamic pressure is measured at different points on a surface to determine its flatness.

Advantages:

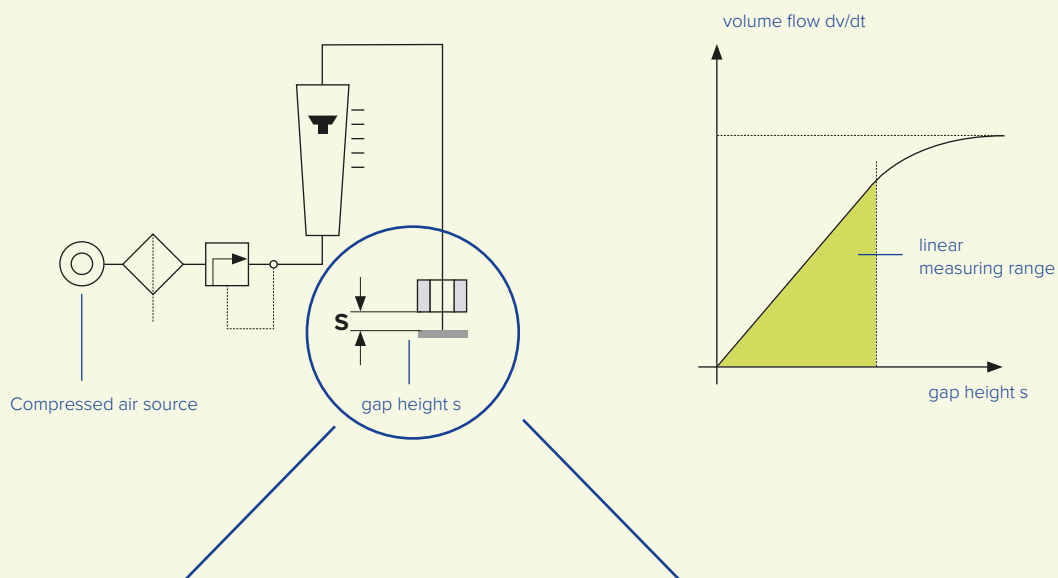
- **Non-contact measurement:** Since no mechanical contact with the workpiece is required, the risk of damage or wear is minimized.
- **High precision and repeatability:** Pneumatic measuring instruments offer highly precise and reproducible measurements.
- **Speed:** Measurements can be carried out very quickly, which increases the efficiency in production processes.

Pneumatic measuring technology offers a precise, fast and contactless way to measure distances and dimensions, which makes it a valuable tool in many industrial applications.

Areas of application:

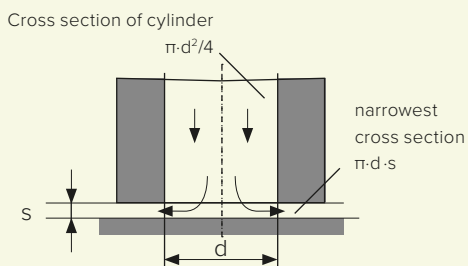
- **Automotive industry:** Checking bore diameters and shapes.
- **Machine building:** Checking tools and machine parts.
- **Electronics:** Measurement of components and housings.
- **Home appliances:** Checking components and housings.
- **Medical technology:** Measurement of precise medical components and devices.

Basic principle:



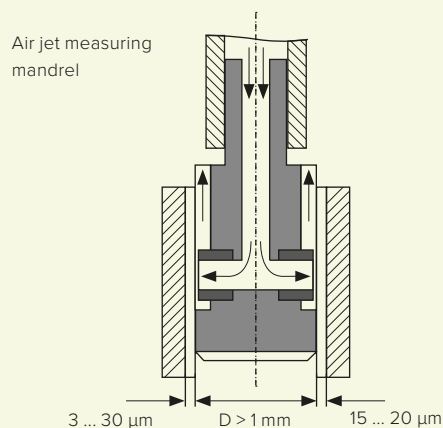
Nozzle detail:

How the nozzle works



Measuring equipment detail:

How measuring equipment works



CUSTOMER MEASUREMENT TASK

- SPC measuring stations
- Scanning/matching measuring stations
- Shaft measuring device
- Gear measuring devices
- Housing measuring devices
- Measurement automation / measuring machines

Network (data exchange – e.g. PROFINET, PROFIBUS)

Measuring computers & software



MSM



MSG-CL



MRA Sophron



MRA III



SPC-M software



SPC-PD program designer

Measuring electronics



P/E transducer DSPW



P/E transducer SPW



P/E transducer PEW



P/E transducer DES



USB measuring box
STOTZ Micro

NEW

Pneumatic hand-held measuring instruments

Diameter measuring means



Air jet
measuring
mandrel

Setting ring



Air jet
measuring
ring

Setting
mandrel

Taper measuring instruments for tool-holding fixture & spindle



PSC taper

HSK taper

SK taper

ER taper

CAT taper

Master gauge / calibration normal



Setting master

Probe

Inductive Probe



Inductive probe

Pneumatic probe



Pneumatic mini probe

NEW

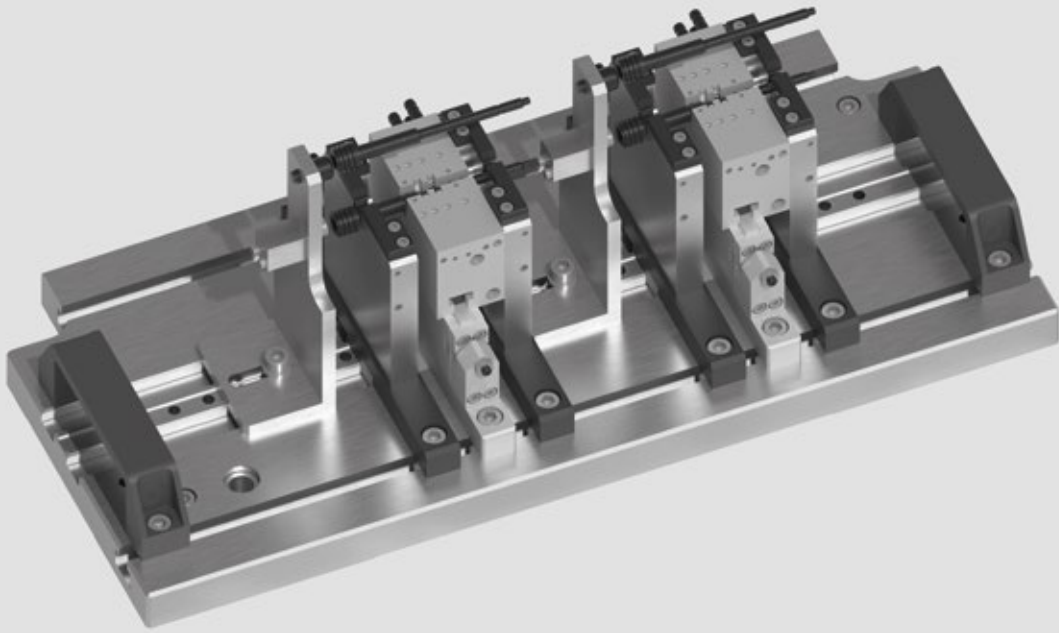


STOTZ measuring stations, automation and devices

Measuring stations, automation and devices

9

STOTZ SPC measuring stations	12
Scanning/matching measuring stations	13
Shaft measuring device	14
Gear measuring device	15
Housing measuring device	16
NEW STOTZ Micro – Part of Stotz Connect	17
Measuring automation/measuring machines	18
Float holders	21



Automation – In-line and post-process

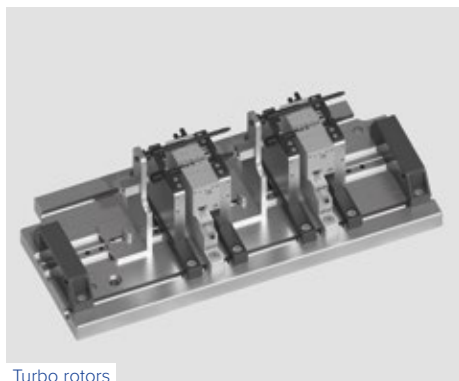


STOTZ – Full-service partner for your measuring tasks

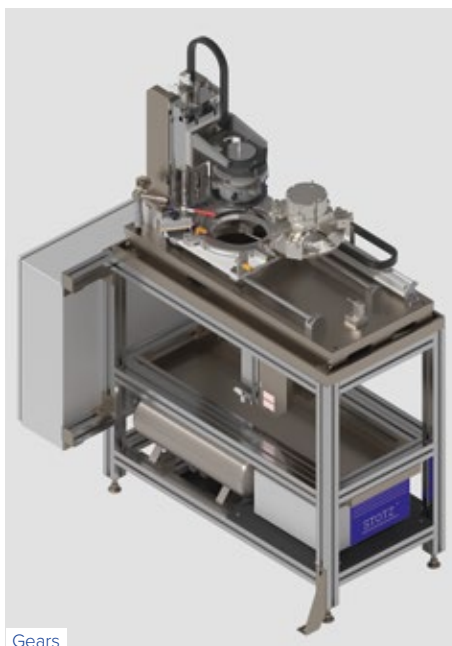
- Project consulting
- Production integration
- Interface connection
- Integration of component feed
- Implementation until SOP*
- Fast cycle times
- Training and Service

*start of production

- **STOTZ – Your full-service partner for measuring tasks. From consulting to SOP, with comprehensive services and reliable service.**



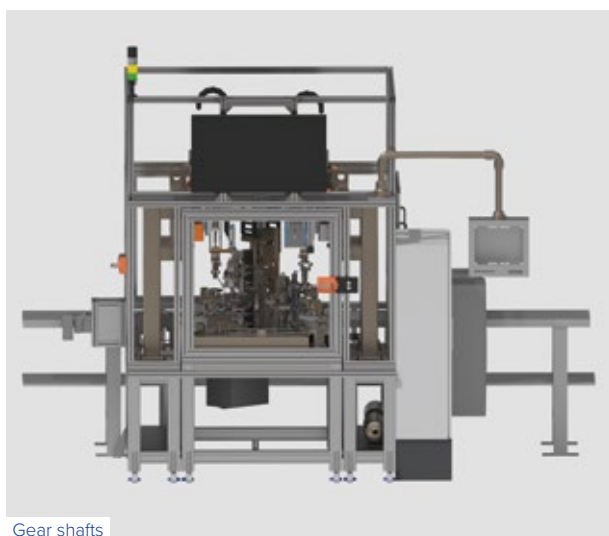
Turbo rotors



Gears



Pump housing



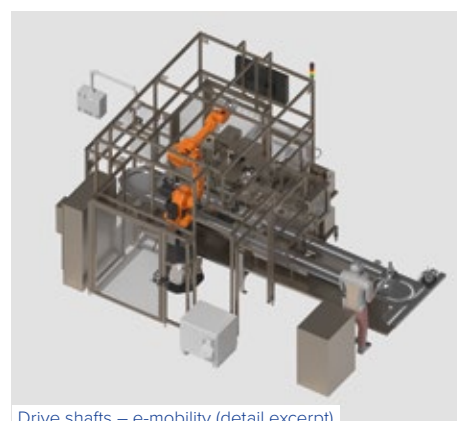
Gear shafts



Gear shafts (detail excerpt)



Drive shafts – e-mobility



Drive shafts – e-mobility (detail excerpt)



SPC measuring stations

STOTZ SPC measuring stations are configured according to your customer requirements and are used when several measuring tasks of hand-held measuring instruments and/or measuring devices are combined at one measuring station, but no 100% inspection is necessary.

Through successful sample inspection at your measuring station, the improvement and optimization of the ongoing production process is ensured and documented with our STOTZ measuring computers.

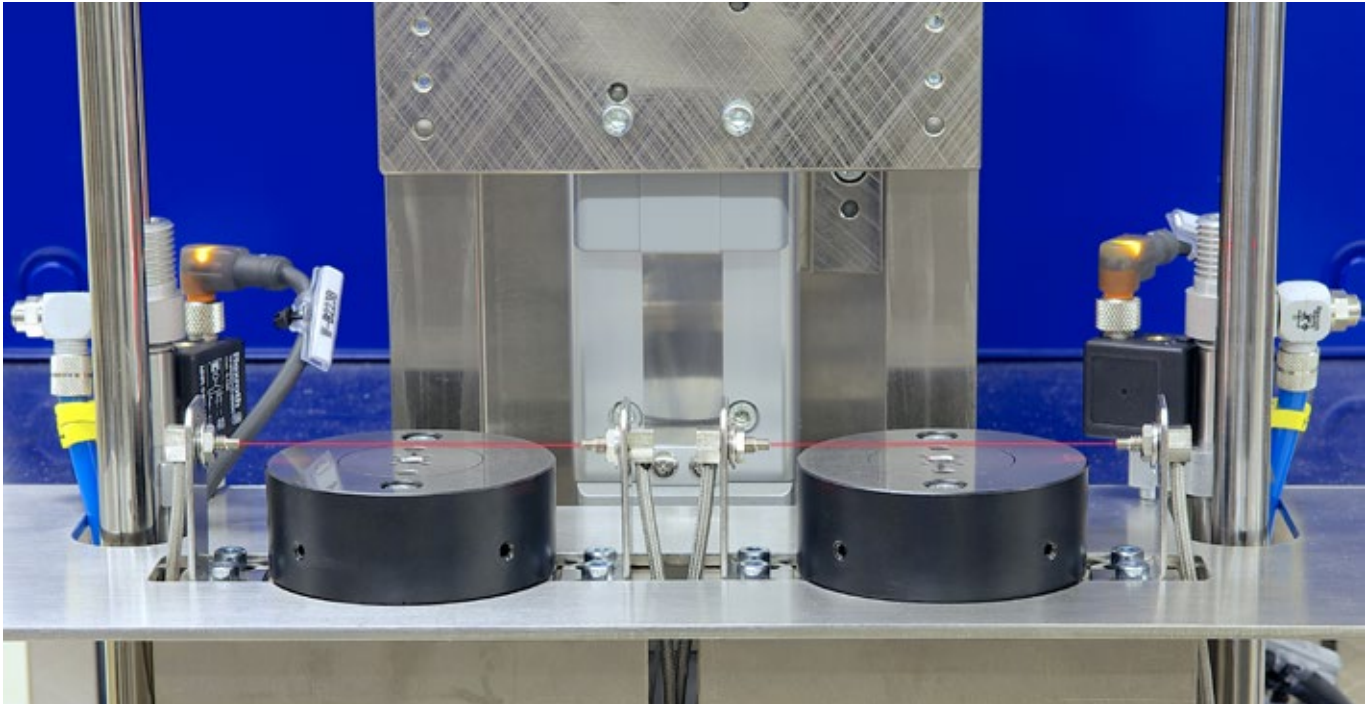
Our SPC measuring stations are designed according to the most common industry standards and consist of robust aluminum profiles and sufficient storage space for your measuring equipment.

The STOTZ SPC-M software also guides new and inexperienced users through the necessary measuring processes.

With the help of the SPC measuring computers, process monitoring can be carried out directly at the test station, or the data can be forwarded via the network and further processed with corresponding CAQ systems.

The connection to common evaluation systems such as qs-STAT is easily possible

Our measuring stations are characterized by high quality, ergonomics and their durability. You benefit from our expertise from several decades of innovative development.



Scanning / matching measuring stations

STOTZ Scanning measuring stations are used for the fully automatic 100% testing of high-precision diameters (holes and cylinders) in several, freely selectable measuring planes.

Our products are characterized by high quality, low cycle times and their durability.

Depending on the task, we measure your diameters statically or dynamically.

Thanks to the successful 100% testing, you control and optimize your production process.

Our measuring stations are designed according to the most common industry standards and consist of robust aluminum profiles, sufficient storage space for your setting masters and the latest electronic components from well-known manufacturers.

Our STOTZ SPC-M software documents your measuring results, serves for process monitoring and controls system processes.

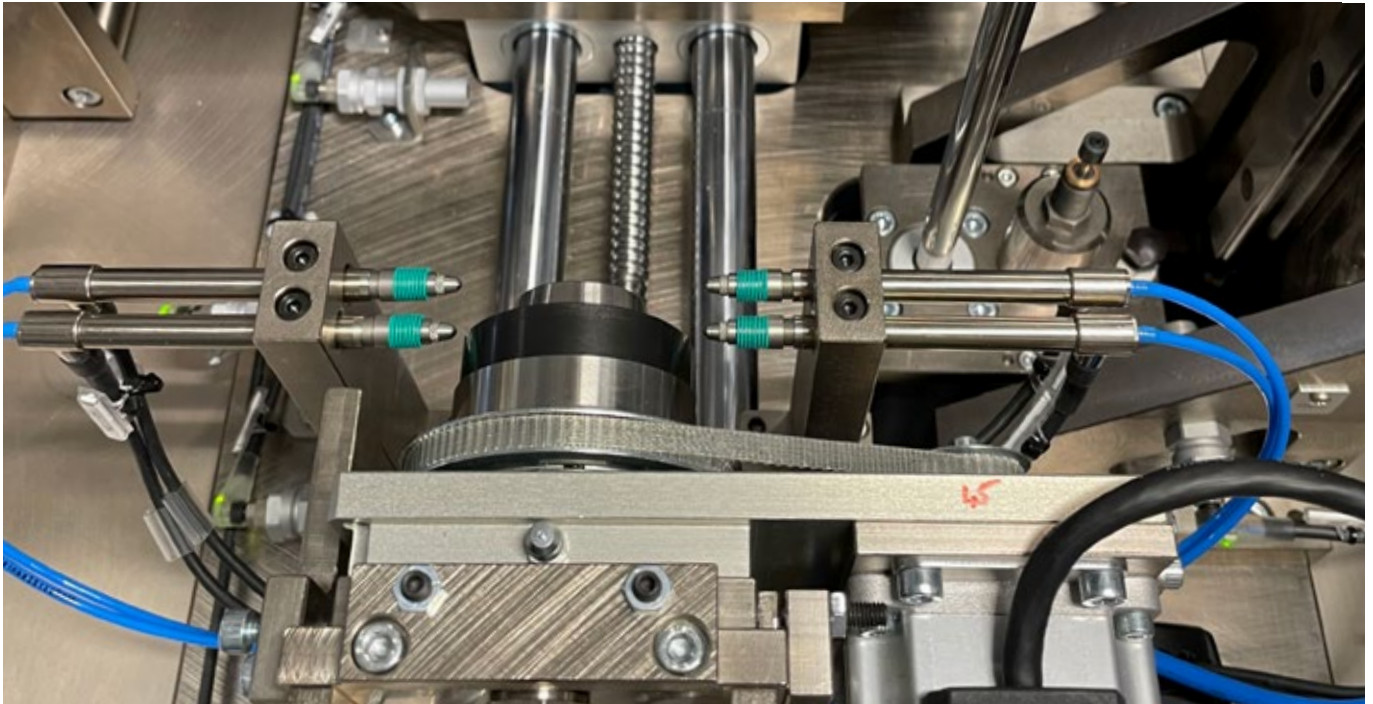
Your measured values are transmitted to machining centers, robots or portals via PROFINET, PROFIBUS, Ethernet or a hardware interface.

Furthermore, data can also be forwarded to the network and further processed with corresponding CAQ systems.

The connection to common evaluation systems such as qs-STAT is therefore easily possible.

Measuring tasks:

- Inner diameter
- Outer diameter
- Straightness
- Parallelism
- Roundness
- Cylinder shape



Shaft measuring device

STOTZ Post Process shaft measuring stations are used for the fully automatic 100% testing of diameters, cylinder shapes and concentricity on shafts.

Our products are characterized by high quality, low cycle times and their durability.

Thanks to the successful 100% testing, you control and optimize your production process.

Our measuring stations are designed according to the most common industry standards and consist of robust aluminum profiles, sufficient storage space for your setting masters and the latest electronic components from well-known manufacturers.

Our STOTZ SPC-M software documents your measuring results, serves for process monitoring and controls system processes.

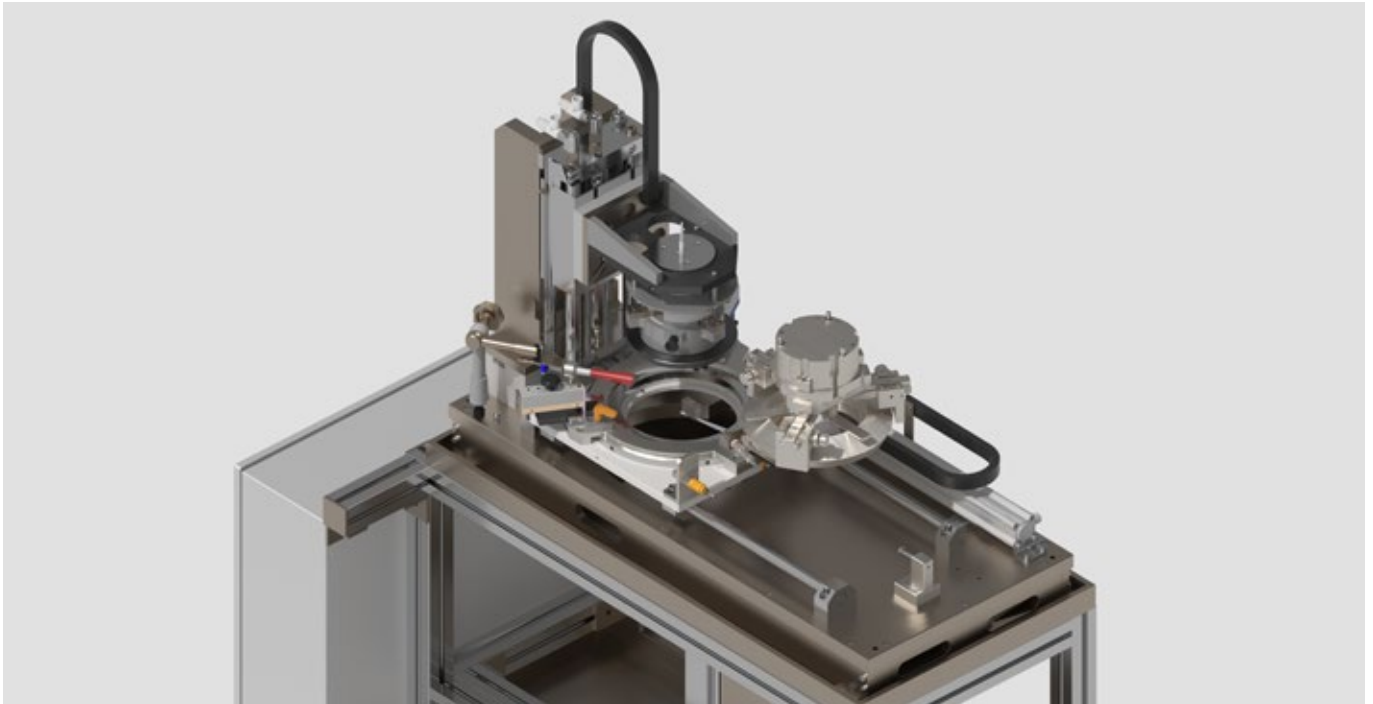
Your measured values are transmitted to machining centers, robots or portals via PROFINET, PROFIBUS, Ethernet or a hardware interface.

Furthermore, data can also be forwarded to the network and further processed with corresponding CAQ systems.

The connection to common evaluation systems such as qs-STAT is therefore easily possible.

Measuring tasks:

- Outer diameter
- Cylinder shapes
- Circular runout
- Runout
- Inner diameter
- Concentricity



Gear measuring device

STOTZ Post Process gear measuring stations are used for the fully automatic 100% testing of diameters, heights and concentricity on gears.

Our products are characterized by high quality, low cycle times and their durability.

Thanks to the successful 100% testing, you control and optimize your production process.

Depending on the task, we measure your diameters, heights and runs.

Our measuring stations are designed according to the most common industry standards and consist of robust aluminum profiles, sufficient storage space for your setting masters and the latest electronic components from well-known manufacturers.

Our STOTZ SPC-M software documents your measuring results, serves for process monitoring and controls system processes.

Your measured values are transmitted to machining centers, robots or portals via PROFINET, PROFIBUS, Ethernet or a hardware interface.

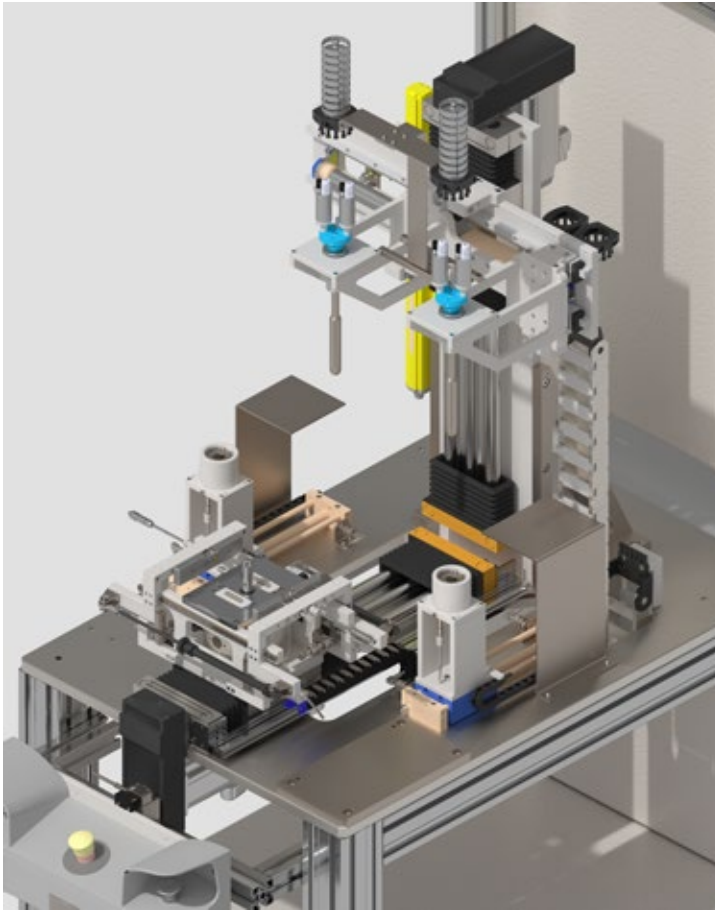
Furthermore, data can also be forwarded to the network and further processed with corresponding CAQ systems.

The connection to common evaluation systems such as qs-STAT is therefore easily possible.

Measuring tasks:

- Inner diameter
- Outer diameter
- Heights
- Circular runout
- Runout
- Cylinder shapes

Housing measuring device



STOTZ Post Process housing measuring stations are used for the fully automatic 100% testing of diameters, heights and lengths on housings.

Our products are characterized by high quality, low cycle times and their durability.

Thanks to the successful 100% testing, you can control and optimize your production process.

Our measuring stations are designed according to the most common industry standards and consist of robust aluminum profiles, sufficient storage space for your setting masters and the latest electronic components from well-known manufacturers.

Our STOTZ SPC-M software documents your measuring results, serves for process monitoring and controls system processes.

Your measured values are transmitted to machining centers, robots or portals via PROFINET, PROFIBUS, Ethernet or a hardware interface.

Furthermore, data can also be forwarded to the network and further processed with corresponding CAQ systems.

The connection to common evaluation systems such as qs-STAT is therefore easily possible.

Measuring tasks:

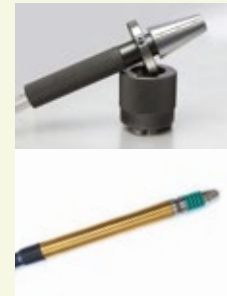
- Diameter
- Heights
- Lengths
- Flats
- Parallelisms



inductive



pneumatic



Evaluation software

USB measuring box
(pneumatic and/or inductive)

measuring equipment

NEW

STOTZ Micro – Part of Stotz Connect

Your individual measuring station, adapted to your product and your requirements

With STOTZ Micro, you create a flexible and user-friendly measuring solution that delivers precise and repeatable results. Every employee in production can measure workpieces quickly, safely and reliably. Thanks to the compact design, STOTZ Micro can be easily adapted and allows a quick changeover as soon as their components change.

Your advantages for precise and reliable measurements

- Repeatability of the measurement to 0.05 μm
- Combination of pneumatic and inductive measurement
- Quick connection via USB cable
- Modularly expandable USB measuring boxes

STOTZ Micro is suitable for the following measuring tasks, among others:

Static measurements:

- Inner diameter
- Outer diameter
- Length
- Height
- Total measurement
- Differential measurement

Dynamic measurements:

- Coaxiality
- Circular runout

Multi-point measurements:

- Conicity
- Concentricity
- Symmetry offset

Automation package



Example: Automation package, including lifting movement

Scope of application

The STOTZ automation package consists of individual components and offers you, as an automation engineer or machine builder, the opportunity to check internal diameters quickly and precisely.

The fast and stable measurement value acquisition is mainly used directly after the production process.

Via a communication interface (PROFINET, PROFIBUS, etc.), you can send your data directly to your robot, gantry gripper or processing machine within a few milliseconds.

By using the STOTZ quick-change system, several pneumatic bore measuring mandrels can be operated on a P/E transducer. This solution is used in automated measuring machines or for fast in-process measurements.

Benefits

- We design the components for your application.
- The STOTZ automation package offers you the highest precision in harsh production environments.
- The pneumatic measured value recording offers you good repeatability of the measurement result.
- With our built-in STOTZ measuring mandrels, you can measure internal diameters from a diameter of 0.8 mm.
- Very fast measured value acquisition (a few seconds)

Components/scope of delivery

- Float holder (1–4-channel, for 1–4 diameters)
- Mounting brackets for connection in your automation system
- Fast digital transducer, communication: selectable
- Power supply, NT-DSPW, including screw-on brackets
- Connection cable for power supply (l = 2.5 m – x m)

Custom-made for the customer

- Measuring instruments
- Master gauge
- Test certificates
- DAkkS calibration certificates

Automatic diameter measurement



Fast diameter test (4-fold)



Hole and position test (4-fold)

Automatic diameter measurement

STOTZ scanning measuring stations are designed and integrated according to your wishes.

By using pneumatic cylinders or linear units, we can quickly measure your inner or outer diameters with high precision in one measuring plane or pneumatically scan your components.

This method allows you to test several measuring levels with a single-channel STOTZ measuring mandrel and to obtain a reliable result about your manufactured diameter.

Our specially-developed STOTZ software allows you to display any kind of statistics to support your production control and to describe quality data (K-fields) according to your wishes.

This fast and stable measurement value acquisition is used as a post-process application directly after the production process.

You can send your data directly to your robot, gantry gripper, rotary table or back to the processing machine within a few milliseconds via a communication interface (PROFINET, PROFIBUS, etc.).

Variants

- Inner diameter measurement (one measuring plane, axial movement via pneumatic cylinder on stop)
- Outer diameter measurement (one measuring plane, axial movement via pneumatic cylinder on stop)
- Inner diameter scanning (multiple measuring planes, axial movement via linear unit, speed programmable)
- Outer diameter scanning (multiple measuring planes, axial movement via linear unit, speed programmable)
- Matching measuring station: inner and outer diameter scanning, including classification and matching (multiple measuring planes, axial movement via linear unit, speed programmable)



Automatic diameter measurement as a manual measuring station

STOTZ scanning or matching measuring stations offer you fast and reliable measurement results for easy production monitoring and control.

Our pneumatic measured value recording offers you a high repeatability of the measurement results directly after the production process. Light impurities or lubricants on the surfaces are acceptable.

With our built-in STOTZ measuring mandrels, you can measure internal diameters with very small tolerances ($\pm 1 \mu\text{m}$).

Measuring tasks

Inner diameter, outer diameter, straightness, parallelism

Technical data

- Diameter ranges: from 2.0 mm (smaller on request)
- Scan speed: 3–5 mm/s
- Repeatability: up to $0.1 \mu\text{m}$

Choose from the following design options

- Post process/automated
- Static or scanning measured value recording
- Control of the axes by our own STOTZ software or third-party automation
- Movements by pneumatic cylinders or linear motors
- Loading by gantry grippers / robots / employees
- Communication to other systems can be freely selected (PROFINET, PROFIBUS, Ethernet, etc.)

Float holders



STOTZ float holders are used, among other things, together with bore hole measuring mandrels for measuring in fixtures. The task of the float holder is to compensate for positioning errors from the measuring device to the bore hole and to bridge small angle errors from the measuring device to the bore hole axis.

Float holders with overrun protection are generally used for fully automatic measurement. Our float holder is secured against twisting.

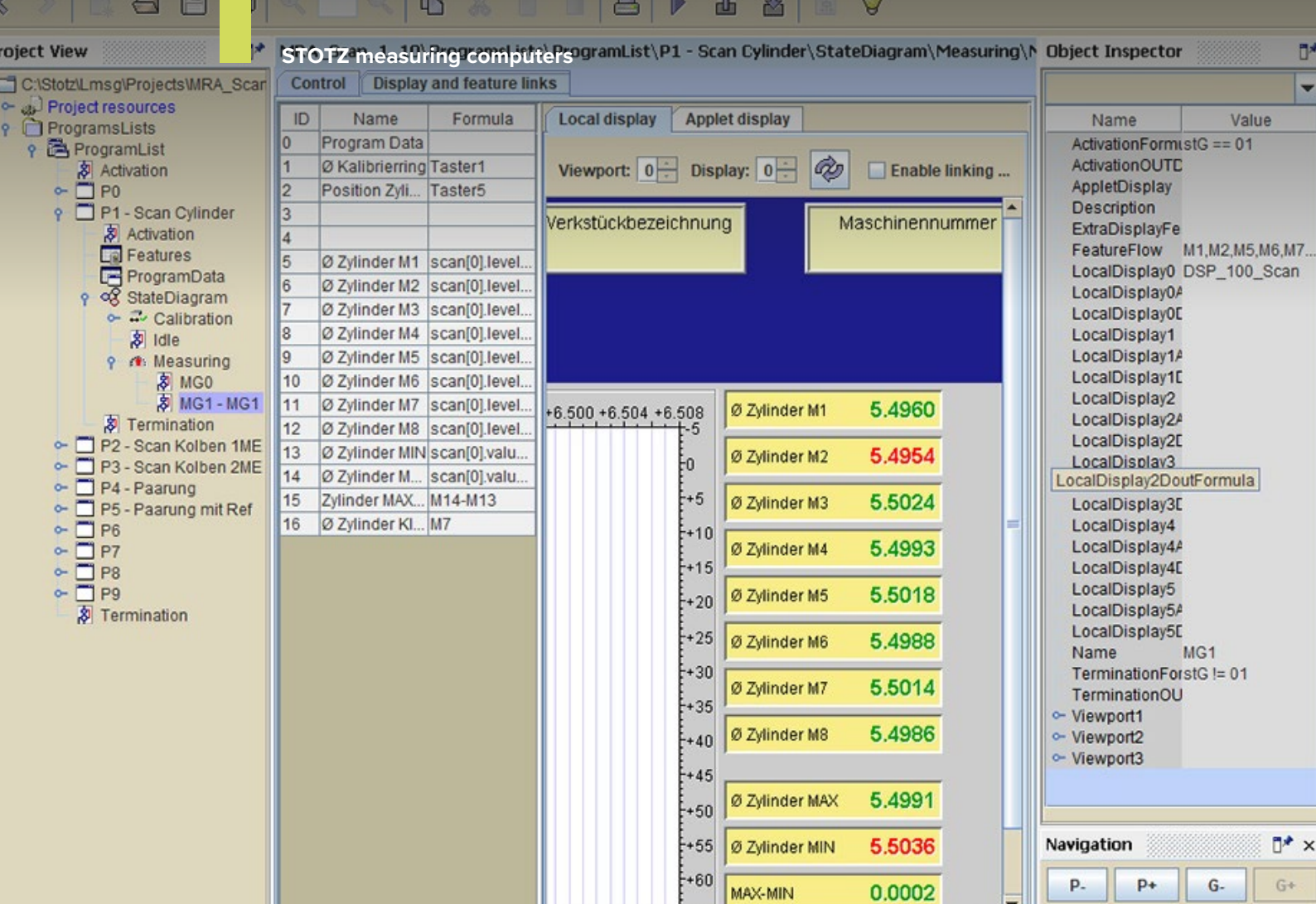
	Item no.	Number of sensors	Number of channels	Connection
Float holder HL installation diameter 60	10080306	0	1	PEW
	10080309	1	1	PEW
	10080312	0	2	PEW
	10080315	1	2	PEW
	10080318	0	3	PEW
	10080321	1	3	PEW
	10080324	0	1	SPW
	10080327	1	1	SPW
	10080330	0	2	SPW
	10080333	1	2	SPW
	10080337	0	3	SPW
	10080340	1	3	SPW
Float holder HL installation diameter 84	10080343	0	1	PEW
	10080346	1	1	PEW
	10080349	0	2	PEW
	10080352	1	2	PEW
	10080355	0	3	PEW
	10080358	1	3	PEW
	10080361	0	1	SPW
	10080364	1	1	SPW
	10080367	0	2	SPW
	10080370	1	2	SPW
	10080373	0	3	SPW
	10080752	1	3	SPW
	10080756	0	4	PEW
	10080771	1	4	PEW
	10080774	0	5	PEW
	10080782	1	5	PEW
	10080785	0	6	PEW
	10080788	1	6	PEW
	10080791	0	4	SPW

Float holders

	Item no.	Number of sensors	Number of channels	Connection
Float holder HL installation diameter 84	10080794	1	4	SPW
	10080799	0	5	SPW
	10080805	1	5	SPW
	10080800	0	6	SPW
	10080806	1	6	SPW
Float holder VH installation diameter 60	10080304	0	1	PEW
	10080307	1	1	PEW
	10080310	0	2	PEW
	10080313	1	2	PEW
	10080316	0	3	PEW
	10080319	1	3	PEW
	10080322	0	1	SPW
	10080325	1	1	SPW
	10080328	0	2	SPW
	10080331	1	2	SPW
	10080335	0	3	SPW
	10080338	1	3	SPW
Float holder VH installation diameter 84	10080341	0	1	PEW
	10080344	1	1	PEW
	10080347	0	2	PEW
	10080350	1	2	PEW
	10080353	0	3	PEW
	10080356	1	3	PEW
	10080359	0	1	SPW
	10080362	1	1	SPW
	10080365	0	2	SPW
	10080368	1	2	SPW
	10080371	0	3	SPW
	10080750	1	3	SPW
	10080753	0	4	PEW
	10080758	1	4	PEW
	10080772	0	5	PEW
	10080775	1	5	PEW
	10080783	0	6	PEW
	10080786	1	6	PEW
	10080789	0	4	SPW
	10080792	1	4	SPW
	10080795	0	5	SPW

Float holders

	Item no.	Number of sensors	Number of channels	Connection
Float holder VH installation diameter 84	10080801	1	5	SPW
	10080796	0	6	SPW
	10080802	1	6	SPW
Float holder VS installation diameter 60	10080305	0	1	PEW
	10080308	1	1	PEW
	10080311	0	2	PEW
	10080314	1	2	PEW
	10080317	0	3	PEW
	10080320	1	3	PEW
	10080323	0	1	SPW
	10080326	1	1	SPW
	10080329	0	2	SPW
	10080332	1	2	SPW
	10080336	0	3	SPW
	10080339	1	3	SPW
Float holder VS installation diameter 84	10080342	0	1	PEW
	10080345	1	1	PEW
	10080348	0	2	PEW
	10080351	1	2	PEW
	10080354	0	3	PEW
	10080357	1	3	PEW
	10080360	0	1	SPW
	10080363	1	1	SPW
	10080366	0	2	SPW
	10080369	1	2	SPW
	10080372	0	3	SPW
	10080751	1	3	SPW
	10080754	0	4	PEW
	10080760	1	4	PEW
	10080773	0	5	PEW
	10080776	1	5	PEW
	10080784	0	6	PEW
	10080787	1	6	PEW
	10080790	0	4	SPW
	10080793	1	4	SPW
	10080797	0	5	SPW
	10080803	1	5	SPW
	10080798	0	6	SPW
	10080804	1	6	SPW



STOTZ measuring computers

STOTZ measuring computers + Software	24
STOTZ MSM	27
STOTZ MSG-CL	30
STOTZ MRA Sophron	32 – 34
STOTZ MRA III 12"	33
Accessories	35
STOTZ SPC-M software	36
STOTZ and SPC-PD program designer	36
STOTZ Software licences	37



STOTZ measuring computers are powerful evaluation devices and serve for your quality assurance. Their flexible construction with a wide variety of measuring and communication hardware is carried out according to customer requirements.

With our STOTZ SPC-M software, complex and simple measuring requirements of one and several measuring stations can be carried out.

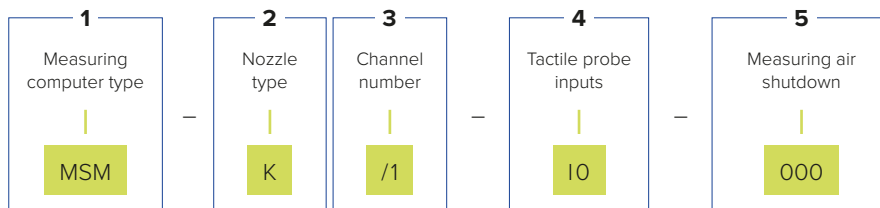
All common industrial bus systems such as PROFINET, PROFIBUS are available for signal exchange with robots, grippers or production systems. You can expand your measuring computer at any time and with any interfaces.

STOTZ measuring computers

► Example code

Our order code consists of 5 components:

MSM-K/1-10-000



		Description
1 Measuring computer type	Electronic measuring column	MSM
	Electronic measuring and control device	MSG
2 Nozzle type	Type K	K
	Type M1	M1
	Type X*	X
	Type P	P
3 Channel number	1-channel*	/1
	2-channel*	/2
	3-channel*	/3
	4-channel	/4
	8-channel**	
4 Tactile probe inputs	No tactile probe input	10
	Two tactile probe inputs	12
5 Measuring air shutdown	no	000
	yes	100

* only for MSM measuring computers

** only for MSG-CL measuring computers

STOTZ MSM measuring computers



STOTZ MSM – for manual measurements

Our MSM electronic measuring column was designed as a compact and cost-effective solution for manual measuring tasks.

All settings, including the program selection, are made via the touchscreen color display.

The MSM is optionally available with a variety of interfaces (PROFINET, RS232, USB, PROFIBUS, Ethernet) for further processing of the measured values or for data storage (storage of the measured values in .txt or .dfq format).

The device can be modularly expanded from one pneumatic measuring channel (type: K, M1, P, X) to up to four pneumatic measuring channels, including of different types.

Two additional inductive inputs can also be configured on the back.

- Pneumatic and tactile length measurement
- Compact design
- Touchscreen color display, 7 inches
- 1 to 4 pneumatic measuring channels
- 2 inductive probe inputs
- Up to 128 measuring program storage spaces
- Measuring air shutdown for all measuring channels
- Protection class IP 52
- Easy to use
- Maximum measuring stability and minimum air consumption by monitoring the air supply
- STOTZ SPC-M standard measuring software
- Easy statistical evaluation
- Data exchange between MSM devices and higher-level networks

STOTZ MSM measuring computers

		Measuring range $\pm 20 \mu\text{m}$ Nozzle type: K, narrow tolerances	Measuring range $\pm 50 \mu\text{m}$ Nozzle type: M1, average tolerances
MSM standard (with manual slide valve)	1-channel	MSM-K/1-I0-000	MSM-M1/1-I0-000
	2-channel	MSM-K/2-I0-000	MSM-M1/2-I0-000
	3-channel	MSM-K/3-I0-000	MSM-M1/3-I0-000
	4-channel	MSM-K/4-I0-000	MSM-M1/4-I0-000
MSM incl. manual slide valve incl. measuring air shutdown	1-channel	MSM-K/1-I0-100	MSM-M1/1-I0-100
	2-channel	MSM-K/2-I0-100	MSM-M1/2-I0-100
	3-channel	MSM-K/3-I0-100	MSM-M1/3-I0-100
	4-channel	MSM-K/4-I0-100	MSM-M1/4-I0-100
MSM incl. manual slide valve incl. measuring air shutdown 2-tactile probe inputs	1-channel	MSM-K/1-I2-100	MSM-M1/1-I2-100
	2-channel	MSM-K/2-I2-100	MSM-M1/2-I2-100
	3-channel	MSM-K/3-I2-100	MSM-M1/3-I2-100
	4-channel	MSM-K/4-I2-100	MSM-M1/4-I2-100
		Nozzle type: X	Nozzle type: P, rough tolerances
MSM standard (with manual slide valve)	1-channel	MSM-X/1-I0-000	MSM-P/1-I0-000
	2-channel	MSM-X/2-I0-000	MSM-P/2-I0-000
	3-channel	MSM-X/3-I0-000	MSM-P/3-I0-000
	4-channel	MSM-X/4-I0-000	MSM-P/4-I0-000
MSM incl. manual slide valve incl. measuring air shutdown	1-channel	MSM-X/1-I0-100	MSM-P/1-I0-100
	2-channel	MSM-X/2-I0-100	MSM-P/2-I0-100
	3-channel	MSM-X/3-I0-100	MSM-P/3-I0-100
	4-channel	MSM-X/4-I0-100	MSM-P/4-I0-100
MSM incl. manual slide valve incl. measuring air shutdown 2-tactile probe inputs	1-channel	MSM-X/1-I2-100	MSM-P/1-I2-100
	2-channel	MSM-X/2-I2-100	MSM-P/2-I2-100
	3-channel	MSM-X/3-I2-100	MSM-P/3-I2-100
	4-channel	MSM-X/4-I2-100	MSM-P/4-I2-100

► A combination of nozzle types is possible on request.

STOTZ MSM measuring computers

		Inductive only
MSM	4 tactile probe inputs (front)	MSM-00-I/4-000
	4 tactile probe inputs (front), 4 tactile probe inputs (rear)	MSM-00-I/8-000
		Communication interfaces
MSM commu- nication interface	Ethernet	MR-EN-C-000
	PROFIBUS (optional)	MR-PB-C-000

- For suitable software see page 37
- For suitable measuring computer accessories see page 35
- Suitable measuring electronics from page 38

STOTZ MSG-CL measuring computers



STOTZ MSG-CL – for automation

Our electronic measuring and control device MSG-CL is the control centre for automated measuring.

With the MSG-CL, four inductive inputs on the rear of the device and 8 pneumatic channels or 8 inductive inputs on the front of the device can be used simultaneously.

Our MSG-CL also allows the connection of several STOTZ ITB-16 boxes for the operation of 16 inductive switches each. The basic equipment already includes a large number of interfaces with the corresponding standard protocols (LAN, Dig. I/O 8/8 opto, RS232, USB). A PROFIBUS interface (slave), a dig. (slave), a dig. I/O 16 opto and a 2nd LAN interface are optionally available.

The program is selected either via a factory keyboard or directly via the touchscreen. All settings can be edited on this color display.

With the MRA editor available in the basic version, programs can be copied, adapted and saved. In addition, statistics functions and a remote maintenance module can be activated.

- Touchscreen color display, 10 inches
- 4 or 8 pneumatic measuring channels
- 4, 8 or 12 inductive probe inputs
- Up to 192 measuring program storage spaces
- STOTZ SPC-M standard measuring software
- Measuring air shutdown for 4 or 8 measuring channels
- Protection class IP 52 / device front IP 65

STOTZ MSG-CL measuring computers

		Nozzle type: K	Nozzle type: M1	Nozzle type: P
MSG-CL standard (with manual slide valve)	4-channel	MSG-K/4-I0-000	MSG-M1/4-I0-000	MSG-P/4-I0-000
	8-channel	MSG-K/8-I0-000	MSG-M1/8-I0-000	MSG-P/8-I0-000
MSG-CL incl. manual slide valve incl. measuring air shutdown	4-channel	MSG-K/4-I0-100	MSG-M1/4-I0-100	MSG-P/4-I0-100
	8-channel	MSG-K/8-I0-100	MSG-M1/8-I0-100	MSG-P/8-I0-100
MSG-CL incl. manual slide valve incl. measuring air shutdown 2 tactile probe inputs	4-channel	MSG-K/4-I2-100	MSG-M1/4-I2-100	MSG-P/4-I2-100
	8-channel	MSG-K/8-I2-100	MSG-M1/8-I2-100	MSG-P/8-I2-100
MSG-CL incl. manual slide valve incl. measuring air shutdown 4 tactile probe inputs	4-channel	MSG-K/4-I4-100	MSG-M1/4-I4-100	MSG-P/4-I4-100
	8-channel	MSG-K/8-I4-100	MSG-M1/8-I4-100	MSG-P/8-I4-100

		Inductive only
MSG-CL Inductive	4 probe inputs (front)	MSG-00-I/4-000
	4 probe inputs (front), 4 probe inputs (rear)	MSG-00-I/8-000
	10 probe inputs (8x front and 2x rear)	MSG-00-I/10-000
	12 probe inputs (8x front and 4x rear)	MSG-00-I/12-000

		Communication interfaces
MSG-CL commu- nication interface	Ethernet	MR-EN-C-000
	PROFIBUS (optional)	MR-PB-C-000

- For suitable software see page 37
- For suitable measuring computer accessories see page 35
- Suitable measuring electronics from page 38

STOTZ MRA Sophron measuring computer



STOTZ MRA Sophron

The MRA Sophron measuring computer is designed in an industrial sheet steel housing as a touchscreen computer with integrated data acquisition.

The ready-to-connect system is equipped with a bus system and can be modularly expanded as required.

Pneumatic measuring channels and measuring channels for inductive measuring probes are available.

The MRA Sophron can also be equipped with additional interfaces such as PROFINET, PROFIBUS.

The MRA Sophron is suitable as a measuring and evaluation device for both pneumatic measuring rings and mandrels as well as for inductive measuring probes.

All features are recorded and evaluated with one device.

Additional measuring tasks can be solved by connecting additional plug-in devices in our "STOTZ DES".

- Measuring device for special applications (e.g. valve seat measurement, polygon measurement, scanning)
- Touchscreen color display, 12 inches
- Modular pneumatic measuring channels (one module contains four pneumatic measuring channels)
- Modular inductive probe inputs (one module contains four inductive probe inputs)
- Up to 256 measuring program storage spaces
- STOTZ SPC-M standard measuring software
- Protection class IP 52 / device front IP 65

STOTZ MRA Sophron measuring computer

MRA Sophron measuring computer ▪ with front in IP64 ▪ 12" touchscreen ▪ Operating system Windows 11 ▪ Complete in an industrial housing ▪ Interfaces - 1x COM1, COM2 - 1x LAN1, LAN2 - 1x USB1, USB2 - 2x WT interface	PC-MRA-STO-12-02
MRA Sophron measuring computer ▪ with front in IP64 ▪ 12" touchscreen ▪ Operating system Windows 10* ▪ Complete in an industrial housing ▪ Interfaces - 1x COM1, COM2 - 1x LAN1, LAN2 - 1x USB1, USB2 - 2x WT interface ▪ extension digital I/O: - 1x dig. I/O 8/8 - 1x dig. I/O 16/16 - 1x WTR1, WTR2	MRA-EQ-DIO
MRA Sophron measuring computer ▪ with front in IP64 ▪ 12" touchscreen ▪ Operating system Windows 10* ▪ Complete in an industrial housing ▪ Interfaces - 1x COM1, COM2 - 1x LAN1, LAN2 - 1x USB1, USB2 - 2x WT interface ▪ extension digital I/O: - 1x dig. I/O 8/8 - 1x dig. I/O 16/16 - 1x WTR1, WTR2 ▪ 1x PROFIBUS slave module	MRA-EQ-DIO-PB
MRA III measuring computer (panel PC only) ▪ Plastic housing with front in IP64 ▪ 12" touchscreen ▪ Operating system Windows 11 ▪ Interfaces - 1x COM1, COM2 - 1x LAN1, LAN2 - 1x USB1, USB2 	PC-MRA-STO-12-01

*Optionally equipped with Windows 11.

STOTZ MRA Sophron measuring computer

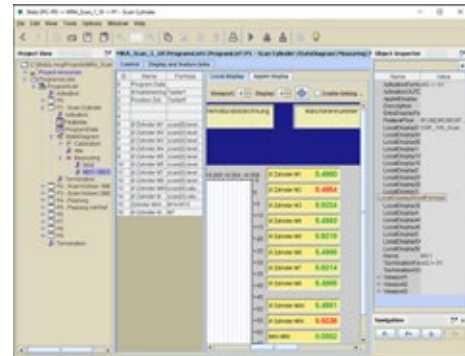
		Pneumatic and /or inductive
Standard DES II	4-channel	MRA-EQ-DES-C4
	8-channel	MRA-EQ-DES-C8
	12-channel	MRA-EQ-DES-C12
	16-channel	MRA-EQ-DES-C16
	20-channel	MRA-EQ-DES-C20
	24-channel	MRA-EQ-DES-C24
	28-channel	MRA-EQ-DES-C28
	32-channel	MRA-EQ-DES-C32

		DES plug-in module
DES plug-in module I		MRA-EQ-DES-I-C1
DES plug -in module PEW		MRA-EQ-DES-PEW-C1
DES-SPW/2 plug-in module with 2 SPW		MRA-EQ-DES-SPW-C2
DES-SPW/3 plug-in module with 3 SPW		MRA-EQ-DES-SPW-C3
DESII CPU module 19"		MRA-EQ-DESII-CPU-01
DESII CPU module ½ 19"		MRA-EQ-DESII-CPU-02

Accessories

Accessories	USB memory stick	MSM-USB-000	
	Numeric keyboard	MSM-KB-000	
	Factory keyboard WT-MSM1	MSM-WT-MSM1	
	Factory keyboard WT-MSM2	MSM-WT-MSM2	
	Factory keyboard WT-MSM3	MSM-WT-MSM3	
	Factory keyboard WT-MSG1	MSM-WT-MSG1	
	Keyboard set (PC keyboard, mouse)	MSM-KB-M-000	

SPC-M software and SPC-PD program designer



SPC-M software

The measuring computers run under Windows 10 and 11 and can be programmed using the special SPC program designer programming tool.

The software for the SPC-M is available in 3 licenses: SPC-M-Lite as a simple version, SPC-M-S as a standard version and SPC-M-Advanced as a version with all possibilities. The range of functions is very large and is supported by measuring technology libraries. Depending on the requirements, the data can be stored on a USB stick, hard drive or network.

The data store can be configured for statistical functions in the appropriate formats.

SPC-PD program designer

Our programming software offers the right solution for every application. For special requirements, tailor-made applications with individual displays can be developed with the help of the program designer (PD). The graphics editor makes it possible to create far-reaching forms of display and assign them to the corresponding data. This makes it possible, for example, to provide photos of workpieces with the corresponding target/actual dimensions and to display them online.

Due to the wide range of possibilities, we offer several days of training to enable you to get off to a flying start.

Alternatively, our experienced application team is at your disposal to create a tailor-made solution for you. It is also possible to create a display with an integrated measuring instrument image as well as a sequential test sequence and the corresponding feature displays.

Software

***1 Number:** Measurement programs

***2 Number:** Features

***3 Number:** Measurement groups

***4 Number:** Calibration groups

***5 Functions:** Starting external applications

***6 Functions:** Integration of external devices (DII)

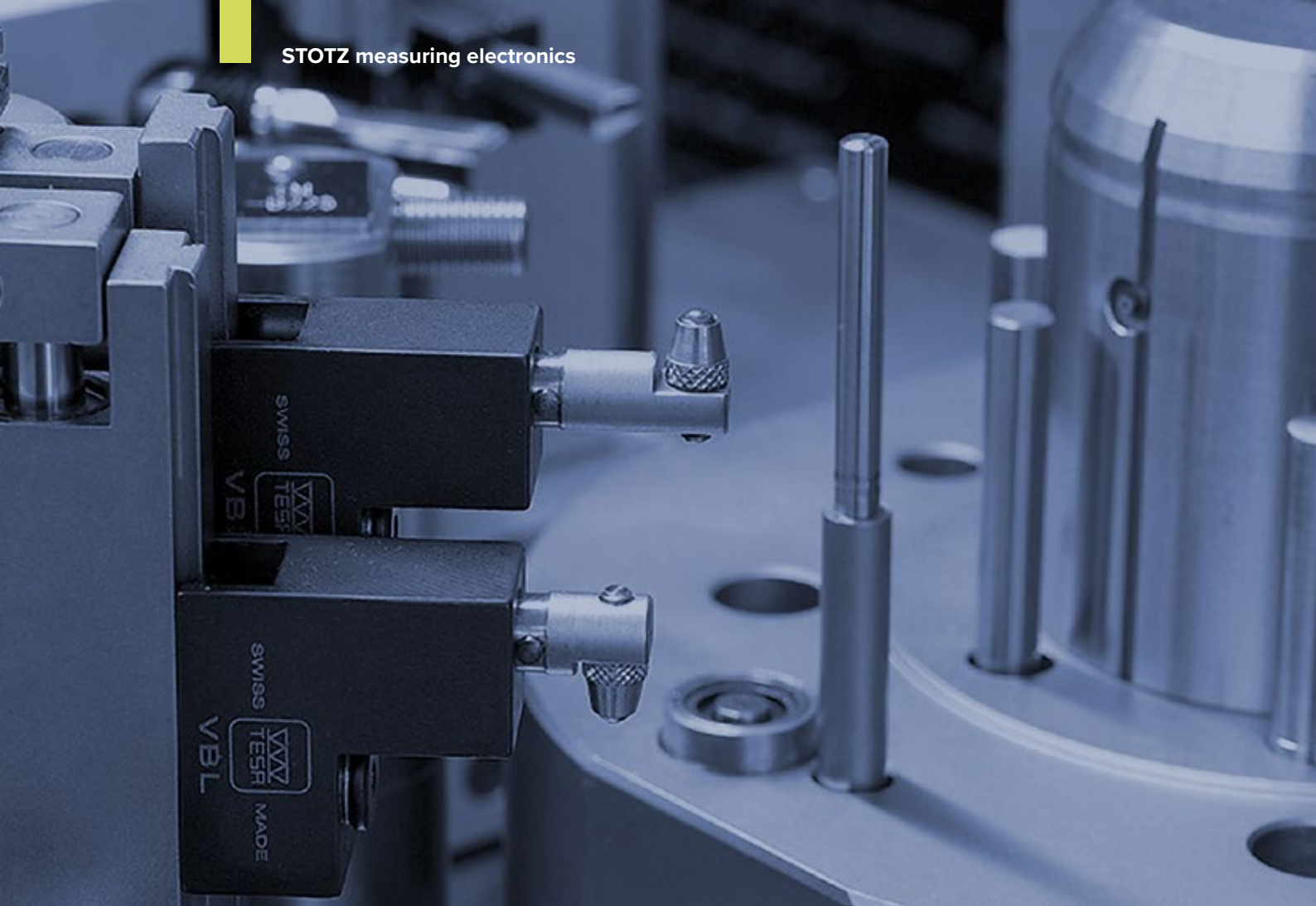
***7 Functions:** Advanced calculations

***8 Functions:** Statistics

	Item no.	Part	License	*1	*2	*3	*4	*5	*6	*7	*8
License for MSM	MSM-B-STO-L	10066392	Basic	18	5	4	4	0	0	0	1
	MSM-S-STO-L	10066394	Standard	18	32	32	32	0	0	0	1
	MSM-A-STO-L	10066393	Advanced	128	64	64	64	1	1	1	1
	MSM-AS-STO-L	10095093	Advanced Special	192	128	96	96	1	1	1	1
License for MSG-CL	MSG-CL-B-STO-L	10066391	Basic	32	64	64	64	0	0	0	1
	MSG-CL-S-STO-L	10066390	Standard	128	64	64	64	0	0	0	1
	MSG-CL-A-STO-L	10066389	Advanced	192	128	96	96	1	1	1	1
License for MRA	MRA-B-STO-L	10066388	Basic	128	64	64	64	0	0	0	1
	MRA-S-STO-L	10066387	Advanced	256	256	128	128	0	0	0	1
License for SPC	SPC-M-S	10013335	Standard	256	256	128	128	0	0	0	1
	SPC-M-A1	10006600	Advanced	512	320	192	192	1	1	1	1
	SPC-M-A2	10056991	Secondary License								
License for Micro	MRA-L-STO-100		Basic	128	64	64	64	0	0	0	1
	MRA-L-STO-300		Advanced	256	256	128	128	0	0	0	1
	MRA-L-STO-400		Secondary License								

	Item no.	Part	License	File Client (activ)	File Server (passive)	Remote	WiFi
License Network for MSM & MSG-CL	Net-S	10066395	Standard	1	1	0	
	Net-A	10066397	Advanced *	1	1	1	
	Net-WiFi	10066393	WiFi				1

* The measuring instruments are serviced by us at a regular interval.
In the event of malfunctions, we can also support you via remote maintenance.



STOTZ measuring electronics

STOTZ measuring electronics

38

NEW	USB measuring box (Electronic component of the STOTZ Micro)	40
NEW	Pneumatic mini probe	41
	P/E transducer PEW	42
	P/E transducer (DSPW)	43
	P/E transducer SPW	46
	P/E transducer DPW	48
	Interfaces	48



► **STOTZ P/E transducer – fast measured value acquisition and control of machines and systems**

Pneumatic-electrical transducers are used in conjunction with pneumatic measuring means to determine changes in length in the micrometer range.

The transducer supplies a digital or analog electrical output signal proportional to the change in length. This can be displayed on various display devices or used to control processing machines.

STOTZ transducers contain no moving parts and are therefore wear-free.

They are characterized by high measuring accuracy with fast measurements, negligible hysteresis and a compact design.

Functionality

By means of the sensor connected to the transducer (e.g. Air jet mandrel), an air pressure proportional to the length to be measured (e.g. diameter of a bore) is built up at the measuring point.

This air pressure is detected by the pressure sensor and converted into an output voltage proportional to the length.

Fluctuations in the compressed air supply are monitored with a second pressure sensor and the output signal is readjusted accordingly.

Application example

The DSPW is mainly used for dynamic measurements. Its dimensions in conjunction with its special electronics guarantee a minimum setting time.

The PROFINET interface also enables a direct and platform-independent measuring computer interface (e.g. Linux, Solaris, Windows, etc.).

NEW

USB measuring box

(Electronic component of the STOTZ Micro)



Designation:	USB measuring boxes
Technology:	pneumatic / inductive
Variants:	4x P/E transducers – 4x probe inputs
Software:	STOTZ Micro evaluation software

► The complete STOTZ Micro program can be found on page 17!

Modularly expandable USB measuring boxes

Our STOTZ Micro USB measuring boxes offer you a comprehensive latest-generation measuring technology.

Depending on your needs, two variants are available, each of which is flexibly equipped with four pneumatic or inductive channels. The USB measuring boxes can be connected to a computer or laptop via a USB cable. This allows you to adjust your measuring station as you wish.

The USB measuring box is suitable for the following measuring tasks:

Static measurements:

- Inner diameter
- Outer diameter
- Length
- Height
- Total measurement
- Differential measurement

Dynamic measurements:

- Coaxiality
- Circular runout

Multi-point measurements:

- Conicity
- Concentricity
- Symmetry offset

Pneumatic mini probe



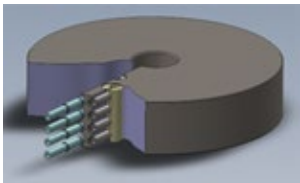
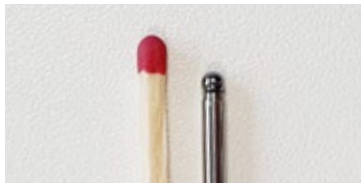
Scope of application

The STOTZ pneumatic mini probe is used when conventional inductive probes reach their limits. The design enables the measurement of small diameters in several measuring planes.

- Name: PMT
- Technology: pneumatic
- Stroke length: 0.100 mm
- Measuring range: ± 0.020 mm
- Tactile probe diameter: diameter 2.5 mm
- Hose length: 1.5 m

Pneumatic mini probe set

- PM tactile probe
- P/E transducer (digital/analog)
- Clamping element



Example of installation

4x tactile probes on top of each other for measuring at 4x different heights, component thickness = 12 mm

► Matching P/E transducer P65a-10-K See page 42

	Quantity	Item no.
STOTZ PM probe	STOTZ pneumatic mini probe 1 pc.	PMT-25-05-FED-01
	STOTZ pneumatic mini probe 5 pcs.	PMT-25-05-FED-05
	STOTZ pneumatic mini probe 10 pcs.	PMT-25-05-FED-10
STOTZ clamping element	1x tactile probe	PMT-25-05-FED-EQ-01
	2x tactile probe	PMT-25-05-FED-EQ-02
	3x tactile probe	PMT-25-05-FED-EQ-03
	4x tactile probe	PMT-25-05-FED-EQ-04



P/E transducer PEW

Pneumatic-electrical transducers

	Item no.	Type	Measuring channel type (measuring range)	Resolution	Air pressure (bar)	Communication	Extra interface
PEW Analog 1 x measuring channel	10000639	P65a-10-K	K $\pm$ 20 μ m	100 mV/ μ m	3	-	-
	10000640	P65a-10-P	P +60 / -120 μ m	100 mV/ μ m	3	-	-
	10000641	P65a-10-M1	M1 $\pm$ 50 μ m	100 mV/ μ m	3	-	-
	10000642	P65a-10-M	M $\pm$ 50 μ m	100 mV/ μ m	3	-	-
	10000643	P65a-10-G	G $\pm$ 25 μ m	100 mV/ μ m	3	-	-
	10000645	P65a-1002-X	+60 / -120 μ m	100 mV/ μ m	1.5	-	-
	10000646	P65a-1050-X	$\pm$ 20 μ m	500 mV/ μ m	3	-	-
	10000648	P65a-11-K	K $\pm$ 10 μ m	1 V/ μ m	3	-	-
	10004193	P65a-901-X	P +60 / -120 μ m	100 mV/ μ m	4	-	-
	10005490	P65a-1003-X	$\pm$ 50 μ m	200 mV/ μ m	1.5	-	-
	10014872	P65a-450-X	0/+80 μ m	100mV/ μ m	3	-	-
	10036619	P65a-10-MX	$\pm$ 25 μ m	100 mV/ μ m	3	-	-
	10036620	P65a-421X	$\pm$ 40 μ m	100 mV/ μ m	3	-	-
	10036621	P65a-921X	$\pm$ 80 μ m	100 mV/ μ m	3	-	-
	10080146	P65a-1006-X	$\pm$ 20 μ m	100 mV/ μ m	3	-	-
	10055567	PMW75-10-K/1	$\pm$ 20 μ m	100 mV/ μ m	3	-	-
	10000644	P65a-1001-X	$\pm$ 100 μ m	100 mV/ μ m	3	-	-
	10000647	P65a-903-X	$\pm$ 20 μ m	100 mV/ μ m	1.5	-	-
	10007312	P65a-1004-X	$\pm$ 100 μ m	100 mV/ μ m	3	-	-
	10092896	P65a-P37-P	P +60 / -120 μ m	100 mV/ μ m	3	-	-
	10092942	PMW2-10-K	K $\pm$ 20 μ m	100 mV/ μ m	3	-	-
	10093062	P64-10-K	K $\pm$ 20 μ m	100 mV/ μ m	3	-	-
	10093063	P64-10-K15				-	-
PEW Analog 2x measuring channel	10055569	PMW75-10-K/2	K $\pm$ 20 μ m	100 mV/ μ m	3	-	-
	10056035	PMW75-10-M1/2	M1 $\pm$ 50 μ m	100 mV/ μ m	3	-	-

P/E transducer (DSPW)

Digital fast pneumatic transducers

	Item no.	Type	Meas. channel type 1 (meas. range)	Num- ber of channels type 1	Meas. channel type 1 (meas. range)	Num- ber of channels type 2	Communi- cation	Extra interface	Cable length (m)
DSPW Digital 1x measuring channel	10002987	DSPW-M1/1	± 50 µm	1	-	-	Ethernet	-	1.5
	10077054	DSPW-KX/1	± 10 µm	1	-	-	Ethernet	incl. ana- log inter- face	1.5
	10052129	DSPW-K/1	± 20 µm	1	-	-	Ethernet	-	5
	10012286	DSPW-903X/1	± 20 µm	1	-	-	Ethernet	-	1.5
	10013237	DSPW-PB-K/1	± 20 µm	1	-	-	PROFIBUS / Ethernet	-	1.5
	10034278	DSPW-PB-M1/1	± 50 µm	1	-	-	PROFIBUS / Ethernet	-	1.5
	10061666	DSPW-PN-K/1	± 20 µm	1	-	-	PROFINET / Ethernet	incl. ana- log inter- face	1.5
	10076715	DSPW-PN-M1/1	± 50 µm	1	-	-	PROFINET / Ethernet	incl. ana- log inter- face	1.5
	10079934	DSPW-PNK-K/1	± 20 µm	1	-	-	PROFINET / Ethernet	-	1.5
	10079936	DSPW-PNK-M1/1	± 50 µm	1	-	-	PROFINET / Ethernet	-	1.5
	10071583	DSPW-PN-K/1	± 20 µm	1	-	-	PROFINET / Ethernet	incl. ana- log inter- face	3
	10078240	DSPW-PN- 903X/1	± 20 µm	1	-	-	PROFINET / Ethernet	incl. ana- log inter- face	3
	10051715	DSPW-PB-M1/1	± 50 µm	1	-	-	PROFIBUS / Ethernet	-	5
	10052120	DSPW-PB-K/1	± 20 µm	1	-	-	PROFIBUS / Ethernet	-	5
	10068716	DSPW-PB-K/1	± 20 µm	1	-	-	PROFIBUS / Ethernet	-	10
	10006693	DSPW-ECAT-K/1	± 20 µm	1	-	-	EtherCAT	incl. ana- log inter- face	1.5

P/E transducer (DSPW)

Digital fast pneumatic transducers

	Item no.	Type	Meas. channel type 1 (meas. range)	Num-ber of channels type 1	Meas. channel type 1 (meas. range)	Num-ber of channels type 2	Communi-cation	Extra interface	Cable length (m)
DSPW Digital 2x measuring channel	10006933	DSPW-K/1-M1/1	± 20 µm	1	± 50 µm	1	Ethernet	incl. analog interface	1.5
	10002966	DSPW-K/2	± 20 µm	2	-	-	Ethernet	incl. analog interface	1.5
	10003826	DSPW-M1/2	± 50 µm	2	-	-	Ethernet	incl. analog interface	1.5
	10028975	DSPW-KX/2	± 10 µm	2	-	-	Ethernet	-	1.5
	10072976	DSPW-K/2	± 20 µm	2	-	-	Ethernet	-	5
	10086143	DSPW-M1/2	± 50 µm	2	-	-	Ethernet	-	5
	10014363	DSPW-903X/2	± 20 µm	2	-	-	Ethernet	incl. analog interface	1.5
	10053670	DSPW-PB-M1/1-K/1	± 50 µm	1	± 20 µm	1	PROFIBUS / Ethernet	incl. analog interface	1.5
	10025663	DSPW-PB-M1/2	± 50 µm	2	-	-	PROFIBUS / Ethernet	incl. analog interface	1.5
	10061667	DSPW-PN-K/2	± 20 µm	2	-	-	PROFINET / Ethernet	incl. analog interface	1.5
	10071356	DSPW-PN-K/1-M1/1	± 20 µm	1	± 50 µm	1	PROFINET / Ethernet	incl. analog interface	1.5
	10074635	DSPW-PN-M1/2	± 50 µm	2	-	-	PROFINET / Ethernet	incl. analog interface	1.5
	10079935	DSPW-PNK-K/2	± 20 µm	2	-	-	PROFINET / Ethernet	-	1.5
	10071585	DSPW-PN-K/2	± 20 µm	2	-	-	PROFINET / Ethernet	incl. analog interface	3
	10071586	DSPW-PN-K/1-M1/1	± 20 µm	1	± 50 µm	1	PROFINET / Ethernet	incl. analog interface	3
	10090053	DSPW-PN-M1/2	± 50 µm	2	-	-	PROFINET / Ethernet	incl. analog interface	3
	10058387	DSPW-PB-K/2	± 20 µm	2	-	-	PROFIBUS / Ethernet	incl. analog interface	10

P/E transducer (DSPW)

Digital fast pneumatic transducers

	Item no.	Type	Meas. channel type 1 (meas. range)	Number of channels type 1	Meas. channel type 1 (meas. range)	Number of channels type 2	Communication	Extra interface	Cable length (m)
DSPW Digital 1x measuring channel	10071305	DSPW-PN-K/2	$\pm 20 \mu\text{m}$	2	-	-	PROFINET / Ethernet	incl. analog interface	10
	10013238	DSPW-PB-K/2	$\pm 20 \mu\text{m}$	2	-	-	PROFIBUS / Ethernet	incl. analog interface	1.5
	10006694	DSPW-ECAT-K/2	$\pm 20 \mu\text{m}$	2	-	-	EtherCAT	incl. analog interface	1.5
	10047641	DSPW2-SSI-K/2	$\pm 20 \mu\text{m}$	2	-	-	Ethernet communication interface + additional encoder input via SSI		1.5
DSPW Digital 1x measuring channel, 2x inductive probe connections	10069647	DSPW-K/1-I/2	$\pm 20 \mu\text{m}$	1	Inductive	2	Ethernet	Ethernet interface	1.5

P/E transducer SPW

Fast pneumatic transducers (SPW) with analog output

	Item no.	Type	Meas. chan- nel type 1 (meas. range)	Resolution	Meas. chan- nel type 2 (meas. range)	Air pressure (bar)	Communi- cation	Cable length (m)
SPW Analog 1x measuring channel	10076176	S65-K	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	1.5
	10003252	S74-K/1	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	1.5
	10056371	S65-K with SPW/EA	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	1.5
	10056684	S65-K with SPW/EA	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	3
	10059924	S65-37-P	+ 60 / - 120 μm	100 mV/ μm	-	3	-	1.5
	10060017	S65-M1 with SPW/EA	$\pm 50 \mu\text{m}$	100 mV/ μm	-	3	-	1.5
	10076200	S65-P with SPW/EA	+ 60 / - 120 μm	100 mV/ μm	-	3	-	5
	10007946	S74-M1/1	$\pm 50 \mu\text{m}$	100 mV/ μm	-	3	-	1.5
	10007947	S74-P/1	+ 60 / - 120 μm	100 mV/ μm	-	3	-	1.5
	10055990	S74-11-K/1	$\pm 20 \mu\text{m}$	1 V/ μm	-	3	-	1.5
	10056371	S65-K with SPW/EA	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	1.5
	10056684	S65-K with SPW/EA	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	3
	10059924	S65-37-P	+ 60 / - 120 μm	100 mV/ μm	-	3	-	1.5
	10060017	S65-M1 with SPW/EA	$\pm 50 \mu\text{m}$	100 mV/ μm	-	3	-	1.5
	10063187	S65-K with SPW/EA	$\pm 20 \mu\text{m}$		-	3	-	0.4
	10059026	S65-M1 with SPW/EA	$\pm 50 \mu\text{m}$	100 mV/ μm	-	3	-	5
	10062486	S65-K with SPW/EA	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	5
	10086945	S65-P with SPW/EA	+ 60 / - 120 μm	100 mV/ μm	-	3	-	1.5
	10015114	S74-K/1	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	3
	10005284	S74-K/1	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	5
	10007953	S74-M1/1	$\pm 50 \mu\text{m}$	100 mV/ μm	-	3	-	5
	10007954	S74-P/1	+ 60 / - 120 μm	100 mV/ μm	-	3	-	5
	10034019	S74-11-K/1	$\pm 20 \mu\text{m}$	1 V/ μm	-	3	-	5
	10059026	S65-M1 with SPW/EA	$\pm 50 \mu\text{m}$	100 mV/ μm	-	3	-	5
	10062486	S65-K with SPW/EA	$\pm 20 \mu\text{m}$	100 mV/ μm	-	3	-	5
	10086945	S65-P with SPW/EA	+ 60 / - 120 μm	100 mV/ μm	-	3	-	1.5
	10013504	S74-903X/1	$\pm 20 \mu\text{m}$	100 mV/ μm	-	1	-	1.5

P/E transducer SPW

Fast pneumatic transducers (SPW) with analog output

	Item no.	Type	Meas. chan- nel type 1 (meas. range)	Resolution	Meas. chan- nel type 2 (meas. range)	Air pressure (bar)	Communi- cation	Cable length (m)
SPW Analog 2x measuring channel	10005299	S74-K/2	$\pm 20 \mu\text{m}$	-	-	-	-	1.5
	10007948	S74-M1/2	$\pm 50 \mu\text{m}$	-	-	-	-	1.5
	10007949	S74-P/2	+ 60 / - 120 μm	-	-	-	-	1.5
	10007950	S74-K1;M1/1	$\pm 20 \mu\text{m}$	-	$\pm 50 \mu\text{m}$	-	-	1.5
	10007951	S74-K1;P/1	$\pm 20 \mu\text{m}$	-	-	-	-	1.5
	10007952	S74-M1/1;P/1	$\pm 50 \mu\text{m}$	-	+ 60 / - 120 μm	-	-	1.5
	10015115	S74-K/2	$\pm 20 \mu\text{m}$	-	-	-	-	3
	10005290	S74-K/2	$\pm 20 \mu\text{m}$	-	-	-	-	5
	10007955	S74-M1/2	$\pm 50 \mu\text{m}$	-	-	-	-	5
	10007956	S74-P/2	+ 60 / - 120 μm	-	-	-	-	5
	10007957	S74-K1;M1/1	$\pm 20 \mu\text{m}$	-	$\pm 50 \mu\text{m}$	-	-	5
	10007959	S74-K1;P/1	$\pm 20 \mu\text{m}$	-	+ 60 / - 120 μm	-	-	5
	10007960	S74-M1/1;P/1	$\pm 50 \mu\text{m}$	-	$\pm 20 \mu\text{m}$	-	-	5
	10034022	S74-11-K/2	$\pm 20 \mu\text{m}$	-	-	-	-	5
SPW Digital 2x measuring channel	10005299	S74-K/2	$\pm 20 \mu\text{m}$	-	-	-	-	1.5
	10042257	S74-M1/2	$\pm 50 \mu\text{m}$	-	-	-	with SPW/ EA	10

P/E transducer DPW

Digital pneumatic transducers (DPW)

	Item no.	Type	Measuring channel type (measuring range)	Communication	Extra interface
DPW Digital 1x measuring channel	10005731	DPW-K/1	± 20 µm	Ethernet	-
	10018785	DPW75-CAN-P/1	+60 / -120 µm	CAN-Bus interface	-
	10021607	DPW75-CAN-M1/1	± 50 µm	CAN-Bus interface	-
	10013424	DPW75-CAN-K/1	± 20 µm	CAN-Bus interface	-
	10008849	DPW-PB-K/1	± 20 µm	PROFIBUS / Ethernet	analog interface
	10036274	DPW-PB-903X	± 20 µm	PROFIBUS / Ethernet	analog interface
	10065674	DPW-PN-K/1	± 20 µm	PROFINET / Ethernet	analog interface
	10071496	DPW-PN-M1/1	± 50 µm	PROFIBUS / Ethernet	analog interface
	10078719	DPW-PNK-K/1	± 20 µm	PROFINET / Ethernet	-
	10079870	DPW-PNK-M1/1	± 50 µm	PROFINET / Ethernet	-
	10006691	DPW-ECAT-K/1	± 20 µm	EtherCAT	-
	10044550	DPW75-CAN-P37/1	+60 / -120 µm	-	-
	10020576	DPW75-CAN-901X/1	+60 / -120 µm	-	-
DPW Digital 2x measuring channel	10008592	DPW-K/2	± 20 µm	Ethernet	-
	10008850	DPW-PB-K/2	± 20 µm	PROFIBUS	-
	10009238	DPW-PB-M1/2	± 50 µm	PROFIBUS	-
	10065675	DPW-PN-K/2	± 20 µm	PROFINET / Ethernet	analog interface
	10079871	DPW-PNK-K/2	± 20 µm	PROFINET / Ethernet	-
	10010301	DPW75-CAN-901X/2	+60 / -120 µm	CAN-Bus	-
	10013425	DPW75-CAN-K/2	± 20 µm	-	-

Interfaces

	Item no.	Communication
MSM interfaces	MR-PB-C-000	PROFIBUS
	MR-EC-C-000	Ether CAT



Diameter measuring instruments

STOTZ diameter measuring instruments

49

Air jet measuring mandrel MD

51

Setting ring ER

53

Air jet measuring ring MR

55

Setting mandrel ED

57



► STOTZ – Quality through in-house production

Pneumatic measuring instruments from STOTZ GmbH are mainly used by our customers for fast and highly accurate measurement of smaller inner and outer diameters and/or deep bore holes.

In addition, the measurement with air serves to protect the component surface.

To evaluate your results, you will need a suitable STOTZ P/E transducer (digital/analog) or one of our measuring computers, including measuring instrument connections.

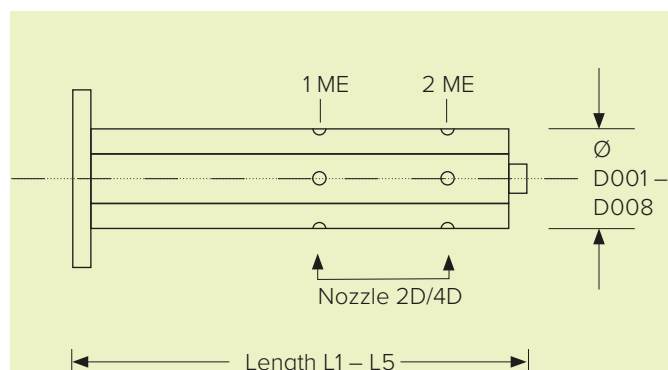
Depending on the application, STOTZ measuring instruments are adapted to your measuring task with open round nozzles, slot nozzles or spring contacts with a few grams of pressing force.

Coating variants: hard chrome-plated, TiN-coated

Specifications

- Highest quality
- Diameter range: from 2.0 mm (smaller on request) to 250 mm (special areas possible)
- Mandrel length: from 5 mm (according to customer requirements)
- Nozzle type: round nozzles, spring contact, slot nozzles
- Nozzle arrangement: opposite (180°), 90°/120° division on request
- Multiple measuring levels: multi-stage version, (special versions possible)
- Measuring ranges: 10 µm to 180 µm (further measuring ranges on request)
- Repeatability: from 0.05 µm
- Equipment: handle, quick-change system, protective box

Order code air jet measuring mandrel MD



► Our pneumatic measuring mandrels are available from a workpiece diameter of 2.0 mm (smaller on request) and are characterized by their robust design and repeatability. Pneumatic measuring mandrels are used to determine very close tolerances for internal diameters.

By combining and adding further measuring equipment or moveable axes, the measurement can be extended to include roundness, cylindricity, parallelism, conicity and centre distances (length).

► Example code

Our order code is made up of up to 8 components:

MD-1ME-2D-K-D001-L1-G-SYM-HM

1	2	3	4	5	6	7	8	9
Measuring device type	Measuring level	Number of nozzles	Nozzle type	Diameter	Length	Material	Incr. accuracy	Equipment
MD	1ME	2D	K	D001	L1	G	SYM	HM

		Description
1 Measuring device type	Air jet measuring mandrel	MD
2 Measuring level	1 measuring level	1 ME
	2 measuring level	2 ME
3 Number of nozzles	2 nozzles	2 D
	4 nozzles	4 D
4 Nozzle type	Type K	K
	Type M1	M1
	Type P	P
5 Diameter Ø in mm	1.500 – 3.500	D001
	3.501 – 6.000	D002
	6.001 – 20.000	D003
	20.001 – 30.000	D004
	30.001 – 40.000	D005
	40.001 – 50.000	D006
	50.001 – 60.000	D007
	60.001 – 70.000	D008

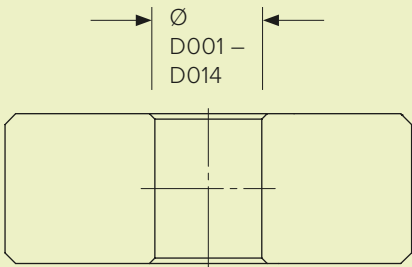
Order code air jet measuring mandrel MD

		Description
6 Length in mm	up to 150 mm (For Ø 1.5 – 6 only up to 50 mm)	L1
	151 – 200	L2
	201 – 250	L3
	251 – 300	L4
	301 – 350	L5
7 Material	Without coating (hardened)	G
	Hard chrome-plated coating	C
	TiN coating	T
8 Increased accuracy	Normal (10% of the measuring range)	N
	Accuracy $\leq 0.2 \mu\text{m}$	SYM
9 Equipment	Carbide support points	HM
	Base plate	P
	Tripod	S
	Handle	HG
	PA** demonstration	PA
	Stop ring	R
	HM* strips	HL
	P-flange connection	PH
	M20 connection nut	SH

* HM = Carbide

** PA = plastic

Order code for setting ring ER

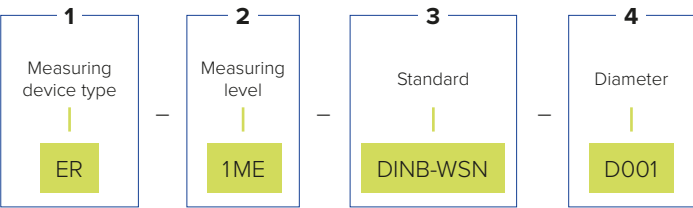


► Two setting rings are required to calibrate a pneumatic measuring mandrel. The MIN and the MAX setting ring calibrate the air jet measuring mandrel at the lower and upper tolerance limits, respectively.

This so-called two-point calibration ensures that the diameter in the desired range can be measured linearly and repeatedly.

► **Example code**

Our order code is made up of up to 4 components:
MD-1ME-DINB-WSN-D001



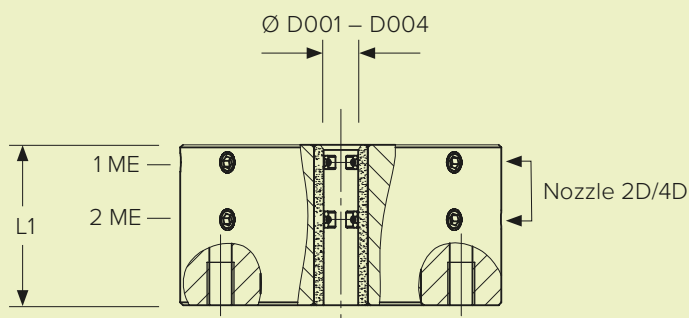
		Description
1 Measuring device type	Setting ring	ER
2 Measuring level	1 measuring level	1 ME
3 Standard	DIN 2250 B und G	DINB-G
	DIN 2250 B Work play standard	DINB-WSN
	DIN 2250 C	DINC

Order code for setting ring ER

		Description
4 Diameter Ø in mm	< 1.75	D001
	1.750 – 2.000	D002
	2.001 – 2.500	D003
	2.501 – 3.000	D004
	3.001 – 5.000	D005
	5.001 – 10.000	D006
	10.001 – 15.000	D007
	15.001 – 20.000	D008
	20.001 – 25.000	D009
	25.001 – 32.000	D010
	32.001 – 40.000	D011
	40.001 – 50.000	D012
	50.001 – 60.000	D013
	60.001 – 70.000	D014

STOTZ calibration certificate (including)	included
DAkkS calibration certificate according to VDI/VDE/DGQ 2618, sheet 4.1:2006, option 1	on request
1 Standard measurement level Additional measuring levels on request. Surcharge per further measurement level	100% price surcharge

Order code for air jet measuring ring MR



► Our pneumatic measuring rings are available from a workpiece diameter of 1.8 mm and are characterized by their robust design and repeatability. Pneumatic measuring rings are used to determine very close tolerances for external diameters.

By combining and adding further measuring equipment or moveable axes, the measurement can be extended to include roundness, cylindricity, parallelism, conicity and centre distances (length).

► Example code

Our order code is made up of up to 8 components:

MD-1ME-2D-K-D001-L1-G-SYM-HM

1	2	3	4	5	6	7	8	9
Measuring device type	Measuring level	Number of nozzles	Nozzle type	Diameter	Length	Material	Incr. accuracy	Equipment
MR	1ME	2D	K	D001	L1	G	SYM	HM

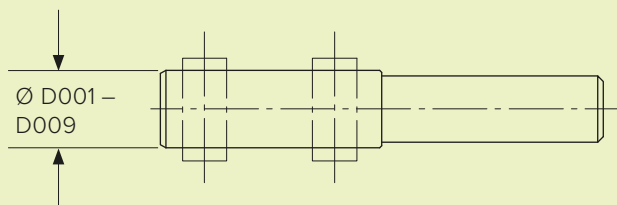
		Description
1 Measuring device type	Air jet ring	MR
2 Measuring level	1 measuring level	1 ME
	2 measuring level	2 ME
3 Number of nozzles	2 nozzles	2 D
	4 nozzles	4 D
4 Nozzle type	Type K	K
	Type M	M
	Type P	P
5 Diameter Ø in mm	1.801 – 3.000	D001
	3.001 – 6.000	D002
	6.001 – 30.000	D003
	30.001 – 69.999	D004
6 Length in mm	up to 50 mm	L1
7 Material	PM steel (hardened)	G
	Tungsten carbide bushing	HB

Order code for air jet ring MR

		Description
8 Increased accuracy	Normal (10% of the measuring range)	N
	Accuracy $\leq 0.2 \mu\text{m}$	SYM
9 Equipment	Handle (standard / lateral)	HG
	Base plate standard	P
	Base plate with ejector	P1
	Tripod	S
	Connection adapter SPW (G1/8)	A
	Tripod with positioning aid	S1
	Prism with HM strips up to 100 mm, including positioning aid	V1
	Prism with HM strips up to 200 mm, including positioning aid	V2
	Prism with HM strips up to 300 mm, including positioning aid	V3
	Demonstration of PA*	PA

* PA = plastic

Order code for setting mandrel ED



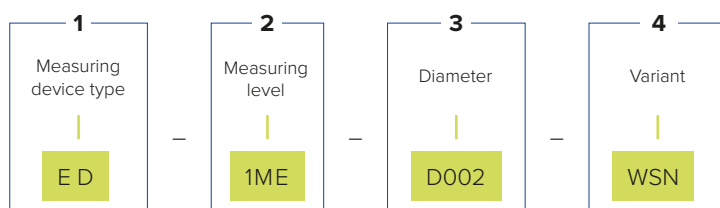
- Two setting mandrels are required to calibrate a pneumatic measuring ring. The MIN and the MAX setting mandrel calibrate the measuring ring at the lower and upper tolerance limits, respectively.

This so-called two-point calibration ensures that the diameter in the desired range can be measured linearly and repeatedly.

Example code

Our order code is made up of up to 4 components:

ED-DINB-D002-WSN



		Description
1 Measuring device type	Setting mandrel	ED
2 Measuring level	1 measuring level	1ME
3 Diameter Ø in mm	1.800 – 3.000	D001
	3.001 – 5.000	D002
	5.001 – 10.000	D003
	10.001 – 20.000	D004
	20.001 – 30.000	D005
	30.001 – 40.000	D006
	40.001 – 50.000	D007
	50.001 – 60.000	D008
	60.001 – 70.000	D009
4 Variant	Work play standard	WSN

STOTZ calibration certificate (including)	included
DAkkS calibration certificate according to VDI/VDE/DGQ 2618, sheet 4.1:2006, option 1	on request
1 Standard measurement level Additional measuring levels on request. Surcharge per further measurement level	100% price surcharge



Taper measuring instruments

STOTZ taper measuring instruments

58

Taper measuring instrument for tool-holding fixtures

60

PSC taper for tool holder measuring ring setting mandrel wooden protective box	62
HSK taper for tool holder measuring ring setting mandrel wooden protective box	63
SK taper for tool holder measuring ring setting mandrel wooden protective box	64
CAT taper for tool holder measuring ring setting mandrel wooden protective box	65
ER taper for tool holder measuring ring setting mandrel wooden protective box	66

Taper-measuring instruments for spindles

67

PSC taper for spindles measuring mandrel setting ring protective case	69
HSK taper for spindles measuring mandrel setting ring wooden protective box	70
SK taper for spindles measuring mandrel setting ring wooden protective box	71
CAT taper for spindles measuring mandrel setting ring wooden protective box	72
ER taper for spindles measuring mandrel setting ring wooden protective box	73

Taper-measuring means sets

74



Pneumatic taper measuring instruments from STOTZ GmbH are mainly used in production for the fast and accurate measurement of inner and outer tapers.

In addition to the regular taper standards such as steep tapers (SK) and hollow shaft tapers (HSK), we at STOTZ also specialize in the production of other special designs for you.

We also manufacture measuring instruments for polygonal shaft cones. Our STOTZ measuring computers allow you to control your production with exact precision.

The statistics we provide and the storage of your quality data help you to better understand and monitor your production and the quality of your processes.

Taper measuring instruments for tool-holding fixtures



STOTZ taper measuring rings

You will receive our hardened or hard-chromed taper air jet rings with 2–3 measuring levels in a wide variety of designs and standards.

Each measuring device is supplied with a STOTZ certificate and all the devices required for connection to our STOTZ measuring columns.



STOTZ taper setting mandrels

You will receive our taper setting mandrels in a wide variety of designs and standards.

Our master gauges are made of aged steel and are hardened. Each gauge is supplied with a STOTZ certificate.



STOTZ taper clamping shoulder

Mechanical measuring instruments for measuring the L5 according to ISO 12164-1.

Our set contains a master gauge, a dial gauge and a wooden storage box.



STOTZ pre-measuring devices for the tool holder shaft

You will receive our pre-measuring devices for HSK tool shafts in accordance with applicable international standards (ISO 12164-1).

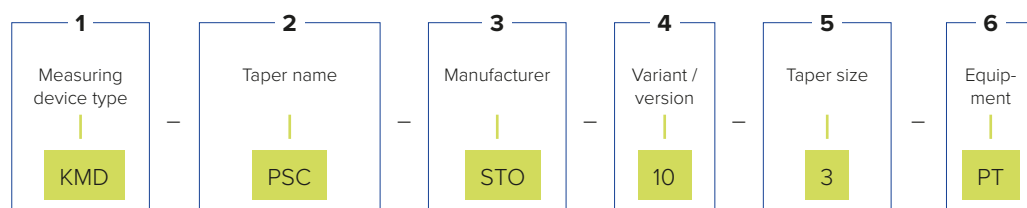
Our gauges and master gauges are made of aged steel and are hardened. Each gauge is supplied with a STOTZ certificate.

Order code of taper measuring instrument for tool-holding fixtures

► Example code

Our order code is made up of up to 6 components:

KMD-PSC-STO-10-3-PT



		Description
1 Measuring device type	Taper measuring ring	KMR
	Taper setting mandrel	KED
	Wooden protective box / protective case	KMB
2 Taper name	Polygonal shaft cone	PSC
	Hollow shaft taper	HSK
	Steep taper	SK
	Steep taper	CAT
	Morse taper	ER
3 Manufacturer	STOTZ GmbH	STO
4 Variant / version	On request	10
5 Taper size	See sep. table	
6 Equipment	Base plate + pushbutton	PT
	Base plate + dial gauge	PU

PSC taper for tool holder measuring ring | setting mandrel | wooden protective box

	PSC taper measuring ring, including certificate 2 ME	PSC taper setting mandrel	Wooden protective box
Size 3	KMR-PSC-STO-10-3	KED-PSC-STO-10-3	KMB-PSC-STO-10-3
Size 4	KMR-PSC-STO-10-4	KED-PSC-STO-10-4	KMB-PSC-STO-10-4
Size 5	KMR-PSC-STO-10-5	KED-PSC-STO-10-5	KMB-PSC-STO-10-3
Size 6	KMR-PSC-STO-10-6	KED-PSC-STO-10-6	KMB-PSC-STO-10-4
Size 8	KMR-PSC-STO-10-8	KED-PSC-STO-10-8	KMB-PSC-STO-10-3
Size 8X	KMR-PSC-STO-10-8X	KED-PSC-STO-10-8X	KMB-PSC-STO-10-4
Size 10	KMR-PSC-STO-10-10	KED-PSC-STO-10-10	KMB-PSC-STO-10-3

- **Suitable measuring computers** **from page 24**
- **For suitable measuring computer accessories** **see page 35**
- **Suitable software** **from page 36**
- **Suitable measuring electronics** **from page 38**

HSK taper for tool holder measuring ring | setting mandrel | wooden protective box

	HSK taper measuring ring, including certificate 2 ME	HSK taper setting mandrel	Wooden protective box
Size 15	KMR-HSK-STO-10-15	KED-HSK-STO-10-15	KMB-HSK-STO-10-15
Size 25	KMR-HSK-STO-10-25	KED-HSK-STO-10-25	KMB-HSK-STO-10-25
Size 32	KMR-HSK-STO-10-32	KED-HSK-STO-10-32	KMB-HSK-STO-10-32
Size 40	KMR-HSK-STO-10-40	KED-HSK-STO-10-40	KMB-HSK-STO-10-40
Size 50	KMR-HSK-STO-10-50	KED-HSK-STO-10-50	KMB-HSK-STO-10-50
Size 63	KMR-HSK-STO-10-63	KED-HSK-STO-10-63	KMB-HSK-STO-10-63
Size 80	KMR-HSK-STO-10-80	KED-HSK-STO-10-80	KMB-HSK-STO-10-80
Size 100	KMR-HSK-STO-10-100	KED-HSK-STO-10-100	KMB-HSK-STO-10-100
Size 125	KMR-HSK-STO-10-125	KED-HSK-STO-10-125	KMB-HSK-STO-10-125
Size 160	KMR-HSK-STO-10-160	KED-HSK-STO-10-160	KMB-HSK-STO-10-160

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

SK taper for tool holder measuring ring | setting mandrel | wooden protective box

	SK taper measuring ring, including certificate 3 ME	SK taper setting mandrel (a=1,6 / a=3,2 / a=3,175)	Wooden protective box
Size 20	KMR-SK-STO-10-20	KED-SK-STO-10-20	KMB-SK-STO-10-20
Size 25	KMR-SK-STO-10-25	KED-SK-STO-10-25	KMB-SK-STO-10-25
Size 30	KMR-SK-STO-10-30	KED-SK-STO-10-30	KMB-SK-STO-10-30
Size 40	KMR-SK-STO-10-40	KED-SK-STO-10-40	KMB-SK-STO-10-40
Size 45	KMR-SK-STO-10-45	KED-SK-STO-10-45	KMB-SK-STO-10-45
Size 50	KMR-SK-STO-10-50	KED-SK-STO-10-50	KMB-SK-STO-10-50
Size 55	KMR-SK-STO-10-55	KED-SK-STO-10-55	KMB-SK-STO-10-55
Size 60	KMR-SK-STO-10-60	KED-SK-STO-10-60	KMB-SK-STO-10-60

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

CAT taper for tool holder measuring ring | setting mandrel | wooden protective box

	CAT taper measuring ring, including certificate 3 ME	CAT taper setting mandrel (a=1,6 / a=3,2 / a=3,175)	Wooden protective box
Size 20	KMR-CAT-STO-10-20	KED-CAT-STO-10-20	KMB-CAT-STO-10-20
Size 25	KMR-CAT- STO-10-25	KED-CAT-STO-10-25	KMB-CAT-STO-10-25
Size 30	KMR-CAT- STO-10-30	KED-CAT-STO-10-30	KMB-CAT-STO-10-30
Size 40	KMR-CAT- STO-10-40	KED-CAT-STO-10-40	KMB-CAT-STO-10-40
Size 45	KMR-CAT- STO-10-45	KED-CAT-STO-10-45	KMB-CAT-STO-10-45
Size 50	KMR-CAT- STO-10-50	KED-CAT-STO-10-50	KMB-CAT-STO-10-50
Size 55	KMR-CAT- STO-10-55	KED-CAT-STO-10-55	KMB-CAT-STO-10-55
Size 60	KMR-CAT- STO-10-60	KED-CAT-STO-10-60	KMB-CAT-STO-10-60

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

ER taper for tool holder measuring ring | setting mandrel | wooden protective box

	ER taper measuring ring, including certificate 2 ME	ER taper setting mandrel	Wooden protective box
Size 11	KMR-ER-STO-10-11	KED-ER-STO-10-11	KMB-ER-STO-10-11
Size 16	KMR-ER-STO-10-16	KED-ER-STO-10-16	KMB-ER-STO-10-16
Size 20	KMR-ER-STO-10-20	KED-ER-STO-10-20	KMB-ER-STO-10-20
Size 25	KMR-ER-STO-10-25	KED-ER-STO-10-25	KMB-ER-STO-10-25
Size 32	KMR-ER-STO-10-32	KED-ER-STO-10-32	KMB-ER-STO-10-32
Size 40	KMR-ER-STO-10-40	KED-ER-STO-10-40	KMB-ER-STO-10-40

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

Taper measuring instruments for spindles



STOTZ taper measuring mandrels

You will receive our hardened or hard-chromed taper air jet mandrels with 2–3 measuring levels in a wide variety of designs and standards.

Each measuring device is supplied with a STOTZ certificate and all the devices required for connection to our STOTZ measuring columns.



STOTZ taper setting rings

You will receive our taper setting rings in a wide variety of designs and standards.

Our masters are made of aged steel and are hardened. Each gauge is supplied with a STOTZ certificate.



STOTZ pre-measuring devices for HSK spindles

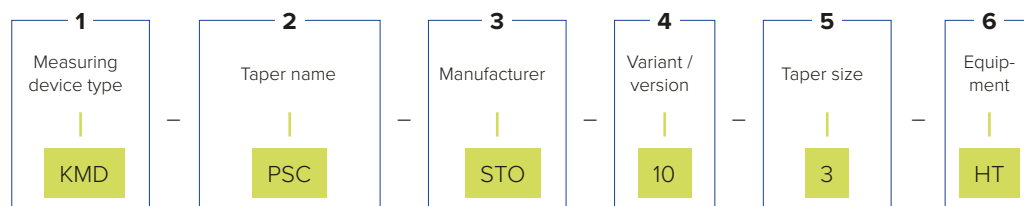
HSK spindle pre-measuring devices according to ISO 12164-2 including dial gauge and certificate.

Order code of taper-measuring instrument for spindles

► Example code

Our order code is made up of up to 6 components:

KMD-PSC-STO-10-3-HT



		Description
1 Measuring device type	Taper measuring mandrels	KMD
	Taper setting ring	KER
	Wooden protective box / protective case	KMB
2 Taper name	Polygonal shaft cone	PSC
	Hollow shaft taper	HSK
	Steep taper	SK
	Steep taper	CAT
	Morse taper	ER
3 Manufacturer	STOTZ GmbH	STO
4 Variant / version	On request	10
5 Taper size	See sep. table	
6 Equipment	Base plate + pushbutton	HT
	Base plate + dial gauge	HU

PSC taper for spindles

measuring mandrel | setting ring | protective case

	PSC taper measuring mandrels, including certificate 2 ME	PSC taper setting ring	Protective case
Size 3	KMD-PSC-STO-10-3	KER-PSC-STO-10-3	KMB-PSC-STO-10-3
Size 4	KMD-PSC-STO-10-4	KER-PSC-STO-10-4	KMB-PSC-STO-10-4
Size 5	KMD-PSC-STO-10-5	KER-PSC-STO-10-5	KMB-PSC-STO-10-5
Size 6	KMD-PSC-STO-10-6	KER-PSC-STO-10-6	KMB-PSC-STO-10-6
Size 8	KMD-PSC-STO-10-8	KER-PSC-STO-10-8	KMB-PSC-STO-10-8
Size 8X	KMD-PSC-STO-10-8X	KER-PSC-STO-10-8X	KMB-PSC-STO-10-8X
Size 10	KMD-PSC-STO-10-10	KER-PSC-STO-10-10	KMB-PSC-STO-10-10

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

HSK taper for spindles measuring mandrel | setting ring | wooden protective box

	HSK taper measuring mandrels, including certificate 2 ME	HSK taper setting ring	Wooden protective box
Size 15	KMD-HSK-STO-10-15	KER-HSK-STO-10-15	KMB-HSK-STO-10-15
Size 25	KMD-HSK-STO-10-25	KER-HSK-STO-10-25	KMB-HSK-STO-10-25
Size 32	KMD-HSK-STO-10-32	KER-HSK-STO-10-32	KMB-HSK-STO-10-32
Size 40	KMD-HSK-STO-10-40	KER-HSK-STO-10-40	KMB-HSK-STO-10-40
Size 50	KMD-HSK-STO-10-50	KER-HSK-STO-10-50	KMB-HSK-STO-10-50
Size 63	KMD-HSK-STO-10-63	KER-HSK-STO-10-63	KMB-HSK-STO-10-63
Size 80	KMD-HSK-STO-10-80	KER-HSK-STO-10-80	KMB-HSK-STO-10-80
Size 100	KMD-HSK-STO-10-100	KER-HSK-STO-10-100	KMB-HSK-STO-10-100
Size 125	KMD-HSK-STO-10-125	KER-HSK-STO-10-125	KMB-HSK-STO-10-125
Size 160	KMD-HSK-STO-10-160	KER-HSK-STO-10-160	KMB-HSK-STO-10-160

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

SK taper for spindles measuring mandrel | setting ring | wooden protective box

	SK taper measuring mandrels, including certificate 3 ME	SK taper setting ring	Wooden protective box
Size 20	KMD-SK-STO-10-20	KER-SK-STO-10-20	KMB-SK-STO-10-20
Size 25	KMD-SK-STO-10-25	KER-SK-STO-10-25	KMB-SK-STO-10-25
Size 30	KMD-SK-STO-10-30	KER-SK-STO-10-30	KMB-SK-STO-10-30
Size 40	KMD-SK-STO-10-40	KER-SK-STO-10-40	KMB-SK-STO-10-40
Size 45	KMD-SK-STO-10-45	KER-SK-STO-10-45	KMB-SK-STO-10-45
Size 50	KMD-SK-STO-10-50	KER-SK-STO-10-50	KMB-SK-STO-10-50
Size 55	KMD-SK-STO-10-55	KER-SK-STO-10-55	KMB-SK-STO-10-55
Size 60	KMD-SK-STO-10-60	KER-SK-STO-10-60	KMB-SK-STO-10-60

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

CAT taper for spindles measuring mandrel | setting ring | wooden protective box

	CAT taper measuring mandrels, including certificate 3 ME	CAT taper setting ring	Wooden protective box
Size 20	KMD-CAT-STO-10-20	KER-CAT-STO-10-20	KMB-CAT-STO-10-20
Size 25	KMD-CAT- STO-10-25	KER-CAT-STO-10-25	KMB-CAT-STO-10-25
Size 30	KMD-CAT- STO-10-30	KER-CAT-STO-10-30	KMB-CAT-STO-10-30
Size 40	KMD-CAT- STO-10-40	KER-CAT-STO-10-40	KMB-CAT-STO-10-40
Size 45	KMD-CAT- STO-10-45	KER-CAT-STO-10-45	KMB-CAT-STO-10-45
Size 50	KMD-CAT- STO-10-50	KER-CAT-STO-10-50	KMB-CAT-STO-10-50
Size 55	KMD-CAT- STO-10-55	KER-CAT-STO-10-55	KMB-CAT-STO-10-55
Size 60	KMD-CAT- STO-10-60	KER-CAT-STO-10-60	KMB-CAT-STO-10-60

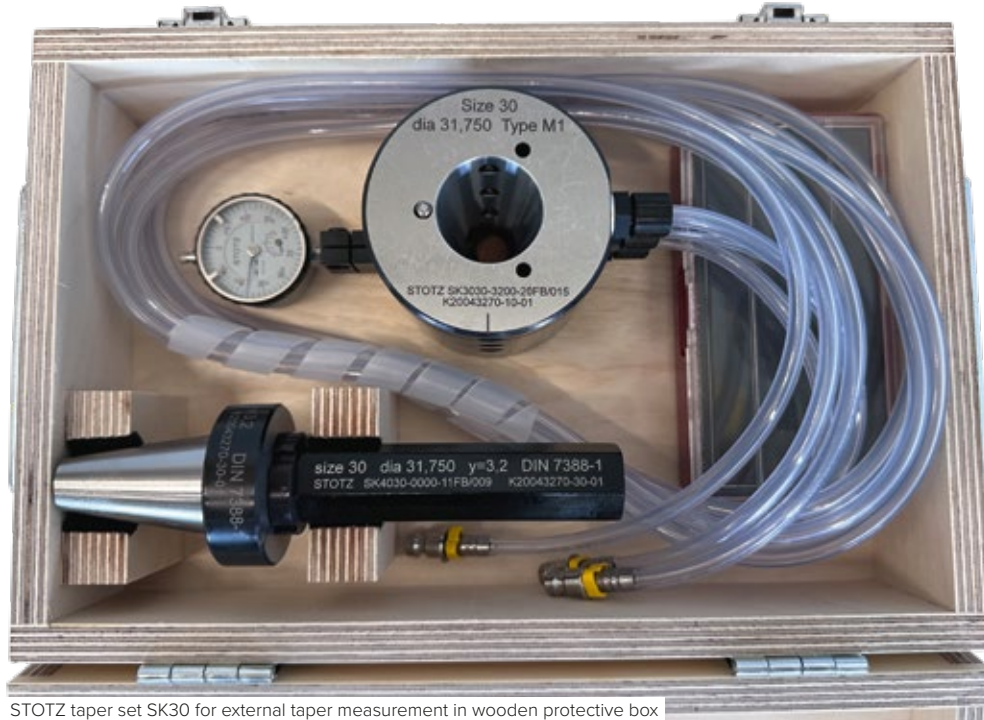
- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

ER taper for spindles measuring mandrel | setting ring | wooden protective box

	ER taper measuring mandrels, including certificate 2 ME	ER taper setting ring	Wooden protective box
Size 11	KMD-ER-STO-10-11	KER-ER-STO-10-11	KMB-ER-STO-10-11
Size 16	KMD-ER-STO-10-16	KER-ER-STO-10-16	KMB-ER-STO-10-16
Size 20	KMD-ER-STO-10-20	KER-ER-STO-10-20	KMB-ER-STO-10-20
Size 25	KMD-ER-STO-10-25	KER-ER-STO-10-25	KMB-ER-STO-10-25
Size 32	KMD-ER-STO-10-32	KER-ER-STO-10-32	KMB-ER-STO-10-32
Size 40	KMD-ER-STO-10-40	KER-ER-STO-10-40	KMB-ER-STO-10-40

- Suitable measuring computers from page 24
- For suitable measuring computer accessories see page 35
- Suitable software from page 36
- Suitable measuring electronics from page 38

Taper measuring means sets for tool-holding fixture and spindle



STOTZ taper set SK30 for external taper measurement in wooden protective box

STOTZ taper measuring means set for internal measurement for tool-holding fixture

- STOTZ taper measuring mandrel
- STOTZ taper setting ring
- STOTZ calibration certificate
- STOTZ inductive probe / dial gauge (selectable)

Optional

- STOTZ wooden protective box (air jet measuring mandrel, setting ring, certificate)
- STOTZ measuring computer: MSM/MSG-CL/ MRA Sophron, including test program
- STOTZ maintenance unit 3/8"
- STOTZ compressed air container

STOTZ taper measuring means set for external measurement for spindle

- STOTZ taper measuring ring
- STOTZ taper setting mandrel
- STOTZ calibration certificate
- STOTZ inductive probe / dial gauge (selectable)

Optional

- STOTZ wooden protective box (air jet ring, setting mandrel, certificate)
- STOTZ measuring computer: MSM/MSG-CL/ MRA Sophron, including test program
- STOTZ maintenance unit 3/8"
- STOTZ compressed air container

► Our sets are available on request. Talk to us!



STOTZ Service + Retrofit

Service + Retrofit	75
Technical advice	77
Maintenance & Calibration	78
Test equipment monitoring (DAkkS)	79
Retrofit	81
STOTZ Academy	82



**Our service: maintenance, repair and upgrades.
Everything from a single sourced**

For us, the service sector is not only an obligation, but also an opportunity to inspire our customers with innovative services. We strive to continuously develop our service and use new technologies to provide you with even more efficient and user-friendly support. At STOTZ, we are ready to tackle your requirements today and the challenges of tomorrow and continuously improve our service.

As a leading provider of precise measuring solutions, we not only attach great importance to the development of high-quality products, but also to comprehensive support for our customers. In this section, we would like to offer you an insight into our wide range of services, which are aimed at keeping your measuring technology in the best shape and meeting your requirements worldwide.



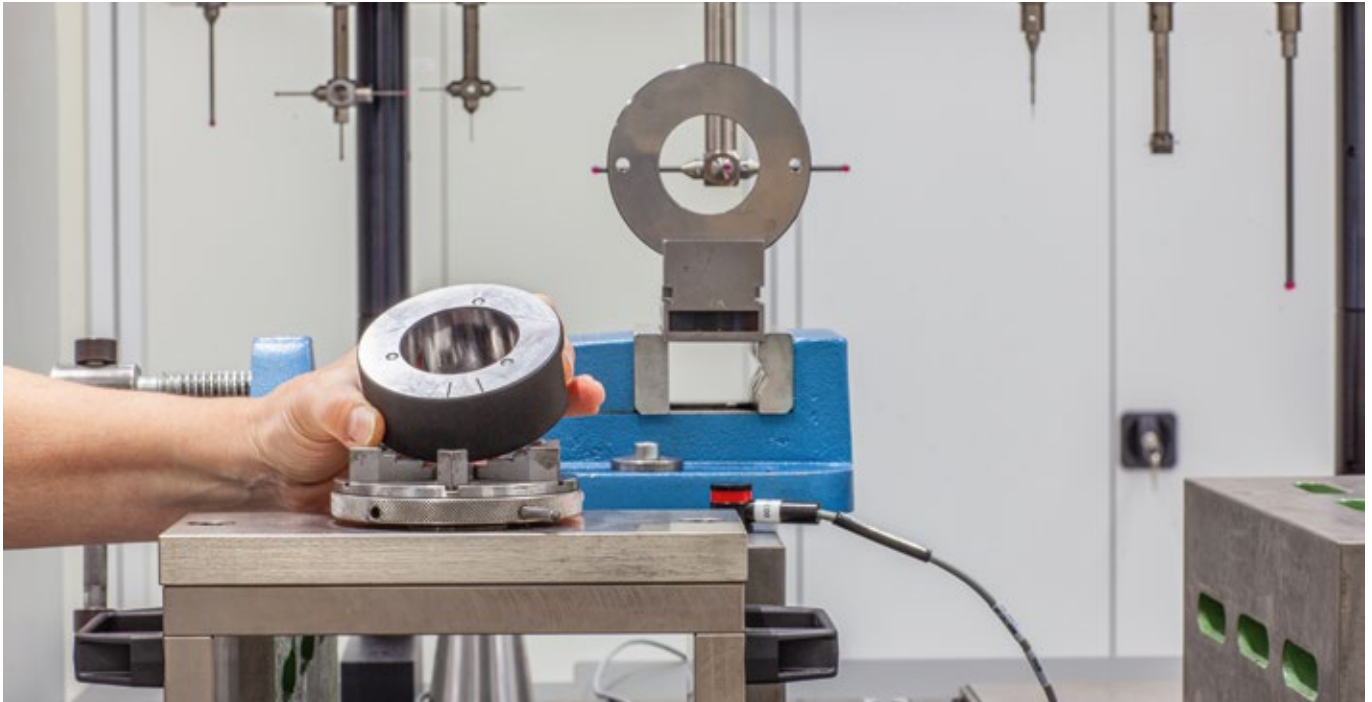
Technical advice

Our team of experts has many years of experience in pneumatic measuring technology and can help you optimize your processes and achieve your goals. We offer you comprehensive advice, from the selection of suitable pneumatic measuring instruments to integration into your existing system.

Our first step is to understand your individual requirements and needs. To this end, we carry out a detailed analysis of your current processes and identify possible weaknesses or potential for improvement. Based on these findings, we will work with you to develop a tailor-made solution that meets your requirements.

We offer you a wide range of pneumatic measuring instruments, which are characterized by their high accuracy, reliability and durability.

After selecting suitable measuring instruments, we will support you in integrating them into your existing system. Our experts will assist you with their expertise and help you with the installation, calibration and commissioning of the devices. In addition, we offer training for your personnel to ensure that they can operate the devices efficiently and safely.



Maintenance & Calibration

Regular maintenance and calibration of your measuring instruments and measuring machines is crucial to ensure the accuracy and reliability of your measurements.

Our professional maintenance and calibration services offer you the certainty that your measuring instruments will always function optimally.

Our experienced team of technicians will carry out a thorough inspection of your measuring instruments and measuring machines to identify possible signs of wear or defects. We check the functionality of the devices and, if necessary, carry out repairs or replacement of parts.

Calibrating your measuring instruments and measuring machines is an important step to ensure that your measurements meet international standards. We use high-precision calibration tools and procedures to check and, if necessary, adjust the accuracy of your devices.

Our maintenance and calibration services are carried out to the highest quality standards. We ensure that your measuring instruments and measuring machines function optimally and provide you with accurate measurement results.

Please contact us!

STOTZ Feinmesstechnik GmbH
Hermann-Dreher-Straße 6
D-70839 Gerlingen

Phone +49 7156 94904-0

Email info@stotz.com

DAkkS – Laboratory



STOTZ offers you test reports and DAkkS calibration certificates for your master gauges. Our calibration laboratory is a conformity assessment body accredited by the DAkkS in accordance with EN ISO/IEC 17025.

At the end of 2021, our measuring laboratory was accredited by the German Accreditation Body (DAkkS) according to DIN EN ISO 17025:2018 for the following scope:

Length:

- Diameter
- Deviations in shape and position

Scope of service

We test your setting mandrels, setting rings, cone gauges and test equipment.

Our test equipment monitoring offers the following service:

- Checking the number of pieces
- Cleaning your products
- Optical inspection for damage
- Test data acquisition based on existing drawing
- Dimensional test of the diameters on our coordinate measuring machine
- Shape test on our shape tester
- Creation of a test certificate in German or English
- Archiving of the measurement results in electronic form at STOTZ
- Re-labeling (at extra cost)
- Packaging and return

Documentation

For each piece of test equipment, a test certificate is created that contains the following data:

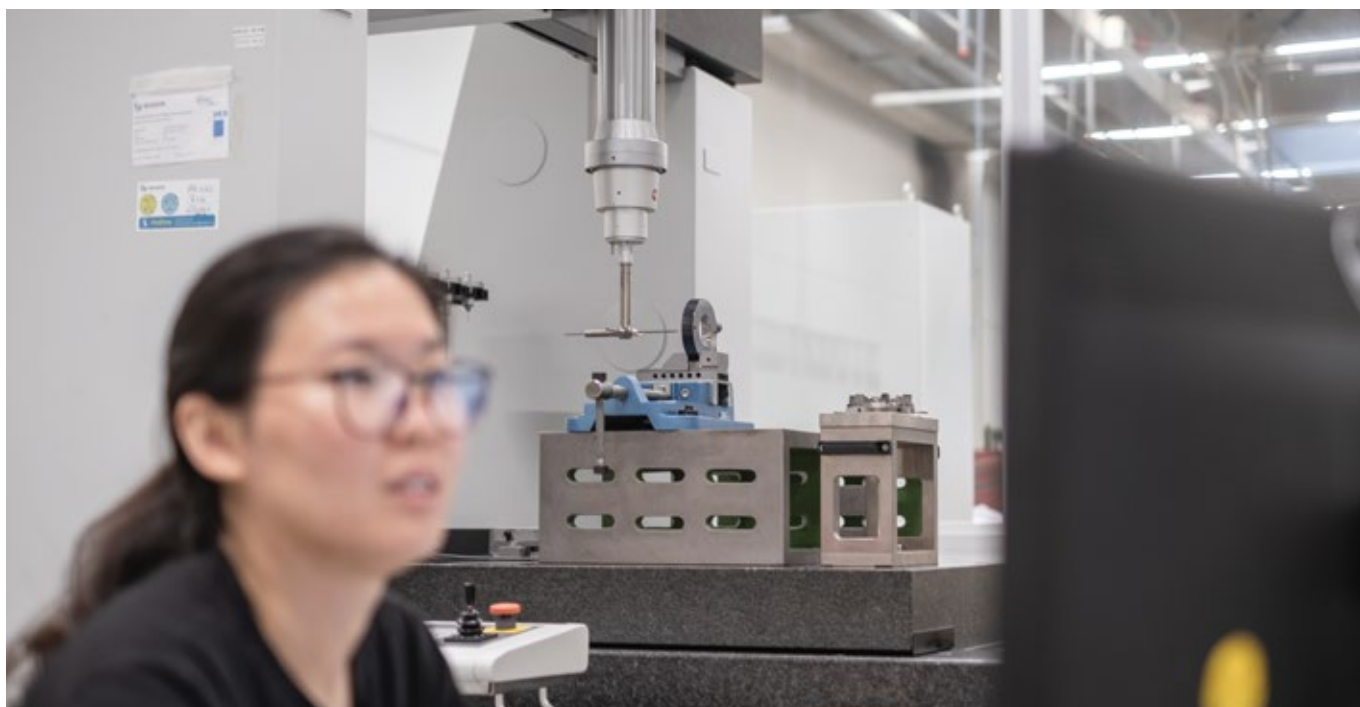
- Test equipment data, including target and actual dimensions

DIN EN ISO/IEC 17025:2018

is the international standard for the competence of test and calibration laboratories.

As a leading provider of measuring technology solutions, we understand the importance of the accuracy and reliability of our measuring results.

The certification according to DIN EN ISO/IEC 17025:2018 is a sign of our technical competence and our commitment to excellence in measurement technology.



Measured variable / Calibration object	Measuring range / Measuring span	Measuring conditions/Method	Extended measuring uncertainty ¹⁾	Remarks
Length Cylindrical normal / Setting rings, Setting mandrels / diameter	2 mm to 230 mm	VDI/VDE/DGQ 2618, sheet 4.1:2006	$0,9 \mu\text{m} + 13 \cdot 10^{-6} \cdot d$	d = measured diameter
Roundness deviation	to 40 μm		0,4 μm	Diameter: 2 mm to 230 mm axial length: up to 200 mm
Straightness deviation of the lateral surfaces	to 40 μm		1,2 μm	axial length: up to 200 mm
Parallelism deviation of the surface lines	to 40 μm		$1,3 \mu\text{m} + 10 \cdot 10^{-6} \cdot d$	d = measured diameter $2 \text{ mm} \leq d \leq 100 \text{ mm}$ axial length: up to 200 mm
			1,4 μm	$100 \text{ mm} \leq d \leq 230 \text{ mm}$ axial length: up to 200 mm
Normal taper and taper gauge Diameter	2 mm to 230 mm	VDI/VDE/DGQ 2618, sheet 4.12:2007	$1,1 \mu\text{m} + 13 \cdot 10^{-6} \cdot d$	d = measured diameter
Diameter in the reference planes			$2,4 \mu\text{m} + 31 \mu\text{m} \cdot 10^{-3} \cdot m/l$	l = distance of the measuring planes in m
Taper angle			$0,001^\circ + 0,13^\circ \cdot 10^{-3} \cdot m/l$	l = distance of the measuring planes in m
Roundness deviation	to 40 μm		$0,4 + 3 \cdot 10^{-6} \cdot d$	d is the larger diameter
Straightness deviation	to 40 μm		1,3 μm	



Retrofit

Retrofit measuring machines are a cost-effective way to bring existing measuring machines up to date with the latest technology. By using modern sensors, control systems and the latest measuring devices, the measuring accuracy and efficiency of the machines can be improved.

Our retrofit service includes the analysis of existing measuring machines to identify the optimal upgrades and adjustments. We offer a wide range of retrofit solutions, including the integration of high-precision sensors, the updating of control software and measuring devices and the implementation of automated measuring processes.

By using retrofit measuring machines, companies can optimize their production processes and improve the quality of their products. The modernized measuring machines enable more precise measurement and the automated measuring processes reduce manual effort and minimize human errors.

Our experienced team of engineers and technicians will help you plan and implement your retrofit project. We work closely with you to understand your specific requirements and provide tailored solutions.

With our retrofit measuring machines, you can cost-effectively bring your existing measuring machines up to date with the latest technology and thus increase your productivity and competitiveness.



Compact, up-to-date and all in one place – the knowledge center for your craft. Discover STOTZ Academy!

We make you and your team fit for your everyday work. At the STOTZ Academy, you will find all important product information and benefit from our wide range of training courses. We will pass on the knowledge of our specialists in the fields of measuring equipment, technical advice and automation and take you behind the scenes at STOTZ.

By the way: As your partner for measuring tasks in the automotive, electromobility, mechanical engineering, medical technology and household appliances sectors, we are always striving to further explore the limits of measuring technology and to break new ground.

We deliver not “only” the most innovative measuring technology solutions, but an all-round worry-free package, from measuring equipment, measuring computers and electronics to automatic measuring devices as well as maintenance, calibration and personal support. Always tailor-made for your requirements. STOTZ – everything from a single source.

STOTZ training overview

MSM BASIC TRAINING:

- General operation of the MSM
- Interface description
- Checking/changing the calibration values
- Creation of a backup
- Easy program creation

PROGRAM DESIGNER:

- General introduction to the Program Designer
- Installation and licensing
- Setup
- Interface and integrated tools
- Project structure
- Program structure
- Creation of new projects
- Change and adaptation of existing projects
- Troubleshooting and error analysis
- Data backup

SPC-M BASIC TRAINING:

- Program selection
- Characteristic parameters
- Master gauge parameters
- Data export (if available)
- Deletion of measured values
- Scan parameters (e.g., positions for dyn. measurements)
- Creation of a backup

MAINTENANCE TRAINING:

- Functional test of the STOTZ measuring stations/measuring devices
- Check measuring pressure, if necessary, correction
- Checking the sensors
- Checking the transducers
- Checking the float holders
- Checking slides, roller bearings and guideways
- Checking the ejector and hold-down device
- Checking the position of the initiators
- Checking the calibration position

► **Interested in one of our training courses?** Send us an email at sales@stotz.com!

STOTZ Services

DAkkS Calibrations | Test Equipment Monitoring |
Training | Maintenance | Service

► If you have any questions or want to know more,
please contact **sales@stotz.com**

We would be happy to provide you
with a non-binding quote.



STOTZ Feinmesstechnik GmbH

Hermann-Dreher-Straße 6
D-70839 Gerlingen

Phone +49 7156 94904-0

Email info@stotz.com

► **www.stotz.com**