

KEMATEC

MODULAR UNIVERSAL LENGTH- DIAMETER AND CONCENTRICITY MEASUREMENT SYSTEMS

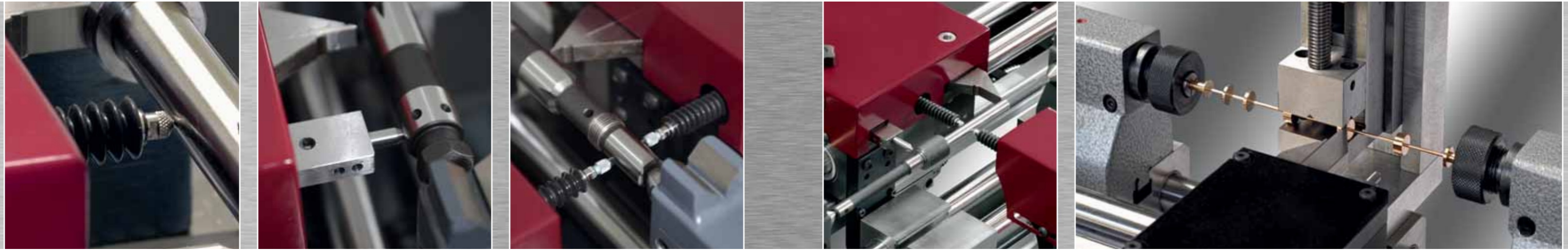
...the innovative simplicity in metrology and testing....

...Metrology at lightning speed...

Reduction of measuring inaccuracies to the minimum

...You don't need to be a specialist or a programmer...

Simple, yet ingenious



Workshop oriented, speedy measuring in production and self-control at the individual workstation gain increasing importance nowadays.

Prolonged waiting periods due to reoccurring time constraints and a row of extensive evaluation processes controlled by central metrology rooms often slow down testing and an efficient, economical production. Analysis show that many measuring characteristics can be identified in advance, using the production equipment in a direct and reliable manner.

The major difficulty though is presented in finding suitable measuring equipment that allows for reliable and uncomplicated handling in a workshop environment without the need for programming or special training.

We faced this challenge for our customers and developed a series of **highly flexible modular measuring equipment that proofed to be practical and easy to handle** even under tough workshop conditions.

Our main emphasis was to keep our focus on swiftly adapting to the constantly changing measuring- and test requirements of a busy, multifaceted workshop in the shortest time possible.

With **KEMCHECK** measuring already starts when others are still busy programming and preparing their systems for testing.

Digital measurement readings (absolute, incremental) for easy read-off and read-in.

KEMCHECK does not require any specialist knowledge in metrology and can be applied by any of your staff in no time.

KEMCHECK is impressive with its accuracy, reliability and repeat feature. A new era that follows manual measuring tools.

KEMATEC located in Bad Dürkheim, turned decades of professional engineering expertise and valuable practical experience, gathered step by step, into the

KEMATEC product range of today. The know-how is improved constantly by applying first hand experience combined with end-user manufacturing practical knowledge to the **Modular Universal Length-Diameter and Concentricity measurement systems**.

KEMCHECK allows for an exchange of modules within seconds to facilitate versatile measurement. Versatility, functionality and efficiency that are convincing. Various measurements of length, distance, diameter and concentricity can be taken as easily as inspections of geometric dimensioning and tolerancing (GD&T) on all rotationally symmetric parts.

Off-center turned parts and parts with eccentric shapes can equally be measured and inspected within seconds whether fixed stationary or rotating.

KEMCHECK is a modular product series of measuring instruments for **200, 500, 800 and 1000 mm** or optionally **1500, 2000 and 3000 mm** measuring length.

Diameter inspection and concentricity testing can be conducted with a **resolution of 0.5 µm** ranging from 60 mm, 100 mm up to 150 mm part diameter according to the type of model, larger diameters available on request.

...highly versatile combinations made possible...

...fully controllable within minutes...

FAST • SIMPLE
PRECISE • RELIABLE

...developed according to the requirements of the end-user...

A measuring genius in application,
adjustment and technical competence



Offering swift solutions to measuring tasks

KEMATEC CHECK was developed for the harsh conditions of a workshop. However, it also fulfills the user's expectations in the metrology room, where it offers up to date and flexible measuring technology, exactly there, where measuring tasks of all kinds need to be carried out.



KEMATEC CHECK - is equipped with an electronic linear measurement system and a digital display of measured values, so it handles effortlessly. The modules can be quickly exchanged and thus allow for high numbers of variable measurement tasks to be performed. We created a whole (new) series of measuring equipment that **can be handled and controlled promptly with more precision than the usual manual measuring tools.**

KEMATEC CHECK - the universal modular measurement systems

Simple measurement reading - no distance calculation anymore, just read off and record the measurement value.

- total length and distance measurement of multi-step contours
- groove distance, groove width and grooves on single or multiple diameters
- radial hole distance, which can be applied on various diameters and any angle
- respectively dimensioned with precision ground edges
- diameter (tactile / optical)
- planarity and concentricity of various shapes and forms
- cylindricity - parallelism - eccentricity

KEMATEC CHECK combines decades of professional engineering expertise and hands-on experience according to the expectations of end-users. Excellent robustness and reliability, skillfully combined with easy handling, the

KEMATEC CHECK delivers the precise measuring results typical for this product. The enormous versatility, the functionality and efficiency are convincing.

...useful options...

The work holding system can take various types of components, for example interchangeable tailstock centers, hollow shafts, three jaw chucks with high precision flange, collets or others. The measuring sensors at the measuring slide can easily be exchanged. Thanks to the dichotomy of m series II 120/1000 the center height and the distance between centers can be adjusted with minimum effort.

Precision vise

It is adjustable in height and can be fixed at any point within the measurement range. An additional slide can be put in place to avoid having to change the tailstock. The jaws of the precision vise can easily be exchanged.

The Metrology Microscope

The perfect tool for simple and safe measuring of length and non-tactile contours (i.e. taper length, taper distance). Wherever non-tangible measuring is needed, our metrology microscope performs valuable services. The microscope comes along with the option „measurement slide and fine adjustment“. Contour transitions can be detected, recognized and approached with this device.

Centric Clamping Vise

The workpiece is clamped in at a fixed center height, shaft diameter 6 - 70 mm. The advantage is that no height adjustment is needed and correct repeatable alignment on center height is guaranteed for any part.

Measuring of Concentricity and Planarity

Concentricity can easily be measured thanks to a universal measuring device for concentricity and planarity, which can be fixed within seconds unto the system.

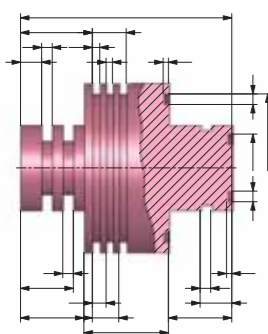
Measuring sensors and further accessories are available on request: Internal and external measuring probes for special measuring requirements, jaw chucks, metrology microscopes as well as clamping devices and hollow shafts for workpieces with eccentric or not existing centers following items.



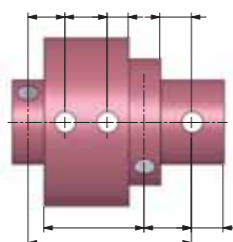
Measurement options

Our flexible selection according
to individual customer requirements

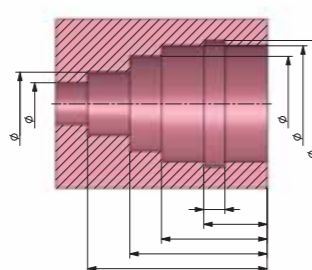
Length and distance grooves



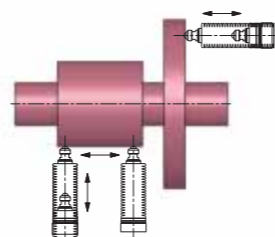
Distance hole to hole
distance hole to shoulder



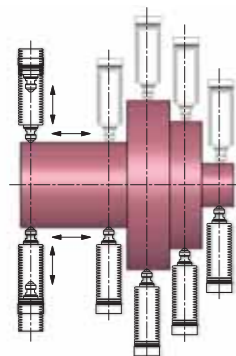
Internal measuring
diameter and length



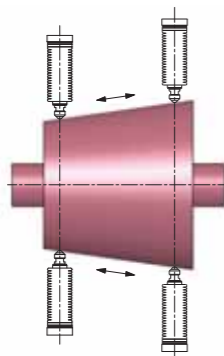
Concentricity and planarity
cylindricity, parallelism



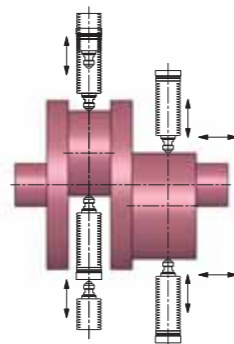
Diameter



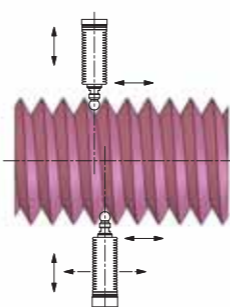
Taper ratio / slopes



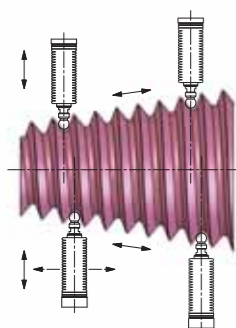
Eccentric



Spindle-pitch error
pitch diameter



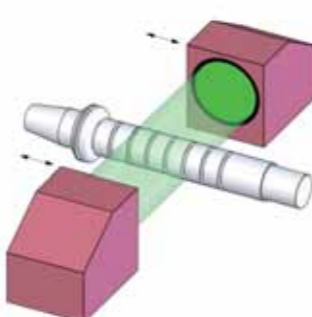
Conical threads
pitch diameter



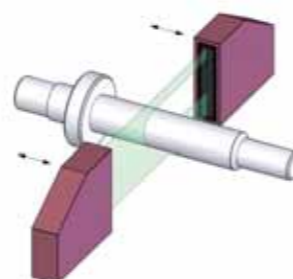
Microscope



High resolution camera



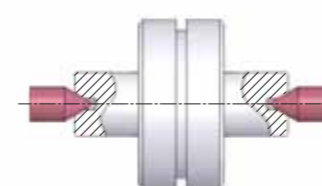
Laser



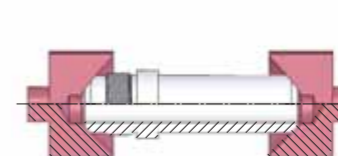
Fastening devices and support options

User-independent
...supremely precise measurement results

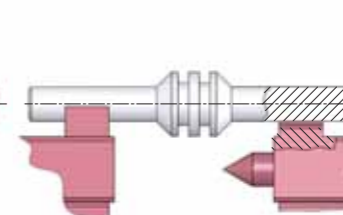
Tips



Hollow shaft



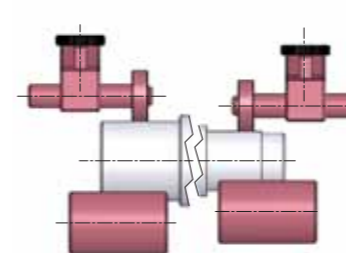
Prism



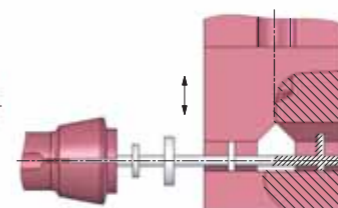
Collet



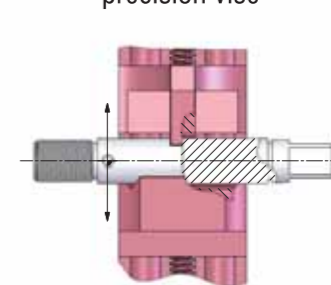
Roller



Precision vise



Centric clamping
precision vise



Rotating drive
(optional)



Tactile and optical measuring module add-on kit to KEMATEC CHECK measuring devices

For concentricity- and planarity testing as well as shape- and positional (geometric) tolerance measuring the following equipment can be attached to according to application and customer requirement:

- sturdy digital tactile probe with 0.5 μm resolution
- optical measuring systems as digital light band micrometer
- high resolution cameras using light transmission technology with collimated light and telecentric optics

All systems were developed for indoor and outdoor use and are protected against atmospheric exposure. They keep producing precise readings in the μm -range even within the productions environment.

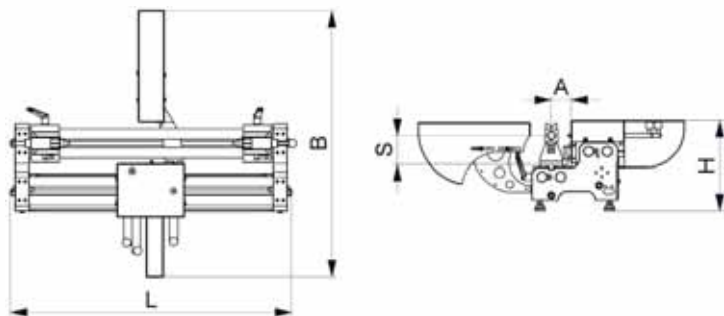
Part holding equipment

For workpiece fastening we offer tail-stocks with tips and hollow shafts, prismatic mounting or roller blocks, adjustable in height, and precision vises, but also high precision spindles with rotary encoder. As further option we offer an electric drive

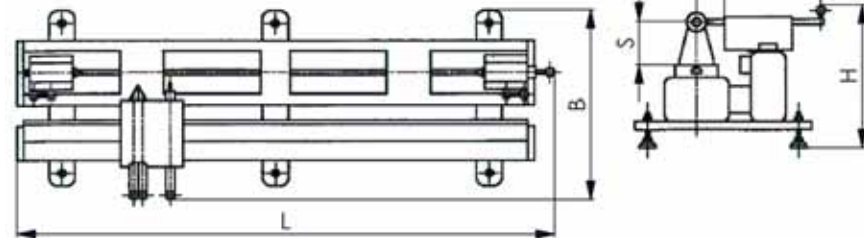
...the standard and technical data...

series	I	I	I	I	II	II
type	KC50-200	KC75-500	KC120-800	KC120-1000	KC120-1500	KC120-2000
measuring length	200 mm	500 mm	800 mm	1000 mm	1500 mm	2000 mm
workpiece-Ø	80 mm	100 mm	120 mm	120 mm	120 mm	120 mm
measuring length accuracy	± 10 µm	± 15 µm	± 25 µm	± 35 µm	± 40 µm	± 50 µm
optical measuring diameter	< Ø 40 mm	± 2 µm ± 0,15 µm	measuring accuracy repeating accuracy		< Ø 65 mm	± 3 µm ± 0,2 µm
tactile measuring diameter	< Ø 100 mm	< 3,5 µm < 0,5 µm	measuring accuracy repeating accuracy			
weight**	25 kg	40 kg	80 kg	100 kg	200 kg	250 kg
length /***	450 mm	800/900 mm	1100/1200 mm	1300/1400 mm	1900/2000 mm	2400/2500 mm
width /***	300 mm	350/670 mm	450/850 mm	450/850 mm	450/850 mm	450/850 mm
height	170 mm	250 mm	280 mm	280 mm	400 mm	400 mm
S	50 mm	75 mm	100 mm	100 mm	100 mm	100 mm
A	45 mm	75 mm	75 mm	75 mm	65 mm	65 mm

Series I



Series II



*) Covering the entire measuring length. The value stated is only valid when mounted on a solid, even base and constant ambient temperature.

**) Including display, though without option.

***) With tactile / optical Ø-measuring device.

