

RINGMASTER

The standard for accuracy

THE RINGMASTER SETS STANDARDS

The RINGMASTER was developed to measure the inner and outer diameter, the roundness and the concentricity of ironing, sizing and redraw rings for beverage can manufacture.

During the development of the RINGMASTER measurement specialists, constructors, software engineers and experts in the field of can production pursued the one and only idea of combining the highest possible measurement preciseness with a high reliability and a most comfortable handling. Therefore the RINGMASTER sets a new standard.

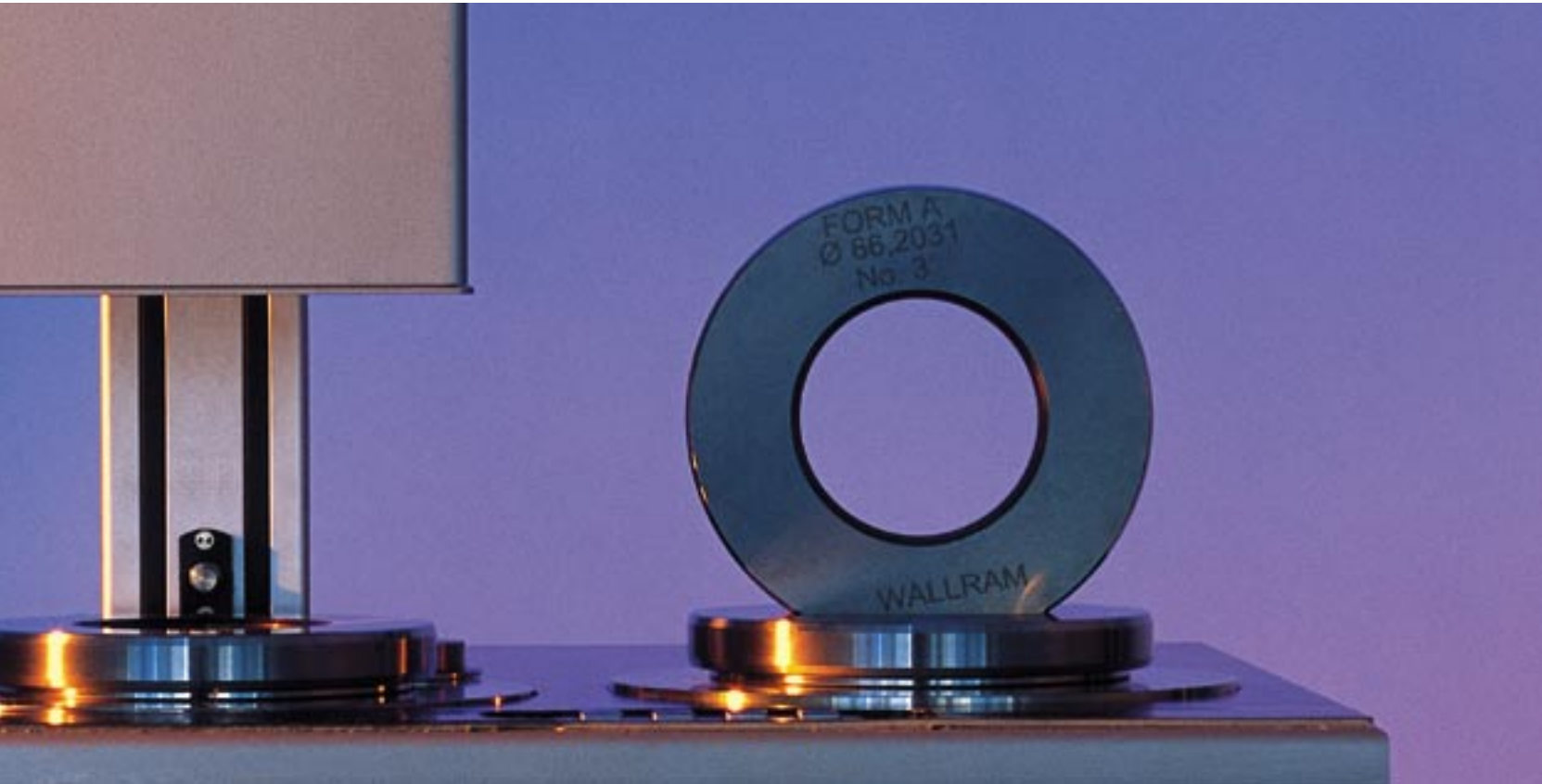
The extremely high preciseness is based on an innovative, optical measurement principle which allows an operator and contact independent measurement at a high level of repeatability and speed.

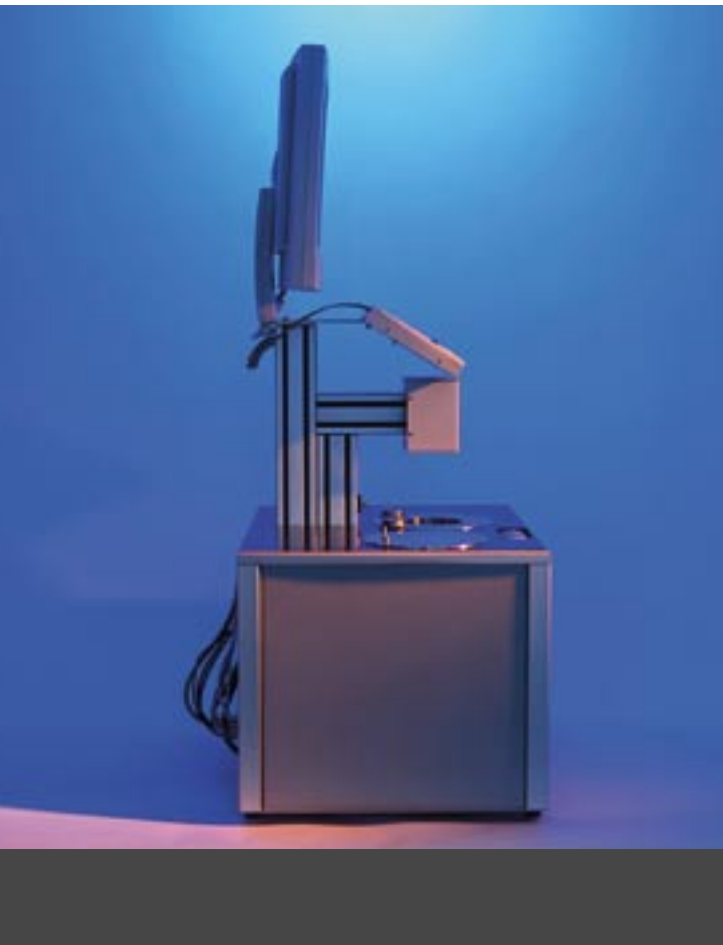
The four-key user concept guarantees a user comfort that is second to none. The software interface was specially developed for ring measurements.

In addition, highest priority was given to avoiding faulty measurements. The software controls the measurement procedure and simultaneously monitors the data with the help of a number of thermal sensors; furthermore plausibility tests are run during the measurement so that faulty measurements can be avoided almost completely.

Due to the robust, mechanical construction and the application of state-of-the-art software and hardware technologies, the extraordinary performance parameters of the RINGMASTER can also be achieved under rough site conditions.







CONVINCING FACTS

The RINGMASTER shows a measurement accuracy of $\pm 1\mu\text{m}$ for the inner and outer diameter, the roundness and the concentricity. It can measure both ironing and redraw as well as sizing rings. An adaptation to other ring types must be checked individually. The measurement range for the inner diameter covers 50 mm to 80 mm, for the outer diameter 130 mm to 152 mm. It goes without saying that the inner and outer diameter can be adapted upon request.

All parameters are recorded simultaneously in one single cycle. Apart from the objective measurement the RINGMASTER allows a simultaneous visual monitoring of the measured ring during a measurement.

SIMPLY: MEASURE

The sample is put on the chuck manually. Two stop bars guarantee a sufficient positioning. The chuck is a stepping motor driven precise turntable. After starting the measurement the sample is turned once by 360° . Depending on user choice between 4 and 12 diameter values can be recorded. On the basis of these measurement values, the mean diameter and the roundness can be calculated. Optionally the RINGMASTER can be equipped with an additional optical measurement system for recording the outer diameter which produces highly precise measurement values for the outer diameter, the roundness of the outer diameter and the concentricity of the inner and outer diameter. If necessary, the number of recorded values per cycle can be increased.



EVERYTHING UNDER CONTROL WITH FOUR KEYS

The RINGMASTER can rely on a very robust construction which allows to achieve a measurement accuracy of $\pm 1\mu\text{m}$ or higher even under rough site conditions. The innovative handling concept also contributes to these requirements. All software functions for the routine operation can be controlled by a steel keyboard with four keys fixed to the device. The PC keyboard is only required for entering special data, e.g. for writing protocols or running the service mode.

INTELLIGENT SOFTWARE – EASY OPERATION

A special software was developed for the routine operation which allows an immediate working with the system without long training times. The practical user concept is characterized by clear instructions for the operator and the four-key system control. The standard PC keyboard is not required for routine operations. The software is divided into three hierarchy levels (measurement mode, operator mode and service mode) which can be entered via passwords.

NO FAULTY MEASUREMENTS

Very little derivations in temperature can already lead to faulty measurements. Therefore the inner and outer temperature are constantly monitored. If the accepted tolerance limit is exceeded, the software stops further measurements. The RINGMASTER also avoids faulty measurements that originate from other sources, e.g. an incorrectly positioned ring or dirt particles on the sample.

PRODUCTION SECURITY

The RINGMASTER guarantees an exact adaptation of ring sets. Thus downtimes can be reduced onto an absolutely necessary minimum. The RINGMASTER is an investment that will pay out.





TECHNICAL PARAMETERS

Data akquisition optical measuring system with image processing
Measuring functions inner diameter/ roundness of i.d. (standard), outer diameter/ roundness of o.d. (optional), concentricity (optional)
Resolution of measuring system 0,05 μm
Accuracy inner diameter/ roundness of i.d. $\pm 1 \mu\text{m}$
Accuracy outer diameter/ roundness of o.d. $\pm 1 \mu\text{m}$
Accuracy concentricity $\pm 1 \mu\text{m}$
Measuring range inner diameter 66 mm \pm 0,5 mm (standard)
50 ... 80 mm (optional), other inner diameters on inquiry
Measuring range outer diameter 130 mm and 152 mm (standard)
other outer diameters on inquiry
Ringtypes ironing-, redraw- and sizing rings
Number of azimuths alternatively 4, 6, 8, 10 or 12*
Data evaluation PC with flat panel monitor/ files of measuring data/ protocol printouts
Operation 4 Keys for main functions/ PC-keyboard for service mode
Measuring time without ring handling 40 Seconds
Software 32 Bit on Windows NT/ 4.0

MECHANICAL DIMENSIONS

Table-top device* with the following dimensions
Width x Depth 550 mm x 410 mm
Height of the working surface 400 mm*
Overall height with monitor 1100 mm*

* These parameters apply to the standard device and can be adapted to different diameters.
Technical specifications subject to change without notice.





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