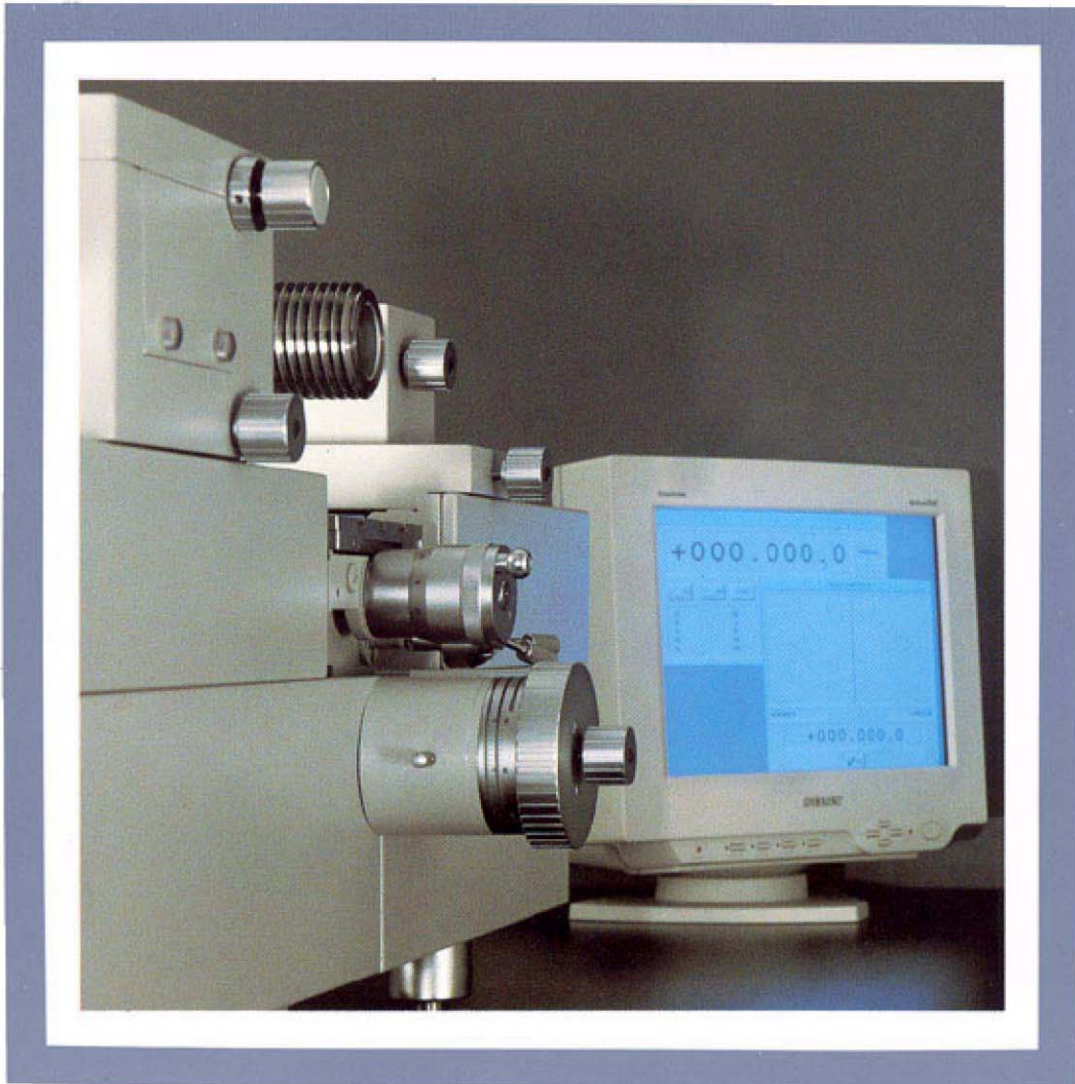
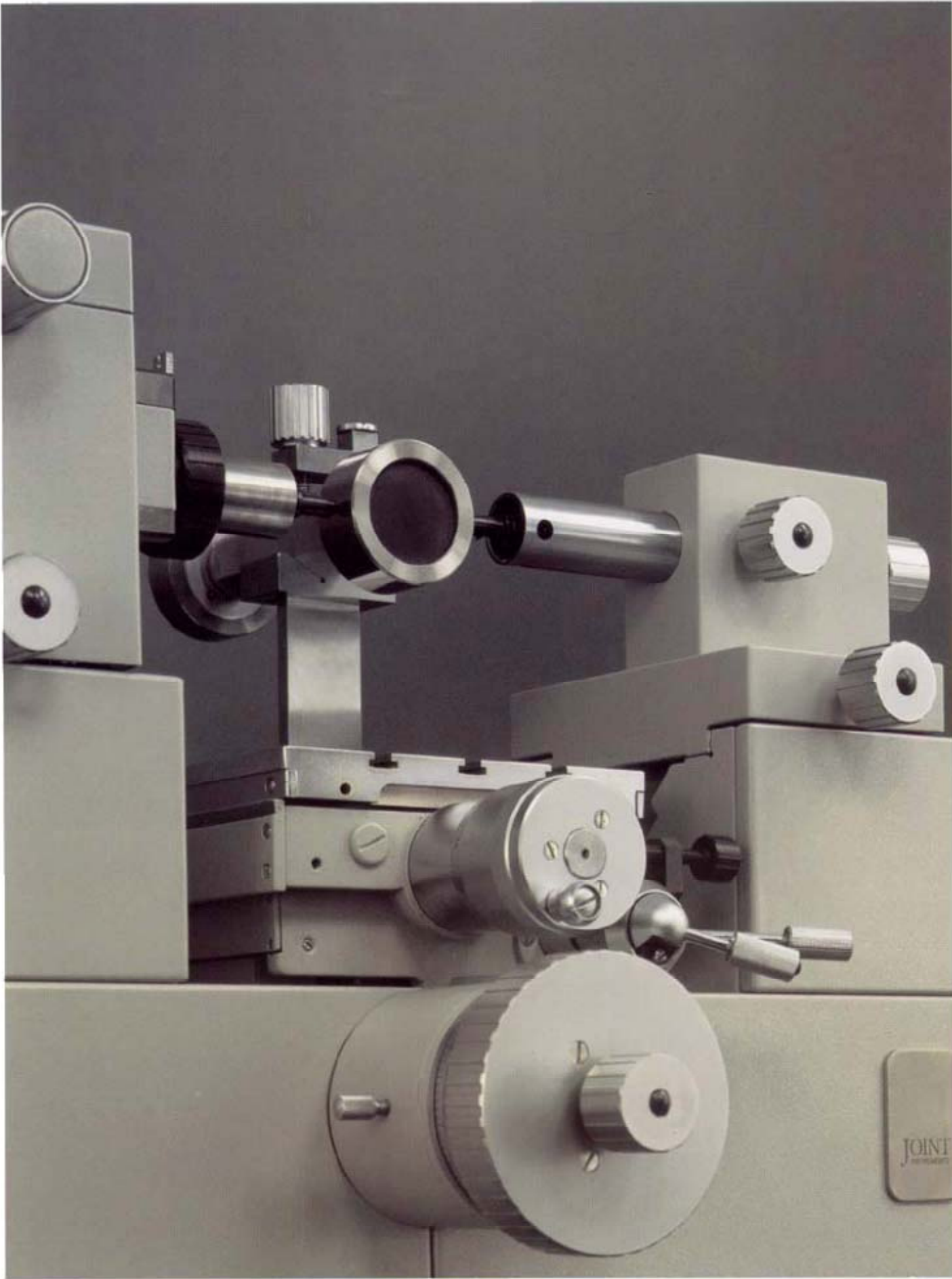


DMS 680

Universal length measuring system
gauge inspection for »ISO 9000« requirements





Universal length measuring system DMS 680

• Wide range of applications

For periodic inspection of gauges, reference gauges, masters and different gauges

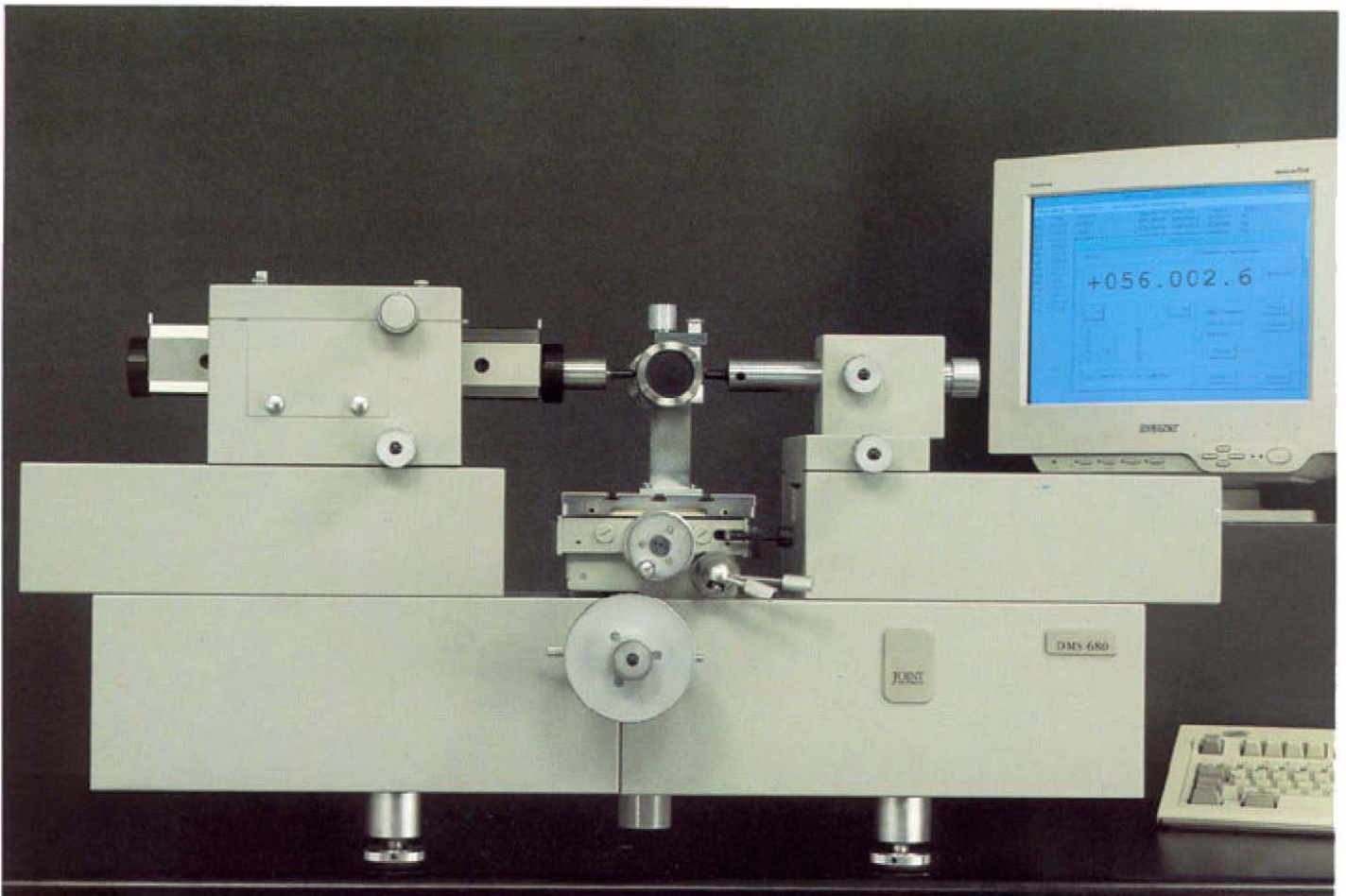
including :

- plug gauges
- ring gauges
- thread plug gauges
- thread ring gauges
- gauge blocks
- snap gauges
- external micrometers
- internal micrometers
- bore gauges
- dial indicators and electronic probes

• High precision

Obtained by:

- full compliance to Abbe's comparator principle
- constant measurement pressure
- adjustable work table for easy location of inversion point
- Heidenhain scale with $0.2 \mu\text{m} | 0.000008''$ accuracy
- PC direct reading with automatic detection of maximum and minimum value
- gauge calibration software guiding the operator through all measuring procedures

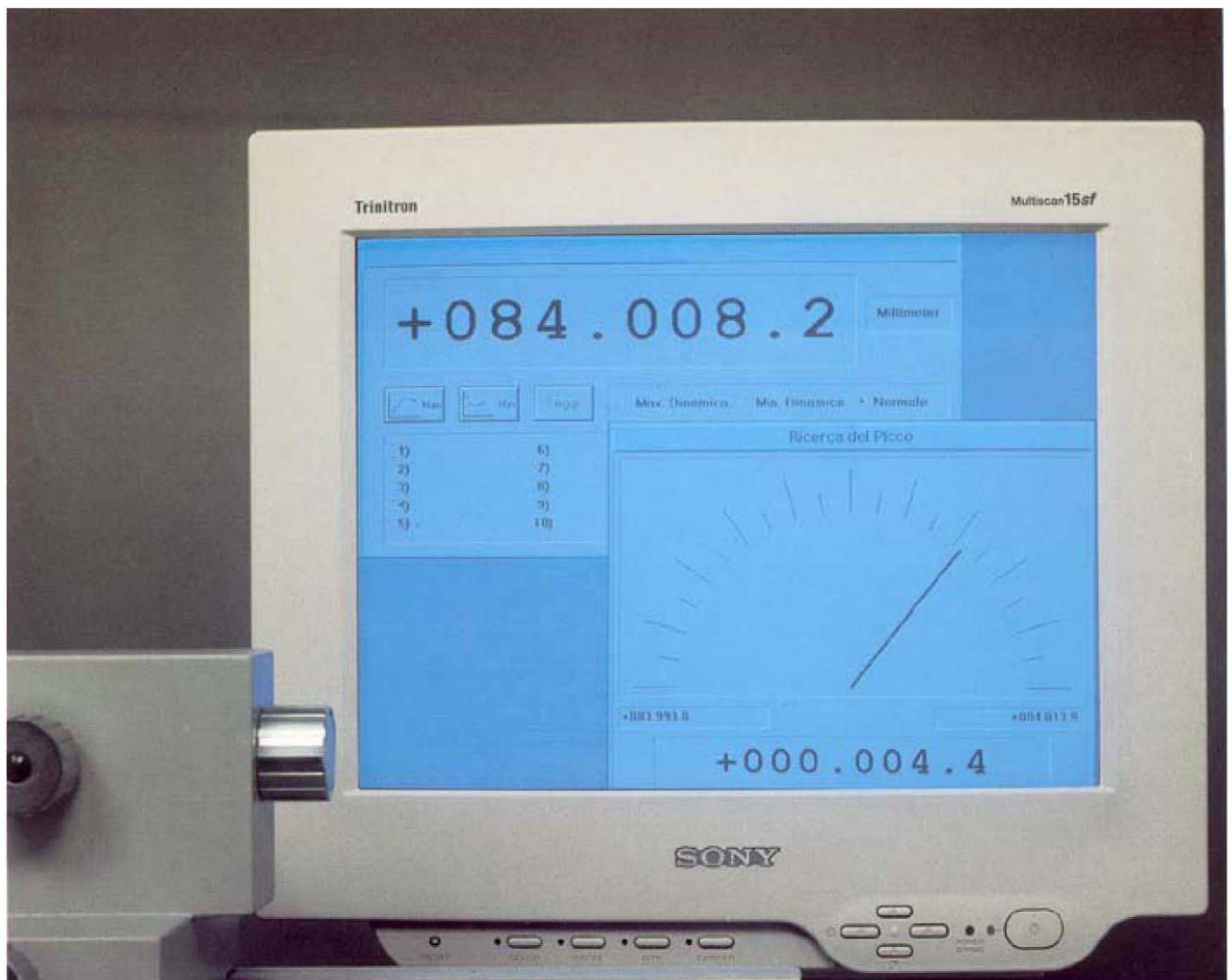


• Gauge management and measurement software

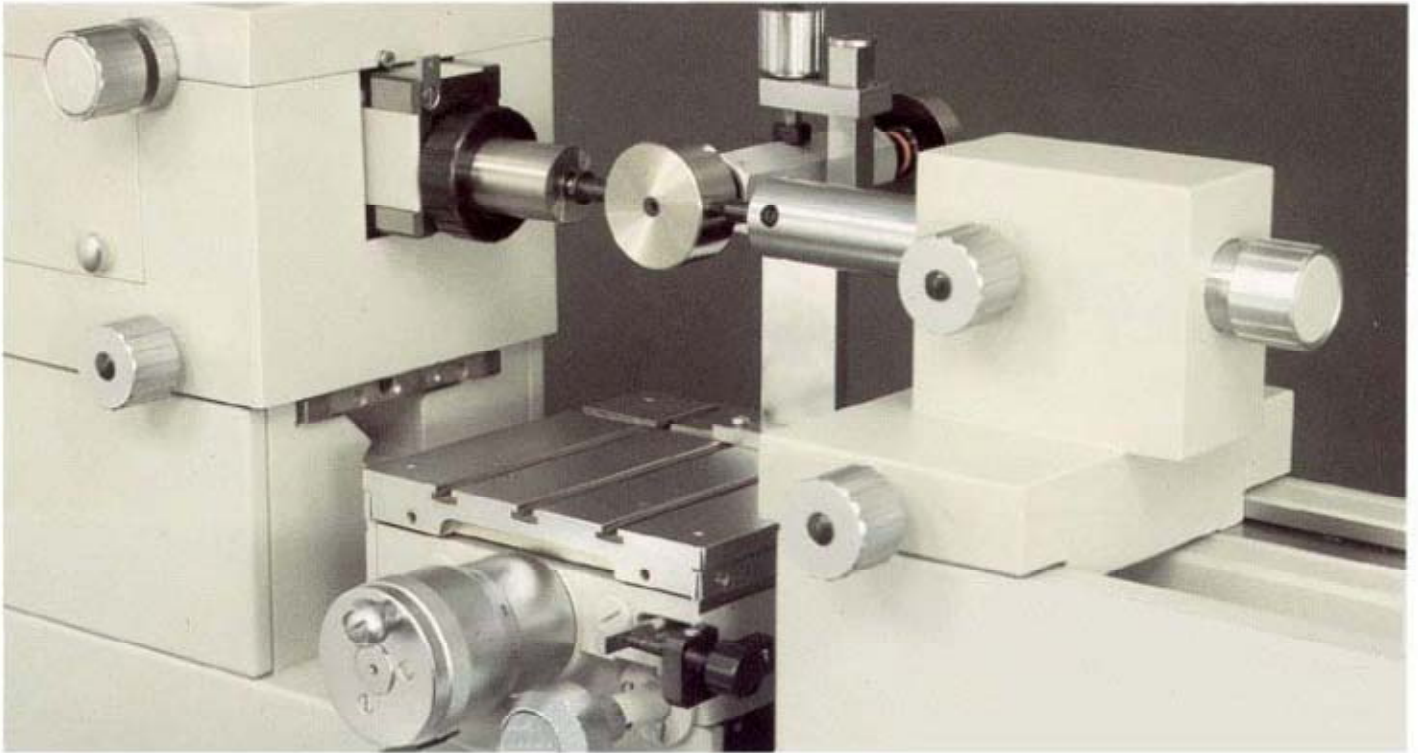
The instrument is connected to a PC for direct reading of current value.

The software (included standard) provides a unique support for gauge management fulfilling ISO 9000 requirements:

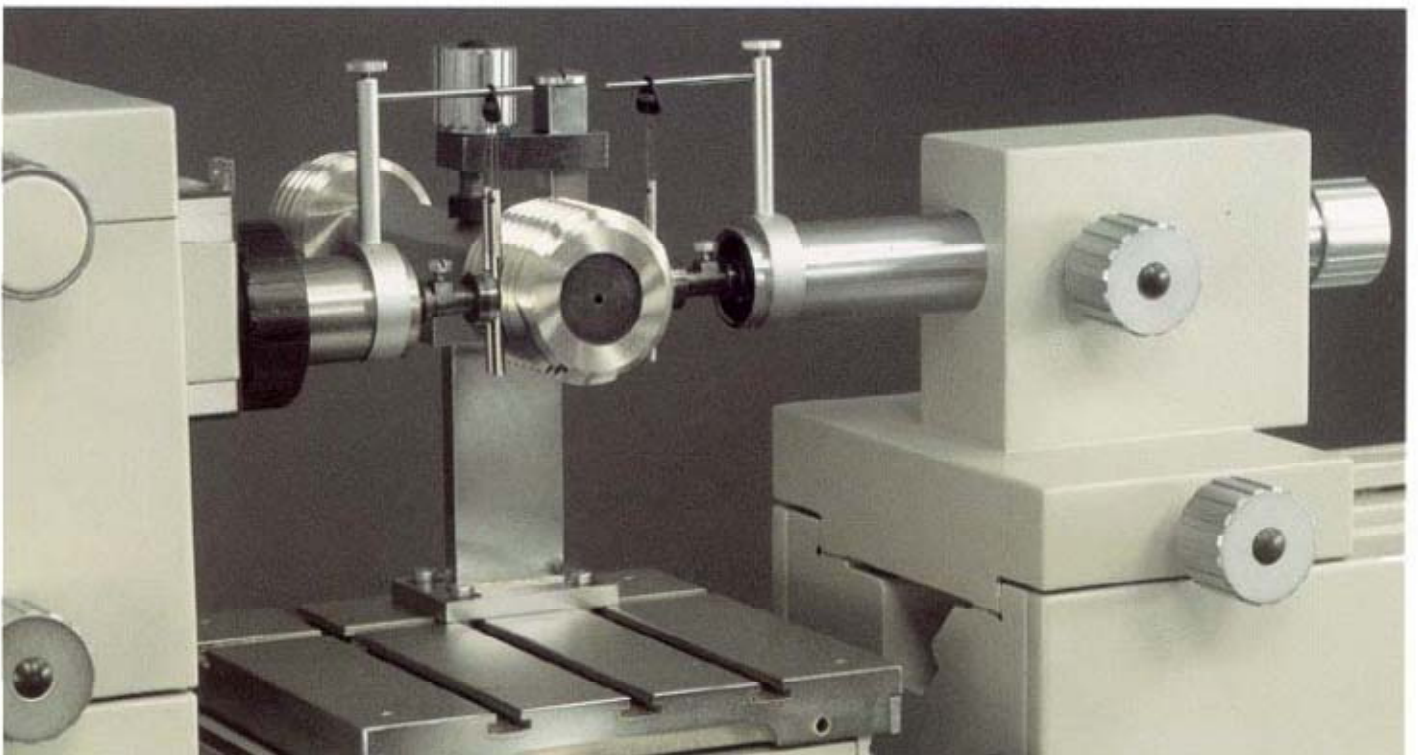
- the operator is fully guided through all measuring procedures
- automatic tolerance calculations are performed
- threads formulae are evaluated
- complete gauge records are provided including calibration date, location, cost centre, procedure and standard
- gauges are sorted according to due date, type, department, cost centre and nominal dimension
- the procedure can be recalled and displayed during the measurement process
- master gauges are managed with last calibration date and automatic notification of due date
- provides full traceability of gauge history: each measurement is recorded with the operator, the master gauge and the machine equipment used
- temperature compensation function



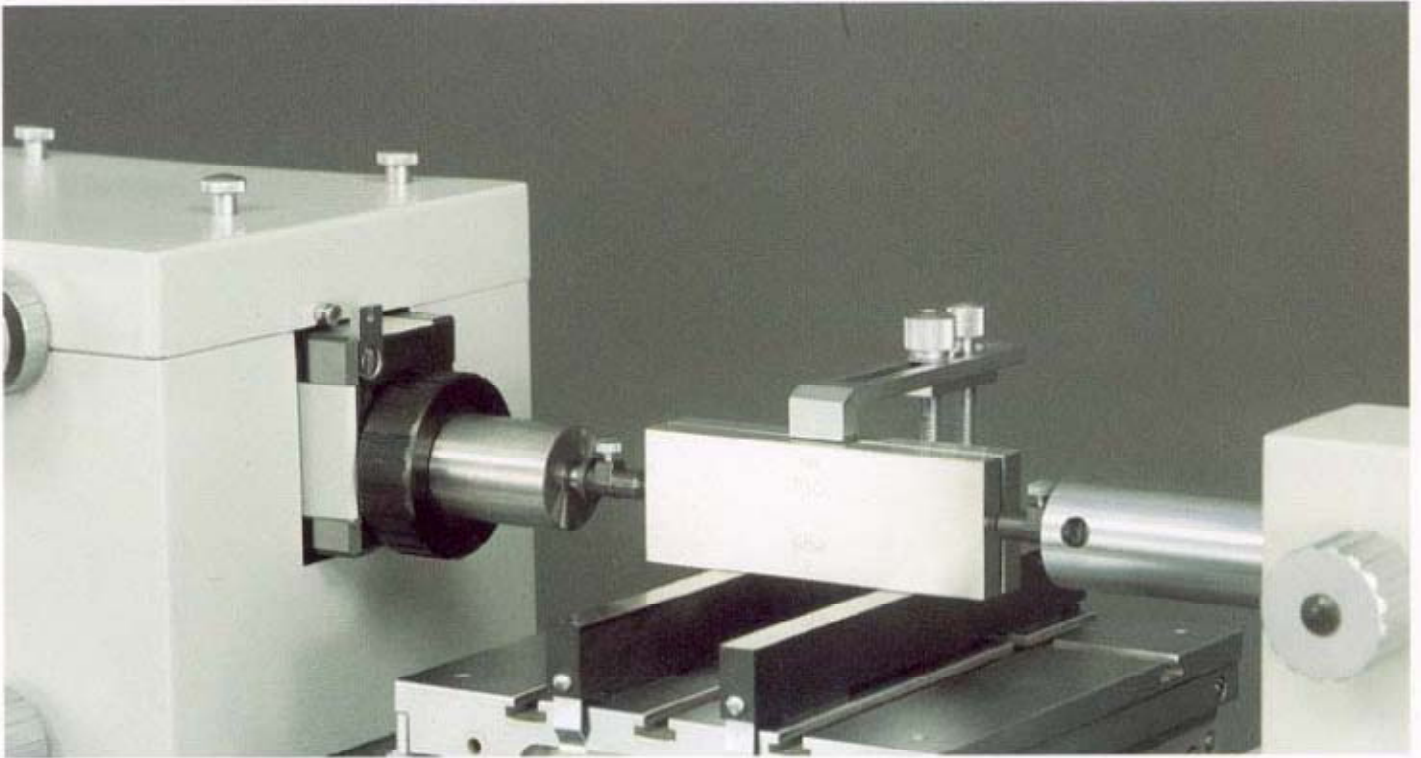
Plug gage measurement: the movement of the work table enable high speed location of the inversion point



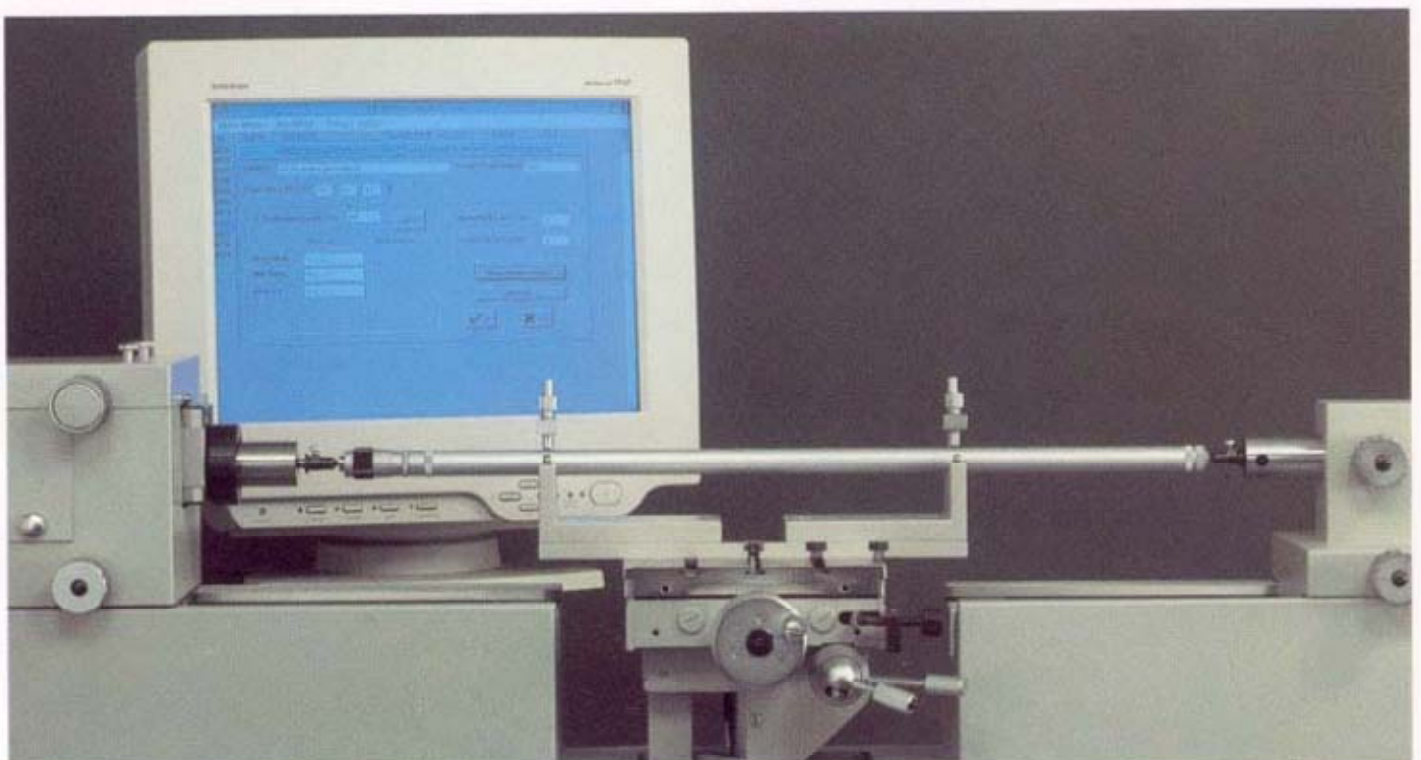
Thread plug gage measurement: three wire method



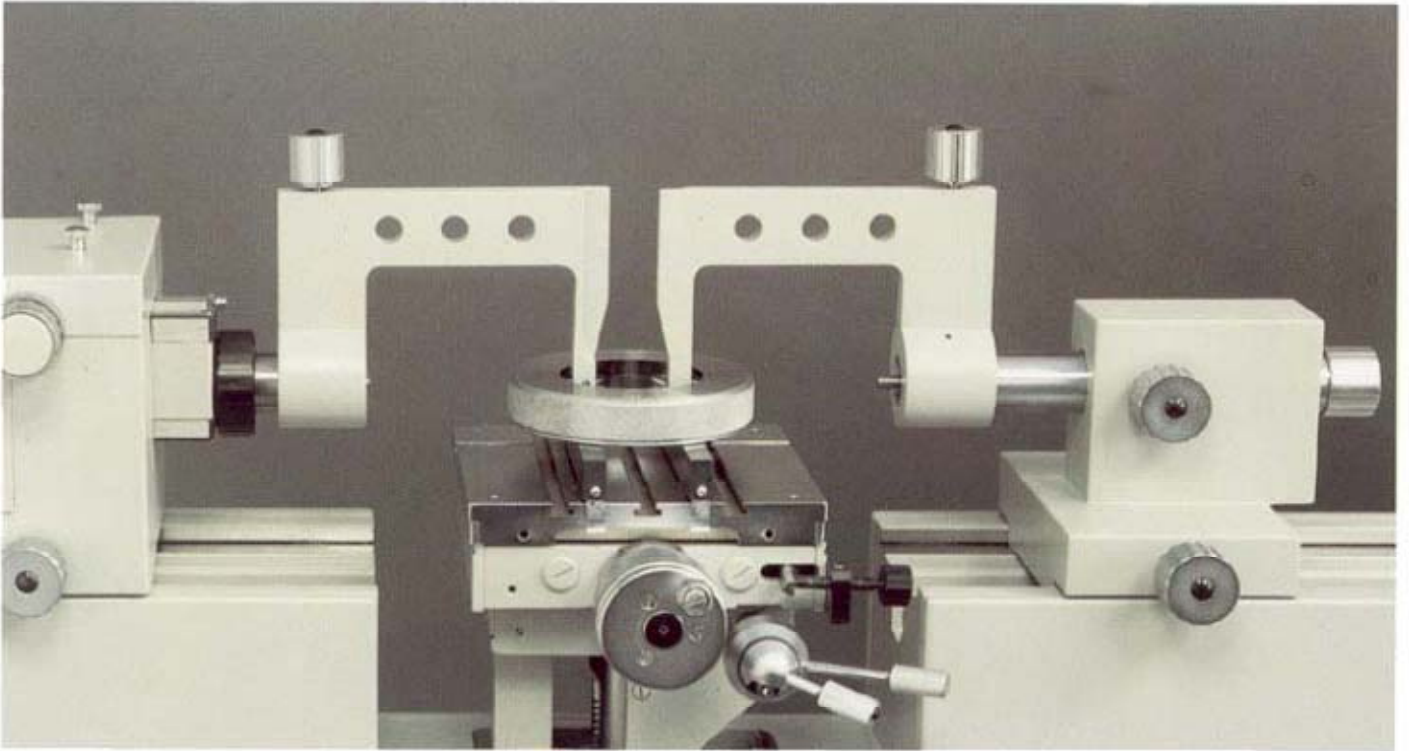
Gage block checking: the inspection is carried out by comparison with master gage block



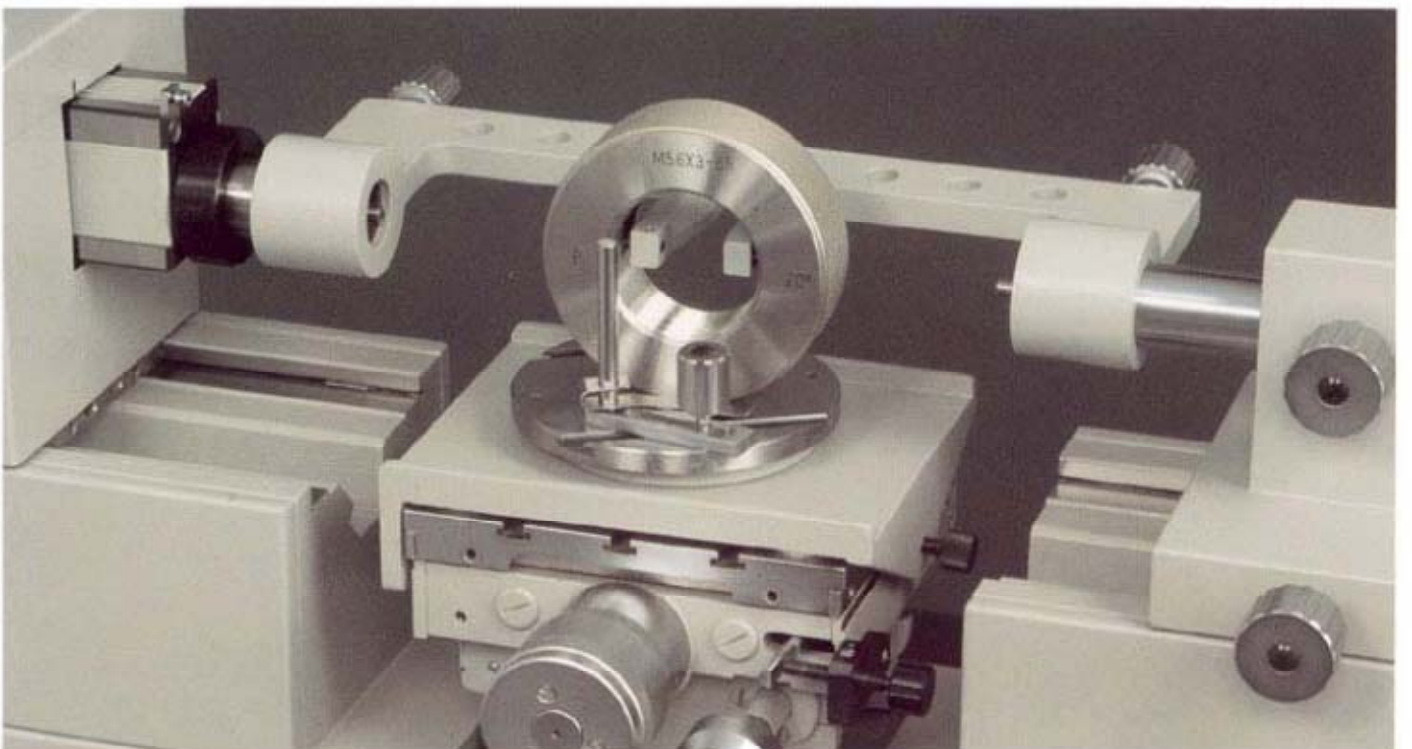
Internal micrometer measurement



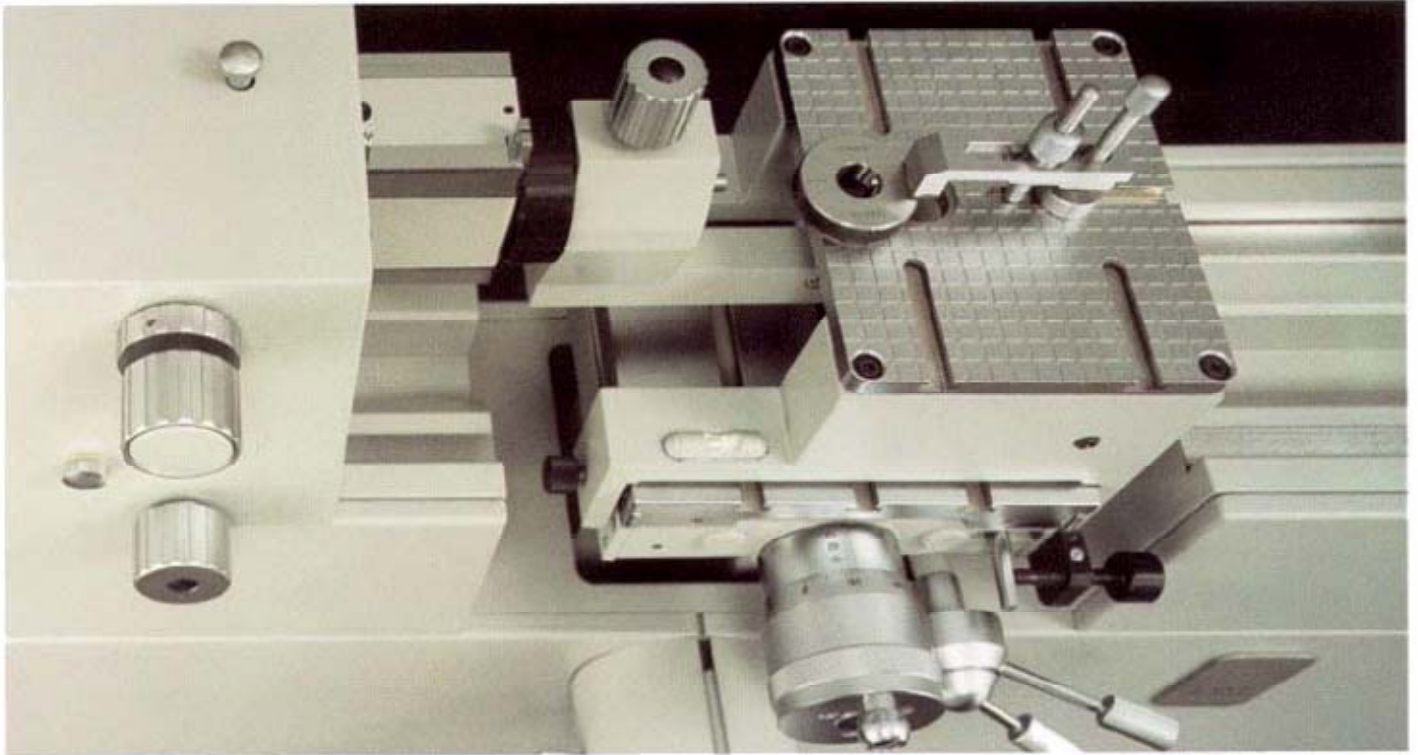
Ring gage measurement



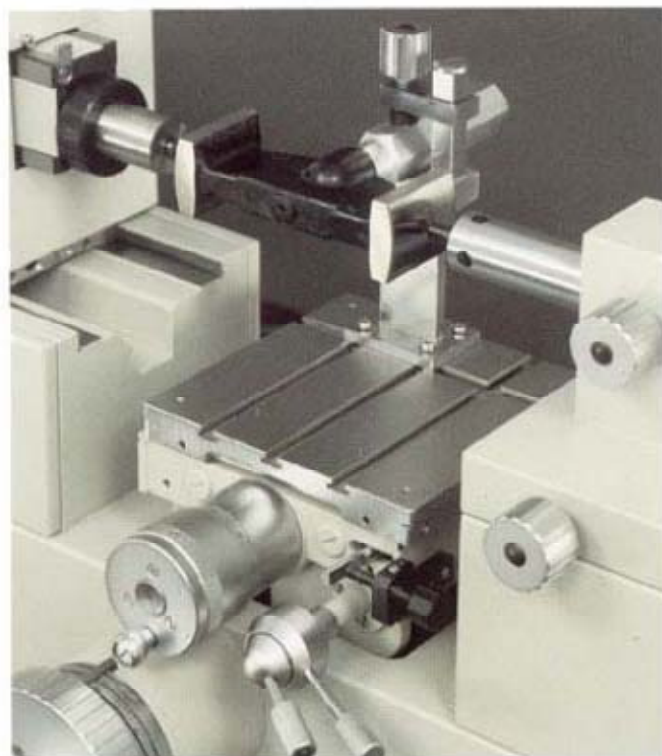
Thread ring gage measurement: a pair of large contact arms and small contact arms, together with 12 pairs of spheres, are used to measure thread ring gages



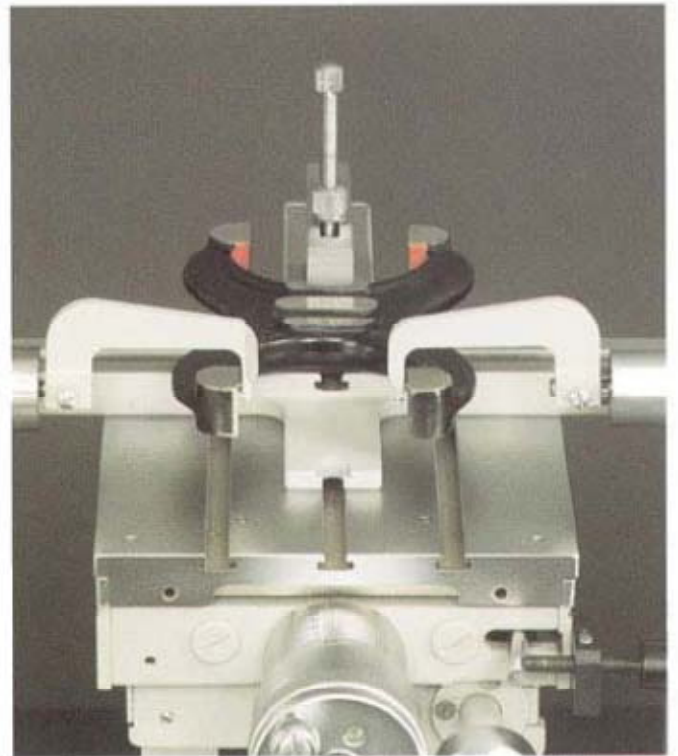
Small hole measurement device: the measurement is carried out with zero contact force



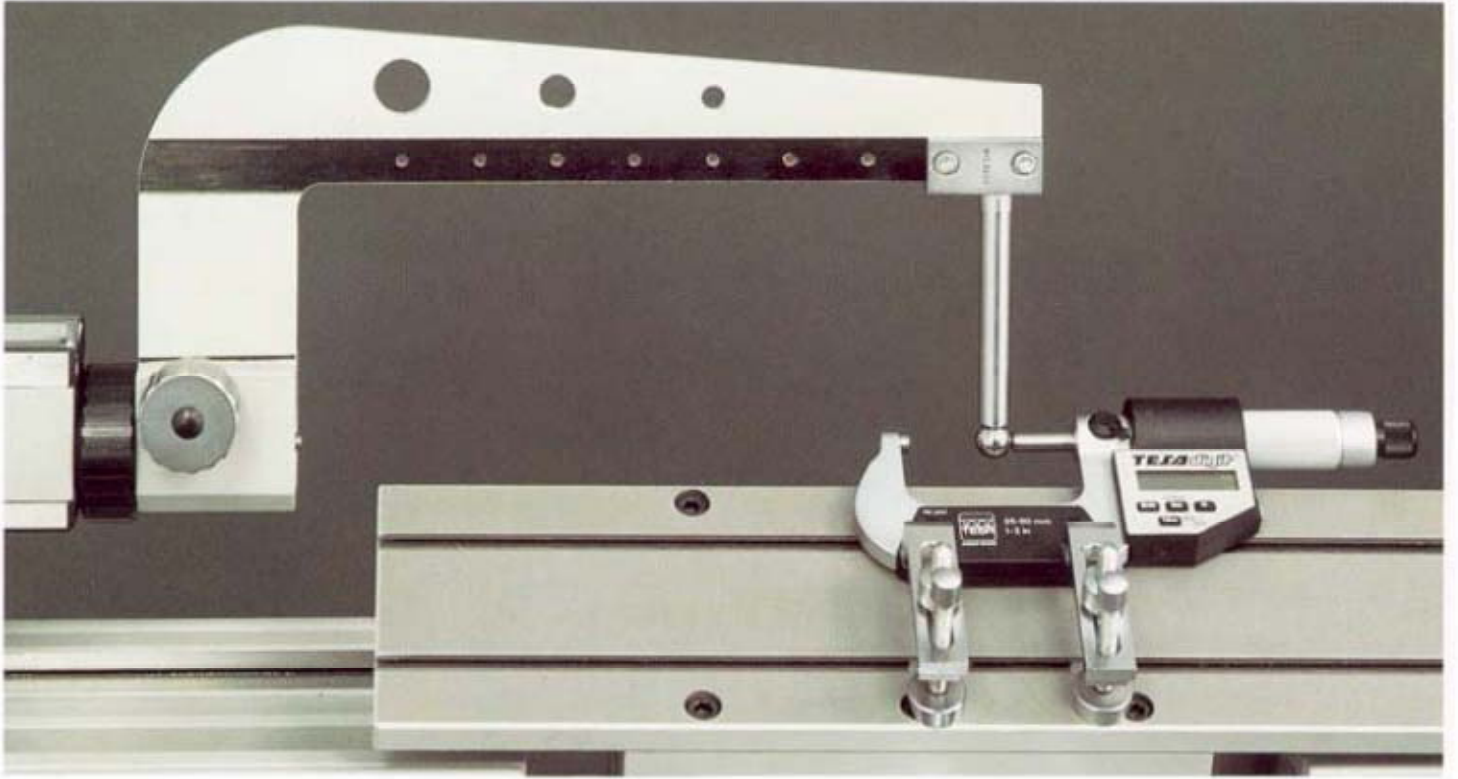
Plug gage measurement



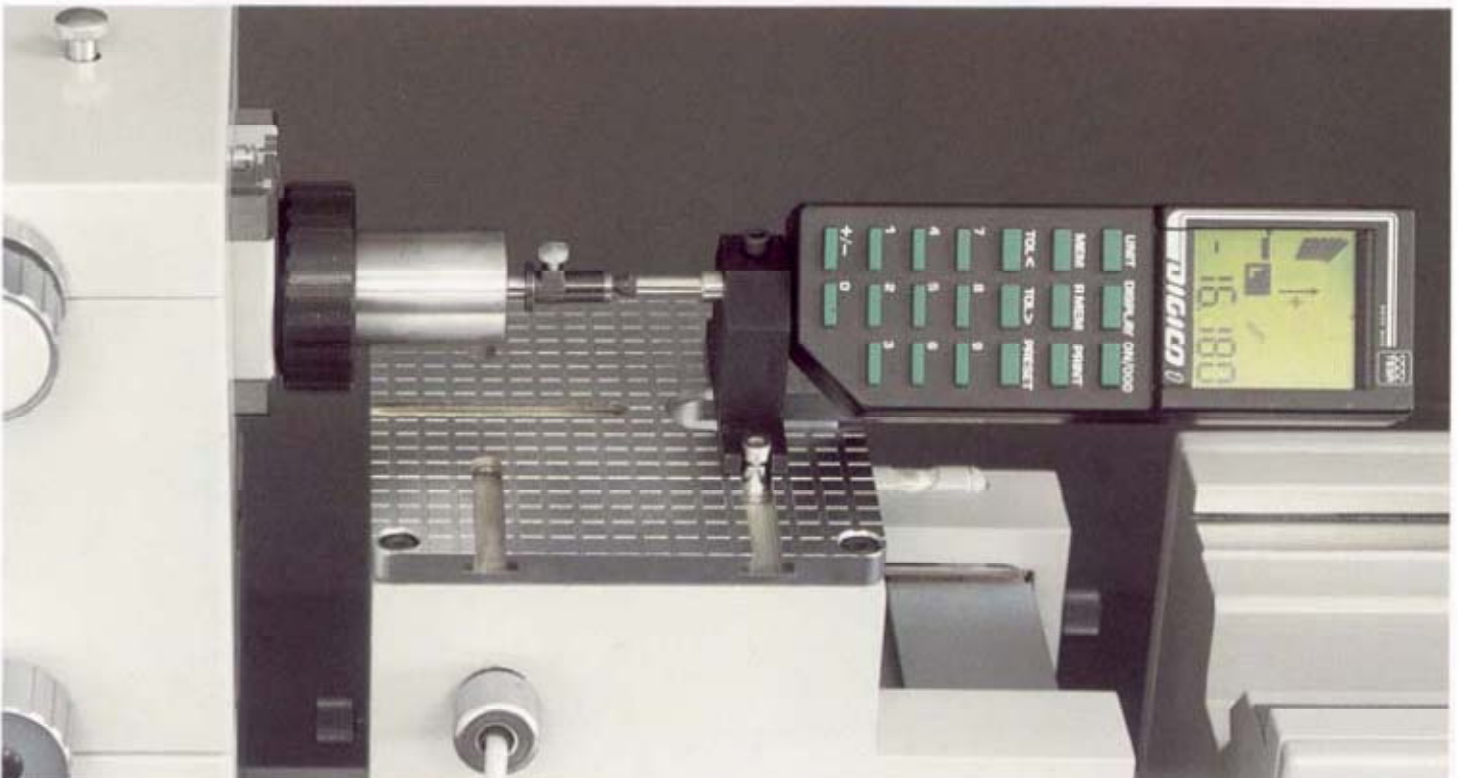
Snap gage measurement



External micrometer inspection



Dial indication inspection



SPECIFICATIONS

Range of applications (diameters from -to)

external plain:	0-680 mm	0 - 27"
internal plain:	1-480 mm	0.04 - 19"
external thread:	0-480 mm	0 - 19"
internal thread:	3-400 mm	0.12 - 16"

Measuring range

absolute:	100 mm	4"
differential:	680 mm	27"

Resolution (metric/inch switchable):

standard	0.1 μm	0.000005"
optional	0.01 μm	0.000001"

Load capacity:

11 Kg	25 Ib
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Power supply:

110-220 V	other available
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Overall dimensions:

1300 × 400 × 480 mm	51 × 16 × 19"
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Weight:

110 Kg	240 Ib
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Measuring force:

0-11 N	0 - 2.5 Ib
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Accuracy (U95) max value in the absolute range

0.35 μm	0.000013"
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STANDARD EQUIPMENT - included

Work table

adjustable in all directions:
vertical, horizontal, work top rotation and tilting

Reading unit

PC, LCD 15" flat monitor and Heidenhain pc board
on line reading software including:
direct reading of current measurement value
analogue readout for inversion point location
automatic detection of maximum and minimum value
statistical function
zero setting and preset

Plug gauge measurement device

clamping device for plug gauge
contact tips:
rounded
knife edge

Ring gauge measurement device

small contact arms
large contact arms
special tailstock spindle
rounded contact tips
precision setting rings with 14 and 50 mm diameter

Small hole measurement device

special table
contact spheres

Thread plug gauge measurement device

set of 21 calibrated wires from 0.17 to 6.35 mm
flat contact tips with 8 and 14 mm diameter

Thread ring gauge measurement device

for inside threads with diameter from 14 to 90 mm and angle of 55° or 60°
precision contact spheres with diameter of 0.8 - 1.35 - 1.8 - 2.3 - 3.1 mm
V-type gauge blocks with angle of 55° and 60°
floating table

Snap gauge measurement device

clamping plate for snap gauge
clamping devices

External micrometer measurement device

micrometer holder
contact arm
contact tips

Internal micrometer measuring device

double side “V” bearing

Dial indicator measurement device

clamping device

Centre cradle

distance between centres 200 mm
maximum piece diameter 180 mm

Gauge management & measurement software

gauge management for ISO 9000 needs
automatic tolerance calculation
measurement procedures and thread formulae included

Temperature compensation device

direct reading and compensation of the DMS 680 temperature
with 0.01°C | 0.01°F resolution

OPTIONAL EQUIPMENT

T-sphere thread ring gauge measurement device

for inside threads with diameter from 3 mm
floating measuring device
inductive lever probe
analogue readout for inversion
set of 8 pairs of T spheres from 0.3 to 1.3 mm
(other spheres available on request)

Pitch measurement device

for internal and external threads

Big thread ring gauge measurement device

for inside threads with diameter from 90 to 400 mm

Extra weight system

to increase measuring force from 2.5 N to 11 N

Pipe thread measurement device

for inside and outside taper thread
allows to determine the height of measurement



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