

Dear customer,

In an industrial world where quality control becomes more and more important, Trimos is proud to be able to offer a large range of solutions responding to dimensional measurement needs. Each instrument has its specific application and solves definitely all required tasks. Our products combine high precision, innovation, advanced design and ease of use.

Since 1972, Trimos has managed to position itself as the leader in its fields of activity and guarantees a «Swiss made» manufacturing quality level.

Trimos is focused on four segments in the dimensional metrology field :

- Height measuring and scribing instruments
- Length measuring and setting instruments
- Instruments for calibration of all kind of measuring equipment
- Instruments for checking and presetting tools

We offer «turnkey» solutions based on the following modular items :

- Instruments
- Large range of accessories
- Hardware
- Software and driver programs

Trimos distributes its products in more than 40 countries through a network of agents. With their help, we can offer a large number of services as qualified technical support for selling new instruments, perfect after-sales services and technical training.

If «The Measure of Quality» is your objective, Trimos is your partner.




The Measure of Quality



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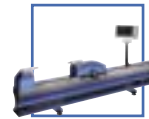
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Presetting and checking of tools



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Tool presetting instrument for the workshop



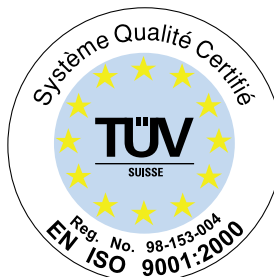
- 137 Optima Premium**
Top-of-the-range tool presetting instrument

Services

Our main objective is to offer a large range of services and solutions as: sale of instruments, technical support, after sales service, technical training.

After sales service:

- Repair spare parts out of stock
- Repairs of complete instruments
- Reconditioning of used instruments
- Maintenance contracts



Trimos is ISO 9001 certified in order to guarantee high quality.

Repairs of various instrument types



TVA



Digimar



TVDA



TVM



TELMN

Instruments retrofit service



TEL

Turnkey solutions

The turnkey solutions are of modular design and can be adapted for the market needs in the following fields: instruments, electronic components, accessories, software and driver programs.



Software



For V+ instruments

The «V Report» software allows the record of measuring results in form of a certificate (tolerance input included) and the print-out in A4 format.



For V+ instruments

The «V Win» software allows the establishment of a program of measuring sequences with tolerance input, statistical analysis and the print-out in A4 format protocol form.



For all instruments

The «Win DDE» software allows the data transfer through the RS232C port to the different application programs under Windows.



For all instruments

The «Test DDE» software is used to test the DDE functions and to obtain DDE messages.



For the instruments Labconcept, Labconcept Premium, Horizon Premium Digital, THV

The «Win DHI» software is the main driver of the instruments to carry out all required measuring functions. The results are displayed and can be transferred by an available DDE data transfer format.



For the instruments Labconcept, Labconcept Premium, Horizon Premium Digital

Win Comp is a program specific to **Trimos® Temperature Compensation System**. It allows the acquisition and management of temperature data.

All software programs and its updating are available on request.

Measuring functions



Surface measurements



Diameter measurements



Centerline distance measurements



Min/Max/Delta values



Squareness



Angle



Two-coordinate measuring mode



Measurement sequences/
Performance



Statistical analysis/
Histogram



Display of ambient temperature

Laboratory

With a view to guarantee Trimos instruments highest level performances, our premises were equipped in 2004 with a new quality control laboratory using the latest technologies.

An innovative «TRIMOS® Environment Control System» has been installed for a round-the-clock check of the good functioning of this laboratory.



Specifications:

Temperature: $20^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$

Humidity: $50\% \pm 5\%$





TRIMOS

Measuring system for :
heights, depths, diameters, centerline distances, scribing



3M



Introduction

The Mini-Vertical instruments are perfect for height measurements and scribing work and reliable in all kind of workshop conditions.

The result of a unique, compact design of the instrument is great mobility and extreme stability.

Because of its advanced measuring system, the self-contained working time of the mini-Vertical is one year. Therefore it can be used for multiple applications in the workshop area.

The simplicity of manipulation allows constant change of the user without any time-consuming training.

The success of the Mini-Vertical among competitive gauges is unique. More than 13'000 instruments are in use worldwide.

Three models are available : with application range from 300 to 1000 mm. A large range of accessories for all kind of measuring applications is available.

Column made of hard
chromed steel,
precision ground

Digital display

Interchangeable
accessories

Measuring insert location connector



TRIMOS

TFVM

Features

Robust and compact construction, perfect for use in production area

Versatility of application

Accurate and positive measurements

Ease of handling

Self contained operation guaranteed by an exchangeable battery

Opto-RS232 data output allows the connection of a printer or a computer

Two models are available : with cast iron base or mounted on a granite plate

TFVM

Description



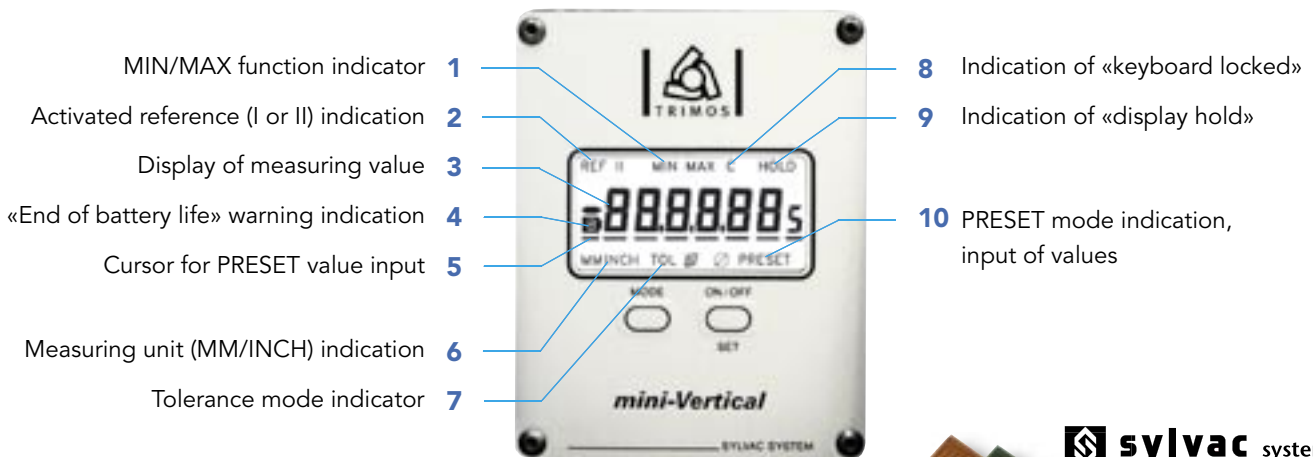


		TVM302/302G	TVM602/602G	TVM1002
Measuring range	mm(in)	320 (12.6)	620 (24.4)	1020 (40)
Resolutions	mm(in)	0.01/0.001 (.0005/.00005)		
Max. permissible errors ¹⁾	mm	0.02	0.03	0.04
Repeatability (2s) ¹⁾	mm	0.005		
Displacement speed of the measuring carriage	m/s	1.5		
Measuring force	N	3		
Overall squareness deviation ¹⁾	mm	0.02	0.03	0.03
Data output		Opto RS232		
Height (with cast iron base)	mm	513	813	1275
Height (with granite plate)	mm	558	858	
Weight (with cast iron base)	kg	6.2	10.5	24
Weight (with granite plate)	kg	14	18.3	

¹⁾ Values valid at temperature of 20± 0.5 °C and relative humidity of 50± 5%.



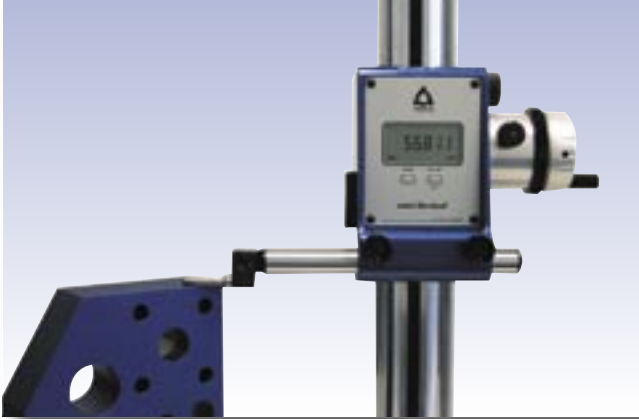
The clearly defined functions of the display unit allow to collect all height measuring values.



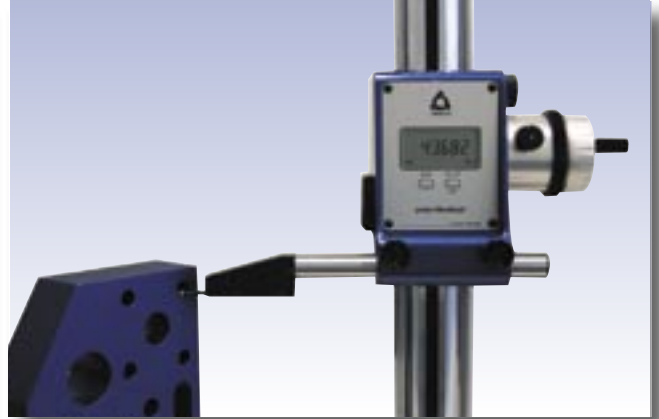
TFVM

Applications

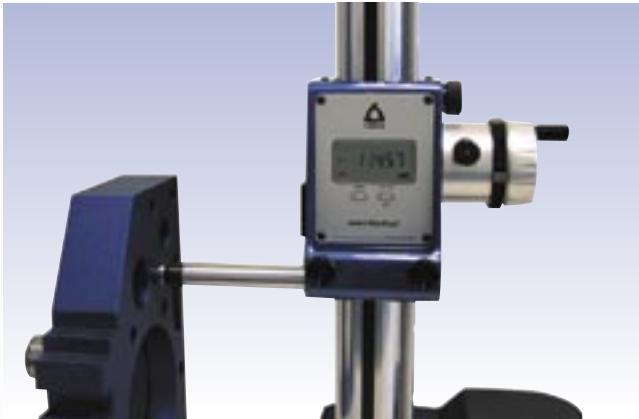
Height and depth measurements
(609 05 061)



Diameter measurements
(609 05 074)



Measuring of centerline distances
(709 05 054)



Scribing
(612 11 007, 609 12 003)



Ease of handling





Standard instrument

The instruments **TVM302/302G, TVM602/602G** are supplied as follows :

- | | |
|--|---|
| <input checked="" type="checkbox"/> Instrument according to specifications | <input checked="" type="checkbox"/> Protection cover |
| <input checked="" type="checkbox"/> Probe holder (609 05 061) | <input checked="" type="checkbox"/> User's manual |
| <input checked="" type="checkbox"/> Lithium battery, 3 V | <input checked="" type="checkbox"/> Test certificate and certificate of guarantee |

The instrument **TVM1002** is supplied as follows:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Instrument according to specifications | <input checked="" type="checkbox"/> Protection cover |
| <input checked="" type="checkbox"/> Probe holder TVA1 (612 11 028) | <input checked="" type="checkbox"/> User's manual |
| <input checked="" type="checkbox"/> Lithium battery, 3 V | <input checked="" type="checkbox"/> Test certificate and certificate of guarantee |

Code number	Code number	Instrument
With cast iron base	Without cast iron base	
TVM302	TVM302G	Measuring range 0 - 320 mm
TVM602	TVM602G	Measuring range 0 - 620 mm
TVM1002		Measuring range 0 - 1020 mm



Accessories

See page 44



TRIMOS

Measuring system for :
surface distances,
depths, diameters, cen-
terline distances,
flatness, squareness de-
viation, scribing



+premium

ALTRA

ALTIA ALTIA PREMIUM

Introduction

The Altia product line is an excellent entry level universal gauge, offering unmatched value on the market. Its new ergonomic design allows a very efficient use. Direct function keys allows quick performance of all measuring tasks.

The new inductive measuring system from Sylvac guarantees high precision and excellent durability in work shop environment.

On all the models, standard (with no additional outside accessory), you get surface, min/max/delta and diameter measurement.

A big display will allow you to read easily your measurements. A unique carriage position device will allow you to visualize the position of the double measuring carriage.

A patented system guarantees a constant measuring force, eliminating the influence of the operator.

Integrated air cushion standard on the Altia Premium line for better instrument displacement.

A wide range of accessories makes it possible to solve all required measurement tasks.

Measuring insert holder

Probe ball

Base

Operating handle for displacement of the instrument

**ALTIA****ALTIA PREMIUM**

Features

Perfect for use in the workshop area

Scribing of components of different material (Altia)

Diameter measurement standard on all models

Very easy to use, simple and clear functions

Incorporated rechargeable battery pack guarantees self contained operation

Built-in air pump for easy displacement on a measuring plate (Altia Premium)

Big display for clear reading

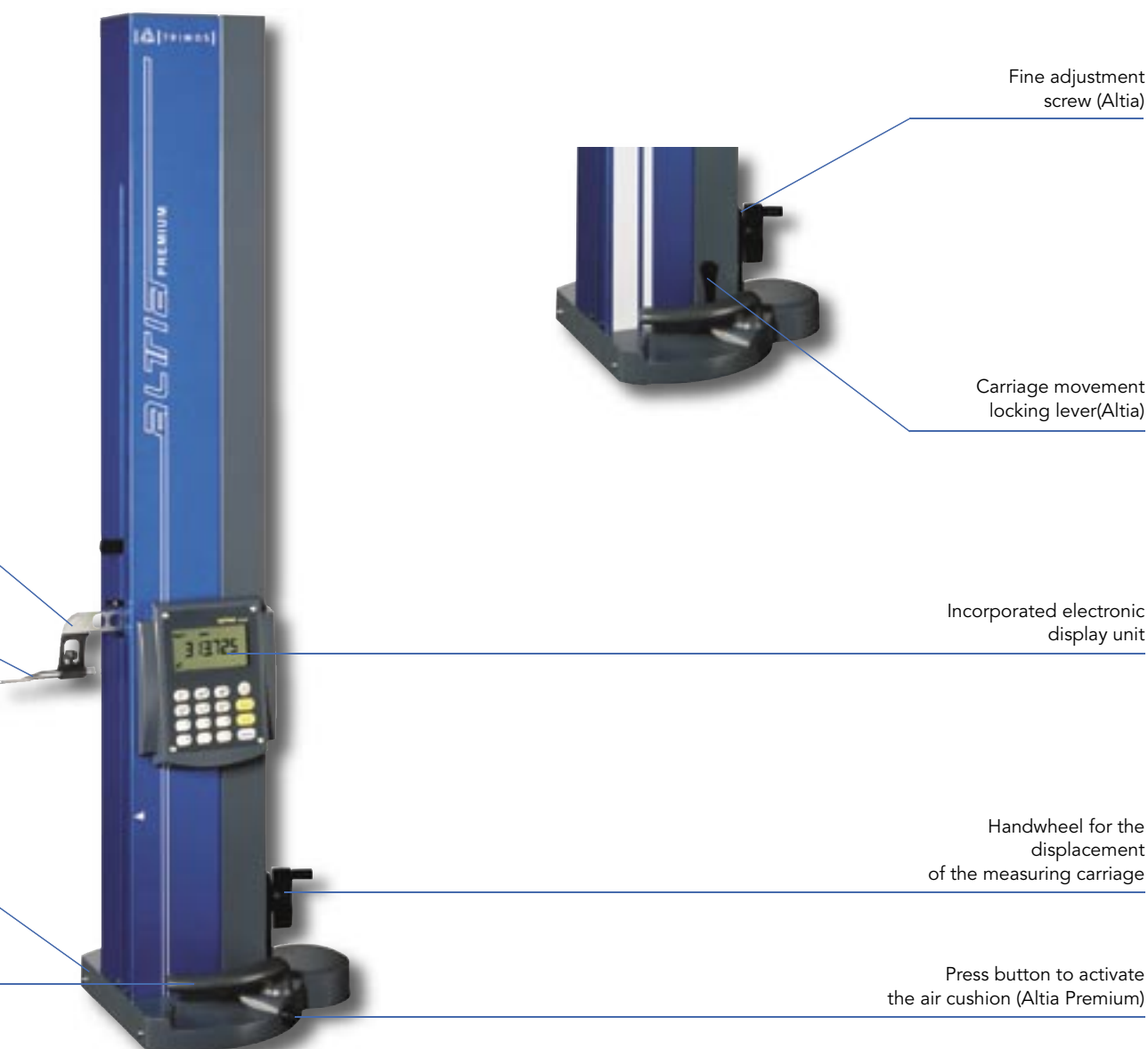
Position of carriage visible on display

Acceptance of a measured value by acoustic signal

Direct RS232C data output (bi-directional)

ALTIA**ALTIA PREMIUM**

Description



ALTIA

ALTIA PREMIUM

Technical specifications



Measuring range	mm(in)
Application range	mm(in)
Resolutions	mm(in)
Max. permissible errors ¹⁾	μm
Repeatability (2s) ¹⁾	μm
Displacement speed of the measuring carriage	m/s
Measuring force	N
Battery life	h
Overall squareness deviation ¹⁾	μm
Data output	
Operational temperature	°C
Weight	kg

Altia		Altia Premium	
350	600	350	600
370 (14)	620 (24)	370 (14)	620 (24)
450 (18)	700 (28)	450 (18)	700 (28)
0.01/0.001 (.0001/.00005)			
15	20	3 + L(mm)/175	
2 (Ø : 4)		2	
1.5			
0.8			
100 (without air cushion)		40 (with air cushion)	
15	20	8	12
RS232C			
+10 to +40			
10	12	10	12

¹⁾ Values valid with standard ball probe 509 05 20 0074 at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

ALTIA

ALTIA PREMIUM

Display / Software



The clearly defined functions of the display unit allow quick performance of all required measurements.

- 1 Reference selection
- 2 Unit type selection
- 3 Resolution change
- 4 Min/Max/Delta measuring mode
- 5 Probe constant measurement
- 6 Probe indicator



- 7 Zero of display
- 8 On/off button
- 9 Preset selection
- 10 Print/send data
- 11 Selection of functions: height/diameter-centerline

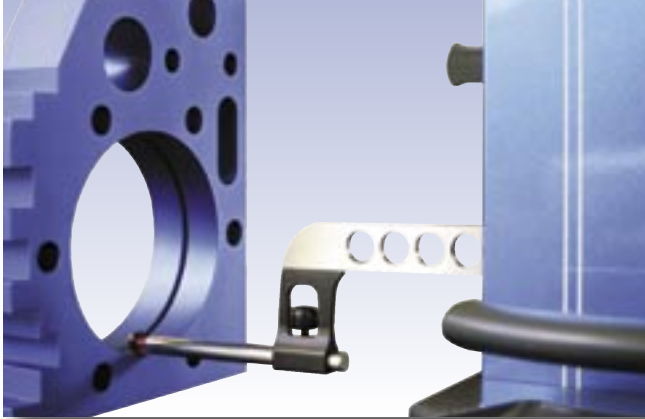
sylvac system



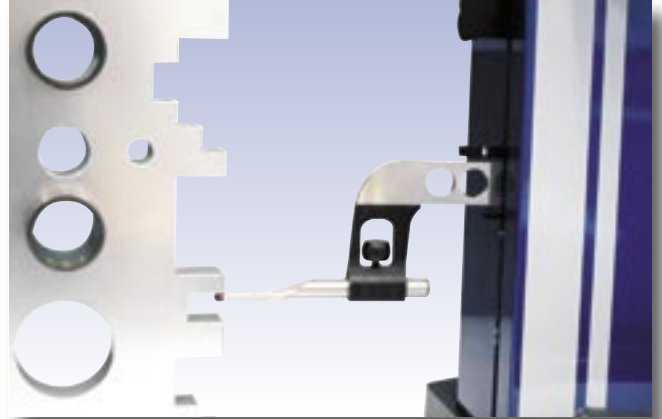
ALTRA ALTRA PREMIUM

Applications

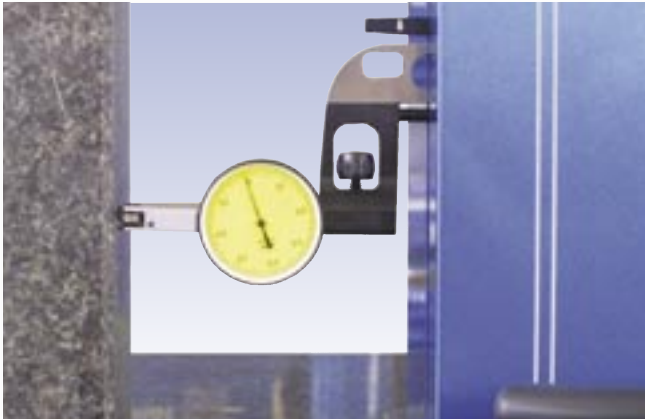
Diameter and centerline distances measurement
(279 918011 002, 279 918101 004)



Checking of surface distances
(279 918101 003, 509 05 20 0074)



Checking of squareness deviation
(279 918101 005)



Scribing
(609 12 004, 279 918101 003)



ALTIA ALTIA PREMIUM

Standard instrument

The instruments **Altia 350/600** and **Altia Premium 350/600** are supplied as follows :

- ☒ Instrument according to specifications
- ☒ Rechargeable battery pack charging unit
- ☒ Probe holder (279 918101 003)
- ☒ Measuring insert with ruby ball Ø 4 mm, L = 90 mm (509 05 20 0074)
- ☒ Setting gauge (609 01 026)
- ☒ User's manual
- ☒ Test certificate and certificate of guarantee

Code number

700 104 10 01
700 104 20 01
700 104 10 02
700 104 20 02

Instrument

Altia 350
Altia 600
Altia Premium 350
Altia Premium 600



ALTIA ALTIA PREMIUM

Accessories

See page 44



TRIMOS

Measuring system for :
surface distances, depths,
diameters, centerline dis-
tances, flatness, square-
ness deviation



Introduction

Talking about the «V +» series means looking at a height measuring instrument of universal use.

The new ergonomic and compact design has been well accepted from the industry worldwide. Ease of use and quick performance of all measuring tasks are given by the clearly defined function keys.

The updated measuring system combined with a powerful display unit guarantees high precision and maintains an incomparable self-containment of use in any manufacturing conditions.

An adjustable measuring force between 0.7 N and 1.6 N (0.3 N on request) allows the performance of measurements on components of delicate material.

The result of a modular instrument concept is a complete series with application ranges from 300 mm to 1235 mm at very competitive prices.

A wide range of accessories makes it possible to solve all required measuring tasks.

Measuring insert holder
(extension of the application range)

Lever for fast displacement of the measuring carriage

Floating probe suspension.
Adjustable measuring force.
Basic setting : 1 N
On request : 0.3 N (V303+)

Measuring insert holder

Interchangeable measuring inserts

Operating handle for displacement of the instrument



Features

Perfect for use in the workshop area

Extremely easy to operate

Incorporated rechargeable battery pack guarantees self-contained operation

Built-in air pump for easy displacement on a measuring plate (versions C)

Extremely large display of values

Big display

Acceptance of a measured value by acoustic signal

Direct RS232C data output (bi-directional)

Adjustable measuring force. Low force application of 0.3 N (V303+) on request



Description



Incorporated electronic display unit

Handwheel for displacement of the measuring carriage (locking device and fine adjustment embodied)

Direct RS232C data output. Connection to a printer or computer, socket for AC adaptor.

Press button to activate the air cushion



Technical specification



		V302(C)+/V303(C)+	V602+/V602C+	V1002+/V1002C+
Measuring range	mm(in)	300 (12)	600 (24)	1000 (40)
Application range	mm(in)	535 (21)	835 (32.8)	1235 (48.6)
Resolutions	mm(in)	0.01/0.001 (.0001/.00005)		
Max. permissible errors ¹⁾	μm	3 + L(mm)/300		
Repeatability (2s) ¹⁾	μm	2		
Displacement speed of the measuring carriage	m/s	1.5		
Measuring force	N	0.7 - 1.6 (0.3 - 1.2 303C+ version)		
Battery Life (without air cushion)	h	100		
Battery Life (with air cushion)	h	30		
Overall squareness deviation ¹⁾	μm	5	8	12
Data output		RS232C		
Operational temperature	°C	+10 to +40		
Total height	mm	565	865	1275
Weight	kg	10	12.3	15.3

¹⁾ Values valid with standard ball probe 509 05 20 0074 at temperature of 20± 0.5 °C and relative humidity of 50± 5%.



Display/Software



The clearly defined functions of the display unit allow quick performance of all required height measurements.

Selection of surface and centerline distance mode measurements

Zero setting of the display or preset value setting

Data transfer

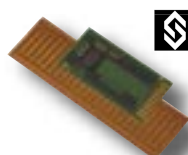
Selection of measuring unit mm or inch

Selector key to obtain a MIN/MAX/DELTA value

Measuring using two references

Selection of the resolution 0.01/0.001 mm

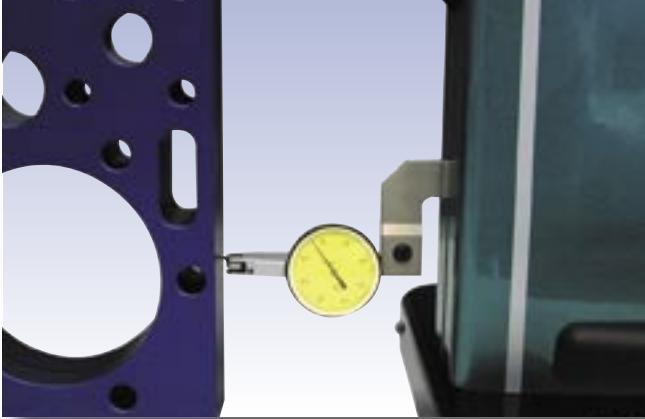
Storage of the probe constant



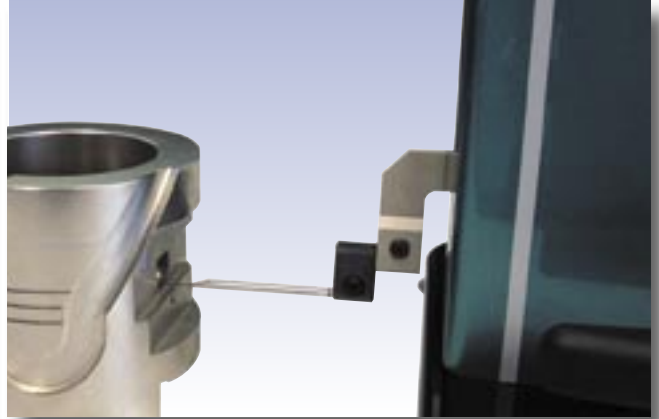
sylvac system

SERIE V+
Applications

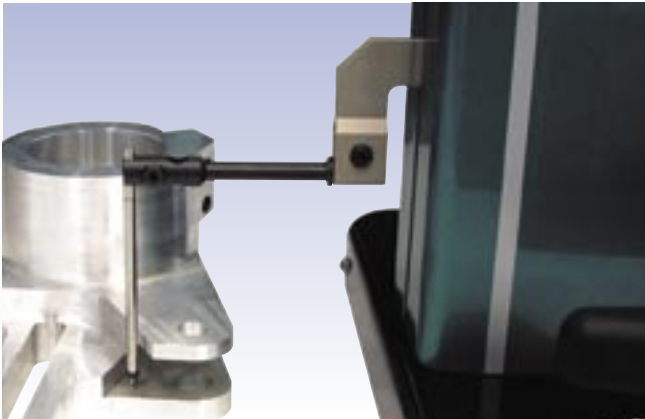
Checking of squareness deviation



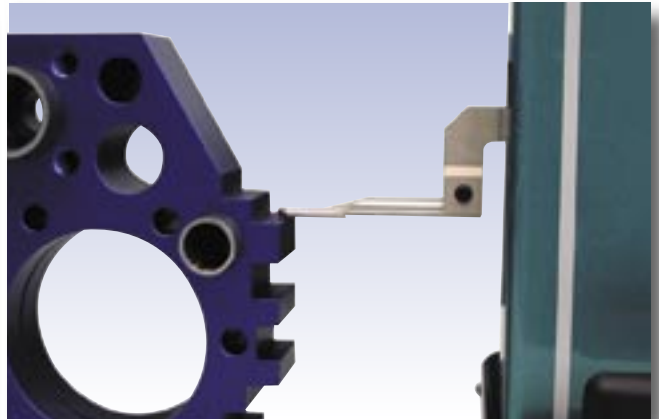
**Surface, diameter and centerline distance measurements
(279 918011 001, 612 11 012)**



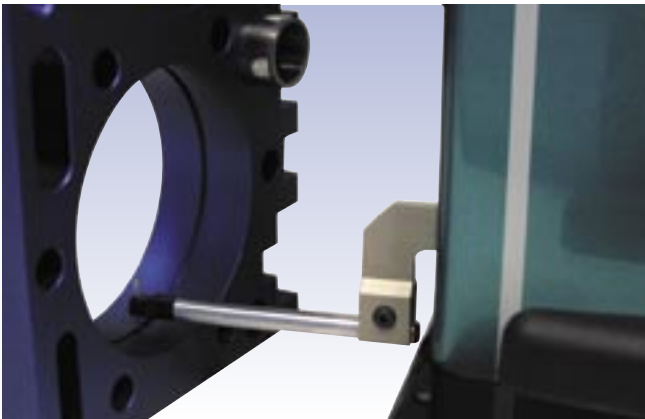
**Depth measurement
(612 11 054, 279 9180002 002, 279 918010 001)**



**Checking of surface distances
(509 05 20 0074)**



**Checking of internal grooves
(609 05 007)**





Standard instrument

The instruments **V302C+(V303C+)**, **V602C+**, **V1002C+** are supplied as follows :

- | | |
|---|---|
| <input checked="" type="checkbox"/> Instrument according to specifications | <input checked="" type="checkbox"/> Protection cover |
| <input checked="" type="checkbox"/> Rechargeable battery pack charging unit | <input checked="" type="checkbox"/> User's manual |
| <input checked="" type="checkbox"/> Measuring insert with ruby ball Ø 4 mm (509 05 20 0074) | <input checked="" type="checkbox"/> Test certificate and certificate of guarantee |

Code number Without air cushion	Code number With air cushion	Instrument
V302	V302C	Measuring range 0 - 300 mm
V303	V303C	Measuring range 0 - 300 mm ¹⁾
V602	V602C	Measuring range 0 - 600 mm
	V1002C	Measuring range 0 - 1000 mm

¹⁾ The instruments **V303+** are with low measuring force (0.3-1.2 N)



Accessories

See page 44



TRIMOS

Measuring system for:
surface distances,
depths, diameters,
centerline distances,
flatness, squareness deviation,
programming mode, tolerance limits,
2 coordinate measuring system, statistical analysis



Z_CAL

Introduction

The Z_Cal height measuring instruments is an entry level 2D motorized height gauge.

Its ergonomic design allows excellent operation. An innovative motor control system allows the operator quick and precise measurement.

An innovative probe holder system allows a quick change of accessories. A wide range of accessories allow to perform all required measurements.

The Z_Cal instrument offers various possibilities of applications such as measuring of heights, depths, diameters, center distances, checking of squareness deviation, angles and tolerance limits indication.

Additional functions such as the 2 coordinate measuring system, programming of measuring sequences and statistical analysis memorized values are available standard.

The Z_Cal product line is available in two models, Z_Cal 350 and Z_Cal 600, offering an application range of 464 mm and 720 mm.

Interchangeable
measuring inserts

Alignment stops

Z_CAL

Features

Perfect for use in the workshop area

Very easy to use

Very light

Big display with back light

Diameter and centreline displayed simultaneously

Air cushion

Self-contained operation guaranteed by rechargeable battery pack

RS232C connector

Measuring sequences programming mode

2-coordinate measuring system

Statistical analysis of measuring results

Z_CAL

Description



Z_CAL

Technical specification



		350	600
Measuring range	mm(in)	364 (14)	620 (24)
Application range	mm(in)	464 (18)	720 (28)
Overall squareness deviation ²⁾	µm	8 (5)	10 (6)
Max. permissible errors ¹⁾	µm	3+L(mm)/175	3+L(mm)/200
Resolution	mm(in)	0.001 (.00005)	
Repeatability (2s) ¹⁾	µm	2	
Displacement speed of the measuring carriage	m/s	0.2	
Measuring force	N	0.25 - 0.5	
Battery life	h	10	
Data output		RS232/Centronics	
Weight	kg	11.5	13

¹⁾ Values valid with standard ball probe 509 05 20 0074 at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

²⁾ Values in () valid with electronic probe 276 950000 002

Z_CAL

Display/Software



The clearly defined functions of the display unit allow quick performance of all required height measurements.

- 1 Graphic display with backlight, 128 x 64 pixels
- 2 Keyboard and function keys

sylvac system

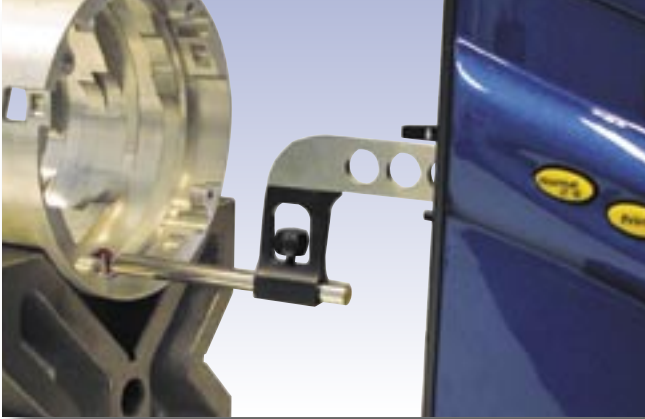


- 3 Tolerance limits indicators (orange, green and red)
- 4 On/Off switch
- 5 Quit a menu without modification
- 6 Confirmation of a menu or a numerical input
- 7 Indicates an upwards probe contact
- 8 Indicates a downwards probe contact

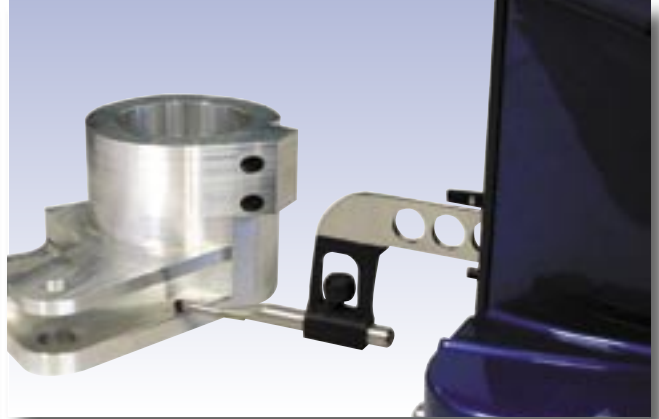
Z_CAL

Applications

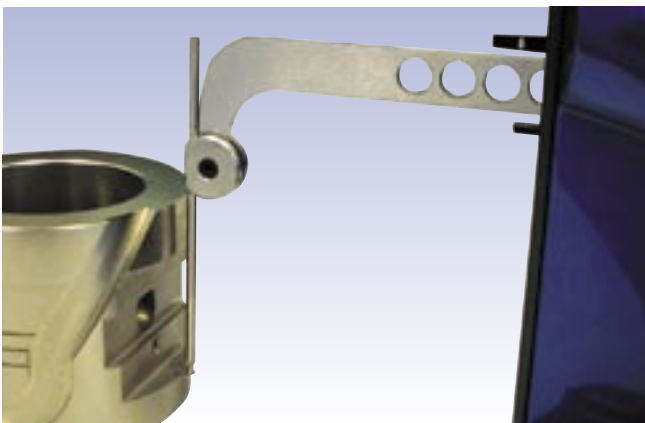
Diameter and centerline distances measurement
(279 918101 003, 279 918011 002)



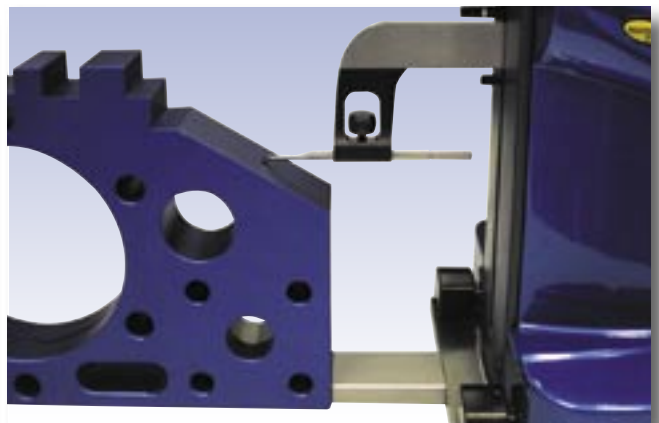
Checking of surface distances
(509 05 20 0074, 279 918101 003)



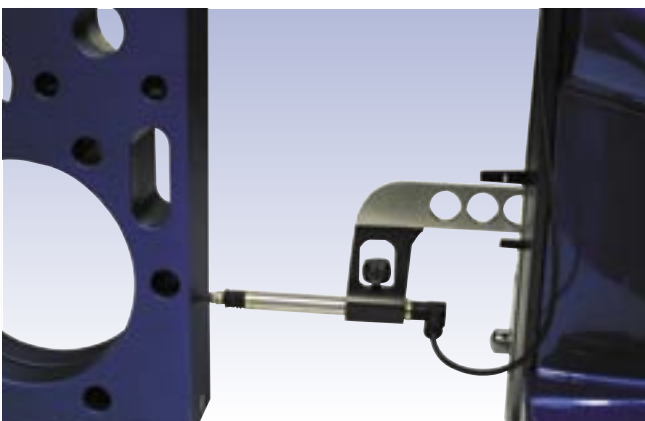
Checking with special orientable accessory
(279 918102 001, 279 918002 002, 279 918008 001)



Angle measurement
(279 918011 001, 279 918011 003)



Checking of squareness deviation
(276 950000 002, 279 918101 003)



Z_cal

Standard instrument

The instruments **Z_cal 350/600** are supplied as follows :

- ☒ Instrument according to specifications
- ☒ Rechargeable battery pack charging unit
- ☒ Measuring insert with ruby ball Ø 4 mm, (509 05 20 0074)
- ☒ Measuring insert holder (279 918101 003)
- ☒ Setting gauge (609 01 026)
- ☒ User's manual
- ☒ Test certificate and certificate of guarantee

Code number	Instrument
700 106 10 01	Z_cal 350 2D
700 106 20 01	Z_cal 600 2D



Z_cal

Accessories

See page 44



TRIMOS

Measuring system for:
checking of parts in
production areas, hei-
ghts, depths, diameter,
centerline distances,
squareness deviation,
programming mode, to-
lerance limits, 2-coordi-
nate measuring system,
statistical analysis



VECTOR TOUCH

Introduction

The «Vectra-Touch» height measuring instruments are of universal use in any production field. They are the result of 30 years of experience in development and manufacturing. This experience makes it possible to introduce a product which combines ergonomic design with new technology.

The reliable concept is a reference for durability. Ease of use and quick performance of all required measuring tasks allow unlimited application in any manufacturing area. The new measuring system guarantees optimum measurement accuracy and is as well insensitive to environmental influences.

The «Vectra-Touch» instrument offers various possibilities of application such as measuring of heights, depths, diameters and centerline distances, checking of squareness deviation and angles and tolerance limits indication. Additional functions such as the 2-coordinate measuring system, programming of measuring sequences, statistical analysis of memorized values and display of the environmental temperature extend the measurement capability range.

The «Vectra-Touch» comprises quite a number of innovations: an extreme resistive double measuring carriage «TRIMOS® Carriage System», a clearly defined display unit «TRIMOS® Embedded Technology» with colour touch screen, optimum repeatability of measurements obtained by a motorized probing system «TRIMOS® Measurement Control» as well as an entire digital measuring system.

The modular design of the instrument makes it possible to offer 5 different heights, 300, 600, 1000, 1500 and 2000 mm. Each model is available with manual or motorized measuring carriage displacement.

An important range of accessories solves all required measuring tasks.

Probe holder with quick clamping of measuring inserts

Floating probe suspension.
Adjustable measuring force

Interchangeable measuring inserts

Trigonal shaped base for optimum stability

VECTRA TOUCH

Features

Reliability and durability, ideal for the use in workshop areas

Excellent ergonomic design, clearly defined display unit with colour touch screen

Self-contained operation, guaranteed by rechargeable battery pack

Acceptance of measured values by acoustic signal

Display of tolerance limits by luminous LED indicators

A4 formatting as well as customer defined reports

Two RS232C connectors and two USB connectors (A and B)

Measuring sequences programming mode

2-coordinate measuring system

Statistical analysis of measuring results

Display of environmental temperature

Temperature Compensation System optional

VECTRA TOUCH

Description



Technical specification



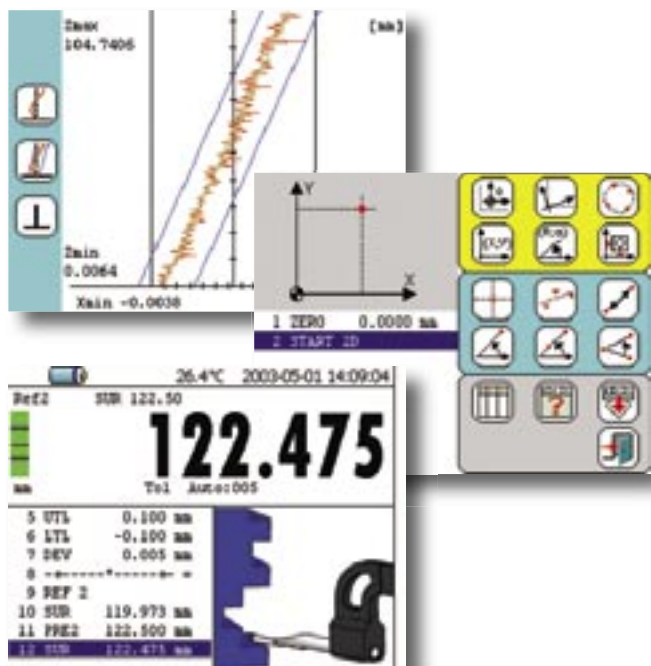
		300	600	1000	1500	2000
Measuring range	mm(in)	305 (12)	610 (24)	1016 (40)	1524 (60)	2034 (80)
With second probe holder	mm(in)	567 (22)	872 (34)	1278 (50)	1786 (70)	2296 (90)
Resolutions	mm(in)	0.01/0.001 (.001/.0001)				
Max. permissible errors ¹⁾	µm	2.5 + L(mm)/400			2.5 + L(mm)/300	
Repeatability (2s) ¹⁾	µm	1 (Ø : 2)				
Manual carriage displacement speed	m/s	1				
Motorized carriage displacement speed	m/s	0.15				
Measuring force	N	0.5 - 1.8				
Power supply	h	8				
Overall squareness deviation ²⁾	µm	4	6	10	15	25
Data output		2x RS232C, 2x USB (A and B)				
Operational temperature	°C	+10 to +40				
Total height (base = 300 x 322mm)	mm	645	950	1357	1866	2376
Weight	kg	16	19	23	28.5	40

¹⁾ Values valid with standard ball probe 509 05 20 0074 at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

²⁾ With electronic probe 276 940001 001/2/3

Display/Software

The colour display facilitates the reading of all measuring parameters.
The functions are easily and direct accessible.



Vectra-Touch:

Very simple graphical interface

Interactive help

Date and time display

Acoustic and graphic probing indicator

Storage of 999 values

Measuring of values with tolerance indication

Graphic display of squareness

Color touch screen

Measuring in 2D mode

Programming of measuring sequences

Statistical analysis

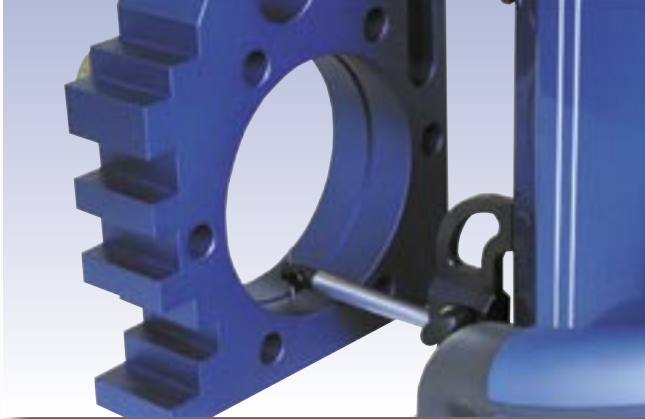
Indication of environmental temperature

Integrated instruction for use

VECTRA TOUCH

Applications

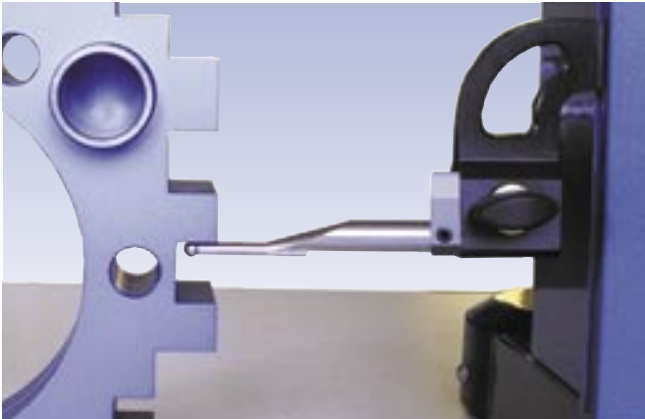
Measurements of grooves
(609 05 007)



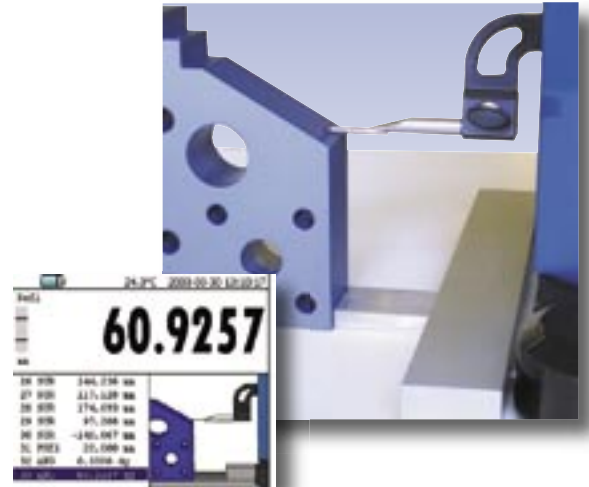
Depth measurements
(612 11 054, 279 918002 002, 279 918010 001)



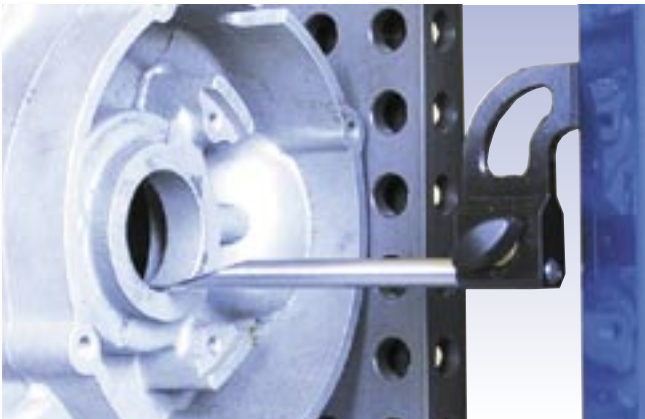
Surface to surface measurements with orientable accessory
(509 05 20 0074, 603 11 002)



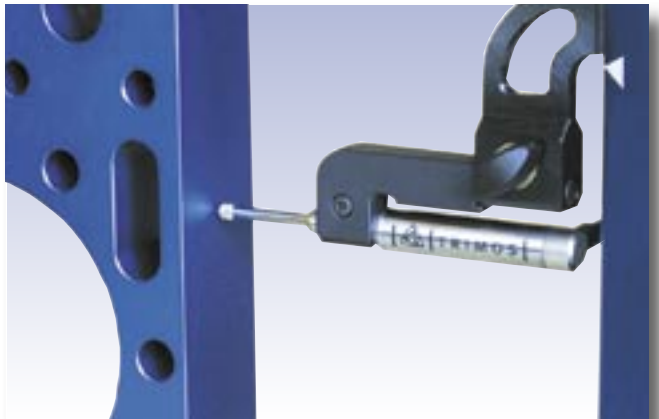
Angle measurements
(509 05 20 0074)



Diameter measurements
(509 05 20 0080)



Checking of squareness deviation
(276 94001 001, 612 07 006)



VECTRA TOUCH

Standard instrument

The instruments **Vectra-Touch** are supplied as follows :

- ☒ Instrument according to specifications
- ☒ Rechargeable battery pack charging unit
- ☒ Measuring insert with ruby ball Ø 4 mm, (509 05 20 0074)
- ☒ Setting gauge (609 01 024)
- ☒ Protection cover
- ☒ User's manual
- ☒ Test certificate and certificate of guarantee
- ☒ Screwdriver 6 pans 2 mm (290 92 0001 001)
- ☒ Hex screw wrench 5 mm (290 000911 009)

Code number Manual	Code number Motorized	Instrument
700 107 10 01	700 107 10 02	Measuring range 0 - 300 mm
700 107 20 01	700 107 20 02	Measuring range 0 - 600 mm
700 107 30 01	700 107 30 02	Measuring range 0 - 1000 mm
700 107 40 01	700 107 40 02	Measuring range 0 - 1500 mm
700 107 50 01		Measuring range 0 - 2000 mm



VECTRA TOUCH

Accessories

See page 44



TRIMOS

Measuring system for:
checking of parts with
high accuracy level, hei-
ghts, depths, diameters,
centerline distances,
squareness deviation,
tolerance limits. Mestra
Touch has in addition:
programming mode, 2-
coordinate measuring
system, statistical analy-
sis



+touch

92.9702

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MESTRA MESTRA TOUCH

Introduction

The «Mestra» height measuring instruments are classified as the most accurate ones worldwide. This new instrument line is the result of 30 years of experience which makes it possible to offer actually a product having advanced technologies combined with ergonomic design. The «Mestra» can be operated in production areas and measuring or clean room.

The result of the well designed instrument concept incorporating an entire new measuring system is an optimum accuracy level, unequalled until now. The extreme ease of use allows unrestricted application in production areas as well as in measuring laboratory environment.

Two specific models are available, the «Mestra» and the «Mestra-Touch». The difference between these two models is the layout of the display unit as well as the available measuring functions. The «Mestra» has a display unit incorporating all basic functions such as checking of heights, depths, diameters and centerline distances, squareness deviation, angles and tolerance limits indication. The «Mestra-Touch» offers in addition a colour touch screen and functions such as the 2-coordinate system, programming of measuring sequences, statistical analysis of memorized

values and display of environmental temperature.

Regarding the new technologies, the most remarkable features of the «Mestra» and «Mestra-Touch» models are the digital measuring system «TRIMOS® Embedded Technology», the user friendly display unit, the robust double measuring carriage «TRIMOS® Carriage System» and an optimum repeatability of measurements obtained by a motorized probing system «TRIMOS® Measurement Control».

The modular design of the instrument makes it possible to offer a selection of different application ranges from 300 mm up to 1278 mm. Each model is available with manual or motorized measuring carriage displacement.

A large selection of accessories allows the performance of all kind of measuring tasks.

Probe holder with quick clamping of measuring inserts

Floating probe suspension.
Adjustable measuring force

Interchangeable measuring inserts

Trigonal shaped base for optimum stability

MESTRA MESTRA TOUCH

Features

Until now unequalled accuracy level

Excellent ergonomic design, extreme ease of use

Tilting display unit with large numerical display

Display of tolerance limits by luminous LED indicators

Self-contained operation, guaranteed by rechargeable battery pack

Two RS232C connectors and two USB connectors (A and B)

Measuring sequences programming mode (Mestra-Touch)

2-coordinate measuring system (Mestra-Touch)

Statistical analysis of measuring results (Mestra-Touch)

Display of environmental temperature (Mestra-Touch)

MESTRA MESTRA TOUCH

Description

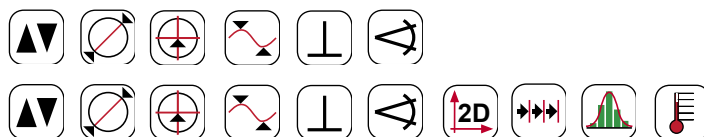


MESTRA

MESTRA TOUCH

Technical specification

Measuring range	mm(in)
With second probe holder	mm(in)
Resolutions	mm(in)
Max. permissible errors ¹⁾	µm
Repeatability (2s) ¹⁾	µm
Manual carriage displacement speed	m/s
Motorized carriage displacement speed	m/s
Measuring force	N
Power supply	h
Overall squareness deviation ²⁾	µm
Data output	
Operational temperature	°C
Total height (base = 300 x 322mm)	mm
Weight	kg



300	600	1000
305 (12)	610 (24)	1016 (40)
567 (22)	872 (34)	1278 (50)
0.01/0.001/0.0001 (.001/.0001/.00001)		
1.4 + L (mm)/400		
0.5 (Ø : 1)		
1		
0.15		
0.5 - 1.8		
8		
4	6	10
2x RS232C, 2x USB (A and B)		
+10 to +40		
645	950	1357
16	19	23

¹⁾ Values valid with standard ball probe 509 05 20 0074 at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

²⁾ With electronic probe 276 940001 001

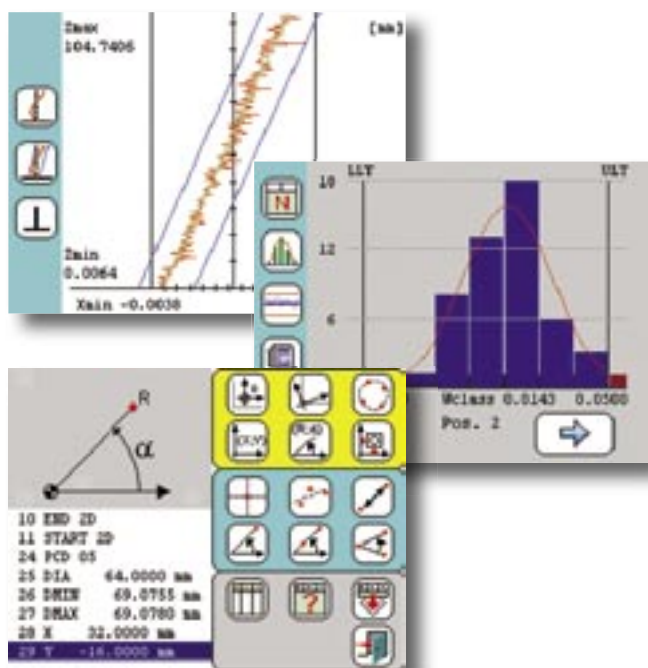
MESTRA

MESTRA TOUCH

Display/Software



The colour display facilitates the reading of all measuring parameters.
The functions are easily and direct accessible.



Mestra/Mestra-Touch:

Very simple graphical interface

Interactive help

Date and time display

Acoustic and graphic probing indicator

Storage of 999 values

Measuring of values with tolerance indication

Graphic display of squareness

Resolution up to 0.1 µm

Mestra-Touch:

Touch screen

Measuring in 2D mode

Programming of measuring sequences

Statistical analysis

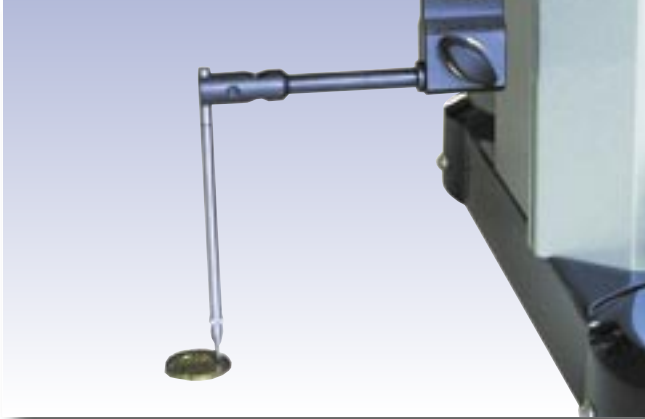
Indication of environmental temperature

MESTRA MESTRA TOUCH

Applications

Height measurements

(612 11 054, 279 918002 002, 279 911003 001)



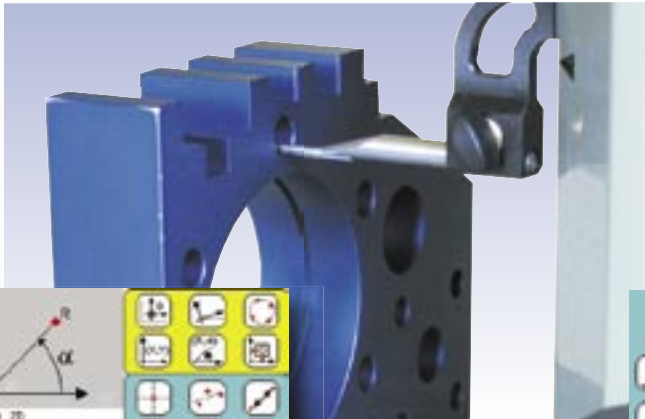
Checking of internal diameters

(612 11 012, 279 918011 001)



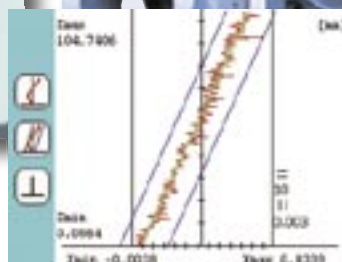
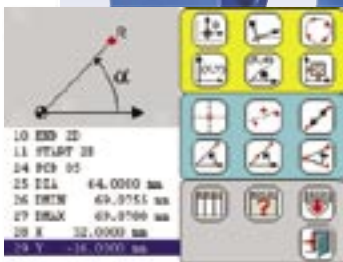
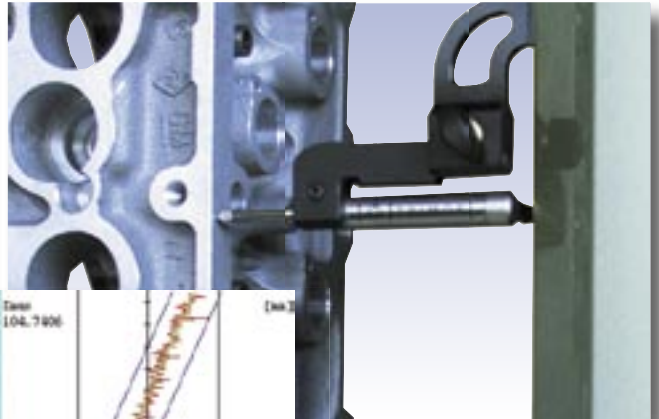
Two-coordinate measurements

(509 05 20 0075)



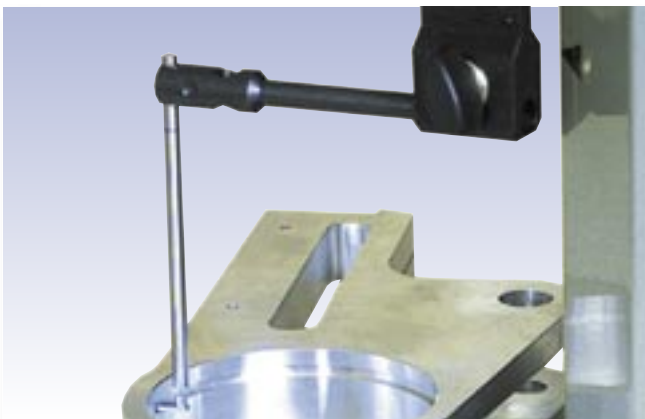
Checking of squareness deviation

(612 07 006, 276 940001 001)



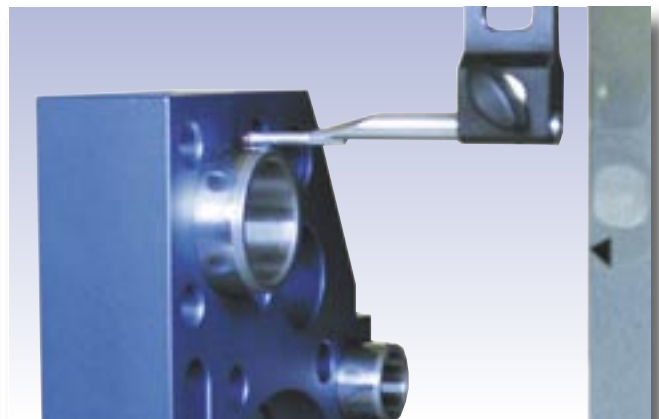
Measurements of grooves

(612 11 054, 279 918002 002, 279 918008 001)



Checking of external diameters

(509 05 20 0074)



MESTRA MESTRA TOUCH

Standard instrument

The instruments **Mestra** and **Mestra-Touch** are supplied as follows :

- | | |
|--|---|
| <input checked="" type="checkbox"/> Instrument according to specifications | <input checked="" type="checkbox"/> User's manual |
| <input checked="" type="checkbox"/> Rechargeable battery pack charging unit | <input checked="" type="checkbox"/> Test certificate and certificate of guarantee |
| <input checked="" type="checkbox"/> Measuring insert with ruby ball Ø 4 mm, (509 05 20 0074) | <input checked="" type="checkbox"/> Screwdriver 6 pans 2 mm (290 92 0001 001) |
| <input checked="" type="checkbox"/> Setting gauge (609 01 24) | <input checked="" type="checkbox"/> Hex screw wrench 5 mm (290 000911 009) |
| <input checked="" type="checkbox"/> Protection cover | |

Code number Mestra	Code number Mestra-Touch	Instrument
700 107 10 03	700 107 10 05	Measuring range 0 - 300 mm (manual)
700 107 10 04	700 107 10 06	Measuring range 0 - 300 mm (motorized)
700 107 20 03	700 107 20 05	Measuring range 0 - 600 mm (manual)
700 107 20 04	700 107 20 06	Measuring range 0 - 600 mm (motorized)
700 107 30 03	700 107 30 05	Measuring range 0 - 1000 mm (manual)
700 107 30 04	700 107 30 06	Measuring range 0 - 1000 mm (motorized)



MESTRA MESTRA TOUCH

Accessories

See page 44

Accessories for vertical measuring instruments

Picture	Code number	Description
    	502 02 10 0015	Intermediate connector, Ø 8 mm
	609 05 061	Measuring insert holder
	612 11 028	Standard measuring insert holder for TVM 1002
	612 11 007	Measuring insert holder, L = 150 mm
	SP612 11 007 01	Measuring insert holder, L = 250 mm
	SP612 11 007 02	Measuring insert holder, L = 300 mm
	SP612 11 007 03	Measuring insert holder, L = 350 mm
	509 05 20 0001	Measuring insert with Ø 0.5 mm ball
	509 05 20 0003	Measuring insert with Ø 1 mm ball
	509 05 20 0009	Measuring insert with Ø 2 mm ball
	509 05 20 0014	Measuring insert with Ø 3 mm ball
	509 05 20 0025	Measuring insert with Ø 4 mm ball
	509 05 20 0031	Measuring insert with Ø 5 mm ball
	509 05 20 0037	Measuring insert with Ø 6 mm ball
	509 05 20 0045	Measuring insert with Ø 7 mm ball
	509 05 20 0051	Measuring insert with Ø 8 mm ball
	509 05 20 0059	Disc shaped measuring insert, Ø 8 mm
	609 12 003	Scriber
	609 12 004	Scriber
	609 05 074	Bi-directional probe, Ø 4 mm
	609 05 075	Bi-directional probe, Ø 2 mm
	612 11 030	Holder for bi-directional measuring insert
	609 05 021	Measuring insert Ø 2 mm for holder 612 11 030
	609 05 024	Measuring insert Ø 4 mm for holder 612 11 030
	709 05 054	Set of cones with holder 609 05 054
	609 05 054	Cone holder

TVM

Altia/Altia Premium






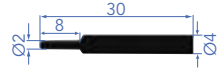



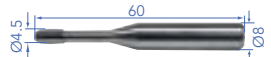






V+

Z_cal

Vectra-Touch/Mestra/
Mestra-Touch



Accessories for vertical measuring instruments

Picture	Code number	Description
	279 901007 002	Cone 0-15 mm
	279 901007 003	Cone 13-20.5 mm
	279 901007 004	Cone 17-24.5 mm
	279 901007 005	Cone 23-30.5 mm
	279 901007 006	Cone 26-35.5 mm
	279 901007 007	Cone 32-39 mm
	279 901007 009	Cone 41-50 mm
	279 901007 010	Cone 46-55 mm
	279 901007 011	Cone 51-60 mm
	512 11 20 0018	Measuring insert shaft, M2.5
	512 11 20 0019	Measuring insert shaft, 4/48 in
	603 12 005	Reduction sleeve, Ø 20/15 mm
	609 05 023	Knife-edged measuring insert
	609 05 022	Ball insert, Ø 3 mm
	609 05 020	Pin shaped measuring insert, Ø 2 mm
	609 05 019	Disc-shaped measuring insert, Ø 5 mm
	609 05 007	Insert holder with pin, Ø 2 mm, L = 97 mm
	509 05 20 0011	Barrel-shaped measuring insert , M3-M16, L = 55 mm
	509 05 20 0029	Barrel-shaped measuring insert, M6-M48, L = 60 mm
	509 05 20 0062	Barrel-shaped measuring insert, M12-M150, L = 60 mm
	509 05 20 0078	Measuring insert with tungsten carbide ball, Ø 1, L = 75 mm
	509 05 20 0077	Measuring insert with tungsten carbide ball, Ø 2, L = 80 mm
	509 05 20 0080	Measuring insert with tungsten carbide ball, Ø 2, L = 130 mm
	509 05 20 0076	Measuring insert with ruby ball, Ø 2, L = 80 mm
	509 05 20 0075	Measuring insert with tungsten carbide ball, Ø 4, L = 90 mm

TVM



Altia/Altia Premium



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Vectra-Touch/Mestra/
Mestra-Touch



Accessories for vertical measuring instruments

Picture	Code number	Description
	509 05 20 0079	Measuring insert with tungsten carbide ball, Ø 4, L = 140 mm
	279 918011 004	Measuring insert with ruby ball, Ø 5, L = 129 mm
	509 05 20 0074	Measuring insert with ruby ball, Ø 4, L = 90 mm (standard)
	509 05 20 0081	Measuring insert with tungsten carbide pin, Ø 1.5, L = 78 mm
	509 05 20 0082	Measuring insert with parallel faces, L = 90 mm
	279 918011 002	Measuring insert with ruby ball, Ø 10, L = 100 mm
	279 918011 003	Measuring insert Ø 4 with ruby ball, Ø 3, L = 87.5 mm
	279 918011 001	Measuring insert Ø 4 with ruby ball, Ø 2, L = 88 mm
	279 918007 001	Knife-edged measuring insert Ø 4 mm, L = 89 mm
	279 918013 001	Barrel-edged measuring insert Ø 3, L = 89 mm
	279 918012 001	Measuring insert with Ø 1 ball on holder Ø 4, L = 72 mm
	506 22 20 0063	Pin Ø 4 mm, 1 hemispheric face and 1 plane face
	279 901001 001	Dial test indicator measuring insert M2.5, ball Ø 1, L = 12.5
	279 901001 002	Dial test indicator measuring insert M2.5, ball Ø 2 mm, L = 12.5
	279 901001 003	Dial test indicator measuring insert M2.5, ball Ø 3 mm, L = 12.5
	279 918010 001	Hemispheric insert M2.5
	279 901003 001	Measuring insert M2.5 with 4 interchangeable pins Ø 1.5
	279 918005 002	Disc-shaped measuring insert M2.5, Ø 7.7 mm
	279 918005 003	Disc-shaped measuring insert M2.5, Ø 11.5 mm
	279 918005 004	Disc-shaped measuring insert M2.5, Ø 18 mm
	279 918005 001	Set of 3 disc-shaped measuring inserts
	279 918008 001	L-shaped measuring insert M2.5, thickness 1 mm
	279 918009 001	Measuring insert M2.5 with swivelling ruby ball Ø 3 mm



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Altia/Altia Premium



V+











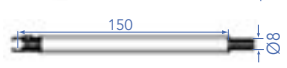





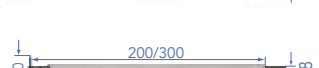










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Vectra-Touch/Mestra/
Mestra-Touch



Accessories for vertical measuring instruments

Picture	Code number	Description
	612 11 045	Measuring insert holder, M2.5, L = 95 mm
	612 11 047	Measuring insert holder, 4/48, L = 95 mm
	612 11 046	Measuring insert holder, M2.5, L = 300 mm
	612 11 012	Reduction sleeve Ø 8 mm/Ø 4 mm
	612 11 053	Swivel holder, Ø 8 mm and Ø 4 mm
	612 11 051	Swivel holder, Ø 8 mm and Ø 4 mm, L = 150 mm
	612 11 039	Swivel holder, Ø 8 mm and Ø 4 mm, L = 300 mm
	612 11 055	Measuring insert holder 90°, Ø 8 mm, L = 85 mm
	612 11 052	Measuring insert holder 90°, Ø 8 mm, L = 150 mm
	612 11 054	Measuring insert holder 90°, Ø 4 mm, L = 65 mm
	612 11 011	Measuring insert holder 30°, Ø 4 mm, L = 53 mm
	279 918103 001	Measuring insert holder 90°, Ø 4 mm, L = 73 mm
	612 11 041	Measuring insert holder 90°, Ø 4 mm, L = 150 mm
	612 11 042	Measuring insert holder 90°, Ø 8 mm, L = 300 mm
	612 11 043	Measuring insert with pin Ø 2 mm, L = 200 mm
	612 11 044	Measuring insert with pin Ø 2 mm, L = 300 mm
	279 918002 002	Measuring insert holder Ø 4 mm, M2.5, L = 80 mm
	279 918002 001	Measuring insert holder Ø 4 mm, M2.5, L = 124 mm
	279 918002 003	Measuring insert holder Ø 4 mm, M2.5, L = 200 mm
	279 918001 002	Measuring insert Ø 4 mm 90°, M2.5, L = 80 mm
	279 918001 001	Measuring insert holder Ø 4 mm 90°, Ø 4 mm, L = 80 mm
	279 918001 003	Measuring insert with pin Ø 1 mm, L = 80 mm
	512 11 20 0012	Measuring insert holder M2.5 for M2.5, M1.6, M1.4
	512 11 20 0013	Measuring insert holder 4/48 for 4/48, M1.6, M1.4
	603 11 001	Positioning holder

TVM



Altia/Altia Premium



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Vectra-Touch/Mestra/
Mestra-Touch



Accessories for vertical measuring instruments

Picture	Code number	Description
	603 11 002	Positioning holder
	279 918101 001	Measuring insert holder, Ø 4 mm, L = 70 mm
	279 918101 002	Measuring insert holder, Ø 4 mm, L = 125 mm
	279 918101 004	Measuring insert holder, Ø 8 mm, L = 125 mm
	279 918101 003	Measuring insert holder, Ø 8 mm, L = 70 mm
	279 918101 005	Holder Ø 8 mm bore for dial test indicators
	279 918102 001	Swivel measuring insert holder Ø 4mm, L = 125 mm
	609 01 026	Setting gauge
	609 00 008	Setting gauge H = 75 mm
	609 00 009	Setting gauge H = 3 inch
	609 01 016	Setting gauge H = 300 mm
	609 01 024	Setting gauge 25 mm
	609 01 025	Setting gauge 1 inch
	276 940001 001	Electronic probe
	276 940001 002	Electronic probe for Vectra-Touch 1500
	276 940001 005	Electronic probe for Vectra-Touch 2000
	612 07 006	Electronic probe holder
	276 950000 002	Electronic probe P5Z
	279 918901 001	90° square for angle measurements
	605 01 007	Set of accessories Macro ¹⁾
	605 01 008	Set of accessories Micro ¹⁾
	605 01 016	Set of accessories Altia ¹⁾
	279 918004 003	Set of accessories Z_cal ¹⁾

¹⁾ Content of the set of accessories: see page 58

TVM



Altia/Altia Premium



V+




Z_cal



Vectra-Touch/Mestra/
Mestra-Touch



Accessories for vertical measuring instruments

Picture	Code number	Description
	612 12 045	Plate for positioning of accessories in wood
	279 918999 001	Plate for positioning of accessories
	612 11 025	Extension probe holder H = 100 mm
	606 00 029	Quick locking device
	290 918001 001	Key for measuring insert of dial test indicator
	290 000911 003	Allen key, 1.5 mm
	290 000911 005	Allen key, 2.5 mm
	290 000911 009	Allen key, 5 mm
	290 920001 001	Hexagonal screw driver 2 mm
	3708 0002	Touch screen pen
	614 00 004	Demonstration work piece
	3706 0006	Foot pedal
	3706 0002	Foot pedal
	505 0510 0033	Protection cover Z_cal 350
	505 0510 0034	Protection cover Z_cal 600
	505 0510 0009	Protection cover TVM302
	505 0510 0011	Protection cover TVM602
	505 05 10 0013	Protection covern TVM1002
	505 05 10 0020	Protection cover V302
	505 051 0 0021	Protection cover V602
	505 05 10 0022	Protection cover V1002
	505 05 10 0005	Protection cover Vectra-Touch 300
	505 05 10 0006	Protection cover Vectra-Touch 600
	505 05 10 0007	Protection cover Vectra-Touch 1000
	505 05 10 0008	Protection cover Vectra-Touch 1500
	505 05 10 0037	Protection cover Vectra-Touch 2000
	334 0021	AC adapter 100V Japan
	334 0022	AC adapter 110V US
	334 0023	AC adapter 220V EUR
	334 0025	AC adapter 240V UK
	716 50 502	AC adapter 220V Korea

TVM



Altia/Altia Premium



V+



Z_cal



Vectra-Touch/Mestra/
Mestra-Touch



		✓		✓
	✓		✓	
		✓		✓
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	✓	✓	✓	
	✓	✓	✓	

Accessories for vertical measuring instruments

Picture	Code number	Description
	357 0100	Universal AC adapter
	332 10 0011	Adapter cable Europe
	616 20 003	Adapter cable Korea
	332 10 0013	Adapter cable USA/Japan
	332 10 0016	Adapter cable Australia
	332 10 0014	Adapter cable UK
	356 0010	USB PCL printer
	788 000001 001	Paper for printers 356 0006/7/8/9
	612 06 001	Bracket for printers 356 0006/7/8/9
	356 0007	RS232 printer with AC adapter 110 V
	356 0006	RS232 printer with AC adapter 220V
	356 0008	RS232 printer with AC adapter 240V
	356 0009	RS232 printer with AC adapter 220V Corée
	333 0 0003	Cable RS232C (printer 356 0006/7/8/9)
	333 9 0003	Cable Opto/PC/AT 9 P/F 2 m
	332 01 0001	Cable RS232C 1.8 m (PC)
	332 01 0001	Cable RS232 m-f 1.8 m (printer 356 0006/7/8/9)
	332 01 0012	Cable RS232 f-f 1.8 m (PC)
	332 02 0001	Cable USB A-B 1.8 m
	358 0008	USB Memory Stick
	358 0007	USB external hard disc
	358 0002	USB external floppy disc



TVM



Altia/Altia Premium



V+



Z_cal



Vectra-Touch/Mestra/
Mestra-Touch



				✓
				✓
				✓
				✓
				✓
				✓
				✓
				✓
	✓	✓		✓
		✓		
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	✓	✓		✓
✓		✓		
	✓	✓		
				✓
				✓
				✓
				✓
				✓
				✓

Content of the set of accessories

605 01 007	Set of accessories Macro	279 918004 003	Set of accessories Z_cal
505 01 10 0001	1 case	279 918011 004	1 ball probe ruby Ø 5 mm, L=129 mm
509 05 20 0079	1 ball probe tungsten carbide Ø 4 mm	279 918103 001	1 swivel holder 90° Ø 4 mm
509 05 20 0077	1 ball probe tungsten carbide Ø 2 mm	279 918011 003	1 ball probe ruby Ø 3 mm
509 05 20 0081	1 probe with pin tungsten carbide Ø 1.5	279 918011 002	1 ball probe ruby Ø 10 mm, L=100 mm
612 11 051	1 swivel holder Ø 4/8 mm	279 918101 001	1 insert holder Ø 4 mm, L=70 mm
512 11 20 0011	1 insert holder 90° Ø 4 mm	279 918101 002	1 insert holder Ø 4 mm, L=125 mm
609 05 007	1 measuring insert holder Ø 2 mm	279 918101 004	1 insert holder Ø 8 mm, L=1250 mm
612 11 045	1 insert holder (metric) M2.5	279 918101 005	1 porte-touche Ø 8 pour comparateur à levier
279 918002 001	1 insert holder L=124 mm M2.5	279 918102 001	1 swivel holder Ø 4 mm
279 918002 003	1 insert holder L=200 mm M2.5	276 950000 002	1 electronic probe P5Z
279 918010 001	1 hemispheric insert	279 918901 001	1 90° square for angle measurements
279 918005 004	1 disc-shaped insert Ø 18 mm	279 918999 001	1 holder for accessories
279 901001 001	1 measuring insert of test indicator Ø 1 mm		
279 901001 002	1 measuring insert of test indicator Ø 2 mm		
279 901001 003	1 measuring insert of test indicator Ø 3 mm		
290 000111 003	1 key for ball-insert		
290 000911 004	1 hex screw wrench 2.5 mm		

605 01 008	Set of accessories Micro	605 01 016	Set of accessories Altia
505 01 10 0002	1 case	505 01 10 0006	1 case
279 918010 001	1 hemispheric insert	279 918101 004	1 insert holder Ø 8 mm, L=125 mm
279 901003 001	1 probe with pin, 4 pins-shaped	279 918101 001	1 insert holder Ø 4 mm, L=70 mm
279 918005 002	1 disc-shaped insert Ø 7.7 mm	279 918011 002	1 ball probe ruby Ø 10 mm, L=100 mm
279 918005 003	1 disc-shaped insert Ø 11.5 mm	279 918011 003	1 ball probe ruby Ø 3 mm, L=87.5 mm
279 918008 001	1 corner insert 1 mm		
279 901001 001	1 measuring insert of test indicator Ø 1 mm		
279 901001 002	1 measuring insert of test indicator Ø 2 mm		
279 901001 003	1 measuring insert of test indicator Ø 3 mm		
512 11 20 0012	1 measuring insert holder for M2.5, M1.6, M1.4		
279 918002 002	1 insert holder 90° L=80 mm Ø 4 mm		
279 918001 001	1 disc-shaped insert Ø 18 mm		
279 918001 003	1 measuring insert holder Ø 1 mm		
279 918011 001	1 ball probe ruby Ø 2 mm		
279 918012 001	1 ball probe Ø 1 mm		
279 918007 001	1 knife-edged measuring probe L=88 mm		
612 11 012	1 reduction socket 8 mm/4 mm		
612 11 053	1 swivel holder Ø 4/Ø 8 mm		
290 000111 003	1 key for ball-insert		
290 000911 007	1 hex screw wrench 1.5 mm		
290 000911 004	1 hex screw wrench 2.5 mm		

TRIMOS

Measuring system for :
**checking of small internal
and external dimensions**



es
e
t

TELS

Introduction

The Mini-Horizontal TELS is the ideal instrument for checking small dimensions. It is part of the horizontal instrument family.

The instrument is mainly used for checking internal and external dimensions as ring gauges, plug gauges, thread plug gauges and for measuring precision production parts.

The reliable concept is easily suitable for the use in the workshop environment.

An electronic probe and digital display unit or simply a dial indicator can be applied to perform all measurements. The selection of the measuring system depends on the required accuracy.

The range for internal measurements of 10 to 100 mm and external measurements of 0 to 100 mm covers a large number of applications. The absolute measuring range is 25 mm and a preset setting is necessary to obtain an entire length.

A wide range of accessories are available.

Interchangeable anvils for external measurements

Sylvac display unit, RS232C data output

Adjustable datum support with location for measuring anvils



TELS

Features

Ideal for checking of small dimensions

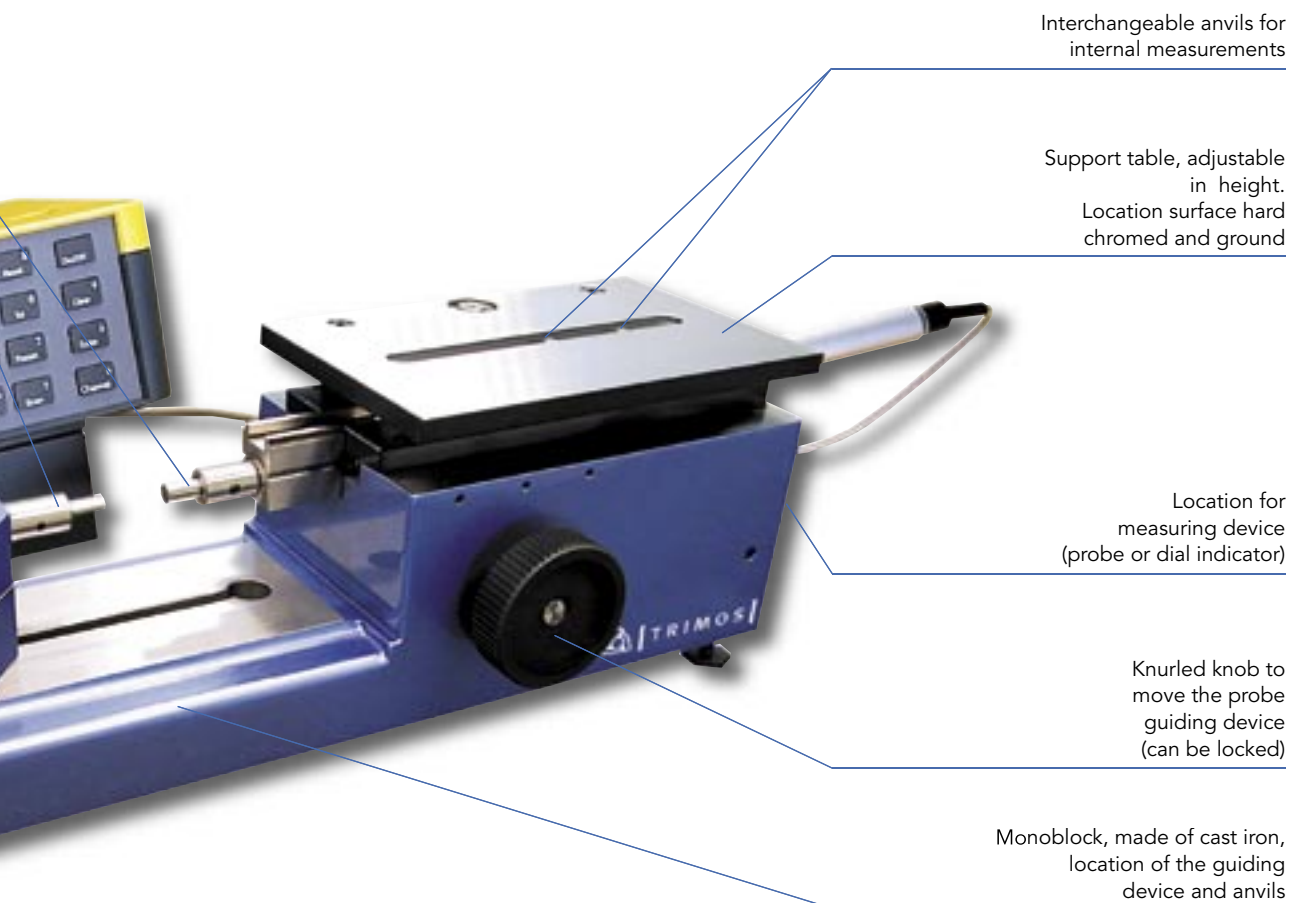
Easy manipulation

Suitable for use in the workshop area

Wide selection of accessories

TELS

Description



TELS

Technical specification

Measuring range for internal measurements	mm(in)
Measuring range for external measurements	mm(in)
Max. permissible errors ¹⁾ (according to measuring element used)	µm
Repeatability (2s) ¹⁾	µm
Resolutions (according to measuring element used)	mm(in)
Measuring force	N
Weight	kg

¹⁾ Values valid at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

TELS
10 - 100 (.4 - 4)
0 - 100 (0 - 4)
1.5
0.1
0.1 to 0.0001 (.001 to .00001)
3 - 8 (adjustable)
15

TELS

Display/Software



Functions of the Sylvac display unit:

Selection of the measuring unit mm/Inch

Analog display

Input and display of tolerance limits

Classification (2 - 6 classes)

Input and setting of preset values

Inversion of measuring direction (+/-)

Channel selection

Value hold

Locking in of the keyboard and the mm/inch selection

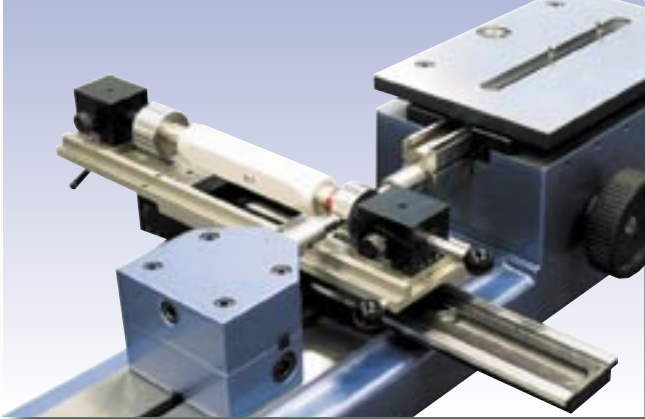
External contact function using foot pedal or computer

Print-out of value and statistical analysis

TELS

Applications

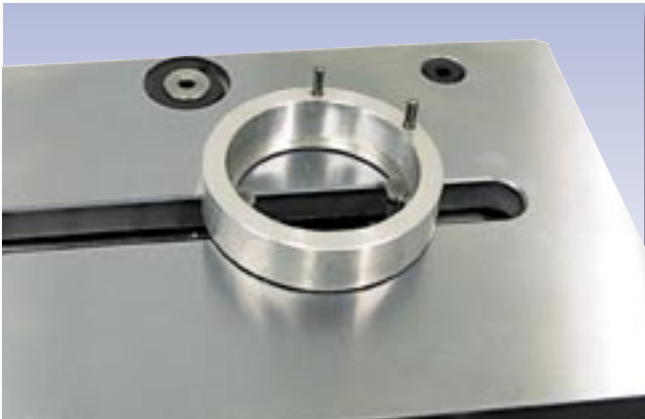
**Checking of plug gauges and thread plug gauges
(TELS6)**



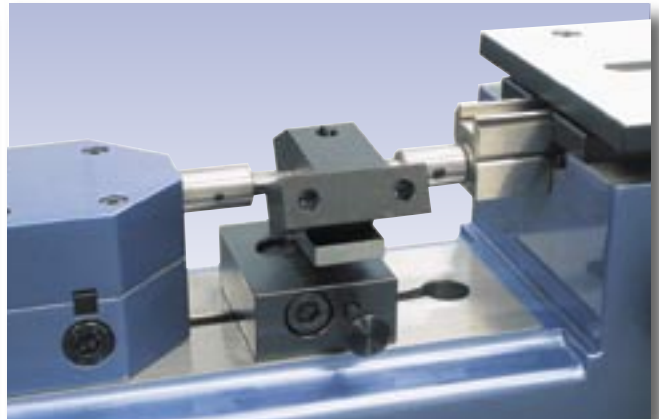
**Checking of internal diameters
(TELS10)**



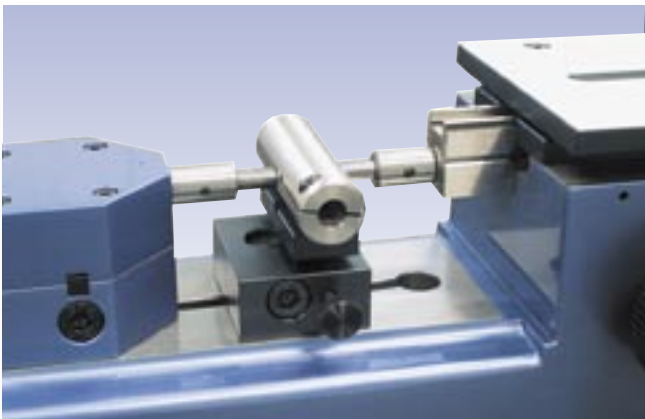
**Checking of external grooves
(TELS12)**



**Checking of lengths
(TELS5, TELS5.1)**



**Checking of external diameters
(TELS5, TELS5.2)**



TELS

Standard instrument

The instrument **TELS** is supplied as follows:

- ☒ Basic instrument manufactured according to specifications, including a guiding system and probe holder
- ☒ Standards measuring anvils for external measurements with tungsten carbide tipped measuring surface (TELS50)
- ☒ Standards measuring inserts for internal measurements (TELS10)
- ☒ User's manual
- ☒ Test certificate and certificate of guarantee

Code number

TELS

Measuring range 0 - 100 mm



TELS

Accessories

TELS3C

Set of sleeves to hold dial indicators Ø 8 mm

TELS3CE

Set of sleeves to hold dial indicators Ø 3/8"



TELS3.1C

Extension for dial indicator L= 25 mm



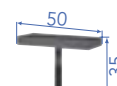
TELS5

Support for plates



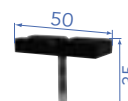
TELS5.1

Plate



TELS5.2

Plate with crossed V-grooves



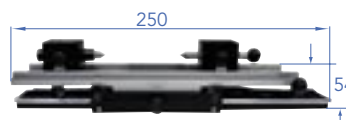
TELS5.3

Plate with H-shaped clearance



TELS6

Floating measuring table with location centers and V-shaped



TELS10

Set of measuring inserts for internal measurements

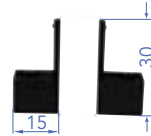
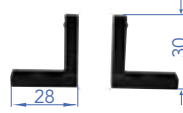
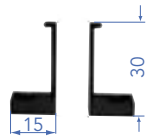
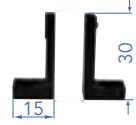






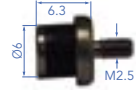

TELS10/1.5C

Set of measuring inserts for internal meas. Ø 3 mm

TELS10/H35

Set of measuring inserts for internal meas. H=35 mm



TELS11	Set of measuring inserts for internal measurements	
TELS11.1	Set of measuring inserts for internal measurements	
TELS11/H6	Set of measuring inserts for internal measurements H = 1-6 mm	
TELS12	Set of measuring inserts for internal measurements	
TELS13	Set of measuring inserts for internal measurements	
TELS18	Set of probe holders Ø 3.5 mm	
TELS50	Set of probe holders Ø 6.5 mm	
TELS51	Probe holder for measuring points with M2.5 threads	
TELS51E	Probe holder for measuring points with 4/48 in threads	
TELS51/D3.5	Probe holder with Ø 3.5 mm threads	
TELS52	Set of probe holders Ø 8 mm	
TELS53	Set of probe holders Ø 2 mm	
TELS53/D1	Flat measuring anvils Ø 1 mm on 2 mm	
276 950000 001	Electronic probe 25 mm	
276 950001 001	Electronic probe 25 mm with magnetic insert	
276 950001 002	Electronic probe 276 950001 001 with certificate	
279 950001 001	Magnetic insert for probe 276 950000 001	
EL-D100S	Display unit Sylvac	

279 901008 001	Ball probe Ø 1.00 mm
279 901008 002	Ball probe Ø 1.250 mm
279 901008 003	Ball probe Ø 1.50 mm
279 901008 004	Ball probe Ø 1.75 mm
279 901008 005	Ball probe Ø 2.00 mm
279 901008 006	Ball probe Ø 2.032 mm
279 901008 007	Ball probe Ø 2.20 mm
279 901008 008	Ball probe Ø 2.25 mm
279 901008 009	Ball probe Ø 2.50 mm
279 901008 010	Ball probe Ø 2.75 mm
279 901008 011	Ball probe Ø 3.00 mm
279 901008 012	Ball probe Ø 3.20 mm
279 901008 013	Ball probe Ø 3.25 mm
279 901008 014	Ball probe Ø 3.50 mm
279 901008 015	Ball probe Ø 3.70 mm
279 901008 016	Ball probe Ø 4.00 mm
279 901008 017	Ball probe Ø 4.50 mm
279 901008 018	Ball probe Ø 5.00 mm
279 901008 019	Ball probe Ø 5.50 mm
279 901008 020	Ball probe Ø 6.00 mm
279 901008 021	Ball probe Ø 6.50 mm
279 901008 022	Ball probe Ø 7.00 mm
279 901008 023	Ball probe Ø 8.00 mm
279 901008 024	Ball probe Ø 9.00 mm
279 901008 025	Ball probe Ø 10.0 mm





TRIMOS

Measuring system for:
**setting instrument for 2-
point bore gauges**



Setting
instrument
for 2-point
bore gauges

ALESTA

Introduction

The Alesta family is a product that simplifies the setting of 2-point bore gauges. It replaces the traditional way using a lots of different rings.

Thanks to innovative adaptors, you eliminate the positioning error and increase the speed of measurement. You just input the dimension you want on the key board and the mobile carriage will position itself automatically to the right position. The mobile carriage system will always stay in the desired position even when applying a force on the anvils.

Its stable granite base combined with a high precision measuring system guarantees excellent measuring results.

Using a table of tolerances, you can position the carriage at chosen tolerances. This table can be tailored to your requirements.

This type of product has a 2 years pay-back period. The acquisition of new rings and their calibration will be eliminated.

The instrument range includes 2 models from 300 mm up to 500 mm.

Body

- On/Off switch
- Connection RS232C for PC
- AC adaptor connection 18V - DC

Screws fixing the body



ALESTA

Features

Ideal for use in the workshop area

Very simple manipulation

Motorized carriage movement

Stable granite base

High precision measuring system (Heidenhain)

Tolerance data base

Wide selection of adaptators and accessories

Internal and external measurement possible

ALESTA

Description



ALESTA

Technical specifications

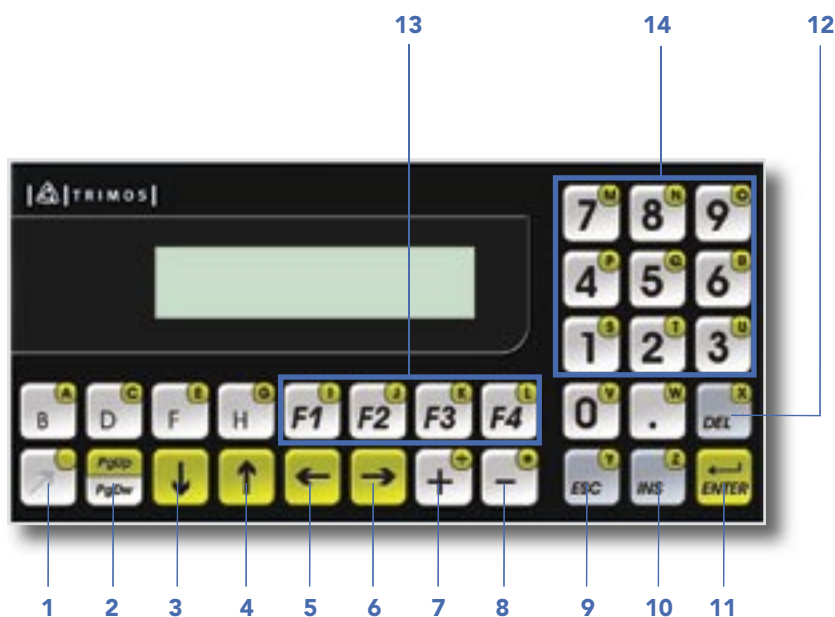
		300	500
Internal measuring range	mm(in)	1 - 305 (0.04 - 12)	1 - 505 (0.04 - 20)
External measuring range	mm(in)	25 - 325 (1 - 13)	25 - 525 (1 - 20)
Max. permissible errors ¹⁾	µm	$2 + L(mm)/300$	
Repeatability (2s) ¹⁾	µm	<1	
Resolution	mm(in)	0.001 (.00001)	
Displacement speed of measuring carriage	m/s	0.05	
Data output		RS232	
Operational temperature	°C	+10 to +40	
Weight	kg	50	75

¹⁾ Values valid at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

ALESTA

Display/Software

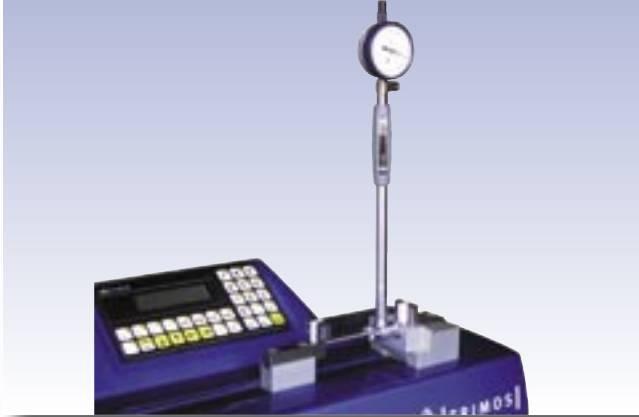
- 1 Second level function access key
- 2 Access to lower level menu
- 3 Arrow for down movement
- 4 Arrow for up movement
- 5 Arrow for left movement
- 6 Arrow for right movement
- 7 Manual displacement to increasing values
- 8 Manual displacement to decreasing values
- 9 Return to previous menu, allows to exit different menus
- 10 Insertion and correction of tables
- 11 Confirmation of the inputted data
- 12 Erase the last inputted character
- 13 Activation of the menu functions
- 14 Area of alphanumerical key for data input



ALESTA

Applications

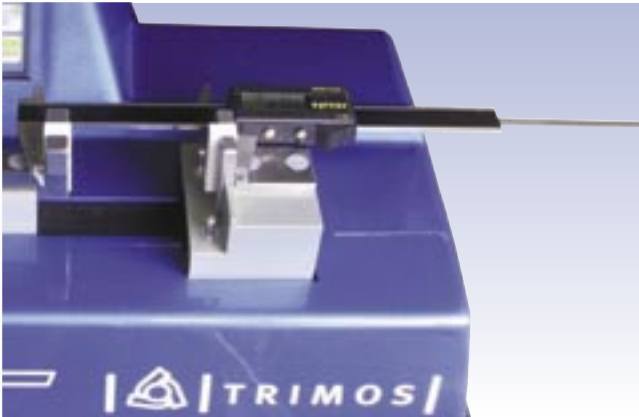
Setting of two-point bore gauges analog



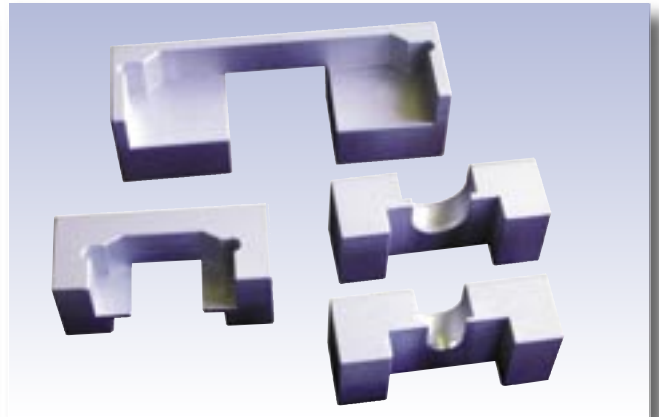
No need to have a lot of different setting rings.
They are replaced by one single instrument



Checking of caliper



Wide range of accessories to fit most two-point bore
gauges and guarantee an easy/quick setting



ALESTA

Standard instrument

The instruments **Alesta 300** and **Alesta 500** are supplied as follows:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Instrument according to specification | <input checked="" type="checkbox"/> User's manual |
| <input checked="" type="checkbox"/> Power supply unit | <input checked="" type="checkbox"/> Test certificate and certificate of guarantee |

Code number

700 204 00 01
700 204 10 01

Alesta 300

Alesta 500



ALESTA

Accessories

Adaptors for bores gauges

279 906001 009	BOCCHI 100 - 300 mm 57/271-05
279 906001 007	BORLETTI 50 - 100 mm SUBITO SU50-100H
279 906001 024	BORLETTI 12 - 20 mm SUBITO SUB4W
279 906001 025	BORLETTI 35 - 60 mm SUBITO 35-60
279 906001 008	BORLETTI 30 - 100 mm AC100
279 906001 009	BORLETTI 100 - 300 mm AC300
279 906001 014	BORLETTI 50 - 110 mm SS110
279 906001 016	BORLETTI 15 - 35 mm AC35
279 906001 017	BORLETTI 50 - 180 mm SUBITO AC180
279 906001 003	COMPAC 160 - 310 mm IA
279 906001 003	COMPAC 160 - 310 mm IA4-556
279 906001 004	COMPAC 50 - 150 mm IA3
279 906001 004	COMPAC 50 - 160 mm IA4-556
279 906001 011	COMPAC 20 - 50 mm IA2
279 906001 001	DIA TEST 26.3 - 110 mm MK-6 03414
279 906001 003	DIA TEST 78.5 - 330 mm M-8-E
279 906001 017	DIA TEST 49.5 - 230 mm MK-7 03454
279 906001 036	DIA TEST 19.5 - 34.5 mm MK-5 03429
279 906001 007	DREHER 50 - 100 mm SUBITO 50-100
279 906001 015	ELIOS 100 - 230 mm SUBITO SU100-230
279 906001 015	ELIOS 100 - 160 mm SUBITO SU100-160



279 906001 025	MAHR 35 - 100 mm INTRAMES 4474001
279 906001 025	MAHR 35 - 100 mm INTRAMES 4474001
279 906001 025	MAHR 35 - 65 mm 844/N/NH
279 906001 026	MAHR 18 - 50 mm INTRAMES 4474000
279 906001 026	MAHR 18 - 50 mm INTRAMES 4475000
279 906001 015	MAHR 100 - 250 mm INTRAMES 4474002
279 906001 015	MAHR 100 - 250 mm 844/N/NH
279 906001 015	MAHR 100 - 250 mm INTRAMES 4475002

279 906001 001	MITUTOYO 35 - 60 mm 511-172
279 906001 001	MITUTOYO 35 - 60 mm 511-168
279 906001 001	MITUTOYO 35 - 60 mm 511-901
279 906001 001	MITUTOYO 35 - 60 mm 511-905
279 906001 001	MITUTOYO 35 - 60 mm 511-127
279 906001 002	MITUTOYO 18 - 35 mm 511-126
279 906001 002	MITUTOYO 18 - 35 mm 511-167
279 906001 002	MITUTOYO 35 - 60 mm 511-901
279 906001 002	MITUTOYO 35 - 60 mm 511-905
279 906001 002	MITUTOYO 18 - 35 mm 511-171
279 906001 005	MITUTOYO 15 - 35 mm 511-401
279 906001 005	MITUTOYO 15 - 35 mm 511-421
279 906001 005	MITUTOYO 15 - 35 mm 511-411
279 906001 006	MITUTOYO 35 - 60 mm 511-402
279 906001 006	MITUTOYO 35 - 60 mm 511-412
279 906001 006	MITUTOYO 35 - 60 mm 511-422
279 906001 010	MITUTOYO 250 - 400 mm 511-138
279 906001 012	MITUTOYO 100 - 160 mm 511-129
279 906001 012	MITUTOYO 100 - 160 mm 511-301
279 906001 012	MITUTOYO 100 - 160 mm 511-502
279 906001 013	MITUTOYO 50 - 100 mm 511-403
279 906001 018	MITUTOYO 160 - 250 mm 511-130
279 906001 018	MITUTOYO 160 - 250 mm 511-176
279 906001 018	MITUTOYO 160 - 250 mm 511-179

279 906001 020	MITUTOYO 50 - 100 mm 511-128
279 906001 020	MITUTOYO 50 - 100 mm 511-132
279 906001 020	MITUTOYO 50 - 100 mm 511-901
279 906001 020	MITUTOYO 50 - 100 mm 511-905
279 906001 020	MITUTOYO 50 - 100 mm 511-170
279 906001 020	MITUTOYO 50 - 100 mm 511-174
279 906001 037	MITUTOYO 10 - 18 mm 511-203
279 906001 037	MITUTOYO 10 - 18 mm 511-204
279 906001 021	MITUTOYO 150 - 250 mm 511-302
279 906001 023	MITUTOYO 45 - 100 mm 511-501

279 906001 008	RUPAC 30 - 100 mm 1577022
279 906001 008	RUPAC 30 - 100 mm 1577022.1
279 906001 008	RUPAC 30 - 100 mm 1579022
279 906001 009	RUPAC 100 - 300 mm 1577300
279 906001 009	RUPAC 100 - 300 mm 1577300.1
279 906001 009	RUPAC 100 - 300 mm 1579300
279 906001 019	RUPAC 250 - 400 mm
279 906001 007	SCHWENK 50 - 100 mm SCHWENK SU
279 906001 024	SCHWENK 12 - 20 mm SUBITO SUB4W
279 906001 025	SCHWENK 35 - 60 mm SUBITO 35-60
279 906001 015	SCHWENK 100 - 160 mm SCHWENK SU
279 906001 004	SYLVAC 50 - 150 mm CDG 50-150
279 906001 027	STORM 150 - 1000 mm
279 906001 007	SUBITO 50 - 100 mm BAUREIHE SU
279 906001 024	SUBITO 12 - 20 mm BAUREIHE SU
279 906001 025	SUBITO 35 - 60 mm BAUREIHE SU
279 906001 026	SUBITO 18 - 35 mm BAUREIHE SU
279 906001 014	SUBITO 60 - 110 mm BAUREIHE SU
279 906001 015	SUBITO 100 - 160 mm BAUREIHE SU
279 906001 031	SUBITO 4.5 - 6 mm BAUREIHE SU
279 906001 032	SUBITO 6 - 8 mm BAUREIHE SU
279 906001 033	SUBITO 8 - 12 mm BAUREIHE SU
279 906001 034	SUBITO 280 - 510 mm BAUREIHE SU
279 906001 035	SUBITO 160 - 290 mm BAUREIHE SU
279 906001 040	SUBITO 110 - 300 mm BAUREIHE SU
279 906001 041	SUBITO 20 - 50 mm BAUREIHE SU
279 906001 042	SUBITO 18 - 35 mm BAUREIHE SU
279 906001 006	TESA 25 - 500 mm VERIBOR
279 906001 007	TESA 50 - 200 mm 7910000
279 906001 007	TESA 50 - 200 mm 7910001
279 906001 018	TESA 50 - 200 mm VERIBOR

279 906001 028 Adapter set for external micrometer



279 906001 038 Adapter set for callipers

279 906001 022 Adapter set for dial test indicators



279 906001 039 Adapter set for 2 points bore gauges



TRIMOS

Measuring system for :
checking and setting of
comparative measuring
equipment



SECON TION FOR

HORIZON

Introduction

The «Horizon» instruments respond to the actual requirements for quality inspection in manufacturing areas. They allow a quick and precise checking and setting.

The instruments are perfect for setting of all kind of comparative measuring equipment and for checking of length, internal and external diameters, thread gauges etc.

The new innovative concept with incorporated measuring system and display unit ensure excellent results by easy manipulation and is the answer to various demands in the field of production. Simplicity of use is an additional valuable advantage.

The instrument range comprises 4 models, from 500 mm up to 2000 mm. A wide selection of easy interchangeable accessories completes the application possibilities.

Display unit
(Sylvac system)

On/Off switch, data output,
socket for foot pedal and
socket for charging unit

Interchangeable accessories

Fixed datum support with
accessory location

Dimensionally stable instrument
base, positioned on three level
points

Handwheel for the displacement
of the measuring carriage





HORIZON

Features

Ideal for use in the workshop area

Very simple manipulation

Precise checking and setting made easy

Self-contained operation of approx. 100 hours

Incorporated rechargeable battery pack

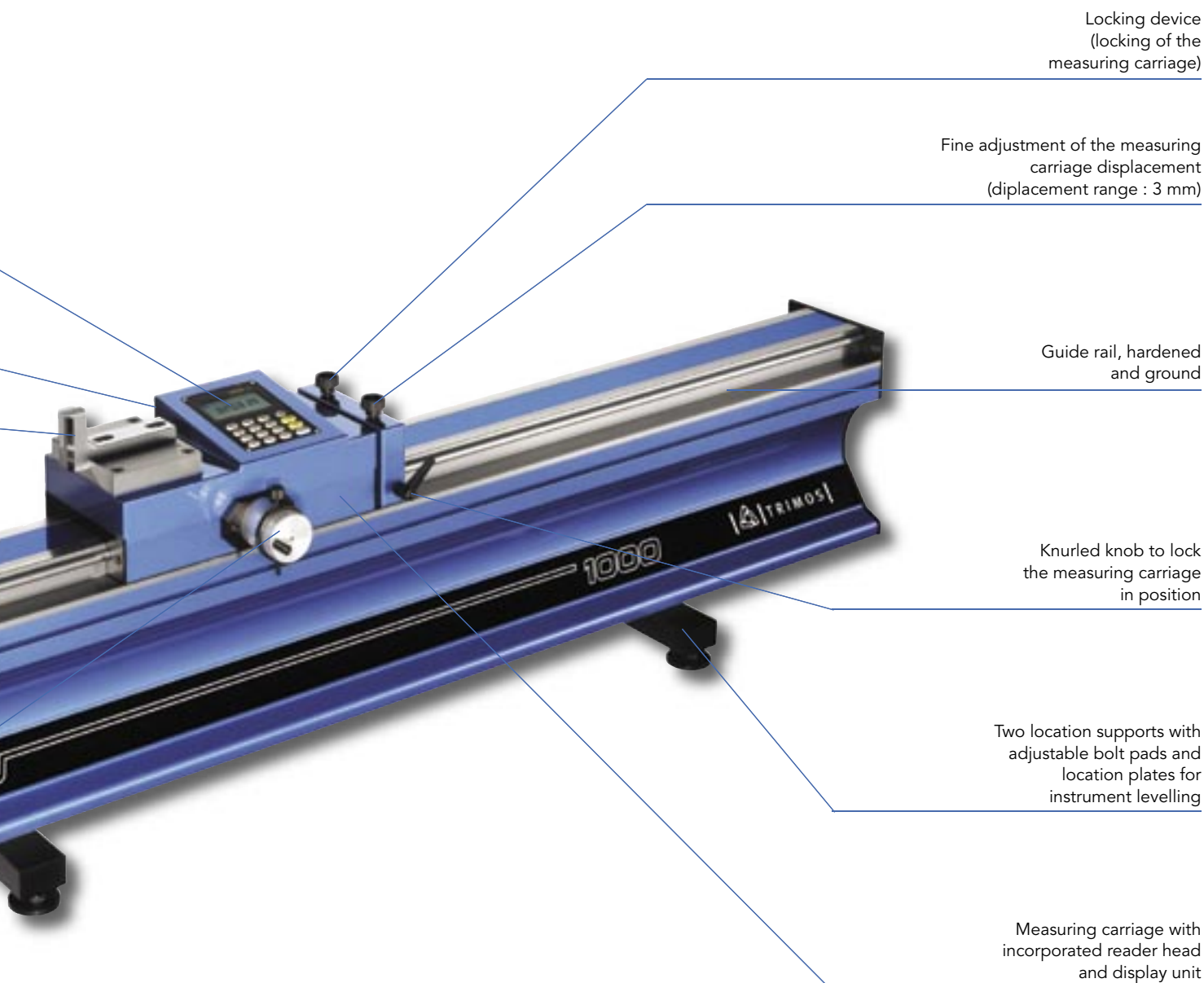
Clearly defined display unit

Wide selection of accessories

Optional granite base (Horizon Granite)

HORIZON

Description



HORIZON

Technical specification

		H500	H1000	H1500	H2000
Measuring range	mm(in)	0-520 (0-20)	0-1020 (0-40)	0-1520 (0-60)	0-2020 (0-80)
Max. permissible errors ¹⁾	µm	3 + L (mm)/300			
Repeatability (2s) ¹⁾	µm	1			
Resolutions	mm(in)	0.01/0.001 (.0001/.00005)			
Measuring force	N	3			
Displacement speed of measuring carriage	m/s	1.5			
Data output		RS232C			
Operational temperature	°C	+10 to +40			
Weight	kg	92	118	143	168

¹⁾ Values valid at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

HORIZON GRANITE

Technical specification

		HG4000	HG6000	HG8000
Measuring range	mm(in)	0-4000 (0-157)	0-6000 (0-236)	0-8000 (0-315)
Max. permissible errors ¹⁾	µm	0.8 + L (mm)/600		
Repeatability (2s) ¹⁾	µm	0.5		
Resolutions	mm(in)	0.01/0.001/0.0001 (.001/.0001/.00001)		
Measuring force	N	3		
Displacement speed of measuring carriage	m/s	1.5		
Data output		RS232 by Heidenhain display unit ND281B		
Operational temperature	°C	+10 to +40		
Relative humidity	%	20 - 80		
Weight	kg	1650	3400	5800

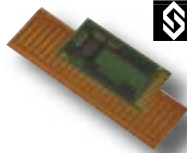
¹⁾ Values valid at temperature of 20± 0.5 °C and relative humidity of 50± 5%.

HORIZON

Display/Software



H



 **sylvac** system

Selection of value: Normal/Min/Max

Zero setting of the display and preset input

RS232 data output

Two references

Selection of the resolution 0.01 mm - 0.001 mm

Selection of measuring unit mm/inch (direct conversion)

HG



Linear measurement display and min./max. value hold

Digital display

Zero setting of the display and preset input

Parameter settings

Classification

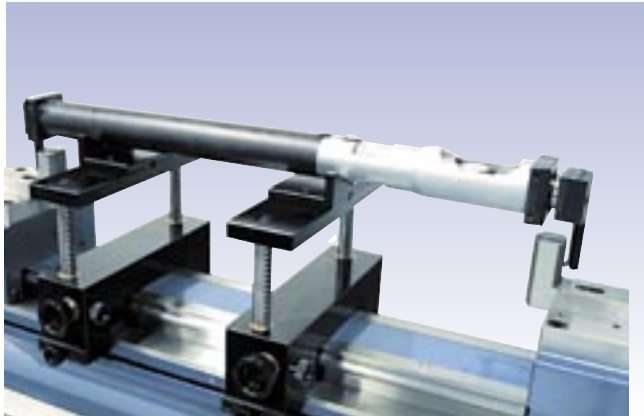
Initialization of the display using external contact function

RS232 data output

HORIZON

Applications

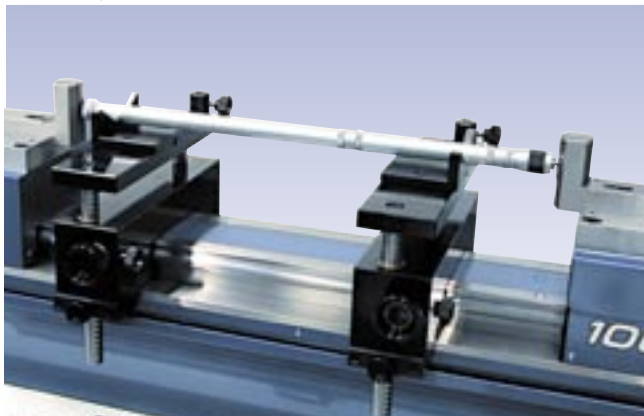
Setting of 2-point internal und external comparative measuring equipment (TEL5, TELMA7, TELMN7.2)



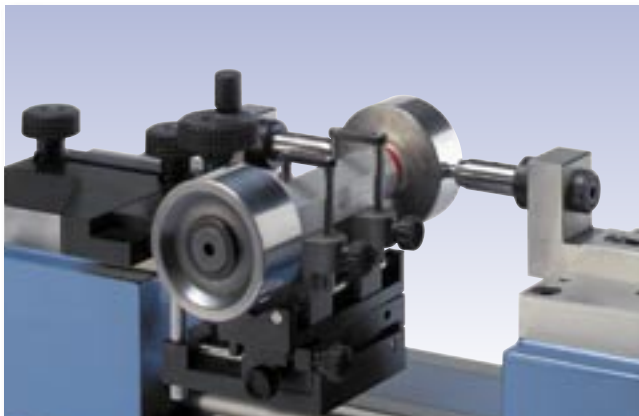
Setting of 2-point bore gauges (TEL5, TEL17.2, TELMN4)



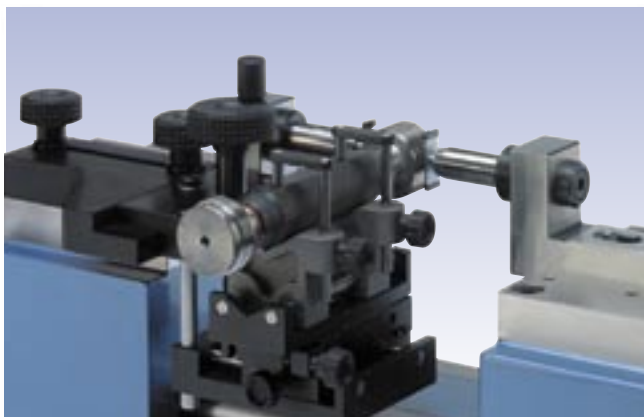
Setting of 2-point internal comparative measuring equipment (TEL5, TELMA7, TELMN7.2)



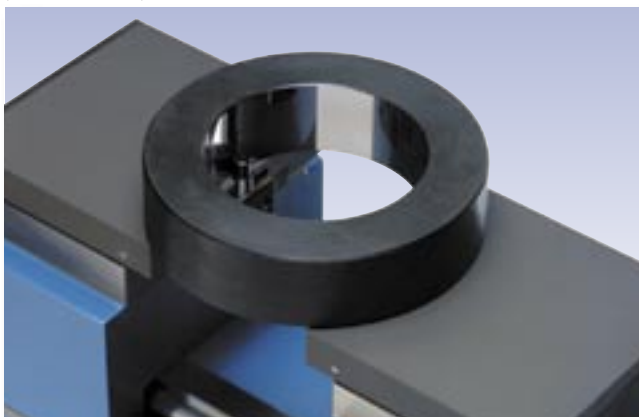
Checking of plug gauges (H6, TELMA5.0)



Checking of thread plug gauges (H6, TELMA5.0, 3P/0.17-3.2/S6.5)

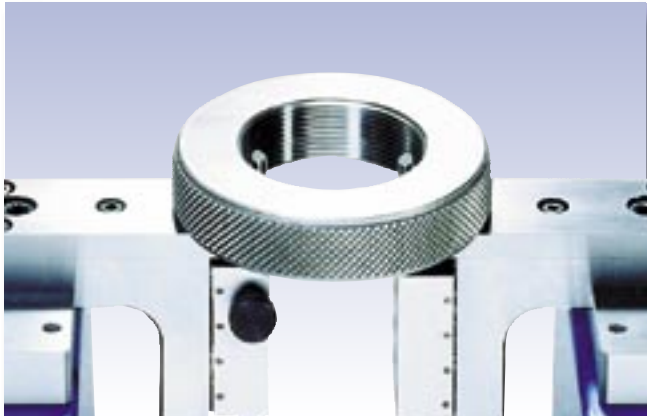


Checking of internal diameters of normal or heavier rings (TELMN9, H5)

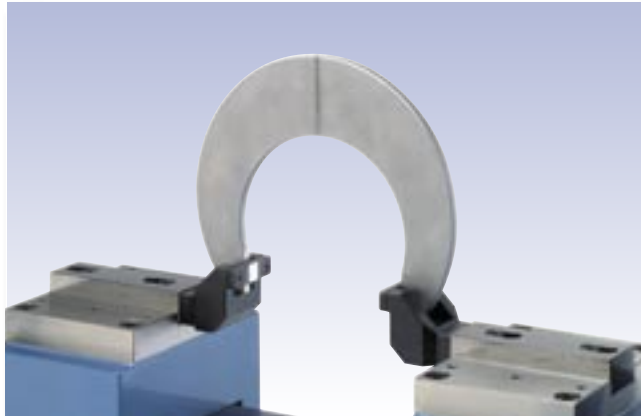




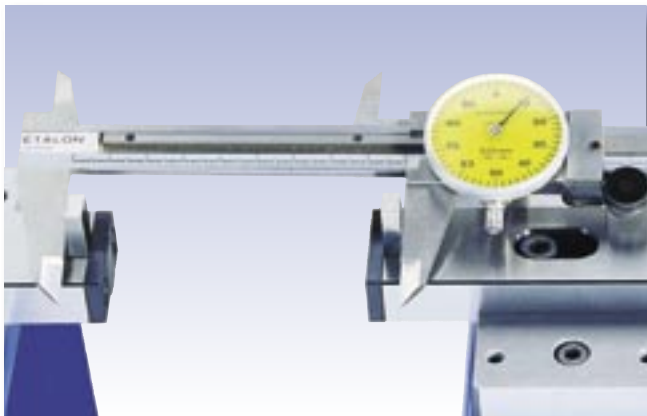
**Checking of pitch diameters of internal threads
(TEL18, TEL18/50S)**



**Checking of snap gauges
(TELMA8)**



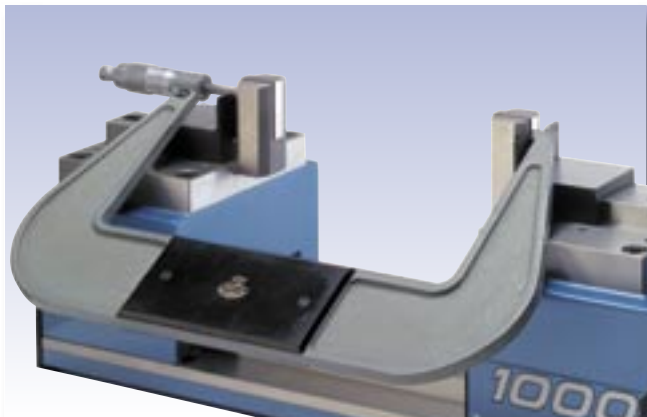
**Checking of calipers
(TEL5.10)**



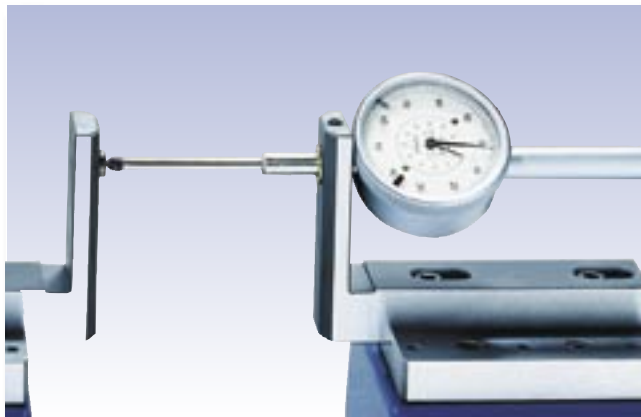
**Checking of depth gauges
(TEL5, TEL19.1)**



**Checking of external micrometers
(TEL5, TEL11)**



**Checking of dial indicators
(TEL5CN)**



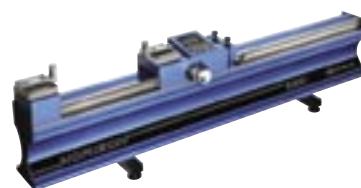
HORIZON

Standard instrument

The instrument **HORIZON** is supplied as follows:

- ☒ Basic instrument, manufactured according to specifications, includes two location supports with adjustable bolt pads and location plates for instrument levelling
- ☒ Two standard anvils, tungsten carbide tipped measuring surfaces (TEL5)
- ☒ Rechargeable battery pack charging unit
- ☒ 5 mm allen key for accessory exchanges
- ☒ Protection cover, user's manual
- ☒ Test certificate and certificate of guarantee

H500	Measuring range 0 - 520 mm
H1000	Measuring range 0 - 1020 mm
H1500	Measuring range 0 - 1520 mm
H2000	Measuring range 0 - 2020 mm



HORIZON

Accessories for H

709 40 007	Measuring table with location centers
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709 40 018	Universal measuring table
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TEL5.10	Set of carbide parallel attachments 20 mm
TEL5.10E	Set of carbide parallel attachments 0.8 in



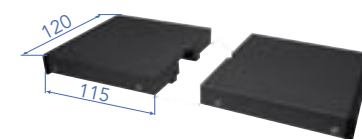
TELMA5.0	Set of carbide attachments for TELS50
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H-6	Supporting device for plug and threaded plug gauges
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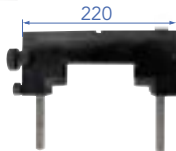







H-5	Set of supporting plates with floating movement
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TELMN9	Set of measuring devices for internal diameters from 10 mm
---------------	---



TEL5CN	Set of dial indicator holder with clamping Ø 8 mm	
TEL5CNE	clamping Ø 3/8 in	
TELMA7	Set of vertically adjustable supports	
TELMN7.1	Set of L-shaped supports	
TELMN7.2	Set of V-shaped supports	
356 0006	Printer and AC adaptor 220V/Europe	
356 0007	Printer and AC adaptor 110V/US	
356 0008	Printer and AC adaptor 240V/UK	
356 0009	Printer and AC adaptor 220V/Corée	
H-32	Bracket for printer	
V-31	Cable RS232C (printer)	
332 01 0001	Cable RS232C m-f (PC)	
788 000001 001	5 thermal paper rolls	

HORIZON^{GRANITE}

Standard instrument

The instrument **HORIZON GRANITE** is supplied as follows:

- ☒ Basic instrument, manufactured according to specifications, includes two location supports with adjustable bolt pads and location plates for instrument levelling
- ☒ Two standard anvils, tungsten carbide tipped measuring surfaces (TEL1)
- ☒ Compressed air tubing
- ☒ Protection cover, user's manual
- ☒ Test certificate and certificate of guarantee

HG4000	Measuring range 0 - 4000 mm
HG6000	Measuring range 0 - 6000 mm
HG8000	Measuring range 0 - 8000 mm



Measuring range beyond 8000 mm available on request.

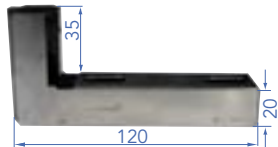
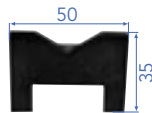
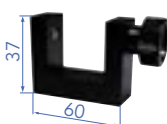







HORIZON^{GRANITE}

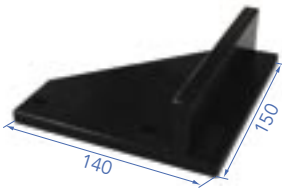
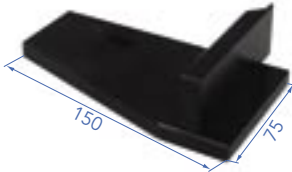





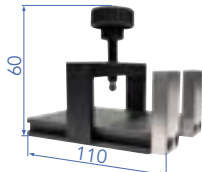



Accessories for HG

TEL2	Set of V-shaped blocks	
TEL17.1	Supporting device for setting of 2-point bore gauges	
HG-3	Set of vertically adjustable supports (50 mm)	
HG6001	Device for comparative measurements	
HG-05A	Set of base supports	
709 40 006	Measuring table with location centers	
709 40 016	Universal measuring table	
TEL14N	Clamping device for snap gauges from 12 to 150 mm	
TEL9.10	Set of carbide parallel attachments for internal diameters, with air cushion	
HPA-30	Display unit Heidenhain ND281B	
HPA-30.2	Location plate for HPA-30	
HG-30.3	Adjustable support	
332 01 0011	Connection cable HPA-30 - computer	
TULM30.3	External switch box for HPA-30	
332 01 0005	Connection cable HPA-30 - TULM30.3	

HORIZON HORIZON^{GRANITE}

Accessories for H and HG

TEL5	Set of carbide parallel attachments	
TEL5E	25 mm	
	1 in	
TEL11	Set of V-shaped blocks for checking external micrometers	
TEL10	Set of ball attachments Ø 10 mm	
TEL10E	Set of ball attachments Ø 1/2 in	
TEL6	Set of anvils with tungsten carbide tipped measuring surface	
TEL6/6.35	Ø 6.50 mm	
TEL6/8	Ø 6.35 mm	
	Ø 8.0 mm	
3P/0.17-3.2/S6.5	Set of wires on holders for checking pitch diameters of external threads, pitch of 0.25 to 5mm	
TULM6/L0.5	Set of knife-shaped anvils with tungsten carbide tipped measuring surfaces	
TEL7	Set of anvils with tungsten carbide balls, Ø 10 mm	
TEL18	Set of measuring devices for checking of pitch diameters of internal threads	
TEL18/50S	Set of cones, 60°	
TEL18/50SE	Set of cones, 55°	
TEL25D4M	Setting ring for cones TEL18/50S, 60°	
TEL25D4ME	Setting ring for cones TEL18/50SE, 55°	

TEL17	Set of supporting plates for setting 2-point bore gauges, max. length 330 mm	
TEL17.2	Set of supporting plates for setting 2-point bore gauges, max. length 180 mm	
TELMN4	Adjustable support for setting of the reversal point	
TEL2.1	Set of supports for parallel gauge blocks	
TEL3.1	Set of sleeves to hold dial indicators Ø 8 mm	
TEL3.1E	Set of sleeves to hold dial indicators Ø 3/8 in	
276 000230 001	Digital indicator, 50 mm	
TELMA8	Measuring device for snap gauges	
TEL19.1	Support square with holding system	
TULM40D.INT	Master ring gauge, Ø 40 mm, supplied with calibration certificate (SCS)	
TULM50D.EXT	Master plug gauge, Ø 50 mm, supplied with calibration certificate (SCS)	
TULM30.4	Foot pedal for data transfer	



TRIMOS

Measuring system for:
checking of gauges and
setting of comparative
measuring equipment
and checking of cylindri-
cal parts



premium
Horizon

Introduction

The HORIZON PREMIUM instruments fulfil today's requirements of high accuracy quality control equipment in production areas and take into consideration the EN ISO 9000/2000 standards.

The instruments may be used in a workshop area or installed in a quality control room for checking of measuring gauges and setting of all types of comparative measuring equipment.

The well designed, reliable new concept, obtained by superior engineering, ensures high precision and optimum results by easy manipulation as well as a precious level of productivity.

The modular design allows the selection between two levels of accuracy according to the measuring system selected : system with analog signal output and Heidenhain display unit or system with digital signal output, computer with TFT touch screen display and Trimos-WinDHI software.

A complete line of instrument ranges are available : from 500 mm up to 3000 mm. The wide selection of accessories allows solving the numerous checking and setting problems.

TFT touch screen with TRIMOS-WinDHI software for all required measuring functions (HPD)

System cable output, cable connection for measuring force transfer, battery compartment for measuring force device

Digital display of the set measuring force in Newton

Sliding accessory location block with standard probe HPA-1

Fixed accessory location block with standard probe HPA-1

Fixed datum support

T-shaped guide rail at the front and at the rear of the base. The support for the display unit is positioned into the rear one

Dimensionally stable instrument base positioned on three level points (two additional balance points). The scale is mounted into the carriage guide rail at the rear.



HORIZON PREMIUM

Features

Ideal for the use in a clean room and in the workshop area

New ergonomic concept

Display using a Heidenhain unit or TFT touch screen

Adjustable measuring force (from 0 to 12 N) visually controlled by digital read-out

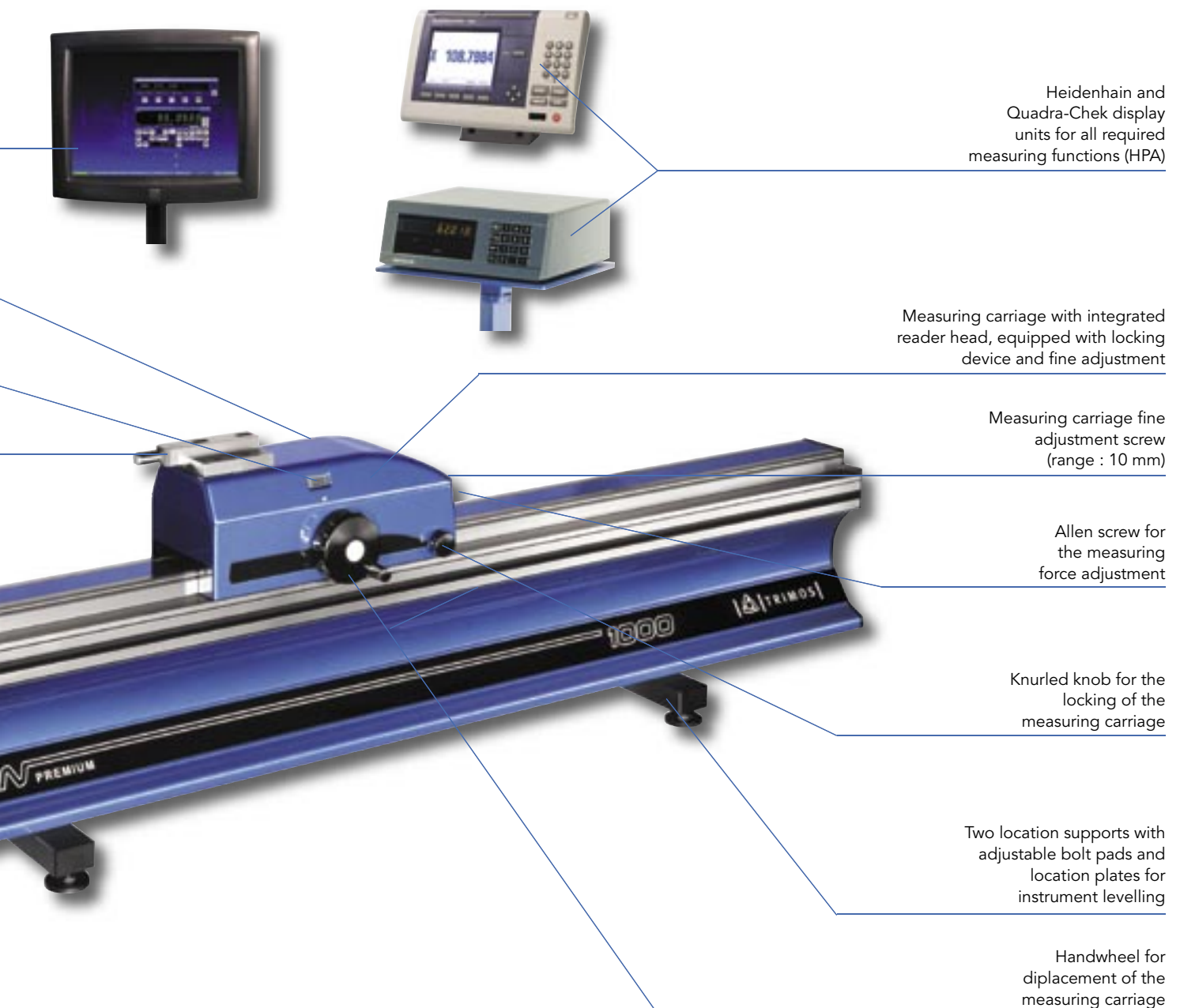
Locking device and fine adjustment of the measuring carriage

Large range of accessories to be exchanged quickly and easily

Modular system design

HORIZON PREMIUM

Description



Technical specification

Analog system		HPA500	HPA1000	HPA1500	HPA2000	HPA3000
Measuring range	mm(in)	0-550 (0-21)	0-1050 (0-41)	0-1550 (0-61)	0-2050 (0-80)	0-3050 (0-120)
Max. permissible errors ¹⁾	µm	0.7 + L (mm)/1000				
Repeatability (2s) ¹⁾	µm	0.2				
Resolutions	mm(in)	0.01/0.001/0.0001 (.001/.0001/.00001)				
Measuring force (adjustable)	N	0 - 12				
Displacement speed measuring carriage	m/s	1.5				
Operational temperature	°C	+10 to +40				
Relative humidity	%	20 - 80				
Weight	kg	95	125	160	200	280

¹⁾ Values valid with standard ball probe HPA-1 at temperature of 20± 0.2 °C and relative humidity of 50± 5%.

Digital system		HPD500	HPD1000	HPD1500	HPD2000	HPD3000
Measuring range	mm(in)	0-550 (0-21)	0-1050 (0-41)	0-1550 (0-61)	0-2050 (0-80)	0-3050 (0-120)
Max. permissible errors ¹⁾	µm	0.7 + L (mm)/1000				
Repeatability (2s) ¹⁾	µm	0.2				
Resolutions	mm(in)	0.01/0.001/0.0001 (.001/.0001/.00001)				
Measuring force (adjustable)	N	0 - 12				
Displacement speed measuring carriage	m/s	1.5				
Operational temperature	°C	+10 to +40				
Relative humidity	%	20 - 80				
Weight	kg	95	125	160	200	280

¹⁾ Values valid with standard ball probe HPA-1 at temperature of 20± 0.2 °C and relative humidity of 50± 5%.

HORIZON PREMIUM

Display/Software



HPA



Functions of Heidenhain display unit ND281B

Linear measuring system, minimum/maximum value hold

Digital display

Zero setting of the display and preset input

Parameter settings and classification

Configuration of the display using external contact function

RS232 data output



Functions of Quadra-Chek display unit QC 110

Linear measuring system, minimum/maximum value hold

Digital display

Zero setting of the display and preset input

RS232 data output

Parallel output

External foot switch

HPD



Computer with software WinDHI

Touch screen

Dimension 15"

Resolution of 1024 x 768

Display/Software

TRIMOS-WinDHI Software allows the performance of all required measuring functions and the connection of a gauge inspection and management system



Functions of the Trimos-WinDHI software:

- DDE-Server (for Excel, Word, etc.)
- Multi-windows mode on the screen
- Graphic help for measuring functions
- Linear type analog display or with pointer, selectable scale resolution
- Digital display of the selected measuring force in Newton (N)
- Selection of the measuring unit mm/inch
- Direct display of all length measuring values and minimum/maximum value hold
- Selection of resolution : 0.01mm/0.001mm/0.0001mm
- Measuring with two references
- Input of 9 preset values
- Inversion of measuring direction sign (+/-)
- Data transfer using a foot peda

Gauge inspection and management system QMSOFT-Trimos



Trimos recommends the QMSOFT (Quality Management Software) software package from L&W. This powerful system allows the inspection and management of gauge data of all measuring tools available. Calibration sequences for standard measuring equipment with on-line data transfer from the instrument are realized by specially developed program modules.

The calibration sequences are completed according to national, international and user defined standards. All required nominal sizes and tolerances are available in the program system. Inspection certificates may be customized for individual presentation using a graphic editor.



HORIZON PREMIUM

Checking of cylindrical parts

This accessory is mounted directly on the side of the horizontal measuring instrument HPA. It allows quick performance of all measurements on cylindrical parts.



Diameter measurements

Depth of recesses

Length, distances

Width of recesses and shoulders

Roundness

External threads

Technical specification

Length measurements (X)		HPA500	HPA1000	HPA1500
Max. length of the part	mm	400	900	1400
Max. resolution	mm	0.0001		
Max. permissible errors ¹⁾	μm	3 + L(mm)/300	3 + L(mm)/400	3 + L(mm)/400
Repeatability (2s) ¹⁾	μm	1		

Diameter measurements (Y)		HPA500	HPA1000	HPA1500
Max. diameter of the part	mm	100		
Max. resolution	mm	0.0001		
Max. permissible errors ¹⁾	μm	2 + L(mm)/100		
Repeatability (2s) ¹⁾	μm	1		
Max. weight of the part to be checked	kg	20		

¹⁾ Values are valid at temperature of 20± 0.2 °C and relative humidity of 50± 5%.

Display units

The horizontal measuring instruments HPA, which may be equipped with the device for checking cylindrical parts, can be supplied with a different display unit as option, according to order:

2x Heidenhain ND281B



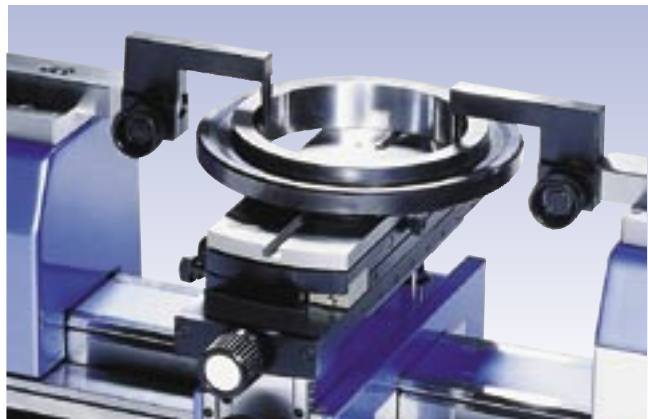
Quadra-Chek QC 120



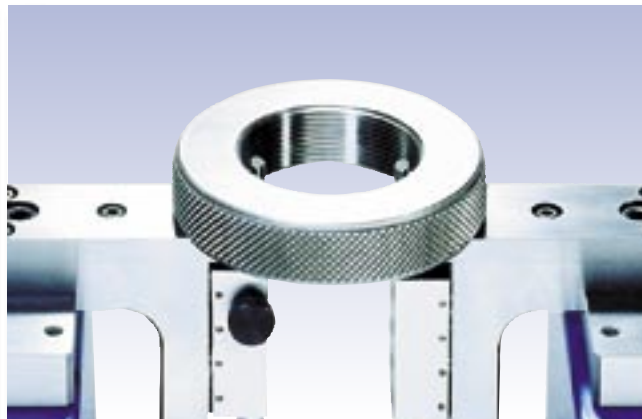
HORIZON^{PREMIUM}

Applications

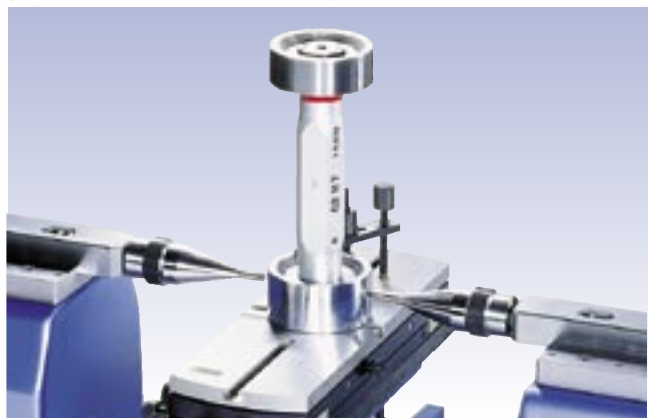
Checking of ring gauges
(HPA-13, TEL14.1, TEL14.2, TEL16.1, TEL16.2)



Checking of thread ring gauges
(TEL18)



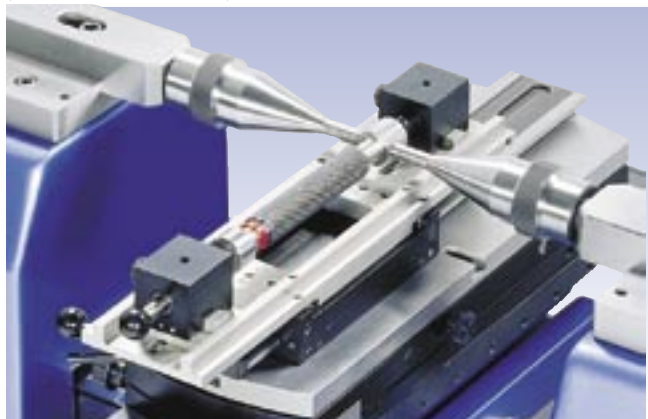
Checking of plug gauges
(HPA-13, TEL14.1, TEL14.2, TEL6)



Checking of thread plug gauges
(HPA-13, TEL14.1, TEL14.2, TEL6, 3P/0.17-3.2/S6.5)



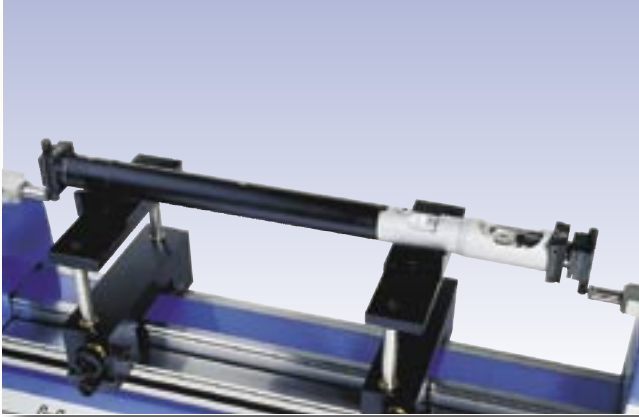
Checking of plug gauges between centers
(HPA-13, TELS6, TEL6)



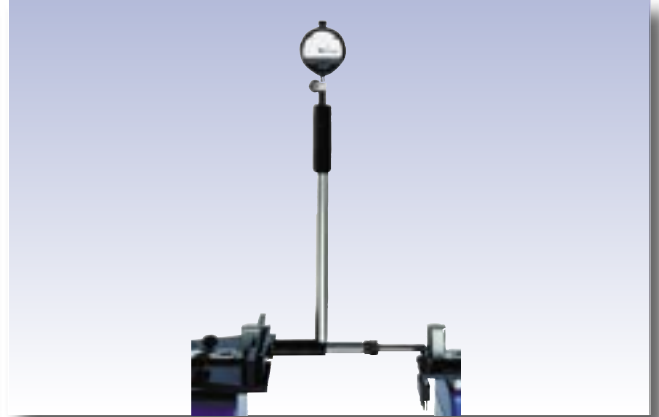
Checking of thread plug gauges between centers
(HPA-13, TELS6, TEL6, 3P/0.17-3.2/S6.5)



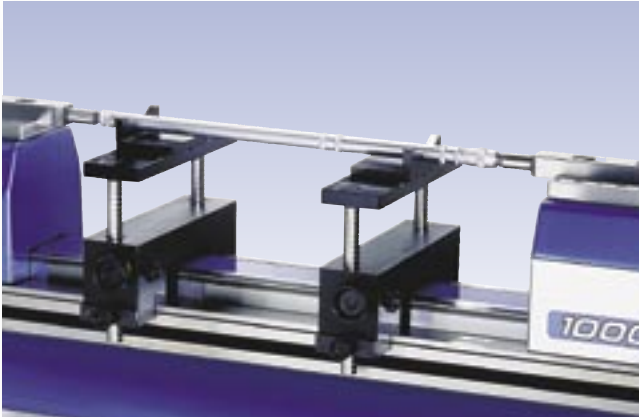
**Setting of 2-point comparative measuring equipment
(TELMA7, TELMN7.2)**



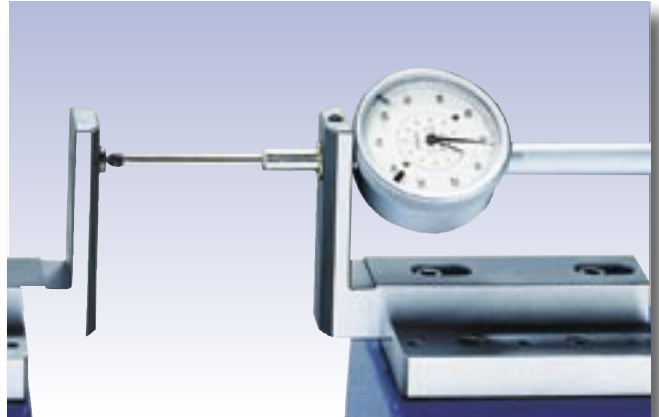
**Setting of 2-point bore gauges
(TEL5, TEL17.2, TELMN4)**



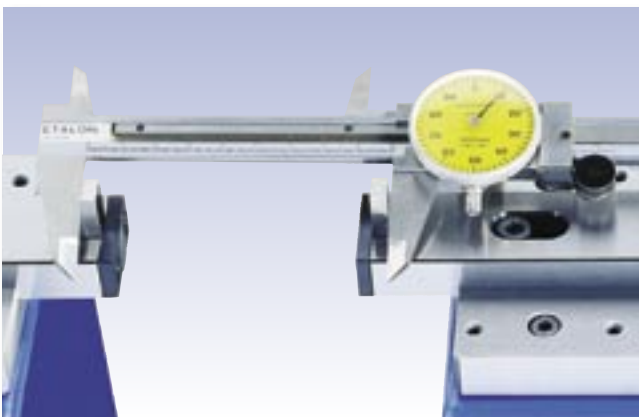
**Setting of 2-point comparative measuring equipment
(TELMA7, TELMN7.2)**



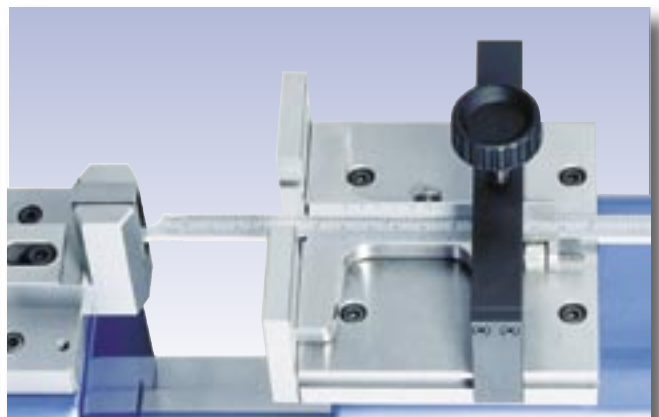
**Checking of dial indicators
(TEL5CN)**



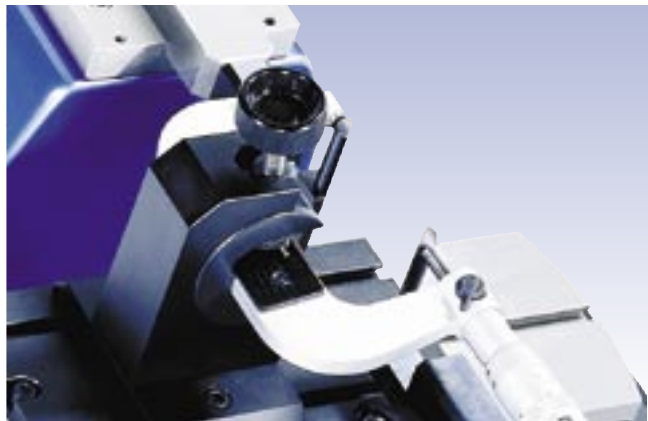
**Checking of calipers
(TEL5.10)**



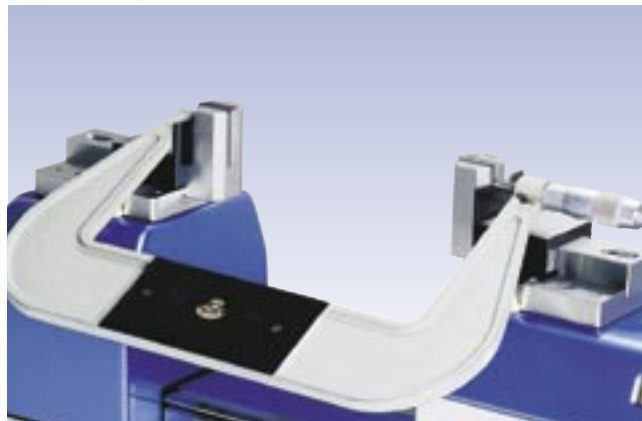
**Checking of depth gauges
(TEL5, TEL19.1)**



**Checking of external micrometers
(HPA-13, TULM14)**



**Checking of external micrometers
(TEL5, TEL11)**



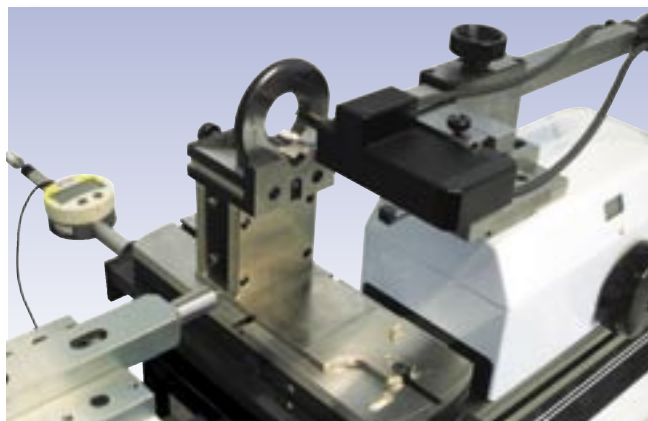
**Checking of snap gauges
(HPA-13, TEL14N, TEL16.1)**



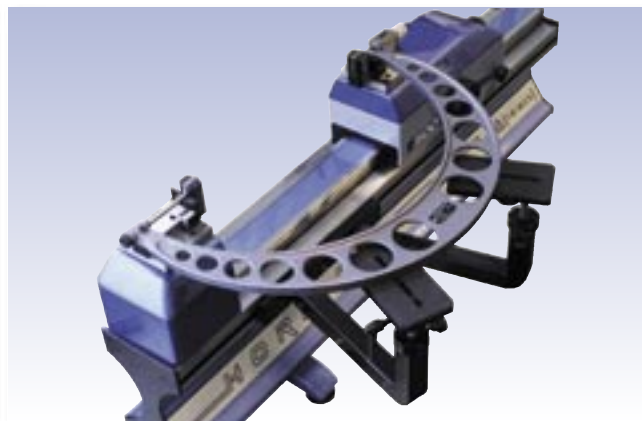
**Checking of thread ring gauges
(HPA-13, LABC-70, TEL75)**



**Taper thread ring gauge control
(LABC-80)**



**Large micrometers control
(LABC-20)**



HORIZON PREMIUM

Standard instrument

The **HORIZON PREMIUM** with **analog measuring system** is supplied as follows:

- ☒ Basic instrument, manufactured according to specifications, includes two location supports with adjustable bolt pads and location plates for instrument levelling
- ☒ Hexagonal wrench set
- ☒ Two standard anvils, tungsten carbide tipped measuring surfaces (HPA-1)
- ☒ Protection cover, user's manual
- ☒ Test certificate and certificate of guarantee

HPA500	Measuring range 0 - 550 mm
HPA1000	Measuring range 0 - 1050 mm
HPA1500	Measuring range 0 - 1550 mm
HPA2000	Measuring range 0 - 2050 mm
HPA3000	Measuring range 0 - 3050 mm



HORIZON PREMIUM

Accessories for HPA

351 101 0011	Display unit for Quadra-Chek QC 110 (11 µA)
351 201 0012	Display unit for Quadra-Chek QC 120 (11 µA)
HPA-30	Display unit for Heidenhain ND281B
HPA-30.1	Adjustable support for HPA-30 or Quadra-Chek
HPA-30.2	Location plate for HPA-30
612 12 076	Location for Quadra-Chek
609 00 035	Accessory for measuring cylindrical parts
612 32 003	Supporting device for parts without centers



HORIZON PREMIUM

Standard instrument

The **HORIZON PREMIUM** with **digital system** is supplied as follows:

- ✓ Basic instrument, manufactured according to specifications, includes two location supports with adjustable bolt pads and location plates for instrument levelling
- ✓ Two standard anvils, tungsten carbide tipped measuring surfaces (HPA-1)
- ✓ Adjustable support for screen (HPA-30.1)
- ✓ Computer with touch screen
- ✓ Touch screen pen
- ✓ Interface (HPD-30)
- ✓ Foot pedal for data transfer (TULM30.4)
- ✓ Opto-RS connection cable, used for display of measuring force (TVM.O-PC/AT.9P)
- ✓ Protection cover, user's manual
- ✓ Test certificate and certificate of guarantee
- ✓ Hexagonal wrench set

HPD500	Measuring range 0 - 550 mm
HPD1000	Measuring range 0 - 1050 mm
HPD1500	Measuring range 0 - 1550 mm
HPD2000	Measuring range 0 - 2050 mm
HPD3000	Measuring range 0 - 3050 mm



HORIZON PREMIUM

Accessories for HPD

LABC-70	Measuring device Measuring device for checking of internal diameters from 1mm upwards and pitch diameters of internal threads from M4 upwards (composed of supporting device TULM70.2 and measuring element LABC70.1)
LABC-40	USB standard printer
LABC-40.1	USB connection cable for LABC-40
TEL75	Set of T-shaped measuring inserts with ruby balls (for pitch from 0.7 mm)
TEL76	Set of ruby balls measuring inserts (for pitch from 1 mm)
358 0006	USB - RS232 converter
333 9 0003	Cable Opto-PC/AT 9 P/F 2 m



LABC80.1 Taper thread measuring system

LABC80.2 Electronic probe support LABC70.1

LABC80.3 Fixation system for rings and buffers

LABC80.4 Fixation system for comparator

LABC80.5 Storage case

Compatible Win DHI program

WARNING ! This system does not include:

LABC-13 Universal measuring table

TEL75 Set of T-shaped measuring inserts ruby balls

276 000230 001 Digital indicator

276 940001 004 Electronic probe

QM-Soft software

333 9 0003 Cable Opto/RS

358 0006 USB-RS232 converter

LABC80 Complete measuring system for taper threads

LABC80.1 Taper thread measuring system

LABC70.1 Electronic probe



TempComp

Temperature compensation system see p. 124

HORIZON PREMIUM

Accessories for HPA/HPD

LABC-13 Universal measuring table

Plate dimensions : 250 x 85 mm

Height displacement : 50 mm

Cross motion : 50 mm

Horizontal rotation : $\pm 1.5^\circ$

Angle inclination : $\pm 1^\circ$

Floating surface movement : ± 5 mm

Permitted charge : 10 kg



HPA-14 Universal measuring table for heavy parts

Plate dimensions : 360 x 120 mm

Height displacement : 50 mm

Cross motion : 50 mm

Horizontal rotation : $\pm 1.5^\circ$

Angle inclination : $\pm 1^\circ$

Floating surface movement : ± 5 mm

Permitted charge : 40 kg



HPA-12 Location centers measuring table

Diameters measurements : 100 mm max

Lengths measurements : 190 mm max

Cross motion : 100 mm













Angle inclination : $\pm 1^\circ$

Floating surface movement : ± 5 mm










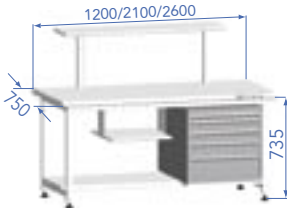







TELMA7 Set of vertically adjustable supports



TEL16.1	Set of L-shaped probes, height of 25 mm	
TEL16.2	Set of L-shaped probes, height of 40 mm	
TEL14N	Clamping device for snap gauges from 12 to 150 mm	
TELS6	Floating measuring table with location centers and V-shaped supports	
TEL14.1	Set of clamping attachments, for height of 40 mm	
TEL14.2	Set of clamping attachments, for height of 60 mm	
TEL18	Set of measuring devices for checking of pitch diameters of internal threads	
TEL18/50S	Set of cones, 60°	
TEL18/50SE	Set of cones, 55°	
TEL25D4M	Setting ring for cones TEL18/50S, 60°	
TEL25D4ME	Setting ring for cones TEL18/50SE, 55°	
609 05 098	Pair of special probes	
605 01 012	Case with set of probes for thread meas. ISO 60°	
605 01 013	Case with set of probes for thread meas. Withwort 55°	
TEL6	Set of anvils with tungsten carbide tipped measuring surface Ø 6.50 mm	
TEL6/6.35	tipped measuring surface Ø 6.35 mm	
TEL6/8	tipped measuring surface Ø 8.0 mm	
3P/0.17-3.2/S6.5	Set of wires on holders for checking pitch diameters of external threads, pitch of 0.25 to 5 mm	
TULM6/L0.5	Set of knife-shaped anvils with tungsten carbide tipped measuring surfaces	

TEL7	Set of anvils with tungsten carbide balls Ø 10 mm	
TEL5	Set of carbide parallel attachments	
TEL5E	25 mm	
	1 in	
TEL5.10	Set of carbide parallel attachments 20 mm	
TEL5.10E	Set of carbide parallel attachments 0.8 in	
TEL5CN	Set of dial indicator holder with clamping	
TEL5CNE	Ø 8 mm	
	Ø 3/8 in	
TEL19.1	Support square with holding system	
TULM5C	Dial indicator holder for	
TULM5E	max. range of 50 mm (over HPA-1), Ø 8 mm	
	Ø 3/8 in	
TULM15	Adjustable holding device	
	for lever dial indicator (over HPA-13)	
TEL11	Set of V-shaped blocks for	
	checking external micrometers	
TULM14	Holding device for checking external micrometers	
	from 12 to 100 mm (over HPA-13)	
TEL17	Set of supporting plates for setting	
	2-point bore gauges, max. length 330 mm	
TEL17.2	Set of supporting plates for setting	
	2-point bore gauges, max. length 180 mm	

TELMN4	Adjustable support for setting of the reversal point	
TEL2.1	Set of supports for parallel gauge blocks	
LABC-20	Pair of holders for large size micrometers	
TULM40D.INT	Master ring gauge, Ø 40 mm, supplied with calibration certificate (SCS)	
TULM50D.EXT	Master plug gauge, Ø 50 mm, supplied with calibration certificate (SCS)	
TULM13.2	Holding device for indicator (HPA-13)	
276 000230 001	Digital indicator, 50 mm	
TELMN7.1	Set of L-shaped supports	
TELMN7.2	Set of V-shaped supports	
LABC-TAB500 LABC-TAB1000 LABC-TAB1500	Table for horizontal instruments	
332 01 0011	Connection cable HPA-30 - computer	
TULM30.3	External switch box for HPA-30	
332 01 0005	Connection cable HPA-30 - TULM30.3	
TULM30.4	Foot pedal for data transfer for HPA-30	
3706 0009	Foot pedal for display unit Quadra-Chek	



TRIMOS

Measuring system for :
calibration and certification
of gauging equipment of small dimensions



THV

Introduction

The horizontal THV instrument has been designed for calibration and certification of gauging equipment up to a certain dimension.

It allows easy and precise checking of plug gauges, ring gauges, thread plug gauges, test and dial indicators as well as measuring of high precision production parts.

The incorporated opto-electronic measuring system guarantees high accuracy. The required measuring functions are obtained by a separate display unit or a computer added screen display, functioning with TRIMOS-WinDHI software.

The absolute measuring range extends over 50 mm, the application range for internal measurements is 5 - 100 mm, for external measurements 0 - 100 mm. The overall accuracy is 0.4 μm .

Appropriate accessories to solve all measuring tasks are available.

Interchangeable anvils for internal measurements

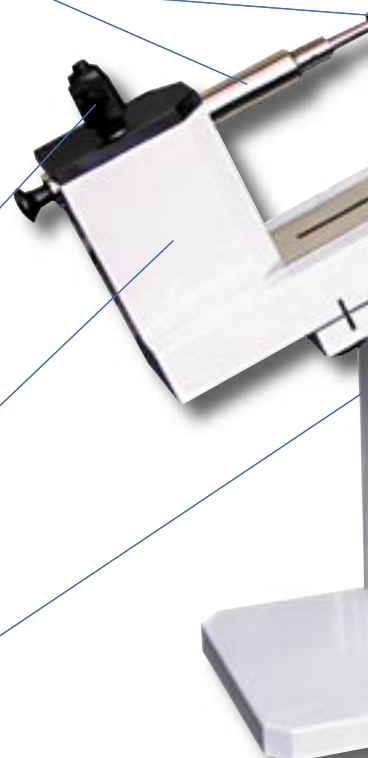
Rigid or floating measuring table, stainless steel, hardened and ground, adjustable in height

Interchangeable anvils for external measurements

Locking lever to fix the probe holder in position

Fixed datum support with probe holder location

Stand for instrument inclination





THV

Features

Extremely suitable for the calibration of gauging equipment

The instrument meets the requirements of all EN ISO 9000/2000 standards

Very simple manipulation

Large range of accessories to be exchanged quickly and easily

Checking of internal and external dimensions using a single measuring element

According to the application, the instrument can be used in horizontal position or it can be inclined through 90° using the additional stand

THV

Description



THV

Technical specification

		THV
Absolute measuring range	mm(in)	0 - 50 (0 - 2)
Application range (internal)	mm(in)	5 - 100 (.2 - 4)
Application range (external)	mm(in)	0 - 100 (0 - 4)
Max. permissible errors ¹⁾	µm	0.2+L(mm)/250
Repeatability (2s) ¹⁾	µm	0.1
Resolutions (according to display unit)	mm(in)	0.01 to 0.00001 (.0001 to .000001)
Measuring force (adjustable)	N	0 - 4
Weight (without stand)	kg	22
Weight (with stand)	kg	41

¹⁾ Values valid at temperature of 20± 0.2 °C and relative humidity of 50± 5%.

THV

Display/Software



Heidenhain ND281B and Quadra-Chek QC110 display units

Linear measuring system, min./max. value hold

Digital display

Zero setting of the display and preset input

Classification

Configuration of the display using external contact function

RS232 data output



Computer with WinDHI-THV software

Direct display of all length measuring values

Input of 9 preset values

Inversion of measuring direction sign

Data transfer using a foot pedal

Multi-windows mode on the screen

Graphic help for measuring functions

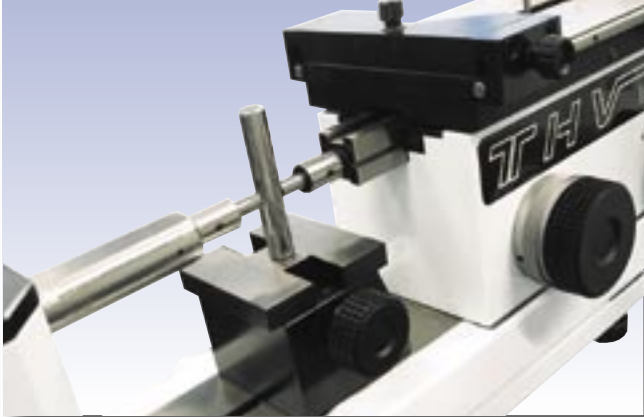
Selection of the measuring unit mm/inch

DDE-Server (for Excel, Word, etc.)

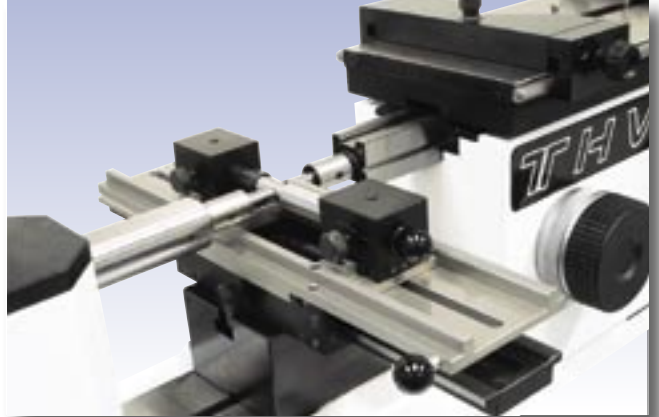
THV

Applications

**Measuring of precision parts
(THV-100, THV-101)**



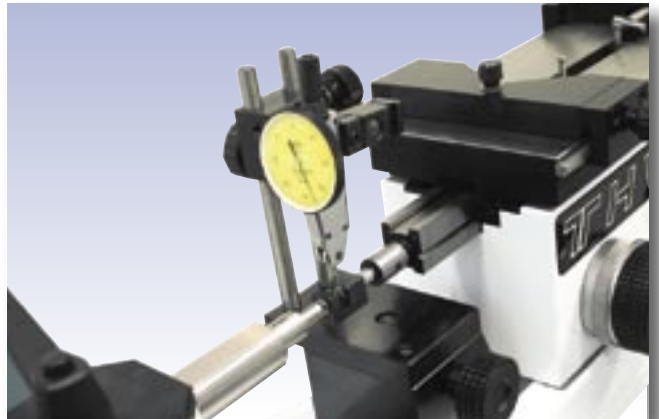
**Checking of external diameter
(THV-160, TELS6)**



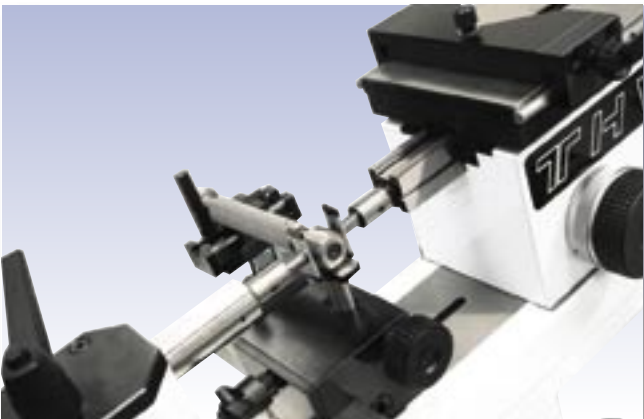
**Checking of internal diameters
(THV-250, THV-260)**



**Checking of test indicators
(THV-100, THV-150, THV-180)**



**Checking of plug gauges and thread plug gauges
(THV-170, THV-200)**



THV

Standard instrument

The instrument **THV** is supplied as follows:






- ☒ Basic instrument, manufactured according to specifications
- ☒ Standards measuring anvils for external measurements with tungsten carbide tipped measuring surface (TELS50)
- ☒ Standards inserts for internal measurements (THV-10 or THV-20)
- ☒ Protection cover
- ☒ User's manual
- ☒ Test certificate and certificate of guarantee










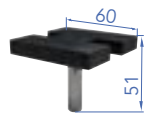

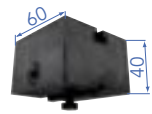
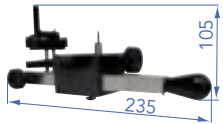





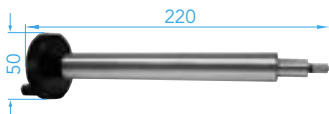





	Rigid measuring table THV-1	Floating measuring table THV-250
Instrument with measuring system	THVR.0-50	THVR.0-50S
Instrument without measuring system	THV.0-50	THV.0-50S

THV

Accessories

616 40 002	Computer with WinDHI-THV software	
HPA-30	Display unit Heidenhain ND281B	
351 101 1001	Display unit Quadra-Chek QC 110 (1V pp)	
THV-1	Rigid measuring table	
THV-10	Set of inserts for internal measurements from 10 mm upwards for THV-1	

THV-11	Set of inserts for internal measurements from 2.5 mm upwards THV-1	
THV-12	Set of ball inserts from 13 mm for rigid measuring table THV-1	
THV-15	Set of inserts for internal measurements from 5 mm for rigid measuring table THV-1	
THV-250	Floating measuring table	
THV-20	Set of inserts for internal measurements from 10 mm for floating measuring table THV-250	
THV-21	Set of inserts for internal measurements from 2.5 mm for floating measuring table THV-250	
THV-22	Set of inserts for internal measurements from 13 mm for floating measuring table THV-250	
THV-25	Set of inserts for internal measurements from 5 mm for floating measuring table THV-250	
THV-100	Block support for THV-101 and THV-150	
THV-101	Plate with H-shaped clearance	
THV-150	Holding device for checking test indicators	
THV-160	Block support for TELS6	
THV-170	Supporting device for checking external diameters	

THV-174	Supporting V for thread plug gauges	
THV-175	Supporting pin, Ø 3 mm	
THV-176	Supporting pin, Ø 6 mm	
THV-180	Micrometer spindle for checking dial and test indicators	
THV-181	Holder for checking dial indicators, Ø 8 mm	
THV-181E	Holder for checking dial indicators, Ø 3/8 in	
THV-200	Adjustable support	
THV-260	System for search of reversal point for int. diameters	
THV-261	System for search of reversal point for int. diameters	
TELS6	Floating measuring table with location centers, Ø 30	
TELS50	Set of measuring anvils Ø 6.5 mm	
TELS51	Probe holder for measuring points with M2.5 threads	
TELS51E	Probe holder for measuring points with 4/48in threads	
TELS51/D3.5	Probe holder with Ø 3.5 mm threads	
TELS52	Set of measuring anvils, Ø 8 mm	
TELS53	Set of measuring anvils, Ø 2 mm	
TELS53/D1	Flat measuring anvils Ø 1 mm on 2 mm	



TRIMOS

Measuring system for :
calibration and certification
of all kind of gauges



labconcept+premium

Introduction

The Labconcept and Labconcept Premium are a high precision calibration system to meet the most sophisticated requirements.

The up-to-date, well designed modular concept enables extremely secure functioning, facilitates the manipulation and therefore increases the productivity in the measuring laboratory. Simplicity and high accuracy have been associated.

This new concept, integrating an industrial computer and a TFT touch screen as well as the appropriate Trimos-WinDHI software with all necessary measuring functions guarantees the best results.

The connection of a gauge inspection and management system turns the Labconcept into a complete universal calibration system.

Two models are available, with measuring range of 500 mm and 1000 mm. A wide selection of accessories allows solving all required calibration tasks.

System cable output, cable connection for measuring force transfer, battery compartment for measuring force device

Digital display of the set measuring force in Newton

Sliding accessory location block with standard probe HPA-1

Fixed accessory location block with standard probe HPA-1

Fixed datum support

T-shaped guide rail at the front and at the rear of the base. The support for the display unit is positioned into the rear one

Dimensionally stable instrument base positioned on three level points (two additional balance points). The scale is mounted into the carriage guide rail at the rear



LABCONCEPT

LABCONCEPT PREMIUM

Features

The instrument meets the requirements of all EN ISO 9000/2000

An up-to-date, well designed concept integrating an industrial computer, a TFT touch screen as well as appropriate software facilitate the realization of all calibration procedures

Dimensionally stable instrument base combined with a high precision measuring system

Adjustable measuring force (from 0 to 12 N), visually controlled by digital read-out

Locking and fine adjustment device of the measuring carriage of 10 mm

Large range of accessories to be exchanged quickly and easily

LABCONCEPT LABCONCEPT PREMIUM

Description



LABCONCEPT

Technical specification

		LABC500	LABC1000
Measuring range	mm(in)	550 (21)	1050 (41)
Max. permissible errors ¹⁾	µm	0.3 + L (mm)/1500	
Repeatability (2s) ¹⁾	µm	0.1	
Resolutions	mm(in)	0.01 to 0.00001 (.0001 to .000001)	
Measuring force	N	0 - 12	
Displacement speed of measuring carriage	m/s	1.5	
Operational temperature	°C	+10 to +40	
Relative humidity	%	20 - 80	
Weight	kg	95	125

¹⁾ Values valid with standard ball probe HPA-1 at temperature of 20± 0.2 °C and relative humidity of 50± 5%.

LABCONCEPT PREMIUM

Technical specification

		LABCP500	LABCP1000
Measuring range (depending on accessory)	mm(in)	550 (21)	1050 (41)
Max. permissible errors ¹⁾	µm	0.15 + L (mm)/2000	
Repeatability (2s) ¹⁾	µm	0.05	
Resolutions	mm(in)	0.01 to 0.00001 (.0001 to .000001)	
Measuring force	N	0 - 12	
Displacement speed measuring carriage	m/s	0.4	
Operational temperature	°C	+10 to +40	
Relative humidity	%	20 - 80	
Weight	kg	95	125

¹⁾ Values valid with standard ball probe HPA-1 at temperature of 20± 0.2 °C and relative humidity of 50± 5%.

LABCONCEPT

LABCONCEPT PREMIUM

Display/Software



Computer with WinDHI software

Touch screen

Dimension 15"

Resolution of 1024 x 768

LABCONCEPT LABCONCEPT PREMIUM

Display/Software

TRIMOS-WinDHI Software allows the performance of all required measuring functions and the connection of a gauge inspection and management system



Functions of Trimos-WinDHI software:

- DDE-Server (for Excel, Word, etc.)
- Multi-windows mode on the screen
- Graphic help for measuring functions
- Linear type analog display or with pointer, selectable scale resolution
- Digital display of the selected measuring force in Newton (N)
- Selection of the measuring unit mm/inch
- Direct display of all length measuring values and mini/max value hold
- Selection of resolution : 0.001/0.0001/0.00001 mm
- Measuring with two references
- Input of 9 preset values
- Inversion of measuring direction sign (+/-)
- Data transfer using a foot pedal

Gauge inspection and management system QMSOFT-Trimos



Trimos recommends the QMSOFT (Quality Management Software) software package from L&W. This powerful system allows the inspection and management of gauge data of all measuring tools available. Calibration sequences for standard measuring equipment with on-line data transfer from the instrument are realized by specially developed program modules.

The calibration sequences are completed according to national, international and user defined standards. All required nominal sizes and tolerances are available in the program system. Inspection certificates may be customized for individual presentation using a graphic editor.

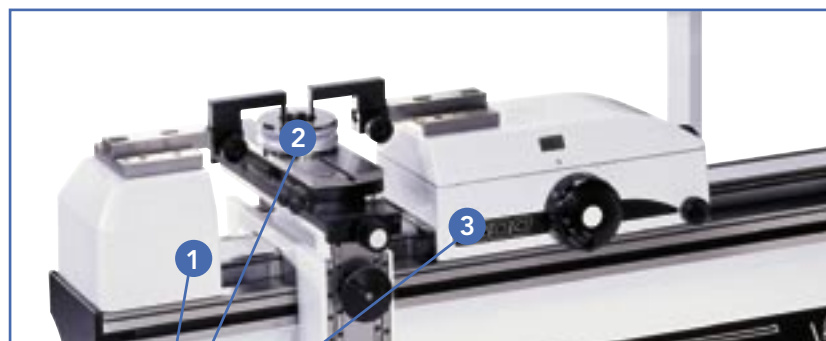


LABCONCEPT LABCONCEPT PREMIUM

Temperature compensation system TempComp

TRIMOS® Temperature Compensation System gives a solution to air conditioning problems in measuring laboratories. It has been specified for TRIMOS Labconcept and Labconcept Premium as well as HPD.

WinComp software allows the acquisition and management of temperature data. It establishes a permanent connection with Win DHI, guaranteeing real-time compensation of the measurement according to the evolution of temperatures. The user is permanently informed of the reliability level of the measurings carried out.



- 1 Instrument sensor
- 2 Part sensor
- 3 Carriage sensor

Temperature acquirer

2 temperature compensation systems are offered :

TempComp Basic

Very simple temperature compensation system including 2 temperature sensors. One is placed on the instrument and the other on the part to be measured. The temperature measuring is managed by **WinComp** software.

TempComp Premium

Competitive temperature compensation system including 3 temperature sensors. 2 are placed on the instrument and 1 on the part to be measured. The temperature measuring is managed by **WinComp** software.



Technical specification

Application range (temperature)	°C	+16 to +24
Max. resolution (temperature)	°C	0.01
Max. permissible errors (temperature)	°C	0.05

LABCONCEPT LABCONCEPT PREMIUM

Environment conditions follow-up system TempComp Advanced

TRIMOS® Environnement Control System represents an evolution in the temperature compensation system. It offers a real-time compensation of the measurements according to the evolution of temperatures, as well as the control of all environmental parameters in your laboratory.

WinComp Advanced software offers, on top of **WinComp** functionalities, the possibility to check your laboratory in real time via Internet, Intranet, mobile phone, etc..



TempComp Advanced

<http://support.trimos.ch/labo>

Exclusive temperature compensation system with environmental parameters verification of the laboratory. The temperature measuring is managed by **WinComp Advanced**.

This system allows to run 9 sensors located as follows :

- 2 temperature sensors placed on the instrument
- 1 temperature sensor placed on the part to be measured
- 4 surrounding temperature sensors in different parts of the laboratory
- 1 relative humidity sensor
- 1 atmospheric pressure sensor



Technical specification

Application range (temperature)	°C	+16 to +24
Max. resolution (temperature)	°C	0.01
Max. permissible errors (instrument temperature)	°C	0.05
Max. permissible errors (environmental temperature)	°C	0.16
Max. permissible errors (humidity)	%	± 2
Max. permissible errors (pression)	mbar	± 0.5 %

LABCONCEPT LABCONCEPT PREMIUM

Applications

Checking of ring gauges
(LABC-13, TEL14.1, TEL14.2, TEL16.1, TEL16.2)



Checking of plug gauges and thread plug gauges
(LABC-13, TEL14.1, TEL14.2, TEL6)



Checking of ring gauges
(LABC-13, TEL14.1, TEL14.2, LABC-70, TEL76)



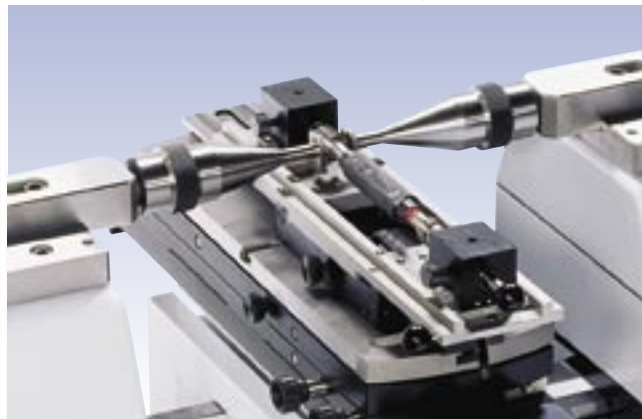
Checking of thread ring gauges
(LABC-13, TEL14.1, TEL14.2, LABC-70, TEL75)



Checking of plug gauges between centers
(LABC-13, TELS6, TEL6)



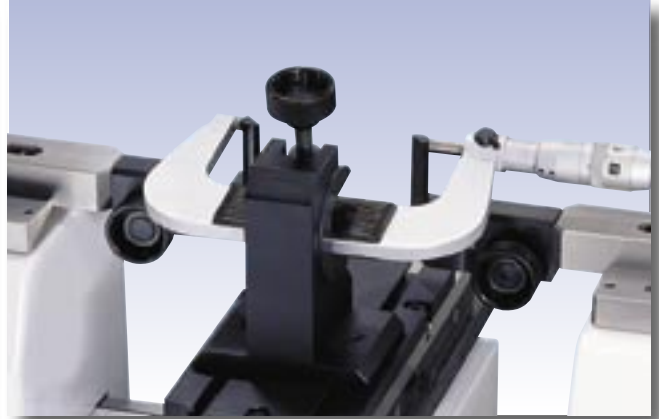
Checking of tread plug gauges between centers
(LABC-13, TELS6, TEL6, 3P/0.17-3.2/S6.5)



**Checking of snap gauges from 12 to 150 mm
(LABC-13, TEL14N, TEL16.1)**



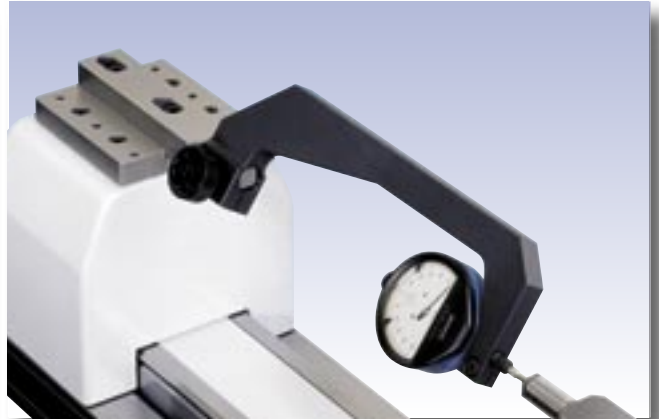
**Checking and setting of external micrometers from
12 to 100 mm (LABC-13, TULM14)**



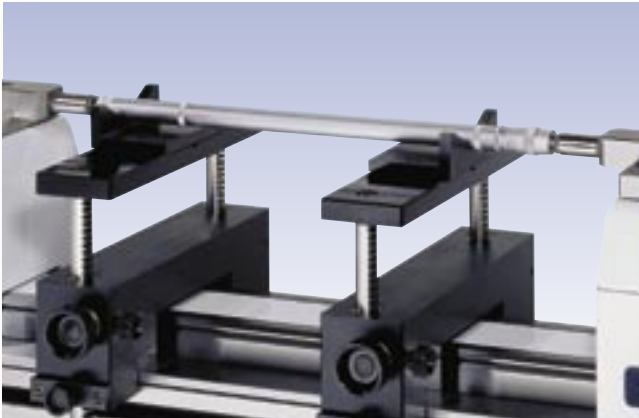
**Checking of test indicator
(TULM15)**



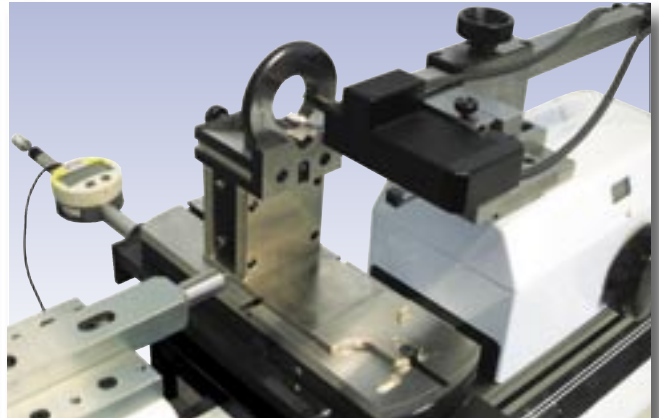
**Checking of dial indicators and dial comparators
up to 50 mm range (TULM5C)**



**Setting of 2-point comparative measuring equipment
(TELMA7, TELMN7.2)**



**Taper thread ring gauge control
(LABC-80)**



LABCONCEPT LABCONCEPT PREMIUM

Standard instrument

The **LABCONCEPT** and **LABCONCEPT PREMIUM** are supplied as follows:

- ✓ Basic instrument, manufactured according to specifications, includes two location supports with adjustable bolt pads and location plates for instrument levelling
- ✓ Standard anvils, tungsten carbide tipped measuring surfaces (HPA-1)
- ✓ Adjustable support for screen (LABC-30.1)
- ✓ Computer with touch screen
- ✓ Touch screen pen
- ✓ Interface (LABC-30)
- ✓ Lapping stone for probe
- ✓ Foot pedal for data transfer (TULM30.4)
- ✓ Hexagonal wrench set
- ✓ Opto-RS connection cable, used for display of measuring force (TVM.O-PC/AT.9P)
- ✓ Printer (LABC-40) and connection cable (LABC-40.1)
- ✓ Protection cover, user's manual
- ✓ Test certificate and certificate of guarantee

LABC500	Measuring range 0 - 500 mm
LABC1000	Measuring range 0 - 1000 mm
LABCP500	Measuring range 0 - 500 mm
LABCP1000	Measuring range 0 - 1000 mm



LABCONCEPT LABCONCEPT PREMIUM

Accessories

LABC-13	Universal measuring table Plate dimensions : 250 x 85 mm Height displacement : 50 mm Cross motion : 50 mm Horizontal rotation : $\pm 1.5^\circ$ Angle inclination : $\pm 1^\circ$ Floating surface movement : ± 5 mm Permitted charge : 10 kg
HPA-14	Universal measuring table for heavy parts Plate dimensions : 360 x 120 mm Height displacement : 50 mm Cross motion : 50 mm Horizontal rotation : $\pm 1.5^\circ$ Angle inclination : $\pm 1^\circ$ Floating surface movement : ± 5 mm Permitted charge : 40 kg
TULM13.2	Holding device for indicator (LABC-13)
276 000230 001	Digital indicator, 50 mm



TELMA7	Set of vertically adjustable supports	
TELMN7.1	Set of L-shaped supports	
TELMN7.2	Set of V-shaped supports	
TELS6	Floating measuring table with location centers and V-shaped supports	
TEL16.1	Set of L-shaped probes: height of 25 mm	
TEL16.2	Set of L-shaped probes: height of 40 mm	
TEL14N	Clamping device for snap gauges from 12 to 150 mm	
TEL14.1	Set of clamping attachments for height of 40 mm	
TEL14.2	Set of clamping attachments for height of 60 mm	
LABC-70	Measuring device Measuring device for checking of internal diameters from 1mm upwards and pitch diameters of internal threads from M4 upwards (composed of supporting device TULM70.2 and measuring element LABC70.1)	
TEL75	Set of T-shaped measuring inserts with ruby balls (for pitch from 0.7 mm)	
TEL76	Set of ruby balls measuring inserts (for pitch from 1 mm)	
TEL6	Set of anvils with tungsten carbide tipped measuring surface Ø 6.50 mm	
TEL6/6.35	tipped measuring surface Ø 6.35 mm	
TEL6/8	tipped measuring surface Ø 8.0 mm	
TULM6/L0.5	Set of knife-shaped anvils with tungsten, carbide tipped measuring surfaces	

TEL7	Set of anvils with tungsten carbide balls Ø 10 mm		
3P/0.17-3.2/S6.5	Set of wires on holders for checking pitch diameters of external threads, pitch of 0.25 to 5 mm		
TEL2.1	Set of supports for parallel gauge blocks		
TEL5	Set of carbide parallel attachments 25 mm		
TEL5E	1 in		
TEL5.10	Set of carbide parallel attachments 20 mm		
TEL5.10E	Set of carbide parallel attachments 0.8 in		
TEL5CN	Set of dial indicator holder with clamping Ø 8 mm		
TEL5CNE	Ø 3/8 in		
TEL19.1	Support square with holding system		
TULM5C	Dial indicator holder for max. range of 50 mm (over HPA-1), Ø 8 mm		
TULM5E	Ø 3/8 in		
TULM15	Adjustable holding device for lever dial indicator (over HPA-13)		
TEL11	Set of V-shaped blocks for checking external micrometers		
TULM14	Holding device for checking external micrometers from 12 to 100 mm (over HPA-13)		

LABC80.1 Taper thread measuring system

LABC80.2 Electronic probe support LABC70.1

LABC80.3 Fixation system for rings and buffers

LABC80.4 Fixation system for comparator

LABC80.5 Storage case

Compatible Win DHI program

WARNING ! This system does not include:

LABC-13 Universal measuring table

TEL75 Set of T-shaped measuring inserts ruby balls

276 000230 001 Digital indicator

276 940001 004 Electronic probe

QM-Soft software

333 9 0003 Cable Opto/RS

358 0006 USB-RS232 converter

LABC80 Complete measuring system for taper threads

LABC80.1 Taper thread measuring system

LABC70.1 Electronic probe



LABC-12 Location centers measuring table

Diameters measurements : 100 mm max

Lengths measurements : 190 mm max

Cross motion : 100 mm

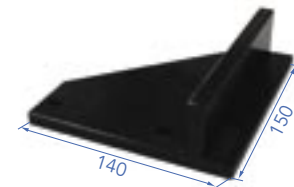
Angle inclination : $\pm 1^\circ$

Floating surface movement : ± 5 mm



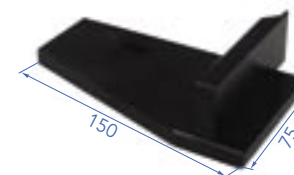
Set of supporting plates for setting

TEL17 2-point bore gauges, max. length 330 mm



Set of supporting plates for setting

TEL17.2 2-point bore gauges, max. length 180 mm



Adjustable support for setting of the reversal point

TELMN4



Master ring gauge, $\varnothing 40$ mm, supplied with calibration certificate (SCS)

TULM40D.INT



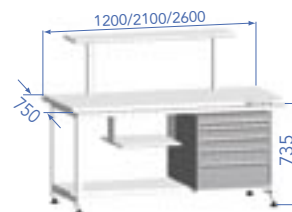
Master plug gauge, $\varnothing 50$ mm, supplied with calibration certificate (SCS)

TULM50D.EXT



LABC-TAB500
LABC-TAB1000
LABC-TAB1500

Table for horizontal instruments



709 60 002
609 60 002

Pair of holders for large size micrometers

Holder for large size micrometers



358 0006

USB - RS232 converter



333 9 0003

Cable Opto-PC/AT 9 P/F 2 m



609 50 001

TempComp-B

Temperature compensation system for horizontal instrument with computer including :
2 temperature sensors, 1 2-entry acquirer, 1 WinComp program

609 50 002

TempComp-P

Temperature compensation system for horizontal instrument with computer including :
3 temperature sensors (for instrument), 1 9-entry acquirer, 1 WinComp program

609 50 003

TempComp-PA

Temperature compensation system for horizontal instrument with computer and laboratory monitoring system with factory certificate. This set includes :
3 temperature sensors, 1 acquirer with 9 entries, 4 temperature sensors (environment), 1 relative humidity sensor, 1 atmospheric pressure sensor, 1 WinComp Advanced program

609 50 004

TempComp-PA-DKD

Temperature compensation system for horizontal instrument with computer and laboratory monitoring system with factory certificate. This set includes :
3 temperature sensors, 1 acquirer with 9 entries, 4 temperature sensors (environment), 1 relative humidity sensor, 1 atmospheric pressure sensor, 1 WinComp Advanced program



TRIMOS

Measuring system for :
**presetting and checking
of tools**



TPR

Introduction

The tool checking and presetting instruments TPR 302/402 fulfil the most extreme conditions encountered in a manufacturing area.

These instruments are outstanding in stability and simplicity and therefore the best tool measuring equipment worldwide since more than 10 years.

The quick checking of heights and diameters (radius) of all kind of tools is guaranteed by a fixed column with displacement devices in two coordinates (X/Z) and constant measuring force settings.

The incorporated display units (in X and in Z coordinate) include all required functions. Two Opto-RS data outputs allow the connection to a printer or a computer.

The rotating tool carrying spindle accepts all tools with ISO/DIN tape mounting and reduction sleeves for other tool types as VDI and HSK. Tool carrying spindles with direct VDI or HSK location are available on request.

Two models are actually available: TPR 302 with measuring range of 100 mm (Ø 200 mm) in X coord. and 300 mm in Z coord., TPR 402 with measuring range of 150 mm (Ø 300 mm) in X coord. and 400 mm in Z coord.

The measuring range in Z coordinate can be extended up to 1000 mm on special request.

Display unit for the Z-coordinate

Display unit for the X-coordinate

Knurled knob to set the measuring force in X-coordinate

Column with guide ways and scale

Cast iron base



TPR

Features

Precise checking and setting of various types of tools

Extremely simple manipulation

Compact, robust design suitable for the use in the workshop area

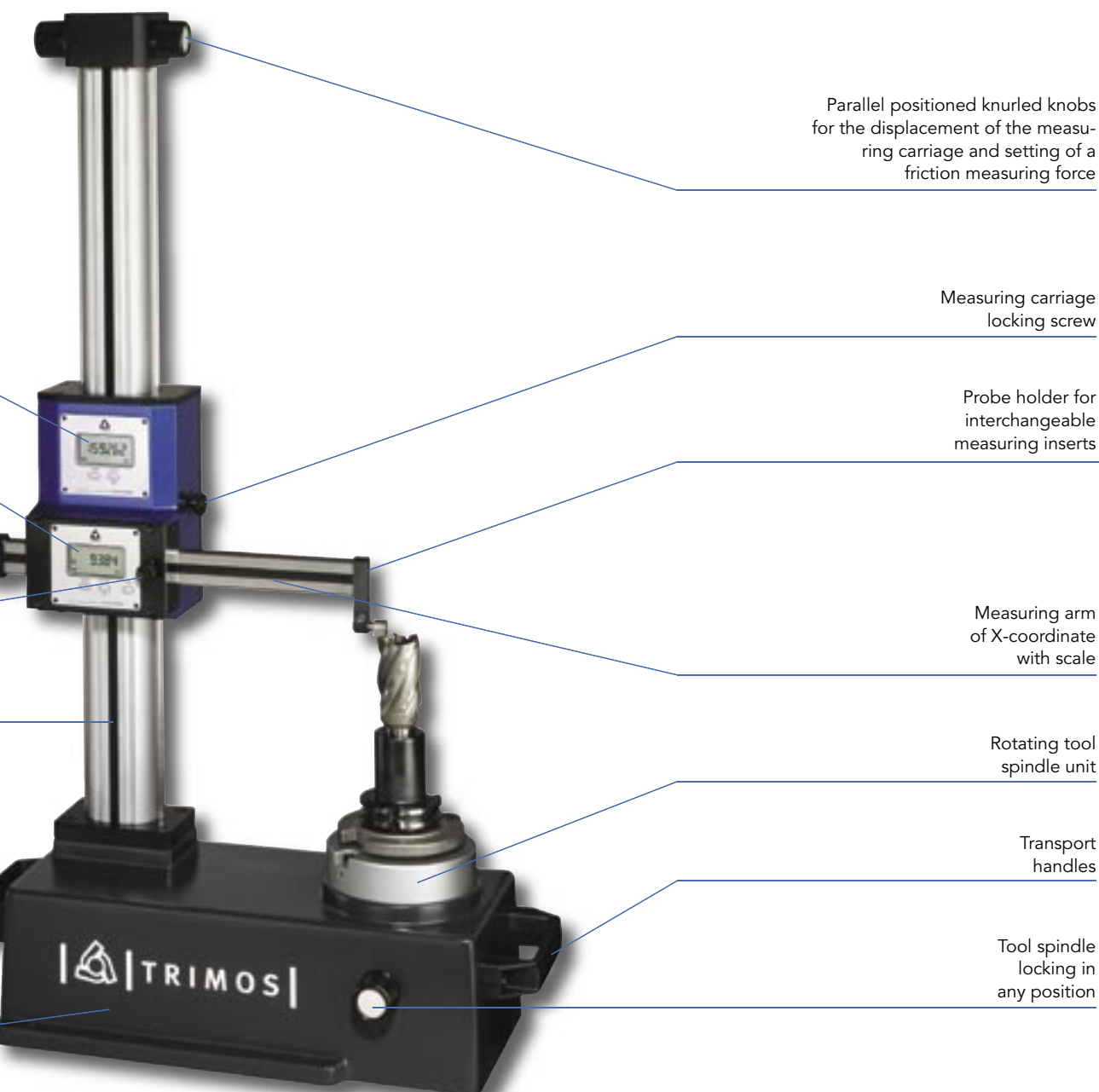
The rotating tool carrying spindle unit allows quick positioning of tools with ISO tapes mounting (reduction sleeves are available)

RS232 data output for connection to a printer or a computer

Self-contained use guaranteed by exchangeable batteries

TPR

Description



TPR

Technical specification

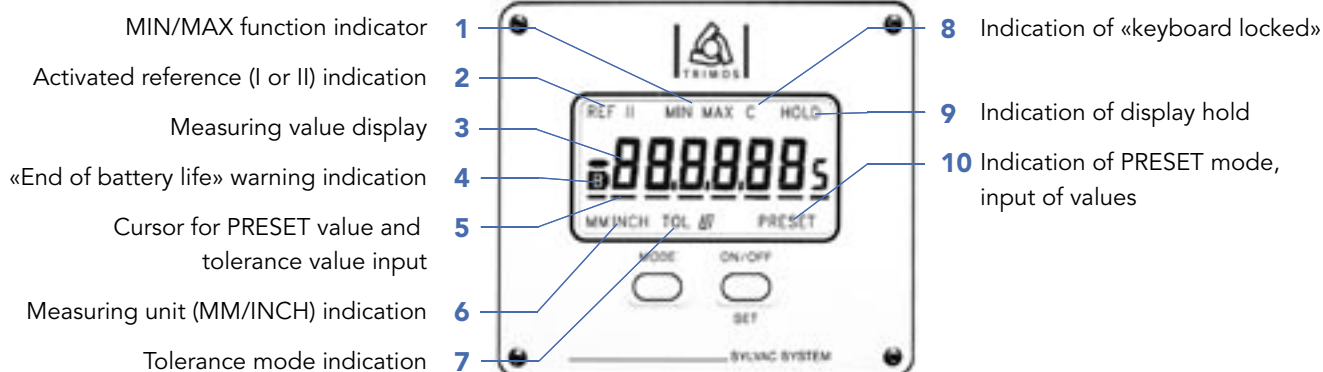
		TPR302/ISO40-30	TPR402/ISO50-40-30
Measuring range diameter (X)	mm(in)	200 (8)	300 (12)
Measuring range length (Z)	mm(in)	300 (12)	400 (16)
Resolutions	mm(in)	0.01/0.001 (.0005/.00005)	
Displacement speed of measuring carriage	m/s	1.5	
Data output		RS232C	
Weight	kg	21	35

TPR

Display/Software



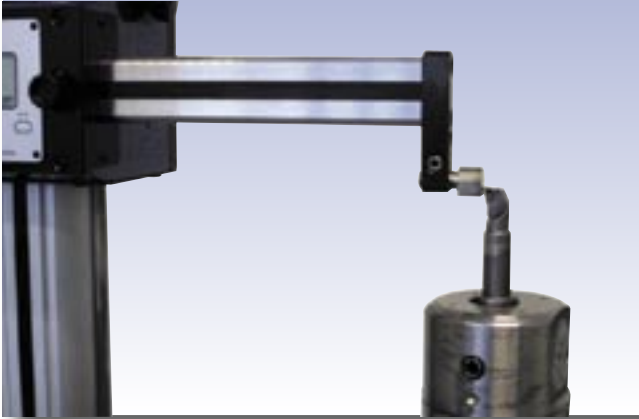
The clearly defined functions of the SYLVAC display unit allow quick performance of all required two coordinate measurements.



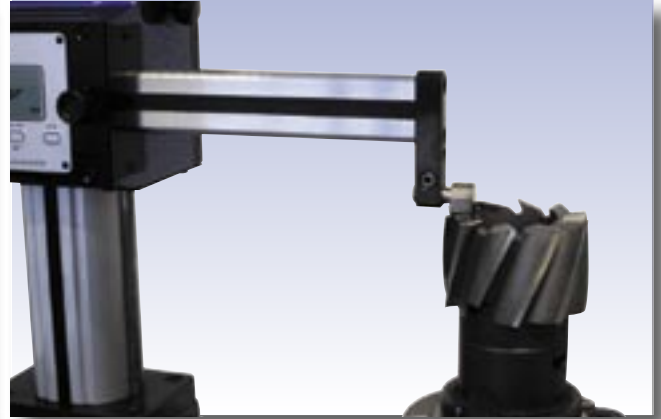
TPR

Applications

Checking of a diameter/radius
(TPR02)



Checking of lengths
(TPR02)



TPR

Standard instrument

The instruments **TPR302/402** are supplied as follows:

- ☒ Instrument according to specifications
- ☒ Two Lithium batteries, 3 V
- ☒ Test certificate and certificate of guarantee
- ☒ Probe holder
- ☒ Protection cover
- ☒ Tool location
- ☒ Ø 8 mm
- ☒ User's manual
- ☒ Probe holder with flat tungsten carbide surfaces (509 05 20 0057)

Code number	Instrument
TPR302/ISO30	Measuring range Ø = 200 mm/Z = 300 mm
TPR302/ISO40	Measuring range Ø = 200 mm/Z = 300 mm
TPR402/ISO50	Measuring range Ø = 300 mm/Z = 400 mm
TPR402/ISO40	Measuring range Ø = 300 mm/Z = 400 mm
TPR402/ISO30	Measuring range Ø = 300 mm/Z = 400 mm



TPR

Accessories

509 05 20 0057	Standard measuring insert holder for TPR302/402
TPR6/ISO25	Reference gauge ISO/SK/BT 25
TPR6/ISO30	Reference gauge ISO/SK/BT 30
TPR6/ISO40	Reference gauge ISO/SK/BT 40
TPR6/ISO50	Reference gauge ISO/SK/BT 50



Reduction socket

ISO50/VDI25	ISO50/VDI25	ISO40/30	ISO40/30	ISO50/HSK-A32	ISO50/HSK-A32
ISO40/VDI30	ISO40/VDI30	ISO50/30	ISO50/30	ISO50/HSK-A40	ISO50/HSK-A40
ISO40/VDI20	ISO40/VDI20	ISO50/35	ISO50/35	ISO50/HSK-A50	ISO50/HSK-A50
ISO50/VDI20	ISO50/VDI20	ISO50/40	ISO50/40	ISO50/HSK-A63	ISO50/HSK-A63
ISO50/VDI30	ISO50/VDI30	ISO50/45	ISO50/45		
ISO50/VDI35	ISO50/VDI35	ISO40/25	ISO40/25		
ISO50/VDI40	ISO50/VDI40				
ISO50/VDI45	ISO50/VDI45				



TPR.X-Z/OPTO	OPTO/Centronics interface with cable
TPR.X-Z/OPTO/220	Interface with cable 220V
TPR.X-Z/OPTO/240	Interface with cable 240V/GB
TPR.X-Z/OPTO/110	Interface with cable 110V/US
TPR.X-Z/OPTO/100	Interface with cable 100V/US



333 9 0003	Cable Opto-PC/AT 9 P/F 2 m
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CABL.CENTRONICS	Cable Centronics 25P
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3706 0002	Footpedal for interface TPR.X-Z/OPTO
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TRIMOS

Measuring system for :
measurement and pre-
setting of tools with vi-
sion system



Trimos

OPTIMA

Introduction

The new generation of Optima measuring instruments and tool presetters has taken full advantage of TRIMOS's long experience in the field of presetting with the latest technological evolution.

The display of Vectra and Mestra vertical instruments, based on TRIMOS® Embedded Technology, is coupled with a system of vision allowing the recognition of the tool profile. This set offers a comfort of use unique to this range of product. All functions are easily accessible via the touch screen. The interface guides the user in the measuring process. Only essential information is made available to him. No training is necessary. This system allows an extremely fast measurement of any shape of tool and increases productivity significantly.

The management of tools and adapters is interactive and very simple to use. It belongs to standard Optima equipment.

Contrarily to most instruments in this range, Optima instruments do not necessitate a connection to compressed air to release the axis. This is made via an electric system. The instrument is therefore much more independent and only needs a connection to the main current.

All components used in Optima construction originate from well-proven technologies. This allows to guaranty an optimal lifetime for minimal maintenance.

The massive cast iron base gives great stability to the instrument. Resistance of the guideways used has been greeted for many years on vertical instruments.

The Optima instruments range allows to measure tools of more than 450 mm in diameter and 600 mm in height. Instruments of larger size are motorized.

Numerous spindles, corresponding to ISO, VDI, HSK and other norms are available as standard accessory or on request.

Displacement handle

Camera

Adaptor

Cast iron base

OPTIMA

Specifications

Sturdy instrument perfectly adapted to the workshop

Exclusive TRIMOS® Duo Display

Automatic and rapid measuring of any tool forms

Simple and user-friendly

Integrated tool management (999 tools)

Integrated adaptors management (999 references)

Assistance for tool positioning in the field of the camera

Blocking systems and spindle positioning

Available in manual or motorized version

Adaptors for ISO, HSK, VDI cones and others

Printing of labels and tool lists

Post-processors available on request

OPTIMA

Description



OPTIMA

Technical specification

Measuring range diameter (X)	mm(in)
Measuring range length (Z)	mm(in)
Max. concentricity error of tool spindle	mm
Resolution	mm(in)
Interfaces	
Weight	kg

300/300	300/400	450/500	450/600
310 (12)	310 (12)	462 (18)	462 (18)
320 (12)	422 (16)	523 (20)	625 (24)
0.002			
0.001 (0.0001)			
RS232/USB			
90	92	95	100

OPTIMA

Display/Software

Our exclusive **TRIMOS® Duo Display** is composed of 2 screens ergonomically placed.

The upper screen displays the profile of the tool. This one is recognized and measured automatically. A system of marks makes it possible to easily recognize and validate the measured sector.

The lower display constitutes the control unit of the instrument. Thanks to the touch screen, only relevant functions are at disposal of the user, who is then guided in the measuring process. The graphical interface, bearing many illustrations, allows a rational use of the instrument and reduces the needs for formation to the minimum.



TRIMOS® Duo Display

Very simple user interface

Colour touch screen

Automatic recognition of any tool shape

Integrated online help

Tool and adapter management system

Radius or diameter measurement mode

Offset or differential measurement mode

Print out of lists on USB printer

Print-out of tool labels

RS232 data transfer

Easy integration in most production systems

Compatible with tool identification systems

OPTIMA

Applications

Checking of a thread cutter



Checking of a two-flute cutter



Checking of a face cutter



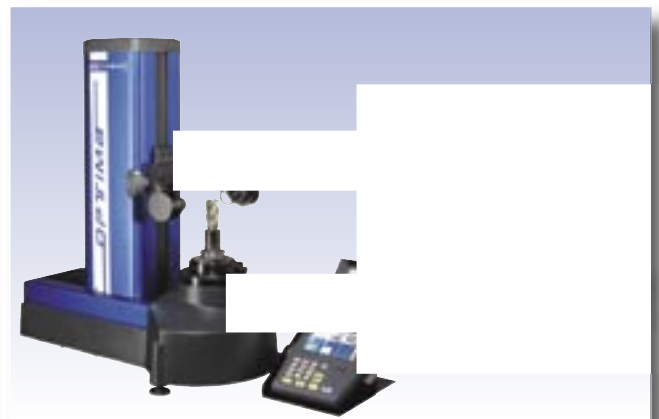
Checking of a radius cutter



Change of an adaptor



Data transfer



OPTIMA

Standard instrument

The instruments **Optima** are supplied as follows:

- ☒ Instrument according to specifications (without adaptor)
- ☒ Electric supply with specific cable to each country
- ☒ User's manual
- ☒ Test certificate and certificate of guarantee

	Manual version	Motorized version
Optima 300/300	700 310 00 01	700 310 00 05
Optima 300/400	700 310 00 02	700 310 00 06
Optima 450/500	700 310 00 07	700 310 00 03
Optima 450/600	700 310 00 08	700 310 00 04

Adaptors must be ordered separately



OPTIMA

Accessories

See page 142



TRIMOS

Measuring system for :
measurement and pre-
setting of tools with
high-performance vision
system



premium

OPTIMA PREMIUM

Introduction

Premium Optima represent top-of-the-range TRIMOS tool presetters. They combine precision, performance, design and sturdiness.

These instruments are entirely developed in our R&D department. Most components are manufactured in Switzerland. The instruments are assembled in our workshops then thoroughly and carefully controlled. The control of the complete production process as well as a know-how of more than 30 years make it possible for TRIMOS to offer instruments of renowned quality.

The contact-free system of measuring offers undeniable advantages compared to traditional measuring, resulting in better productivity. Speed, simplicity, precision and independence of the operator are the master words of this innovative technology.

The ergonomic design offers a great liberty of action around the instrument. A vision system allows a precise positioning of the tool in the field of the camera.

The software flexibility offers innumerable possibilities as to the type of measurements, the management of the adapters and tools, as well as for data transfers.

The range of Optima Premium instruments makes it possible to measure tools of more than 300 mm in diameter and 400 mm in height.

Many spindles corresponding to the ISO standards, VDI, HSK and others are available as standard accessories or on request.

Displacement handle

Camera

Adaptor

Cast iron base



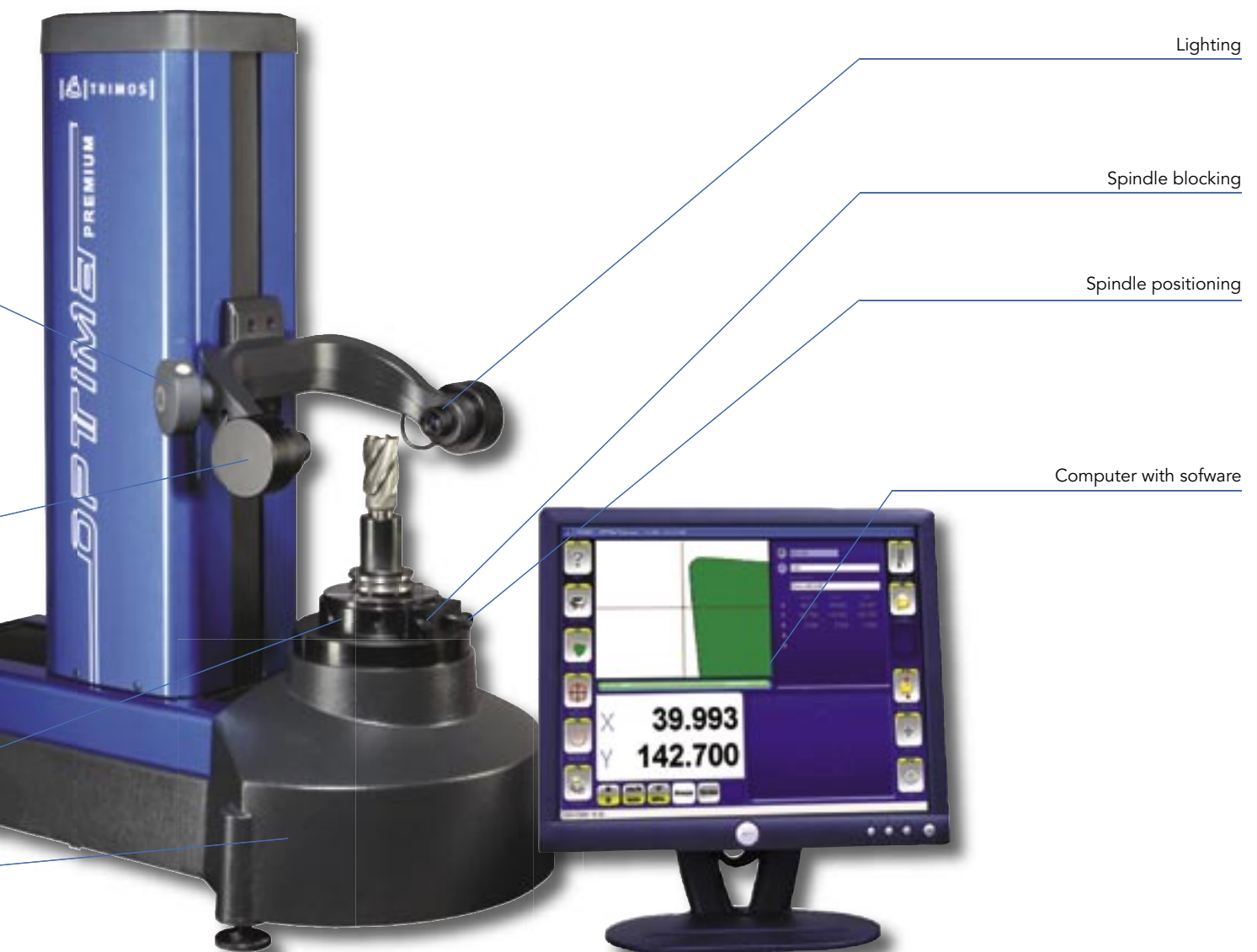
OPTIME PREMIUM

Specifications

- Sturdy and precise mechanical construction
- Ergonomics offering easy access to the instrument
- High-performance and precise digital vision system
- Easy integration into a machine tool network
- Intelligent and flexible software with numerous options
- Blocking and et indexing systems of the spindle
- Adaptors for ISO, HSK, VDI cones and others
- Post-processors available on request
- Available in manual or motorized version

OPTIME PREMIUM

Description



OPTIME PREMIUM

Technical specification

		300/300	300/400	450/500	450/600
Measuring range diameter (X)	mm(in)	310 (12)	310 (12)	462 (18)	462 (18)
Measuring range length (Z)	mm(in)	320 (12)	422 (16)	523 (20)	625 (24)
Max. concentricity error of tool spindle	mm	0.002			
Max. resolution	mm(in)	0.001 (0.0001)			
Interfaces		RS232/USB			
Weight	kg	90	92	95	100

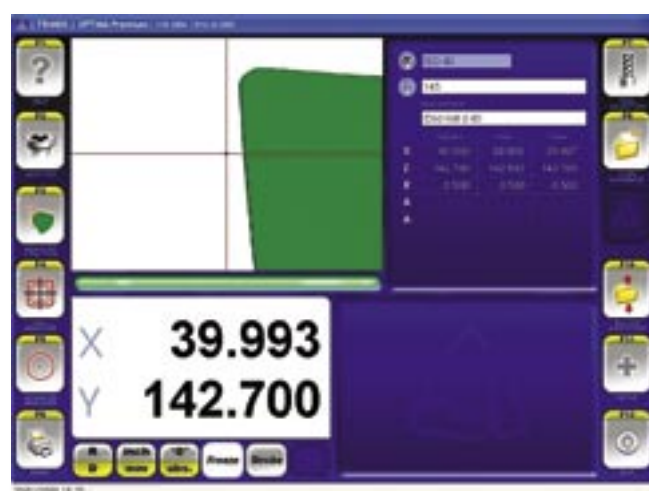
OPTIME PREMIUM

Affichage/Logiciels

Software **TRIMOS® ShopWare** is the outcome of many years of experience on the market of presetting. Its development has been focused on some essential points: simplicity, modularity, stability and flexibility.

The result is a mature software integrating a very powerful system of vision, the management of the measuring axes and a user-friendly tools database. This powerful system takes into account the latest technological innovations as regards tools. It offers the user a modern and easy-to-use interface whatever the shape of the tool.

Permanent attention to the needs of our customers combined with continuous development make it possible to offer an application perfectly adapted to the needs for measuring and pre-setting of tools. **TRIMOS® ShopWare** is sufficiently flexible to be easily integrated in all systems of production.



TRIMOS® ShopWare

Works on PC (Windows XP)

Innovative interface with intuitive symbols

Ease of use

Quickly accessible basic functions

Precise vision system

Very powerful management of tools

Very complete basic version

Numerous options for specific needs

Possibility of adding modules at any time

Data transfer

Measuring, presetting and inspection of tools

Minimal training

OPTIME PREMIUM

Applications

Checking of a fine bohr



Checking of a side cutter



Checking of a corner cutter



Checking of a champher cutter



Checking of a quadrant cutter



OPTIMA PREMIUM

Standard instrument

The instruments **Optima Premium** are supplied as follows:

- ☒ Instrument according to specifications (without adaptor)
- ☒ Electric supply with specific cable to each country
- ☒ Computer with screen
- ☒ User's manual
- ☒ Test certificate and certificate of guarantee

	Manual version	Motorized version
Optima Premium 300/300	700 310 00 21	700 310 00 25
Optima Premium 300/400	700 310 00 22	700 310 00 26
Optima Premium 450/500	700 310 00 27	700 310 00 23
Optima Premium 450/600	700 310 00 28	700 310 00 24

Adaptors must be ordered separately



OPTIMA OPTIMA PREMIUM

Accessories

Without manual clamping system

613 01 002	ISO25
613 01 003	ISO30
613 01 004	ISO35
613 01 005	ISO40
613 01 006	ISO45
613 01 007	ISO50
613 01 008	HSK32
613 01 009	HSK40
613 01 010	HSK50
613 01 011	HSK63
613 01 012	HSK80



With manual clamping system

613 01 013	VDI16
613 01 014	VDI20
613 01 015	VDI25
613 01 016	VDI30
613 01 017	VDI40
613 01 018	VDI50
613 01 019	VDI60
613 01 020	HSK32
613 01 021	HSK40
613 01 022	HSK50
613 01 023	HSK63
613 01 024	HSK80

Other adapters available on request

Spindlesystem with Vacuum-Clamping-System (only for ISO adaptor)

664 20 601



356 0015

Printer for labels

788 000011 002

Roll for 1-line label (57 x 32 mm)

788 000011 001

Roll for 5-lines labels (54 x 101 mm)



356 0010

USB PCL printer



293 900001 001

Typecleaner



358 0008

USB Memory Stick



358 0008

USB external hard disc



358 0008

USB external floppy disc



