

# Height Gauges



## Made To Measure in the Course of the Manufacturing Process

Height gauges are single-axis handtools made to measure on a surface plate, preferably in granite. The TESA-μHITE version being offered to you in this section clearly shows that combining a surface plate with any height gauge can create a whole measuring system.

Providing the needed versatility, they are well suited for dimensional inspection directly on a machine or a group of machines, usually during the various setting and sampling operations throughout the whole manufacturing process. They are specially made for checking parts that are difficult to machine due to their critical sizes.

TESA-HITE or TESA MICRO-HITE, whether manually operated or motor-driven, do not require any special skills. Nearly everyone working in the workshop can use them easily.

## SCS Calibration Certificate

The newly implemented TESA-HITE and TESA MICRO-HITE production line now also includes its own temperature-controlled laboratory recently certified by the Swiss Accreditation Service, so that each height gauge comes with a SCS calibration certificate provided free of charge. The negligible temperature variation ( $20^{\circ}\text{C} \pm 0,1^{\circ}$ ) along with the use of high-precision step gauges allow the lowest uncertainty of measurement to be achieved during the calibration process.

- As a first step, all values needed for automatic compensation for the systematic errors of the finished height gauge through Computer Aided Accuracy (CAA) are captured.
- Once conveniently calculated, each single compensation value is then stored in the tool memory so as to allow the correction of the measured values during calibration, automatically.
- Finally, the relevant calibration certificate is issued based on the values obtained during a new series of measurements taken at another measuring point, also equipped with step gauges.










The applied calibration procedure together with the SCS based certification ensure that every TESA height gauge is traceable to national standards.




## Height Measurement – One of TESA's Strengths

TESA offer the largest range of height gauges for reliable one or two-dimensional measurements. En-Users can choose the convenient model according to the requirements of their metrology applications, but also to their financial resources. This wide range goes from the simple height and scribing gauge to the motorised vertical column suitable for high-precision measurements in two coordinate directions.



Height Gauge Models	 Details on page	 μm (L in m)	 Accessory Std (mm)	 Accessory Spec. (mm)	Measuring capabilities						
					1D	∅	⊥	∠	2D		Moto-rised
 <b>TESA-HITE Magna</b>	N-4	8	870	1095	●	●	–	–	–	–	–
	<b>TESA-HITE</b>	N-7	2,5+4L	870	1095	●	●	●	–	–	–
	<b>TESA -HITE plus M</b>	N-10	2,5+3L	860	1085	●	●	●	●	●	●
 <b>TESA MICRO-HITE</b>	N-12	2+3L	1075	1300	●	●	●	●	●	–	–
	<b>TESA MICRO-HITE plus M</b>	N-16	2+1,5L	1075	1300	●	●	●	●	●	●
 <b>TESA-μHITE</b>	N-21	1/2	160	360	●	●	–	–	–	–	●
	<b>TESA-μHITE + Power Panel Plus M</b>	N-25	1/2	160	360	●	●	–	●	●	●
 <b>ETALON height and scribing gauges</b>	N-30	40	1000	–	●	–	–	–	–	–	–



## TESA-HITE magna 400 and 700

### Made to withstand severe workshop conditions

Emanating from a well-proven TESA technology, both TESA-HITE magna 400 and 700 are equipped with the patented TESA magna  $\mu$  system. They are designed to remain unaffected even in the toughest conditions (water and oil splashing, dust particles).

They have exceptional features that make them indispensable for the workshop while also offering the most favourable price-performance relationship. Robust and dependable, their modern design provides the highest resistance for use close to the production area.

Each height gauge is battery-powered and serve to measure height or step dimensions, diameters, centre-to-centre distance of bores or grooves, width of nuts, and much more.



- Wide application range, two sizes available with measuring span to 415 mm / 16 in or 715 mm / 28 in, respectively.
- Electronics totally protected against oil and water splashing or dust particles (IP65).
- Control panel with numerical display to 0,001/0,005/0,01 mm or 0,0001/0,0002/0,001 in.
- Dynamic probing of the workpiece with a constant measuring force.
- Easiness, high reliability when checking bores or shafts using TESA's unique device for automatic detection of the culmination point – patented.
- Acoustic signal to acknowledge value capture, also conveniently programmable.
- Ability to measure parallelism errors.
- TESA's magnetic system, guaranteeing correct operating even in harsh workshop conditions – patented.
- Large LC display, also with symbols for the measuring functions.
- Zero-setting anywhere within the measuring range.
- PRESET function for entering any given value.
- Metric/inch conversion.
- RS 232 data output.
- SCS calibration certificate provided with each height gauge.



Factory standard  
83 x 49 mm  
LC display.  
7-decade plus  
minus sign. Also with  
graphical symbols for all  
active functions.



0,001/0,005/  
0,01 mm or  
0,0001/0,0002/  
0,001 in



12 mm



Metric/Inch  
conversion



Measuring span,  
application range  
and precision:

see relevant table on  
page N-5.



Nickel plated  
gauge base  
(chemical coating)



Magnetic  
scale



(12  $\pm$  1,5) x  
10<sup>-6</sup> K<sup>-1</sup>



Probing head  
mounted on a  
ball-bearing,  
hand wheel for head dis-  
placement, fine setting. Head  
drive carriage can be locked.



500 mm/s  
20 in/s



1,5  $\pm$  0,5 N  
(at switch  
point)



RS 232



Rechargeable  
batteries, 6V



≈ 60 h



10°C to 40°C



-10°C to 60°C



100%



IP55 or IP65 for  
both electronics  
and measuring  
system (IEC 60529)



See table  
on page N-5



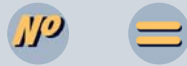
EN 61326,  
Class B  
(with disconnected  
charger)



Shipping  
packaging

- Identification number
- Declaration of conformity
- SCS calibration certificate

## TESA-HITE magna 400 / 700



**00730047 TESA-HITE magna 400 height gauge**  
Measuring span 415 mm / 16 in  
Application range 0 ÷ 570 mm / 0 ÷ 22 in

**00730059 TESA-HITE magna 700 height gauge**  
Measuring span of 715 mm / 28 in  
Application range of 0 ÷ 870 mm / 0 ÷ 34 in

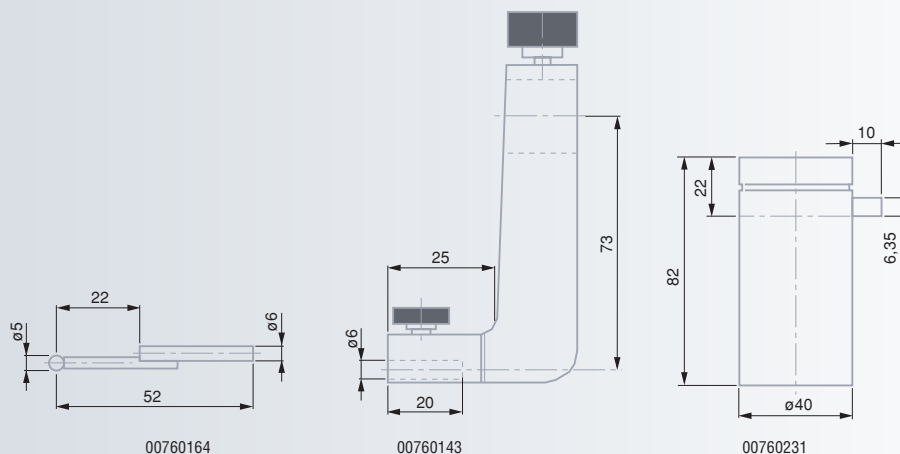
*Each height gauge is supplied with the following standard accessories:*

- 00760143** 1 Standard probe insert holder
- 00760164** 1 Standard probe insert with a 5 mm dia. tungsten carbide ball tip
- 00760231** 1 Master piece for establishing the probe constant, nominal dimension to 6,350 mm / 0.250 in
- 00760157** 1 Rechargeable battery, 6V
- 04761054** 1 Mains adapter, 100 ÷ 240 Vac / 50 ÷ 60Hz
- 04761055** 1 Cable EU for mains adapter
- 04761056** 1 Cable US for mains adapter

## Technical Data

		TESA-HITE magna	
		400	700
	mm in	415 16	715 28
	mm in	0 ÷ 570 0 ÷ 22	0 ÷ 870 0 ÷ 34
With probe insert holder No. 00760057	mm in	0 ÷ 625 0 ÷ 24	0 ÷ 925 0 ÷ 36
With probe insert holder No. S07001622	mm in	0 ÷ 795 0 ÷ 31	0 ÷ 1095 0 ÷ 43
	µm in	< 8 < 0.0003	< 8 < 0.0003
		on flat surfaces: 2δ = < 3 µm / < 0.00015 in into bores: 2δ = < 5 µm / < 0.00020 in	
	kg	15	18

## Standard Accessories for TESA-HITE magna 400 / 700



## Optional Accessories for TESA-HITE magna 400 / 700

**Nº**

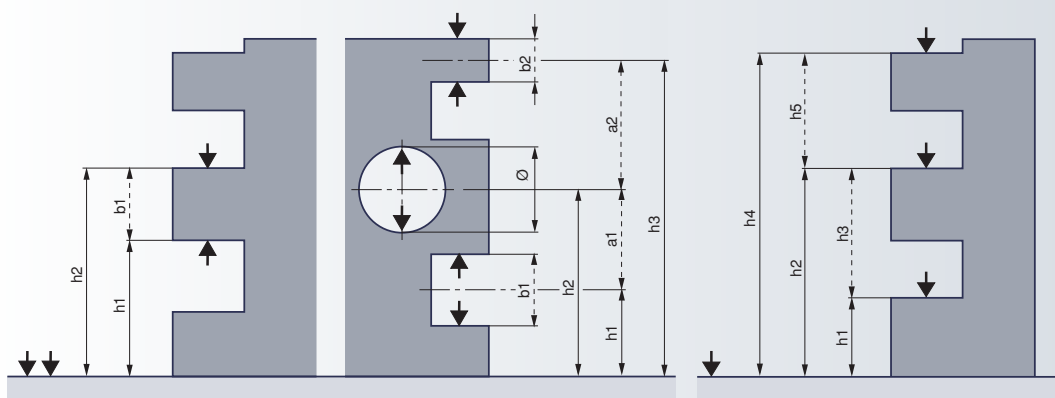


**04761052** RS 232 connecting cable for PC and TESA PRINTER SPC

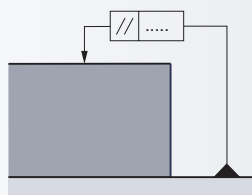
**04761063** Connecting cable Sub-D 9pin and USB for PC

Additional accessories: see page N-27

## One-Dimensional Measurement



## Measurement of Parallelism



## TESA-HITE 400 / 700

### Precision in motion

The two TESA-HITE 400 and 700 height gauges are fitted with the patented, opto-electronic TESA's measuring system with incremental glass scale. Due to their robust and reliable construction, they are ideally suited for dimensional inspection on the shop floor.

Full autonomy is ensured through battery power. Each model allows height or step dimensions, diameters, centre-to-centre distances, groove width and the like to be accurately measured. Excellent price/performance ratio.



Factory standard



83 x 49 mm LC display. 7-decade plus minus sign. Also with graphical symbols for all active functions.



0,0001 / 0,001 / 0,01 mm or 0,00001 / 0,0001 / 0,001 in



12 mm



Metric/Inch conversion



Air-cushion for easy displacement over the surface plate. Measuring span, application range and precision: see table on page N-8.



Nickel plated gauge base (chemical coating) with bottom face including 3 resting points, finely lapped.



Frontal, model 400 < 9 µm, model 700 < 13 µm



Incremental glass scale, opto-electronic



(12 ± 1,5) x 10<sup>-6</sup> K<sup>-1</sup>



Probing head mounted on a ball-bearing, hand wheel for head displacement, fine setting. Head drive carriage can be locked.



500 mm/s 20 in/s



1,5 ± 0,5 N (at switch point)



RS 232



Rechargeable batteries, 6V



≈ 60 h



10°C to 40°C



-10°C to 60°C



80%, non-condensing



IP40, electronics to IP65 (IEC 60529)

- Wide application range, two sizes available with measuring span of 415 mm / 16 in or 715 mm / 28 in, respectively.
- Integrated air-bearing for easy displacement across the granite plate.
- Electronics totally protected against oil and water splashing, dust particles (IP65).
- Control panel with numerical display to 0,0001 / 0,001 / 0,01 mm or 0,00001 / 0,0001 / 0,001 in.
- Dynamic probing of the workpiece with a constant measuring force.
- Ease of use, high reliability when checking bores or shafts using TESA's unique device for automatic detection of the culmination point – patented.
- Acoustic signal to acknowledge value capture, also conveniently programmable.
- Ability to measure any deviation in parallelism.
- Possible use of a digital sensor for determining perpendicularity errors with stated angle of the linear regression line.
- Patented TESA's opto-electronic system. Long-lasting stability of the glass scale for unbroken high accuracy.
- Large LC display with symbols for the measuring functions.
- Zero-setting anywhere within the measuring range.
- PRESET function for entering any given value.
- Metric/inch conversion.
- RS 232 data output.
- SCS calibration certificate provided with each height gauge.



## TESA-HITE 400/700



**00730043 TESA-HITE 400 height gauge**  
Measuring span 415 mm / 16 in  
Application range 0 ÷ 570 mm / 0 ÷ 22 in

**00730044 TESA-HITE 700 height gauge**  
Measuring span 715 mm / 28 in  
Application range 0 ÷ 870 mm / 0 ÷ 34 in

*Each height gauge is supplied with the following standard accessories:*

- 00760143** 1 Standard probe insert holder
- 00760227** 1 Standard probe insert with shank and 5 mm dia. ball tip in tungsten carbide
- 00760219** 1 Master piece for establishing the probe constant, nominal dimension to 6,350 mm / 0.2500 in
- 00760226** 1 Electric pump for creating the air-cushion beneath the gauge base, already mounted
- 00760157** 1 Rechargeable battery, 6 V
- 04761054** 1 Mains adapter, 100 ÷ 240 Vac/50 ÷ 60 Hz
- 04761055** 1 Cable EU for mains adapter
- 04761056** 1 Cable US for mains adapter



See table opposite



EN 61326, Class B  
(with disconnected charger)



Shipping packaging



Identification number










Declaration of conformity

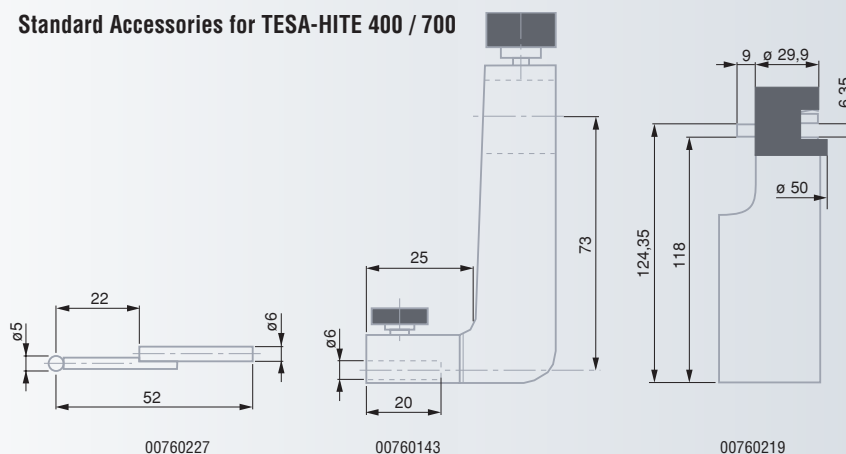


SCS calibration certificate

## Technical data

			TESA-HITE 400	TESA-HITE 700
	mm in		415 16	715 28
 With standard accessory	mm in		0 ÷ 570 0 ÷ 22	0 ÷ 870 0 ÷ 34
With probe insert holder No. 00760057	mm in		0 ÷ 625 0 ÷ 24	0 ÷ 925 0 ÷ 36
With probe insert holder No. S07001622	mm in		0 ÷ 795 0 ÷ 31	0 ÷ 1095 0 ÷ 43
 With standard accessory	µm in		(2,5+4•L) µm (L in m) (0.0001+0.000004•L) in (L in in)	
 With standard accessory			on flat surfaces: 2δ = <2 µm / <0.0001 in into bores: 2δ = <3 µm / <0.00015 in	
 Frontal, mechanical	µm in		9 0.00035	13 0.0005
	kg		27	32

## Standard Accessories for TESA-HITE 400 / 700

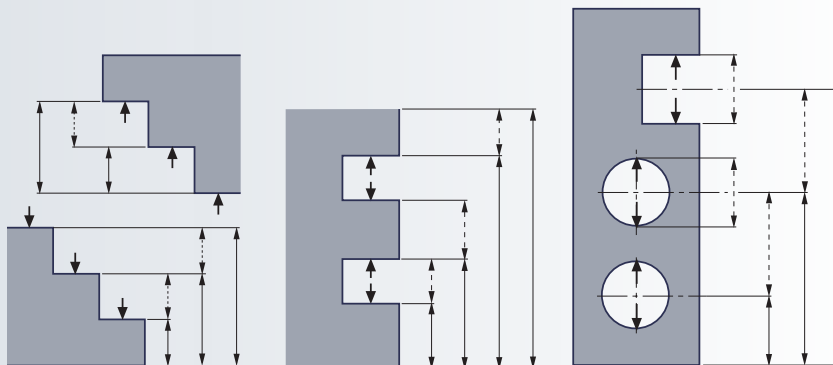


## Standard Accessories for TESA-HITE 400 / 700

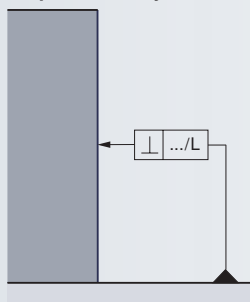


<b>04760070</b>	RS port. Used to connect a digital sensor for perpendicularity measurement
<b>04761052</b>	RS 232 connecting cable for PC and TESA PRINTER SPC
<b>04761063</b>	Connecting cable Sub-D 9pin and USB for PC
Additional accessories: see page N-27	

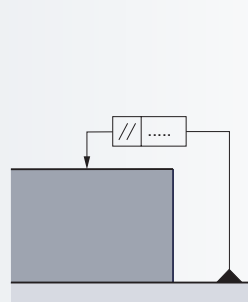
## One-Dimensional Measurement



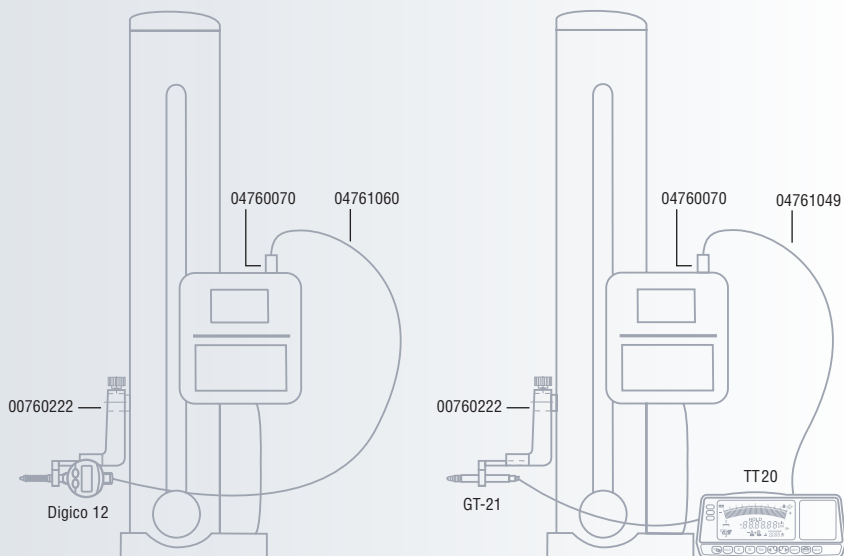
## Perpendicularity Measurement



## Parallelism Measurement



## Configuration for Perpendicularity Measurement



## TESA-HITE plus M 400 / 700

### Precision in Motion – Motorised Version

The added value of the motorised TESA-HITE plus M 400 / 700 is not only noticeable in their technical features, but also in their ease of use. Combine with the programming function, this solution is ideal for recurrent measurements in the shop floor environment. Advanced functions allow for complex calculations such as those required for two-axis or perpendicularity measurement. These height gauges with outstanding features offer the most attractive price/performance relationship, making them indispensable for the workshop.



- Wide application range.
- Electronics entirely protected from the penetration of liquids and dust particles.
- Integrated air cushion, mounted control panel.
- Easy, intuitive use of the rotary power control.
- Provide all the measuring functions of a dedicated motorised column, including height, diameter, distance, parallelism, perpendicularity, straightness, angle and 2D measurement besides programming, automatic probing cycles, statistical value processing.
- TESA's patented measuring system, opto-electronic.
- Probe insert holder and inserts compatible with those of TESA MICRO-HITE.
- SCS calibration certificate attached to each height gauge.



Factory standard



Dual LC display, 128 x 63 mm in size.

- Upper display field for length values (7 segments/sign). Also with symbols for the functions.

- Lower full dot display field for perpendicularity and straightness along with symbols for all operator-controlled function keys.

7segment display plus minus sign for the measured values.



0,0001 / 0,001 / 0,01 mm or 0,00001 / 0,0001 / 0,001 in



Main display with a size to 12,7 x 6,4 mm or 6,3 x 4,2 mm for auxiliary display.



Metric/Inch conversion



Air bearing for easy displacement on the granite plate.

For measuring span, application range and precision: see the table on page N-11.

30 function keys available on the keyboard.



Rugged nickel plated gauge base having

3 resting points, finely lapped.



Frontal for models  
400 = < 8 µm  
700 = < 12 µm



Incremental glass scale, opto-electronic data capture



(12 ± 1,5) x 10<sup>-6</sup> K<sup>-1</sup>



Measuring head mounted on a ball-bearing.

Electro-motorised head displacement at varying speeds from 7,5 up to 40 mm/s.

Manual displacement: ≤ 600 mm/s. Automatic value acquisition with a constant measuring force.



1 N. Coupled servomotor for triggering the measuring force.



RS 232



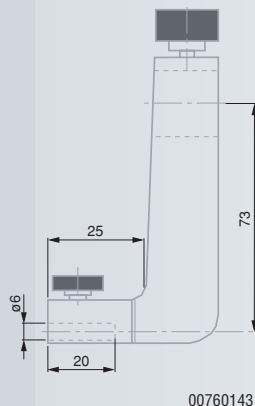
Rechargeable batteries, 6V



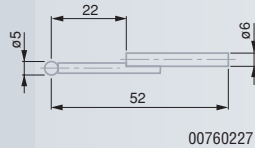
≈ 60 h, full charging takes 8 hours



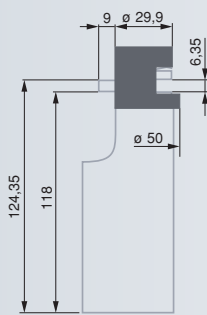
Standard accessories for  
TESA-HITE plus M 400 / 700



00760143



00760227



00760219

- 10°C to 40°C
- 10°C to 60°C
- 80%, non-condensing IP40 or IP65 for the electronic cabinet (IEC 60529)
- See table opposite
- EN 61326, class B (with disconnected battery charger)
- Shipping packaging
- Identification number
- Declaration of conformity
- SCS calibration certificate

## TESA-HITE plus M 400/700



- 00730045** TESA-HITE plus M 400 height gauge  
Measuring span 405 mm / 16 in  
Application range 0 to 560 mm / 0 to 22 in
- 00730046** TESA-HITE plus M 700 height gauge  
Measuring span 705 mm / 27 in  
Application range 0 to 860 mm / 0 to 33 in
- 00730057** TESA-HITE plus M 400 height gauge with built-in printer  
Same as N° 00730045, but with a built-in matrix printer for results output.
- 00730058** TESA-HITE plus M 700 height gauge with built-in printer  
Same as N° 00730046, but with a built-in matrix printer for results output.

Each height gauge is supplied with the following standard accessories:

- 00760143** 1 Probe insert holder
- 00760227** 1 Standard probe insert with shank and 5 mm dia. ball tip in tungsten carbide
- 00760219** 1 Master piece for establishing the probe constant, nominal dimension: 6,350 mm / 0.2500 in
- 00760226** 1 Electric pump for creating the air cushion under the height gauge base, already mounted
- 00760157** 1 Rechargeable battery, 6V
- 00761054** 1 Mains adapter, 100 ÷ 240 Vac / 50 ÷ 60 Hz
- 00761055** 1 Cable EU for mains adapter
- 00761056** 1 Cable US for mains adapter

## Technical Data

		TESA-HITE plus M 400	TESA-HITE plus M 700
		405 16	705 27
	mm in		
With standard accessory	mm in	0 ÷ 560 0 ÷ 22	0 ÷ 860 0 ÷ 33
With probe insert holder N° 00760057	mm in	0 ÷ 615 0 ÷ 24	0 ÷ 915 0 ÷ 35
With probe insert holder N° S07001622	mm in	0 ÷ 785 0 ÷ 31	0 ÷ 1085 0 ÷ 42
With standard accessory	µm in	(0.0001+0.000003 • L) in ( L in in )	
With standard accessory		on flat surfaces: 2δ = < 1 µm / < 0.00005 in into bores: 2δ = < 2 µm / < 0.0001 in	
Frontal, mechanical	µm in	8 0.00031	12 0.00047
	kg	27	32

## Optional Accessories for TESA-HITE plus M 400 / 700



- 04760070** RS port. Used to connect a digital sensor for perpendicularity measurement
  - 04761052** RS 232 connecting cable for PC and TESA PRINTER SPC
  - 04761063** Connecting cable with Sub-D connector 9-pin – USB type for PC
  - 04765008** Thermal paper roll, 57 mm wide
- For additional accessories, report to page N-27



## TESA MICRO-HITE 350 / 600 / 900

*The metrology-based reference for the workshop*



Stand-alone design – Made to measure any size in in the form of internal, external, height, depth, step and distance dimensions of geometric part features having either a flat, parallel or cylindrical surface.

Automatic capture of the culmination point on bores or shafts – Dynamic probing with memory functions «max.», «min.» plus «max.-min.»

The TESA IG-13 digital probe lets you also measure any deviation from perpendicularity, straightness and parallelism as well as runout errors with result output according to ISO 1101.

- State-of-the-art concept associated with a high-quality design is the fruit of years of experience in the manufacture of electronic height gauges.
- Ideal for dimensional inspection close to the manufacturing cell. No cumbersome cables to clutter up the working area.
- Fast, simple and reliable probing of the workpiece or holes, especially.
- 3 main gauges available with either a 365, 615 or 920 mm measuring span.
- Numerical display to 0,0005, 0,001, 0,01 and 0,1 mm, or equivalent inch units.
- Extremely accurate measuring of deviations from length, straightness and perpendicularity due to the automatic correction of the bias errors through CAA (Computer Aided Accuracy).
- Coefficient of linear expansion identical to steel ( $11,5 \times 10^{-6} \text{ K}^{-1}$ ).



- POWER PANEL for value processing and output with interactive display to guide the operator.
- No manual calculation.
- 99 workpiece oriented measurement cycles, programmable. Each cycle includes a number of 64 features with related limits of size.
- Built-in printer for result output or possible use of an external printer unit to get a hard-copy in A4 format.
- RS 232 data output.
- Every height gauge comes with a SCS calibration certificate.

TESA MICRO-HITE 350 / 600 / 900 main gauges



Factory standard



Measuring span, application range and accuracy as stated on page N-14



Rugged nickel plated base with bottom face including 3 resting points finely lapped



Air cushion usable for easy move of the height gauge over the surface plate, if so.



Frontal, model 350 < 7 µm, model 600 < 9 µm, model 900 < 11 µm



Incremental glass scale with reference point, dividing period of 20 µm. Opto-electronic value capture (TESA patent).



$11,5 \times 10^{-6} \text{ K}^{-1}$



Probing head mounted on a ball-bearing and moved by means of both knurled hand wheel and crank. Head drive system can be locked. Fine adjust device can also be additionally mounted (available as an option). Automatic value capture with a constant measuring force. Visual and acoustic signal for acknowledgment



300 mm/s  
12 in/s



$1,6 \pm 0,25 \text{ N}$   
(at switch point for value capture)

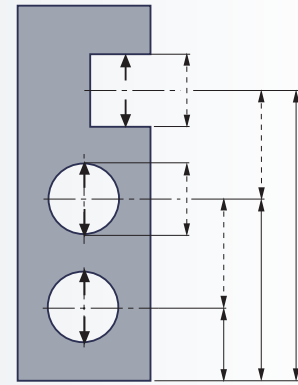
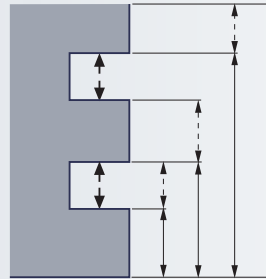
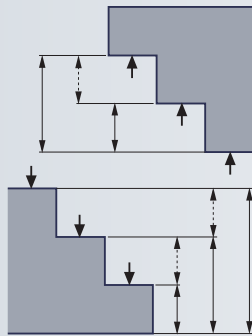


RS 232, opto-electronic

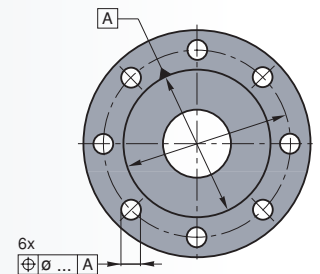
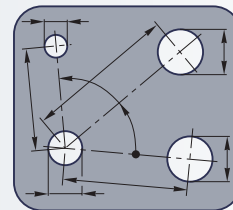
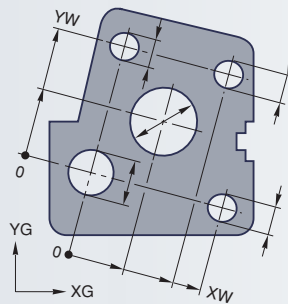
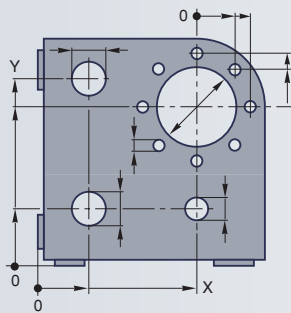
Continued next page

## TESA MICRO-HITE – Efficient and Powerful One-Dimensional Measurement

- Rechargeable batteries, 6 V, 3,0 Ah or mains adapter
- ≈ 12 hours for one battery pack;  
≈ 2 hours for the pump used to form the air cushion
- 10°C to 40°C
- 10°C to 60°C
- 80% non-condensing
- IP40 (IEC 60529)
- EN 61326-1, Class B (with disconnected charger)
- Net weight (w/o panel nor battery pack)  
Main gauges  
350: 33 kg  
600: 38 kg  
900: 45 kg
- Shipping packaging
- Identification number
- SCS calibration certificate

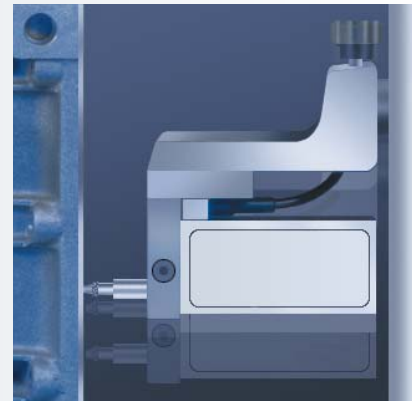
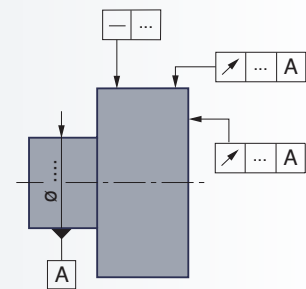
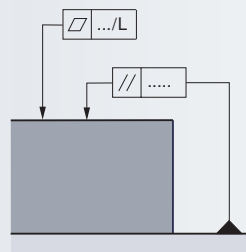
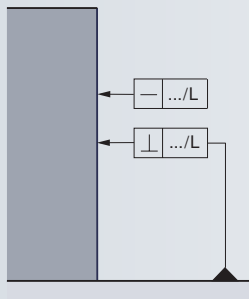


## Two-Dimensional Measurement



## Programme functions for the detection of form and position errors

with use of a TESA IG-13 digital probe



TESA IG-13



## TESA MICRO-HITE 350 / 600 / 900 Height Gauge Sets



Nº		
00730033	TESA MICRO-HITE height gauge set	350
00730034	TESA MICRO-HITE height gauge set	600
00730035	TESA MICRO-HITE height gauge set	900

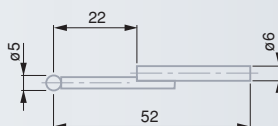
Each gauge set includes the following components, control panel excluded:

00730021	1 TESA MICRO-HITE 350 main gauge	●		
00730022	1 TESA MICRO-HITE 600 main gauge		●	
00730023	1 TESA MICRO-HITE 900 main gauge			●
00760143	1 Standard probe insert holder	●	●	●
00760227	1 Standard probe insert with shank and 5 mm dia. ball tip in tungsten carbide	●	●	●
00760150	1 Master piece for establishing the probe constant, nominal dimension 20,0000 mm/0.78740 in	●	●	●
00760142	1 Electric pump for creating the air-cushion beneath the gauge base, already mounted	●	●	●
00760141	1 Battery pack	●	●	●
04761054	1 Mains adapter, 100 to 240 Vac/50 to 60 Hz	●	●	●
04761055	1 Cable EU for mains adapter	●	●	●
00760151	1 Dust cover for TESA MICRO-HITE 350	●		
00760152	1 Dust cover for TESA MICRO-HITE 600		●	
00760153	1 Dust cover for TESA MICRO-HITE 900			●

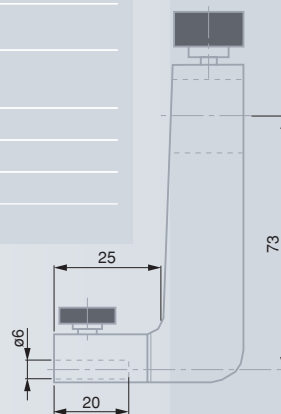
Optional Accessories for TESA MICRO-HITE 350 / 600 / 900

00760144	Add-on fine adjust device for extra fine movement of the measuring head, complete
00760157	Spare battery pack No. 00760141
04761056	Cable US for mains adapter
04761023	RS 232 connecting for PC and TESA PRINTER SPC

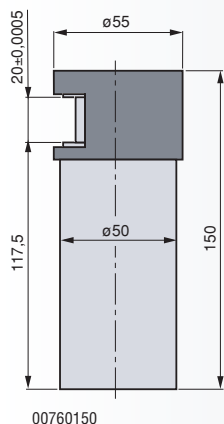
For additional accessories, see pages N-20 and N-27.



00760227



00760143



00760150

### Technical Data

Models		350	600	900
	mm	365	615	920
	in	14	24	36
With standard accessory	mm	0 ÷ 520	0 ÷ 770	0 ÷ 1075
	in	0 ÷ 20	0 ÷ 30	0 ÷ 42
With probe insert holder No. 00760057	mm	0 ÷ 575	0 ÷ 825	0 ÷ 1130
	in	0 ÷ 22	0 ÷ 32	0 ÷ 44
With probe insert holder No. S07001622	mm	0 ÷ 745	0 ÷ 995	0 ÷ 1300
	in	0 ÷ 29	0 ÷ 39	0 ÷ 51
With standard accessory		(2 + 3 • L) µm (0.0001 + 0.000003 • L) in		(L in m) (L in in)
With standard accessory		2δ = ≤ 1 µm / ≤ 0.00005 in		
Frontal, mechanical	µm	7	9	11
	in	0.00028	0.00035	0.00043
Frontal and lateral using TESA IG-13	µm	6	8	10
	in	0.00024	0.00031	0.00039

## POWER PANEL



Dual LC display, 128 x 63 mm in size.

- Upper display field for length values (7-segment/sign). Also with symbols for the functions.
- Lower full dot display field for perpendicularity and straightness along with symbols for all operator-controlled function keys.

7-decade display plus minus sign for the measured values.

12,7 x 6,4 mm main display, 6,3 x 4,2 mm auxiliary display.

See opposite

Metric/Inch conversion

Floating zero

PRESET function for entering a given value.

Continuous displaying.

Manual or automatic triggering of data transfer.

Output of predefined inspection reports with headings in 5 languages plus A4 format using an external printer unit.

Via TESA MICRO-HITE

IP40 (IEC 60529)



## Control Panel for TESA MICRO-HITE 350 / 600 / 900



00760163



TESA POWER PANEL

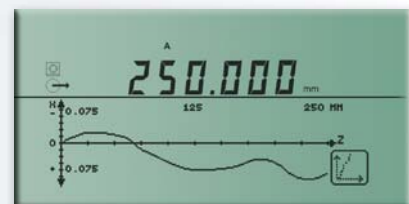
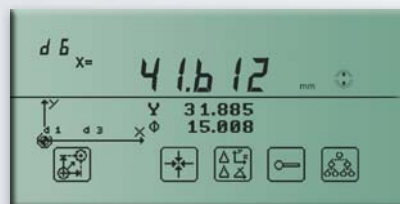
Includes a dedicated programme for measuring in 1 and 2 coordinate directions with geometric combination of the measured values. Lets you measure perpendicularity, straightness and squareness. Provides 99 workpiece oriented measurement cycles including 64 features with related limits of size, programmable. Memory capacity for 2500 measured values. Statistical data processing (SPC). Result output via the built-in matrix printer or in A4 format using an external printer unit.



0,0005 / 0,001 / 0,01 / 0,1 mm  
0,00002 / 0,0001 / 0,001 / 0,01 / 0,1 in

Accessory for TESA POWER PANEL

04765008 Thermal paper roll, 57 mm wide



## TESA MICRO-HITE plus M 350 / 600 / 900

*Speed of the manual vertical column  
combined with the precision  
of the motorised one*



All TESA MICRO-HITE plus M height gauges are unique in that they have exceptional metrological capabilities and can be used intuitively with ease. The revolutionary rotary power control combines the speed of the manual concept with the precision of the motorised one.

With their robust and stand-alone design, these electronic height gauges are optimally suited for use on the shop floor as in the inspection laboratory.

Measure lengths in the form of internal, external, height, depth or distance dimensions of geometrical part features having either a plane, parallel or cylindrical surface, whether in one or two coordinate directions – Determine the position of bores in two coordinate directions with output in both polar and Cartesian (rectangular) coordinates – Mechanically adjusted at our plant based on a patented TESA's method used to verify the correct position of the guiding column against the gauge base. This method allows form and position error to be easily and quickly detected by means of a lever-type dial indicator – Check deviations from straightness or parallelism according to ISO 1101 when used in conjunction with TESA IG-13 linked to the Power panel plus M.

- Modular design descending from the successful TESA MICRO-HITE dynasty. Also equipped with the unique rotary power control located close to the rugged base. This feature serves for guiding the column that moves on a cushion of air, commanding fast motion of the probe insert and triggering all main measuring functions. Its intuitive use allows accurate, easy handling of the column. A simple rotation causes the measuring head to move rapidly, approach the contact point quickly or slowly, probe upward or downward or execute bore measurement.
- Available in three different sizes with a measuring span of 365, 615 or 920 mm.
- Choice between two control panels for value processing and output.
- Metric and inch LC display with a resolution to 0,0001 and 0,001 mm, or inch equivalent.
- Autonomous run through batteries. No cumbersome cable.
- Built-in air bearing for easy displacement over the surface plate.
- Motorised measuring head for fast, accurate probing at each contact point with a constant measuring force.
- TESA  $\mu$  system for matchless reliability and simplicity.
- High precision through CAA (Computer Aided Accuracy). All correction values stored in the memory still add to the mechanical precision.
- Coefficient of linear expansion matching that of steel ( $11,5 \times 10^{-6} \text{ K}^{-1}$ ).
- RS 232 data output.
- SCS calibration certificate delivered with every height gauge.

TESA MICRO-HITE plus M  
main height gauges  
350 / 600 / 900



Factory  
standard



Measuring span,  
application range  
and accuracy as  
stated on page N-18



Rugged nickel  
plated gauge  
base having  
3 resting points, finely  
lapped



Built-in air-bearing  
for easy move  
of the column  
over the surface plate



Frontal,  
for models

350 < 5  $\mu\text{m}$   
600 < 7  $\mu\text{m}$   
900 < 9  $\mu\text{m}$



Incremental  
glass scale with  
datum point,  
20  $\mu\text{m}$  grating division .  
Opto-electronic data  
acquisition (TESA patent).



Measuring head  
mounted on a  
ball-bearing.  
Motorised head displacement  
at a varying speed from 7,5  
up to 40 mm/s.  
Manual displacement:  
 $\leq 600 \text{ mm/s}$ .  
Automatic value capture  
with a constant measuring  
force.



$11,5 \times 10^{-6} \text{ K}^{-1}$



1 N Coupled  
for triggering  
the measuring  
force

Continued next page

## TESA MICRO-HITE plus M

Unrivalled Power, Performances, Ease of use

Rechargeable batteries 6 V, 3,0 Ah or mains adapter 100 to 240 Vac/50 to 60 Hz

≈ 12 hours after full recharging (8 hours)

10 °C to 40 °C

-10 °C to 60 °C

80% non-condensing

IP40 (IEC 60529)

EN 61326-1, Class B (with disconnected charger)

Net weight (w/o control panel nor battery pack)  
main part 350 = 33 kg, 600 = 38 kg, 900 = 45 kg

Shipping packaging

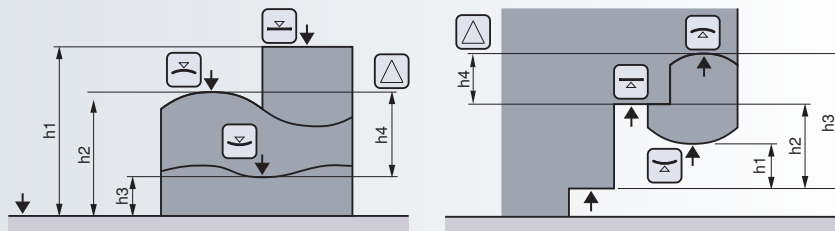
Identification number

Declaration of conformity

SCS calibration certificate

### Measurement without change of the probe direction

Probe constant excluded

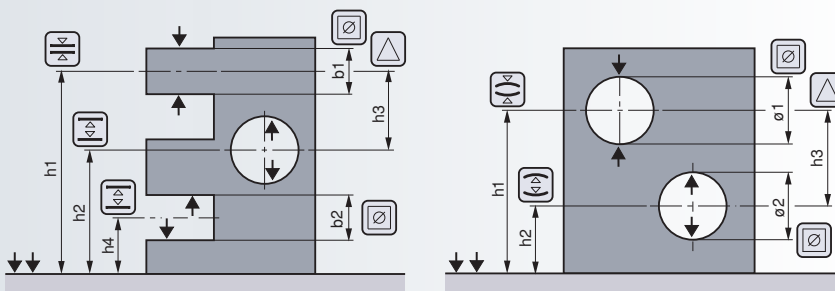


### Measurement with change of the probe direction

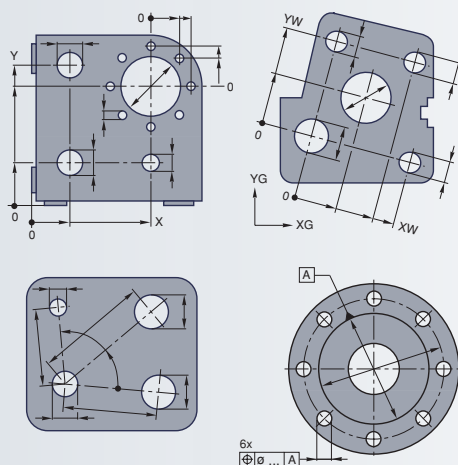
Probe constant included

– Disregarding the culmination point

– Considering the culmination point



### Two-Dimensional Measurement

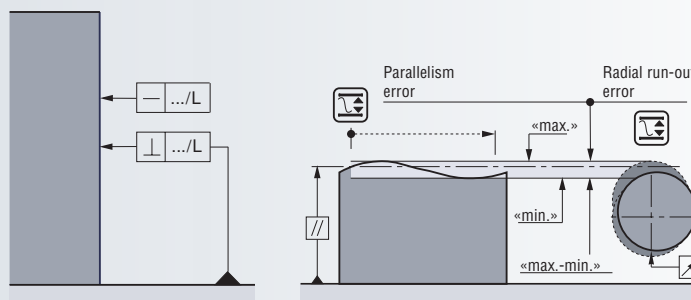


TESA  $\mu$  System

⊥ using TESATAST

⊥ using TESA IG-13

### Measurement of Form and Position Errors



## TESA MICRO-HITE plus M Height Gauge Sets 350 / 600 / 900



No		
00730063	TESA MICRO-HITE plus M height gauge set	350
00730064	TESA MICRO-HITE plus M height gauge set	600
00730065	TESA MICRO-HITE plus M height gauge set	900

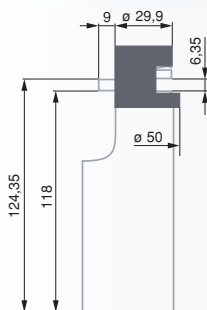
Each gauge set includes the following components, control panel excluded:

00730060	1 TESA MICRO-HITE plus M main gauge	●		
00730061	1 TESA MICRO-HITE plus M main gauge		●	
00730062	1 TESA MICRO-HITE plus M main gauge			●
00760143	1 Standard probe insert holder	●	●	●
00760227	1 Standard probe insert with shank and 5 mm dia. ball tip in tungsten carbide	●	●	●
00760219	1 Master piece with nominal dimension 6,350 mm/0.2500 in	●	●	●
00760142	1 Electric pump for creating the air cushion beneath the gauge base	●	●	●
00760141	1 Battery pack	●	●	●
04761054	1 Mains adapter, 100 to 240 Vac/50 to 60 Hz	●	●	●
04761055	1 Cable EU for mains adapter	●	●	●
04761056	1 Cable US for mains adapter	●	●	●
00760151	1 Dust cover for Model 350	●		
00760152	1 Dust cover for Model 600		●	
00760153	1 Dust cover for Model 900			●

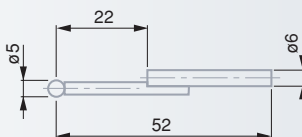
Optional Accessories for TESA MICRO-HITE plus M 350 / 600 / 900

00760157	Spare battery for battery pack No. 00760141	
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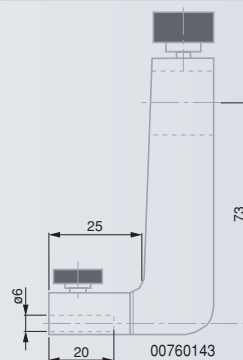
For additional accessories, report to both pages N-20 and N-27



00760219



00760227



00760143

### Technical Data

Models		350	600	900
	mm	365	615	920
	in	14	24	36
With standard accessory	mm	0 ÷ 520	0 ÷ 770	0 ÷ 1075
	in	0 ÷ 20	0 ÷ 30	0 ÷ 42
With probe insert holder No. 00760057	mm	0 ÷ 575	0 ÷ 825	0 ÷ 1130
	in	0 ÷ 22	0 ÷ 32	0 ÷ 44
With probe insert holder No. S07001622	mm	0 ÷ 745	0 ÷ 995	0 ÷ 1300
	in	0 ÷ 29	0 ÷ 39	0 ÷ 51
With standard accessory		(2 + 1,5•L) μm (0.0001 + 0.0000015•L) in		(L in m) (L in in)
With standard accessory		on flat surfaces: 2δ = ≤0,5 μm / ≤ 0.000025 in into bores: 2δ = ≤1 μm / ≤ 0.00005 in		
Frontal, mechanical	μm	5	7	9
Frontal and lateral using TESA IG-13	in	0.00020	0.00028	0.00035

POWER PANEL plus M



LC dual display,  
128 x 63 mm  
in size.

- Length measurement:  
7-segment/digit upper  
display field for values plus  
symbols for the functions.
- Straightness or perpendicularity measurement:  
display field for values plus  
symbols (function keys).  
Operator controlled operations (full dot display).

Measured values:  
7-decade display plus  
minus sign.

12,7 x 6,4 mm  
main display,  
6,3 x 4,2 or  
3,8 x 2,9 mm auxiliary  
display

Keypad with  
42 softkeys

See opposite

Metric/Inch  
conversion

PRESET function  
for entering a  
given value.

Acoustic signal.

Manual or automatic  
triggering of data transfer.

Output of predefined reports  
with headings in 5 languages  
(plus a programmable one)  
using an external printer unit  
(A4 format).

Bidirectional  
RS 232, opto-  
electronic and  
Centronics

Via  
TESA MICRO-HITE  
plus M

IP50  
(IEC 60529)



Declaration  
of conformity

## Control Panels for TESA MICRO-HITE plus M 350 / 600 / 900



00760221



### TESA POWER PANEL plus M

Includes a part programme for one or two-dimensional measurement.

- Captures flatness, parallelism and run-out deviations.
- Measures any deviation in perpendicularity or straightness.
- Executes angle measurement.
- Allows for value input through the keypad and digital value sensor.
- Enables automatic programming of the measurement cycles in Teach-in mode. Up to 9999 features distributed in several part programmes (each including max. 999 values) can be stored in the memory.
- Memory capacity for up to 25 000 measured values.
- Provides SPC capability with output of mean value, range, standard deviation, histogram, comparison nominal value/actual value, number of out-of-tolerance values, control limits, control charts.
- Prints reports in A4 format with related tables and graphics. Creates tailor-made headings to suit Users' needs.



0,0001 / 0,001 / 0,01 mm  
0.00001 / 0.0001 / 0.001 in

00760220

### TESA POWER PANEL plus M with built-in printer

Identical to item N° 00760221, but with integrated matrix printer for result output.

#### Optional Accessories for TESA Power Panel plus M

04761052	RS 232 connecting cable for PC and TESA PRINTER SPC
04761063	USB connecting cable for PC
04765008	Thermal paper roll, 57 mm wide



## Optional Accessories for TESA MICRO-HITE 350 / 600 / 900 TESA MICRO-HITE plus M 350 / 600 / 900 equipped with Power Panel plus M

For additional optional accessories, see on page N-27.

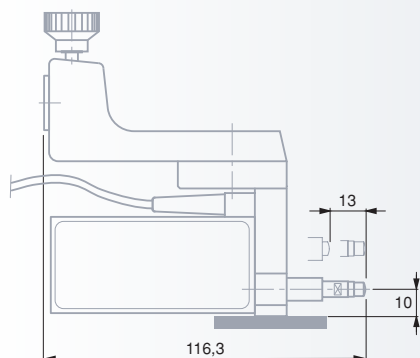
### Optional Accessories



Factory  
standard



Shipping  
packaging



**00760140** TESA IG-13 probe set

Consisting of:

**00760139** 1 TESA IG-13 digital probe



13 mm / 0.51 in



1  $\mu$ m



0,45 N at zero  
0,75 N at stop

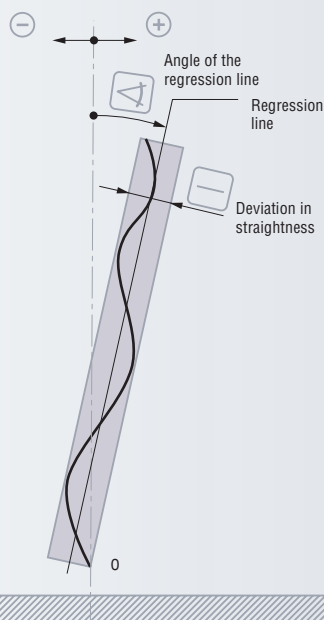
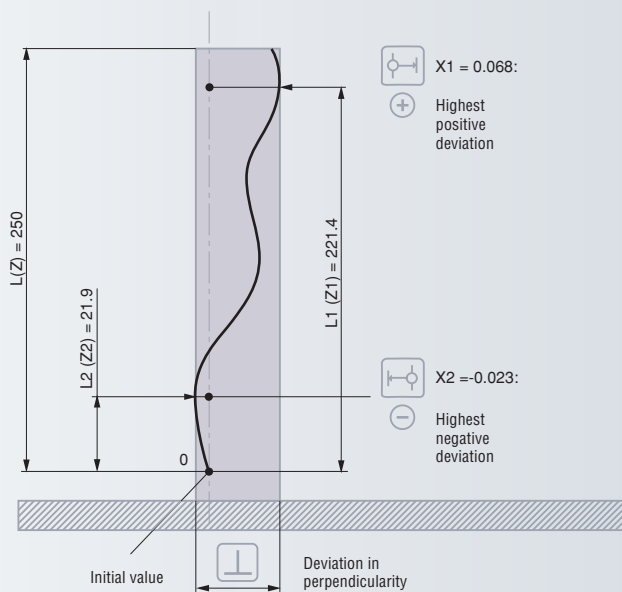
**00760138** 1 TESA IG-13 attachment

Accessories:

**01960005** Lift lever for the measuring bolt

**03540501** 10 mm long extension for the probe insert

**04761047** Connecting cable IG-13/Power Panel plus M (1 m)





Factory standard



100 mm/4 in



0 to 160 mm  
0 to 6.3 in



0,001 mm and  
0,0001 mm or  
0.0001 in and  
0.00001 in



Max. perm.  
error G: see  
table page N-23



Repeatability  
limit r: see  
table page N-23

#### Support



Granite measuring  
table; dull-chrome  
plated steel column,  
hardened and ground.



200x300x50 mm  
measuring table  
(L x D x H)  
50 x 300 mm dia. column.



Finish lapped



Accuracy grade  
00 according  
to DIN 876, Part 1

#### TESA-μHITE value sensor



Incremental  
glass scale with  
opto-electronic  
value capture.  
Grating period: 20 μm



$11,5 \times 10^{-6} \text{ K}^{-1}$



Electro-  
motorised  
gauge head  
displacement; can also be  
moved manually.



0,001 mm or  
0,0001 in  
numerical interval =  
10 mm/s; 0,0001 mm or  
0,00001 in = 5 mm/s, fast  
displacement = 30 mm/s



6 mm dia. x  
10 mm long  
clamp for the  
meas. insert



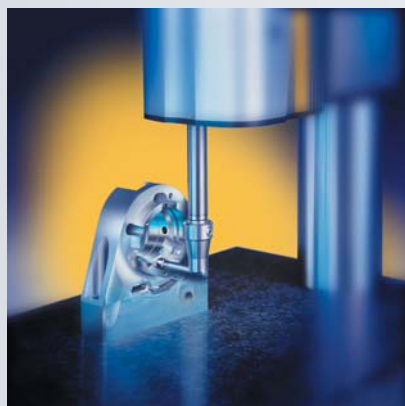
0,63 ± 0,1 N  
or 1 ± 0,1 N,  
switchable.



Electromotorised  
activation.



Via  
control  
panel



## TESA-μHITE Height Gauge

*The solution for the most varied metrology applications*



Compact design with measuring stand included – Sensor equipped with a system for coaxial measuring according to the Abbe principle or using an offset probe relative to the gauge axis.

Measures internal, external, height, depth, step and distance dimensions on geometric elements having either a flat, parallel or cylindrical surface – Automatic detection of the culminating point on bores or shafts – Dynamic probing with memory functions «max.», «min.» and «max.-min.».

The whole system provides the best solution for measuring straightness, flatness and parallelism or inspecting axial and radial runouts depending on the chosen tool configuration.

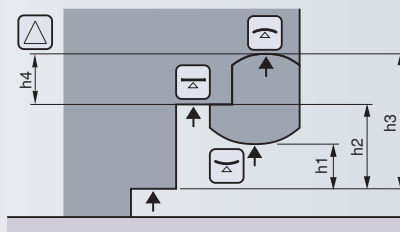
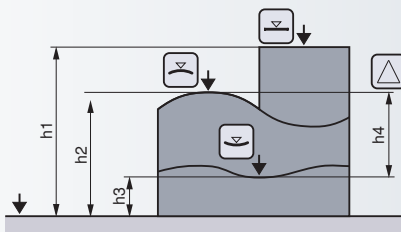
- Ideal for workpiece inspection close to the production area.
- 100 mm measuring span.
- 0,001 mm and 0,0001 mm or 0.0001 in and 0.00001 in scales intervals.
- Max. perm. error as low as 2 μm (or 1 μm when checking coaxiality).
- Integrated temperature sensor so that the coefficient of linear expansion of each gauge unit matches that of steel ( $11,5 \times 10^{-6} \text{ K}^{-1}$ ).
- Motorised measuring head for fast probing at each point.
- Automatic value capture, controlled over the stability of the measuring force, but also all measured values.
- Constant measuring force through the motor-driven actuator. Switchable.
- No manual calculation needed.
- RS 232 data output with direct connection to TESA PRINTER SPC.
- Memory capacity for 99 single values.



## TESA-μHITE Capabilities

### Measurement without change of the probe direction

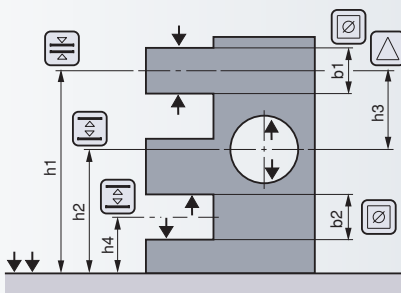
Probe constant excluded



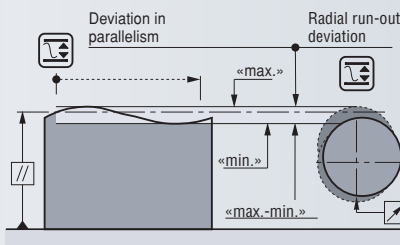
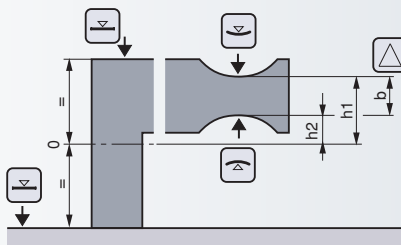
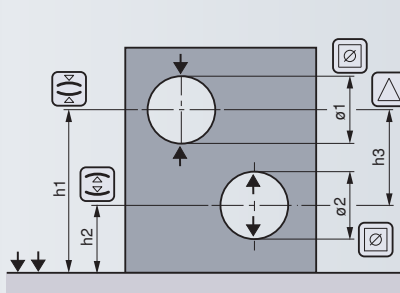
### Measurement with change of the probe direction

Probe constant included

– Disregarding the culmination point



– Considering the culmination point



#### Control Panel

67 x 33 mm  
LC display.  
Alphanumeric display:  
3-line display 7segment/  
digit) plus symbols.  
Display for measured values:  
7-decade display plus minus  
sign.  
Auxiliary display 1 or 2:  
7 or 4 digits.

10 x 4,9 mm  
(value display),  
7,5 x 3,7 or  
5 x 2,5 mm (auxiliary  
display 1 or 2),

Metric/Inch  
Conversion

Keyboard with  
20 softkeys

PRESET  
function for  
entering any  
given value.  
Acoustic signal.  
7 languages available  
for report headings

RS 232,  
opto-electronic  
and bidirectional

Mains adapter  
100 to 240 Vac /  
50 to 60 Hz /  
6,6 Vdc / 750 mA  
(order N° 04761054)

#### Additional Data

5°C to 40°C

-10°C to 60°C

80%  
non-condensing

See  
drawings

16,2 kg net  
(support  
N° 00760203).  
2,6 kg net (TESA-μHITE  
N° 00730050).  
1,45 kg net (control panel  
N° 00760204 with cable  
N° 00760191)

IP50  
(IEC 60529)

EN 61326-1,  
Class B

Shipping  
packaging

Identification  
number

SCS calibration  
certificate

Declaration  
of conformity



**00730049** TESA-μHITE height gauge

mm  
0 ÷ 160

in  
0 ÷ 6.3

Provided with the following components:

**00760203** 1 TESA measuring support, granite measuring table, size 200 x 300 x 50 mm

**00730054** 1 TESA-μHITE electronic length unit

Also included:



**00730050** 1 TESA-μHITE value sensor

mm  
100

in  
4

**00760204** 1 Control panel. To be connected to TESA-μHITE.

0,001  
0,0001

0.0001  
0.00001

**00760191** 1 Connecting cable for TESA-μHITE to control panel

**00760195** 1 Probe insert holder, axial with a M2,5 thread

**03510002** 1 Probe insert with a 3 mm dia. tungsten carbide ball tip

**00760197** 1 Probe insert with a 5 mm dia. tungsten carbide ball tip, offset

**00760192** 1 Master piece for establishing the probe constant, nominal dimension 10 mm/0.39370

**04761054** 1 Mains adapter, 100 to 240 Vac/50 to 60 Hz

**04761055** 1 Cable EU for mains adapter

**04761056** 1 Cable US for mains adapter

**038407** 1 Suited plastic case

For additional accessories, see page N-26.

## Accuracy



μm

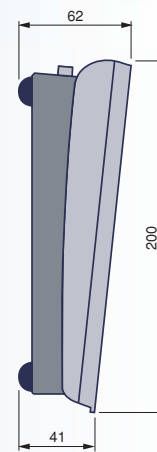
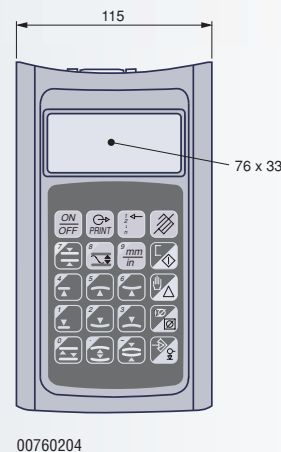
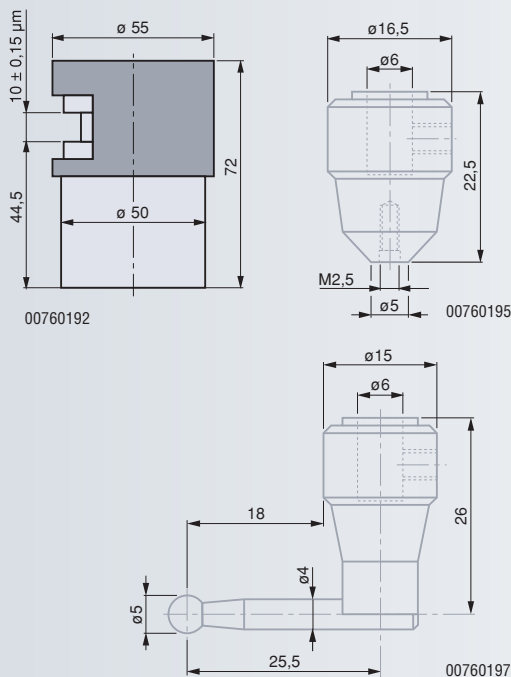


in

Insert's position  
relative to the  
axis of the  
measuring bolt

coaxial	1,0	0.00005	0,5	0.00002
offset	2,0	0.0001	1,0	0.00004

Applicable with used standard accessory.



## TESA-μHITE

Extended application range up to 360 mm



Factory standard



100 mm/4 in



0 to 360 mm  
0 to 14.2 in



0.001 mm and  
0.0001 mm or  
0.0001 in and  
0.00001 in



Max. perm.  
error G: see  
table page N-23



Repeatability  
limit r: see  
table page N-23

### Support



Granite measuring  
table; dull-chrome  
plated steel column,  
hardened and ground.



300x400x50 mm  
measuring table  
(L x D x H).  
50 x 500 mm dia. column.



Finish lapped



33 kg net  
(support  
N° S07600163)



2.6 kg net  
(TESA-μHite N° 00730050)



1.45 kg net  
(control panel N° 00760204  
with cable N° 00760191)



Accuracy grade  
00 according to  
DIN 876, Part 1

### TESA-μHITE value sensor



Incremental  
glass scale with  
opto-electronic  
data acquisition.  
Grating period: 20 μm.



11,5 x 10<sup>-6</sup> K<sup>-1</sup>



Electro-  
motorised  
gauge head  
displacement; can also  
be moved manually.



Numerical interval  
to 0,001 mm/  
0,0001 in =  
10 mm/s; to 0,0001 mm/  
0,00001 in = 5 mm/s; fast  
displacement = 30 mm/s



6 mm dia. x  
10 mm long  
attachment for  
the probe insert



0,63 ± 0,1 N  
and 1 ± 0,1 N,  
switchable.



Electromotorised  
activation.



Via the  
control  
panel

N°

=

mm

in

### TESA-μHITE height gauge with extended application range

0 ÷ 360 0 ÷ 14.2

Provided with the following components (must be ordered under 2 positions)

**S07600163** 1 TESA measuring support, granite measuring table, overall dimensions 300 x 400 x 50 mm. The guiding column has a 50 x 500 mm diameter.

**00730054** 1 TESA-μHITE electronic length measuring unit

Also included:

N°

=

mm

mm

in

in

**00730050** 1 TESA-μHITE value sensor

100

4

**00760204** 1 Control panel, connected to TESA-μHITE.

0,001

0.0001

0,0001

0.00001

**00760191** 1 Cable for connecting TESA-μHITE to control panel

**00760195** 1 Probe insert holder, axial with a M2,5 thread

**03510002** 1 Probe insert with a 3 mm dia. tungsten carbide ball tip

**00760197** 1 Probe insert with a 5 mm dia. tungsten carbide ball tip, offset

**00760192** 1 Master piece for establishing the probe constant, nominal dimension 10 mm/0.39370

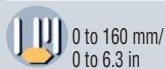
**04761054** 1 Mains adapter, 100 to 240 Vac/50 to 60 Hz

**04761055** 1 Cable EU for mains adapter

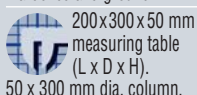
**04761056** 1 Cable US for mains adapter

**038407** 1 Suited plastic case

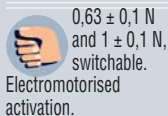
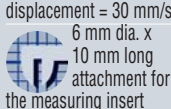
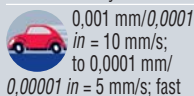
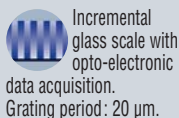
Additional accessories, see page N-26.



### Support



### TESA-µHITE value sensor



## TESA-µHITE

### Strong, user-friendly with Power Panel plus M

Capable to operate using all TESA POWER PANEL plus M measuring functions, those for perpendicularity measurement excepted (more details on both pages N-17 and N-19).



#### TESA-µHITE height gauge, plus M version

mm 0 ÷ 160 in 0 ÷ 6.3

Provided with the following components (must be ordered under 3 positions):

- 00760203** 1 TESA measuring support, granite table, 200 x 300 x 50 mm (large-size support No. S07600163 can alternately also be used)
- 00760221** 1 POWER PANEL plus M Related features listed on page N-19 (can alternately also be used with host printer No. 00760220)
- S07010288** 1 TESA-µHITE electronic length measuring unit, without control panel

Also included:



- 00730050** 1 TESA-µHITE value sensor
- 00760191** 1 Cable for connecting TESA-µHITE to control panel
- 00760195** 1 Probe insert holder, axial for probe inserts with a M2,5 thread
- 03510002** 1 Probe insert with a 3 mm dia. tungsten carbide ball tip
- 00760197** 1 Probe insert with a 5 mm dia. tungsten carbide ball tip, offset
- 00760192** 1 Master piece for establishing the probe constant, nominal dimension 10 mm/0.39370
- 04761054** 1 Mains adapter 100 to 240 Vac/50 to 60 Hz
- 04761055** 1 Cable EU for mains adapter
- 04761056** 1 Cable US for mains adapter
- 038407** 1 Suited plastic case

For additional accessories, see page N-26.

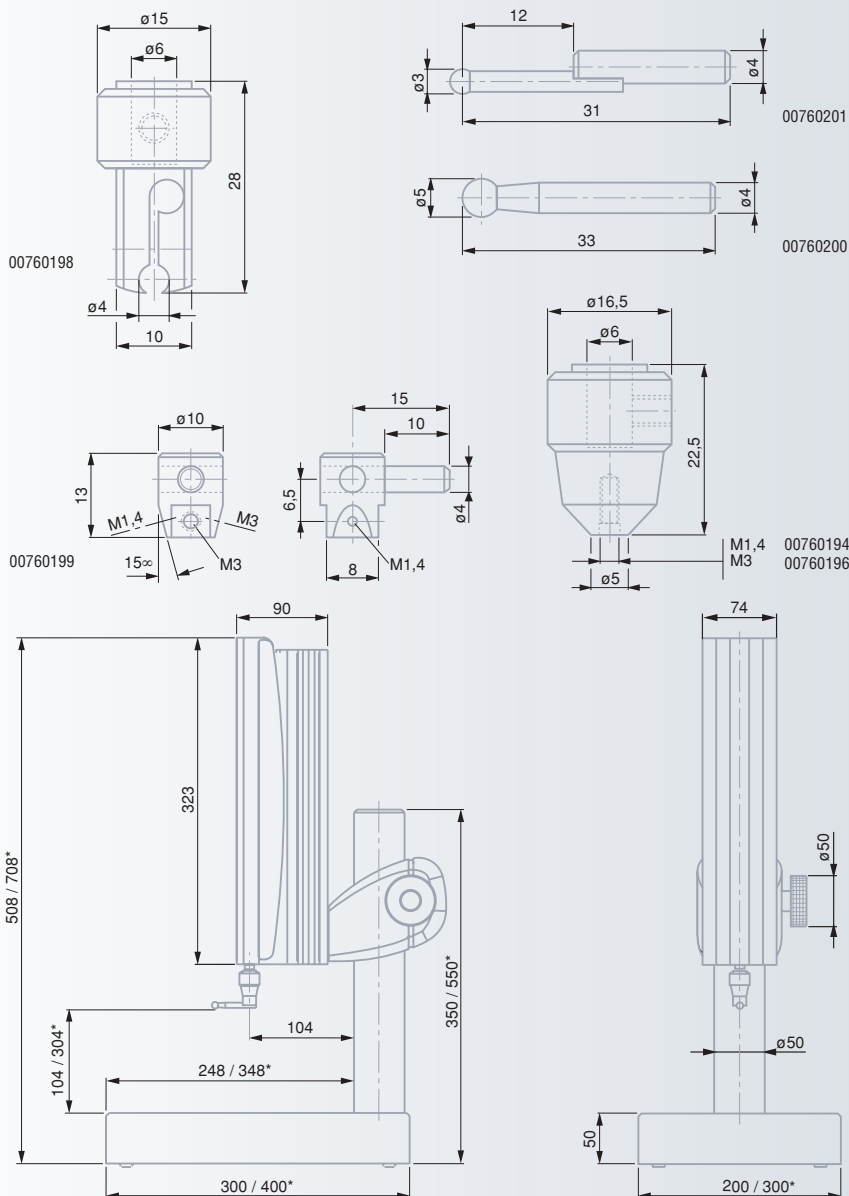
For measuring applications, see page N-17.



## Optional Accessories



<b>00760186</b>	Set of special probe inserts (see page N-29).
<b>00760194</b>	Axial probe holder for probe inserts with a M1,4 thread.
<b>00760196</b>	Axial probe holder for probe inserts with a M3 thread
<b>00760198</b>	Radial probe holder with a 4 mm dia. mounting bore.
<b>00760199</b>	Universal probe insert holder with a 4 mm dia. clamping shank (used in conjunction with radial probe holder No. 00760198). M1,4 plus M3 threads (2 x 2) for the probe inserts.
<b>00760200</b>	Probe insert with a 5 mm dia. tungsten carbide ball tip. Also with a 4 mm dia. fixing rod for use with radial probe holder No. 00760198.
<b>00760201</b>	Probe insert with a 3 mm dia. tungsten carbide ball tip. Also with a 4 mm dia. fixing rod for use with radial probe holder No. 00760198.
<b>04768001</b>	Foot switch for triggering data transfer or letting a measuring function be repeated.
<b>00760207</b>	Swivel support for control panel
<b>00760202</b>	Spare batteries for control panel N° 00760204, 6 Vdc/1,2 Ah.
<b>00761052</b>	RS 232 connecting cable for PC and TESA PRINTER SPC
<b>00761063</b>	Sub-D connector 9-pin – USB type for PC



Factory standard



Shipping packaging

\* With measuring support No. S07600163



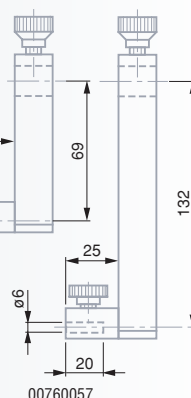
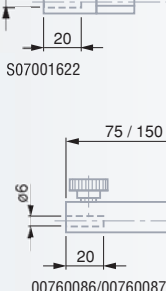
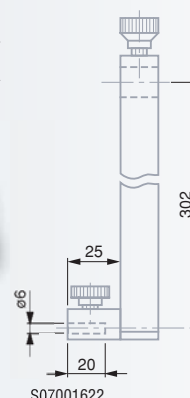
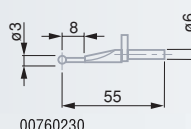
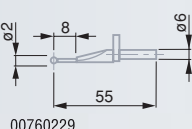
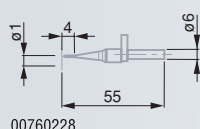
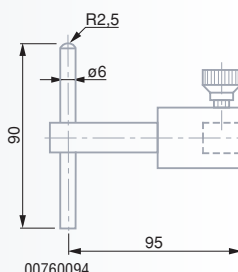
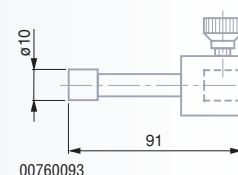
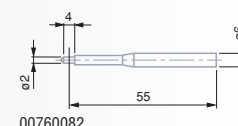
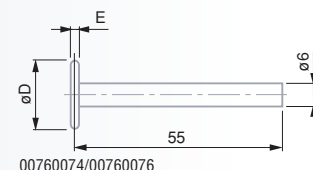
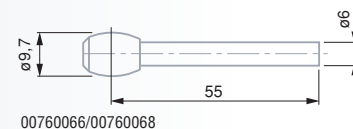
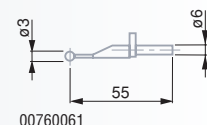
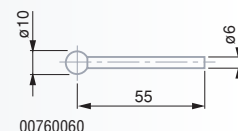
Shipping  
packaging



Declaration  
of conformity

## Optional Accessories for TESA MICRO-HITE plus M 350 / 600 / 900 TESA MICRO-HITE 350 / 600 / 900 TESA-HITE 400 / 700 – TESA-HITE plus M 400 / 700 TESA-HITE magna 400 / 700

Nº	=	
00760173	Partial accessory set	●
00760148	Full accessory set	●
<i>Supplied in a suited plastic case with the following items:</i>		
00760061	1 Probe insert with a 3 mm dia. carbide ball tip	● ●
00760060	1 Probe insert with a 3 mm dia. carbide ball tip	● ●
	Probe inserts with carbide, barrel-shaped measuring faces for cylindrical bores as well as for determining the position of metric inside threads (or similar).	
00760066	1 item with a 2,2 mm diameter (for M3 to M16 threads)	●
00760067	1 item with a 4,5 mm diameter (for M6 to M48 threads)	●
00760068	1 item with a 9,7 mm diameter for M12 to M150 threads)	●
	Probe inserts with a carbide disc tip for grooves, slots, centring shoulders etc.	
00760074	1 Item, E = 1 mm / 4,5 mm diameter	●
00760075	1 Item, E = 2 mm / 14 mm diameter	●
00760076	1 Item, E = 3 mm / 19 mm diameter	●
00760082	1 2 mm dia. probe insert with a small cyl. carbide face	●
00760093	1 Probe insert with a cylindrical, tungsten carbide measuring face (10 mm dia., 12 mm long). Stainless steel body, hardened.	● ●
	Probe insert holder for depth increase	
00760086	1 Item for depth up to 110 mm (L = 75 mm)	●
00760087	1 Item for depth up to 185 mm (L = 150 mm)	●
00760057	1 Probe insert holder for extending the application range	●
00760094	1 Probe insert with a stainless steel shank, hardened. Also with one flat and one spherical carbide measuring face. Interchangeable shank.	● ●
	Probe inserts with shank and ball tip in tungsten carbide	
00760228	1 Item with a 1 mm tip diameter	● ●
00760229	1 Item with a 2 mm tip diameter	● ●
00760230	1 item with a 3 mm tip diameter	● ●
S07001622	Probe insert holder for extending the range of application	



**Nº**



**00760096** 1 Holder for TESATAST probe inserts with a M1,4 thread or any other ones with a M2,5 thread.

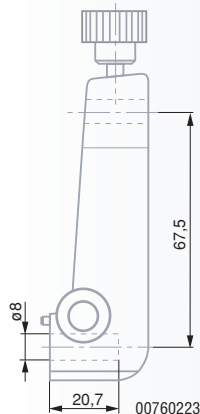
TESATAST probe inserts, carbide ball tip, M1,4 thread

**01860201** 1 Item with a 1 mm probe tip diameter

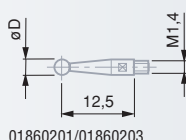
**01860202** 1 Item with a 2 mm probe tip diameter

**01860203** 1 Item with a 3 mm probe tip diameter

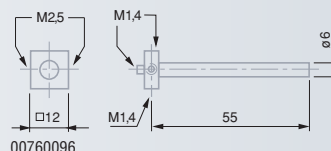
**01860307** 1 Wrench



01860307



01860201/01860203



00760096

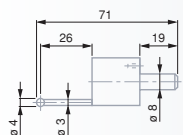
## Optional accessories for use with insert holder No. 00760223

**Nº**

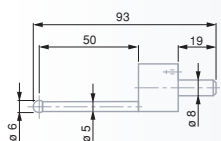


**00760223** Holder for use with any probe insert listed below

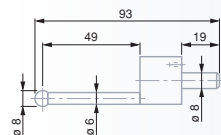
**0071684825** Probe insert with a 6 mm dia. tungsten carbide ball tip



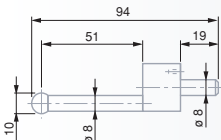
0071684815



0071684816



0071684832



0071684829

**Nº**



**0071684815** 1 Probe insert with a 4 mm dia. tungsten carbide ball tip

**0071684816** 1 Probe insert with a 6 mm dia. tungsten carbide ball tip

**0071684832** 1 Probe insert with a 8 mm dia. tungsten carbide ball tip

**0071684829** 1 Probe insert with a 10 mm dia. tungsten carbide ball tip

**0071684817** 1 Long probe insert with a 10 mm dia. tungsten carbide ball tip

**0071684826** 1 Attachment for interchangeable inserts with M1,4 thread. Supplied with 1 insert No. 01860201 having a 1 mm dia. carbide ball tip.

**0071684820** 1 Probe insert with cylindrical measuring face in hardened steel, 12 mm diameter, 2 mm long.

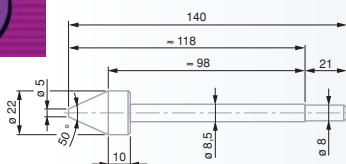
**0071684827** 1 Probe insert with disc-shaped face in hardened steel for blind bores or short centring shoulders, 12 mm in diameter, 3 mm wide.

**0071684822** 1 Probe insert with cone-shaped measuring face in hardened steel, for diameters from 0,5 up to 5,5 mm.

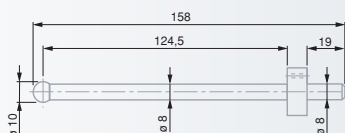
**0071684819** 1 Probe insert with cone-shaped measuring face in hardened steel, for diameters from 5 up to 20 mm.

**0071684828** 1 Attachment for interchangeable inserts with M1,4 thread. Supplied with 2 probe inserts No. 01860202 having a 2 mm dia. carbide ball tip

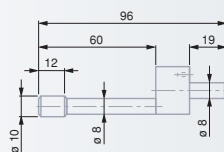
**0071684818** 1 Probe insert with a 1 mm dia. steel tip, hardened. Also with adjustable shank for depth measurement.



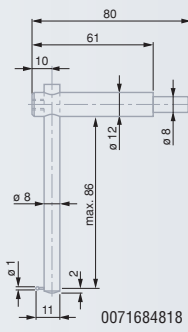
0071684819



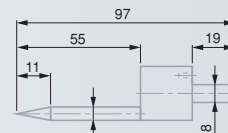
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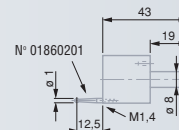
0071684820



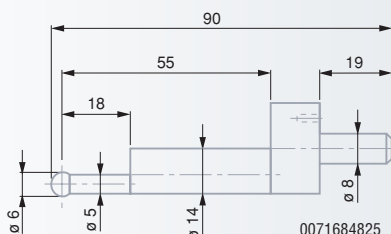
0071684818



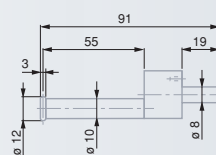
0071684822



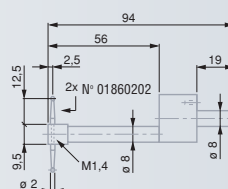
0071684826



0071684825



0071684827



0071684828



Factory standard



Shipping packaging

## A close-up photograph of a mechanical assembly. On the left is a dark, metallic component with a circular opening. To its right, a yellow pressure gauge is mounted on a metal arm. The gauge has a black needle and a yellow face with black markings. The background is dark and out of focus.

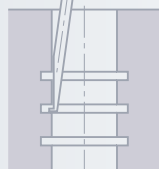
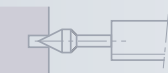
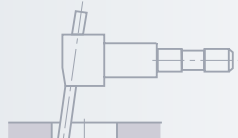
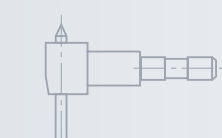
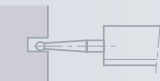


Technical drawing of the 00760222 component, showing a side view with dimensions. The component has a total height of 73, a base diameter of 6 (ø6), and a base height of 40. The main body has two sections, each 25 units wide, and a bottom section 20 units wide. A threaded cap is on top.



Technical drawing of a shaft assembly. The drawing shows a shaft with a diameter of  $\phi 6$  and a length of 45. The shaft is supported by a housing with a bore diameter of  $\phi 9$ . The shaft has a keyway with a width of 4.5 and a depth of 4. The housing has a bore diameter of  $\phi 4$  and a length of 34. The shaft has a tolerance of  $M3$  and a surface finish of  $8\mu m$ . The housing has a tolerance of  $M3$  and a surface finish of  $8\mu m$ . The drawing includes dimensions for the shaft, housing, and keyway, as well as tolerances and surface finish requirements.

A diagram showing a wedge being driven into a block. The wedge is on the left, and the block is on the right. The wedge is being pushed into the block, and the block is being pushed to the right. The wedge is labeled 'Wedge' and the block is labeled 'Block'.









***N-29***

## ETALON Height and Scribing Gauges with Digital Display





Electronic height and scribing gauges

- Resolution to 0,01 mm/0.005 in
- RS 232 interface

						
		Size	mm	in	Column mm	Base (L x H x W) mm
<i>ETALON height and scribing gauges with digital display</i>						
<b>07739001</b>		300	0 ÷ 300	0 ÷ 12	25 x 6	60 x 40 x 100
<b>07739002</b>		600	0 ÷ 600	0 ÷ 24	30 x 12	110 x 50 x 160
<b>07739003</b>		1000	0 ÷ 1000	0 ÷ 40	30 x 12	110 x 50 x 160



### Optional Accessories

				
			Suitable for models	Length mm
<b>07769001</b>		Scriber	300	65
<b>07769003</b>		Scriber	600, 1000	75
Holder for a dial gauge, axial probe, dial test indicator (lever-type) etc., 8 mm dia. fixing bore.				
<b>07769005</b>		Can be mounted instead of the scriber		
<b>07769006</b>		Rotating and tilting version with a 8 mm dia. shank		



Factory standard



Slider with interchangeable scriber.

Also with back mounted clamping holder having a 8 mm diameter. Slider with locking screw and fine adjust device.

Base has a ground face with dust grooves. Top face also ground.



Steel base, hardened



DIN 862  
For lengths up to  
600 mm = 30 µm  
1000 mm = 40 µm



Floating zero



Preset and Hold functions



Wooden case



Identification number



Declaration of conformity