

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 means. 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
TESA-HITE Magna	M-4	8	870	1095	●	●	-	-	-	-	-
TESA-HITE	M-7	2,5+4L	870	1095	●	●	●	-	-	-	-
TESA MICRO-HITE	M-10	2+3L	1075	1300	●	●	●	●	●	-	-
TESA MICRO-HITE plus M	M-14	2+1,5L	1075	1300	●	●	●	●	●	●	●
TESA-μHITE	M-19	1/2	160	360	●	●	-	-	-	-	●
TESA-μHITE + Power Panel Plus M	M-23	1/2	160	360	●	●	-	●	●	●	●
ETALON height and scribing gauges	M-28	40	1000	-	●	-	-	-	-	-	-
ETALON dial height and scribing gauges	M-28	50	600	-	●	-	-	-	-	-	-



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 μ 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.

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- 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 M-5.
- Nickel plated gauge base (chemical coating)
- Magnetic scale
- (12 \pm 1,5) x 10⁻⁶ K⁻¹
- 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 \pm 0,5 N (at switch point)
- RS 232
- Rechargeable batteries, 6V
- \approx 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 M-5
- EN 61326, Class B (with disconnected charger)
- Shipping packaging

No Identification number

Declaration of conformity

SCS 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

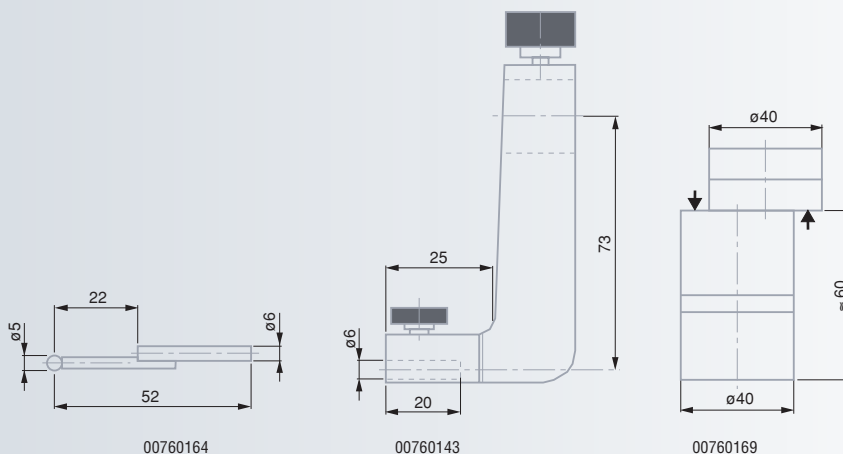
Each height gauge is supplied with the following standard accessories:

- 00760143** 1 Standard insert holder
- 00760164** 1 Standard insert with a 5 mm dia. tungsten carbide ball tip
- 00760169** 1 Master piece for establishing the probe constant, nominal dimension to 0,000 mm / 0.0000 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
With standard accessory	mm in	0 ÷ 570 0 ÷ 22	0 ÷ 870 0 ÷ 34
With insert holder No. 00760057	mm in	0 ÷ 625 0 ÷ 24	0 ÷ 925 0 ÷ 36
With insert holder No. S07001622	mm in	0 ÷ 795 0 ÷ 31	0 ÷ 1095 0 ÷ 43
With standard accessory	µm in	< 8 < 0.0003	< 8 < 0.0003
With standard accessory		Flat surfaces: 2δ = < 3 µm / < 0.00015 in Holes: 2δ = < 5 µm / < 0.00020 in	
	kg	15	18

Standard Accessories for TESA-HITE magna 400 / 700



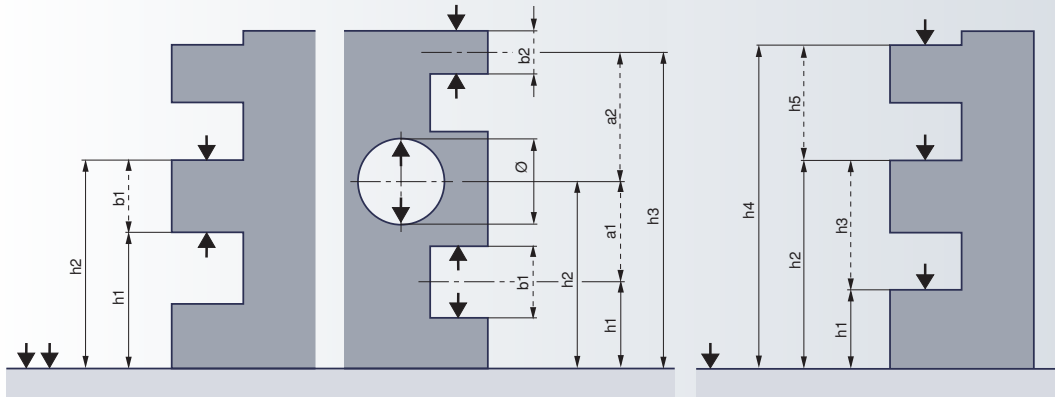
Optional Accessories for TESA-HITE magna 400 / 700

Nº

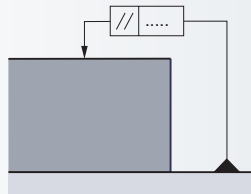


04761052 RS 232 connecting cable (PC to TESA PRINTER SPC)
For additional accessories, see page M-25

One-Dimensional Measurement



Parallelism Measurement

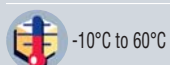
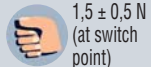
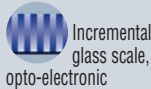
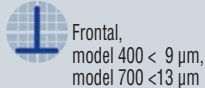
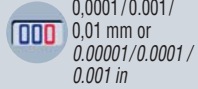
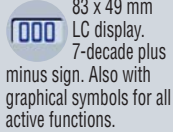


TESA-HITE 400 / 700

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.



- 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.
- 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 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:

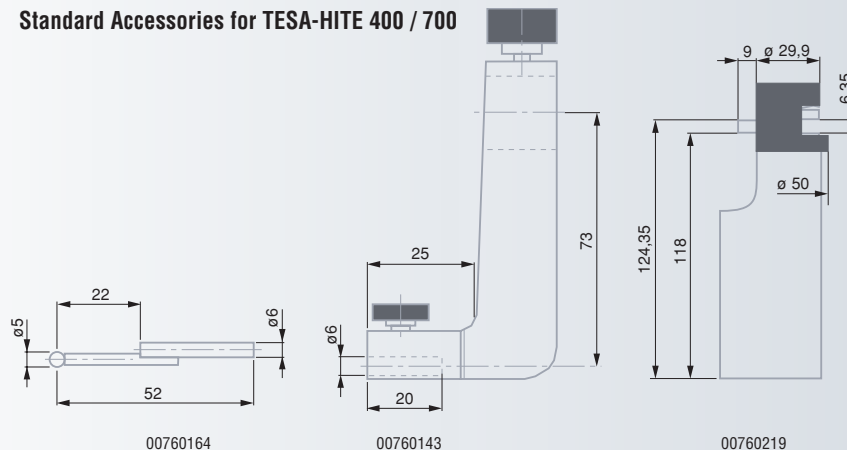
- 00760143** 1 Standard insert holder
- 00760164** 1 Standard insert with a 5 mm dia. tungsten carbide ball tip
- 00760219** 1 Master piece for establishing the probe constant, nominal dimension to 6,350 mm / 0.2500 in
- 00760226** 1 Electric pump for creating the air-cushion beneath the gauge base, already mounted
- 00760157** 1 Rechargeable battery, 6V
- 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 insert holder No. 00760057	mm in	0 ÷ 625 0 ÷ 24	0 ÷ 925 0 ÷ 36
	With 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		Flat surfaces: 2δ = <2 µm / <0.0001 in Holes: 2δ = <3 µm / <0.00015 in	
	Frontal, mechanical	µm in	9 0.00035	13 0.0005
		kg	27	32

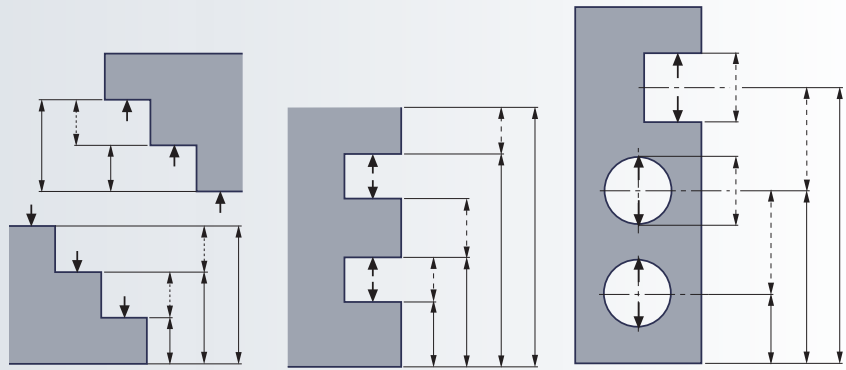
Standard Accessories for TESA-HITE 400 / 700



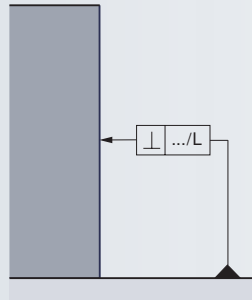
Standard Accessories for TESA-HITE 400 / 700

No	=
04760070	RS port. Used to connect a digital sensor for perpendicularity measurement
04761052	RS 232 connecting cable (PC to TESA PRINTER SPC) For additional accessories, report to page M-25

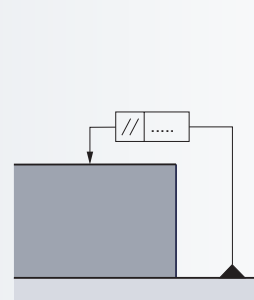
One-Dimensional Measurement



Perpendicularity Measurement



Parallelism Measurement



Configuration for Perpendicularity Measurement

