

TESA micro-hite® 3D



**THE MEASURING SYSTEM THAT'S
UNIQUE**

HEXAGON METROLOGY



TESA MICRO-HITE 3D

THE MEASURING SYSTEM THAT'S **UNIQUE**

With a focus on design and ergonomy, the machine reflects the search for aesthetic of the structural features, among others. This also includes the patented ZMouse for a speedy operation in the Z-axis. Manufacturing has involved advanced technical solutions including off-centering of the masses for optimum geometry stability with moving axes, use of frictionless air bearings and choice of the delta for the X-axis – a practice derived from the aeronautics technology, which earned Hexagon 3D systems their success.

So as to give TESA micro-hite 3D its unique touch of sensitivity and precision, it comes equipped with either of the newly developed TESA 3D probes : TESASTAR with adjustable trigger force or TESASTAR-i indexing probe in a world-class version – a real measuring machine on its own!

TESA micro-hite 3D has key features that make it equally suitable for the workshop and the measurement laboratory. It is made from materials having a similar coefficient of expansion so that the measuring rooms need not be air controlled.

Lastly, being attractively priced, this three-axis system makes it possible for a large number of Users to easily access the sophisticated and often costly dimensional inspection.



NEW

Patented glass scales along with non-contact, opto-electronic sensors derived from the recognised TESA MICRO-HITE vertical columns.

NEW

Delta for the X-axis with its self-stabilised carriage ensuring a self-stabilised guidance.

NEW

User-friendly, ergonomic designed control panel integrating the powerful electronics – No need for a restricting PC in industrial applications !

APPLICATION SOFTWARE

TESA REFLEX – The reference in terms of reliability and simplicity for thousands of measuring systems for more than 10 years.

AIR BEARINGS

As much as 22 air bearings ensure a frictionless motion of the three axes within the measuring volume.

STYLII

Wide variety of Swiss Made stylii to suit all requirements, with a ruby ball tip as small as 0,5 mm in diameter for the shortest one !

VERSATILITY

TESA MICRO-HITE 3D can be supplied with or without fine adjustment. By adding a CCD camera, it can be converted into a true optical measuring system for non-contact measurement.

Choice between two 3D probes: TESASTAR with adjustable trigger force or TESASTAR-i indexing probe over 168 angular positions by increment of 15°.

TECHNICAL EVOLUTION

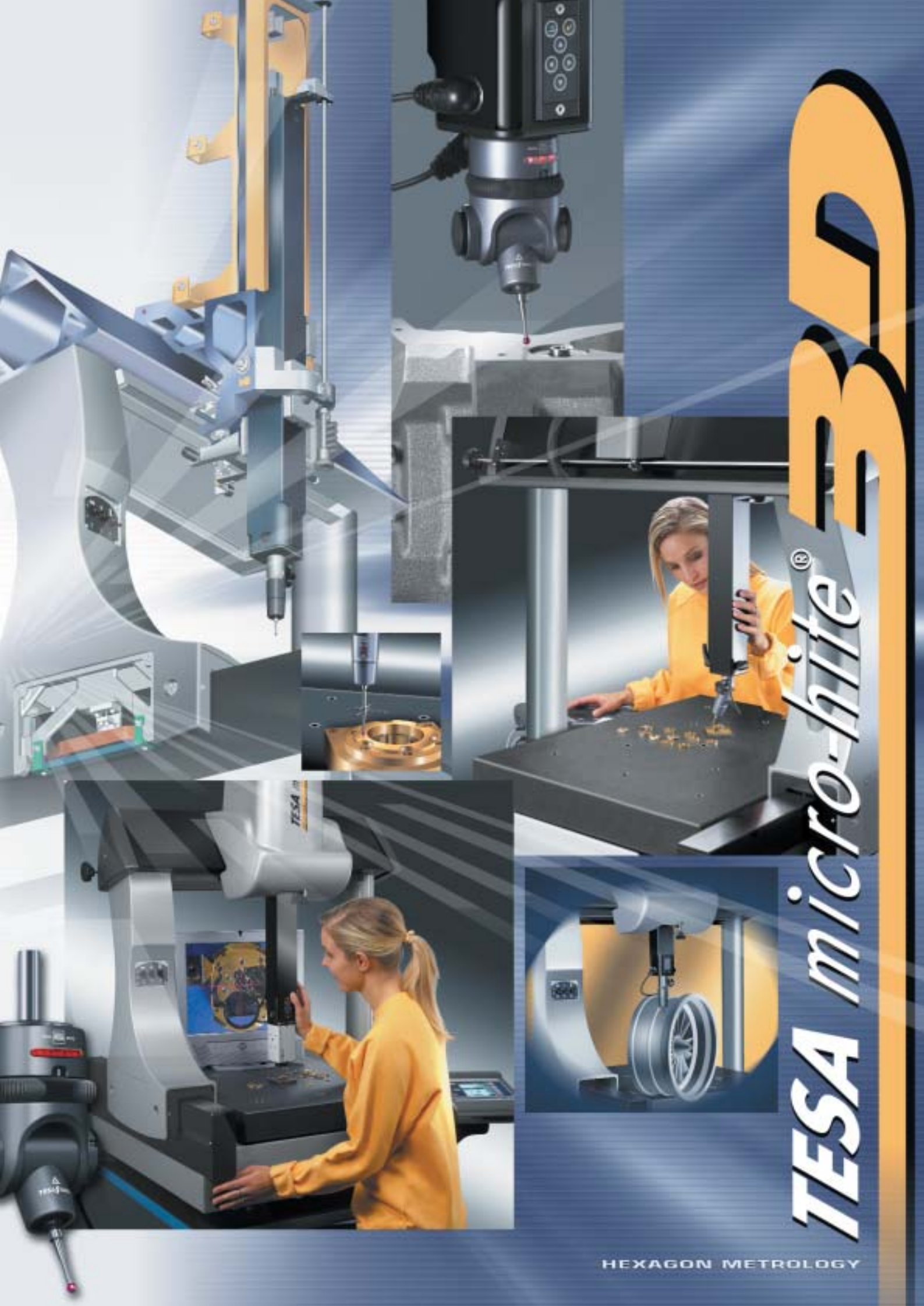
It's worth to invest in the new MICRO-HITE 3D. TESA is committed to optimize this investment at any time by upgrading the application software while guaranteeing full compatibility of all mechanical or electronic components which are susceptible to evolve.

A PERFECT SYNTHESIS OF MECHANICAL ENGINEERING, ELECTRONICS AND APPLICATION SOFTWARE

TESA has added a new dedicated version to its range of famous microprocessor controlled height gauges – TESA MICRO-HITE 3D.

This coordinate measuring system is unique on several accounts. Apart from the fact that no other system of its class offers such a favourable price/performance relationship, it is the missing link between the conventional precision measuring tool and the coordinate machine. As such, it has taken a place still vacant in the field of dimensional metrology inspection. This true Swiss Made product is produced at Renens, in a manufacturing cell specially laid out to meet the high level processes of its manufacture.

TESA's new micro-hite 3D measures to the micron. Surprisingly easy to operate, there is no need for the operator to be an expert. Owing to its interactive TESA REFLEX application software, he will be able to take complex part measurements after just a few hours of use.



TESA micro-hite[®] 3D

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GENERAL

Swiss Made.
MMT with moving bridge. Also with measuring system and guides mounted on air bearings on all three axes.
Light alloy base fitted with a granite measuring table.
TESA optical measuring system, patented.



ORDER NUMBERS

TESA micro-hite Coordinate Measuring Machine

03939040 MH3D basic version

Consisting of:

03939020 TESA-STAR probe
03960040 Kit of stylii for M3 thread
03960170 Control panel equipped with the REFLEX application software
03969006 PCMCIA memory card
03969011 Reference sphere
82-703-1 Granite measuring table
049746 Air filter and regulator

03939041 MH3D_i Version with indexing probe
03939042 MH3D_F Version with fine adjustment
03939043 MH3D_Fi Version with fine adjustment and indexing probe

3D PROBES

	TESASTAR	TESASTAR-I
Repeatability, uni-directional	≤ 0,75 µm	≤ 0,35 µm
Positioning repeatability	-	≤ 1,5 µm
Adjustable trigger force	0,1 to 0,3 N	0,1 to 0,3 N
Number of positions by increment of 15°	-	168
Order number	03939020	03939030

STYLI



Thread	M2 or M3
Length	10, 20 or 30 mm
Stylus with ruby ball tip	0,5 to 8 mm diameter
Stainless steel or tungsten carbide	
Probe extensions and adapters as well as star stylii and cross-pieces for M2 or M3 thread.	

For complete sales programme, see in TESA general catalogue.

SPECIFICATIONS

Measuring range (X/Y/Z)	460 x 510 x 420 mm
Accuracy:	
Repeatability limit	3 µm
Uncertainties (L=m)	U1 (0,003 + 3·L/1000) mm
Uncertainties (L=m)	U3 (0,003 + 4·L/1000) mm
Display resolution	0,001 mm
Computing system resolution	0,00001 mm
Measuring speed	760 mm/s
Air pressure	4,8 to 8,3 bar
Air supply	21 liters/min
Electrical supply	115 to 230 Vac, 50-60 Hz 0,3 to 0,7 A

Working temperature range	20 ± 1° C
Operating temperature range	13 to 35° C
Electromagnetic compatibility	✓
Weight	190 kg only !
Overall dimensions (LxHxD)	970 x 1620 x 930 mm
Max. component dimensions (X/Y/Z)	600 x 750 x 430 mm
VDI/VDE inspection report	✓

Control panel:	
Display field with illuminated background	89 x 118 mm
Numerical indication	7-decade display plus sign
Icon-driven menu guiding the operator	✓

TESA Technology UK Ltd.

Metrology House – Halesfield 13 – Telford, Shropshire TF7 4PL
Tel. +44 1952 681 349 – Fax +44 1952 681 391
uksales@ch.bnsmc.com

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