



**TESA**  
TECHNOLOGY

PRODUCT  
BROCHURE

# MICRO-HITE

## HEIGHT GAUGES



The quick & accurate  
measurement

# Towards excellence



The complexity of Modern Industry is increasingly diverse and understanding its needs is paramount to TESA.

Because your metrological concerns are also ours, we are constantly striving to develop solutions adjusted to your needs. Longevity, robustness and simplicity are the core of our passion and innovations are our total commitment to YOU.

The result?

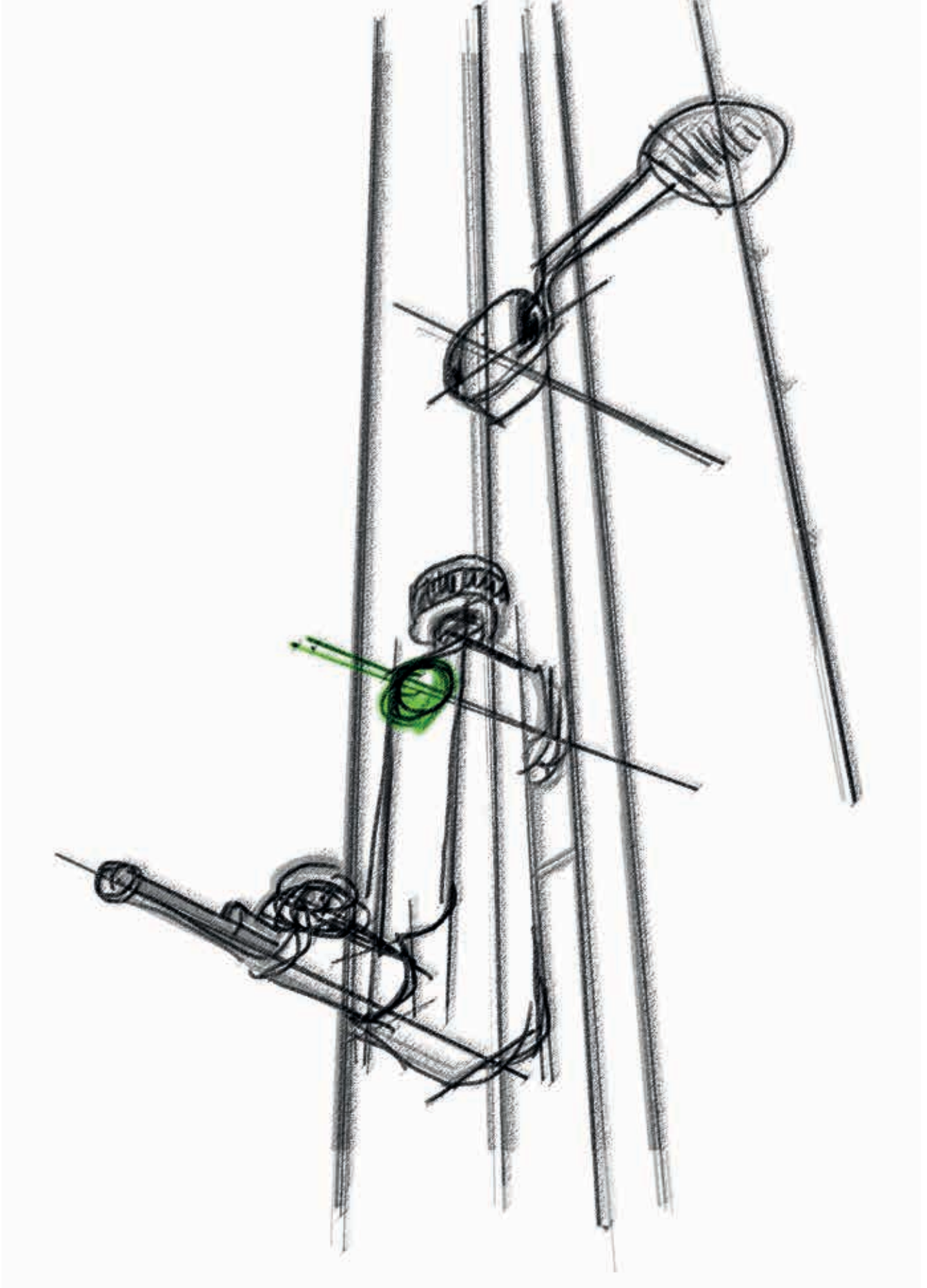
Your satisfaction over the years.

Our pleasure?

To know that our products help you quickly and efficiently managing the constraints that emanate from your researches and developments.

Uwe BURKARDT

TESA Marketing Director



# One Solution for each use

The range of TESA height gauges consists in different models intended for monitoring operations during manufacturing or directly for a processing machine. These gauges allow a reliable measurement during the setting or sampling when the machining and the dimensions of parts turn out to be critical and need accurate and immediate control.



## MICRO-HITE

These MANUAL gauges are universal workshop or laboratory machines which are reliable and robust to be integrated as close as possible to the user.

Multifunctional but always simple to use, they are a metrological multi-user asset, that replaces the most conventional measuring tools.

Sizes available

**350 mm - 600 mm - 900 mm**

Embedded technologies



optousystem



## MICRO-HITE+M

The MOTORIZATION of these height gauges makes them the most precise of the range.

They distinguish themselves primarily by their exclusive and patented handwheel for displacement (FEEL&MOVE), combining fast probe positioning with fluidity during the execution of a measurement sequence.

Sizes available

**350 mm - 600 mm - 900 mm**

Embedded technologies



optousystem



# The security of a product of quality

The TESA products are since their development phase submitted to strict internal standards, aligned with the most restrictive national standards. Thanks to this tight monitoring, all the TESA gauges satisfy the quality charter that we strive to maintain as demanding as possible.



## SCS certificate

Each gauge of the range is delivered with a SCS (Swiss Calibration Service) certificate of measurement.



*Any hidden additional extra cost due to a re-certification of the instrument after purchase is avoided.*

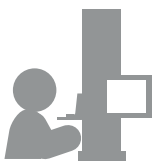


## Calibration process

All the height gauges of the TESA range are calibrated and inspected in accordance with the standards described by the ISO 13225 standard. Each instrument is controlled and calibrated according to processes comparable to a real daily use.



*The announced technical specifications are in agreement with a real use of the instrument.*



## A philosophy of use for everyone

With its refined user interface, ergonomic panel and context-based help, the MICRO-HITE range is designed to be accessible to any user profile.



*Short learning time, user autonomy reached within 1 day maximum.*



## Clear information

No confusion! At any time, the displayed values correspond solely to a measurement or calculation and not to the instantaneous position of the probe.



*Decrease of possible errors due to bad interpretations of the displayed results.*



## A robust construction

At the heart of each machine is a design utilizing the excellent microstructure properties of spherical cast-iron. All models incorporate industry accepted materials perfectly suited to the production of traditional components.



*The components' stability provides reliability of the instrument in the long term.*



## A monobloc base

All the bases are machined from a single block of material.



- 1. Reduction of the thickness of the air cushion = decrease of the influence on the results*
- 2. Easy moving on a surface even with grooves or roughnesses*



## 4 years warranty

Our increasingly high quality standards allow us today to offer you four years of warranty. This allows you to concentrate on your expertise with peace of mind.



*By registering your height gauge on [www.TESAtechnology.com](http://www.TESAtechnology.com), you benefit of 3 additional years of warranty.*

# Main characteristics

Manual  
MICRO-HITE



# Configurations



		MICRO-HITE	MICRO-HITE+M
	Probing shortcut		with knob
	Single probing	●	●
	Culmination point	●	●
	Double probing	●	●
	Max, min, delta Parallelism, flatness	●	●
	Perpendicularity Straightness	●	●
	Angle (surface, cone)	●	●
	Embedded calculator Customized functions	●	●
	2D functions	●	●
	References	A/B	A/B
	Distance	●	●
	Mid-point	●	●
	Tolerancing GO/NOGO report	●	●
	mm/inch conversion	●	●
	Context-based help	●	●
	Preset	●	●
	Learning/programming mode	●	●
	Saving on USB key in txt format Automatic creation of pdf report	txt, pdf	txt, pdf
	Send data through TLC port	●	●
	Print data	●	●
	Screen shot	●	●












	Part number	MICRO-HITE						MICRO-HITE+M		
		00730073	00730074	00730075	00730076	00730077	00730078	00730079	00730080	00730081
Type	Manual displacement	●	●	●	●	●	●			
	Motorised displacement							●	●	●
Gauge	MICRO-HITE [mm]	350	600	900	350	600	900			
	MICRO-HITE+M [mm]							350	600	900
	Air cushion	●	●	●	●	●	●	●	●	●
	Fine adjustment device				●	●	●			
Panel	MICRO-HITE panel	●	●	●	●	●	●			
	MICRO-HITE+M panel							●	●	●
	USB printer						optional			
	Adjustable panel support	●	●	●	●	●	●	●	●	●
Accessories	Ø 6 mm probe holder	●	●	●	●	●	●	●	●	●
	Ø 5 mm probe, hard metal	●	●	●	●	●	●	●	●	●
	12,7 mm / .5 in masterpiece	●	●	●	●	●	●	●	●	●
	Dust cover						optional			
Power supply	Removable/reloadable battery	●	●	●	●	●	●	●	●	●
	Power supply	●	●	●	●	●	●	●	●	●
	EUR power cable	●	●	●	●	●	●	●	●	●
	US power cable	●	●	●	●	●	●	●	●	●
Others	SCS certificate	●	●	●	●	●	●	●	●	●
	1 year warranty*	●	●	●	●	●	●	●	●	●
	Maintenance contract						upon request			

\*Register your height gauge on our website and benefit of 3 additional years of warranty.











# MICRO-HITE

-  For workshops and laboratories
-  Manual displacements
-  Air cushion system
-  With or without fine adjust. device
-  Adjustable panel
-  Colour & touch screen
-  Included SCS certificate
-  1D & 2D measurement modes
-  4 years warranty

	MICRO-HITE 350	MICRO-HITE 600	MICRO-HITE 900
Range of application [mm]	520	770	1075
Max. perm. error [ $\mu\text{m}$ ], L [mm]	2+2L/1000	2+2L/1000	2+2L/1000
Repeatability ( $2\sigma$ ) [ $\mu\text{m}$ ]	on surface: $\leq 1$ on arc: $\leq 1$	on surface: $\leq 1$ on arc: $\leq 1$	on surface: $\leq 1$ on arc: $\leq 1$
Max. perp. error with IG13 probe [ $\mu\text{m}$ ]	frontal: 5 lateral: 5	frontal: 7 lateral: 7	frontal: 9 lateral: 9
Max perp. error, mechanical [ $\mu\text{m}$ ]	frontal: 7	frontal: 9	frontal: 11
Autonomy [h]	8	8	8
Trigger force [N]	1,6 $\pm$ 0,25	1,6 $\pm$ 0,25	1,6 $\pm$ 0,25
Panel [mm]	screen, HxL: 84x152 keyboard: backlit	screen, HxL: 84x152 keyboard: backlit	screen, HxL: 84x152 keyboard: backlit
Resolution	0,01 / 0,001 / 0,0001	0,01 / 0,001 / 0,0001	0,01 / 0,001 / 0,0001
Weight (with panel) [kg]	33	37	45



# MICRO-HITE+M

-  For workshops and laboratories
-  Motorised displacements
-  Air cushion system
-  Adjustable panel
-  Colour & touch screen
-  Constant trigger force
-  Included SCS certificate
-  1D & 2D measurement modes
-  4 years warranty

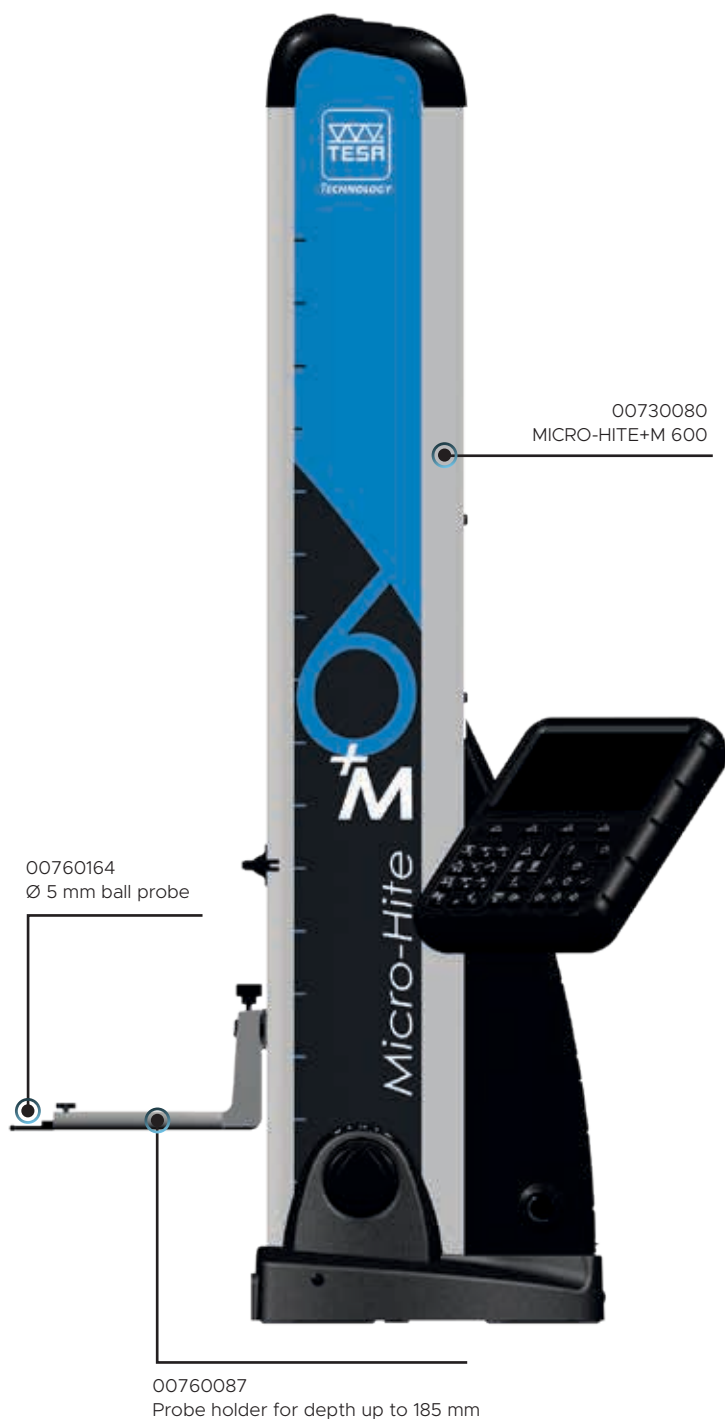
	MICRO-HITE+M 350	MICRO-HITE+M 600	MICRO-HITE+M 900
Range of application [mm]	520	770	1075
Max. perm. error [ $\mu\text{m}$ ], L [mm]	$1,8+2L/1000$	$1,8+2L/1000$	$1,8+2L/1000$
Repeatability ( $2\sigma$ ) [ $\mu\text{m}$ ]	on surface: $\leq 0,5$ on arc: $\leq 1$	on surface: $\leq 0,5$ on arc: $\leq 1$	on surface: $\leq 0,5$ on arc: $\leq 1$
Max. perp. error with IG13 probe [ $\mu\text{m}$ ]	frontal: 5 lateral: 5	frontal: 7 lateral: 7	frontal: 9 lateral: 9
Max perp. error, mechanical [ $\mu\text{m}$ ]	frontal: 7	frontal: 9	frontal: 11
Autonomy [h]	8	8	8
Trigger force [N]	$1,6 \pm 0,25$	$1,6 \pm 0,25$	$1,6 \pm 0,25$
Panel [mm]	screen, HxL: 84x152 keyboard: backlit	screen, HxL: 84x152 keyboard: backlit	screen, HxL: 84x152 keyboard: backlit
Resolution	0,01 / 0,001 / 0,0001	0,01 / 0,001 / 0,0001	0,01 / 0,001 / 0,0001
Weight (with panel) [kg]	33	37	45

# Application examples

## Automobile

The vast majority of motor vehicle components are subject to the fine quality requirements, that imply a commitment to excellence on the part of manufacturers and to propose a flawless product.

The height gauges MICRO-HITE and MICRO-HITE+M can be integrated very close to the place of manufacture in order to minimise the impact on the performance of the production chain. The engine components, injection systems and brake systems are examples among multiple applications, which can be measured thanks to the range of gauges available.

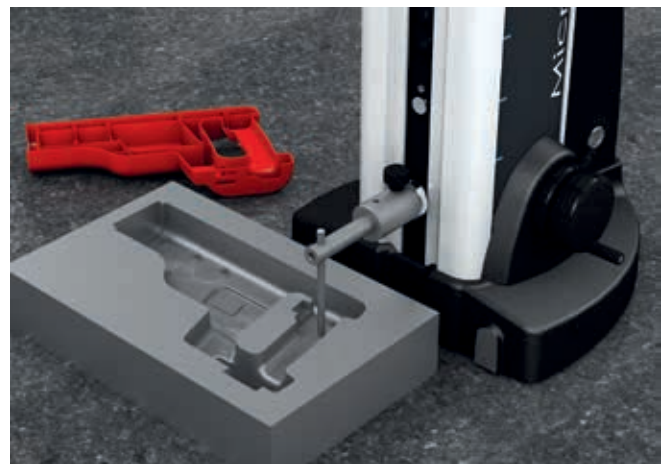


Measurement of an engine block

# Moulds and tooling

The use of parts made in large series from moulds is nowadays very common and affects all industries, from the food to the aeronautics or the cosmetics industry.

For plastic, cast-iron, steel or other materials, the metrological aspect is of paramount importance. It is indeed very often about developing shapes of complex forms and of high precision, regardless of the size of the finished product. The MICRO-HITE or MICRO-HITE+M columns are, hence one of the central parts in order to validate the high quality of these moulds elaboration.



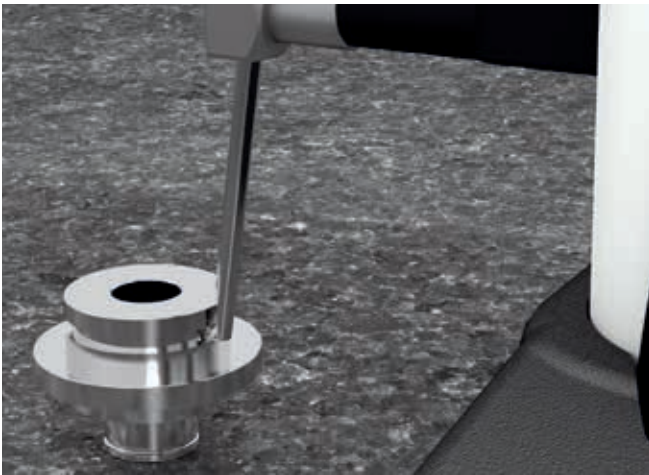
Measurement of a plastic injection mould for a drill plastic cover

# Medical

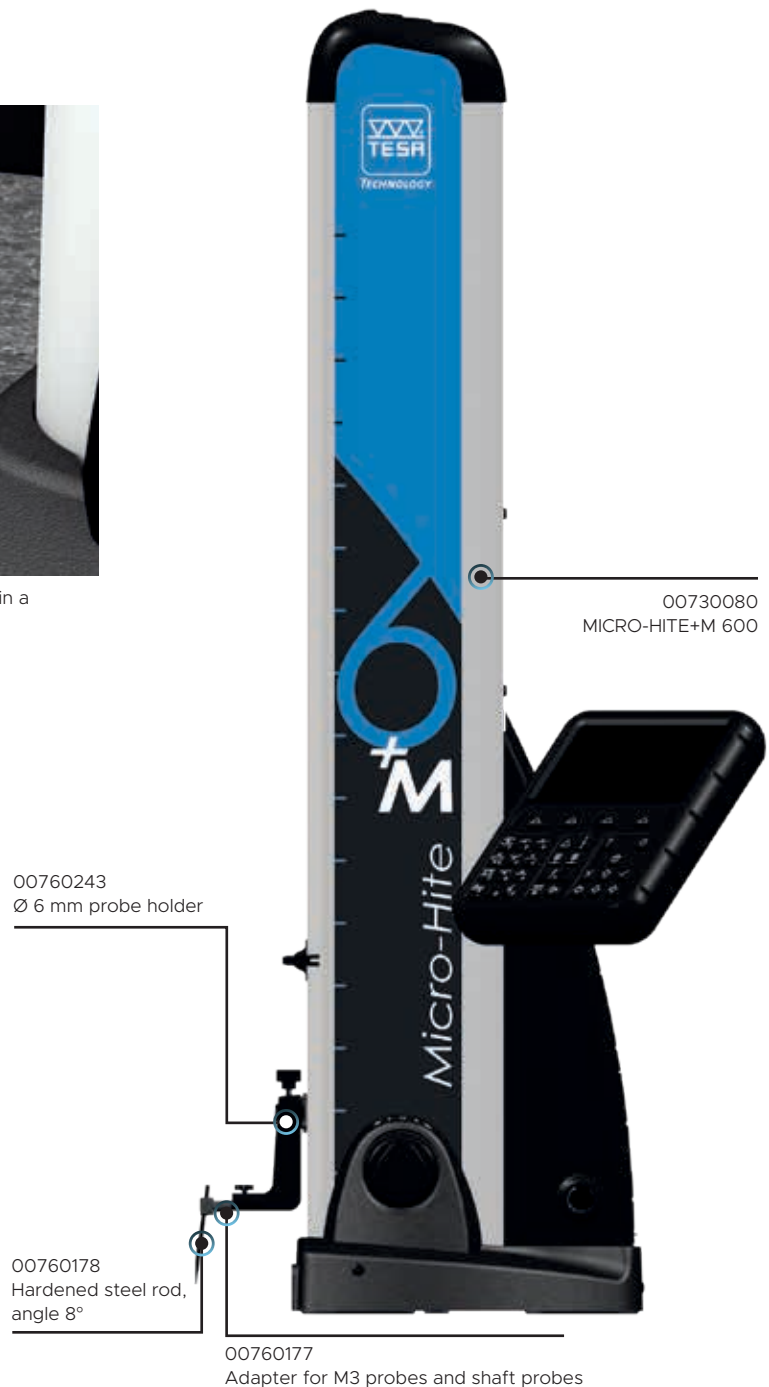
Like in other industries, the development of products and medical systems is subject to several crucial factors such as performance and cost though primarily to a regulated environment, but first of all to a regulatory environment in which the standards become increasingly high for obvious health reasons.

In this context, companies must constantly adapt to innovate, develop and produce.

The quality of a product used in the medical field is the subject of numerous controls throughout its creation process. Medical Instruments (pumps, ...), orthopaedic implants (prostheses, ...) and medical equipment of today often include small components which are receiving greater attention. The MICRO-HITE or MICRO-HITE+M demonstrates the excellence of metrology and are pivotal in the development of medical devices. Upon arrival of the spare parts, numerous protocols and analytical methods are implemented to guarantee the regulatory compliance of products and to have a perfect knowledge before assembling the components in the production line.



Determination of the height of a groove on a piece integrated in a measuring device for endoscopy



# Plasturgy

Metrology is of high importance for the product quality and represents many challenges if it concerns products issued from the assembly of moulded plastic spare parts. Plasturgy is constantly evolving and developing without cease for sectors as vast as the aeronautics, the automotive and the health industry. New plastics emerge regularly (always more environmentally-friendly, less dependent on oil, unbreakable, fireproof, ...).

Therefore it is very important to be able to validate the stability of their processes during their development and over the long term. The MICRO-HITE and MICRO-HITE+M height gauges are an essential added value that allows high quality measurements and accelerates new product definition processes.



Measuring centre distances on a plastic casing of an electronic box

