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TOLTEC
Camera Measuring System

TOLTEC Camera Measuring System

► The **TOLTEC** optical measuring system allows exact measurements on workpieces in machine tools without taking the workpieces out of the machine



► Patent pending

Since the **TOLTEC** camera measuring system can exactly and correctly measure dimensions of workpieces during machining on a machine tool, uncertainty factors are restricted to a minimum, e.g. inaccuracies due to repeated clamping/unclamping.

Certainty Through Precision means: precise measurement and fabrication in the clamping fixture helps to prevent defects of fabrication and takes pressure out of production.

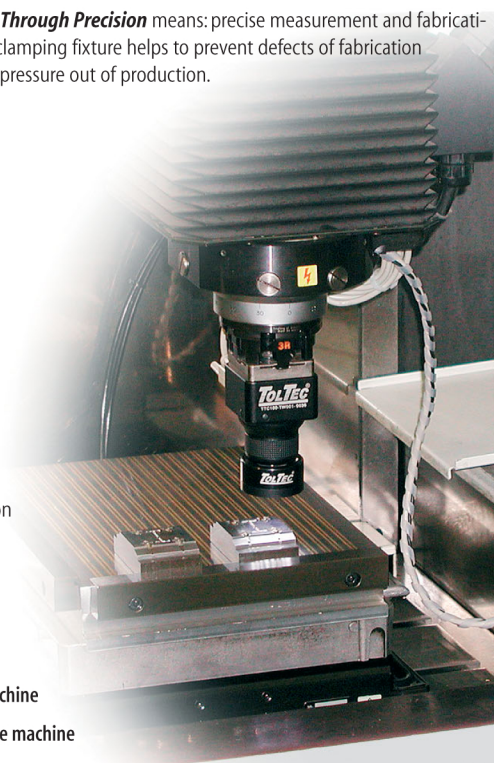
No time is spent on unclamping, transport to and from the measuring rooms, reclamping and alignment. This means a considerable increase in productivity.

The micro-image measuring system is ideal for measurements at precision workpieces which need to be checked during machining. Its wide range of applications makes the **TOLTEC** system a profitable measuring instrument.

It is small and handy, easy to operate and can be used with the following machines with great success:

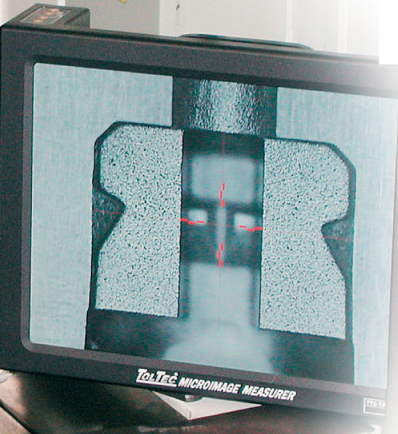


- CNC electrical discharge machine
- CNC wire electrical discharge machine
- CNC machining centres
- CNC engraving machines
- CNC lathes
- Conventional machine tools



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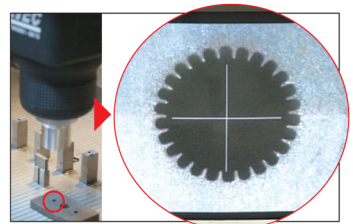
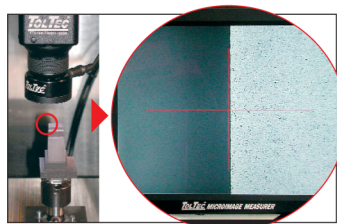
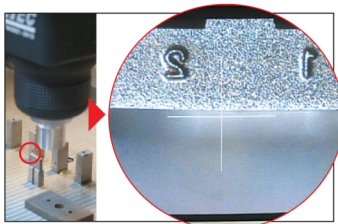
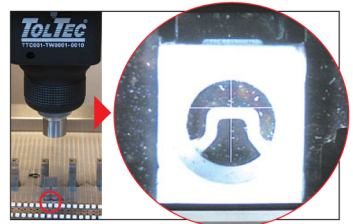
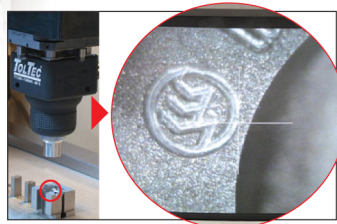
*Certainty
Through Precision*



- ▶ Depending on the camera type used, contours to be measured are shown on a 15-inch monitor with a magnification of 30, 55 or 250 times.
- ▶ Quick exchanging of tool head for camera testing head.
- ▶ Measuring accuracy corresponds to the precision of the host machine (machine tool).
- ▶ The camera is available with a large variety of clamping fixtures e.g. 3-R, Erowa etc.
- ▶ Can be used in a large number of conventional and CNC-controlled machine tools e.g. milling machines, electrical discharge machines, wire electrical discharge machines etc.
- ▶ Reduces standstill times, increases productivity, because the workpieces can be measured in the machine without taking the workpieces out of the machine.
- ▶ The high resolution and magnification of the measuring camera also allow visual inspections.

▶ The illustrations show images on a 15-inch monitor with a magnification of 55 times.

▶ Measurement Examples



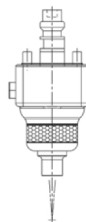
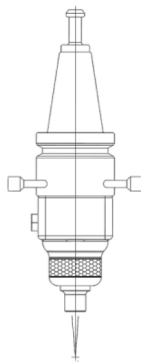
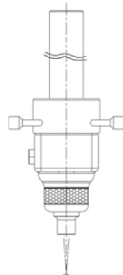
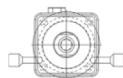
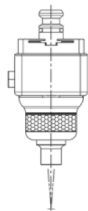


TTC-3R	
Weight	
TTC-3R	1 kg

TTC-NB		
Diameter	Weight	
TTC-N12	12	2 kg
TTC-N16	16	2 kg
TTC-N20	20	2 kg
TTC-N25	25	2 kg
TTC-N32	32	2 kg

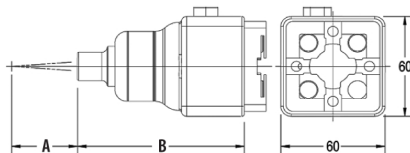
TTC-MC	
On request	

TTC-ER	
Weight	
TTC-ER (EROWA)	1 kg



Magnification / Dimensions

	A	B
30 times	80	111
55 times	38	96
250 times	40	96



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A complete measuring installation comprises

- ▶ Camera head with chosen clamping fixture + magnification
- ▶ 15-inch LCD monitor with integrated control, swivel-mounted and stable
- ▶ LED ring lamp
- ▶ LED auxiliary lamp for lighting without shadow
- ▶ All necessary cables



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