



# NOVAPAX

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

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.



► Patent pending

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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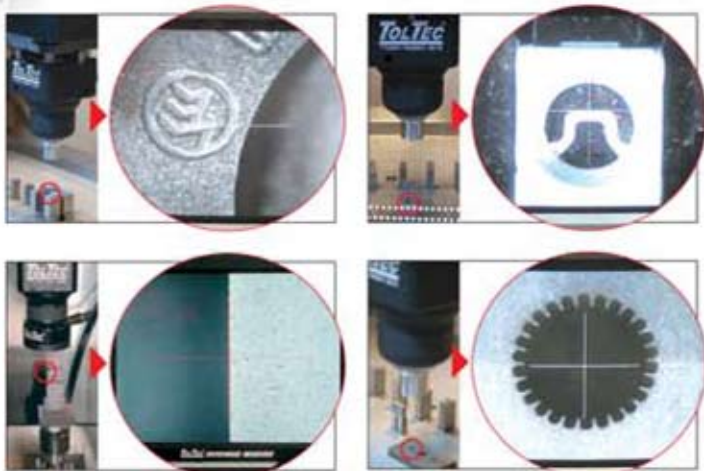
Certainty  
Through Precision



- ▶ 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.

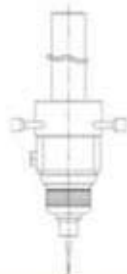
▶ The illustrations show images on a 15-inch monitor with a magnification of 55 times.

## ▶ Measurement Examples



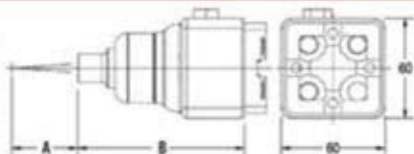


TTC-3R		TTC-NB		TTC-MC	TTC-ER	
	<b>Weight</b>	<b>Diameter</b>	<b>Weight</b>		<b>Weight</b>	
TTC-3R	1 kg	TTC-N12	12 2kg	On request	TTC-ER (EROWA)	1 kg
		TTC-N16	16 2kg			
		TTC-N20	20 2kg			
		TTC-N25	25 2kg			
		TTC-N32	32 2kg			



**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

