

Knowledge
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Manufacturing Technology Conference 2024

röders
TEC

DYMATO
◀ CNC TECHNOLOGIE ▶

High Efficiency in Precision Machining by Milling, Grinding and Measuring in one Set-up

Dipl.-Ing. Jürgen Röders

Milling, Grinding and Measuring

> Where is the potential?



> Timeline in conventional process

- > Often the machining process runs unattended, but in between, operators need to move the workpieces and do the set-up in the machines



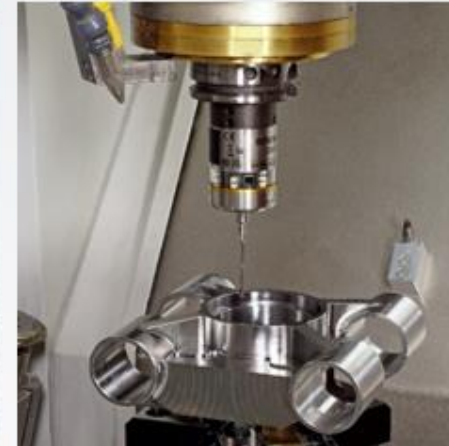
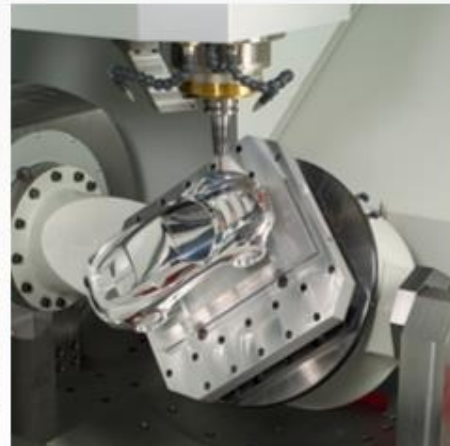
> Timeline by combining milling, grinding and measuring in one set-up in one machine

- > The operator sets the workpiece up in the machine and then lets it run unattended
- > This is also very cost efficient and saves time if only milling and measuring or milling and grinding is combined!

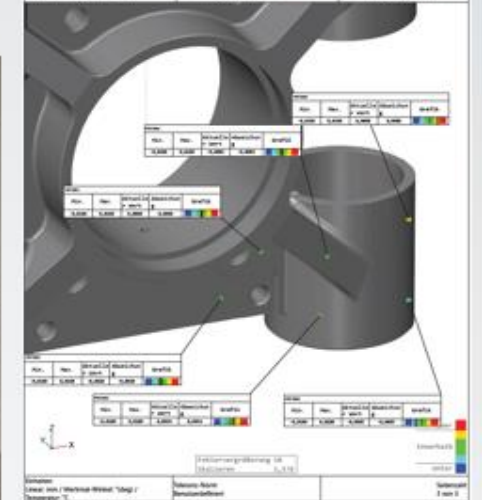
Milling, Grinding and Measuring

> What is necessary to achieve this?

- > A machine tool that is
 - > very precise
 - > and geometrical stable (zero point), also during longer machining operations
- > And a machine tool that
 - > has integrated the necessary equipment for each process (laser measurement, dressing and sound detection, high precision touch probe, measuring software with protocol etc.)



röders TEC		Radial-Vormaschinfräse (MC302)	Radial No.: 0811
Messwert (Messwert): 001(4)	AMC Radlers RCP40120H	Radler: -	
Messprogramm: RadlerLDM	Version: 01	Messverfahren: Sinus Produktivität: v2.8 (3.4)	
Prüfmarken gesamt: 11	Innenhalb der Toleranz: 0	Außerhalb der Toleranz: 0	



Milling, Grinding and Measuring

- > **Critical for precision and geometrical stability**
 - > Thermal effects:
 - > temperature changes in the workshop
 - > internal heat sources (spindle, motors)
 - > coolant / lubrication
 - > Basic elements of the machine tool
 - > guideways
 - > drive concept in the axes
 - > encoders
 - > spindle
 - > control
 - > drive power units



Materials



- > Steel (hardened, alloyed)
- > Aluminum
- > Copper
- > Graphite
- > Titan

- > Sintered Carbide
- > Ceramics
- > Glass
- > Plastics

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