

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

**ROKU-ROKU SANGYO CO, LTD.**


**Press release for new machine**



2018

**ROKU-ROKU**

New standard for Micro Fine Machining Centers  
to the market



The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes and shapes, scattered across the top and bottom edges. The droplets have highlights and shadows, giving them a three-dimensional appearance.

**We are calling it...**

# 超精密微細加工機

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ULTRA PRECISION MICRO FINE MACHINING CENTER

# Development concept for



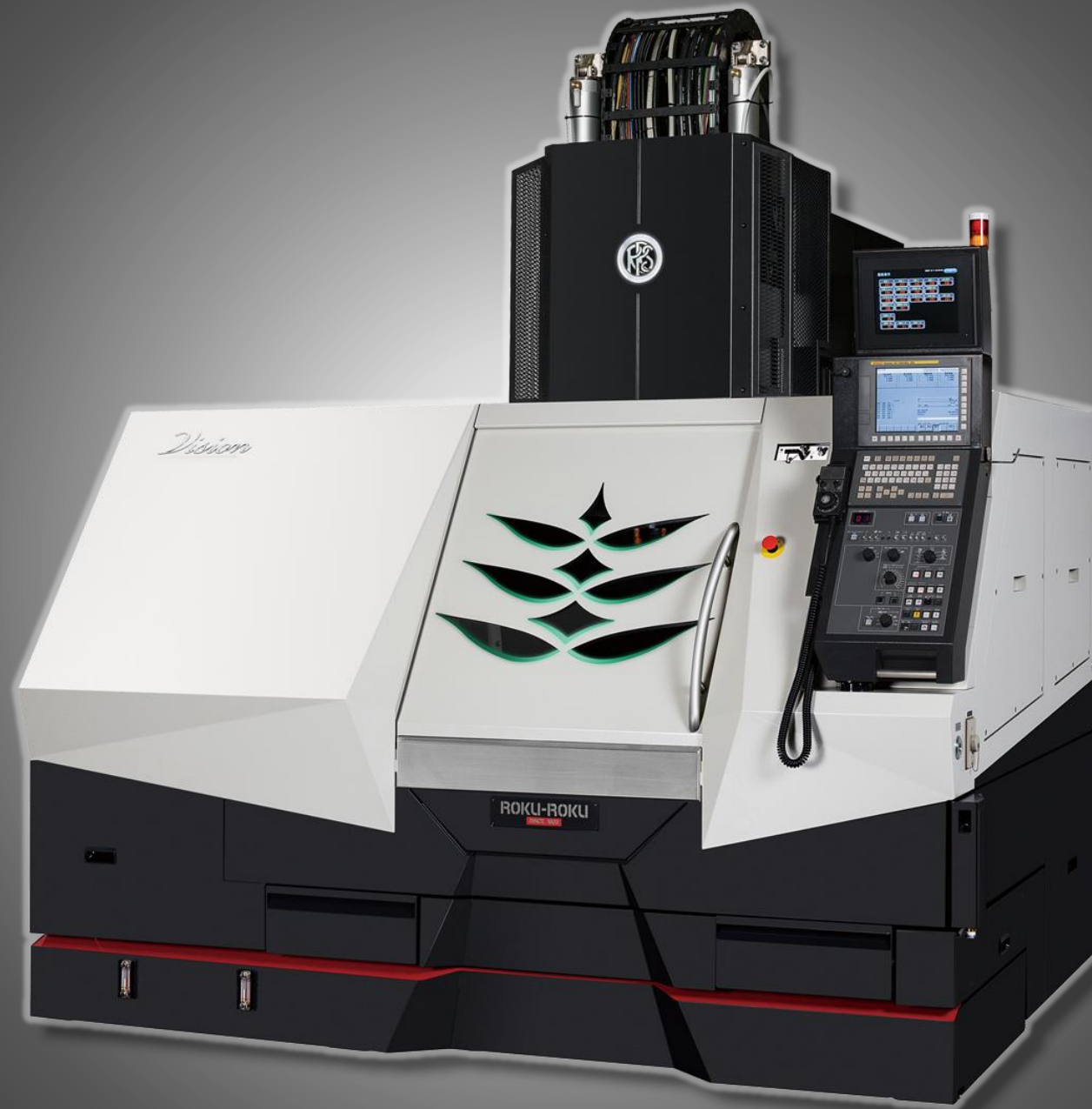
- Single machine can do Heavy cutting by  $\phi 16\text{mm}$  end mill and Mirror finishing.
- In other words, Micro Fine Machining Center with general versatility.
- Single machine can do Rough cutting, Semi-finish cutting and Final-finish cutting.

Possible to reduce Work piece transfer.

- Realizing Monitoring machine status, Preventive maintenance and troubleshooting by M-kit.
- The system to maintain smooth micro fine machining environment with cooperate operation of users and manufacturer called **RCMS (ROKU-ROKU Cloud Monitoring System)**.

超高精密微細加工機

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produced by

**ROKU-ROKU**

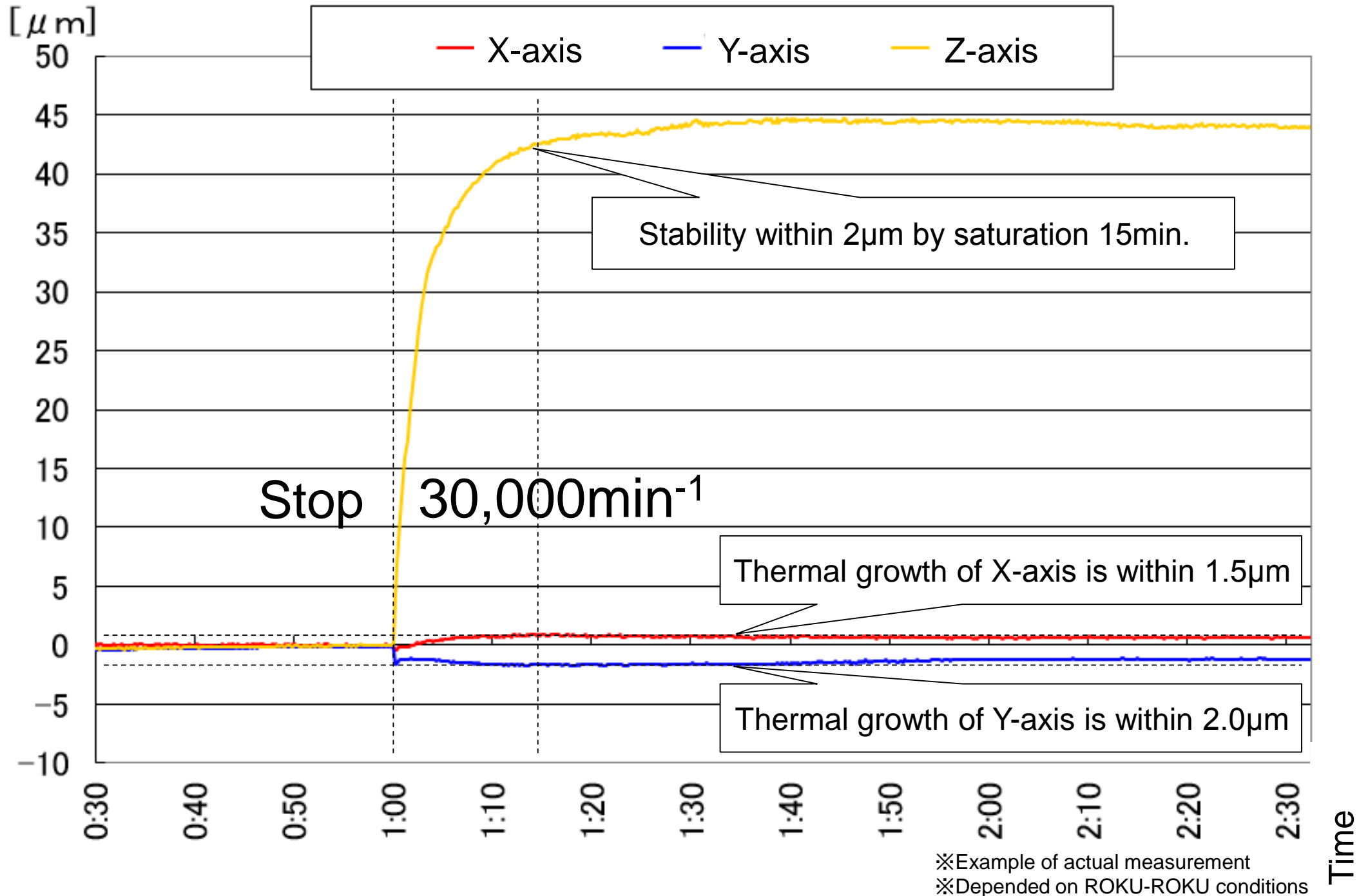
SINCE 1903

# Basic specifications of

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- Travel (X/Y/Z) : 650 x 550 x 300mm
- Tool shank type : HSK E40
- Max. Spindle speed : 30,000 min<sup>-1</sup>
- Table work area : 750 x 550mm
- Machine weight : 8,700 kg
- Totally linear motor drive
- Special precision linear guides





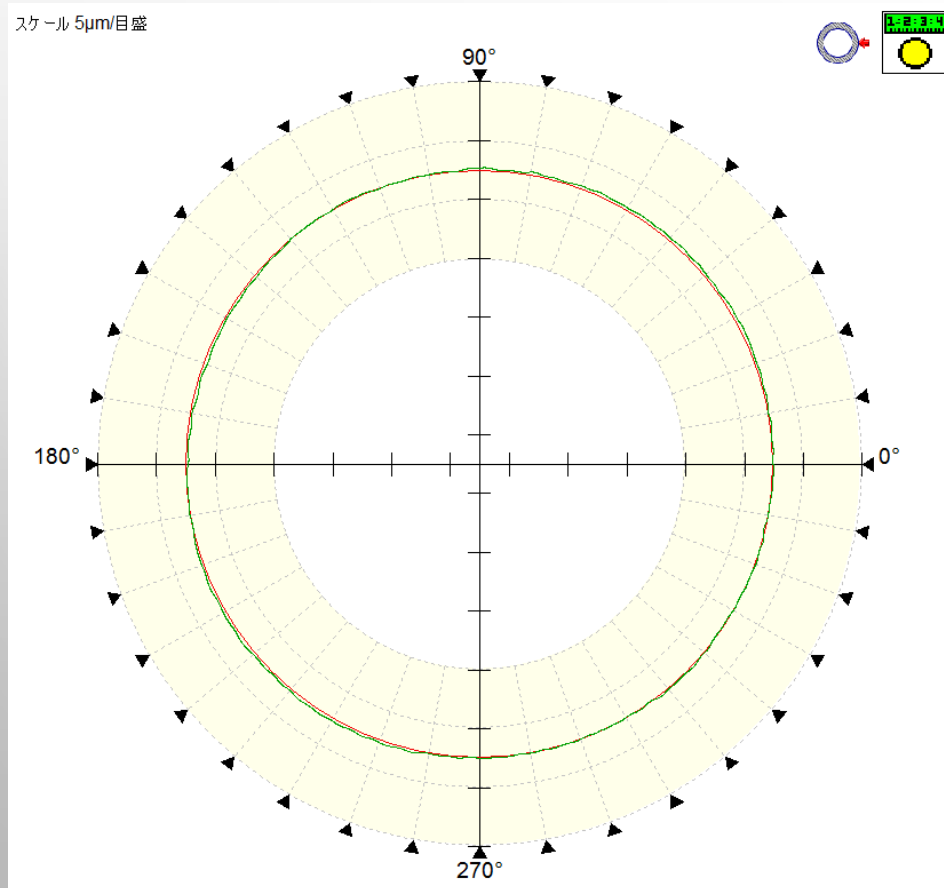
※Example of actual measurement  
 ※Depended on ROKU-ROKU conditions

Time



# Circularity cutting

Circularity : 0.62 $\mu$ m

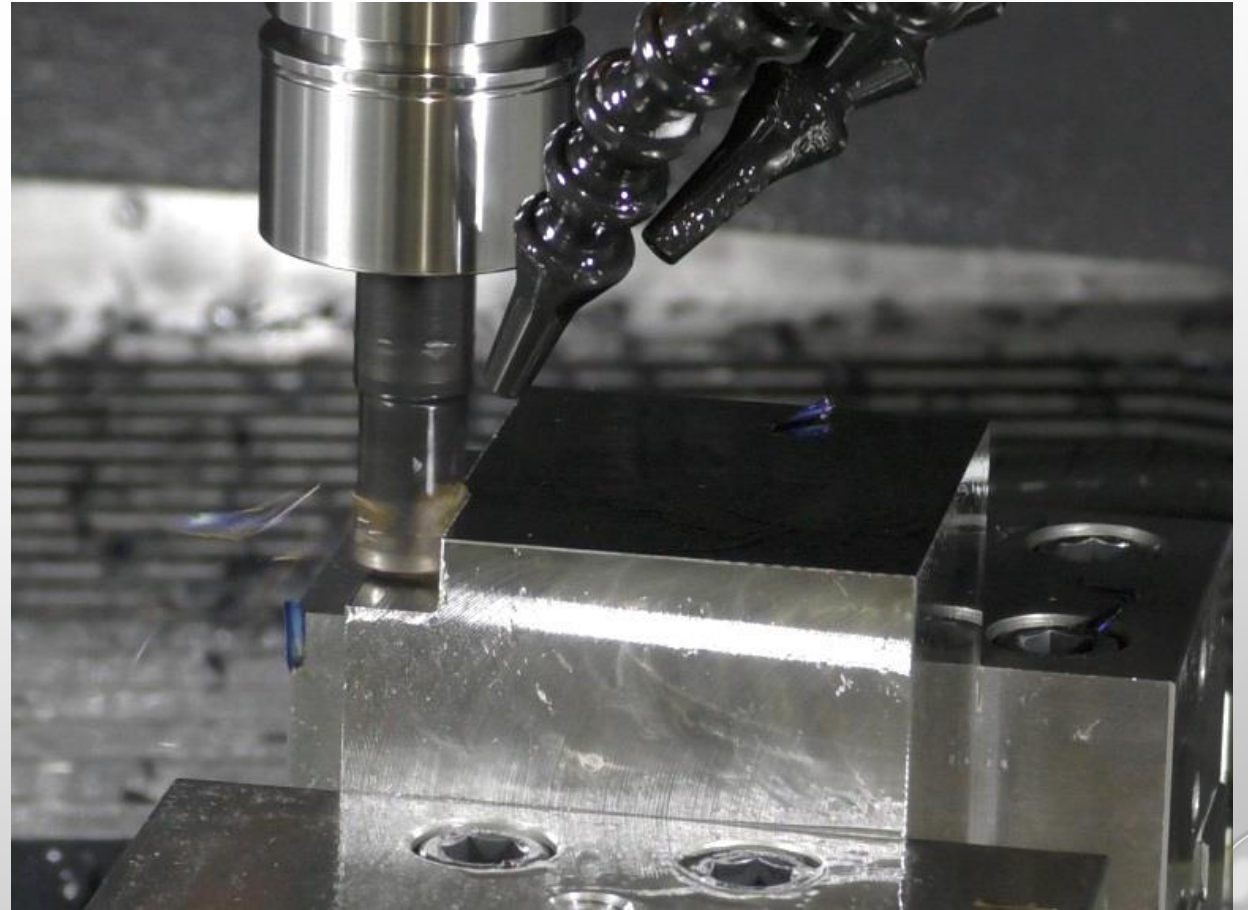


Used tool	End mill
	$\Phi$ 6.0 4flutes
Material	Brass
Size	$\Phi$ 60mm t=3mm
	Outer circle
Feed-rate	200mm/min
Cutting depth	0.02mm
Cutting direction	CW
Room tem.	23 degree
Measured by	Talyrond365 (Taylor Hobson)

# Heavy cutting

## Realizing Heavy cutting by $\phi 16$ end mill

Material :	Nak80
Used tool :	$\phi 16$ End mill (chip type 2flutes)
Coolant :	Semi-dry
Spindle speed :	1,500min <sup>-1</sup>
Feed-rate :	300mm/min
Z cutting depth :	10.0mm
X cutting depth :	2.0mm

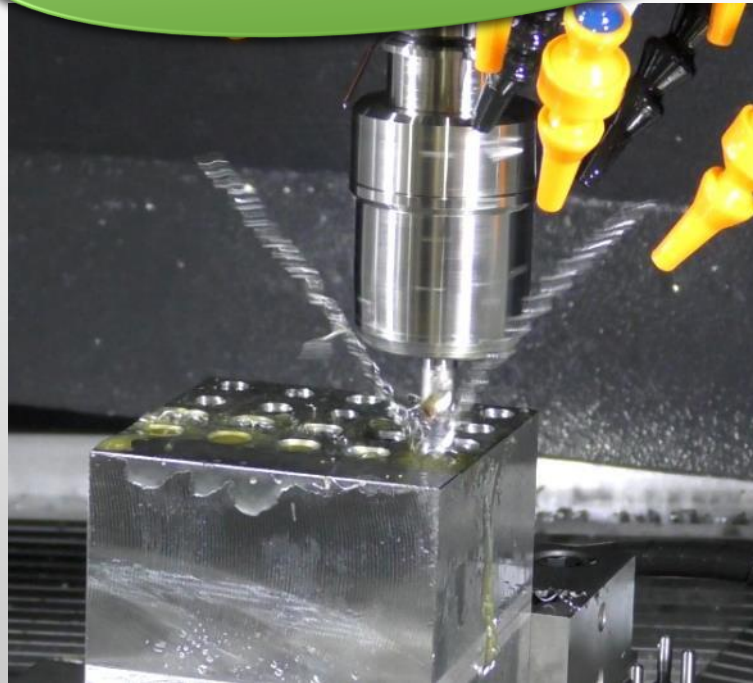


# Heavy cutting



$\phi 10.3$  Drilling

M12 Tapping



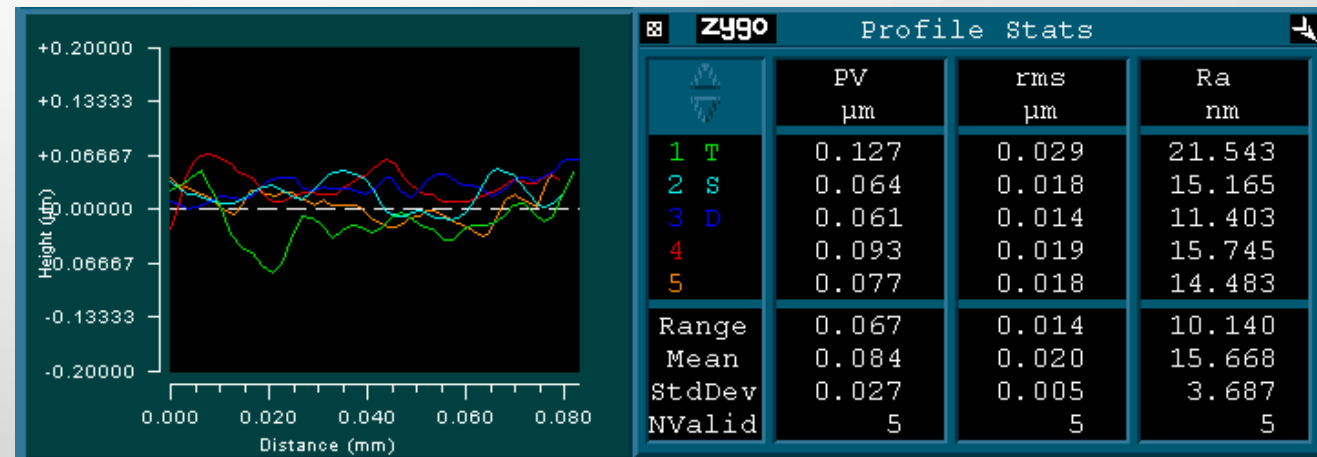
$\phi 12$  Milling

# Mirror finishing on steel



Surface roughness  
Ra15.668nm※

Material : STAVAX (HRC52)  
Work size : 30 x 30 x 30mm  
Coolant : Semi-dry  
Tool for finishing : Luminous-E R2.0 ball end mill  
Cycle time for finishing : 10.7hr.



※Depended on ROKU-ROKU conditions (Average of 5 measured points)  
※Measured by ZYGO NewView7100

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Thank you