THE FACTORY AUTOMATION COMPANY

FANUC

FANUC ROBONANO α-NTiA

Ultra precision, enhanced ease of use and sustainability

State of the art machining technology

More info: **fanuc.eu/uk/en/robonano**

Ultra precision for mass production

- suitable for machining high-end optical components with diamond tools
- suitable for a wide range of applications requiring nano precision

Features and benefits

- controlled by the latest FANUC CNC and motors
- 0.1 nm programming command
- oil hydrostatic bearing
- linear motors
- active damping system
- active water cooling system
- HMI screen for operating peripheral devices

PHOTONICS

Flat surface processing

Method: Turning
Material: Ni-P plate
Workpiece diameter: 10 mm
Machining time: 3 min
Tool: Monocrystalline diamond (R0.5)
Surface roughness: Ra 0.5 nm

Spherical core

Method: Turning
Material: Ni-P plate
Workpiece diameter: 10 mm
Radius of curvature: R8.1mm
Machining time: 3 min
Tool: Monocrystalline diamond (R0.5)
Surface roughness: Ra 0.8 nm (plane area)
Ra 0.5 nm (spherical area)

Spherical core

Method: Turning
Material: Ni-P plate
Workpiece diameter: 25 mm
Radius of curvature: R50 mm
Machining time: 7 min
Tool: Monocrystalline diamond (R0.5)
Surface roughness: Ra 0.7 nm (plane area)
Ra 0.4 nm (spherical area)

FANUC ROBONANO α-NT*i*A specifications:		
Stroke	X axis	200 mm
	Z axis	200 mm
	B axis (option)	360 degrees continuous rotation (indexing table)
Bearing type	Oil hydrostatic bearing (all axes)	
Command resolution	X, Z axes	0.1 nm
	B axis (option)	0.000001 degrees
Table size	B axis (option)	Φ 215 mm
Maximum feed rate	X, Z axes	1,000 mm/min
	B axis (option)	3,600 deg/min
Maximum spindle speed	4,000 min^{-1}	
Maximum workpiece weight	5 kg	
Maximum workpiece diameter	100 mm	
Mass	2,850 kg	
Standard accessories	CNC cabinet, operator panel, hydraulic power unit, active damper system, cutting fluid unit, precision compressed air temperature control system	
Options	B axis, Smart M-Setup (Micro scope, Electric micrometer, Spindle balancer), Transformer	
Requirements	4x4 m^2 installation area; 10 kVA three phase 400 VAC 50 Hz power supply (CEE 32A 3P+N+E socket-outlet); ISO 8573-1:2010 [1:6:1] clean and dry compressed air with 0.7 MPa pressure, ±0.01 MPa pressure stability, 1.0 m^3/min flow rate capacity, air temperature between 15°C and 28°C (connection with Ø16 mm outer diameter tube); less than 0.1 µm floor vibration amplitude (less than 0.1 Gal floor vibration acceleration); 23°C constant room temperature with ±1°C maximum fluctuation in 30 minutes (temperature stability is directly proportional to machining accuracy); less than 50% relative humidity; mist collector; transformer (available as option); active cooling system.	

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