

smart machine smart grinding

shap SMART[®] np3



english

ShapeSmart®NP3

Cylindrical grinding machine for cutting tool blanks

The ShapeSmart®NP3 is a precision cylindrical grinding machine with 3 or 4 CNC axes depending on its configuration and is fitted with an iPendant type Fanuc numerical control. With a grinding diameter capacity of 0.025 to 25.0 mm (.001" – 1"), the ShapeSmart®NP3 is ideal for the economic preparation of cutting tool blanks such as endmills, drills, and other stepped cylindrical tools.

The rigid design of this machine, a powerful 8.5 kW motor spindle and a grinding wheel diameter of 250 mm (10") allow for the grinding of parts requiring high material removal. In addition, the peel grinding technology is a proven method and guarantees unmatched performance in cylindrical grinding.

As part of the standard equipment of the ShapeSmart®NP3, linear scales mounted on the machining axes achieve the highest level of precision and machining quality.



unlimited grinding solutions

Unique technology

The ShapeSmart®NP3 comes standard with the roughing station. For grinding requiring polished surfaces, a finishing station is available as an option. This configuration allows grinding with simultaneous engagement of the roughing and finishing wheel. In both configurations, the grinding technology by peeling called "Pinch and Peel" grinds blanks or punches that can reach lengths of up to 400x the tool diameter.

Available in two variants, fixed or retractable, the shank guide system is a unique feature on Rollomatic grinding machines. The retractable version allows the grinding of tools with the head larger than the shank diameter as well as grinding neck and taper on milling tools that have been previously fluted on a tool grinder. In both cases, this feature guarantees concentricity after grinding of less than 0.001 mm (.00004").

The Rollomatic NanoGrind™ and P4Smart™ software offer the ability to import a DXF file or to draw the profile of a complete tool with a few clicks. The programming of successive passes for large material removal is also integrated in the software.

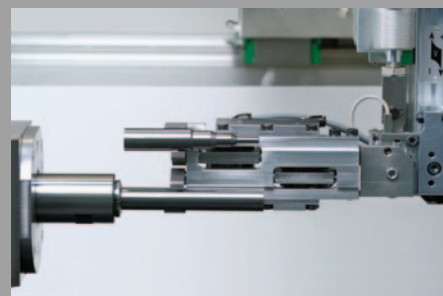
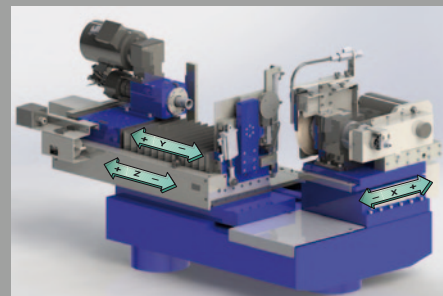
Automation and unmatched productivity

The ShapeSmart®NP3 can be equipped with a compact and reliable 3 axes loader with a capacity of 1000 pieces. This option is suitable for the production of large and smaller batches, aided by an intelligent Job-Manager which allows unattended grinding of up to 10 different profiles.

A 3D touch probe to measure the front reference of a tool is also available. This option is particularly advantageous for already sharpened mould milling cutters requiring neck and conical clearance between the cutting portion and the shank. For blanks requiring machining on both sides, an automatic reversing device is also available for blanks up to 200 mm (7.87") long.

What are your advantages?

- Grinding 350 mm (13.8") long blanks
- Diameter range of 0.025 to 25.0 mm (.001" – 1")
- Ability to grind tools with length-diameter ratio that can reach up to 400xD
- Concentricity of tools less than 0.001 mm (.00004") thanks to the shank guide system
- Unique grinding "Pinch and Peel" technology
- Programming complex profiles in just a few clicks
- Automatic loading of blanks with Ø 1.0 to 20.0 mm (.04" – .78")
- Loading/unloading time as rapid as 6 seconds
- Fanuc CNC control
- Free software updates for life



PERFECT ARBOR SPECIFICATIONS

GRINDING RANGE

Grinding	Ø 0.025 – 25.0 mm (.001" – 1")
Grinding length	330 mm (13")

CONTROL

	FANUC 35i-B/iPendant
CNC axes	3
	Y/Z/X Grinding station
Y axis	Stroke 350 mm (13.8")
	Encoder type Rotary, on AC motor
	Resolution 0.0001 mm (.000004")
Z axis	Stroke 100 mm (3.95")
	Encoder type Rotary, on AC motor
	Resolution 0.0001 mm (.000004")
X axis	Stroke 29 mm (1.14")
	Encoder type Absolute linear scale
	Resolution 0.00005 mm (.000002")

MANUAL LOADING

Shank	Ø 1.0 – 25.0 mm (.04" – 1")
Overall length	20 – 350 mm (.787" – 13.8")

WORKHEAD

Motor	0.70 kW (1 HP)
Rotation	300 – 3000 r.p.m. adjustable, converter
Clamping system	Schaublin W20
Clamping type	Pneumatic
Clamping range	Ø 1.0 – 25.0 mm (.04" – 1")

GRINDING MOTOR & SPINDLE

Roughing Motor	8.5 kW (11 HP), Belt drive, Internal cooling
Roughing Spindle	Ø 100 mm (4"), PerfectArbor™
Rotation speed	max. 7600 r.p.m. adjustable
Roughing Wheel	Ø 250 mm (10")
Configuration	90° or 10°

ROBOT LOAD & UNLOAD (OPTION)

CNC axes	3
	U _L /V _L /W _L Robot station (L = Loader)
Shank	Ø 1.0 – 20.0 mm (.04" – .78")
Overall length	30 – 300 mm (1.2" – 12")

FINISHING STATION (OPTION)

V axis	Stroke 29 mm (1.14")
	Encoder type Absolute linear scale
	Resolution 0.00005 mm (.000002")
Finishing Motor	1.4 kW (2 HP)
	Direct drive, Internal cooling
Finishing Spindle	Ø 100 mm (4"), PerfectArbor™
Finishing Wheel	Ø 150 mm (6")
Rotation speed	max. 10000 r.p.m. adjustable

DIMENSIONS

L x W x H	1830 x 1765 x 2441 mm (72" x 70" x 96")
Net weight	Approx. 3000 Kg (6614 lbs.)
Total Power	Maximum 15 kW, 3 x 400V/25A

* Specifications are subject to change without notice

