

ULTRA PRECISION FULLY HYDROSTATIC TURNING MACHINES



Deutsche Version

01 - 12

English Version

13 - 24



ULTRA PRÄZISION VOLLHYDROSTATISCHE DREHMASCHINEN





HARTFERTIGDREHEN MASCHINENBAUREIHE

BOGOO MICROTECH HARTFERTIGDREHEN MASCHINENBAUREIHE



- Werkstück mit Härten **70** HRC
- Oberflächengüte(Ra) : **0,1-0,4** Mikrometer
- Formgenauigkeiten: **0,1-2** Mikrometer
- Maßgenauigkeiten: **2** Mikrometer



Werkzeugmaschine nach höchsten
Qualitätsstandards gefertigt



MASCHINENBETT AUS SPANNUNGSFREIEM NATURGRANIT



Sockel Und Spindelgehäuse Aus Naturgranit

Gute thermische Stabilität, vollständig spannungsfreie Ausführung und hervorragende Schwingungsdämpfung



Hydrostatische Spindel

Spindel Rundlauffehler: **0,1** μm



Hydrostatische Führung

Verschleißfrei, lange Lebensdauer und dauerhaft Präzision

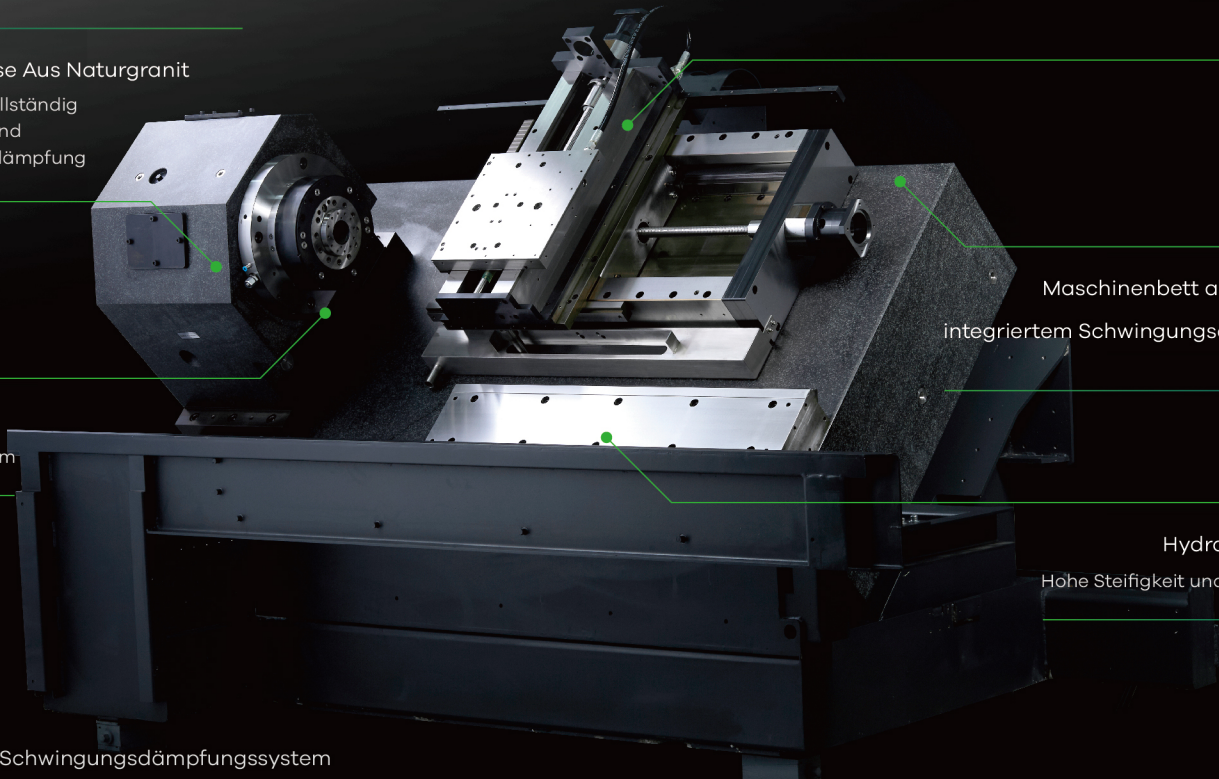


Maschinenbett aus Naturgranit mit integriertem Schwingungsdämpfungssystem



Hydraulischer Reitstock

Hohe Steifigkeit und dauerhaft Präzision



- Maschinenbett mit Integriertem Schwingungsdämpfungssystem
- Spannungsfreie und korrosionsfreie Maschinenbett mit Integriertem Schwingungsdämpfungssystem
- Höchste Wärmestabilität und Steifigkeit

BOG00

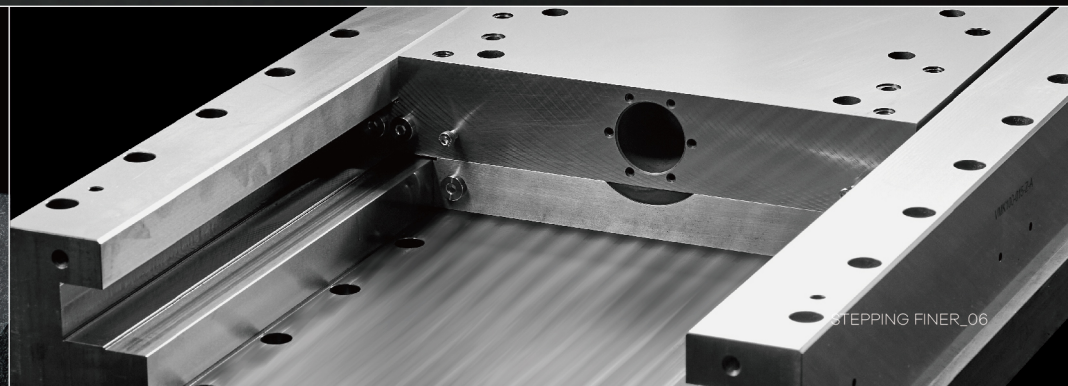
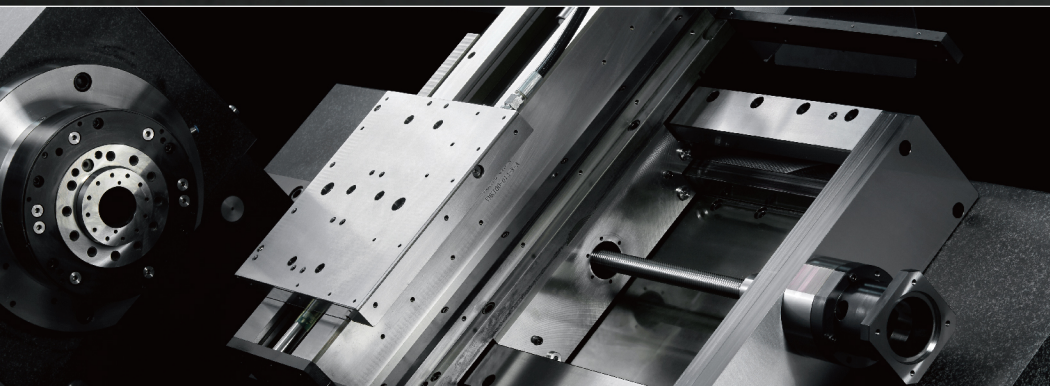
HYDROSTATISCHES HYDRAULIKAGGREGAT
KONSTANTTEMPERATURREGELUNG FÜR HYDROSTATIKÖL

- Hydrostatisches Hydraulikaggregat
 - Betriebsdruck: **5 MPa**
 - Druckpulsation: **1‰**
 - Filterfeinheit: **3 µm**
- Konstanttemperaturregelung für Hydrostatiköl
 - Betriebstemperatur: **20-24 °C**
 - Regelgenauigkeit: **±0,1 °C**

BOG00 MICROTECH
PRECISION
100SP

HYDROSTATISCHE FÜHRUNG

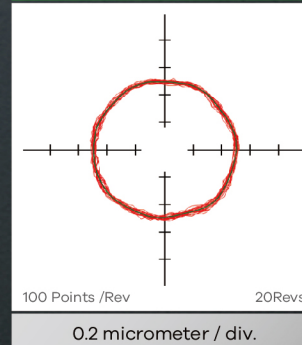
- Geradheit: **0,5 μm / 300 mm**
- Positioniergenauigkeit: **1 μm**
- Wiederholgenauigkeit: **0,2 μm**



HYDROSTATISCHE HAUPTSPINDEL

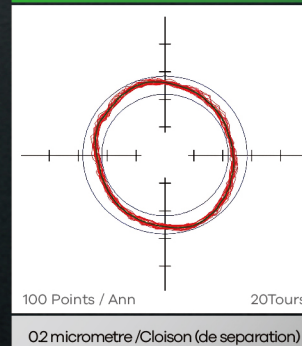
- Drehzahl: **4000** min⁻¹
- Spindel Rundlauffehler: **0.1** μm
- Auswuchtgüte: **G0.1**

Axial

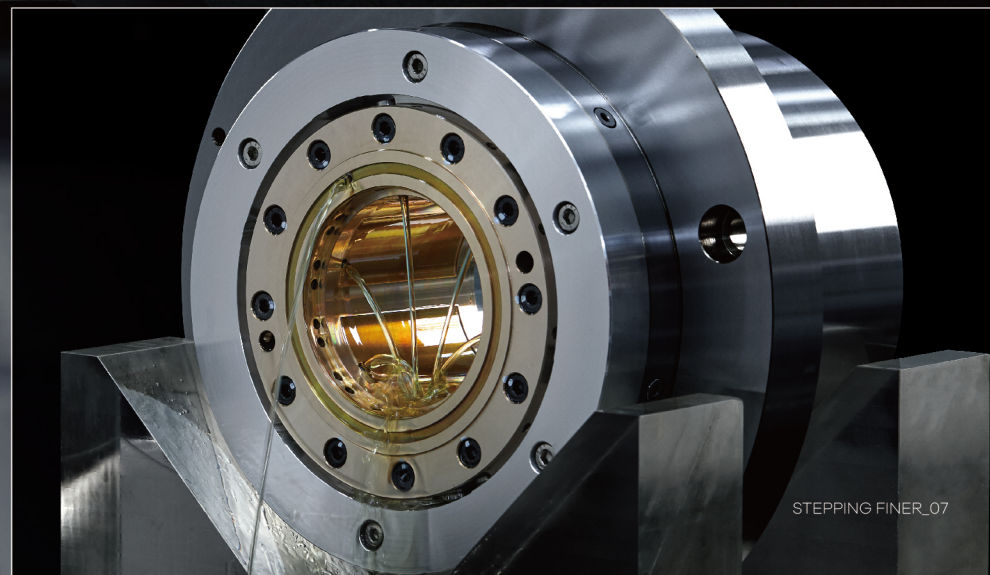


Residual Synchronous (μm)	0.05
Asynchronous (μm)	0.07
Fundamental (μm)	0.3
Total (μm)	0.09
RPM	4000
Plot Type	Exclude Fund
Source	4000RPM TEST
Channel	Chan.3(Z)

Radial-Fixed Sensitive



Synchrone (μm)	0.02
Asynchrone (μm)	0.04
Total (um)	0.05
Faux-rond (μm)	5.11
RPM	4000
Source	4000RPM TEST
Canal	Canal 1(X)



MANUELLES SCHABEN UND LÄPPEN FÜR ULTRA-HOCHPRÄZISE, PLANE UND PASSGENAUE FLÄCHEN

- Die durchschnittliche Schab- und Lappzeit pro Maschine übersteigt **100** Stunden

Läppen



Schaben

Laut BOGOO-Standard erfordert das Schaben mindestens 16 Kontaktpunkte pro Quadratzoll.

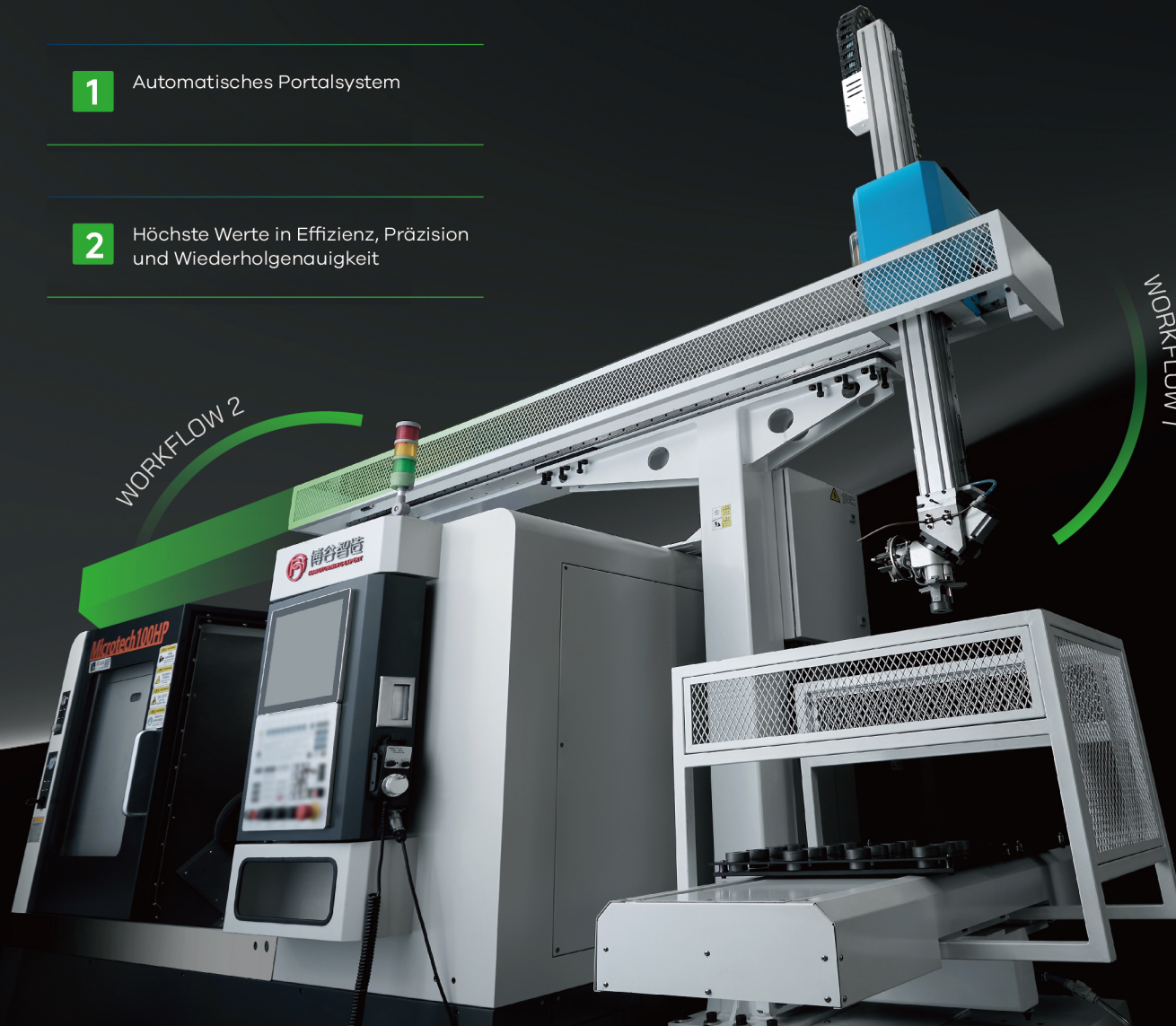


AUTOMATISIERUNG UND KOMPLETTE BEARBEITUNGSLÖSUNGEN

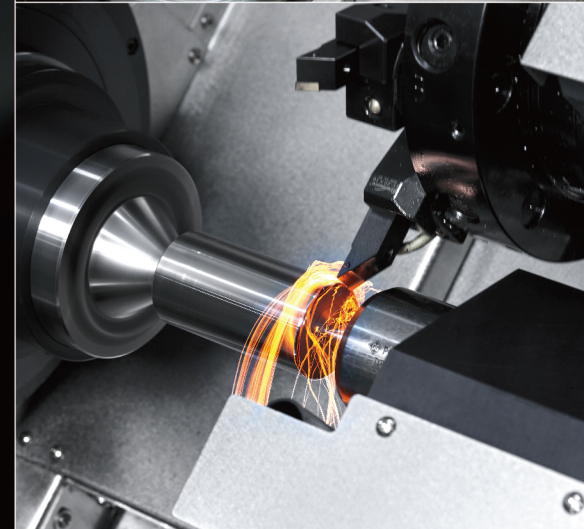
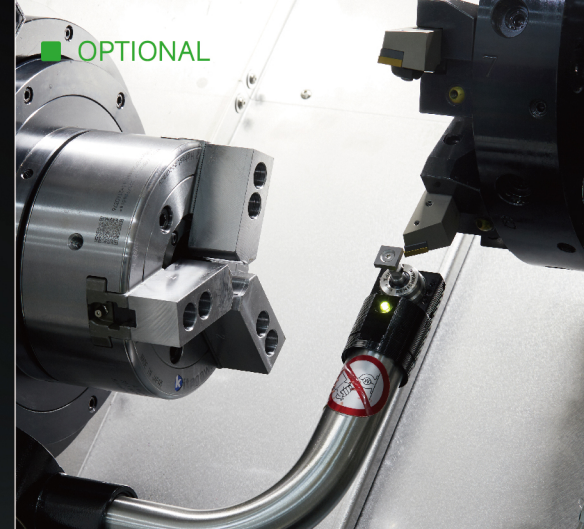
- MASSGESCHNEIDERTE AUTOMATISIERUNGSLÖSUNGEN UND KOMPLETTE BEARBEITUNGSLÖSUNGEN VON BOGOO

1 Automatisches Portalsystem

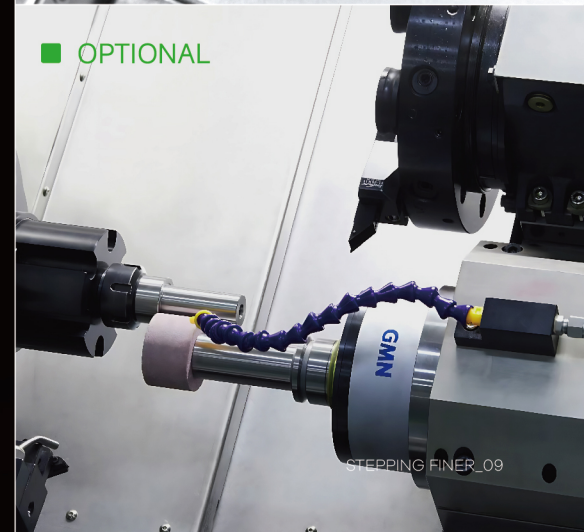
2 Höchste Werte in Effizienz, Präzision und Wiederholgenauigkeit



OPTIONAL



OPTIONAL



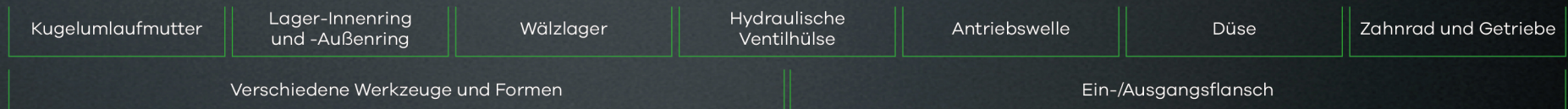
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ANWENDUNGSLÖSUNGEN

TYPISCHE BRANCHEN



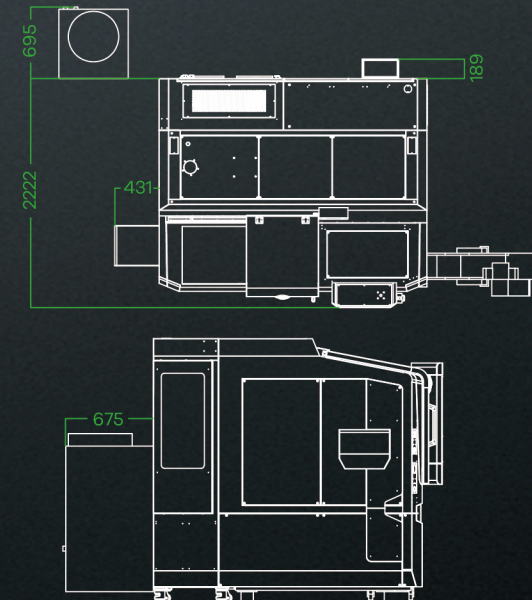
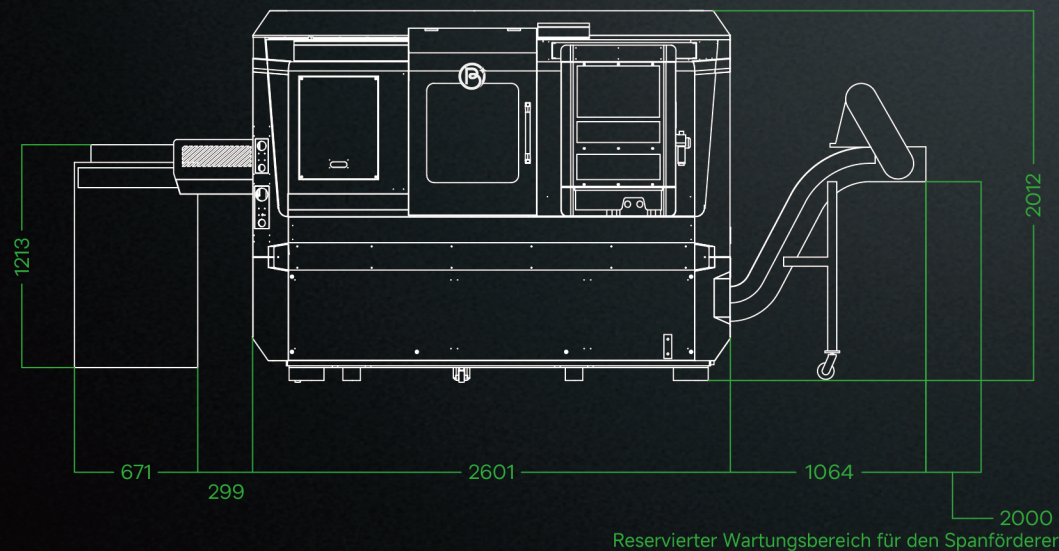
TYPISCHE WRTKSTÜCKE



TECHNISCHE DATEN

SPEZIFIKATIONEN	BOGOO MICROTECH CNC 100SP	BOGOO MICROTECH CNC 100XLD SP	BOGOO MICROTECH CNC 100XLS SP	BOGOO MICROTECH CNC 500XL SP
Max. Drehdurchmesser	Φ300 mm* ¹	Φ500 mm	Φ220 mm	Φ500 mm
Max. Drehdurchmesser zwischen Spitzen	Φ200×350 mm	N/A	Φ200×1000 mm	N/A
Max. Teilegewicht	50 kg* ²	200 kg	50 kg* ²	300 kg
Max. Spindeldrehzahl	4000 rpm* ³	2000 rpm	4000 rpm* ³	1200/2000 rpm
Rundlauf der Hauptspindel	0,1µm	0,2µm	0,2µm	0,1µm
Z-Achsen-Verfahrweg	350mm* ⁴	350mm	890mm	750mm
X-Achsen-Verfahrweg	240mm	340mm	200mm	400mm
Eilganggeschwindigkeit	12m/min	12m/min	12m/min	30m/min
Positioniergenauigkeit	1µm	1µm	1µm	1µm
CNC-Auflösung	0,01µm	0,01µm	0,01µm	0,01µm
Wiederholgenauigkeit (±)	0,2µm	0,2µm	0,2µm	0,2µm

*¹ Optional Φ380mm *² Optional 100 kg *³ Je nach Werkstückbearbeitung und Maschinentyp optional mit 1200 min⁻¹ oder 2000 min⁻¹ Hochleistungsspindel bzw. mit 6000 min⁻¹ oder 8000 min⁻¹ Hochgeschwindigkeitsspindel. *⁴ Optional 450mm



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GERMANY



CHINA

BOGOU STEPPING FINER



ULTRA PRECISION FULLY HYDROSTATIC TURNING MACHINES





FINISH HARD TURNING MACHINE

FINISH HARD TURNING BOG00 MICROTECH MACHINE SERIES



- Turning Up To **70** HRC
- Surface Finish: Ra **0.1 - 0.4** Micron
- Dimensional Accuracy: **2** Micron



✦
MACHINE FROM
HIGHEST STANDARD



A STRESS FREE NATURAL GRANITE MACHINE BASE



Natural Granite Spindle Housing

Good thermal stability, complete stress-free performance, excellent vibration damping capacity



Hydrostatic Spindle

Rotational Accuracy: **0.1** μm

Hydrostatic Guideway

No wear, long service life and long precision retaining time



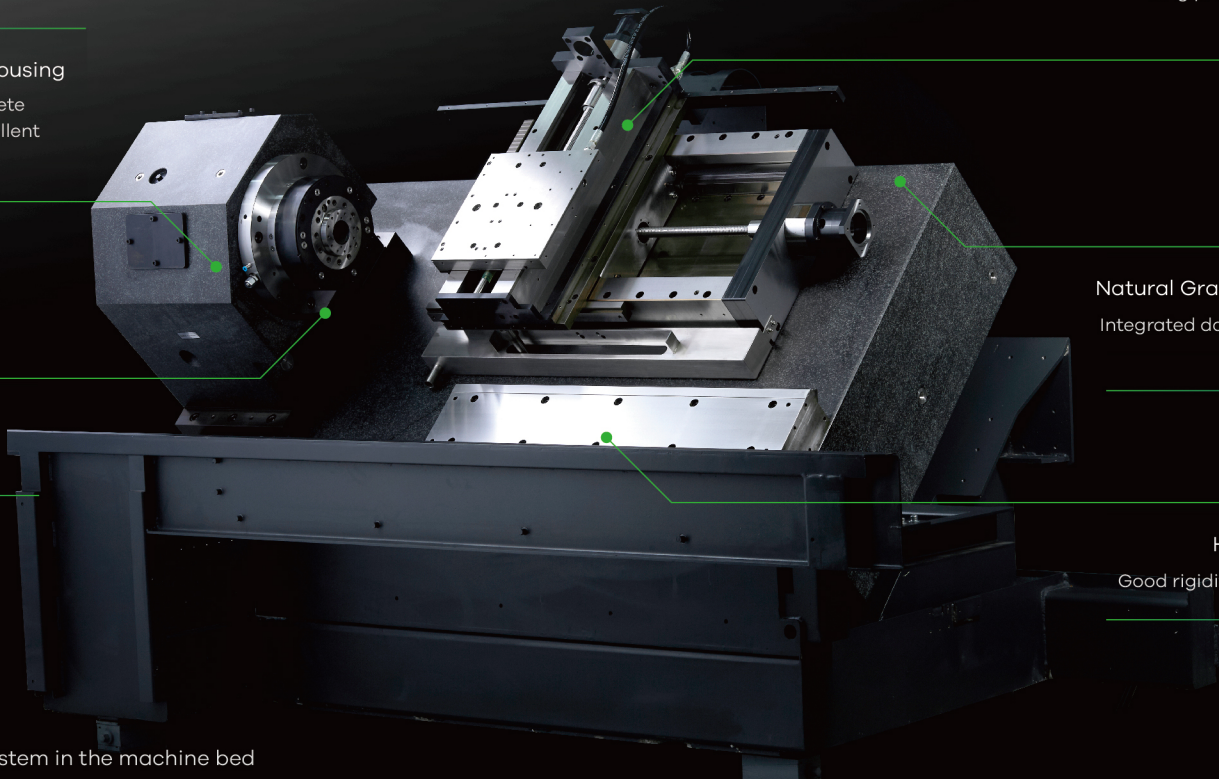
Natural Granite Machine Base

Integrated damping and vibration reduction system



Hydraulic Tailstock

Good rigidity and high precision



- Integrated vibration damping system in the machine bed
- Stress-free and corrosion-free machine bed
- Highest level of thermal stability and vibration absorption

BOG00

HYDROSTATIC HYDRAULIC POWER UNIT

HYDRAULIC OIL CONSTANT TEMPERATURE COOLING DEVICE

- Hydrostatic Hydraulic Power Unit

- Operating Pressure: **5 MPa**
- Pressure Pulsation: **1‰**
- Filtration Precision: **3 μm**

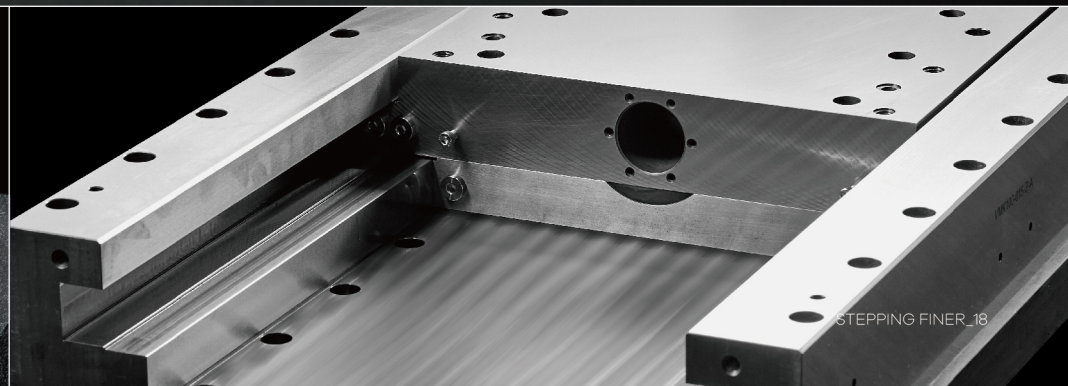
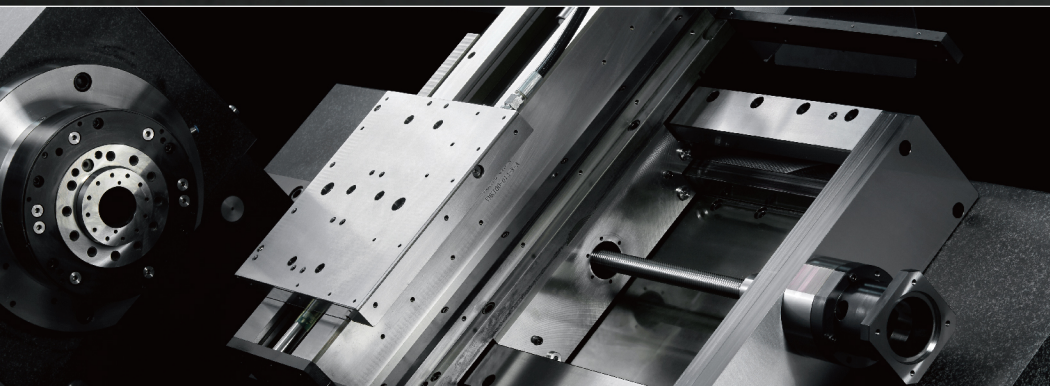
- Hydraulic Oil Constant Temperature Cooling Device

- Operating Temperature: **20-24 °C**
- Temperature Control Precision: **± 0.1 °C**

BOG00 MICROTECH
PRECISION
100SP

HYDROSTATIC GUIDEWAY

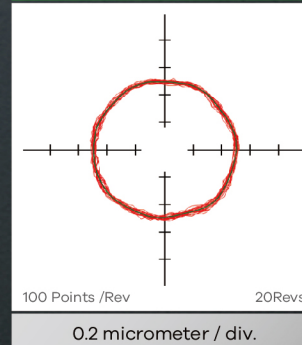
- Straightness: **0.5 μm / 300 mm**
- Positioning Accuracy: **1 μm**
- Repeat Positioning Accuracy: **0.2 μm**



HYDROSTATIC MAIN SPINDLE

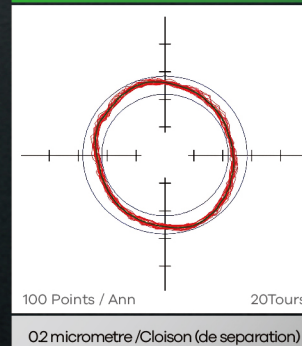
- Rotational Speed: **4000** RPM
- Rotational Accuracy: **0.1** μm
- Dynamic Balance Grade: **G0.1**

Axial

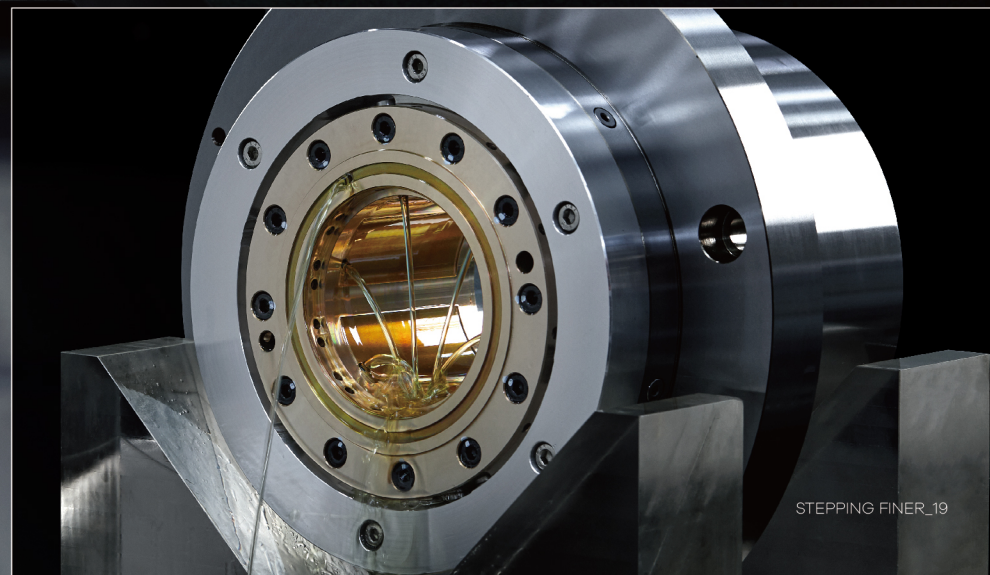


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Source	4000RPM TEST
Canal	Canal 1(X)



MANUAL SCRAPING AND LAPPING FOR ULTRA-HIGH PRECISE, FLAT AND MATING SURFACES

- Average scraping and lapping time for each machine exceeds **100** hours

Lapping



Scraping

Scraping standard in BOGOO requires no fewer than 16 contact points per inch.

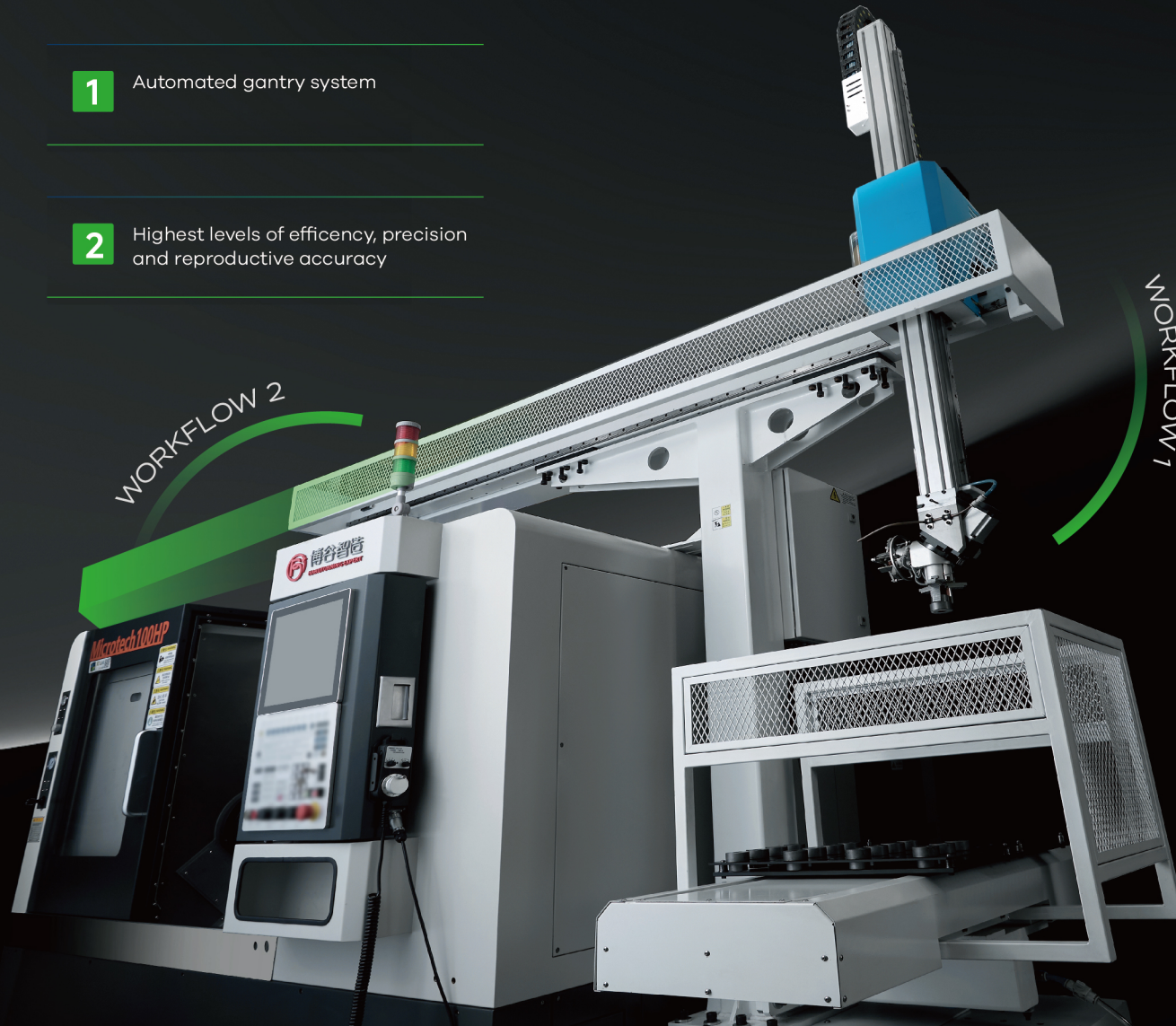


AUTOMATION AND TURNKEY

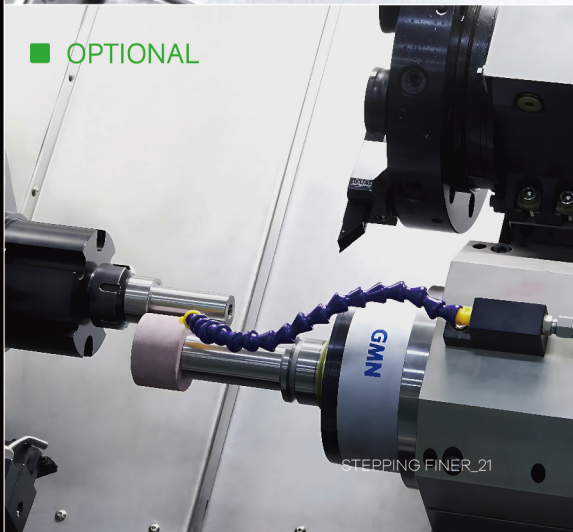
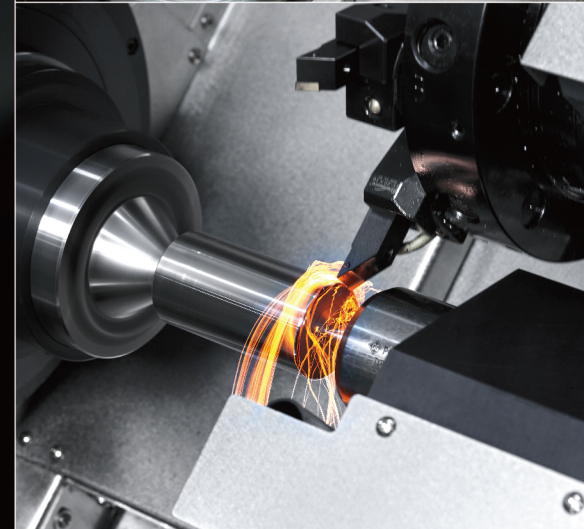
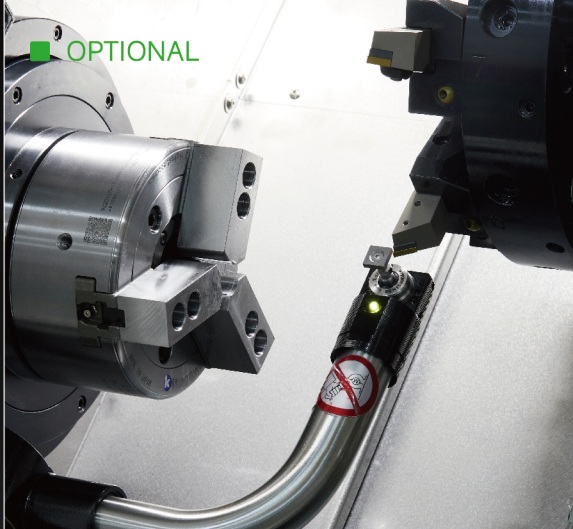
- Customized automation and turnkey solutions from BOGOO

1 Automated gantry system

2 Highest levels of efficiency, precision and reproductive accuracy



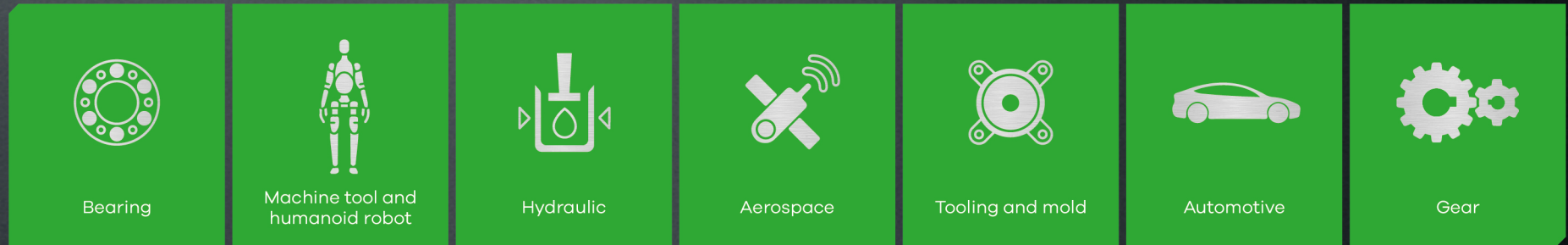
WORKFLOW 1



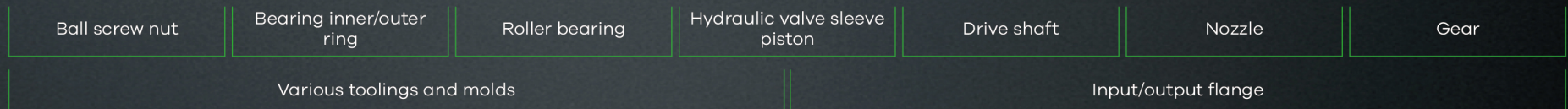
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APPLICATION SOLUTIONS

TYPICAL INDUSTRIES



TYPICAL WORKPIECES



TECHNICAL SPECIFICATIONS

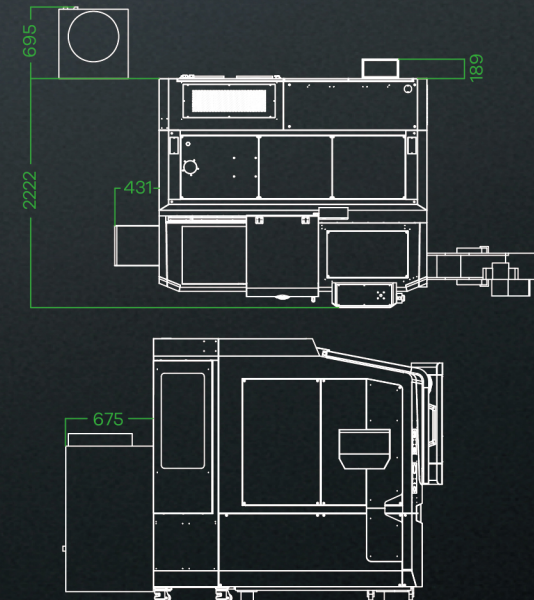
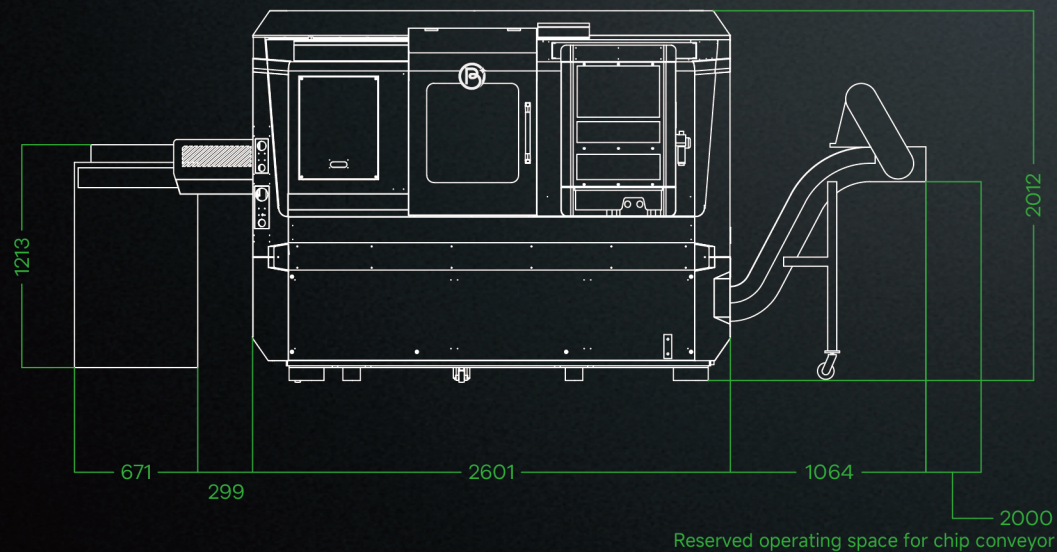
SEPCIFICATIONS	BOGOO MICROTECH CNC 100SP	BOGOO MICROTECH CNC 100XLD SP	BOGOO MICROTECH CNC 100XLS SP	BOGOO MICROTECH CNC 500XL SP
Max. turning diameter	Φ300 mm* ¹	Φ500 mm	Φ220 mm	Φ500 mm
Max.workpiece size between centers	Φ200×350 mm	N/A	Φ200×1000 mm	N/A
Max.part weight	50 kg* ²	200 kg	50 kg* ²	300 kg
Max.spindle speed	4000 rpm* ³	2000 rpm	4000 rpm* ³	1200/2000 rpm
Run-out main spindle	0.1μm	0.2μm	0.2μm	0.1μm
Z-axis travel	350mm* ⁴	350mm	890mm	750mm
X-axis travel	240mm	340mm	200mm	400mm
Rapid traverse rate	12m/min	12m/min	12m/min	30m/min
Positioning accuracy	1μm	1μm	1μm	1μm
CNC resolution	0.01μm	0.01μm	0.01μm	0.01μm
Slide repeatability(±)	0.2μm	0.2μm	0.2μm	0.2μm

*1 Optional ϕ 380mm

*2 Optional 100Kg

*3 Based on part process and machine model, optional 1200 RPM or 2000 RPM heavy-duty spindle, 6000 RPM or 8000 RPM high-speed spindle.

*4 Optional 450mm



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