

171
High-Precision Machining Center
for Smart Manufacturing



FOCUSED ON WHAT COUNTS

More with Less.

Are you looking for a machining center that delivers the renowned precision and reliability of Bumotec while keeping your investment focused on what truly matters ?

The Bumotec 171 was developed around a simple principle :

*Design a machine that delivers **more value** with **less complexity**.*

Built on decades of Bumotec expertise, it brings together the functions that truly matter in modern manufacturing within a compact, high-performance, and accessible machining center.

3 m² of Productive Power.

- Footprint reduced to only 3 m²
- Simultaneous 5-axis machining
- Bar capacity up to Ø32 mm
- Up to 60 tools
- Complete production in a single machining cycle
- Fast changeovers
- Intuitive Windows touchscreen interface
- Reduced energy consumption
- Preventive and predictive maintenance



Micromechanical
engineering



Medical



Watchmaking



Jewellery



Aerospace



Compact. Stable. Unstoppable.

Production floor space is now one of the most valuable resources in any workshop. With a footprint of only 3 m² and an optimized weight of less than 3 350 kg, the Bumotec 171 maximizes productivity per square meter without compromising rigidity or precision. It also delivers the following benefits :

Optimized Engineering.

Its one-piece cast iron structure ensures remarkable stability while minimizing overall machine weight. Every component has been engineered to achieve the ideal balance between footprint, rigidity, and performance.

EVERY MINUTE COUNTS

Maximum Availability. Continuous Productivity.

A machine is meant to produce. That is why every function of the 171 has been designed to minimize interruptions and simplify daily operation.

Ultra-Fast Changeovers (sometimes in less than 20 minutes).

Thanks to automated collet changes and stored machine recipes.



Engineered to Produce More.

- Large access doors
- Optimal visibility of the machining area
- Intuitive Windows interface
- Complete operation history
- Automatic tool monitoring
- Tool wear and breakage detection
- Automatic replacement by sister tool

ALL-IN-ONE MACHINING

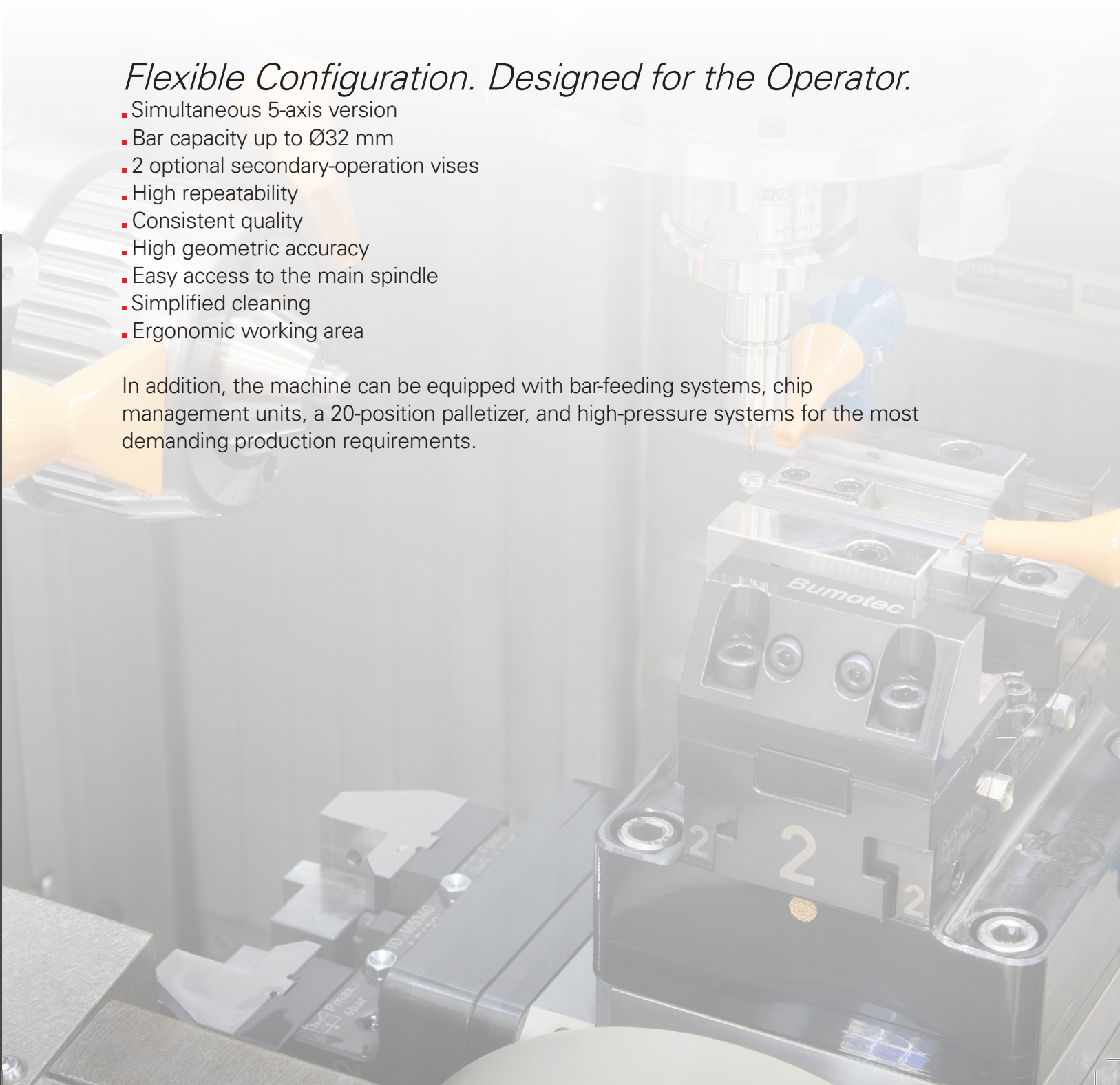
All the Precision of Bumotec. Nothing Excessive.

The Bumotec 171 perfectly meets the needs of manufacturers seeking a high-precision solution without unnecessary complexity.

Flexible Configuration. Designed for the Operator.

- Simultaneous 5-axis version
- Bar capacity up to Ø32 mm
- 2 optional secondary-operation vises
- High repeatability
- Consistent quality
- High geometric accuracy
- Easy access to the main spindle
- Simplified cleaning
- Ergonomic working area

In addition, the machine can be equipped with bar-feeding systems, chip management units, a 20-position palletizer, and high-pressure systems for the most demanding production requirements.



SPECIFICATIONS

171

Base Machine

Axis travel		Z = 370 mm / Y = 160 mm / X = 420 mm
Thrust force	Z-Y	6,3 kW / 4,5 kN
	X	14 kW / 3,1 kN
Rapid traverse	X-Y-Z	40 m/min
Acceleration	X-Y-Z-W	8 m/s ²
Resolution	X-Y-Z-W	0,0001 mm

Main Spindle C

Power S1 / S6	11 / 15,5 kW
Torque S1 / S6	18 / 40 Nm
Turning speed	8 000 min ⁻¹
Milling rotation speed	250 min ⁻¹
Clamping force	12 500 N at 5 bar, analog regulation, CNC-controlled pressure
Resolution	0,0001°
Bar capacity	Ø32 mm
Collet system	Schaublin Type F / Ottet

Machining Spindle B-Axis

Power S1 / S6	2,6 kN / 3,3 kN
Continuous / Peak Torque	118 / 198 Nm
Rotation speed	48 000 °/min
Locking torque	250 Nm
Resolution	0,0001°
Angular travel	-25° / +115°

Machining Spindle

Power S1 / S6	6,8 / 13 kW
Torque S1 / S6	5,8 / 11 Nm
Maximum speed	30 000 min ⁻¹ (40 000 optional)
Locking torque	80 Nm
Tool interface	HSK-T40 (HSK-A40 compatible)
Through-tool coolant	100 bar (optional)

Tool Changer

Number of tools	40 (60 optional)
Indexed tools	All tools
Maximum tool weight	1,2 kg
Maximum tool diameter	40 mm (80 mm if adjacent station is empty)
Maximum tool length	120 mm

CNC control

NC controlled/Screen	FANUC serie 30 type 31i-B5 Plus /15"
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Optional Secondary Operation W-Axis

Axis travel	250 mm
Thrust force	2,1 kN
Rapid traverse speed	30 m/min
Resolution	0,0001 mm

Secondary Operation Vise

Self-centering parallel vise	Pneumatic
Clamping force	4,2 kN (at 5 bar)
Additional tooling available	Tailstock

Weight

Machine (without options)	3 350 kg
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X-W = Ball Screws / Y-Z = Linear Motors

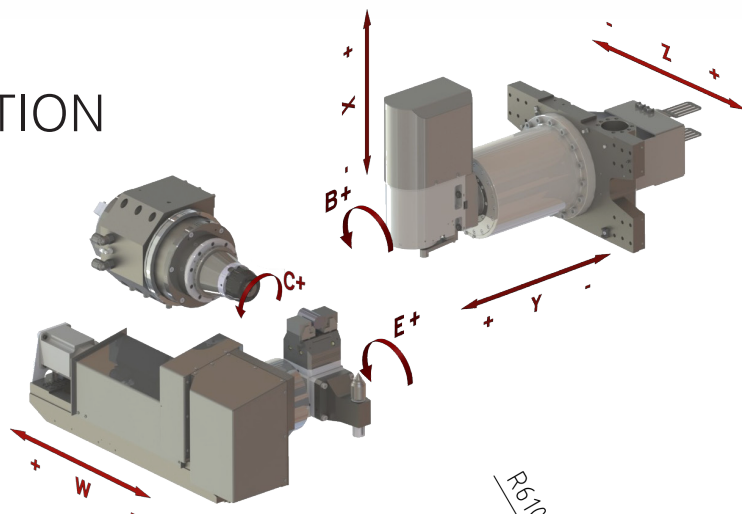
ADOPT A MORE SUSTAINABLE APPROACH

Reduce Energy Consumption. Maintain Performance.

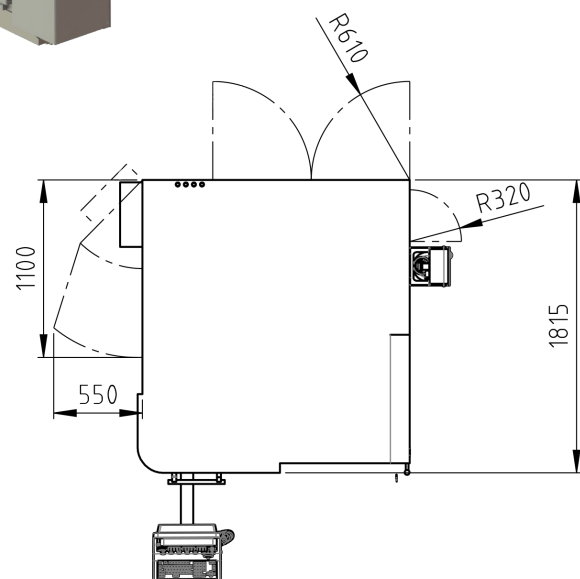
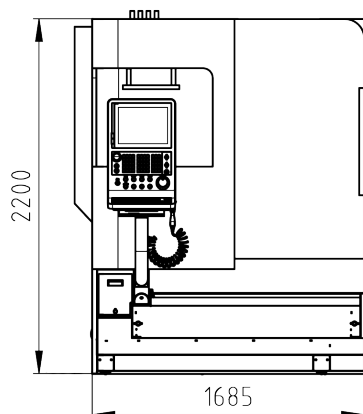
Sustainability has become a key criterion in modern industry. The Bumotec 171 natively integrates an intelligent energy optimization function that automatically adapts machine operating modes according to actual production conditions.

*Up to **7% kWh Savings per Part**, Energy savings during nearly 90% of machine operating time and Reduced carbon footprint.*

AXIS CONFIGURATION



DIMENSIONS



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