



INTEGREX J

S E R I E S

200
200S
300
400

Advanced features of the Mazak SmoothG CNC

Touch screen operation—Operate similar to your smart phone / tablet

PC with Windows® 8 embedded OS

Fastest CNC in the world—Latest hardware and software for unprecedented speed and precision

Easy conversational programming of multiple surface machinings

Smooth user graphical interface and support functions for unsurpassed ease of operation

Fine tuning functions—Easily configure machine parameters for different workpiece materials and application requirements

MTConnect® ready-Convenient networking

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

MTConnect is a registered trademark of AMT in the United States and other countries.



MAZATROL
SMOOTHG



Milling spindle has performance comparable to a small machining center (INTEGREX j-300 shown)

Horizontal multi-tasking machine



Continuous 1st and 2nd processes machining with second spindle (INTEGREX j-200S shown)

The INTEGREX j-series — your portal to multi-tasking

Designed to deliver high speed, high accuracy machining, ease of operation and the maximum value the INTEGREX j-series will define a new standard for multi-tasking machines



INTEGREX j-200S shown

INTEGREX J SERIES

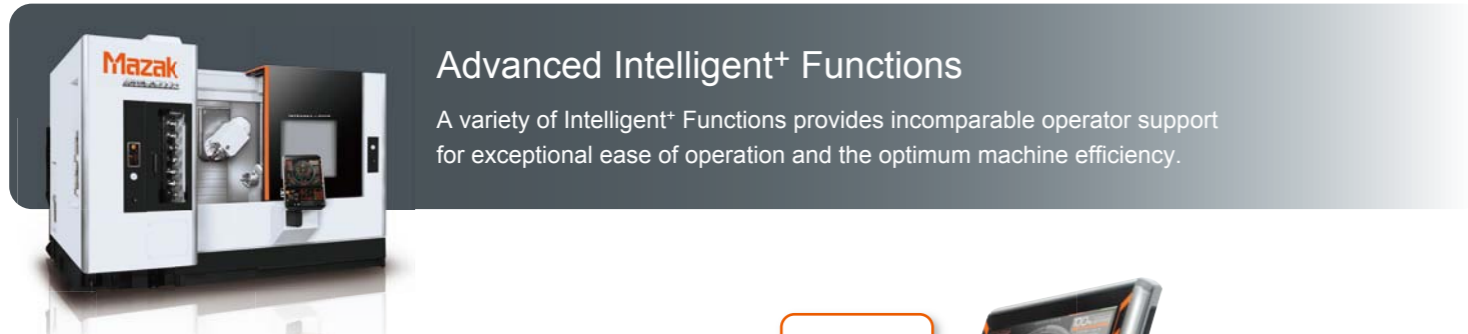
- Exceptional milling versatility thanks to the indexing milling spindle
- Compact machine with large machining area
- Integral spindle / motors utilized by main and second spindles (INTEGREX j-200S)
- Tool magazine is located at the front to increase setup efficiency
- 200 mm (7.87") Y-axis stroke and 450 mm (17.72") X-axis stroke provide large machining area (INTEGREX j-200)



The DONE IN ONE concept incorporates all machining processes from raw material input through final machining - in just one machine. It provides the ability to reduce production lead time, improve machining accuracy, reduce floor space and initial cost, lower operating expenses, reduce operator requirements and to improve the work environment. As a result, the concept not only streamlines production, it also improves overall management.



Yamazaki Mazak has developed a variety of functions for the improvement of productivity, high accuracy machining and operator support. A variety of unique technologies has been developed that incorporate the expertise of experienced machine operators that realizes unsurpassed productivity and higher accuracy machining.



Advanced Intelligent+ Functions

A variety of Intelligent+ Functions provides incomparable operator support for exceptional ease of operation and the optimum machine efficiency.

Set up

MVA+ Verbal Message System
MAZAK VOICE ADVISER

Verbal support for machine setup and safe conditions confirmation



Machining

SMC+ Convenient Parameter Setting and Fine Tuning Function
SMOOTH MACHINING CONFIGURATION

Machining time, finished surface smoothness and machining shape can be adjusted for improved productivity

AVC Minimized Vibration
ACTIVE VIBRATION CONTROL
Machine vibration can be reduced to perform excellent machining accuracy and high-speed machining.

Without ACTIVE VIBRATION CONTROL

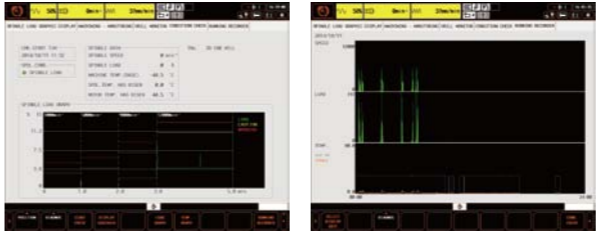
With ACTIVE VIBRATION CONTROL

VAC Variable Acceleration Control Function
VARIABLE ACCELERATION CONTROL
Variable acceleration control is a new function which permits the faster acceleration capability of linear axes to be used whenever possible. The slower acceleration of the rotary axes is not used for all program commands, resulting in faster machining cycle times.

Maintenance

IPS+ Comprehensive Spindle Monitoring
INTELLIGENT PERFORMANCE SPINDLE

The INTELLIGENT PERFORMANCE SPINDLE monitors a variety of properties such as temperature with sensors housed in the spindle and provides useful information to the operator. Thanks to this monitoring, production loss due to machine down time can be minimized.



▲ Condition check Temperature as well as the motor load can be displayed.
▲ Running recorder Operation status of milling spindle (rpm / motor load) can be recorded for up to one year.

IMS+ Comprehensive Maintenance Monitor
INTELLIGENT MAINTENANCE SUPPORT

Useful information for improved preventative maintenance to prevent unexpected machine downtime.



SCC Seamless Corner Control
SMOOTH CORNER CONTROL
Improved finished surfaces and reduced cycle times by optimized acceleration / deceleration when machining corners.



ITS+ Heat Displacement Control
INTELLIGENT THERMAL SHIELD

The INTELLIGENT THERMAL SHIELD is an automatic compensation for room temperature changes, which realizes enhanced continuous machining accuracy. MAZAK has performed extensive testing in a variety of environments in a temperature controlled room and has used the results to develop a control system that automatically compensates for temperature changes in the machining area. Changes in the room temperature and compensation data are shown visually.



Temperature and compensation is displayed on screen. Operator can adjust compensation by looking at the data.

Standard Machine Specifications

		INTEGREX j-200		INTEGREX j-200S
		500U	1000U	
Capacity	Max. swing / Swing over cross slide	Φ530 mm (Φ 20.87")	Φ530 mm (Φ 20.87")	Φ530 mm (Φ 20.87")
	Max. machining diameter*1	Φ500 mm (Φ 19.69")	Φ500 mm (Φ 19.69")	Φ500 mm (Φ 19.69")
	Max. machining length	500 mm (19.69")	1016 mm (40")	910 mm (35.83")
	Max. bar work capacity	Φ65 mm (Φ 2.56")	Φ65 mm (Φ 2.56")	Φ65 mm (Φ 2.56")
Travel	X-axis travel	450 mm (17.72")	450 mm (17.72")	450 mm (17.72")
	Y-axis travel	200 mm (±100 mm) (7.87"(±3.94"))	200 mm (±100 mm) (7.87"(±3.94"))	200 mm (±100 mm) (7.87"(±3.94"))
	Z-axis travel	550 mm (21.65") (without ATC)	1066 mm (41.97") (without ATC)	960 mm (37.8") (without ATC)
	B-axis travel	-30° ~ 190° (5° min. indexing increment)	-30° ~ 190° (5° min. indexing increment)	-30° ~ 210° (5° min. indexing increment)
	C-axis travel	360°	360°	360°
Main spindle	spindle speed*2	5000 rpm	5000 rpm	5000 rpm
	spindle nose	A2-6"	A2-6"	A2-6"
	spindle bore	Φ76 mm (Φ 2.99")	Φ76 mm (Φ 2.99")	Φ76 mm (Φ 2.99")
	Bearing ID (front side)	Φ110 mm (Φ 4.33")	Φ110 mm (Φ 4.33")	Φ110 mm (Φ 4.33")
	Min. indexing increment	0.0001°	0.0001°	0.0001°
Second spindle	spindle speed*2	—	—	5000 rpm
	spindle nose	—	—	A2-5"
	spindle bore	—	—	Φ61 mm (Φ 2.4")
	Bearing ID (front side)	—	—	Φ90 (Φ 3.54")
	Min. indexing increment	—	—	0.001°
Milling spindle	Turret type	Single spindle turret with ATC	Single spindle turret with ATC	Single spindle turret with ATC
	Rotary tool spindle speed	12000 rpm	12000 rpm	12000 rpm
	Rotary tool spindle max. torque (40% ED) (Cont. rating)	27.5 N·m (20.3 ft·lbs) 21.9 N·m (16 ft·lbs)	27.5 N·m (20.3 ft·lbs) 21.9 N·m (16 ft·lbs)	27.5 N·m (20.3 ft·lbs) 21.9 N·m (16 ft·lbs)
Rapid traverse rate	X-axis	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)
	Y-axis	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)
	Z-axis	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)
	W-axis	8000 mm/min (315 IPM)	8000 mm/min (315 IPM)	30000 mm/min (1181 IPM)
	C-axis	555 rpm	555 rpm	555 rpm
Automatic tool changer system	Tool shank type	HSK-A63(T63) <Option :CAPTO C6, KM63>	HSK-A63(T63) <Option :CAPTO C6, KM63>	HSK-A63(T63) <Option :CAPTO C6, KM63>
	Tool storage capacity	20-tools (Option :36, 72-tool magazine)	20-tools (Option :36, 72-tool magazine)	20-tools (Option :36, 72-tool magazine)
	Max. tool diameter	Φ90 mm (Φ 3.54") (125 mm (Φ 4.92") with adjacent pockets empty)	Φ90 mm (Φ 3.54") (125 mm (Φ 4.92") with adjacent pockets empty)	Φ90 mm (Φ 3.54") (125 mm (Φ 4.92") with adjacent pockets empty)
	Max. tool length (from gauge line)	210 mm (8.27")	210 mm (8.27")	210 mm (8.27")
	Max. tool weight	5 kg (11 lbs)	5 kg (11 lbs)	5 kg (11 lbs)
	Tailstock	Center	MT 5 (Dead center)	MT 4 (Built-in center)
Motors	Main Spindle motor (40% ED) (Cont. rating)	AC 11 kW (15 HP) AC 7.5 kW (10 HP)	AC 11 kW (15 HP) AC 7.5 kW (10 HP)	AC 11 kW (15 HP) AC 7.5 kW (10 HP)
	Second spindle motor (40% ED) (Cont. rating)	— —	— —	AC 11 kW (15 HP) AC 7.5 kW (10 HP)
	Milling spindle motor (40% ED) (Cont. rating)	AC 7.5 kW (10 HP) AC 5.5 kW (7.4 HP)	AC 7.5 kW (10 HP) AC 5.5 kW (7.4 HP)	AC 7.5 kW (10 HP) AC 5.5 kW (7.4 HP)
	Coolant pump motor	1.2 kW (60 Hz)	1.2 kW (60 Hz)	1.2 kW (60 Hz)
	Required power capacity (30 min. rating) (Cont. rating)	30.62 kVA 25.65 kVA	30.62 kVA 25.65 kVA	45.37 kVA 35.34 kVA
Power requirement	Air source	0.5 MPa (72.5 PSI), minimum 340 L/min(12.01 ft ³ /min), 384(13.56) (max.)	0.5 MPa (72.5 PSI), minimum 340 L/min(12.01 ft ³ /min), 384(13.56) (max.)	0.5 MPa (72.5 PSI), minimum 340 L/min(12.01 ft ³ /min), 434(15.33)(max.)
	Coolant	Tank capacity	150 L (40 gal)	180 L (48 gal)
Machine size	Machine height	2400 mm (94.49")	2400 mm (94.49")	2400 mm (94.49")
	Floor space requirement	2990 mm × 2420 mm (117.72"×95.28")	3790 mm × 2460 mm (149.21"×96.85")	3790 mm × 2560 mm (149.21"×100.79")
	Weight	7400 kg (16314 lbs)	8300 kg (18298 lbs)	9200 kg (20282 lbs)

*1 For tool projection length of 65 mm/V (2.56") in vertical position

*2 Maximum speed of the main spindle is limited by the chuck specifications. Spindle speed and maximum turning length depend on chuck specifications

		INTEGREX j-300		INTEGREX j-400	
		650U	1200U	650U	1200U
Capacity	Max. swing / Swing over cross slide	Φ640 mm (Φ 25.2")*3	Φ640 mm (Φ 25.2")*3	Φ640 mm (Φ 25.2")*3	Φ640 mm (Φ 25.2")*3
	Max. machining diameter*1	Φ500 mm (Φ 19.69")	Φ500 mm (Φ 19.69")	Φ500 mm (Φ 19.69")	Φ500 mm (Φ 19.69")
	Max. machining length	629 mm (24.76")	1165 mm (45.87")	629 mm (24.76")	1165 mm (45.87")
	Max. bar work capacity	Φ80 mm (Φ 3.15")	Φ80 mm (Φ 3.15")	Φ102 mm (Φ 4.02")	Φ102 mm (Φ 4.02")
Travel	X-axis travel	615 mm (24.21")	615 mm (24.21")	615 mm (24.21")	615 mm (24.21")
	Y-axis travel	260 mm (±130 mm) (10.24'(±5.12"))	260 mm (±130 mm) (10.24'(±5.12"))	260 mm (±130 mm) (10.24'(±5.12"))	260 mm (±130 mm) (10.24'(±5.12"))
	Z-axis travel	695 mm (27.36") (without ATC)	1231 mm (48.46") (without ATC)	695 mm (27.36") (without ATC)	1231 mm (48.46") (without ATC)
	B-axis travel	-30° ~ 190° (5° min. indexing increment)	-30° ~ 190° (5° min. indexing increment)	-30° ~ 190° (5° min. indexing increment)	-30° ~ 190° (5° min. indexing increment)
	C-axis travel	360°	360°	360°	360°
Main spindle	spindle speed*2	4000 rpm	4000 rpm	3300 rpm	3300 rpm
	spindle nose	A2-8"	A2-8"	A2-8"	A2-8"
	spindle bore	Φ91 mm (Φ3.58")	Φ91 mm (Φ3.58")	Φ112 mm (Φ4.41")	Φ112 mm (Φ4.41")
	Bearing ID (front side)	Φ130 mm (Φ5.12")	Φ130 mm (Φ5.12")	Φ150 mm (Φ5.91")	Φ150 mm (Φ5.91")
	Min. indexing increment	0.0001°	0.0001°	0.0001°	0.0001°
Milling spindle	Turret type	Single spindle turret with ATC	Single spindle turret with ATC	Single spindle turret with ATC	Single spindle turret with ATC
	Rotary tool spindle speed	12000 rpm	12000 rpm	12000 rpm	12000 rpm
	Rotary tool spindle max. torque (40% ED) (Cont. rating)	75.4 N·m (56 ft·lbs) 45.7 N·m (34 ft·lbs)	75.4 N·m (56 ft·lbs) 45.7 N·m (34 ft·lbs)	75.4 N·m (56 ft·lbs) 45.7 N·m (34 ft·lbs)	75.4 N·m (56 ft·lbs) 45.7 N·m (34 ft·lbs)
Rapid traverse rate	X-axis	50000 mm/min (1969 IPM)	50000 mm/min (1969 IPM)	50000 mm/min (1969 IPM)	50000 mm/min (1969 IPM)
	Y-axis	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)	40000 mm/min (1575 IPM)
	Z-axis	50000 mm/min (1969 IPM)	50000 mm/min (1969 IPM)	50000 mm/min (1969 IPM)	50000 mm/min (1969 IPM)
	W-axis	8000 mm/min (315 IPM)	8000 mm/min (315 IPM)	8000 mm/min (315 IPM)	8000 mm/min (315 IPM)
	C-axis	555 rpm	555 rpm	555 rpm	555 rpm
Automatic tool changer system	Tool shank type	HSK-A63 (T63) <Option :CAPTO C6, KM63>	HSK-A63 (T63) <Option :CAPTO C6, KM63>	HSK-A63 (T63) <Option :CAPTO C6, KM63>	HSK-A63 (T63) <Option :CAPTO C6, KM63>
	Tool storage capacity	20-tools (Option :36, 72-tool magazine)	20-tools (Option :36, 72-tool magazine)	20-tools (Option :36, 72-tool magazine)	20-tools (Option :36, 72-tool magazine)
	Max. tool diameter	Φ90 mm (Φ 3.54") (125 mm (Φ 4.92") with adjacent pockets empty)	Φ90 mm (Φ 3.54") (125 mm (Φ 4.92") with adjacent pockets empty)	Φ90 mm (Φ 3.54") (125 mm (Φ 4.92") with adjacent pockets empty)	Φ90 mm (Φ 3.54") (125 mm (Φ 4.92") with adjacent pockets empty)
	Max. tool length (from gauge line)	400 mm (15.75")	400 mm (15.75")	400 mm (15.75")	400 mm (15.75")
	Max. tool weight	10 kg (22 lbs)	10 kg (22 lbs)	10 kg (22 lbs)	10 kg (22 lbs)
	Tailstock	Center	MT 5 (Dead center)	MT 5 (Built-in center)	MT 5 (Dead center)
Motors	Main Spindle motor (40% ED) (Cont. rating)	AC 18.5 kW (25 HP) AC 15 kW (20 HP)	AC 18.5 kW (25 HP) AC 15 kW (20 HP)	AC 22 kW (30 HP) AC 18.5 kW (25 HP)	AC 22 kW (30 HP) AC 18.5 kW (25 HP)
	Milling spindle motor (40% ED) (Cont. rating)	AC 22 kW (30 HP) AC 15 kW (20 HP)	AC 22 kW (30 HP) AC 15 kW (20 HP)	AC 22 kW (30 HP) AC 15 kW (20 HP)	AC 22 kW (30 HP) AC 15 kW (20 HP)
	Coolant pump motor	1.2 kW (60 Hz)	1.2 kW (60 Hz)	1.2kW (60 Hz)	1.2kW (60 Hz)
Power requirement	Required power capacity (30 min. rating) (Cont. rating)	51.84 kVA 46.82 kVA	51.84 kVA 46.82 kVA	56.85 kVA 51.84 kVA	56.85 kVA 51.84 kVA
	Air source	0.5 MPa (72.5 PSI), minimum 340 L/min (12.01 ft ³ /min)	0.5 MPa (72.5 PSI), minimum 340 L/min (12.01 ft ³ /min)	0.5 MPa (72.5 PSI), minimum 340 L/min (12.01 ft ³ /min)	0.5 MPa (72.5 PSI), minimum 340 L/min (12.01 ft ³ /min)
Coolant	Tank capacity	157 L (41 gal)	270 L (71 gal)	157 L (41 gal)	270 L (71 gal)
Machine size	Machine height	2720 mm (107.09")	2720 mm (107.09")	2720 mm (107.09")	2720 mm (107.09")
	Floor space requirement	3915 mm × 2705 mm (154.13"×106.50")	4830 mm × 2705 mm (190.16"×106.50")	4240 mm × 2705 mm (166.93"×106.50")	5130 mm × 2705 mm (201.97"×106.50")
	Weight	12300 kg (27116 lbs)	14200 kg (31305 lbs)	12600 kg (27778 lbs)	14500 kg (31967 lbs)

*3 With optional 36 / 72 tool magazine : Φ660 mm (Φ25.98")

Standard and optional equipment

● : Standard equipment ○ : Optional equipment - : N/A

Machine	INTEGREX j-200		INTEGREX j-200S	INTEGREX j-300		INTEGREX j-400	
	500U	1000U		650U	1200U	650U	1200U
8" non through-hole chuck (Howa)	○	○	○	—	—	—	—
8" through-hole chuck H3KT8 Z-323 (Howa)(Φ51 mm)*	○	○	○	—	—	—	—
8" through-hole chuck H3KT8 Z-324A (Howa)(Φ65 mm)*	○	○	○	—	—	—	—
8" non through-hole chuck N-08 (Kitagawa)	○	○	○	—	—	—	—
8" through-hole chuck B-208 (Kitagawa)(Φ51 mm)*	●	●	●	—	—	—	—
8" through-hole chuck BB-08 (Kitagawa)(Φ65 mm)*	○	○	○	—	—	—	—
Second spindle 8" through-hole chuck (B-208A615+non through-hole cylinder)	—	—	●	—	—	—	—
Second spindle 8" through-hole chuck (H3KT8-Z-323+non through-hole cylinder)	—	—	○	—	—	—	—
10" non through-hole chuck N-10A (Kitagawa)	—	—	—	○	○	—	—
10" through-hole chuck B-210 (Kitagawa)(Φ77 mm)*	—	—	—	●	●	—	—
12" non through-hole chuck N-12 (Kitagawa)	—	—	—	○	○	—	—
12" through-hole chuck B-212 (Kitagawa)(Φ80 mm)*	—	—	—	○	○	—	—
12" non through-hole chuck N-12 (Kitagawa)	—	—	—	—	—	○	○
12" through-hole chuck B-212 (Kitagawa)(Φ102 mm)*	—	—	—	—	—	●	●
15" non through-hole chuck N-15 (Kitagawa)	—	—	—	—	—	○	○
15" through-hole chuck B-15 (Kitagawa)(Φ102 mm)*	—	—	—	—	—	○	○
Collet chuck SAD65	○	○	○	—	—	—	—
High / low chuck pressure	○	○	○	○	○	○	○
B-axis 5° index	●	●	●	●	●	●	●
B-axis 1° index	○	○	○	○	○	○	○
36 tool magazine	○	○	○	○	○	○	○
72 tool magazine	○	○	○	○	○	○	○
Live center LC-5SW (5000 rpm)(NSK)	●	—	—	○	—	○	—
Live center LC-5A (2000 rpm)(NSK)	○	—	—	●	—	●	—
Automatic steady rest	—	○	—	—	○	—	○
Chuck double foot pedal	○	○	○	○	○	○	○
High accuracy	○	○	○	○	○	○	○
Scale feed back(X-, Y-, Z-axis)	○	○	○	○	○	○	○
Coolant temperature control	○	○	○	○	○	○	○
Mazak Monitoring System B (RMP60)	○	○	○	○	○	○	○
Preparation for Mazak Monitoring System B (RMP60)	○	○	○	○	○	○	○
Safety equipment	○	○	○	○	○	○	○
Current leakage circuit breaker (200 mA)	○	○	○	○	○	○	○
Overload detection system	○	○	○	○	○	○	○
Factory automation	●	●	●	●	●	●	●
Tool eye (Automatic)	○	○	○	○	○	○	○
Tool breakage detection in tool magazine	○	○	○	○	○	○	○
Main spindle chuck jaws air blast	○	○	○	○	○	○	○
Bar feeder interface	○	○	○	○	○	○	○
Automatic parts catcher	○	○	○	○	○	○	○
Automatic front door	○	○	○	○	○	○	○
Auto power on / off + warm-up	●	●	●	●	●	●	●
Status light (Completion : yellow)	○	○	○	○	○	○	○
Status light (3 colors)	○	○	○	○	○	○	○
Visual tool ID / data control preparation	○	○	○	○	○	○	○
Gantry loader (FLEX-GANTRY LOADER 5)	—	—	○	—	—	—	—
Coolant / chip disposal	●	●	●	●	●	●	●
Oil pan	○	○	○	○	○	○	○
Chip conveyor (side discharge , HINGE)	○	○	○	○	○	○	○
Chip conveyor (side discharge , CONSEP)	○	○	○	○	○	○	○
Chip bucket (Swing type)	○	○	○	○	○	○	○
Chip bucket (Fixed type)	○	○	○	○	○	○	○
High pressure coolant 1.5 MPa (220 PSI) (with chiller unit)	○	○	○	—	—	—	—
High pressure coolant 1.5 MPa (220 PSI) (without chiller unit)	—	—	—	○	○	○	○
High pressure coolant 3.5 MPa (500 PSI) (with chiller unit)	○	○	○	○	○	○	○
High pressure coolant 7MPa (1000 PSI) (with chiller unit)	○	○	○	○	○	○	○
Preparation for high pressure coolant	○	○	○	○	○	○	○
Shower coolant	—	○	○	○	○	○	○
Oil skimmer	○	○	○	○	○	○	○
Workpiece cleaning coolant	○	○	○	○	○	○	○
Spindle air blast	○	○	○	○	○	○	○
Main spindle chuck jaw air blast	○	○	○	○	○	○	○
Second spindle chuck jaw air blast	—	—	●	—	—	—	—
Turret air blast (flood coolant nozzle)	○	○	○	○	○	○	○
Chuck jaw coolant & air blast	○	○	○	○	○	○	○
Mist collector	○	○	○	○	○	○	○
Preparation for mist collector	○	○	○	○	○	○	○

* Bar capacity of chuck



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- Specifications are subject to change without notice.
- This product is subject to all applicable export control laws and regulations.
- The accuracy data and other data presented in this catalogue were obtained under specific conditions. They may not be duplicated under different conditions. (room temperature, workpiece materials, tool material, cutting conditions, etc.)

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