

Mazak

INTEGREX J

SERIES



INTEGREX J SERIES

The INTEGREX j series — your portal to multi-tasking

Exceptional milling versatility thanks to the indexing milling spindle

Compact machine with large machining area

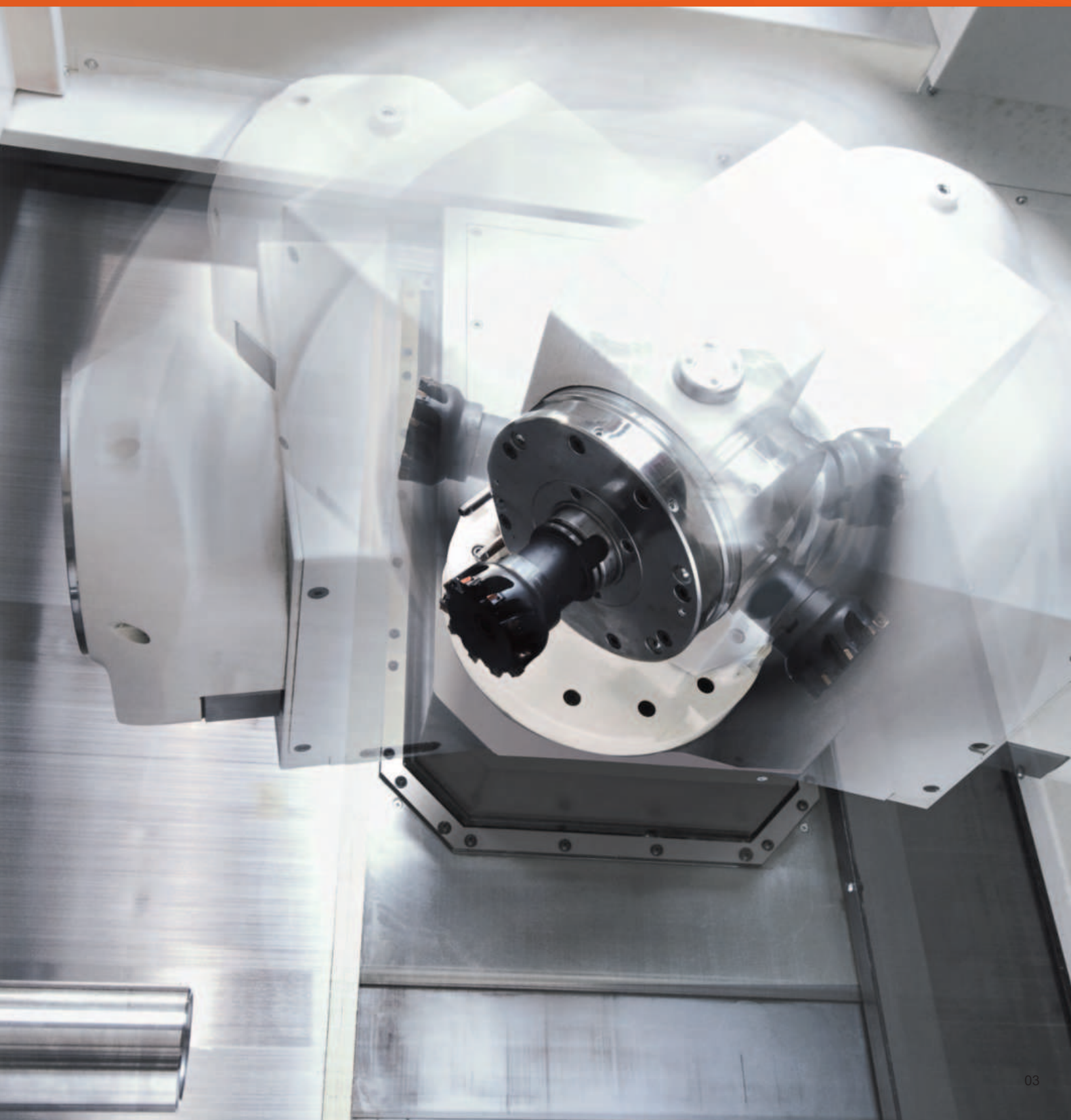
Integral spindle / motors utilized by main and second spindles (INTEGREX j-200S)

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)



INTEGREX j-200

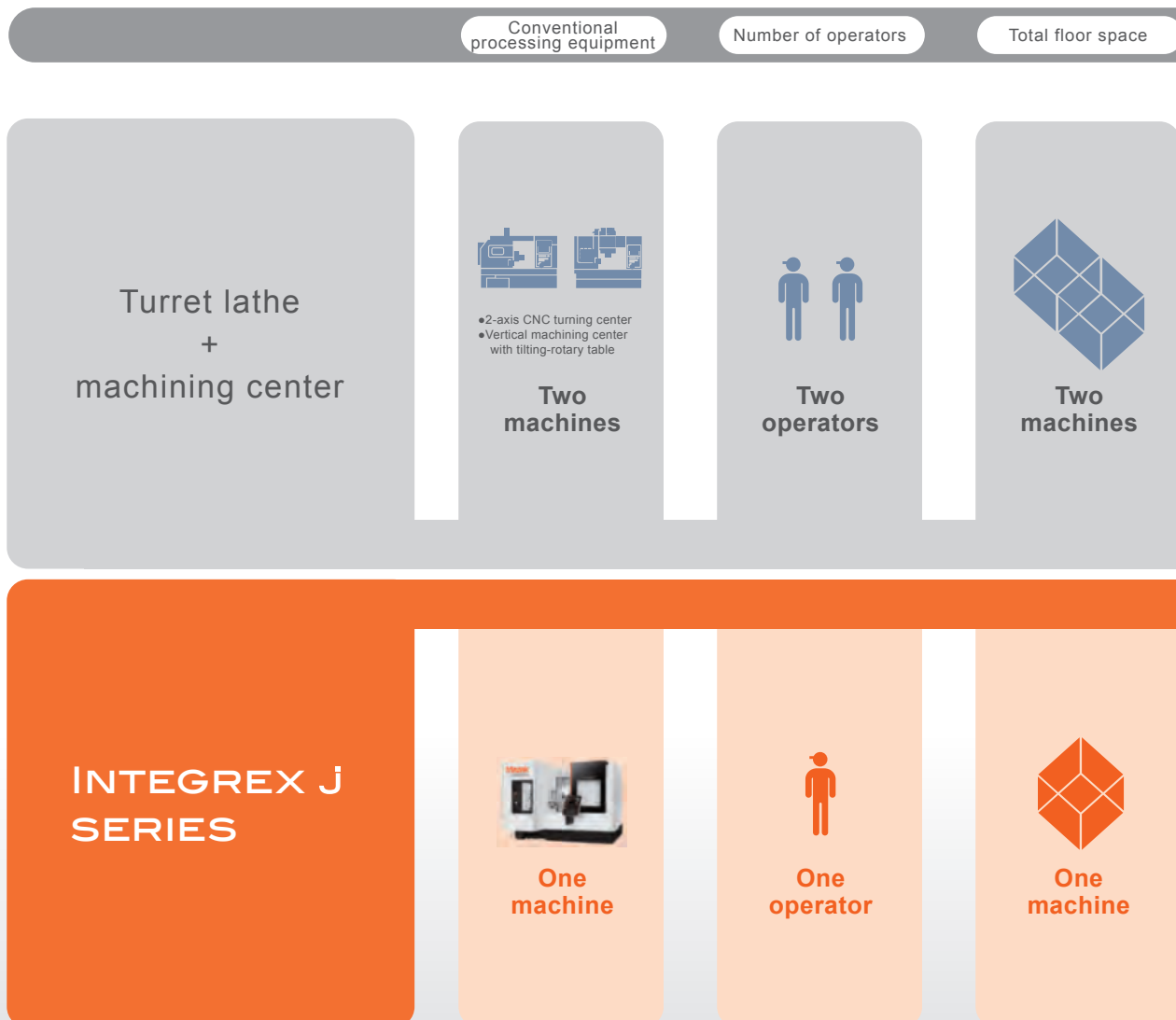


The INTEGREX j series

The INTEGREX j series covers all by one machine

The INTEGREX j series provides technological innovation, higher quality and higher productivity which contributes to more effective overall management

DONE IN ONE machine for all processes – solution for higher productivity





2-axis turning



C-, Y-axis machining



Angular machining

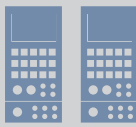
The benefits of DONE IN ONE processing

Number of programs

Cutting tools

Number of
special fixtures

In-process inventory /
in-process time



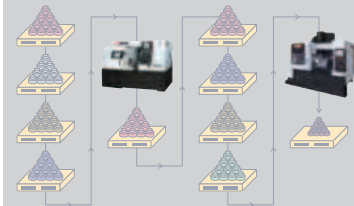
Two
programs



Two
machines



One
machine



Large

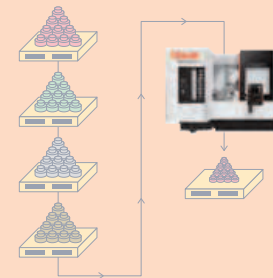


One
program



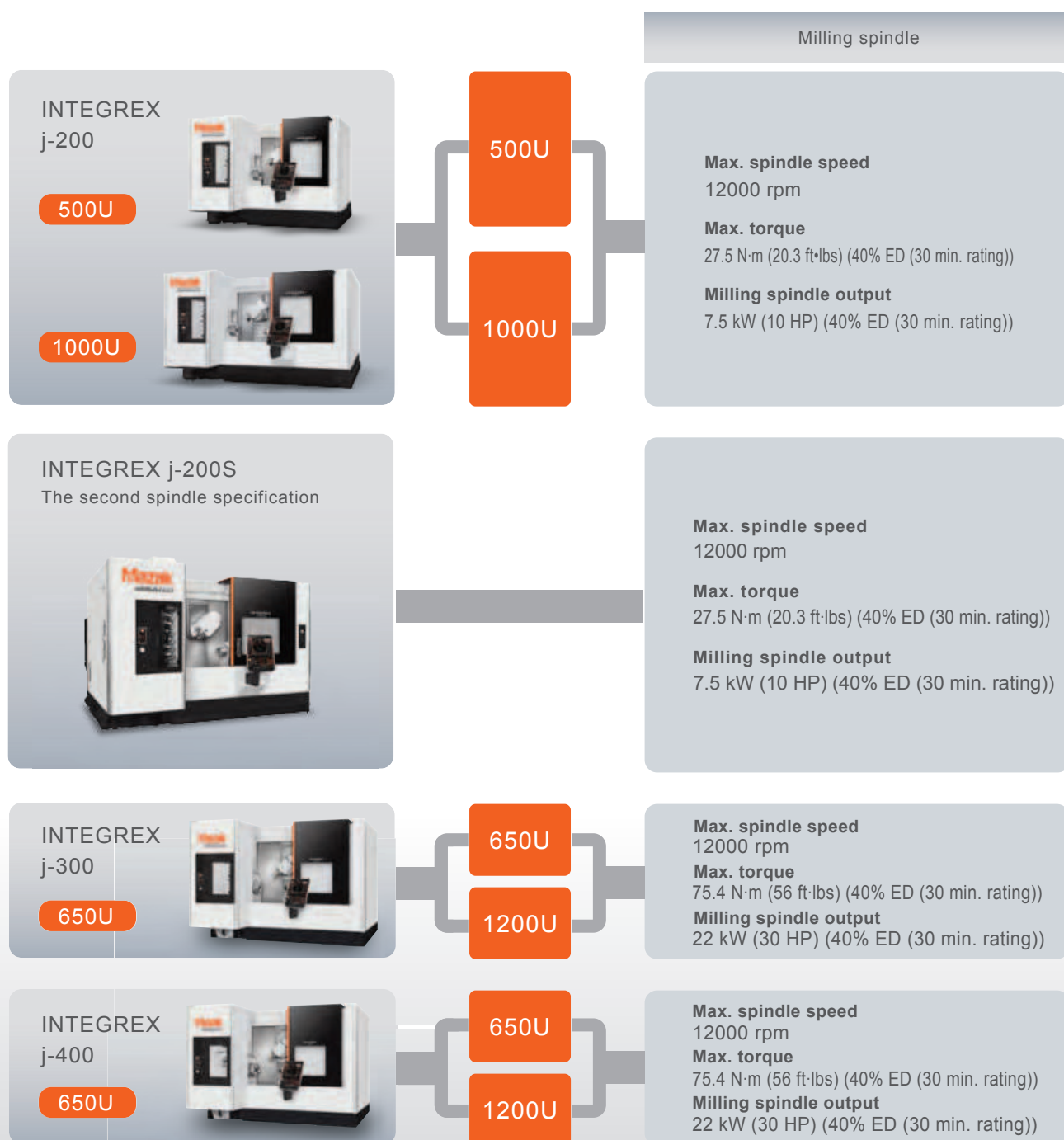
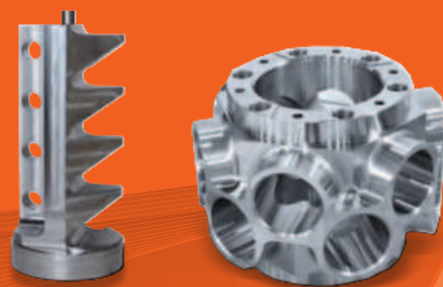
One
machine

Not
required



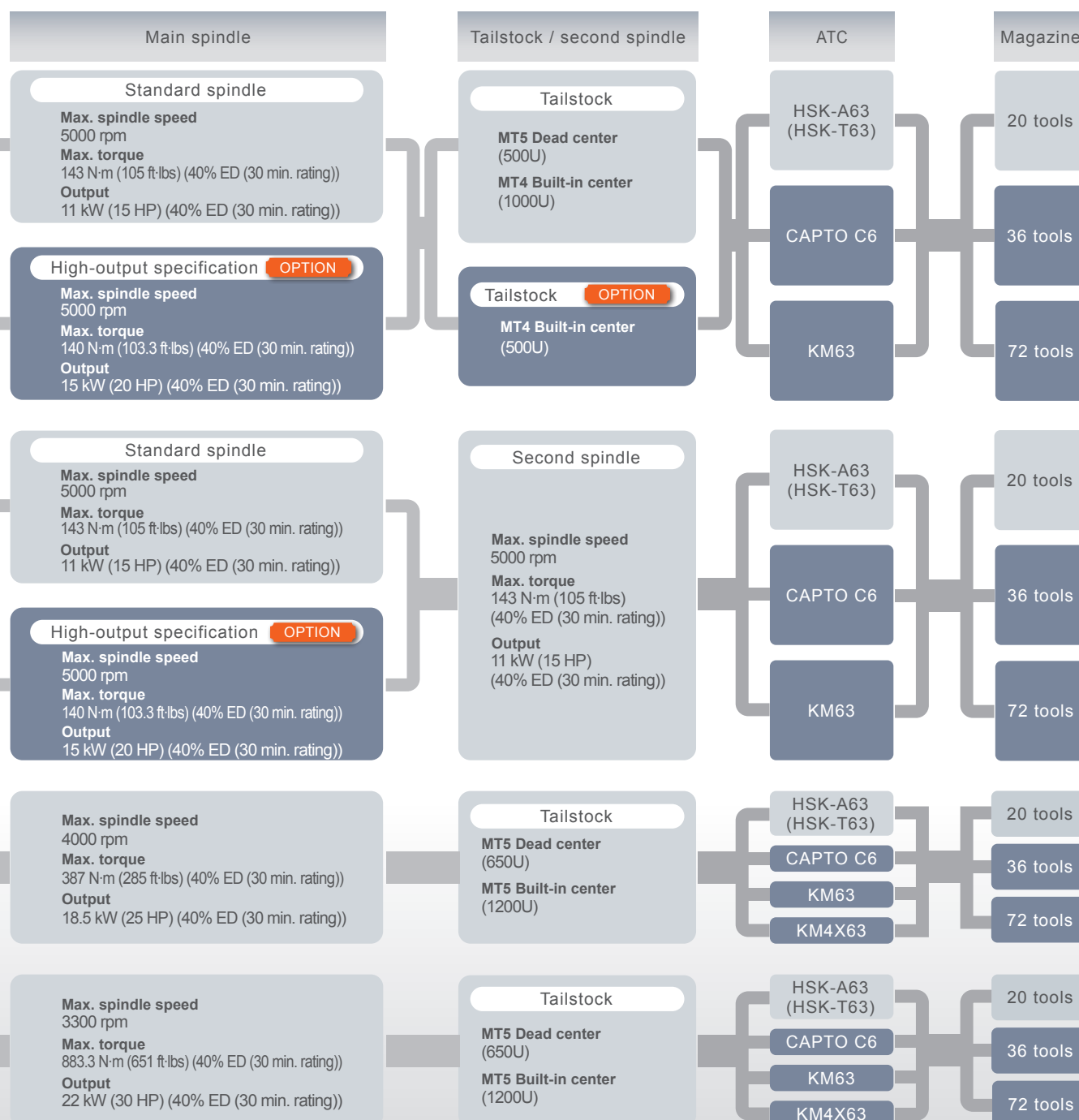
Small

The INTEGREX j series designed to meet your production requirements



Standard equipment

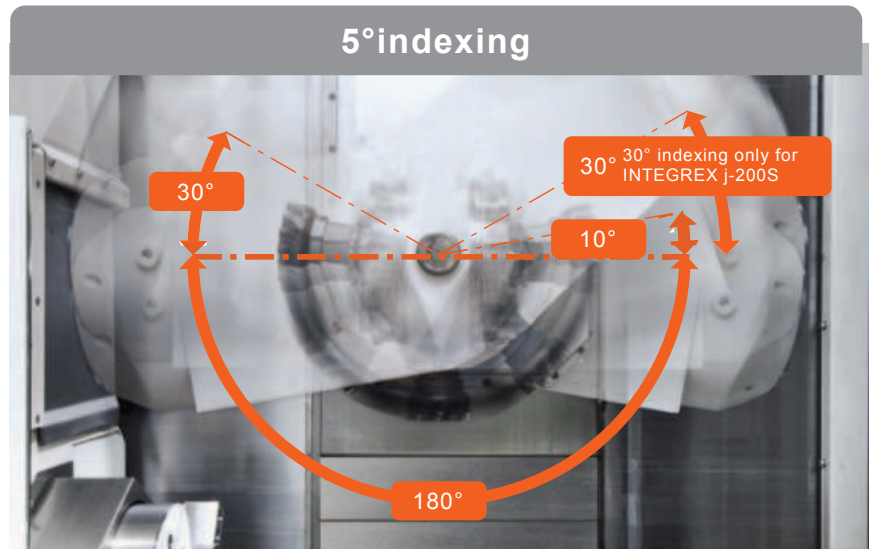
Optional equipment



Higher Productivity

Exceptional milling versatility thanks to the indexing milling spindle

The milling spindle unit can be indexed in 5° increments over a total range from -30° to 190° making it possible to perform outer diameter machining and facing with the same tool. Additionally, the milling spindle can be radially indexed and clamped allowing the same tool to be used for turning in both forward and reverse directions. As a result, machining cycle times can be reduced without changing tools.



Tool magazine located at front of machine

Increased tool setup efficiency

The tool magazine (standard : 20 tools, option : 36, 72 tools) is located at the front of the machine for convenient tool setups.

INTEGREX j-200, j-200S	INTEGREX j-300, j-400
Max. tool length 210 mm (8.27")	Max. tool length 400 mm (15.75")
Max. tool diameter Φ125 mm (Φ4.92")*	Max. tool diameter Φ125 mm (Φ4.92")*
Max. tool weight 5 kg (11 lbs)	Max. tool weight 10 kg (22 lbs)

* With optional 36 / 72 tool magazine : Φ90 mm (Φ3.54")
[with adjacent pockets empty : Φ125 mm (Φ4.92")]



High-performance milling spindle

The milling spindle can be effectively used for a wide range of workpiece material applications from steel to non-ferrous materials.

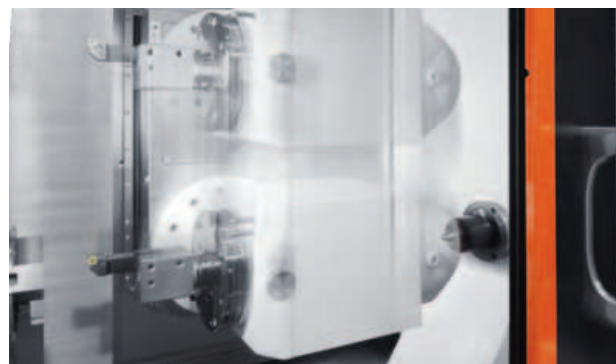


	j-200, j-200S	j-300, j-400
Max. milling spindle speed	12000 rpm	12000 rpm
Max. spindle output	AC 7.5 kW (10 HP) [40% ED (30 min. rating)]	AC 22 kW (30 HP) [40% ED (30 min. rating)]
	AC 5.5 kW (7.5 HP) [cont.rating]	AC 15 kW (20 HP) [cont.rating]
Max. torque	27.5 N·m (20.3 ft·lbs) [40% ED (30 min. rating)]	75.4 N·m (56 ft·lbs) [40% ED (30 min. rating)]

Minimum turret / tool interference

No interference between turret (B-axis: 0°) and tailstock (home position).

Since a single tool is loaded in the turret milling spindle, interference with adjacent tools is completely eliminated.



Multiple tool holder

OPTION

Multiple turning tools can be mounted on one tool holder

With spindle indexing function, multiple machining can be done by one tool holder. This not only reduces the number of tools, but also shortens machining time due to fewer tool change cycles.



Outer diameter turning (rough) by multiple tool holder



Outer diameter turning (finish) by multiple tool holder



Groove machining by multiple tool holder

Higher Productivity

Versatile main spindle

The main headstock features an integral spindle / motor designed for a wide range of applications, from heavy-duty cutting at low speed to high speed cutting of aluminum and other nonferrous materials. The C-axis can be indexed in 0.0001 degree increments and is rigidly clamped for high accuracy machining by the unique Mazak clamping system.



	j-200, j-200S	j-200, j-200S High-torque specification OPTION	j-300	j-400
Max. main spindle speed	5000 rpm	5000 rpm	4000 rpm	3300 rpm
Main spindle output	AC 11 kW (15 HP) [40% ED (30 min. rating)]	AC 15 kW (20 HP) [40% ED (30 min. rating)]	AC 18.5 kW (25 HP) [40% ED (30 min. rating)]	AC 22 kW (30 HP) [40% ED (30 min. rating)]
	AC 7.5 kW (10 HP) [cont.rating]	AC 11 kW (15 HP) [cont.rating]	AC 15 kW (20 HP) [cont.rating]	AC 18.5 kW (25 HP) [cont.rating]
Max. torque	143 N·m (105 ft·lbs) [40% ED (30 min. rating)]	140 N·m (103.3 ft·lbs) [40% ED (30 min. rating)]	387 N·m (285 ft·lbs) [40% ED (30 min. rating)]	883.3 N·m (651 ft·lbs) [40% ED (30 min. rating)]
C-axis min. indexing increment	0.0001°	0.0001°	0.0001°	0.0001°
C-axis rapid traverse rate	555 rpm	555 rpm	555 rpm	555 rpm

INTEGREX j-200S with second spindle performs continuous machining

The integral spindle / motor second spindle makes it possible to perform continuous machining from the first to second process. Workpieces features can be matches in phase during workpiece transfer from one spindle to the other to ensure high accuracy.

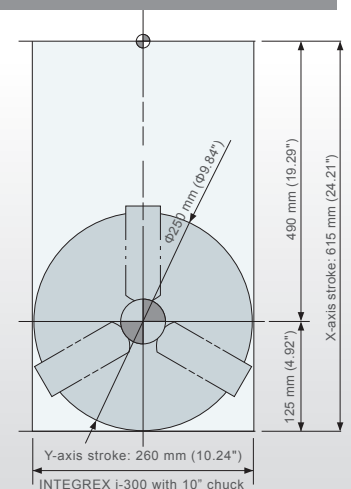
	j-200S
Max. main spindle speed	5000 rpm
Main spindle output	AC 11 kW (15 HP) [40% ED (30 min. rating)]
	AC 7.5 kW (10 HP) [cont.rating]
Max. torque	143 N·m (105 ft·lbs) [40% ED (30 min. rating)]
C-axis min. indexing increment	0.001° (option : 0.0001° + contouring)
C-axis rapid traverse rate	555 rpm



Large machining area

Large machining area provides high productivity with minimum tool interference even for large workpieces.

The long X-and Y-axis strokes allow face milling, end milling, and drilling to be performed in the large machining area without C-axis indexing.



Ergonomic design for convenient operation

Workpiece loading and unloading are extremely convenient thanks to short distances from the floor and machine front to the spindle center line.



Large window

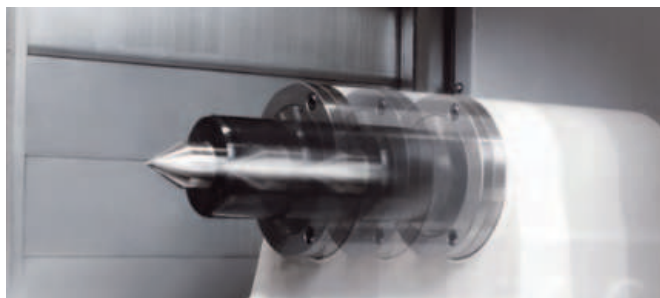
The large front door window allows the operator to easily monitor workpiece machining.



NC tailstock

[INTEGREX j-200, j-300, j-400]

Controlling the movement and setting the thrust force of the tailstock is a simple operation by using the CNC. The operator can set the tailstock position on the setup screen and move the tailstock to the correct position by menu key. The thrust force is set by menu key and M-code by 0.1 kN (22.5 lbs) increments to ensure accurate turning of shaft workpieces.



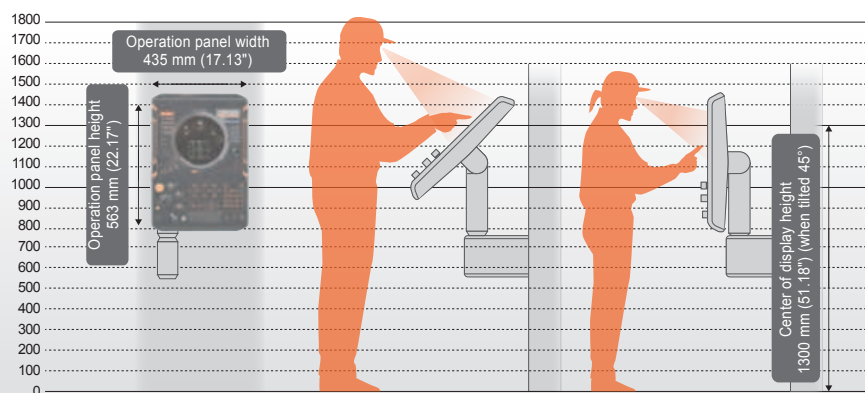
Tool magazine operation panel

The tool magazine operation panel is designed for increased ease of operation. Instead of having just a forward / reverse button for indexing the tool magazine and manually positioning the desired tool pocket, the pocket number or tool number can be input into the operation panel numeric keyboard and the desired pocket will be automatically brought into position. This is standard equipment for the different capacity tool magazines.



Adjustable CNC touch panel

Operation touch panel can be tilted to the optimum position for any operator's height to ensure ease of operation.



Higher Accuracy

High accuracy machining, same as a turning center

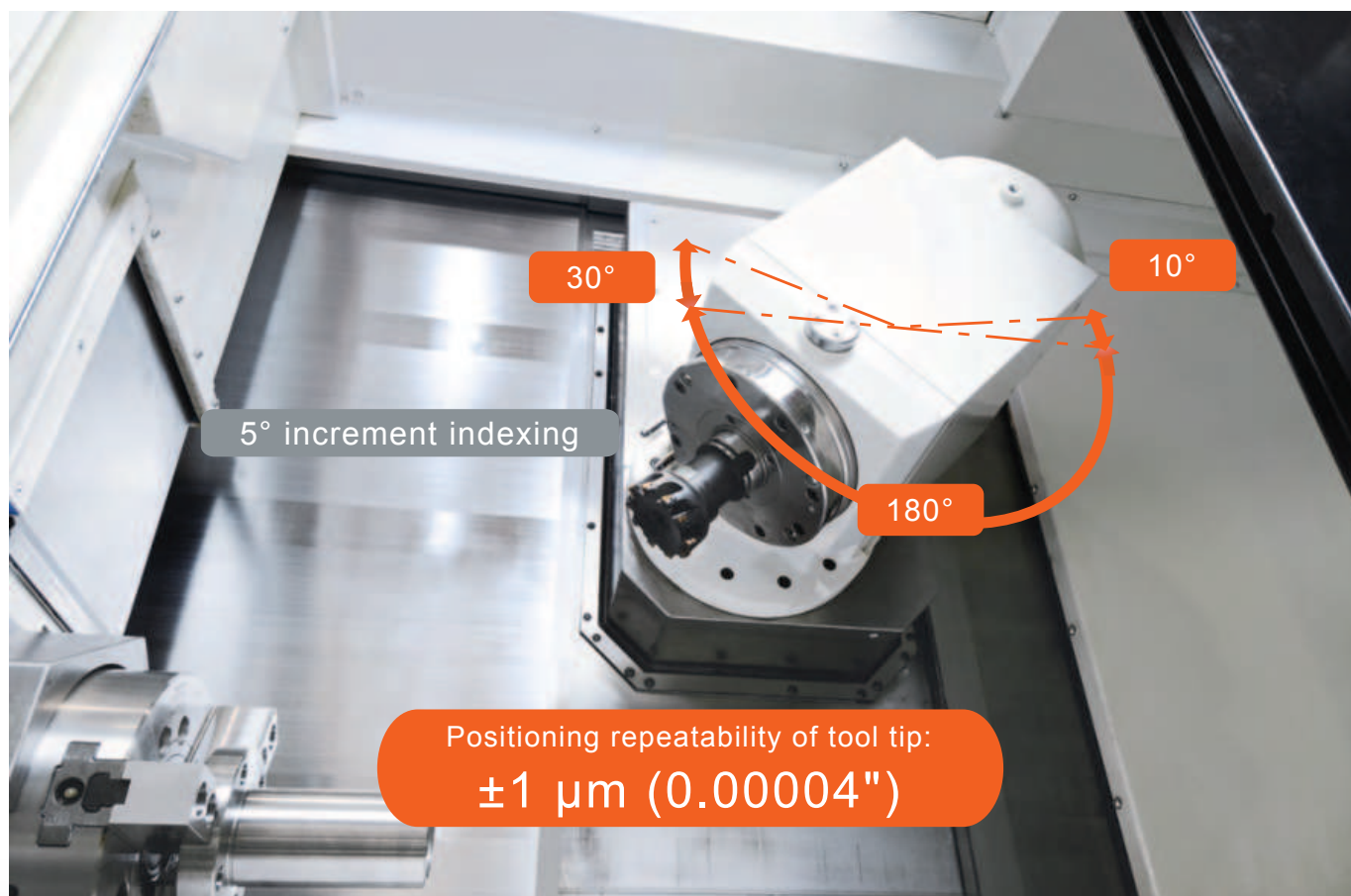
Positioning repeatability of tool tip better than $\pm 1 \mu\text{m}$ (0.00004")

Designed for high accuracy machining thanks to high accuracy coupling

The milling spindle turret (B-axis) is clamped by the high accuracy index coupling to realize high accuracy indexing - the same as a turning center with drum turret. Positioning repeatability of the tool tip is better than $\pm 1 \mu\text{m}$ during automatic tool change. Dust is removed from the tool shank during tool change by an air blast through the spindle for stable continuous high accuracy machining.

Mazak indexing clamp with high-rigidity

High-rigidity and high-cutting power is ensured when turning.



INTEGREX j-200 shown

DBB within 8 μm (0.0003")

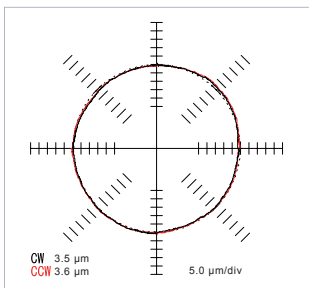
Higher circular interpolation accuracy is realized by high rigidity construction and new high-response servo motors. Mazak Precision Standard : 8 μm (0.0003")

Example results

X-Y plane :
Measured results

3.5 μm (cw)
(0.00014")
3.6 μm (ccw)
(0.00014")

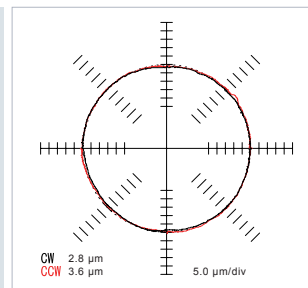
Example results for INTEGREX j-200



Y-Z plane :
Measured results

2.8 μm (cw)
(0.00011")
3.6 μm (ccw)
(0.00014")

Example results for INTEGREX j-200



Positioning accuracy : 2 times better than ISO standard (INTEGREX j-200 500U)

Mazak Precision Standard

Positioning accuracy	X-axis	11 μm (0.00043")
	Y-axis	11 μm (0.00043")
	Z-axis	12.5 μm (0.00049")
	C-axis	11"

Positioning repeatability	X-axis	3 μm (0.00012")
	Y-axis	3 μm (0.00012")
	Z-axis	4 μm (0.00016")
	C-axis	6"

Note) The inspection is conducted according to ISO-230 on a recommended foundation with room temperature controlled to 22°C $\pm$ 1°C (71.6°F $\pm$ 1.8°F) after machine has reached operation temperature.

Ai Thermal Shield

New algorithms automatically determine the amount of compensation to be applied according to changes in the temperature to ensure even higher machining accuracy.



MAZATROL CNC System

Fastest CNC in the world

Latest hardware and software for unprecedented speed and precision

Smooth graphical user interface

MAZATROL Smooth graphical user interface for unsurpassed ease of operation

Touch screen operation - operate similar to your smartphone / tablet

Ease of operation

Designed for unsurpassed ease of operation

Shown with optional dual monitor

4 axes simultaneous CNC

MAZATROL **SMOOTHG**

5 process home screens

Programming, confirmation, editing and tool data registration



SMOOTH MACHINING CONFIGURATION

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



VARIABLE ACCELERATION CONTROL

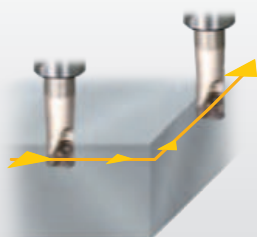
Variable acceleration control is a new function which permits the faster acceleration capability of linear axes to be used whenever possible. The slower acceleration of the rotary axes is not used for all program commands, resulting in faster machining cycle times.

SMOOTH CORNER CONTROL

Improved finished surfaces and reduced cycle times by optimized acceleration / deceleration when machining corners.

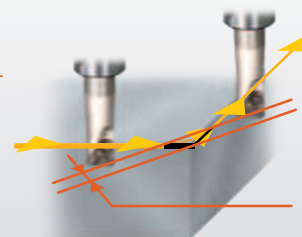
Other systems

Move to next command position after reaching current command position



SMOOTH CORNER CONTROL

Move to next command position within tolerance band



Ease of Programming

Programming screen links tool path, workpiece shape and programming to reduce programming time

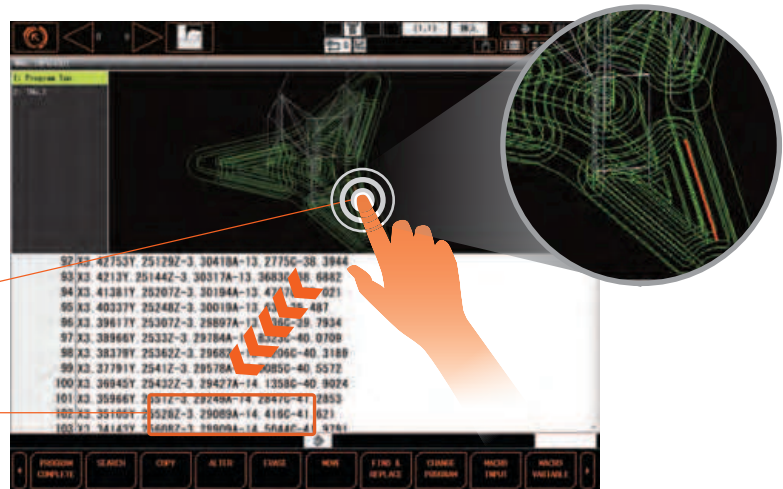
QUICK EIA

[EIA program visualization]

Program, process list and 3D tool path display are linked to each other. Visible search on touch screen can reduce the time for program checking.

Selecting tool path by touching the screen

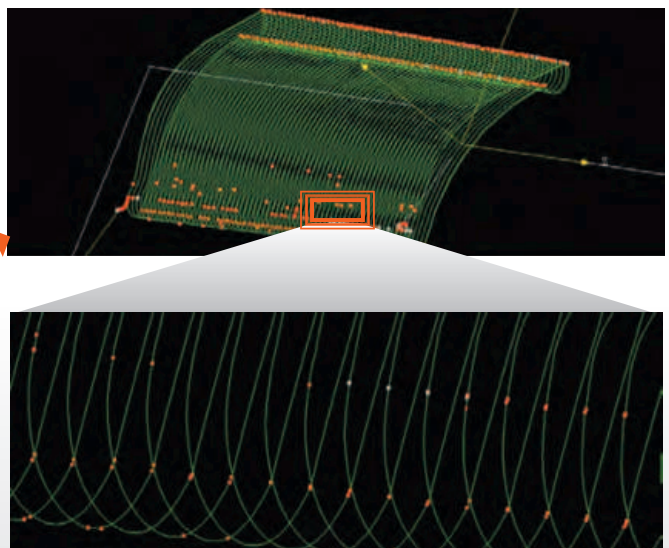
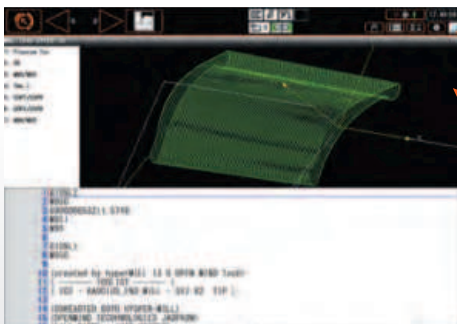
Moving to the corresponding EIA program line



VIEW SURF

[Analyzing EIA programs]

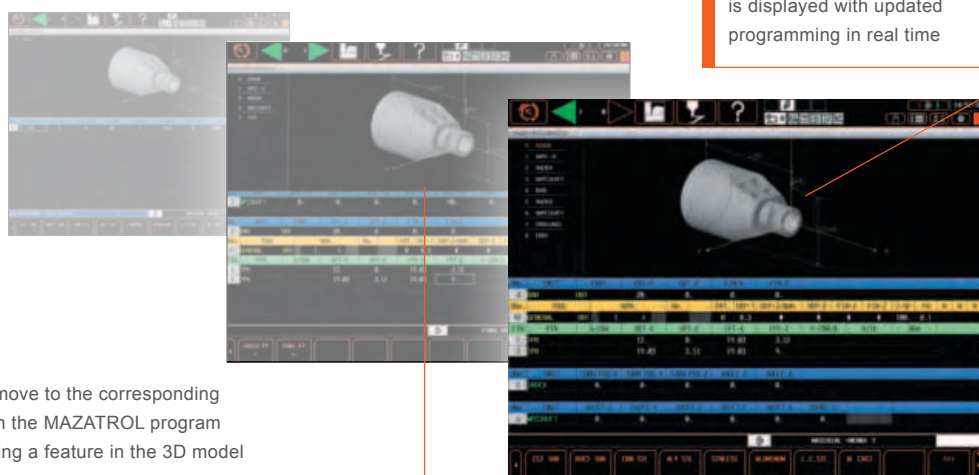
By analyzing tool path, any predictable failure on the finished surface can be visualized. Program modification can be done before machining to minimize the time for test cutting.



QUICK MAZATROL

[Reduced time for conversational programming]

MAZATROL program, unit list and 3D workpiece shape are linked to each other. After defining a machining unit in a MAZATROL program, the 3D shape is immediately displayed to easily and quickly check for any programming error.



3D ASSIST

[Making a program directly from 3D CAD data]

Workpiece and coordinates data can be imported from 3D CAD data to a MAZATROL program. No coordinate value inputs are required. Can reduce input errors and time for program checking.



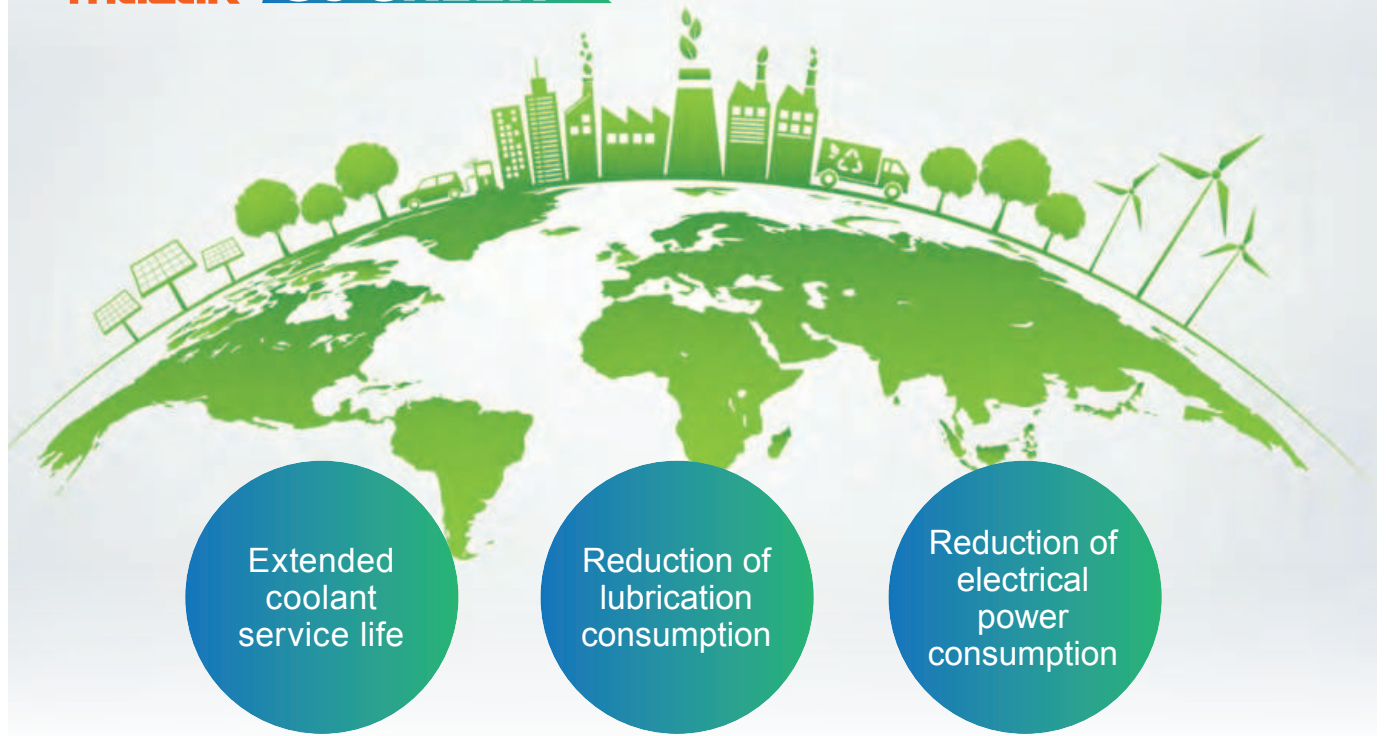
Environmentally Friendly

Designed with environmental considerations

The environment and our impact on natural surroundings have always been important concerns of Yamazaki Mazak.

This is shown by the fact that all factories in Japan where Mazak machine tools are produced are ISO 14001 certified, an international standard confirming that the operation of our production facilities does not adversely affect air, water or land.

Mazak **Go GREEN**



Longer coolant service life

The grease lubrication system for the roller linear guides eliminates tramp oil contaminating the coolant. As a result, the service life of the coolant is extended with longer time periods between disposal.

Lower electrical power consumption

LED lighting with lower electrical power consumption is standard equipment.

The optional chip conveyor is automatically shut off after a predetermined period.



Energy Dashboard

OPTION

The Energy Dashboard provides a convenient visual monitoring of energy consumption and analysis.

Energy consumption displayed on graph

Display approximate CO₂ emission and electrical power cost



Energy consumption by workpieces

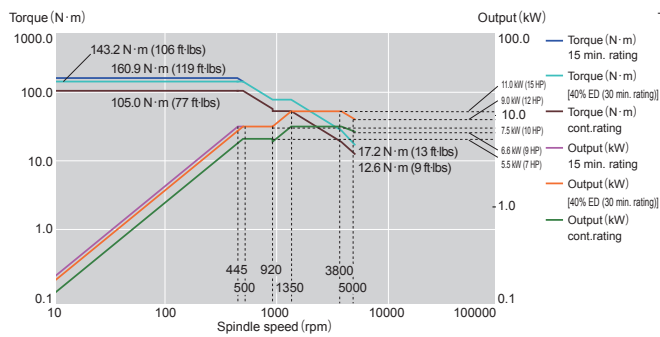
Process screen display

- Total energy consumption (of workpiece in operation)
- Current energy consumption

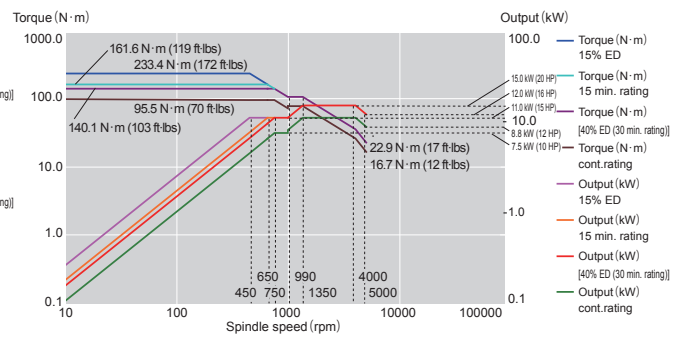


Spindle Output Diagram

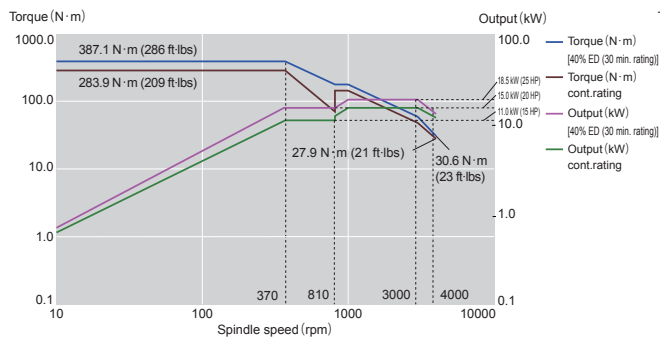
INTEGREX j-200, 200S main spindle (standard)



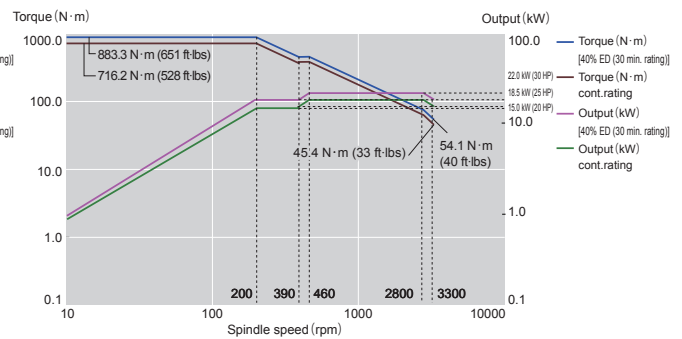
INTEGREX j-200, 200S high-output main spindle (option)



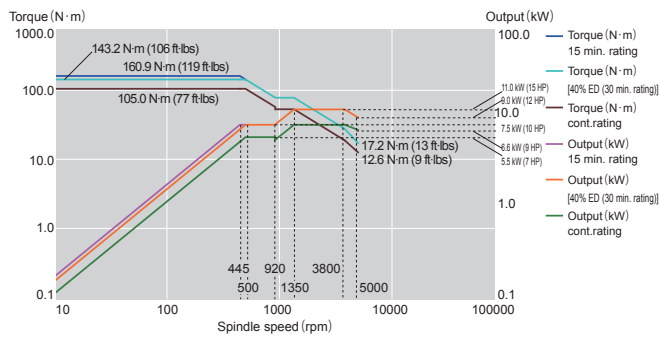
INTEGREX j-300 main spindle (standard)



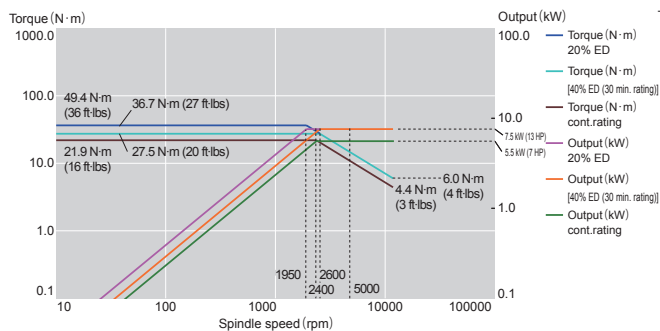
INTEGREX j-400 main spindle (standard)



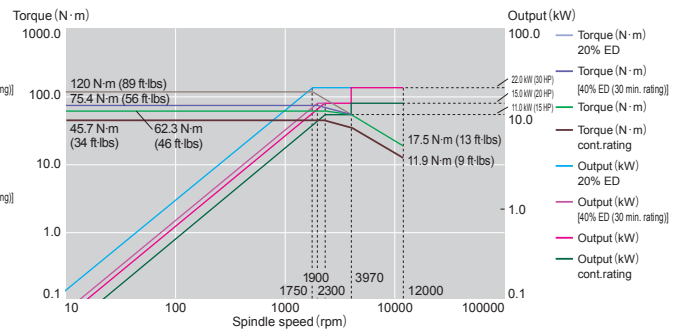
INTEGREX j-200S second spindle (standard)



INTEGREX j-200, 200S milling spindle



INTEGREX j-300, 400 milling spindle



MAZATROL SmoothG Specifications

	MAZATROL	EIA
Number of controlled axes	Simultaneous 2 ~ 4 axes	
Least input increment	0.0001 mm, 0.00001 inch, 0.0001 deg	
High speed, high precision control	Shape compensation, Smooth corner control, Rapid traverse overlap, Rotary axis shape compensation	Shape compensation, Smooth corner control, Rapid traverse overlap, Rotary axis shape compensation, High-speed machining mode, High-speed smoothing control, 5-axis spline**1
Interpolation	Positioning (interpolation), Positioning (non-interpolation), Linear interpolation, Circular interpolation, Cylindrical interpolation, Polar coordinate interpolation, Constant lead threading, Re-threading*, Thread start point compensation*, Thread cut-speed override*, Synchronous tapping*	Positioning (interpolation), Positioning (non-interpolation), Linear interpolation, Circular interpolation, Spiral interpolation, Helical interpolation, Constant lead threading, Variable lead threading, Threading (C-axis interpolation type), Cylindrical interpolation*, Fine spline interpolation*, NURBS interpolation*, Polar coordinate interpolation*, Re-threading*, Thread start point compensation*, Thread cut-speed override*, Synchronous tapping*
Feedrate	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Dwell (time / rotation), Rapid traverse override, Cutting feed override, G0 speed variable control, Feedrate limitation, Variable acceleration control, G0 slope constant*	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Inverse time feed, Dwell (time / rotation), Rapid traverse override, Cutting feed override, G0 speed variable control, Feedrate limitation, Time constant changing for G1, Variable acceleration control, G0 slope constant*
Program registration	Number of programs : 256 (Standard) / 960 (Max.), Program memory : 2 MB, Program memory expansion : 8 MB*, Program memory expansion : 32 MB*	
Control display	Display : 19" touch panel, Resolution : SXGA	
Spindle functions	S code output, Spindle speed limitation, Spindle speed override, Spindle speed reaching detection, Multiple position orient, Constant surface speed, Spindle speed command with decimal digits, Synchronized spindle control, Spindle speed range setting	
Tool functions	Number of tool offset : 4000, T code output for tool number, Tool life monitoring (time), Tool life monitoring (number of machined workpieces), Tool life monitoring (wear)	Number of tool offset : 4000, T code output for tool number, T code output for group number, Tool life monitoring (time), Tool life monitoring (number of machined workpieces), Tool life monitoring (wear)
Miscellaneous functions	M code output, Simultaneous output of multiple M codes	
Tool offset functions	Tool position offset, Tool length offset, Tool diameter / tool nose R offset, Tool nose shape offset, Tool wear offset, Fixed amount offset, Simple wear offset	Tool position offset, Tool length offset, Tool diameter / tool nose R offset, Tool wear offset, Fixed amount offset, Simple wear offset
Coordinate system	Machine coordinate system, Work coordinate system, Local coordinate system, Additional work coordinates (300 set)	
Machine functions	-	Tilted working plane, Polygonal machining*, Hobbing*, Shaping function*, Dynamic compensation I *, Tool center point control**1, Tool radius compensation for 5-axis machining**1, 5-axis tool length compensation**1, 5-axis parameter select**1
Machine compensation	Backlash compensation, Pitch error compensation, Geometric deviation compensation, Ai Thermal shield, Volumetric compensation*	
Protection functions	Emergency stop, Interlock, Pre-move stroke check, Barrier, SAFETY SHIELD (manual mode), SAFETY SHIELD (automatic mode), VOICE ADVISER	
Automatic operation mode	Memory operation	Memory operation, Tape operation, MDI operation, EtherNet operation*
Automatic operation control	Optional stop, Dry run, Manual handle interruption, MDI interruption, TPS, Restart, Single process, Machine lock	Optional block skip, Optional stop, Dry run, Manual handle interruption, MDI interruption, TPS, Restart, Restart 2, Collation stop, Machine lock
Manual measuring functions	Tool length teach, Touch sensor coordinates measurement, Workpiece offset measurement, WPC coordinate measurement, Measurement on machine, Tool eye measurement	Tool length teach, Tool offset teach, Touch sensor coordinates measurement, Workpiece offset measurement, Measurement on machine, Tool eye measurement
Automatic measuring functions	WPC coordinate measurement, Automatic tool length measurement, Workpiece measurement, Sensor calibration, Tool eye auto tool measurement, Tool breakage detection	Automatic tool length measurement, Workpiece measurement, Sensor calibration, Tool eye auto tool measurement, Tool breakage detection
MDI measurement	Coordinate measurement	
Interface	PROFIBUS-DP*, EtherNet/IP*, CC-Link*, CC-Link IE Field Basic	
Card interface	SD card interface, USB	
EtherNet	10 M / 100 M / 1 Gbps	
Security function	Security software*	

* Option

**1 Simultaneous 4-axis control

Standard Machine Specifications

		INTEGREX j-200		INTEGREX j-200S
		500U	1000U	
Capacity	Max. swing / Swing over cross slide	Φ530 mm (Φ20.87")	Φ530 mm (Φ20.87")	Φ530 mm (Φ20.87")
	Max. machining diameter **	Φ500 mm (Φ19.69")	Φ500 mm (Φ19.69")	Φ500 mm (Φ19.69")
	Max. machining length	500 mm (19.69")	1016 mm (40")	910 mm (35.83")
	Max. bar work capacity	Φ65 mm (Φ2.56")	Φ65 mm (Φ2.56")	Φ65 mm (Φ2.56")
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 (Φ2.99")	Φ76 mm (Φ2.99")	Φ76 mm (Φ2.99")
	Bearing ID (front side)	Φ110 mm (Φ4.33")	Φ110 mm (Φ4.33")	Φ110 mm (Φ4.33")
	Min. indexing increment	0.0001°	0.0001°	0.0001°
Second spindle	Spindle speed *2	—	—	5000 rpm
	Spindle nose	—	—	A2-5"
	Spindle bore	—	—	Φ61 mm (Φ2.4")
	Bearing ID (front side)	—	—	Φ90 mm (Φ3.54")
	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 (30 min. rating)) (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 *3	Φ125 mm (Φ4.92")	Φ125 mm (Φ4.92")	Φ125 mm (Φ4.92")
	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 (30 min. rating)) (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 (30 min. rating)) (cont. rating)	— —	— —	AC 11 kW (15 HP) AC 7.5 kW (10 HP)
	Milling spindle motor (40% ED (30 min. rating)) (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	1.1 kW (60 Hz)	1.1 kW (60 Hz)	1.1 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
	Air source	0.5 MPa (72.5 PSI), 360 L/min (12.71 ft³/min), 400 (14.13) (max.)	0.5 MPa (72.5 PSI), 360 L/min (12.71 ft³/min), 400 (14.13) (max.)	0.5 MPa (72.5 PSI), 410 L/min (14.48 ft³/min), 450 (15.89) (max.)
Coolant	Tank capacity	150 L (40 gal)	180 L (48 gal)	205 L (54 gal)
Machine size	Machine height *4	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 spindle is limited by the chuck specifications. Spindle speed and maximum turning length depend on chuck specifications

*3 With optional 36 / 72 tool magazine : Φ90 mm (Φ3.54") [With adjacent pockets empty : Φ125 mm (Φ4.92")]

*4 With optional 36 / 72 tool magazine : 2500 mm (98.43")

		INTEGREX j-300		INTEGREX j-400	
		650U	1200U	650U	1200U
Capacity	Max. swing / Swing over cross slide	Φ640 mm (Φ25.2") ^{*4}	Φ640 mm (Φ25.2") ^{*4}	Φ640 mm (Φ25.2") ^{*4}	Φ640 mm (Φ25.2") ^{*4}
	Max. machining diameter ^{*1}	Φ500 mm (Φ19.69")	Φ500 mm (Φ19.69")	Φ500 mm (Φ19.69")	Φ500 mm (Φ19.69")
	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 (Φ3.15")	Φ80 mm (Φ3.15")	Φ102 mm (Φ4.02")	Φ102 mm (Φ4.02")
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 (30 min. rating)) (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, KM4X63)	HSK-A63 (T63) (Option:CAPTO C6, KM63, KM4X63)	HSK-A63 (T63) (Option:CAPTO C6, KM63, KM4X63)	HSK-A63 (T63) (Option:CAPTO C6, KM63, KM4X63)
	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 ^{*3}	Φ125 mm (Φ4.92")	Φ125 mm (Φ4.92")	Φ125 mm (Φ4.92")	Φ125 mm (Φ4.92")
	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)	MT 5 (Built-in center)
Motors	Main Spindle motor (40% ED (30 min. rating)) (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 (30 min. rating)) (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	1.1 kW (60 Hz)	1.1 kW (60 Hz)	1.1 kW (60 Hz)	1.1 kW (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), 200 L/min (7.06 ft ³ /min), 250 (8.83) (max.)	0.5 MPa (72.5 PSI), 200 L/min (7.06 ft ³ /min), 250 (8.83) (max.)	0.5 MPa (72.5 PSI), 200 L/min (7.06 ft ³ /min), 250 (8.83) (max.)	0.5 MPa (72.5 PSI), 200 L/min (7.06 ft ³ /min), 250 (8.83) (max.)
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)

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

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

^{*3} With optional 36 / 72 tool magazine : Φ90 mm (Φ3.54") [With adjacent pockets empty : Φ125 mm (Φ4.92")]

^{*4} With optional 36 / 72 tool magazine : Φ660 mm (Φ25.98")

Standard and Optional Equipment

● : Standard ○ : Option – : N/A

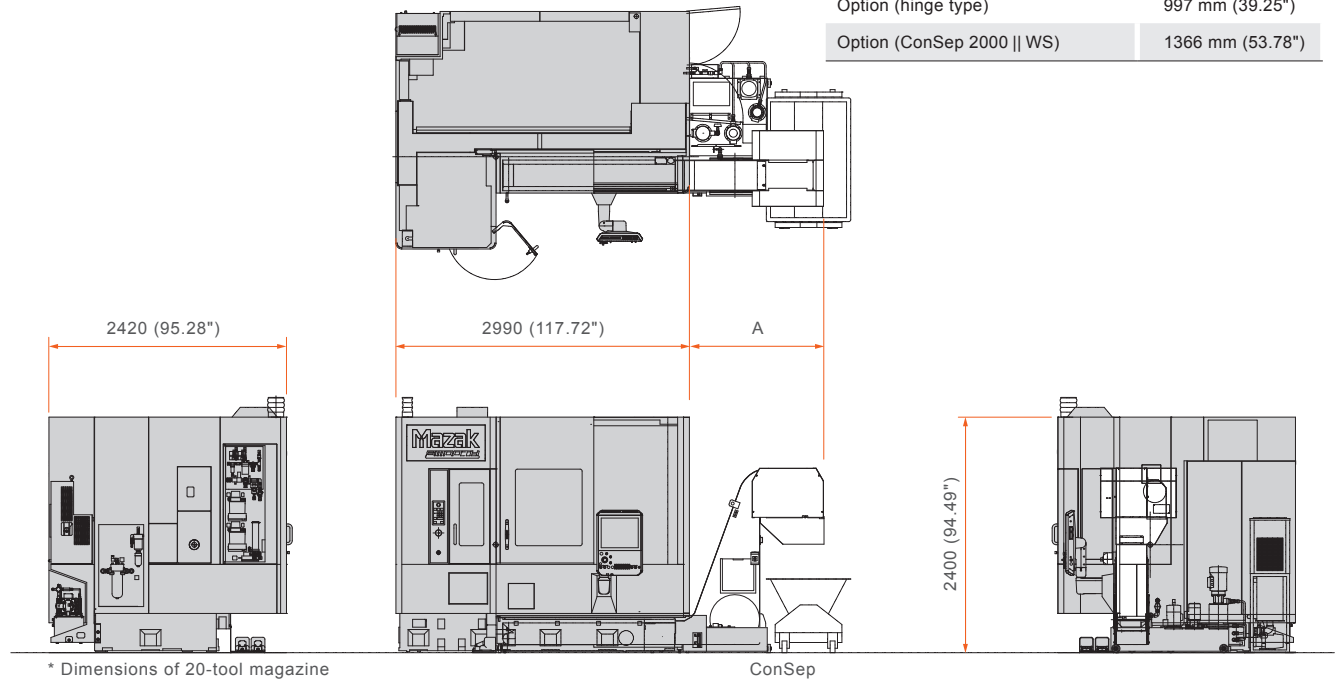
		INTEGREX j-200		INTEGREX j-200S	INTEGREX j-300		INTEGREX j-400	
		500U	1000U		650U	1200U	650U	1200U
Machine	8" non through-hole chuck N-08A0615 (Kitagawa)	○	○	○	–	–	–	–
	8" through-hole chuck B-208A615 (Kitagawa) [Φ51 mm (Φ2.01")]*	●	●	●	–	–	–	–
	8" through-hole chuck BB-08 (Kitagawa) [Φ65 mm (Φ2.56")]*	○	○	○	–	–	–	–
	8" through-hole chuck BR-08 (Kitagawa) [Φ65 mm (Φ2.56")]	○	○	○	–	–	–	–
	Second spindle 8" through-hole chuck (B-208A615 + non through-hole cylinder)	–	–	●	–	–	–	–
	10" non through-hole chuck N-10A0815 (Kitagawa)	–	–	–	○	○	–	–
	10" through-hole chuck B-210A0815X (Kitagawa) [Φ77 mm (Φ3.03")]*	–	–	–	●	●	–	–
	10" through-hole chuck BB-210A0815 (Kitagawa) [Φ80 mm (Φ3.15")]*	–	–	–	○	○	–	–
	10" through-hole chuck BR-10 (Kitagawa) [Φ80 mm (Φ3.15")]	–	–	–	○	○	–	–
	12" non through-hole chuck N-12A0815 (Kitagawa)	–	–	–	○	○	–	–
	12" through-hole chuck B-212A0815 (Kitagawa) [Φ80 mm (Φ3.15")]*	–	–	–	○	○	–	–
	12" non through-hole chuck N-12A0815 (Kitagawa)	–	–	–	–	–	○	○
	12" through-hole chuck B-212A0815X (Kitagawa) [Φ102 mm (Φ4.02")]*	–	–	–	–	–	●	●
	15" non through-hole chuck N-15A0815 (Kitagawa)	–	–	–	–	–	○	○
	15" through-hole chuck B-15A0815 (Kitagawa) [Φ102 mm (Φ4.02")]*	–	–	–	–	–	○	○
	Collet chuck SAD65	○	○	○	–	–	–	–
	High / low chuck pressure	○	○	○	○	○	○	○
	B-axis 5° index	●	●	●	●	●	●	●
	B-axis 1° index	○	○	○	○	○	○	○
	20 tool magazine	●	●	●	●	●	●	●
	36 tool magazine	○	○	○	○	○	○	○
	72 tool magazine	○	○	○	○	○	○	○
	Live center LC-5SW (5000 rpm) (NSK)	●	–	–	○	–	○	–
	Live center LC-5A (2000 rpm) (NSK)	○	–	–	●	–	●	–
	Automatic steady rest	–	○	–	–	○	–	○
	Fixed steady rest [Φ30 mm ~ Φ220 mm (Φ1.18" ~ Φ8.66")]	–	–	–	–	○	–	○
	Double foot pedal switch	○	○	○	○	○	○	○
	NC tailstock (MT5 dead center)	●	–	–	●	–	●	–
	NC tailstock (MT4 built-in center)	○	●	–	–	–	–	–
	NC tailstock (MT5 built-in center)	–	–	–	○	●	○	●
High accuracy	Scale feedback (X-, Y-, Z-axis)	○	○	○	○	○	○	○
	Coolant temperature control	○	○	○	○	○	○	○
	Ball screw core cooling (X-axis)	●	●	●	●	●	●	●
	Ball screw core cooling (Y-axis)	○	○	○	○	○	○	○
	Ball screw core cooling (Z-axis)	●	●	●	○	○	○	○
Safety equipment	Hydraulic pressure interlock	●	●	●	●	●	●	●
	Chuck jaw open / close confirmation	●	●	●	●	●	●	●
	Overload detection system	○	○	○	○	○	○	○
Factory automation	Tool eye (automatic)	●	●	●	●	●	●	●
	Automatic chuck jaw open / close	●	●	●	●	●	●	●
	Tool breakage detection on magazine side	○	○	○	○	○	○	○
	Mazak Monitoring System B (RMP60)	○	○	○	○	○	○	○
	Bar feeder interface	○	○	○	○	○	○	○
	Automatic parts catcher	○	○	○	○	○	○	○
	Automatic front door	○	○	○	○	○	○	○
	Auto power on / off + warm-up	●	●	●	●	●	●	●
	Status light (3 colors)	○	○	○	○	○	○	○
	Status light (1 color / machining end : yellow)	○	○	○	○	○	○	○
	Status light (1 color / alarm : red)	○	○	○	○	○	○	○
	Visual tool ID / tool management preparation	○	○	○	○	○	○	○
	EIA / ISO code input	●	●	●	●	●	●	●
	Robot interface	○	○	○	○	○	○	○

* Bar capacity of chuck
Standard chuck varies by market.

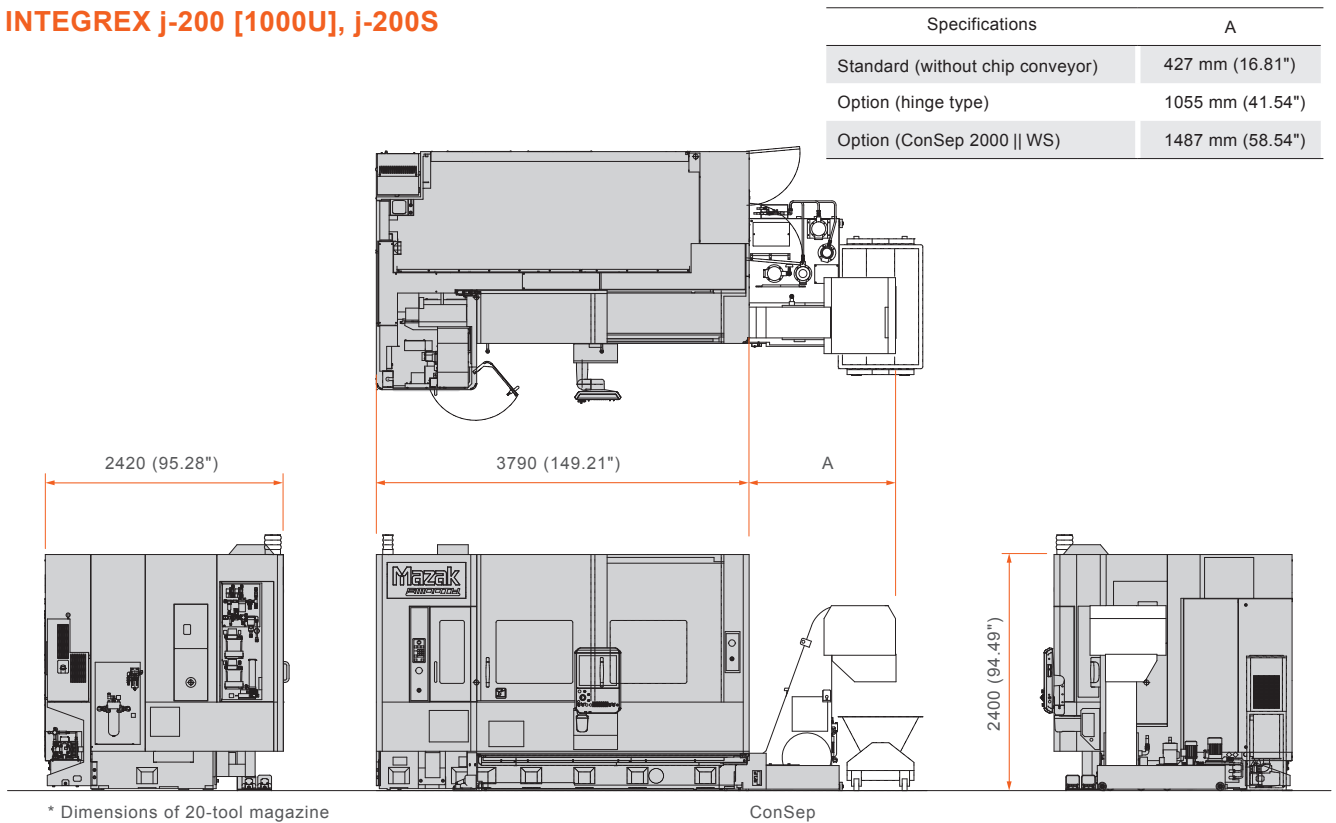
● : Standard ○ : Option – : N/A

		INTEGREX j-200		INTEGREX j-200S	INTEGREX j-300		INTEGREX j-400	
		500U	1000U		650U	1200U	650U	1200U
Coolant / chip disposal	Chip pan	●	●	●	●	●	●	●
	Chip conveyor (side discharge , hinge)	○	○	○	○	○	○	○
	Chip conveyor (side discharge , ConSep)	○	○	○	○	○	○	○
	Chip bucket (swing type)	○	○	○	○	○	○	○
	Chip bucket (fixed type)	○	○	○	○	○	○	○
	Coolant through milling spindle	●	●	●	●	●	●	●
	High pressure coolant 1.5 MPa (220 PSI) (with chiller unit)	○	○	○	–	–	–	–
	High pressure coolant 1.5 MPa (220 PSI) (without chiller unit)	–	–	–	○	○	○	○
	SUPERFLOW coolant system (without chiller)	○	○	○	○	○	○	○
	Shower coolant	–	○	○	○	○	○	○
	Workpiece cleaning coolant (HD1)	○	○	○	○	○	○	○
	Chuck jaw coolant & air blast (HD1)	○	○	○	○	○	○	○
	Air blast through spindle (HD1)	○	○	○	○	○	○	○
	Chuck jaw air blast	○	○	○	○	○	○	○
	Chuck jaw air blast (second spindle)	–	–	●	–	–	–	–
	Turret air blast (flood coolant nozzle)	○	○	○	○	○	○	○
	Oil skimmer	○	○	○	○	○	○	○
	Preparation for mist collector	○	○	○	○	○	○	○
Others	Additional M function	○	○	○	○	○	○	○
	Manual CD	●	●	●	●	●	●	●
	Additional manual CD	○	○	○	○	○	○	○
	Dual monitor for MAZATROL SmoothG CNC	○	○	○	○	○	○	○

INTEGREX j-200 [500U]

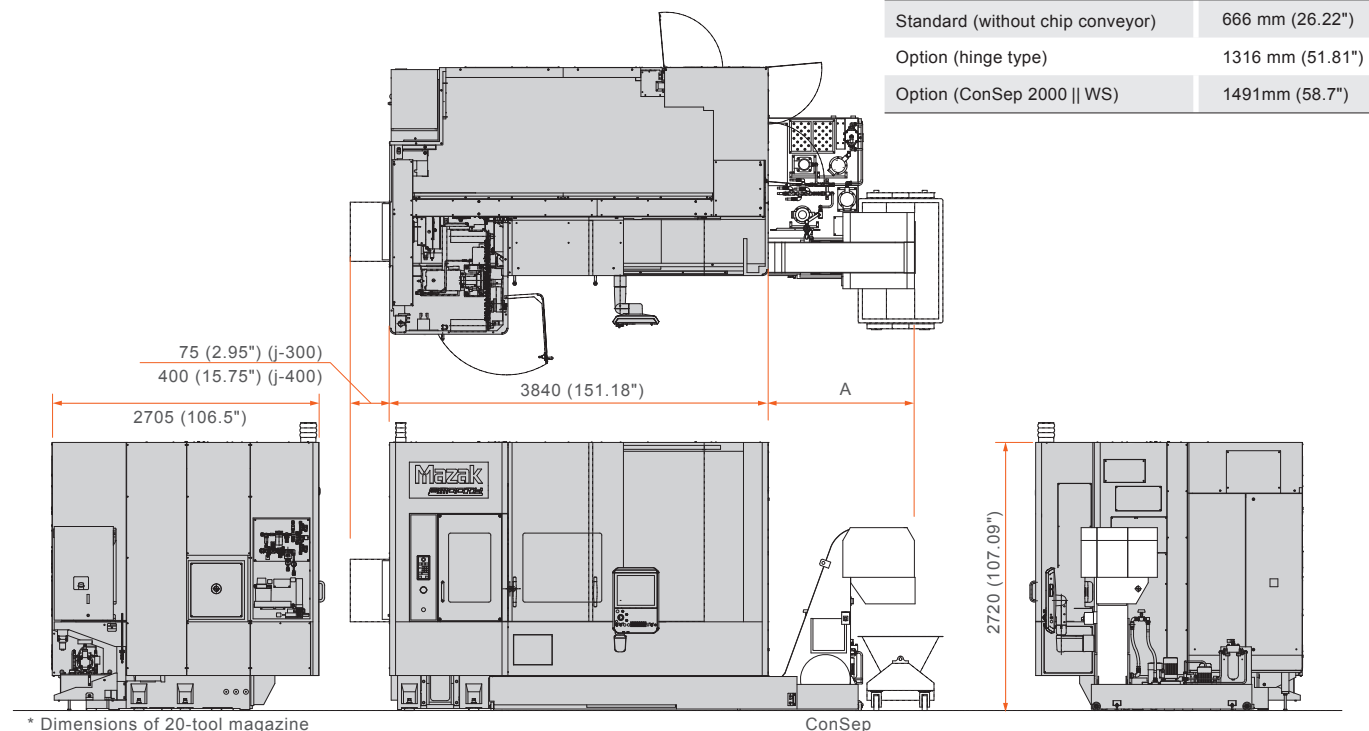


INTEGREX j-200 [1000U], j-200S

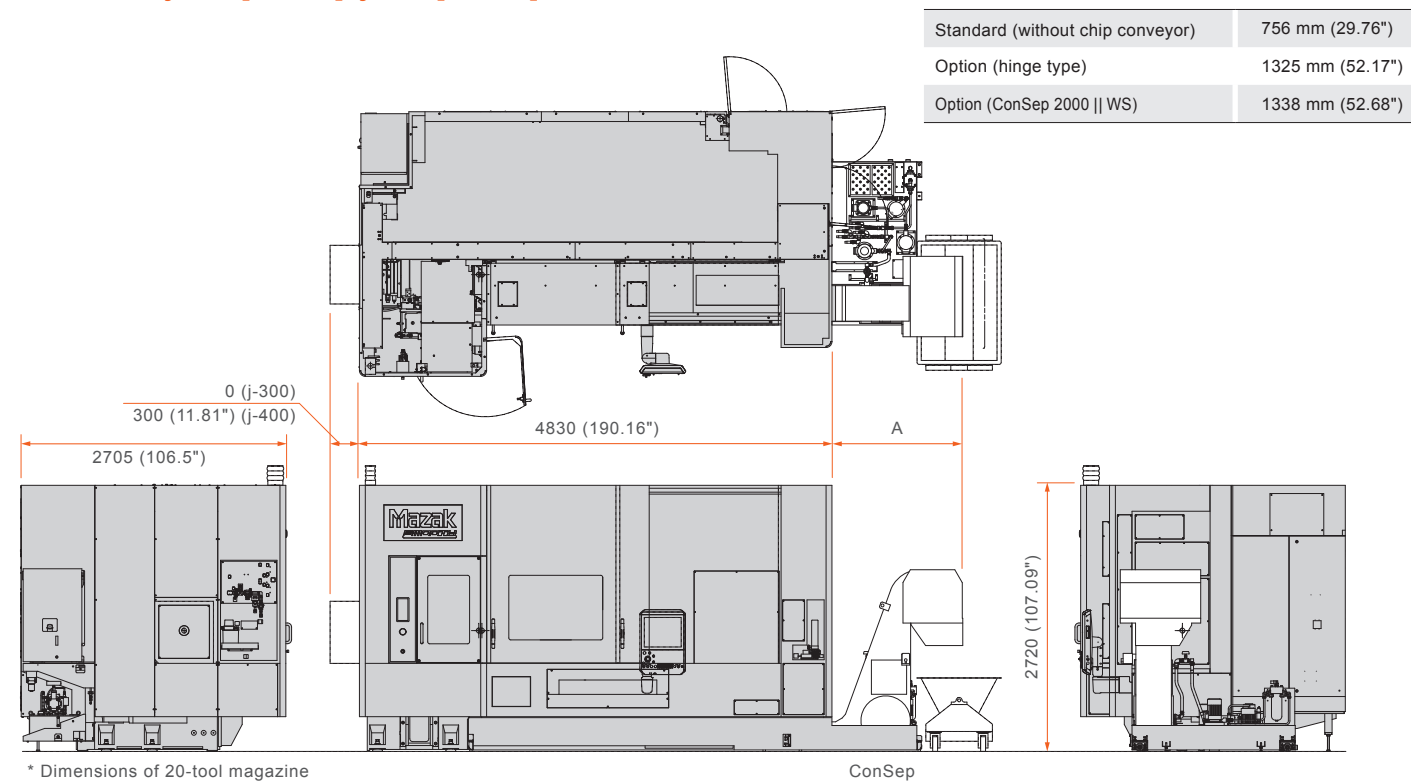


Unit : mm (inch)

INTEGREX j-300 [650U], j-400 [650U]



INTEGREX j-300 [1200U], j-400 [1200U]





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