OKUMA

OPEN POSSIBILITIES

MCR-BV

Double-Column Machining Center
[5-Face Machining]

MCR-BV

Double-Column Machining Center
[5-Face Machining]

Intelligent Technology | Thermo-Friendly Concept | Collision Avoidance System | Machining Navi | SERVONAVI

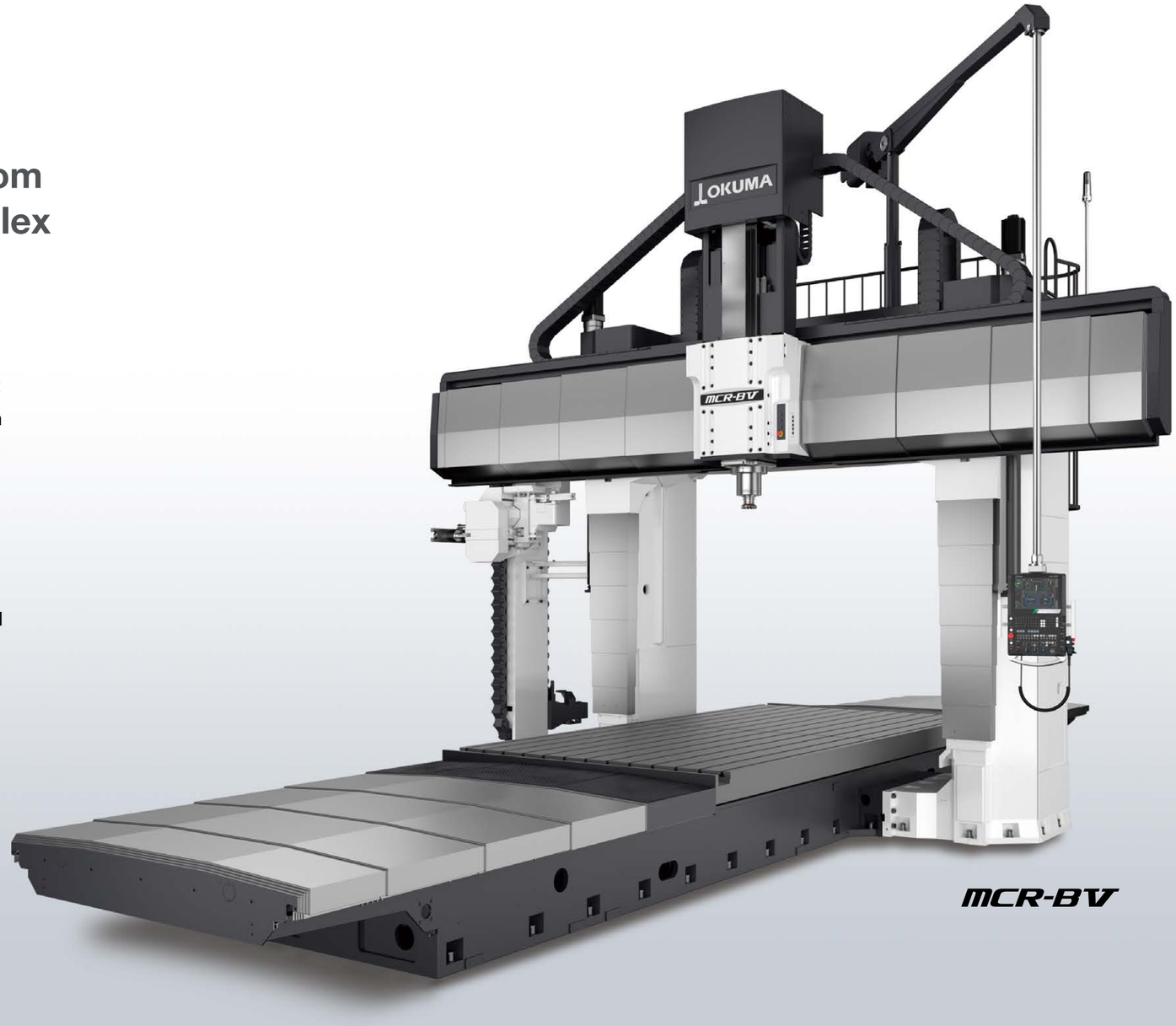
Supporting a wide range of machining from powerful cutting of large parts with complex shapes to high-accuracy finishing

The use of an integral motor/spindle provides high torque and high output that enables a wide range of high-quality machining from heavy-duty cutting of iron and castings to high-efficiency machining of aluminum parts.

Equipped with Thermo-Friendly Premium specifications, AbsoScale detection, and 3D Calibration as standard equipment to achieve stable machining accuracy even during long-term continuous operation.

A selection of attachment heads is available that can process complex-shaped parts at optimal conditions.

The MCR-BV is a highly versatile machine that can be used in a wide range of machining applications.



Photographs and images used in this brochure may include optional equipment.
Not showing full-enclosure shielding and other items.

Double-column machining center for 5-face applications greatly contributes to productivity improvement with a power-up spindlehead and abundant attachment heads

As a double-column machining center for 5-face applications that meets a wide variety of processing requirements in the machining markets for large parts like the general machinery, vehicles, ships, and aircraft parts industries.

By reducing cycle times, expanding work envelopes, and improving workability, it greatly contributes to the improvement of productivity.

Powerful cutting reduces cycle times

A high torque, high output integral motor/spindle is used as standard equipment for the spindle, and cycle times are shortened by powerful cutting.
Chip volume: 1,170 cm^3/min . . . Spindle motor max output: 43 kW, max torque: 1,406 N-m

Expanding work envelopes and providing speedups

Expanded effective width between columns, extended table travels, expanded work envelopes, and increased rapid traverse rates
Rapid traverse . . . X-axis: 30 m/min, Y-axis: 32 m/min
(Previous model . . X-axis: 15 m/min, Y-axis: 20 m/min)

High-accuracy machining specifications as standard

Three specifications are used as standard for high-accuracy machining.

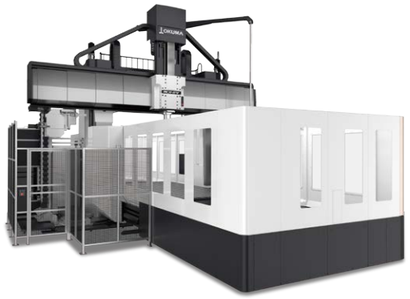
- Thermo-Friendly Premium that suppress thermal deformation
- AbsoScale Detection that makes possible highly accurate positioning
- 3D Calibration for volumetric accuracy comparisons

High efficiency with abundant number of attachment heads, for wide-range multitasking machining at will

The wide variety of previous attachment heads can also be used.

Improved maintainability by improving chip discharge capacity

Double the amount of chips discharged by expanding the in-machine conveyor width



X-axis travel (table front /back)	mm	3,200 to 12,200
Y-axis travel (spindlehead L/R)	mm	3,200, 3,700, 4,200
Z-axis travel (ram up/down)	mm	800
W-axis travel (crossrail up/down)	mm	1,000, 1,200
Effective width between columns	mm	2,650, 3,150, 3,650
Speed range	min^{-1}	30 to 6,000
Table size	mm	2,000 × 3,000 to 3,000 × 12,000
Table maximum load	kg	18,000 to 72,600

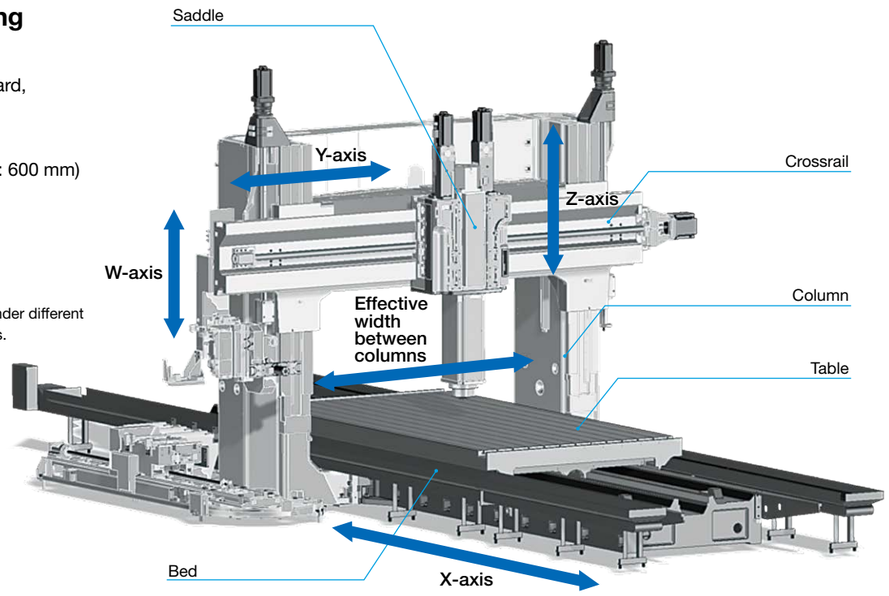
Okuma double-column machining centers– highly rigid and accurate construction

Shortening of cycle times by powerful cutting

By using a high torque, high output integral motor/spindle as standard, it is possible to handle power cutting to high precision finishing.

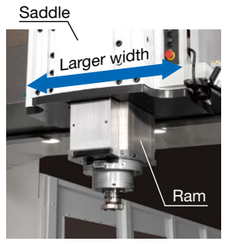
- Machining capacity: **1,170 cm³/min**
  (workpiece material: S45C, Z-axis protrusion: 600 mm)
- Spindle speed: 6,000 min⁻¹
- Maximum output: high speed 43/37 kW (60 min/cont)
  low speed 43/30 kW (10 min/cont)
- Maximum torque: 1,406/981 N-m (10 min/cont)

Note: The data shown here represent "actual data," which may not be obtained under different environmental, machine specifications, tooling, cutting, and other conditions.



Increased spindlehead rigidity

The saddle which encases the ram is 100 mm wider and more rigid than the previous model.



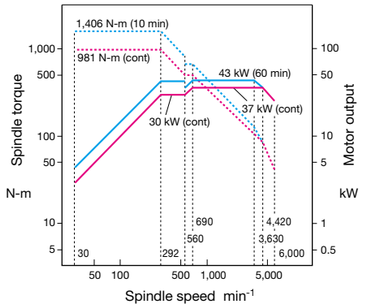
Spindle variations available for wider cutting ranges

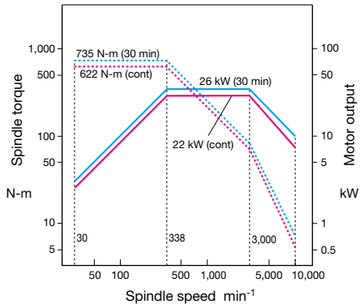
■ Standard spindle

- Spindle speed: 6,000 min⁻¹
- Max output: high speed 43/37 kW (60 min/cont)
  low speed 43/30 kW (10 min/cont)
- Max torque: 1,406/981 N-m (10 min/cont)

■ 10,000 min⁻¹ Spindle (option)

- Spindle speed: 10,000 min⁻¹
- Max output: 26/22 kW (30 min/cont)
- Max torque: 735/622 N-m (30 min/cont)





Increased table rigidity

Equipped with a high-rigidity table that can withstand the weight of large workpieces and high cutting forces.

The table is 30% thicker than the previous model.

Rapid traverse rate improved

- Rapid traverse ... X-axis: **30 m/min*** double the previous model
  Y-axis: **32 m/min** 1.6 times that of the previous model
  * X-axis travel: 6,700 mm or less

Larger work envelope

The work envelope has been made bigger by extending the X-axis travel distance and widening the effective width between columns. Ex: 30 × 50 type

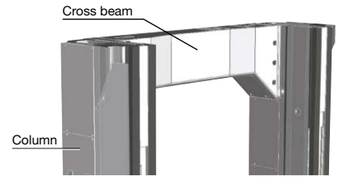
- X-axis travel: **5,200 mm**
  +200 mm compared to the previous model
- Effective width between columns: **3,150 mm**
  +100 mm compared to the previous model

Double-column construction with square columns

The double-column structure with square columns has sufficient rigidity for vertical, horizontal, and twisting loads, withstanding heavy-duty cutting and maintaining high accuracy.

Cross beam optimization

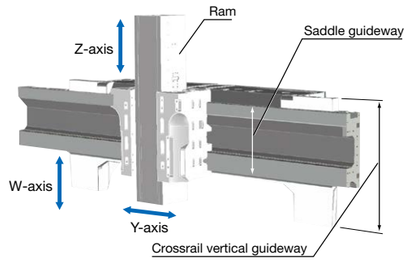
A simple structure is achieved with integration of the top beam and cross beam based on structural analysis for the best design. Stable quality is maintained over long times.



Crossrail vertical guideway

(Crossrail vertical movement: W-axis)

The crossrail elevating guideways are designed with sufficient length for little zig-zag motion and a long high-accuracy service life.

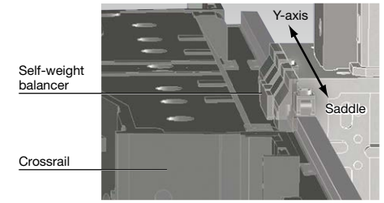


Spindlehead guideways

(Spindlehead left/right travel: Y-axis)

The spindlehead guideway has a highly rigid rectangular cross-sectional geometry. It is also supported by a self-weight balancing device via a roller on the crossrail.

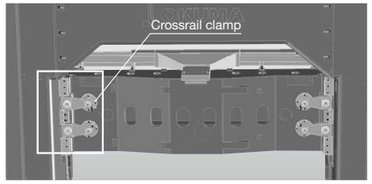
High quality machined surfaces and fast, accurate movements are obtained with these structures.



Crossrail clamp

(Crossrail vertical movement: W-axis)

Powerful clamping devices that apply the principle of levers are used on crossrail clamps for powerful machining.

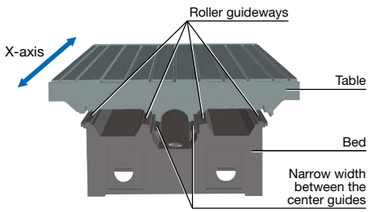


Roller guide system for table guide

(Table front/back movement: X-axis)

The table moves with a roller guideway and the heavy weight of the table and workpiece is supported with four roller bearings on hardened and ground guideways. This allows for agile, smooth movements and accurate positioning unaffected by weight changes from heavy workpiece loads.

The layout puts the drive system (ball screw) in the center of the table and narrow, horizontal roller guideways. This can maintain stable, outstanding linear motion straightness over the long term.



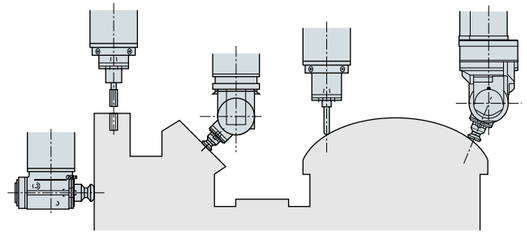
Achieve high efficiency with a full array of attachment heads, ATC/AAC, and a wider range of multitasking applications at will

Abundant range of attachment heads

All kinds of shapes can be machined under the best conditions with the abundant variation of attachments.

Many different processes can be performed continuously in auto operation with the auto tool changer (ATC) and auto attachment changer (AAC), greatly increasing productivity.

For oil hole, air hole, thru-spindle coolant, oil mist, and dual contact specifications for each attachment head (some specifications not available).



■ Attachment head variations

Extension head		
	L150	4,000 min^{-1} (43 kW), 6,000 min^{-1} (30 kW), High output spec: 6,000 min^{-1} (43 kW)
	L250	4,000 min^{-1} (37 kW), 6,000 min^{-1} (26 kW), 10,000 min^{-1} (26 kW) High output spec: 4,000 min^{-1} (43 kW), 6,000 min^{-1} (30 kW)
	Others, L350, L450, L500, L600 20,000 min^{-1}, Thru-spindle coolant spec, etc.	
90° angular head		
	L150	3,000 min^{-1} (30 kW), 6,000 min^{-1} (22 kW)
	L250	3,000 min^{-1} (30 kW), 6,000 min^{-1} (22 kW)
	Others, L355, C-axis: 1 indexing, Thru-spindle coolant spec, High output spec: L270 3,000 min^{-1} (43 kW), etc.	
Special angular head		
	30°	2,000 min^{-1} (22 kW), 6,000 min^{-1} (7.5 kW), 15,000 min^{-1} (11.2 kW)
	45°	2,000 min^{-1} (22 kW)
	Others, Thru-spindle coolant spec, etc.	
Universal index head (B-/C-axis)		
	B-/C-axis: 5 indexing	2,000 min^{-1} (15 kW), 6,000 min^{-1} (15 kW)
	B-axis: 1 indexing, C-axis: 5 indexing	2,000 min^{-1} (15 kW), 6,000 min^{-1} (15 kW)
	B-/C-axis: 1 indexing	2,000 min^{-1} (15 kW), 6,000 min^{-1} (15 kW)*, 20,000 min^{-1} (15 kW)*
	* Thru-spindle coolant spec available However, the maximum output is 12 kW with the 6,000 min^{-1} thru-spindle coolant spec.	
NC-BC universal head		
	L830	6,000 min^{-1} (26 kW)
	L890	10,000 min^{-1} (15 kW)
	L940	Thru-spindle coolant spec: 6,000 min^{-1} (20 kW)
	L945	20,000 min^{-1} (15 kW)
	L1000	Thru-spindle coolant spec: 10,000 min^{-1} (12 kW)

Notes: Please consult for applications which may have restrictions.
Maximum output is shown in parenthesis.

MCR-BⅡ and -BⅢ attachment heads can also be used

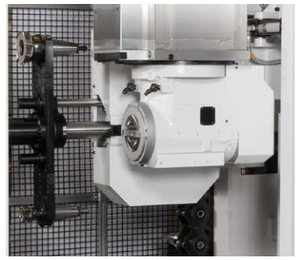
A wide variety of the previous attachment heads can be used.
Additional specs may be needed for the machine depending on the type of attachment head.

Fast ATC (Automatic Tool Changer)

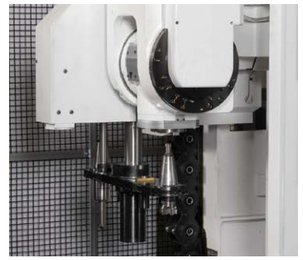
One ATC arm performs the changes for both the horizontal and vertical spindles. And with the next tool brought to the standby position during a machining operation, the actual tool change can be done in the shortest time possible.

The ATC can be used with a variety of attachment heads: extension, 90° angular, special angular, and B-/C-axis universal index heads.

Extension head



90° angular head



Universal index head

Smaller and faster AAC (Automatic Attachment Changer)

Completely automate machining of multiple sides with a variety of attachment heads that mount automatically and accept ATC.

Auto attachment head change: Attachment station moves near the spindlehead below the crossrail, then attachments are changed.

The attachment head station is set at the rear of the ATC magazine behind the column.

Changings heads: extension to 90°angular

Changings heads: extension to B-/C-axis universal index

Changings heads: B-/C-axis universal index to 90°angular

High accuracy is enabled in normal factory environments

Thermo-Friendly Concept
Manageble Deformation — Accurately Controlled

■ Eliminate waste with the Thermo-Friendly Concept

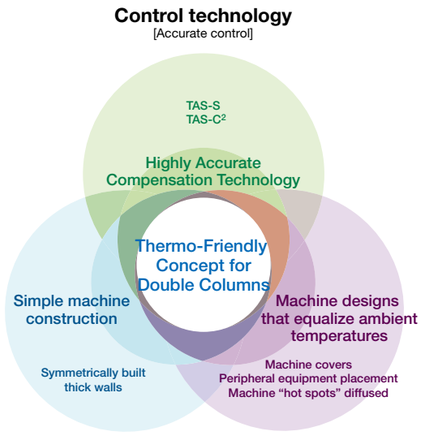
Okuma's Thermo-Friendly Concept achieves high dimensional stability not only when the room temperature changes, but also at machine startups or when machining is resumed.

The warm-up operation time to stabilize thermal deformation is shortened, and the burden of dimensional correction when resuming machining is reduced.

Machine startup
Machining restart
Room temp change

▼

High dimensional stability



Machining dimensional change over time minimized with outstanding dimensional stability

1	2	3
Minimal temperature deformation	Manageable thermal deformation	Accurate compensation

[Manageable Deformation] [Accurately Controlled]

Integrated machine design and control technology

The Thermo-Friendly Concept plays a principal role in our machine design. With simple machine designs and construction that equalize ambient temperatures, deformation is predictable, and complex torsion or tilting is controlled.

Highly accurate compensation technology with the OSP controller developed by Okuma accurately controls thermal deformation from room temperature changes, spindle thermal deformation from frequently changing spindle speeds, and inconsistent thermal deformation from coolant temperature.

With the Thermo-Friendly Concept (Manageable Deformation – Accurately Controlled), Okuma products provide unrivaled dimensional stability.

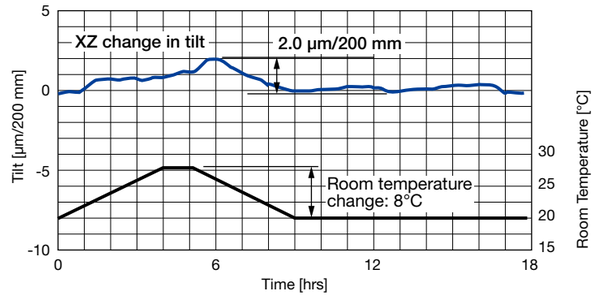
■ Thermal deformation of 20 µm or less during a room temperature change of 8°C

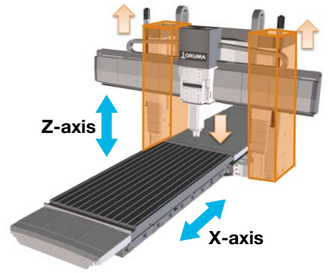
The Z-axis tilt due to changes in room temperature has been suppressed more than before by mechanical designing that further adjusts the heat balance of the column without actually cooling the column.

Z-axis tilt due to ambient temperature change

2.0 µm/200 mm (actual data)*

Ambient temperature change: 8°C in the X-axis direction

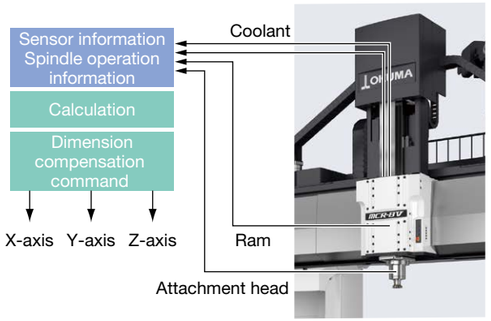




* Calculated from measurement displacement at the height of 500 mm

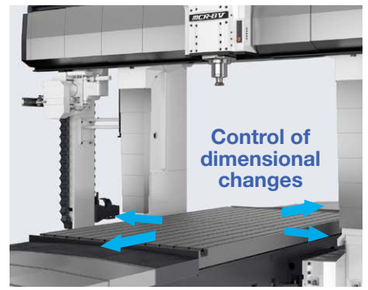
■ Thermo Active Stabilizer – Spindle (TAS-S)

Thermal deformation of the spindle from high spindle speeds is accurately controlled (X-Y-Z axes). Accurate control is also performed in cases of frequent spindle speed changes, and thermal deformation of attachment heads are also controlled.



■ Thermo Active Stabilizer – Construction for large machines (TAS-C²)

The machine (construction) is optimally controlled to maintain the required machining accuracies even when ambient temperatures change. In addition, it is possible to control dimensional changes due to thermal expansion of the table and obtain stable dimensional accuracy even for large workpieces.



Highly accurate, productive and eco-friendly

Green-Smart Machine

Okuma has worked to reduce energy consumption in order to achieve carbon neutrality at the three factories in Japan which are our main production bases.

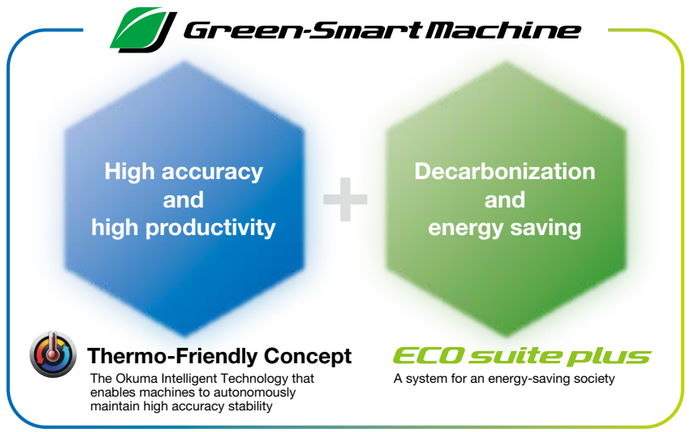
We have realized high productivity through automation and process-intensive machining, in addition to high-accuracy machining, and we then introduced the use of green energy to transform the three domestic factories into carbon-neutral factories.

“Green-Smart Machines” is our definition of Okuma’s intelligent machine tools, which autonomously achieve stable dimensional accuracy and reduced energy consumption, to support environmentally friendly production. Our policy is to deploy “Green-Smart Machines” fully, to help achieve a carbon-free society.

Starting with products manufactured at those carbon-neutral factories and supplying them all over the world, we will work together with our customers to help solve the social issues faced by the manufacturing industry.

Green-Smart Machines are **environmentally friendly**

products that autonomously achieve stable dimensional accuracies and reduced energy consumption.



Thermo-Friendly Concept

The Okuma Intelligent Technology that enables machines to autonomously maintain high accuracy stability

The unique concept of accepting temperature changes achieves consistent high accuracy without special coolers or excessive air conditioning.

■ Reduction of warm-ups and dimensional compensation

Reduce the time needed for daily warm-ups and dimensional compensation to adjust to ambient temperature changes.

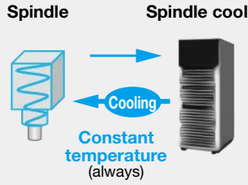
■ Reduction of power used for air conditioning

Maintain high stability of dimensional accuracy even if the air conditioning temperature range is expanded.

■ Reduction of machine body coolers

Achieve outstanding dimensional accuracy without any special machine body cooling being required to maintain accuracy.

■ The Okuma way to cool



By always setting a constant coolant supply temperature, the cooler power consumption is reduced.

ECO suite plus A system for an energy-saving society

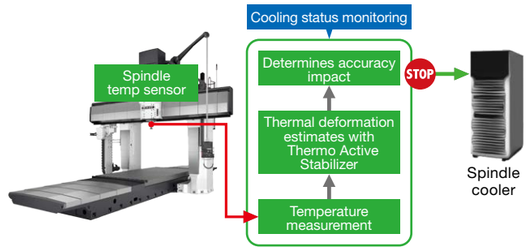
ECO Idling Stop

Accuracy ensured, cooler off

All auxiliary equipment when not needed (most of factory power consumption), can be turned off. The cooling system necessary for maintaining accuracy uses Thermo-Friendly Concept technology, and the machine itself decides when to cool and stop idling while maintaining high accuracy.

With ECO suite plus, the machine automatically detects the operating status, eliminating the need to push buttons while reducing carbon dioxide emission as much as possible without operator awareness.

■ The machine monitors the cooling level when not machining, and proactively turns off the cooler while maintaining high accuracy conditions.



ECO Operation

Peripheral equipment runs only when needed

By using only the required peripherals (chip conveyor, mist collector), energy-saving operations that also maintain high productivity are possible. ECO suite plus enables more detailed tuning of “operation patterns” to thoroughly reduce carbon dioxide emission.

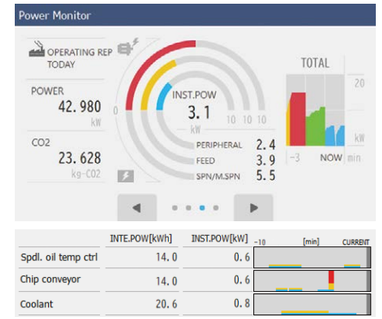
ECO Power Monitor

Confirming energy savings and analyzing reductions

Power is shown individually for spindle, feed axes, and auxiliaries on the OSP operation screen. In addition to regenerative power, the energy-saving benefits from auxiliary equipment stopped with ECO Idling Stop can be confirmed on the spot.

[On-the-spot checks of operating status, power consumption, and carbon dioxide emissions]

Three phases of visualization (view, record, and analyze) and energy-saving functions, which make it possible to analyze even the operating status of each device, support the decarbonization cycle.



[Analyze carbon dioxide emissions and improve machine tool operation]

With ECO suite plus, detailed data analysis of carbon dioxide emissions for each device is possible on a PC.

[Example of auxiliary power display using One-Touch Spreadsheet (option)**]**

Note: The spreadsheet file for data analysis needs to be prepared by the customer.

Technology for high-speed, high-accuracy machining

3D Smart Calibration System
Calibrating the volumetric accuracy of the machine

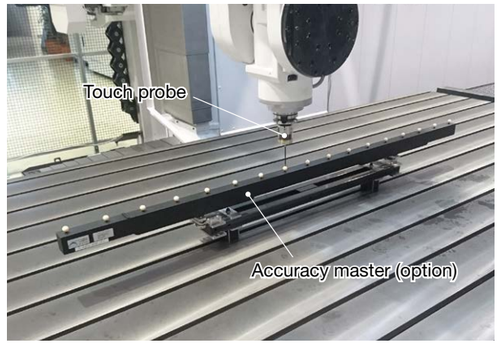
■ Any operator can easily calibrate machine accuracy

Factory floor surface deformation over the long term affects machine accuracy.

The 3D Smart Calibration System checks and calibrates the machine accuracy (positioning, straightness, perpendicularity) by automatically measuring the accuracy master (the absolute accuracy reference) using an easy-to-operate touch probe.

By calibrating accuracy at the right time, high accuracy is maintained throughout the machining space over the long term.

Notes: The machine accuracy that can be calibrated differs depending on the machine specifications and type of accuracy master (option) used.
The floor deformation of the customer's machine shop foundation may be large and require machine level adjustments.



Automatic measurement of ball beam by touch probe

Accuracy Stability Diagnosis Function
Self-diagnosis of changes in machine accuracy

■ To diagnose mechanical thermal deformation due to non-uniform factory temperatures

On production floors where the machine is exposed to wind or sunlight, the temperature around the machine becomes uneven, creating an environment in which the thermal deformation of the machine tends to increase.

The Accuracy Stability Diagnosis Function estimates the change in machine accuracy due to non-uniform factory temperatures, quantifies it as "accuracy stability" and displays that information on the screen.

If the accuracy is unstable, the operator will be notified by a message or alarm. More stable machining accuracy can be achieved by performing accuracy checks and adjustments when notified.

■ Diagnosing changes in machine accuracy from factory floor thermal deformation

The change in machine accuracy due to thermal deformation of the production floor is also estimated and quantified as a factor of "accuracy stability". Notifications of the best timing for machine accuracy adjustments with 3D Calibration etc, will be provided.

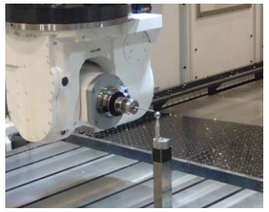
Auto Attachment Head Compensation (option)
Anyone can perform rotation compensation of attachment heads easily

■ Rotation compenstion that used to take half day to a full day now done automatically in twenty minutes*

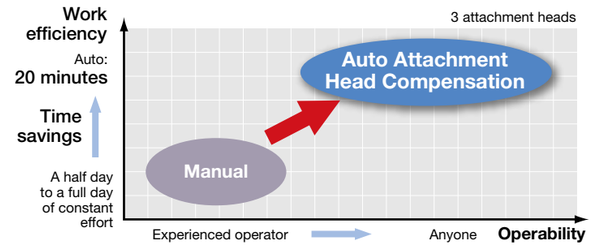
Auto Attachment Head Compensation is a function that is automatically sets attachment head rotation compensation values. It is quick, easy and can be used by anyone. By setting the compensation values, the program commands can be made for tool tip position even with different attachment head type and rotation tilt. Creation of NC programs and machine operation becomes much easier.

Auto Attachment Head Compensation performs this rotation compensation work automatically, enabling automatic setting in 20 minutes* for a task that used to take an experienced operator a half to full day with three attachment heads. High machining accuracy can also be maintained with regular measurements.

* The time needed for automatic settings differs with the attachment head.



The datum sphere is fixed to the table and measurement preparations are completed by simply positioning the attachment head with attached touch probe near the top of the datum sphere.



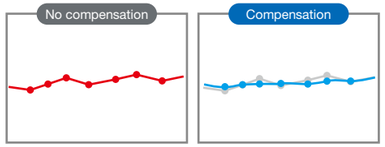
Hyper-SurfaceⅡ (option)
Improving the performance of machining dies and free-form surfaces

There is no need to modify machining data. Ridgelines and uneven surface edges are reduced, the machined surface quality is improved, and hand-polishing time is eliminated.

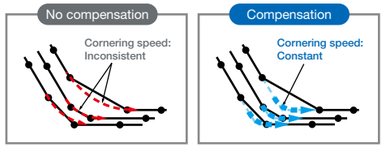
Hyper-SurfaceⅡ automatically compensates for fluctuations in the CAM machining data, and for positional misalignment between edges and adjacent cutter paths, while maintaining the required shape accuracy. In addition, SMART finishing suppresses vibration without reducing the speed at the corners, reduces the cycle time and improves the surface quality.

Notes: Please contact us for 5-axis specifications.
The effect varies depending on the machining shape.

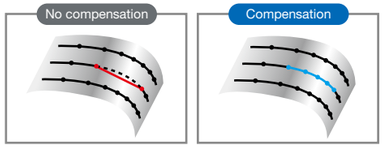
Smooths minor fluctuations and variations In command points



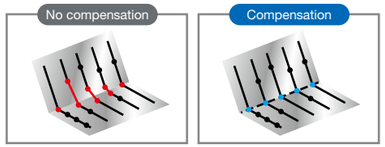
Consistent passing speeds to align corner paths



Adjust steps errors between adjacent cutter paths



Reproducing edge lines between sides



Comparison of machined surface quality

Okuma Intelligent Technology exhibits powerful effect on machine shop floors

Collision Avoidance System (option)

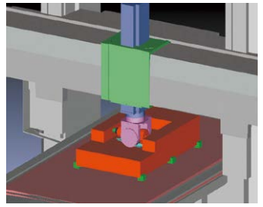
Collision prevention

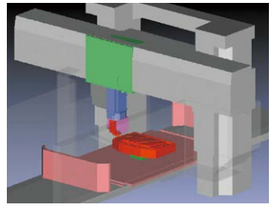
Significantly reducing setup and trial times

"Concentrate on machining" without collision worries

NC controller (OSP) with 3D model data of machine components—workpiece, tool, fixture, attachment head— performs real time simulation just ahead of actual machine movements. In both automatic operation and manual movements, advance checks are made for interference or collisions and the machine movement is stopped.

Machinists (novice or pro) will benefit from reduced setup and trial cycle times, and the confidence to focus on making parts.





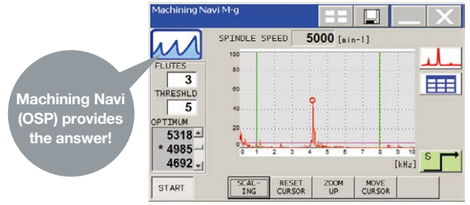
Machining Navi M-*g*Ⅱ (option)

Cutting condition search for milling/machining

Longer tool life and shorter machining times by optimizing cutting conditions

Maximizing machine tool performance

Navigates effective measures by detecting and analyzing machining chatter with a microphone attached to the machine. Effects are seen mainly on high rotation chatter with M-*g*Ⅱ.



SERVONAVI

Optimized Servo Control

Achieves long term accuracy and surface quality

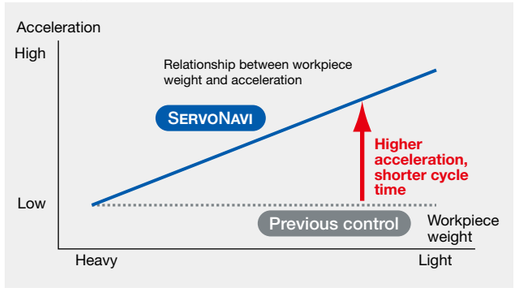
SERVONAVI AP (Automatic Parameter setting)

Work Weight Auto Setting

Cycle time shortened with faster acceleration

On table travel type machining centers, the table feed acceleration with the previous system was the same regardless of weight, such as workpieces and fixtures loaded on the table.

Work Weight Auto Setting estimates the weight of the workpiece and fixture on the table and automatically sets the linear axis servo parameters, including acceleration, to the optimum values. Cycle times are shortened with no changes to machining accuracy.



SERVONAVI SF (Surface Fine-tuning)

Reversal Spike Auto Adjustment

Maintains machining accuracy and surface quality

Slide resistance changes with length of time machine tools are utilized, and discrepancies occur with the servo parameters that were the best when the machine was first installed. This may produce crease marks at motion reversals and affect machining accuracy (part surface quality).

Reversal Spike Auto Adjustment maintains machining accuracy by switching servo parameters to the optimum values matched to changes in slide resistance.

Vibration Auto Adjustment

Contributes to longer machine life

When aging changes machine performance, noise, vibration, crease marks, or fish scales may appear.

Vibration Auto Adjustment can quickly eliminate noise and vibration even from machines with years of operation.

Deflection Auto Adjustment*

Maintaining high quality machined surfaces on dies/molds

With fast accleration/deceleration in the machining of dies and molds, etc, positioning error due to bending (ball screw expansion/contraction) can affect the machined surface quality.

Deflection Auto Adjustment maintains the surface quality of die/mold machined surfaces by automatically adjusting the servo parameters to match the amount of bending, even when the amount of bending of the ball screw has changed and positioning error has occurred as a result of changes over time.

* X-Y axes AbsoScale detection specs are needed.

Smooth discharge of large amounts of chips

Recommended chip conveyors

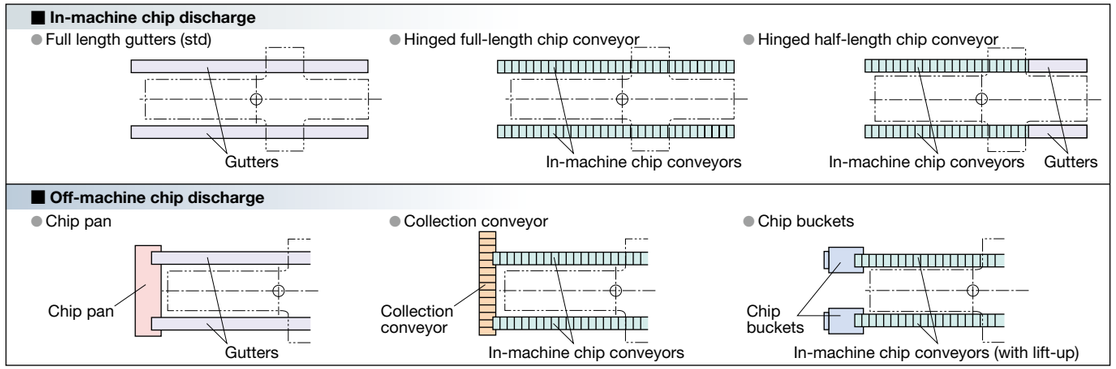
(Please contact an Okuma sales representative for details.) ○: Recommended

Workpiece material		Steel, stainless steel	Cast iron	Aluminum/ non-ferrous metal	Mixed (general)	Special blank materials
Chip shape						Ceramic, carbon, glass, etc.
In-machine chip discharge	Full length gutters (std)	○	○	—	○	○
	Hinge type	○	○	○ (Alminum)	○	—
Off-machine chip discharge	Hinge + scraper with drum filter (recommended)	○	○*	○	○	—
	Hinge type	○	—	—	○	—

* Attachment of a magnet separator is recommended

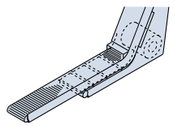
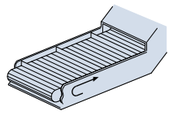
Note: The specs recommended above are based on wet machining (including washer specifications). For dry machining, please contact our sales staff.

Example of chip conveyor placement



Note: Conveyor chip discharge direction (rear), off-machine chip conveyor discharge direction (operation side, magazine side), chip coolant tank position, etc. can be combined to match space. Please consult with your Okuma sales representative to confirm final arrangements.

Collection conveyor chip discharge (lift-up conveyors)

Type	Hinge + scraper with drum filter	Hinge
Shape		

Machine Specifications

Item	Unit	MCR-BV 25					MCR-BV 30						MCR-BV 35				
		25 × 30	25 × 40	25 × 50	25 × 65	25 × 80	30 × 40	30 × 50	30 × 65	30 × 80	30 × 100	30 × 120	35 × 50	35 × 65	35 × 80	35 × 100	35 × 120
Travel																	
X-axis (table front / back)	mm (in)	3,200 (125.98)	4,200 (165.35)	5,200 (204.72)	6,700 (263.78)	8,200 (322.83)	4,200 (165.35)	5,200 (204.72)	6,700 (263.78)	8,200 (322.83)	10,200 (401.57)	12,200 (480.31)	5,200 (204.72)	6,700 (263.78)	8,200 (322.83)	10,200 (401.57)	12,200 (480.31)
Y-axis (spindlehead left/right)	mm (in)	3,200 (125.98)					3,700 (145.67)						4,200 (165.35)				
Z-axis (ram up/down)	mm (in)	800 [1,000][*1] (31.50 [39.37][*1])															
W-axis (crossrail up/down)	mm (in)	1,000 (39.37)					1,200 (47.24)										
Effective width between columns	mm (in)	2,650 (104.33)					3,150 (124.02)						3,650 (143.70)				
Table to spindle nose	mm (in)	0 to 1,650 [0 to 1,550][*2] (0 to 64.96 [0 to 61.02][*2])					0 to 1,850 [0 to 1,750][*2] (0 to 72.83 [0 to 68.90][*2])						0 to 1,800 [0 to 1,700][*2] (0 to 70.87 [0 to 66.93][*2])				
Table																	
Working surface	mm (in)	2,000 × 3,000 (78.74 × 118.11)	2,000 × 4,000 (78.74 × 157.48)	2,000 × 5,000 (78.74 × 196.85)	2,000 × 6,500 (78.74 × 255.91)	2,000 × 8,000 (78.74 × 314.96)	2,500 × 4,000 (98.43 × 157.48)	2,500 × 5,000 (98.43 × 196.85)	2,500 × 6,500 (98.43 × 255.91)	2,500 × 8,000 (98.43 × 314.96)	2,500 × 10,000 (98.43 × 393,70)	2,500 × 12,000 (98.43 × 472.44)	3,000 × 5,000 (118.11 × 196.85)	3,000 × 6,500 (118.11 × 255.91)	3,000 × 8,000 (118.11 × 314.96)	3,000 × 10,000 (118.11 × 393.70)	3,000 × 12,000 (118.11 × 472.44)
Maximum load	kg (lb)	18,000 (39,600)	22,000 (48,400)	27,000 (59,400)	34,000 (74,800)	42,000 (92,400)	29,000 (63,800)	33,000 (72,600)	43,000 (94,600)	52,000 (114,400)	66,000 (145,200)	72,600 (159,720)	29,500 (64,900)	37,000 (81,400)	47,000 (103,400)	61,000 (134,200)	65,000 (143,000)
T-slots Width × No. <center pitch>	mm	24H7 × 11 <center 200, both ends 130>					24H7 × 13 <center 200, both ends 180>						24H7 × 15 <center 200>				
Height from machine bottom	mm (in)	850 (33.46)					900 (35.43)						950 (37.40)				
[Pallet][*3]																	
Working surface	mm (in)	2,000 × 2,700 (78.74 × 106.30)	2,000 × 3,700 (78.74 × 145.67)	2,000 × 4,700 (78.74 × 185.04)	2,000 × 6,200 (78.74 × 244.09)	2,000 × 7,700 (78.74 × 303.15)	2,500 × 3,700 (98.43 × 145.67)	2,500 × 4,700 (98.43 × 185.04)	2,500 × 6,200 (98.43 × 244.09)	2,500 × 7,700 (98.43 × 303.15)	2,500 × 9,700 (98.43 × 381.89)	—	3,000 × 4,700 (118.11 × 185.04)	3,000 × 6,200 (118.11 × 244.09)	3,000 × 7,700 (118.11 × 303.15)	3,000 × 9,700 (118.11 × 381.89)	—
Maximum load	kg (lb)	6,000 (13,200)	8,000 (17,600)	10,000 (22,000)	13,000 (28,600)	15,000 (33,000)	10,000 (22,000)	12,000 (26,400)	15,000 (33,000)	20,000 (44,000)	*4	—	14,000 (30,800)	18,000 (39,600)	21,000 (46,200)	*4	—
T-slots Width × No. <center pitch>	mm	24H7 × 11 <center 200, both ends 130>					24H7 × 13 <center 200, both ends 180>					—	24H7 × 15 <center 200>				—
Height from machine bottom	mm (in)	1,200 (47.24)					1,250 (49.21)					—	1,350 (53.15)				—
Spindle (Extension head)																	
Speed range	min^{-1}	30 to 6,000 [30 to 4,000, 30 to 10,000]															
Taper bore		7/24 taper No. 50															
Bearing diameter	mm (in)	ø85[*5] [ø100][*6] [ø130][*7] (ø3.35[*5] [ø3.94][*6] [ø5.12][*7])															
Feed rate																	
Rapid traverse	m/min (ipm)	X: 30, Y: 32[*8], Z: 15 [X: 20, Y: 20, Z: 10][*9] (X: 1,181, Y: 1,260[*8], Z: 591) ([X: 787, Y: 787, Z: 394][*9])				X:20, Y:32[*8], Z:15 [X:20, Y:20, Z:10][*9] (X: 787, Y: 1,260[*8], Z: 591) ([X: 787, Y: 787, Z: 394][*9])	X: 30, Y:32[*8], Z:15 [X: 20, Y:20, Z:10][*9] (X: 1,181, Y: 1,260[*8], Z: 591) ([X: 787, Y: 787, Z: 394][*9])			X:20, Y:32[*8], Z:15 [X:20, Y:20, Z:10][*9] (X: 787, Y: 1,260[*8], Z: 591) ([X: 787, Y: 787, Z: 394][*9])		X:30, Y:32[*8], Z:15 [X:20, Y:20, Z:10][*9] (X: 1,181, Y: 1,260[*8], Z: 591) ([X: 787, Y: 787, Z: 394][*9])	X:20, Y:32[*8], Z:15 [X:20, Y:20, Z:10][*9] (X: 787, Y: 1,260[*8], Z: 591) ([X: 787, Y: 787, Z: 394][*9])		
Cutting feed rate	mm/min (ipm)	1 to 10,000 (0.04 to 393.70)															
W-axis travel rate	m/min (ipm)	3 (118)															
Automatic Tool Changer																	
Tool shank		MAS BT50															
Pull stud		MAS2															
Tool magazine capacity	tools	50 [80, 100, 120, 180]															
Max tool diameter	mm (in)	w/ adjacent tools: ø135 (5.31); w/o adjacent tools: ø230 (9.06)															
Max tool length	mm (in)	400 (15.75) [600 (23.62)]															
Max tool mass	kg (lb)	25 (55)															
Tool selection		Fixed adress															
Motors																	
Spindle drive	kW (hp)	High speed: 43/37 (57/50) (60 min/cont), Low speed: 43/30 (57/40) (10 min/cont) [26/22 (35/30) (30 min/cont)][*10]															
Axis feed drives	kW (hp)	X: 9.4 [14.0][*9], Y: 6.4, Z: 5.2 × 2 (X: 12.5 [18.7][*9], Y: 8.5, Z: 6.9 × 2)		X: 14.0, Y: 6.4, Z: 5.2 × 2 (X: 18.7, Y: 8.5, Z: 6.9 × 2)			X: 14.0, Y: 6.4, Z: 5.2 × 2 (X: 18.7, Y: 8.5, Z: 6.9 × 2)										
Crossrail elevating	kW (hp)	W: 4.6 (6.1) × 2											W: 5.2 (7) × 2				
Power Sources																	
Electrical power supply	kVA	85[*11]															
Compressed air supply	L/min (ANR)	1,000 (0.5 MPa or more)[*11]															
Machine Size																	
Height	mm (in)	6,420 [6,620][*1] (252.76 [260.63][*1])					6,700 [6,900][*1] (263.78 [271.65][*1])										
Floor space (machine only)	mm (in)	7,370 × 8,430 (290.16 × 331.89)	7,370 × 10,730 (290.16 × 422.44)	7,370 × 12,830 (290.16 × 505.12)	7,370 × 16,430 (290.16 × 646.85)	7,370 × 19,430 (290.16 × 764.96)	7,870 × 10,730 (309.84 × 422.44)	7,870 × 12,830 (309.84 × 505.12)	7,870 × 16,430 (309.84 × 646.85)	7,870 × 19,430 (309.84 × 764.96)	7,870 × 23,930 (309.84 × 942.13)	7,870 × 27,930 (309.84 × 1,099.61)	8,340 × 12,830 (328.35 × 505.12)	8,340 × 16,430 (328.35 × 646.85)	8,340 × 19,430 (328.35 × 764.96)	8,340 × 23,930 (328.35 × 942.13)	8,340 × 27,930 (328.35 × 1,099.61)
Mass (machine only)[*12]	kg (lb)	42,000 (92,400)	47,000 (103,400)	52,000 (114,400)	61,000 (134,200)	69,000 (151,800)	55,000 (121,000)	59,000 (129.800)	68,000 (149,600)	81,000 (178,200)	89,000 (195,800)	*4	65,000 (143,000)	75,000 (165,000)	89,000 (195,800)	99,000 (217,800)	113,000 (248,600)

[ ]: Option
*1. Z-axis travel 1,000 mm spec
*2. With 250 mm long extension head
*3. In the case of APC specs (option), please also consider the high column because the distance from the end of the spindle to the top of the pallet will be shorter.
*4. Please contact your Okuma representative.
*5. 6,000 min^{-1}, 10,000 min^{-1} spec
*6. 4,000 min^{-1} and high-power 6,000 min^{-1} specs
*7. High-power 4,000 min^{-1} spec
*8. Deceleration near both ends of Y-axis travel
*9. Die/mold kit spec
*10. 10,000 min^{-1} spec
*11. Standard spec
*12. With 50-tool magazine, 2-station AAC

MCR-BV Standard Specifications

Main motor and standard electricals		Full length gutter	Both machine sides
Spindle cooler	Oil temperature controller	ATC air blower (blast)	
AbsoScale detection (X-Y-Z axes)*1		Spindle air curtain	
Thermo-Friendly Premium specifications	TAS-S and TAS-C^2 included	Magazine tool loader	
		ATC magazine safety fence	
3D Smart Calibration System	Includes linear axis error measurement, spatial compensation, and accuracy stability diagnosis	Column slideway covers	
		Crossrail clamp system	
		Seesaw pendant operation panel	Elevation: 600 mm
Auto gauging & auto zero offset	Touch probe	Work lamp	LED
0.1 µm control*2	Controlled by 0.1 µm increment program commands	Status indicator	3-color LED
		Door interlock	
Synchronized NC W-axis	Included in AbsoScale detection (W-axis)	Tool kit	
Hydraulic unit		Tapered bore cleaning bar	
Automatic Tool Changer (ATC)	50 tools	Tool box	
Z-axis double ball screw			

Note: Use of oil-based cutting fluid may cause a fire, so fire prevention measures are required. Unattended operation should not be performed.
*1. The X-axis uses is a linear scale for n × 65 or larger machines (6,700 mm or more X-axis travel).
*2. For n × 100 or larger machines (10,200 mm or more X-axis travel), 1 µm control will be used.

MCR-BV Kit Specifications

Machine kit specs	S/DM-S	A/DM-A	P/DM-P	AP/DM-AP
Attachment head ATC	●	●	●	●
Attachment head auto attaching/indexing unit (AAC)		●		●
Attachment head manual tool changing	●	●	●	●
Attachment head coolant lines	●	●	●	●
Auto pallet changer (APC) preparations			●	●
X-axis 2.0 m travel extension (side shuttle APC)			●	●

DM: die/mold

MCR-BV Optional Specifications

Automatic pallet changer (APC)	2-pallet side shuttle (2.0 m extension in X-axis travel)	Angle head preps	
		Auto attachment changer (AAC)	2 stations to 7 stations
Optional Z-axis travel	1,000 mm	Attachment head	Please consult
Coolant system		Dust-proofing	
Coolant tank	500 L, 1,000 L	NC rotary tables	NC rotary table, inclined rotary table
Coolant heater/cooler		Mist collector	
Oil skimmer		Dust collector	
Filtration system		Full-enclosure shielding	Column front/back covers, w/o ceiling, with ceiling
Semi-dry machining	Thru-spindle, nozzle		
Thru-spindle coolant*	High/low pressure switch (2 MPa, 7 MPa)	Auto Attachment Head Compensation	
Centralized coolant application			
Coolant pump	0.75 kW, 1.1 kW	Auto tool length compensation & breakage detection	Touch sensor system, Laser sensor system
Oil mist coolant	Insert nozzle		
Oil-hole coolant system	High/low pressure switch (2 MPa)	In-machine chip conveyors	Full length, lift-up type Half length, lift-up type
Chip air blower (blast)			
ATC tool magazine capacity	80, 100, 120, 180 tools	Chip flushers	Crossrail shower (L/R column front), front/back gutters with telescopic covers, workpiece wash gun
ATC tools	Heavy tool (35 kg × 120 mm)		
Tool shank profile	CAT 50, DIN 50		
Pull-stud shape	MAS1, special CAT	Collection chip conveyors	Hinged, hinge + scraper (w/ drum filter) Hinged + magnetic separator
Table T-slot width	20H7, 22H7, 28H7		
Table cross-groove width	Please consult for width depth, pitch	Chip buckets	L type, H type
Optional table width	+300 mm	Pendant arms	Parallel linked, manual, electric, floor mounted, front/back travel types
High column specs	200 mm (please inquire for +400 mm or higher)		
		Foundation methods	Chemical anchors, foundation bolts, no foundation bolts (foundation pad only)
Optional W-axis travel	Standard travel +200 mm (please inquire for +400 mm or higher)	Machine foundation pit work	50 to 1,400 mm
Ram oil pan slush collector		Optional control cabinet positions	
Speed-increasing attachment head preps			

* Dedicated Okuma pull studs required for thru-spindle coolant

A next-generation CNC that makes manufacturing DX (digital transformation) a reality

OSP-P500

Improved productivity and stable production

As Your Single Source for M-E-I-K (Mechanics - Electronics - IT - Knowledge) merging technology, Okuma offers this CNC to build an advanced “digital twin” that faithfully reproduces machine control and machining operations and create new value. In addition, Okuma offers productivity improvement and stable production with ease of use that allows customers to use their machining know-how, an energy-saving solutions that achieve both high accuracy/productivity and eco-friendly products, with robust security protection against increasing threats of cyber attacks.

15-inch operation panel

Faithful reproduction of machines and processing — Digital support for shop floor work

Digital Twin (option)

“Okuma’s two digital twins” made possible by an office PC and a next-generation CNC reduce machine downtime and improve machine utilization

Simulation using the latest machine information can be achieved with an office PC and OSP-P500 installed on the physical machine. This enables preparation for machining in advance in the office environment (front loading). Preparing machining for the next part while continuing machining can reduce the preparation time for the physical machine. When a problem occurs on the shop floor, it can be solved quickly on site without going back to the office.

1 Digital Twin On PC*

Simulate shop machines in the office

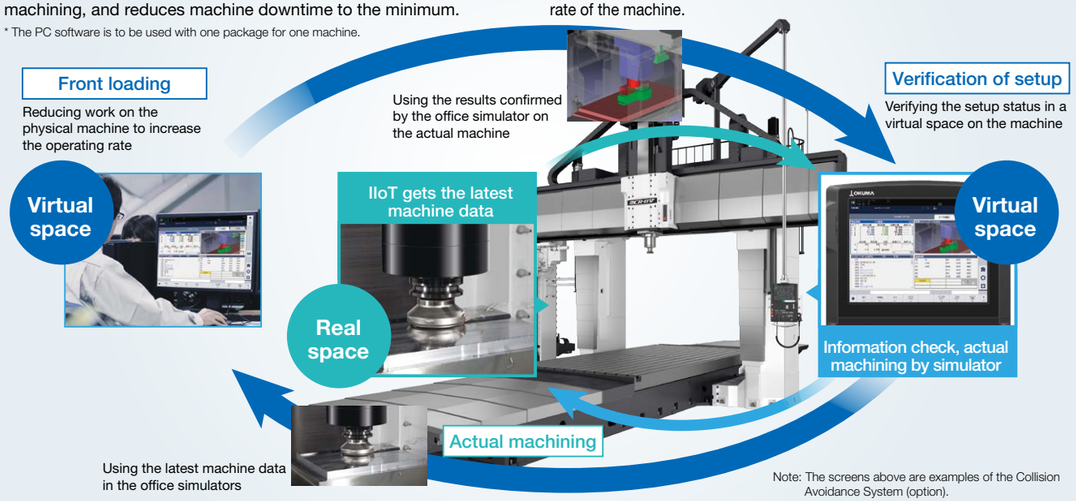
Front loading is performed with the actual status matched with the data on the office PC to further improve productivity.
Highly accurate pre-verification minimizes trial and error in first part machining, and reduces machine downtime to the minimum.

* The PC software is to be used with one package for one machine.

2 Digital Twin On Machine

Simulating the CNC of a real machine

Super-fast and super-accurate machining simulations are performed with the CNC of a real machine on-site to minimize machining preparation work.
Actual machining can be started immediately, greatly improving the operating rate of the machine.



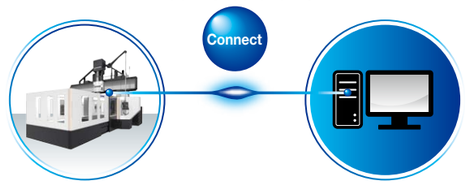
Note: The screens above are examples of the Collision Avoidance System (option).

Connect Plan

Get Connected, Get Started, and Get Innovative with Okuma “*Monozukuri*”

Connect, Visualize, Improve

Okuma’s Connect Plan is a system that provides analytics for improved utilization by connecting machine tools and visual control of factory operation results and machining records. Simply connect the OSP and a PC and install Connect Plan on the PC to see the machine operation status from the shop floor, from an office, from anywhere. The Connect Plan is an ideal solution for customers trying to raise their machine utilization.



OSP-P500M standard specifications

Basic Specs	Control	X, Y, Z, W, simultaneous 4 axis, spindle control (1 axis)
	Position feedback	OSP full range absolute position feedback (zero point return not required)
	Coordinate functions	Machine coordinate system (1 set), work coordinate system (20 sets)
	Min / Max command	±99999.999 mm, ±9999.9999° 8-digit decimal, command units: 0.0001 mm, 0.001 mm, 0.01 mm, 1 mm, 0.0001°, 0.001°, 1°
	Feed	Cutting feed override: 0 to 200%, rapid traverse override 0 to 100%
	Spindle control	Direct spindle speed commands, override 30 to 300%, multi-point indexing
	Tool compensation	No. of registered tools: Max 999 sets, tool length/radius compensation: 3 sets per tool
	Display	15-inch color LCD + multi-touch panel operations
	Security	Operator authentication, Lock screen, OSP-VPSII-STD
Programming	Program capacity	Program storage capacity: 4 GB; operation buffer: 2 MB
	Program operations	Scheduled program, fixed cycle, G-/M-code macros, arithmetic, logic statements, math functions, variables, branch commands, Coordinate calculate, area machining, coordinate convert, programming help, user task, keyway cycle
Operations	OSP suite	“suite apps” to graphically visualize and digitize information needed on the shop floor, “suite operation” enable one-touch access to “suite apps”.
	Easy Operation	“Single-mode operation” to complete a series of operations. Advanced operation panel/graphics facilitate smooth machine control
	MacMan plus	Machining management: aggregation and display of machining records, operating records and problem information, Visualization of power consumption, file output
	Machine operations	Operation help, load meter, alarm help, sequence return, manual interrupt/auto return, pulse handle overlap, parameter I/O, PLC monitor, auto power shut-off
Communications / Networking		USB (2 ports), Ethernet, DNC-T1, Smart I/F
High speed/accuracy specs		Thermo-Friendly Premium (TAS-S: Thermo Active Stabilizer – Spindle, TAS-C²: Thermo Active Stabilizer – Construction for large machines), AbsoScale detection (X-Y-Z-W axes), 3D Smart Calibration System, Accuracy Stability Diagnosis Function, 0.1 µm control*1, Hi-Cut Pro, Pitch error compensation, Hi-G control, SERVONAVI*2, Cycle time reduction (operation time reduction, machining time shortening, easy parameter setting)
Energy-saving functions	ECO suite plus	ECO Idling Stop, ECO Operation, oil temperature controller auto control, ECO Power Monitor*3
	Power Regeneration System	Regenerative power is used when the spindle and feed axes decelerate to reduce energy waste.

*1. For n × 100 or larger machines (10,200 mm or more X-axis travel), 1 µm control will be used.
*2. For Deflection Auto Adjustment included in the specs, X-Y axes AbsoScale detection specs are needed.
*3. The power display shows estimated values. When precise electrical values are needed, select the wattmeter option.

OSP-P500M kit specifications/optional specifications

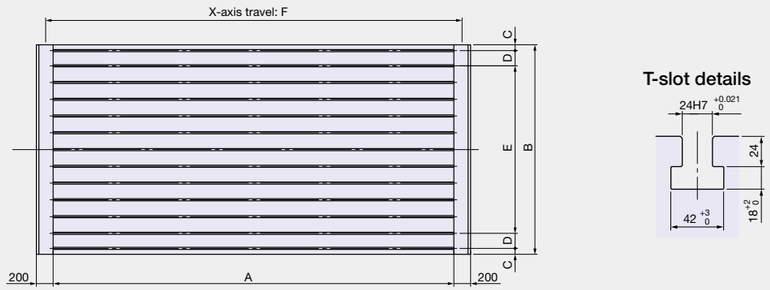
Item \ Kit Specs	NML E	NML D	AOT E	AOT D	DT E	DT D	DT AOT E	DT AOT D
Digital Twin								
Virtual Machining					● (VE)	● (VD)	● (VE)	● (VD)
Quick Modeling					● (VE)	● (VD)	● (VE)	● (VD)
OPC UA for Machine Tools					●	●	●	●
OSP API KIT					●	●	●	●
Interactive functions								
Advanced One-Touch IGF-M (w/ Real 3-D Simulation)			●	●			●	●
Interactive MAP (I-MAP)					●	●		
Smart OSP Operation			●	●	●	●	●	●
Programming								
Operation buffer 10MB	●	●	●	●	●	●	●	●
Program notes (MSG)	●	●	●	●	●	●	●	●
Auto scheduled program update	●	●	●	●	●	●	●	●
Block skip; 9 sets								
Program branch; 9 sets								
Coordinate system select (Std: 20 sets) 100 sets	●		●		●		●	
Coordinate system select (Std: 20 sets) 200 sets		●		●		●		●
Coordinate system select (Std: 20 sets) 400 sets								
Helical cutting (within 360 degrees)	●	●	●	●	●	●	●	●
3-D circular interpolation								
Skip								
Synchronized Tapping II	●	●	●	●	●	●	●	●
Arbitrary angle chamfering	●	●	●	●	●	●	●	●
Cylindrical side facing								
Tool max rotational speed setting								
F1-digit feed: External switch type, parameter type								
Programmable travel limits (G22, G23)	●	●	●	●	●	●	●	●
Slope machining: Type I, Type II								
Axis name designation								
3-D tool compensation								
Coordinate change and drawing conversion: Programmable mirror image (G62)		●		●		●		●
Coordinate change and drawing conversion: Enlarge/reduce (G50, G51)		●		●		●		●
User task: Common variables 1,000, 2,000 pcs								
User task: G code macros: 80 sets added								
User task: I/O variables (16 each)								
Sequence stop	●	●	●	●	●	●	●	●
Sequence return: Mid-block sequence return		●		●		●		●
Tool wear compensation: Includes input restriction	●	●	●	●	●	●	●	●
Tool life management: Includes warning	●	●	●	●	●	●	●	●
Leading edge offset								
Inverse time feed								
Alignment compensation								
External I/O communication								
RS-232C connector								
DNC connection: DNC-T3, DNC-B, DNC-DT / DNC-C/Ethernet								

Item \ Kit Specs	NML E	NML D	AOT E	AOT D	DT E	DT D	DT AOT E	DT AOT D
Gauging								
Auto tool length offset/breakage detection								
Auto Workpiece Gauging/Auto zero offset								
Manual gauging (w/o sensor)	●	●	●	●	●	●	●	●
Interactive gauging (touch sensor, touch probe required)								
Monitoring								
One-Touch Spreadsheet								
Collision Avoidance System								
Real 3-D Simulation			●	●	●	●	●	●
Simple load monitor: Spindle overload monitor	●	●	●	●	●	●	●	●
NC operation monitor: Hour meter, workpiece counter	●	●	●	●	●	●	●	●
Status indicator								
Operation end buzzer								
Workpiece counters on machine								
Tool breakage no-load detection		●		●		●		●
MOP-TOOL: Adaptive control, overload monitor								
AI machine diagnostics*: Feed axes								
Machine Status Logger								
Cutting Status Monitor								
Machining Navi M-gII (cutting condition search)								
Feed axis retraction								
Tool retract cycle								
Automation / unattended operation								
Warm-up (calendar timer)								
External program: Button, rotary switch / BCD (2-digit, 4-digit)								
High-speed, high-precision								
Auto Attachment Head Compensation								
Straightness compensation								
Dynamic displacement compensation	●	●	●	●	●	●	●	●
Hyper-SurfaceII: 3 linear axes + 2 rotary axes								
Simultaneous 5-axis kit								
ECO suite plus								
ECO Power Monitor: On-machine wattmeter								
Spindle Power Peak Limiter								
Energy-saving hydraulic unit: ECO Hydraulics								
External output interface of consumed electricity								
Other								
Circuit breaker								
OSP-VPSII-EX (Virus Protection System)								
Pulse handles: 2 pcs, 3 pcs								
External M codes [4 sets, 8 sets]								

Notes: NML: Normal kit, AOT: Advanced One-Touch IGF-M kit, DT: Digital Twin kit,
DT AOT: Digital Twin Advanced One-Touch IGF-M, E: Economy, D: Deluxe
VE and VD kits are also equipped with the Digital Twin on PC function, allowing running from a PC.
Specifications, etc. are subject to change without notice.
* With AbsoScale detection specs, ball-screw wear detection is possible.

Table Dimensions

Unit: mm



T-slot details

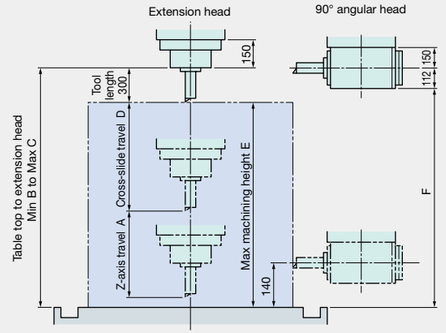
Unit: mm

Size		A	B	C	D	E	F
25	25 × 30	3,000	2,000	70	130	8 × 200 =1,600	3,200
	25 × 40	4,000					4,200
	25 × 50	5,000					5,200
	25 × 65	6,500					6,700
	25 × 80	8,000					8,200
30	30 × 40	4,000	2,500		180	10 × 200 =2,000	4,200
	30 × 50	5,000					5,200
	30 × 65	6,500					6,700
	30 × 80	8,000					8,200
	30 × 100	10,000					10,200
	30 × 120	12,000					12,200
35	35 × 50	5,000	3,000	100	200	12 × 200 =2,400	5,200
	35 × 65	6,500					6,700
	35 × 80	8,000					8,200
	35 × 100	10,000					10,200
	35 × 120	12,000					12,200

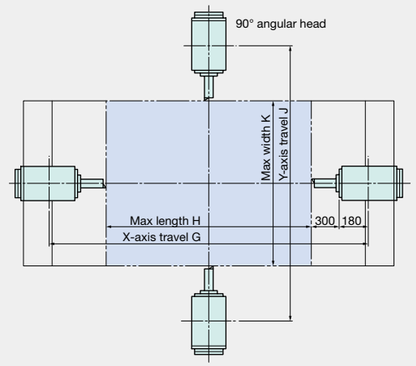
Working Range Drawings

Unit: mm

● **Extension head, 90° angular head**
Max height (300 mm tool length)



● **90° angular head**
Max width × length (300 mm tool length)

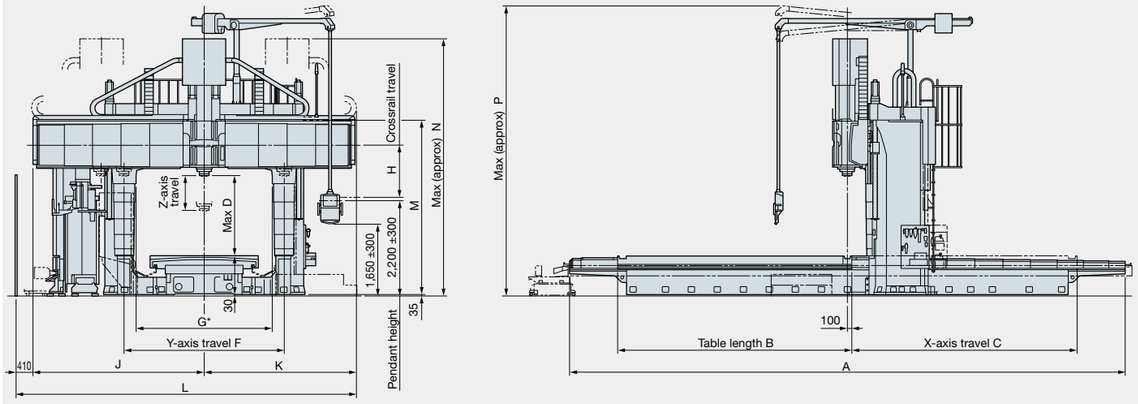


Unit: mm

Size		EW BC	A	B	C		D	E		F	G	H	J	K
					L150 Spec	L250 Spec		L150 Spec	L250 Spec					
25	25 × 30	2,650	800	0	1,650	1,550	1,000	1,350	1,250	1,538	3,200	2,240	3,200	2,240
	25 × 40										4,200	3,240		
	25 × 50										5,200	4,240		
	25 × 65										6,700	5,740		
	25 × 80										8,200	7,240		
30	30 × 40	3,150			1,850	1,750	1,200	1,550	1,450	1,738	4,200	3,240	3,700	2,740
	30 × 50										5,200	4,240		
	30 × 65										6,700	5,740		
	30 × 80										8,200	7,240		
	30 × 100										10,200	9,240		
	30 × 120										12,200	11,240		
35	35 × 50	3,650			1,800	1,700		1,500	1,400	1,688	5,200	4,240	4,200	3,240
	35 × 65										6,700	5,740		
	35 × 80										8,200	7,240		
	35 × 100										10,200	9,240		
	35 × 120										12,200	11,240		

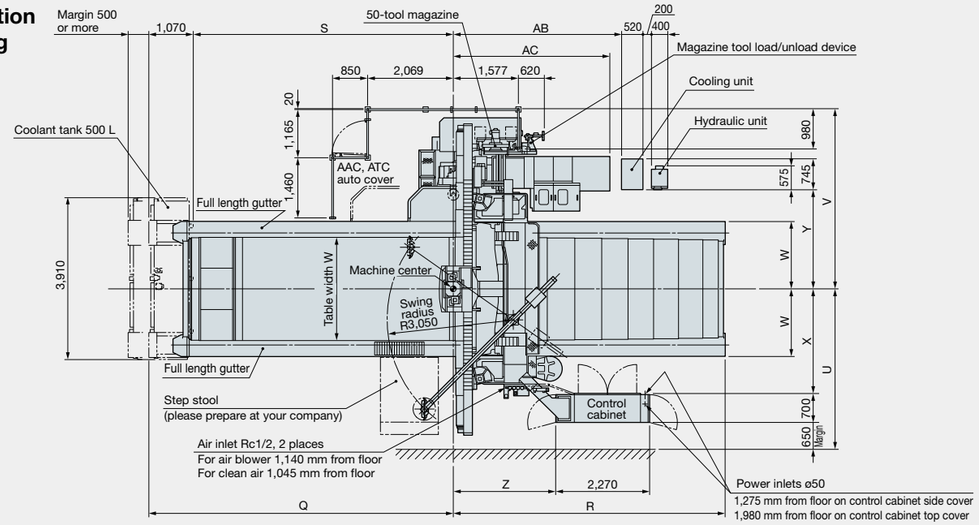
Notes: The upper drawings and tables show the working range when a 300 mm long tool is attached to the extension or, 90° angular heads.
Dimensions may change depending on specifications, so please refer to actual delivered machine specifications.

Dimensional Drawing



* Effective width between columns

Installation Drawing



This drawing show outline of standard machine. These dimensions will change if optional specifications are selected.
And depending on the destination country or region, full enclosure or safety fences are required.

Unit: mm

	Size	A	B	C	D	E	F	G	H	J	K	L
25	25 × 30	8,430	3,400	3,200	1,650 (1,550)*1	850	3,200	2,650	1,000	3,700	3,250	7,360
	25 × 40	10,730	4,400	4,200								
	25 × 50	12,830	5,400	5,200								
	25 × 65	16,430	6,900	6,700								
	25 × 80	19,430	8,400	8,200								
30	30 × 40	10,730	4,400	4,200	1,850 (1,750)*1	900	3,700	3,150	1,200	3,950	3,510	7,870
	30 × 50	12,830	5,400	5,200								
	30 × 65	16,430	6,900	6,700								
	30 × 80	19,430	8,400	8,200								
	30 × 100	23,930	10,400	10,200								
	30 × 120	27,930	12,400	12,200								
35	35 × 50	12,830	5,400	5,200	1,800 (1,700)*1	950	4,200	3,650		4,200	3,730	8,340
	35 × 65	16,430	6,900	6,700								
	35 × 80	19,430	8,400	8,200								
	35 × 100	23,930	10,400	10,200								
	35 × 120	27,930	12,400	12,200								

	Size	M	N	P	Z-axis travel	
					800 spec	1,000 spec
25	25 × 30	3,650	5,690 [5,890]*2	6,420 [6,620]*2	800	1,000
	25 × 40					
	25 × 50					
	25 × 65					
	25 × 80					
30	30 × 40	4,025	5,940 [6,140]*2	6,700 [6,900]*2		
	30 × 50					
	30 × 65					
	30 × 80					
	30 × 100					
	30 × 120					
35	35 × 50					
	35 × 65					
	35 × 80					
	35 × 100					
	35 × 120					

Note: Dimensions may change depending on specifications. Please refer to final delivered machine specifications.
*1. With 250 mm long extension head
*2. Z-axis travel 1,000 mm spec

Unit: mm

	Size	Q	R	S	T	U	V	W	X	Y	Z
25	25 × 30	5,160	4,370	4,090	2,000	3,630	4,110	1,386	2,280	2,150	2,430
	25 × 40	6,310	5,520	5,240							
	25 × 50	7,360	6,570	6,290							
	25 × 65	9,160	8,370	8,090							
	25 × 80	10,660	9,870	9,590							
30	30 × 40	6,310	5,520	5,240	2,500	3,880	4,360	1,636	2,530	2,400	2,480
	30 × 50	7,360	6,570	6,290							
	30 × 65	9,160	8,370	8,090							
	30 × 80	10,660	9,870	9,590							
	30 × 100	12,910	12,120	11,840							
	30 × 120	14,910	14,120	13,840							
35	35 × 50	7,360	6,570	6,290	3,000	4,130	4,610	1,886	2,780	2,650	
	35 × 65	9,160	8,370	8,090							
	35 × 80	10,660	9,870	9,590							
	35 × 100	12,910	12,120	11,840							
	35 × 120	14,910	14,120	13,840							

Size	AB				AC			
	3st	4st	5st	6st	3st	4st	5st	6st
MCR-BV 25, 30, 35	4,070	4,535	5,000	5,465	3,800	4,265	4,730	5,195

Note: Dimensions may change depending on specifications. Please refer to final delivered machine specifications.

MCR-BV

When using Okuma products, always read the safety precautions mentioned in the instruction manual and attached to the product.

● The specifications, illustrations, and descriptions in this brochure vary in different markets and are subject to change without notice.
Pub No. MCR-B5-E-(5.1b)-100 (Sep 2024)

OKUMA

OKUMA Corporation

Oguchi-cho, Niwa-gun,
Aichi 480-0193, Japan
TEL: +81-587-95-7825 FAX: +81-587-95-6074