

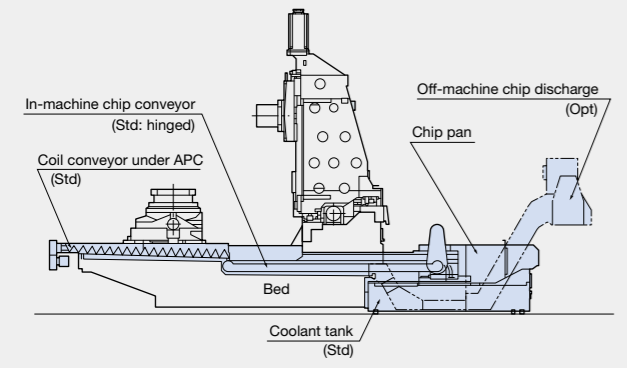
Eco-friendly equipment — easy on the operator & the machine

Chip handling

Chip discharge from right under the spindle with center trough design

- Wider chip catch increases chip collection efficiency
- Immediate discharge of hot chips

Chips discharged by conveyor



Lift-up chip conveyor (Optional)

User-friendly operation

- Column traverse system provides an easy access to the spindle and workpiece.
- Overhead door (Lets light in, eliminates coolant drops)



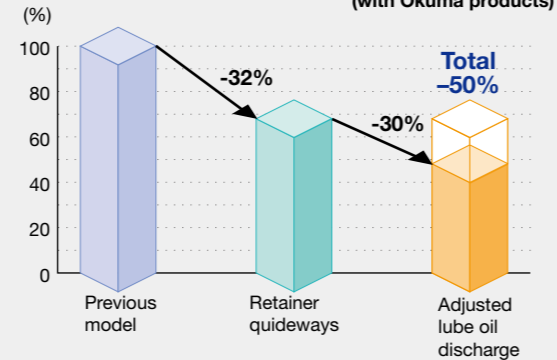
Work lamp

Eco-friendly equipment

50% less lubricating oil than previous model, and noise has been reduced

- Uses guideway with retainer
- Superb lubricating oil pump control

Comparison of lubricating oil consumption (with Okuma products)



Machine Specifications

Item	Unit	MA-400HA			
Travels	X-axis travel (column left/right)	mm (in)	560 (22.05)		
	Y-axis travel (spindle up/down)	mm (in)	610 (15.49)		
	Z-axis travel (table front/back)	mm (in)	625 (24.61)		
	Spindle center to pallet top	mm (in)	50 to 660 (1.97 to 25.98)		
	Spindle nose to pallet center	mm (in)	85 to 710 (3.35 to 27.95)		
Pallet	Work area	mm (in)	400 x 400 (15.75 x 15.75)		
	Indexing angle	deg	1 [0.001]		
	Max workpiece dimensions	mm (in)	ø600 x 710*1 (ø23.62 x 27.95)		
	Max load capacity	kg (lb)	400 (880)		
	Spindle	Spindle speed	min ⁻¹	Standard	50 to 8,000
Wide-range				[50 to 15,000]	
High-speed				[50 to 20,000, 50 to 25,000, 35,000]	
Tapered bore				7/24 taper No. 40 [HSK-A63]	[HSK-A63, A63, F63]
Bearing dia	mm (in)	ø70 (ø2.76)			[ø70, ø60, ø60] [ø2.76, ø2.36, ø2.36]
Feed rate	Rapid traverse	mm/min (ipm)	X-Y-Z: 60 (2,362)		
	Cutting feed rate	mm/min (ipm)	X-Y-Z: 1 to 60,000 (0.04 to 2,362)		
Motors	Spindle (10 min/cont)	kW (hp)	15/11 (20/15)	[26/18.5 (35/25)] [30/22, 15/11, 15 (40/30, 20/15, 20)]	
	Feed axis motors	kW (hp)	X-Y-Z: 4.6 (6.3)		
	Table indexing	kW (hp)	3.0 (4.1)		
ATC	Tool shank		MAS-403 BT40 [HSK-A63]	HSK-A63, A63, F63	
	Pull stud		MAS-2 ²⁺³	—	
	Magazine capacity	tools	30 [40, 60, 110, 146, 182, 218, 326] ⁴		
	Max tool dia (w/ adjacent)	mm (in)	ø100 (3.94)		
	Max tool dia (w/o adjacent)	mm (in)	ø150 (5.91)		
	Max tool length	mm (in)	300 (11.81) [400 (15.75)] ⁵		
	Max tool weight	kg (lb)	10 (7.4)		
	Tool selection		Memory random (Fixed with 110 or more tools)		
Machine Size	Height	mm (in)	2,759 (108.62)		
	Floor space; width x depth	mm (in)	2,414 x 4,532 (95.04 x 178.43)		
	Mass	kg (lb)	11,400 (25,080)		
CNC control		OSP-P300MA			

*1. ø500 x 710 (ø19.68 x 27.95) when the spindle must operate within 50 mm (1.97 in) from the pallet (X-Y-Z telescopic cover interference). []: Optional specifications

*2. Thru-spindle coolant specs use JIS standard specs.

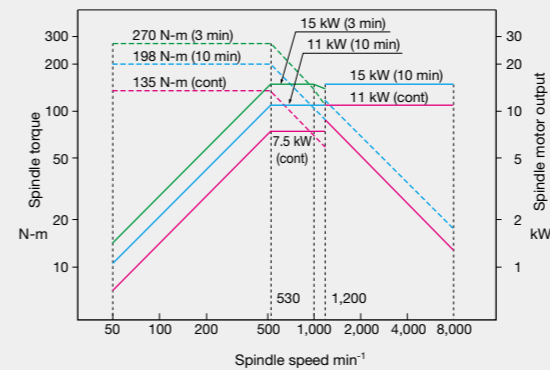
*3. Pull studs not supplied with HSK toolholders

*4. Matrix system with more than 110 tools.

*5. "Long tools" may require the shutter to wait and result in longer ATC C-C times.

Standard spindle

- 8,000 min⁻¹
- 15/11 kW (10 min/cont), 270 N-m
- 7/24 taper No. 40



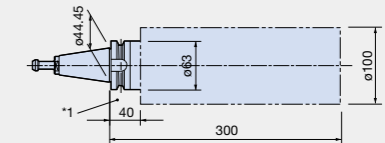
Standard Specifications/Accessories

Spindle speed	Taper No. 40 50 to 8,000 min ⁻¹
Motor	15/11 kW (10 min/cont)
Spindle/spindlehead cooler	Oil controller
Hydraulic unit	
Coolant system	Coolant tank 610 L (effective 380 L)
	Coolant pump 400 W
	Table area wash pump 550 W
	Coolant nozzle Eyeball type
ATC air blower (blast)	
Chip air blower (blast)	Nozzle type
Full enclosure shielding	Operation door interlock
Hand tools	
Tool release lever	
Tapered bore cleaning bar	
Status indicator	3-step
Foundation washers	
Machine slip stoppers	Chemical anchors included
ATC	Tool capacity 30
Tool shank	MAS BT40
Pull stud	MAS-2
APC	2-pallet rotary shuttle
Pallet size	400 x 400
Pallet top face	Tapped hole MAS screw
In-machine chip discharge (bed)	Hinge type chip conveyor
In-machine chip discharge (below APC)	Coil type chip conveyor

Tool dimensions

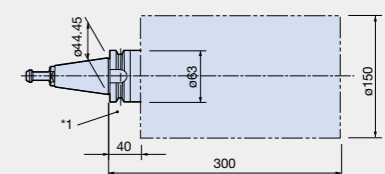
Max tool size

Adjacent tools



Max single tool size

No adjacent tools



*1. Commercially sold milling chucks and similar parts may cause collision between the ATC tool change arm and the outer part of the milling. Please make sure to confirm the dimensions with the tool manufacturer's catalog, etc. before use.