

# KH-4100 Standard Features

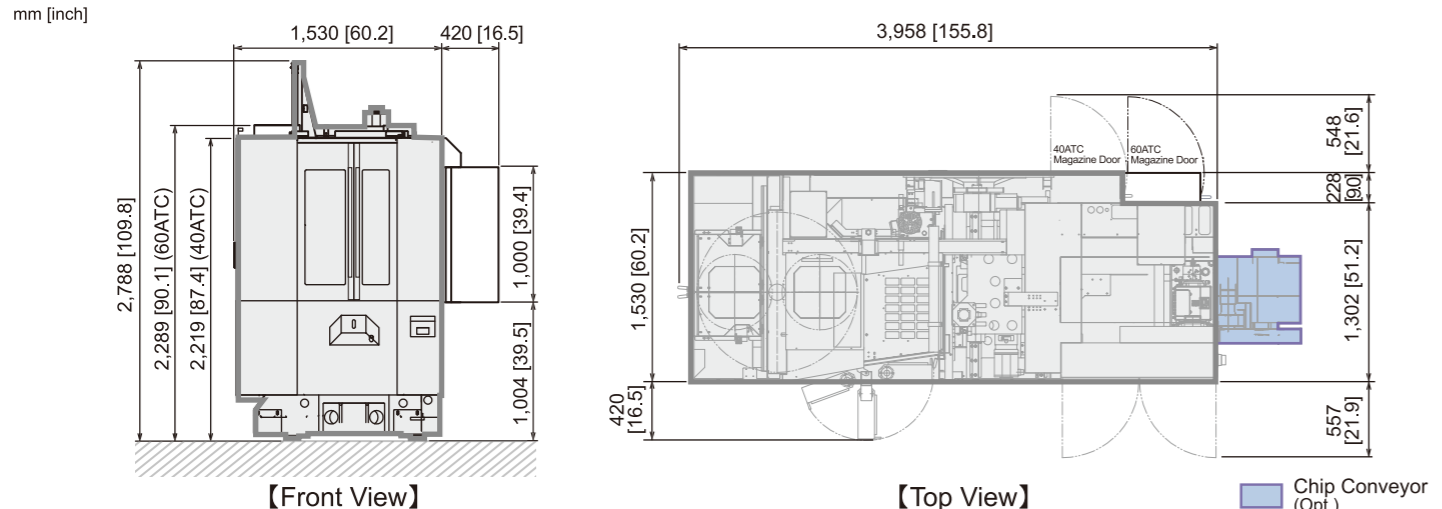
<b>TRAVEL</b>		<b>AUTOMATIC TOOL CHANGER</b>			
X, Y, Z axes	mm [inch]	510x510x510 [20.1x20.1x20.1]	Type of tool shank	MAS BT40/CAT40	
Spindle center to pallet surface	mm [inch]	50-560 [2.0-22.0]	Type of pull-stud	JIS	
Spindle nose to pallet center	mm [inch]	100-610 [3.9-24.0]	Number of tools	40 (Opt. 60)	
Pallet top height (from the floor)	mm [inch]	1,069 [42.1]	Max. tool diameter	mm [inch]	Φ 85 [3.3] / Φ 140 [5.5] (Adjacent pots full / empty)
<b>PALLET</b>		Max. tool length	mm [inch]	400 [15.7]	
Pallet size	mm [inch]	400x400 [15.7x15.7]	Max. tool weight	kg [lbs]	8 [17.6]
Max. work piece size	mm [inch]	Φ 550x850 [Φ 21.7x33.5]	Tool to tool	sec.	0.9
Max. load	kg [lbs]	500 [1,100]	Chip to chip	sec.	2.8
Configuration		25-M16 P=80mm [3.1"]	<b>MOTOR</b>		
Min. indexing degree	degrees	0.001	Spindle motor	kW [HP]	15/7.5 [20/10]
Indexing speed	sec./90 degrees	1.1	Feed axis motor (X/Y/Z/B)	kW [HP]	4.5/4.5/4.5/2.7 [6.0/6.0/6.0/3.6]
Pallet clamping force / system	kN	9.8x4 cones / Mechanical lock	Lubrication pump motor	W [HP]	18 [0.02]
B-axis clamping torque	Nm	2,900	Coolant pumps	W [HP]	600 [0.8] x 3 pcs
<b>SPINDLE</b>		Hydraulic pump	kW [HP]	2.8 [3.8]	
Spindle speed	min <sup>-1</sup>	12,000 Direct drive (Opt. 15,000 Direct drive)	<b>SUPPLY</b>		
Spindle rated torque	Nm	12,000 min <sup>-1</sup> : 96(2.5min.) / 70(30min.) / 48(cont.) 15,000 min <sup>-1</sup> : 96(10min.) / 70(30min.) / 48(cont.)	Electric voltage	v	200 (50 or 60 Hz)
Spindle taper		ISO 7/24 Taper NT No. 40	Electric power supply	KVA	41
<b>FEED</b>		Air pressure	MPa [psi]	0.4 [58]	
Rapid feed (X/Y/Z)	mm/min [ipm]	80,000 [3,150]	Air volume	liters [gal] / min.	360 [95.1]
Cutting feed (X/Y/Z)	mm/min [ipm]	30,000 [1,181]	<b>TANK</b>		
Table rotating speed	min <sup>-1</sup>	37	Hydraulic unit tank	liters [gal]	10 [2.6]
Acceleration (X/Y/Z)	g	1.0 / 1.0 / 1.0	Coolant tank	liters [gal]	300 [79.3]
<b>AUTOMATIC PALLET CHANGER</b>		Lubrication unit tank	liters [gal]	1.8 [0.5]	
Number of pallets		2	<b>SIZE</b>		
Pallet change system		Rotation	Floor space (w/o chip conveyor)	mm [inch]	1,530x3,958 [60.2x155.8]
APC time (Unclamp - Clamp)	sec.	13	Machine height	mm [inch]	2,788 [109.8]
			Machine weight	kg [lbs]	40ATC: 7,400 [16,280] 60ATC: 7,700 [16,940]

Machine Options  Overhead hydraulic arm  3-color program end signal light  Weekly timer  Automatic power off  Interface for danger prevention

## FANUC Oi-MF (Package 1) ● Standard Features Options

- Max. controlled axis: 5 axes
- Max. simultaneously controlled axis: 4 axes
- Spindle override 50-150% (each 10%)
- Cutting feed override 0-200% (each 10%)
- Rapid traverse override 1,2,4,8,15,25,50,100%
- Rapid traverse bell-shaped acceleration/deceleration
- Manual handle feed 1 unit
- Thread cutting, synchronous cutting
- Workpiece coordinate system
- Addition of workpiece coordinate system 48 sets
- Programmable data input G10
- Custom macro
- Canned cycles for drilling
- Scaling
- Rigid tapping
- Tool offset: 400 pcs
- Tool radius / Tool nose radius compensation
- Stored pitch error compensation
- Part program storage: 512 Kbyte
- Number of registrable programs: 400 pcs
- Background editing
- Run hour and parts count display
- Single direction positioning
- Cylindrical interpolation
- Helical interpolation
- 20 look-ahead blocks (AI advanced preview control)
- Optional chamfering / corner R
- Automatic corner override
- Programmable mirror image
- Coordinate system rotation
- Tool offset memory C
- Tool life management
- 40 look-ahead blocks (AI contour control)
- 200 look-ahead blocks (AI contour control II)
- 400 look-ahead blocks
- Optional block skip

## MACHINE SIZE



Shipment of this machine requires the Japanese government's approval. Specifications and dimensions are subject to change without notice.

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# KIWA Japan

# KH-4100

## Horizontal Machining Center



**KIWA MACHINERY CO., LTD.**





