

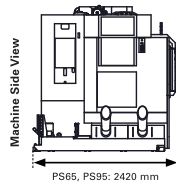
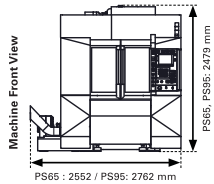
Machine Specifications		PS65	PS95
Travel	X x Y x Z axes	660 x 510 x 460 mm	920 x 510 x 460 mm
	Distance from table surface to spindle gauge plane	150 ~ 610 mm	150 ~ 610 mm
	Table	920 x 510 mm	1170 x 510 mm
Table	Table working area (W x D)	920 x 510 mm	1170 x 510 mm
	Maximum table load (Evenly distributed)	600 Kg	800 Kg
	Table surface configuration	T-Slots, 18H7 x 5 Nos	T-Slots, 18H7 x 5 Nos
Spindle	Spindle speed range	50 ~ 12000 rpm	50 ~ 12000 rpm
	Spindle taper hole	BT40 (Optional HSK-A63)	BT40 (Optional HSK-A63)
	Spindle drive motor power (30 min. / cont.)	25 / 18.5 kW	25 / 18.5 kW
	Spindle drive motor torque (15%ED/15 min. / cont.)	175 / 118 / 96 Nm	175 / 118 / 96 Nm
	Spindle bearing diameter (Inner / outer)	Ø85 / Ø130 mm	Ø85 / Ø130 mm
Feedrates	Rapid traverse	36 / 36 / 30 m/min	36 / 36 / 30 m/min
	Cutting feed	1 - 30,000 mm/min	1 - 30,000 mm/min
Automatic tool changer	Tool shank type	BT40 (Optional HSK-A63)	BT40 (Optional HSK-A63)
	Tool storage capacity	30 tools	30 tools
	Maximum tool diameter (With adjacent pots occupied)	Ø75 mm	Ø75 mm
	Maximum tool diameter (With alternate pots empty)	Ø125 mm	Ø125 mm
	Maximum tool length	300 mm	300 mm
	Maximum tool weight	8 Kg	8 Kg
Coolant tank	Tank capacity	320 L	320 L
	Flow rate, Nozzle coolant	40 L	40 L
	Pressure	5 bar	5 bar
Air supply	Consumption	600 L/min	600 L/min
	Incoming voltage	380 V ~ 415 V, 3 Phase, 50 Hz	380 V ~ 415 V, 3 Phase, 50 Hz
Power supply (Standard)	Main electrical power capacity	38 kVA	38 kVA
	Machine accuracy (Tolerance measured at Makino's assembly plant)	Positioning (Full stroke without / with scale feedback)	±0.0025, ±0.0015 mm
Machine size (Standard)	Repeatability (Full stroke without / with scale feedback)	±0.002, ±0.001 mm	±0.002, ±0.001 mm
	Height (H)	2479 mm	2479 mm
	Floor space (W x D)	2552 x 2420 mm	2762 x 2420 mm
	Weight	6600 kg	6800 kg

Standard Specifications

- Spindle Temperature Controller
- Splash Guard Door Interlock
- Fully Enclosed Splash Guard
- Air Blower
- 3 Layer Signal light
- Rigid Tapping
- Coolant System
- Fluorescent Light
- Levelling Bolts
- Manuals
- Maintenance Tool Set

Optional Specifications & Equipment

- 20,000 rpm High Speed Spindle
- HSK-A63 • BT40
- Run hour meter
- Automatic Tool Length Measurement
- Auto Work Measurement
- Mist Collector
- Rotary Work head
- Hydraulic fixture control interface
- Through Spindle coolant



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- The machine displayed in this catalogue is fitted with optional equipment.
- The specifications and pictures in this catalogue may be changed without prior notice to incorporate improvements from ongoing R&D programs.
- The export of this product is subject to Singapore government regulations under the Foreign Trade to strategic goods. Check with the government agency for authorization. When further transport of this product for resale/retransfer/relocation is being considered, prior consultation with Makino Asia Pte Ltd is required.

PS65 • PS95

Vertical Machining Centre

NEW



MEETING THE CHALLENGES OF TODAY'S
PRECISION METAL CUTTING INDUSTRIES



PRECISION
ENGINEERING

GENERAL
ENGINEERING

AUTOMOTIVE

AEROSPACE

MEDICAL





Sustain Growth Through Competitiveness

IN MEETING today's challenges, any company can sustain growth only through competitiveness.

An industry leader in pioneering engineering innovation and machine tool design, Makino has constantly helped customers to stay competitive through low cost of ownership and fulfilling of the 3 main challenges of cost, quality and delivery.

Commitment to precision in machine building, continuous training, total quality procedures and extensive research and development efforts to achieve new frontiers in technology defines Makino and provides us the edge over others.

A machine tool of choice, Makino machines particularly excel in Performance, Accuracy and Reliability.

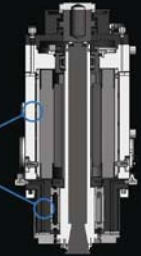


Accuracy Factors

Thermal Control

Makino has pioneered the following processes over 10 years:

- Core Cooling of Ball Screw
- Thermal Control on Spindle Jacket
- Cooling of axis support bearings



Cooling Jackets

Quality of Elements

All moving elements are selected over period of tests for their reliability. Safety is also another major area that we apply over entire machine envelope:

- Door – Shatter proof polycarbonate
- Safety Interlock
- Fully enclosed working environment

COST EFFECTIVE

TOTAL QUALITY

HOLISTIC SOLUTION

PERFORMANCE

ACCURACY

RELIABILITY

Building Value Through Expertise

TO ACHIEVE the ultimate high quality standard product requires a lot of different processes with a combination of tooling knowhow, fixtures and innovation technologies. Enabling our customers with a smooth productive process and workflow is important to us at Makino. Acting as a single source for our customers, we help to integrate various machining technologies, third-party equipment, application engineering, fixtures, on-time delivery, on-site installation, successful test runs, training and most importantly, post-production support.

One of our competitive advantages over our competitor is that we have instituted many offices in the region to give you a better support. Furthermore, we have formed strategic partnerships with leading companies in material handling, tooling and fixture design. With our good relationship with them, you are sure to benefit.

With Makino, you will have a WORLDWIDE EXPERTISE to tap on.

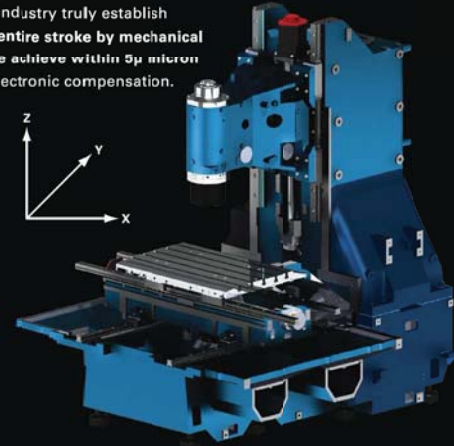


INTEGRATED SOLUTIONS

- Integrated Solutions:
1. Programming
 2. Machine & Tooling Design
 3. Technology Transfer of Machining Techniques
 4. CNC Technology

Geometric Accuracies

Very few in the industry truly establish Geometry over entire stroke by mechanical means which we achieve within 5µ micron without much electronic compensation.



PART NAME : Anchor Bracket
MATERIAL : S.G. Iron



PART NAME : Connecting Rod
MATERIAL : Steel Forging



PART NAME : Compressor
MATERIAL : Aluminium



PART NAME : Input Carrier
MATERIAL : Powder Metal Steel