



T series

Ultra Performance T-base
Vertical Machining Center



T

Series

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Vertical Machining Center

The T series is designed for superb machine rigidity and performance. This series is suitable for a wide range of applications such as automotive, aerospace and die & Mold.





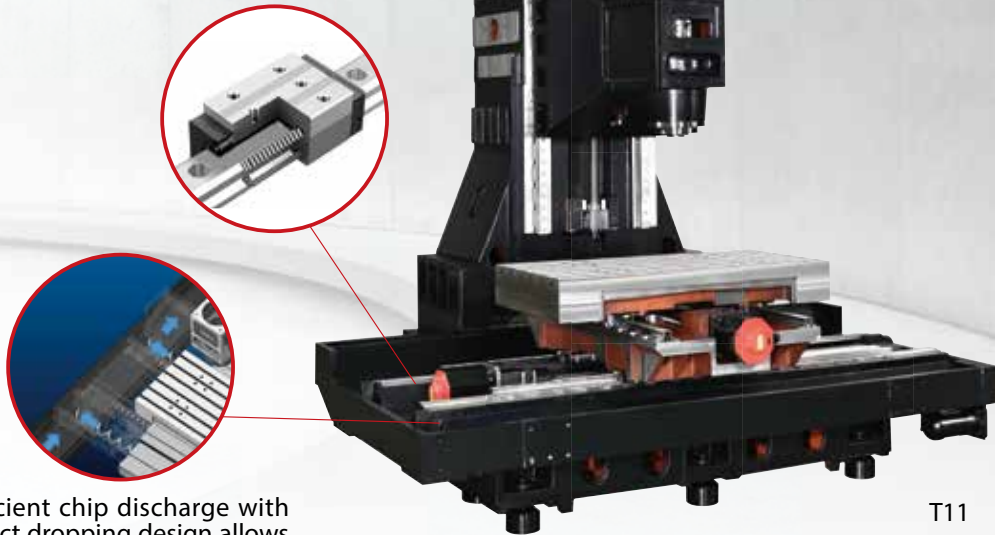
The Best Force Flow of T-base Design

- Advanced FEM analysis strengthens the structure to provide the best cutting rigidity and efficiency.
- The overhang free table is supported by highly rigid MEEHANITE® castings to ensure the best dynamic leveling accuracy, machining rigidity and durability.
- The long travel of X-axis lies on the top of the base, where the saddle moves along the full stroke; the cross Y-axis saddle supports the work table.
- The T-base rigid structure for full stroke support to eliminate overhang issue and guarantees the most dynamic leveling accuracy.
- The rigid Δ -shaped column structure has greatly enhanced lateral cutting rigidity and stability.
- Without counterweight design that enhances surface roughness quality.

High Rigidity Axial Movement

- All axes are equipped with roller linear guides and large-size ballscrews to ensure stability and longer life under heavy cutting.
- Fast Rapid Speed 30 /30 /24 m/min.
- The Y-axis is equipped with 4 roller guideways for better rigidity.(T13)

X/Y/Z-axis are designed with ultra heavy load roller linear guideways to ensure smooth axial movements.



Efficient chip discharge with direct dropping design allows unhindered chip flow to the conveyor.

T11

Enforced Column Structure

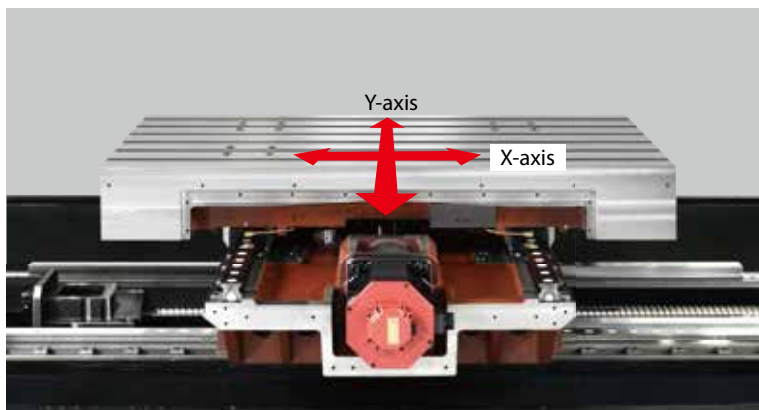
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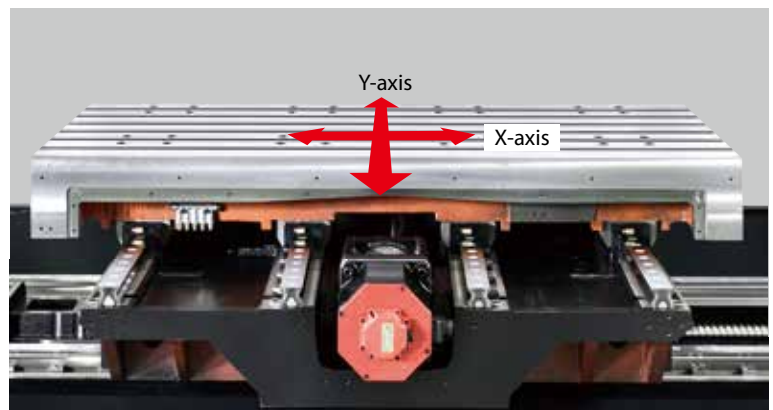
T series



Others



T11



T13

YCM In-house IDD Spindle

01 Unique IDD spindle

Offers low vibration, smooth operation, and optimal heat insulation.

02 New cooling circuit design

Adopt composite water jackets for increasing flow rate and minimizing thermal deformation.

03 Ceramic bearing

Lightweight, rigid with low centrifugal force. Using angular contact ball bearings and cylindrical roller bearings greatly enhances the spindle rigidity in axial and radial directions.

04 Complete thermal solutions

Maintain long-term stability of the machining surface while providing perfect machining accuracy

05 YCM-made oil ring and air seal

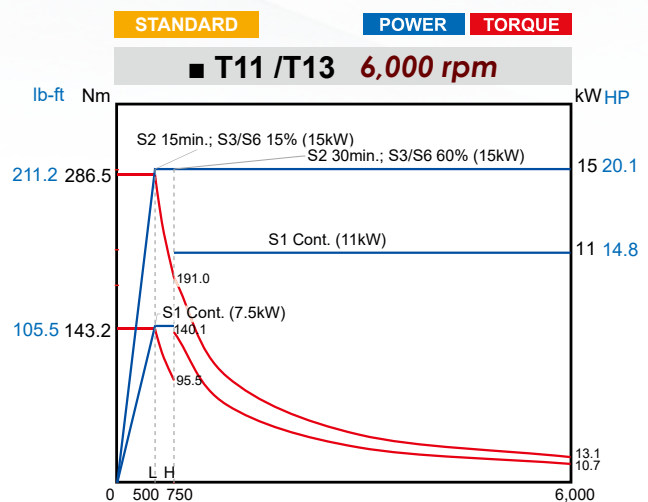
Effectively resists steam entering into the bearing for longer spindle life.

06 New unclamping cross bar design

Extends lifetime of the tool unclamping mechanism.

07 Modular spindle design

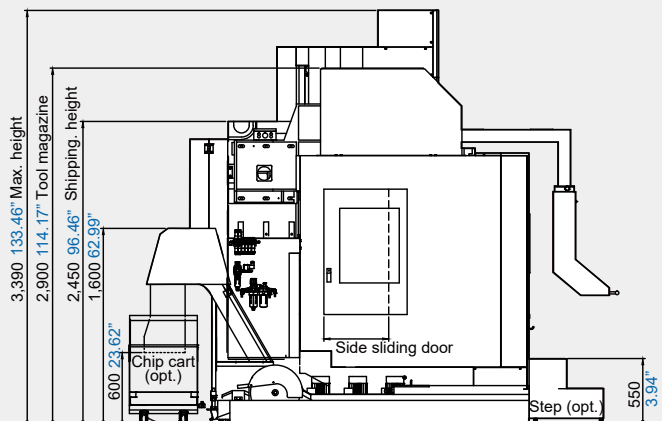
Makes spindle replacement easier.

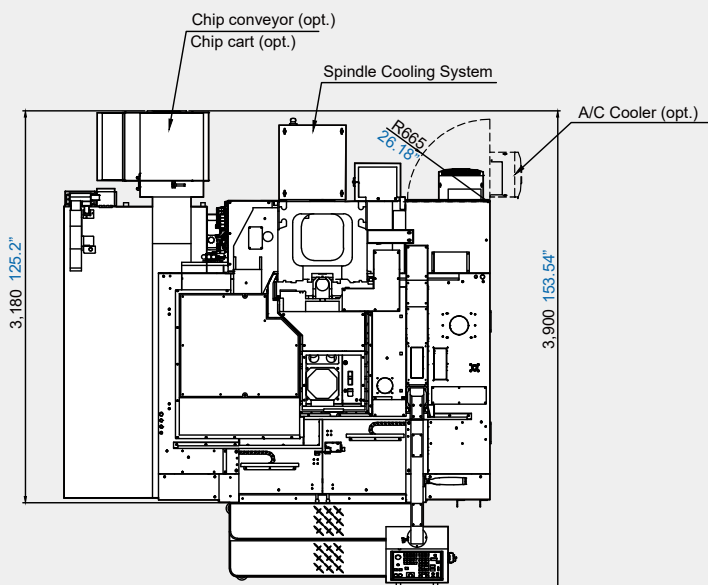
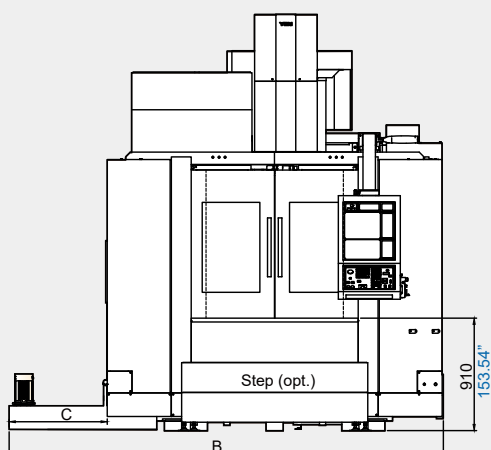
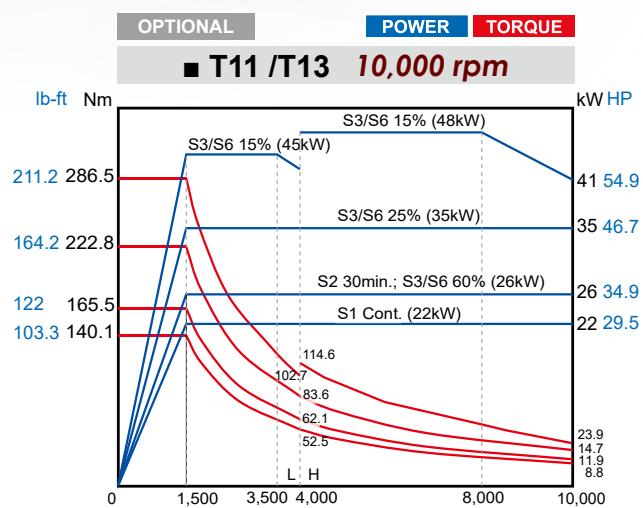
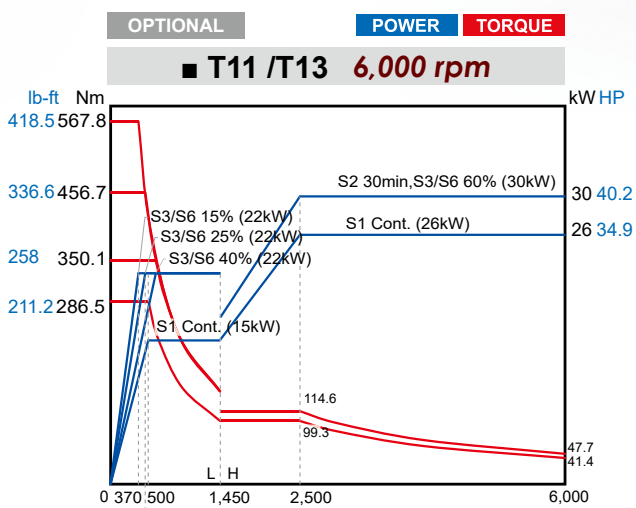


DIMENSIONS

Unit: mm **inch**

	A	B	C
T11	1,100 43.31"	3,500 137.8"	790 31.1"
T13	1,460 57.48"	3,850 151.57"	540 21.25"







- A** 24T **B** 32T (opt.), 40T (opt.)
C Door Close **D** Door Open
E Tool Change Time (T-T): 2.5 sec.

Fast & Reliable ATC System

The arm-type ATC system is driven by roller gear cam to improve the non-cutting time. Number of tool ports in magazine can be selected for 24T/32T/40T.

Automatic Tool Magazine Door Design (opt.)

- Driven by pneumatic cylinder.
- Prevent coolant and chips from entering tool magazine.



CUTTING CAPACITY

T13

BBT50

opt.

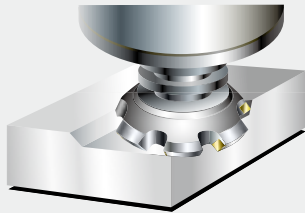
6,000 rpm (Spindle torque 567.8 Nm)

FACE MILL

S45C Steel

Material Removal Rate

720
cc/min.



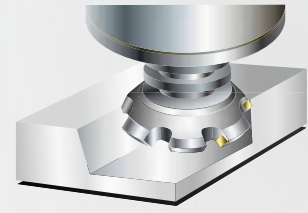
Tool $\varnothing 125$ mm x 8T
Spindle Speed 500 rpm
Feedrate 2,400 mm/min.
Width of Cut 120 mm
Depth of Cut 2.5 mm

FACE MILL

S45C Steel

Depth of Cut

9
mm



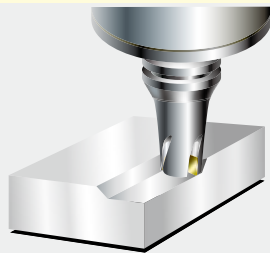
Tool $\varnothing 160$ mm x 10T
Spindle Speed 300 rpm
Feedrate 300 mm/min.
Width of Cut 120 mm

END MILL

S45C Steel

Depth of Cut

25
mm



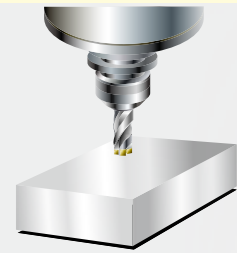
Tool $\varnothing 63$ mm x 4T
Spindle Speed 500 rpm
Feedrate 200 mm/min.
Width of Cut 63 mm

U-DRILL

S45C Steel

Cutter Diameter

$\varnothing 80$
mm



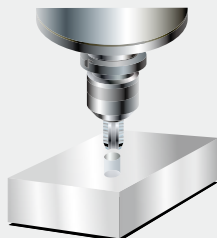
Tool $\varnothing 80$ mm x 1T
Spindle Speed 500 rpm
Feedrate 75 mm/min.
Depth of Cut 25 mm

TAP

S45C Steel

Tapping

M48



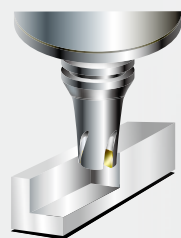
Tool M48 x 5P
Spindle Speed 33 rpm
Feedrate 165 mm/min.
Depth of Cut 30 mm

HELICAL MILL

SUS304 Stainless steel

Depth of Cut

50
mm



Tool $\varnothing 63$ mm x 4T
Spindle Speed 500 rpm
Feedrate 240 mm/min.
Width of Cut 15 mm

Internal cutting test data are just for reference. This is tested for the max. machining capability of the machine, but not for the optimum tool life conditions.



01



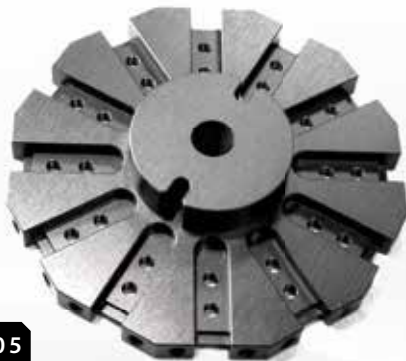
02



03



04



05



06

Die & Mold

- 01 Lamp mold
- 02 Sphere mold
- 03 Intake hose mold

Job shop

- 04 Connecting part
- 05 Mechanical disk

Automotive

- 06 Cylinder block
- 07 Cylinder head



07

SPECIFICATIONS

		T11	T13
SPINDLE			
Spindle Speed	rpm	6,000 (6,000 / 10,000)	
Max. Spindle Power	kW HP	15 (30 / 48) 20.1 (40.2 / 64.4)	
Spindle Taper		BBT50	
TRAVEL			
X-axis Travel	mm inch	1,100 43.3"	1,300 51.2"
Y-axis Travel	mm inch	635 25.0"	680 26.8"
Z-axis Travel	mm inch	630 24.8"	630 24.8"
Distance between Spindle Nose and Table Top	mm inch	150~780 5.9"~30.7"	
Distance between Spindle Center and Front Edge of Cover	mm inch	955 37.6"	
Distance between Spindle Center and Front Edge of Z-Axis Cover	mm inch	690 27.2"	
TABLE			
Table Size	mm inch	1,300 x 635 mm 51.2" x 25"	1,500 x 680 mm 59.1" x 26.8"
T-Slots x Size x Pitch		6 x 18mm x 100mm 6 x 0.7" x 3.9"	
Max. Load on Table	kg lb	1,200 2645.5	1,500 3306.9
Distance between Table Top & Floor	mm inch	970 38.2"	
ACCURACY		ISO 10791-4	YCM*
Axial Travel		Full Length	
Positioning (X/Y/Z) A	mm inch	0.042 / 0.025 / 0.025 0.00165" / 0.00098" / 0.00098"	0.014 / 0.01 / 0.01 0.00055" / 0.00039" / 0.00039"
Repeatability (X/Y/Z) R	mm inch	0.02 / 0.015 / 0.015 0.00079" / 0.00059" / 0.00059"	0.01 / 0.007 / 0.007 0.00039" / 0.00028" / 0.00028"
FEEDRATE			
X/Y/Z Rapid Feedrate	m/min ipm	30 / 30 / 24 1181.1 / 1181.1 / 944.9	
Cutting Feedrate	m/min ipm	1~20,000 0.04~787	
ATC			
Tool Magazine Capacity (opt.)	T	24 (32/40)	
Max. Tool Weight	kg lb	20 44	
Max. Tool Length	mm inch	24T : ø110 x 350 mm ø4.3" x 13.8" (32/ 40T : ø120 x 350 mm ø4.7" x 13.8")	
Max. Tool Length (Without adjacent tools)	mm inch	24T : ø210 x 350 mm ø8.3" x 13.8" (32/ 40T : ø240 x 350 mm ø9.5" x 13.8")	
Tool Change Method (opt.)		Arm Type	
Tool Selection Method		Random	
GENERAL			
Machine Weight	kg lb	10,000 22,046	10,600 23,369

Note: Above specifications may vary depending on the machine and the surrounding environment. The manufacturer reserves the right to modify the design, specifications, mechanisms, etc., to improve the performance of the machine without notice. The test data provided in this catalog is performed under specific test procedures and environmental conditions.

ACCESSORIES

		T11 / T13
SPINDLE		
Spindle Cooling System		○
Coolant Through Spindle (CTS)		○
SPINDLE AUXILIARY EQUIPMENT		
Spindle Air Blast		●
Spindle Air Seal		●
Guideway Cover		●
Coolant System		
Coolant Pump		●
CHIP REMOVAL SYSTEM		
Dual-Chip Augers		●
Chip Conveyor (Left Side)	Chain Type	○
	Scraper Type	○
Coolant Shower		●
Air Gun		●
Coolant Gun		●
ELECTRICAL SYSTEM		
A/C Cooler for Electrical Cabinet		○
Heat Exchanger for Electrical Cabinet		●
AUXILIARY SYSTEM		
Circular Coolant Nozzle		●
Oil-mist Collector		○
Cutting Air Blast		●
Automatic Lubrication		●
Automatic Power Off Device		●
PERIPHERALS		
Automatic Tool Length Measurement System		○
Automatic Workpiece Measurement System		○
Linear Scale		○
Oil Skimmer		●
GENERAL		
CE/ UKCA/ TS		○
Safety Door		●
Automatic Door		○
ATC Door		○
Full Chip Enclosure with Top		●
Leveling Blocks and Bolts		●
Foundation Bolts		●
CNC Control		
FANUC	MXP-200FB+	●

GREEN MACHINE

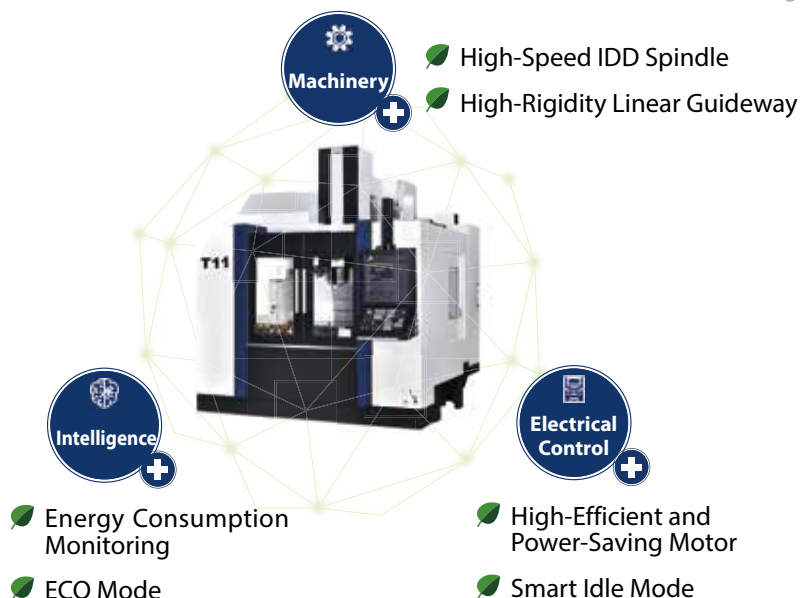


YCM has been awarded ISO14955 certification for green machine tools. With lean management and digital transformation, YCM strives to achieve a sustainable circular economy. The concept of energy conservation and carbon reduction is integrated into production by selecting low-pollution materials, implementing lightweight designs, and incorporating energy-saving peripheral equipment to reduce power consumption. With smart management functions, it can calculate carbon emissions and monitor carbon footprints, improving production efficiency and enhancing energy performance.

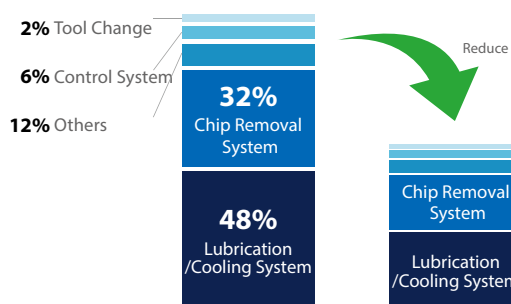


YCM

▼ How to reduce the environmental impact ?



▼ Power Consumption



ECO

- Idle function (Standby mode)
- ECO tool function
- Variable-frequency spindle oil cooler
- Accumulator-type hydraulic system
- Variable-frequency coolant cooler

Energy Monitoring

■ Basic Version

1. Equipped with a simple display interface (IOPM)
2. Capable of monitoring individual machine power consumption and converting it into carbon emissions.
3. Data can be integrated with the overall factory energy management system.

■ Professional Version

1. Equipped with graphical display interface.
2. Capable of data storage and output for report display.
3. Capable of monitoring individual machine power consumption and converting it into carbon emissions.
4. Data can be integrated with the overall factory energy management system.

CONTROL / SOFTWARE

MXP- 200FB+

Control
by FANUC



Communication Interface

RJ45 Ethernet
USB
CompactFlash Card

Excellent Vision Quality

10.4" LCD display

User-Friendly Design

Detachable
keyboard
(QWERTY)

Fine Surface Technology

1. AICC II+, high precision and high accuracy AI contour control
2. Smooth tolerance control+
3. Machining quality level adjustment function

Fast Cycle Time Technology

1. Maximum 400 blocks of look-ahead for pre-calculating the machining program
2. Block processing time 1ms for achieving high-speed machining requirement
3. Smart rigid tapping function combined with spindle capability for high-speed machining (*Note)

Program Dynamic Simulation

Manual Guide i features dynamic simulation of machining programs with full-screen display

Upgraded Memory and File Organization

1. 2 MB program storage size
2. Built-in memory card for easy program editing
3. Directory filing structure with organized file management
4. 400 pairs of tool offset, 1,000 registrable programs, 48 pairs of workpiece coordinate system, 256 pairs of tool life management

i-OPERATION *Plus II*

Exclusive Software
from **YCM**



Pre-Machining



Intelligent Tool Data Management

Comprehensive tool data management function allows operators to monitor and manage all positions in tool magazine

Workpiece Coordinate Calculation

Conversational window provides convenient and fast setup of workpiece coordinates

RENISHAW GUI System
(Conversational Graphic Operating Interface)
(This function may vary on TCV and NH/H series machine.
For more details, please contact YCM sales representatives.)



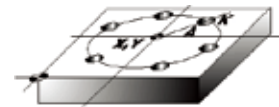
Tool Measurement & Measurement Calibration



Workpiece Measurement

(applicable to certain models)

Program Editing



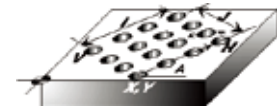
CIRCULAR HOLE PATTERN
(G120 P1) Function



RECTANGULAR HOLE PATTERN
(G120 P4) Function

i_PATTERN

- (1) 15 sets of machining cycle program
- (2) Saving programming time and memory time
- (3) Graphic interface & conversational command input



GRID HOLE PATTERN
(G120 P5) Function

Machining



High Performance Machining Mode M300

With 5 sets of parameter settings, it's easy to find suitable and optimized machining.



Tool Load Management

Instant tool load monitoring with alarm function
(This function may vary on TCV and NH/H series machine. For more details, please contact YCM sales representatives.)



Tool Life Management

Indicating tool status of each group with tool life alarm
(This function may vary on TCV and NH/H series machine. For more details, please contact YCM sales representatives.)



Multi-Display Function

Displaying 4 statuses simultaneously with configurable status display

Smart Control Panel



iPANEL

Easy to set up and operate important functions

(This function may vary on TCV and NH/H series machine.
For more details, please contact YCM sales representatives.)

Intelligent Counter



Instantly providing users with periodic maintenance notifications and work-pieces counter management

*Above functions may vary from model to model.



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