



JG50

THE NEXT
GENERATION
HIGH SPEED VMC



VERTICAL MACHINING CENTER

JG 50 SERIES



HIGH-SPEED MOVING COLUMN VMC



**HIGH-SPEED MOVING COLUMN VMC
WITH ROTARY PALLET CHANGER**

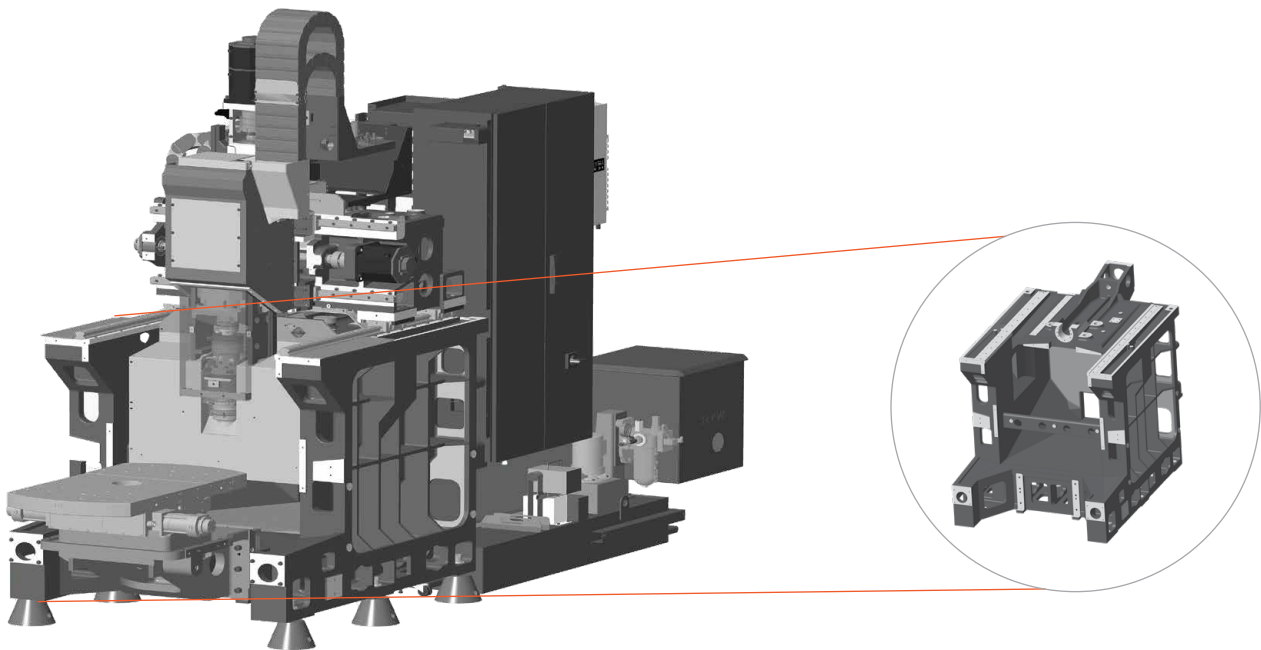
A high productivity, Compact moving column vertical machining center (VMC), that is poised to meet the high volume and high accuracy requirements of the modern industry. The machine has been tested for components with stringent quality parameters yet meeting the high volume productions. JG Series is suitable for universal industrial applications such as Automobile, Die Mould, Electronics, Medical, Aerospace etc.

HIGHLIGHTS

- Gantry structure for higher rigidity
- Improved axis dynamics
- Higher axes acceleration & deceleration (1G)
- Compact footprint (width 5.85 m²)
- High speed HSK A50 Spindle for better Rigidity
- Disk type ATC - Tool to Tool change time 1 sec
- Versatile table configuration : 3+1 axis, 3+2 axis, 4+1 axis
- Rotary Pallet changer with 4th axis rotary table (option) ranging from Ø 160 to Ø 200 in both side of the pallet

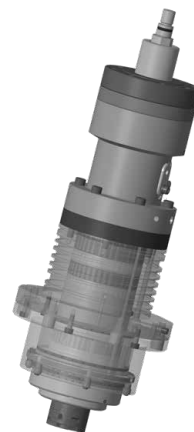
BASIC STRUCTURE

- The structure is made of high quality FG 300 cast iron, which resist high temperatures and prevent significant deformation.
- In order to achieve optimal performance and maintain consistent results, the design of JG50 utilizes Finite Element Analysis (FEA) techniques.
- The structural configuration of the machine is designed with a closed frame type, incorporating a pair of elongated supporting columns to achieve exceptional structural rigidity.



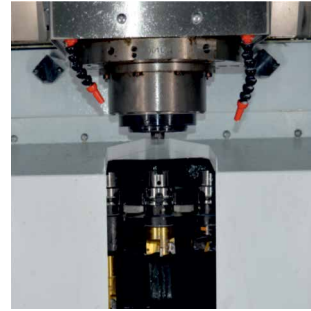
SPINDLE

- JG Series machines are equipped with Direct Coupled Spindle and Built - In Motor spindle
- Optimum Torque/Speed spindle characteristics to meet various applications.
- Spindles are manufactured in dedicated dust free, temperature controlled assembly shops where spindles are extensively tested for various performance criteria.



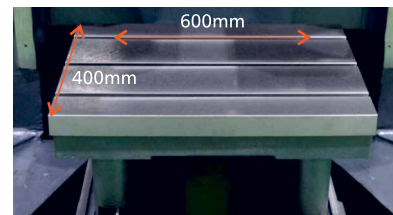
AUTOMATIC TOOL CHANGER

- The ATC incorporates an armless, direct tool pick system, resulting in enhanced performance and efficiency
- The servo-driven Magazine is designed for high speed operations and ensures precise tool change
- The armless tool changer minimizes downtime and increases productivity



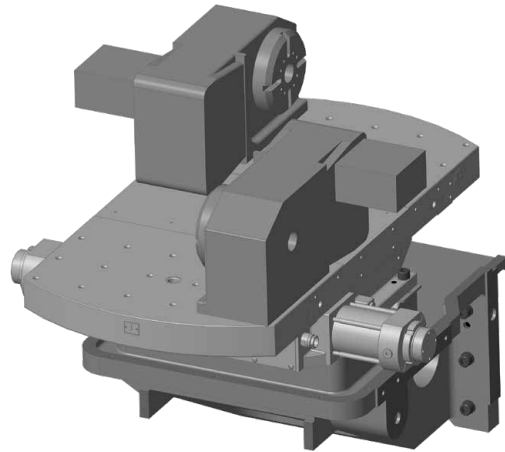
TABLE

- JG50R incorporates a fixed table design which has been specifically implemented to address the needs of customers who require greater flexibility in fixture design.
- The fixed table ensures high precision levels in workpiece



ROTARY PALLET CHANGER

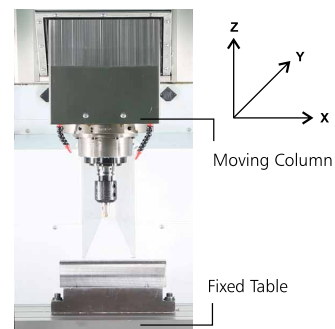
- JG50R incorporates a rotary pallet changer to increase the productivity.
- Rotary Pallet changer with 4th axis rotary table (option) ranging from Ø 160 to Ø 200 in both side of the pallet



SPECIFICATIONS	UNIT	JG50R
Pallet size	mm	550 x 380
Pallet swing diameter	mm	Ø1046
Pallet indexing time	sec	4
Maximum weight / pallet	kgf	300
Pallet to floor height	mm	790

AXES

- Pre-tensioned ball screws ensure accurate movement
- LM roller guideways are mounted for repeatability and precise positioning even at high-speed operations



EASY OPERATING SCREEN (LMW-EOS)

MAIN SCREEN



This dashboard helps to perform / reach desired screens by quick navigation.

QUICK MAGAZINE VIEW



This Screen displays magazine overview like pot location, current spindle tool and waiting tool status also helps for trouble shooting

TOOL DATA MANAGEMENT



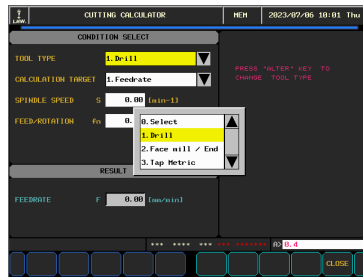
The screen displays tool data overview like Tool name & number / Pot number, Tool type (Big tool/Fixed tool), Spindle tool status, Load setting

HARD PROBING



Monitors the spindle load current for each tool. If the spindle current exceeds a preset load value, it issues an alarm to shut down the machine.

SPINDLE POWER CALCULATOR



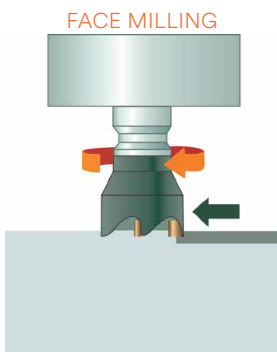
Programmer can calculate spindle power, spindle load as exactly as on screen.

MAINTENANCE DISPLAY

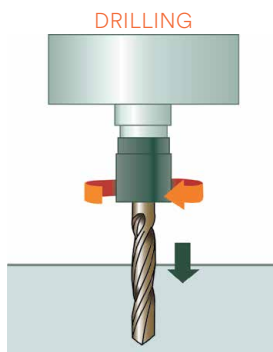


Maintenance schedules as on the screen.

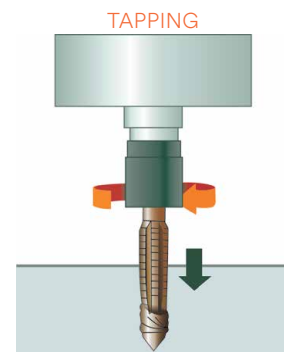
MACHINING PERFORMANCE: MATERIAL REMOVAL RATE



Material : Steel / Aluminium



Material : Steel / Aluminium



Material : Steel / Aluminium

FACE MILLING				
Parameter	Unit	Al 606	EN8	
Cutter Size	mm	63x5Z	63 x 5Z	
Spindle speed	rpm	1500	1500	
Feed	mm/mm	1125	1125	
Width of Cut	mm	48	48	
Depth of Cut	mm	5	3	
Capacity	cc/min	270	162	

DRILLING				
Parameter	Unit	Al 606	EN8	
Cutter Size	mm	40x2Z	30x2Z	
Spindle speed	rpm	1600	2000	
Feed	mm/min	160	200	
Depth of Cut	mm	40	30	
Capacity	cc/min	201	141	

TAPPING					
Parameter	Unit	Al 606		EN8	
		Max	Min	Max	Min
Tap Size	mm	M24x3	M2x0.4	M24x3	M2x0.4
Spindle speed	rpm	265	8000	200	2400
Feed	mm/mm	795	3200	600	960
Depth of Cut	mm	30	5	30	5

Note : Values shown are in test conditions, may vary depending on tools, materials and cutting parameters / conditions (Spindle power: 7.5 / 11 / 15 kW motor).

SPECIFICATIONS

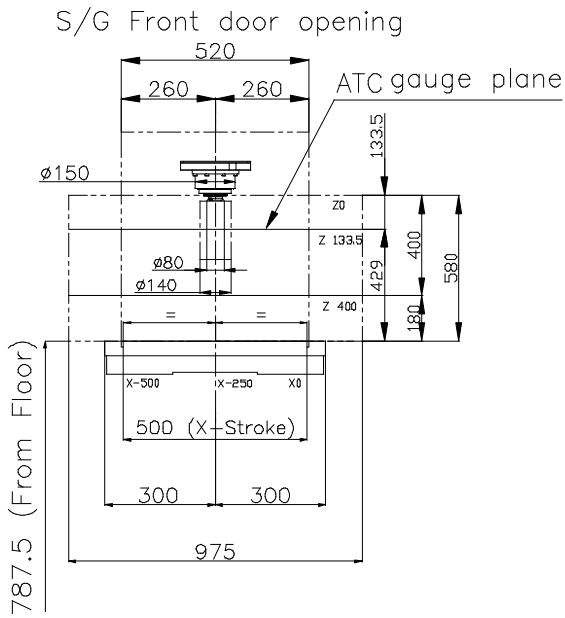
DESCRIPTION	UNIT	JG50	JG50 HS		JG50R
TRAVEL					
X Axis	mm	500			
Y Axis	mm	400			
Z Axis	mm	400			
TABLE					
Table / Pallet Size	mm	600 × 400			550 × 380
Table Loading Capacity	kg	400			300
T-slot Size x pitch	Nos. x mm x mm	3 × 14 × 125			-
SPINDLE					
Spindle	Type	Direct Coupled Spindle		Built-in Motor Spindle	Direct Coupled Spindle
Spindle Speed (Std/Opt)	rpm	12000	8000	16000	12000
Spindle Bore Taper	Type	HSK A50			
Spindle Motor Power	kW	7.5/11/15 S1/S2-30 min/S3-25%	Low Winding (S1/S3-25%/ S3-15%/S3-10%) 7.5/11/11/11	High Winding (S1/ S2-30min/S2- 10min) 11/15/18.5	7.5/11/15 S1/S2-30 min/ S3-25%
Max. Spindle Torque	Nm	47.7 / 70 / 95.5	Low Winding (S1/S3-25%/ S3-15%/S3-10%) 31.1/45.7/60/80.8	High Winding (S1/ S2-30min/S2- 10min)17.5/23.9/29.4	47.7 / 70 / 95.5
FEED SYSTEM					
Rapid Traverse rate (X/Y/Z) - Axis Std (Opt)	m/min	48/48/48 (60/60/60)			
Cutting Feed rate	m/min	20			
Guideways on all axes	Type	Roller LM Guides			
AUTOMATIC TOOL CHANGER					
No. of Tools	Nos	26			
Tool Shank Configuration	Type	HSK A50			
Max. Tool dia with adjacent tool	mm	Ø 80			
Max. Tool length	mm	320			
Max. Tool weight	kg	3.5			
Tool change time (tool to tool)	Sec	1			
COOLANT					
Coolant Tank Capacity	Ltrs	400			
MACHINE SIZE					
Length x Breadth x Height	mm	1300 × 4500 × 2900			1450 × 4600 × 3000
Weight	kg	6000			6500
ACCURACY					
Positioning Accuracy (X, Y & Z) - Axis	mm	±0.008			
Repeatability	mm	±0.008			
CNC SYSTEM					
Controller	Type	Fanuc			
POWER SUPPLY					
Power requirement	kVA	25	35		25

Note: Specifications are subject to change without prior notice & may vary depending upon optional accessories

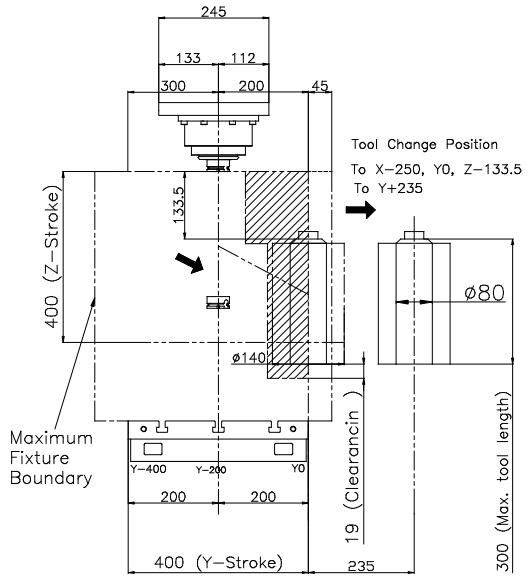
MOVING RANGE DIAGRAM

JG 50

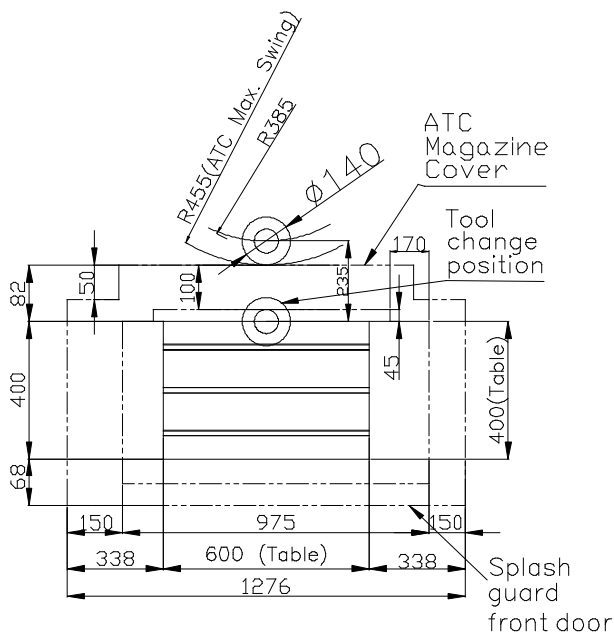
FRONT VIEW



SIDE VIEW

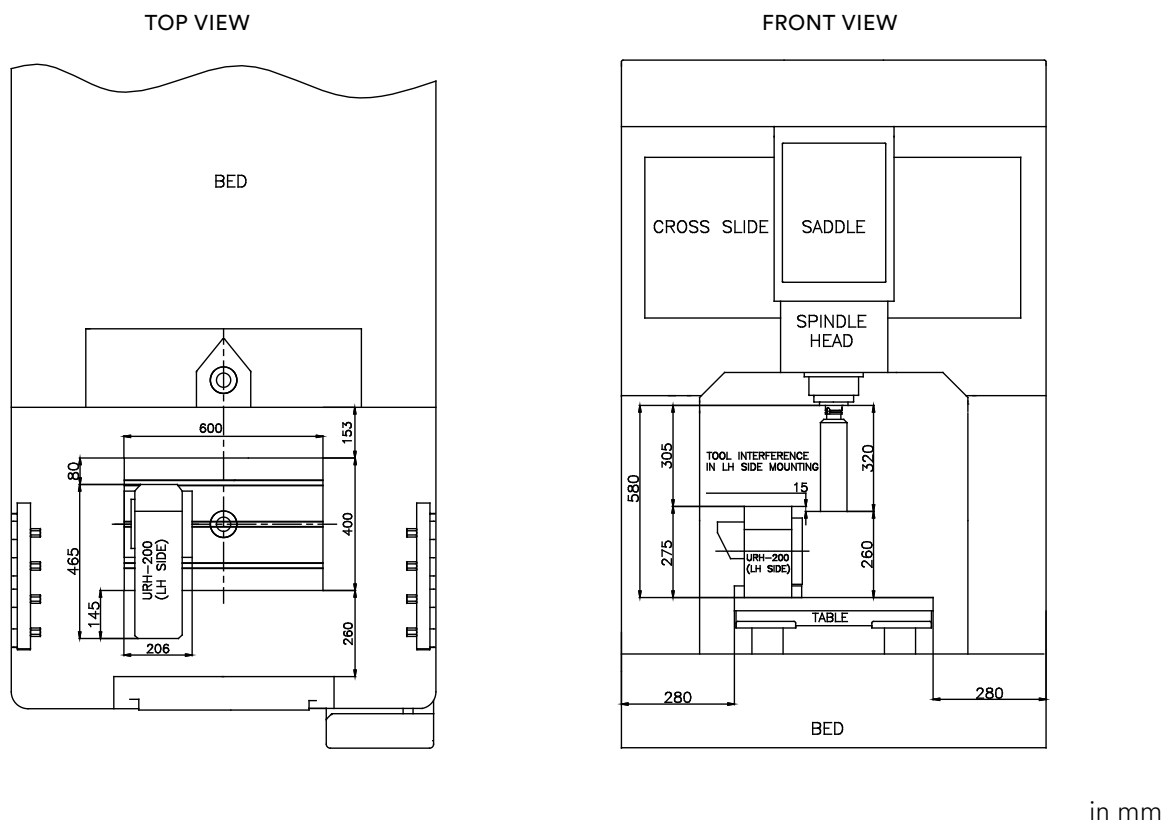


TOP VIEW



INTERFERENCE DIAGRAM (4 AXIS)

JG 50



JG 50 SERIES

BASIC
INFORMATION

SPECIFICATIONS

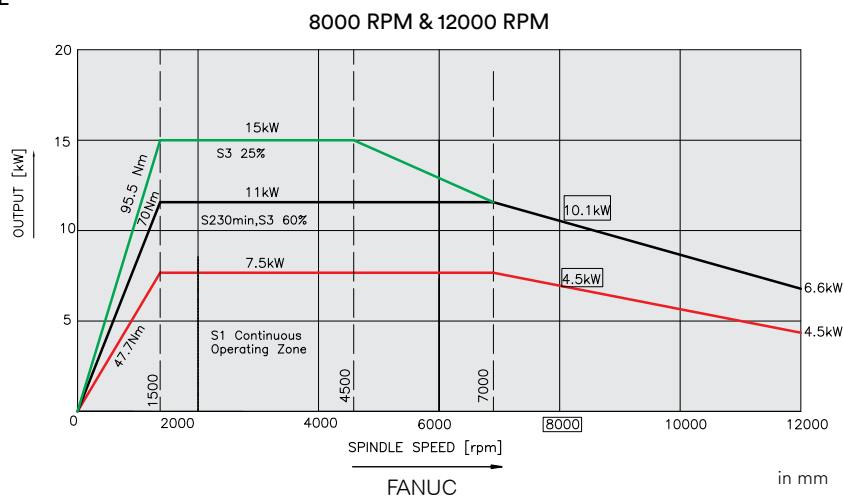
DIAGRAMS

APPLICATION
& SOLUTIONS

SPINDLE SPEED POWER DIAGRAM

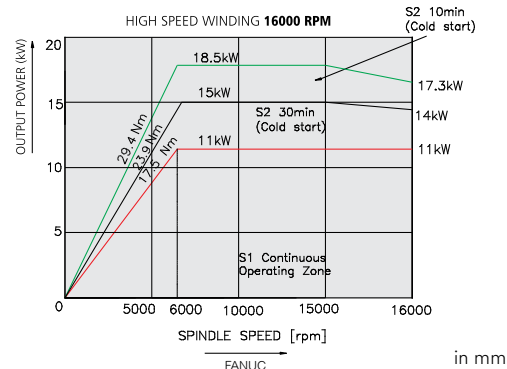
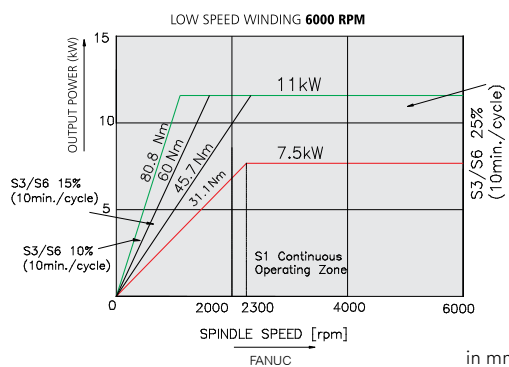
JG50

DIRECT COUPLED SPINDLE



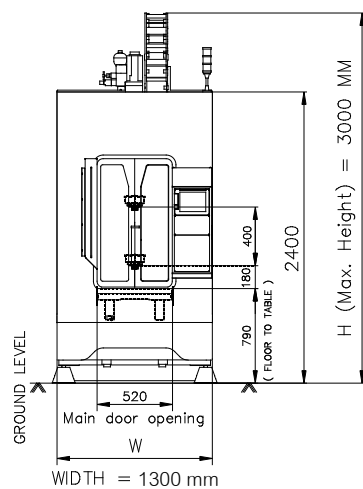
JG50 HS

BUILT-IN MOTOR

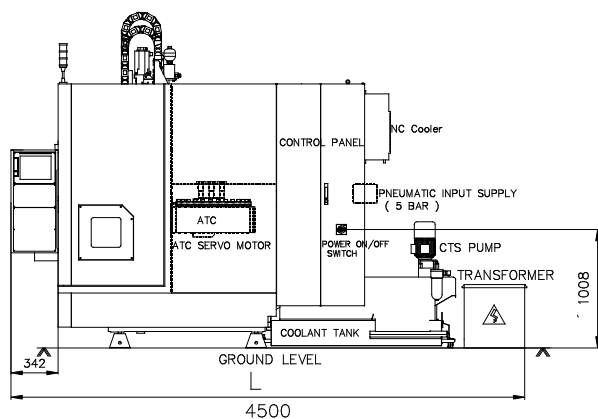


INSTALLATION DIAGRAM

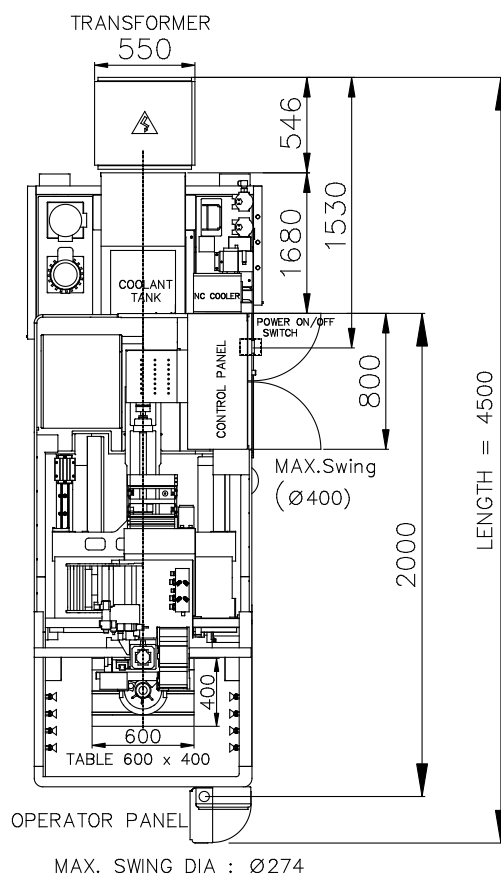
JG 50



FRONT VIEW



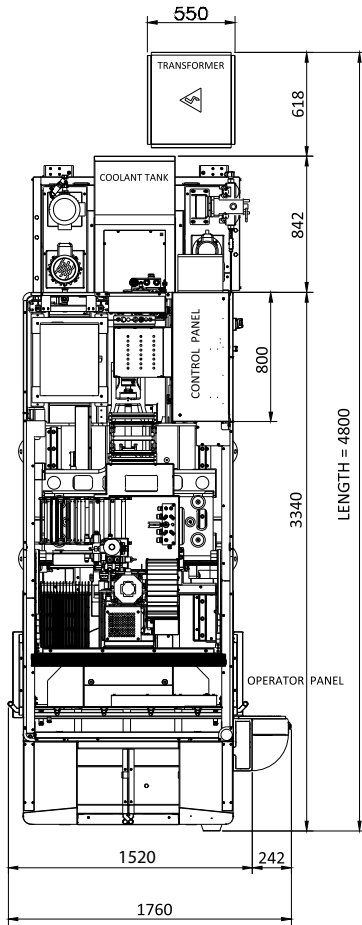
SIDE VIEW



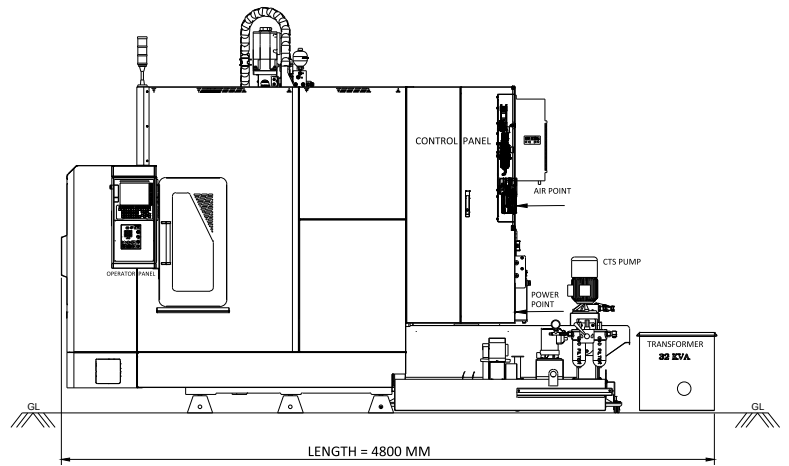
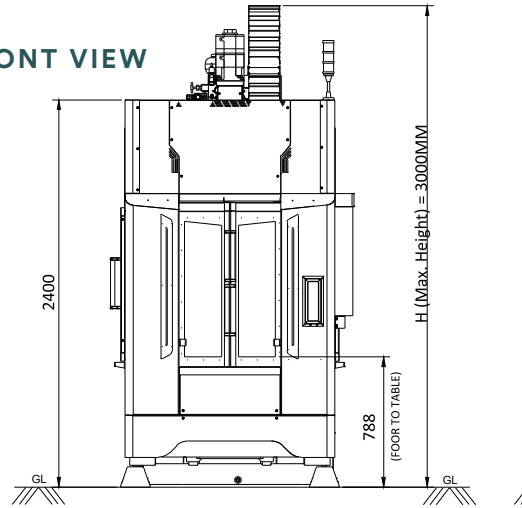
TOP VIEW

JG 50 R

TOP VIEW



FRONT VIEW



SIDE VIEW

MACHINING SOLUTIONS



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BASIC INFORMATION

SPECIFICATIONS

DIAGRAMS

APPLICATION & SOLUTIONS

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