

KASUGA

MF KU
Series

五軸數控立式加工中心機
5 AXIS MACHINING CENTER



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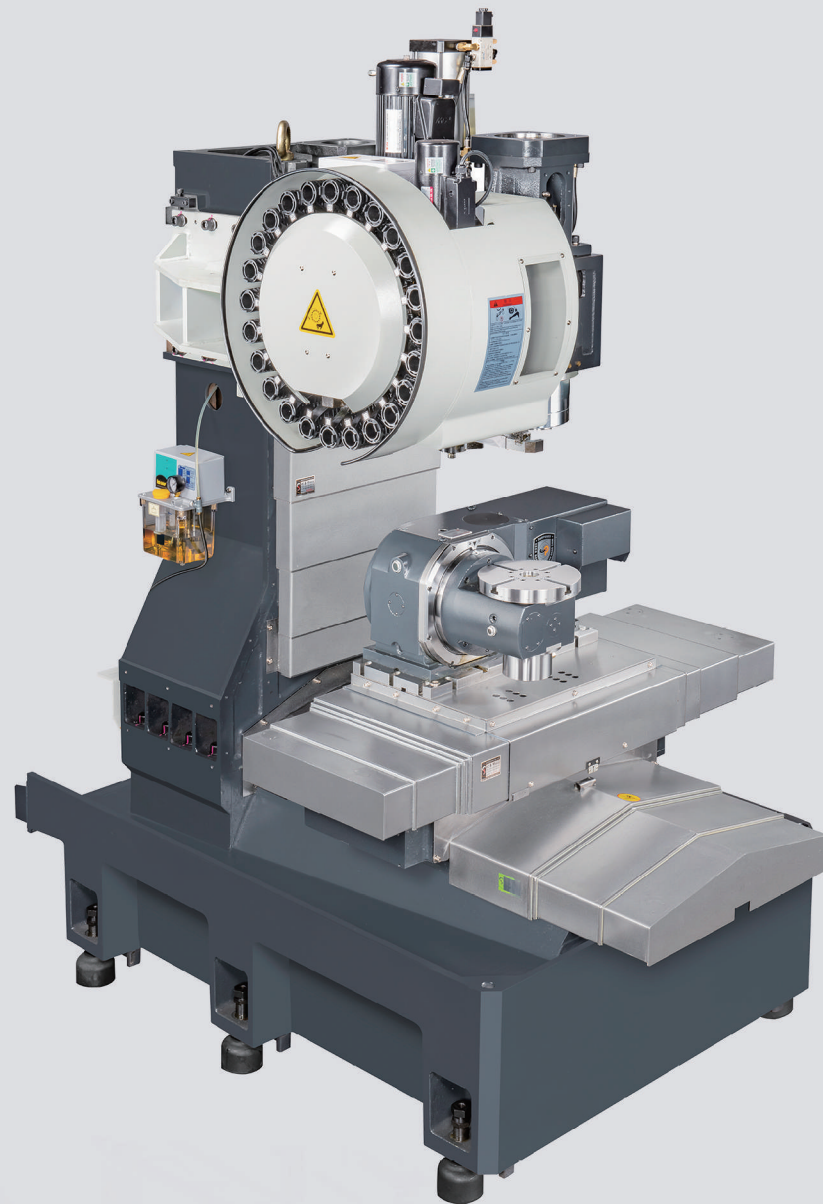
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All We Build is Quality

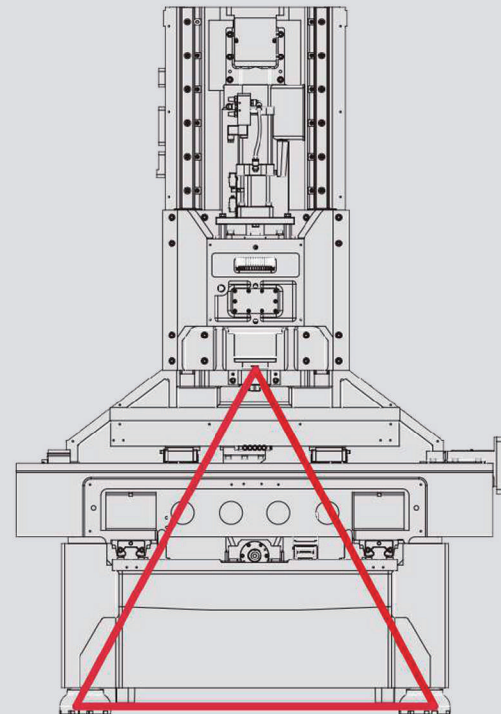
KASUGA 五軸數控立式加工中心機

Five Axis Machining Center

Optimum Rigid Structure 最佳剛性結構

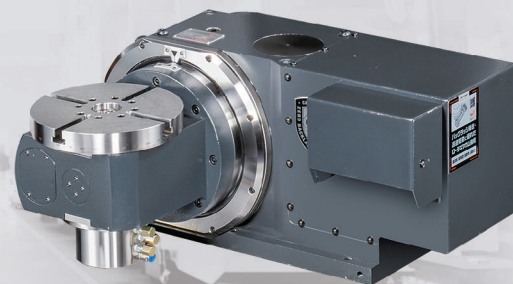


- The machine adopts a vertical C-shaped structure design, the best high-rigidity structure.
- A small five-axis processing machine specially designed for customers with the smallest footprint.
- 機台採立式C型結構設計，最佳高剛性結構。
- 專為客戶設計的一部小型五軸加工機，其佔地面積最小。



KU / MF 22 採用雙軸單臂轉台 (Ø220 mm)

The double-axis single-arm table is driven by one side. The single-arm design is easy to operate and saves space inside the machine. 雙軸單臂工作台以單邊驅動，單臂之設計，操作容易，節省機台內空間，Ø220 mm直徑盤面，加工範圍大。

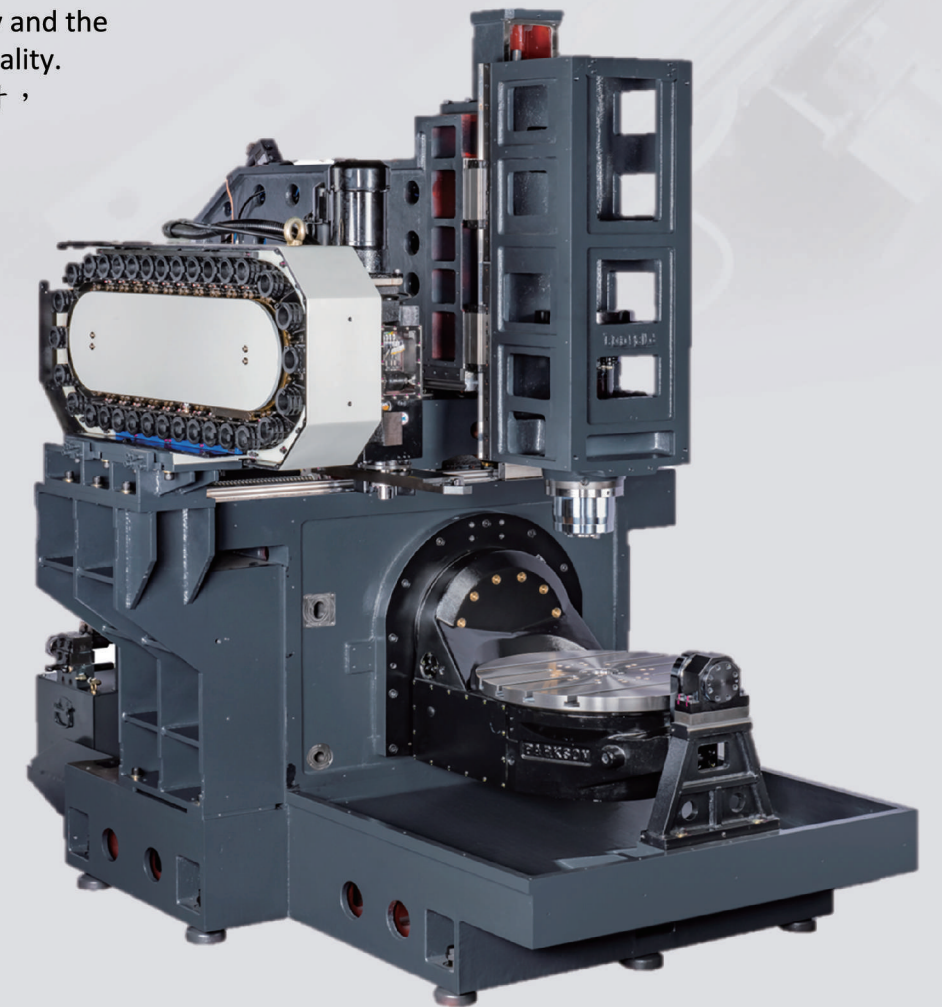
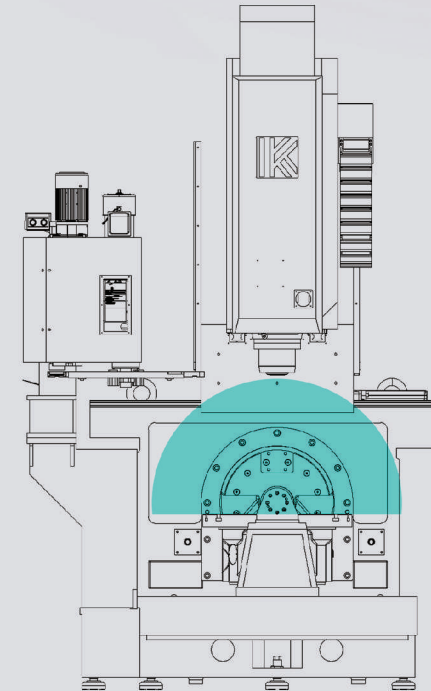


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Five Axis Machining Center

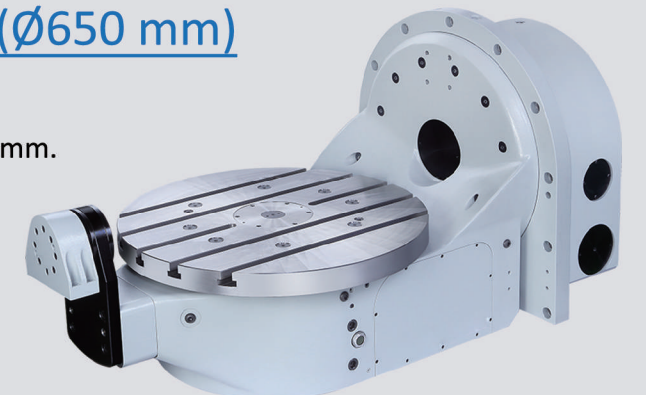
Ultra Large Working Area 極大加工空間

- The column is designed with a large-span box and thick rib wall structure, which is stable and reliable during high-speed cutting.
- The X and Y axes are designed with a cross slide to provide the best machining accuracy and the stability of the machined surface quality.
- 立柱以大跨距箱體厚肋壁結構設計，在高速切削時穩定可靠。
- X,Y軸採用十字滑台設計，提供最佳加工精度及加工表面質量的穩定度。



KU / MF 65 採用雙軸搖籃轉台 (Ø650 mm)

The two-axis cradle table is designed with supports at both ends, and the large-diameter disk surface is Ø650 mm. It has a large processing range, can handle high loads, and can maintain the best dynamic accuracy. 雙軸搖籃工作台以單邊驅動，兩端支撐之設計，Ø650 mm大直徑盤面，加工範圍大，可高荷重，可保有最佳動態精度。



KASUGA 五軸數控立式加工中心機

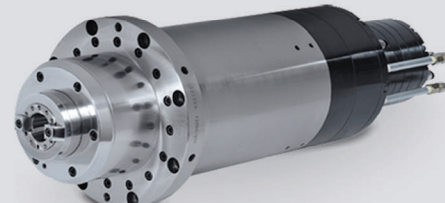
Five Axis Machining Center

HIGH PERFORMANCE SPINDLE 高性能主軸

BBT 30/40 taper provides a firmer grip to the tools, which prevents tool vibration that affects machining accuracy.
BBT 30/40兩面拘束刀把提供更強固的拘束力，避免刀具震動影響加工精度。



Direct drive spindle
直結式主軸



Build-in spindle
內藏式主軸

CNC system 數系統控



5 AXIS APPLICATION 5軸 加工應用

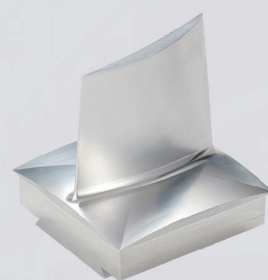
Our MF/KU series is good for machining on all kinds of complicated parts including precision parts, automobile, aerospace, medical, and mold industries.
適合在加工複雜精密的工件、汽車、航太、醫療、模具高精密產業等加工應用。



Aerospace Industry
航太工業



Precision parts processing
精密零件加工

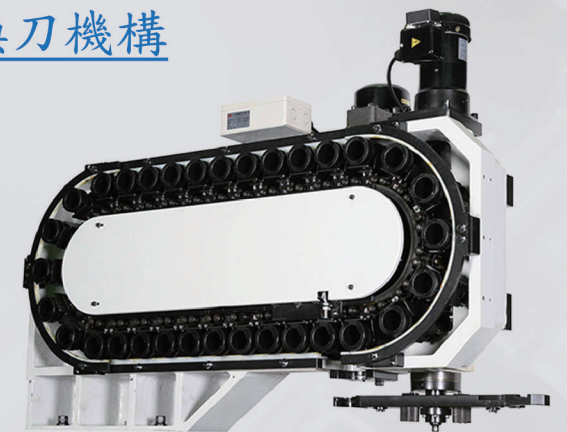


KASUGA 五軸數控立式加工中心機

Five Axis Machining Center

Automatic tool changer 快速自動換刀機構

24 Tools arm type magazine 刀庫容量24T，
Tool change time : 2.3 sec.
換刀時間：2.3 秒

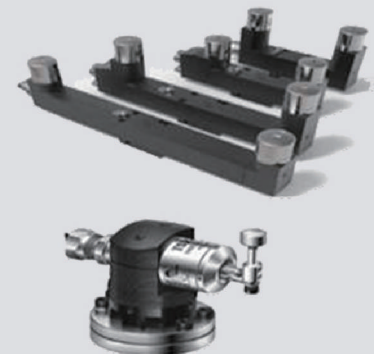


32 Tools chain type magazine. 刀庫容量32T，
Tool change time : 5 sec.
換刀時間：5 秒

HIGH ACCURACY MEASUREMENT 高精度量測裝置

Workpiece measurement 工件量測 (OPT.)

3D workpiece measurement has automatic workpiece setting function, detection function; and even the complicated 3D shape test. To keep the production quality is stable and high efficiency.
3D工件量測系統具有自動工件設定功能，工件檢測功能，機上量測零件的複雜3D形狀。保持生產質量的高穩定性，生產效率高。



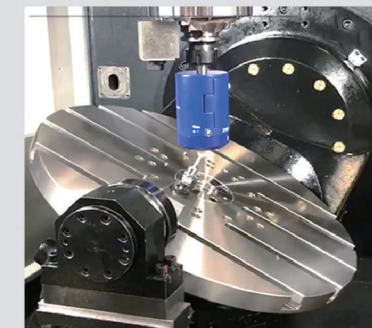
Tool length measurement 刀具量測 (OPT.)

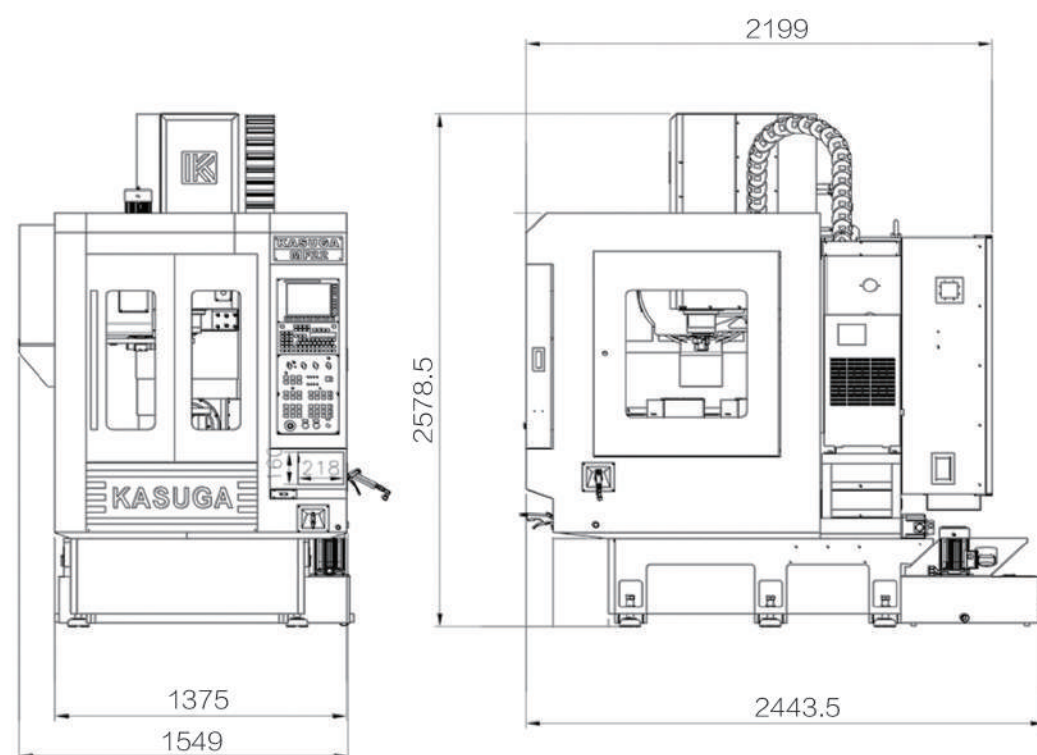
Tool measurement use in tool breakage detection, rapid tool length/diameter settings. Tool breakage detection can be updated by manual or auto while processing, allowing the production quality is high stability and efficiency
刀具量測用於刀具破損檢測和快速刀具長度/直徑量測設定，並在加工循環中執行破損刀具檢測和手動或自動更新。保持生產質量的高穩定性，高效率。

Center Calibration Function

旋轉中心校正功能 (OPT.)

A cost-effective solution for checking the alignment and positioning performance of rotary axes. users can identify and report on poor machine alignments and geometry.
與5軸加工機相容，可讓使用者快速、準確地檢查旋轉軸中心點的狀況。快速的針對軸線準直與定位精度等性能進行檢查。





MACHINE DIMENSION 機器尺寸

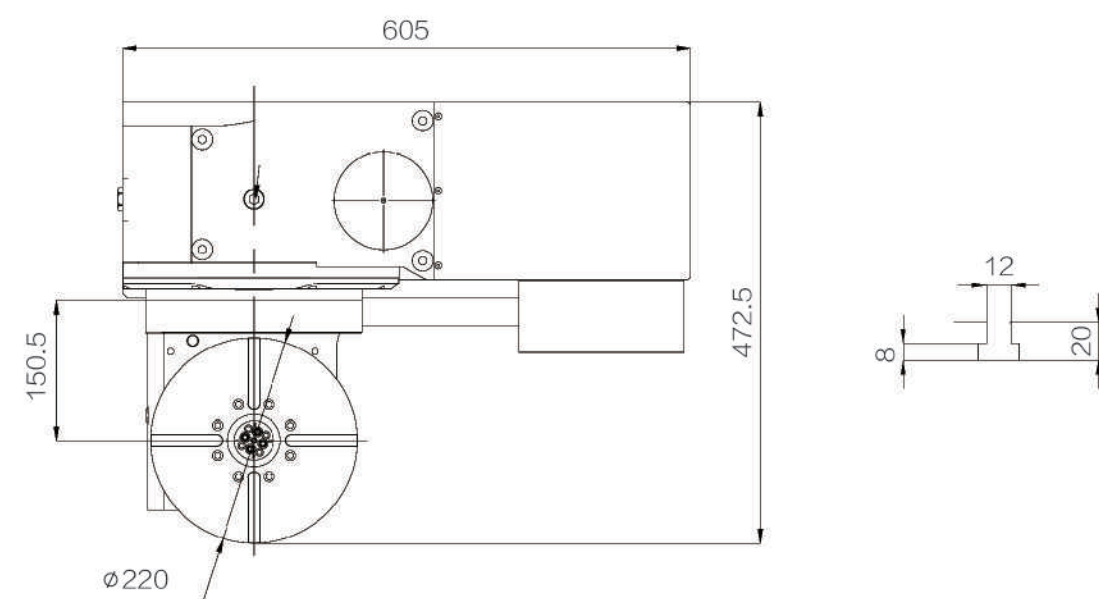
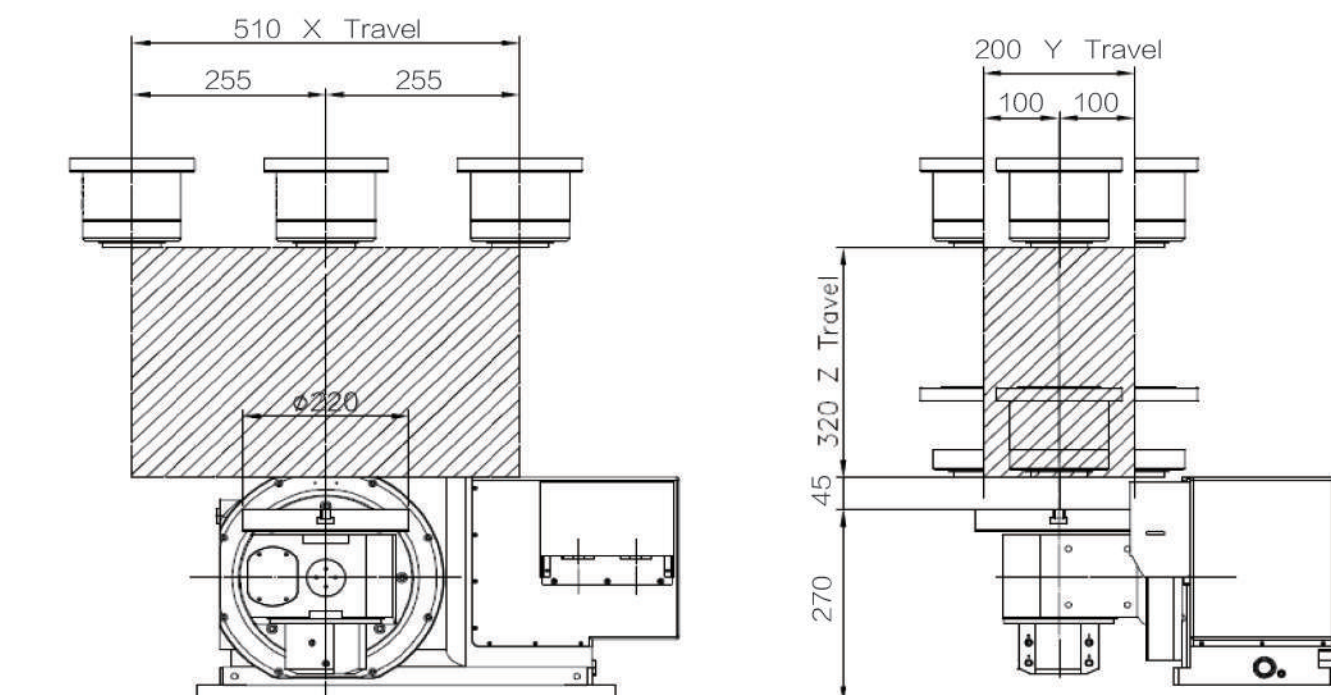
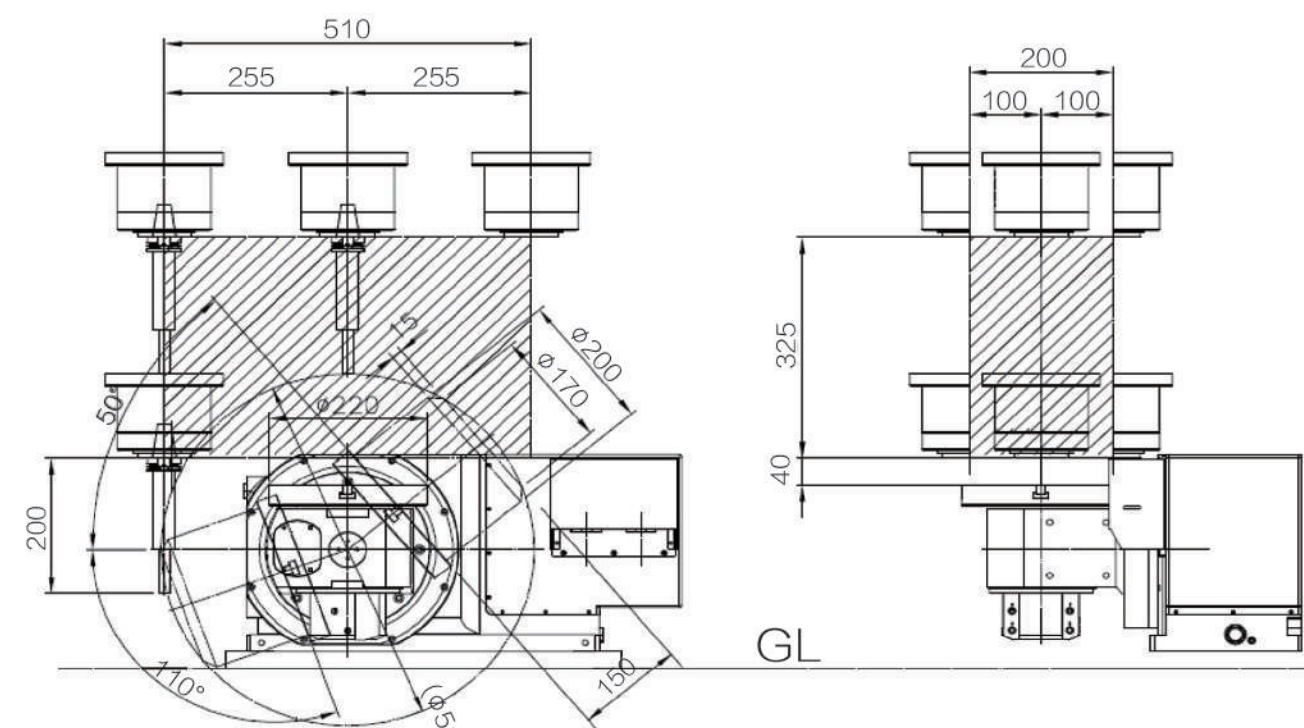


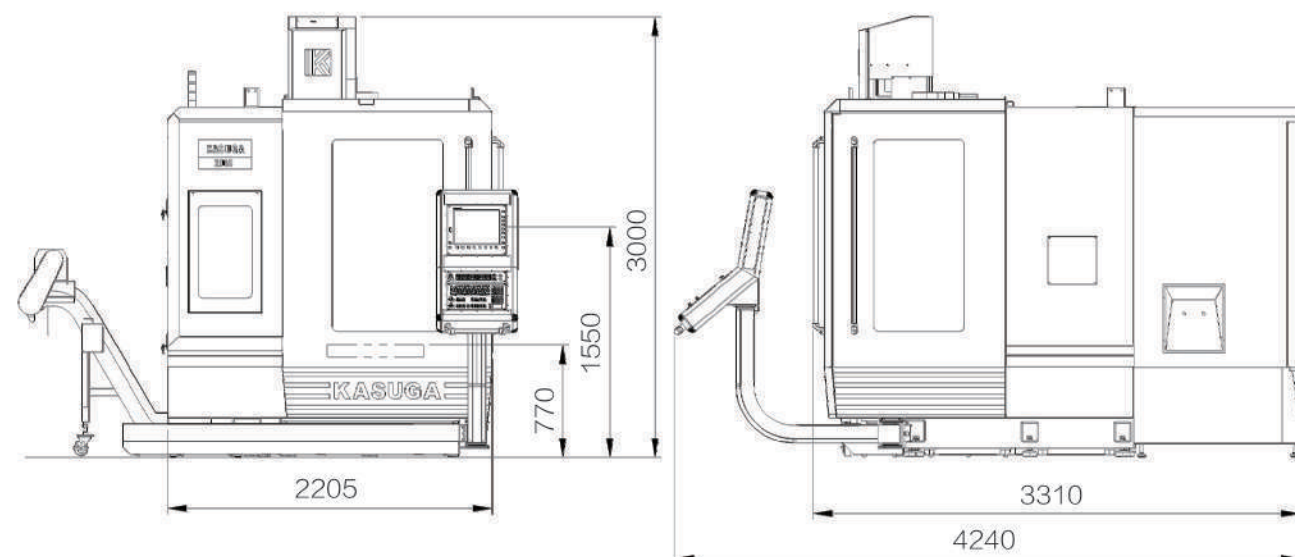
TABLE DIMENSION 工作台尺寸



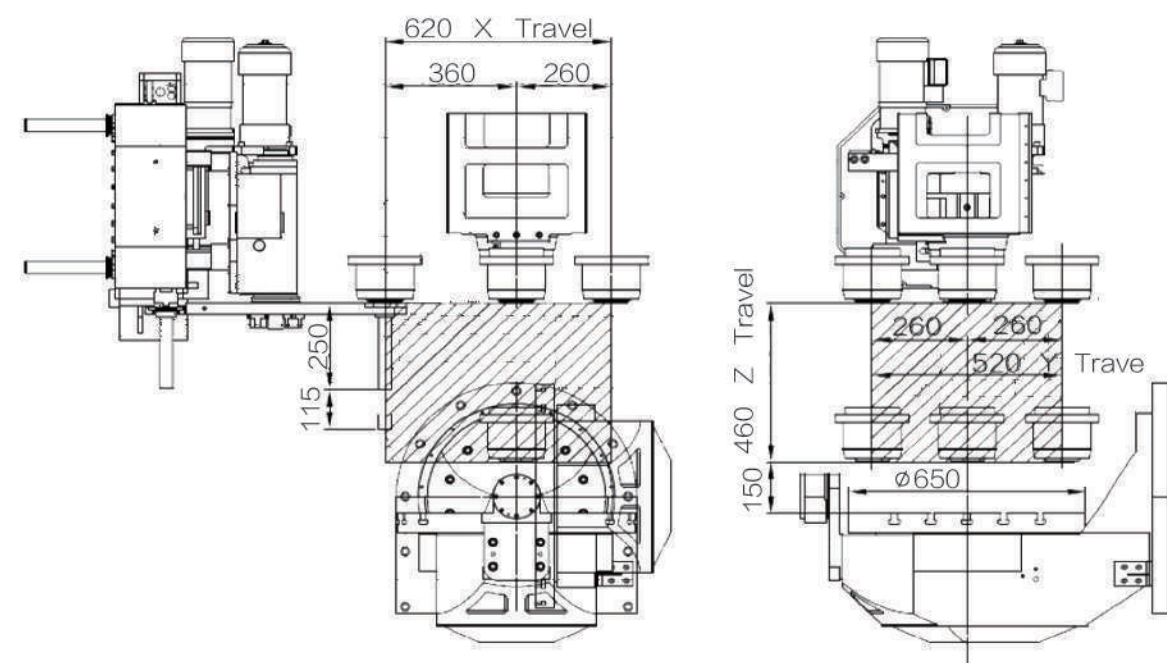
CUTTING AREA 切削區



INTERFERENCE AREA 干涉區



MACHINE DIMENSION 機器尺寸



CUTTING AREA 切削區

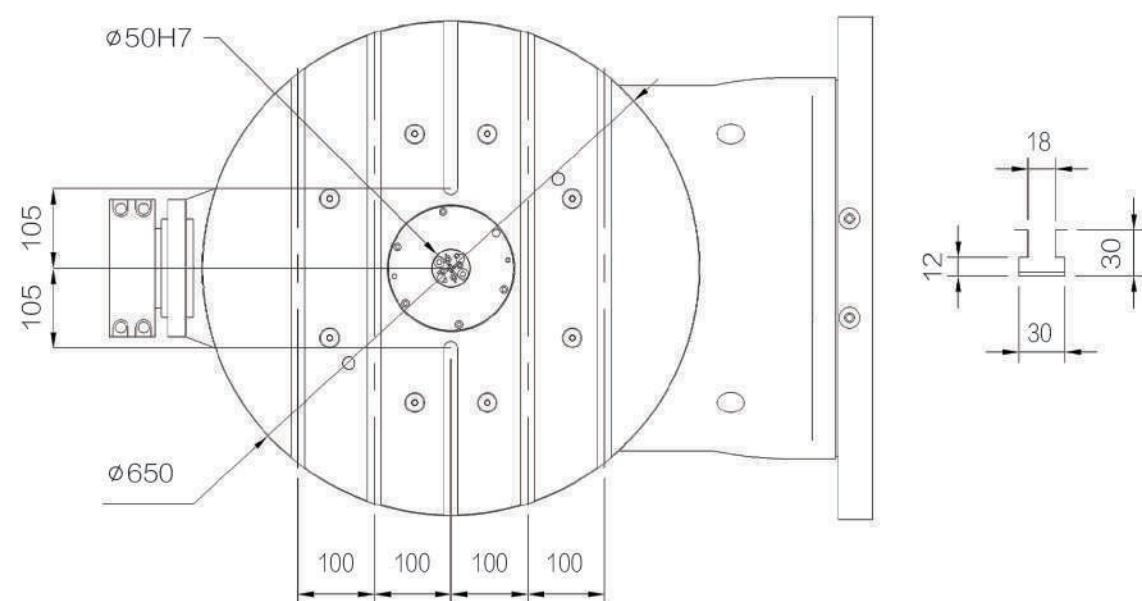
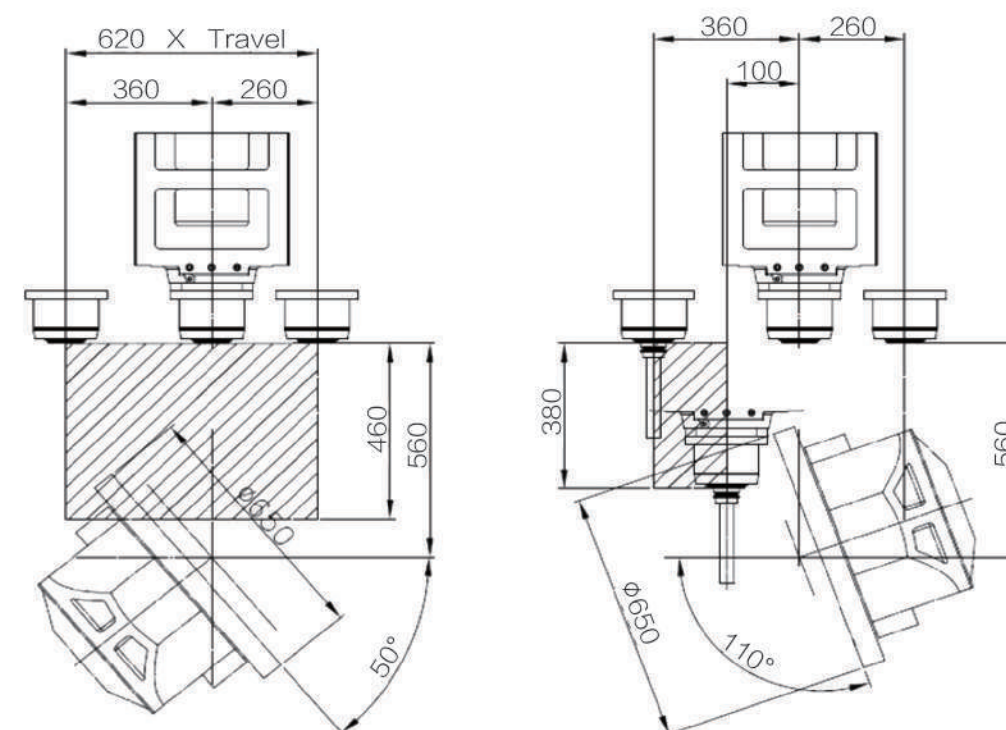


TABLE DIMENSION 工作台尺寸



INTERFERENCE AREA 干涉區

標準配備 Standard: ✓
選擇配備 Option: ○
不可選擇 NO Available: ✕

	MF 22	KU 22	MF 65	KU 65		MF 22	KU 22	MF 65	KU 65
Fully enclosure guard 全罩鉅金	✓	✓	✓	✓	Roller type linear guideways 滾柱式線軌	○	○	✓	✓
Cutting coolant system 切削液裝置	✓	✓	✓	✓	Chain type chip conveyor 鏈排式排屑機	○	○	✓	✓
Automatic lubrication system 自動潤滑裝置	✓	✓	✓	✓	B / C axis optical encoder B / C 軸光學尺	○	○	✓	✓
Work lamp 工作燈	✓	✓	✓	✓	X/Y/Z Axis optical linear scale ± 5mm X/Y/Z 光學尺 ± 5mm	○	○	○	○
Three color operation lamp 三色操作燈	✓	✓	✓	✓	Disc type oil skimmer 圓盤式油水分離機	○	○	○	○
Heat exchanger for electric cabinet 電氣箱熱交換器	✓	✓	✓	✓	Tool length measurement 刀長量測	○	○	○	○
Water gun/ air gun 水槍/氣槍	✓	✓	✓	✓	Workpiece measurement 工件量測	○	○	○	○
Spindle oil cooler 主軸油冷機	✓	✓	✓	✓	Coolant through spindle 主軸中心出水	○	○	○	○
Chip flushing system 內側沖屑裝置	✓	✓	✓	✓	Air conditioner for electric cabinet 電氣箱空調冷氣機	○	○	○	○
Ring type cutting coolant system 主軸環狀噴水裝置	✓	✓	✓	✓	CE conformity CE 規格	○	○	○	○
Front door and side doors switch 前門與側門開關	✓	✓	✓	✓	Transformer 變壓器	○	○	○	○
OPT40 DCM collision monitor for TNC640 動態碰撞監控	✕	✓	✕	✓	Oil mist collector 油霧回收裝置	○	○	○	○
OPT48 Kinematics for TNC640 最佳化工具機座標結構配置	✕	✓	✕	✓	Top cover 機頂護罩	○	○	○	○
OPT8 Rotary table machining & coordinate transformation (TNC) 旋轉工作台加工、座標轉換	✓	✓	✓	✓	Center Calibration Function 旋轉中心校正功能	○	○	○	○
					Spindle programmable air blow 可程式噴嘴調整裝置	○	○	○	○

項目ITEM / 機型MODEL	MF22	KU22	MF65	KU65
同動軸數 No. of simultaneous axis	4	5	4	5
工作台尺寸 Table size (mm)	Ø 220		Ø 650	
X/Y/Z軸行程 X/Y/Z Axis travel (mm)	510/330/335		620/520/460	
B軸傾斜轉動範圍 B axis swiveling range (deg)	-50°~+110°			
C軸轉動範圍 C axis rotary range (deg)	360° (0.001°)			
B/C軸轉速 B/C Axis speed (RPM)	50/100		25	
主軸鼻端至台面距離 Spindle nose to table surface (mm)	25~360		150~610	
轉盤面距離至地面距離 Work height from floor	978 mm		770 mm	
最大工件荷量 Max. loading capacity (kg)	30		300水平 (Horizontal)/ 200傾斜 (Tilting)	
主軸轉速 Spindle speed (rpm)	直結式DDS (內藏built-in opt.) 15000 (18000/20000 opt.)		直結式DDS (內藏built-in opt.) 12000 (15000/20000 opt.)	
主軸錐度 Spindle taper	BBT30 (HSK 40 opt.)		BBT40 (HSK 63A opt.)	
主軸馬達 Spindle motor (kW)	3.7 / 5.5		10 / 12.5	
X/Y/Z軸快速進給 X/Y/Z Axis rapid feed rate (m/min)	48 / 48 / 48		36 / 36 / 36	
X/Y/Z軸切削進給 X/Y/Z Axis cutting feed rate (m/min)	24 / 24 / 24		15 / 15 / 15	
刀庫容量 ATC storage capacity	24T			
最大刀具尺寸(有鄰刀/無鄰刀) Max. tool size (Full/Next empty) (mm)	Ø60 / Ø125		Ø75 / Ø125	
最大刀具長度 Max. tool length (mm)	200		250	
最大刀具重量 Max. tool weight (kg)	4		7	
換刀時間 Tool change time (sec)	2.3		5	
機械外型尺寸 Machine dimension (mm)	1550 x 2450 x 2580		3510 x 4240 x 3000	
機器重量(約) Machine net weight (approx.)(kg)	3500		8200	
CNC控制系統 CNC Control	FANUC/ MITSUBISHI	SIEMENS/ HEIDENHAIN	FANUC/ MITSUBISHI	SIEMENS/ HEIDENHAIN