KASUGA

MF KU Series
五軸數控立式加工中心機
5 AXIS MACHINING CENTER

嘉士達精機有限公司
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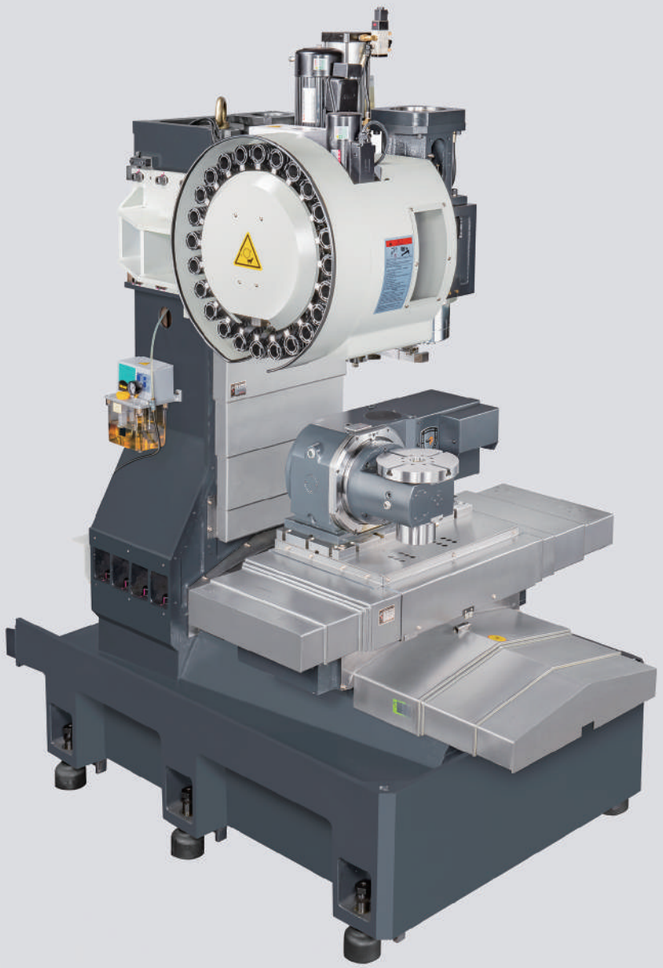
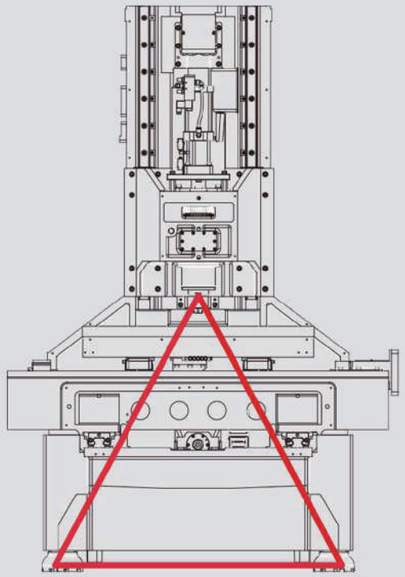
All We Build is Quality

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

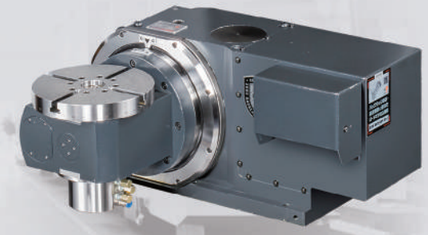


- The machine adopts a vertical C-shaped structure design, the best high-rigidity structure.
- A small five-axis processing machine specially designed for customers with the smallest footprint.
- 機台採立式C型結構設計，最佳高剛性結構。
- 專為客戶設計的一部小型五軸加工機，其佔地面積最小。



KU / MF 22 採用雙軸單臂轉台 (Ø220 mm)

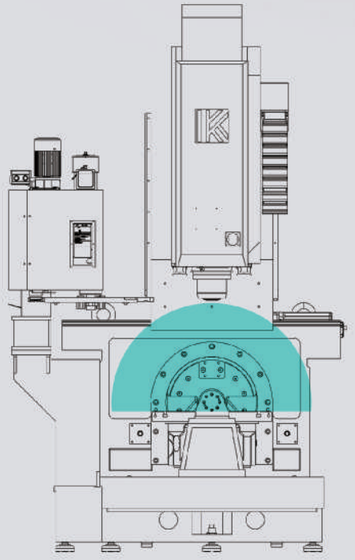
The double-axis single-arm table is driven by one side. The single-arm design is easy to operate and saves space inside the machine.
雙軸單臂工作台以單邊驅動，單臂之設計，操作容易，節省機台內空間，
Ø220 mm直徑盤面，加工範圍大。

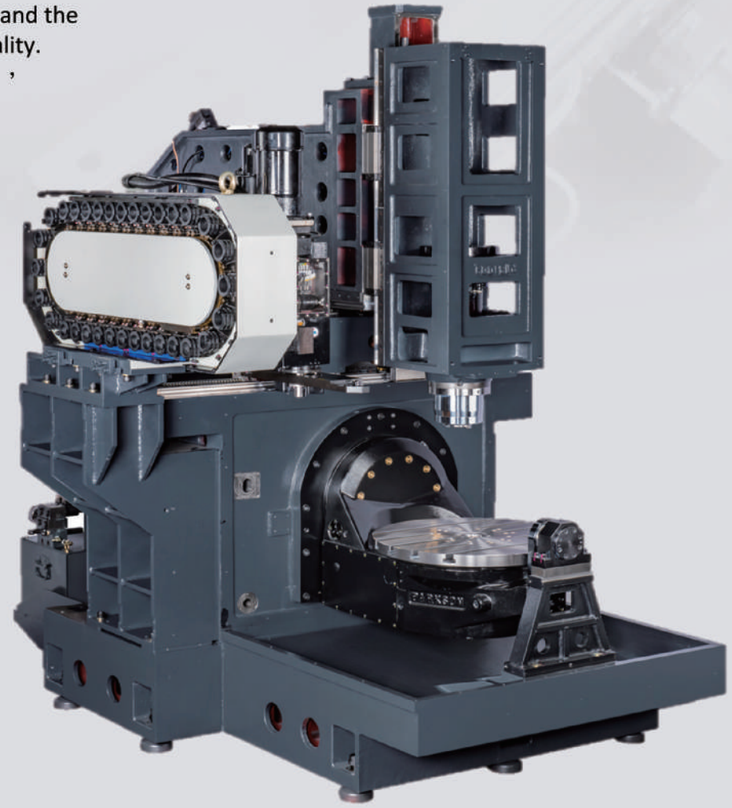


KASUGA 五軸數控立式加工中心機
Five Axis Machining Center

Ultra Large Working Area 極大加工空間

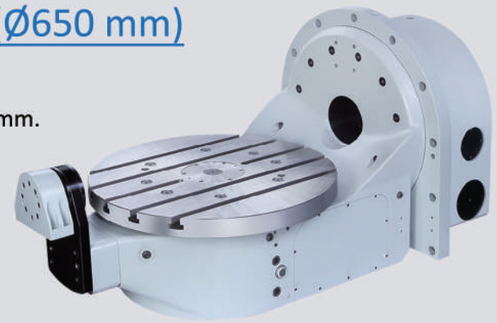
- The column is designed with a large-span box and thick rib wall structure, which is stable and reliable during high-speed cutting.
- The X and Y axes are designed with a cross slide to provide the best machining accuracy and the stability of the machined surface quality.
- 立柱以大跨距箱體厚肋壁結構設計，在高速切削時穩定可靠。
- 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
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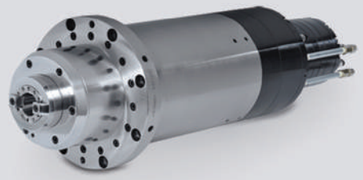
HIGH PERFORMANCE SPINDLE 高性能主軸

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



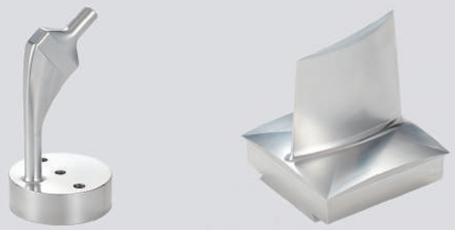
Build-in spindle
內藏式主軸

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
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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.)

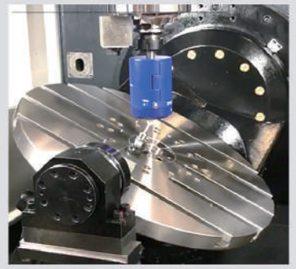
3D workpiece measurement has automatic workpiece setting function, detection function; and even the complicated 3D shape test. To keep the production quality is stable and high efficiency.
3D工件量測系統具有自動工件設定功能，工件檢測功能，機上量測零件的複雜3D形狀。保持生產質量的高穩定性，生產效率高。

Tool length measurement 刀具量測 (OPT.)

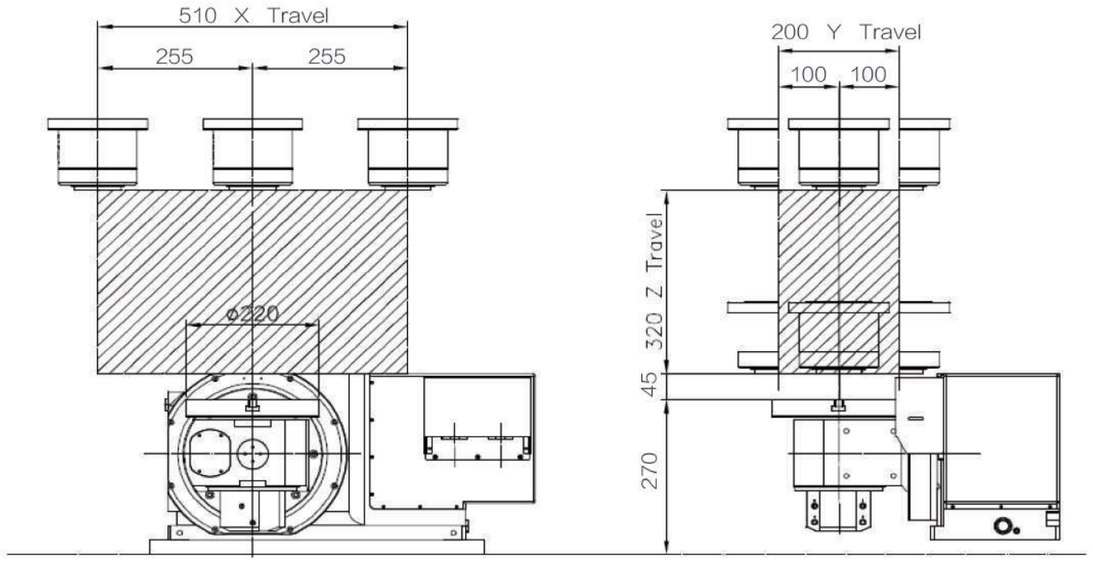
Tool measurement use in tool breakage detection, rapid tool length/diameter settings. Tool breakage detection can be updated by manual or auto while processing, allowing the production quality is high stability and efficiency
刀具量測用於刀具破損檢測和快速刀具長度/直徑量測設定，並在加工循環中執行破損刀具檢測和手動或自動更新。保持生產質量的高穩定性，高效率。

Center Calibration Function 旋轉中心校正功能 (OPT.)

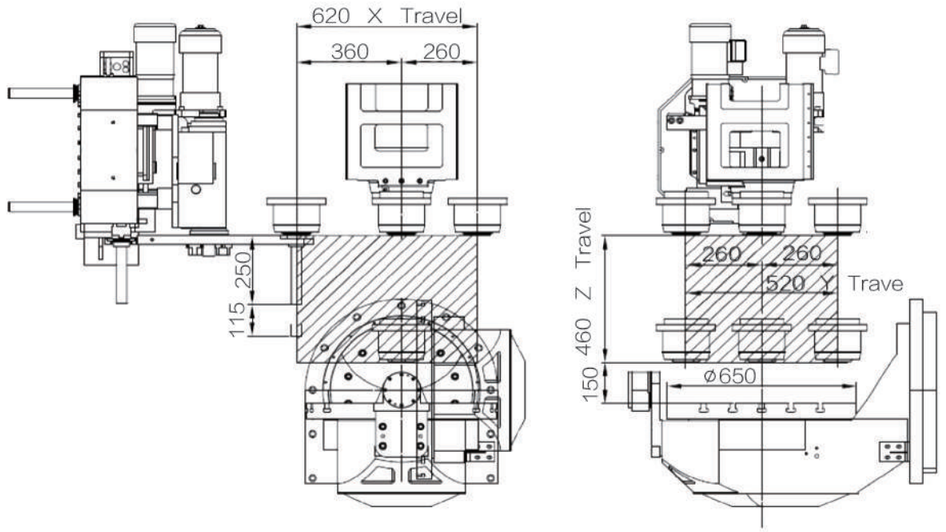
A cost-effective solution for checking the alignment and positioning performance of rotary axes. users can identify and report on poor machine alignments and geometry.
與5軸加工機相容，可讓使用者快速、準確地檢查旋轉軸中心點的狀況。快速的針對軸線準直與定位精度等性能進行檢查。



KASUGA CUTTING AREA 切削區

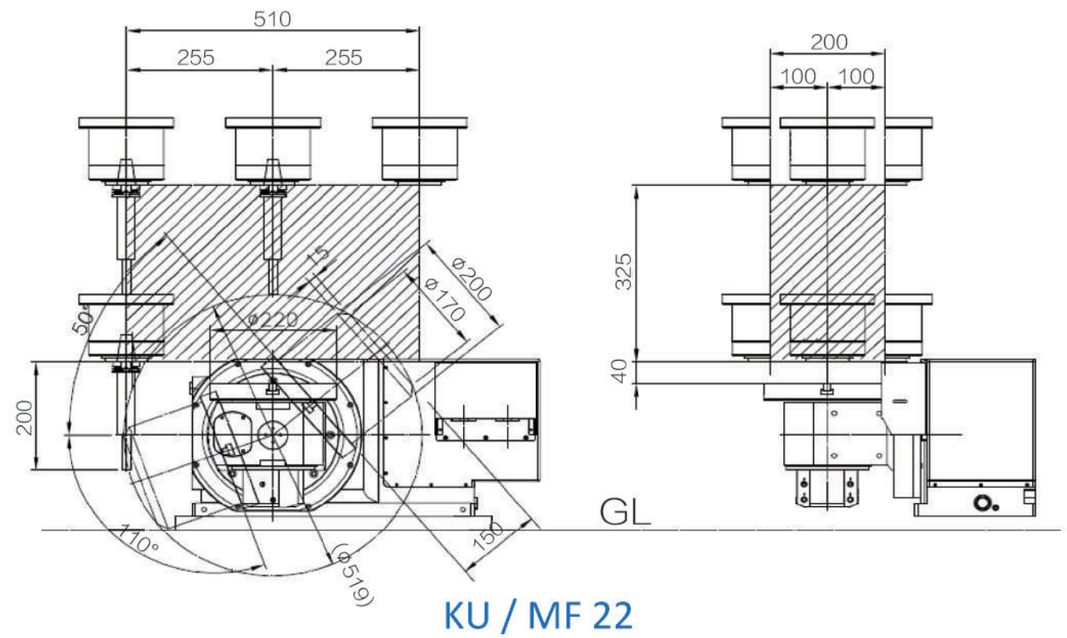


KU / MF 22

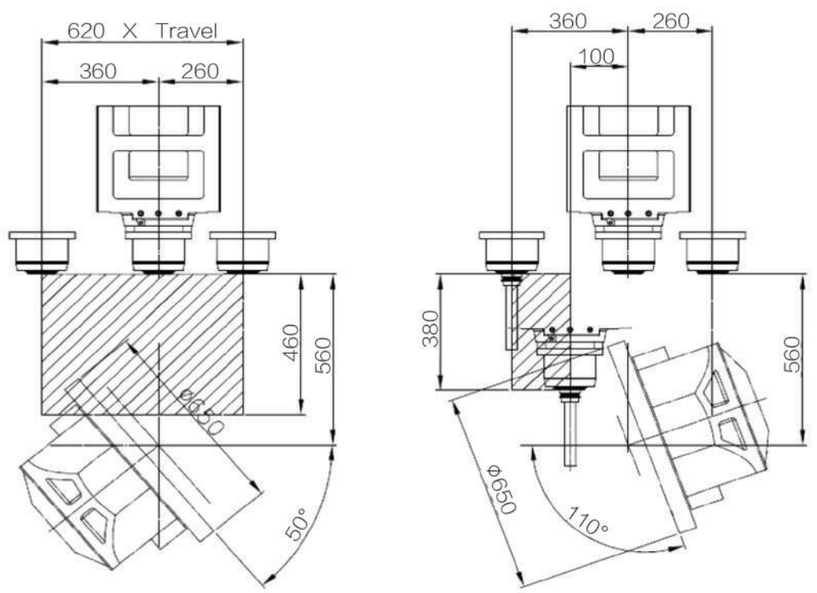


KU / MF 65

KASUGA INTERFERENCE AREA 干涉區

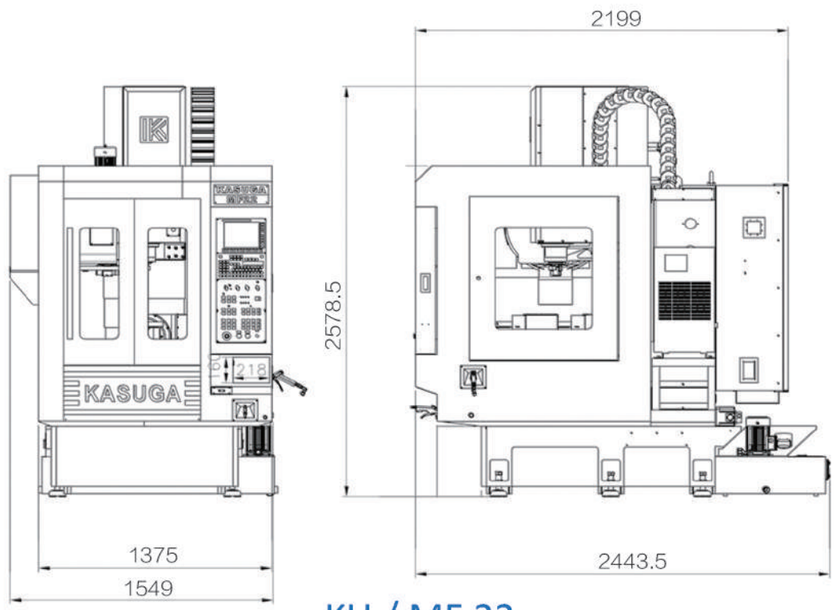


KU / MF 22



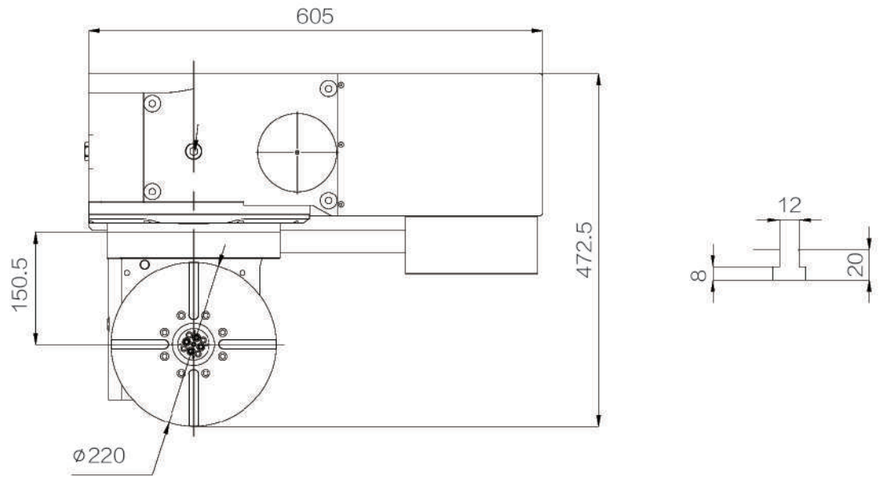
KU / MF 65

KASUGA MACHINE DIMENSION 機器尺寸



KU / MF 22

KASUGA TABLE DIMENSION 工作台尺寸



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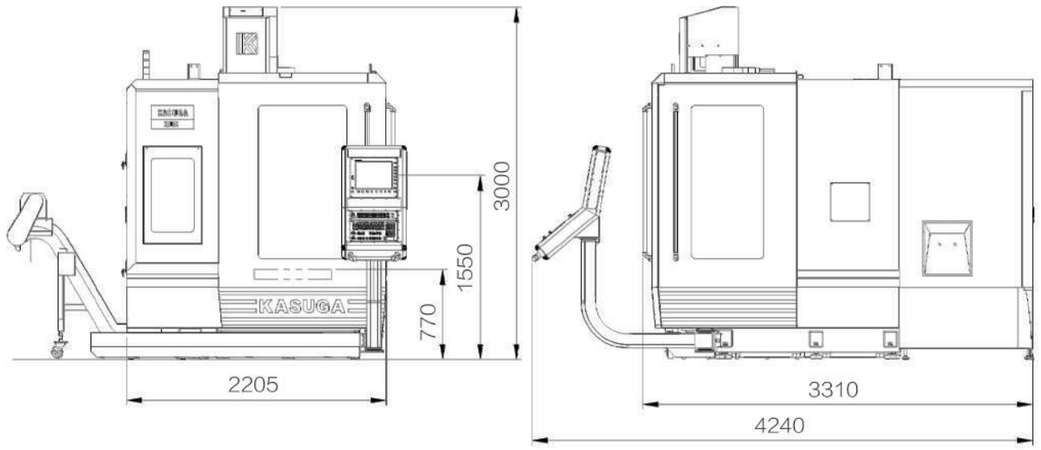

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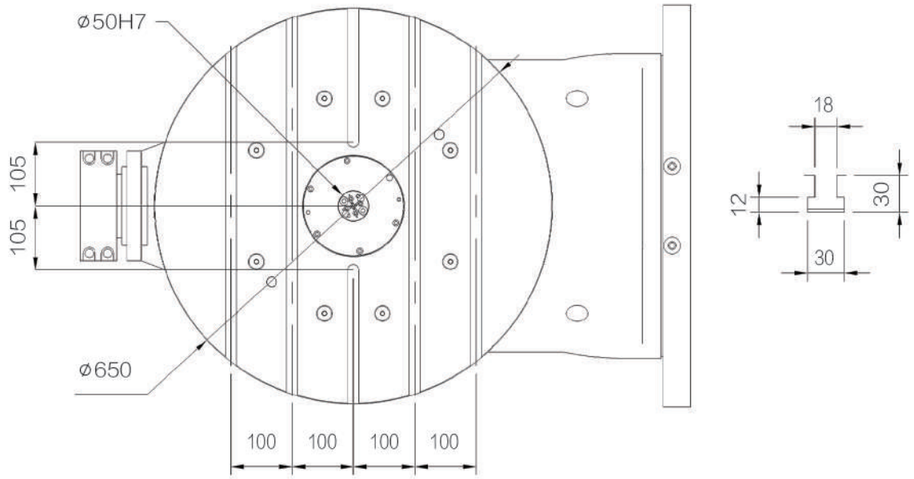

KU / MF 65

KASUGA ACCESSORIES 配備

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 全罩鈑金	✓	✓	✓	✓	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	○	○	○	○

KASUGA MACHINE SPECIFICATION 機器規格

項目ITEM / 機型 MODEL	MF22	KU22	MF65	KU65
雙軸旋轉分度盤(B+C 軸) CNC tilting rotary table (B+C Axis)	4+1 Axis	5 Axis	4+1 Axis	5 Axis
工作台尺寸 Table size (mm)	Ø 220		Ø 650	
X/Y/Z 軸行程 X/Y/Z Axis travel (mm)	510/300/335		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	
最大工件荷重 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	
X/Y/Z軸定位精度 X/Y/Z Axis positioning	±0.004 mm			
X/Y/Z軸重複精度 X/Y/Z Axis repeatability	±0.002 mm			
B 軸分割定位精度 B Axis indexing accuracy / repeatability accuracy	±15" / ±4"			
C 軸分割定位精度 C Axis indexing accuracy / repeatability accuracy	±20" / ±8" (±15" / ±4" With Optical Encoder)			
刀庫容量 ATC storage capacity	24T (28T opt.)		32T (40T opt.)	
最大刀具尺寸(有鄰刀/無鄰刀) Max. tool size (Full/Next empty) (mm)	Ø 60 / Ø125		Ø 75 / 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	
換刀方式 / 刀庫容量 ATC type / Magazine No.	ARM 24T (28T opt.)		ARM 32T (40T opt.)	
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	TNC620 / 828D/ 0i-MF/ M80	TNC640 / 840D	TNC620/ 0i-MF/ M830	TNC640