KASUGA

V SERIES

立 式 加 工 中 心 機
VERTICAL MACHINING CENTER

嘉士達精機有限公司
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All We Build Is Quality

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High Performance Machining Center

日本KASUGA公司，成立於1949年，至今已有七十多年的歷史。KASUGA品牌在日本、亞洲、歐美享負盛名。在日本及台灣的模具行業中，家喻户曉。在美國的零部件供應鏈中，有超過800台的KASUGA機床，含大型三軸立、臥式加工中心及四、五軸大型加工中心。

由於市場的需要，KASUGA於2012年在台灣成立了KASUGA SEIKI LTD. 嘉士達精機有限公司。產品系列包括，數控鑽孔攻牙中心：T 系列 。立式高速加工中心：V50、V70、V80、V100、V110、V120、V140、V160、V200。高速雕铣加工機：HV50、HV70。以及五軸加工中心 MF/KU系列。

高質素的產品來自日本嚴謹的設計，日式的嚴格監控，台灣優良的生產技術，造就出一台又一台的極受市場歡迎的機床。

Japan KASUGA Company, founded in 1949, has a 70s-year history. KASUGA brand is renowned in Japan, Asia, Europe and the United States. KASUGA, both in Japan and Taiwan, is famous in the mold industry. In the American parts supply chain, there are over 800 KASUGA machines, including the middle-scale and the large-scale three axis milling machines, both vertical and horizontal, and the four, five axis large machining centers.

Because of the demand of the market, KASUGA founded KASUGA SEIKI LTD. in Taiwan. The products are the following: Tapping center: T series. Vertical high speed machining center: V50, V70, V80, V100, V110, V120, V140, V160, V200. High speed machining center: HV50, HV70. Five axis machining center: MF/KU series.

The combination of Japanese design, Japanese strict quality control and the Taiwanese fine production technology produces many very popular machines in the market.

Strict Workpiece Measurement and R&D Team

KASUGA 高效能加工中心機
High Performance Machining Center

▲立式加工中心機 Vertical Machining Center V50 · V70 · V80 · V100

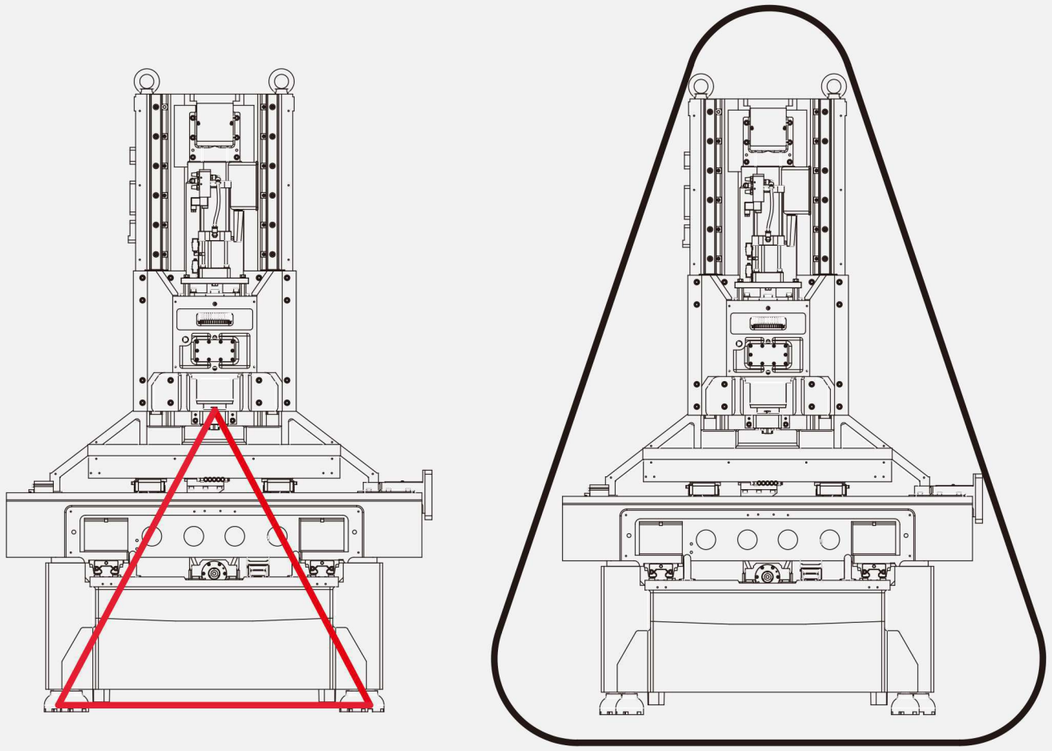
▲ 立式加工中心機 Vertical Machining Center V110 · V120 · V140 · V160 · V200

KASUGA 高效能加工中心機
High Performance Machining Center

● 最佳化剛性結構設計、高速、高精度 Optimum Rigid Structure / Hi-speed / High-precision

機械剛性結構設計，經3D動態模擬及有限元素分析，設計出最佳化剛性結構機械本體，
呈現機械最高穩定度及床台最佳動靜態精度。
Y軸大跨距設計，立柱與底座寬大的結合面提供最穩固的支撐。

By means of Finite Element Analysis and 3D dynamic simulation, our products have the optimum structure with which the best rigidity and accuracy can be obtained.
The big span structure of Y axis eith wider junction between column and base provides the most stable.



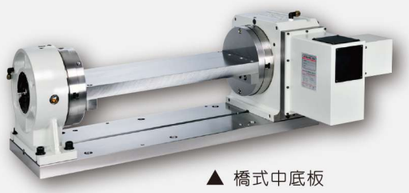
● CNC電腦數控分度盤　CNC ROTARY TABLE

精密電腦數控分度盤可滿足不同角度加工及曲面加工。

Precision computerised indexing rotary table is suitable for machining workpiece from different angles including curve surface.

▲ CNC電腦數控四軸分度盤
CNC 4-Axis Rotary Table

▲ CNC電腦數控五軸分度盤
CNC 5-Axis Rotary Table (Cradle type)



▲ 橋式中底板
CNC Rotary Table and Support Rotary Tailstock with Bridge Unit

▲ CNC電腦五軸分度盤（強力煞車）
CNC 5-Axis Rotary Table
(Super multiple pneumatic brake)

● CNC控制器系統　CNC CONTROL SYSTEM

※ 全新的控制系統，在高速、高精密及高性能的表現更優異。
※ 全新的伺服系統，在高速位移、高加速度及高效能的表現，更能發揮產能效益。
※ 機器的操作更簡便及友善人性化。

Brand-new CNC control system with better performances in speed, accuracy, and reliability is used on our product. Updated servo mechanism is also in use not only for easy operation but also for the best efficiency.

● 高速　高剛性　高負荷三軸傳動系統　High speed, high rigidity, and high load transmission system on three axes

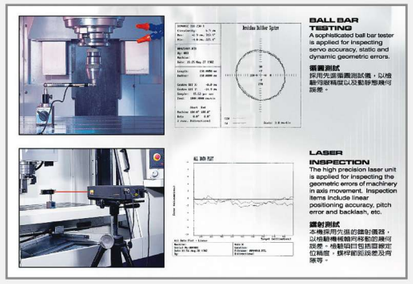
▲ 精密滾珠線性滑軌
Precision ball linear guide

▲ 精密高剛性滾柱線性滑軌
Precision roller linear guide

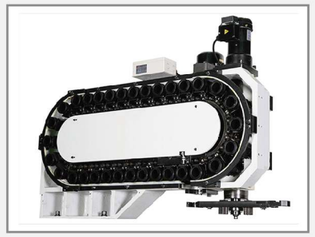
▲ 精密斜角滾珠軸承
Precision angle bearing

▲ 精密雙螺帽滾珠螺桿
Precision ballscrew

● 精度檢測　Accuracy Test

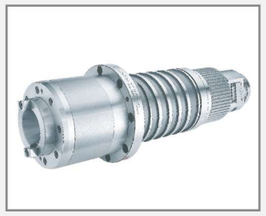


● 快速自動換刀機構　High Speed A.T.C



● 高精密、高速、高剛性主軸　6000rpm ~ 30000rpm
High precision, high speed, and high rigidity spindle (6000 ~ 30000rpm)

▲ BT-40皮帶式高速高剛性主軸
8000rpm ~ 12000rpm
Belt Type High Speed Spindle



▲ BT-50皮帶式高速高剛性主軸
6000rpm ~ 8000rpm
Belt Type High Speed Spindle

▲ 直結式高速高剛性主軸
10000rpm ~ 15000rpm
Direct Drive Type High Speed Spindle

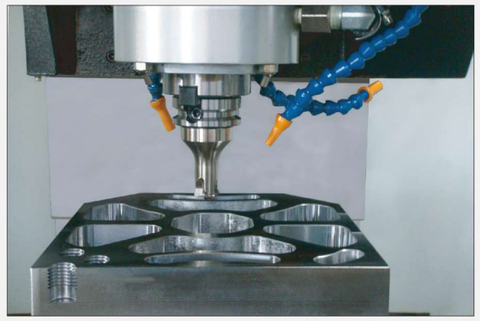
▲ 內藏式高速高精度電主軸
18000rpm ~ 30000rpm
Built-in Type High Speed Motorized Spindle

KASUGA

機台加工照片 Machine Cutting

▲ V100 (4+1軸) 4+1 Axis
3+2 定位加工
3+2 Position cutting

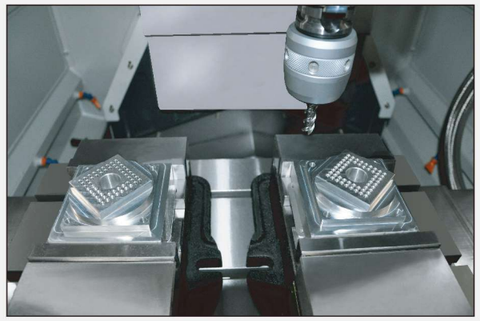
▲ HV70 (4+1軸) 4+1 Axis
4+1 軸錶殼加工 (AL7075)
4+1 Watch bezel cutting



▲ V100
粗銑挖槽加工
Wide milling cutting

▲ HV70
雕銑加工 (AL7075)
Milling & engraving cutting

▲ V140
高速精銑加工 (AL7075)
High speed & precision cutting



▲ V50 / V70
高速精銑加工 (AL7075)
High speed & precision cutting

KASUGA 立式加工中心機 V50/V70/HV70
Vertical Machining Center

項目ITEM / 機型MODEL	V50	V50X	V70	V70X	HV70
X / Y / Z 軸行程 X / Y / Z Axis travel (mm)	510 / 430 / 460		700 / 430 / 460		
主軸鼻端至台面距離 Spindle nose to table surface (mm)	120 ~ 580				
工作台面至地面距離 Table height from floor (mm)	890				
工作台尺寸 Table size (mm)	650 x 400		850 x 400		
主軸轉速 Spindle speed (rpm)	10000	12000	10000	12000	30000
	12000(opt)	15000(opt)	12000(opt)	15000(opt)	—
	皮帶式 Belt	直結式 DDS	皮帶式 Belt	直結式 DDS	內藏式Built-in
主軸錐度 Spindle taper (Tool shank)	BT-40 (CAT / DIN / HSK / BBT opt.)				BT-30
最大工件荷重 Max. loading capacity (kg)	350 (Max. feed rate 48 m/min)				
	450 (Max. feed rate 36 m/min)				
快速進給 X / Y / Z軸 X / Y / Z Axis rapid feed rate (m/min)	48 / 48 / 48				
切削進給 X / Y / Z軸 X / Y / Z Axis cutting feed rate (m/min)	24 / 24 / 24				
軌道規格 X / Y / Z軸 X / Y / Z Axis linear guide (mm)	30 / 30 / 35				
螺桿規格 X / Y / Z軸 X / Y / Z Axis ballscrew (mm)	32 / 32 / 32				
主軸驅動馬達規格 Spindle motor (kW) (M)	5.5 / 7.5				5.5
X / Y / Z軸驅動馬達規格 X / Y / Z Axis servo motor (kW) (M)	1.5 / 1.5 / 3.0				
定位精度 X / Y / Z軸 X / Y / Z Axis positioning (mm)	±0.004				
重覆定位精度X / Y / Z軸 X / Y / Z Axis repeatability (mm)	±0.002				
換刀方式 / 刀庫容量 ATC type / Magazine No.	刀臂式 ARM 20T (24T opt.)				
換刀時間 Tool change time (sec)	2.3				
機械外型尺寸 Machine dimension W x L x H (mm)	1900 x 2660 x 2545		2100 x 2660 x 2545		
機械重量 Machine weight (kg)	3070		3370		
CNC控制系統 CNC Control	M80A / 0i-MF / 828D / TNC620				

本型錄之規格如有變更，恕不另行通知。Specifications are subject to change without notice.
本型錄精度檢測之數值為廠內檢測結果。The result of accuracy data is subject to field test.

KASUGA 立式加工中心機 V80/V100
Vertical Machining Center

項目ITEM / 機型MODEL	V80	V80X	V100	V100X
X / Y / Z 軸行程 X / Y / Z Axis travel (mm)	800 / 560 / 575		1020 / 560 / 575	
主軸鼻端至台面距離 Spindle nose to table surface (mm)	125 ~ 700			
工作台面至地面距離 Table height from floor (mm)	978			
工作台尺寸 Table size (mm)	900 x 500		1100 x 500	
主軸轉速 Spindle speed (rpm)	10000	12000	10000	12000
	12000 (opt.)	15000 (opt.)	12000 (opt.)	15000 (opt.)
	皮帶式 Belt	直結式 DDS	皮帶式 Belt	直結式 DDS
主軸錐度 Spindle taper (Tool shank)	BT-40 (CAT / DIN / HSK / BBT opt.)			
最大工件荷重 Max. loading capacity (kg)	450 (Max. feed rate 48 m/min)			
	700 (Max. feed rate 36 m/min)			
快速進給 X / Y / Z軸 X / Y / Z Axis rapid feed rate (m/min)	48 / 48 / 36			
切削進給 X / Y / Z軸 X / Y / Z Axis cutting feed rate (m/min)	24 / 24 / 18			
軌道規格 X / Y / Z軸 X / Y / Z Axis linear guide (mm)	45 / 45 / 45			
螺桿規格 X / Y / Z軸 X / Y / Z Axis ballscrew (mm)	40 / 40 / 40			
主軸驅動馬達規格 Spindle motor (kW) (M)	7.5 / 11			
X / Y / Z軸驅動馬達規格 X / Y / Z Axis servo motor (kW) (M)	2.0 / 2.0 / 3.0			
定位精度X / Y / Z軸 X / Y / Z Axis positioning (mm)	±0.004			
重覆定位精度X / Y / Z軸 X / Y / Z Axis repeatability (mm)	±0.002			
換刀方式 / 刀庫容量 ATC type / Magazine No.	刀臂式 ARM 24T (28T opt.)			
換刀時間 Tool change time (sec)	2.3			
機械外型尺寸 Machine dimension W x L x H (mm)	3100 x 2180 x 2840		3300 x 2180 x 2840	
機械重量 Machine weight (kg)	4690		5090	
CNC控制系統 CNC Control	M80A / 0i-MF / 828D / TNC620			

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KASUGA 立式加工中心機 V110/V120
Vertical Machining Center

項目ITEM / 機型MODEL	V110	V110X	V120	V120X
X / Y / Z 軸行程 X / Y / Z Axis travel (mm)	1120 / 610 / 575		1220 / 610 / 575	
主軸鼻端至台面距離 Spindle nose to table surface (mm)	125 ~ 700			
工作台面至地面距離 Table height from floor (mm)	920			
工作台尺寸 Table size (mm)	1250 x 550		1350 x 550	
主軸轉速 Spindle speed (rpm)	10000	12000	10000	12000
	12000 (opt.)	15000 (opt.)	12000 (opt.)	15000 (opt.)
	皮帶式 Belt	直結式 DDS	皮帶式 Belt	直結式 DDS
主軸錐度 Spindle taper (Tool shank)	BT-40 (CAT / DIN / HSK / BBT opt.)			
最大工件荷重 Max. loading capacity (kg)	450 (Max. feed rate 48 m/min)			
	700 (Max. feed rate 36 m/min)			
快速進給 X / Y / Z軸 X / Y / Z Axis rapid feed rate (m/min)	48 / 48 / 36			
切削進給 X / Y / Z軸 X / Y / Z Axis cutting feed rate (m/min)	24 / 24 / 18			
軌道規格 X / Y / Z軸 X / Y / Z Axis linear guide (mm)	45 / 45 / 45			
螺桿規格 X / Y / Z軸 X / Y / Z Axis ballscrew (mm)	40 / 40 / 40			
主軸驅動馬達規格 Spindle motor (kW) (M)	7.5 / 11			
X / Y / Z軸驅動馬達規格 X / Y / Z Axis servo motor (kW) (M)	2.0 / 2.0 / 3.0			
定位精度X / Y / Z軸 X / Y / Z Axis positioning (mm)	±0.004			
重覆定位精度X / Y / Z軸 X / Y / Z Axis repeatability (mm)	±0.002			
換刀方式 / 刀庫容量 ATC type / Magazine No.	刀臂式 ARM 24T (28T opt.)			
換刀時間 Tool change time (sec)	2.3			
機械外型尺寸 Machine dimension W x L x H (mm)	3400 x 2670 x 2850		3500 x 2670 x 2850	
機械重量 Machine weight (kg)	5530		5680	
CNC控制系統 CNC Control	M80A / 0i-MF / 828D / TNC620			

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本型錄精度檢測之數值為廠內檢測結果。The result of accuracy data is subject to field test.

KASUGA 立式加工中心機 V140
Vertical Machining Center

項目ITEM / 機型MODEL	V140	V140X	V140D
X / Y / Z 軸行程 X / Y / Z Axis travel (mm)	1400 / 650 / 660		
主軸鼻端至台面距離 Spindle nose to table surface (mm)	110~770		65~725
工作台面至地面距離 Table height from floor (mm)	950		
工作台尺寸 Table size (mm)	1500 x 600		
主軸轉速 Spindle speed (rpm)	10000	12000	6000
	12000(opt.)	15000(opt.)	8000(opt.)
	皮帶式 Belt	直結式 DDS	皮帶式Belt
主軸錐度 Spindle taper (Tool shank)	BT-40		BT-50
	CAT / DIN / HSK / BBT (opt.)		
最大工件荷重 Max. loading capacity (kg)	800 (Max. feed rate 36 m/min)		
	1200 (Max. feed rate 24 m/min)		
快速進給 X / Y / Z軸 X / Y / Z Axis rapid feed rate (m/min)	36 / 36 / 30		
切削進給 X / Y / Z軸 X / Y / Z Axis cutting feed rate (m/min)	18 / 18 / 15		
軌道規格 X / Y / Z軸 X / Y / Z Axis linear guide (mm)	55 / 55 / 55		
螺桿規格 X / Y / Z軸 X / Y / Z Axis ballscrew (mm)	45 / 45 / 45		
主軸驅動馬達規格 Spindle motor (kW) (M)	11 / 15		15 / 18.5
X / Y / Z軸驅動馬達規格 X / Y / Z Axis servo motor (kW) (M)	3.5 / 3.5 / 4.5		
定位精度X / Y / Z軸 X / Y / Z Axis positioning (mm)	±0.004		
重覆定位精度X / Y / Z軸 X / Y / Z Axis repeatability (mm)	±0.002		
換刀方式 / 刀庫容量 ATC type / Magazine No.	刀臂式 ARM 24T		
	28T (opt.)		30T (opt.)
換刀時間 Tool change time (sec)	2.3		5.0
機械外型尺寸 Machine dimension W x L x H (mm)	4000 x 2700 x 3100		
機械重量 Machine weight (kg)	7500		
CNC控制系統 CNC Control	M80A / 0i-MF / 828D / TNC620		

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KASUGA 立式加工中心機 V160/V200
Vertical Machining Center

項目ITEM / 機型MODEL	V160	V160X	V160D	V200	V200X	V200D
X / Y / Z 軸行程 X / Y / Z Axis travel (mm)	1650 / 850 / 820			2050 / 850 / 820		
主軸鼻端至台面距離 Spindle nose to table surface (mm)	165 ~ 985		120 ~ 940	165 ~ 985		120 ~ 940
工作台面至地面距離 Table height from floor (mm)	978					
工作台尺寸 Table size (mm)	1750 x 800			2150 x 800		
主軸轉速 Spindle speed (rpm)	10000	12000	6000	10000	12000	6000
	12000 (opt.)	15000(opt.)	8000 (opt.)	12000 (opt.)	15000(opt.)	8000 (opt.)
	皮帶式 Belt	直結式 DDS	皮帶式 Belt	皮帶式 Belt	直結式 DDS	皮帶式 Belt
主軸錐度 Spindle taper (Tool shank)	BT-40		BT-50	BT-40		BT-50
	CAT / DIN / HSK / BBT (opt.)					
最大工件荷重 Max. loading capacity (kg)	1000 (Max. feed rate 36 m/min)			1500 (Max. feed rate 30 m/min)		
	2000 (Max. feed rate 20 m/min)			2500 (Max. feed rate 20 m/min)		
快速進給 X / Y / Z軸 X / Y / Z Axis rapid feed rate (m/min)	36 / 36 / 30			30 / 30 / 30		
切削進給 X / Y / Z軸 X / Y / Z Axis cutting feed rate (m/min)	18 / 18 / 15					
軌道規格 X / Y / Z軸 X / Y / Z Axis linear guide (mm)	65 / 65-55 / 65					
螺桿規格 X / Y / Z軸 X / Y / Z Axis ballscrew (mm)	50 / 50 / 50			63/ 50 / 50		
主軸驅動馬達規格 Spindle motor (kW) (M)	11 / 15		15 / 18.5	11 / 15		15 / 18.5
X / Y / Z軸驅動馬達規格 X / Y / Z Axis servo motor (kW) (M)	4.5 / 4.5 / 7.0					
定位精度X / Y / Z軸 X / Y / Z Axis positioning (mm)	±0.005					
重覆定位精度X / Y / Z軸 X / Y / Z Axis repeatability (mm)	±0.003					
換刀方式 / 刀庫容量 ATC type / Magazine No.	刀臂式 ARM 24T					
	28T (opt.)		30T (opt.)	28T (opt.)		30T (opt.)
換刀時間 Tool change time (sec)	2.3		5.0	2.3		5.0
機械外型尺寸 Machine dimension W x L x H (mm)	4200 x 3335 x 3500			5200 x 3335 x 3500		
機械重量 Machine weight (kg)	11500			14500		
CNC控制系統 CNC Control	M80A / 0i-MF / 828D / TNC620					

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本型錄精度檢測之數值為廠內檢測結果。The result of accuracy data is subject to field test.

機床標準配備與選擇配備

Standard & Optional Features

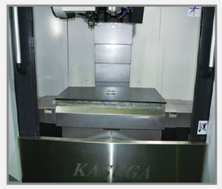
標準配備 Standard: ✓
選擇配備 Option: ○
不可選擇 NO Available: ✕

系列 Series		V	Vx	VD
全罩式護罩板金	Fully enclosure guard	✓	✓	✓
三軸防屑護蓋	3 Axes telescopic cover	✓	✓	✓
皮帶式主軸轉速6000rpm	Belt type spindle speed 6000rpm	✕	✕	✓
皮帶式主軸轉速8000rpm	Belt type spindle speed 8000rpm	✕	✕	○
皮帶式主軸轉速 10000rpm	Belt type spindle speed 10000rpm	✓	✕	✕
皮帶式主軸轉速 12000rpm	Belt type spindle speed 12000rpm	○	✕	✕
直結式主軸12000rpm	Direct drive spindle 12000rpm	✕	✓	✕
直結式主軸15000~18000rpm	Direct drive spindle 15000~18000rpm	✕	○	✕
內藏式主軸20000~30000rpm	Build-in spindle 20000~30000rpm	✕	○	✕
主軸油冷裝置	Spindle oil cooler (V120-V200 STD)	○	✓	✓
主軸吹氣裝置	Air blast through spindle	✓	✓	✓
主軸氣幕裝置	Spindle air sealing	✓	✓	✓
切削液裝置	Cutting coolant system	✓	✓	✓
切削吹氣裝置	Cutting air blast system	✓	✓	✓
氣槍	Air gun	✓	✓	✓
水槍	Water gun	✓	✓	✓
操作警示燈及工作燈	Operation status lamp and working lamp	✓	✓	✓
M30自動斷電	M30 power off	✓	✓	✓
移動式手輪	MPG handwheel	✓	✓	✓
RS232介面盒	RS232 interface	✓	✓	✓
剛性攻牙	Rigid tapping	✓	✓	✓
自動潤滑裝置	Automatic lubrication system	✓	✓	✓
電氣箱熱交換器	Heat exchanger for electrical cabinet	✓	✓	✓
工具箱及工具&基礎螺絲及墊塊	Tool box with tools, and leveling bolts & pads	✓	✓	✓
沖屑裝置	Chip flushing system	✓	✓	✓
滾柱線性滑軌	Roller linear guideways	○	○	○
X/Y/Z光學尺	X/Y/Z Axis optical linear scale (5μ)	○	○	○
A軸&C軸全閉環	A Axis rotary encoder & C axis rotary encoder	○	○	○
主軸中心出水裝置	Coolant through spindle	○	○	○
主軸環狀噴水裝置	Ring type cutting coolant flushing system	○	○	○
前門及側門安全開關	Front door and side door switch	○	○	○
螺旋/鏈條式排屑機	Auger / Chain type conveyor	○	○	○
雷射刀具長度量測裝置	Laser tool length measurement system	○	○	○
接觸式刀具長度量測裝置	Contact type tool length measurement system	○	○	○
工件量測裝置	Workpiece measurement system	○	○	○
夾持裝置空壓供給	Air supply for clamping fixture	○	○	○
CE規格	CE conformity	○	○	○
圓盤式油水分離機	Disc type oil skimmer	○	○	○
電氣箱空調冷氣機	Air conditioner for electrical cabinet	○	○	○
油霧回收裝置	Oil mist collector	○	○	○
變壓器	Transformer	○	○	○

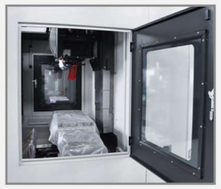
本型錄之規格如有變更，恕不另行通知。Specifications are subject to change without notice.

友善化設計．方便操作化設計．安全性設計

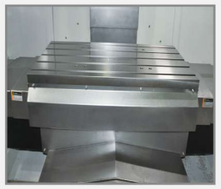
Unique designs based on user-friendly and safety



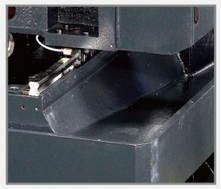
▲ 前門及視窗大尺寸設計
Larger viewer's window on front door



▲ 側門大視窗設計
Larger viewer's window on both sides of the machine



▲ 伸縮防屑蓋斜度設計
Slope on telescopic cover for easy chip flow



▲ 底座大斜度排屑設計
Steep slope surface on the base for chip removal

▲ ATC刀倉安全護蓋
Safety cover of ATC

▲ 風槍及水槍掛吊設計
Convenient locations of both air & water guns

▲ 旋轉式操作箱
Swivelable control box

▲ 增加刀倉設計
Second tool magazine located in front of the machine

▲ 移動式電子手輪
Movable MPG

▲ 雙LED工作燈
Dual LED worklights

選擇配備 Optional Features

▲ 螺旋式排屑機
Auger type chip conveyor

▲ 鏈條式排屑機
Chain type chip conveyor

▲ 油霧回收機
Oil mist collector

▲ 主軸油冷卻機
Spindle oil cooler

▲ 電氣箱冷氣機
Air condition for electrical cabinet

▲ 三軸光學尺
Linear scale

▲ 主電源變壓器
Main power transformer

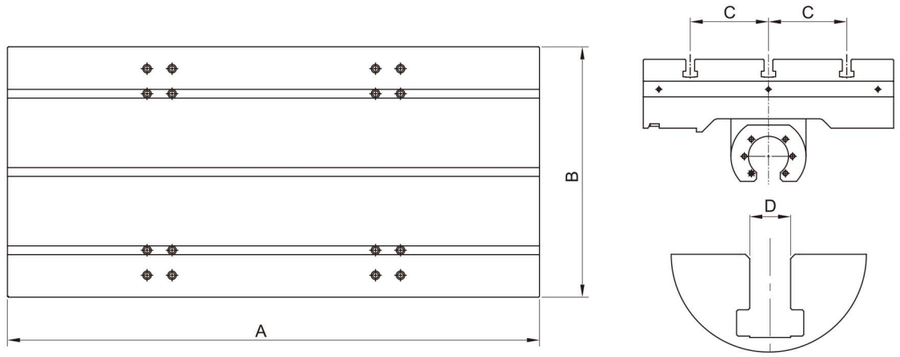
▲ 刀具長度量測
Tool length measurement

▲ 工件量測裝置
Workpiece measurement

▲ 雷射刀具量測
Laser tool length measurement

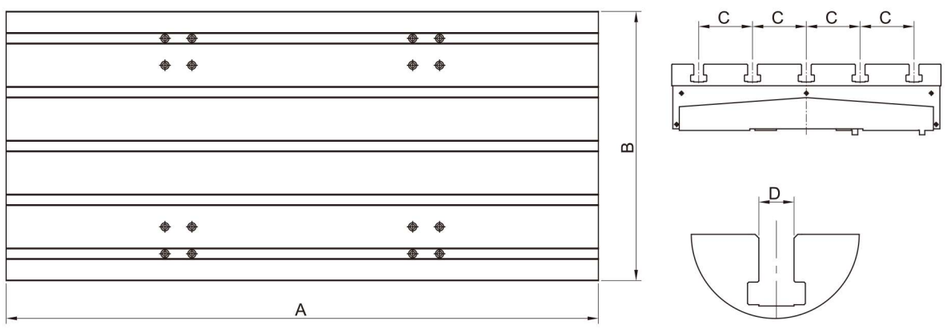
工作台尺寸圖 Table Sizes

V50/V70/HV70



機 型 MODEL	A	B	C	D
V50	650	400	125x3	14
V70	850	400	125x3	14
HV70	850	400	125x3	14

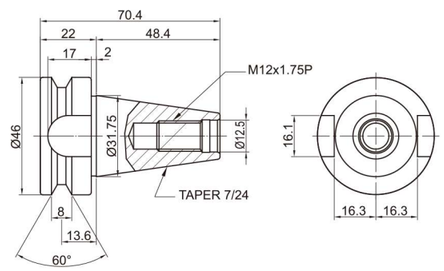
V80/V100/V110/V120/V140/V160/V200



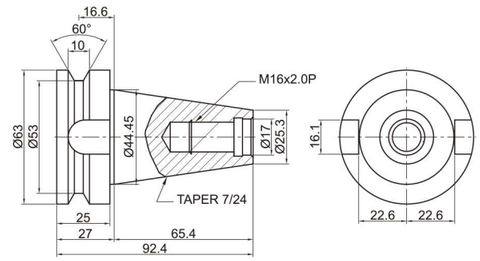
機 型 MODEL	A	B	C	D
V80	900	500	100x5	18
V100	1100	500	100x5	18
V110	1250	550	100x5	18
V120	1350	550	100x5	18
V140	1500	600	125x5	18
V160	1750	800	100x7	18
V200	2150	800	100x7	18

刀把及拉栓規格 Tool Holder & Pull Stud Dimensions

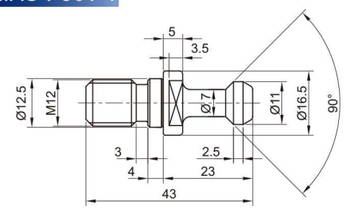
刀把: BT30



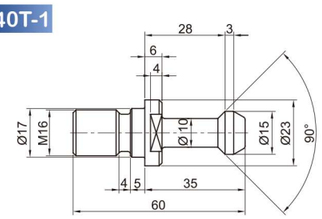
刀把: BT40



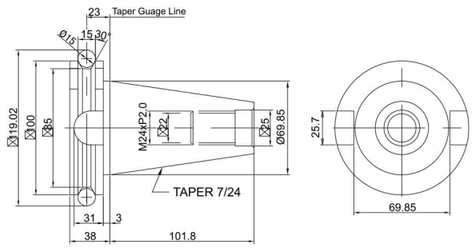
拉栓: MAS-P30T-1



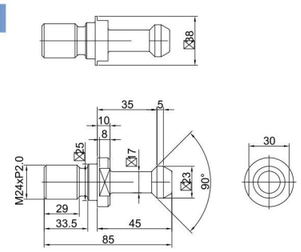
拉栓: MAS-P40T-1



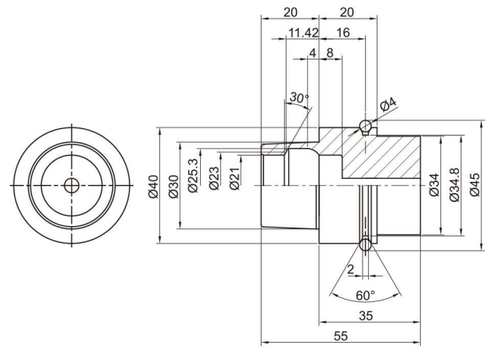
刀把: BT50



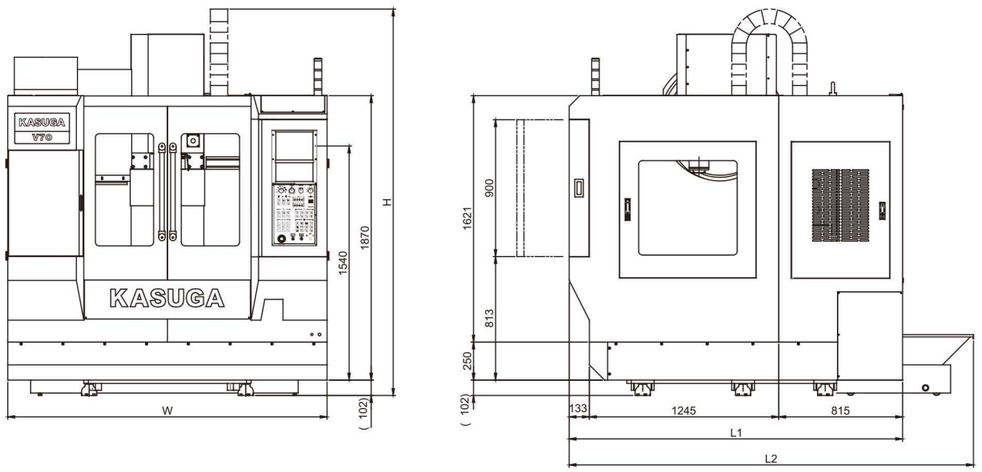
拉栓: MAS-P50T-1



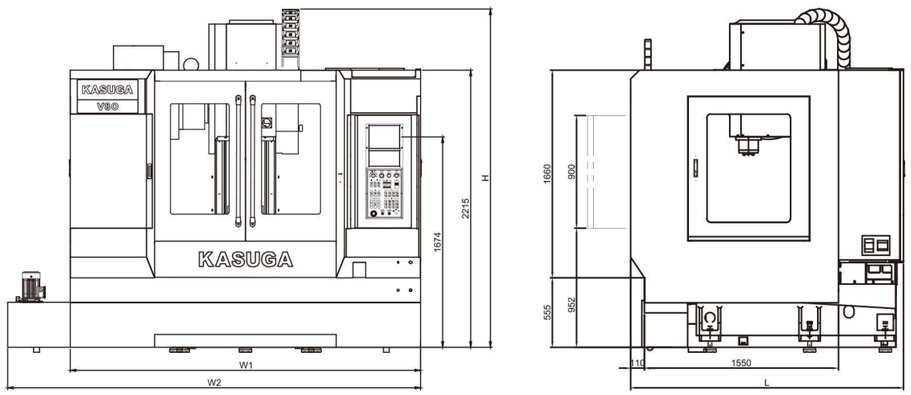
刀把: HSK40E



機械外型尺寸圖 Layout

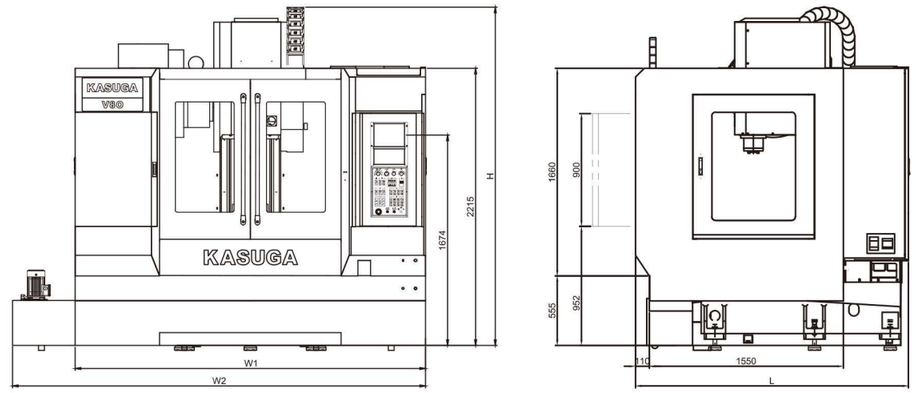


機型 MODEL	W	L1	L2	H
V50	1900	2193	2660	2545
V70	2100	2193	2660	2545

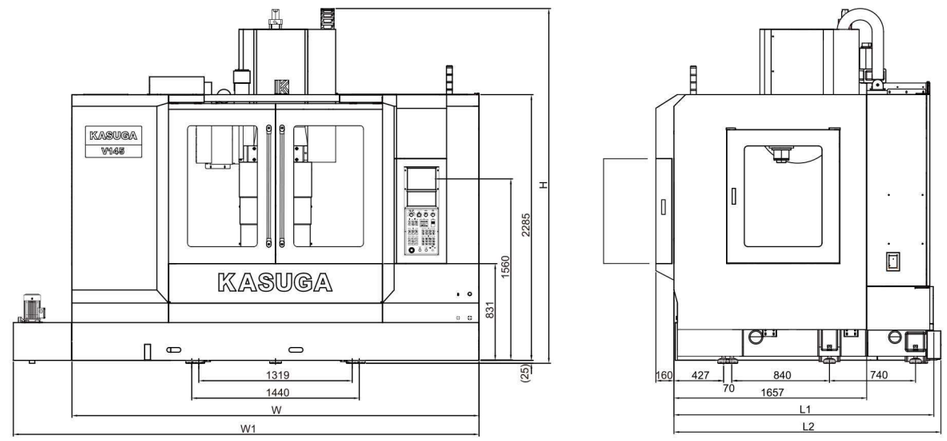


機型 MODEL	W1	W2	L	H
V80	2600	3100	2180	2840
V100	2800	3300	2180	2840

機械外型尺寸圖 Layout



機型 MODEL	W1	W2	L	H
V110	2900	3400	2670	2850
V120	3000	3500	2670	2850



機型 MODEL	W1	W2	L1	L2	H
V140	3500	4000	2300	2700	3100
V160	4200	-	3060	3335	3500
V200	5200	-	3060	3335	3500