

450 mm / 650 mm / 1000 mm 階規
CHECK MASTER



標準規格 Check Master			
型號 Model No.	CW-450L	CW-650L	CW-1000L
精確度 Accuracy	≤ 2 um	≤ 3 um	≤ 6 um
量測範圍 Range	0~450 mm	0~650 mm	0~1000 mm
環境溫度 Temperature	T = 20 ± 1°C		

垂直儀
VERTICAL TESTER



型號 Model No.	V-300	V-600
量測範圍 Range	0~300 mm	0~600 mm
精確度 Accuracy		
真直度 Straightness	≤ 3 um	≤ 5 um
垂直度 Squares	≤ 3 um	≤ 5 um
操作方式 Operation	手動 Manual	手動 Manual
重量 Weight	8Kg	10Kg
環境溫度 Temperature	T=20 - 23°C	T=20 - 23°C

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※本公司保留對此型錄做修改之權利，修改時恕不另行通知。(2014-11)
※Chien Wei reserves the right to change specifications without notice.



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CNC Vertical Grinding Machine
CVG Series Vertical Grinding Machine



高精度CNC立式磨床

高精度CNC立式磨床

CNC Vertical Grinding Machine

CVG 4T / 8CT / 12CT

- 特點：(1) C軸採用液靜壓轉盤，研磨真圓度可達到 1 μ m 左右
(2) X.Z軸採用HEIDENHAIN光學尺，解析度 0.05 μ m
(3) X.Z軸最小設定單位0.0001 mm
(4) 自動刀具更換裝置ATC，4T刀把型式：BT40、8CT / 12CT刀把型式：BT50
(5) 自動修砂及自動補償功能

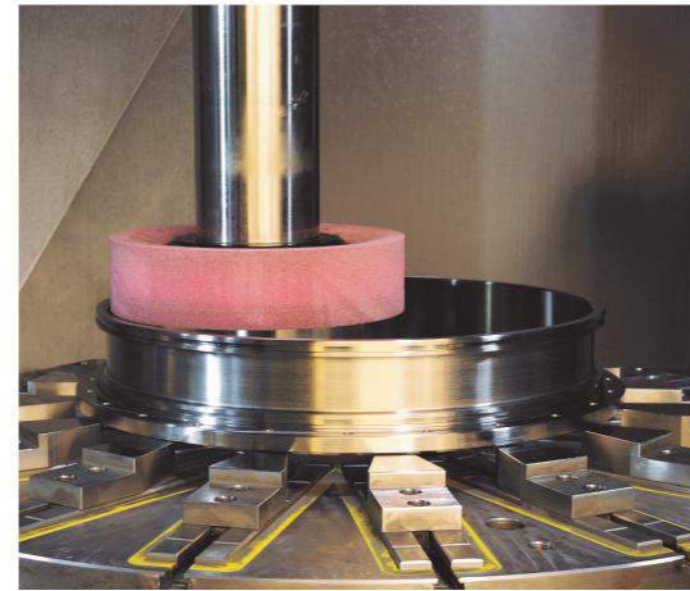
High-Precision Vertical Grinding Machine-CNC

CVG 4T / 8CT / 12CT

- Feature : 1. Hydrostatic rotary table adopted in C axis ; Roundness : approximate 1 μ m
2. HEIDENHAIN linear encoder equipped in X and Y axis ; resolution : 0.05 μ m
3. Minimum setting unit 0.0001 mm in X and Z axis
4. Automatic tool changer ATC ; 4T spindle taper : BT40 ; 8CT / 12CT spindle taper : BT50
5. Feature auto-dressing and auto-compensation



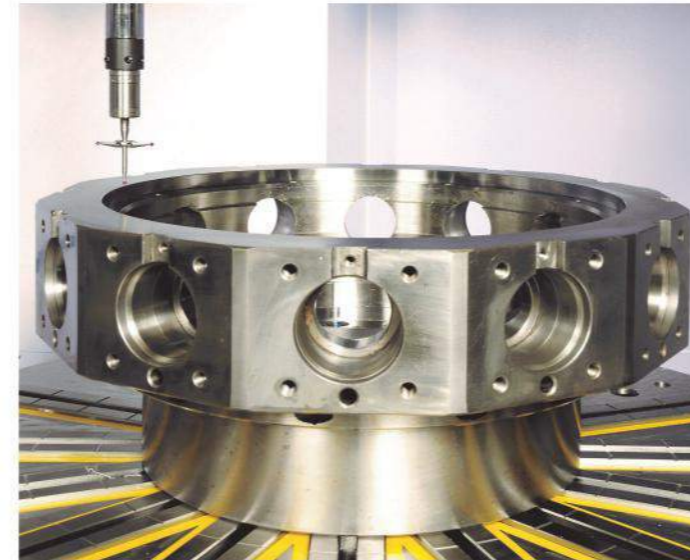
8CT/12CT 加工試樣與量測 Workpiece Trial & Measurement



立車剎車環內外研磨
Brake Ring of Vertical Lathe internal / external grinding



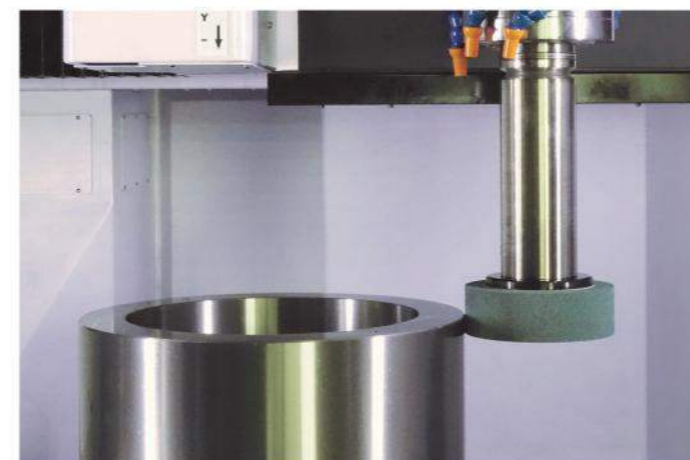
油霧回收器及冷卻系統
Mist collector and cooling system



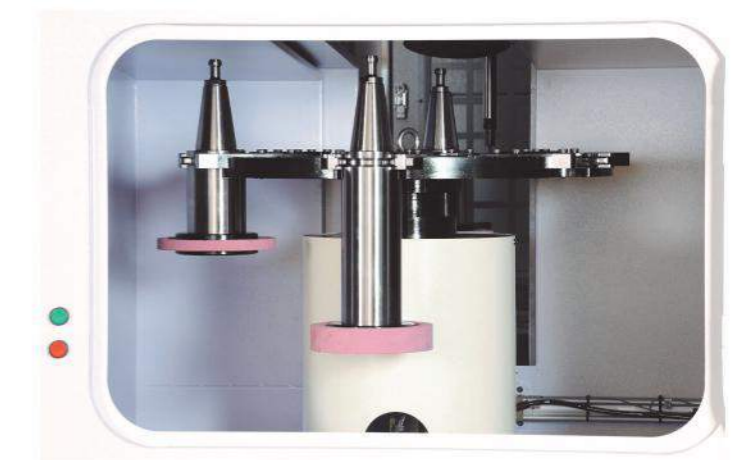
自動線上量測
Automatic online measurement



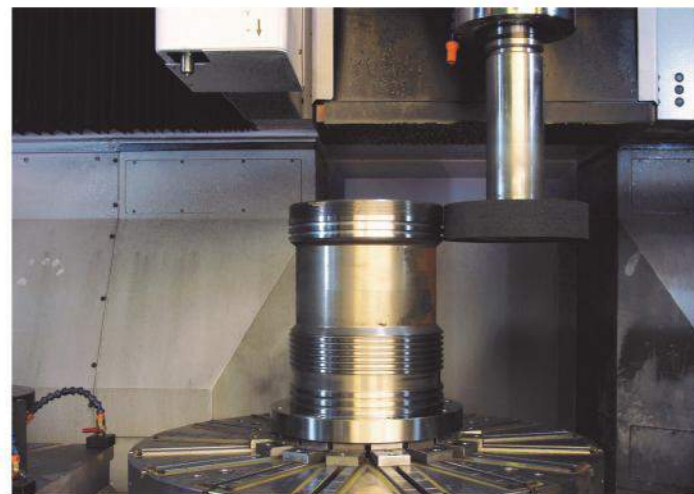
液靜壓幫浦
Hydrostatic pump



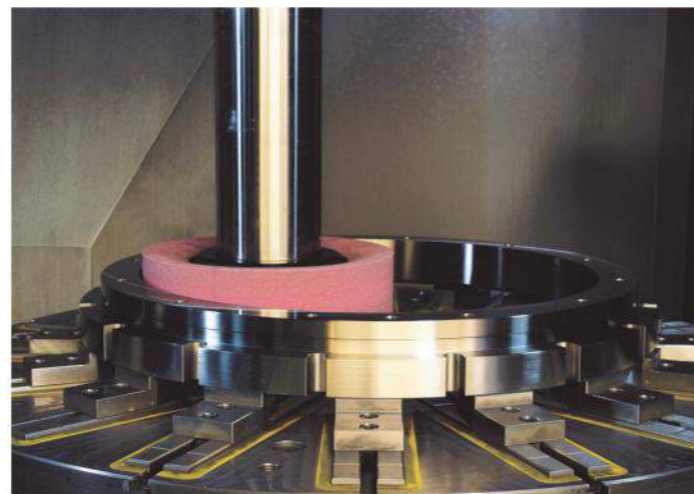
外圈研磨
Exterior circle grinding



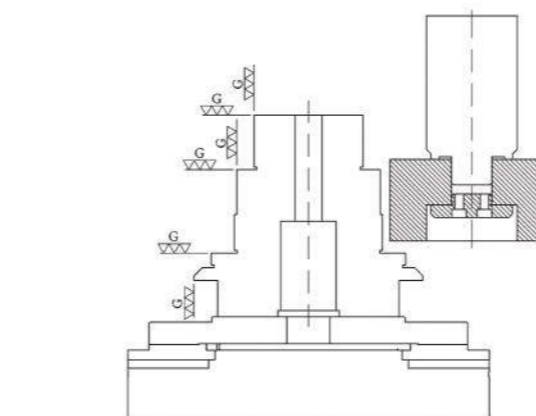
研磨砂輪放置刀庫
Tool magazine



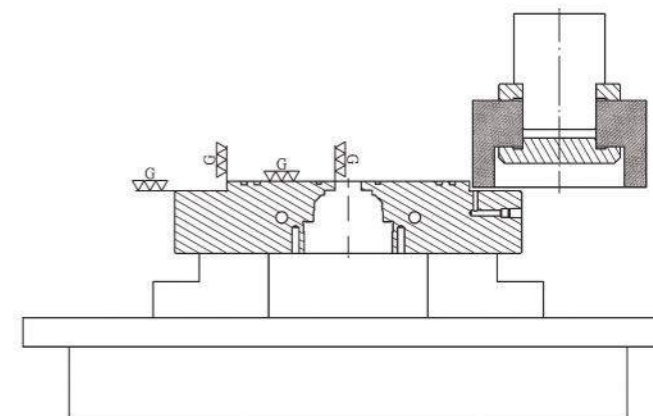
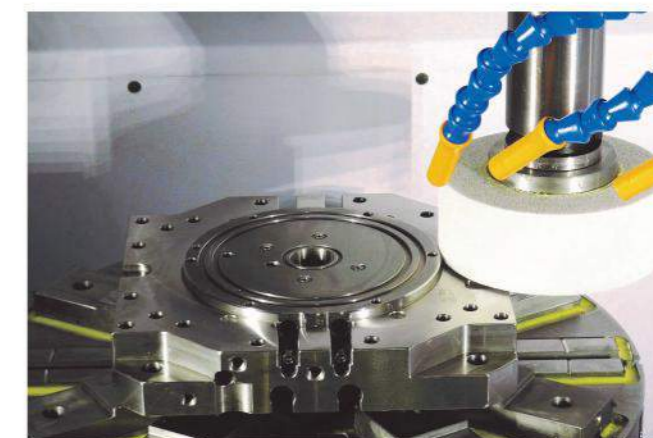
主軸套件
Spindle parts grinding



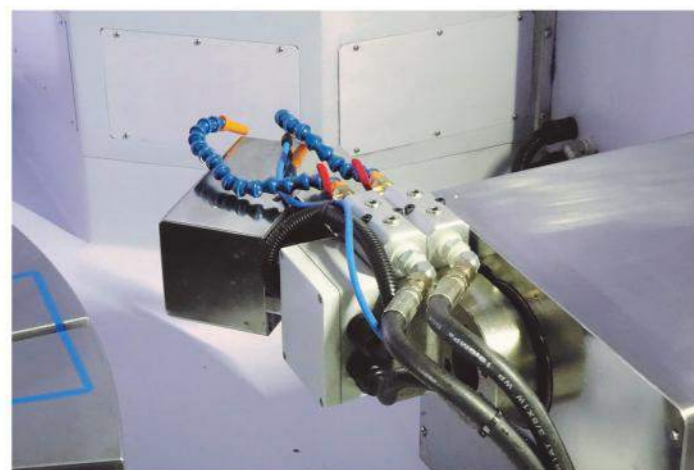
套環配件
Collar grinding



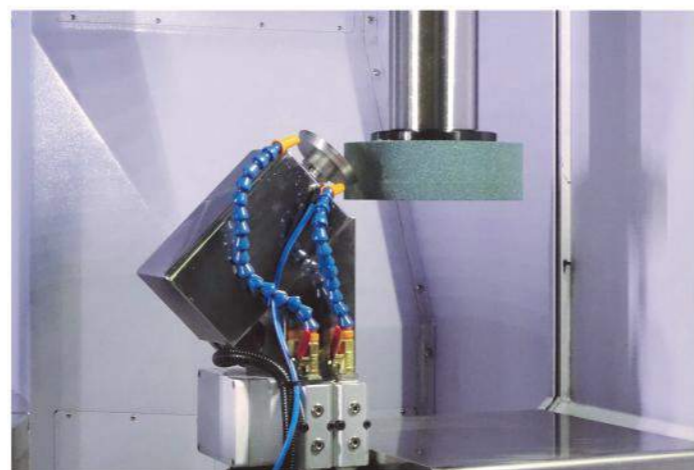
主軸套件 Spindle parts grinding



光碟片模具 Disc Mold grinding



修砂器90度起降
90 degree rotation dresser



旋軸修砂器
Rotating dresser



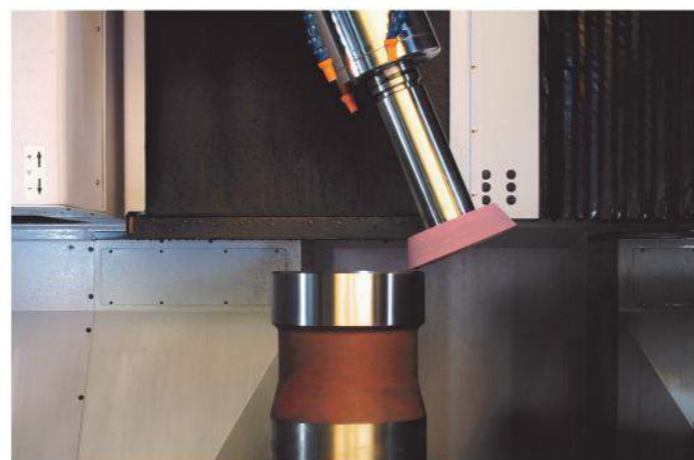
齒輪箱套件 Gear box grinding



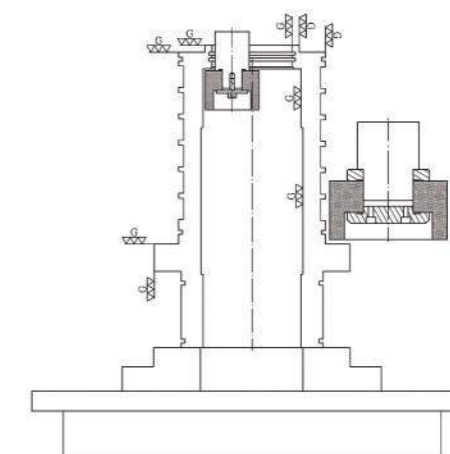
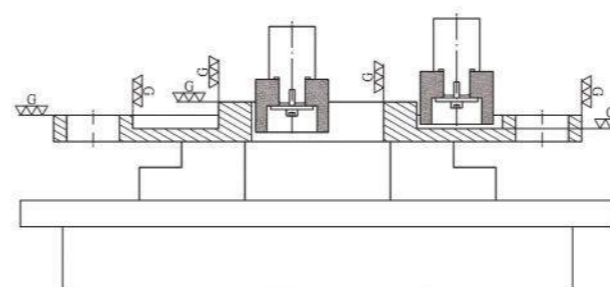
主軸外套加工 Spindle housing grinding



量測校正
Measurement calibration

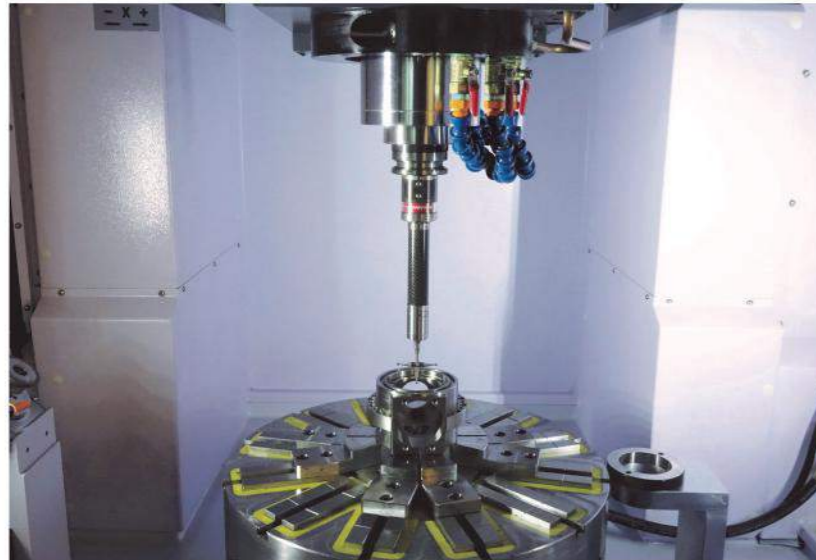


端面研磨
Face grinding

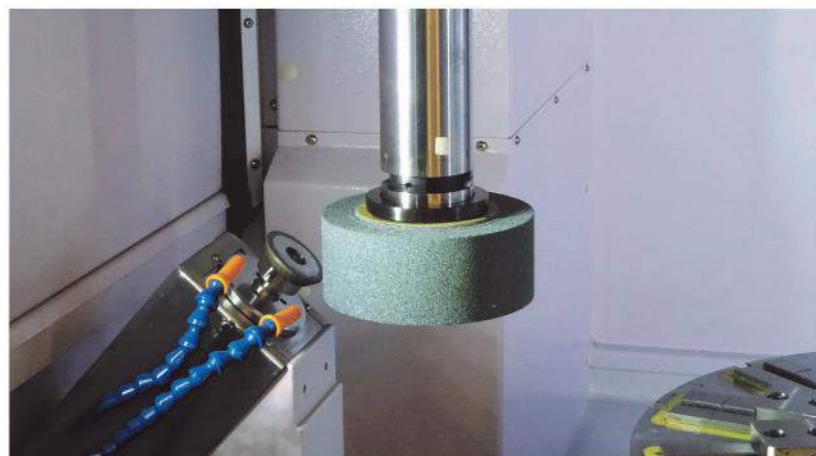




量測校正
Measurement calibration



加工件量測
Workpiece measurement



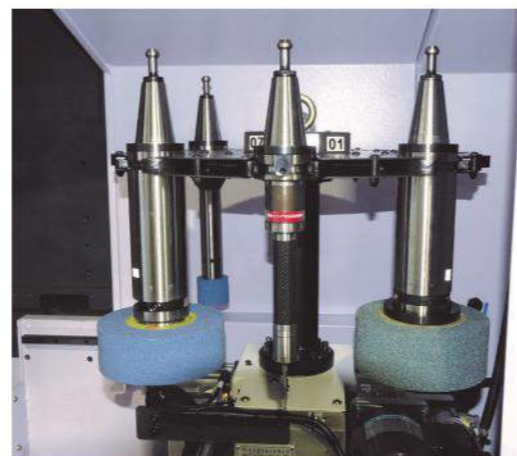
旋轉修砂，自動補償功能
Auto-dressing & Auto-compensation



油霧回收器及冷卻系統
Mist collector and cooling system



液靜壓幫浦
Hydrostatic pump

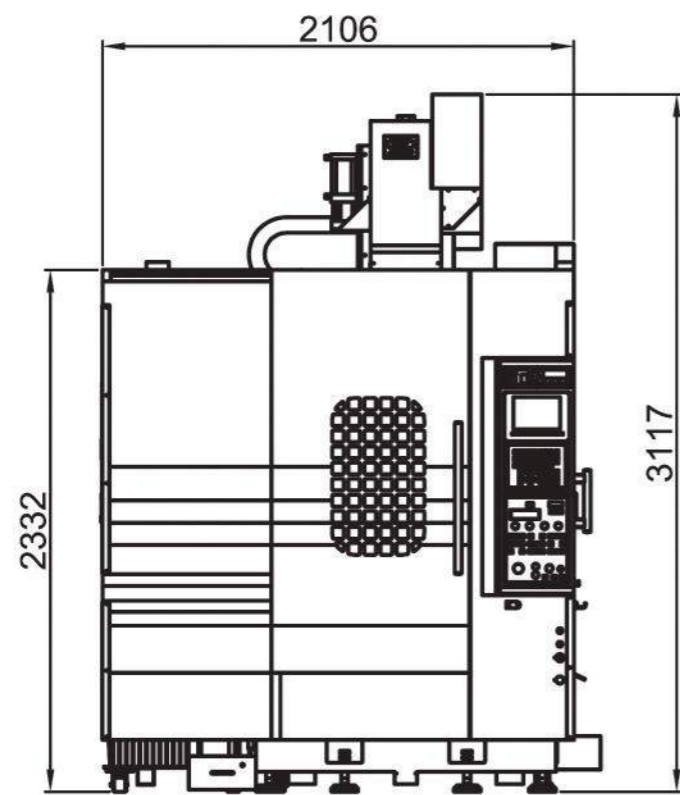
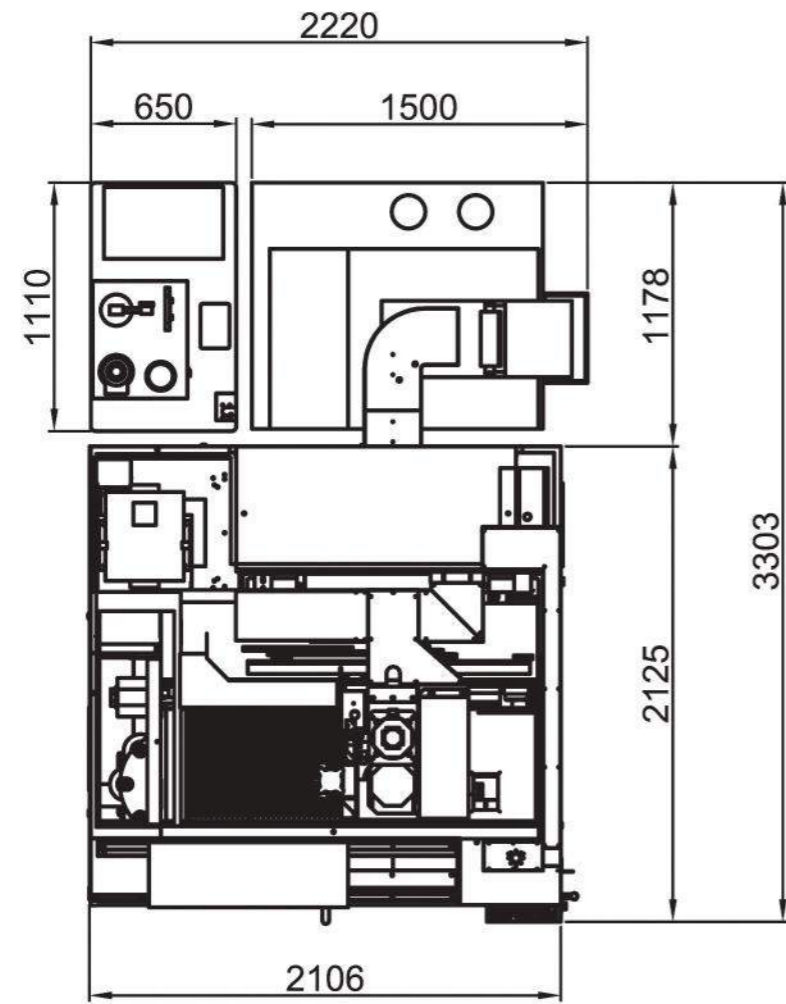


研磨砂輪放置刀庫
Tool magazine

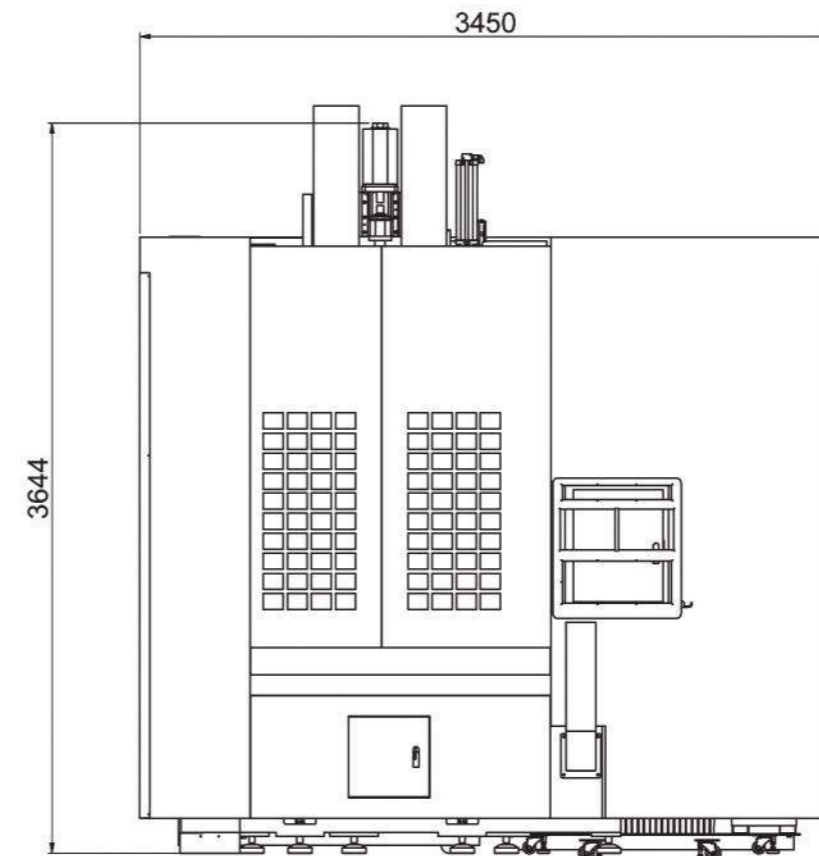
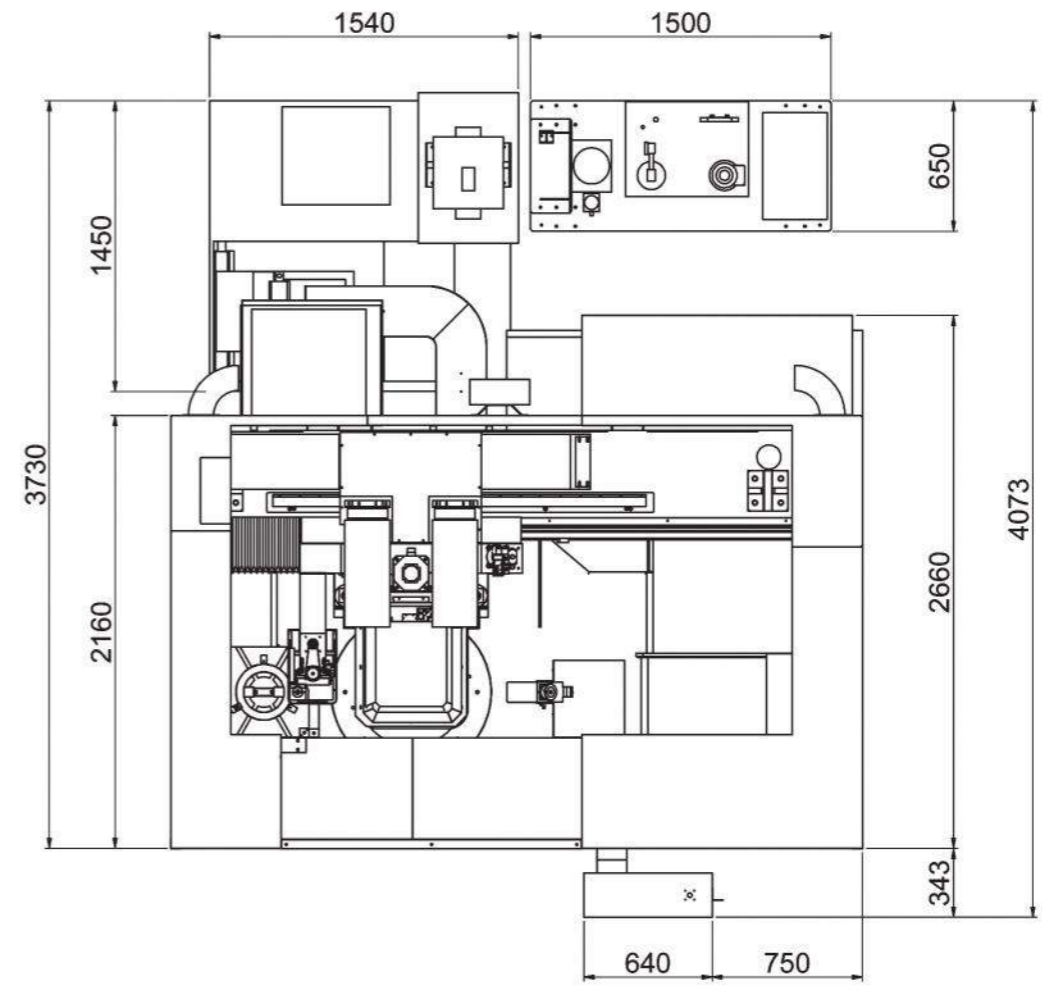
項目	ITEM	UNIT	CVG-4T	CVG-8CT	CVG-12CT
電控系統	Electronic control system				
數值控制器	NC controller	unit	0i-MD	32iB	32iB
研磨能力	Capacity				
內徑研磨尺寸範圍	Range of internal grinding diameter	mm	∅50~∅400	∅50~∅800	∅50~∅1200
外徑研磨尺寸範圍	Range of external grinding diameter	mm	∅450	∅800	∅1200
內徑研磨最大長度(ID)	Internal grinding length (ID)	mm	ID < ∅150 : 225 ID > ∅150 : 325	ID < ∅250 : 325 ID > ∅250 : 500	ID < ∅250 : 325 ID > ∅250 : 500
外徑研磨最大長度	External grinding length	mm	325	500	500
工件最大旋徑	Swing of work spindle	mm	∅450	∅850	∅1250
工件安裝最高高度 (包括夾具)	Workpiece height (including fixtures)	mm	400	600	600
工件最大載重	Max. load on work table	kg	250	1500	2500
X 軸行程	X axis travel				
向右行程	Travel (from spindle center to right)	mm	300	1340(ATC 位置)	1670(ATC 位置)
向左行程	Travel (from spindle center to left)	mm	690 (ATC 位置)	400	600
移動速度	Travel speed	mm/min	0~24000	0~24000	0~24000
最小設定單位	Min. setting unit	mm	0.0001	0.0001	0.0001
Z 軸行程	Z axis travel				
上下行程	Travel	mm	400	650	650
移動速度	Travel speed	mm/min	0~24000	0~24000	0~24000
最小設定單位	Min. setting unit	mm	0.0001	0.0001	0.0001
砂輪軸	Wheel spindle				
刀把型式	Tool holder		BT40	BT50	BT50
砂輪軸轉速	Wheel spindle speed	rpm	0~12000	0~10000	0~10000
砂輪直徑	Wheel diameter	mm	∅45~∅150	∅45~∅250(建議)/∅275(最大)	∅45~∅250(建議)/∅275(最大)
主軸	Spindle				
工作台尺寸	Dimension of work table	mm	∅450	∅800	∅1200
旋轉速度	Spindle speed	rpm	20~400	10~200	5~100
自動刀具更換裝置(ATC)	Automatic tool changer (ATC)				
刀把型式	Tool holder		BT40	BT50	BT50
砂輪儲存容量	Wheel storage capacity	Tools	8	6	6
最大砂輪(直徑 X 長度)	Max. wheel (diameter x length)	∅xmm	∅150X250	∅275X350	∅275X350
最大砂輪重量	Max. wheel weight	kg	8	20	20
選刀方式	Tool selection		umbrella type	umbrella type	umbrella type
電動機	Motors				
砂輪軸馬達	Wheel drive motor	kw	5.5/7.5	15/18.5(內藏式)	15/18.5(內藏式)
主軸馬達	Spindle drive motor	kw	3.7/5.5	3.7/5.5	3.7/5.5
X 軸伺服馬達	X axis motor	kw	3	6	6
Z 軸伺服馬達	Z axis motor	kw	4	6	6
機器重量佔地及包裝	Machine weight, space and packing				
地面空間(長 X 寬)	Floor space	mm	3303x2106	4073x3450	4173x4067
機器高度	Machine height	mm	3117	3644	3659
變壓器	Power capacity	KVA	27.5	33	33
淨重	Net weight	kg	7000	16000	19000
包裝後重量	Gross weight	kg			
包裝後尺寸(木箱)	Packing size (seaworthy wooden case)	cm			

標準配備:		
1.主軸油冷卻系統 Spindle cooling system	2.X/Z 軸光學尺 X/Z axis linear scale	3.基礎螺栓及水平調整螺帽 Bolts and leveling blocks
4.自動潤滑系統 Auto lubricating system	5.操作及使用手冊 Users manual	6.吹氣裝置 Air spray
7.全罩式板金 Full splash guard	8.LED 工作燈(2 座) LED work lamp (2sets)	9.水槍裝置 Water blow
10.RS232/RJ45 介面 RS232/RJ45 port	11.空調式冷卻機(8CT/12CT) Air conditioner for electrical equipment	12.切削水過濾裝置(含水箱、磁鐵及紙帶過濾機、油溫冷卻機、幫浦) Cooling system, including water tank, magnetic & paper filter, pump
13.C 軸油壓單元(變頻馬達 2.6KW) Power unit (Hydrostatic rotary table)	電氣箱熱交換機(CVG-4T) Heat exchanger	
14.傘型刀庫(CVG-4T(8T)/CVG-8CT(6T)) Tool kit	15.工具箱 Tool box	16.MPG 手輪 MPG turning wheel
17.三色警示燈 Pilot lamp	18.永電磁盤 Permanent electromagnetic disc	19.主軸油霧潤滑系統 Spindle oil mist lubrication system
20.油霧回收裝置(0.2KW/4T,0.3KW/8CT) Oil mist collector		

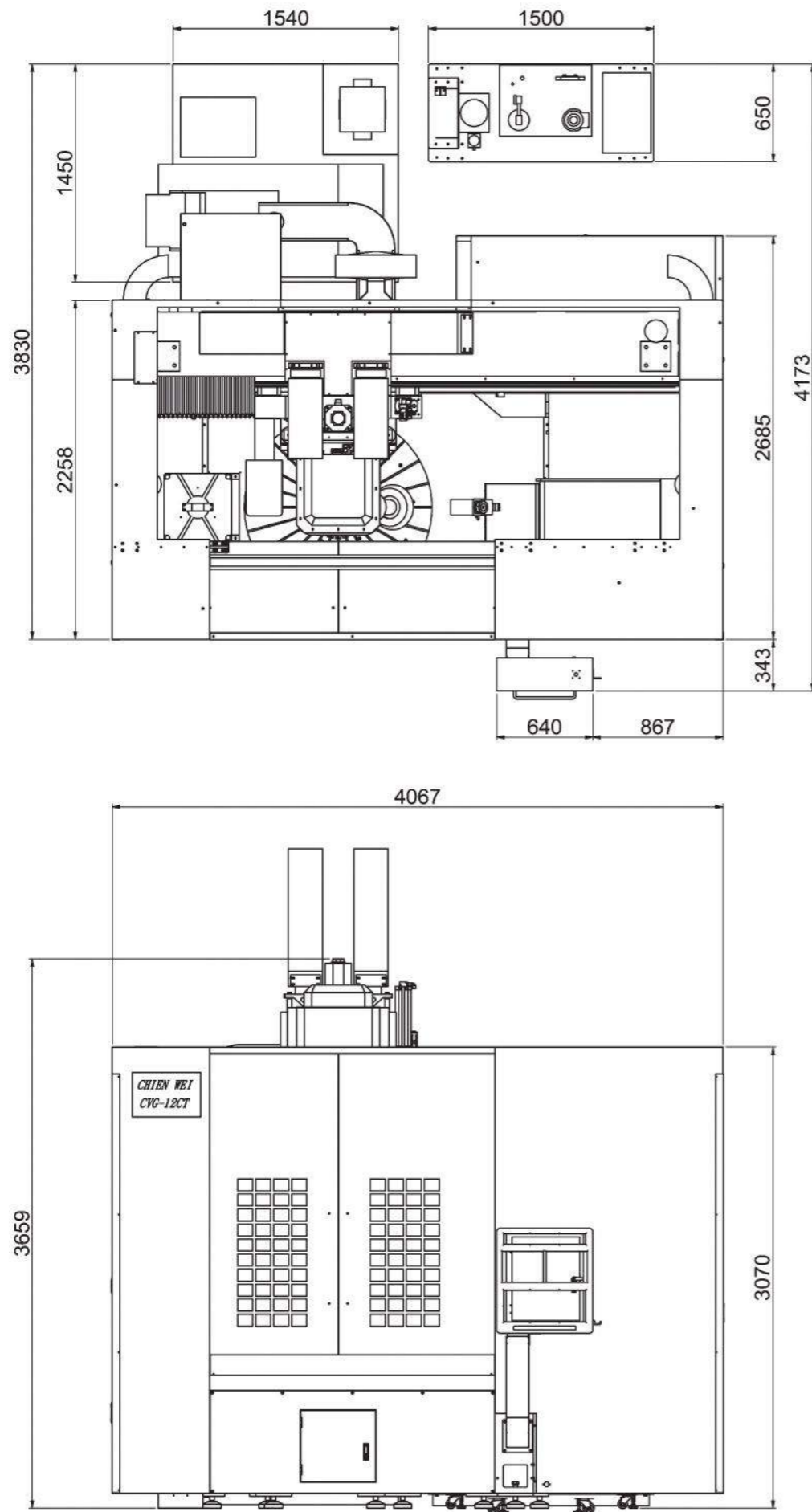
CVG-4T外觀尺寸圖 External Dimension



CVG-8CT外觀尺寸圖 External Dimension



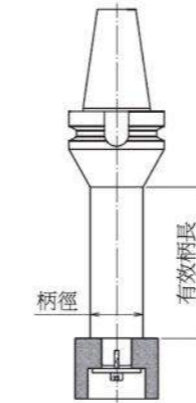
CVG-12CT外觀尺寸圖 External Dimension



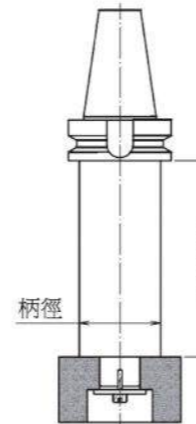
Standard tools

— Tools and wheel —

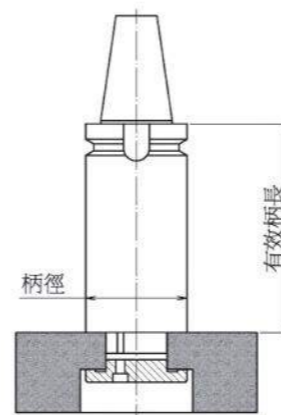
砂輪柄型式 (I)



砂輪柄型式 (II)



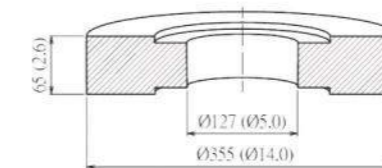
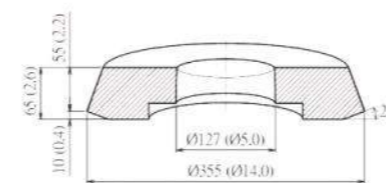
砂輪柄型式 (III)



CVG-4T				
Tools and wheels 砂輪柄型式	Quill diameter 柄徑(mm)	Effective length 有效柄長(mm)	Wheel used 使用砂輪(mm)	Min. bore diameter × max. depth 研磨最小孔徑 x 最大深度(mm)
I	Ø35	100	Ø45×40	Ø50×120
			Ø55×40	Ø60×120
II	Ø50	120	Ø65×40	Ø70×135
			Ø75×40	Ø80×135
		160	Ø65×40	Ø70×185
			Ø75×40	Ø80×185
III	Ø63	130	Ø80×45	Ø90×155
			Ø100×50	Ø110×160
		150	Ø125×50	Ø135×170
			Ø150×50	Ø160×170
		200	Ø125×50	Ø135×255
			Ø150×50	Ø160×255

CVG-8CT / 12CT				
Tools and wheels 砂輪柄型式	Quill diameter 柄徑(mm)	Effective length 有效柄長(mm)	Wheel used 使用砂輪(mm)	Min. bore diameter × max. depth 研磨最小孔徑 x 最大深度(mm)
II	Ø45	160	Ø65×40	Ø70×180
			Ø75×40	Ø80×180
	Ø55	250	Ø80×45	Ø90×275
			Ø90×45	Ø100×275
			Ø100×50	Ø110×280
Ø75	250	Ø125×50	Ø135×330	
		Ø150×50	Ø160×330	
		Ø180×50	Ø200×330	
III	Ø100	300	Ø250×60	Ø270×500

— Wheel shape —



Workpiece material 工件材質	Wheel 砂輪規格
Quenching	WA80K
Cast metal	GC80K