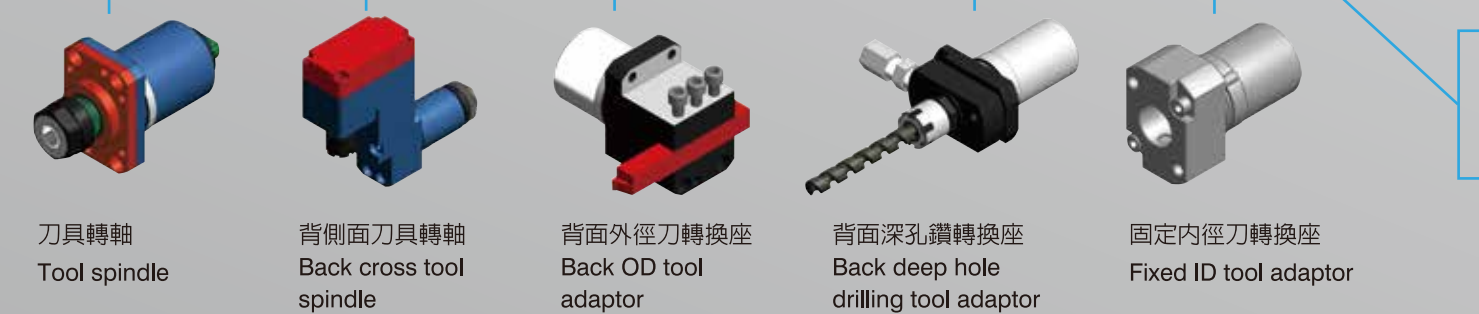
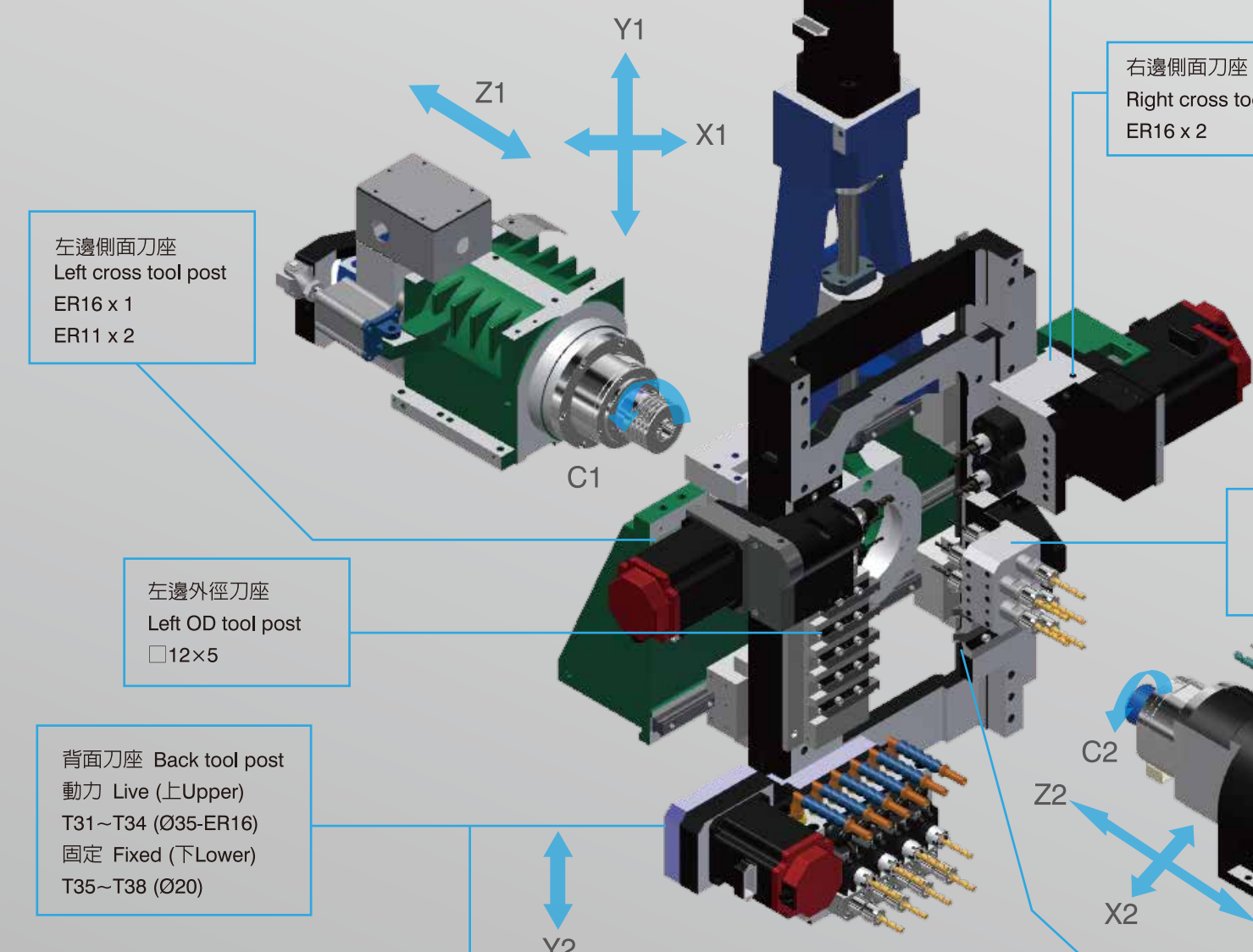




# Independent and simultaneous machining of main spindle side / back spindle side

正面、背面加工可獨立且同時進行

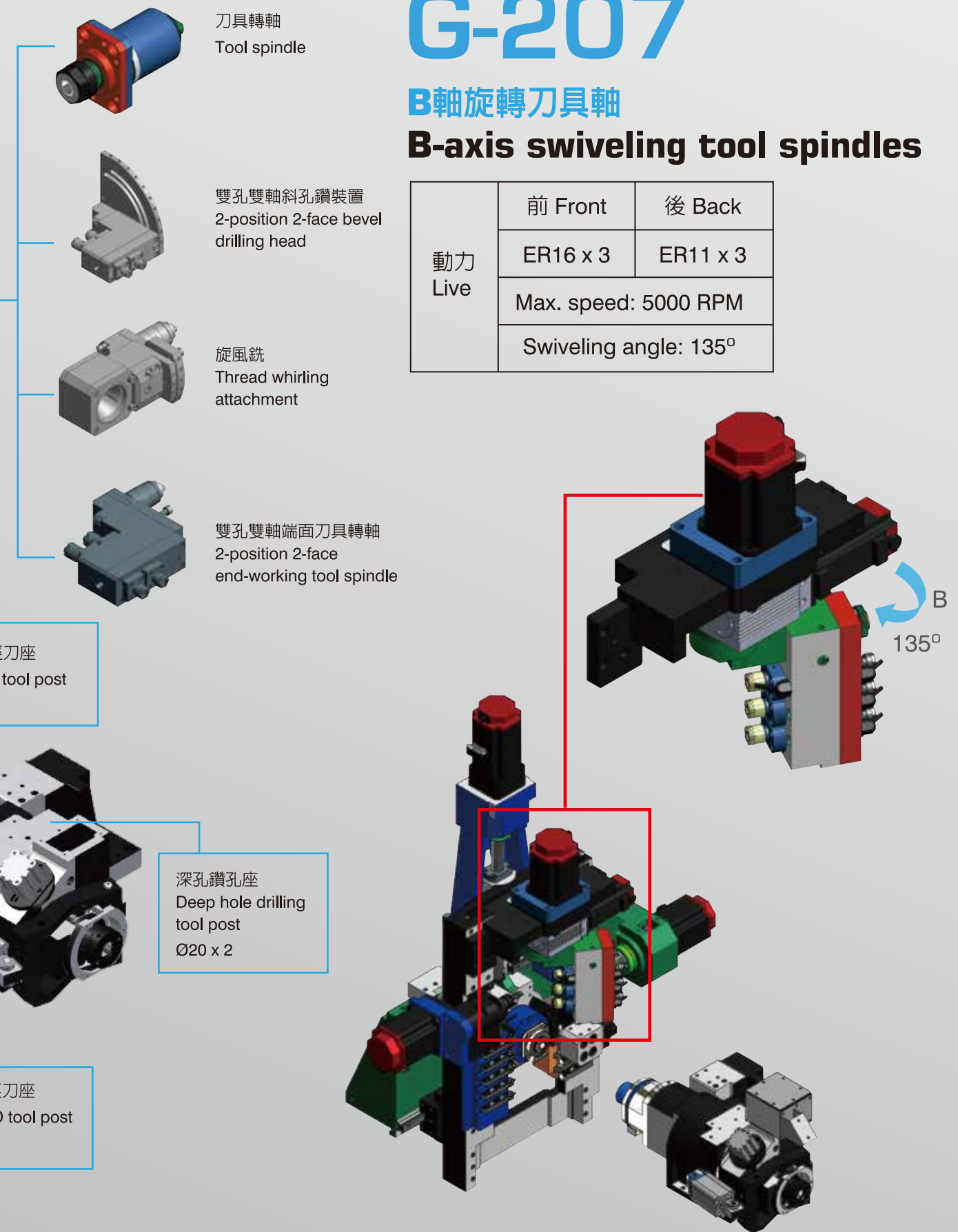
## G-206



## G-207

### B軸旋轉刀具軸 B-axis swiveling tool spindles

動力 Live	前 Front	後 Back
	ER16 x 3	ER11 x 3
	Max. speed: 5000 RPM	
	Swiveling angle: 135°	



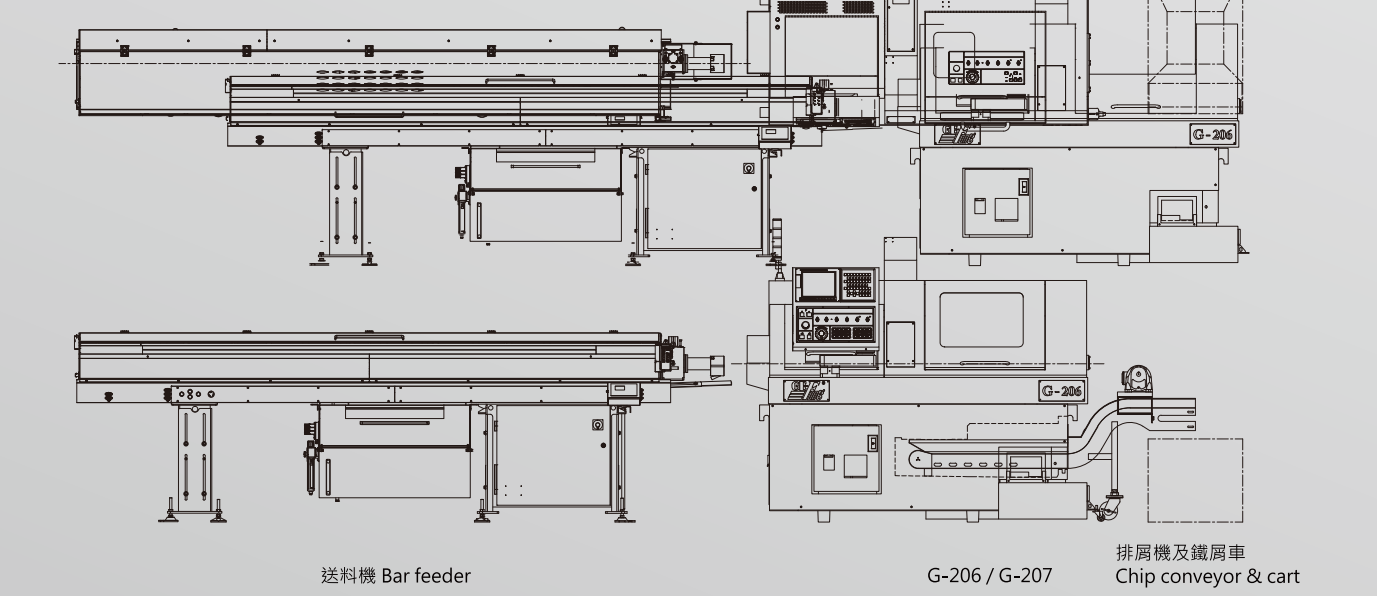
### 刀具容量 Tool capacity

機型	MODEL	G-206	G-207
刀位總數	No. of tool positions	28	31
最多刀具總數	Max. No. of mountable tools	39	35
外徑刀	OD tool (T04 - T08, T21 - T23)	8	8
正面固定式內徑刀	Face fixed ID tool (T15 - T19)	5	4
正面深孔鑽頭	Face deep-hole drilling tool (T91 - T92)	2	2
背面固定式內徑刀	Back fixed ID tool (T35 - T38, T45 - T49)	4 (選配OP.: 9)	4 (選配OP.: 8)
左側面動力刀	Left cross live tool (T01 - T03)	3	3
右側面動力刀	Right cross live tool (T11 & T13)	2	3 (B軸B-axis)
正面動力刀	Face live tool (T11 & T13)	0 (選配OP.: 4)	3 (B軸B-axis)
背面動力刀	Back live tool (T31 - T34, T11 & T13)	4 (選配OP.: 8)	4 + 3 (B軸B-axis)

### 樣品 Sample



### 外觀圖 External view

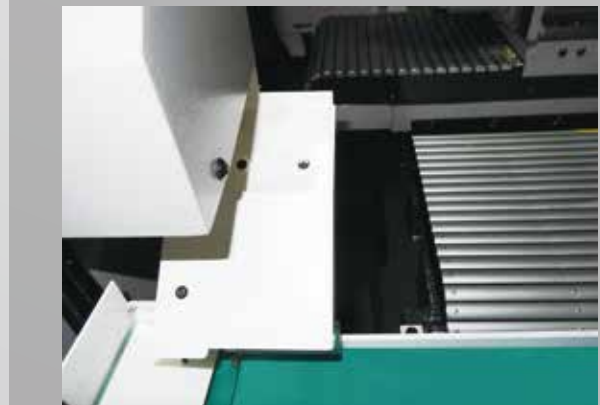


### 特點 Features

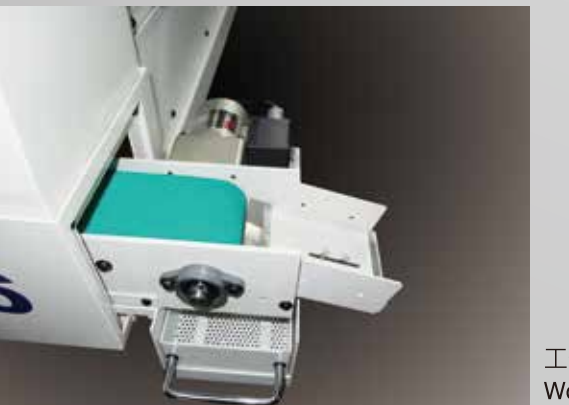
- ※ 模組化加工: 依據加工之工件需要, 可自由地做各式不同刀具轉軸、內徑刀座、外徑刀座等之多種組合。
- ※ 因有獨立之背面刀座及背主軸能左右移動, 所以正主軸側(S1)及背主軸側(S2)之加工, 確實能各別獨立進行, 無須互相等待, 可大幅降低加工時間。
- ※ 附Y軸之背面刀座。
  - 4支動力刀(T31~T34), 4支固定刀(T35~T38)。
  - 背側面刀具轉軸(如下所示): 供背面切溝、側面鑽孔、攻牙或銑削等, 視使用刀具而定。每間隔1刀位裝1支, 總共可裝2支背側面刀具轉軸。
  - 背面刀具轉軸: 供背面銑削、偏心鑽孔、攻牙等。
  - 刀具轉軸是採用彈夾式設計, 可與其他不同刀具轉軸, 或固定刀轉換座互換, 可提供更多之刀具配置選擇。
- ※ 側面刀T11, T13之刀具轉軸採用彈夾式設計, 依工件加工需求, 不同之刀具轉軸可彼此互換, 方便做最理想的刀具規劃配置。
- ※ 馬達直接驅動旋轉導套, 供高速及精密加工。
  - 最高轉速: 12,000 min<sup>-1</sup> · 最大加工長度: 210 mm
  - 大幅改善外形精度、尺寸精度及表面光滑度, 且即使在高轉速下, 也可減少噪音。
- ※ 根據工件長度可選用有導套式或無導套式加工無導套式加工時, 不須使用研磨棒材, 可使用冷抽棒材, 且可減少殘材長度。
- ※ 背面主軸旁, 另設有正面深孔鑽孔座, 最大鑽深可達100 mm。
- ※ 單頭或雙頭鑽夾座可裝設在 \$ 22 孔徑5刀位之固定內徑刀座上, 供正面或正/背面內徑加工。
- ※ 直接C軸分度定位: 主軸旋轉中, 執行主軸分度定位時, 主軸直接停止在所指令之分度位置, 不必先回參考零點, 可縮短分度定位時間。
- ※ 高剛性床身: 利用FEM(有限元素法)解析, 輔助機身設計以製造高剛性機身, 確保高速、高精密加工。
- ※ 螺紋銑削旋風刀頭: 可裝於T11刀位供骨釘或長螺紋加工用。
- ※ 接料器: 將背主軸排出的工件經由斜槽回收至輸送帶, 再送至工件桶。
- ※ Modular tooling: Free arrangement of different tool spindles, ID tool holders and OD turning tool holders according to tooling requirements of the parts to be produced.
- ※ With separate back tool post and cross traveling of back spindle, exactly simultaneous machining at main spindle side(S1) and back spindle side(S2) can be achieved without need to wait with each other, reducing cycle time much.
- ※ With Y-axis for back tool post
  - 4 live tools(T31~T34) and 4 fixed tools(T35~T38)
  - Back cross tool spindle(as the picture shown below) : Available for back slitting、cross drilling、tapping or milling, depending upon cutting tool in use. Total 2 back cross tool spindles can be mounted with one tool position between.
  - Back tool spindle: Available for back milling、off-center drilling、tapping, etc.
  - Cartridge type tool spindle design for T31~T34, available for interchange with other different tool spindle or adaptor for fixed tool, more choices for tooling layout design
- ※ Cartridge type tool spindle design for cross tool T11, T13 Available for interchange with other different tool spindles, convenient for optimum tooling layout design according to the parts to be produced.
- ※ Direct motor-drive rotary guide bushing, available for high-speed and accurate machining
  - Max. speed: 12,000 min<sup>-1</sup> · Max. machining length : 210 mm
  - Geometry accuracy、dimension accuracy and surface roughness are much improved, with less noise even at high speed.
- ※ Guide bushing type or guide bushing-less type is selectable according to length of the parts to be produced Guide bushing-less type does not require ground bar stocks, suitable for cold drawn bar machining also, reducing the remaining bar length.
- ※ Additional face deep hole drilling post is attached beside the back spindle. Max. drilling depth can be up to 100 mm.
- ※ Single-face or double-face drill collet holder can be mounted at \$ 22-bore 5-position fixed ID tool post, available for face or both face /back ID working
- ※ Direct C-axis indexing :When spindle indexing is done from spindle rotating state, it stops at indexed position directly, without need to return to reference point, reducing spindle indexing time.
- ※ High rigid machine bed :Machine bed design was supported by FEM(Finite element method) analysis to produce high-rigidity machine, assuring high-speed, high-accuracy machining.
- ※ Thread whirling head:Mountable at T11 for processing bone screws or long threads
- ※ Work catcher: Conveying the work discharged from back spindle through the chute to work conveyor, then work container



馬達直接驅動旋轉導套座  
Motor direct-drive rotary guide bushing holder



接料器  
Work catcher



工件輸送帶  
Work conveyor