



[www.KINGSANG.com.tw](http://www.KINGSANG.com.tw)

# High Precision Multiple Spindle Drilling Head Drilling Machine Tapping Machine

精密多軸、鑽床、攻牙機



CHUAN KING SANG MACHINE CO., LTD.  
HSIN GEELI HARDWARE ENTERPRISE CO., LTD.



- All specifications, dimensions and design characteristics shown in this catalog are subject to change without prior notice.
- Each drilling machine, tapping machine and drilling head does not include cutting tool or fixture, which is optional accessory.
- 本公司之產品規格、設計特性均不斷研究改進，規格若有變更，恕不另行通知。
- 本公司之鑽孔機、攻牙機與多軸器均不含刀具及夾具，須另購。

# index.....

## 目次：

- 3-4 Universal Multiple Spindle Drilling Head  
萬能多軸器系列
- 5 Multiple Spindle Drilling Head With Extended Holder  
萬能多軸器加長腳系列
- 6 Reference table of various collets and tap shanks  
各式筒夾與絲攻柄徑對照表
- 7 Holder Assembly Diagram  
萬向多軸器腳組合圖系列
- 8 Multiple Spindle Drilling Head  
萬向多軸器系列
- 9 Fixed Type Multiple Spindle Drilling Head  
固定型多軸器系列
- 10 Fixed Type Multiple Spindle Drilling Head  
With Hole Guide Device  
固定型多軸附導孔板器系列
- 11 Jig Application Examples  
治具應用例
- 12 Machining Samples  
加工樣品例
- 13-14 High Precision Drilling Machine  
精密鑽孔系列
- 15-16 Automatic Drilling Machine  
自動鑽孔機系列
- 17-18 Tapping Machine  
攻牙機系列
- 19-20 Gear Type Fully Automatic Tapping Machine  
齒輪式全自動攻牙機系列
- 21-22 Horizontal Gear Type Fully Automatic Tapping Machine  
臥式齒輪式全自動攻牙機系列
- 23 Variable-Step Drilling Tapping Machine  
無段鑽攻兩用機系列
- 24 Universal Drilling Milling Complex Machine  
萬能鑽銑複合機系列
- 25 Circulated Coolant Tank  
冷卻循環系列
- 26 Gang Type Drilling Machines  
聯立式系列
- 27-28 Function And Features Of Drilling Machine  
鑽床功能與優點
- 29-30 Parts Drawings For Drilling Machine, Tapping  
Machine And Automatic Drilling Machine  
鑽床、攻牙機、自動鑽床零件圖

# CE Series



KSA-16B



KST-203A

## amtri veritas

Voluntary Examination of Technical File and non-essential  
TV machinery for compliance with  
Machinery Directive 98/37/EC.

Issued to:

**Chuan King Sang Machinery Co., Ltd.**

No.402, Tong Kuang Rd., Taichung, 40463, Taiwan, R.O.C.

in respect of machinery manufactured by:

**Chuan King Sang Machinery Co., Ltd.**

No.402, Tong Kuang Rd., Taichung, 40463, Taiwan, R.O.C.

amtri veritas certifies that the technical file relating to the  
models KSD-13/16/25/32, KSA-16B/25B, KST-10/13/20/30  
contain all the necessary information.

amtri veritas is satisfied that, having examined the technical file, it  
has been considered appropriate on the example of the model  
KSD-16 with serial number 0607012 and KSA-16B with serial number 0604003  
represent the range and the series, the example has been examined in conformity  
with the technical file and that the standards or transposed harmonised standards, as  
the case may be, if used, have been properly applied and that the example complies  
with the relevant essential health and safety requirements.

amtri veritas confirms that it accepts that the company has chosen to address the  
electrical safety of this machinery via compliance with EN 60204-1 which also  
fulfils the requirements of the Low Voltage Directive 73/23/EEC.

Certificate Number: 9AT2631

Issued: 8<sup>th</sup> August 2006

for amtri veritas

*R. A. Smallwood*

Bob Smallwood, Scheme Manager



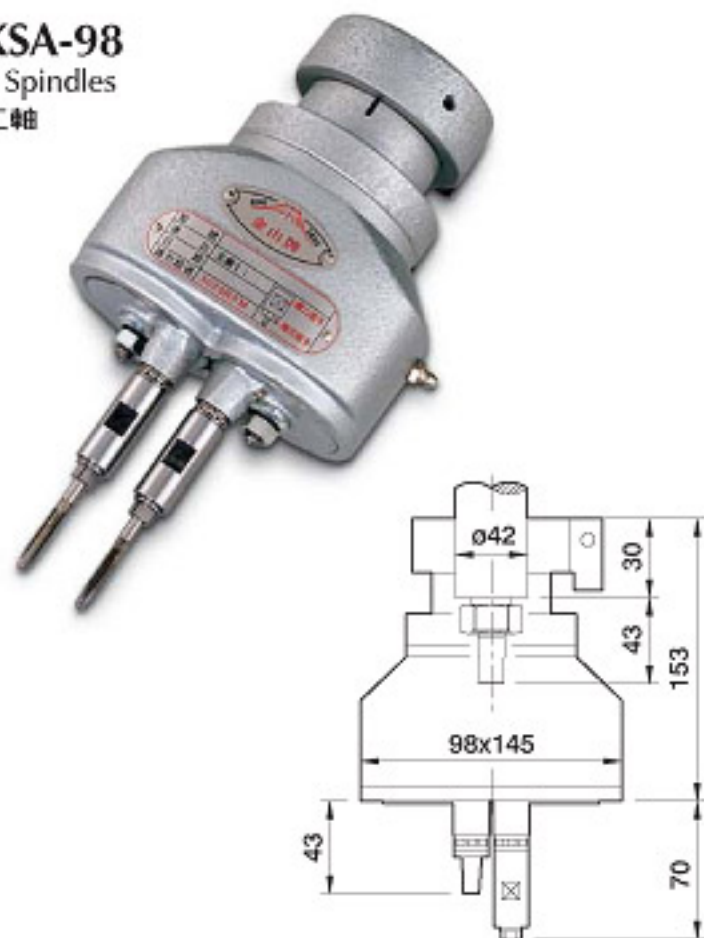


# Universal Multiple Spindle Drilling Head

## 萬能多軸器系列

### KSA-98

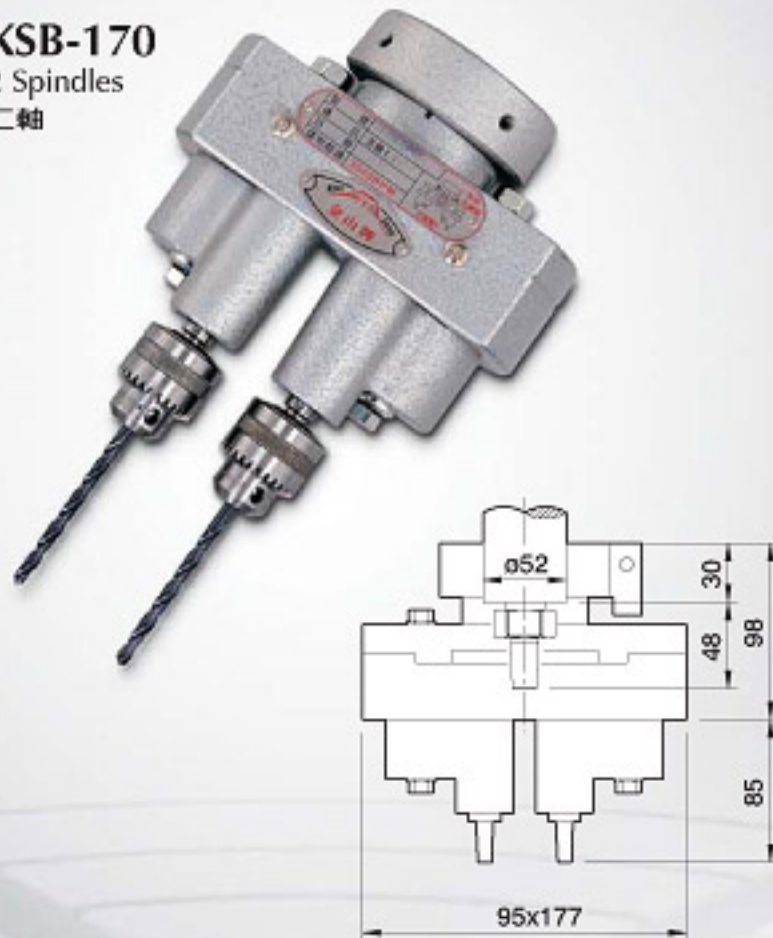
2 Spindles  
二軸



MODEL	型式	KSA-98		
Speed ratio	轉速比	1:1	1:1	1:1
Minimum distance	最小間距	19	21	27
Maximum diameter	最大直徑	98	98	98
Max. drilling capacity	最大鑽孔	ø5	ø4	ø5
Number of spindles	軸數	2	2	2
Chuck	夾具	3/8" Colet 錐夾	4mm Chuck 夾頭	5mm Chuck 夾頭

### KSB-170

2 Spindles  
二軸



MODEL	型式	KSB-170		
Speed ratio	轉速比	1:2.5	1:1.9	1:1.5
Minimum distance	最小間距	37 (32)	45 (37)	55 (45)
Maximum diameter	最大直徑	140	155	170
Max. drilling capacity	最大鑽孔	ø6.5	ø10	ø13
Number of spindles	軸數	2	2	2
Chuck	夾具	1/4" Chuck 夾頭	3/8" Chuck 夾頭	1/2" Chuck 夾頭

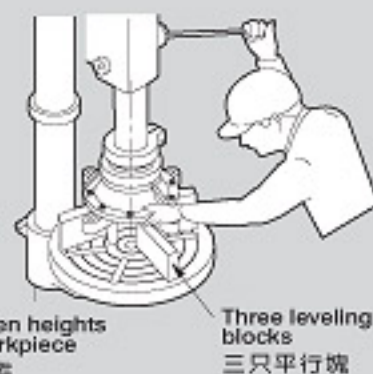
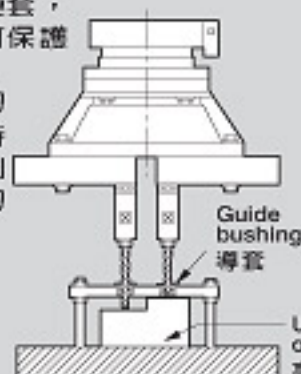
## Caution when using drilling head 使用多軸時應注意事項

- Use correct box wrench to tighten or loosen collet. Do not use an open end wrench for this purpose. Failure to comply may cause damage on the collet due to uneven tightening or loosening force or inaccurate chucking of cutting tool.  
鬆緊筒夾時，請正確使用梅花扳手，勿使用開口扳手，以防施力不均造成筒夾受損及刀具夾持不正。
- Guide bushing equipped on the workpiece not only upgrades machining accuracy, but also ensure the service life of the spindle. In case workpiece has uneven heights of surfaces, you need to lower the drill until they touch the various surfaces of the workpiece before tightening the cutting tools. Then you can tighten the cutting tools securely.  
加工物上端附加導孔模套，可提高加工精度，並可保護鑽軸使用壽命。工件高低不等時放入刀具未夾緊前將機台同時下壓至工件，即可達到高低位置再逐次夾緊刀具。
- When mounting the multiple spindle drilling head, place three leveling blocks under it. Have them aligned with spindles, and press it until it reaches the main tooth.  
安裝多軸時多軸下方放入三只平行塊，對準主軸下壓至主齒吻合即可完成。

**O** CORRECT 正確      **X** WRONG 錯誤



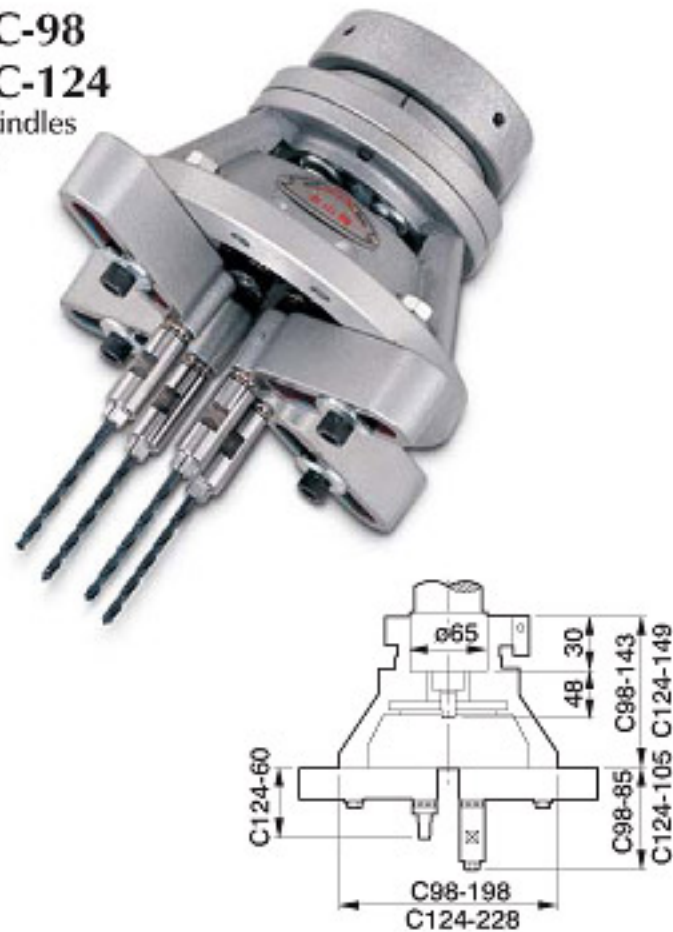
加工物上端附加導孔模套，可提高加工精度，並可保護鑽軸使用壽命。工件高低不等時放入刀具未夾緊前將機台同時下壓至工件，即可達到高低位置再逐次夾緊刀具。





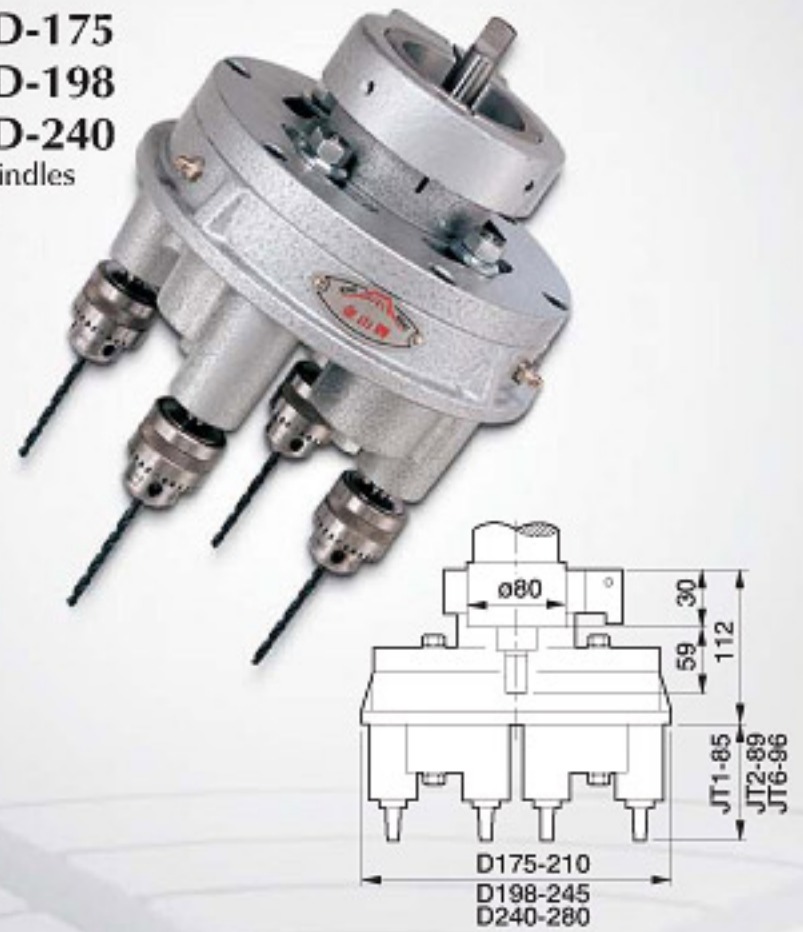
**Fast ! Accurate ! Stable ! No Noise !**  
**快速、精確、穩定、無聲**

**KSC-98**  
**KSC-124**  
 4 Spindles  
 四軸



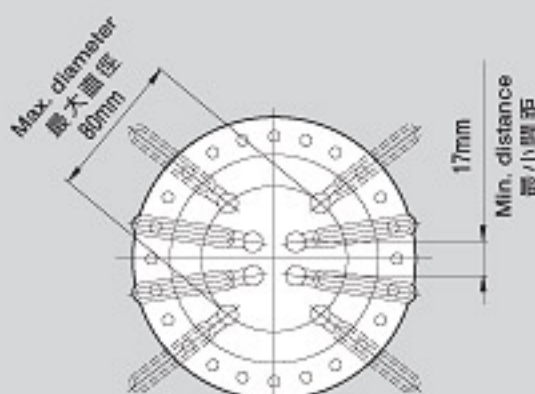
MODEL	型式	KSC-98	KSC-124	KSC-124
Speed ratio	轉速比	1:1	1:1	1:1
Minimum distance	最小間距	18	25	32
Maximum diameter	最大直徑	98	124	124
Max. drilling capacity	最大鑽孔	ø6	ø9	ø6.5
Number of spindles	軸數	2-4	2-4	2-4
Chuck	夾具	3/8" Collet 筒夾	1/2" Collet 筒夾	1/4" Chuck 夾頭

**KSD-175**  
**KSD-198**  
**KSD-240**  
 4 Spindles  
 四軸



MODEL	型式	KSD-175	KSD-198	KSD-240
Speed ratio	轉速比	1:3.2	1:2.9	1:3.2
Minimum distance	最小間距	37 (32)	45 (37)	55 (45)
Maximum diameter	最大直徑	175	198	240
Max. drilling capacity	最大鑽孔	ø6.5	ø10	ø13
Number of spindles	軸數	2-4	2-4	2-4
Chuck	夾具	1/4" Chuck 夾頭	3/8" Chuck 夾頭	1/2" Chuck 夾頭

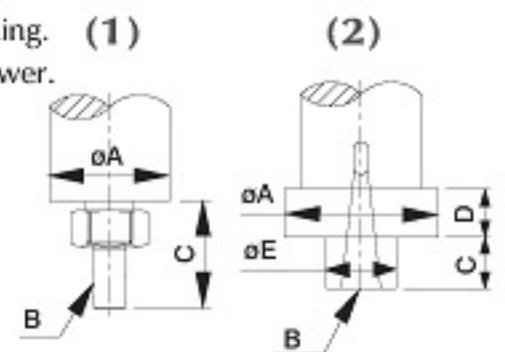
- 4 • Minimum distance and maximum diameter diagram.  
 • 最小間距最大直徑距離示意圖 •



**When ordering, please provide following information**  
**訂購多軸時請提供下列資料**

1. Machining sizes, hole diameters and materials.
2. Machining type: drilling、tapping、reaming. (1)
3. Drilling machine type and motor horsepower.

1. 加工尺寸、孔徑、材料。
2. 加工內容：鑽孔、攻牙、銹孔。
3. 配合鑽床之型式及馬力。



**Spindle nose of drilling machine**  
**鑽床主軸端型式**

A	B	C	D	E
Dia of quill 齒管外徑	Spindle taper 主軸斜度	Spindle length 主軸長度	Collar length 套環長度	Spindle diameter 主軸外徑



# Multiple Spindle Drilling Head With Extended Holder 萬能多軸器加長腳系列

KSB-245  
KSB-320  
KSB-395  
KSB-470  
2 Spindles  
二軸



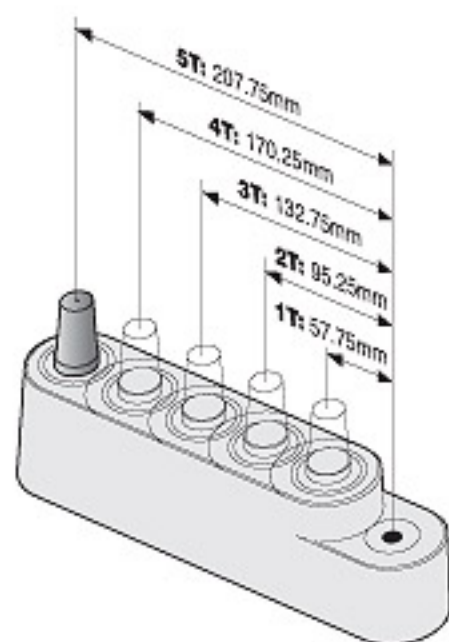
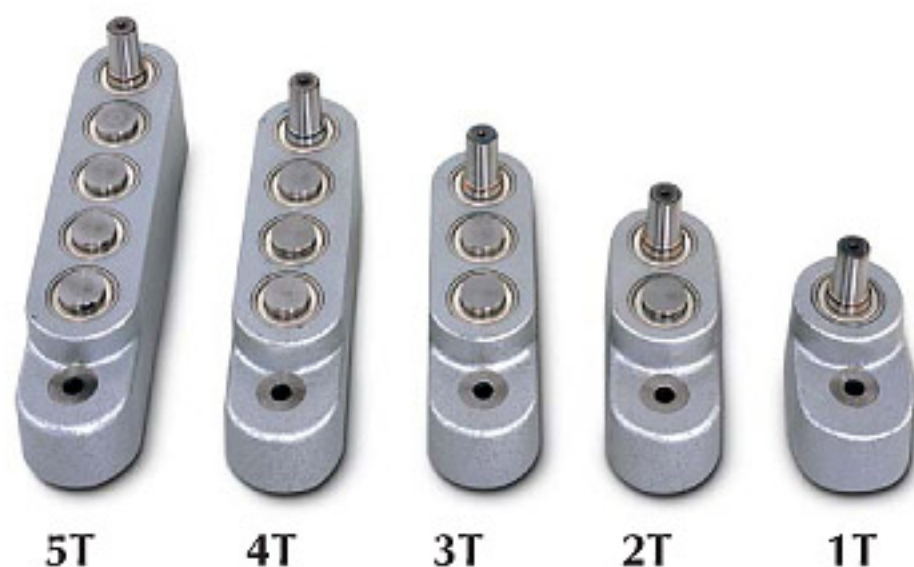
KSD-314  
KSD-390  
KSD-465  
KSD-540  
4 Spindles  
四軸



MODEL	型式	KSB-245	KSB-320	KSB-395	KSB-470
Speed ratio	轉速比	1:1.5	1:1.5	1:1.5	1:1.5
Minimum distance	最小間距	53	53	53	53
Maximum diameter	最大直徑	250	320	395	470
Max. drilling capacity	最大鑽孔	ø13	ø13	ø13	ø13
Number of spindles	軸數	2	2	2	2
Chuck	夾具(夾頭)	1/2"	1/2"	1/2"	1/2"

MODEL	型式	KSD-314	KSD-390	KSD-465	KSD-540
Speed ratio	轉速比	1:3.2	1:3.2	1:3.2	1:3.2
Minimum distance	最小間距	125	175	215	265
Maximum diameter	最大直徑	314	390	465	540
Max. drilling capacity	最大鑽孔	ø13	ø13	ø13	ø13
Number of spindles	軸數	2-4	2-4	2-4	2-4
Chuck	夾具(夾頭)	1/2"	1/2"	1/2"	1/2"

## KSD With long holder KSD 多軸加長腳

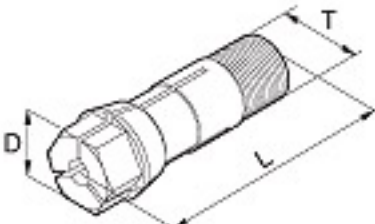
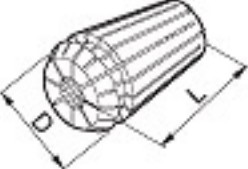
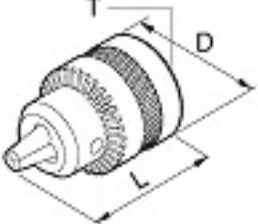



## Reference table of various collets and tap shanks.

## 各式筒夾與絲攻柄徑對照表

C: For drilling 鑽孔用

CT: For tapping 攻牙用

 HEX COLLET 六角筒夾	Model 型式	Pitch / Taper 牙距 / 斜度	O. D. 外徑 mm	Length 長度 mm	Chucking 最大夾持能力
		C-4 / CT-4	1/4-28 UNF	6	24
	C-5 / CT-5	5/16-24 UNF	8	31.5	ø 5.5
	C-6 / CT-6	3/8-24 UNF	10	36	ø 7
	C-9 / CT-9	1/2-20 UNF	14	46	ø 10
	C-12 / CT-12	5/8-18 UNF	17	50	ø 12
	C-14 / CT-14	3/4-16 UNF	21	54	ø 14
 ER COLLET ER 彈性筒夾	ER-8		8.5	13.5	ø 5
	ER-11		11.5	18.0	ø 7
	ER-16		17.0	27.5	ø 10
	ER-20		21.0	31.5	ø 13
	ER-25		26.0	34	ø 16
 CHUCK 夾頭	1/4" 夾頭 Chuck (1/4" 小型 Small type)	JT1#	37 (32)	55	ø 6.5
	3/8" 夾頭 Chuck (3/8" 小型 Small type)	JT2#	45 (37)	69	ø 10
	1/2" 夾頭 Chuck (1/2" 小型 Small type)	JT6#	55 (45)	87	ø 13

	Metric	Inch	U. S. A.	Tap shank dimension 絲攻柄尺寸	
	公制	英制	美制	Round 圓柄	Square 四角
	M2			NO. 0-4	ø 3
M3		1/8"	NO. 5-6	ø 4	□ 3.2
M4 / M4.5			NO. 8	ø 5	□ 4
M5 / M5.5		3/16"	NO. 10-12	ø 5.5	□ 4.5
M6		1/4"		ø 6	□ 4.5
		5/16"		ø 6.1	□ 5
M7 / M8				ø 6.2	□ 5
M9 / M10		3/8"		ø 7	□ 5.5
M11		7/16"		ø 8	□ 6
M12				ø 8.5	□ 6.5
		1/2"		ø 9	□ 7
M14 / M15		9/16"		ø 10.5	□ 8
		5/8"		ø 12	□ 9
M16				ø 12.5	□ 10
M17				ø 13	□ 10
M18		3/4"		ø 14	□ 11
M20				ø 15	□ 12
M22		7/8"		ø 17	□ 13
M24 / M25				ø 19	□ 15
M26 / M27		1"		ø 20	□ 15
M28				ø 21	□ 17
		1-1/8"		ø 22	□ 17
M30				ø 23	□ 17



# Holder Assembly Diagram

## 萬向多軸器腳組合圖系列

### Assembly Diagram 組裝示意圖



# KSE Series

MODEL	型式	ER-8 C-5 CT-5	ER-11 C-6 CT-6	ER-16 C-9 CT-9	C-12 CT-12	C-14 CT-14	1/4" 夾頭 1/4" Chuck	3/8" 夾頭 3/8" Chuck	1/2" 夾頭 1/2" Chuck
Minimum distance	最小間距	13	18	28	28	28	37(32)	45(37)	55(45)
Max. chucking capacity	最大挾持能力	5 5.5	7 7	10 10	12	14	6.5	10	13



# Multiple Spindle Drilling Head

www.kingsang.com.tw

## 萬向多軸器系列

KSE-130

KSE-165

KSE-200

KSE-250

Circular type multiple spindle drilling head  
圓型萬向多軸

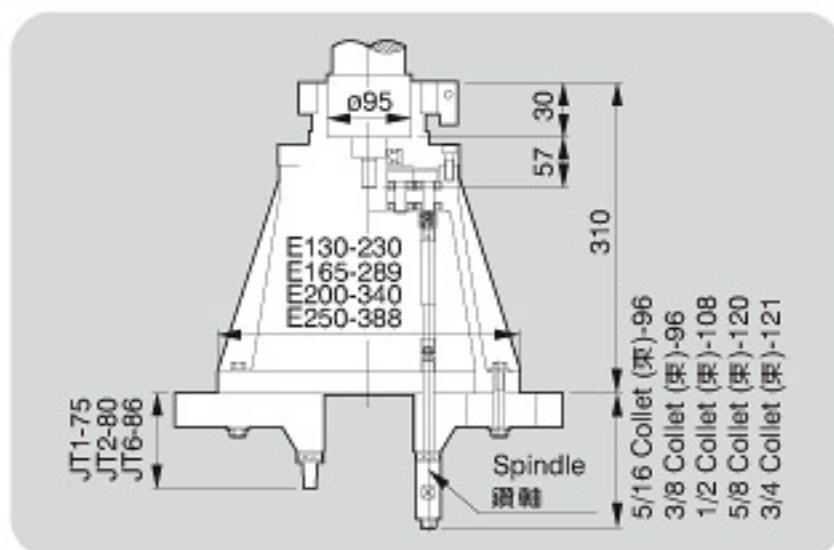


### Notice for use

To ensure the service life of the universal joint, when adjusting the spindle position, the movement range should not exceed 15°. That means the adjustment amount in front / back and right / left directions should be within 35 mm. This should be combined with the hole distance design when ordering.

### 使用須知

為確保萬向接頭使用壽命，調整鑽軸位置時，移動範圍不得超過15°，等於垂直之前後左右35 mm以內，訂製時請配合孔距設計。



MODEL 型式	Speed Ratio 轉速比	Max. Diameter 最大直徑	Number of Spindles 軸數
KSE-130 Circular 圓形	1:1	130	2-6
KSE-165 Circular 圓形	1:1	165	2-10
KSE-200 Circular 圓形	1:1	200	2-14
KSE-250 Circular 圓形	1:1	250	2-20
KSE-300 Circular 圓形	1:1	300	2-24

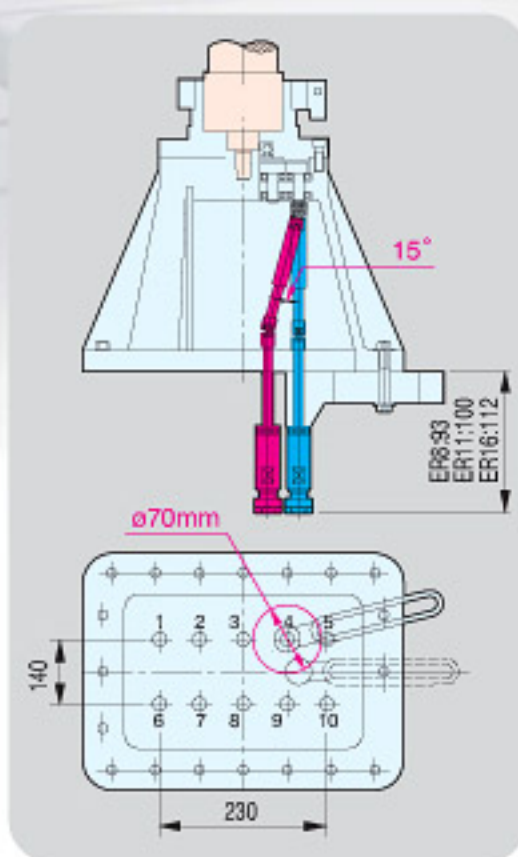
KSE-110 x 180

KSE-140 x 230

KSE-140 x 325

KSE-300 x 500

Square type multiple spindle drilling head  
長方型萬向多軸



MODEL 型式	Speed Ratio 轉速比	Max. Diameter 最大直徑	Number of Spindles 軸數
KSE-110 x 180 Rectangular 長方形	1:1	110 x 180	2-8
KSE-140 x 230 Rectangular 長方形	1:1	140 x 230	2-12
KSE-140 x 325 Rectangular 長方形	1:1	140 x 325	2-18
KSE-145 x 580 Rectangular 長方形	1:1	145 x 580	2-32
KSE-180 x 480 Rectangular 長方形	1:1	180 x 480	2-26
KSE-200 x 320 Rectangular 長方形	1:1	200 x 320	2-20
KSE-260 x 400 Rectangular 長方形	1:1	260 x 400	2-30
KSE-300 x 330 Rectangular 長方形	1:1	300 x 330	2-26
KSE-300 x 500 Rectangular 長方形	1:1	300 x 500	2-38



# Fixed Type Multiple Spindle Drilling Head

固定型多軸器系列

**KS** Series

## FEATURES 機械特性

- The sizes and construction of the fixed type multiple spindle drilling head can be custom-made. It provides a choice of circular type or rectangular type with number of spindles range from 2 to 100. Upon request, each unit can be supplied with guide bushing for accurate and fast workpiece loading and unloading.

- 固定多軸器可由客戶訂製尺寸、外型，隨客戶需求，圓形、長方形 2-100 軸均可，且每組多軸均可加導模孔，使上下工件更精準快速。



KS-2 Fixed Type  
固定型



KS-4 Fixed Type  
固定型



KS-8 Fixed Type  
固定型



KS-32 Fixed Type  
固定型



# Fixed Type Multiple Spindle Drilling Head With Hole Guiding Device

## 固定型多軸附導孔板器系列

**KS** Series

### FEATURES 機械特性

- By using the guiding device, you get more accurate drilling position and workpiece positioning. Also, available to equip with single / continuous drilling switch, electronic box switch and magnetic valve switch for controlling. These switches will provide semi-automatic workpiece loading / unloading function. See illustration given on page 27.
- 使用正確的導孔板，可使鑽孔位置更精確，上下料固定位置更準確，更可配合單/連續開關及電子箱開關和磁閥開關控制，使上下料變為半自動上下料。（例：27頁圖）。



**KS-20** Fixed Type  
固定型



Picture Shown With  
The Guiding Device  
組裝示意圖



# Jig Application Examples

## 治具應用例

### FEATURES 機械特性

- When high drilling accuracy within  $\pm 0.02\text{mm}$  is required, a jig should be applied (see figures). The jig is ideal for controlling drilling positions and hole diameters to achieve your desired sizes.
- 客戶需要精度高  $\pm 0.02\text{mm}$  以內的尺寸，均須使用模套支撐（例圖）控制鑽孔位置及孔徑，以達到所需的尺寸。

Jig for 2 holes drilling  
二孔鑽孔入導模介紹



Jig for 2 holes tapping simultaneously  
二孔同時攻牙介紹



Jig for 8 holes drilling  
八孔鑽孔入導模介紹



Jig for 8 holes tapping simultaneously  
八孔同時攻牙介紹





# Machining Samples

## 加工樣品例

### FEATURES 機械特性

- The multiple-spindle drilling heads, drilling machines and tapping machines are suitable for various industries, such as bicycle, motorcycle, automotive, sewing machine, computer parts, LCD television, electronic industry, power and air tools, sheet metal industry, punching, agate, jewelry and sanitary equipment.

- 自行車、機車、汽車、縫衣機、電腦零件、液晶電視、電子業、電動、氣動工具類、鍍金業、沖床業、瑪瑙業、珠寶業、衛浴設備業者均可使用本公司產品，多軸、鉗孔、攻牙機。





# High Precision Drilling Machine

## 精密鑽孔系列



**KSD-13 1/2"** Drilling machine  
鑽床



**KSD-15 9/16"** Drilling machine  
鑽床



**KSD-16 5/8"** Drilling machine  
鑽床

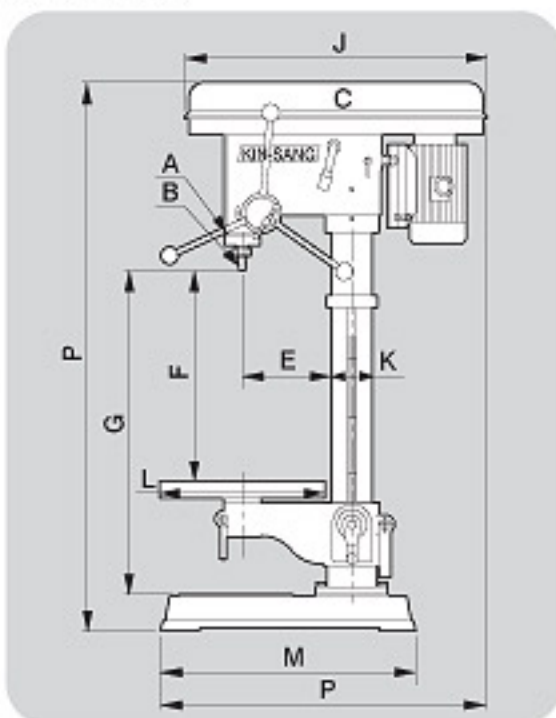
# KSD Series

### FEATURES 機械特性

- Fast feed. Accurate drilling depth & minimum noise.
- The machine is manufactured from high quality cast iron (FC 25), featuring maximum durability and wear resistance.
- The quill is manufactured from ductile iron with high oil content for maximum wear resistance.
- 進刀快速，深度精確，聲音靜悄悄。
- 全機型採用 FC 25 鑄鋼，韌性夠，耐磨。
- 全機型齒管採用球狀鑄鋼，含油性高，耐磨。

### Dimensional Drawing

鑽床尺寸圖



### MODEL 型式

<b>A</b> Diameter of quill	齒管直徑
<b>B</b> Spindle taper	主軸斜度
<b>C</b> Spindle step	主軸段數
<b>D</b> Spindle travel	主軸行程
<b>E</b> Spindle to column	主軸至圓柱
<b>F</b> Spindle to table	主軸至圓盤
<b>G</b> Spindle to base	主軸至底座
<b>H</b> Drilling capacity	鑽孔能力
<b>J</b> Cover sizes (LxWxH)	上蓋尺寸
<b>K</b> Column diameter	圓柱直徑
<b>L</b> Table diameter	圓盤直徑
<b>M</b> Base sizes (LxW)	底座尺寸
<b>N</b> Speed 50Hz 60Hz	迴轉速 50Hz 60Hz
<b>O</b> Motor	馬達
<b>P</b> Machine sizes (LxWxH)	機械尺寸 (長x寬x高)
<b>Q</b> Machine weight	機械重量





**KSD-16 S 5/8"** Variable drilling machine  
無段鑽床



**KSD-25 1"** Drilling machine  
鑽床



**KSD-32 1-1/4"** Drilling machine  
鑽床

<b>KSD-13</b>	<b>KSD-15</b>	<b>KSD-16</b>	<b>KSD-16 S</b>	<b>KSD-25</b>	<b>KSD-32</b>
ø52	ø65	ø65	ø65	ø80	ø95
JT 6# (1/2)	MT 2#	MT 2#	MT 2#	MT 3#	MT 3# (MT 4#)
4	4	9	4	9	9
85	85	85	85	115	140
175	175	175	175	214	230
430	460	460	460	660	630
610	640	640	640	950	930
ø3-ø13	ø3-ø15	ø3-ø16	ø3-ø16	ø6-ø25	ø8-ø32
608 x 214 x 110	608 x 214 x 110	608 x 214 x 110	608 x 214 x 110	727 x 255 x 137	725 x 262 x 157
ø80	ø80	ø80	ø80	ø92	ø102
ø320	ø320	ø320	ø320	ø380	ø420
500 x 300	500 x 300	500 x 300	500 x 300	615 x 380	615 x 385
500-2300	500-2300	270-3380	50-1900	170-2100	120-1500
600-2750	600-2750	320-4000	80-2300	200-2500	135-1700
1/2 HP-4P	1 HP-4P	1 HP-4P	1/2 HP-4P	2 HP-4P	2 HP-6P
680 x 325 x 1085	680 x 325 x 1085	680 x 325 x 1085	680 x 325 x 1085	780 x 380 x 1510	840 x 420 x 1545
90 Kg	90 Kg	95 Kg	95 Kg	154 Kg	205 Kg

單位 : unit:mm

# Automatic Drilling Machine

## 自動鑽孔機系列

# KSA Series

### FEATURES 機械特性

- When the automatic or semi-automatic drilling is equipped with coolant tank (Refer to P.25 KS-3M coolant tank), one operator can operate several drilling machines. It provides effortless operation while greatly increasing efficiency.
- 自動、半自動鑽床搭配水箱 (參閱P.25頁KS-3M水箱)，一人可操作多台鑽床，不必人工用力，使工作效率加倍。

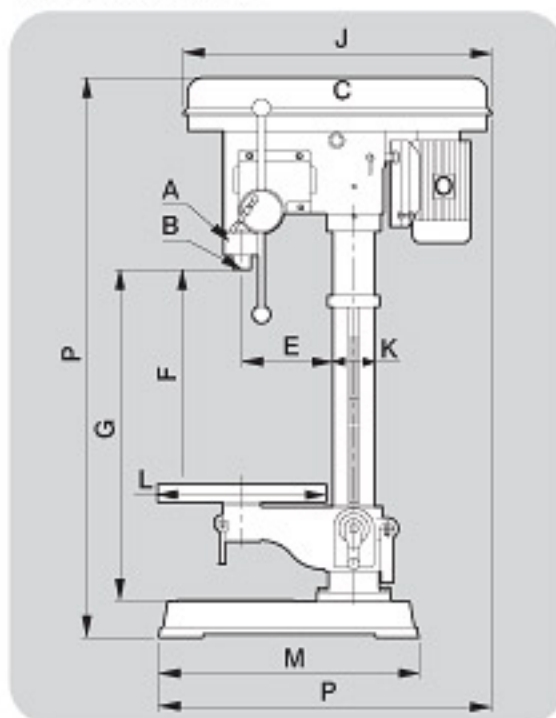


**KSA-16A 5/8"** Touch Feed Automatic Drilling Machine  
下壓自動鑽床

- TOUCH FEED: When the drill touches the workpiece, automatic drilling can be operated.
- 下壓：鑽頭碰到工件，方可自動鑽孔。

### Dimensional Drawing

#### 自動鑽床尺寸圖



**KSA-16B 5/8"** Release Feed Automatic Drilling Machine  
空中自動鑽床

- RELEASE FEED: When the handle is shifted to the side, automatic drilling can be operated.
- 空中：把手扳到側邊即可自動鑽孔。

MODEL	型式
<b>A</b> Diameter of quill	齒管直徑
<b>B</b> Spindle taper	主軸斜度
<b>C</b> Spindle step	主軸段數
<b>D</b> Spindle travel	主軸行程
<b>E</b> Spindle to column	主軸至圓柱
<b>F</b> Spindle to table	主軸至圓盤
<b>G</b> Spindle to base	主軸至底座
<b>H</b> Drilling capacity	鑽孔能力
<b>J</b> Cover sizes (LxWxH)	上蓋尺寸
<b>K</b> Column diameter	圓柱直徑
<b>L</b> Table diameter	圓盤直徑
<b>M</b> Base sizes (LxW)	底座尺寸
<b>N</b> Speed 50Hz 60Hz	迴轉速 50Hz 60Hz
<b>O</b> Motor	馬達
<b>P</b> Machine sizes (LxWxH)	機械尺寸(長x寬x高)
<b>Q</b> Machine weight	機械重量





Picture shown coolant tank is optional

圖片所示水箱為選購品

**KSA-191 3/4"** Air / Hydraulic Fully Automatic Drilling Machine  
空油壓全自動鑽床

- A fully automatic air / hydraulic combination drilling machine. Drilling operation can be controlled by push button or foot switch.
- 全自動型風壓推油壓鑽孔，壓扣開關或腳踏開關控制鑽孔。



**KSA-25A 1"** Touch Feed Automatic Drilling Machine  
下壓自動鑽床

- TOUCH FEED: When the drill touches the workpiece, automatic drilling can be operated.
- 下壓：鑽頭碰到工件，方可自動鑽孔。



**KSA-25B 1"** Release Feed Automatic Drilling Machine  
空中自動鑽床

- RELEASE FEED: When the handle is shifted to the side, automatic drilling can be operated.
- 空中：把手扳到側邊即可自動鑽孔。

KSA-16A	KSA-16B	KSA-191	KSA-25A	KSA-25B
ø65	ø65	ø80	ø95	ø95
MT 2#	MT 2#	MT 2#	MT 3# (MT 4#)	MT 3# (MT 4#)
4	4	4	6	6
100	100	110	140	140
175	175	232	230	230
420	420	-	630	630
620	620	460	930	930
ø4-ø16	ø4-ø16	ø4-ø19	ø8-ø25	ø8-ø25
608 x 214 x 125	608 x 214 x 125	720 x 260 x 105	725 x 262 x 157	725 x 262 x 157
ø80	ø80	ø95	ø102	ø102
ø320	ø320	340 x 340	ø420	ø420
500 x 300	500 x 300	580 x 425	615 x 385	615 x 385
450-1700	450-1700	375-1670	180-1400	180-1400
550-2000	550-2000	450-2000	220-1650	220-1650
1 HP-4P	1 HP-4P	1 HP-4P	2 HP-6P	2 HP-6P
650 x 410 x 1090	650 x 410 x 1090	795 x 425 x 1025	810 x 450 x 1545	810 x 450 x 1545
105 Kg	105 Kg	198 Kg	210 Kg	210 Kg

單位：unit:mm



# Tapping Machine

## 攻牙機系列



- Motor belt cover (Optional).
- 馬達皮帶保護蓋 (選配)。



**KST-10 3/8"** Clutch Controlled Tapping Machine  
離合器攻牙機

**KST-13 1/2"** Clutch Controlled Tapping Machine  
離合器攻牙機

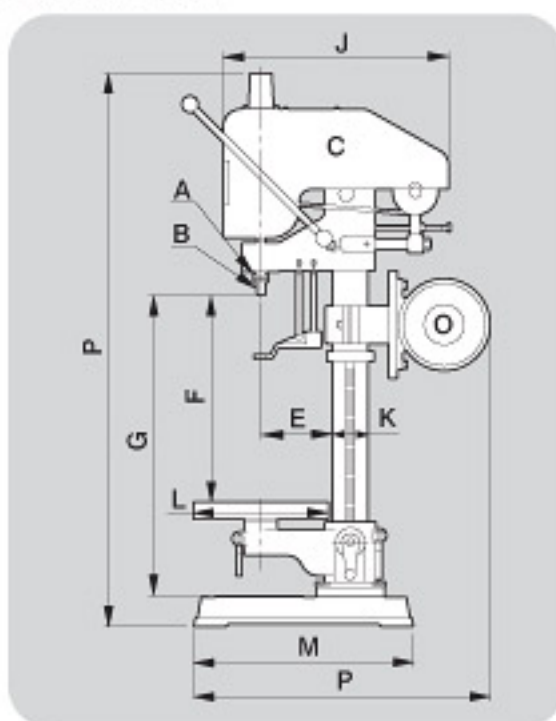
**KST-340 5/8"** Electronic Drilling Tapping Machine  
電子鑽攻兩用機

# KST Series

### FEATURES 機械特性

- The clutch controlled tapping machine is suitable for small lot and thin sheet metal. For mass production, the electronic tapping machine is suggested for effortless and fast tapping operations.
- 攻牙數量少，薄鐵片使用離合器攻牙機更適合，攻牙數量多，厚材質使用電子攻牙機，更省力、更快速。

### Dimensional Drawing 攻牙機尺寸圖



### MODEL 型式

<b>A</b> Diameter of quill	齒管直徑
<b>B</b> Spindle taper	主軸斜度
<b>C</b> Spindle step	主軸段數
<b>D</b> Spindle travel	主軸行程
<b>E</b> Spindle to column	主軸至圓柱
<b>F</b> Spindle to table	主軸至圓盤
<b>G</b> Spindle to base	主軸至底座
<b>H</b> Drilling capacity	鑽孔能力
<b>I</b> Tapping capacity	攻牙能力
Steel	鋼鐵
Cast iron	鑄鐵
<b>J</b> Cover sizes (LxWxH)	上蓋尺寸 (長x寬x高)
<b>K</b> Column diameter	圓柱直徑
<b>L</b> Table diameter	圓盤直徑
<b>M</b> Base sizes (LxW)	底座尺寸 (長x寬)
<b>N</b> Speed	迴轉速
50Hz	50Hz
60Hz	60Hz
<b>O</b> Motor	馬達
<b>P</b> Machine sizes (LxWxH)	機械尺寸 (長x寬x高)
<b>Q</b> Machine weight	機械重量





**KST-560 1"** Electronic Drilling Tapping Machine  
電子鑽攻兩用機



**KST-670 1-1/4"** Electronic Drilling Tapping Machine  
電子鑽攻兩用機



**KST-890 1-1/2"** Electronic Tapping Machine For Chain  
電子攻牙鏈條專用機

KST-10	KST-13	KST-340	KST-560	KST-670	KST-890
ø15	ø52	ø65	ø80	ø95	ø95
JT 2# (3/8)	JT 6# (1/2)	MT 2#	MT 3#	MT 3# (MT 4#)	MT 3# (MT 4#)
2	3	9	9	9	1
30	45	85	115	140	140
126	175	175	214	230	230
260	460	430	660	630	630
440	640	610	950	930	930
-	-	ø3-ø16	ø6-ø30	ø8-ø32	-
ø2-ø6 ø2-ø10	ø5-ø10 ø5-ø13	ø5-ø10 ø5-ø13	ø8-ø16 ø8-ø19	ø8-ø19 ø8-ø21	ø19-ø35 ø19-ø38
360 x 150 x 226	530 x 215 x 255	608 x 214 x 110	727 x 255 x 137	725 x 262 x 157	725 x 262 x 157
ø60	ø73 x ø80	ø80	ø92	ø102	ø102
ø230	ø320	ø320	ø380	ø420	ø420
380 x 235	500 x 300	500 x 300	615 x 385	615 x 385	615 x 385
710-1120 850-1360	260-720 310-860	170-2300 200-2700	110-1450 130-1700	120-1500 150-1700	80-250 80-250
1/2 HP-4P	1 HP-4P	1/2 HP-6P	1 HP-6P	2 HP-6P	2 HP-4P
510 x 250 x 950	610 x 310 x 1170	680 x 320 x 1085	780 x 380 x 1510	840 x 420 x 1545	840 x 420 x 1545
60 Kg	110 Kg	100 Kg	157 Kg	205 Kg	215 Kg

單位 : unit:mm



# Gear Type Fully Automatic Tapping Machine

齒輪式全自動攻牙機系列

# KST Series



**KST-203A** Fully Automatic Tapping Machine  
全自動攻牙機



**KST-223A** Fully Automatic Tapping Machine  
全自動攻牙機



**KST-231A** Fully Automatic Tapping Machine  
全自動攻牙機

MODEL	型式	KST-203A	KST-223A	KST-231A
<b>A</b> Diameter of quill	齒管直徑	ø42	ø70	ø85
<b>B</b> Spindle taper	主軸斜度	JT 2#	MT 2#	MT 3#
<b>C</b> Swing	旋徑	330	430	460
<b>D</b> Spindle travel	主軸行程	45	65	65
<b>E</b> Spindle to column	主軸至圓柱	184	237	252
<b>F</b> Spindle to table	主軸至台面	350	470	600
<b>G</b> Thread pitch (Thread numbers)	牙距 (牙數)	Upon request 均可訂製	Upon request 均可訂製	Upon request 均可訂製
<b>H</b> Tapping capacity	攻牙能力	ø1-ø8	ø3-ø16	ø5-ø32
<b>K</b> Column diameter	圓柱直徑	ø52	ø85	ø95
<b>L</b> Table size (LxW)	工作台尺寸	230 x 225	340 x 340	380 x 340
<b>M</b> Base sizes	底座尺寸	415 x 300	580 x 425	600 x 480
<b>N</b> Speed	50Hz 60Hz	50Hz 60Hz	50Hz 60Hz	50Hz 60Hz
	迴轉速	620-980-1400 740-1160-1670	155-285-515 190-340-620	50-100-200 60-120-240
<b>O</b> Motor	馬達	1/2 HP 3 phase (相) 4P	1 HP 3 phase (相) 6P	2 HP 3 phase (相) 6P
<b>P</b> Machine sizes (LxWxH)	機械尺寸 (長x寬x高)	615 x 330 x 755	825 x 425 x 1040	825 x 480 x 1200
<b>Q</b> Machine weight	機械重量	97 Kg	200 Kg	250 Kg
	Coolant sizes (Optional)	(水箱選購) 尺寸	500 x 590 x 630	630 x 720 x 630
			630 x 720 x 630	630 x 750 x 670

單位: unit:mm





- When equipped with the coolant tank stand, the machine can automatically flush coolant for increasing the service life of tap.
- 搭配水箱架，可自動噴油，以達到冷卻效果，使絲攻壽命加長。



- Available to equip with jig for automatic workpiece infeed and outfeed.
- 可配合模貝自動送料或出料。



- Available to equip with multiple spindle drilling head for greatly increasing efficiency.
- 搭配多軸器使用，工作效率加倍。

## FEATURES

- Fully automatic tapping and retracting. The workpiece won't lift, which does not require special hold-down to simplify jig.
- Suitable for tapping soft and hard materials.
- The gear type fully automatic tapping machine is especially ideal for workpiece needs to be inspected by thread gauge.
- Available to equip with coolant tank stand for splashing coolant, that increases the service life of tap.

## STANDARD ACCESSORIES

- Tool box 1 set.
- Thread pitch gear 1 set.
- Tap collet 1 PC.
- Foot switch.
- Cross and flat head screw driver...one each.
- Hex. wrench 1 set.
- Open end wrench 1 set.
- Big and small open end wrench...one each.
- Catalog and operation manual...one copy each.
- 10 mm screw, nut and T block...Two each.

## 機械特性

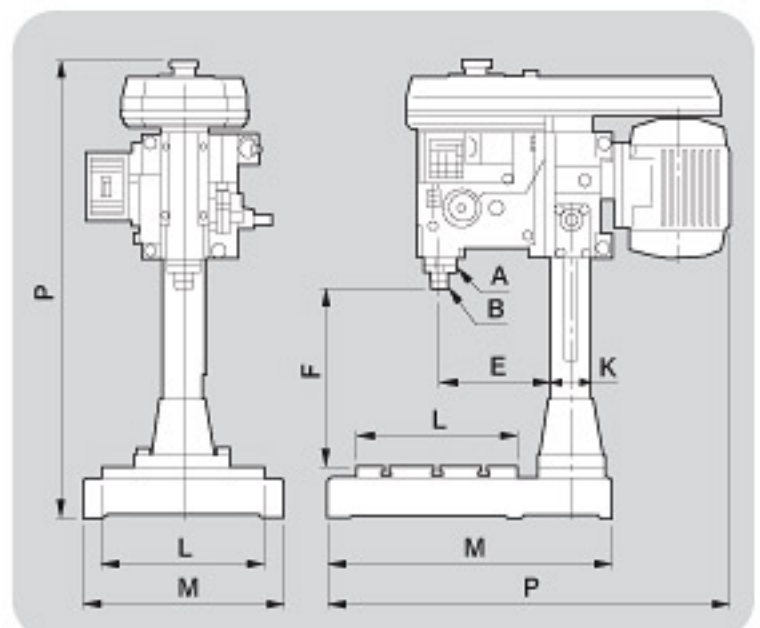
- 採全自動攻牙退刀，工件不會往上拉起，無須壓緊工件，可簡化治具。
- 適用於軟、硬材質攻牙加工。
- 工件須經測量身規，更適合使用齒輪式全自動攻牙機。
- 可搭配水箱座、噴油冷卻，更能提高絲攻壽命。

## 標準附件

- 工具箱1只。
- 牙距齒輪1組。
- 絲攻筒夾1只。
- 腳踏開關。
- + - 起子各1支。
- 六角板手1組。
- 開口板手1組。
- 大小開口板手各1支。
- 目錄及說明書各1本。
- 10mm 螺絲、螺帽及T型塊各2只。

## Dimensional Drawing

### 全自動攻牙機尺寸圖



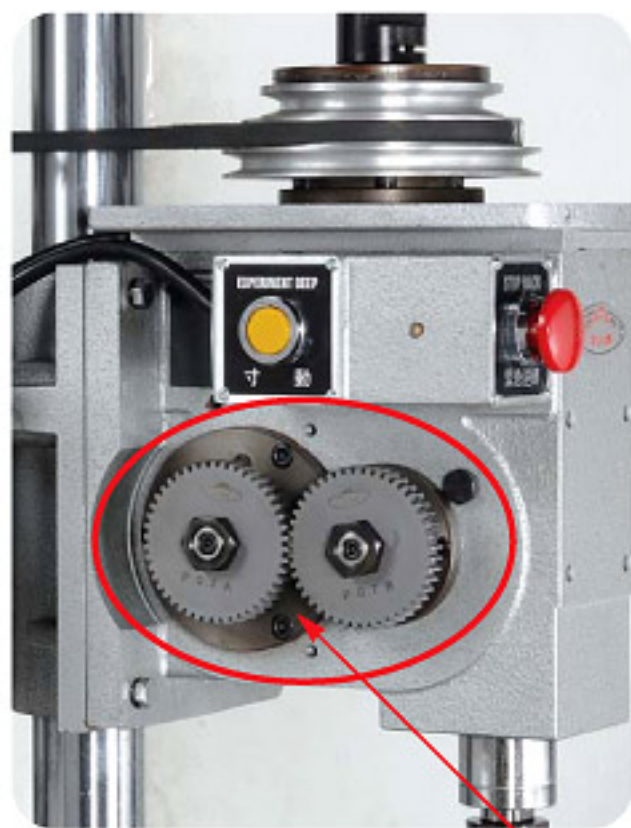


# Horizontal Gear Type Fully Automatic Tapping Machine

臥式齒輪式全自動攻牙機系列

# KST

Series



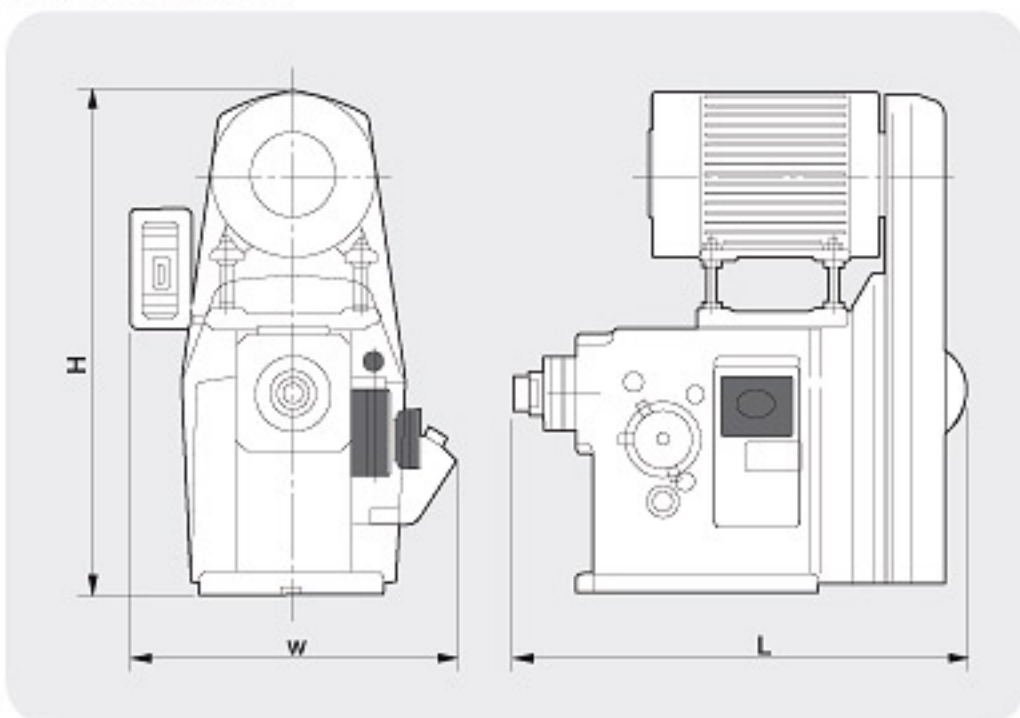
## CHANGE THREAD-PITCH GEAR 牙距齒輪更換

- Easy to change the thread-pitch gear and easy to operate as well. The gear-drive thread pitch reduces wear to a minimum. Equipped with safety stop device for upgrading operational safety.
- 齒輪替換容易，操作方便。齒輪傳動牙距，減少磨耗。附安全停止裝置，提升工作安全。



**KST-204A** Horizontal Fully Automatic Tapping Machine  
臥式全自動攻牙機

## Dimensional Drawing 臥式攻牙機尺寸圖







**KST-224A** Horizontal Fully Automatic Tapping Machine  
臥式全自動攻牙機



**KST-232A** Horizontal Fully Automatic Tapping Machine  
臥式全自動攻牙機

MODEL	型式	KST-204A	KST-224A	KST-232A
Diameter of quill	齒管直徑	ø42	ø70	ø85
Spindle taper	主軸斜度	JT 2#	MT 2#	MT 3#
Max. spindle stroke	主軸最大衝程	45	65	65
Height of center	中心高度	165	220	235
Tapping capacity	攻牙能力	ø1-ø8	ø3-ø16	ø5-ø32
Table size (LxW)	工作台尺寸	130 x 175 x 4-ø9	144 x 220 x 4-ø14	175 x 235 x 4-ø16
Foundation area	基礎面積	165 x 205	180 x 260	215 x 282
Motor	馬達	1/2HP 4P 3 phase (相)	1HP 6P 3 phase (相)	2HP 6P 3 phase (相)
Speed 50Hz 60Hz	主軸迴轉速 50Hz 60Hz	620-980-1400 740-1160-1670	155-285-515 190-340-620	50-100-200 60-120-240
Thread pitch (Thread numbers)	牙距 (牙數)	Upon request 均可製作	Upon request 均可製作	Upon request 均可製作
Max. number of spindles of the multiple spindle head	多軸最大能力	ø3 x 10 Spindles (軸) ø4 x 8 Spindles (軸) ø6 x 2 Spindles (軸)	ø6 x 9 Spindles (軸) ø8 x 4 Spindles (軸) ø12 x 2 Spindles (軸)	ø10 x 10 Spindles (軸) ø16 x 4 Spindles (軸) ø20 x 2 Spindles (軸)
Machine sizes (LxWxH)	機械尺寸 (長x寬x高)	439 x 310 x 420	460 x 370 x 530	530 x 390 x 585
Machine weight	機械重量	50 Kg	103 Kg	125 Kg

單位: unit:mm



# Variable-Step Drilling Tapping Machine

無段鑽攻兩用機系列

**KS** Series



**KS-700**

Variable-Step Drilling  
Tapping Machine  
無段鑽、攻兩用機



**KST-340HL 5/8"**

Electronic Drilling And Tapping  
Machine With 1" Increased Base  
電子鑽攻加高、加1"底座兩用機



**KSD-13LB 1/2"**

Lower Part  
Increased By 1"  
加長、加1"下半座



# Universal Drilling Milling Complex Machine

## 萬能鑽銑複合機系列

### FEATURES 機械特性

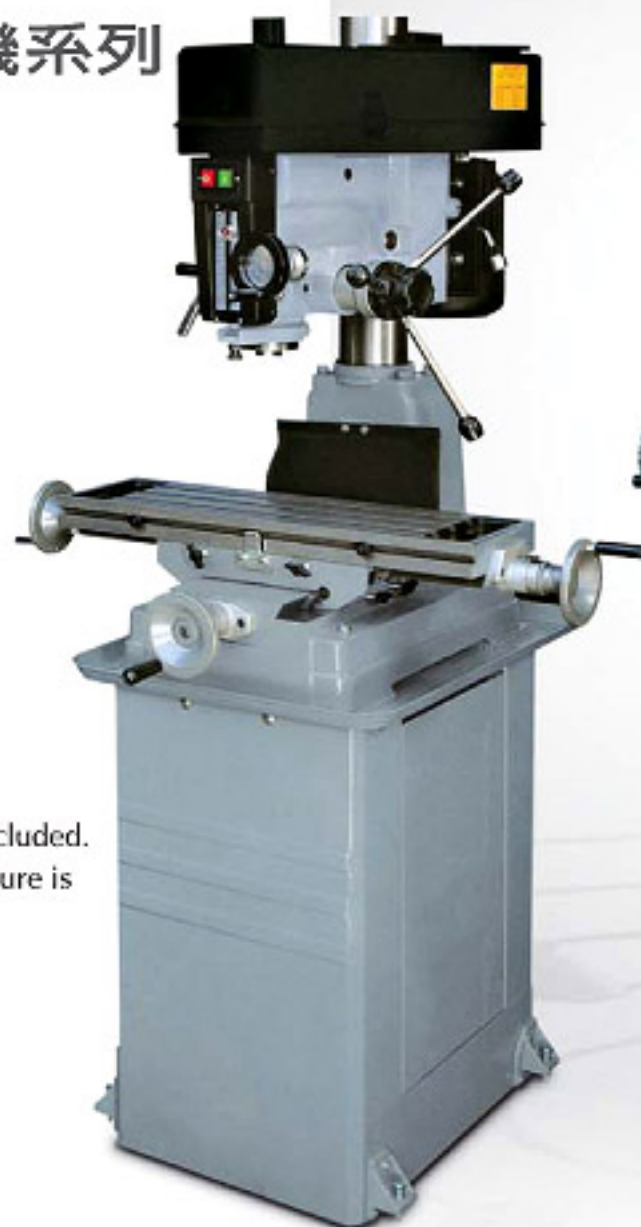
- Designed for various operations, such as vertical milling, end milling, face milling and drilling (Tapping function is optional).
- 可立銑、端銑、面銑、鑽孔、多元性工作（攻牙可另購）。

### STANDARD ACCESSORIES

- Chuck arbor.
- Handwheel.
- Elevation handle.
- Knock-out key.
- Cutting tool and chuck are not included.
- Standard complex machine structure is available upon request.

### 標準附件

- 夾頭心軸。
- 手轉輪。
- 升降把手桿。
- 沖鍵。
- 不含刀具及夾具。
- 標準複合機架，可另購。



**KS-25** Belt Type Complex Machine  
**KS-30** 皮帶式複合機



**KS-40** Gear Type Complex Machine  
齒輪式複合機

MODEL	型式	KS-700	KS-25	KS-30	KS-40
Diameter of quill	齒管直徑	65	85	96	92
Spindle taper	主軸斜度	MT 4#	MT 3#, R8	MT 3#, R8, NT30	MT 3#, R8, NT30
Table longitudinal / cross travel	工作台左右前後行程		350 x 180	430 x 190	500 x 270
Spindle travel	主軸行程	190	110	130	120
Spindle to column	主軸至圓柱距離	350	215	202	275
Spindle to table	主軸至工作台距離	780	395	480	470
Spindle head swivel	機頭可迴轉角度		360°	360°	360°
Drilling capacity	鑽孔能力	ø50	ø25	ø32	ø32
Tapping capacity	攻牙能力	ø30		ø19	ø19
Face milling capacity	銑平面能力		76	76	76
Column diameter	圓柱直徑	ø160	ø95	ø115	ø115
Table sizes (LxW)	工作台尺寸	720 x 510	660 x 190	730 x 210	730 x 210
Base sizes (LxW)	底座尺寸	970 x 510	560 x 340	610 x 400	675 x 400
Speed	運轉速	50Hz 60Hz	100-1000 120-1200	90-2150 110-2580	90-2150 110-2580
Motor	馬達	5 HP	1 HP	2 HP	1 HP
Machine sizes (LxWxH)	機械尺寸(長x寬x高)	1100 x 860 x 2160	950 x 1030 x 980	1080 x 1100 x 1100	870 x 1100 x 1100
Machine weight	機械重量	650 Kg	180 Kg	270 Kg	300 Kg
Stand sizes / weight (LxWxH)	腳架尺寸 / 重量		760 x 558 x 787 (55kg)	760 x 558 x 787 (55kg)	760 x 558 x 787 (55kg)

單位：unit:mm



# Circulated Coolant Tank

## 冷卻循環系列



Circulated Coolant Tank For Big Machine  
大機台冷卻循環箱

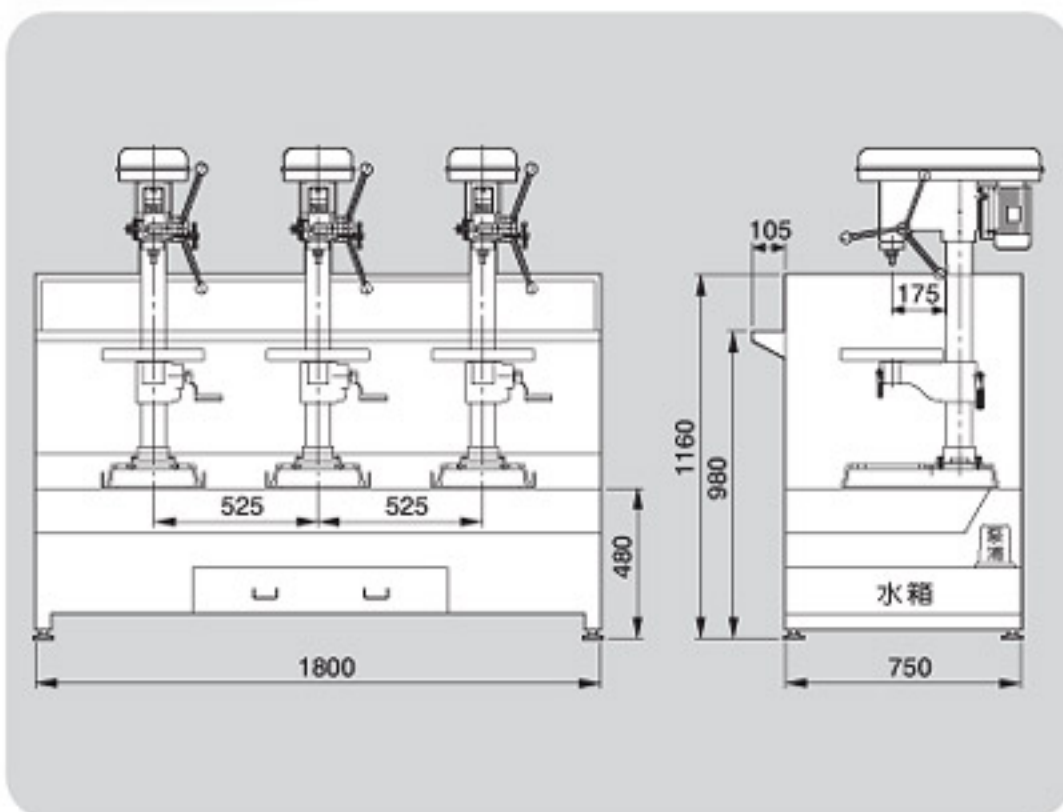


Circulated Coolant Chip Exhaust Tank  
冷卻循環排屑箱



KS-3M Circulated Coolant Tank (1M~4M)  
冷卻循環箱 (1台~4台)

Dimensional Drawing  
冷卻循環箱尺寸圖



# KS Series

### FEATURES 機械特性

- The circulated coolant tank is suitable for mass production of same parts.
- Built-in coolant tank avoids coolant odor and no waste of coolant.
- Front cover provides time and effort saving for chips cleaning.
- 冷卻噴水設備，適合單件大量生產之工件。
- 隱藏式水箱，水質不發臭，水量不浪費。
- 鐵屑清理採用前蓋式，省時省力。



# Gang Type Drilling Machines

## 聯立式系列



Gang Type Coolant Tray  
聯立擋水座



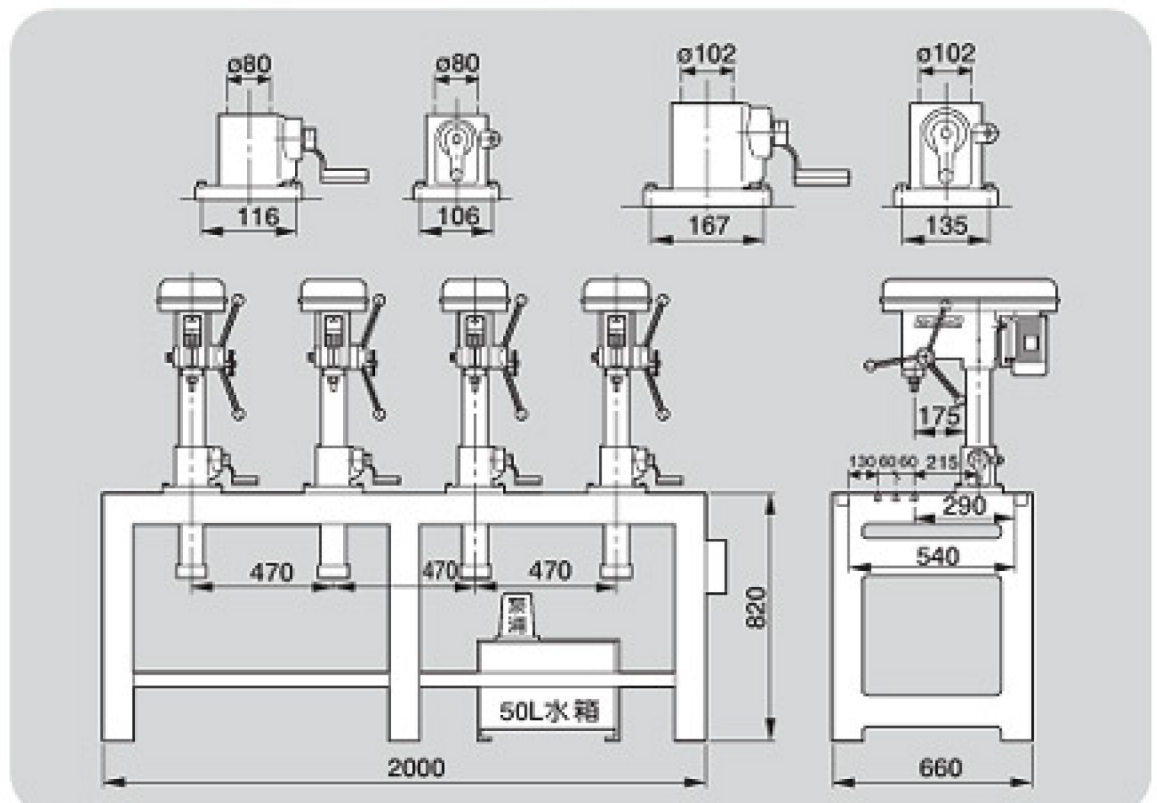
KS-4PL Gang Type (1PL~5PL)  
聯立式 (1台~5台)

# KS Series

### FEATURES 機械特性

- The best choice in arsenal.
- The coolant tray and T-Slots are one-piece fabricated from cast iron.
- Feeding, drilling, chamfering, tapping and cutting for large workpiece are performed continuously.
- 兵工廠指定最佳機型。
- 機台水槽、T型槽全部鑄鐵一體成型。
- 大工件連架推進，鑽孔、倒角、攻牙、切削一氣呵成。

### Dimensional Drawing 冷卻循環箱尺寸圖





# Function And Features Of Drilling Machine

## 鑽床功能與優點



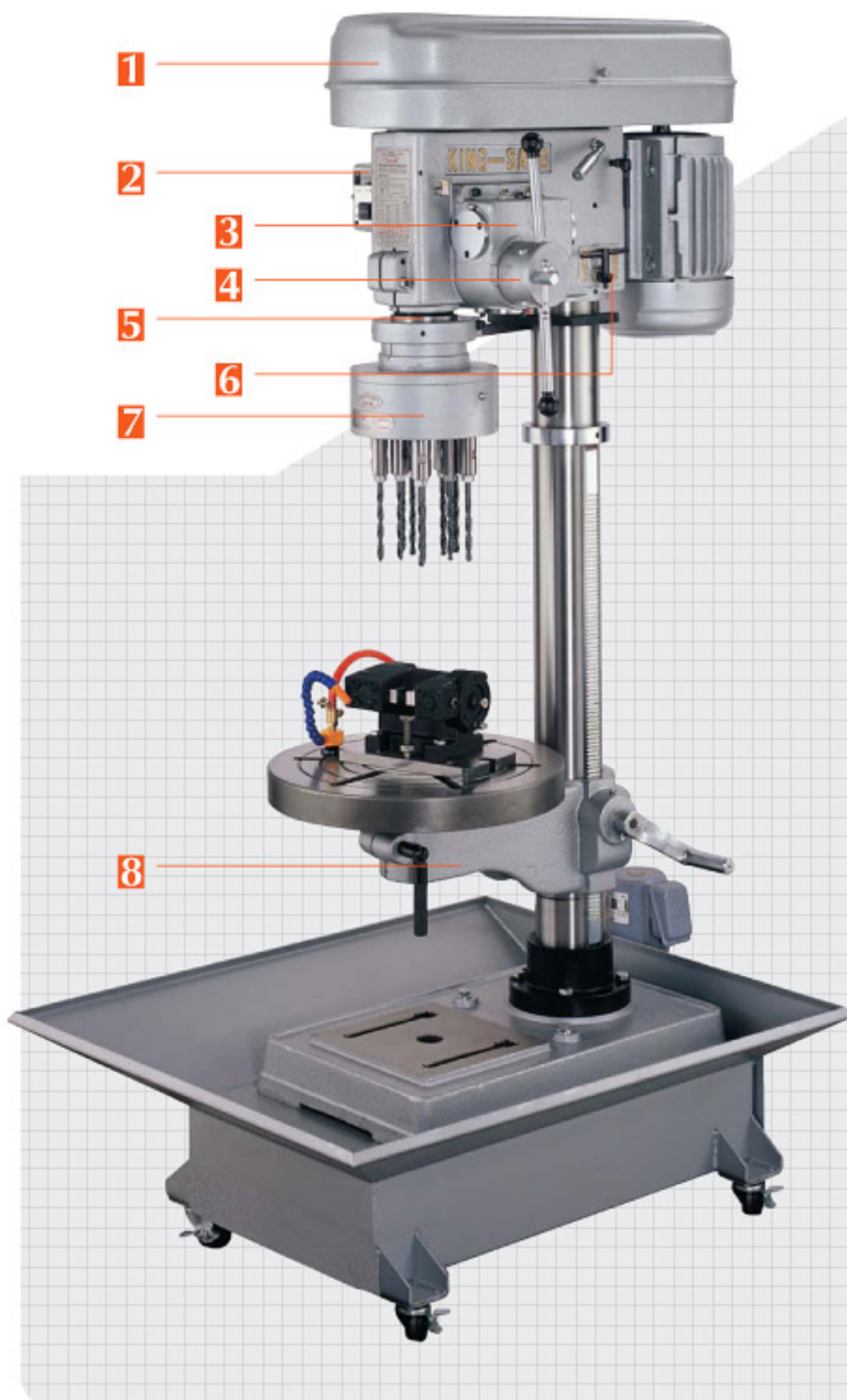
### 1 Pulley 皮帶輪

- Automatic adjustment device for speed adjustment pulley tension requires no tool for assistance. For the 1" drilling machine feeding speed switch, please adjust the idler pulley upward or lower and replace a suitable belt accordingly.
- 調速皮帶輪鬆緊度自動調整裝置，無須再用工具調整。1"自動鑽床惰輪更換進刀速度，只將惰輪調上或調下並變換皮帶即可。



### 2 Magnetic Valve Switch 磁閥開關

- The magnetic valve switch control can be changed to single or continuous drilling. It has counter and control signal functions. Also available to equip with hydraulic / pneumatic infeed / outfeed and coolant device.
- 磁閥開關控制，可切換單鑽或連續鑽，並有計數器及控制信號功能，可配合空油壓模具進出料及冷卻液裝置。







### 3 Gear Box 齒輪箱

- The gear box housing is one-piece fabricated from cast iron for outstanding durability.
- 齒輪箱鑄鐵材質一體成型，強度更堅韌。



### 4 Circular Graduated Collar 圓尺環

- The manual drilling machine employs stainless steel circular graduated collar, which is produced by investment casting. This prevents graduations and numbers from peeling off.
- 手動鑽床用白鐵圓尺環，並用脫蠟鑄造術數次起模成型，刻劃及數字永不脫落。



### 5 Quill 齒管

- The quill is manufactured from ductile iron and heat treated to ensure maximum wear resistance without breakage.
- 齒管採球狀鑄鋼再經熱處理，機台永不磨損、不斷裂。



### 6 Chuck Key Storage 夾頭扳手歸位處

- After chuck key is used, it can be stored on a cast iron holder. This saves time of searching for the chuck key.
- 夾頭扳手歸位處是鑄造一體成型，利用完成即歸位，免除到處找扳手的煩惱。



### 7 Multiple Spindle Drilling Head 多軸器

- By using the multiple spindle drilling head, you get higher accuracy and increased efficiency. a fixing bracket is also suggested for increasing stability of raising or lowering motion.
- 搭配多軸器，精度與工作效率提高，安裝固定架，上下更穩定。



### 8 Middle Frame 中樞鑄鐵

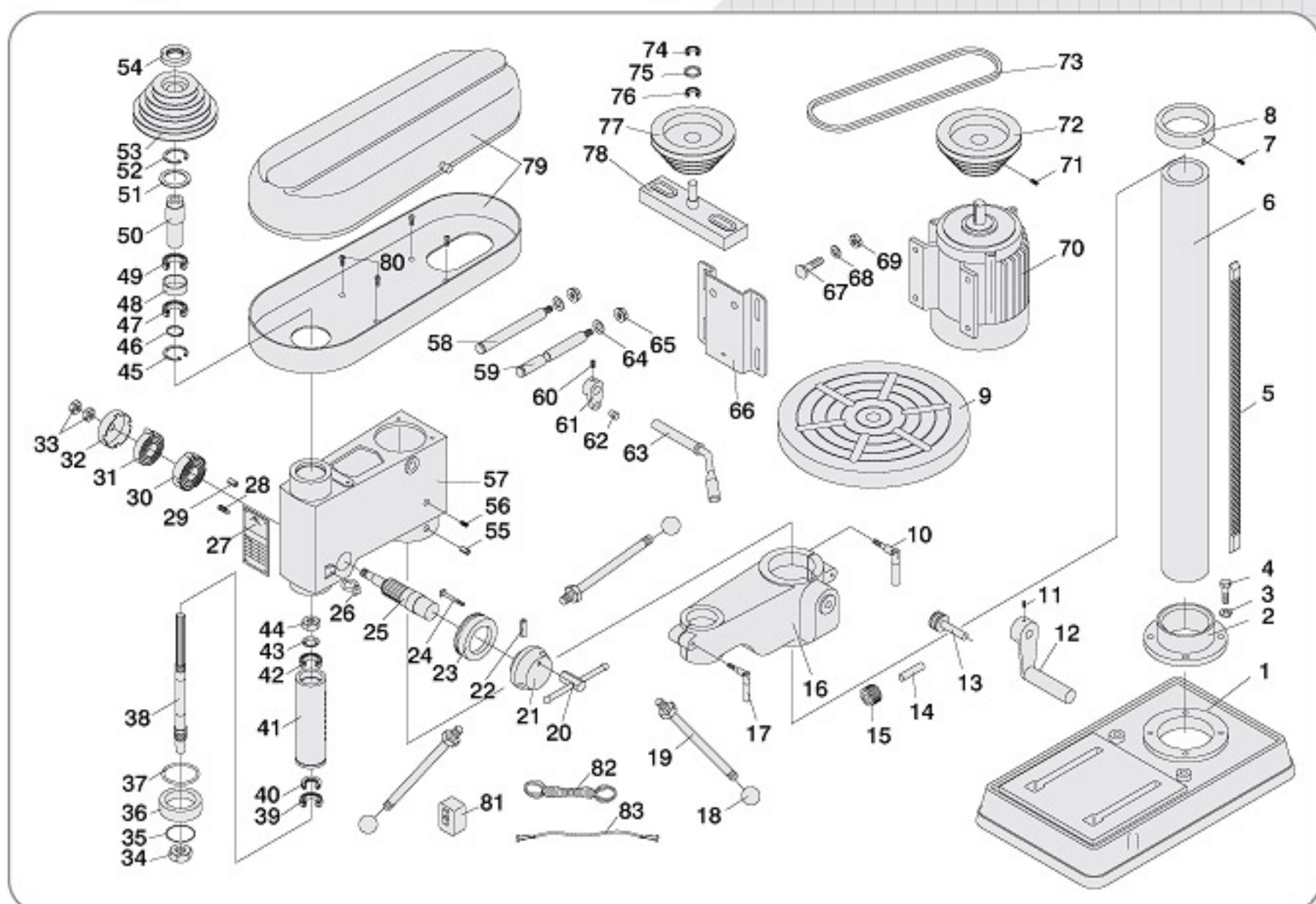
- The middle frame is one-piece fabricated from cast iron for outstanding structural strength. A hydraulic taper device is suggested for adjusting workpiece angle, that ensures vise accuracy.
- 中樞鑄鐵一體成型，強度加大，要調角度之工作，可配合油壓斜度，虎鉗更精準。



# Parts Drawings For Drilling Machine, Tapping Machine And Automatic Drilling Machine

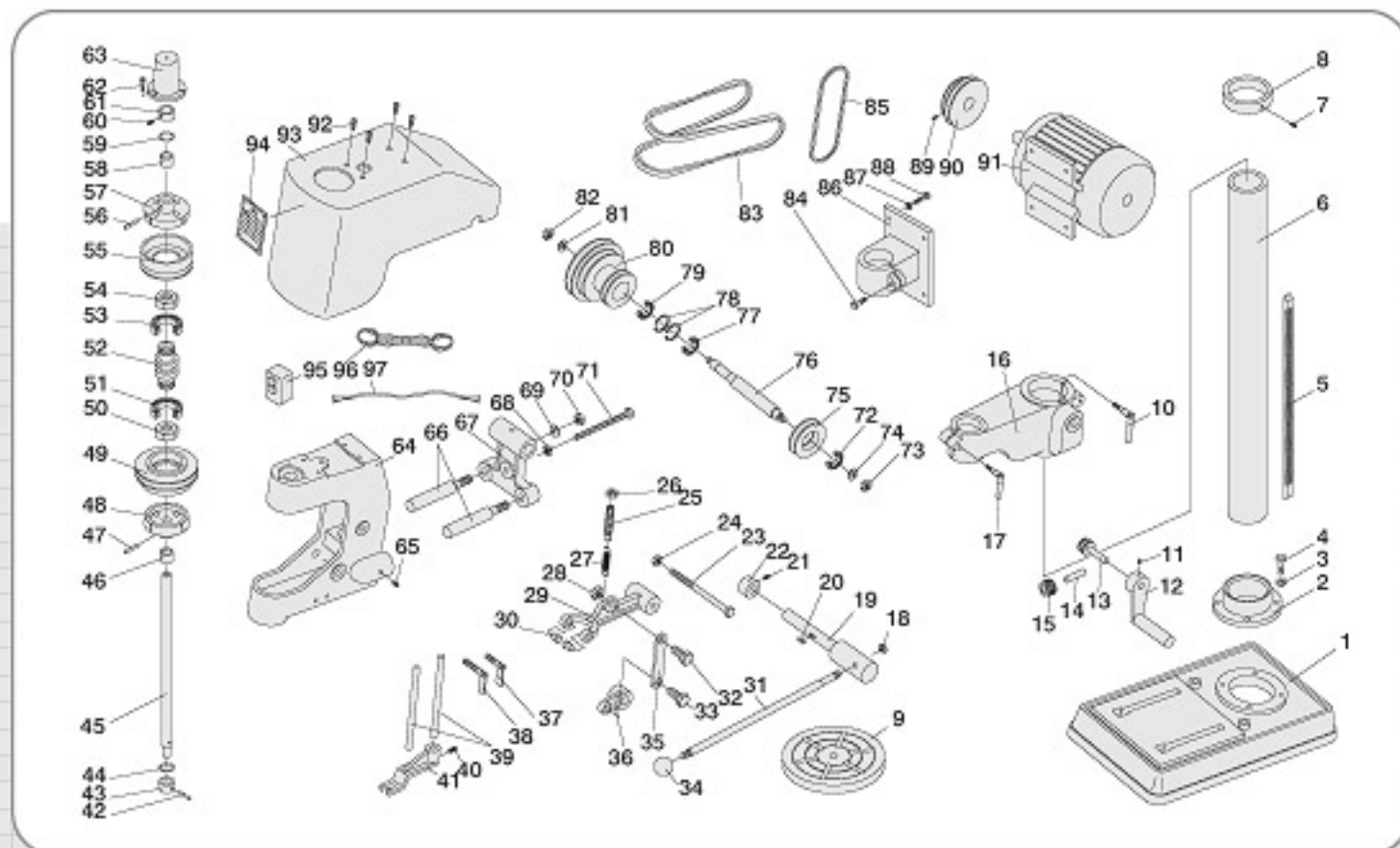
鑽床、攻牙機、自動鑽床零件圖

## Drilling Machine Parts Drawing 鑽床零件圖

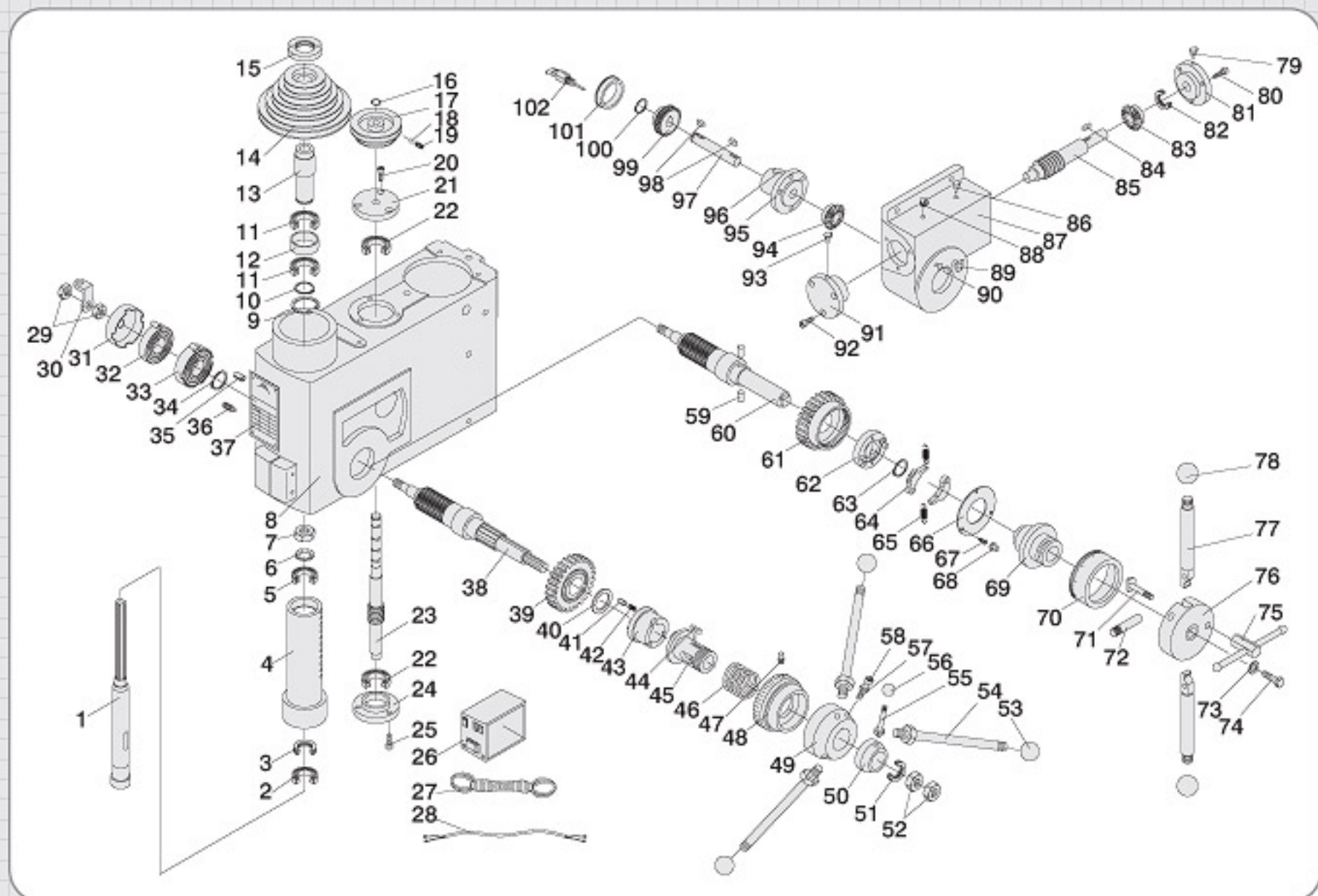




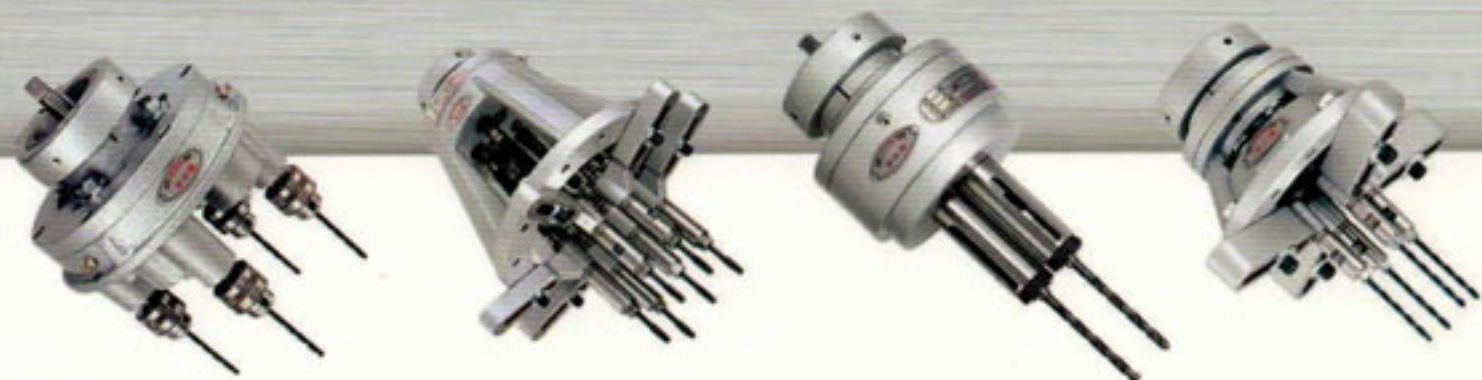
## Tapping Machine Parts Drawing 攻牙機零件圖



## Automatic Drilling Machine Parts Drawing 自動鑽床零件圖







Material 材質	Stainless Steel 不鏽鋼	Aluminum 鋁	Iron 鐵	Cast Iron 鑄鐵	Copper Alloy 合金鋼	Brass & Bronze 青、黃銅	Plastic 塑膠							
<b>Cutting Cond</b> 切削條件	V Value ±2 8 4	V Value ±10 50 25	V Value ±5 25 12	V Value ±5 30 15	V Value ±2 28 14	V Value ±7 60 30	V Value ±5 34 17							
V Tool (刀具) Speed (轉速) RPM ø Dia. (直徑) mm														
ø 2	1275 635	7960 3980	3980 1910	4780 2390	4460 2230	9555 4780	5415 2705							
ø 3	850 425	5310 2655	2650 1275	3185 1590	2970 1485	6370 3185	3610 1805							
ø 4	640 320	3980 1990	1990 955	2390 1195	2230 1115	4780 2390	2705 1355							
ø 5	510 255	3185 1590	1590 765	1910 955	1785 890	3820 1910	2165 1085							
ø 6	425 210	2655 1330	1330 640	1590 795	1485 745	3185 1590	1805 900							
ø 7	365 180	2275 1140	1140 545	1365 680	1275 635	2730 1365	1545 775							
ø 8	320 160	1990 995	995 480	1195 600	1115 555	2390 1195	1355 680							
ø 9	285 140	1770 885	885 425	1060 530	990 495	2125 1060	1205 600							
ø 10	255 125	1590 800	800 380	955 480	890 445	1910 955	1085 540							
ø 11	230 115	1450 725	725 350	870 435	810 405	1740 870	985 490							
ø 12	210 105	1330 665	665 320	795 400	745 370	1590 795	900 450							
ø 13	195 100	1225 610	610 295	735 365	685 340	1470 735	835 420							
ø 14	180 90	1135 570	570 270	680 340	635 320	1365 680	775 385							
ø 15	170 85	1060 530	530 255	640 320	600 300	1275 640	720 360							
ø 16	160 80	995 500	500 240	600 300	560 280	1195 600	680 340							
ø 17	150 75	935 470	470 225	560 280	525 260	1125 560	640 320							
ø 18	140 70	885 440	440 210	530 265	495 250	1060 530	600 300							
ø 19	135 67	835 420	420 200	500 250	470 235	1005 500	570 285							
ø 20	130 65	795 400	400 190	480 240	445 225	955 480	540 270							
ø 25	100 50	640 320	320 155	380 190	355 180	765 380	430 220							
ø 30	85 45	530 265	265 130	320 160	300 150	635 320	360 180							
ø 40	65 30	400 200	200 95	240 120	225 110	480 240	270 135							
ø 50	50 25	320 160	160 75	190 95	175 90	380 190	220 110							
<b>Remarks</b> 備註	$S \text{ Speed 轉速} = \frac{1000 \times V \text{ Cutting Speed 切削速度}}{3.14 \times D \text{ Tool Dia. 刀直徑}}$				<ul style="list-style-type: none"> <li>Above data may vary according to workpiece material and cutting tool material.</li> <li>加工時視切削情形的切削材料或切削刀具材質再做增減。</li> </ul>									



全金山機械有限公司  
CHUAN KING SANG MACHINERY CO., LTD.

昕吉利五金企業有限公司  
HSIN GEELI HARDWARE ENTERPRISE CO., LTD.

台中市40463東光路402號

No.402, Dong-Guang Rd., Taichung, Taiwan.40463

http://www.kingsang.com.tw E-mail:kingsang@ms46.hinet.net

TEL:(04)2230-5555

FAX:(04)2230-5551