



**HEAVY DUTY CNC VERTICAL LATHE**

**EVL-12 / EVL-16  
EVL-20 / EVL-25**

**EVL**  
**SERIES**

# RUGGED MACHINE CONSTRUCTION

## A GUARANTEE OF **Rigidity and Stab**



### **WEAR-RESISTANT BEAM**

- The slideways on the beam are fitted with alloy steel to increase wear-resistance capability.
- The beam elevation is driven by two hydraulic cylinders.
- The beam positions on two rails and is clamped securely by hydraulic power. Accurate perpendicularity between two clamping head is achieved through additional stops.

### **WALL-TYPE COLUMNS**

- The columns are wall-type construction that dramatically upgrades the rigidity of columns.

### **AUTOMATIC TOOL CHANGER**

- The loading capacity of the magazine is 12 tools.
- The magazine rotation is driven by a servo motor, featuring fast and high positioning accuracy.
- Tool selection method is bi-directional and random for increased efficiency.
- The tool magazine is separately mounted from the cutting area, combined with a safety door to fully prevent cutting tools from pollution by chips or coolant.

ility

- The structural parts, such as base, table, columns and beam are all manufactured from high quality cast iron, stress relieved for deformation-free performance year after year.
- Oversized box ways on X, Z-axis enhance perfect stability.
- All structural parts are rib reinforced to increase structural strength and rigidity.
- All slideways are hardened, precision ground and coated with Turcite-B to ensure maximum resistance.
- Turcite B is fitted on all sliding parts of Z-axis. Forced lubrication system is provided for X & Z axis. Lubrication to each part is performed by timer cycle (30 min) after power on.



MODEL	A	B	C	D	E
EVL-12	1,000 mm	200 mm	650 mm	1,025 mm	300 mm
EVL-16	1,100 mm	240 mm	850 mm	1,305 mm	300 mm

**EVL-12 (EVL-16)**

# TABLE MANUAL FOUR JAW CHUCK



## TABLE BEARINGS

Thrust roller bearings provide excellent loading capacity for workpiece and table and greater cutting force resistance.

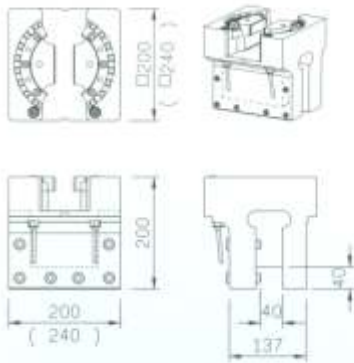


## TABLE DRIVE GEARBOX

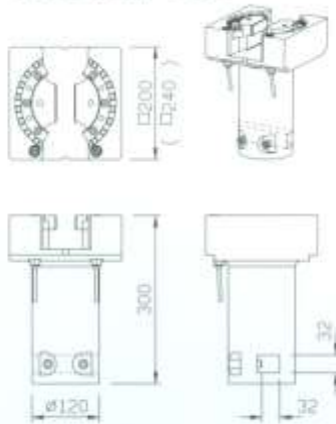
- The table rotation is transmitted through a gearbox, providing high / low speed ranges.
- A forced circulated lubrication system is used for lubricating gears.

## Dimension of Tool Holder: (EVL-12 / EVL-16)

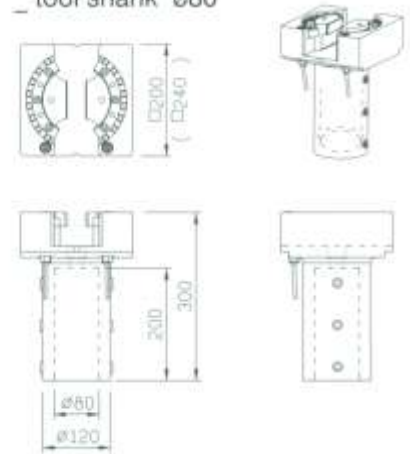
O.D. / Facing tool holder  
\_ tool shank □40



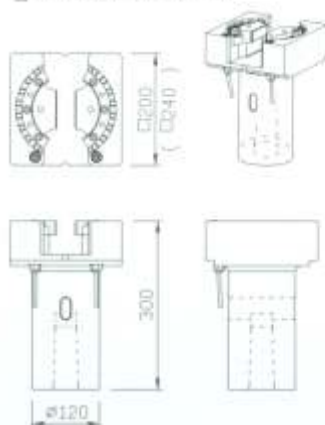
Boring tool holder  
\_ tool shank □32



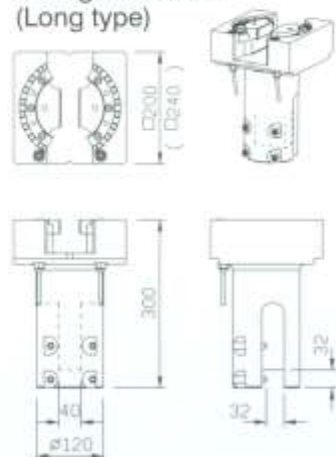
Socket tool holder 80  
\_ tool shank ø80



Drilling tool holder MT5  
\_ drill shank MT5



Boring tool holder  
(Long type)



Extend holder  
B300



Extend holder  
H300



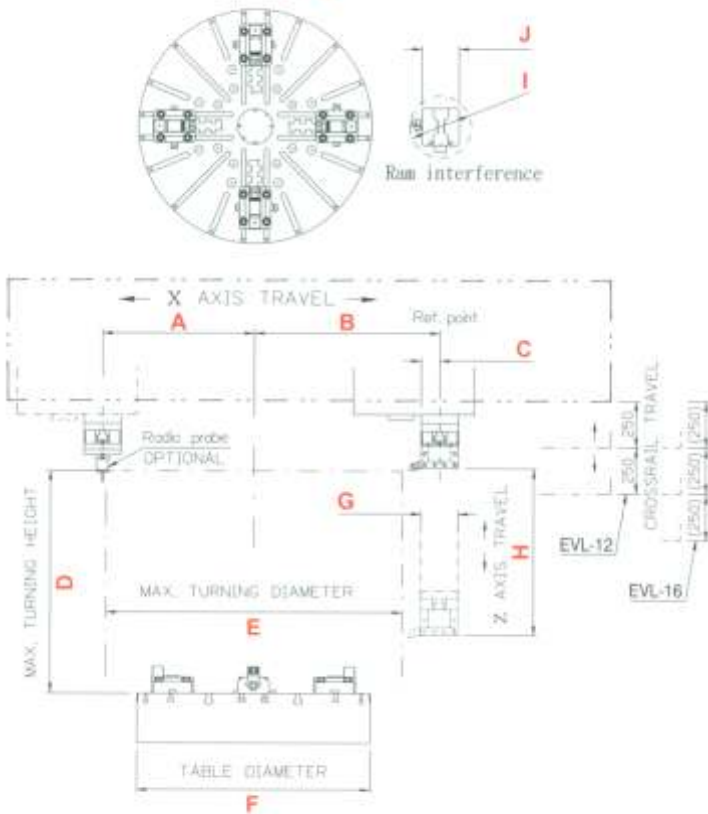
Extend holder  
B400



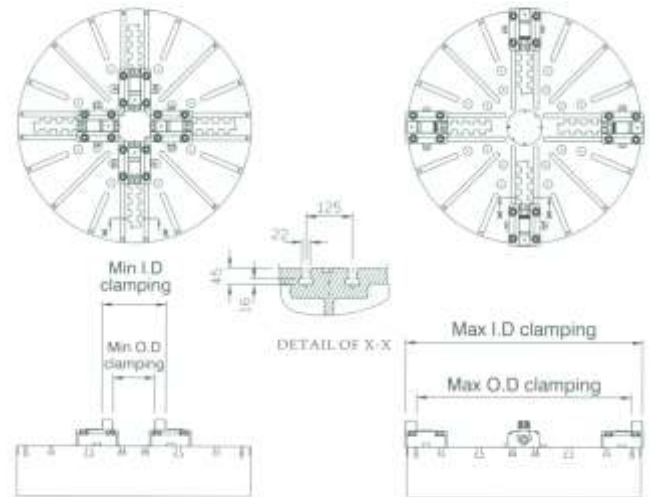
Extend holder  
H400



# Travel Diagram:



# Clamping Range:



MODEL	EVL-12	EVL-16
Min I.D clamping	345 mm	505 mm
Max I.D clamping	1,275 mm	1,625 mm
Min O.D clamping	225 mm	385 mm
Max O.D clamping	1,155 mm	1,505 mm

MODEL	A	B	C	D	E	F	G	H	I	J
EVL-12	820 mm	1,000 mm	100 mm	1,200 mm	1,600 mm	1,250 mm	200 mm	900 mm	330 mm	200 mm
EVL-16	1,020 mm	1,220 mm	120 mm	1,600 mm	2,000 mm	1,600 mm	240 mm	1,000 mm	360 mm	240 mm

# Spindle Speed / Torque Diagram

MODEL: EVL-12 (A.C. 37 / 45 kW)

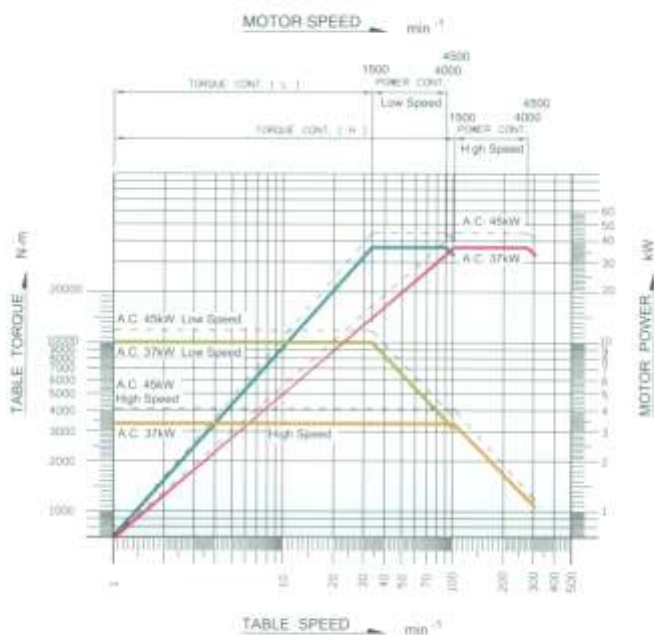


TABLE TORQUE MOTOR POWER

- Low speed 30min. operation zone
- High speed 30min. operation zone
- Low speed continuous operation zone
- High speed continuous operation zone

MODEL: EVL-16 (A.C. 45 / 55 kW)

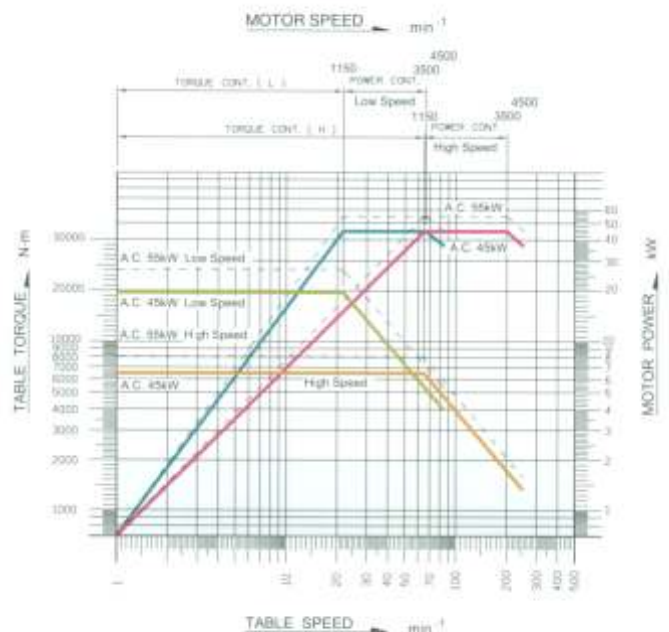
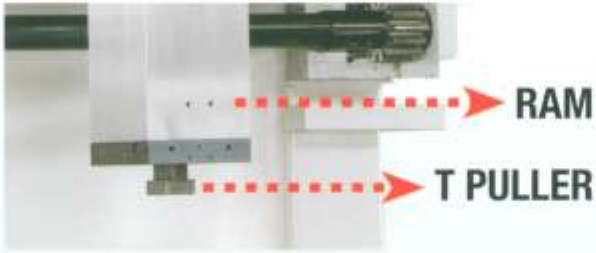


TABLE TORQUE MOTOR POWER

- Low speed 30min. operation zone
- High speed 30min. operation zone
- Low speed continuous operation zone
- High speed continuous operation zone

# Tool Holder:

## Standard: T Puller Type



**ONE PIECE TYPE  
TOOLHOLDER**

## Optional: BT Type



**TOOL HOLDER**

# Machine Accessories:



**LINEAR SCALE  
(OPTIONAL)**



**ATC SYSTEM**



**OIL SKIMMER  
(OPTIONAL)**



**AIR CONDITIONER  
FOR ELECTRIC  
CABINET  
(OPTIONAL)**

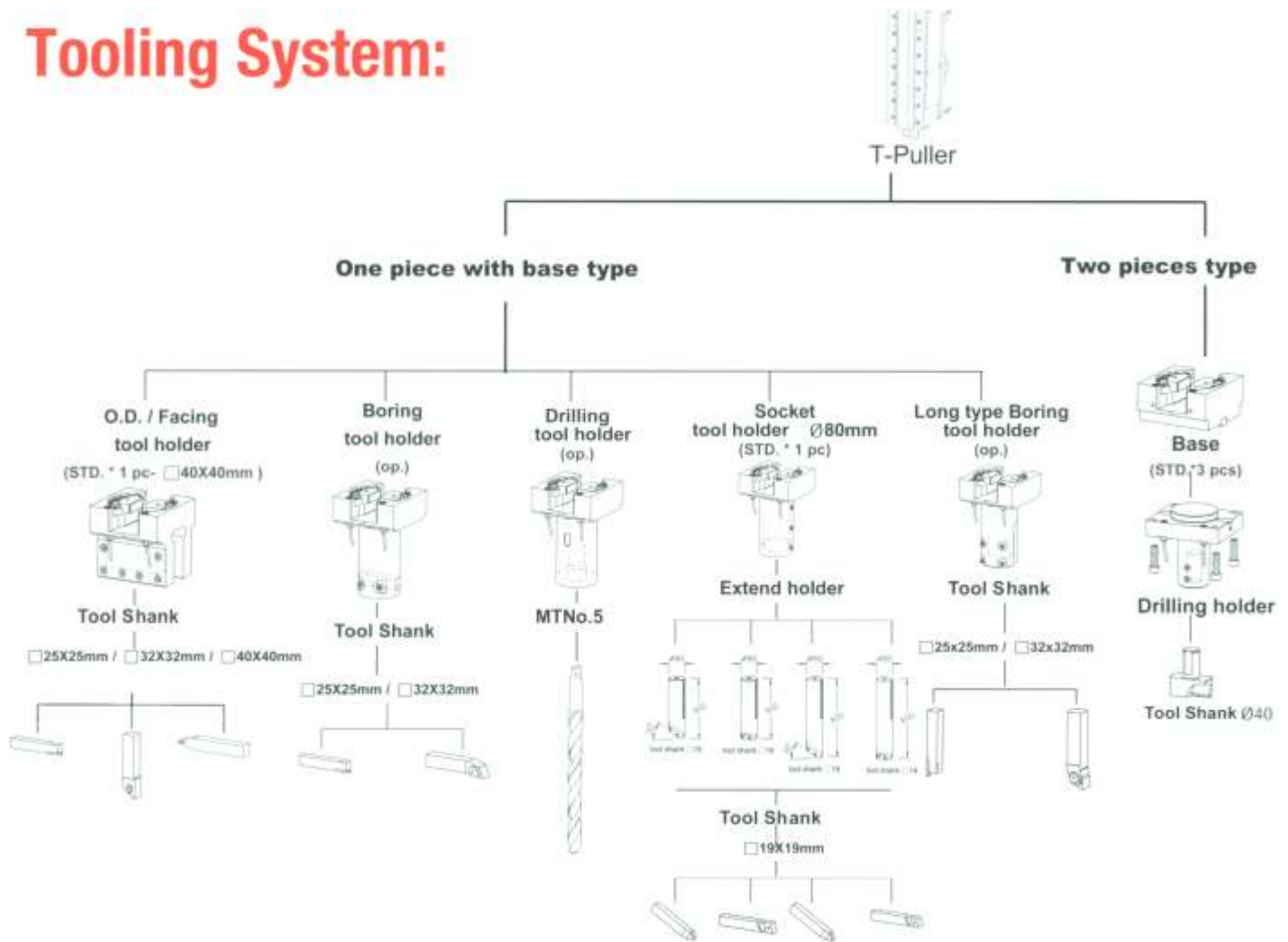


**BEAM POSITIONING  
RACKS**

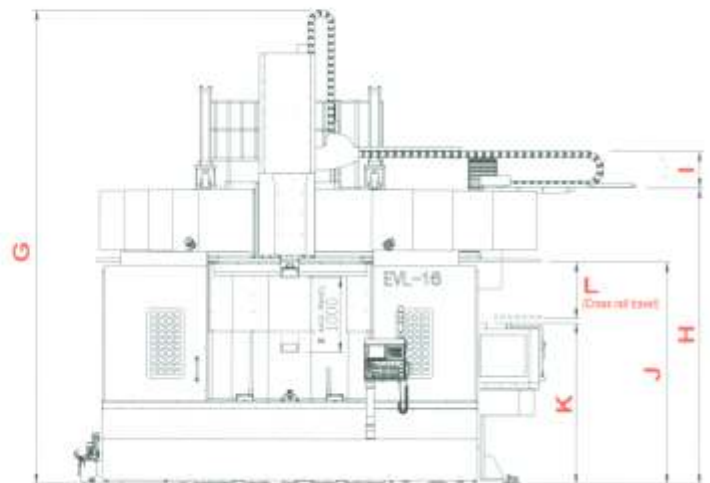
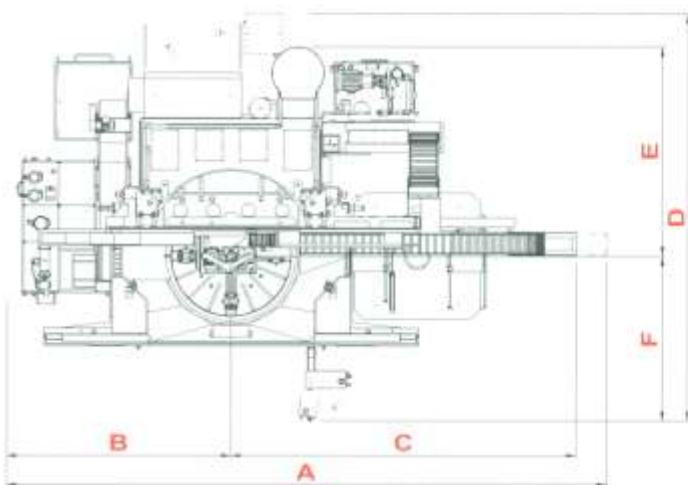


**HYDRAULIC-  
DRIVE  
BEAM  
ELEVATION**

# Tooling System:



# Machine Dimensions:



MODEL	A	B	C	D	E	F	G	H	I	J	K	L
EVL-12	7,200 mm	2,850 mm	4,010 mm	4,800 mm	2,525 mm	1,470 mm	5,450 mm	3,380 mm	500 mm	2,475 mm	1,900 mm	250 x 2 mm
EVL-16	8,000 mm	3,000 mm	4,590 mm	5,430 mm	2,800 mm	2,195 mm	6,325 mm	3,950 mm	500 mm	2,960 mm	2,145 mm	250 x 3 mm

# Specification:

MODEL	UNIT	EVL-12	EVL-12M	EVL-16	EVL-16M	EVL-20	EVL-20M	EVL-25	EVL-25M
<b>Capacity</b>									
Max. swing diameter	mm (inch)	Ø1,600 (63)		Ø2,000 (78.74)		Ø2,500 (98.42)		Ø3,000 (118.11)	
Max. turning diameter	mm (inch)	Ø1,600 (63)		Ø2,000 (78.74)		Ø2,500 (98.42)		Ø3,000 (118.11)	
Distance from bite holder end to table surface	mm (inch)	0 ~ 1,205 (0 ~ 47.44)	0 ~ 1,155 (0 ~ 45.47)	0 ~ 1,605 (0 ~ 63.18)	0 ~ 1,555 (0 ~ 61.22)	0 ~ 1,850 (0 ~ 72.83)	0 ~ 1,800 (0 ~ 70.86)	0 ~ 2,250 (0 ~ 88.58)	0 ~ 2,200 (0 ~ 86.61)
Max. turning height	mm (inch)	1,200 (47.24)	1,150 (45.27)	1,600 (63)		1,800 (70.86)		2,200 (86.61)	
Max. workpiece weight	kg	8,000		10,000		15,000		20,000	
<b>Table</b>									
Table diameter (Manual chuck)	mm (inch)	Ø1,250 (49.21)		Ø1,600 (63)		Ø2,000 (78.74)		Ø2,500	
Range of table speed (Low)	rpm	34 ~ 103		22 ~ 85		20 ~ 60		13 ~ 40	
Change gear speed (High)	rpm	104 ~ 312		65 ~ 255		61 ~ 180		41 ~ 120	
Change gear speed	steps	2		2		2		2	
Max of Table torque	N.m	12,400		24,000		35,800		53,800	
<b>ATC</b>									
ATC (Automatic Tool Change)	set	1		1		1		1	
Number of position	-	12 (Random)		12 (Random)		12 (Random)		12 (Random)	
Tool type	mm (inch)	T - Puller	BT-50	T - Puller	BT-50	T - Puller	BT-50	T - Puller	BT-50
Tool size	mm (inch)	□25 / 32 / 40 (1" / 1.25" / 1.5")		□25 / 32 / 40 (1" / 1.25" / 1.5")		□25 / 32 / 40 (1" / 1.25" / 1.5")		□25 / 32 / 40 (1" / 1.25" / 1.5")	
Cross-section of ram	mm (inch)	200 x 200 (7.87 x 7.87), 240 x 240 (9.44 x 9.44)		240 x 240 (9.44 x 9.44)		240 x 240 (9.44 x 9.44)		300 x 300 (11.81 x 11.81)	
<b>Travel</b>									
Horizontal travel (X-Axis)	mm (inch)	-820+1,000 (-32.28+39.37), Ref. point		-1,020+1,220 (-40.15+48.03), Ref. point		-1,270+1,470 (-50+57.87), Ref. point		-1,520+1,720 (-59.84+67.71), Ref. point	
Vertical travel (Z-Axis)	mm (inch)	900 (35.43)	1000 (39.37)	1,000 (39.37)		1,000 (39.37)		1,200 (47.24)	
Cross-rail travel	mm (inch)	500 (19.68), 2 steps (3 positions)		750 (29.52), 3 steps (4 positions)		1,120 (44.08), 4 steps (5 positions)		1,400 (55.1), 5 steps (6 positions)	
<b>Feed rates</b>									
Rapid rate (X-Axis)	m/min	10		10		10		10	
Rapid rate (Z-Axis)	m/min	10		10		10		10	
Cutting feed rate	mm/rev	0.001 ~ 50		0.001 ~ 50		0.001 ~ 50		0.001 ~ 50	
Feed override	%	0 - 150		0 - 150		0 - 150		0 - 150	
<b>Motor</b>									
Table main motor	kW (HP)	α 40i, 37 / 45 kW (49.6 / 60.3 HP)		α 50i, 45 / 55 kW (60.3 / 70.7 HP)		α 60i, 63 / 75 kW (80 / 100 HP)		α 60i, 63 / 75 kW (80 / 100 HP)	
Feed servo motor (X-Axis)	kW (HP)	α 30i, 7 kW (9.4 HP)		α 30i, 7 kW (9.4 HP)		α 30i, 7 kW (9.4 HP)		α 30i, 7 kW (9.4 HP)	
Feed servo motor (Z-Axis)	kW (HP)	α 30Bi, 7 kW (9.4 HP)		α 30Bi, 7 kW (9.4 HP)		α 30Bi, 7 kW (9.4 HP)		α 30Bi, 7 kW (9.4 HP)	
Milling motor	kW (HP)	-	α P30i (15 / 18.5 kW)	-	α P40i (18.5 / 22 kW)	-	α P50i (22 / 30 kW)	-	α P50i (22 / 30 kW)
Cf axis motor	kW (HP)	-	α 30i (7 kW)	-	α 30i (7 kW)	-	α 30i (7 kW)	-	α 30i (7 kW)
Floor space (L x W)	mm (inch)	7,200 x 4,800 (283.45 x 188.97)		8,000 x 5,500 (314.96 x 216.53)		8,650 x 5,500 (340.55 x 216.53)		8,810 x 6,000 (346.85 x 236.22)	
Machine max. height (H)	mm (inch)	5,450 (214.56)		6,320 (248.81)		6,800 (267.71)		7,750 (305.11)	
Machine net. weight	kg	23,050		33,750		45,000		55,000	

● All specification, design and characteristics shown on this catalogue are subject to change without prior notice.

## Standard Accessories

1. Complete splash guard and safety door
2. Hydraulic unit
3. Table manual 4-jaw chuck
4. Automatic lubrication system
5. Work light
6. Three color warning light (R/Y/G)
7. Workpiece counter (FANUC)
8. Coolant through tool holder
9. Heat exchanger for electrical cabinet
10. Gear / bearing lubrication and oil cooler control
11. Service tool box & tool kits
12. Leveling adjustable block and seat pads (without J type bolts)
13. Chip conveyor
14. Chip trolley
15. Moveable vertical crossrail and mechanism
16. Coolant system with tank (3Bar)

## Optional Accessories

1. Air conditioner for electrical cabinet
2. Transformer for power source 220V,380V,440V
3. Oil skimmer
4. Tool holder (ATC device)
5. Special bite holder
6. Tool measuring device
7. Linear scale for X & Z axis (closed loop control system)
8. High pressure coolant pump ( 6Bar )
9. Conversational screen display language
10. Jig & fixer model design
11. APC (2pallet/2station)
12. APC (2pallet/3station)
13. Splash guard of auto door
14. Coolant level readout
15. Flushing chip system
16. FANUC 18iTB/32iTA controller