



**5 AXES MOVING COLUMN  
RAM TYPE MACHINING CENTER**

---

TUV-650 / 720

**CNC-TAKANG**

**CNC-TAKANG CO., LTD.  
MANUFACTURER & EXPORTER**

**TUV Series**

**5 AXES Simultaneous Machining Center**

Europe Design High Speed Machining

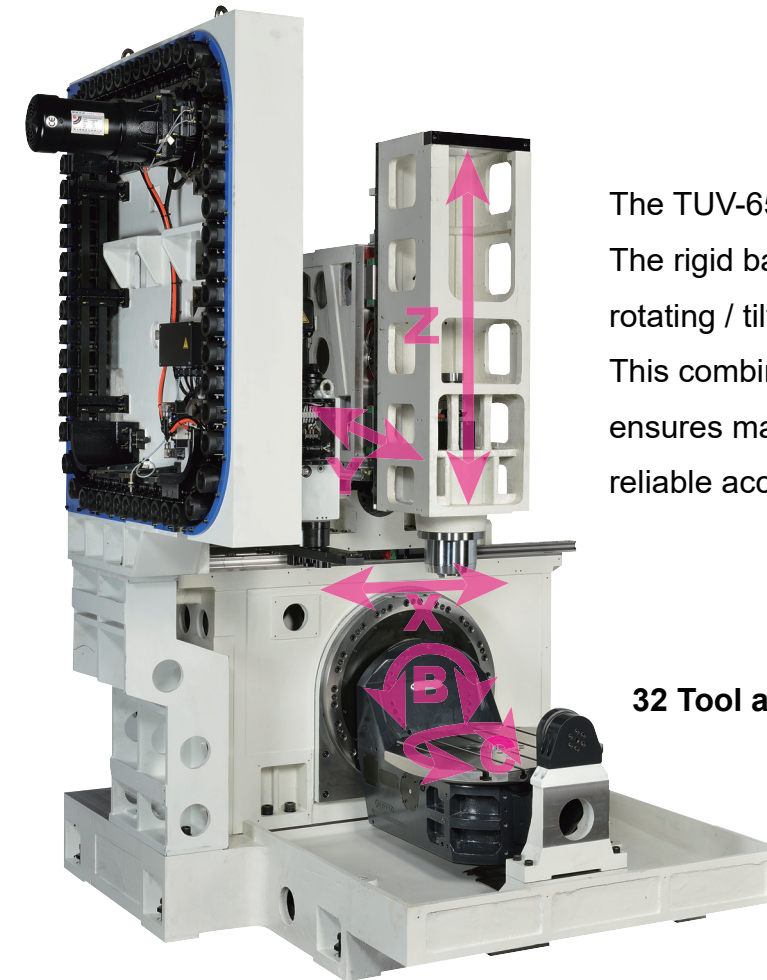
The CNC-TAKANG TUV Series 5 Axes Machine is an advanced, multi-tasking European design and technology for producing complicated parts at high speed, With 5-axis configuration, complex machining can be accomplished in one step.



The machine dramatically reduces machining time, while helping you to stay competitive.

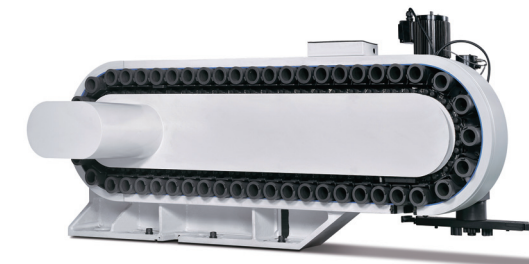
Europe style ergonomic state of the art design operating box, 360° rotation and any angle can be fixed.

Convenient, modern.



The TUV-650 is rigidly constructed throughout. The rigid base provides solid support for the rotating / tilting rotary table (B / C-Axis). This combined with a cross slide design and ensures machine structure's high stability, and reliable accuracy you've come to expect.

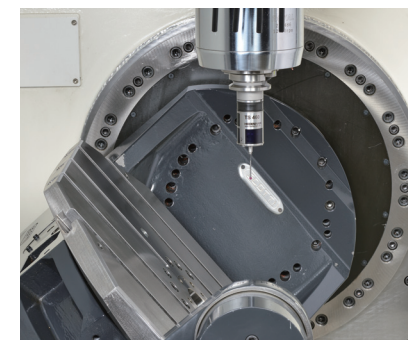
**32 Tool and 54 Tool Chain Type magazine**



32, 48 Tools



54, 60 Tools



Assuring high accuracy in simultaneous machining of 5 axes and positioning at any angle.

**Rotating / Tilting Axis (B / C-axis)**

The high rigidity NC controlled rotating / tilting rotary Table is equipped with linear encoders, ensuring excellent Accuracy when performing complicated machining.





- 5 axes simultaneous control
- The advanced control will dramatically increase machining accuracy, efficiency and safety during machining



Siemens 840D SL

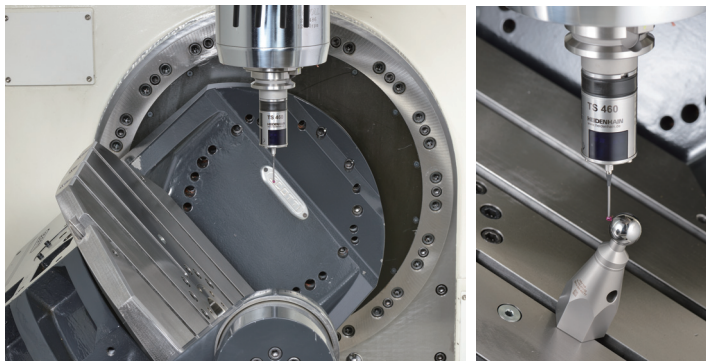


Heidenhain iTNC-640



FAGOR 8065 POWER

- 12000 rpm direct-drive spindle
- 32 (48 / 54 / 60) tool magazine
- Handles complicated machining with ease
- Base bell theorem structural design
- Linear scales / encoders on 5 axes
- Thermal isolation design compensation kit

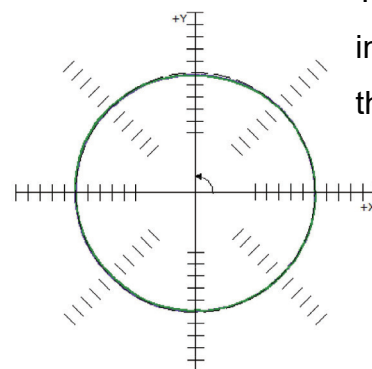


**(Optional)  
Kinematics Calibrating Device**

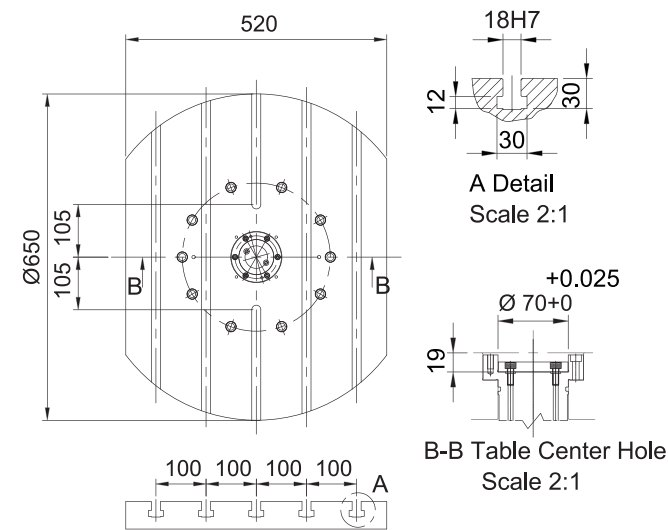
The device employs a Heidenhain TS-460 high precision probe. Standard measuring ball and measuring software for accurately inspecting the table center. The measured values is then input into the control system to ensure the accuracy of the table center.

Dynamic ASME B5.54

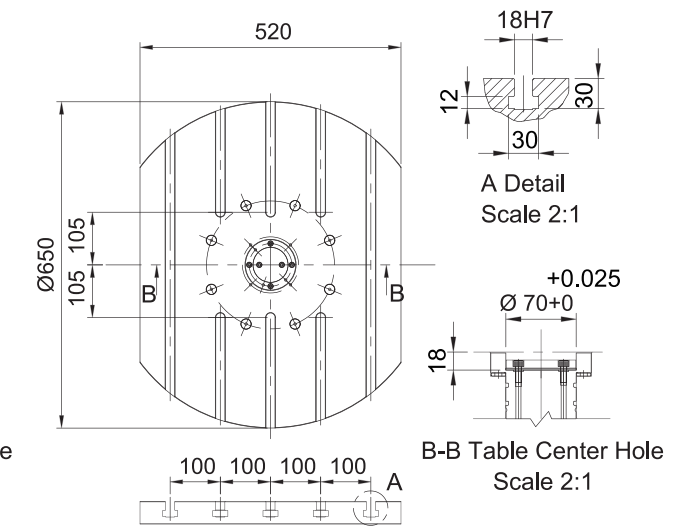
Non roundness	4.2µm
Maximum deviation	2.1µm 155.47651°
Minimum deviation	-2.1µm 90.72483°
<b>Test parameters</b>	
Radius	150.0000mm
Sample rate	52.632Hz
Feedrate	2000.0mm/min
Run sequence	CW CCW
Plane under test	XY
Test position	
Start angle	0°
End angle	360°
Overshoot angle	180°
Centre offset X	0.6µm
Centre offset Y	-2.3µm
Calculated feedrate	1996.8mm/min



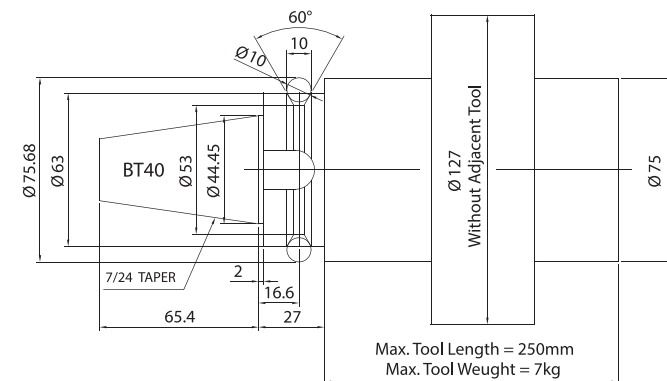
**Detron Tilting Rotary Table**



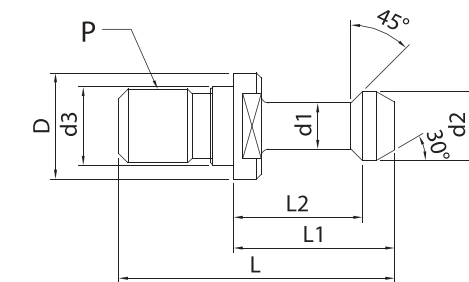
**Detron Tilting Rotary Table**



**Tool shank**

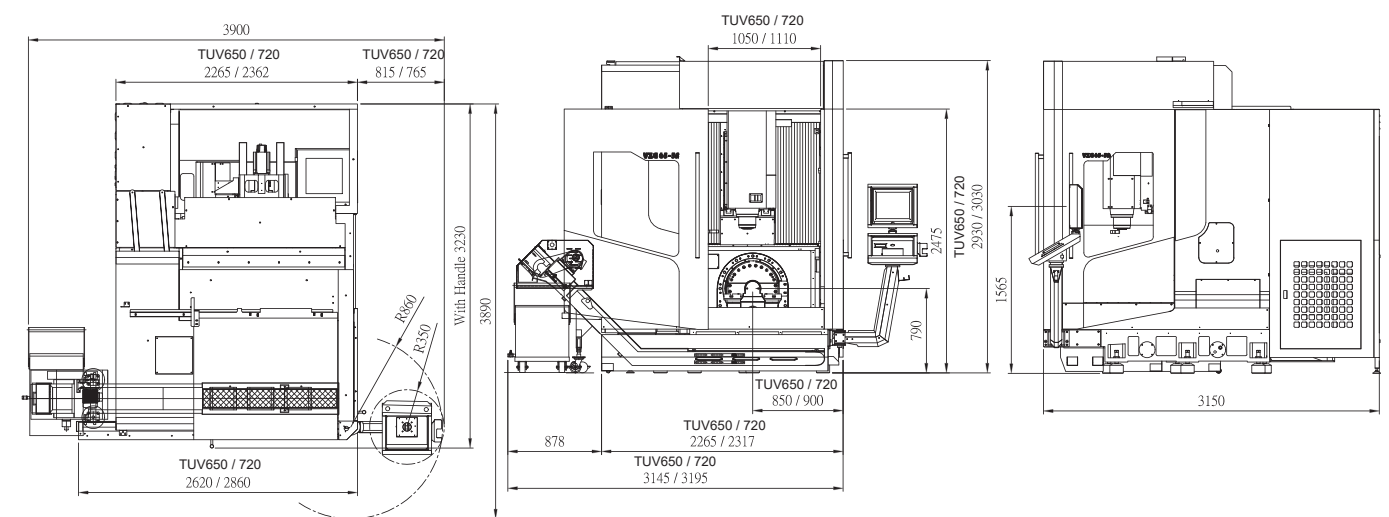


**Pull stud**



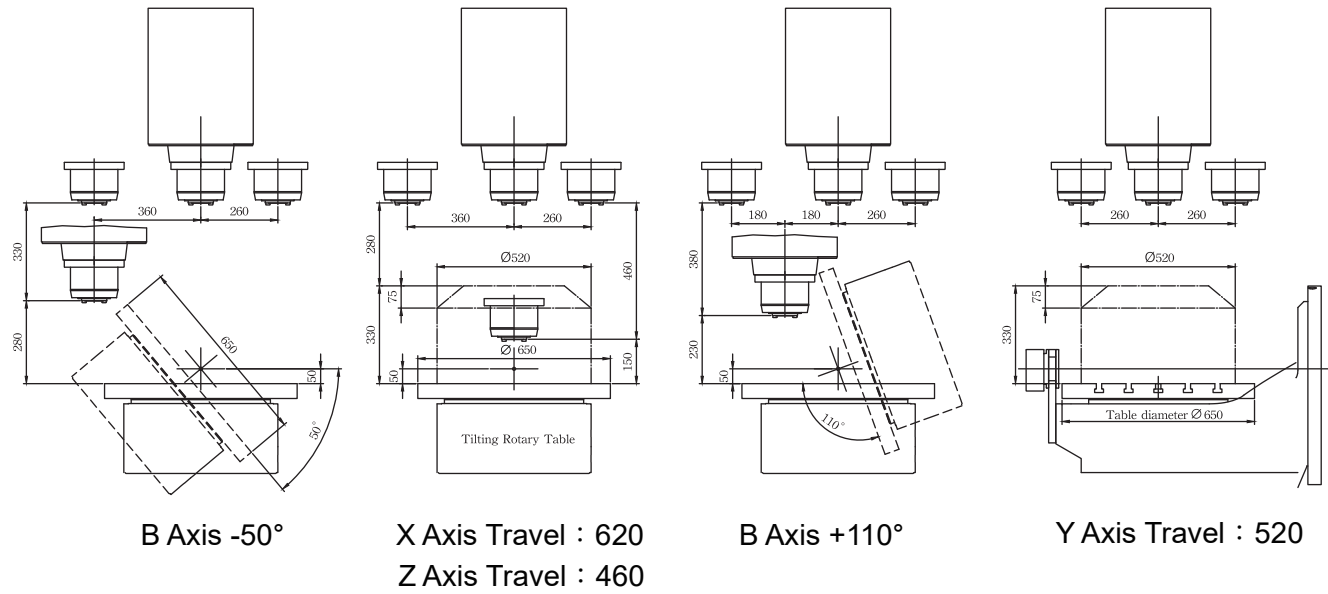
MODEL	D	d1	d2	d3	L	L1	L2	P
BT40	23	10	15	17	60	35	28	M16*2.0

**Dimensions**

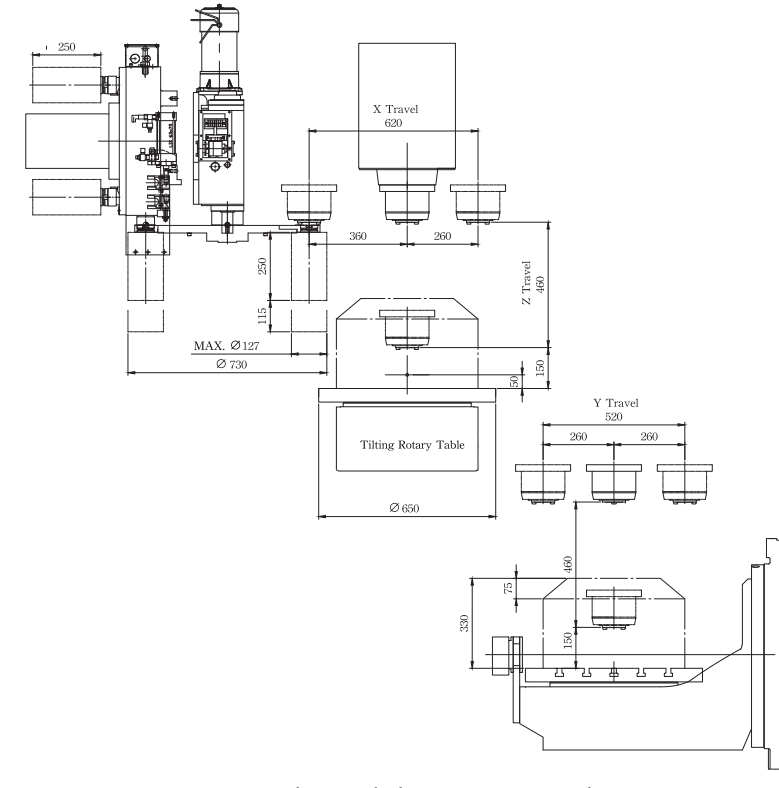


**Working Area (for TUV-650)**

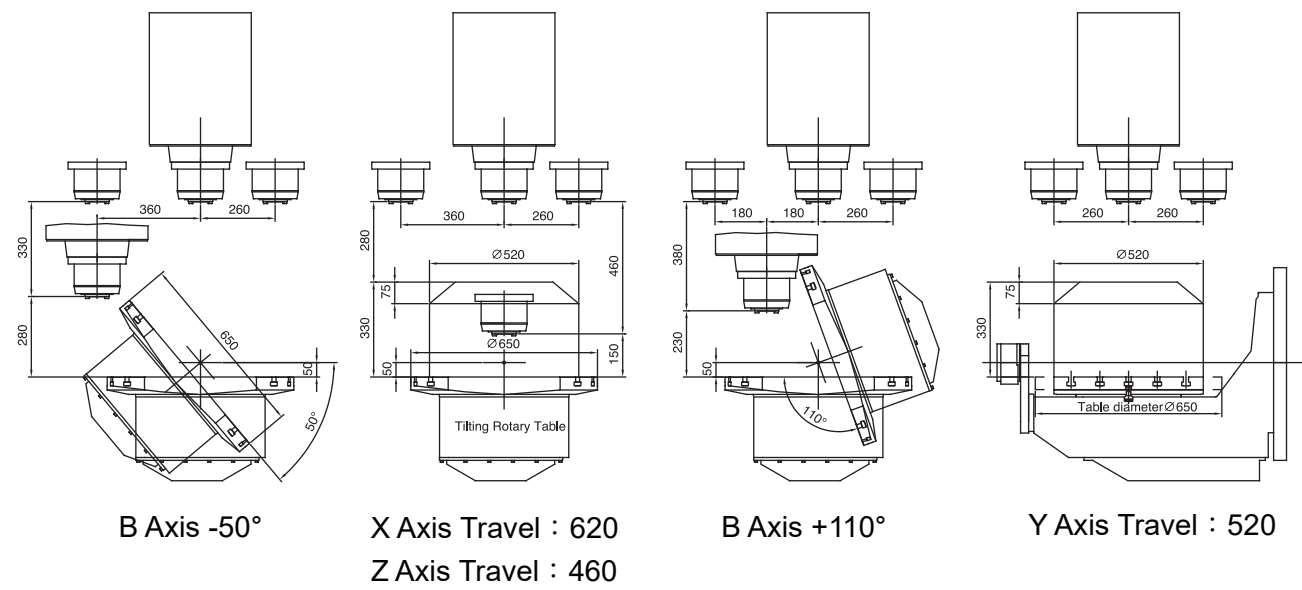
**Tilting Rotary Table (Worm Gear)**



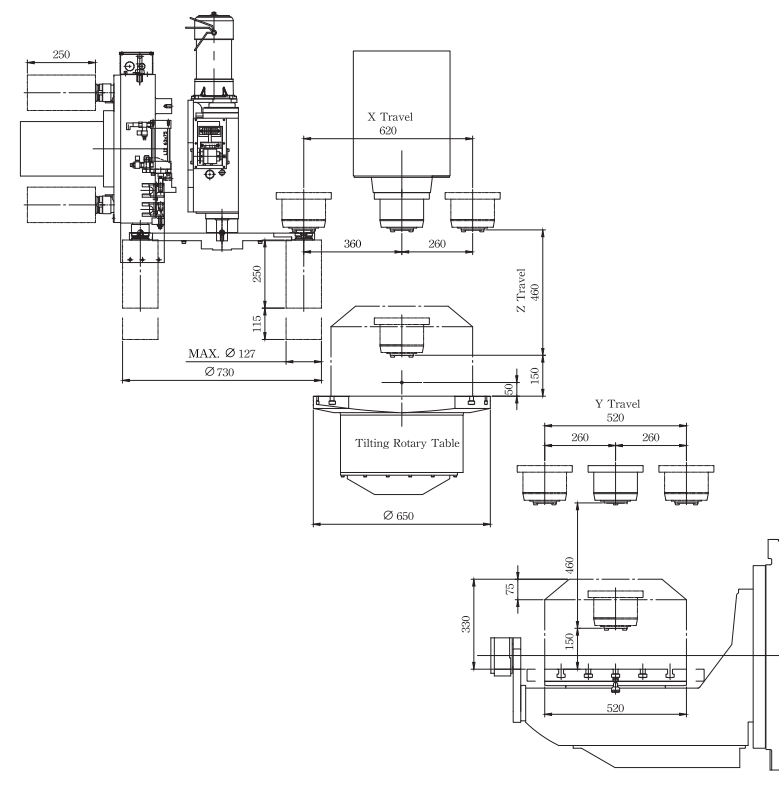
**Tilting Rotary Table (Worm Gear) (For TUV-650)**



**Tilting Rotary Table (DDM)**



**Tilting Rotary Table (DDM) (For TUV-650)**



## SPECIFICATIONS

MODEL / DESCRIPTION		TUV-650	TUV-720
Spindle	Spindle transmission	Direct (Built-in)	
	Spindle taper	ISO 40 (HSK63A)	
	Spindle r.p.m	12000 (15000 / 18000 / 20000 / 24000)	
Travel	X / Y / Z (mm)	620 / 520 / 460	720 / 600 / 520
	B axis tilting range	-50° ~ +110°	
	C axis rotating range	360°	
	Spindle nose to table surface (mm)	150 - 610	140 - 660
ATC	Tool magazine capacity (T)	32 (48 / 54 / 60 / 120 / 204)	
	Tool shank	ISO 40 (HSK63A)	
	Max. tool length (mm)	250	
	Max. tool diameter (mm)	Dia. 75 / 127	
Rapid speed	X / Y / Z axis (mm / min)	48	
	B / C axis (rpm)	100 / 50 (25 / 25)	100 / 50
	Cutting federate M / min	20	
B / C axis	Table size (O.D / I.D) (mm)	Dia. 650	Dia. 720
	Center hole size (mm)	Dia. 70H7 x 19 (Dia. 50H7 x 30)	Dia. 70H7 x 29
	T-Solt number / pitch (mm)	5 x 100 x 18	
	Max. table load (kgs)	300	
Others	Machine dimension (mm)	3145 x 3890 x 2930 mm	3195 x 3890 x 3030 mm
	Machine weight	10000 kgs	10800 kgs
	Coolant tank capacity (L)	210	
	Pneumatic supply (kg / cm <sup>2</sup> )	6	

※ THE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

### ■ STANDARD ACCESSORIES:

1. Spindle speed 12000rpm
2. Spindle chiller
3. Chip conveyor
4. A.T.C 32T
5. Heat exchanger
6. 3 Axes linear scales
7. B / C axis encoder
8. Heidenhain iTNC640
9. M30
10. Coolant gun
11. Air gun
12. Z axis thermal compensation

### ■ OPTIONS:

1. C.T.S
2. Laser tool length measurement  
(Blum / Renishaw)
3. Work piece measurement
4. CE
5. Transformer
6. Air conditioner
7. Spin window
8. Kinematics calibrating device  
(KKH-100 / TS460 / TS640)
9. Oil mist collector
10. Controller : Siemens 840D SL /  
Fagor 8065 Power
11. Movable roof

## CNC-TAKANG CO., LTD.

No. 72, Alley 7, Lane 98, 1st Road, Taichung Industry Park,  
Taichung 40767, TAIWAN

FAX: +886-4-2359 6064 E-mail: takang@ms17.hinet.net  
TEL: (04)2359 6056 Web site: www.cnctakang.com