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# 5 axes Machining Center

# Universal Gantry Type

ISO 9001 ISO 14001 2013 TAMI Supreme Ex

UG550	UG800	AA65 Series	AA80 Series	AA90 Series	AQ Series	VQ Series	UG Series	UA Series	VTC Series	
		<b>RB</b> Series	SB Series	LB Series	MB Series	HB Series	<b>UB</b> Series	MG Series	<b>MVB</b> Series	MT series

# High Performance, High Quality High Speed, High Precision

WELE

WELE

THE PARTY NAME

9 × 7 9

Strictly Designed Product through Structure FEM analysis Max. deformation value is only 0.0014 mm

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Apply to Die & Mold, general precision parts, High Tech Industries, Aerospace, Automotive, Automation, Medical, Electronic, Communications, and so on.

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#### **Universal Gantry Type 5 axes Machining Center**

Advanced mechanism design for the high end 5 axes structure. Overhead gantry type the latest construction driven by twin ball screws, and integrated with high precision Trunnion rotary table. Through FEM analysis and process control to approve its high performance.

Driven Gravity Center of Y axis Unique patent for Backlash eliminated system and Rotary axis brake system. Trunnion rotary table's accuracy and stability will be highly upgraded, and lasting large Cutting Torque. The Trunnion rotary table is own-developed and manufactured with Core Technology, ensure machine Quality and Reliability, including : (1) High rigid & precision large Bearing (2) Backlash eliminated system (patent pended) (3) Rotary axis brake system (patent pended) (4) Unit structure. Tool Magazine For 30 Tools (Std.) 60 Tools (Opt.) **Precisely Synchronize Rapid Driving** in Y Axis Rapid Feedrate 48 m/min at X/Y/Z High Rigidity and Solid Design in Y Column Precisely and Smoothly Driving in A axis, Max. Torque 6,000 Nm Special Positioning and Lock Design in C axis, Max Torque 2,000 Nm



High Rigidity in Moving Gantry Structure

Linear Guide Way Use Roller Bearing in X/Y/Z axes

Cutting Feedrate 10m/min

Tool Exchange When Trunion In Any Angle

Max Rotating Angle in A Axis: +30°/-120°

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#### **Driven Gravity Center of Y Axis**

TREES



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High Rigidity Bed Equipped With Variously Table optional available









German Standard VDI 3441 Certificated Quality assurance and Reliability is our first Priority







Accuracy Comes from our core Scraping Skill Technology



		UG550	UG800	AA65 Series	AA80 Series	AA90 Series	AQ Series	VQ Series	UG Series	UA Series	VTC Series	
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Spindle Configuration												
Spindle Configuration												
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20 <u>S3 25%</u> 167	22 02 18 5 S1 Cont. S1 Cont.	42										
18.5 15 <u>S2 15min.</u> 120	15	35										
S1 Cont 95	17Nm			C	C ax	xis Driven by D	D Motor, —					
10 80 50		20			N	Max. Torque: 2,	300 Nm				F	
5 30	5 14Nm	10 9.5		Table	e Loading Cap	acity: 500 kg	(UG550)					
	9 4000 8000 12000	12500				1,000 kg	(UG800)			C		
Spindle speed (rpm)	Spindle speed (rpm)	13000					_			Ex		
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Working Envelope and Table L	oading Capacity								DT-H-	AN	EVI V	
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		h M								COLORIDA STREET		
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UG5	50 ø500 ø550 400	345 <b>500</b>	)		N Back	Vax. Torque: 6, dash Eliminate	000 Nm — d Design					

UG800

ø650

ø800

500

370

1,000



# The Working Zone Interference is Eliminated

When automatic tool changing, Trunion Table could be at any angle and never Interferenced by the spindle. It will be saving Idle Time while tool change In Progress.

# **Saving Space**

Moving Gantry type design makes machine more compact and saving space requirement for more than 20%



# Easy Loading/Unloading

UG550

Moveable Roof Enclosure Guarding design concept gives the operator not only prevent any sputtering by the high pressure through Spindle Coolant, but also positioning and removing the workpiece easily by Overhead Loading/Unloading Equipment.



# User Friendly Design

"Easy to approach the working zone" will save time for workpiece setup and manual tool change, furthermore increasing machine efficiency.



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#### **Tool Shank and Pull Stud Dimension**





Water Cooler





HSK A63

10/0.39

DIN40





Unit : mm(inch)

#### **Inside of working Area Dimensions**



	А	В	С	D	Е	F	G	Н	I	J
UG550	550 (21.7)	275 (10.8)	500 (19.7)	100 (3.9)	360°	700 (27.6)	300 (11.8)	0	+30°	-120°
UG800	800 (31.5)	400 (15.7)	650 (25.6)	0	360°	950 (37.4)	425 (16.7)	50 (2)	+30°	-120°

### **Table Dimensions**

















Model D

Unit : mm(inch)

	Α	В	С	D
FG775	800 (31.5)	750 (29.5)	75 (3)	100 (3.9)
FG1095	1,050 (41.3)	1,000 (39.4)	62.5 (2.5)	125 (4.9)

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## **Technical Specifications**

Specification / Model	Unit	UG550	UG800	
Travel				
X travel (left & right)	mm (in)	550 (21.7)	800 (31.5)	
Y travel (in & out)	mm (in)	700 (27.6)	950 (37.4)	
Z travel (up & down)	mm (in)	500 (19.7)	650 (25.6)	
A travel (along X axis to rotate)	degree	+30 / -120	+30 / -120	
C travel (along Z axis to rotate)	degree	360	360	
Distance from spindle nose to table center	mm (in)	100-600 (3.9-23.6)	0-650 (0-25.6)	
Table				
Table diameter	mm (in)	550 (21.7)	800 (31.5)	
Table for divide degree	degree	0.0	01	
Table load capacity	kg (lb)	500 (1,100)	1000 (2,200)	
Table T slot size (W x degree)	mm (in)	14 x 45 (	0.55x45)	
A axis output torque (rate/ brake/ max.)	Nm (ft-lb)	1,469/5,000/5,304 (1.082/3.682/3.906)	1,956/5,000/7,680 (1,443/3,690/5,655)	
C axis output torque with DD motor (rate/ brake/ max.)	Nm (ft-lb)	<b>1,260/1,800/2,330</b> (930/1,328/1,719)	<b>1,800/3,500/3,320</b> (1,328/2,580/2,450)	
Spindle				
Spindle motor STD(cont./30 min.)	kW (HP)	21.6/30.9	(28./41.4)	
Spindle motor OPT(cont./30 min.)	kW (HP)	25/35 (3	33.5/47)	
Spindle speed (STD / OPT)	rpm	NEO 14,000/HDH, 15,000/FANUC (STD Swiss TDM 22 000 (OPT)		
Spindle output torques(Max.)	Nm (ft-lb)	115(84.8)/HDH, 167(123.1)/FANUC (STD 60(44.2) (OPT)		
Spindle taper (STD / OPT)		#40 / BBT/ CAT/ DIN/ HSK A63 (STD) #40 / HSK A63 (OPT)		
Spindle clamping force (STD/OPT)	N (lbf)	9,000/4,300 (2,023/967)		
Spindle bearing diameter	mm (in)	70 (2.75) (STD) 60 (2.36) (OPT)		
Feedrate				
Rapid traverse rate X axis	mm(in)/min	48,000 (	1,889.8)	
Rapid traverse rate Y, Z axes	mm(in)/min	48,000 (	1,889.8)	
Rapid traverse rate A axis	rpm	2	5	
Rapid traverse rate C axis	rpm	1(	00	
Cutting feedrate (max)	mm(in)/min	1-10,000 (0	).04-393.7)	
Tool Magazine		, , ,	/	
Tool magazine capacity	pcs	30 (60	OPT)	
Max. tool diameter / adjacent pocket empty	mm (in)	90/130 (3	3.54/5.12)	
Max. tool length (from guage line)	mm (in)	300 (	11.8)	
Max. tool weight	kg (lb)	8 (1	7.6)	
Tool change time (Tool to Tool).Arm type	sec	ł	5	
Accuracy	1			
Positioning accuracy (JIS 6338)	mm (in)	± 0.01 (0.000	)4) / full travel	
Positioning accuracy (VDI/DGQ 3441)	mm (in)	P 0.020	(0.0008)	
Repeatability (JIS 6338)	mm (in)	±0.003	(0.0001)	
Repeatability (VDI/DGQ 3441)	mm (in)	Ps 0.015	(0.0006)	
Indexing axial positioning accuracy	dearee	+ 0	.002	
Indexing axial repeatability	dearee	± 0.	0015	
Space Requirement & Weight		- 0.		
Machine length	mm (in)	4,050 (159.4)	5,000 (196.9)	
Machine width	mm (in)	3,000 (118.1)	3,300 (129.9)	
Machine height	mm (in)	3,100 (122)	3,400 (133.8)	
Machine weight	kg (lb)	11,000 (24,200)	15,000 (33,000)	

\* Product specifications and accessories are subject to change without notice.

## **Standard and Optional accessories**

	• St	andard $\bigcirc$ : Option
Specification / Model	UG550	UG800
*BBT40 spindle taper	•	
*CAT40 spindle taper	0	0
*DIN40 spindle taper	0	0
*HSK A63 spindle taper	0	0
*14,000 rpm built-in spindle (28/41HP) #40, NEO	•	
*15,000 rpm built-in spindle (25/30 HP) #40, FANUC	0	0
*22,000 rpm built-in spindle (33/47HP) #40, TDM	0	0
*Machining air blast system	•	
*Spindle temperature control system	•	
*Linear scale feedback system for 3 axes (Heidenhain)	•	
*A & C axis rotary encoder (Heidenhain)	•	
*Centralized automatic lubricating system	•	
*Roof enclosure guarding system	•	
*Flood Coolant system (Pump & Tank)	•	
*Recycling lubricating oil collector for 3 axes	•	
*Caterpillar Type chip conveyor	•	
*Scraper type chip conveyor	0	0
*A & C axis hydraulic clamping	•	
*30 capacity of umbrella type tool magazine (Tool holder #40)	•	
*60 capacity of arm type tool magazine (Tool holder #40)	0	0
*Rigid tapping	•	
*Switch for manual tool clamping	•	
*Remote handwheel control	•	
*Work light	•	
*Operation cycle finish and alarm lights	•	
*RS232 interface	•	
*Spray hose for chip wash down (with air, water gun)	•	
*Foundation bolt kit	•	
*Machine manuals	•	
*Coolant through the spindle (Form A)	0	0
*Spindle thermal compensation	0	0
*Oil skimmer	0	0
*Automatic tool length measurement (Blum)	0	0
*Automatic workpiece measuring system (Blum or Renishaw)	0	0
*4th axis interface prepared (Only for non-Trunion table)	0	0
*Air-conditioned electronic cabinet	•	•
*Heidenhain iTNC 530 controller	•	
*Fanuc 31iM-A5	0	0

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