### **CNC HI-SPEED MACHINING CENTER**

Accuracy! Reliability! Gracious! Opportunity!





### LIH CHANG MACHINERY CO., LTD.

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TEL: 886-4-2536 7975~7 • 2538 3406~7 FAX: 886-4-2537 6120 • 2536 1245 Email: argo0001@ms18.hinet.net

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### ARCO TECHNOLOGY CO., LTD. NANJING LIH CHANG MACHINERY CO., LTD.

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STANDS FOR QUALITY



LIH CHANG MACHINERY CO., LTD.

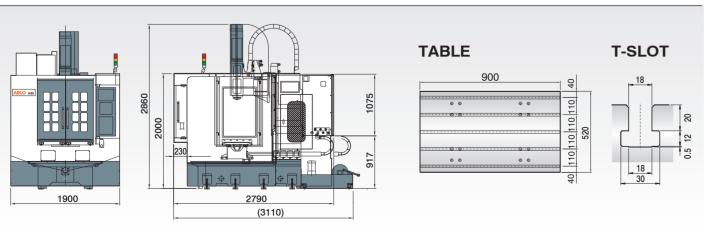
### **A-80**

CNC Hi-Speed Machining Center



#### **Dimensional** Drawing...

Unit: mm

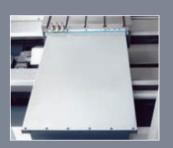


# Expertise Research in High Efficiency



#### **OUTSTANDING FEATURES:**

- Direct-drive spindle provides efficient transmission and fast CW/CCW revolution.
- Fixed type Y-axis cover assures low noise at 48m/min. rapid traverse
- Spring & scissor type Z-axis cover assures very smooth movement.
- All pneumatic, lubricating and cabling circuits are builtin located separately by two tubes which do not affect 3-axes motion and not occur scratching.
- Powerful chip flushing system and screw type chip conveyor can remove chip from base to rear side tank efficiently.
- Low gravity & strong base guarantees the best rigidity and stability.



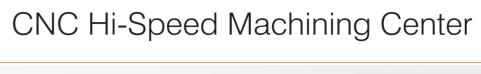
 Patented X-axis single piece cover performs only 1.9M machine front size.



Double pneumatic cylinder + pressure accumulator of balancer (optional)

Excellent micro-movement, keep Z-axis steady and flexibility while at high speed traverse.

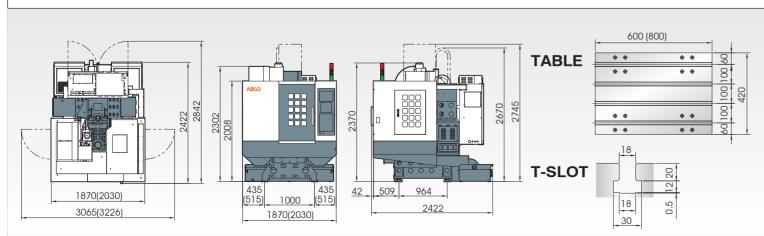
## A-56plus / A-72plus





**Dimensional** Drawing...

Unit: mm





■ Integrated Bearing Support

The Integrated bearing support provides rigid transmission effect, resulting in higher performance.

#### **OUTSTANDING FEATURES:**

- The structural parts are manufactured from meehanite cast iron with stress relieved to ensure the material stability.

  The structural parts are stress relieved and analyzed by the finite element analysis combined with rib reinforcement, that assures high accuracy in high speed machining.
- Three axes are mounted with high precision linear guideways for stable and smooth movement, making the machine ideal for high speed and high precision machining.
- The machine employs a pressurerelease type lubrication oil distributor which ensures stable feed system.
- Specially designed double back sides chip removing system allows chips to be exhausted out of the machine in a short time. This will prevent problem caused by deposit of hot chips.
- Optimal structure proportion is achieved through a equiangular triangle construction, allowing the machine to exhibit a solid support and force flow.

03



Unique Technique

## A-56plus+APC / A-56T+APC

**CNC Hi-Speed Machining Center** 



#### **Dimensional** Drawing...

2000

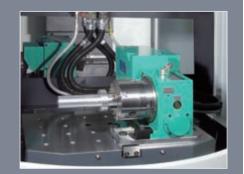
SCREW HOLE

Unit: mm

	<b>AUTOM</b>	TIC PALLET CHANGER	A-56plus+APC	A-56T+APC			
	Spindle no	ose to pallet	150 - 650 mm	150 - 510 mm			
	Pallet	Length x width	600 x 400 mm				
		Screw holes counter bore	28 holes (M16 x P2 x 20 mm Depth)				
		Max. loading	100 kgs (one side)				
	Exchange	method	Pallet lift ±180° rotary				
	Changing time		$6\pm2$ sec.				
	LxWxH (Floor)		2020 x 2972 x 2790 mm				
	L x W x H (Packing)		2120 x 3154 x 2540 mm				
	N.W. / G.	W.	4000 / 4500 kgs	3800 / 4300 kgs			

#### **OUTSTANDING FEATURES:**

- Direct-drive spindle provides efficient transmission and fast CW/CCW revolution.
- Patented X axis gull-wing shaped cover assures long time and less noise at 48m/min rapid traverse.
- Automatic pallet changer offers fast pallets changing with accurate and stable positioning and boosts production efficiency.
- Pallet changer opens for convenient tooling adjustment.
- Specially designed double back sides chip removing system allows chips to be exhausted out of the machine in a short time. This will prevent problem caused by deposit of hot chips.
- Expert and precision scraping on binding surface reach the best stability
- Low gravity & strong base guarantees the best rigidity and stability.



APC W/TWO ROTARY TABLE (optional)



### A-56T / A-72T

CNC Hi-Speed Machining Center

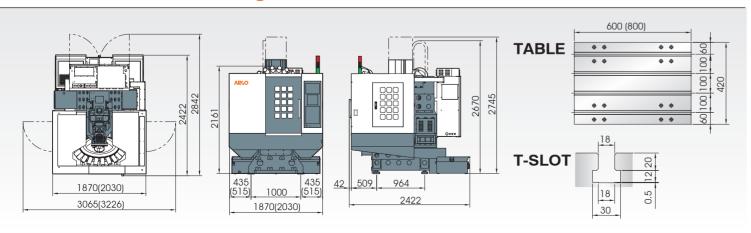


### **Dimensional** Drawing...

**NRGO** 

A-72 T

Unit: mm



#### Integrated Bearing Support

The Integrated bearing support provides rigid transmission effect, resulting in higher performance.

#### **OUTSTANDING FEATURES:**

- The structural parts are manufactured from meehanite cast iron with stress relieved to ensure the material stability. The structural parts are stress relieved and analyzed by the finite element analysis combined with rib reinforcement, that assures high accuracy in high speed machining.
- Turret type (armless) magazine with 14 tools capacity (optional 21 tools) offers fast tool changing and low broken ratio. With the shortest route tool selection, T T time is 1.7 sec. approx.
- Three axes are mounted with high precision linear guideways for stable and smooth movement, making the machine ideal for high speed and high precision machining.
- The machine employs a pressure-release type lubrication oil distributor which ensures stable feed system.
- Specially designed double back sides chip removing system allows chips to be exhausted out of the machine in a short time. This will prevent problem caused by deposit of hot chips.
- Optimal structure proportion is achieved through a equiangular triangle construction, allowing the machine to exhibit a solid support and force flow.

07



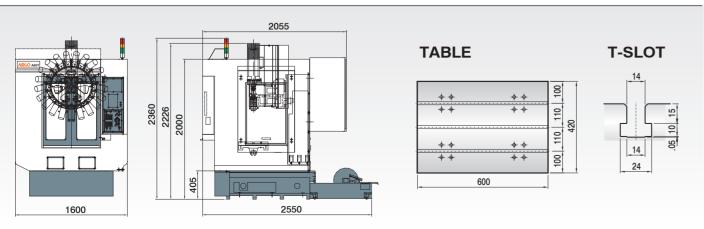
### **A-60T**

CNC Hi-Speed Machining Center

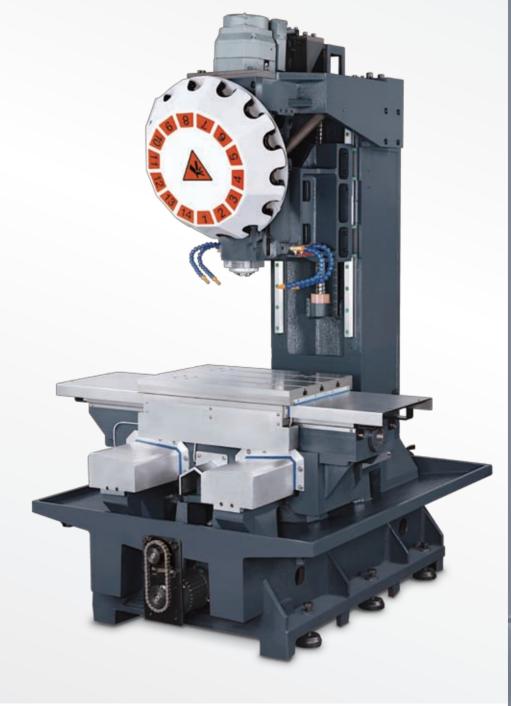


#### **Dimensional** Drawing...

Unit: mm



# Hard and Sharp Productivity



#### **OUTSTANDING FEATURES:**

- Direct-drive spindle provides efficient transmission and fast CW/CCW revolution.
- Turret type (armless) magazine with 14 tools capacity (optional 21 tools) offers fast tool changing and low broken ratio. With the shortest route tool selection, T T time is 1.7 sec. approx.
- Patented X-axis single piece cover performs only 1.6M machine front size.
- Fixed type Y-axis cover assures low noise and very smooth movement at 48m/min rapid traverse.
- Three axes are mounted with high precision linear guideways for stable and smooth movement, making the machine ideal for high speed and high precision machining.
- Powerful chip flushing system and screw type chip conveyor can remove chip from base to rear side tank efficiently.
- Low gravity & strong base guarantees the best rigidity and stability.



09

## Superior Component ....

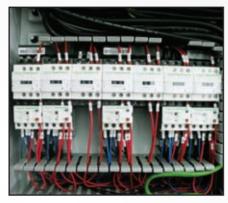
### Foremost Accessories & Application!

Optimal Quality, Swift Service





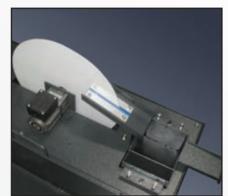




Material: AL6061

INVERTER (APC/OPTIONAL)
Adopts European Brand Inverter

**ELECTRICAL CABINET** 





Hardness: HRB 14°

Hardness: HRB 14°

OIL SKIMMER (OPTIONAL)

**OIL SEPARATOR** 



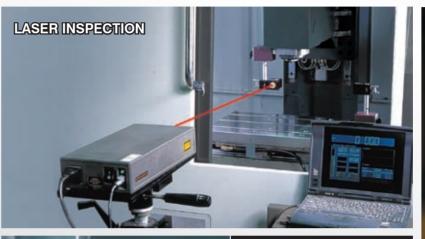
11



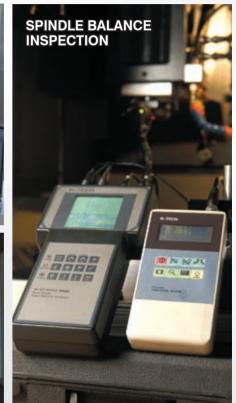
AIR CONDITIONER (OPTIONAL)



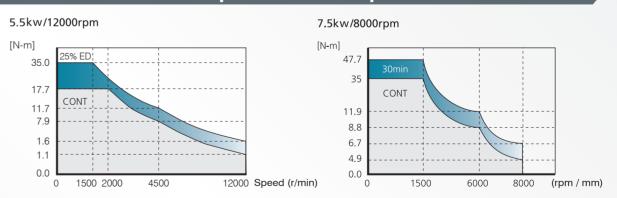
PNEUMATIC COMPONENTS



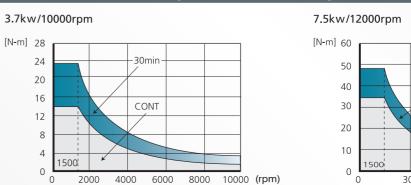


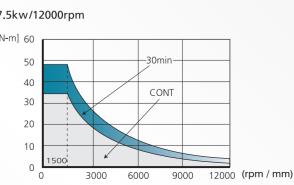


#### Mitsubishi Controller / Spindle Motor Torque Chart



#### **Fanuc Controller / Spindle Motor Torque Chart**





## Specifications...



Model		A-80	A-56plus	A-72plus	A-56plus+APC	A-56T+APC	A-56T	<b>A-72T</b>	A-60T	
Control Unit		MITSUBISHI / FANUC / SIEMENS								
Spindle	Spindle taper	ISO - 40	ISO - 40		ISO - 40	ISO - 30	ISO - 30		ISO - 30	
R.P.M. Spindle motor		80~8000 (Opt. 120~12000)	80~8000 (Opt. 12000, 15000)		80~8000 (Opt. 120~12000)	100~10000 (Opt. 12000, 15000, 20000, 24000)	100~10000 (Opt. 12000, 15000, 20000, 24000)		100~10000 (Opt. 12000, 15000, 20000, 24000)	
		5.5 / 7.5kw	5.5 / 7.5kw		5.5 / 7.5kw	2.2 / 3.7kw	2.2 / 3.7kw		2.2 / 3.7kw	
Spindle center to column		580mm	464mm		464mm		464mm		464mm	
Spindle nose to table 40~		40~590mm (*Op. 40~570mm)	150~710mm		150~650mm	150~510mm	150~570mm		150~500mm	
Table	Length x width	900x520mm	600x420mm 800x420mm		600x4	100mm	600x420mm	800x420mm	600x420mm	
	Max. load on table	400kgs	250kgs		100kgs one side		250kgs		150kgs	
	T-slot width / no.	18mm / 5	18mm / 4		28 holes (M16 x P2 x 20mm Depth)		18mm / 4		14mm / 3	
Main Travel	X - axis	axis 800mm 560mm 720mm		720mm	560mm		560mm	720mm	600mm	
	Y - axis	530mm	420mm		420mm		420mm		410mm	
	Z - axis	550mm(Opt. 530mm)	560mm		500mm	360mm	420mm		350mm	
Feed rate	Rapid traverse X/Y/Z -axes	48m/min	48m/min		48m/min		48m/min		48m/min	
	Cutting feed rate	1~15000mm/min	1~15000mm/min		1~15000mm/min		1~15000mm/min		1~15000mm/min	
Automatic Tool Change	Tool specification	BT-40 (Opt. CAT-40)	BT-40 (Opt. CAT-40)		BT-40 (Opt. CAT-40)	BT-30	BT-30		BT-30	
	No. of tools	24+1	24+1		24+1	14 (Opt. 21)	14 (Opt. 21)		14 (Opt. 21)	
	T T.	2.5sec.(*Op. 1.4sec.)	2.5sec.		2.5sec.	1.7sec.	1.7sec.		1.7sec.	
	C C.	3.5sec.(*Op. 2.5sec.)	3.5sec.		3.5sec.	2.8sec.	2.8sec.		2.8sec.	
	Max. tool length	250mm	250mm		250mm	150mm	150mm		150mm	
	Max. tool. dia. (adjacent)	80mm	80mm		80mm		80mm		80mm	
	Max. tool weight	7kgs	7kgs		7kgs	3kgs	3kgs		3kgs	
	Max. magazine loading	120kgs	120kgs		120kgs	14T-25kgs (Opt. 21T-35kgs)	14T-25kgs (Opt. 21T-35kgs)		14T-25kgs (Opt. 21T-35kgs)	
	Tool selection method	Double ARM swing	Double ARM swing		Double ARM swing	Turret type	Turret type		Turret type	
Dimension	LxWxH (Floor) (mm)	1900x3110x2860	1870x2422x2745 2030x2422x2745		2020x2972x2790		1870x2422x2745	2030x2422x2745	1600x2550x2360	
	LxWxH (Packing) (mm)	2080x3320x2540	2020x2600x2540 2180x2600x2540		2120x3154x2540		2020x2600x2540	2180x2600x2540	1720x2750x2460	
Weight	N.W. / G.W.	4300 / 4800kgs	3200 / 3700kgs	3400 / 3900kgs	4000 / 4500kgs	3800 / 4300kgs	3000 / 3500kgs	3200 / 3700kgs	2500 / 2900kgs	

<sup>\*</sup>Op.: Machine with double pneumatic cylinder + pressure accumulator of balancer and synchronous tool unclamping motion.

#### STANDARD ACCESSORIES:

- Enclosed splash guard
- Work lamp & alarm light
- Heat exchanger (cabinet)
- Auto. lubrication system
- Coolant system
- Flush system
- Chip bucket & coolant tank
- Screw type chip conveyor (A-80/A-60T)

#### **OPTIONAL ACCESSORIES:**

- Spindle speeds 12000/15000rpm
- Spindle oil chiller device CNC 4th rotary table
- Coolant through spindle
- Leveling pads & bolt
- Auto power off M30 Operation manual

Oil separator

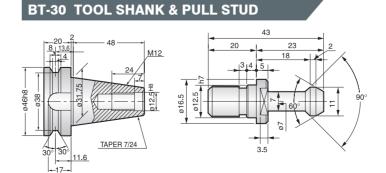
Rigid tapping

Tool kit & tools

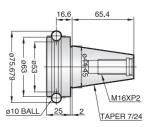
- Transformer
  - Air gun
  - Water gun

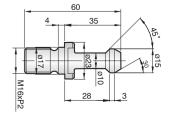
#### • Oil skimmer

- Auto chip conveyor & cart
- Data Server (Fanuc controller)
- · Automatic pallet changer (A-56T/A-56plus)



#### BT-40 TOOL SHANK & PULL STUD





<sup>•</sup> Design and specification are subject to change without prior notice.