CNC HI-SPEED MACHINING CENTER

Accuracy ! Reliability ! Gracious ! Opportunity !



ARGO®

STANDS FOR QUALITY

LIH CHANG MACHINERY CO., LTD.

34, Lane 465, Lian Tsuen Rd., Fong Yuen Dist.,
Taichung City, Taiwan.

TEL: 886-4-2536 7975~7 • 2538 3406~7

FAX: 886-4-2537 6120 • 2536 1245

Email: argo0001@ms18.hinet.net

http://www.argo.com.tw

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

Majia Dian Industrial Park, Da Zhou Road,
Yu Hua Tai, Nanjing, Jiangsu, China.

TEL: 86-25-5289 6001~5 • 5235 0731

FAX: 86-25-5289 6010 • 5235 0280

Email: njsales@argo.com.tw

Email: njservice@argo.com.tw

08. 2014 1000 03-40E/S Sunway 04-2322 7907

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LIH CHANG MACHINERY CO., LTD.

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Becoming a Pioneer of Success

A-80

CNC Hi-Speed Machining Center

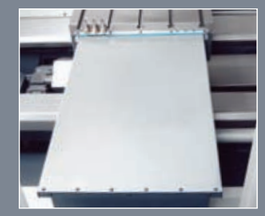


Expertise Research in High Efficiency



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 built-in 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.

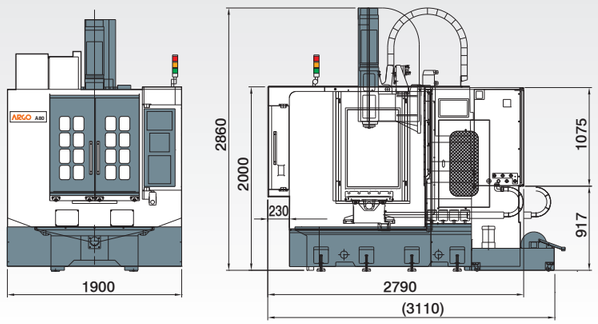


Double pneumatic cylinder + pressure accumulator of balancer (optional)

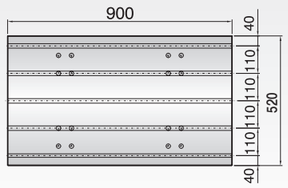
Excellent micro-movement, keep Z-axis steady and flexibility while at high speed traverse.

Dimensional Drawing...

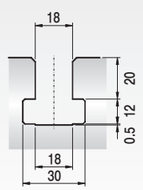
Unit: mm



TABLE



T-SLOT



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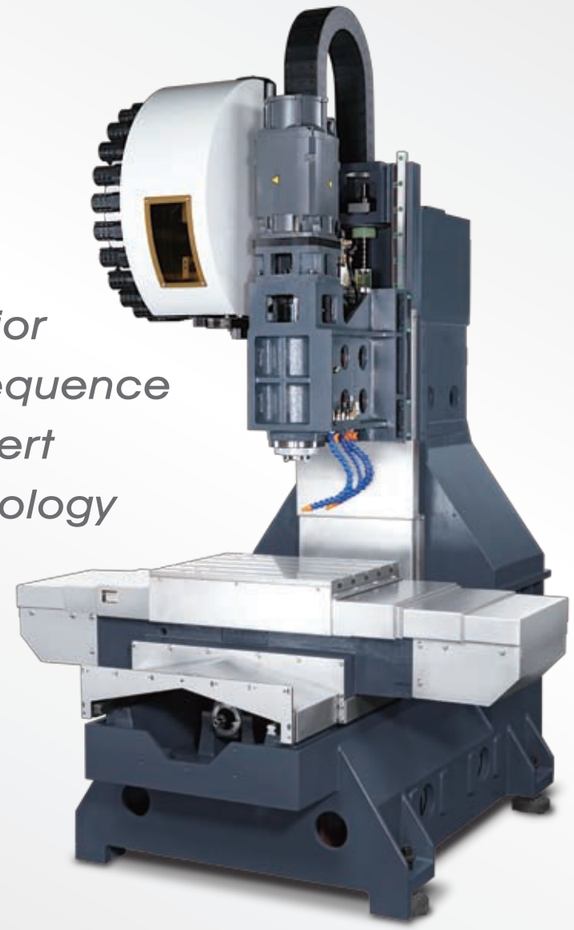


Becoming a Pioneer of Success

A-56plus / A-72plus

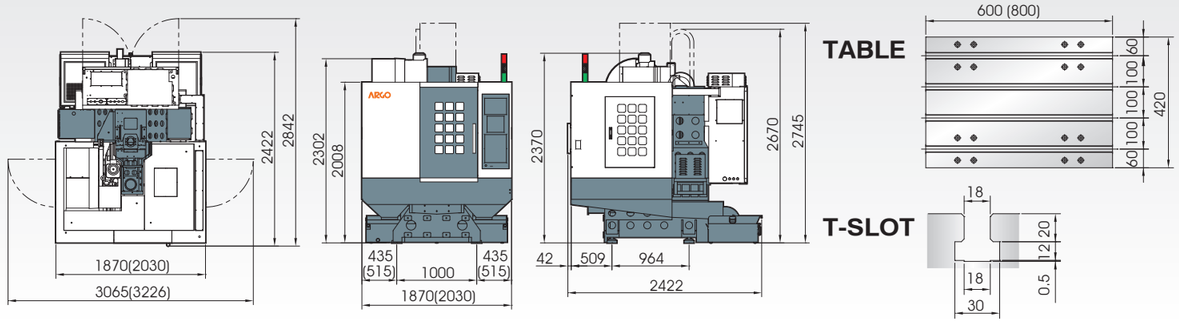
CNC Hi-Speed Machining Center

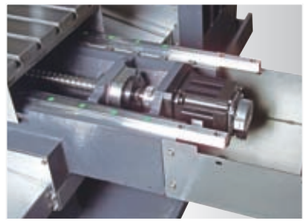
Superior Consequence of Expert Technology



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 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.

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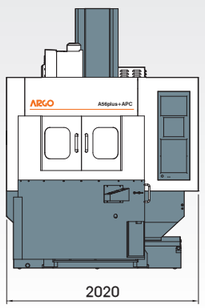
Becoming a Pioneer of Success

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

CNC Hi-Speed Machining Center

Dimensional Drawing...

Unit: mm



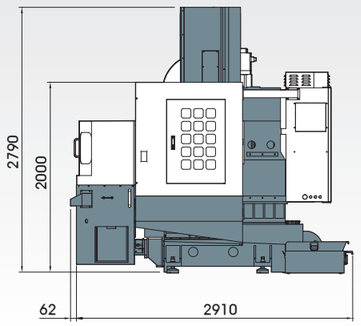
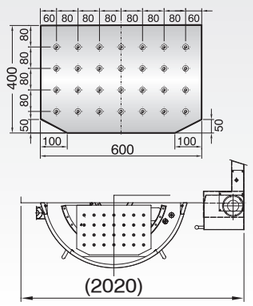
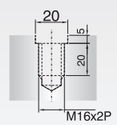


TABLE (APC)



SCREW HOLE



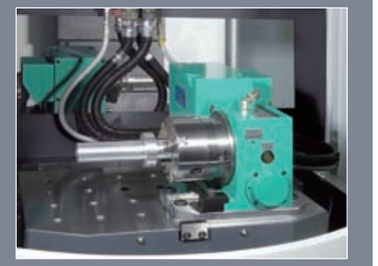
Unique Technique



AUTOMATIC PALLET CHANGER		A-56plus+APC	A-56T+APC
Spindle nose 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 ±2 sec.	
L x W x H (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)

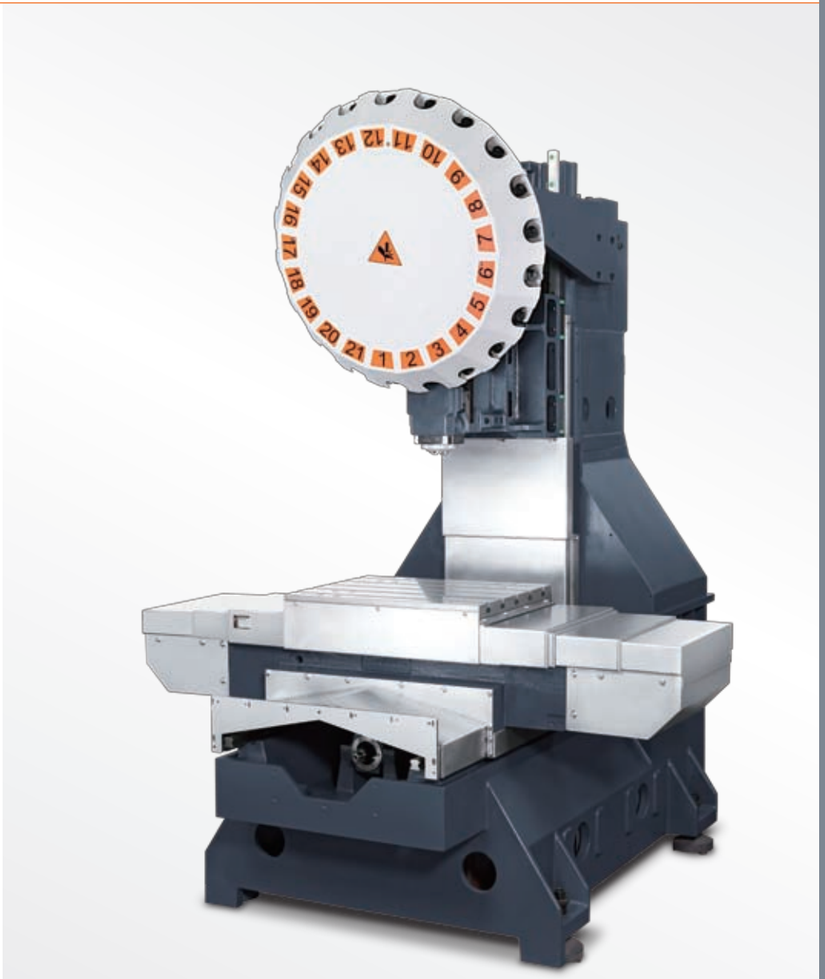
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A-56T / A-72T

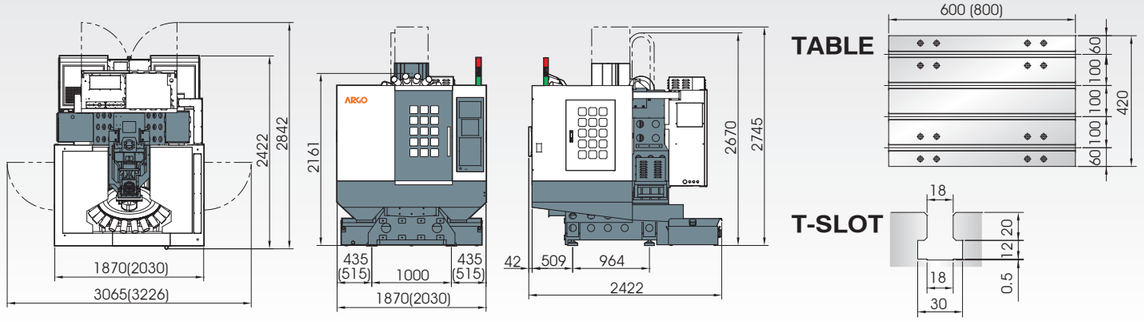
CNC Hi-Speed Machining Center

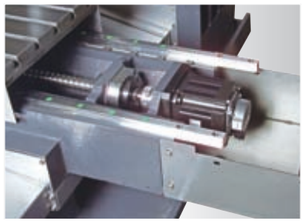




Dimensional Drawing...

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.
- 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.

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Becoming a Pioneer of Success

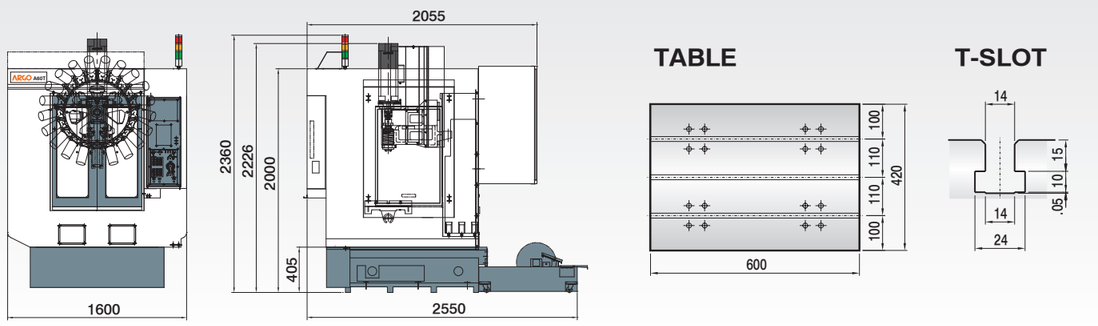
A-60T

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.

Superior Component ....

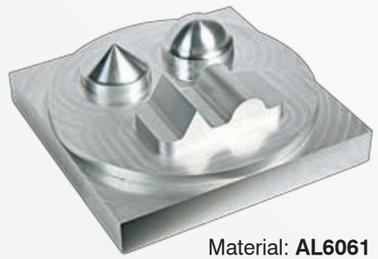
Foremost Accessories & Application!

Optimal Quality, Swift Service

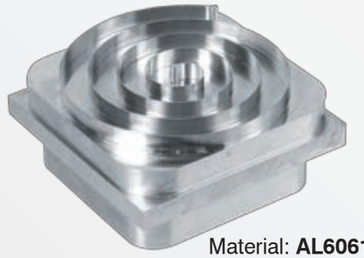
ARGO® STANDS FOR QUALITY



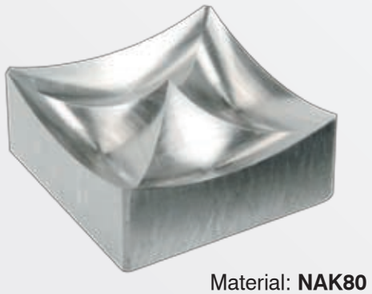
Material: **AL6061**
Hardness: **HRB 14˚**



Material: **AL6061**
Hardness: **HRB 14˚**



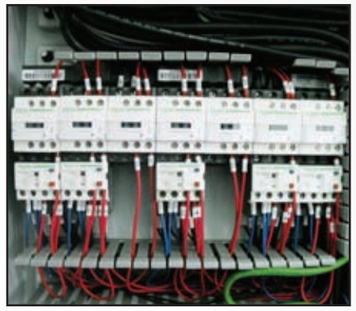
Material: **AL6061**
Hardness: **HRB 14˚**



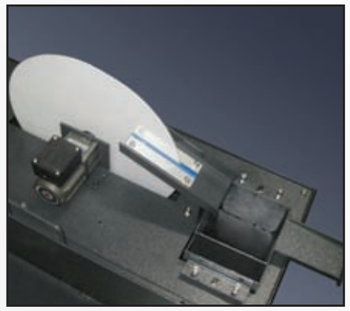
Material: **NAK80**
Hardness: **HRB 38˚~40˚**



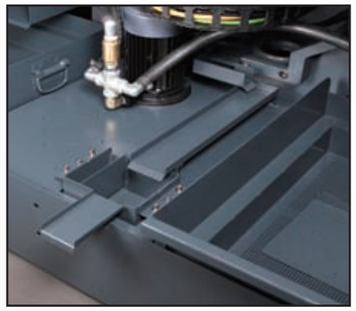
INVERTER (APC/OPTIONAL)
Adopts European Brand Inverter



ELECTRICAL CABINET



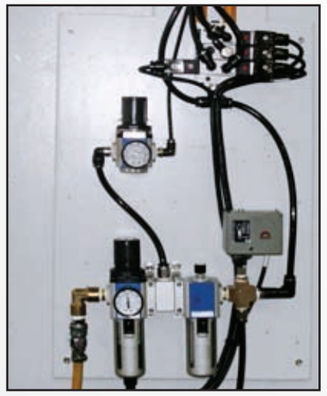
OIL SKIMMER (OPTIONAL)



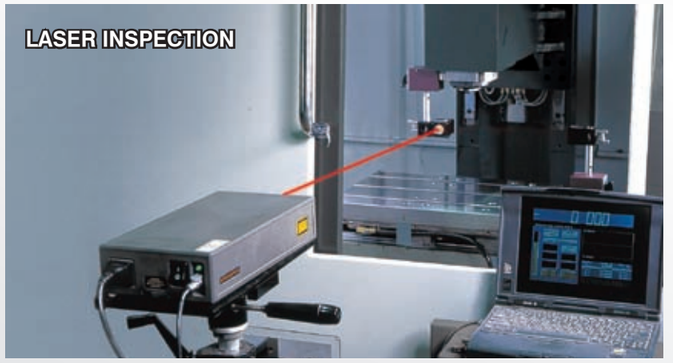
OIL SEPARATOR



AIR CONDITIONER (OPTIONAL)



PNEUMATIC COMPONENTS



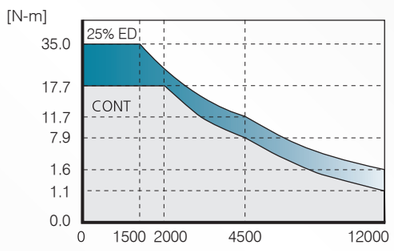




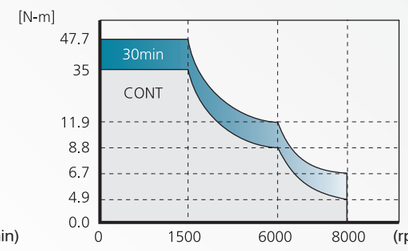


Mitsubishi Controller / Spindle Motor Torque Chart

5.5kw/12000rpm

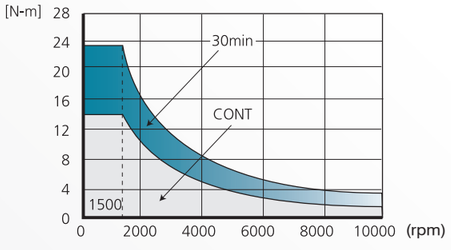


7.5kw/8000rpm

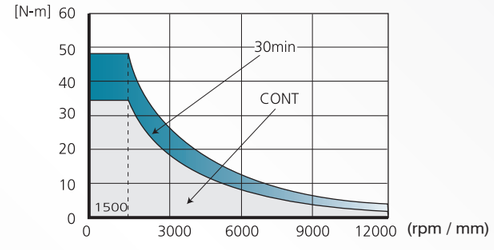


Fanuc Controller / Spindle Motor Torque Chart

3.7kw/10000rpm



7.5kw/12000rpm



Specifications...

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Model		A-80	A-56plus	A-72plus	A-56plus+APC	A-56T+APC	A-56T	A-72T	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.	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)
	Spindle motor	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	40~590mm (＊Op. 40~570mm)	150~710mm		150~650mm	150~510mm	150~570mm		150~500mm
Table	Length x width	900x520mm	600x420mm	800x420mm	600x400mm		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	800mm	560mm	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

＊Op. : Machine with double pneumatic cylinder + pressure accumulator of balancer and synchronous tool unclamping motion.

• Design and specification are subject to change without prior notice.

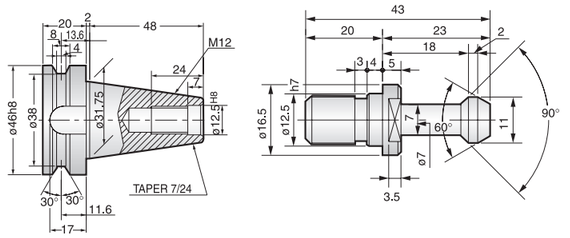
STANDARD ACCESSORIES:

- 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)
- Oil separator
- Rigid tapping
- Tool kit & tools
- Leveling pads & bolt
- Operation manual

OPTIONAL ACCESSORIES :

- Spindle speeds 12000/15000rpm
- Spindle oil chiller device
- Coolant through spindle
- Auto power off M30
- Transformer
- Air gun
- Water gun
- Oil skimmer
- Auto chip conveyor & cart
- CNC 4th rotary table
- Data Server (Fanuc controller)
- Automatic pallet changer (A-56T/A-56plus)

BT-30 TOOL SHANK & PULL STUD



BT-40 TOOL SHANK & PULL STUD

