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Designed by 商祺 ▶ 影音行銷 2019.01



# Horizontal Machining Center

# Horizontal Machining Center



H250RT

H3XP

H5XP  
SH500APC

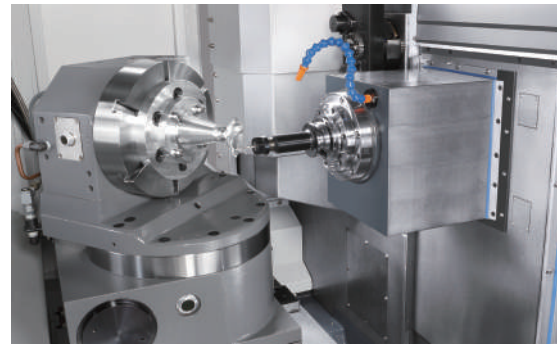


## Zero-backlash technology delivers unsurpassed motion

Innovation of rotary table



▲ Faster and more accurate rotary gear cam on B/C axis rotary table: by Japanese zero-backlash technology.



▲ Complete the processing in One-Catch-Up for multi-face productive job, ensure the optimum accuracy and less cycle time.



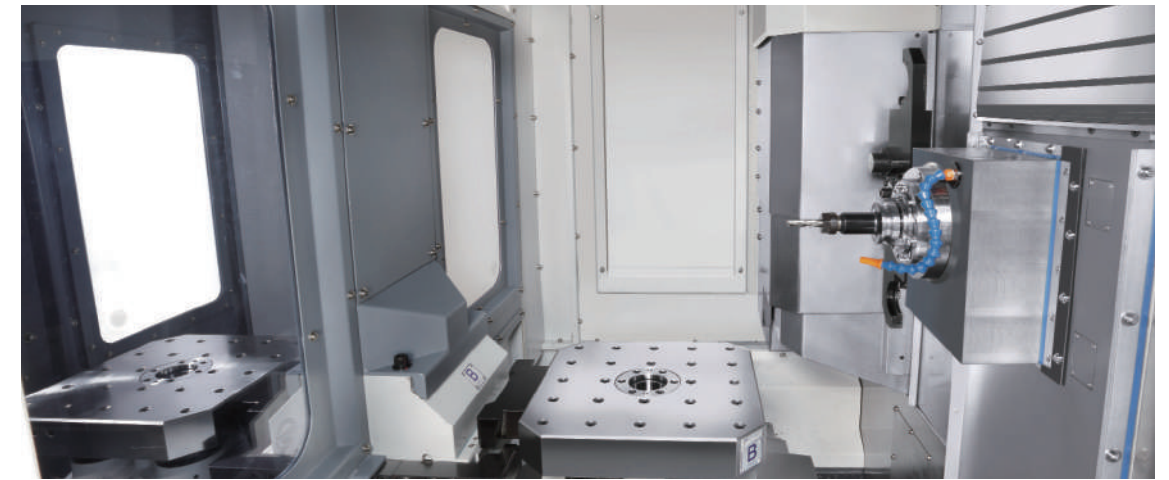
▲ Application

## Automotive, aerospace, medical parts

Multi-faces productive jobs with high accuracy & efficiency.

	Previous Production Process	H250RT
Nos. of Machines		
Tools		
Nos. of Fixtures		
Nos. of Operations		
Floor Space	Big	Small
Benefit	High Cost High Maintenance Occupy Floor Space	Non-cutting Time Reduce Around 30% Once Catch Up Save More Accuracy Save Loading / Unloading Time Save Energy Compact Floor Space

## Fastest twin pallet saving total cycle



- High efficiency, high accuracy.
- Compact floor space with twin pallet.
- Save loading/unloading time.
- Maximize the contact of positioning coupling for achieving stable accuracy, high rigidity and high loading cutting.
- Immediate detecting airtight for pallet change system.

## Factory production process

Automotive parts

- Save cycle time = Save profit.



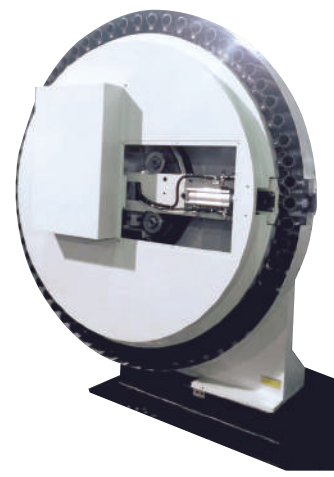
▲ Application

	Previous Production Process	H3XP
Nos. of Machines		
Nos. of Programs		
Tools		
Loading / Unloading	20 sec.	5 sec.
Nos. of Operations		
Floor Space	Big	Small
Benefit	High Cost High Maintenance Occupy Floor Space	Non-cutting Time Reduce Around 30% Save Loading / Unloading Time Save Energy Compact Floor Space

## Wide range accessories



▲ Chip Conveyor and X axis direction chip screw with excellent chip removal. (STD)



▲ Servo Magazine 60T (OPT)



▲ Spindle Oil Chilling (STD)

## Coolant through spindle (CTS) (STD)

Combined with advanced tooling technology for extending tooling longevity, the standard coolant through spindle (CTS) supports more higher cutting speed by powerful flushing to remove chips which are generated by deep-hole drilling and fine-finishing. High pressure 35 bar filtration applies efficiently to chip removable and cooling thermal tooling instantly.

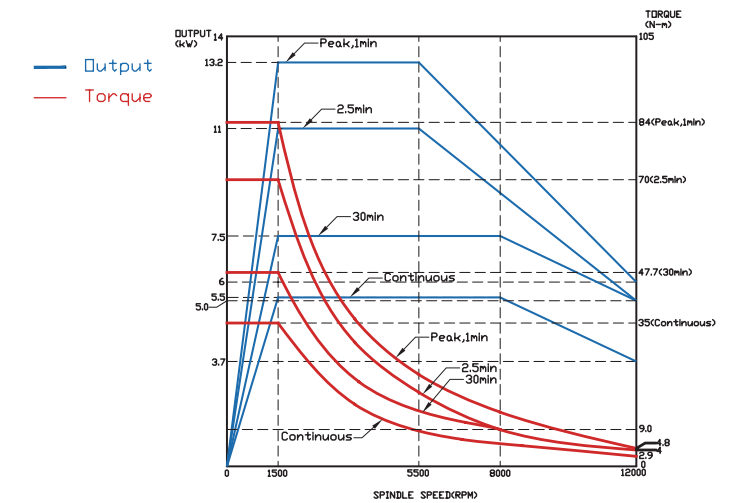


▲ Square tooling column (H3XP OPT)

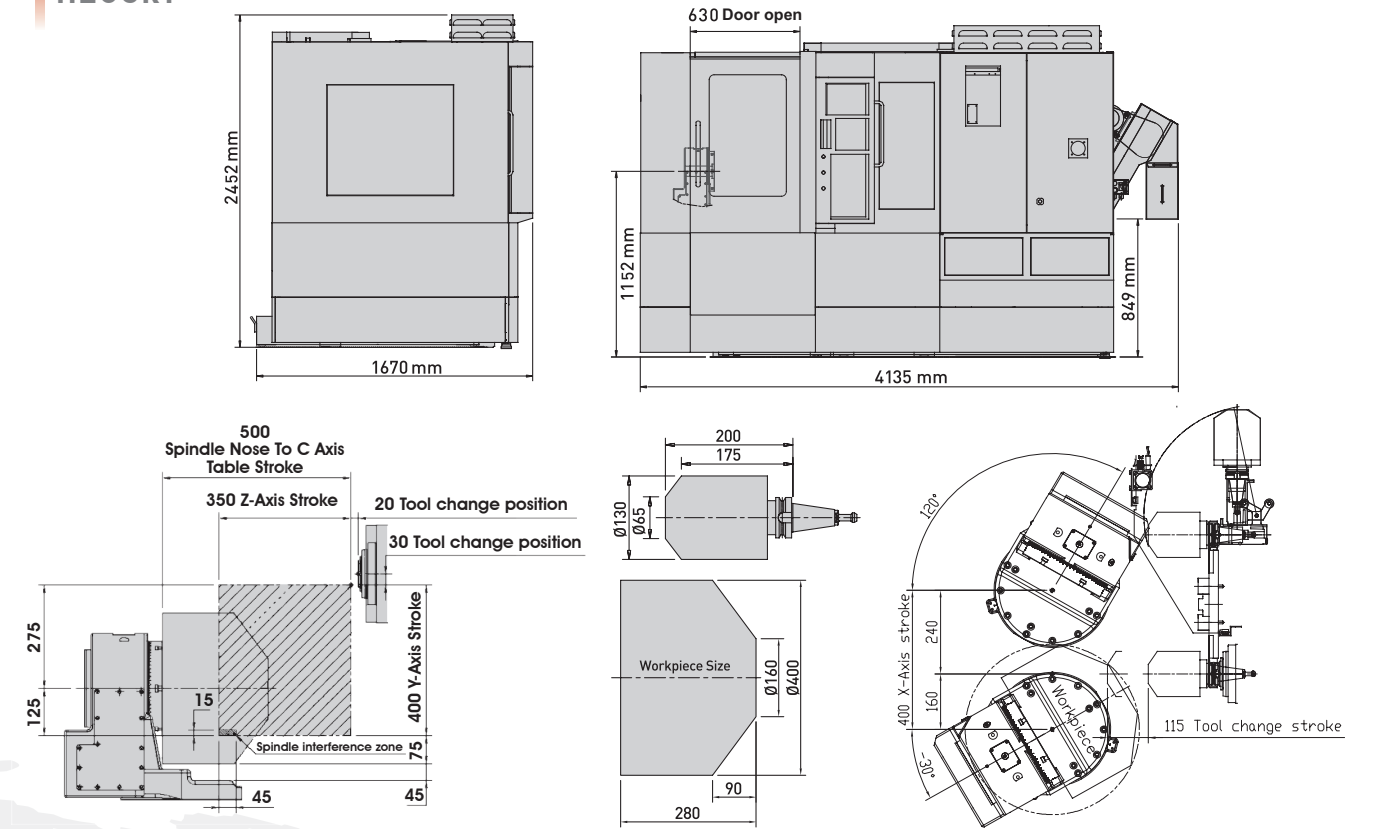


▲ Expandable 6 pallet (H3XP OPT)

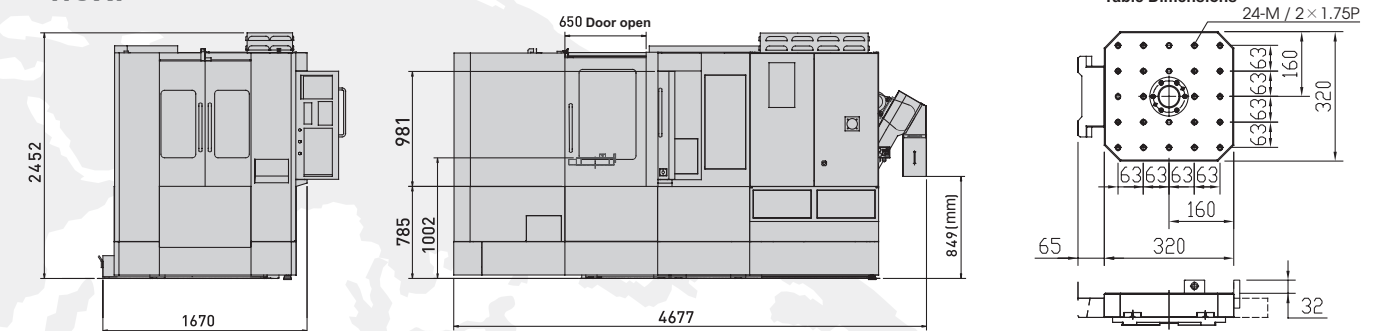
## Spindle torque drawing H3XP/H250RT 12000 RPM



## Foundation H250RT



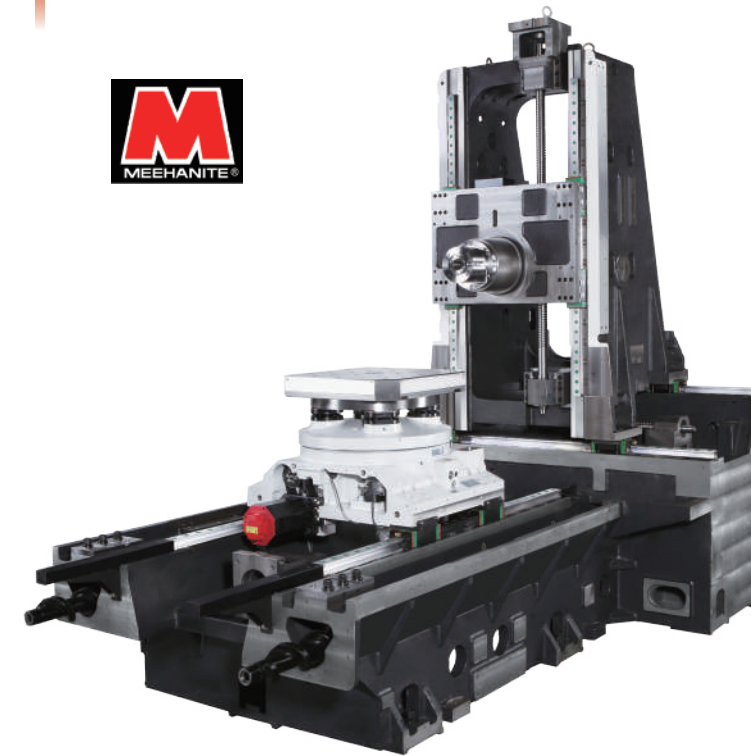
## H3XP





SPECIFICATION		H3XP	H250RT
<b>TRAVEL</b>			
X axis	mm / inch	350 / 13.8	400 / 15
Y axis	mm / inch	400 / 15.7	400 / 15.7
Z axis	mm / inch	350 / 13.8	350 / 13.8
C axis rotation	degree	-	360°
B axis swing	degree	-	-30° ~ +120°
Spindle nose to table surface	mm / inch	50~400 / 1.97~15.75	150~500
<b>TABLE</b>			
Number of Pallet		2 / 6 (OPT)	-
Table size (L*W)	mm / inch	320x320 / 12.6 x 12.6	Ø250
Max. Loading	kgs/lbs	300 / 661	100 / 132
Pallet change time	sec	8	-
Indexing	degree	0.001°	0.001°
<b>SPINDLE SYSTEM</b>			
Spindle motor output (peak)	HP	12	12
Spindle speed	rpm	12000	12000
Drive method		Belt type	Belt type
Spindle taper		BT40 / CAT40 / DIN40	BT40 / CAT40 / DIN40
CTS function		as. Standard	as. Standard
<b>FEED</b>			
Rapid feed of X/Y/Z	M/min ipm	48 / 48 / 48 1890 / 1890 / 1890	48 / 48 / 48 1890 / 1890 / 1890
Cutting feed of X/Y/Z	M/min ipm	12 / 12 / 12 472 / 472 / 472	12 / 12 / 12 472 / 472 / 472
<b>ATC</b>			
Tool Storage _Arm type ATC		36T / 60T(OPT)	36T / 60T(OPT)
Max. tool diameter	mm / inch	Ø65 / 2.6	Ø65 / 2.6
Max. tool diameter without neighbor	mm / inch	Ø130 / 5.1	Ø130 / 5.1
Max. tool length	mm / inch	200 / 7.87	200 / 7.87
Max. tool weight	kgs / lbs	7 / 11	7 / 11
Tool to Tool (60HZ)	sec	1.6	1.6
<b>GENERAL</b>			
Coolant tank capacity	Liters/ gal	200 / 52.8	200 / 52.8
Air pressure requirement (per cm <sup>2</sup> )	kg / lbs	5 / 11	5 / 11
Chip disposal		Chain type chip conveyor+ dual spiral blade chip screws on X axis	Chain type chip conveyor+ dual spiral blade chip screws on X axis
Power Requirement	KVA	25	25
Floor Space (W*L)	mm / inch	1670x4677 / 66x184	1670x4135 / 66x163
Weight	kgs / lbs	5300 / 11660	5500 / 12100

## Basic Structure

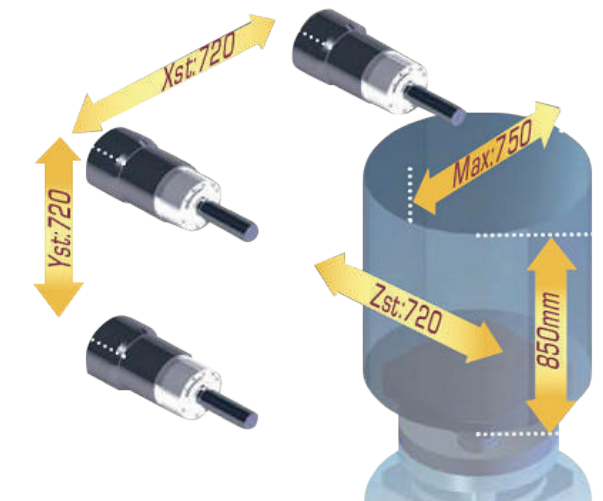
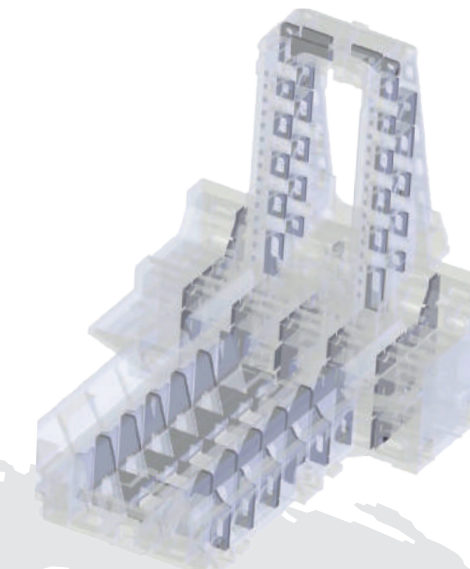


- Physical rigidity ensures all Akira Seiki strong HMC in the primary design progress by advanced digital assay tool. All structural frames apply COSMOS system for analysis to optimize rigid mechanism foundation.
- Digital FEA ( Finite Element Analysis) scientifically demonstrates rigid structure and approved excellent dynamic accuracy and vibration absorption while rapid cutting.

## Automatic grease supply

- Grease lubrication system is adopted for Ballscrews and Roller guides. A very small amount of grease is supplied automatically.

▲ Two-stepped column casting raise cutting rigidity.



## Reinforced frame construction

- Akira Seiki HMC series casting constructed in premium rigidity to perform excellent dynamic accuracy and vibration absorption while rapid cutting.
- The internal ribs of each key casting elements like base, column, head-cartridge and saddles are enforced for deformation-resistant and anti-damping vibration.

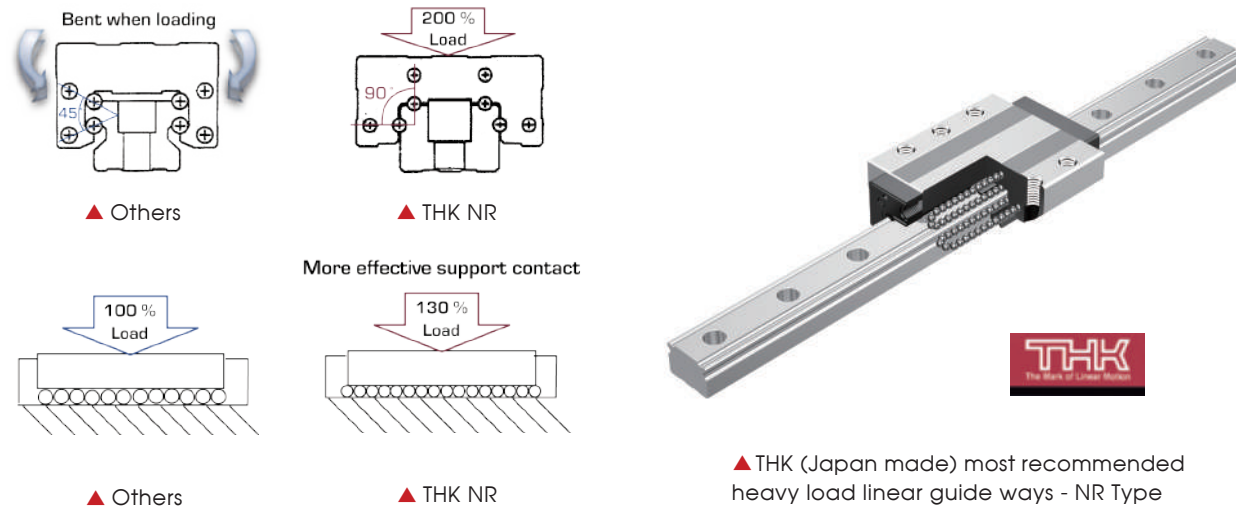
## Heavy duty base design

- Each Akira Seiki casting frame is verified when founded by the authorized Mechanite foundries which have high quality casting iron assures permanent rigidity and accuracy.

## High axial loading and rapid feed

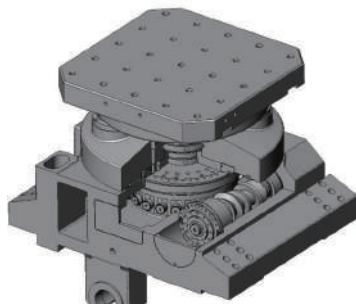
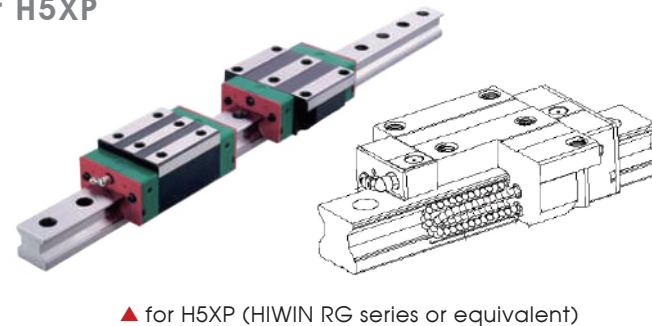
### NR type linear guide for SH500APC

Thicker flat-carrier block, low gravity center, 90 contact call guides support 200% cutting load than others. Increased loading capacity on major load direction. Minimize the diameter of steel ball by increasing the number of it to raise up the contact capacity efficiently more than 30% compared to others.



## High rigid roller type linear guide for H5XP

- RG series make feature of the rollers being rolling element instead of steel balls.
- The roller offers superior rigidity and very high stability of loading.
- Elastic deformation of the linear surface, during load, is greatly reduced thereby offering greater rigidity and higher load capacities.



### Mechanical pallet clamp system for SH500APC

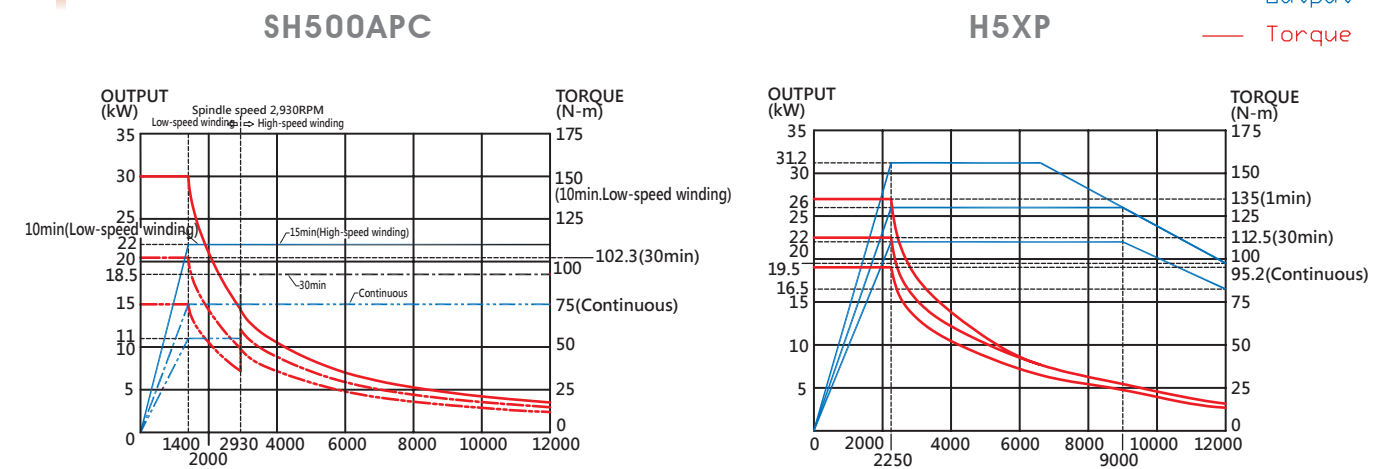
- B axis driven by roller gear cam with high speed, high rigidity and high precision. An unique clamping system (Dual Contacted taper cone design) for pallets exchange to ensure the machine performs a high precision at high-speed with heavy cutting.



### High rigidity pallet clamp system for H5XP

- Premium positioning coupling, mechanical indexing within +/- 3 sec. , high repeatability accuracy within +/- 1 sec.
- Maximize the contact of positioning coupling for achieving stable accuracy, high rigidity and high loading cutting.
- Adopt interior waterproof structure design to avoid coolant and chips from going inside pallets

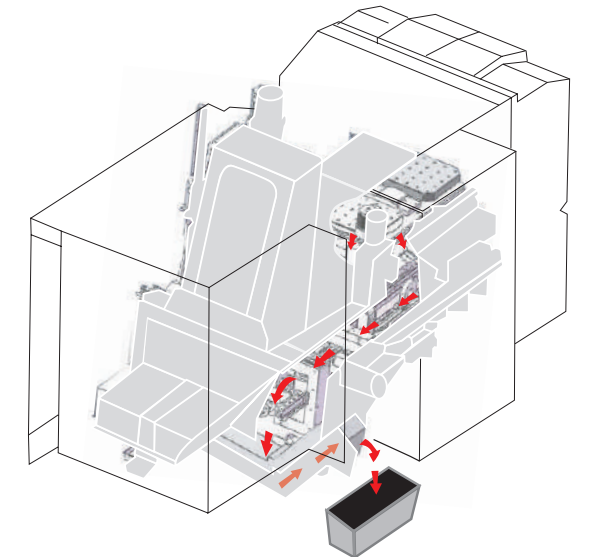
## Spindle torque drawing



## Efficient chip disposal

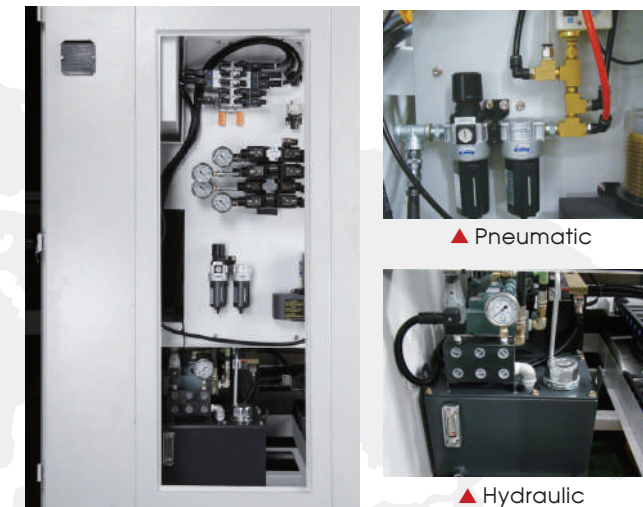
Smooth channel makes chip collective more efficiently to discharge, with the following :

- Coolant through spindle with 35 bar filtration.
- Ring nozzles coolant system around the spindle, an additional tube next to spindle.
- Chip flush system by an additional high pressure pump.
- Dual spiral blade chip screws at inside machine.
- Skimmer for floating-oil by M code control. (Disk type water oil separation kit)
- Chain type chip conveyor.
- Waterfall flusing system on the top of machine.



## Centralized disposal of Maintenance

To combine pneumatic/ hydraulic/ kuberication system together for maintenacne easily.



## ECO Friendly & Green Energy



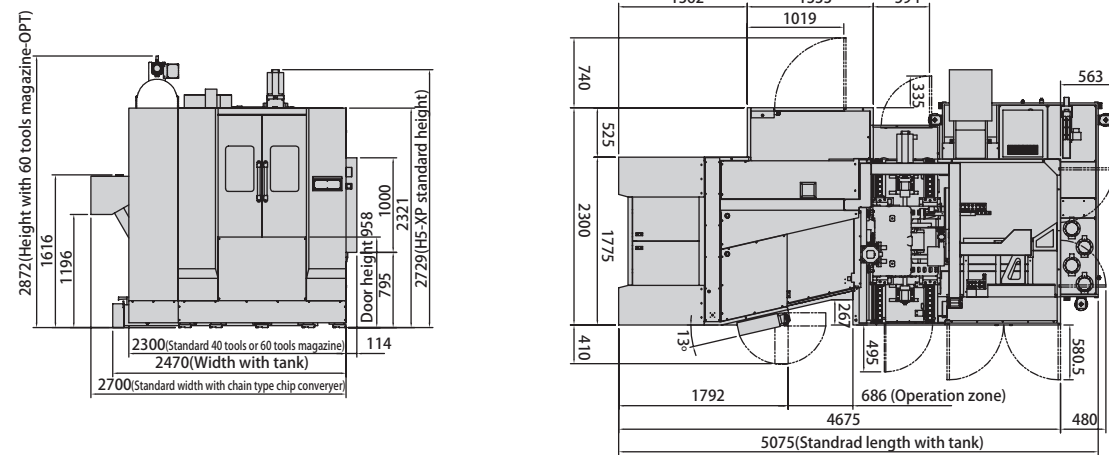
- Intergrating the advantages of oil and grease
- Reduces the running costs ( Lubricant, refilling cost,power consumption)
- Reduces CO2 emissions and extends cutting fluid life
- Maintain accuracy and performance of your machines and their essential parts



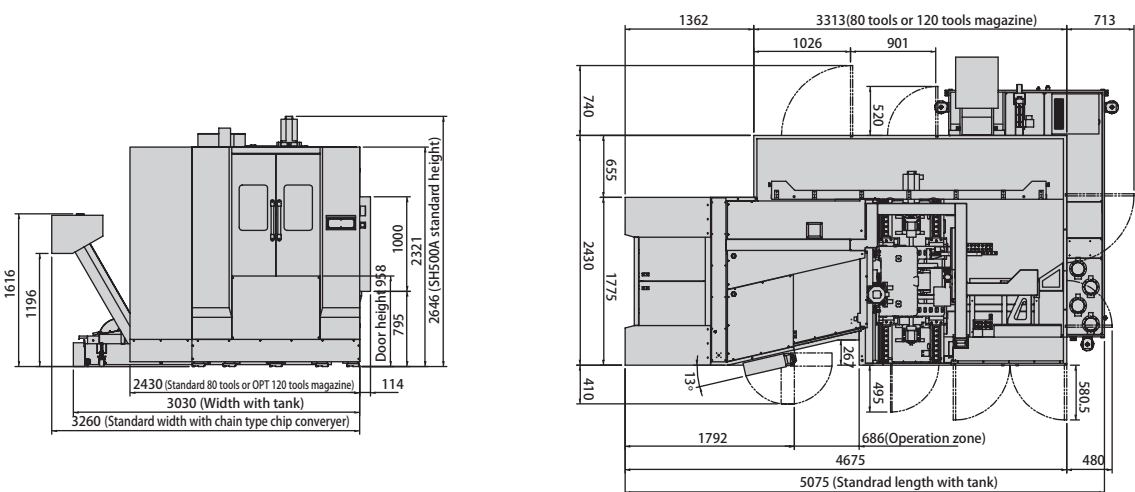
## Layout and technical data ( specification)

### Floor spacing

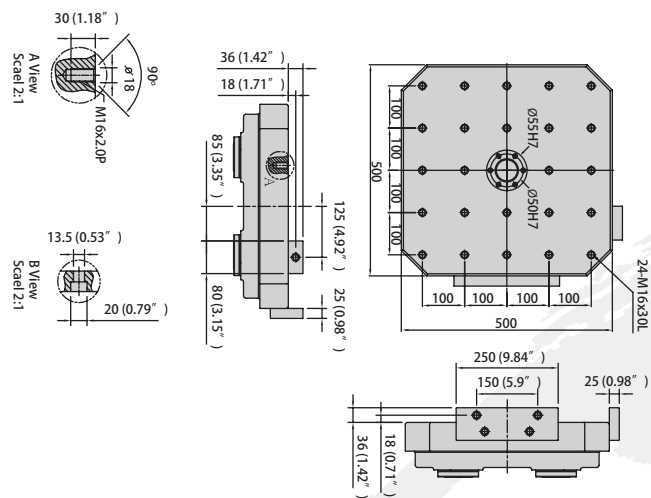
▼ (2 APC and 40 or 60 tool ATC)



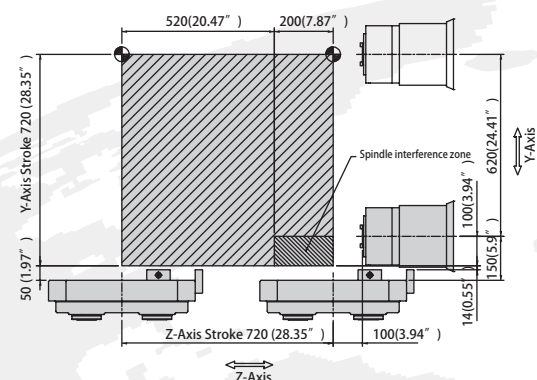
▼ (SH500APC 2 APC and 120 tool ATC)



### Pallet dimensions



### Working zone



SPECIFICATION		H5XP	SH500APC
<b>TRAVEL</b>			
X axis	mm / inch	720 / 28.3	720 / 28.3
Y axis	mm / inch	720 / 28.3	720 / 28.3
Z axis	mm / inch	720 / 28.3	720 / 28.3
Spindle center to Pallet surface	mm / inch	50~770 / 2~30.3	50~770 / 2~30.3
<b>TABLE</b>			
Number of Pallet		2	2
Table size (L*W)	mm / inch	500x500 / 20x20	500x500 / 20x20
Max. Loading	kgs/lbs	600 / 1323	600 / 1323
Pallet change time	sec	12	8
B axis Indexing	degree	1°	0.001°
<b>SPINDLE SYSTEM</b>			
Spindle motor output (peak)	HP	36	35
Spindle speed	rpm	12000	12000 / 15000(OPT)
Drive method		Belt type	In-line Direct
Spindle taper		BT40 / CAT40 / DIN40	BT40 / CAT40 / DIN40
CTS function		as. Standard	as. Standard
<b>FEED</b>			
Rapid feed of X/Y/Z	M/min ipm	48 / 48 / 48 1890 / 1890 / 1890	60 / 60 / 60 2362 / 2362 / 2362
Cutting feed of X/Y/Z	M/min ipm	10 / 10 / 10 394 / 394 / 394	10 / 10 / 10 394 / 394 / 394
<b>ATC</b>			
Tool Storage _Arm type ATC		40T / 60T(OPT)	60T / 120T(OPT)
Max. tool diameter	mm / inch	Ø75 / 3	Ø75 / 3
Max. tool diameter without neighbor	mm / inch	Ø150 / 5.9	Ø150 / 5.9
Max. tool length	mm / inch	400 / 15.7	400 / 15.7
Max. tool weight	kgs / lbs	8 / 17.6	8 / 17.6
Tool to Tool (60HZ)	sec	2.5	1.2
<b>GENERAL</b>			
Coolant tank capacity	Liters/ gal	500 / 132.1	500 / 132.1
Air pressure requirement (per cm <sup>2</sup> )	kg / lbs	5 / 11	5 / 11
Chip disposal		Chain type chip conveyor+ dual spiral blade chip screws on Z axis	Chain type chip conveyor+ dual spiral blade chip screws on Z axis
Power Requirement	KVA	35	35
Floor Space (W*L)	mm / inch	2700x5075 / 106x199	3260x5075 / 128x199
Weight	kgs / lbs	12000 / 26455	12400 / 27337

# PRODUCTS

## VMC Series



▶ **JR / SR**  
Performa Junior  
**Model**  
JR / SR2 / SR3  
JRXP / SR2XP / SR3XP  
SR32XP / SR42XP / SR52XP /  
SR45XP / SR55XP

Primary Select For General



▶ **V**  
V-Performa Classic Extra Performance  
**Model**  
V2 / V2.5 / V3 / V4 / V5  
V2XP / V2.5XP / V3XP / V4XP / V5XP  
V4.5 / V5.5 / V6 / V8 / V10  
V4.5XP / V5.5XP / V6XP / V8XP / V10XP

The Faster Road To Fine Finished



▶ **SV**  
SV-Super Vertical  
**Model**  
SV550 / SV760 / SV815 /  
SV1050 / SV1300 / SV1150 /  
SV1350 / SV1630  
SV2060 / SV2600

Ever Faster Cut Than Your expectation



▶ **HV-A**  
HV-A Superior Speed Heavy Duty  
**Model**  
HV4.5A / HV5.5A /  
HV6A / HV8A / HV10A

Advance Faster BT50 machine

## TC Series



▶ **GT12**  
2 Axis Turning



▶ **SL15/SL20**  
2 Axis Turning



▶ **SL25**  
2 Axis Turning  
▶ **SL25MC**  
3 Axis Turning



▶ **SL30/SL30L**  
2 Axis Turning  
▶ **SL30MC/SL30LMC**  
3 Axis Turning

## PMC Series



▶ **PC Series**  
**Model**  
PC460 / PC500  
PC700  
Cost-effective



▶ **RMV-APC Series**  
**Model**  
RMV500APC  
RMV700APC  
For Light Chip / Non-ferrous metal composite material



▶ **RMV-RT Series**  
**Model**  
RMV160RT  
RMV250RT  
Multi-faces production



▶ **SL35/SL35L**  
2 Axis Turning  
▶ **SL35MC/SL35LMC**  
3 Axis Turning



▶ **SL40/SL40L**  
2 Axis Turning  
▶ **SL40MC/SL40LMC**  
3 Axis Turning