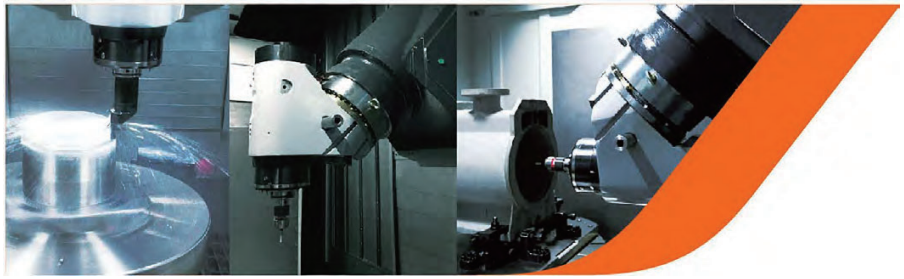
VISION WIDE
Solution . Satisfaction . Smile

ASM SERIES
ASM/ASM FD



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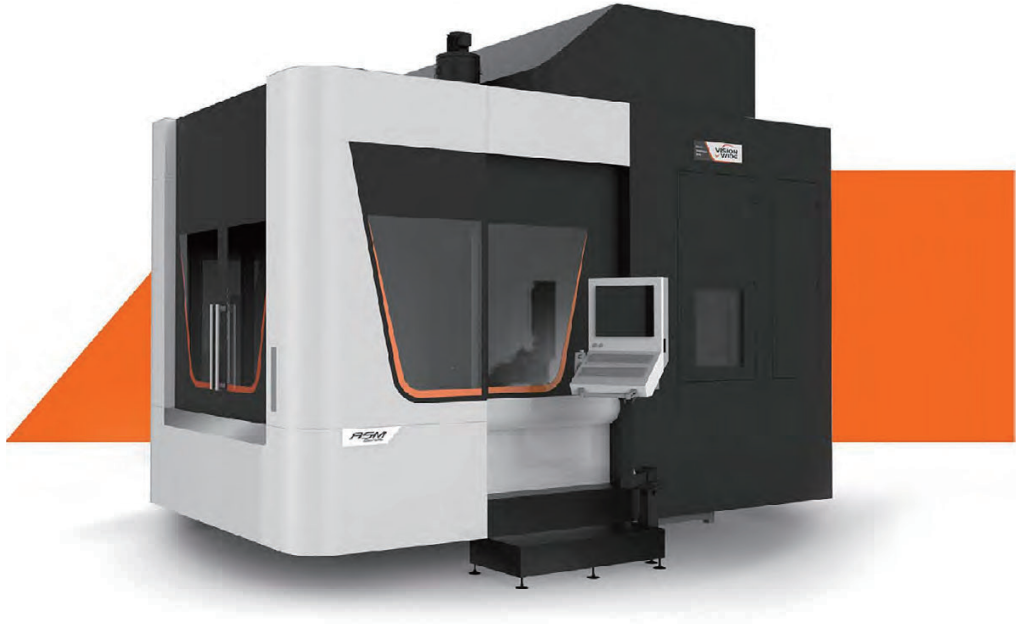
ISO9001 ISO14001

ASM-E-202001

ASM SERIES
ASM/ASM FD

5-axis Universal Machining Center



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VISION WIDE TECH CO., LTD.

ASM series

High Speed.
High Precision.
High Efficiency.

Various Industry Application

Pump Industry
Vacuum Compressor Body

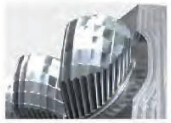
- Easy to arrange space
- Quick die change
- Suitable for multi-side machining
- Effectively reduce processing time by 20%

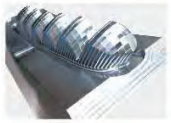
- W450 x L400 x H610mm
- Cast Iron
- 5 face machining
- Milling and turning machining

Mechanical Engineering
Spiral Bevel Gear

- Suitable for multi-side machining
- Effectively reduce processing time by 20%

- D800 x H160mm
- Steel
- 5-axis dynamic synchronizing machining





Mold Machining
Car Light Mold

- Suitable for multi-side machining
- Effectively reduce processing time by 35%

- L360 x W151 xH360mm
- 2311 Die steel
- Bevel machining
- Multi-axis project machining

Aerospace Technology
Aircraft Engine

- D600 x H400mm
- Titanium Alloy
- 5-axis synchronized machining.
- Milling and turning machining.
- High-temperature alloy machining.

Aerospace Technology
Turbine Blade

- D300 x H160mm
- Aluminum
- 5-axis synchronized machining.
- Surrounding machining.

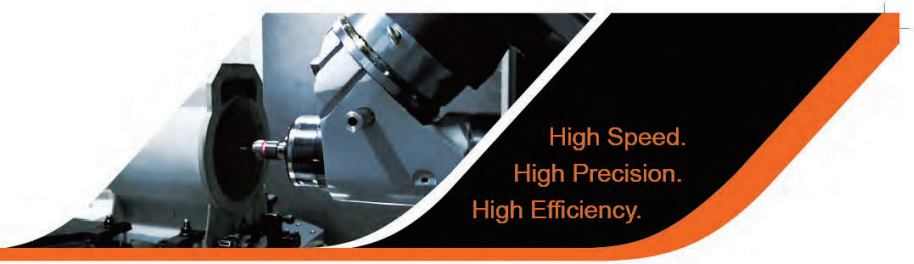
Mold Machining
Tire Mold
(Segment Type)

- L660 x W600 x H260mm
- Steel
- Corner smooth flow cut via 5-axis synchronized machining.
- Multi-axis project machining.

Automotive Industry
Engine

- W600 x L800 x H440mm
- Cast Aluminum
- 5 face machining.
- Auto parts machining.

ASM series



5-axis Universal Machining Center - ASM series

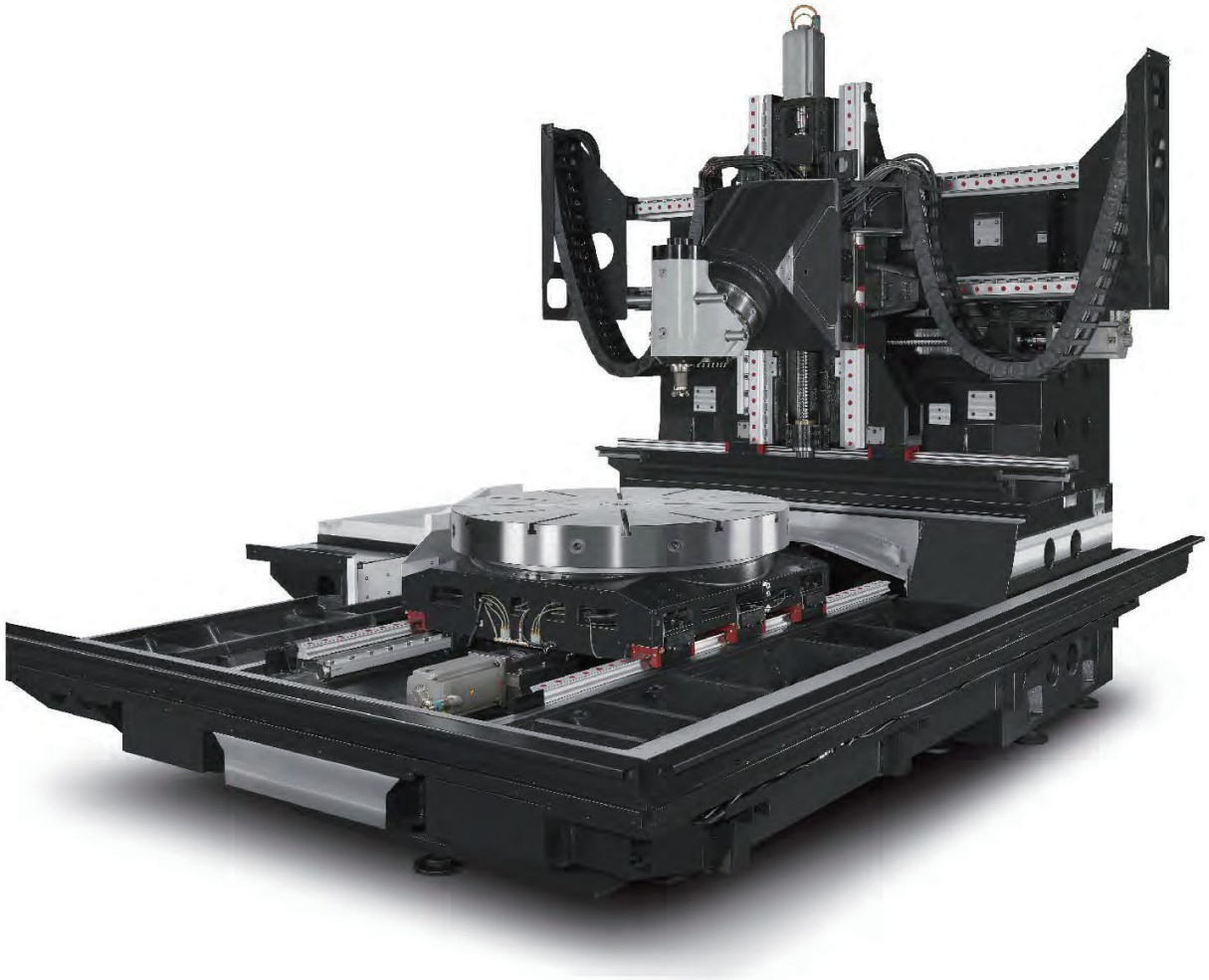
Extraordinary 5-axis dynamic synchronizing motion capability, along with mill-turn functions, match with rotary table, satisfy various machining demands with multi-processes in one machine.

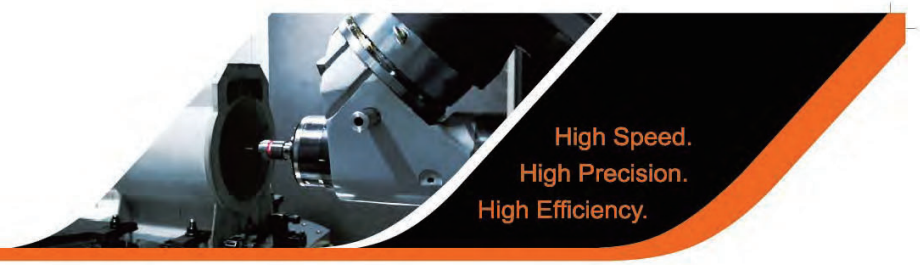
Special designed machining center for cylindrical workpiece with high acceleration, high feedrate and 5-axis synchronizing motion.

Apply on various machining demands and industries

- Cylindrical and precision components machining
- Multi-axial drilling
- Apply on aerospace, automotive, or green power industries.

- Precision: positioning accuracy P 0.008mm, repeatability PS 0.0055mm.(Benefits of constant temperature plant)
- High speed: 40 m/min rapid traverse and 24 m/min feedrate 0.3G acceleration.
- Spindle power: 57/75 kW

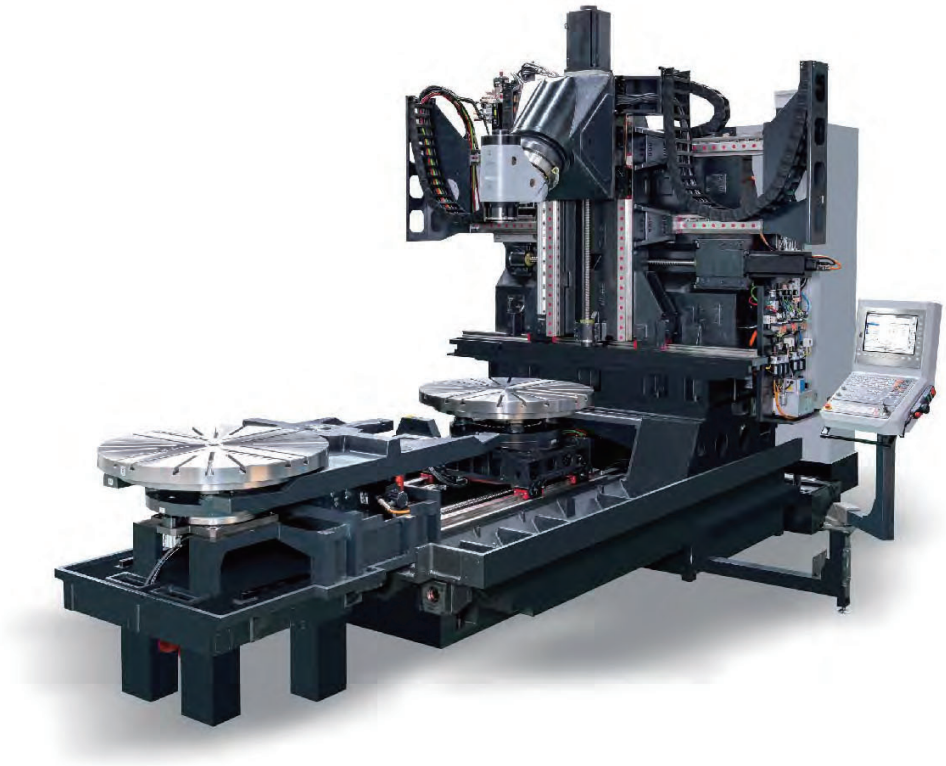




Multi-Task Solution Provider

Auto Pallet Change is available for ASM / ASM FD series.

- Enhanced production efficiency and reduced working hours via workpiece pre-set.
- Conical bottom nut is applied to worktable positioning to enhance rigidity and repeatability.
- Wide sliding doors for easy loading, broad and see-through acrylic window, and emergency stop setting to protect operators.



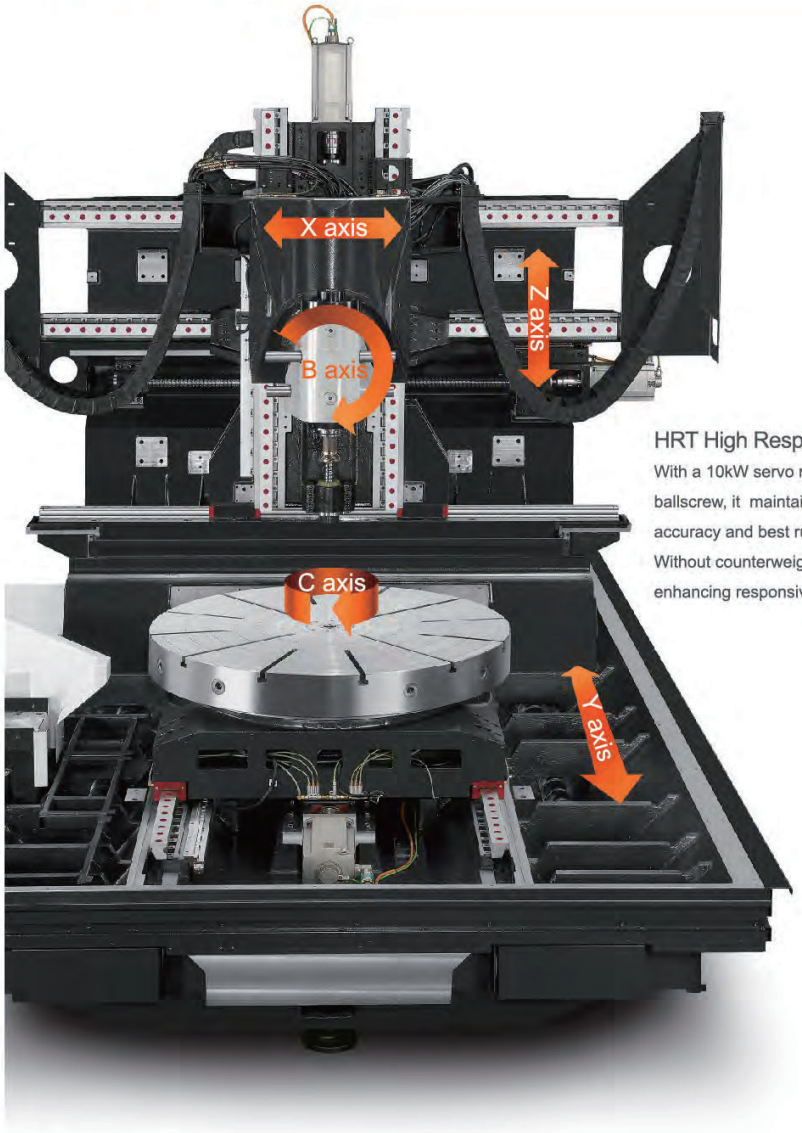
One-Step Machining

ASM / ASM FD series ▶ **1** Machines / **4** Steps

Milling & Turning	Tools and workpiece setting	Milling & Turning	Completion

Single-function machining centers ▶ **3** Machines / **8** Steps

Machine 1				Machine 2				Machine 3	
Turning	Tools and workpiece setting	Turning	+	Milling & Drilling & Tapping	Tools and workpiece setting	Milling & Drilling & Tapping	+	Finishing	Completion



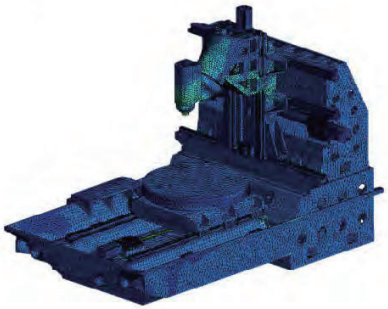
HRT High Response Transmission

With a 10kW servo motor and direct driving ballscrew, it maintains the best positioning accuracy and best running rigidity .
Without counterweight, Z axis design benefits enhancing responsive seed.

High Rigidity and Lightweight Structure Design

High Dynamic Rigidity

- MSS Multiple Support Structure and SRC Structure Rigid Combination.
- Box-shaped, wider and thicker column.
- High dynamic rigidity with a 10kW servo motor and direct-driving ballscrew.



BFS Best Force Transfer Structure

Thick and wide column enhances X axis rigidity.
Shortest distance between tool center point and fulcrum.
Broad base provides full support for whole machine.

TRC Topology Rib Configuration

Base is designed in best rib configuration with wide span linear guideway and sliders allocation for stable horizontal accuracy, which can be adjusted only by adjusting leveling bolts.

Precision and Stability under high Speed Movement

Linear guideway is distributed on ladder-shaped X axis to enhance positioning accuracy about beam track and limit whole travel straightness error within 0.02mm.
The allocation of linear guideway increases stability and torsion strength on X aixs.

Heavy-Loading Dynamic Rigidity

High rigidity heavy-loading roller type linear guideway on Y axis increases 30% rigidity.
4~6 heavy-loading sliders enhance cutting rigidity and loading .
Thick and wide base equips linear guideways arranged in best supportive span to fulfill heavy load demand.

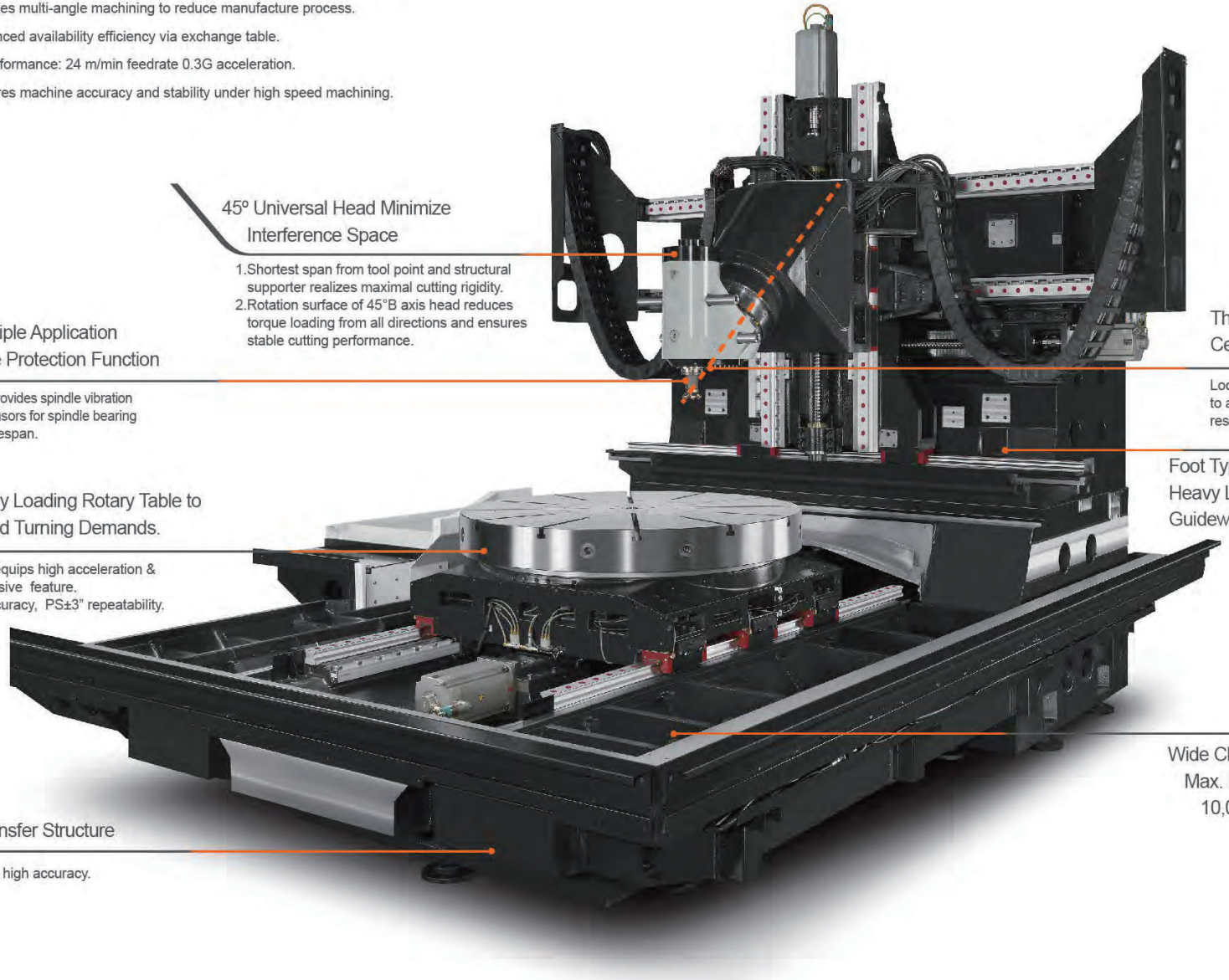
Productivity Increased by 2 Times Above

5-axis synchronizing motion provides multi-angle machining to reduce manufacture process.

Reduced working hours and enhanced availability efficiency via exchange table.

High speed and high response performance: 24 m/min feedrate 0.3G acceleration.

High rigidity structure design ensures machine accuracy and stability under high speed machining.



45º Universal Head Minimize Interference Space

1.Shortest span from tool point and structural supporter realizes maximal cutting rigidity.
2.Rotation surface of 45°B axis head reduces torque loading from all directions and ensures stable cutting performance.

Various Spindle for Multiple Application Spindle Temperature Protection Function

Central monitoring system provides spindle vibration sensor and temperature sensors for spindle bearing and coils to extend their lifespan.

C Axis Uses Heavy Loading Rotary Table to Fulfill Milling and Turning Demands.

Built-in D.D. motor equips high acceleration & deceleration responsive feature.
P±5" positioning accuracy, PS±3" repeatability.

High Rigidity Base BFS Best Force Transfer Structure

3-Leveling points achieve high accuracy.

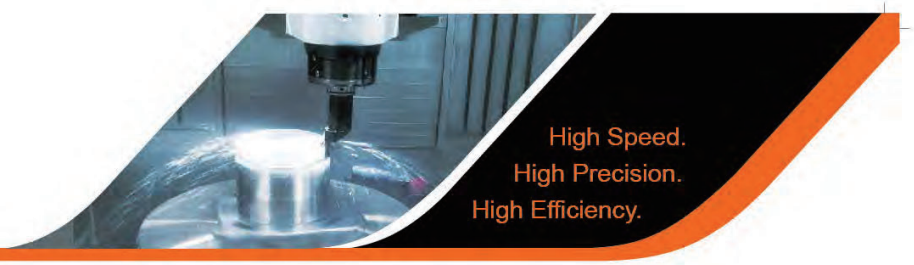
Thanks to the Tool Center Point

Located on the B axis rotation center to achieve the minimal cutting resistance.

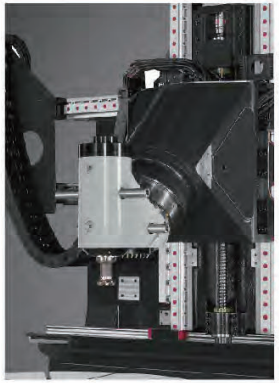
Foot Type Support and Heavy Loading Roller Type Guideways on 3 axes

Wide Chip Groove Max. Removal Rate 10,000 cc/min

ASM series



High Performance on 45° Universal Head



- Built-in backlashless D.D. torque motor.
- High acceleration feature.
- Shortest span between tool point and structural fulcrum realizes maximal cutting rigidity.
- Minimum interference space.
- With protective and monitor system, spindle vibration sensor and temperature sensors for spindle bearing and coils.
- High accuracy design, ±5" positioning accuracy, ±2" feedback accuracy.

Specification	-	M21-45°	M21-45°	M21-45°	M21-45°	G30-45°	G30-45°
Spindle Model	-	CS-34-180-S	CS-34-180	CST-42-180-S	CST-34-180-S	CS-42-238-S	CST-42-238-S
Swiveling Range	°	-30~+180	-30~+180	-30~+180	-30~+180	-30~+180	-30~+180
Max. Speed	rpm	80	80	80	80	30	24
Min. Indexing Accuracy	°	+/-0.001	+/-0.001	+/-0.001	+/-0.001	+/-0.001	+/-0.001
Rated Torque	Nm	900	900	900	900	1,611	1,824
Max. Torque	Nm	1,679	1,679	1,679	1,679	3,136	3,548
Braking Torque	Nm	4,000	4,000	4,000	4,000	5,500	5,500
Application	-	Milling	Milling	Milling and Turning	Milling and Turning	Milling and Heavy Cutting	Milling and Heavy Cutting

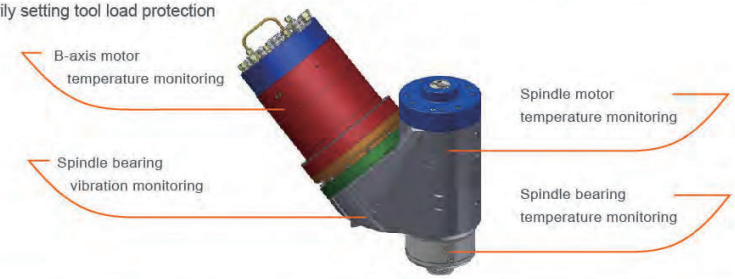
Central Monitoring Protection System

Spindle vibration protection

- Spindle bearing vibration monitoring
- Tool dynamical balancing error detection
- Spindle cutting loading software protection
- Arbitrarily setting tool load protection

Working temperature protection

- Spindle bearing temperature monitoring
- Spindle motor temperature monitoring
- B-axis motor temperature monitoring



Geometric Accuracy Compensation

Kinematic geometry calibration

The geometry error from spindle center line and centroid of rotation axes, which including rotary and tilted head, will be auto measured and compensated.

Auto workpiece measurement

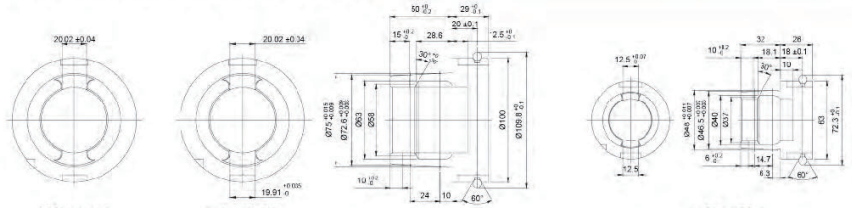
With the same measurement device. Auto workpiece measurement is also available.

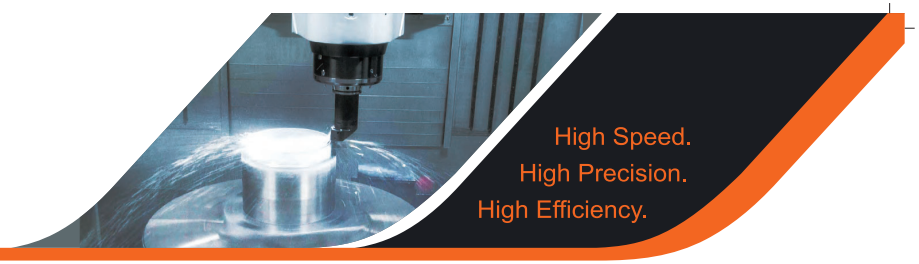
Thermal compensation(OPT)

The compensation of spindle heat extension .

The compensation of ambient temperature difference .

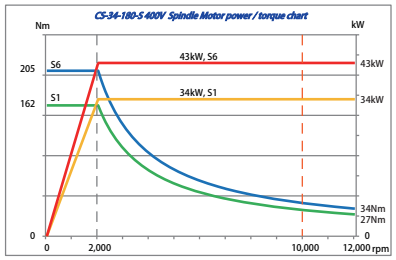

Tool shank Dimension





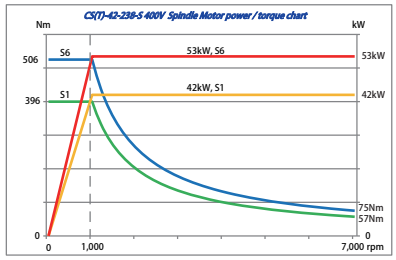
Performance of Spindle

1. M21 x 10,000rpm / HSK-A100 , 34 / 43kW , 162 / 205Nm



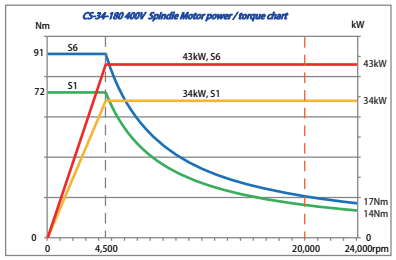
CS-34-180-S	Cutting Condition	Cutting Ability
Heavy cutting(S45C)	D80, S1,600, F2,500	Removal Rate 525 cc/min
High Feed Machining(S45C)	D40, S3,200, F12,000	Removal Rate 768 cc/min
High Speed Cutting(Al6061)	D80, S9,000, F20,000	Removal Rate 3,600 cc/min
Drilling Performance(S45C)	Ø55, S700, F105	Removal Rate 250 cc/min
Tapping Performance(S45C)	M33x3.5, S145, F500	M33 x 3.5

2. G30 x 7,000rpm / HSK-A100 , 42 / 53kW , 396 / 506Nm
G30 x 7,000rpm / HSK-T100 , 42 / 53kW , 396 / 506Nm



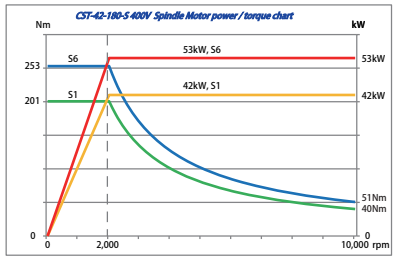
CS-42-238-S	Cutting Condition	Cutting Ability
Heavy cutting(S45C)	D80, S1,600, F2,500	Removal Rate 750 cc/min
High Feed Machining(S45C)	D40, S3,200, F12,000	Removal Rate 883 cc/min
High Speed Cutting(Al6061)	D80, S5,000, F20,000	Removal Rate 3,240 cc/min
Drilling Performance(S45C)	Ø80, S360, F72	Removal Rate 360 cc/min
Tapping Performance(S45C)	M36x4, S133, F531	M36 x 4

3. M21 x 20,000rpm / HSK-A63 , 34 / 43kW , 72 / 91Nm



CS-34-180	Cutting Condition	Cutting Ability
Heavy cutting(S45C)	D80, S1,600, F2,500	Removal Rate 225 cc/min
High Feed Machining(S45C)	D40, S3,200, F12,000	Removal Rate 538 cc/min
High Speed Cutting(Al6061)	D80, S5,000, F12,000	Removal Rate 2,592 cc/min
Drilling Performance(S45C)	Ø36, S1,060, F160	Removal Rate 160 cc/min
Tapping Performance(S45C)	M22x2.5, S5,21, F1,302	M22 x 2.5

4. M21 x 10,000rpm / HSK-T100 , 42 / 53kW , 201 / 253Nm



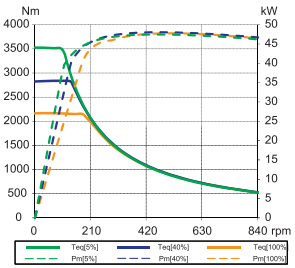
CST-42-180-S	Cutting Condition	Cutting Ability
Heavy cutting(S45C)	D80, S1,600, F2,500	Removal Rate 600 cc/min
High Feed Machining(S45C)	D40, S3,200, F12,000	Removal Rate 768 cc/min
High Speed Cutting(Al6061)	D80, S5,000, F12,000	Removal Rate 3,240 cc/min
Drilling Performance(S45C)	Ø60, S637, F95	Removal Rate 270 cc/min
Tapping Performance(S45C)	M33x3.5, S154, F505	M33 x 3.5

High Torque and High Feedrate of Rotary Table

ASM-1012FD / 1212FD
ASM-1012FD / 1212FD with APC

Max. speed	rpm	500
Min index accuracy	°	0.001
Rated torque	Nm	2,150
Max. torque	Nm	3,520
Brake torque	Nm	6,900

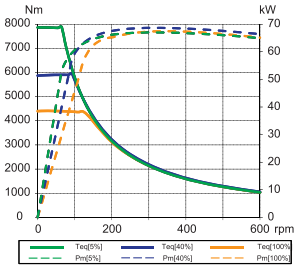
Torque and mechanical power



ASM-1612FD
ASM-1612FD with APC

Max. speed	rpm	400 / 200(with APC)
Min index accuracy	°	0.001
Rated torque	Nm	4,490
Max. torque	Nm	7,890
Brake torque	Nm	10,000

Torque and mechanical power



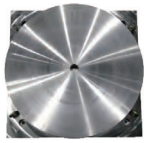
Turning Capability

Removal Rate:1,120cc/min

Dimension: D275mm
Material: S45C
Cutting Depth (Ae) : 8mm
Feedrate per Revolution: 0.8mm/rev
Spindle Speed: 200rpm
Spindle Load: 90%

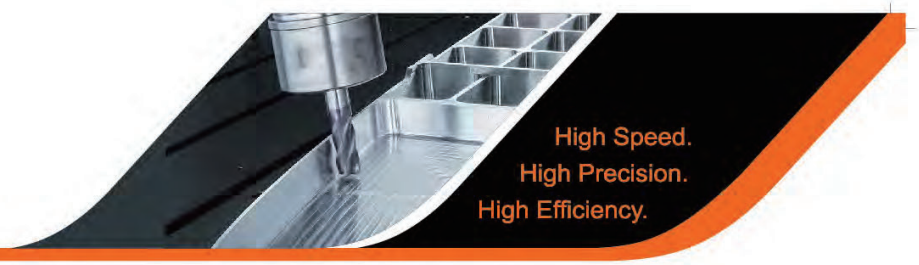
Cylindricity:0.012mm

Dimension: H700 x D265mm
Material: S45C
Cutting Depth (Ae) : 0.5mm
Feedrate per Revolution: 0.15mm/rev
Spindle Speed: 240rpm



Flatness:0.012mm

Dimension: D800mm
Material: S45C
Cutting Depth (Ae) : 0.5mm
Feedrate per Revolution: 0.15mm/rev
Tool Speed: 200m/min
Spindle Speed: 80~350rpm



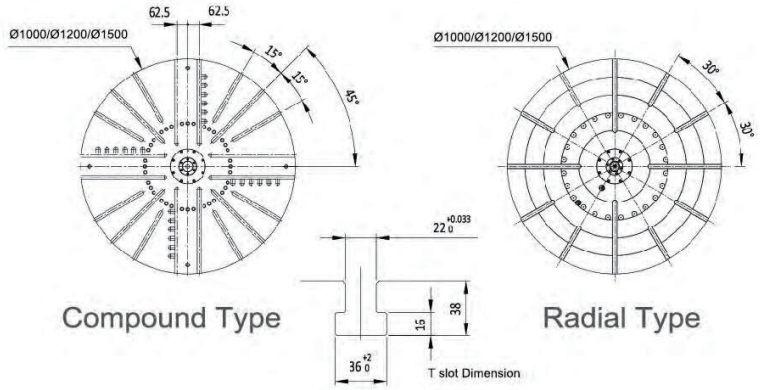
ASM series

Rotary Table

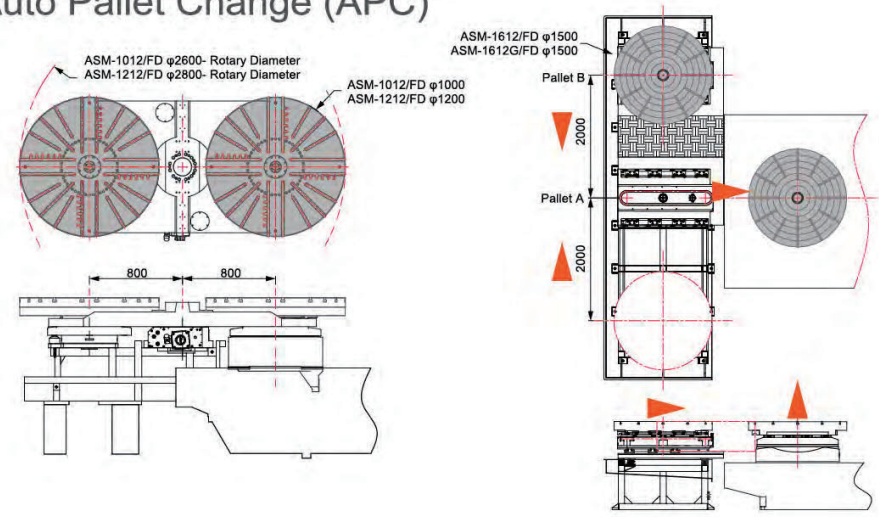
Driving by built-in D.D motor that has excellent positioning and repeatability accuracy.

Backlashless transmission mechanism, high acceleration and deceleration properties.

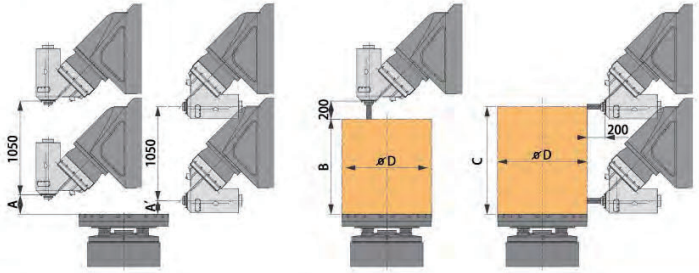
Both milling and turning requirements are accomplished, which reduces time of transferring workpieces.



Auto Pallet Change (APC)



Maximal Workpiece Dimension

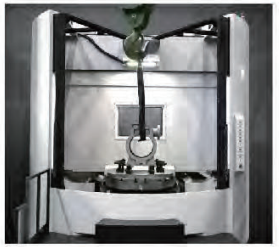


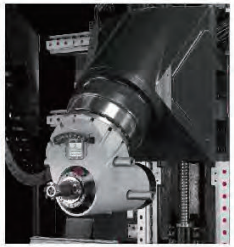
Without APC

Model	Max Diameter of Workpiece, D	Height of Workpiece for Milling, B	Height of Workpiece for Turning, C	Distance from spindle nose to table (Vertical) A	Distance from spindle center to table (Horizontal), A'	Max. Weight (kg)
ASM-1012	Ø1,250	1,060	1,200	210	150	2,000
ASM-1212	Ø1,250	1,060	1,200	210	150	2,000
ASM-1612	Ø1,500	965	1,100	120	50	3,000
ASM-1612G	Ø1,500	950	1,100	100	50	3,000
ASM-1012FD	Ø1,250	970	1,200	120	150	2,000
ASM-1212FD	Ø1,250	970	1,200	120	150	2,000
ASM-1612FD	Ø1,500	870	1,100	20	50	3,000
ASM-1612G FD	Ø1,500	950	1,100	100	50	3,000

With APC

Model	Max Diameter of Workpiece, D	Height of Workpiece for Milling, B	Height of Workpiece for Turning, C	Distance from spindle nose to table (Vertical) A	Distance from spindle center to table (Horizontal), A	Max. Weight (kg)
ASM-1012	Ø1,250	1,060	1,200	210	150	2,000
ASM-1212	Ø1,250	1,060	1,200	210	150	2,000
ASM-1612	Ø1,500	765	900	-85	-150	3,000
ASM-1612G	Ø1,500	750	900	-100	-150	3,000
ASM-1012FD	Ø1,250	970	1,200	120	150	2,000
ASM-1212FD	Ø1,250	970	1,200	120	150	2,000
ASM-1612FD	Ø1,500	670	900	-180	-150	3,000
ASM-1612G FD	Ø1,500	750	900	-150	-150	3,000

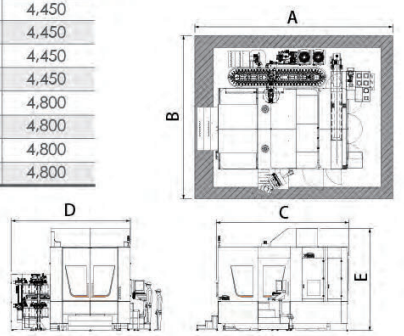




Machine Dimension

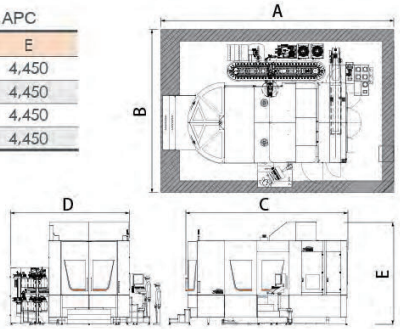
Standard

Model	A	B	C	D	E
ASM-1012	8,500	7,000	5,700	5,150	4,450
ASM-1012 FD	8,500	7,000	5,700	5,150	4,450
ASM-1212	8,500	7,250	5,700	5,400	4,450
ASM-1212 FD	8,500	7,250	5,700	5,400	4,450
ASM-1612	9,600	7,800	5,900	5,800	4,800
ASM-1612 FD	9,600	7,800	5,900	5,800	4,800
ASM-1612G	9,600	7,800	5,900	5,800	4,800
ASM-1612G FD	9,600	7,800	5,900	5,800	4,800



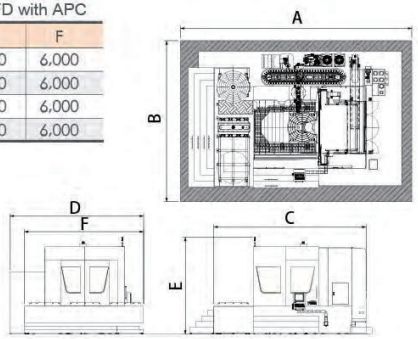
Option, ASM-1012 / ASM-1012 FD / ASM-1212 / ASM-1212 FD with APC

Model	A	B	C	D	E
ASM-1012	10,000	7,000	7,000	5,150	4,450
ASM-1012 FD	10,000	7,000	7,000	5,150	4,450
ASM-1212	10,000	7,250	7,000	5,400	4,450
ASM-1212 FD	10,000	7,250	7,000	5,400	4,450



Option, ASM-1612 / ASM-1612 FD / ASM-1612G / ASM-1612G FD with APC

Model	A	B	C	D	E	F
ASM-1612	12,000	8,000	8,570	6,700	4,800	6,000
ASM-1612 FD	12,000	8,000	8,570	6,700	4,800	6,000
ASM-1612G	12,000	8,000	8,570	6,700	4,800	6,000
ASM-1612G FD	12,000	8,000	8,570	6,700	4,800	6,000



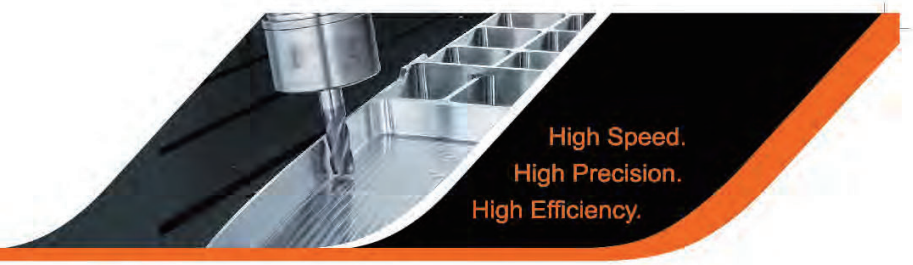
Chip Removal Performance

Wide and large chip grooves on table sides along with sloping sheet metal and chip clean flushing devices remove chips to chip conveyor to reach high removal efficiency.

Wide and large chip grooves on table sides

Chip conveyor

Dual belt type chip conveyor for mass aluminum chips removing. (Opt.)



ASM series

Model		Unit	ASM-1012	ASM-1212	ASM-1612	ASM-1612G
Travel						
X travel		mm	1,000	1,250	1,620	1,620
Y travel		mm	1,260	1,260	1,260	1,260
Z travel		mm	1,050	1,050	1,050	1,050
Distance from spindle nose to table (Vertical)		mm	210~1,260	210~1,260	115~1,165	100~1,150
Distance from spindle center to table (Horizontal)		mm	150~1,200	150~1,200	50~1,100	50~1,100
Cutting feedrate (X/Y/Z)		m/min	24	24	24	24
Rapid traverse (X/Y/Z)		m/min	40	40	40	40/40/24
Acceleration (X/Y/Z)		m/s^2 mm	3/3/4	3/3/4	3/3/4	3/3/4
Rotary Table						
Model			FMHD-1000KCYFT-EB	FMHD-1200KCYFT-EB	HMCD-1500KY-2CWG1-EB	HMCD-1500KY-2CWG1-EB
Table diamter		mm	Ø1,000	Ø1,200	Ø1,500	Ø1,500
Max. workpiece size		mm	Ø1,250	Ø1,250	Ø1,500	Ø1,500
Table load		kg	2,000	2,000	3,000	3,000
Table speed		rpm	50	50	30	30
Min. division accuracy		°	0.001	0.001	0.001	0.001
Rated torque		Nm	2,120	2,120	2,120	2,120
Max. torque		Nm	3,460	3,460	3,460	3,460
Braking torque		Nm	6,900	6,900	10,000	10,000
Universal Head						
Model			M21-45°	M21-45°	M21-45°	G30-45°
Swiveling range		°	-30~+180	-30~+180	-30~+180	-30~+180
Max. speed		rpm	80	80	80	30
Min. division accuracy		°	+/-0.001	+/-0.001	+/-0.001	+/-0.001
Rated torque		Nm	900	900	900	1,611
Max. torque		Nm	1,679	1,679	1,679	3,136
Braking torque		Nm	4,000	4,000	4,000	5,500
Spindle (Milling)						
Model		rpm	CS-34-180-S	CS-34-180-S	CS-34-180-S	CS-42-238-S
Spindle speed		rpm	10,000	10,000	10,000	7,000
Spindle power (S1/ S6)		kW	57/75	57/75	57/75	42/53
Spindle torque (S1/ S6)		Nm	162 / 205	162 / 205	162 / 205	396 / 506
Spindle taper			HSK-A100	HSK-A100	HSK-A100	HSK-A100
Tool Magazine						
Capacity		pcs	40/60/80/120	40/60/80/120	40/60/80/120	40/60/80/120
Max. tool diameter/ tool length		mm	Ø125 / 400	Ø125 / 400	Ø125 / 400	Ø125 / 400
Max. tool weight		kg	20	20	20	20
Tool to Tool time (60Hz)		sec	9	9	9	9
Accuracy						
Positioning accuracy	X/Y/Z	mm	P:0.006	P:0.006	P:0.006	P:0.006
(ISO-230-2 & VDI3441)	B/C	sec	P:±5"	P:±5"	P:±5"	P:±5"
Repeatability	X/Y/Z	mm	Ps:0.0055	Ps:0.0055	Ps:0.0055	Ps:0.0055
(ISO-230-2 & VDI3441)	B/C	sec	P:±3"	P:±3"	P:±3"	P:±3"
Others						
Space dimension (L x W x H)		m	8.5x7x4.45	8.5x7.25x4.45	9.6x7.8x4.8	9.6x7.8x4.8
Machine net weight		Ton	33	34	40	41
Power requirement		KVA	130	130	130	130
Pneumatic requirement		kg/cm^2	6	6	6	6
Opt for APC						
Rapid traverse (X/Y/Z)		m/min	40	40	40/24/24	40/24/24
Distance from spindle nose to table (Vertical)		mm	210~1,260	210~1,260	-85~965	-100~950
Distance from spindle nose to table (Horizontal)		mm	150~1,200	150~1,200	-150~900	-150~900
Space dimension (L x W x H)		m	10x7x4.45	10x7.25x4.45	12x8x4.8	12x8x4.8
Machine net weight		Ton	38	39	50	50

* All specifications and designs are subject to change without notice.

ASM FD series

Model		Unit	ASM-1012 FD	ASM-1212	ASM-1612	ASM-1612G
Travel						
X travel		mm	1,000	1,250	1,620	1,620
Y travel		mm	1,260	1,260	1,260	1,260
Z travel		mm	1,050	1,050	1,050	1,050
Distance from spindle nose to table (Vertical)		mm	120~1,170	120~1,170	20 ~1,070	100~1,150
Distance from spindle center to table (Horizontal)		mm	150~1,200	150~1,200	50 ~1,100	50 ~1,100
Cutting feedrate (X/Y/Z)		m/min	24	24	24	24
Rapid traverse (X/Y/Z)		m/min	40	40	40	40/40/24
Acceleration (X/Y/Z)		m/s^2 mm	3/3/4	3/3/4	3/3/4	3/3/4
Rotary Table						
Model			FMHD-1000KCYFT-EK	FMHD-1200KCYFT-EK	HMCD-1500KCYFT-EK	HMCD-1500KCYFT-EK
Table diamter		mm	Ø1,000	Ø1,200	Ø1,500	Ø1,500
Max. workpiece size		mm	Ø1,250	Ø1,250	Ø1,500	Ø1,500
Table load		kg	2,000	2,000	3,000	3,000
Table speed		rpm	500	500	400	400
Min. division accuracy		°	0.001	0.001	0.001	0.001
Rated torque		Nm	2,150	2,150	4,490	4,490
Max. torque		Nm	3,520	3,520	7,890	7,890
Braking torque		Nm	6,900	6,900	10,000	10,000
Universal Head						
Model			M21-45°	M21-45°	M21-45°	G30-45°
Swiveling range		°	-30~+180	-30~+180	-30~+180	-30~+180
Max. speed		rpm	80	80	80	24
Min. division accuracy		°	+/-0.001	+/-0.001	+/-0.001	+/-0.001
Rated torque		Nm	900	900	900	1,824
Max. torque		Nm	1,679	1,679	1,679	3,548
Braking torque		Nm	4,000	4,000	4,000	5,500
Spindle (Milling)						
Model		rpm	CST-42-180-S	CST-42-180-S	CST-42-180-S	CST-42-238-S
Spindle speed		rpm	10,000	10,000	10,000	7,000
Spindle power (S1/ S6)		kW	42/53	42/53	42/53	42/53
Spindle torque (S1/ S6)		Nm	201/253	201/253	201/253	396/506
Spindle taper			HSK-T100	HSK-T100	HSK-T100	HSK-T100
Tool Magazine						
Capacity		pcs	40/60/80/120	40/60/80/120	40/60/80/120	40/60/80/120
Max. tool diameter/ tool length		mm	Ø125 / 400	Ø125 / 400	Ø125 / 400	Ø125 / 400
Max. tool weight		kg	20	20	20	20
Tool to Tool time (60Hz)		sec	9	9	9	9
Accuracy						
Positioning accuracy	X/Y/Z	mm	P:0.006	P:0.006	P:0.006	P:0.006
(ISO-230-2 & VDI3441)	B/C	sec	P:±5"	P:±5"	P:±5"	P:±5"
Repeatability	X/Y/Z	mm	Ps:0.0055	Ps:0.0055	Ps0.0055	Ps0.0055
(ISO-230-2 & VDI3441)	B/C	sec	P:±3"	P:±3"	P:±3"	P:±3"
Others						
Space dimension (L x W x H)		m	8.5x7x4.45	8.5x7.25x4.45	9.6x7.8x4.8	9.6x7.8x4.8
Machine net weight		Ton	33	34	40	41
Power requirement		KVA	130	130	130	130
Pneumatic requirement		kg/cm^2	6	6	6	6
Opt for APC						
Rapid traverse (X/Y/Z)		m/min	40	40	40/24/24	40/24/24
Distance from spindle nose to table (Vertical)		mm	120~1,170	120~1,170	-180~870	-100~950
Distance from spindle nose to table (Horizontal)		mm	150~1,200	150~1,200	-150~900	-150~900
Space dimension (L x W x H)		m	10x7x4.45	10x7.25x4.45	12x8x4.8	12x8x4.8
Machine net weight		Ton	38	39	50	50

* All specifications and designs are subject to change without notice.

Standard & Optional Accessories

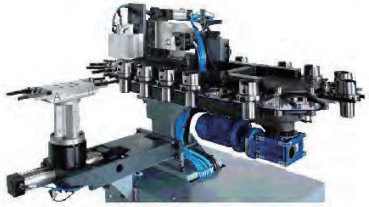
Auto Workpiece Coordinate Measurement & Spindle Clamping / Unclamping Switch

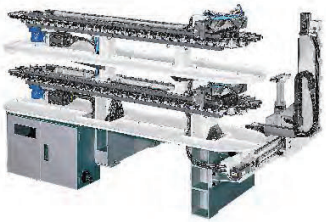
Auto Tool Length Measurement

Pedal Above Chip Groove

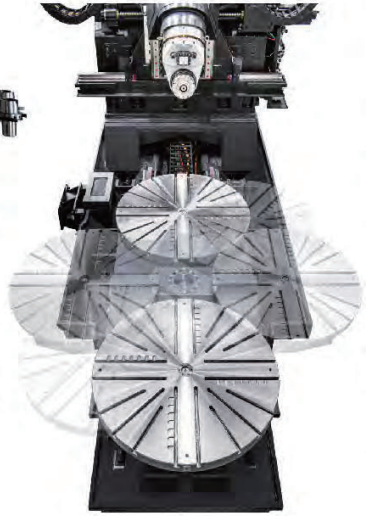
Modularized Cart for Oil Cooling Device and Hydraulic Unit

Chip Conveyor





Tool Magazine



Rotary APC & Compound Type Rotary Table

Spindle Side Cutting Coolant Device

Spindle Nose Ring Cutting Coolant Device

Coolant Through Spindle System

Standard Accesories and Functions

1. HEIDENHAIN TNC640 Controller
2. M21-45°x10,000 rpm / HSK-A100 (milling)
3. HEIDENHAIN DCM (Dynamic Collision Monitoring)
4. 45° universal head self-monitoring protection system:
   - B/C rotating motor overloading protection
   - Spindle and motor overloading protection
   - Spindle cutting vibration protection*
   - Spindle overloading protected by software*
5. 45° universal head rotation error mechanism chain correction
6. Spindle and structure thermal compensation system
7. Spindle cooling system
8. Spindle nose ring and side cutting coolant device
9. Air blast through spindle
10. Cutting fluid cooling system
11. XYZ axis linear scale feedback
12. XYZ-axis travel hard limits protection
13. Centralized auto Lubrication System
14. Independent lubrication oil collector
15. Wash gun and pneumatic interface
16. Enclosed sheet metal guard with roof
17. 40 tools magazine with vertical ATC
18. Screw type chip conveyor on table sides
19. Caterpillar type chip conveyor / Water tank
20. Swiveling arm type operation panel
21. Air conditioning for electrical cabinet
22. Working lamp
23. Operation cycle finish and alarm light
24. Movable manual pulse generator
25. RJ45 interface
26. Switch for tool clamping / unclamping
27. Remote monitoring software-standard
28. Auto power off function
29. Z-axis retract function at power failure
30. Foundation Pads And Bolts Kits
31. Adjustment Tool And Tool Kits
32. Technical Manuals Operation, Maintenance (Operation, Maintenance Manual and Circuit Diagram)

Optional Accesories and Functions

1. SIEMENS 840D SL Controller
2. M21-45°x20,000 rpm / HSK-A63 (Milling)
   M21-45°x10,000 rpm / HSK-T100 (Milling and Turning)
3. G30-45°x7,000 rpm / HSK-A100 (Milling, ASM-1612G only)
   G30-45°x7,000 rpm/HSK-T100 (Milling and Turning, ASM-1612G FD)
4. Coolant through spindle system 20/60 bar
5. The interface of coolant through spindle
6. Coolant through spindle system 20/60 bar and air through spindle
7. Air through spindle ring
8. Oil skimmer
9. Oil mist cooling device
10. Oil mist recycle device
11. Spin window
12. Helical bladed screw conveyor on table sides
13. Chip clean flushing device on table side grooves
14. Chip clean flushing device at roof
15. Dual belt type chip conveyor
16. Chip cart
17. 60/120 tools magazine with vertical ATC
18. Auto tool length measurement
19. Auto workpiece coordinate measurement
20. XYZ-axis absolute pulse coder feedback
21. XYZ-axis independent manual pulse generator
22. Remote monitoring software-professional
23. Smart feedrate machining function
24. Transformer
25. Transformer and voltage stabilizer
26. Auto warm up
27. APC(Auto Pallet Change Device) to exchange table