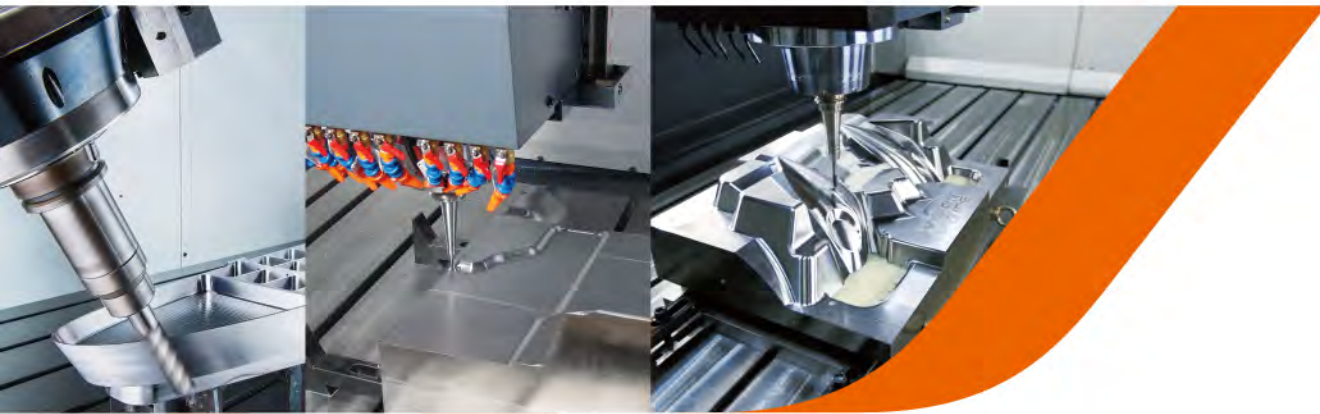


GS SERIES



VISION WIDE TECH CO., LTD.

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GS-C-20180501

GS SERIES

3-axis / 5-axis Gantry Type Machining Center





COMPLETION OF VISION WIDE'S NEW PRODUCTION PLANT

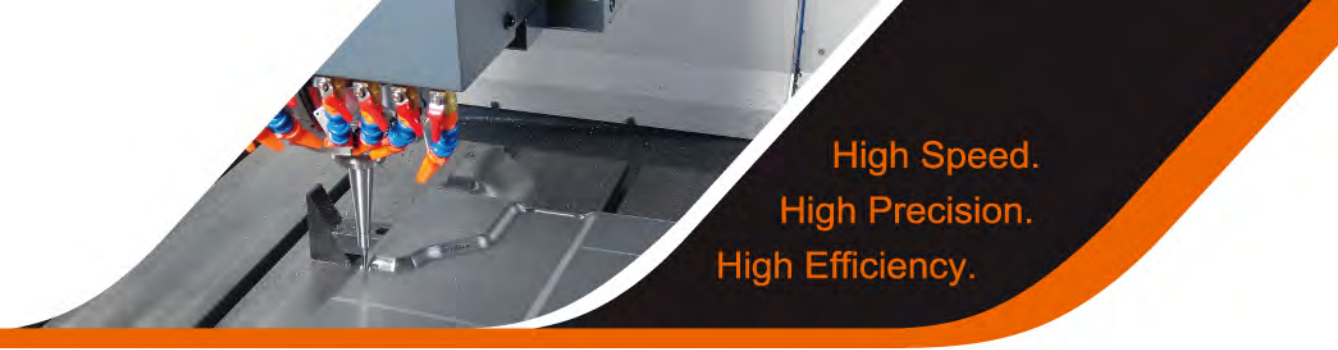
Thermostatic regulation and deeper foundation enhanced accuracy and rigidity.

The third plant of Vision Wide was planned since 2012, but it was difficult to obtain a large scale of land in Taiwan, until 2015 the plant was finally settled in Nantou County, Taiwan. Building took 18 months to complete, and we acquired factory license on January, 2017.

The design concept of plant is "To Realize Highly Reliable Precision Manufacturing", and we have implemented "Just in Time" manufacturing to make better and more precise machines for industries and customers. Large and precise machining centers will be produced in this plant.

There will be second phase of construction, including a second production site, office building and employee dormitory.

We believe that we can provide steadier and more accurate machines for our customers in an advanced production environment.



High Speed.
High Precision.
High Efficiency.

● 24 Meter of Factory Thermal Isolation

24 meter high ceiling and green building materials build thermal isolation and fireproof environment, and reduce outer variables affecting machine accuracy.

● Auto Control Temperature Difference within 1°C

Convection ceiling creates air changing to maintain air-conditioned circumstance and ensure temperature difference within 1°C below 14 meter for machine accuracy.

● High Intensity Foundation

4 meter deep concrete foundation ensures deformation within 0.01 mm under 12 ton/m² force and realizes highly intensified manufacturing foundation.

● Advanced Manufacture Facility-Unified Logistic Movement

Flexibly apply overhead cranes and arm cranes to increase production and assemble efficiency and transport for better site activation.

● Underground Facility

Arrange all instruments at the underground floor to isolate noise, vibration and heat from production and test environment for precise accuracy and quality.



GS series is particularly design for precision mold and aluminum cutting industries to meet strict requirements

The performance of High Speed Machining HSM

- ▶ 0.5G acceleration
- ▶ 28,000 rpm
- ▶ 20 m/min feed rate
- ▶ Powerful spindle

High speed and mess chip removal capacity.

- ▶ Precise contour accuracy
- ▶ High cutting feed rate
- ▶ Delicate surface roughness

Positioning accuracy P 0.006mm

Repeatability Ps 0.002 mm

Aluminum alloy chips removal rate 2,000 cc/ min

Precise mechanism & multiple spindle create the varied machining applications !

GS 3-axis series

GSA 3+2 axes series

GSF 5-axis series



The optimized performance is from the best arrangement between rigidity and structure.

- ▶ Pyramid type weight distribution by spindle, ran, cross beam, and bed arrangement.
- ▶ Dual linear scales positioning system/Dual servo feeding system.
- ▶ Thermal symmetrical structure.
- ▶ Combination of columns, bed, and table in one piece casting.
- ▶ Balance-free allows low inertia at Z axis motion.
- ▶ No weight affect during cutting.
- ▶ 3 axes equip linear scale (standard)



3 axes direct-driven with roller type linear ways realize rapid motion at cutting.

The maximum rapid of 3 axes is 24,000mm/min

The maximum feed rate is 24,000mm/min



X-axis

Dual direct-driven servo motor + dual linear scales ensures positioning accuracy at high speed motion.



Y-axis

Dual direct-driven servo motors + light rigid casting part improve motion performance.

Z-axis

Z-axis adopted dual direct-driven motors without counter weight for high response speed. And its symmetrical design that deployed ball-screws aside spindle head enabled high speed and stability while processing.

The spindle head used linear four-track to enhance load and rigidity for Z axis performance.

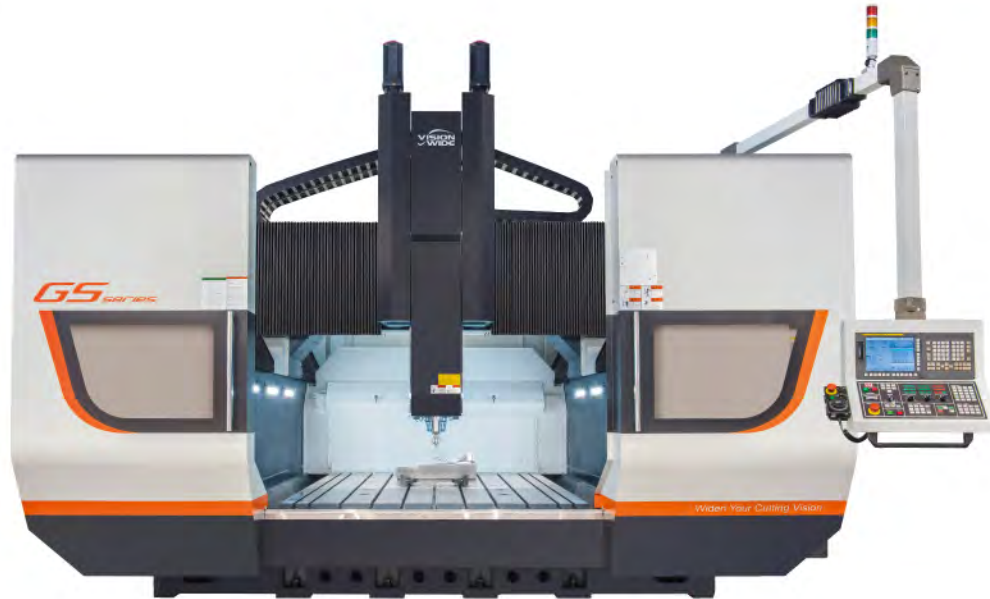
- ▶ High torque
- ▶ High acceleration
- ▶ Low backlash
- ▶ High accuracy positioning
- ▶ High performance



The best machine for high speed cutting

Three in One! Easy operation!

- ▶ Lower table height
- ▶ Closer operating zone
- ▶ Wider door width



- Umbrella type tool magazine
- Capacity: 20/ 32T
- High speed, Contamination-free tool measurement unit



- Chain type chip conveyor(standard) can remove iron chips efficiently.
- Dual Belt Type Tiny Chip Conveyor (optional) allows tiny chips removal, such as aluminum, more easily.

The best solution on the mass of chip removal

Omnibearing chip removal solution

- 1 chips during cutting:
Ring type spindle cutting coolant(optional)
Nozzles of cutting coolant at spindle
- 2 chips on table:
chip flush system (optional)
- 3 Chips at chip groove:
chip flush system (optional)
Foot pad above chip groove (optional)
- 4 Tool length measurement



High Speed Machining & High Feed rate Machining Shorten Machining Time by 50% !

High Speed Mold Surface Finishing Car Headlight Mold

- L800 x W55 x H250 mm
- P20
- 12,000 rpm
- 4,000 mm/min

Feature:

- Ra 0.4 μ m
- Contour Accuracy 0.04 mm

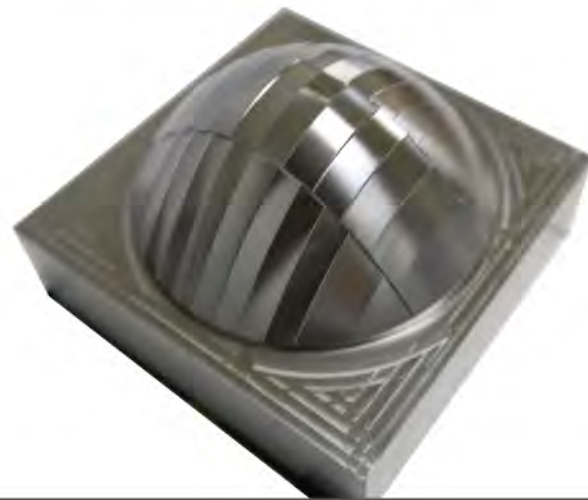


Speedy Mold Surface Finishing Automotive Light Reflector Core

- L160 x W160 x H100 mm
- NAK 80
- 12,000 rpm
- 1,500 mm/min

Feature:

- Ra 0.4 μ m
- Contour Accuracy 0.04 mm



Aerospace Aluminum Frame High Speed Machining (HSM)

- L1425 x W680 x H70 mm
- A6061
- 10,500 rpm
- 24,000 mm/min
- 2,000 cc/min

Feature:

- Cutting efficiency 100 cc/kW
(up to 200% increase in productivity)



Mold Base High Positioning Machining

- 900 mm
- FC300
- 0.02 mm roundness
- 2,000 x 1,000 mm high position accuracy of boring hole

Feature:

- Boring positioning accuracy 0.006 mm
(Pitch 400 x 700 mm)



Mold Base High Speed and High Feed rate Cutting

- L800 x W500 x H250 mm
- S45C
- 2,000 rpm
- 10,000 mm/min

Feature:

- Vc 220 m/min
- 300 cc/min
- Boring positioning accuracy 0.006 mm
(Pitch 400 x 700mm)



Engine Hood Mold

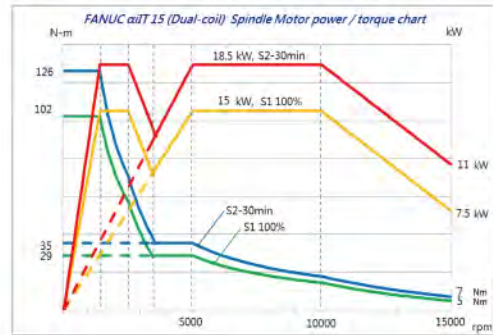
- L2000 x W1600 x H500 mm
- FC300
- 12,000 rpm
- 10,000 mm/min

Feature:

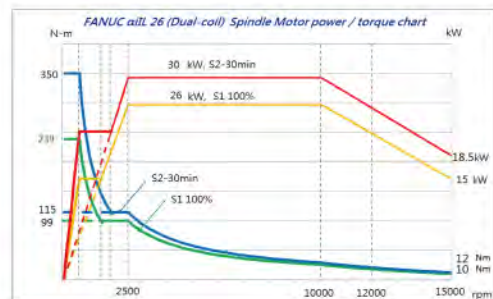
- 10 m/min high feed mold face machining
- 0.3G high acceleration machining
- Total finish time : 5.2 Hrs.
- Step < 2 μ m

Fanuc Controller

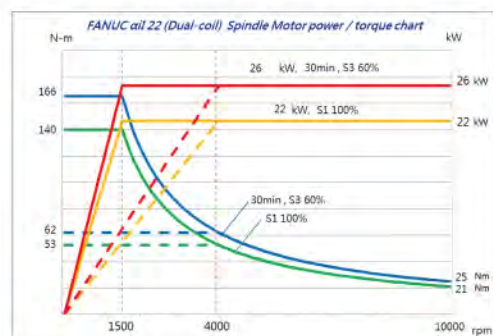
1. Fanuc α IT15/Direct drive/15,000 rpm/BBT-40 (Standard)



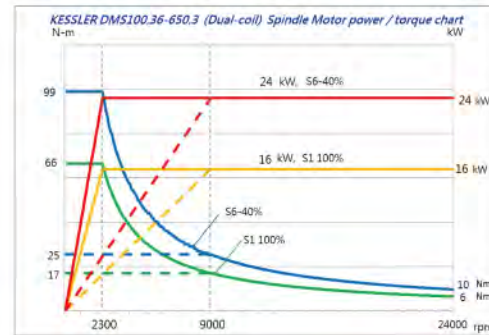
2. Fanuc α IL26 / Direct drive /15,000 rpm/BBT-40 /12,000 rpm/BBT-50



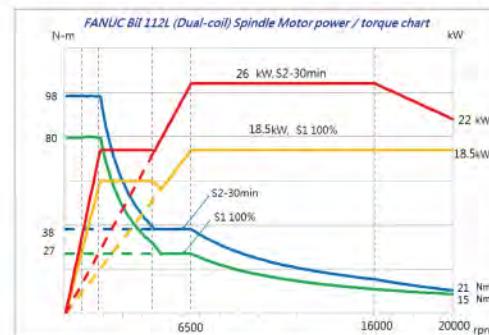
3. Fanuc α IL22 / α IL T22/Direct drive/10,000 rpm/BBT-50



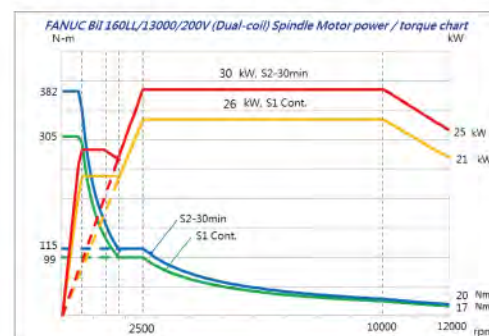
4. Kessler DMS100.36-650.3/Built-in /24,000rpm /HSK-A63



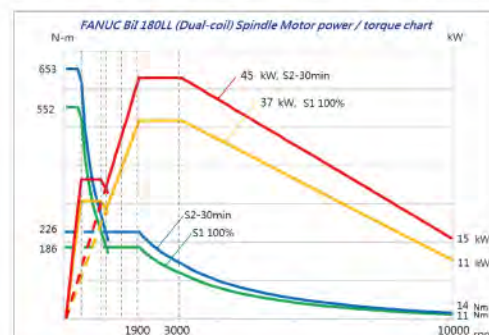
5. FANUC Bi112L/Built-in/ 20,000rpm/HSK-A63



6. FANUC Bi160LL/Direct drive /12,000rpm/BBT-50

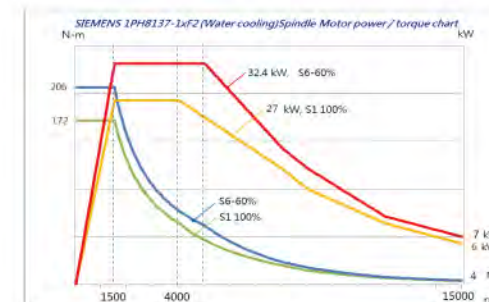


7. FANUC Bi180LL / Built-in / 10,000 rpm/ BBT-50

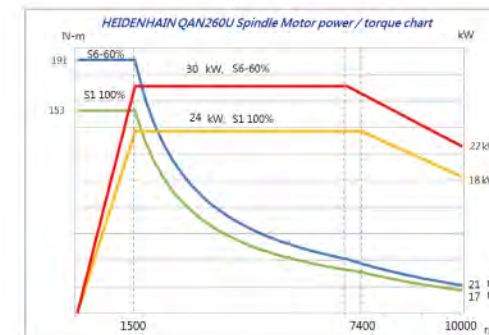


Heidenhain Controller

1. SIEMENS 1PH8137 / Direct Driven/15,000rpm/ BBT-40 /12,000 rpm/ BBT-50



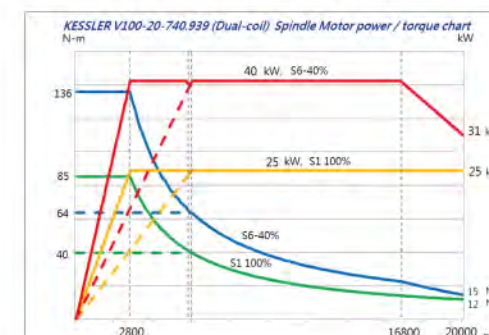
2. HEIDENHAIN QAN260U/ Direct drive /10,000rpm/ BBT-50



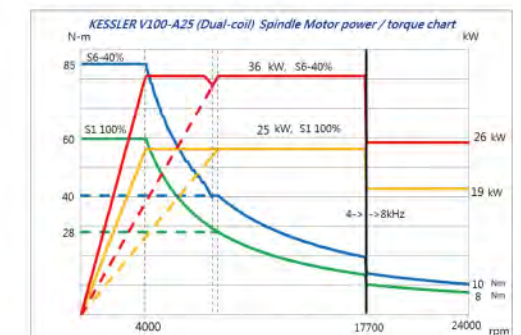
3. SIEMENS 1FE 1083/ Built-in /20,000rpm/ HSK-A63



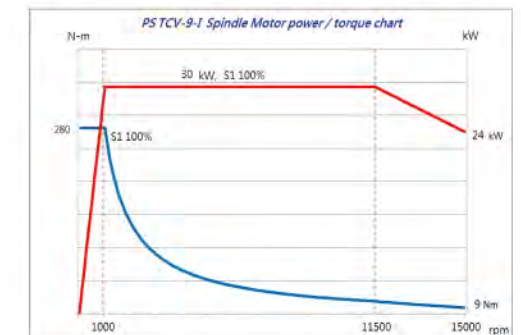
4. Kessler A20 / Built-in / 20,000rpm/ HSK-A63



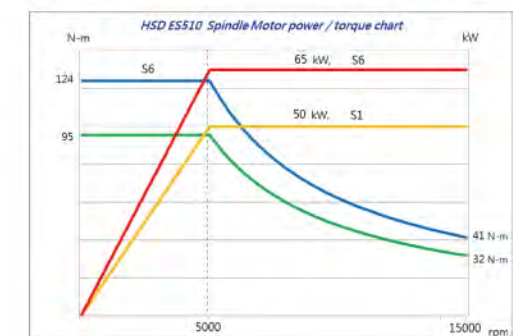
5. Kessler A25/ Built-in /24,000rpm/ HSK-A63



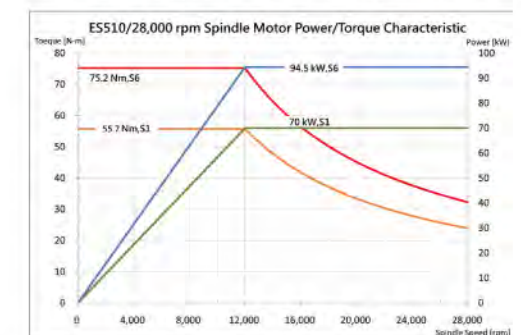
6. PS TCV-9-I / Built-in /15,000rpm /HSK-A100



7. HSD ES 510/ Built-in/ 15,000 rpm/ HSK-A100

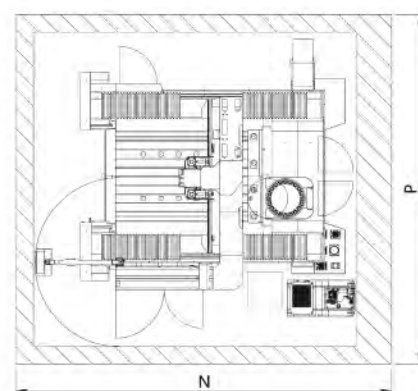
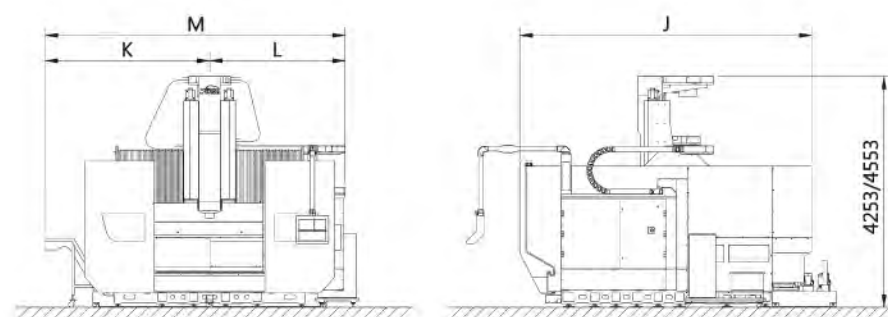


8. HSD ES 510/ Built-in/ 28,000 rpm/ HSK-A63



Machine Dimension

						Unit:mm
Model	J	K	L	M	N	P
GS-1220	3,900	3,110	2,560	5,670	7,800	8,000
GS-1620	4,300				8,200	
GS-2020	4,700				8,600	
GS-2520	5,200				9,100	
GS-3020	5,700				9,600	



Working Range

Distance from spindle nose to table			Unit:mm	
Fanuc (rpm)	Z800/ standard		Z1000/column+300	
	h	H	h	H
Direct drive 15,000rpm/ #40 Built-in 20,000rpm/ 24,000rpm/HSK-63	100	900	200	1200
Direct drive 1,000/ 12,000rpm/ #50 Built-in 10,000/ 12,000rpm/ HSK-A100	85	885	185	1185

Distance from spindle nose to table				Unit:mm
HEIDENHAIN/ SIEMENS (rpm)	Z800/ standard		Z1000/column+300	
	h	H	h	H
Direct drive 15,000rpm/ #40 Built-in 20,000/ 24,000rpm/ HSK-63	100	900	200	1200
Direct drive 10,000 / 12,000 rpm/ #50 Built-in 15,000 rpm/ 30kW/ HSK-A100	85	885	185	1185
Built-in 15,000 rpm/ 50kW/ HSK-A100	75	875	175	1175
Built-in 28,000 rpm/ 70kW/ HSK-A63	125	925	225	1225
	160	960	260	1260

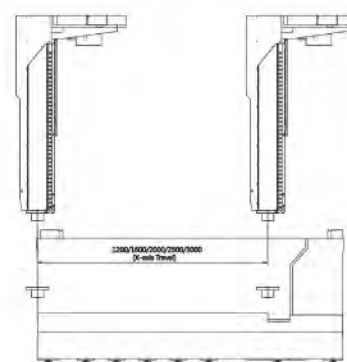
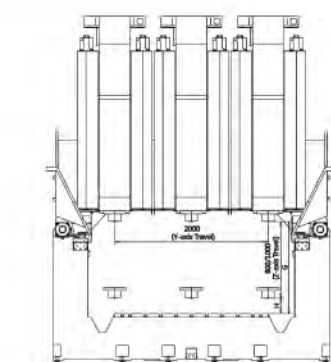
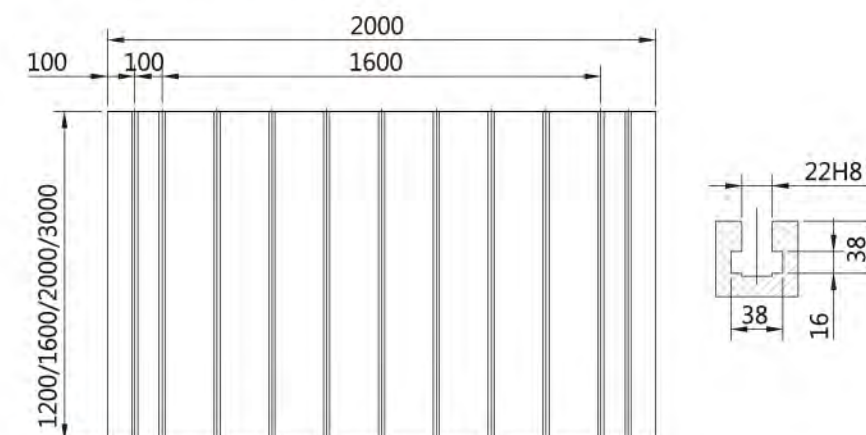
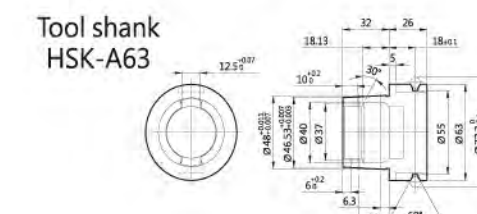
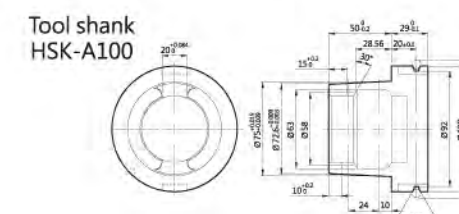
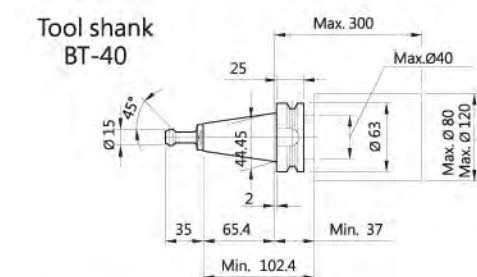
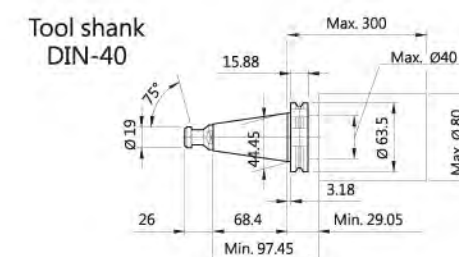
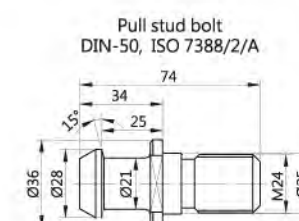
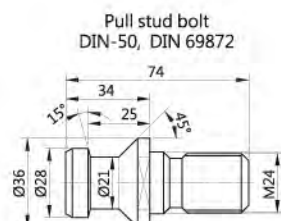
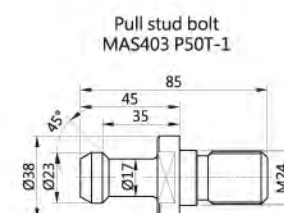


Table & T slot



Tool shank
& Pull stud



Specification

	Model			Unit	GS-1220	GS-1620	GS-2020	GS-2520	GS-3020
1 Travel									
1-1	X axis			mm	1,200	1,600	2,000	2,500	3,000
1-2	Y axis			mm	2,000				
1-3	Z axis			mm	800 / 1,000 (Opt.)				
1-4	The distance between spindle nose to table	Direct drive 40#	Z axis=800	mm	100~900				
			Z axis=1000	mm	200~1,200 (column +300)				
1-5	The distance between columns (Port width)			mm	2,600				
2 Table									
2-1	Table size			mm	1,200 x 2,000	1,600 x 2,000	2,000 x 2,000	2,500 x 2,000	3,000 x 2,000
2-2	T slots (WxNxP)			mm	22 x 11 x 200	22 x 11 x 200	22 x 11 x 200	22 x 11 x 200	22 x 11 x 200
2-3	Maximun loading			kg/m²	3,000				
3 Spindle									
3-1	Power (S1/S6)			kW	L: 15 / 18.5				
3-2	Speed			rpm	Direct drive 15,000 rpm				
3-3	Torque (S1/S6)			Nm	L: 92 / 102 H: 35 / 29				
4 Feeding									
4-1	Cutting feed rate			mm/min	1~24,000				
4-2	Rapid traverse			m/min	XYZ: 24 / 30 (Opt.)				
5 Accuracy									
5-1	Positioning Acuracy(JIS-B6333)			mm	±0.005 / Full Travel				
5-2	Repeatability(VDI3441)			mm	✱ P0.006				
5-3	Positioning Acuracy(JIS-B6333)			mm	±0.002				
5-4	Repeatability(VDI3441)			mm	✱ Ps0.004				
6 ATC									
6-1	Magazine capacity			pcs	20T / 32T (Opt.)				
6-2	MAX. tool			kg	HSK-A63 / BBT-40 : Ø75 (Ø130) mm / 300 mm / 8kg				
	Dia./Length/Weight				HSK-A100 / BBT-50 : Ø125 (Ø250) mm / 300 mm / 18kg				
7 Others									
7-1	Power requirement			kVA	50				
7-2	Pneumatic requirement			kg/cm²	6				
7-3	Net weight			kg	25,500	28,500	31,500	34,500	37,500
7-4	Gross weight			kg	29,500	32,500	35,500	38,500	41,500
7-5	Space (LxWxH)			m	6.9 x 7.8 x 3.8	7.2 x 7.8 x 3.8	7.6 x 7.8 x 3.8	8.1 x 7.8 x 3.8	8.6 x 7.8 x 3.8

* Please refer to the chart of page 7&8 for spindle power and torque information.

GS 3-axis series

Standard accessories and function

- FANUC 0i-MF controller
- Direct drive spindle 15,000rpm
- Z-axis travel 800mm
- Spindle cooler
- 20T tools magazine with arm type ATC
- Centralized auto lubrication system
- Independent lubrication oil collector for 3 axes
- Air blast through spindle
- Wash gun & pneumatic interface
- Cutting fluid cooling system
- Enclosed sheet metal guard(without top cover)
- Spring conveyor on table sides
- Caterpillar type chip conveyor/coolant tank
- Heat exchanger
- Working lamp
- Program cycle end and alert signal lamp
- Movable manual pulse generator
- RJ45 interface
- Footswitch for tool clamping
- XYZ-axis Linear scales(Fagor)
- Auto power off
- Spindle cutting load software protection
- XYZ-axis travel hard limits protection
- Foundation pads and bolts kits
- Adjustment tool and tool kits
- Z-axis retract function at power failure
- Thermal compensation system of Spindle
- Technical manuals
(operation, maintenance manual and circuit diagram)

Option accessories and function

- HEIDENHAIN TNC620/640 controller
- Built-in spindle: 20,000/24,000/28,000rpm (HSK-A63);
10,000/12,000 (HSK-A100)
- Direct driven spindle: 10,000/12,000(50#)
- XYZ-axis rapid traverse 30m/min
- Z-axis travel 1,000 mm
- 300mm higher column
- 32T tools magazine with arm type ATC
- CTS function: 20 bar / 70 bar
- Surrounding Coolant nozzles
- Oil skimmer
- Oil mist cooling device
- Enclosed sheet metal guard(with top cover)
- Chip clean flushing device on table side grooves
- Helical blade screw conveyor on table sides
- Foot pad above chip groove
- Dual Belt Type Chip Conveyor/coolant tank
- Air conditioner for electrical cabinet
- Reserved interface for 4th axis
- Chip cart
- Sub working table
- XYZ-axis independent manual pulse generator
- Remote monitoring software-professional
(Not for SIEMENS)
- Auto tool length measurement system
- Auto workpiece measurement system
- Transformer

Main features of AC 2 axes Attachment Head

High Power & Speed type

Main Application Feature

- Above 40kW driving capacity
- 12,000/15,000/24,000/28,000 rpm Spindle Speed
- Auto Tool Clamping
- Auto indexing: B1°/C1°
- Rotation Range: B ±100°C/ C ±200°C
- Spindle Cooling device
- High Tool Clamping Force: 20 kN
- Surrounding Coolant nozzles
- Coolant Through Spindle Interface, 20/70 bars
- Independent Encoder for Position Feedback for each rotation axis.

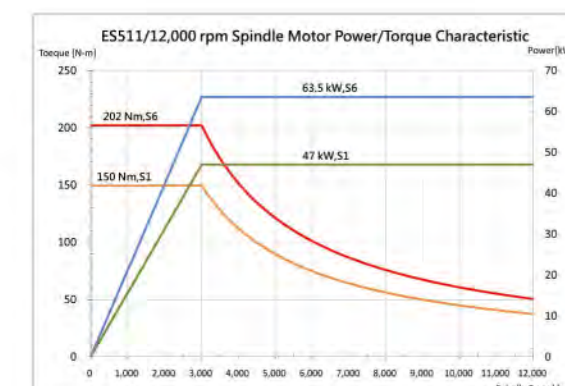


Material:S45C Unit:mm						
IAC Speed	12,000 rpm		15,000 rpm		24,000 rpm	
Cutting type	Heavy	High Feed rate (HFM)	Heavy	High Feed rate (HFM)	Heavy	High Feed rate (HFM)
Tool Dia. (mm)	80	40	80	40	80	40
Cutting width (Ae) (mm)	50	32	50	25	50	25
Cutting depth (Ap) (mm)	3	2	2	1.8	1.3	1.8
Feed rate (mm/min)	3,000	18,000	3,000	18,000	3,000	12,000
Removal rate (cc/min)	450	1,152	300	810	195	540

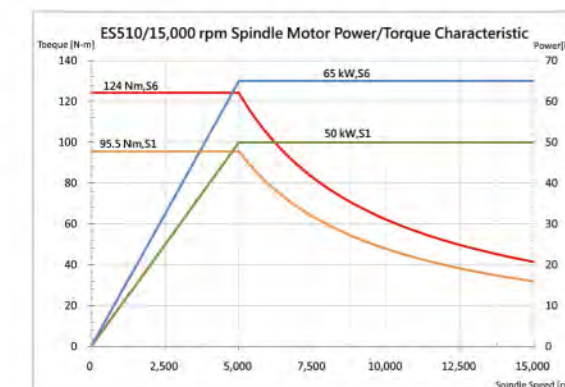
Material:AL6061 Unit:mm						
IAC Speed	12,000 rpm		15,000 rpm		24,000 rpm	
Cutting type	High speed cutting(HSC)	High speed machining(HSM)	High speed cutting(HSC)	High speed machining(HSM)	High speed cutting(HSC)	High speed machining(HSM)
Tool Dia. (mm)	80	25	80	25	80	25
Cutting width (Ae) (mm)	60	1.8	60	2	60	1.6
Cutting depth (Ap) (mm)	3.8	70	4	7	3.3	70
Feed rate (mm/min)	24,000	2,4000	24,000	2,4000	24,000	2,4000
Removal rate (cc/min)	5,472	3,024	5,760	3,360	4,752	2,688

High Torque / High Speed Spindle

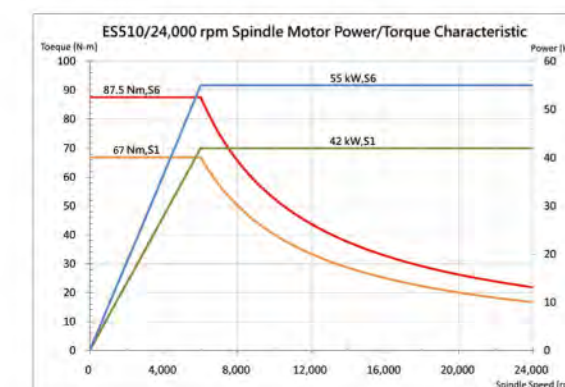
Motor	ES511/ 12,000
Spindle type	Built-in
Spindle speed	12,000 rpm
Spindle taper	HSK A100
Spindle power(S1/6)	47/ 63.5 kW
Spindle torque(S1/6)	150/ 202 Nm
CTS	20/ 70 bar(Opt.)



Motor	ES510/ 15,000
Spindle type	Built-in
Spindle speed	15,000 rpm
Spindle taper	HSK A100
Spindle power(S1/6)	50/ 65 kW
Spindle torque(S1/6)	95.5/ 124 Nm
CTS	20/ 70 bar(Opt.)



Motor	ES510/ 24,000
Spindle type	Built-in
Spindle speed	24,000 rpm
Spindle taper	HSK A63
Spindle power(S1/6)	40/ 55 kW
Spindle torque(S1/6)	67/ 87.5 Nm
CTS	20/70 bar(Opt.)



● Please contact our sales representatives for more spindle data.

Machine Dimension

GSA-xx27 Series

Model	A	B	C	D	E	F
GSA-1627	7050	3800	3250	4720	8200	9700
GSA-2227				5320	8800	
GSA-3027				6120	9600	
GSA-4027				7120	10600	
GSA-5027				8120	11600	
GSA-6027				9120	12600	

Unit:mm

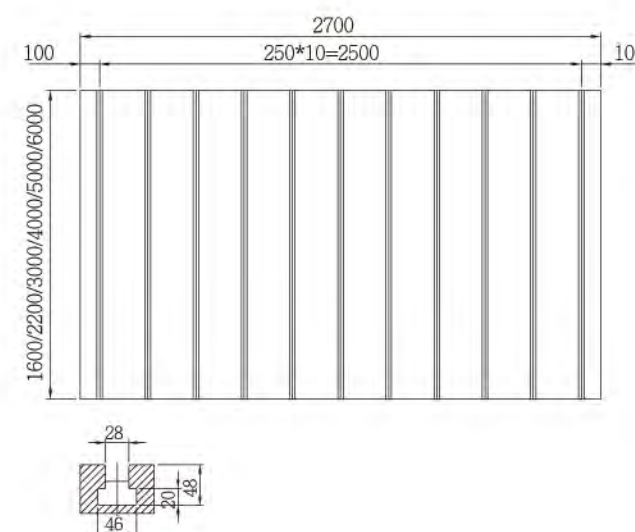
GSA-xx32 Series

Model	A	B	C	D	E	F
GSA-2232	7550	4050	3500	5320	8800	10200
GSA-3032				6120	9600	
GSA-4032				7120	10600	
GSA-5032				8120	11600	
GSA-6032				9120	12600	

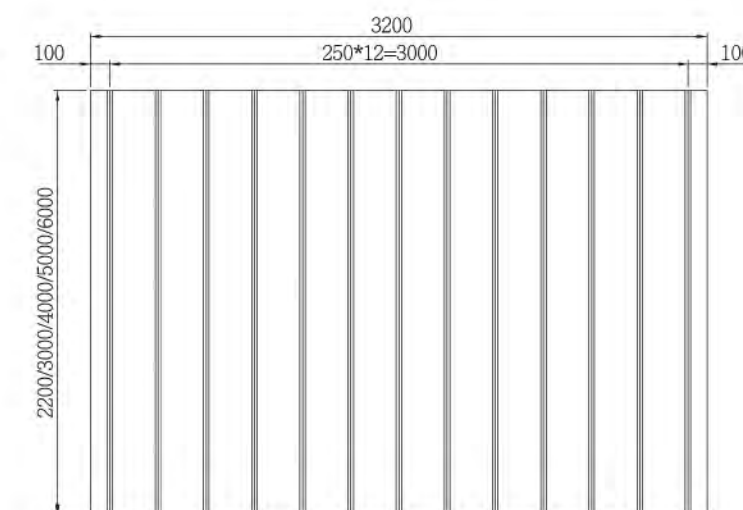
Unit:mm

Table & T slot

GSA-xx27 Series



GSA-xx32 Series

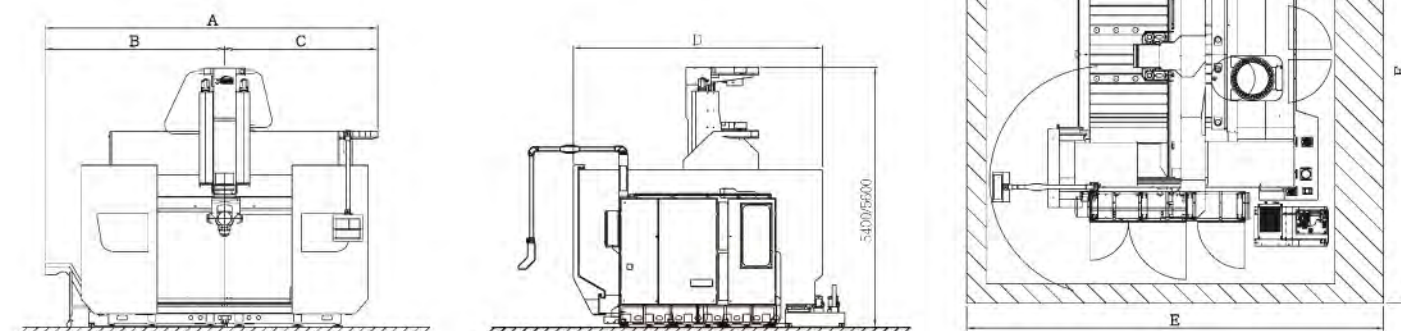
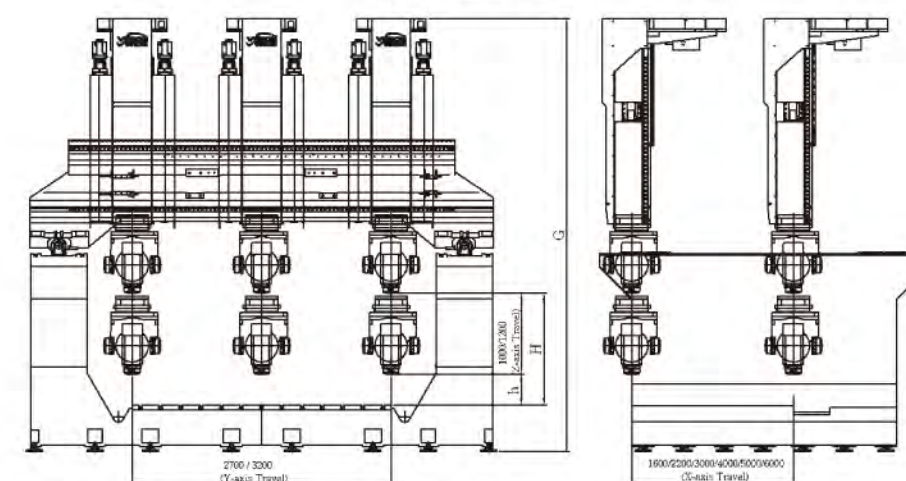


Working Range

2-axis index	Z-axis travel 1000			Z-axis travel 1200		
	h	H	G	h	H	G
IAC	210	1210	5400	210	1410	5600

Unit:mm

GSA-xx27&32



GSA-xx27 Series

	Model	Unit	GSA-1627	GSA-2227	GSA-3027	GSA-4027	GSA-5027	GSA-6027
1	Travel							
1-1	X travel	mm	1,600	2,200	3,000	4,000	5,000	6,000
1-2	Y travel	mm	2,700					
1-3	Z travel	mm	1,000 / 1,200					
1-4	Distance from spindle nose to table	mm	Z1000: 210-1210/ Z1200: 210-1410					
1-5	Distance from spindle center to column	mm	3,400					
1-6	Distance between columns(port width)	mm	2,900					
2	Table							
2-1	Dimension	mm	1,600 x 2,700	2,200 x 2,700	3,000 x 2,700	4,000 x 2,700	5,000 x 2,700	6,000 x 2,700
2-2	T-slot (W*N*P)	mm	28 x 11 x 250					
2-3	Max. load	kg/m ²	3,000					
3	Spindle							
3-1	Power(S1/S6)	kW	50 / 65					
3-2	Speed	rpm	HSK-A100/ Built-in 15,000					
3-3	Torque(S1/S6)	Nm	95.5 / 124					
4	Feed rate							
4-1	Cutting feed rate	mm/min	1-20,000					
4-2	Rapid traverse (X/Y/Z)	m/min	XY:32 / Z:20					
5	Accuracy							
5-1	Positioning accuracy(Refer to JIS B6333)	mm	±0.005 / Full Travel			±0.007 / Full Travel		
5-2	Positioning accuracy(Refer to VDI3441)	mm	P0.006			P0.008		
5-3	Repeatability(Refer to JIS B6333)	mm	±0.002					
5-4	Repeatability(Refer to VDI3441)	mm	PS0.004			PS0.005		
6	ATC							
6-1	Capacity	pcs	20 / 32(Opt.)					
6-2	Max tool size (full)/(empty) / weight	kg	Ø75(Ø130)300mm/ 8kg					
7	Others							
7-1	Power requirement	kVA	130					
7-2	Pneumatic requirement	kg/cm ²	6					
7-3	Net weight	kg	40,500	45,500	43,000	52,000	60,500	70,000
7-4	Max. dimension (L*W*H)	m	8.2x9.7x5.2	8.8x9.7x5.2	9.6x9.7x5.2	10.6x9.7x5.2	11.6x9.7x5.2	12.6x9.7x5.2

Standard accessories and function

1 HEIDENHAIN TNC640 controller	7 Spindle cooler	17 Enclosed sheet metal guard
2 15,000rpm HSK-A100 spindle	8 X axis ball screw support device	(without top cover)
3 2-axis Head rotary compensation system	(GSA X axis 4m above)	18 Swiveling arm type operation panel
4 2-axis head central monitoring protection system	9 20 tools magazine with arm type ATC	19 Spring conveyor on table sides
Spindle bearing vibration monitoring	10 X axis dual linear scale, Y/Z-axis linear scale	20 Caterpillar type chip conveyor/ coolant tank
Spindle and motor temperature monitoring	11 Centerized auto lubrication system	21 Air conditioning for electrical cabinet
B/C-axis motor temperature monitoring	12 Independent lubrication oil collector for 3-axis	22 Working lamp
Spindle cutting load software protection	13 Surrounding Coolant nozzles	23 Program cycle end and alert signal lamp
5 Z-axis travel 1000 mm	14 Air blast through spindle	24 Movable manual pulse generator
6 Spindle and structure temperature thermal compensation system	15 Wash gun & pneumatic interface	25 RJ45 interface
	16 Cutting fluid cooling system	26 Footswitch for tool clamping

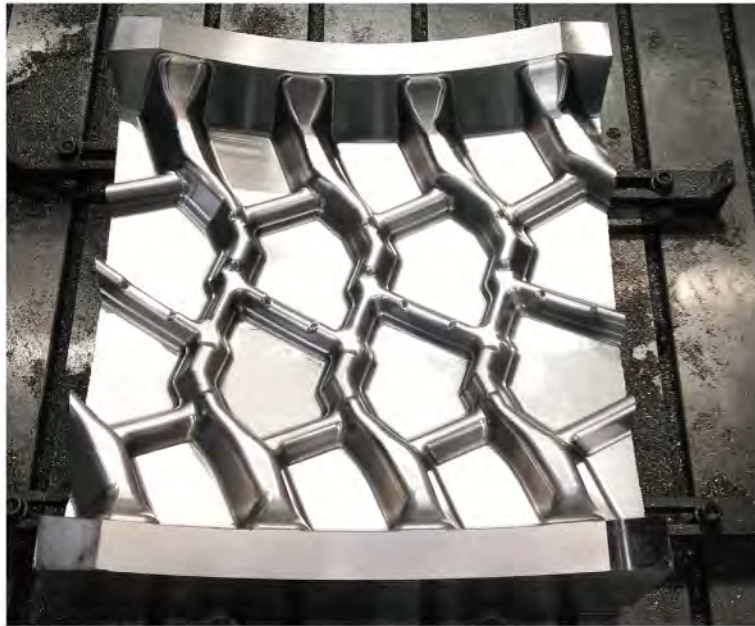
GSA-xx32 Series

	Model	Unit	GSA-2232	GSA-3032	GSA-4032	GSA-5032	GSA-6032
1	Travel						
1-1	X travel	mm	2,200	3,000	4,000	5,000	6,000
1-2	Y travel	mm	3,200				
1-3	Z travel	mm	1,000 / 1,200				
1-4	Distance from spindle nose to table	mm	Z1000: 210-1210/ Z1200: 210-1410				
1-5	Distance from spindle center to column	mm	3,900				
1-6	Distance between columns(port width)	mm	3,400				
2	Table						
2-1	Dimension	mm	2,200 x 3,200	3,000 x 3,200	4,000 x 3,200	5,000 x 3,200	6,000 x 3,200
2-2	T-slot (W*N*P)	mm	28 x 13 x 250				
2-3	Max. load	kg/m²	3,000				
3	Spindle						
3-1	Power(S1/S6)	kW	50 / 65				
3-2	Speed	rpm	HSK-A100/ Built-in 15,000				
3-3	Torque(S1/S6)	Nm	95.5 / 124				
4	Feed rate						
4-1	Cutting feed rate	mm/min	1-20,000				
4-2	Rapid traverse (X/Y/Z)	m/min	XY:32 / Z:20				
5	Accuracy						
5-1	Positioning accuracy(Refer to JIS B6333)	mm	±0.005 / Full Travel		±0.007 / Full Travel		
5-2	Positioning accuracy(Refer to VDI3441)	mm	P0.006		P0.008		
5-3	Repeatability(Refer to JIS B6333)	mm	±0.002				
5-4	Repeatability(Refer to VDI3441)	mm	PS0.004		PS0.005		
6	ATC						
6-1	Capacity	pcs	20 / 32(Opt.)				
6-2	Max tool size (full)/(empty) / weight	kg	Ø75(Ø130)300mm/ 8kg				
7	Others						
7-1	Power requirement	kVA	130				
7-2	Pneumatic requirement	kg/cm²	6				
7-3	Net weight	kg	47,500	45,000	54,500	63,500	73,000
7-4	Max. dimension (L*W*H)	m	8.8x10.2x5.2	9.6x10.2x5.2	10.6x10.2x5.2	11.6x10.2x5.2	12.6x10.2x5.2

Option accessories and function

27 XYZ-axis travel hard limits protection	1 HEIDENHAIN DCM	11 Dual Belt Type Chip Conveyor/coolant tank
28 Remote monitoring software-standard	(Dynamic Collision Monitoring)	12 Chip cart
(not for Siemens controller)	2 12,000 rpm HSK-A100 spindle	13 Sub working table
29 Auto power off	3 24,000rpm HSK-A63 spindle	14 XYZ-axis independent manual pulse generator
30 Z-axis retract function at power failure	4 Z-axis travel 1,200 mm	15 Remote monitoring software-professional
31 Foundation pads and bolts kits	5 32T tools magazine with arm type ATC	(not for Siemens controller)
32 Adjustment tool and tool kits	6 CTS function: 20bar / 70bar	16 Auto tool length measurement system
33 Technical manuals	7 Oil skimmer	17 Auto workpiece measurement system
(operation, maintenance manual and	8 Oil mist cooling device	18 Auto compensation software of rotary axis
circuit diagram)	9 Enclosed sheet metal guard (with top cover)	19 Spindle vibration protection system
	10 Helical blade screw conveyor on table sides	20 Transformer
		21 Oil mist recycle device

Precision Mold Machining



Tire Mold (Segment Type)

- L660 x W600 x H260 mm
- S45C
- 15,000 rpm

Feature:

- Corner smooth flow cut via 5-axis synchronized machining.
- High feed rough cutting : F10,000 D25
- F3,000 R5, 22 hours
- ※ For GSF Series

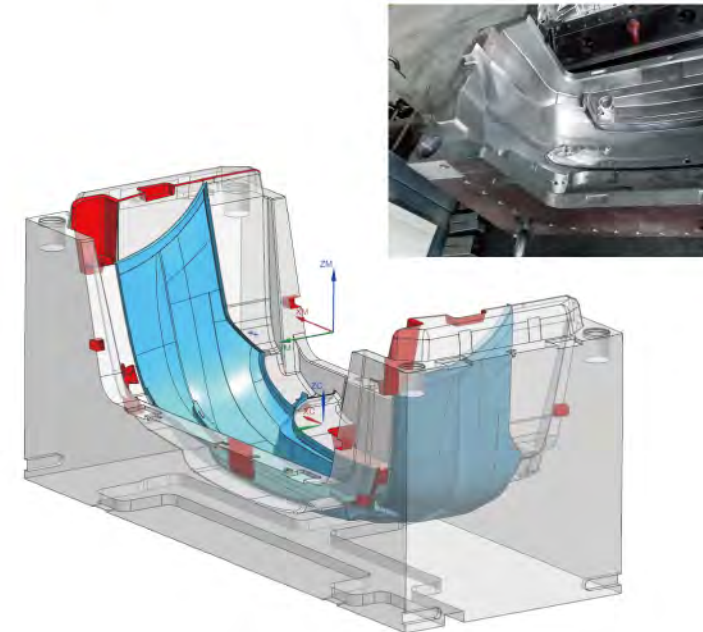


Aircraft Wing

- L950 x W230 x H400
- 10,000 mm/min
- 7 Nm
- 160 cc/min removal rate

Feature

- 3+2 axis synchronized machining
- 5 axis machining



Bumper Mold

- L900 x W2300 x H930 mm
- P20
- 8,000 rpm
- 5,000 mm/min

Feature:

- Synchronous 2 axes machining, increased 30% machining efficiency
- Long tool length upgraded tool rigidity efficiently and decreased cutting vibration.

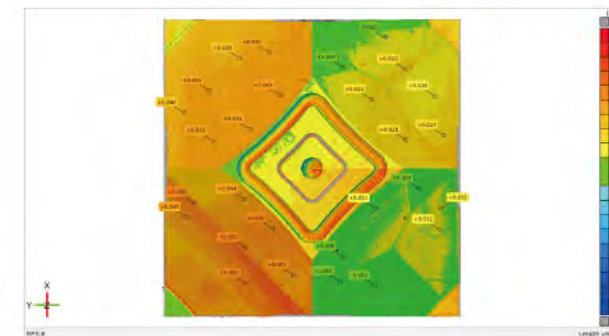


5-axis Synchronized Cutting Precision Verified Mold

- L280 x W280 x H120 mm

Feature:

- Axes synchronized machining & fixed axis machining tool marks <0.04 mm.



Synchronized 2-axis Head- 5-axis

Built-in motor with IDD driven on B & C axis.

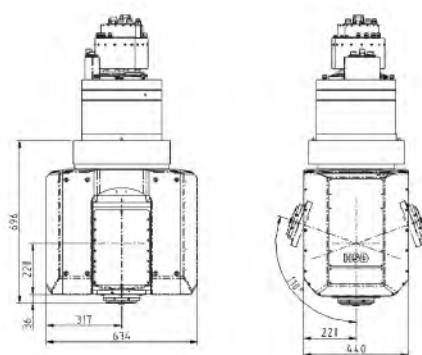
- Hi-acceleration rotation.
- Backlash-free driving on B/C axis.
- High positioning accuracy.
- The smallest conflict between workpiece and head outline.
- Thermal protection in all motors and bearing.
- Vibration protection in all bearings.
- High-resolution feed back from B & C axis.
- 5-axis synchronized machining TCPM 0.04 mm
- High Positioning Rotation Accuracy B1° /C1°



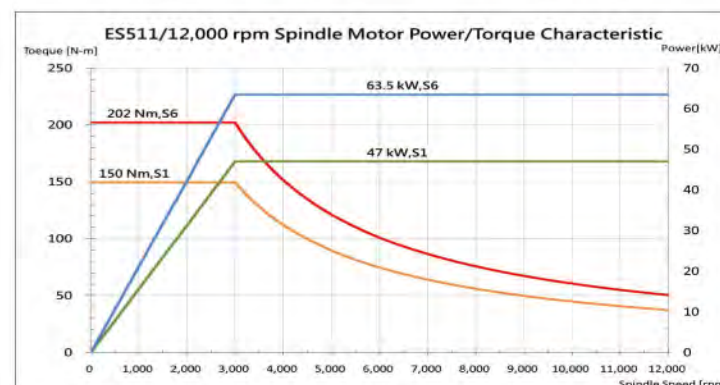
HST810 double sided

2-axis Synchronous Head	12,000 rpm		15,000 rpm / 24,000 rpm		24,000 rpm	
	HST810+ES510/Double Sided		HST810+ES510/Single Sided		HST610+ES505/Single Sided	
	B-axis	C-axis	B-axis	C-axis	B-axis	C-axis
Rotation range	± 110°	± 270°	± 110°	± 270°	± 110°	± 270°
Positioning accuracy	8"	8"	8"	8"	10"	8"
Rotation speed	30 rpm	30 rpm	30 rpm	30 rpm	30 rpm	30 rpm
Rotation torque(Cont.)	1,414 Nm	1,250 Nm	707 Nm	1,250 Nm	480 Nm	680 Nm
Clamping torque	4,000 Nm	4,000 Nm	2,000 Nm	4,000 Nm	1,800 Nm	2,000 Nm

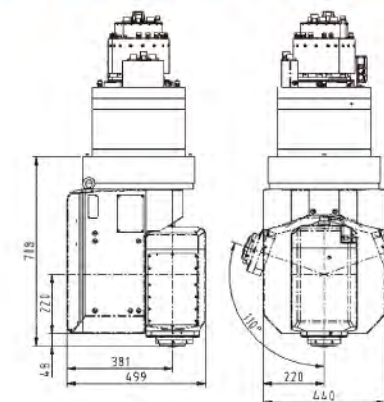
12,000 rpm/ HST810 double sided



Spindle speed	12,000 rpm	Spindle Power (S1/6)	47/ 63.5 kW
Spindle type	Built-in	Spindle torque (S1/6)	150/ 202 Nm
Spindle taper	HSK-A100	CTS	(Opt.)



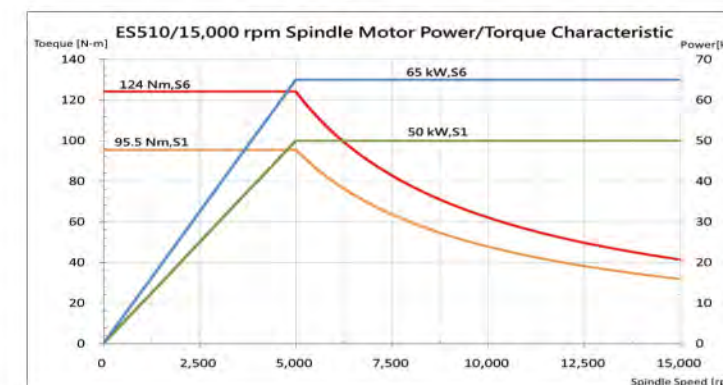
15,000 rpm / HST810 Single Sided 24,000 rpm / HST810 Single Sided



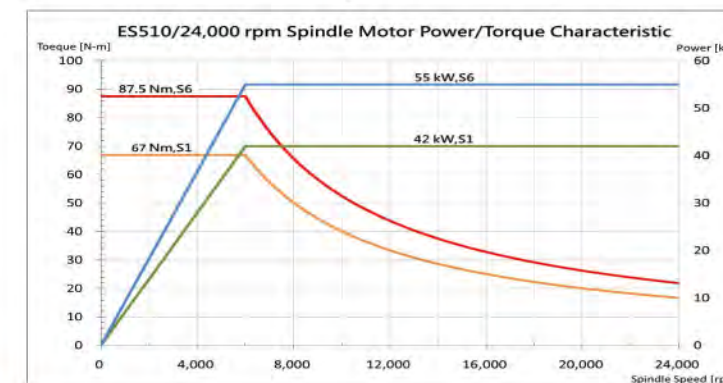
HST810 Single Sided

HST610 Single Sided

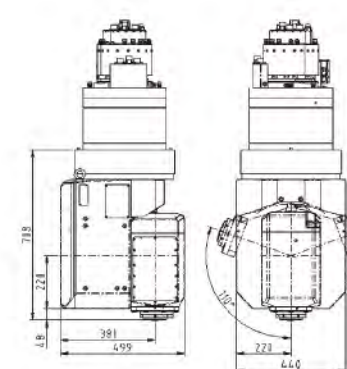
Spindle speed	15,000 rpm	Spindle Power (S1/6)	50/ 65 kW
Spindle type	Built-in	Spindle torque (S1/6)	95.5/ 124 Nm
Spindle taper	HSK-A100	CTS	(Opt.)



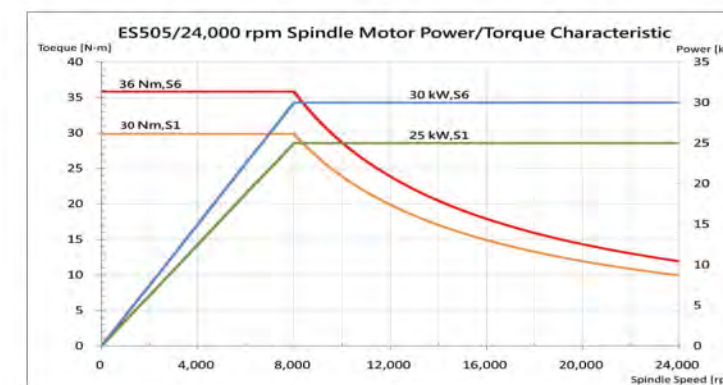
Spindle speed	24,000 rpm	Spindle Power (S1/6)	42/ 55 kW
Spindle type	Built-in	Spindle torque (S1/6)	67/ 87.5 Nm
Spindle taper	HSK-A63	CTS	(Opt.)



24,000 rpm / HST610 Single Sided



Spindle speed	24,000 rpm	Spindle Power (S1/6)	25/ 30 kW
Spindle type	Built-in	Spindle torque (S1/6)	30/ 36 Nm
Spindle taper	HSK-A63	CTS	(Opt.)



Machine Dimension

GSF-xx27 Series

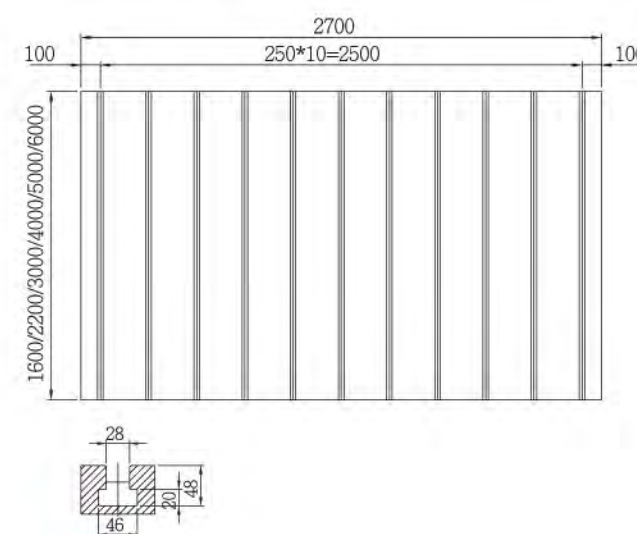
Model	A	B	C	D	E	F
GSF-1627	7050	3800	3250	4720	8200	9700
GSF-2227				5120	8600	
GSF-3027				6120	9600	
GSF-4027				7120	10600	
GSF-5027				8120	11600	
GSF-6027				9120	12600	

GSF-xx32 Series

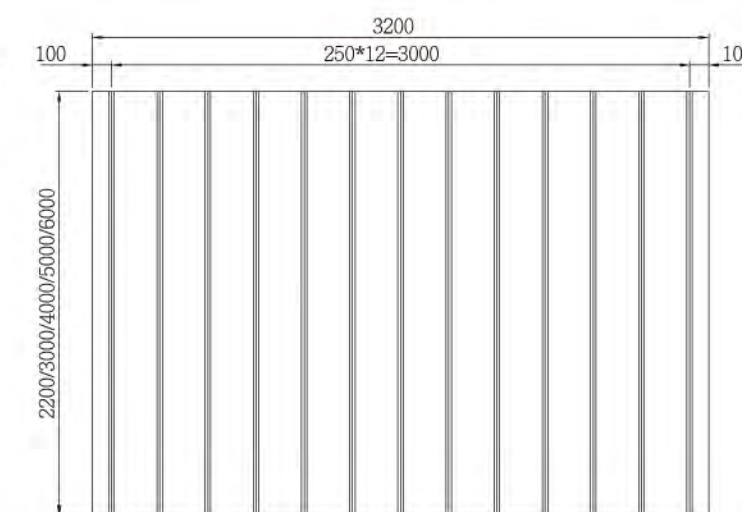
Model	A	B	C	D	E	F
GSF-2232	7550	4050	3500	5120	8600	10200
GSF-3032				6120	9600	
GSF-4032				7120	10600	
GSF-5032				8120	11600	
GSF-6032				9120	12600	

Table & T slot

GSF-xx27 Series



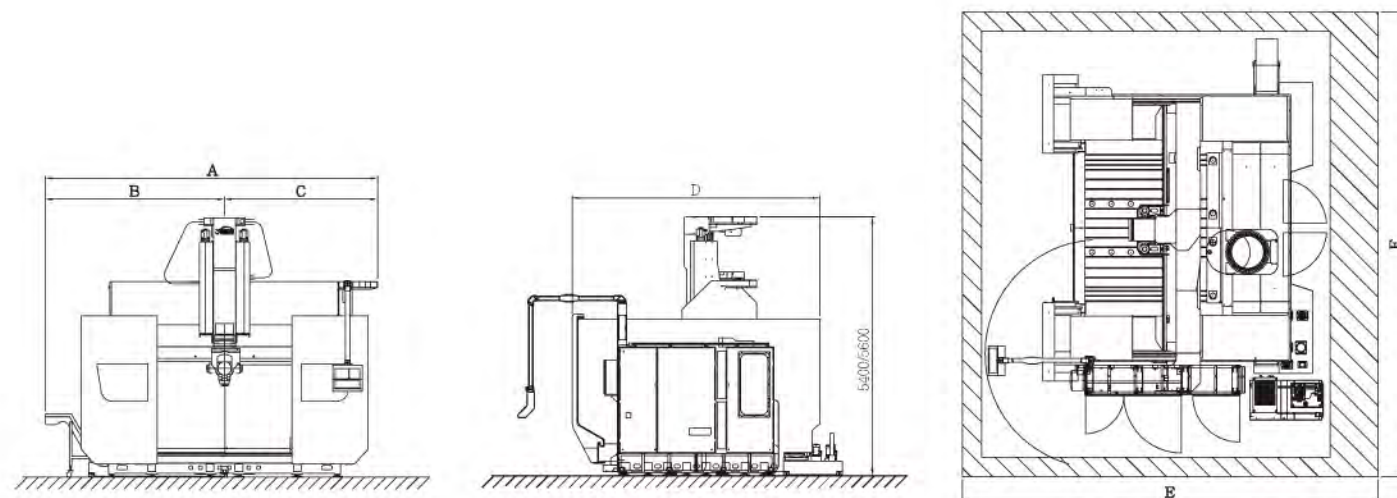
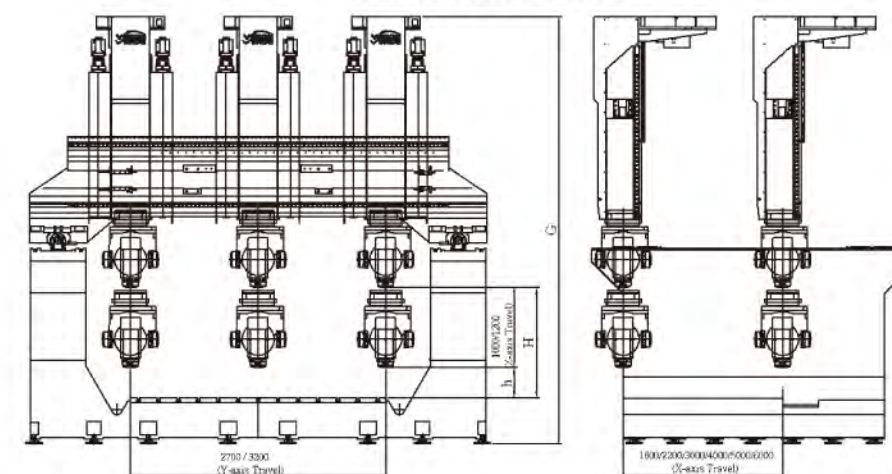
GSF-xx32 Series



Working Range

2-axis Synchronous Head	Z-axis travel 1000			Z-axis travel 1200		
	h	H	G	h	H	G
12000rpm / HST810 / Double sided	220	1220	5400	220	1420	5600
15000rpm / HST810 / Single sided	275	1275	5400	275	1475	5600
24000rpm / HST810 / Single sided	310	1310	5400	310	1510	5600
24000rpm / HST 610 / Single sided	225	1225	5200	225	1425	5400

GSF-xx27&32 Series



GSF-xx27 Series

	Model		Unit	GSF-1627	GSF-2227	GSF-3027	GSF-4027	GSF-5027	GSF-6027
1	Travel								
1-1	X travel		mm	1,600	2,200	3,000	4,000	5,000	6,000
1-2	Y travel		mm	2,700					
1-3	Z travel		mm	1,000 / 1,200					
1-4	Distance from spindle nose to table	HST810+ES511(double sided)	mm	Z 1,000: 220-1,220 / Z 1,200: 220-1,420					
1-5		HST810+ES510(single sided)	mm	Z 1,000: 275-1,275 / Z 1,200: 275-1,475					
1-6		HST810+ES510(single sided)	mm	Z 1,000: 310-1,310 / Z 1,200: 310-1,510					
1-7		HST610+ES505(single sided)	mm	Z 1,000: 225-1,225 / Z 1,200: 225-1,425					
1-8	Distance from spindle center to column		mm	3,400					
1-9	Distance between columns(port width)		mm	2,700					
2	Table								
2-1	Dimension		mm	1,600 x 2,700	2,200 x 2,700	3,000 x 2,700	4,000 x 2,700	5,000 x 2,700	6,000 x 2,700
2-2	T-slot (W*N*P)		mm	28 x 11 x 250					
2-3	Max. load		kg/m²	3,000					
3	Spindle								
3-1	Power(S1/S6)		kW	50 / 65					
3-2	Speed		rpm	HSK-A100 / Built-in 15,000					
3-3	Torque(S1/S6)		Nm	95.5 / 164					
4	Feed rate								
4-1	Cutting feed rate		mm/min	1-20,000					
4-2	Rapid traverse (X/Y/Z)		m/min	XY:32 / Z:20					
5	Accuracy								
5-1	Positioning accuracy(Refer to JIS B6333)		mm	±0.005 / Full Travel			±0.007 / Full Travel		
5-2	Positioning accuracy(Refer to VDI3441)		mm	P0.006			P0.008		
5-3	Repeatability(Refer to JIS B6333)		mm	±0.002			±0.002		
5-4	Repeatability(Refer to VDI3441)		mm	PS0.004			PS0.005		
6	ATC								
6-1	Capacity		pcs	20 / 32(Opt.)					
6-2	Max tool size (full)/(empty) / weight		kg	Ø75(Ø130)300mm/ 8kg					
7	Others								
7-1	Power requirement		kVA	130					
7-2	Pneumatic requirement		kg/cm²	6					
7-3	Net weight		kg	41,000	46,000	43,500	52,500	61,000	70,500
7-4	Max. dimension (L*W*H)		m	8.2x9.7x5.2	8.8x9.7x5.2	9.6x9.7x5.2	10.6x9.7x5.2	11.6x9.7x5.2	12.6x9.7x5.2

Standard accessories and function

1 HEIDENHAIN TNC640 controller	8 Spindle cooler	18 Enclosed sheet metal guard (without top cover)
2 HEIDENHAIN DCM (Dynamic Collision Monitoring)	9 X axis ball screw support device (GSF X axis 4m above)	19 Swiveling arm type operation panel
3 12,000rpm HSK-A100 spindle		20 Spring conveyor on table sides
4 2-axis head central monitoring protection system	10 20 tools magazine with arm type ATC	21 Caterpillar type chip conveyor/ coolant tank
Spindle bearing vibration monitoring	11 X axis dual linear scale, Y/Z-axis linear scale	22 Air conditioning for electrical cabinet
Spindle and motor temperature monitoring	12 Centerized auto lubrication system	23 Working lamp
B/C-axis motor temperature monitoring	13 Surrounding Coolant nozzles	24 Program cycle end and alert signal lamp
Spindle cutting load software protection	14 Independent lubrication oil collector for 3-axis	25 Movable manual pulse generator
5 2-axis Head rotary compensastion system	15 Air blast through spindle	26 RJ45 interface
6 Z-axis travel 1000mm	16 Wash gun & pneumatic interface	27 Footswitch for tool clamping
7 Spindle and structure thermal compensation system	17 Cutting fluid cooling system	28 XYZ-axis travel hard limits protection

GSF-xx32 Series

	Model		Unit	GSF-2232	GSF-3032	GSF-4032	GSF-5032	GSF-6032
1	Travel							
1-1	X travel		mm	2,200	3,000	4,000	5,000	6,000
1-2	Y travel		mm	3,200				
1-3	Z travel		mm	1,000/1,200				
1-4	Distance from spindle nose to table	HST810+ES511(double sided)	mm	Z 1,000: 220-1,220 / Z 1,200: 220-1,420				
1-5		HST810+ES510(single sided)	mm	Z 1,000: 275-1,275 / Z 1,200: 275-1,475				
1-6		HST810+ES510(single sided)	mm	Z 1,000: 310-1,310 / Z 1,200: 310-1,510				
1-7		HST610+ES505(single sided)	mm	Z 1,000: 225-1,225 / Z 1,200: 225-1,425				
1-8	Distance from spindle center to column		mm	3,900				
1-9	Distance between columns(port width)		mm	3,400				
2	Table							
2-1	Dimension		mm	2,200 x 3,200	3,000 x 3,200	4,000 x 3,200	5,000 x 3,200	6,000 x 3,200
2-2	T-slot (W*N*P)		mm	28 x 13 x 250				
2-3	Max. load		kg/m ²	3,000				
3	Spindle							
3-1	Power(S1/S6)		kW	50 / 65				
3-2	Speed		rpm	HSK-A100 / Built-in 15,000				
3-3	Torque(S1/S6)		Nm	95.5 / 164				
4	Feed rate							
4-1	Cutting feed rate		mm/min	1-20,000				
4-2	Rapid traverse (X/Y/Z)		m/min	XY:32 / Z:20				
5	Accuracy							
5-1	Positioning accuracy(Refer to JIS B6333)		mm	±0.005 / Full Travel		±0.007 / Full Travel		
5-2	Positioning accuracy(Refer to VDI3441)		mm	P0.006		P0.008		
5-3	Repeatability(Refer to JIS B6333)		mm	±0.002		±0.002		
5-4	Repeatability(Refer to VDI3441)		mm	PS0.004		PS0.005		
6	ATC							
6-1	Capacity		pcs	20/32(Opt.)				
6-2	Max tool size (full)/(empty) / weight		kg	Ø75(Ø130)300mm/ 8kg				
7	Others							
7-1	Power requirement		kVA	130				
7-2	Pneumatic requirement		kg/cm ²	6				
7-3	Net weight		kg	48,000	45,500	55,000	64,000	73,500
7-4	Max. dimension (L*W*H)		m	8.8x10.2x5.2	9.6x10.2x5.2	10.6x10.2x5.2	11.6x10.2x5.2	12.6x10.2x5.2

Option accessories and function

29 Remote monitoring software-standard (not for Siemens controller)	1 24,000rpm HSK-A63 spindle	12 Sub working table
30 Auto power off	2 Z-axis travel 1,200 mm	13 XYZ-axis independent manual pulse generator
31 Z-axis retract function at power failure	3 32T tools magazine with arm type ATC	14 Remote monitoring software-professional (not for Siemens controller)
32 Foundation pads and bolts kits	4 CTS function: 20 bar / 60 bar	15 Auto tool length measurement system
33 Adjustment tool and tool kits	5 Surrounding Coolant nozzles	16 Auto workpiece measurement system
34 Technical manuals (operation, maintenance manual and circuit diagram)	6 Oil skimmer	Auto workpiece measurement/
	7 Oil mist cooling device	17 Auto compensation software of rotary axis
	8 Enclosed sheet metal guard (with top cover)	18 Spindle vibration protection system
	9 Helical blade screw conveyor on table sides	19 Transformer
	10 Dual Belt Type Chip Conveyor/coolant tank	20 Intelligent Auto feed adjustment
	11 Chip cart	21 Oil mist recycle device