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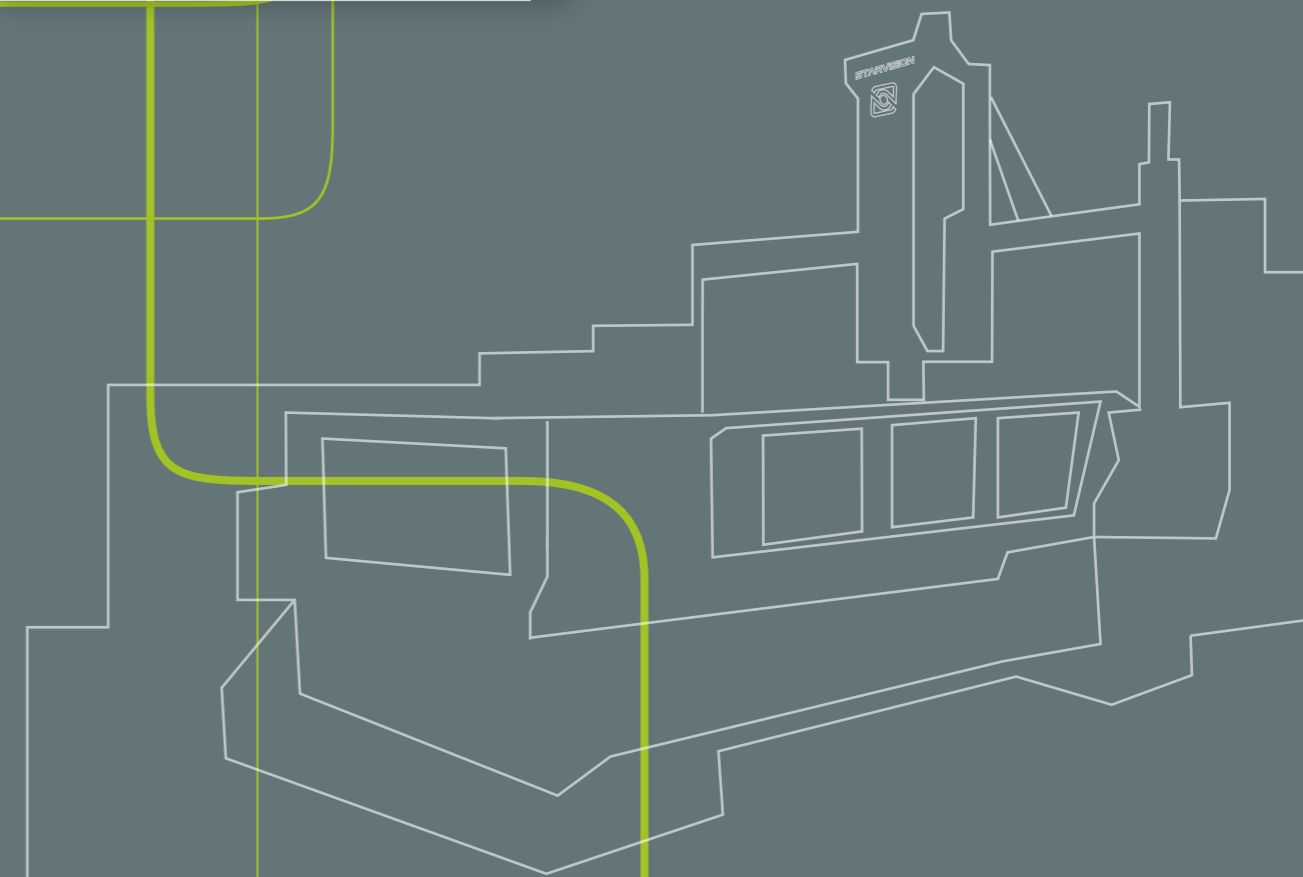
Youtube

CNC Double Column Machining Center

Linear Guideway Series

DX LG

FG LS



**DUPLICATE SIMPLE ,
SPECIALTY IRREPLACEABLE.**



Starvision carries 25 years of professional experience in R&D, assembly and quality control Double Column Machining Center.

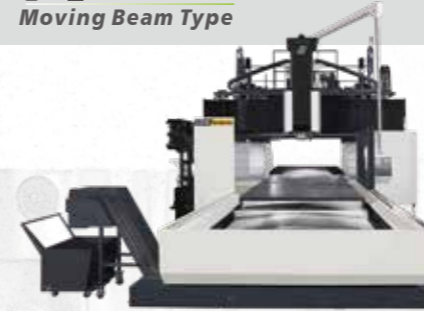
In 2008, we have signed a technical cooperation agreement with well-known German turning machine manufacturer- Monforts Werkzeugmaschinen GmbH and arranged an off-site training in Monforts Germany.

Starvision team integrates advanced technology and strict attitude into our own products. We set ourselves very high standards and always keep up constant know-how exchanges and innovations. These not only enhance our own technology but also strengthen our faith and passion to machine tool industry.



All series conform CE certificates

SBM series
Moving Beam Type



BCM series
Beam and Column Moving



V series
5-Axis



FS series
Box Way



PC series
Box Way



DX series
Linear Guideway



LG series
Linear Guideway



FG series
Linear Guideway



LS series
Linear Guideway



SUSTAINABILITY

More than selling products, Starvision persists in sustainable operation.



INTEGRITY

More than selling products, Starvision fulfills the promise.



SHARING

More than selling products, Starvision shares professional experience.



SERVICE

More than selling products, Starvision carries through after-sales responsibilities.

I DX SERIES

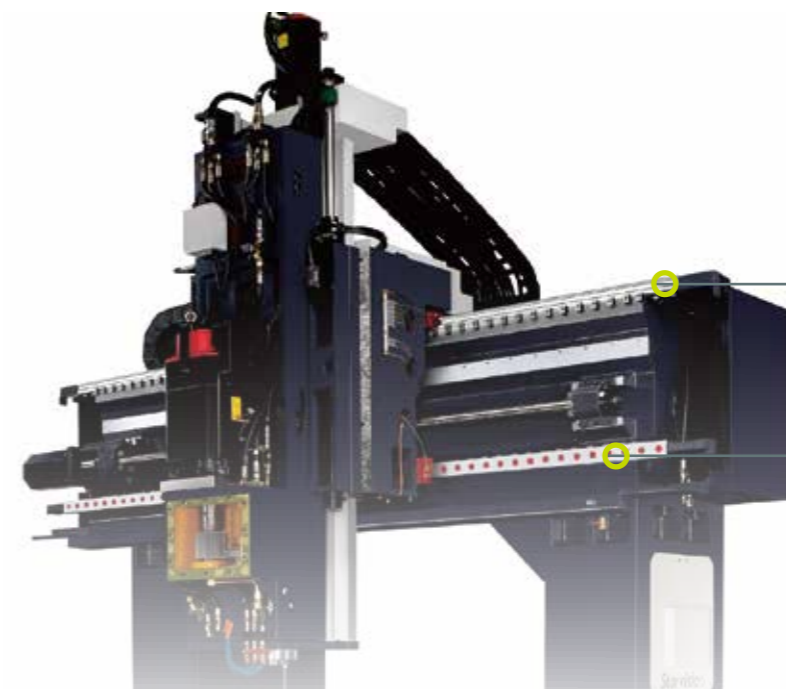


**HIGH SPEED.
FAST AND PRECISE.**

2 x 1.4m - 4 x 1.7m

1.7m / 2.1m

DX series is the most popular series in Starvision's product line. With linear guideway design which can achieve a long service life with high accuracy. DX Series is your perfect solution for efficient machining and fast cutting.



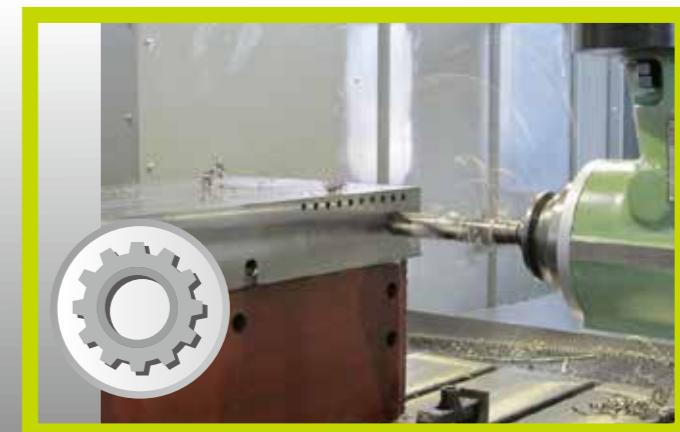
The linear guideways on the cross beam are arranged in a vertical direction to withstand the cutting force of X / Z axis and make Y-axis more stable when machining.



Column (STD.)



Suspension(OPT.)



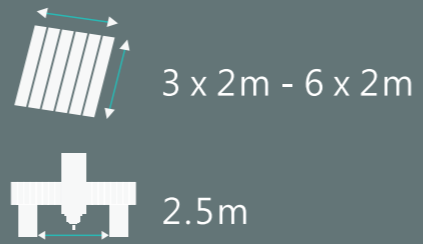
SCHNELL



I LG SERIES



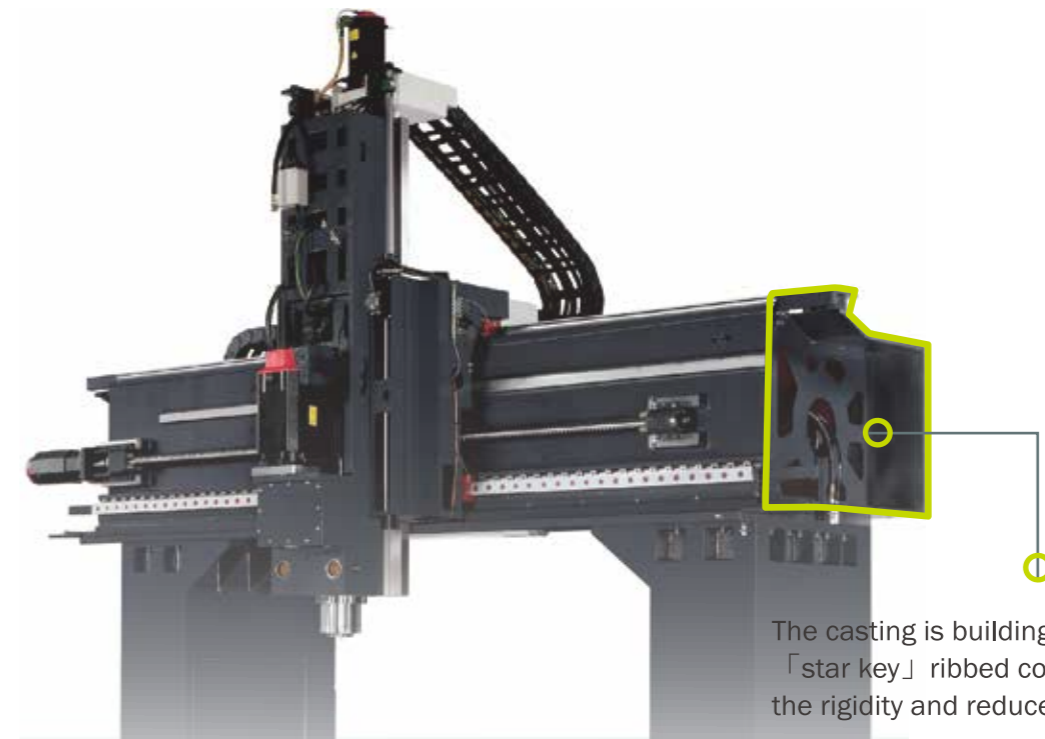
GREAT PERFORMANCE.
Improve mold processing efficiency



LG series is equipped with two sets of optimal R65 linear guideway in X and Y axis.



Ballscrew support unit



The casting is building by the cylinder type with 「star key」 ribbed construction design which improves the rigidity and reduces the probability of deformation.



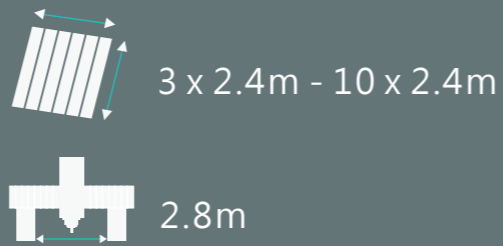
STARK



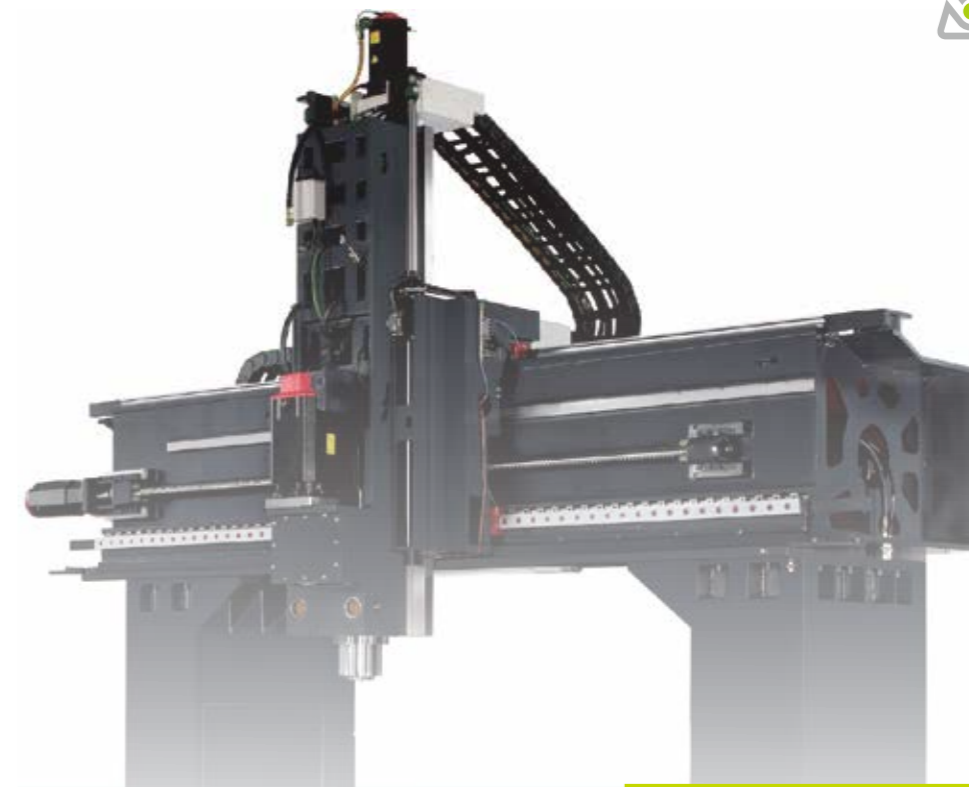
I FG SERIES

AC MC MH

STABLE IN ACCURACY.
The re-evolution of LG series.



The base is equipped with three sets of R55 linear guideway, and a wider working table.



FORTSCHRITTLICH



LS SERIES

AC MC MH

LARGE CAPACITY.

4 x 2.8m - 10 x 2.8m (3.5m opt.)
3.2m / 3.7m / 4.2m / 4.7m

LS (Large Space) Series has very rigid structure, with three sets of R65 linear guideway in X axis, ensuring a stable axial movement. It is your best choice for large to extra-large size workpieces machining and is suitable for all kinds of mold application.



Ball-screw support unit for travel over 5m in X axis.



Germany made planetary gearhead represents stability and accuracy.

Distance between columns under 3.5m



Distance between columns over 3.5m



(Fully enclosed splash guard, high suspension type controller panel are optional)

BREIT



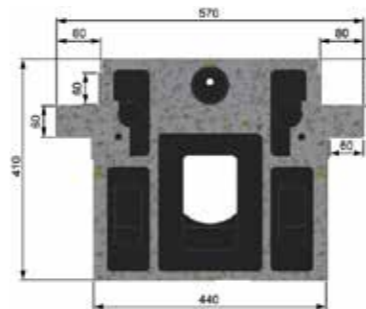
LS SERIES

» Headstock (LS-XX40/45)

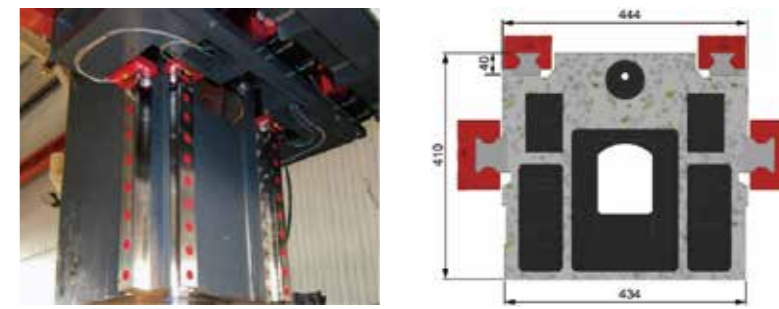
Box in box structure design with square type ribs inside which not only efficiently reduces the weight of headstock but also enhances the geometric and thermal stability of the machine, showing excellent machining rigidity. With an upper mounted spindle motor design, we can install a bigger motor to receive more powerful torque without worrying the possible machining interference.

- Headstock size: 500 x 500mm
- 1,000(STD.) 1,200/1,500mm (OPT.) Z travel with roller type linear guideways (size R55x2 and R65x2)

Box way layout



Linear guideway layout



» Z axis

» Ballscrew Support

For X travel over 5 meters (inclusive) and Y travel over 3.5 meters (inclusive) machine, we will offer an extra ballscrew support for better support and to reduce the deformation. This device will also enhance the bearing life.

» Distance Between Columns

From 3,200 to 4,700mm to meet different customers' machining requirements.

» Linear Guideway

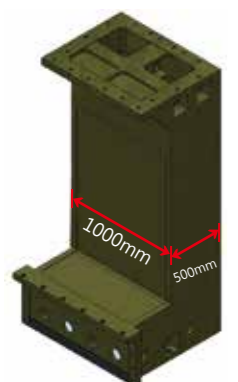
X axis is equipped with three R65 roller type linear guideways for high rigidity and precision and to achieve a long service life with highly accurate motion.

» Base

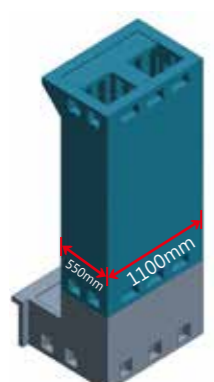
- Lubricant recycling to keep the base clean.
- Lubricant and coolant separate to prolong the service life of the coolant.
- Complete chip management system to avoid damaging to the guideway.

For headstock size 420*420mm

For headstock size 500*500mm



Height up to 400mm



Height up to 700mm

» Gear Reducer

Gear transmission for the X axis with gear ratio 1: 3 for less than 4 meters models and gear ratio 1:4 for 5 meters and above models. All series with planetary gear reducer, the axial movement is able to respond effectively.



Precision Spindle

Various spindle motor selection, featuring high torque, low temperature-rise and long service life, meets different customers' machining requests.

1 Gear Drive Spindle spindle speed 6,000 / 8,000 (opt.) rpm



Long nose

Short nose

2 Direct drive spindle spindle speed 10,000 / 12,000 rpm



BT 50

BT 40

3 Built-in spindle



HSK-A100 spindle speed 12,000 rpm
HSK-A63 spindle speed 24,000 rpm

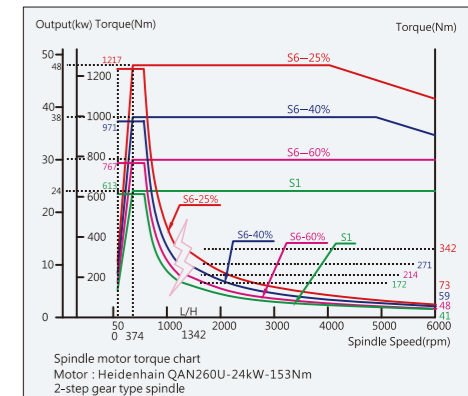
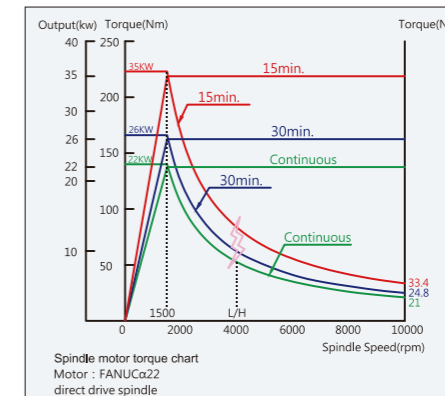
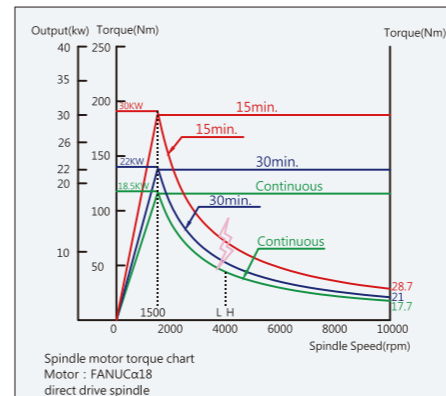
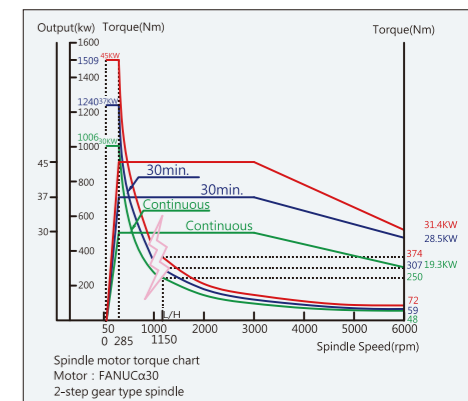
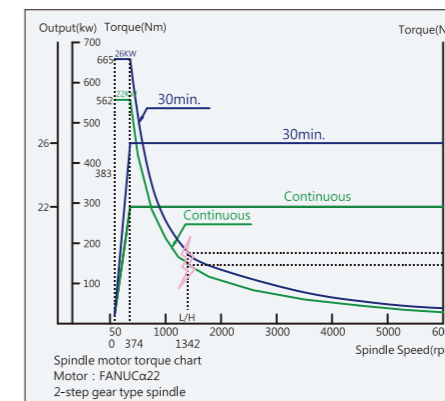
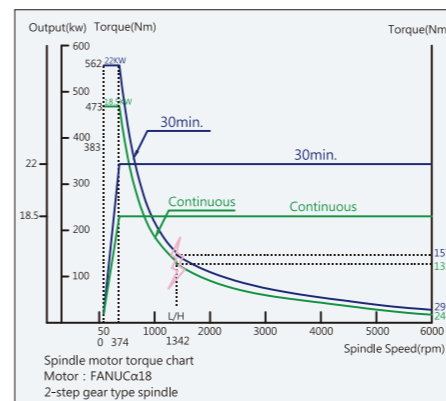


2-step Gearbox

- Using Japan made JIS Class 0 gears.
- High efficiency power transmission.
- Great torque output.
- All the bearings, gears and spindle are in oil shower lubrication to ensure a smooth operation of the gearbox and to make sure a constant temperature at all times.

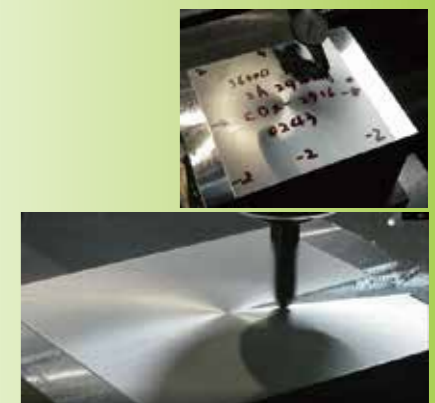
New Headstock Design Offers - Various Spindle Torque

Spindle Torque



A Solution for Spindle Thermal Expansion (Opt.)

- Improve machine accuracy
 - Reduce process errors
 - Reduce machine warm-up time
 - Prolong tool life
 - Avoid the influence from environmental temperature
- Displacement: Less Than 30μm**



AC Automatic



AC2
Automatic 2-axis
Milling Head



Ac300
Automatic Extension
Milling Head



AC5
Automatic 90 Degree
Milling Head

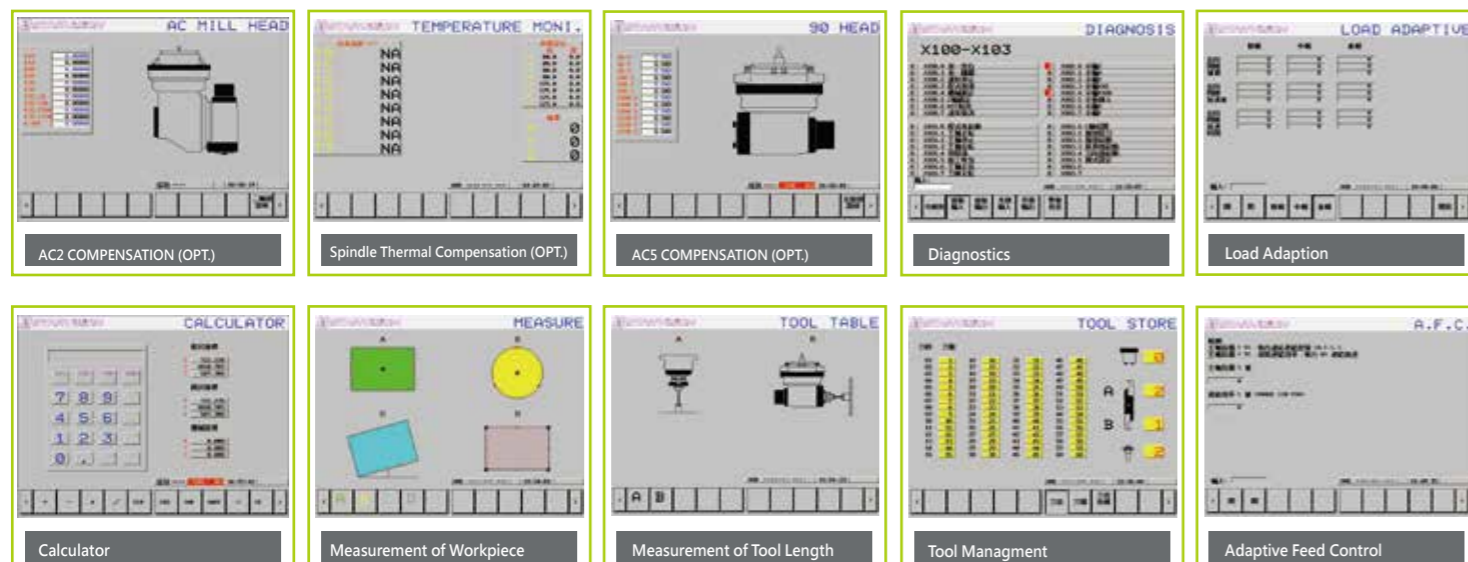
Model	AC2	AC300	AC5
	2-axis	Extension	90 Degree
Max. Speed (rpm)	3,000	3,500	3,000
Max. Power (Kw)	26	26	26
Max. tool diameter	Ø150mm (6")	Ø150mm (6")	Ø150mm (6")
Spindle taper	BT50	BT50	BT50
Indexing angle	C axis auto 5°/2.5° index · manual 1° index A axis auto 5°/2.5° index · manual 1° index	N/A	C axis auto 5°/2.5° index · manual 1° index
Head changing	Automatic	Automatic	Automatic
Tool changing	Automatic vertical tool change	Automatic vertical tool change	Automatic horizontal tool change
Indexing accuracy	C: ±0.0025	-	C: ±0.0025
Rotation angle	A : ±110°	-	C: 360°
CTS	V	V	V



AHS (Servo)

Self-Developed Spindle Controller Assistant Software *StarGuide*

StarGuide a controller assistant software which designs for spindle development. This software can improve machine accuracy, reduce process errors, prolong tool life and avoid the influence from environmental temperate. In accordance with different cutting conditions and settings, automatically adjusts the cutting feed rate to reach an optimized machining time.



MH Manual



MHS (T)



MHK2
Manual 2-axis
Milling Head
(8,000 rpm)



MH5
Manual 90 Degree
Milling Head



MH2
Manual 2-axis
Milling Head



MH300
Manual Extension
Milling Head



MH500
Manual Extension
Milling Head



MHB480
Manual Boring
and Milling Head

Model	MHK2	MH5	MH2	MH300	MH500	MHB480
	2-axis	90 Degree	2-axis	Extension	Extension	90 Degree Boring
Max. Speed (rpm)	8,000 or 10,000	2,000	2,000	2,000	2,000	800 / 2,000
Max. Power (Kw)	11	26	26	26	26	26
Max. tool diameter	Ø100mm (3.9")	Ø150mm (6")	Ø150mm (6")	Ø150mm (6")	Ø150mm (6")	Ø150mm (6")
Spindle taper	BT50	BT50	BT50	BT50	BT50	BT50
Head changing	Manual	Manual	Manual	Manual	Manual	Manual
Tool changing	Manual	Manual	Manual	Manual	Manual	Manual
Rotation angle	C: 360°	C: 360°	C: 360°	-	-	C: 360°

MC Semi-automatic



MC2
Semi-automatic 2-axis
Milling Head

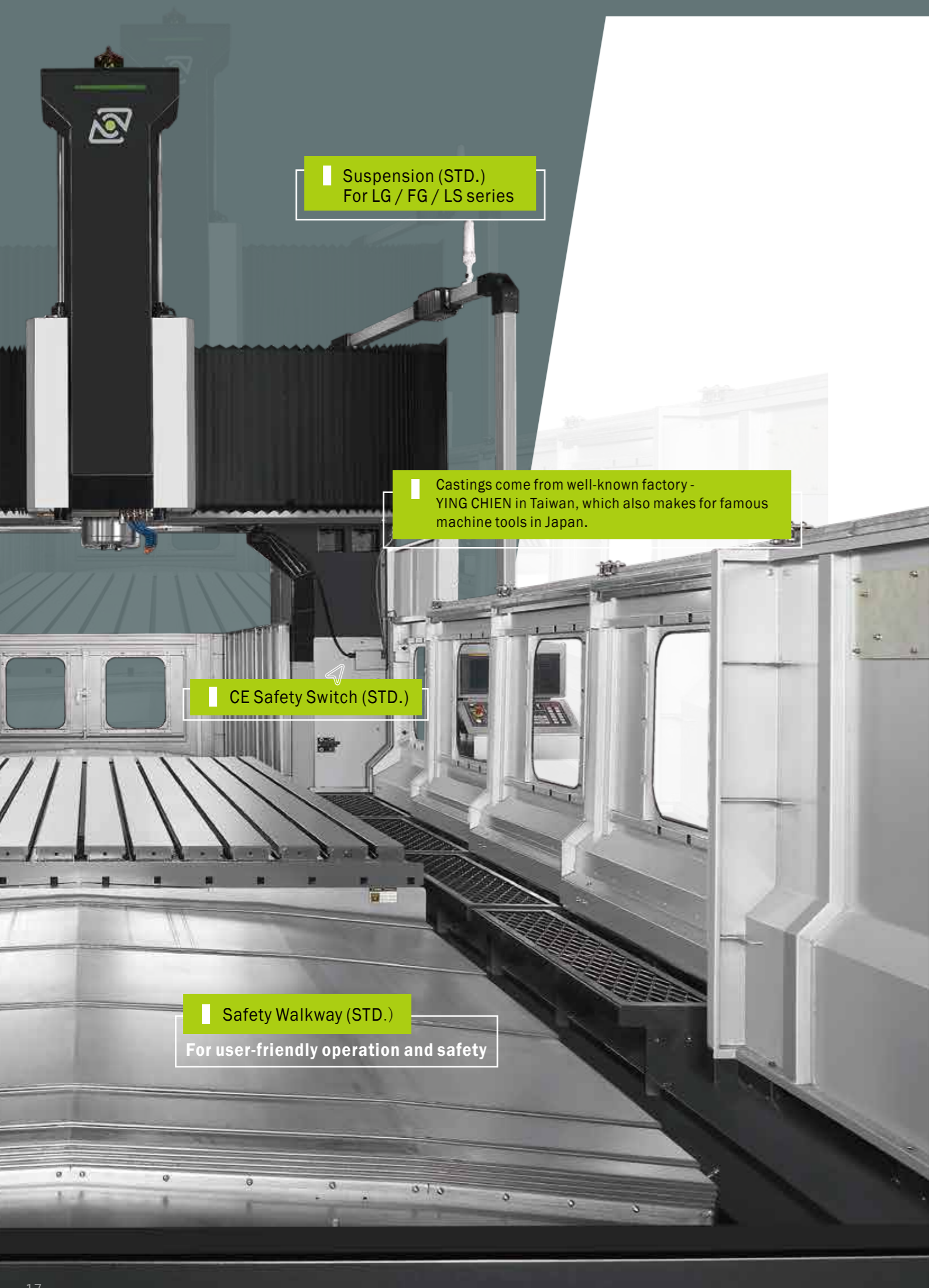


MC5
Semi-automatic 90 Degree
Milling Head

Model	MC2	MC5
	2-axis	90 Degree
Max. Speed (rpm)	2,000	2,000
Max. Power (Kw)	26	26
Max. tool diameter	Ø150mm (6")	Ø150mm (6")
Spindle taper	BT50	BT50
Indexing angle	C axis auto 5° index A axis manual 5°/2.5° 1° index	C axis auto 5° index
Head changing	Manual	Manual
Tool changing	Manual clamping	Manual clamping
Rotation angle	C: 360°	C: 360°



MHS (A)



■ Suspension (STD.)
For LG / FG / LS series

■ Castings come from well-known factory -
YING CHIEN in Taiwan, which also makes for famous
machine tools in Japan.

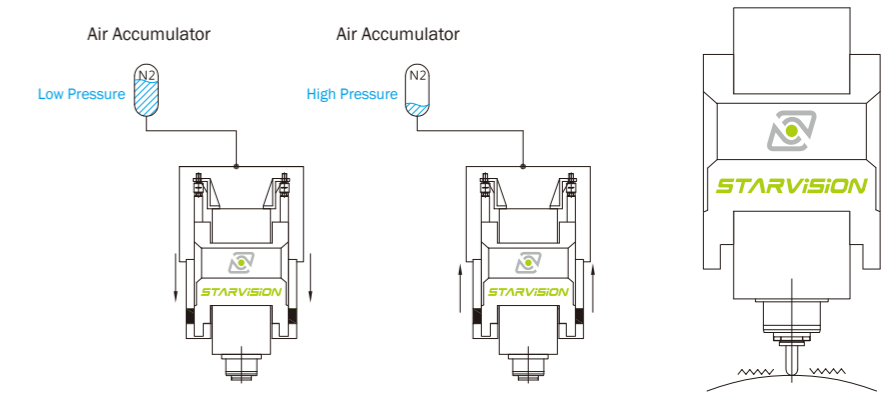
■ CE Safety Switch (STD.)

■ Safety Walkway (STD.)
For user-friendly operation and safety



Energy Saving Z Axis Balance System

Z axis movement is counter-balanced by twin hydraulic cylinder and a nitrogen accumulator. A bladder accumulator can equilibrate hydraulic pulsation caused pressure, such as hysteresis caused overcut. When abnormal power outage occurs, the Z axis position can be secured. The whole system not only enhances the sensitivity of the Z-axis micro-movement, showing great flexibility and best dynamic stability, but also ensures the machine's optimal repeatability. In addition, it helps the energy saving up to 30%.

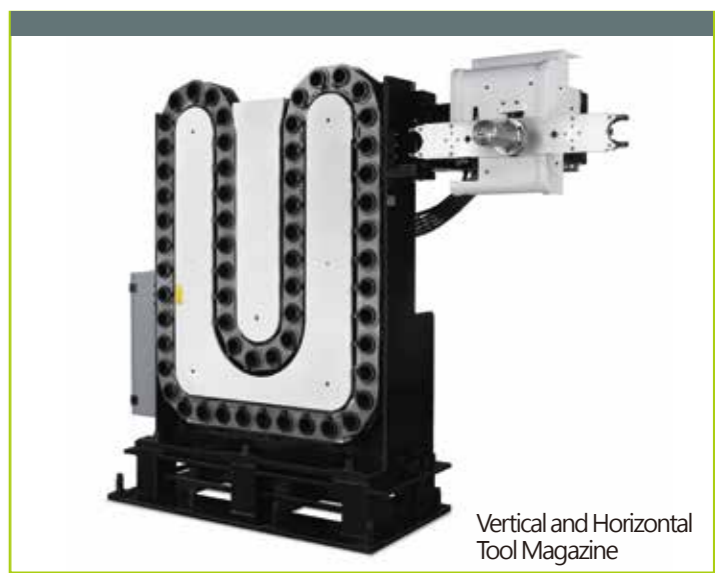


Tool Magazine Options

Automatic tool changer

Tool magazine selection is random,
tools can be changed quickly.

Vertical Tool Magazine: 32(std.) / 40 / 60 / 90 / 120 tools
Horizontal Tool Magazine: 32 / 40 / 60 tools



Vertical and Horizontal
Tool Magazine



Falling Mechanism Tool Magazine



Chain Type Tool Magazine

Field

Automotive Industry



Aerospace Industry



Electronics Industry



Mold Industry



Industrial Machining



Application

Boring



Tool Dimension	Ø28mm	Feedrate	300mm/min
Material	S45C	Chip Removal Rate	0.375mm/tooth
Number of Inserts	2 teeth	Spindle Motor	22/26kW(115%)
Cutting Width	90mm	Spindle Speed	400rpm
Cutting Depth	15mm		

5-Face Machining



Tool Dimension	Ø125mm	Feedrate	1,200mm/min
Material	Steel	Chip Removal Rate	540cc/min
Number of Inserts	5 teeth	Spindle Motor	22/26kW(115%)
Cutting Width	90mm	Spindle Speed	500rpm
Cutting Depth	5mm		

Rail Machining



Boring

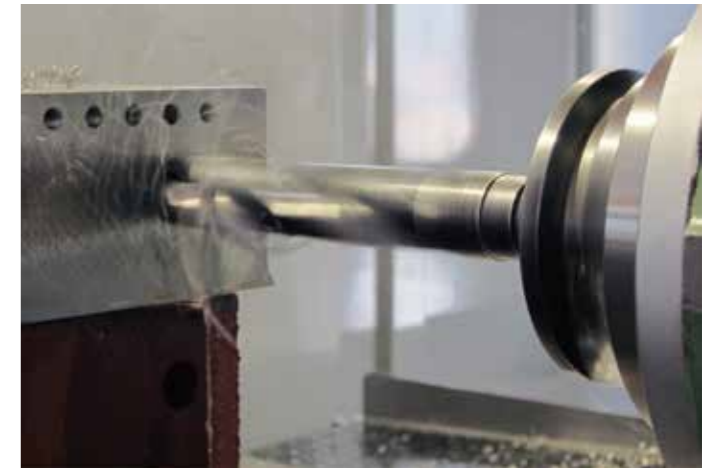
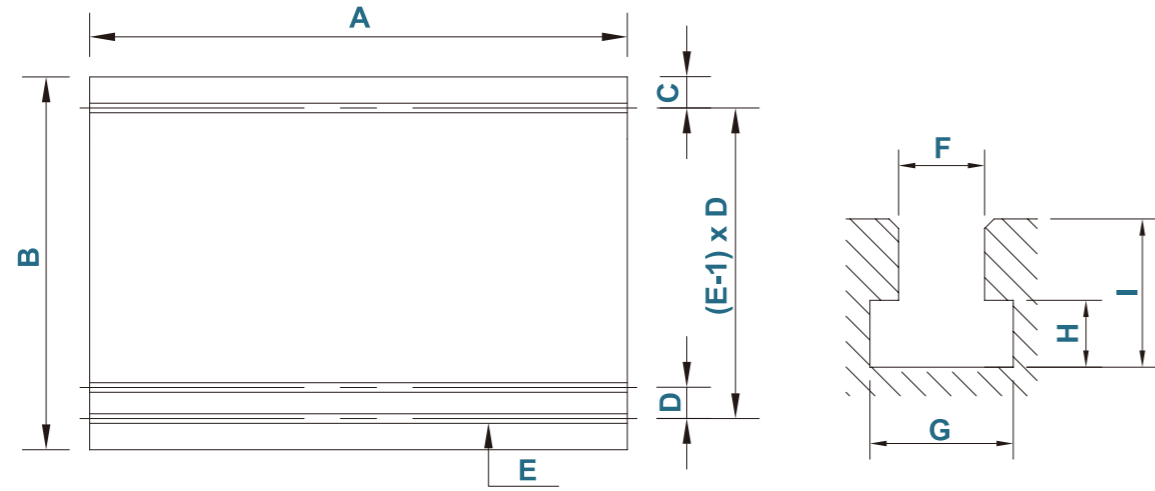
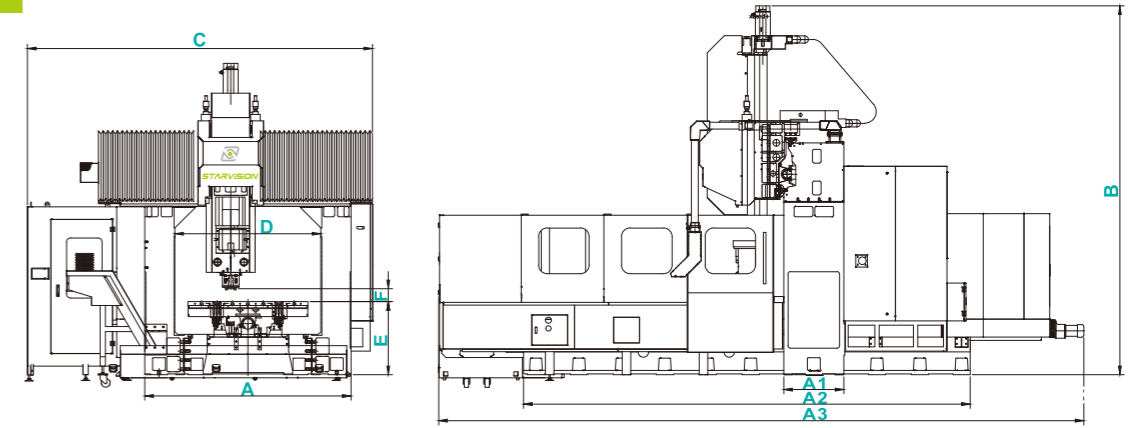


Table and T-Slot Dimensions



Model	Unit	A	B	C	D	E	F	G	H	I
DX-2216	mm	2,000	1,400	160	180	7	22H8	38	16	38
DX-2716	mm	2,500	1,400	160	180	7	22H8	38	16	38
DX-3216	mm	3,000	1,400	160	180	7	22H8	38	16	38
DX-4216	mm	4,000	1,400	160	180	7	22H8	38	16	38
DX-2220	mm	2,000	1,700	130	180	9	22H8	38	16	38
DX-2720	mm	2,500	1,700	130	180	9	22H8	38	16	38
DX-3220	mm	3,000	1,700	130	180	9	22H8	38	16	38
DX-4220	mm	4,000	1,700	130	180	9	22H8	38	16	38
LG-3223	mm	3,000	2,000	100	180	11	28H8	48	22	52
LG-4223	mm	4,000	2,000	100	180	11	28H8	48	22	52
LG-5223	mm	5,000	2,000	100	180	11	28H8	48	22	52
LG-6223	mm	6,000	2,000	100	180	11	28H8	48	22	52
FG-3226	mm	3,000	2,400	120	180	13	28H8	48	22	52
FG-4226	mm	4,000	2,400	120	180	13	28H8	48	22	52
FG-5226	mm	5,000	2,400	120	180	13	28H8	48	22	52
FG-6226	mm	6,000	2,400	120	180	13	28H8	48	22	52
FG-8226	mm	8,000	2,400	120	180	13	28H8	48	22	52
FG-10226	mm	10,000	2,400	120	180	13	28H8	48	22	52
LS-4230/35/40/45	mm	4,000	2,800	400	200	13	28H8	48	22	52
LS-5230/35/40/45	mm	5,000	2,800	400	200	13	28H8	48	22	52
LS-6230/35/40/45	mm	6,000	2,800	400	200	13	28H8	48	22	52
LS-8230/35/40/45	mm	8,000	2,800	400	200	13	28H8	48	22	52
LS-10230/35/40/45	mm	10,000	2,800	400	200	13	28H8	48	22	52

DX SERIES



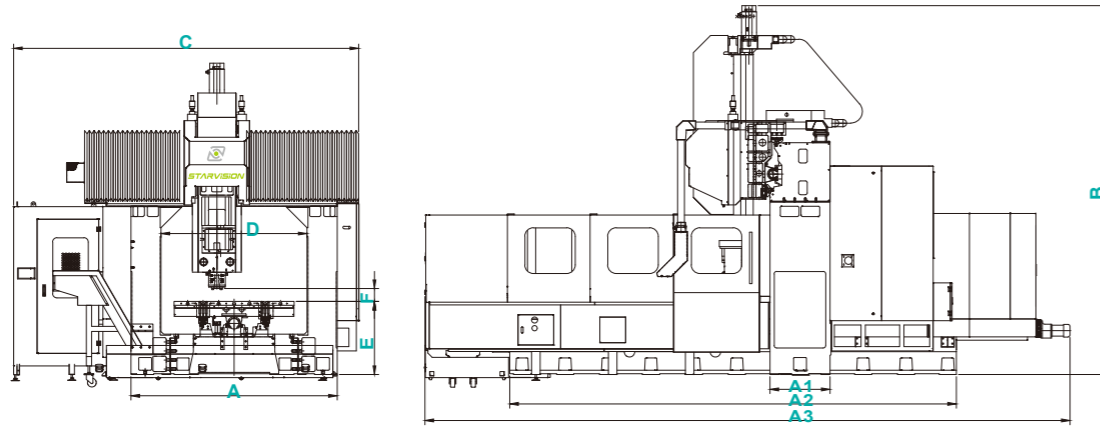
Model	Unit	A	B	C	D	E	F	A1	A2	A3
DX-2216	mm	2,400	4,700	4,100	1,700	850	150	700	4,200	6,700
DX-2716	mm	2,400	4,700	4,100	1,700	850	150	700	5,200	7,700
DX-3216	mm	2,400	4,700	4,100	1,700	850	150	700	6,200	8,700
DX-4216	mm	2,400	4,700	4,100	1,700	850	150	700	8,200	10,700
DX-2220	mm	2,800	4,700	4,500	2,100	850	150	700	4,200	6,700
DX-2720	mm	2,800	4,700	4,500	2,100	850	150	700	5,200	7,700
DX-3220	mm	2,800	4,700	4,500	2,100	850	150	700	6,200	8,700
DX-4220	mm	2,800	4,700	4,500	2,100	850	150	700	8,200	10,700

Model	Unit	DX-2216 / 20	DX-2716 / 20	DX-3216 / 20	DX-4216 / 20
Travel					
X axis	mm	2,200	2,700	3,200	4,200
Y axis	mm	1,600 / 2,000			
Z axis	mm	800 (1,000 opt.)			
Spindle nose to table	mm	150 - 950 (150 - 1,150 opt.)			
Distance between columns (max. workpiece width)	mm	1,700 (1,650) / 2,100 (2,050)			
Table					
Table dimensions (L)	mm	2,000	2,500	3,000	4,000
Table dimensions (W)	mm	1,400 / 1,700			
T-slot (width x number x pitch)		22 x 7 x 180 / 22 x 9 x 180			
Max. table load	kg	8,000	9,000	10,000	12,000
Spindle					
Spindle motor (cont./30 minute rate)	kW	18.5 / 22 (22 / 26 opt.)			
Spindle speed (gear box)	rpm	6,000 (8,000 opt.)			
Spindle taper		BT-50 / ISO-50 / CAT-50			
Feed					
Rapid feed-rate (X/Y/Z)	m/min	24 / 24 (20) / 15			
Cutting feed-rate	mm/min	7,000			
Accuracy					
Positioning accuracy	mm	±0.005 / 300 ; ±0.015 / full travel			
	mm	P0.03		P0.035	
Repeatability	mm	±0.003			
	mm	Ps0.025		Ps0.028	
ATC					
Tool storage capacity	pcs	32T (40T / 60T opt.)			
Max. tool length	mm	350			
Max. tool weight	kg	20			
Tool size (full tools)	mm	Ø125			
Max. tool size (next pockets empty)	mm	Ø245			
Other					
Power consumption	kVA	65			
Compressed air	kg/cm ²	6.5			
Machine weight (approx.)	tons	19 / 21	21 / 23	23 / 25	27 / 29
Machine floor space (L x W x H)(approx.)	m	8.4 x 5.1 / 5.5 x 4.7	9.4 x 5.1 / 5.5 x 4.7	10.4 x 5.1 / 5.5 x 4.7	12.4 x 5.1 / 5.5 x 4.7

※ All specification are subjected to change without prior notice.

MACHINE SPECIFICATIONS

LG SERIES

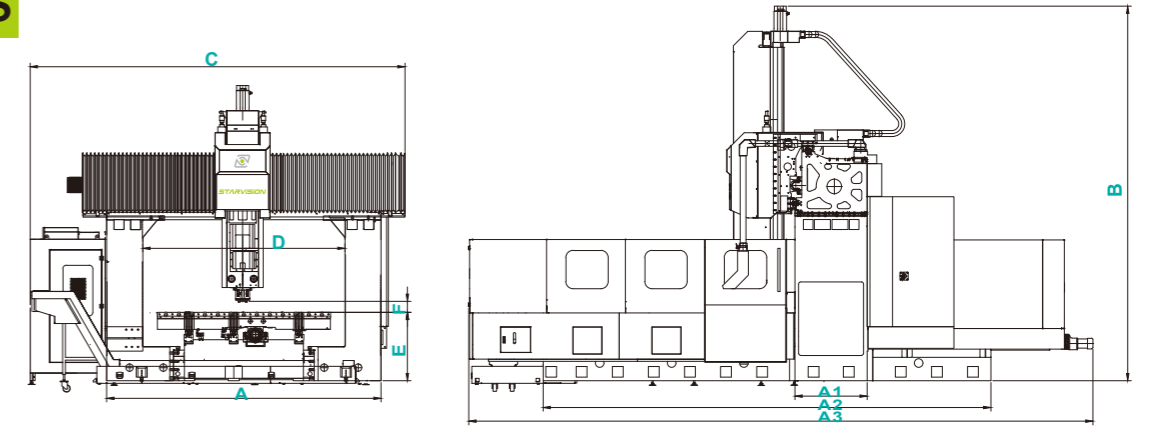


Model	Unit	A	B	C	D	E	F	A1	A2	A3
LG-3223	mm	3,500	5,400	5,500	2,500	950	150	1,000	6,200	8,700
LG-4223	mm	3,500	5,400	5,500	2,500	950	150	1,000	8,200	11,300
LG-5223	mm	3,500	5,400	5,500	2,500	950	150	1,000	10,200	13,100
LG-6223	mm	3,500	5,400	5,500	2,500	950	150	1,000	12,200	15,600

Model	Unit	LG-3223	LG-4223	LG-5223	LG-6223
Travel					
X axis	mm	3,200	4,200	5,200	6,200
Y axis	mm	2,300			
Z axis	mm	1,000 (1,200 opt.)			
Spindle nose to table	mm	150 - 1,150 (150 - 1,350 opt.)			
Distance between columns (max. workpiece width)	mm	2,500 (2,450)			
Table					
Table dimensions (L)	mm	3,000	4,000	5,000	6,000
Table dimensions (W)	mm	2,000			
T-slot (width x number x pitch)		28 x 11 x 180			
Max. table load	kg	13,000	15,000	17,000	19,000
Spindle					
Spindle motor (cont./30 minute rate)	kW	18.5 / 22 (22 / 26 opt.)			
Spindle speed (gear box)	rpm	6,000 (8,000 opt.)			
Spindle taper		BT-50 / ISO-50 / CAT-50			
Feed					
Rapid feed-rate (X/Y/Z)	m/min	20 / 20 / 15	18 / 20 / 15	12 / 20 / 15	10 / 20 / 15
Cutting feed-rate	mm/min	7,000			
Accuracy					
Positioning accuracy	mm	± 0.005 / 300 ; ± 0.015 / full travel			
	mm	P0.035			P0.045
Repeatability	mm	± 0.003			
	mm	Ps0.028			Ps0.03
ATC					
Tool storage capacity	pcs	32T (40T / 60T / 90T opt.)			
Max. tool length	mm	350			
Max. tool weight	kg	20			
Tool size (full tools)	mm	Ø125			
Max. tool size (next pockets empty)	mm	Ø245			
Other					
Power consumption	kVA	65			
Compressed air	kg/cm ²	6.5			
Machine weight (approx.)	tons	34	38	44	50
Machine floor space (L x W x H)(approx.)	m	10.4 x 6.5 x 5.4	13.0 x 6.5 x 5.4	14.8 x 6.5 x 5.4	17.3 x 6.5 x 5.4

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FG SERIES



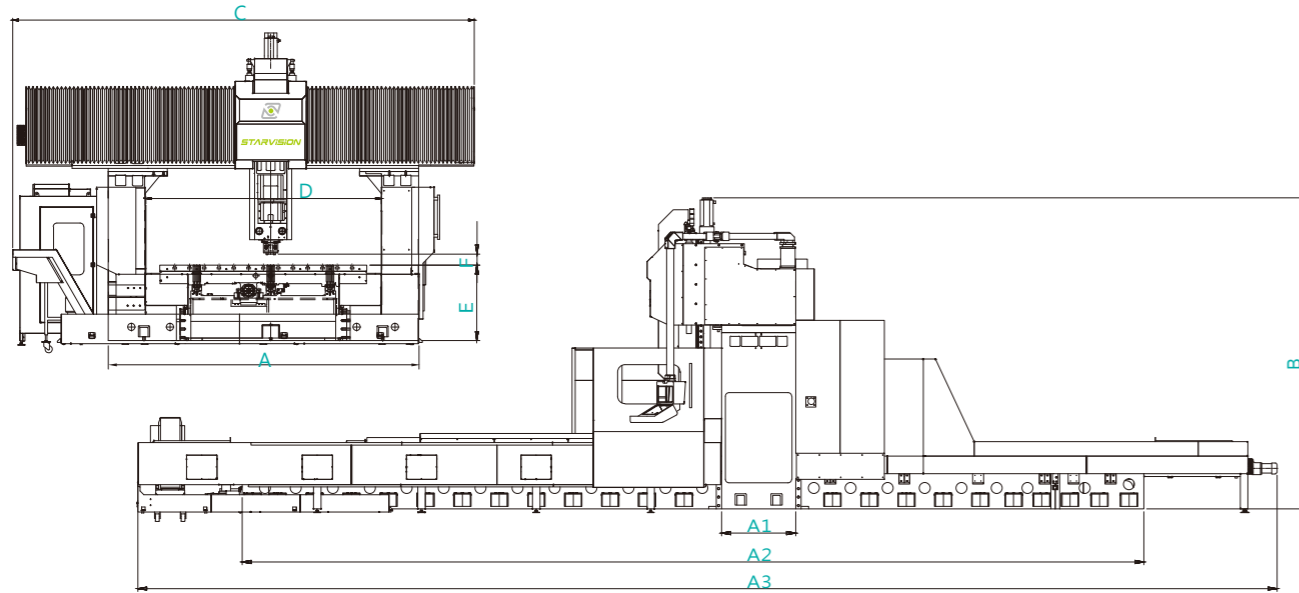
Model	Unit	A	B	C	D	E	F	A1	A2	A3
FG-3226	mm	3,800	5,400	5,800	2,800	950	150	1,000	6,200	8,700
FG-4226	mm	3,800	5,400	5,800	2,800	950	150	1,000	8,200	11,300
FG-5226	mm	3,800	5,400	5,800	2,800	950	150	1,000	10,200	13,100
FG-6226	mm	3,800	5,400	5,800	2,800	950	150	1,000	12,200	15,600
FG-8226	mm	3,800	5,400	5,800	2,800	950	150	1,000	16,200	20,000
FG-10226	mm	3,800	5,400	5,800	2,800	950	150	1,000	20,200	24,400

Model	Unit	FG-3226	FG-4226	FG-5226	FG-6226	FG-8226	FG-10226
Travel							
X axis	mm	3,200	4,200	5,200	6,200	8,200	10,200
Y axis	mm	2,600					
Z axis	mm	1,000 (1,200 opt.)					
Spindle nose to table	mm	150 - 1,150 (150 - 1,350 opt.)					
Distance between columns (max. workpiece width)	mm	2,800 (2,750)					
Table							
Table dimensions (L)	mm	3,000	4,000	5,000	6,000	8,000	10,000
Table dimensions (W)	mm	2,400					
T-slot (width x number x pitch)		28 x 13 x 180					
Max. table load	kg	13,000	15,000	17,000	19,000	21,000	25,000
Spindle							
Spindle motor (cont./30 minute rate)	kW	18.5 / 22 (22 / 26 opt.)					
Spindle speed (gear box)	rpm	6,000 (8,000 opt.)					
Spindle taper		BT-50 / ISO-50 / CAT-50					
Feed							
Rapid feed-rate (X/Y/Z)	m/min	15 / 15 / 12	12 / 15 / 12			8 / 15 / 12	
Cutting feed-rate	mm/min	7,000					
Accuracy							
Positioning accuracy	mm	± 0.005 / 300 ; ± 0.015 / full travel					
	mm	P0.035				P0.045	
Repeatability	mm	± 0.003					
	mm	Ps0.028				Ps0.03	
ATC							
Tool storage capacity	pcs	32T (40T / 60T / 90T opt.)					
Max. tool length	mm	350					
Max. tool weight	kg	20					
Tool size (full tools)	mm	Ø125					
Max. tool size (next pockets empty)	mm	Ø245					
Other							
Power consumption	kVA	65					
Compressed air	kg/cm ²	6.5					
Machine weight (approx.)	tons	38	42	48	53	63	83
Machine floor space (L x W x H)(approx.)	m	10.4 x 6.8 x 5.4	13.0 x 6.8 x 5.4	14.8 x 6.8 x 5.4	17.3 x 6.8 x 5.4	21.7 x 6.8 x 5.4	26.1 x 6.8 x 5.4

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MACHINE SPECIFICATIONS

LS SERIES



Model	Unit	LS-4230 / 35	LS-5230 / 35	LS-6230 / 35	LS-8230 / 35	LS-10230 / 35
Travel						
X axis	mm	4,200	5,200	6,200	8,200	10,200
Y axis	mm	3,000 / 3,500				
Z axis	mm	1,000 (1,200 opt.)				
Spindle nose to table	mm	150 - 1,150 (150 - 1,350 opt.)				
Distance between columns (max. workpiece width)	mm	3,200 (3,150) / 3,700 (3,650)				
Table						
Table dimensions (L)	mm	4,000	5,000	6,000	8,000	10,000
Table dimensions (W)	mm	2,800 (3,500 opt.)				
T-slot (width x number x pitch)		28 x 13 x 200 (28 x 17 x 200 opt.)				
Max. table load	kg	20,000	24,000	28,000	32,000	40,000
Spindle						
Spindle motor (cont./30 minute rate)	kW	22 / 26 (30 / 37 opt.)				
Spindle speed (gear box)	rpm	6,000 (8,000 opt.)				
Spindle taper		BT-50 / ISO-50 / CAT-50				
Feed						
Rapid feed-rate (X/Y/Z)	m/min	10 / 10 / 12		8 / 10 / 12		
Cutting feed-rate	mm/min	7,000				
Accuracy						
Positioning accuracy	mm	± 0.005 / 300 ; ± 0.015 / full travel				
	mm	P0.045				
Repeatability	mm	± 0.003				
	mm	Ps0.03				
ATC						
Tool storage capacity	pcs	32T (40T / 60T / 90T / 120T -opt.)				
Max. tool length	mm	350				
Max. tool weight	kg	20				
Tool size (full tools)	mm	Ø125				
Max. tool size (next pockets empty)	mm	Ø245				
Other						
Power consumption	kVA	65				
Compressed air	kg/cm ²	6.5				
Machine weight (approx.)	tons	55 / 57	63 / 65	71 / 73	87 / 89	101 / 103
Machine floor space (L x W x H)(approx.)	m	13.8 x 7.3 / 7.8 x 5.4	15.8 x 7.3 / 7.8 x 5.4	17.3 x 7.3 / 7.8 x 5.4	21.7 x 7.3 / 7.8 x 5.4	26.1 x 7.3 / 7.8 x 5.4

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Model	Unit	A	B	C	D	E	F	A1	A2	A3
LS-4230 (35/40/45)	mm		5,400			1,020	150	1,100	8,200	12,100
LS-5230 (35/40/45)	mm		5,400			1,020	150	1,100	10,200	14,100
LS-6230 (35/40/45)	mm	4,300 (4,800 / 5,300 / 5,800)	5,400	6,300 (6,800 / 7,300 / 7,800)	3,200 (3,700 / 4,200 / 4,700)	1,020	150	1,100	12,200	15,600
LS-8230 (35/40/45)	mm		5,400			1,020	150	1,100	16,200	20,000
LS-10230 (35/40/45)	mm		5,400			1,020	150	1,100	20,200	24,400

Model	Unit	LS-4240 / 45	LS-5240 / 45	LS-6240 / 45	LS-8240 / 45	LS-10240 / 45
Travel						
X axis	mm	4,200	5,200	6,200	8,200	10,200
Y axis	mm	4,000 / 4,500				
Z axis	mm	1,000 (1,200 / 1,500 opt.)				
Spindle nose to table	mm	150 - 1,150 (150 - 1,350 / 150 - 1,650 opt.)				
Distance between columns (max. workpiece width)	mm	4,200 (4,150) / 4,700 (4,650)				
Table						
Table dimensions (L)	mm	4,000	5,000	6,000	8,000	10,000
Table dimensions (W)	mm	2,800 (3,500 opt.)				
T-slot (width x number x pitch)		28 x 13 x 200 (28 x 17 x 200 opt.)				
Max. table load	kg	20,000	24,000	28,000	32,000	40,000
Spindle						
Spindle motor (cont./30 minute rate)	kW	22 / 26 (30 / 37 opt.)				
Spindle speed (gear box)	rpm	6,000 (8,000 opt.) (5,500 / Z Axis-1,500mm)				
Spindle taper		BT-50 / ISO-50 / CAT-50				
Feed						
Rapid feed-rate (X/Y/Z)	m/min	10 / 10 / 12		8 / 10 / 12		
Cutting feed-rate	mm/min	7,000		6,000		
Accuracy						
Positioning accuracy	mm	± 0.005 / 300 ; ± 0.015 / full travel				
	mm	P0.045				
Repeatability	mm	± 0.003				
	mm	Ps0.03				
ATC						
Tool storage capacity	pcs	32T (40T / 60T / 90T / 120T -opt.)				
Max. tool length	mm	350				
Max. tool weight	kg	20				
Tool size (full tools)	mm	Ø125				
Max. tool size (next pockets empty)	mm	Ø245				
Other						
Power consumption	kVA	65				
Compressed air	kg/cm ²	6.5				
Machine weight (approx.)	tons	66 / 69	74 / 77	82 / 85	98 / 101	112 / 115
Machine floor space (L x W x H)(approx.)	m	13.8 x 8.3 / 8.8 x 5.4	15.8 x 8.3 / 8.8 x 5.4	17.3 x 8.3 / 8.8 x 5.4	21.7 x 8.3 / 8.8 x 5.4	26.1 x 8.3 / 8.8 x 5.4

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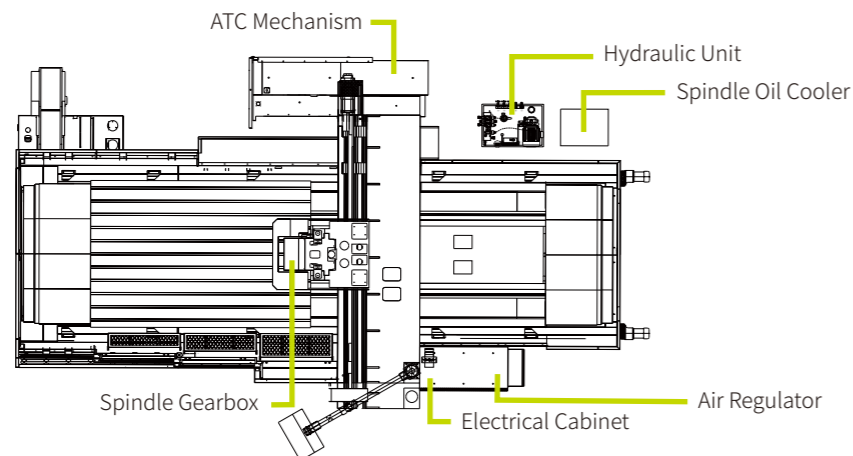
ACCESSORY LIST



Category	Description	DX	LG	FG	LS
Controller	FANUC 0i-MF Plus controller	●	●	●	●
	FANUC 31i-MB controller	○	○	○	○
	MITSUBISHI M80 / M830 controller	○	○	○	○
	SIEMENS 828 / 840D controller	○	○	○	○
	HEIDENHAIN TNC640 controller	○	○	○	○
Spindle	18.5/22 kW spindle motor	●	●	●	○
	22/26 kW spindle motor	○	○	○	●
	4,200 2-step gear drive spindle	X	X	X	★
	8,000 2-step gear drive spindle	○	○	○	★
	6,000 2-step gear drive spindle	●	●	●	★
	8,000 / 10,000rpm direct drive spindle	○	○	○	○
Z travel extension / higher column	Z travel 800mm	●	X	X	X
	Z travel 1,000mm	○	●	●	●
	Z travel 1,200mm	X	○	○	○
	Z travel 1,500mm	X	X	X	★
	100mm higher column (standard Z travel)	X	○	○	○
	200mm higher column (standard Z travel)	○	○	○	○
	300mm higher column (standard Z travel)	○	○	○	○
ATC	Automatic tool changer 32 tools	●	●	●	●
	Automatic tool changer 40/60/90/120 tools	○	○	○	○

Optional : ○ Standard: ● N/A : X Depending on the model : ★

ACCESSORY LAYOUT



Category	Description	DX	LG	FG	LS
Splash guard	Semi splash guard	○	○	★	●
	Fully enclosed splash guard (roof excluded)	●	●	★	○
	Fully enclosed splash guard (roof included)	○	○	★	X
Mechanical	X / Y / Z axes absolute pulse coder	●	●	●	●
	Rigid tapping	●	●	●	●
	Twin hydraulic cylinders	●	●	●	●
	Nitrogen balancing system	●	●	●	●
	Automatic lubrication system	●	●	●	●
	Spindle oil cooler	●	●	●	●
	Air blast through spindle	●	●	●	●
	Manual pulse generator	●	●	●	●
	Working lamp	●	●	●	●
	3-color alarm lamp	●	●	●	●
	Heat exchanger for electrical cabinet	●	●	●	●
	Water gun and air gun interface	●	●	●	●
	Cutting coolant unit	●	●	●	●
	Twin auger chip removal system	●	●	●	●
	Chip conveyor with cart	●	●	●	●
	Sub-table	○	○	○	○
	3 axes manual pulse generator for mold processing	○	○	○	○
	Coolant through spindle at 20 / 40 / 70 bar	○	○	○	○
	Coolant through tool holder interface	○	○	○	○
	Air conditioner for electrical cabinet	○	○	○	○
	Oil skimmer	○	○	○	○
	Transformer	○	○	○	○
Oil mist device	○	○	○	○	
Measurement	HEIDENHAIN linear scale	○	○	○	○
	Automatic tool measuring system	○	○	○	○
	Automatic work piece measuring system	○	○	○	○
4 th axis function	CNC rotary table	○	○	○	○
	4 th axis preparation	○	○	○	○
Others	Leveling bolts & blocks	●	●	●	●
	Tool box	●	●	●	●
	CE norm	○	○	○	○