



# CNC LATHES

**High Rigidity, High Performance  
Extraordinary Versatility**

*Box guide ways / Linear guide ways for choice.*



**FSBL-6**



**TOP PHOENIX  
INTERNATIONAL CORP.**  
Machinery Exporter & Importer

No. 48-3, Wayao Rd., Dali Dist.,  
Taichung City 412, Taiwan  
E-Mail: [sales@topphoenix.com.tw](mailto:sales@topphoenix.com.tw); [topphoenix24@gmail.com](mailto:topphoenix24@gmail.com);  
[top.phoenix@msa.hinet.net](mailto:top.phoenix@msa.hinet.net)  
<http://www.topphoenix.com.tw>  
Tel: 886-4-2406-5028 (Rep.) Fax: 886-4-2406-5019

## FSBL-5/FSBL-6/FSBL-8 LINEAR GUIDEWAYS

With linear guideways on X and Z axes and 30M/Min rapid traverse, FSBL series is absolutely an ideal solution for high-speed turning applications.

### Features

- 30° slant bed structure.
- Meehanite cast iron for all structural parts.
- Hardened and ground ballscrews for precise traversing and consistent machining accuracy.
- Fully enclosed splash guard ensures a safe and clean working environment for operators.



### Hydraulic turret

- Allows bi-directional and random tool selection for fast tool change.
- Utilize high precision Hirth tooth coupling for accurate tool positioning.



### Servo turret

- The high performance turret features smooth and fast tool indexing.
- High positioning accuracy and repeatability to achieve the highest cutting accuracy. Tool indexing can be accomplished in just 1 second.

## FSBL-5M/FSBL-6M/FSBL-8M

Equipped with power turrets and C-axis function for spindle indexing, FSBL M series is capable of performing milling, drilling and tapping applications with single workpiece setup.

### Features

- Live tooling with C-axis function enables the machine to accomplish milling, drilling, and tapping applications.
- High resolution encoder and hydraulic brake mounted on C-axis, which leads to spindle orientation efficiency and high positioning accuracy.



### Power turret

- Powerful live tooling turret provides fast tool indexing. The milling tools in both axial and radial directions delivers low noise rotation and high-quality cutting performance.

## Optimal structural design , life time accuracy.

FSBL series are one-piece manufactured from high quality cast iron, completely annealed and stress relieved for deformation free performance. The optimal structure ensures solid support of turret and outstanding turning stability.

One-piece designed slant bed absorbs cutting force more effectively.

### Sturdy head stock with spindle

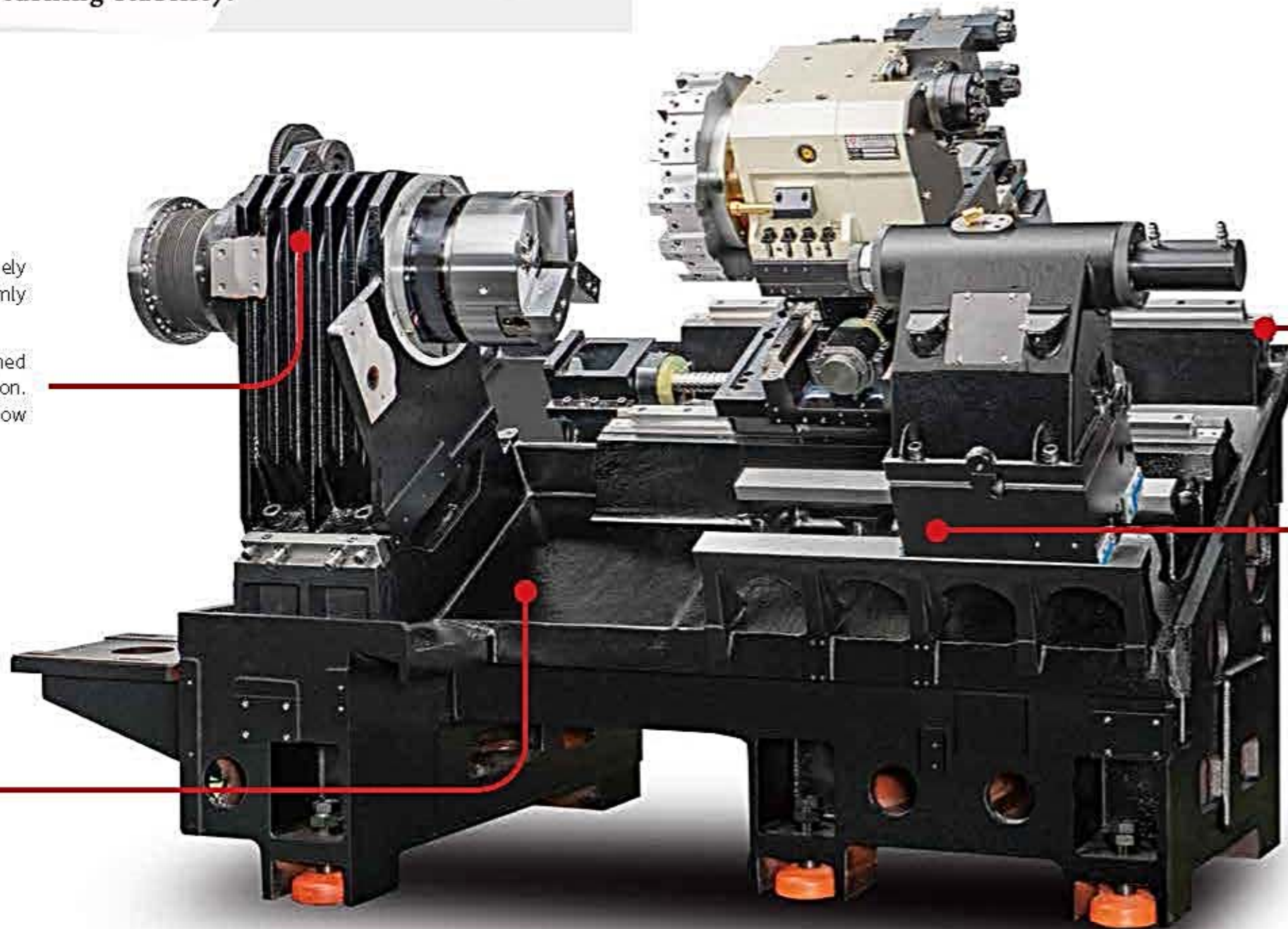
- The inner bore of headstock casting is finely bored to hold the spindle cartridge firmly and precisely.
- The external ribs are symmetrically designed to minimize and stabilize thermal expansion. The entire unit features low vibration, low noise and low temperature rising.

- High performance linear guide way design on X and Z axes provides advantages of high precision, low abrasion and high speed.

- 30° slant bed is one-piece manufactured from high quality Meehanite cast iron.

### TAILSTOCK

The hydraulic tailstock can be controlled by NC via an actuating pin; the quill thrust can be adjusted manually. Live center pin is optional.



Model: FSBL-6

# FSBH-6 / FSBH-8

## BOX GUIDEWAYS

FSBH-8 is high performance CNC lathe with box ways. Coated with Turcite B and grooved with lubrication oil channel, the box guideways' design allows the most rigid performance to deal with the heavy duty cutting.



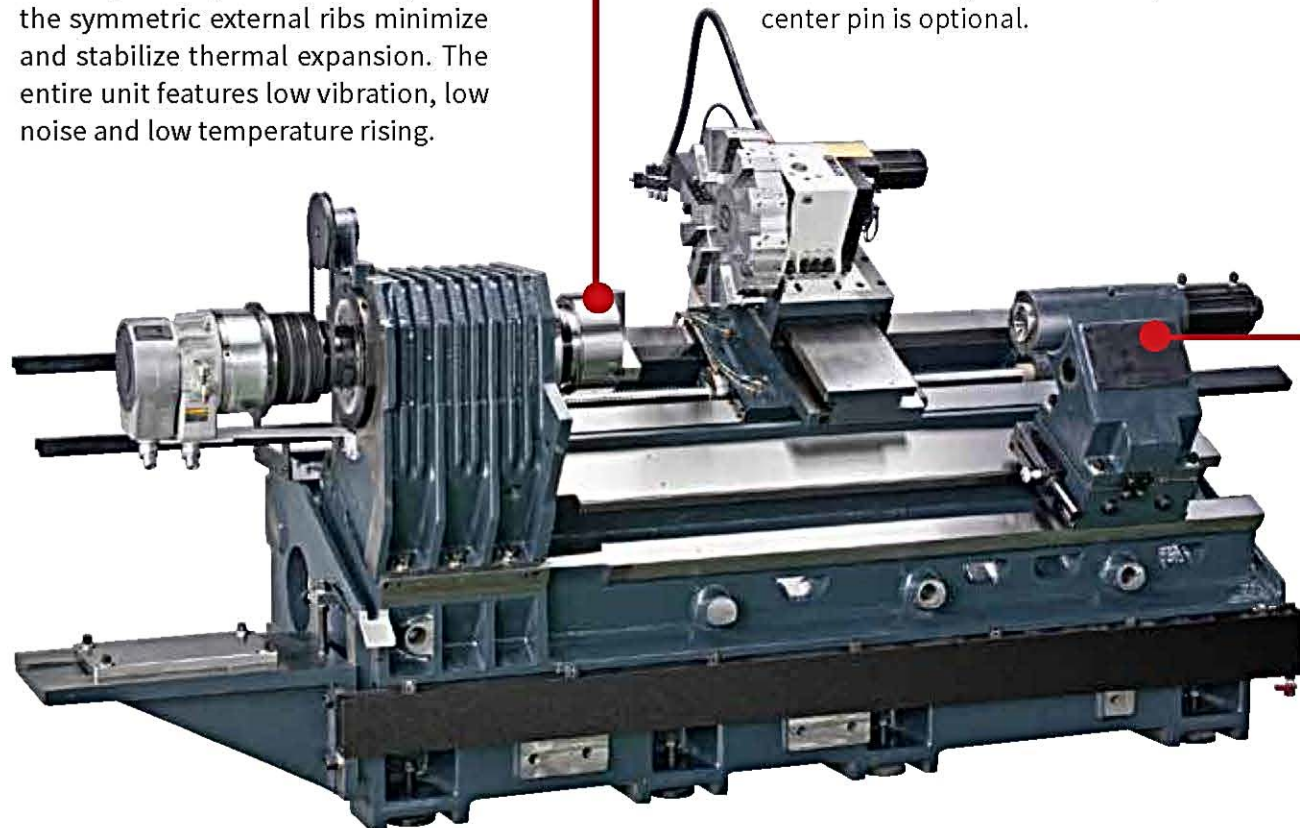
**Precision hand scraping**  
Every contacting surface is precision hand scraped to increase the flatness and improve geometric accuracy of the whole assembly.



**Sturdy head stock with spindle**  
The inner bore of headstock casting is fine-bored to hold the spindle cartridge firmly and precisely. Also the symmetric external ribs minimize and stabilize thermal expansion. The entire unit features low vibration, low noise and low temperature rising.



**Tailstock**  
The hydraulic tailstock can be controlled by NC via an actuating pin; the quill thrust can be adjusted manually. Live center pin is optional.



# FSBH-6M / FSBH-8M

## COMBINE TURNING AND MILLING OPERATIONS IN ONE HIGH RIGIDITY, HIGH PERFORMANCE EXTRAORDINARY VERSATILITY

FSBH-8M is dedicated to customers who need a high quality, high performance machine with an appealing price level. By adopting a state-of-the-art power turret system from Europe, these high price-performance ratio machines from Phoenix are your best choice.



**VDI power turret**

- Equipped with a VDI40 power turret with fast tool indexing.
- Powerful 5.5KW drive for the milling tools in the axial and radial direction delivers low noise rotation and high quality cutting performance.



**BMT power turret (option)**

- Equipped with power turret in combination with the use of C function, this machine can perform milling, drilling, and tapping operations.
- The 12-position power turret is driven by servomotor, providing fast tool change and high positioning accuracy.

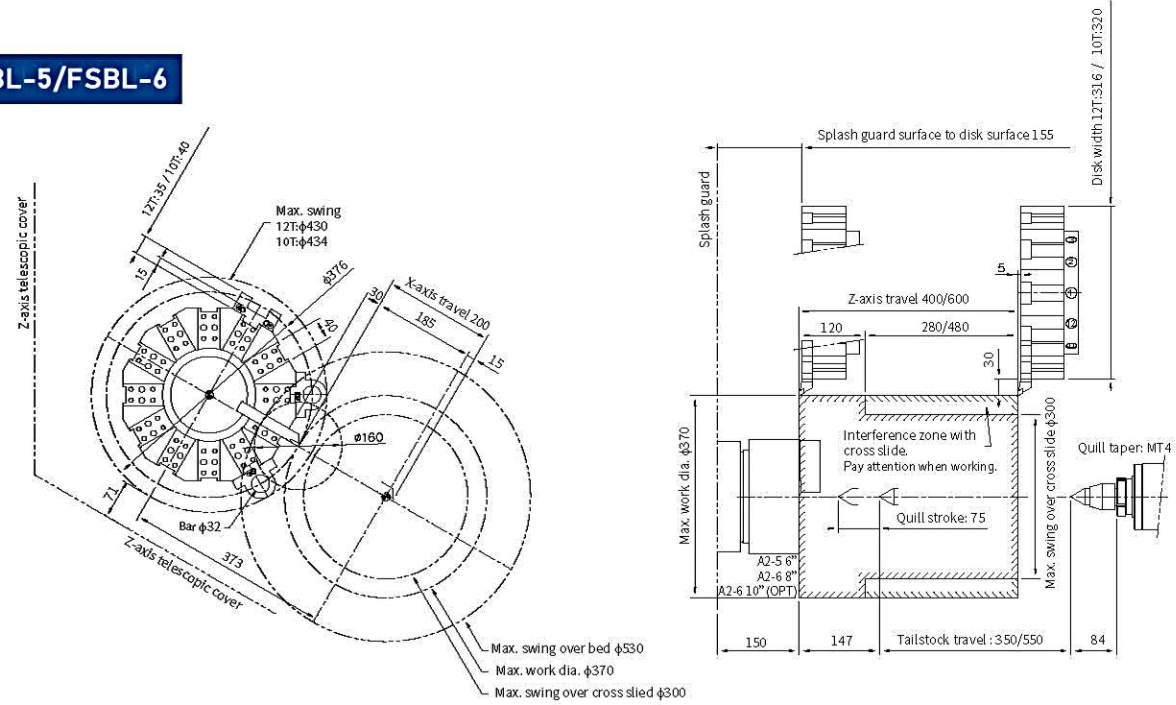


**C Axis with encoder**  
The C-axis is equipped with an encoder and the use of a hydraulic brake, ensuring high machining accuracy in contour machining.

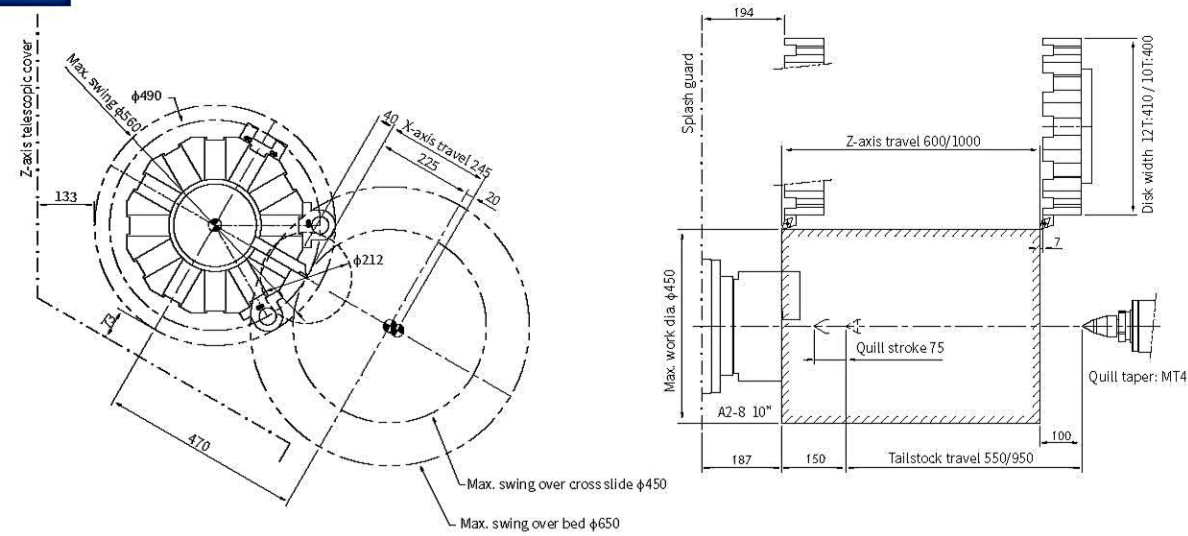


# INTERFERENCE DIAGRAMS

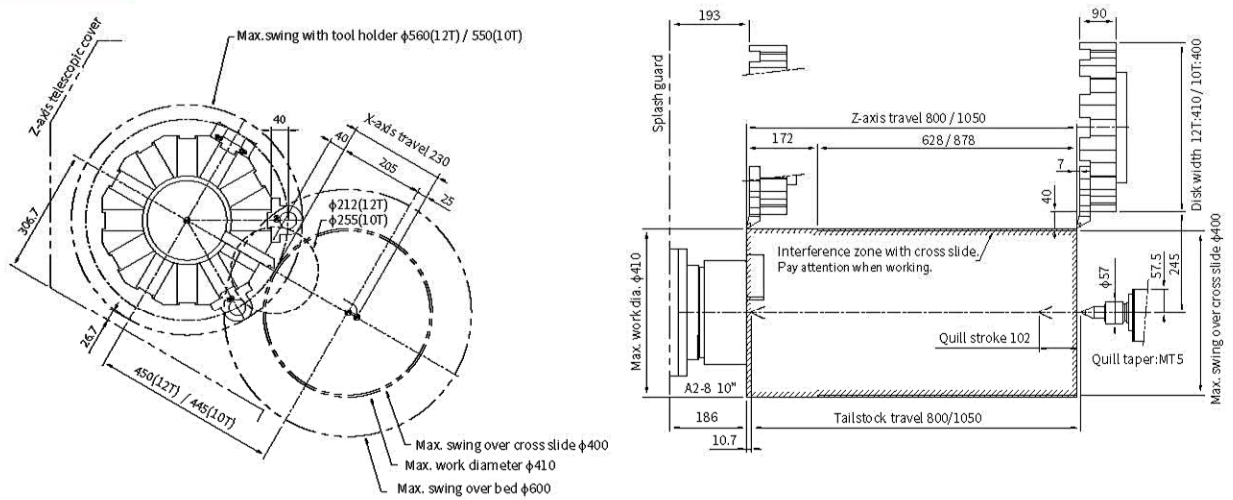
## FSBL-5/FSBL-6



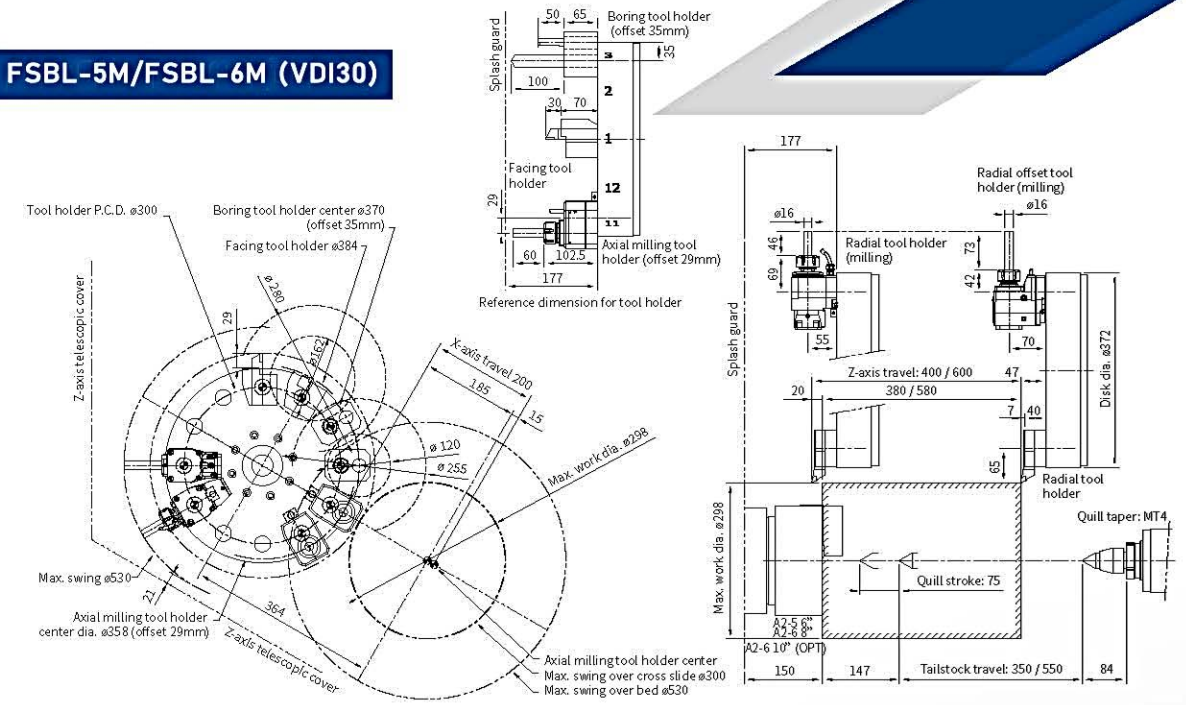
## FSBL-8



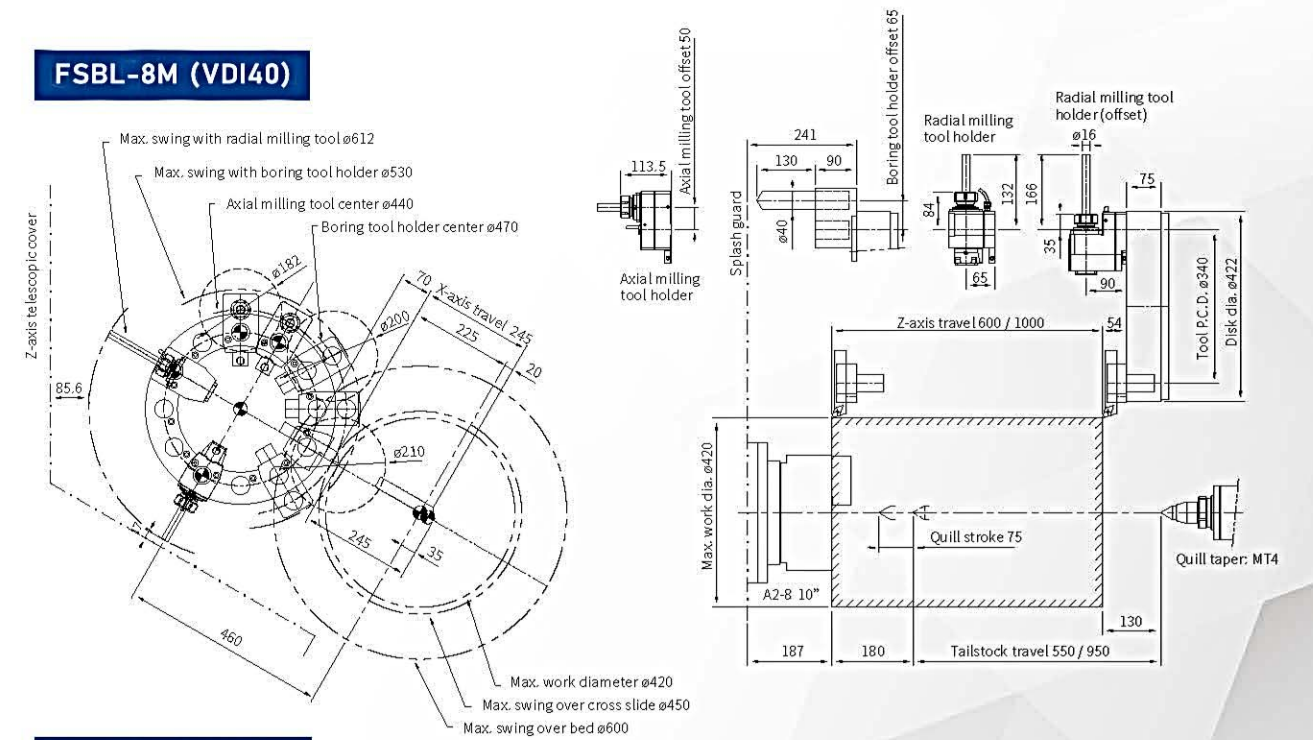
## FSBH-8



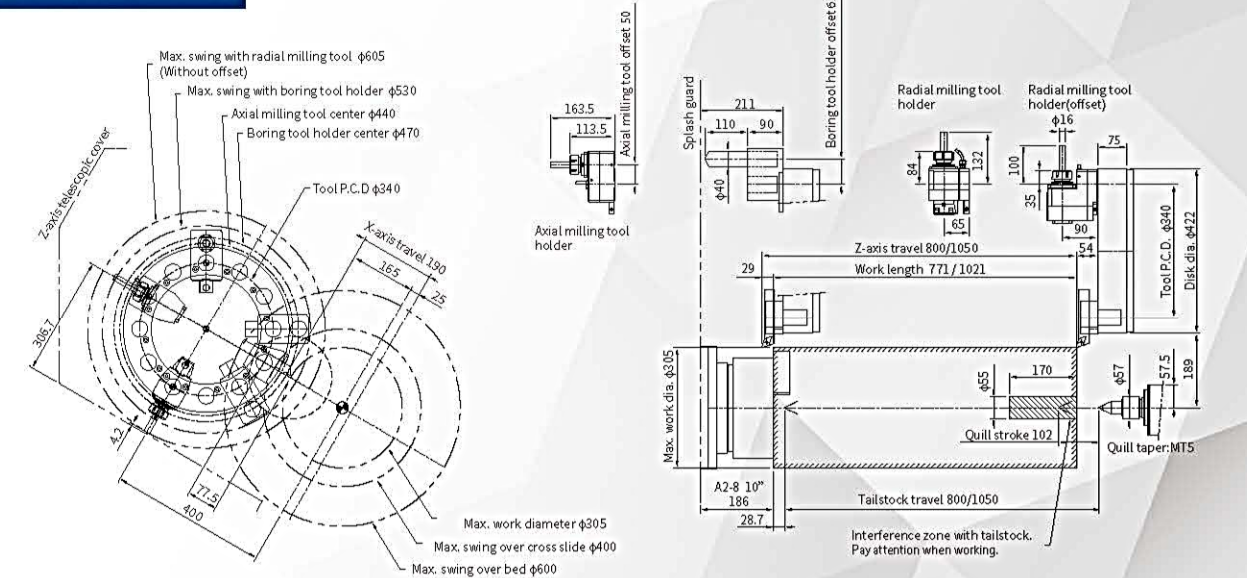
## FSBL-5M/FSBL-6M (VDI30)



## FSBL-8M (VDI40)



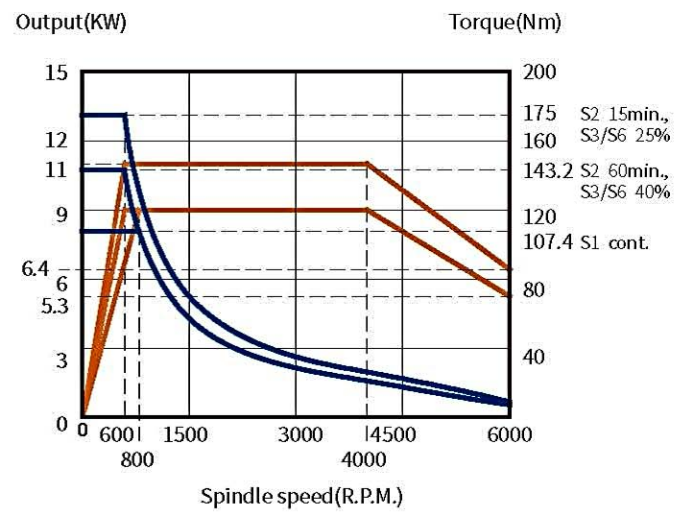
## FSBH-8M (VDI40)



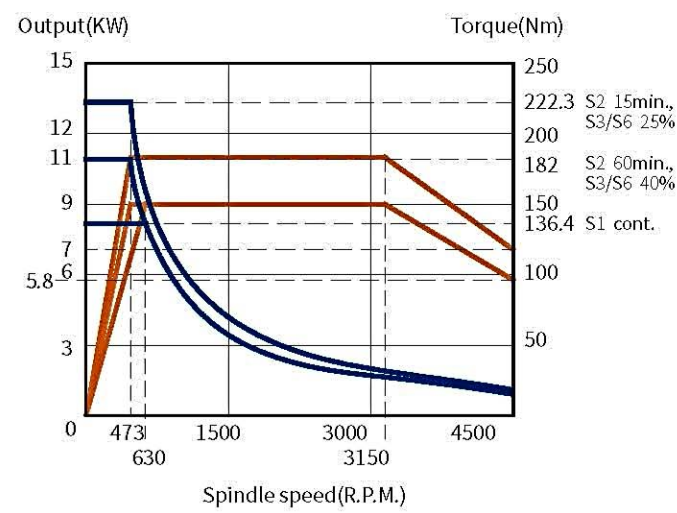
# POWER CHART

— Output  
— Torque

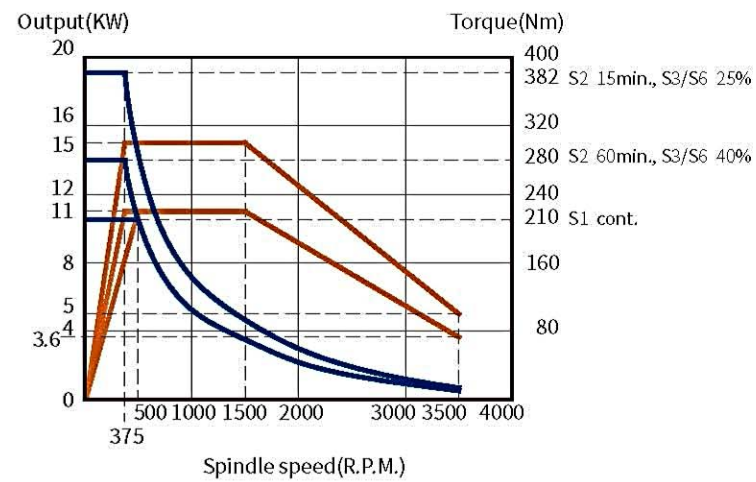
**FSBL-5/FSBL-5M**  
Fanuc  $\beta$ iIP18/8000-B



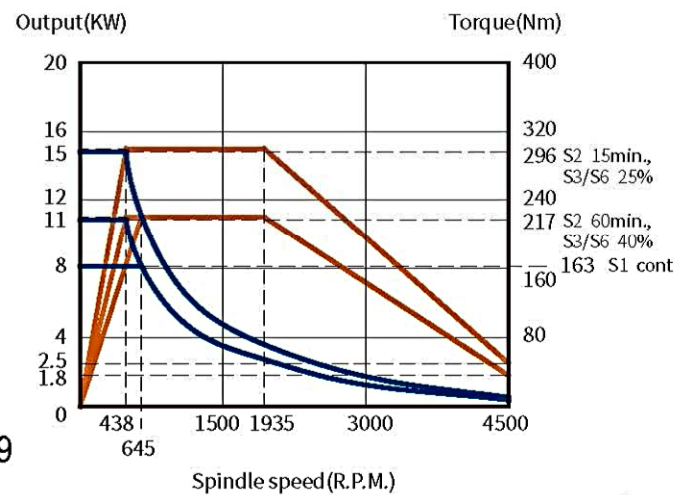
**FSBL-6/FSBL-6M**  
Fanuc  $\beta$ iIP18/8000-B



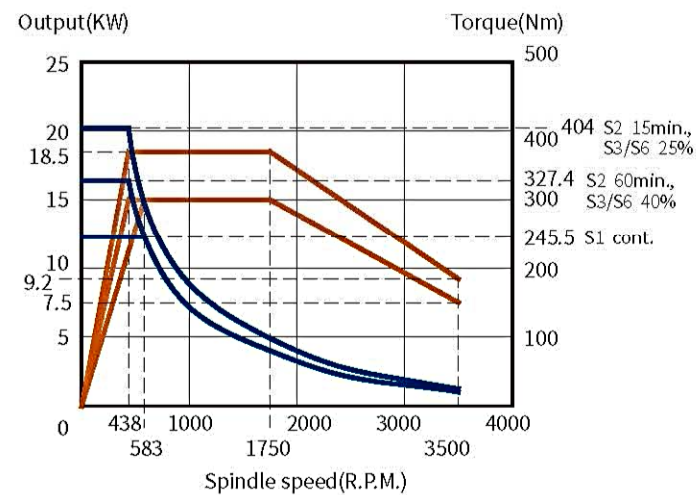
**FSBL-8/FSBL-8M**  
Fanuc  $\beta$ iIP22/8000-B



**FSBH-6/FSBH-6M**  
Fanuc  $\beta$ iIP22/8000-B

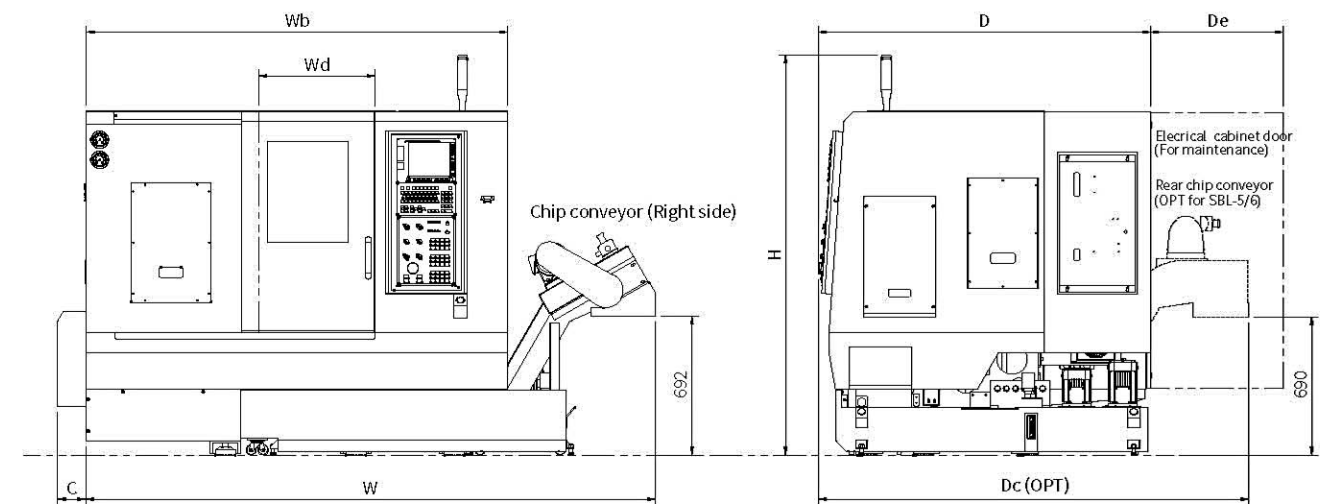


**FSBH-8/FSBH-8M**  
Fanuc  $\beta$ iIP30/8000-B

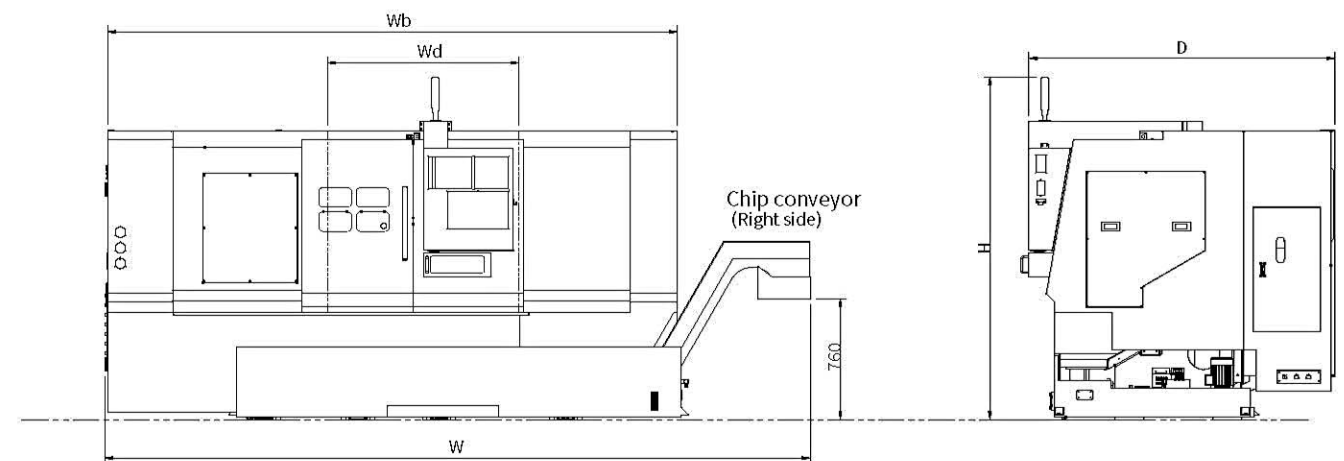


# FLOOR SPACE

## FSBL SERIES



## FSBH SERIES



Unit: mm

MODEL	FSBL-5/FSBL-5M	FSBL-6/FSBL-6M	FSBL-8/FSBL-8M
Z axis travel	400	600	1000
W	2840	3040	3550
D	1655		2050
H	2000		2250
Wd	580		750
Wb	2100	2300	2800
C	140	178	N/A
De	660		880
Dc	2140		N/A

Unit: mm

MODEL	FSBH-6/FSBH-6M	FSBH-8/FSBH-8M
Z axis travel	550	1050
W	3950	4480
D	1930	
H	2160	
Wd	820	1206
Wb	2700	3595

## STANDARD ACCESSORIES

- FANUC 0iTF controller
- 3-jaw hydraulic chuck
- Soft jaws one set
- Hard jaws one set
- Full enclosed splash guard
- Heat exchanger for electrical cabinet
- Chain type chip conveyor with chip cart
- Work light
- Program light
- Tailstock
- Hydraulic system
- Coolant system
- Auto lubrication system
- Tool kit
- Leveling bolts and pads
- Milling tool holder (Optional for power turret)
- Boring bar holder (Optional for power turret)
- Boring bar bushing 1 set
- Driller bushing 1 set

## OPTIONAL ACCESSORIES

- Hydraulic steady rest
- Collet chuck & collets
- Auto tool length measurement
- Parts catcher
- Bar feeder
- Programmable tailstock
- Auto Door
- Oil mist collector
- Oil skimmer
- Auto loader
- Live center
- Air conditioner (for electrical box)
- C axis (0.001°)
- Axial milling tool holder (power)
- Radial milling tool holder (power)



WORKPIECE MEASUREMENT (optional)



TOOL LENGTH MEASUREMENT (optional)



OIL MIST COLLECTOR (optional)



VDI or BMT TOOL HOLDER (optional)



BAR FEEDER (optional)



HYDRAULIC STEADY REST (optional)

## Auto Loader (optional)



# SPECIFICATIONS

MODEL		Unit	FSBL-5	FSBL-6	FSBL-5M	FSBL-6M	FSBL-8	FSBL-8M	FSBH-6	FSBH-6M	FSBH-8	FSBH-8M
Working capacity	Max. swing over bed	mm	530		530		650	650	600		600	
	Max. swing over cross slide	mm	300		300		450	450	400		400	
	Max. machining diameter	mm	370		298		450 (Opt. VDI40: 420)	VDI40: 420 (Opt. BMT55: 450)	410	VDI40: 305 (Opt. BMT55: 410)	410	VDI40: 305 (Opt. BMT55: 410)
	Max. machining length	mm	400 / 600		380 / 580		600 / 1000	600 / 1000	500 / 750 / 1000	VDI40: 500 / 750 / 1000 (Opt. BMT55: 450 / 700 / 950)	750 / 1000	VDI40: 750 / 1000 (Opt. BMT55: 700 / 950)
Spindle	Chuck size	inch	6	8	6	8	10		8		10	
	Spindle nose	—	A2-5	A2-6	A2-5	A2-6	A2-8		A2-6		A2-8	
	Max. speed	RPM	6000	4500	6000	4500	3500		4500		3500	
	Spindle bearing I.D	mm	80	100	80	100	130		110		130	
	Spindle bore diameter	mm	56	66	56	66	92.2		76.2		92.2	
	Bar capacity	mm	44	51	44	51	77		65		77	
	Motor power	KW	9 / 11		9 / 11		11/15		11 / 15		15 / 18.5	
Travel	X axis	mm	185+15		185+15		225+20		205+25	VDI40: 165+25 (Opt. BMT55: 205+25)	205+25	VDI40: 165+25 (Opt. BMT55: 205+25)
	Z axis	mm	400 / 600		400 / 600		600 / 1000		550 / 800 / 1050		800 / 1050	
Axial feed	Rapid feed X/Z	M/min	30/30		30/30		30/30		20/24		20/24	
	Cutting feed X/Z	M/min	10/10		10/10		10/10		10/10		10/10	
Turret	Type	—	Hydraulic (Opt. Servo)		VDI30 servo (Opt. BMT45)		Servo	VDI40 servo (Opt. BMT55)	Servo	VDI40 servo (Opt. BMT55)	Servo	VDI40 servo (Opt. BMT55)
	Number of tools station	pcs	12		12		12		12		12	
	O.D tool shank size	mm	□ 20		VDI30		□ 25	VDI40	□ 25	VDI40	□ 25	VDI40
	I.D boring bar diameter	mm	Ø32		Ø25		Ø40		Ø40		Ø40	
Power turret	Max. milling speed	RPM	N/A		5000		N/A	4000	N/A	4000	N/A	4000
	Motor	KW	N/A		2.2/3.7		N/A	3.7/5.5	N/A	3.7/5.5	N/A	3.7/5.5
Tailstock	Taper	mm	MT4		MT4		MT4		MT5		MT5	
	Quill diameter	mm	75		75		75		90		90	
	Quill stroke	mm	75		75		75		102		102	
	Travel	mm	350 / 550		350 / 550		550/950		550 / 800 / 1050		800 / 1050	
Hydraulic system	Max. work pressure	Mpa	3		3		5		5		5	
	Max. flow rate	L/min	20		20		30		35		35	
	Tank capacity	L	30		30		50		50		50	
Others	Coolant tank capacity	L	160		160		200		250		250	
	Lubrication tank capacity	L	2		2		2		2		2	
	Air source	Mpa	0.6		0.6		0.6		0.6		0.6	
	Power requirement	KVA	25		25		30		35		35	
Machine size	Size (LxWxH)	mm	2240x1700x2020 2440x1700x2020	2300x1700x2020 2500x1700x2020	2240x1700x2020 2440x1700x2020	2300x1700x2020 2500x1700x2020	2800x2050x2250 3200x2050x2250		2900x1930x2160 3270x1930x2160 3595x1930x2160		3270x1930x2160 3595x1930x2160	
	Weight	Kg	2300 / 2500		2400 / 2600		3600 / 3900		5400 / 6200	5400 / 6200	5400 / 6200	5400 / 6200

★ Specifications are subject to change without notice.