



FEELER® FAIR FRIEND GROUP
FAIR FRIEND ENTERPRISE CO., LTD.

FT ***SERIES***

CNC Turning Center (Boxway)

		FT-200(MC)	FT-250(MC)	FT-250SY	FT-350(MC)	FT-350AL(MC)
standard	3-jaw hydraulic chuck	●	●	●	●	●
	Hydraulic system	●	●	●	●	●
	Hydraulic tailstock	●	●	●	●	●
	Coolant system	●	●	●	●	●
	Morse taper sleeve	●	●	●	●	●
	Auto lubrication system	●	●	●	●	●
	Work light	●	●	●	●	●
	3-Color Signal Light	●	●	●	●	●
	Heat exchanger	●	●	●	●	●
	Soft jaw	●	●	●	●	●
	Foot switch for clamp	●	●	●	●	●
	RS232	●	●	●	●	●
	Oil-Water Separator	●	●	●	●	●
	MPG	●	●	●	●	●
	Operations & maintenance manuals	●	●	●	●	●
	Tool box	●	●	●	●	●
	Leveling pads	●	●	●	●	●
	OD tool holder	●	●	●	●	●
	Facing tool holder	●	●	●	●	●
	Boring bar holder & sleeves	●	●	●	●	●
	Drill sleeves	●	●	●	●	●
optional	Air Condition	○	○	○	○	○
	C-axis	○	○	●	○	○
	Bar feeder	○	○	○	○	○
	Parts catcher	○	○	○	N/A	N/A
	Power turret	○	○	●	○	○
	Auto door	○	○	○	○	○
	Chip conveyor	○	○	○	○	○
	Chip bucket	○	○	○	○	○
	Transformer	○	○	○	○	○
	CE mark	○	○	○	○	○
	Safety torque limit clutch	○	○	○	○	○
	Hoisting hook package	○	○	○	○	○
	Leveling kit	○	○	○	○	○
	Bar feeder interface(LNS system)	○	○	○	○	○
	Additional tool holders and sleeves	○	○	○	○	○
	Servo tailstock	○	○	N/A	○	○
	Tool setter	○	○	○	○	○
	Coolant gun	○	○	○	○	○
	Ait gun	○	○	○	○	○
	Spindle upper shower	○	○	○	○	○
	Chuck air bow function	○	○	○	○	○
	front door interlock	○	○	○	○	○
	Oil mist collector	○	○	○	○	○
	Oil Skimmer	○	○	○	○	○

●:Standard ○:Optional N/A: Not available



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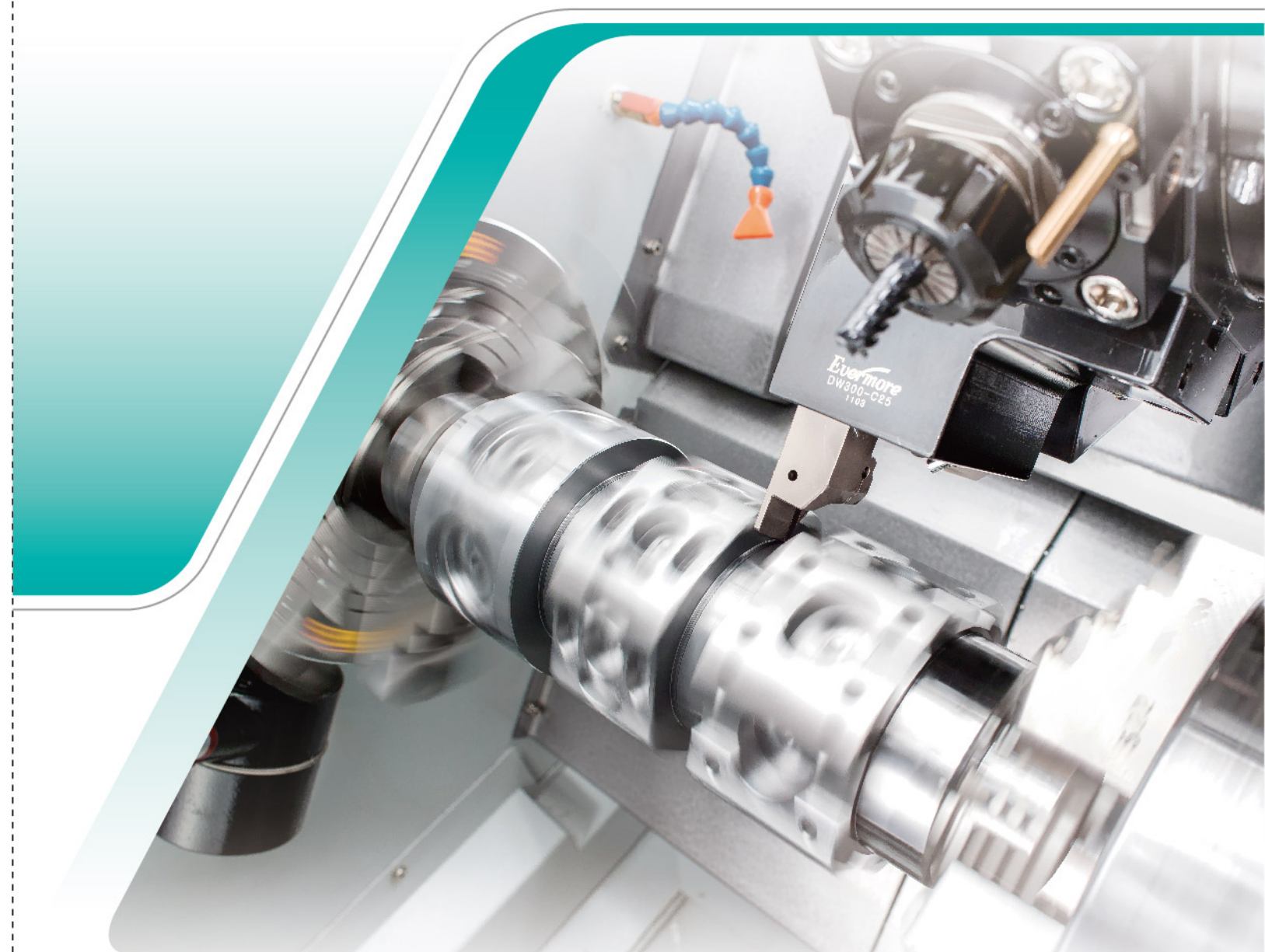
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FT SERIES

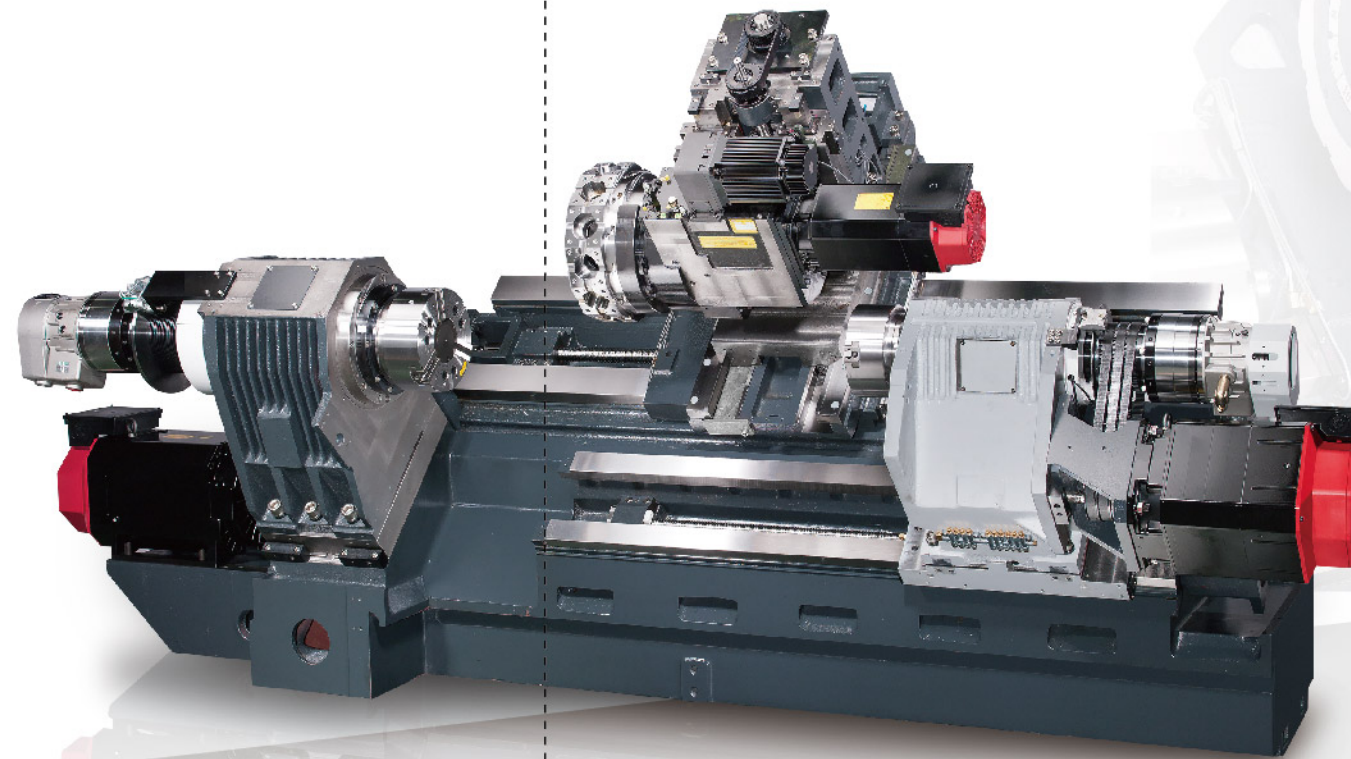
CNC Turning Center (Boxway)

Feeler FT-250SY Series

New Design Concept for Dramatically Increasing Cutting Capacity.

Features:

- The high rigidity 45 degree slant bed design will help chip exclusion, reduce the heat generated.
- Y axis orthogonal design, not virtual Y axis, preclude synchronization error, ensure excellent processing machine accuracy
- Orthogonal Y axis adopt column structure, result in excellent rigidity, stable precision and easy chip removal ...ect.
- The BMT65 power turret with C axis could complete the workpiece turning, milling, drilling and tapping programs in the same machine.
- Dual spindles integrated multitasking characteristics into the same machine for complex processing capacity with high efficiency.

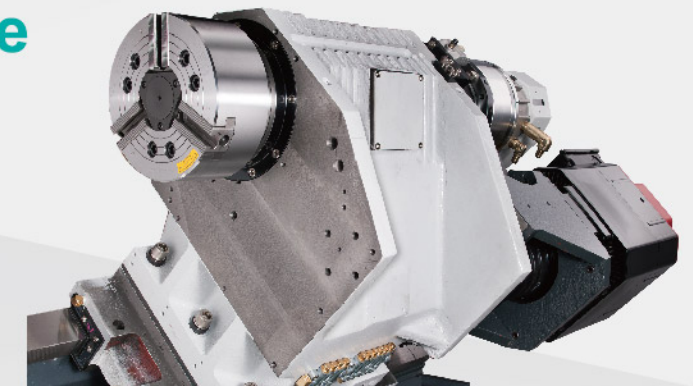


BMT65 Servo drove power tooling

Power tooling with servo motor drive, fit large diameter curvic clutch, structural rigidity and fast tool change

High rigidity Sub-spindle

A2-6 Sub-spindle, high rigidity design, Ø52 through hole draw tube, spindle motor 11/15kw, suit to large complex workpiece. Can be applied to the cutting of the long workpiece with spindle in the same time to reduce the rouout error



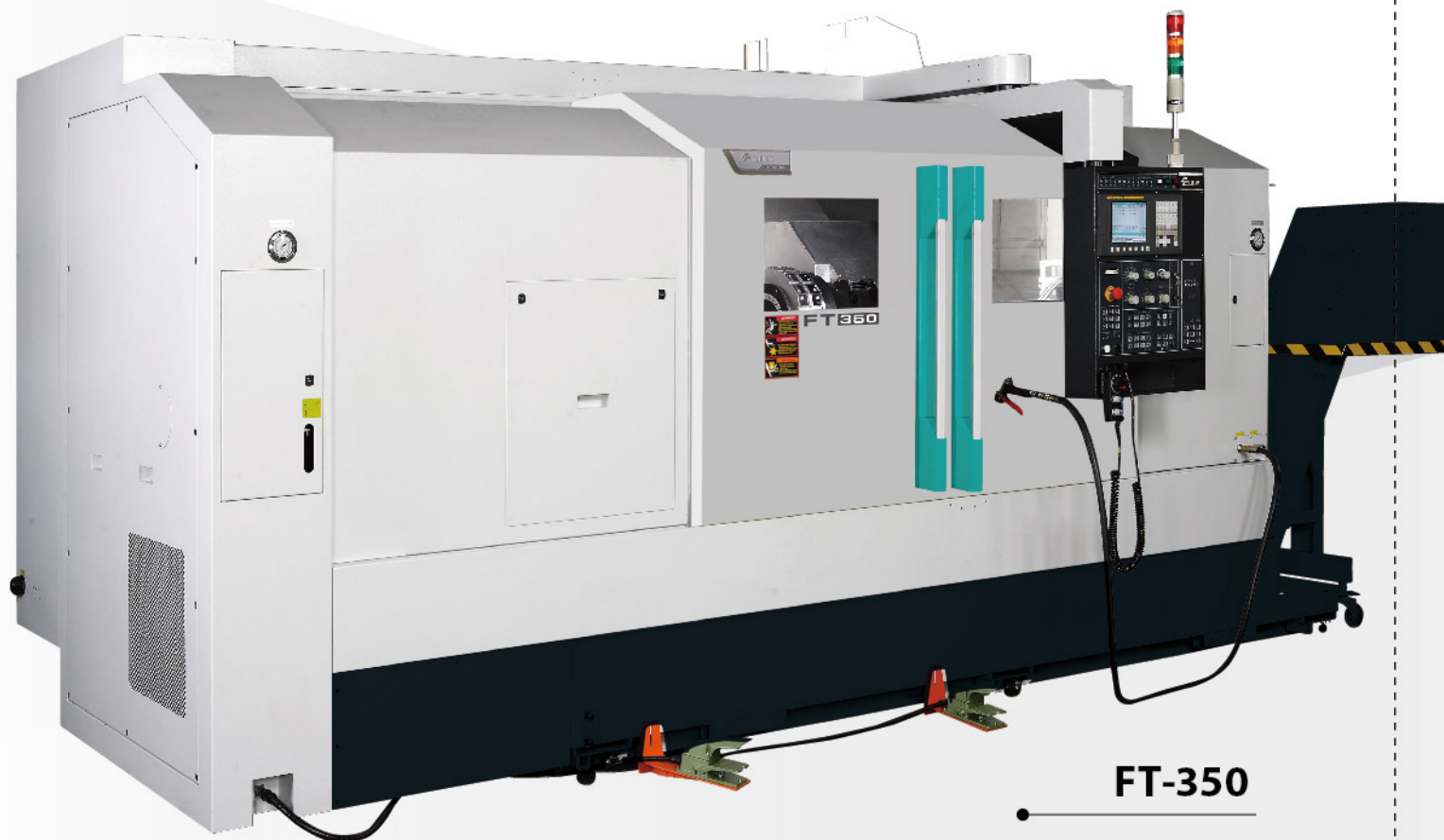
FT-250SY

Feeler FT-350 Series

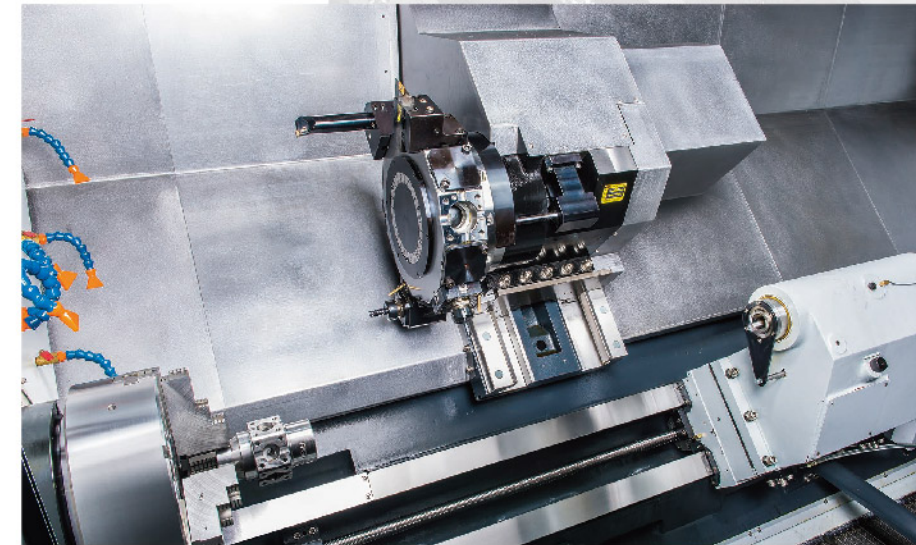
New Design Concept for Dramatically Increasing Cutting Capacity.

Features:

- One-piece structure, 45-degree slant bed and robust base with box ways provide excellent rigidity for heavy duty cutting.
- The base is a new type designed with FEA analysis. Its solid and firm structure enhances overall structural rigidity and stability.
- Rigidity-enhanced design for the Z-axis and the tailstock rail - firm supports and accurate tracking.
- Newly designed spindle head with Fair Friend's Sleeve type spindle.
- A2-8 or A2-11 to choose from along with 2 types of spindles.
- Pendant type controller features convenient mobility and easy operation.
- Fully enclosed EC cabinet prevents vapour and dusts from entering; thereby securing component lifetime.



FT-350

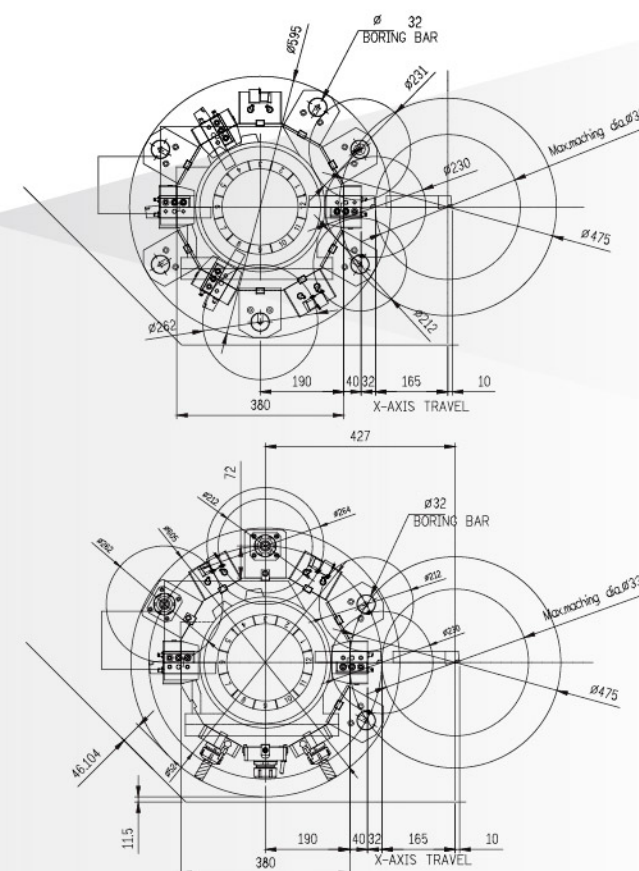


Continuous and Enormous Power

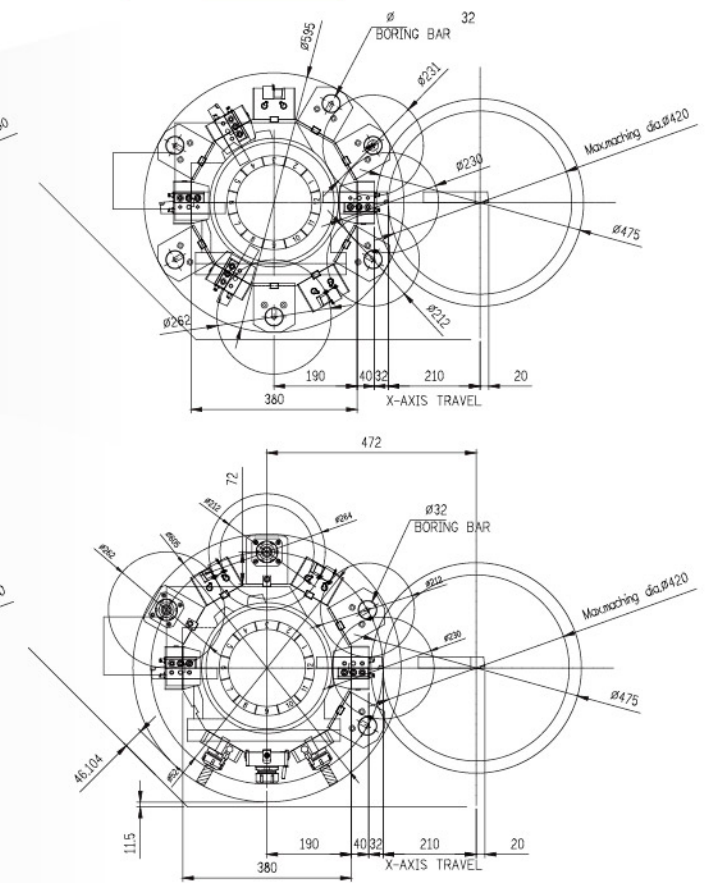
- Newly developed high rigidity servo turret, running with 3-piece type curvic coupling for stable and swift tool change.
- BMT 65 tool system features firm interface for tool holding.
- C-axis function and power turret are available as optional for turning and cutting multiple-task machining.

Working Capacity

FT-200/200 MC



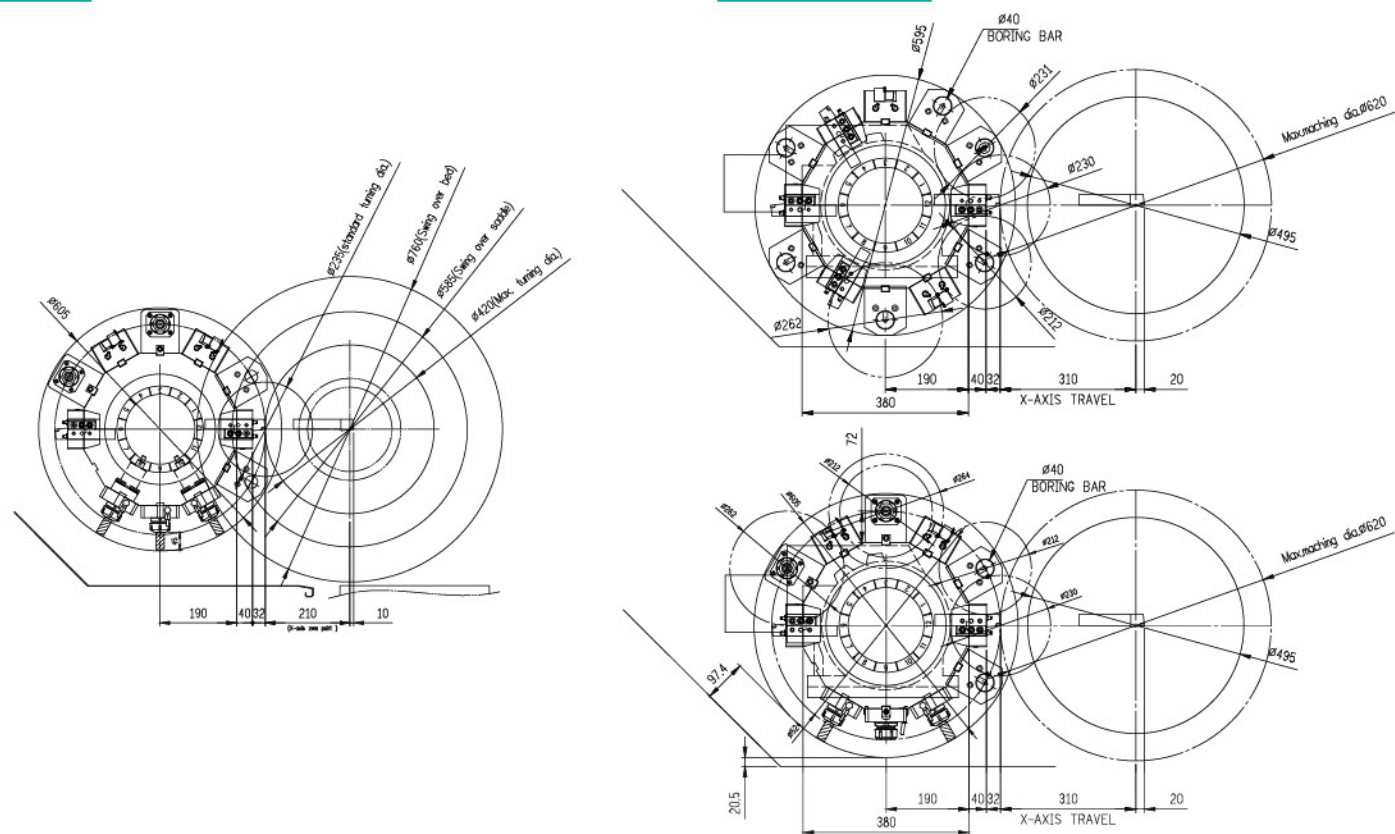
FT-250/250MC



Working Capacity

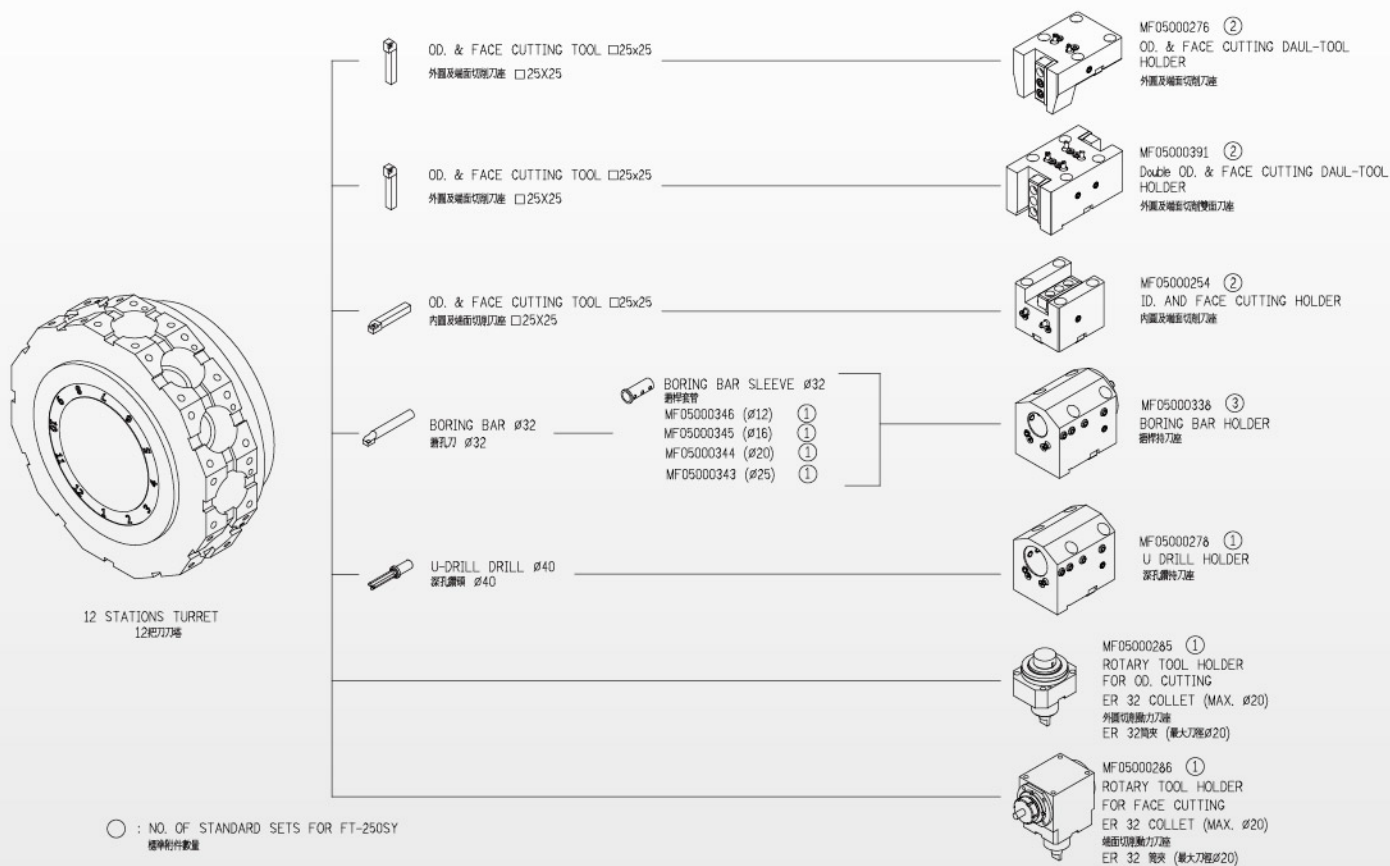
FT-250SY

FT-350/350MC



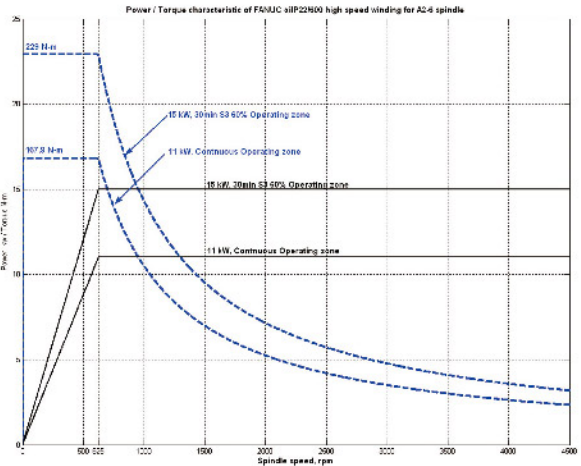
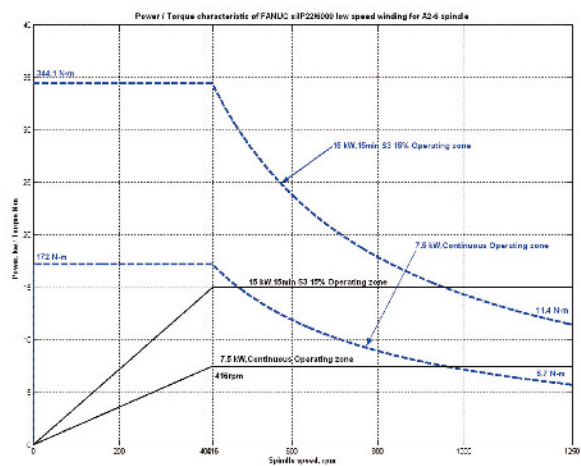
Tool System

FT-250SY

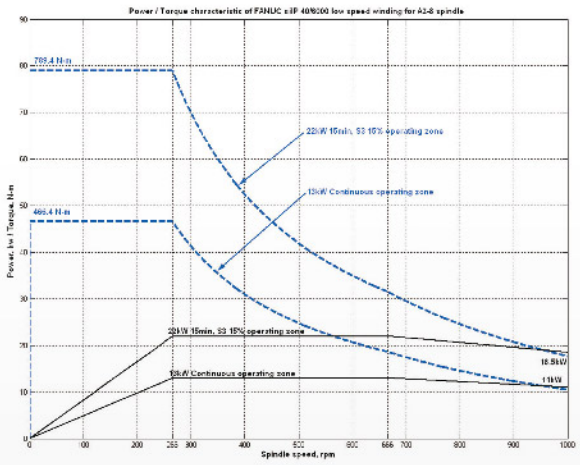
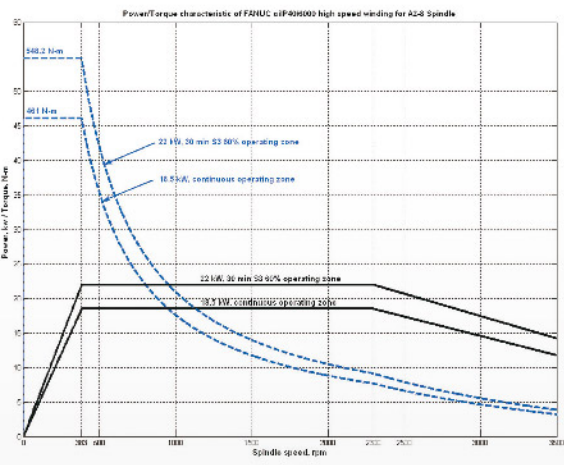


Power Diagrams

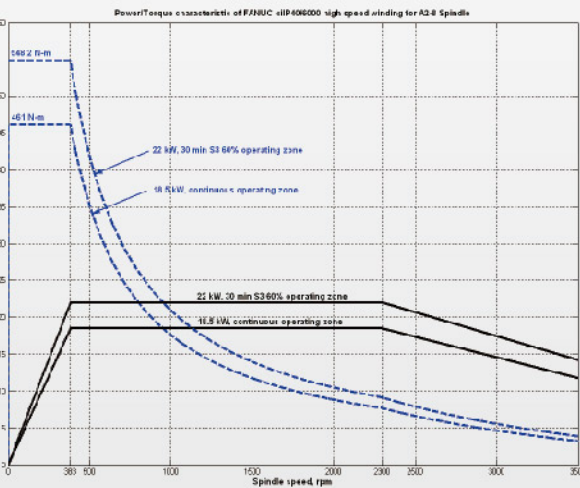
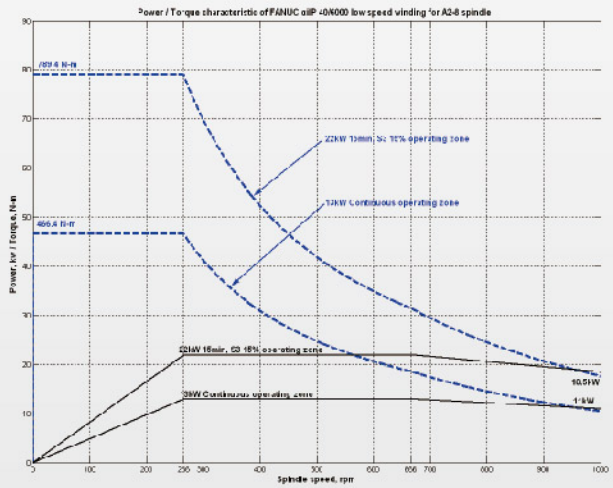
FT-200



FT-250

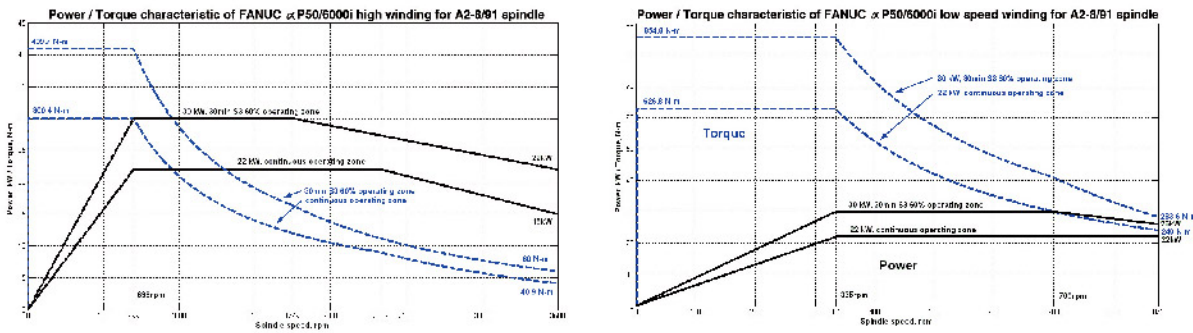


FT-250SY

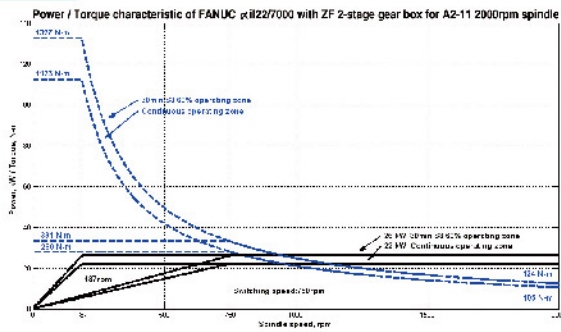


Power Diagrams

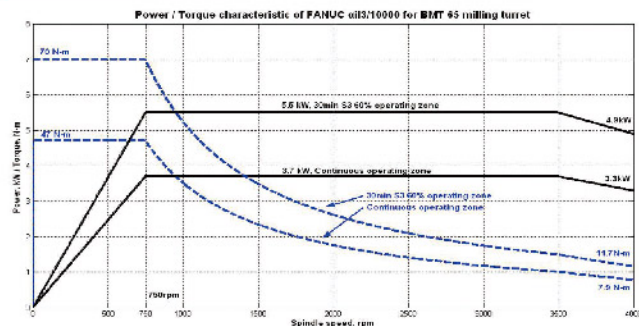
FT-350



FT-350AL

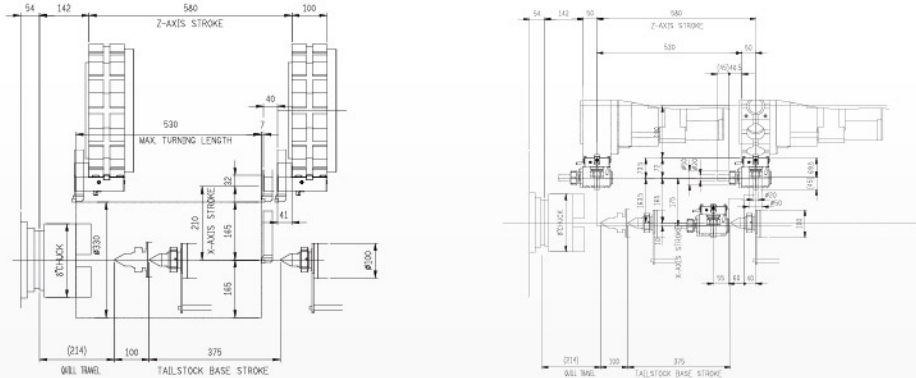


BMT-65/Turret

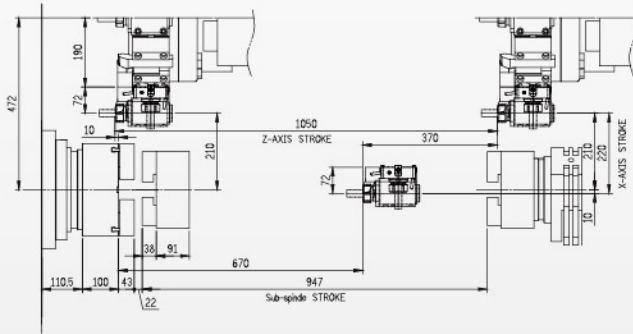


Working Range

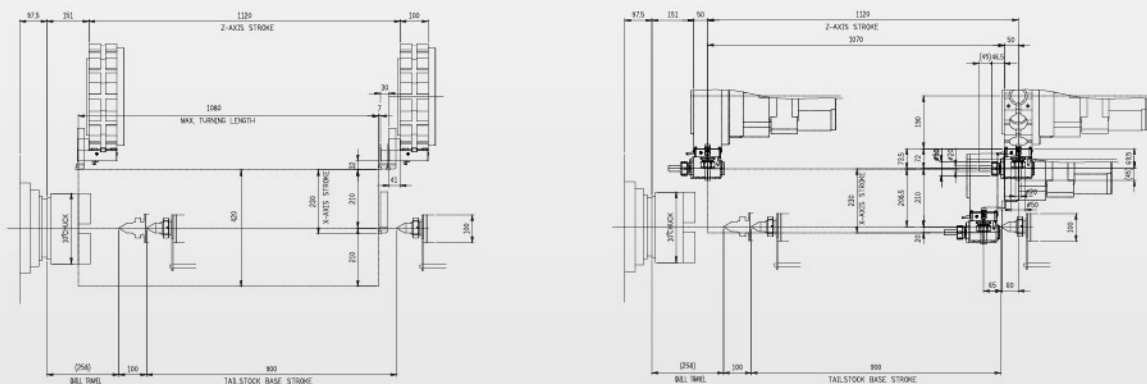
FT-200/200MC



FT-250SY

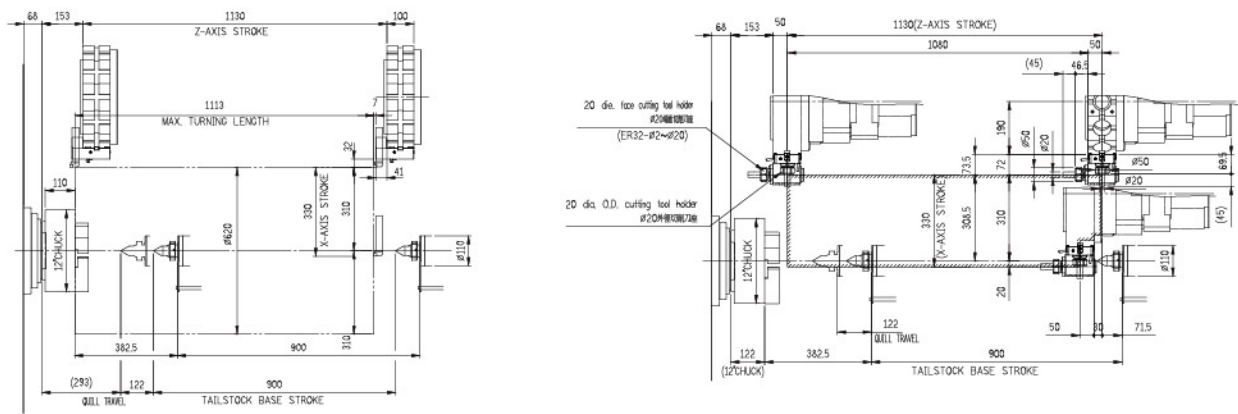


FT-250/250MC

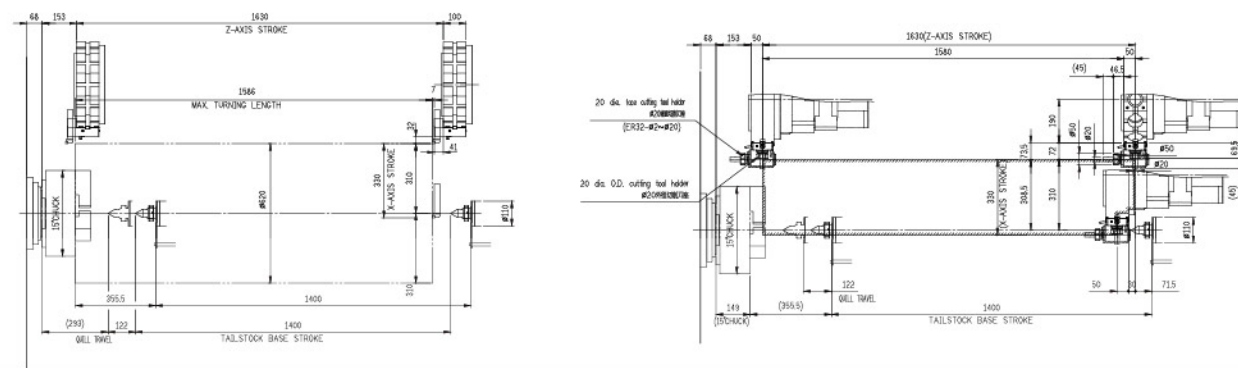


Working Range

FT-350/350MC

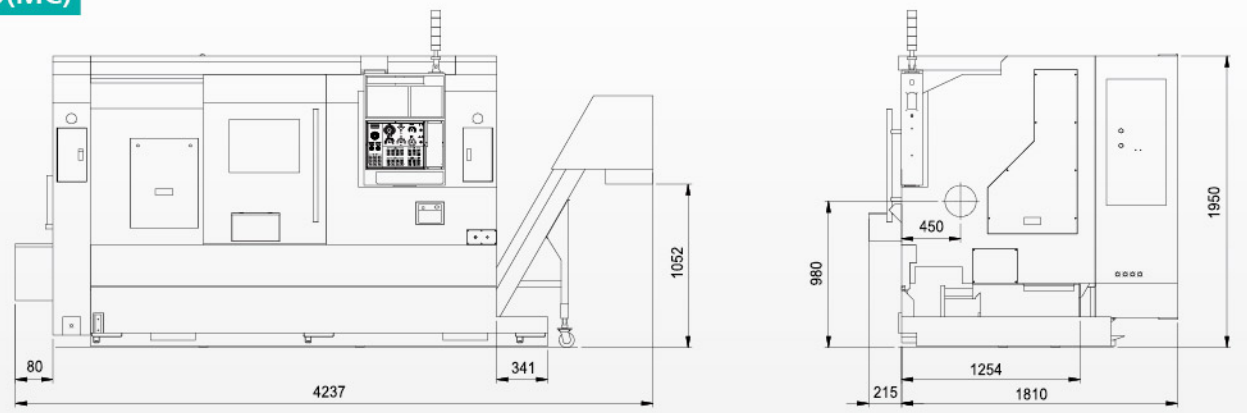


FT-350AL/350ALMC

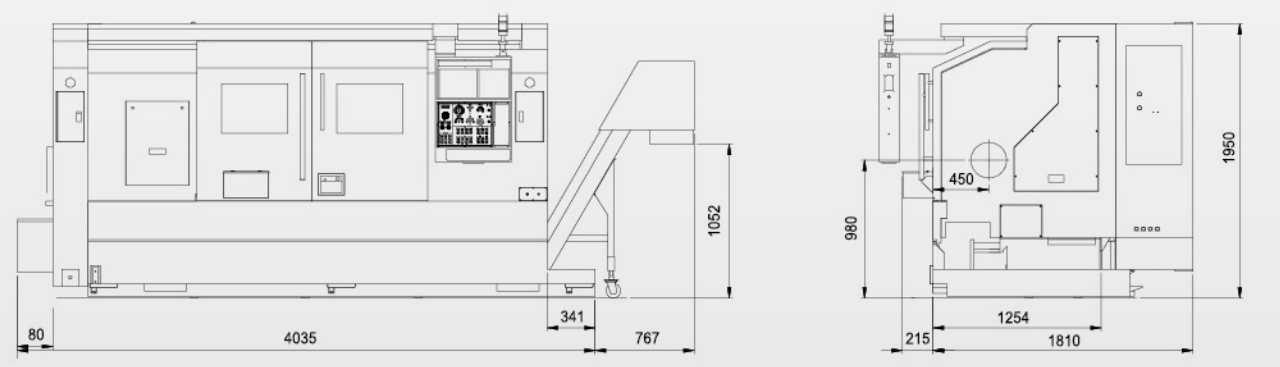


Machine Dimensions

FT-200(MC)

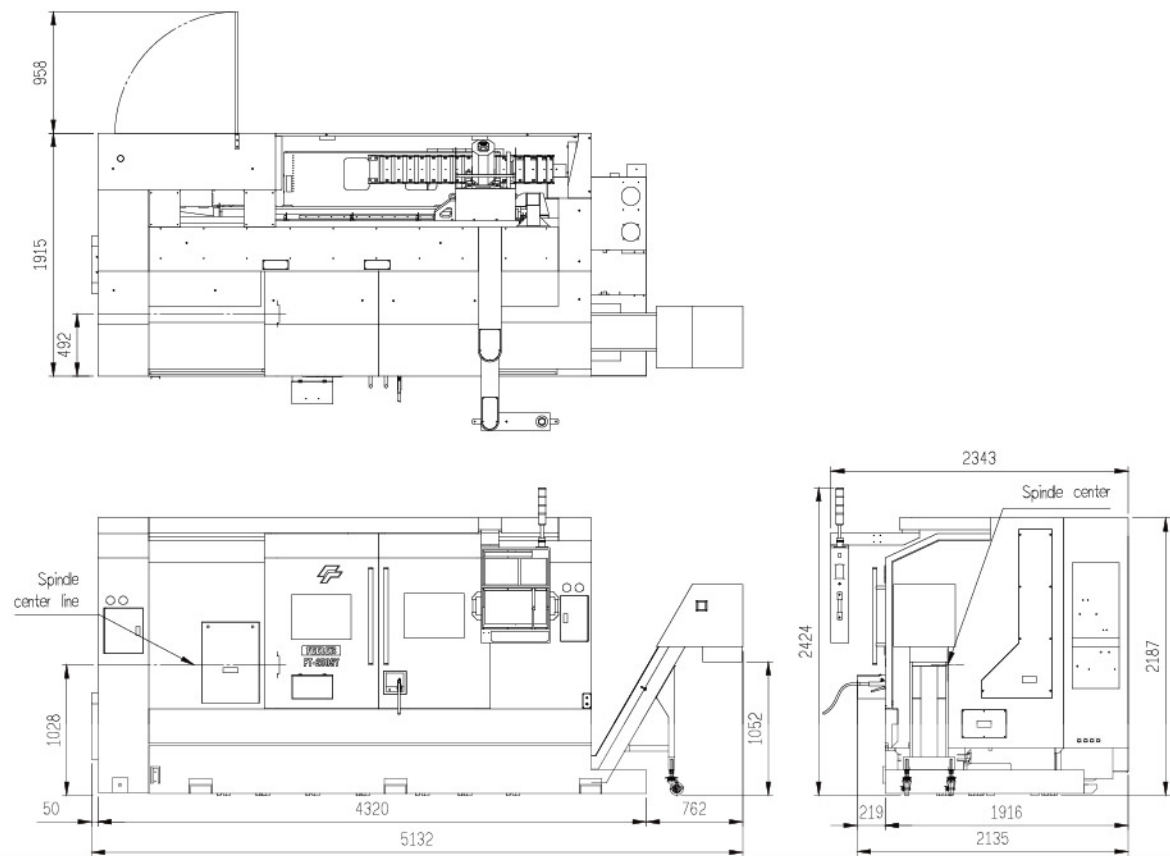


FT-250(MC)

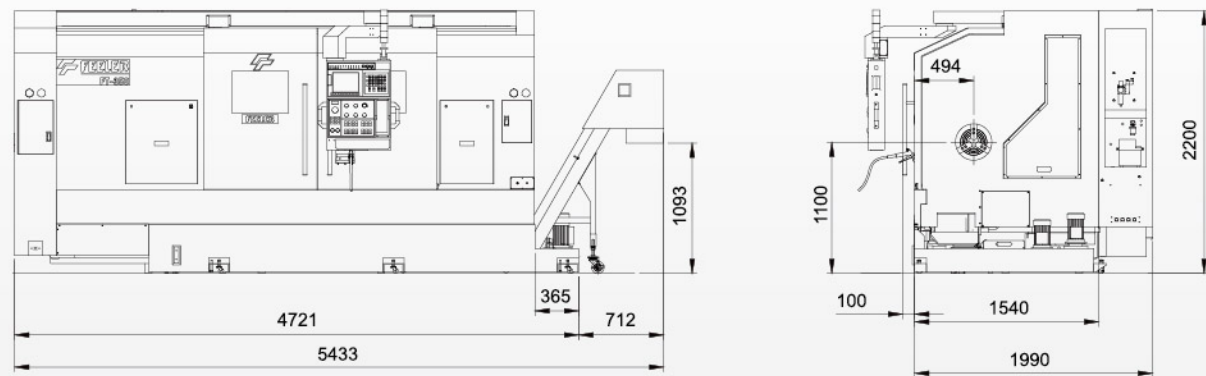


Machine Dimensions

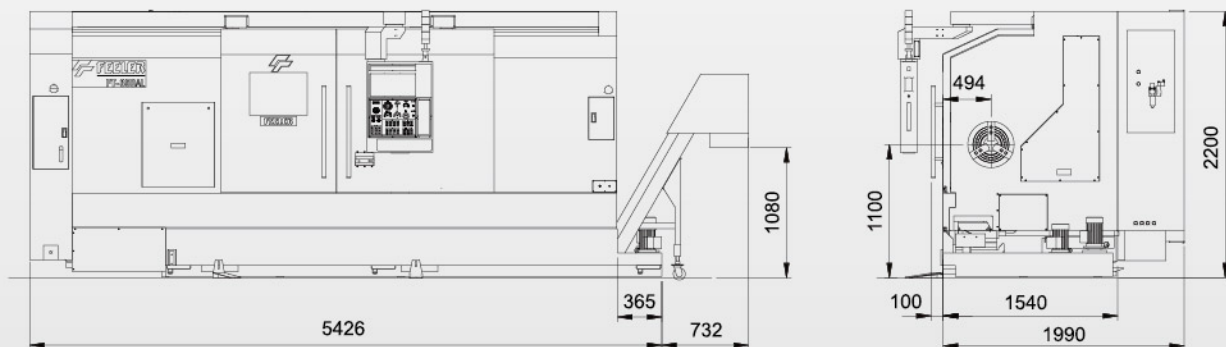
FT-250SY



FT-350(MC)



FT-350AL(MC)



SPECIFICATIONS

	Unit	FT-200(MC)	FT-250(MC)	FT-250SY		FT-350(MC)	FT-350AL(MC)
Capacity				Spindle1	Spindle2		
Swing over bed	mm	635	635	760		725	725
Swing over cross slide	mm	475	475	580		495	455
Max. turning diameter	mm	330	420	420		620	620
Max. turning length	mm	487	1,037	1,005		1,060	1,520
Bar work capacity	mm	65	77	77	51	91	115
Chuck size	inch	8"	10"	10"	8"	12"	15"
Travel							
X axis travel	mm	165+10	210+20	210+10		310+20	310+20
Y axis travel	mm	-	-	100(±50)		-	-
Z/E-axis travel	mm	580	1,120	1,050/947		1,130	1,630
Spindle							
Max. spindle speed		4500	3,500	3,500	4,500	3,300	2,000
Type of Spindle Nose		A2-6	A2-8	A2-8	A2-6	A2-8	A2-11
Through spindle hole diameter	mm	76	88	88	56	102	131
Spindle bearing inner diameter	mm	110.	130.	130.	100.	160.	180.
Min. spindle indexing angle		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Turret							
Number of tool stations		BMT65-12	BMT65-12	BMT65-12		BMT65-12	BMT65-12
Shank height for square tool	mm	25	25	25(1")		25	25
Shank diameter for boring bar	mm	32	32	32(1.25")		40	40
Turret indexing time	sec	0.15 / 0.72	0.15 / 0.72	0.3/0.9		0.15 / 0.72	0.15 / 0.72
Max. rotary tool spindle speed		(4,000)	(4,000)	α3		(4,000)	(4,000)
Feedrate							
X Rapid traverse rate	mm/min	24,000	24,000	24,000		20,000	20,000
Z Rapid traverse rate	mm/min	24,000	24,000	24,000		20,000	20,000
E/Y Rapid traverse rate		(24,000)	(24,000)	24,000 / 10,000		(20,000)	(20,000)
Tailstock							
Tailstock travel	mm	375	900	-	-	900	1,400
Tailstock spindle diameter	mm	100	100	-	-	110	110
Tailstock quill stroke	mm	100	100	-	-	120	120
Taper hole of tailstock spindle	MT	MT-4	MT-4	-	-	MT-5	MT-5
Motor							
Main spindle drive motor(cont/30min)	kw	15 / 18.5	18.5 / 22	18.5 / 22	11 / 15	22 / 30	22 / 26
Rotary tool spindle drive motor(cont/30min)	kw	(3.7 / 5.5)	(3.7 / 5.5)	(3.7 / 5.5)		(3.7 / 5.5)	(3.7 / 5.5)
Feed motor X / Z / Y / E	kw	3 / 3 / 1.6	3 / 3 / 1.6	4 / 4 / 3 / 3		4 / 4 / 3	4 / 4 / 3
Tank Capacity							
Coolant tank capacity	ℓ	200	300	360		355	420
Machine Dimensions							
Floor space	mm	3,235 x 1,855	3,785 x 1,855	4,370 x 2,345		4,725 x 2,290	5,426 x 2,290
Machine height	mm	1,955	1,955	2,425		2,200	2,200
Machine weight	kg	5,150	6,210	9,500		9,290	10,120

* Specifications are subject to change without prior notice.