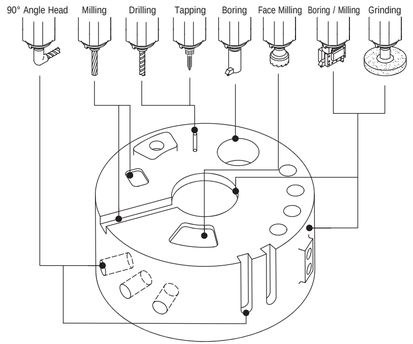
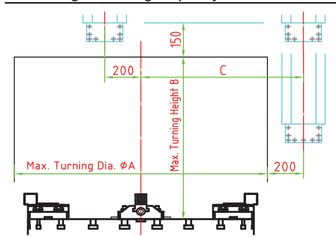
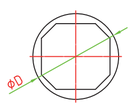
Tooling System



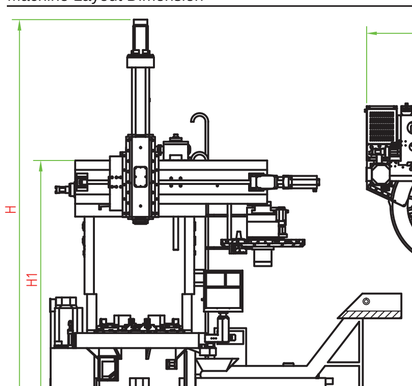
Machining / Working Capacity and RAM Interference

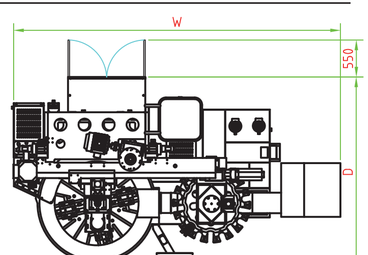




ITEM	VLS-15(M)	VLS-19(M)	VLS-24(M)
A	1500	1900	2400
B	1200	1550	1550
C	1000	1200	1450
D	300	320	320

Machine Layout Dimension





ITEM	VLS-15(M)	VLS-19(M)	VLS-24(M)
H	5210	5875	5875
H1	3315	3815	3815
W	4765	5190	5605
D	2785	3460	3980

	Unit	VLS-15(M)	VLS-19(M)	VLS-24(M)	Unit	VLS-15(M)	VLS-19(M)	VLS-24(M)
Working Range								
Max. Turning Diameter	mm	1500	1900	2400	inch	59	74.8	94.5
Max. Swing	mm	1600	2000	2500	inch	62.99	78.74	98.42
Max. Allowable Weight	kg	6500	10000	12500	lbs	14300	22000	27500
Max. Turning Height	mm	1250	1600		inch	49.21	63	
Table								
Table / Pallet Diameter	mm	1250	1600	2000	inch	49.21	62.99	78.74
Main Motor Power Output	kW	30/37 (opt.37/45)	37/45 (opt.45/55)		HP	40/50 (opt.50/60)	50/60 (opt.60/73)	
Max. Torque of Table	N-m	13160	22910	28310	lbs-ft	9710	16900	20900
Table Speed (2 steps)	rpm	2~110, 110~350	1~60, 60~250	1~50, 50~200	rpm	2~110, 110~350	1~60, 60~250	1~50, 50~200
Cross Rail Head								
Ram Section	mm	230 x 240	240 x 270		inch	9.05 x 9.45	9.45 x 10.63	
Ram Travel (Z axis)	mm	900	1000 (opt.1200)		inch	35.43	39.37 (opt. 47.24)	
Rail-Head Travel (X axis)	mm	–200~1700	–250~2300	–250~2700	inch	–7.87~66.93	–9.84~90.55	–9.84~106.3
Minimum Bore Ø Ram will enter	mm	300	320		inch	11.81	12.6	
Rapid Traverse (X axis / Z axis)	m/min	12 / 10			inch/min	472.5 / 393.7		
Cutting Feed Rate	mm/min	1~2000			inch/min	0.04~78.7		
Crossrail Travel	mm	800			inch	31.5		
Crossrail Fixed Positions Pitch	mm	200			inch	7.874		
Number of Crossrail Positions		5				5		
Automatic Tool Change without Rotary Tool Drive								
ATC Magazine Capacity	tool	12			tool	12		
Square Tool Shank Size	mm	32 x 32			inch	1.25 x 1.25		
Max. Tool Size for ATC	mm	230W x 132T x 450L			inch	9.05W x 5.20T x 17.71L		
Max. Tool Weight	kg	50			lbs	110		
Max. Loading Weight of ATC	kg	360			lbs	792		
Tool to Tool Change Time	sec	42			sec	42		
Additional Data								
Positioning Accuracy of X&Z axis	mm	±0.007/500			inch	±0.00027/19.68		
Repeatability of X&Z axis	mm	±0.005			inch	±0.0002		
Positioning Accuracy of CS-axis	arc sec	±16"			arc sec	±16"		
Positioning Accuracy of CF-axis	arc sec	±7"			arc sec	±7"		
X, Z axis Servo Motor	kW	6			HP	8		
Total Power Capacity	kVA	60			kVA	60		
Dimension (L*W*H)	cm	477*279*521	519*346*588	561*398*588	inch	188*110*206	205*137*232	221*157*232
Mass of Machine	kg	20000	28000	32000	lbs	44000	61500	70500
With Rotary Tool Drive - Auxiliary Spindle (M)								
ATC Magazine Capacity	tool	18 (Turning : 9 / Rotating : 9)			tool	18 (Turning : 9 / Rotating : 9)		
Type of Tool Taper		BT-50				BT-50		
Max. Drill Diameter	mm	50 (Carbon Steel Workpiece)			inch	1.96 (Carbon Steel Workpiece)		
Max. Tap Diameter	mm	M30 (Carbon Steel Workpiece)			inch	1.18 (Carbon Steel Workpiece)		
Max. Torque for Live Tooling	N-m	196			lbs-ft	145		
Live Tool Spindle speed	rpm	2~2400	50~2250		rpm	2~2400	50~2250	
Table Index Speed	rpm	3			rpm	3		
C-axis Feed Rate	deg/min	0~800			deg/min	0~800		
Live Tooling Motor	kW	7.5/11	11/15		HP	10/15	15/20	
CF-axis Servo Motor	kW	3			HP	4		

*Specification subject to change without prior notification.

Standard Accessories

- Fanuc 0i-TD Control Unit
- Independent 4-Jaw Manual Chuck
- Oil Skimmer (Belt Type)
- Automatic Lubrication System
- Standard Tool Holder x 2 pcs
- 12 Tools ATC for VLS or 18 Tools ATC for VLS(M)
- Chip Conveyor
- Coolant System
- Heat Exchanger for Electrical Cabinet
- Work Light & Alarm Light
- Half Guarding
- Tools Kit

Optional Accessories

- Fanuc 18i Control Unit
- Siemens 840D Control Unit
- Dual Speed Gearbox for Live Tooling
- CS-Axis or CF-Axis for Work Table
- ATC 24 Tools
- Paper Filter System
- Power Transformer
- Air Conditioner for Electric Cabinet
- Workpiece Measurement Probe
- Tool Probe
- Hydraulic 3-Jaw Chuck
- Table with 4 Asynchronous Jaws
- Coolant Through Spindle
- Grinding Attachment
- Full Guarding
- Additional Tool Holders
- Auto Tool Changer with CAT Holders
- CE Mark

Made in Taiwan

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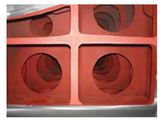
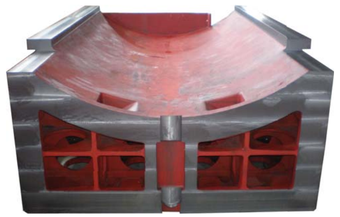
Vertical Turning Lathes

Simply More for Your Investment

Rigid Structure

The ribbed box section structure of column made by one piece Meehanite cast iron ensures maximum stability and rigidity which significantly decreases vibration, thermal expansion, and deformation during heavy uninterrupted cutting operations.





Work Table

A one piece base casting and floating hydraulic bearing design using heavy duty taper roller bearing provides enormous table load capability. High Torque 2-speed gear box combined with Fanuc spindle motor allows extreme table turning power up to 28,310 N.m to overcome all types of jobs.

Option: Live Tooling & CS-Axis/CF-Axis

The optional live tooling has a choice of one speed or two speed German ZF gear box with high torque output. Also a choice of CS-axis or the more accurate CF-axis allows wide range of work such as tapping, milling, and drilling to be carried out in one setup.

Octagon RAM

The patent Octagon Ram design enables excellent thermal expansion control, superior damping characteristics, and stronger rigidity comparing to traditional square Ram.

Crossrail Hydraulic Clamp

A total of 800mm stroke of rail travel has been evenly divided into 5 positions (0 to 800mm). Four strong independent hydraulic clamping cylinders plus large lock pins locks the crossrail at each position.

Automatic Tool Change

The tool magazine utilizes the latest servo indexing technology to decrease time during tool change.

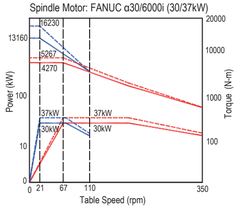
Control Unit

User friendly control from Fanuc 0i-TD and large clear push buttons with durable LED backlight are standard. Fanuc 18i and Siemens control are optional.

Table Torque Diagram

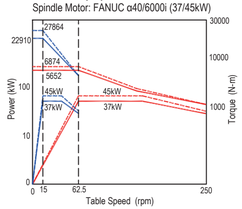
VLS-15(M)

Spindle Motor: FANUC α30/6000i (30/37kW)



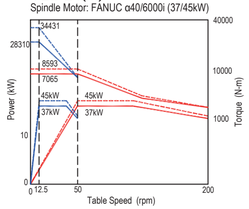
VLS-19(M)

Spindle Motor: FANUC α40/6000i (37/45kW)



VLS-24(M)

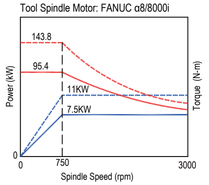
Spindle Motor: FANUC α40/6000i (37/45kW)



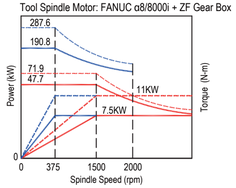
Live Tooling Spindle Torque Chart

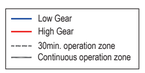
VLS-15M

Tool Spindle Motor: FANUC α8/8000i



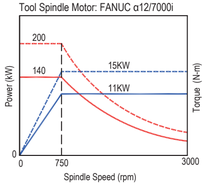
Tool Spindle Motor: FANUC α8/8000i + ZF Gear Box





VLS-19M / 24M

Tool Spindle Motor: FANUC α12/7000i



Tool Spindle Motor: FANUC α12/7000i + ZF Gear Box

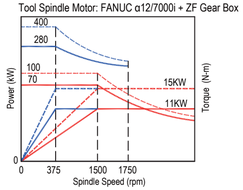
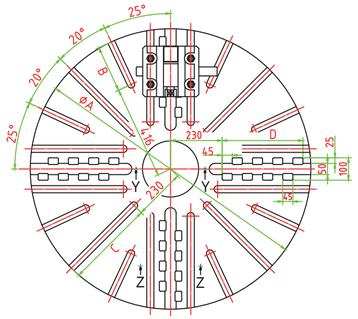
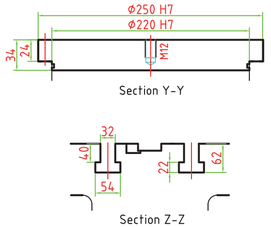
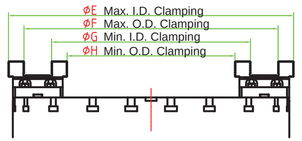


Diagram of Faceplate



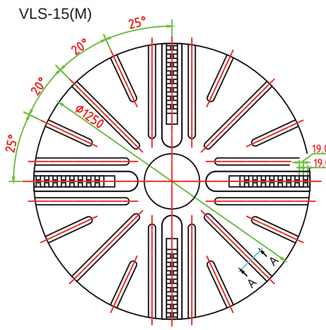




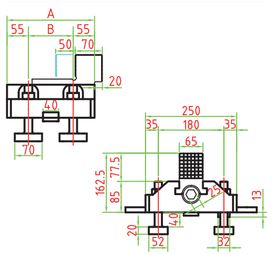
ITEM	VLS-15(M)	VLS-19(M)	VLS-24(M)
A	1250	1600	2000
B	209	384	584
C	395	570	770
D	8×45=360	12×45=540	16×45=720
E	765~1395	765~1755	765~2115
F	635~1265	635~1625	635~1985
G	375~1005	375~1365	375~1005
H	245~875	245~1235	245~1595

Table with 4 Asynchronous Jaws

VLS-15(M)

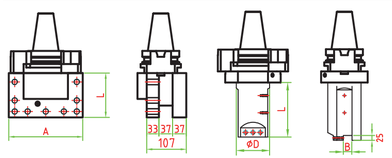


Dimension of 4T Chuck Jaws



ITEM	VLS-15(M)	VLS-19(M)	VLS-24(M)
A	225	255	255
B	115	145	145

Dimension of Tool Holder



Model	L	A	D	B	Tool
ST-200	200	120	–	–	32×32
ST-230	230	140	–	–	32×32
BFP-300	300	–	90	23	20×20
BFP-350	350	–	90	23	20×20
BFP-320	320	–	100	28	25×25
BFP-400	400	–	100	28	25×25