

High Efficiency Machining Center



VE Series

V-22iF(iR)/V-30iF(iR)
V-32iF(iR)/V-32AF(AR)
V-42iF(iR)/V-42AF(AR)
V-52AF(AR)

LEADWELL
LEADWELL CNC MACHINES MFG., CORP.



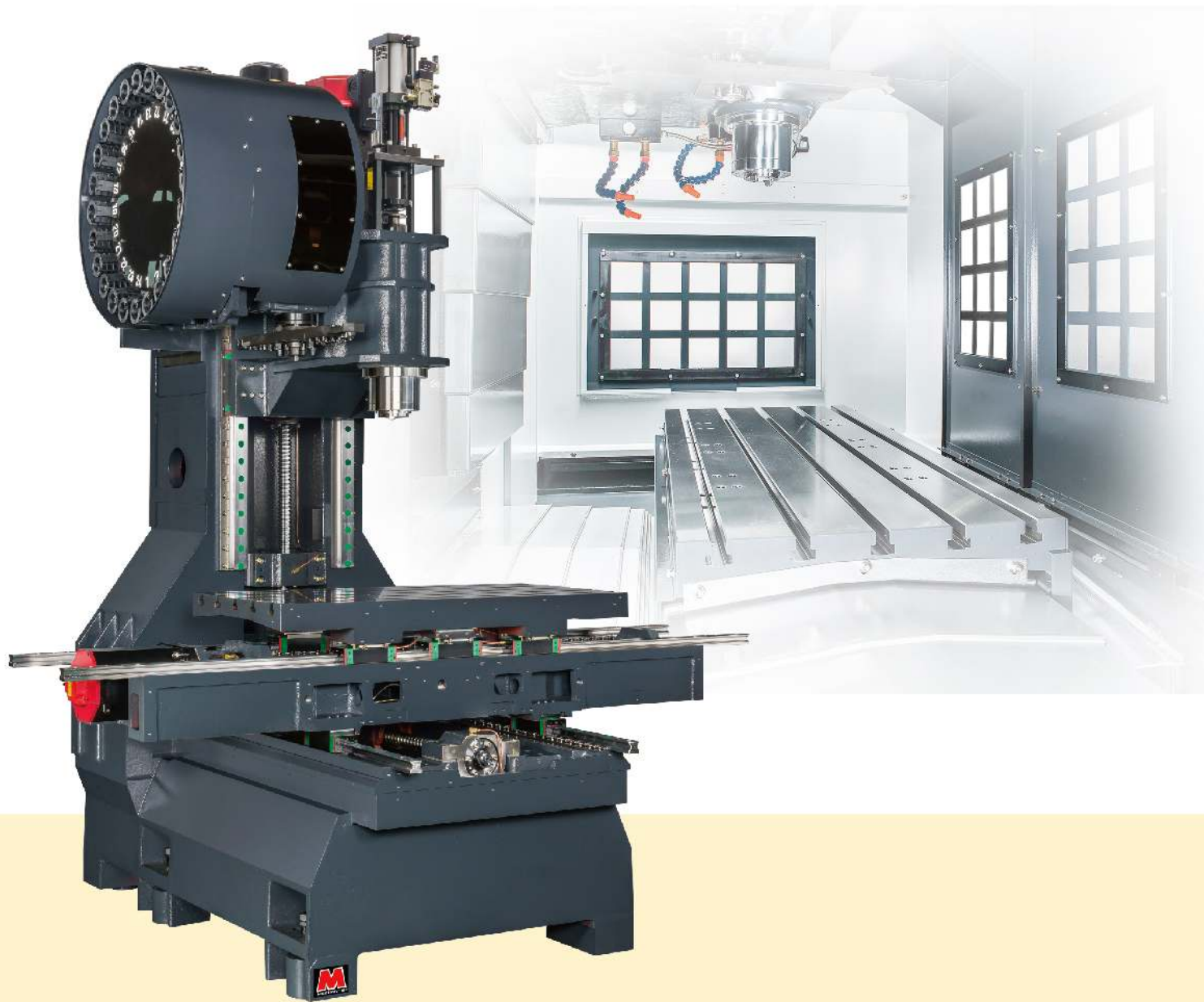
LEADWELL CNC MACHINES MFG., CORP.



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* All performance are based on 220V/3PH/60HZ. Specifications are subject to change without notice.



High Efficiency Machining Center

High Rigidity:

- FEA Analysis
- High rigidity structure design
- 3 Axis ball screw prestressing

High Reliability:

- Roller type motion system
- 3 Axis absolute motor

High Efficiency:

- V-32A.V-42A.V-52A with high torque spindle motor
- Rapid feed rate 48/48/36 mm
- Spindle speed 12,000 rpm(optional)
- Tool change time T to T 1.8 sec
- Tool change time C to C 4 sec

High Flexibility:

- 30 tools magazine available
- 4/5 axis rotary table available
- Front/Rear Chip Disposal available

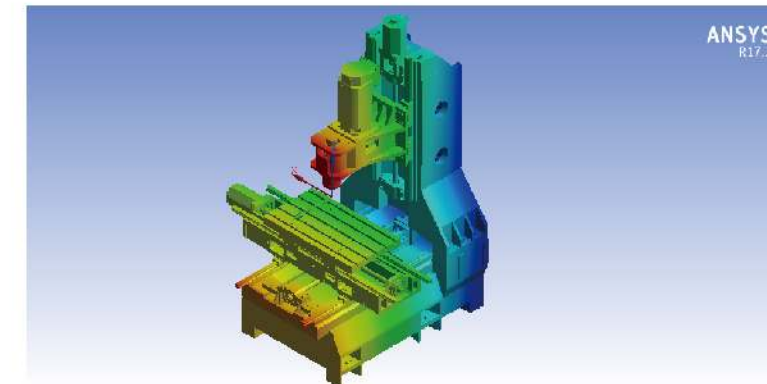
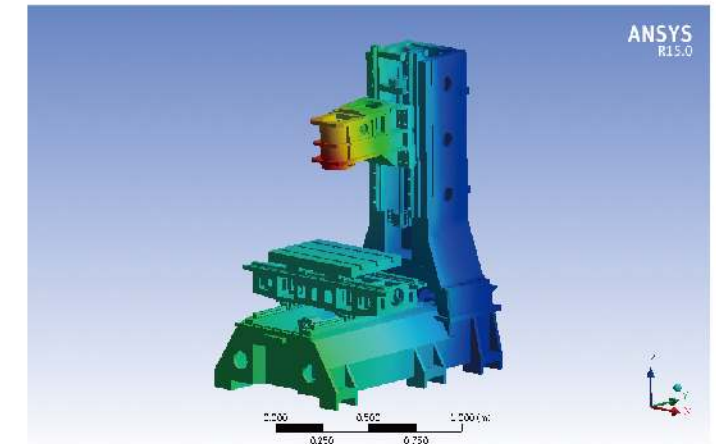
Optimum

- Section areas
- Moments of inertia
- Torsional constant
- Plate thickness
- Bending stiffness
- Transverse shear
- Vibration reduce

With FEA you can:

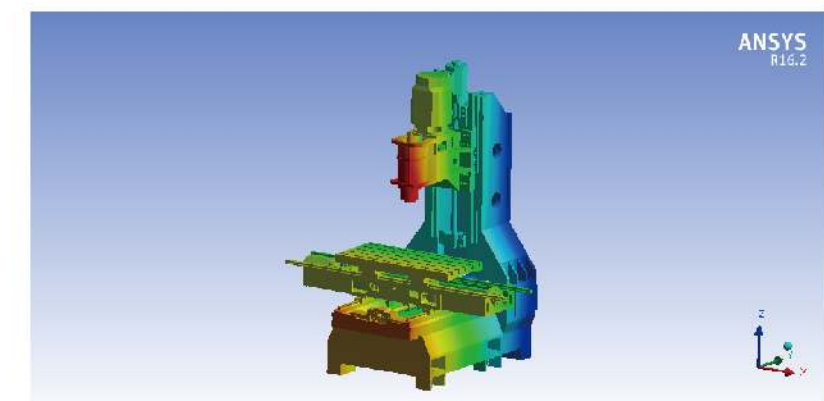
1. Predict and improve product performance and reliability.
2. Reduce physical prototyping and testing .
3. Evaluate different designs and materials .
4. Optimize designs .

V-22 SERIES



V-32 SERIES

V-42 SERIES



PERFORMANCE

V-42iF/iR

FACE MILL

Removal Rate **260cc/min.**

Tool $\varnothing 63\text{mm}$

Spindle Speed 1500rpm

Feed Rate 1300mm/min

Width of Cut 50mm

Depth of Cut 4mm

END-DRILL

Removal Rate **144cc/min.**

Tool $\varnothing 20\text{mm}$

Spindle Speed 2800rpm

Feed Rate 900mm/min

Width of Cut 20mm

Depth of Cut 8mm

U-DRILL

Drilling **$\varnothing 42\text{mm}$**

Tool $\varnothing 42\text{mm}$

Spindle Speed 1500rpm

Feed Rate 130mm/min.

Depth of Cut 50mm

TAP

Tapping **M16**

Spindle Speed 350rpm

Feed Rate 700mm/min.

RIGID TAP

Tapping **M20**

Spindle Speed 1500rpm

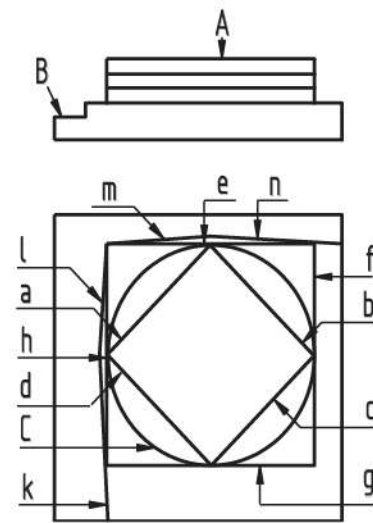
Feed Rate 3750mm/min.

MATERIAL

S45C

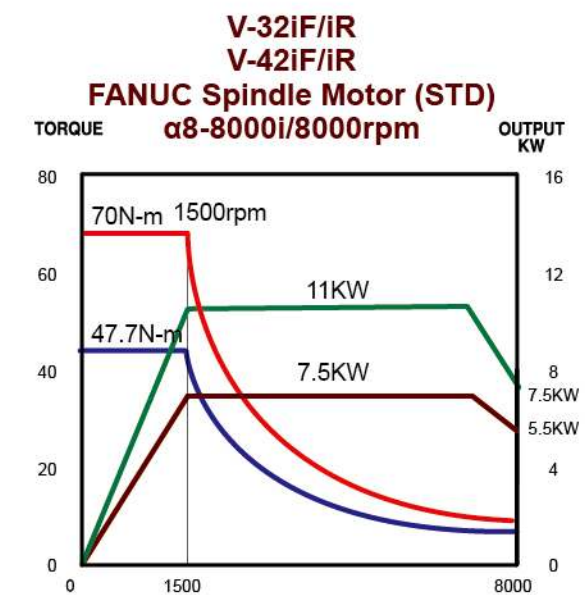
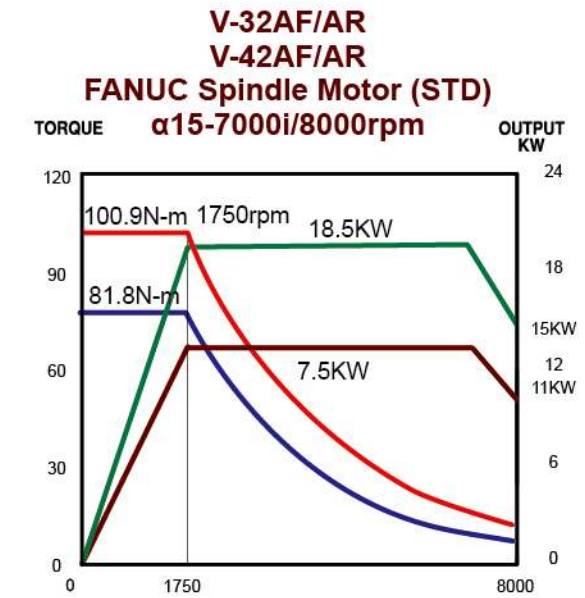
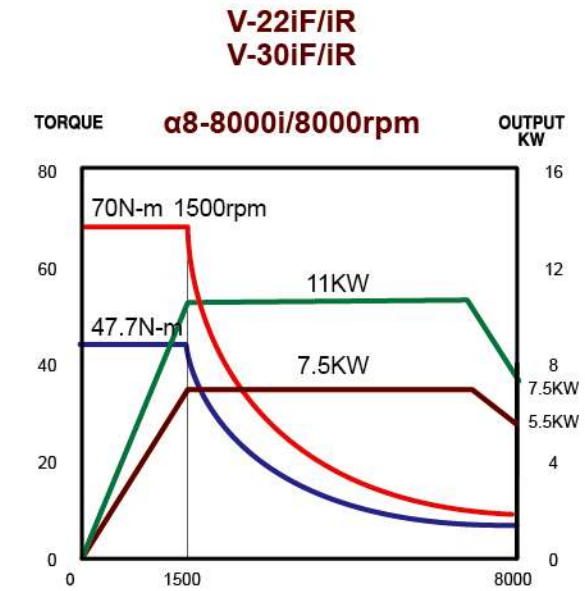
NASA REPORT

TEST REPORT		YEAR						
		10	2 4 1 1 2 0 0 1 1					
ITEM	NASA TEXT	MODEL	V-42i					
TEST CONDITION	Material: Aluminum #6061	NUMBER	#011					
	Finish Machining: Tool: $\varnothing 12$ End Mill	DATE	2013/5/18					
	Rough Machining: Tool: $\varnothing 50$ End Mill	PERSON NEL	Thomas					
	Speed: 8000RPM							
	Feedrate: 3000mm/min							
TEST RESULT	Tolerance	Side	Measured	Tolerance	Side	Measured		
	H	0.015/300	A\B	*	\perp	0.015/140	d\A	0.002/140
	//	0.015/140	a\c	0.006/140	\angle	17.7	i\k	17.7019
	//	0.015/140	b\d	0.003/140	\angle	13.2	m\n	13.2743
	//	0.015/200	g\e	0.002/200	—	0.015/200	abcd	0.001
	//	0.015/200	f\h	0.007/200	—	0.015/200	efgh	0.001
	\perp	0.015/200	g\f	0.002/200	\circ	0.005	C	0.014
	\perp	0.015/200	f\i	0.001/200	Ra	2	abcd	$\triangle\triangle\triangle 3.2$
	\perp	0.015/200	e\h	0.001/200	Ra	2	A\B	$\triangle\triangle\triangle 3.2$
	\perp	0.015/200	h\g	0.002/200	L	141.42mm	A\C	140.217
	\perp	0.015/140	a\b	0.001/140	L	141.42mm	D\B	140.221
	\perp	0.015/140	b\c	0.006/140	L	200. mm	E\G	198.794
\perp	0.015/140	c\d	0.003/140	L	200. mm	F\H	198.801	



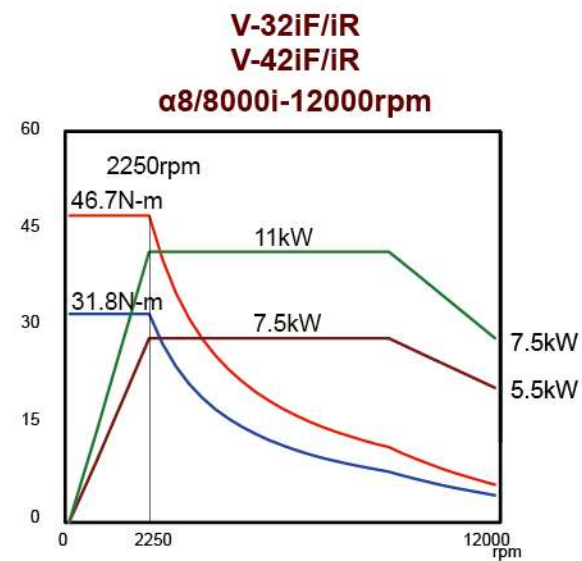
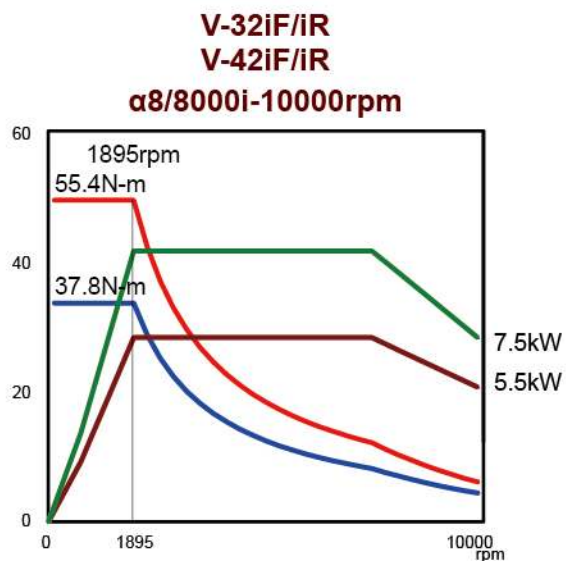
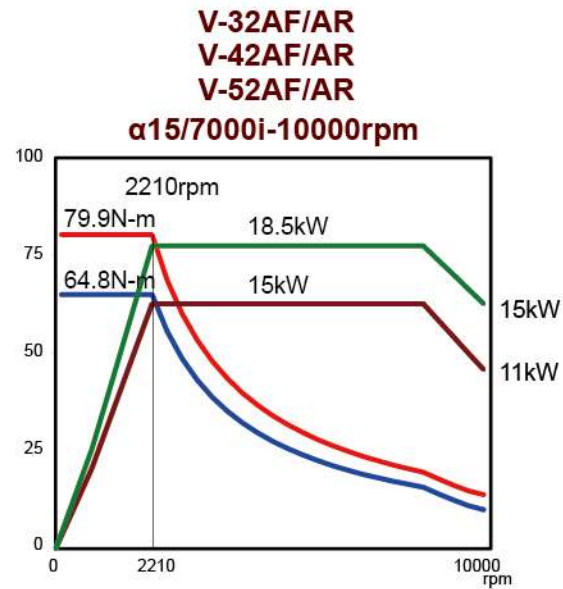
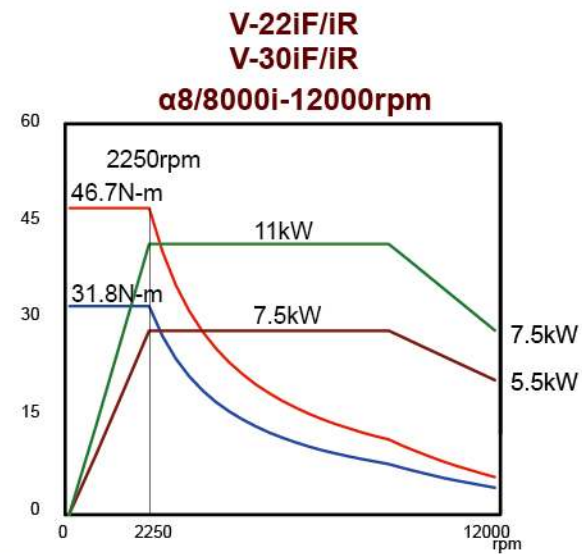
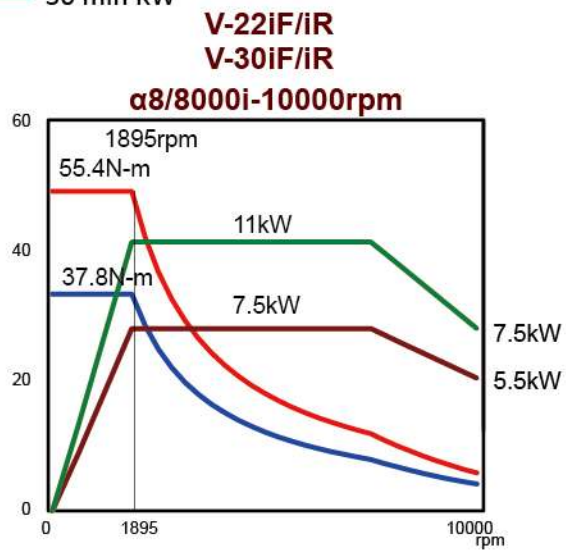
SPINDLE POWER CURVE

- Continuous N-m
- 30 min N-m
- Continuous KW
- 30 min KW



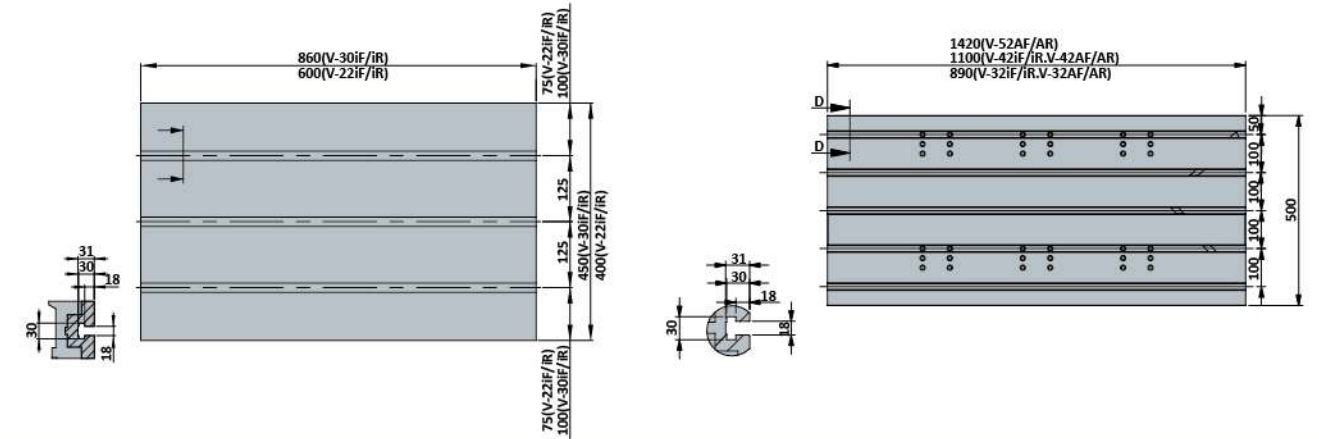
SPINDLE POWER CURVE

- Continuous N-m
- 30 min N-m
- Continuous KW
- 30 min KW



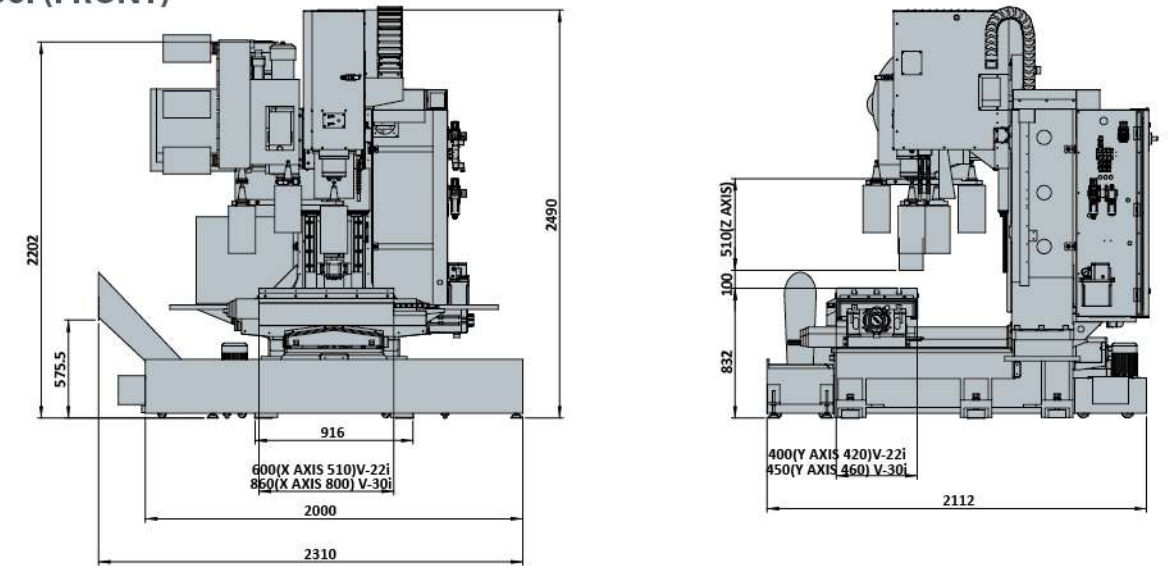
INTERNAL DIMENSION

Table Size

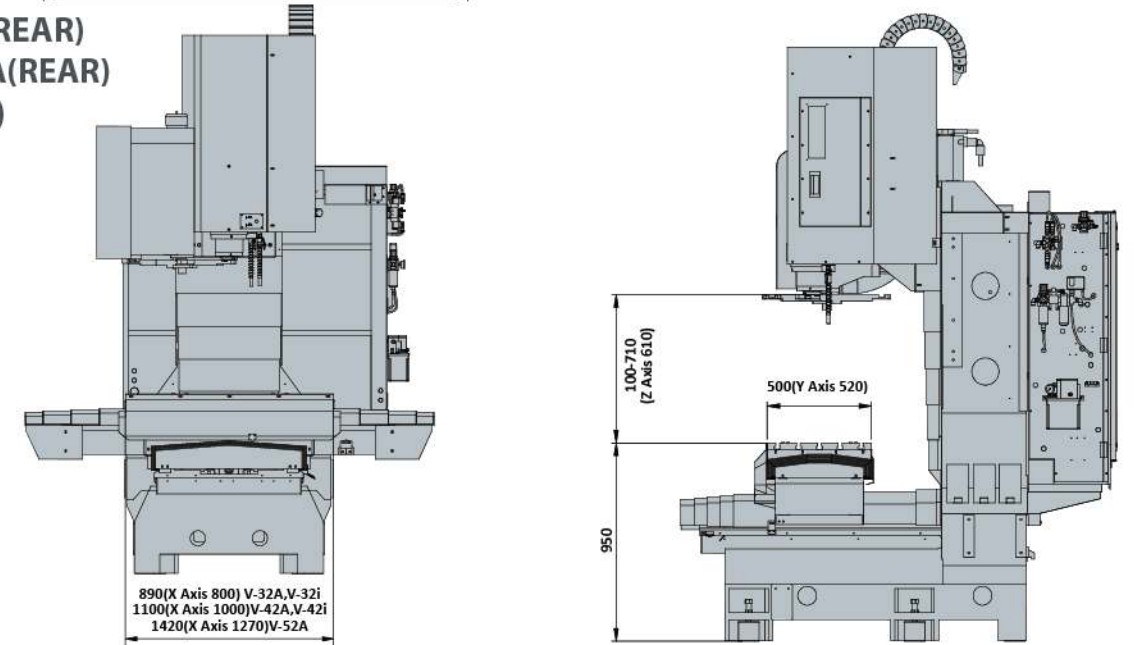


Travel Drawing

V-22i/V-30i (FRONT)



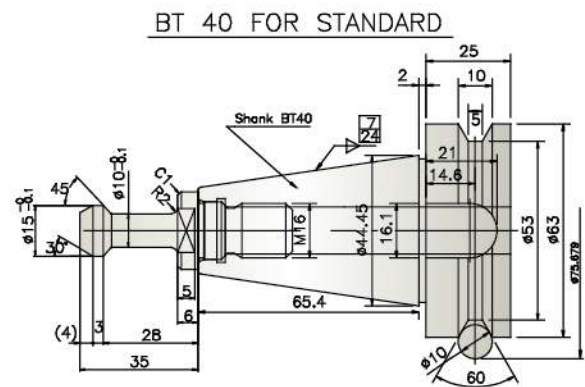
V-32i/V-42i(REAR) V-32A/V-42A(REAR) V-52A(REAR)



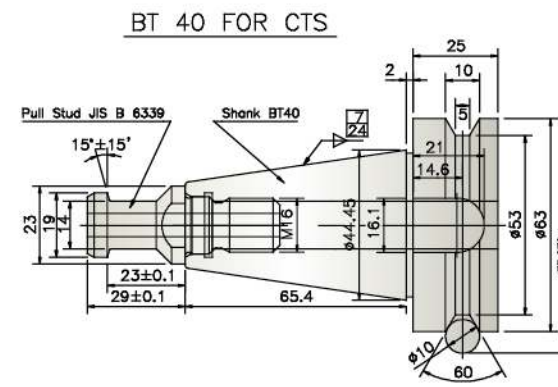
VERTICAL MACHINING CENTERS

Pull Stud

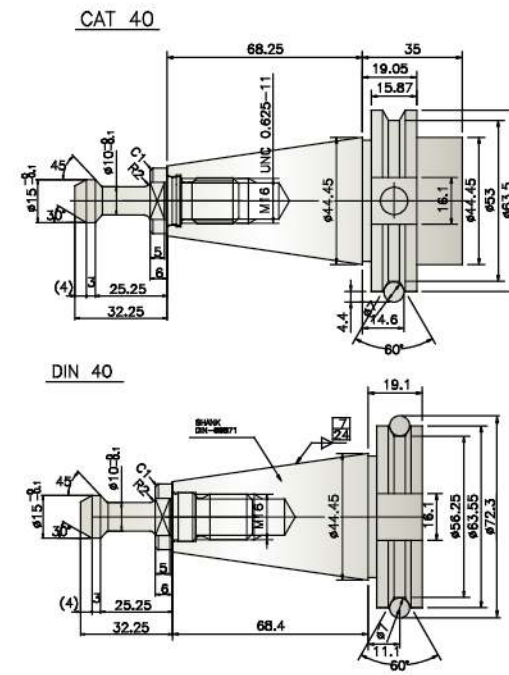
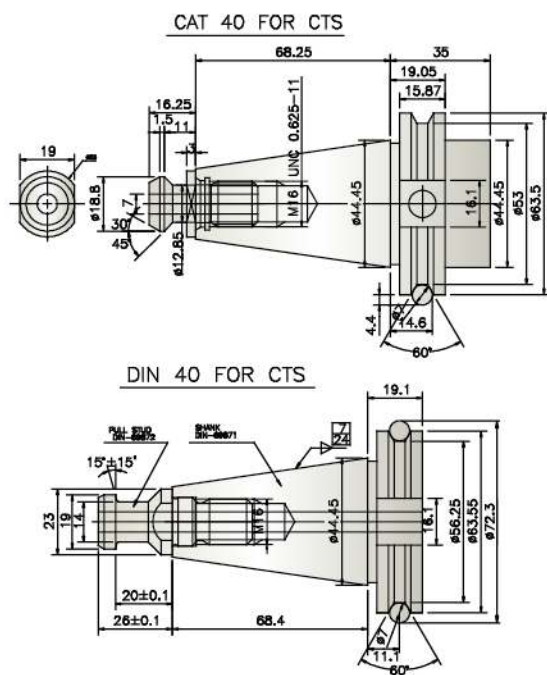
Standard



Optional



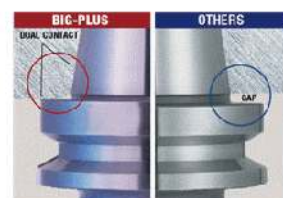
Optional



Cartridge Type Spindle



BBT Two face contact



HIGH PERFORMANCE ROTARY TABLE

LEADWELL®

LWAR Series (Air Brake) LWHR Series (Hydraulic Brake)

LWAR-210/250
LWHR-210/255/320

- Recommend HR Series to use **made-in-Japan** dual-lead worm and worm gear

Larger Through Hole → Bigger Bearing
Bigger Bearing → Higher Rigidity



Large diameter



LWAR-210R

Devised by German

Specialized for Rotary Table, the Radial & Axial bearing can fully support heavy-duty cutting in both radial and axial directions.



LWHR-255R

(Sheet Metal Cover for Both Vertical and Horizontal Applications)



Made in Japan(opt)

Unique high tensile brass
Wear life is 2.6 times longer than aluminum bronze PBC3.

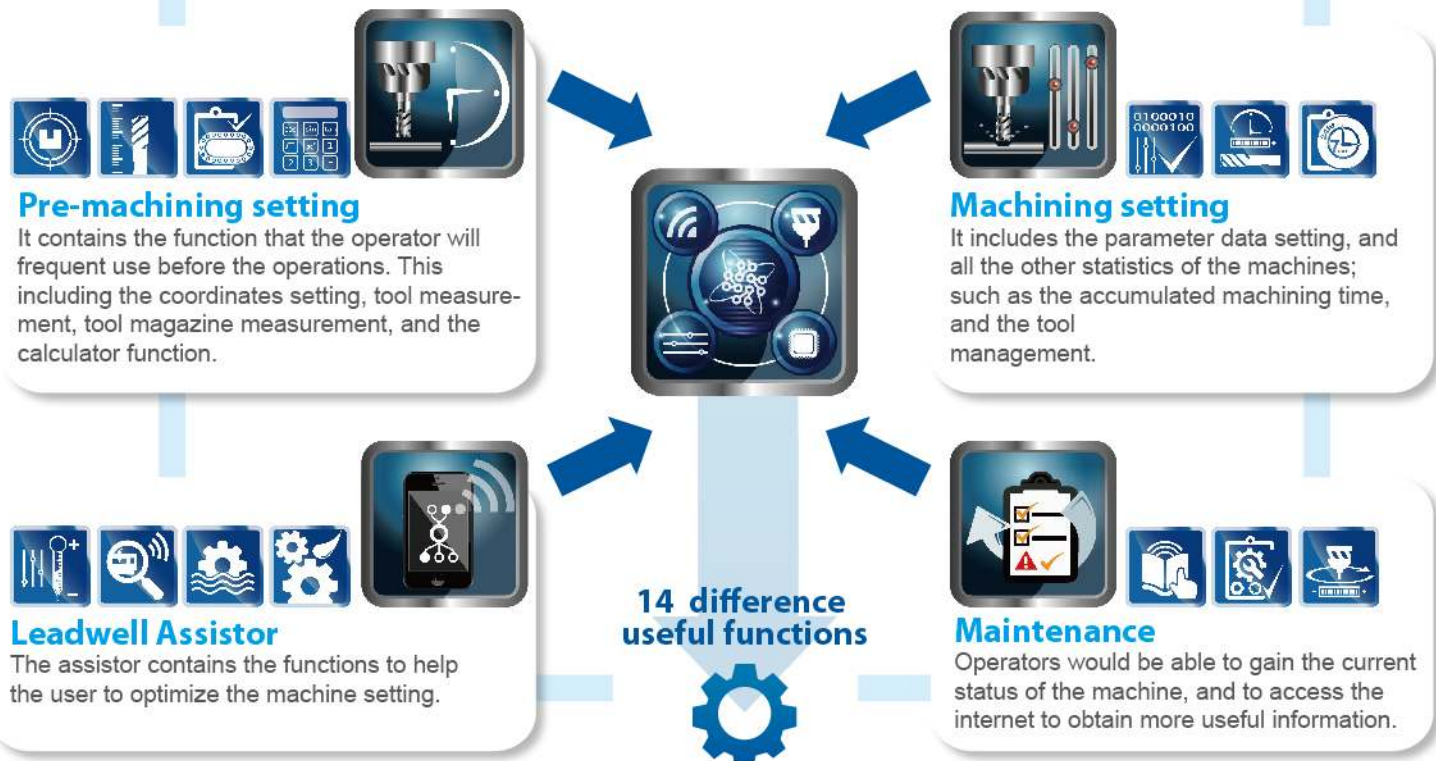
4th Ratable Suggest Table

Model	Air			Hydraulic	
V-22iF/iR	LWAR-125R	LWAR-170R	LWAR-210R		
V-30iF/iR	LWAR-170R	LWAR-210R	LWAR-250R	LWHR-210R	
V-32iF/iR/AF/AR	LWAR-210R	LWAR-250R		LWHR-210R	LWHR-255N
V-42iF/iR/AF/AR	LWAR-210R	LWAR-250R		LWHR-210R	LWHR-255N
V-52AF/AR	LWAR-210R	LWAR-250R		LWHR-210R	LWHR-255N

LEADWELL SMART PROCESSOR

More than a machine

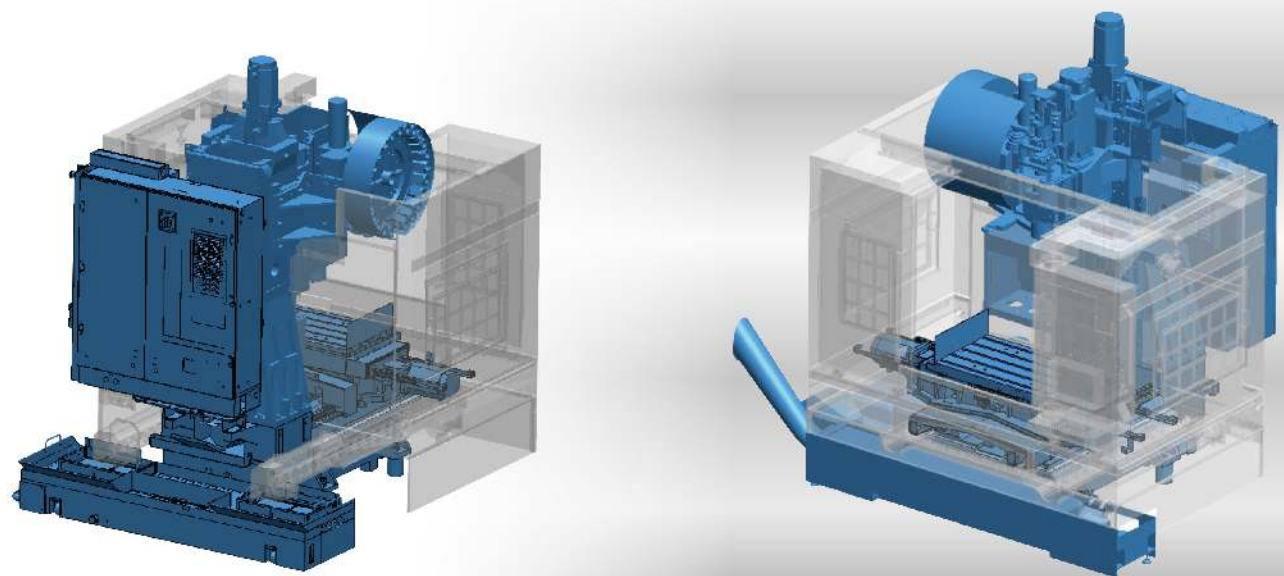
Leadwell is never simply about building a machine and to launch onto the market. Our years of experience, we learn that the right programs must be developed to ensure the competitiveness of the users.



COOLANT AND CHIP SEPERATION SYSTEM

Rear Chip Disposal

Front Chip Disposal



MACHINE SPECIFICATIONS

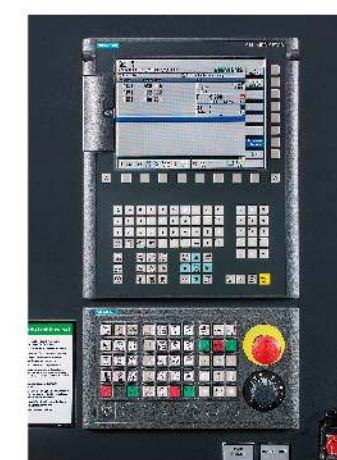
ITEM	MODEL	V-22iF/iR	V-30iF/iR	V-32iF/iR	V-32AF/AR
A.T.C	Type	Arm	Arm	Arm	Arm
CAPACITY	Unit				
X axis travel	mm (in)	510(20.1)	800(31.4)	800(31.5)	
Y axis travel	mm (in)	420(16.5)	460(18.1)	520(20.5)	
Z axis travel	mm (in)	510(20.1)	510(20.1)	610(24)	610(24)
Distance from table top to spindle end	mm (in)	100-610(4-24)			100-710(4-28)
Distance from column front to spindle center	mm (in)	460(18.1)	510(20.1)	567(21.5)	
TABLE					
Table size (L x W)	mm (in)	600x400(23.6x15.7)	860x450(33.8x17.7)	890x500(35x19.7)	
Max. table load weight	kg	250	300	500	
T-slot size	mm	18Tx125x3			18Tx100x5
SPINDLE					
Spindle speed	rpm	10000,12000			
Spindle nose (normal size, No.)		7/24 Taper, No.40			
Spindle bearing inner diameter	mm(in)	60(2.36)			70(2.76)
FEED RATE					
Rapid traverse X/Y/Z	m/min(ipm)	48/48/36(1890/1890/1417)			48/48/36(1890/1890/1417)
Max. cutting feed rate	m/min(ipm)	10(394)			
A.T.C.					
Tool storage capacity	pcs	24	24	24	24
Max. tool diameter(with adjacent tools)	mm(in)	80(3.15)	80(3.15)	80(3.15)	80(3.15)
Max. tool length	mm(in)	250(9.8)			250(9.8)
Tool change time T-T/C-C	sec	2.4 / 5			1.8 / 4
MOTORS					
Spindle motor(30 min) FANUC	kw(hp)	11(14.7)			18.5(24.8)
X/Y/Z axis motor	kw(hp)	1.6/3/3(2.1/4/4)			4/4/4(5.4/5.4/5.4)
MACHINE SIZE					
Height of machine (H)	mm(in)	2370(93)			2730(107)
Floor space (L x W)	mm(in)	2440x2117(96x83)FRONT/2130x2400(84x94)REAR			2870x2560(113x101)FRONT/2440x3010(96x118.5)REAR
Total machine weight	kg	3455 FRONT/3380 REAR	3700 FRONT/3500 REAR	5400	5450
Power requirement	KVA	25			30
Controller	FANUC	0i-M			

*AVAILABLE CONTROLLER:SIEMENS/MITSUBISHI/HEIDENHAIN

Control Panel OPTION



FANUC



SIEMENS



MITSUBISHI

MACHINE SPECIFICATIONS

ITEM	MODEL	V-42iF/iR		V-42AF/AR	V-52AF/AR
		Type	Arm	Arm	Arm
A.T.C	Type				
CAPACITY	Unit				
X axis travel	mm (in)		1000(40)		1270(50)
Y axis travel	mm (in)		520(20.5)		520(20.5)
Z axis travel	mm (in)	610(24)		610(24)	610(24)
Distance from table top to spindle end	mm (in)		100-710(4-28)		100-710(3.9-27.9)
Distance from column front to spindle center	mm (in)		567(21.5)		567(22)
TABLE					
Table size (L x W)	mm (in)		1100x500(43.3x19.7)		1420x500(56x20)
Max. table load weight	kg		500		500(1102)
T-slot size	mm		18Tx100x5		18Tx100x5
SPINDLE					
Spindle speed	rpm		10000,12000		10000
Spindle nose (normal size, No.)			7/24 Taper, No.40		7/24 Taper, NO40
Spindle bearing inner diameter	mm(in)	60(2.36)		70(2.76)	70(2.75)
FEED RATE					
Rapid traverse X/Y/Z	m/min(ipm)		48/48/36(1890/1890/1417)		48/48/36(1889/1889/1417)
Max. cutting feed rate	m/min(ipm)		10(394)		10(394)
A.T.C.					
Tool storage capacity	pcs	24		24	24
Max. tool diameter(with adjacent tools)	mm(in)	80(3.15)		80(3.15)	80(3.15)
Max. tool length	mm(in)		250(9.8)		250(9.8)
Tool change time T-T/C-C	sec		1.8 / 4		1.8/4
MOTORS					
Spindle motor(30 min) FANUC	kw(hp)	11(14.7)		18.5(24.8)	18.5(24.8)
X/Y/Z axis motor	kw(hp)		4/4/4(5.4/5.4/5.4)		4(5.4)
MACHINE SIZE					
Height of machine (H)	mm(in)		2730(107)		2712(107)
Floor space (L x W)	mm(in)		2870x2560(113x101)FRONT/2440x3010(96x118.5)REAR		3100x3431(122x135)FRONT/2800x3638(110x143)REAR
Total machine weight	kg	5500		5550	5800
Power requirement	KVA	30		35	35
Controller	FANUC			0i-M	

*AVAILABLE CONTROLLER:SIEMENS/MITSUBISHI/HEIDENHAIN

Control Panel OPTION



FANUC



SIEMENS



MITSUBISHI

MACHINE ACCESSORIES

ITEM	MODEL	V-22iF/iR	V-30iF/iR	V-32iF/iR	V-32AF/AR	V-42iF/iR	V-42AF/AR	V-52AF/AR
RS232		●	●	●	●	●	●	●
Full enclosure guarding		●	●	●	●	●	●	●
Work light		●	●	●	●	●	●	●
Alarm lamp		●	●	●	●	●	●	●
Heat exchanger		●	●	●	●	●	●	●
Rigid tapping		●	●	●	●	●	●	●
Auto counter for workpiece		●	●	●	●	●	●	●
Chip conveyor (auger type) + 2 chip buckets		●	●	●	●	●	●	●
Remote MPG		●	■	●	●	●	●	●
Spindle speed 8000rpm		●	●	■	■	■	■	●
FANUC control		●	●	●	●	●	●	●
Siemens control		■	■	■	■	■	■	■
Mitsubishi control		■	■	■	■	■	■	■
Spindle speed 10000rpm (steel bearing)		■	●	●	●	●	●	●
Spindle speed 12000rpm (ceramic bearing)		■	■	■	■	■	■	■
Spindle speed 15000rpm (DDS)		▲	▲	▲	X	▲	X	X
Spindle speed 15000rpm (DDS with CTS)		▲	▲	▲	X	▲	X	X
Spindle oil chiller		■	●	●	●	●	●	●
C.T.S. Form A		■	■	■	■	■	■	■
Tool tip air blow system		●	●	■	■	■	■	■
Tool overload detection		■	■	■	■	■	■	■
Tool management		■	■	■	■	■	■	■
Auto tool length measurement TS-27		■	■	■	■	■	■	■
Automatic workpiece measurement OMP-60		■	■	■	■	■	■	■
Chip conveyor outside machine & chip bucket		■	■	■	■	■	■	■
Chip disposal at the front		■	■	■	■	■	■	■
Chip disposal at the rear		■	■	■	■	■	■	■
Oil skimmer		■	■	■	■	■	■	■
Coolant gun		■	■	■	■	■	■	■
Air conditioner		■	■	■	■	■	■	■
4th axis rotary table preparation		■	■	■	■	■	■	■
4th axis rotary table		■	■	■	■	■	■	■
Manual chuck with connecting plate for rotary table		■	■	■	■	■	■	■
Manual tailstock for rotary table		■	■	■	■	■	■	■
Power disk for 4 axis rotary table		■	■	■	■	■	■	■
Through hole drill kit		■	■	■	■	■	■	■
DNC link software		■	■	■	■	■	■	■
Programmable nozzle		■	■	■	■	■	■	■
Programmable air blow		■	■	■	■	■	■	■
CTS preparation		■	■	■	■	■	■	■
Simple Filtrating system & 20bar /25u pump sys.		■	■	■	■	■	■	■
Simple Filtrating system & 40bar /25u pump sys		■	■	■	■	■	■	■
Sub tank		■	■	■	■	■	■	■
Extra coolant tank		■	■	■	■	■	■	■
Spindle annular coolant jet (Arm type ATC)		■	■	■	■	■	■	■
2 Speed gear box		X	X	■	■	■	■	■
Arm type ATC 30 tools		▲	▲	▲	▲	▲	▲	▲
Linear scale		▲	▲	▲	▲	▲	▲	▲
Surrounding coolant system		■	■	■	■	■	■	■
Auto door		▲	▲	▲	▲	▲	▲	▲

● : S.T.D / ■ : O.P.T (DESIGNED) / ▲ : O.P.T (TO BE ADVISED) / X : N/A(NOT AVAILABLE)