High Efficiency Machining Center

LEADWELL CNC MACHINES MFG., CORP.

No. 23 Gong 33th Road, Taichung Industrial Park
Taichung 407, Taiwan
T: 886 - 4 - 23591880
F: 886 - 4 - 23592555, 886 - 4 - 23593875
E: sales@leadwell.com.tw

www.leadwell.com.tw

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

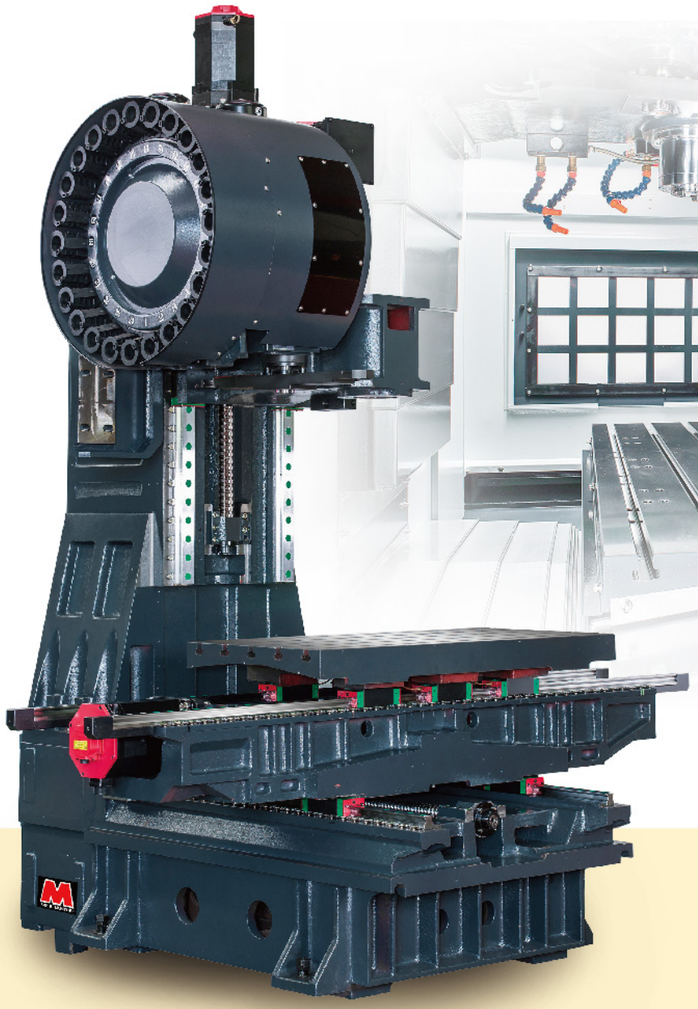
2016.02

VE Series

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

LEADWELL
LEADWELL CNC MACHINES MFG.,CORP.

VERTICAL MACHINING CENTERS



High Efficiency Machining Center

High Rigidity:
- FEA Analysis
- High rigidity structure design
- Six Guideway blocks in X axis
- 3 Axis ball screw prestressing

High Reliability:
- Roller type motion system
- 3 Axis absolute motor

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

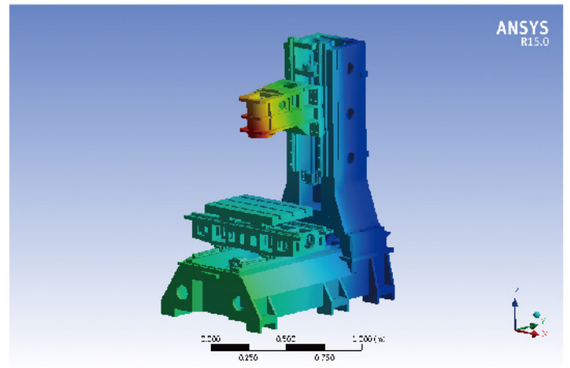
High Flexibility:
- 30 tools magazine available
- 4/5 axis rotary table available
- Front/Rear Chip Disposal available

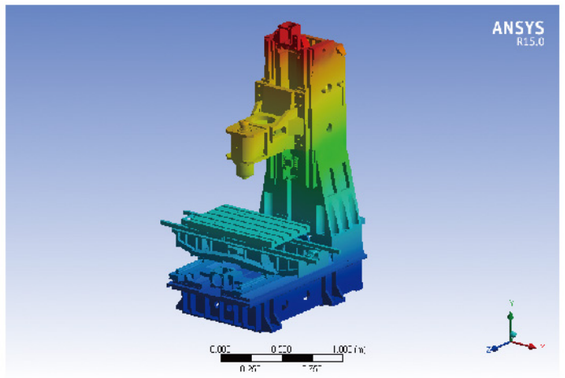
FEA REPORT(Finite Element Analysis)

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 .

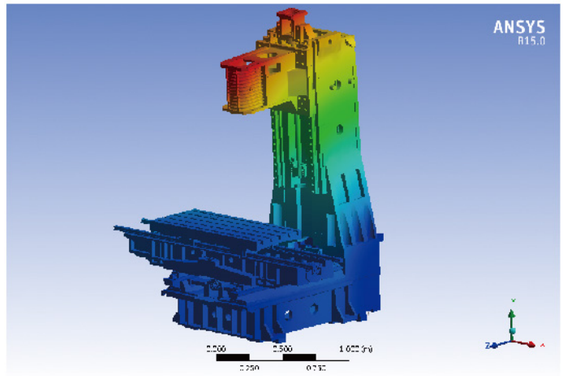
V-22 SERIES





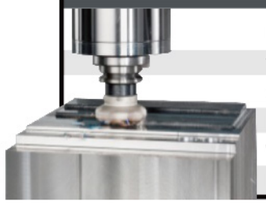
V-32 SERIES

V-42 SERIES



PERFORMANCE

V-42iF/iR



FACE MILL

Removal Rate	260cc/min.
Tool	Ø63mm
Spindle Speed	1500rpm
Feed Rate	1300mm/min
Width of Cut	50mm
Depth of Cut	4mm

END-DRILL

Removal Rate	144cc/min.
Tool	Ø20mm
Spindle Speed	2800rpm
Feed Rate	900mm/min
Width of Cut	20mm
Depth of Cut	8mm

U-DRILL

Drilling	Ø42mm
Tool	Ø42mm
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

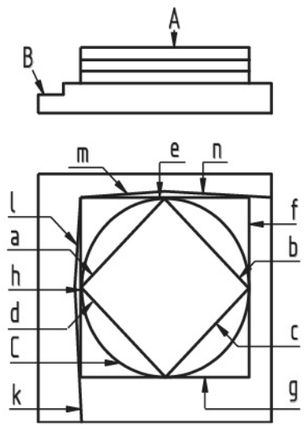
S45C

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 Rough Machining: Tool: Ø50 End Mill Speed: 8000RPM Feedrate: 3000mm/min	Finish Machining: Tool: Ø12 End Mill Speed: 8000RPM Feed rate: 2000mm/min	NUMBER	#011
			DATE	2013/5/18
			PERSONNEL	Thomas

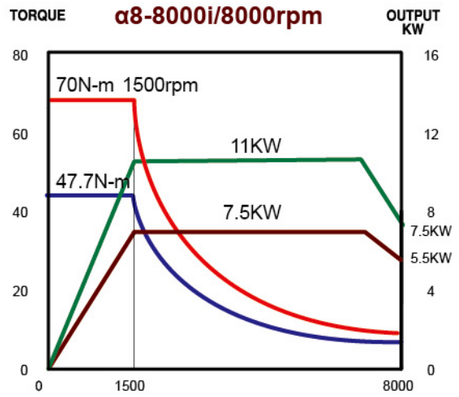
TEST RESULT		Tolerance	Side	Measured		Tolerance	Side	Measured
	H	0.015/300	A\B	*	⊥	0.015/140	d\a	0.002/140
	//	0.015/140	a\c	0.006/140	∠	17.7	i\k	17.7019
	//	0.015/140	b\d	0.003/140	∠	13.2	m\n	13.2743
	//	0.015/200	g\e	0.002/200	—	0.015/200	abcd	0.001
	//	0.015/200	f\h	0.007/200	—	0.015/200	efgh	0.001
	⊥	0.015/200	g\f	0.002/200	○	0.005	C	0.014
	⊥	0.015/200	f\e	0.001/200	Ra	2	abcd	△△△3.2
	⊥	0.015/200	e\h	0.001/200	Ra	2	A\B	△△△3.2
	⊥	0.015/200	h\g	0.002/200	L	141.42mm	A\C	140.217
	⊥	0.015/140	a\b	0.001/140	L	141.42mm	D\B	140.221
	⊥	0.015/140	b\c	0.006/140	L	200.mm	E\G	198.794
	⊥	0.015/140	c\d	0.003/140	L	200.mm	F\H	198.801



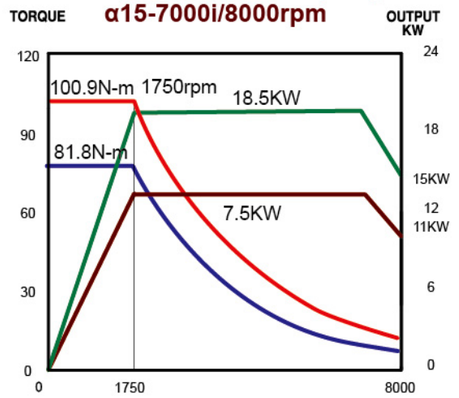
SPINDLE POWER CURVE

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

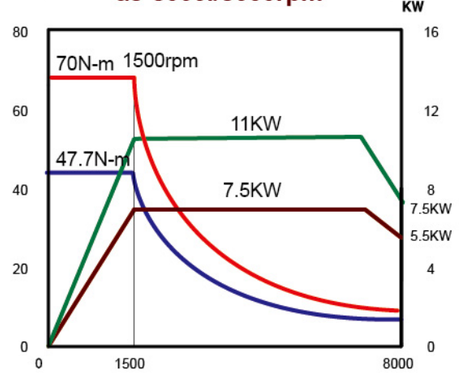
V-22iF/iR
V-30iF/iR



V-32AF/AR
V-42AF/AR
FANUC Spindle Motor (STD)



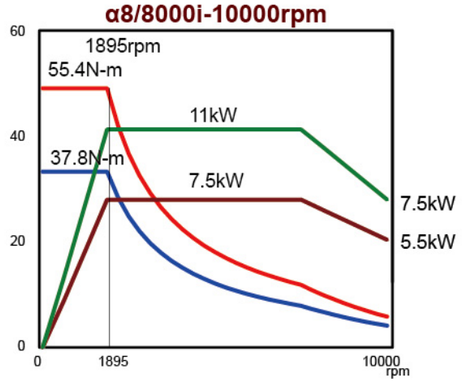
V-32iF/iR
V-42iF/iR
FANUC Spindle Motor (STD)



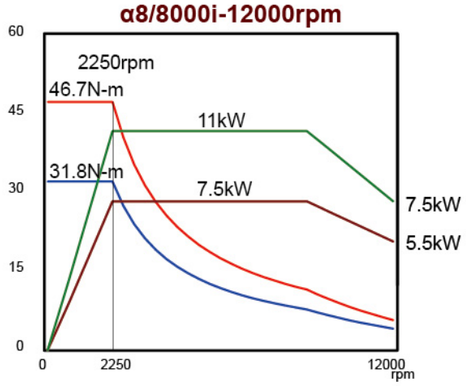
SPINDLE POWER CURVE

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

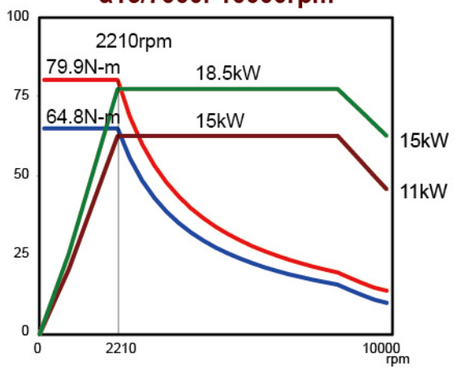
V-22iF/iR
V-30iF/iR
α8/8000i-10000rpm



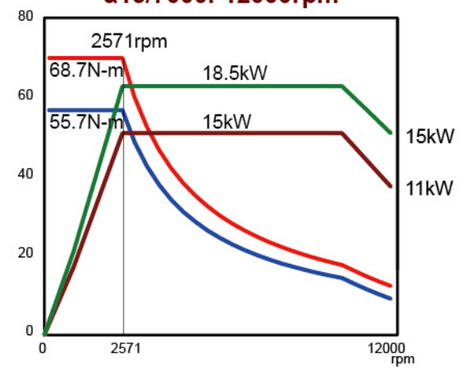
V-22iF/iR
V-30iF/iR
α8/8000i-12000rpm



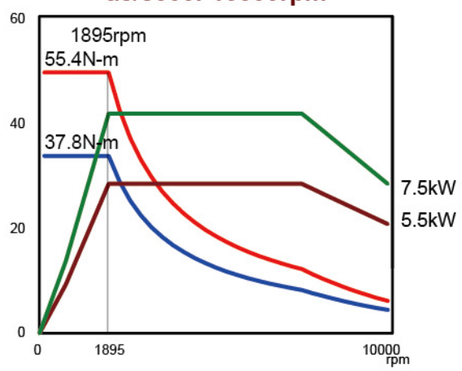
V-32AF/AR
V-42AF/AR
α15/7000i-10000rpm



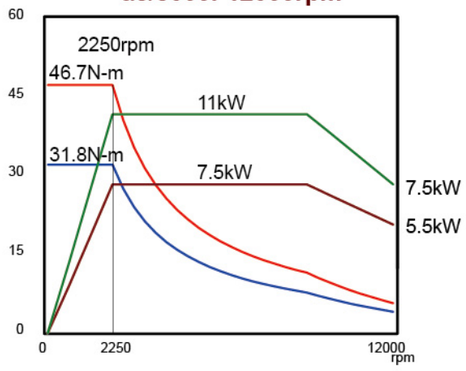
V-32AF/AR
V-42AF/AR
α15/7000i-12000rpm



V-32iF/iR
V-42iF/iR
α8/8000i-10000rpm

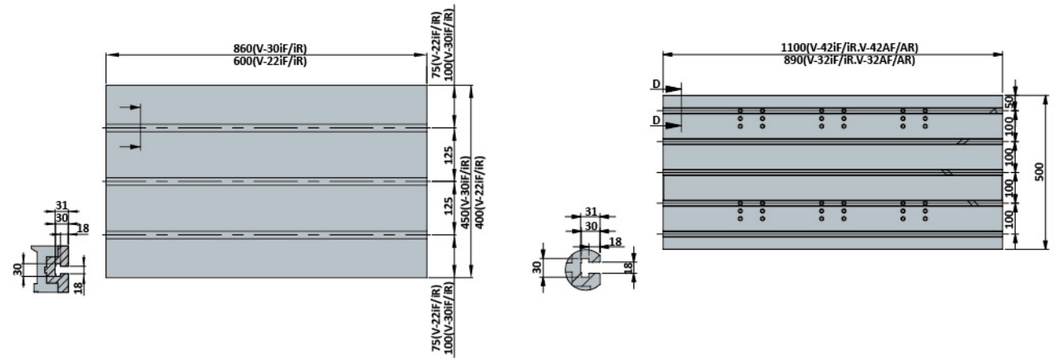


V-32iF/iR
V-42iF/iR
α8/8000i-12000rpm



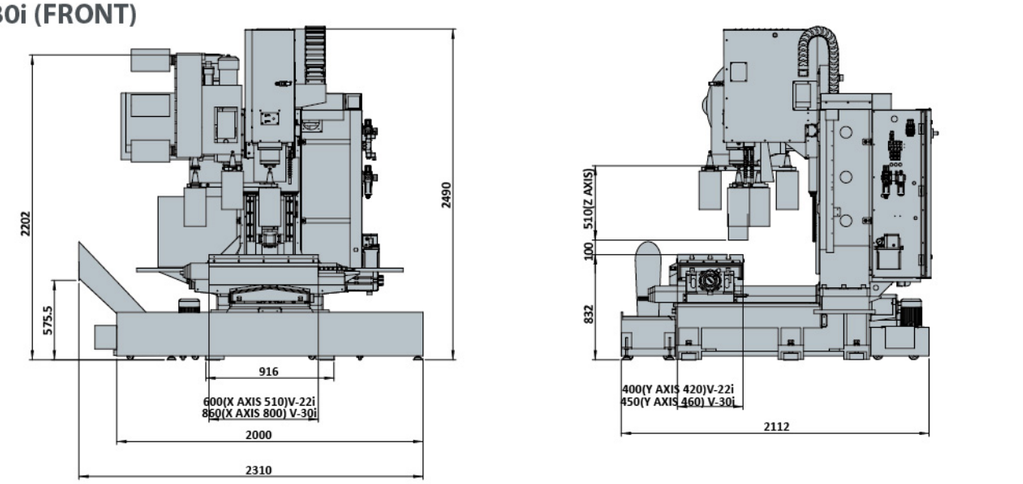
INTERNAL DIMENSION

Table Size

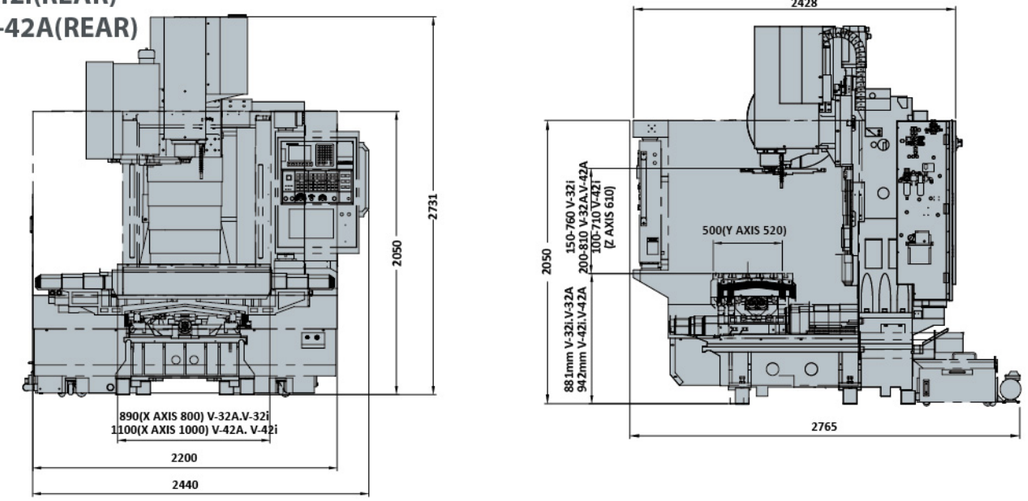


Travel Drawing

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



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

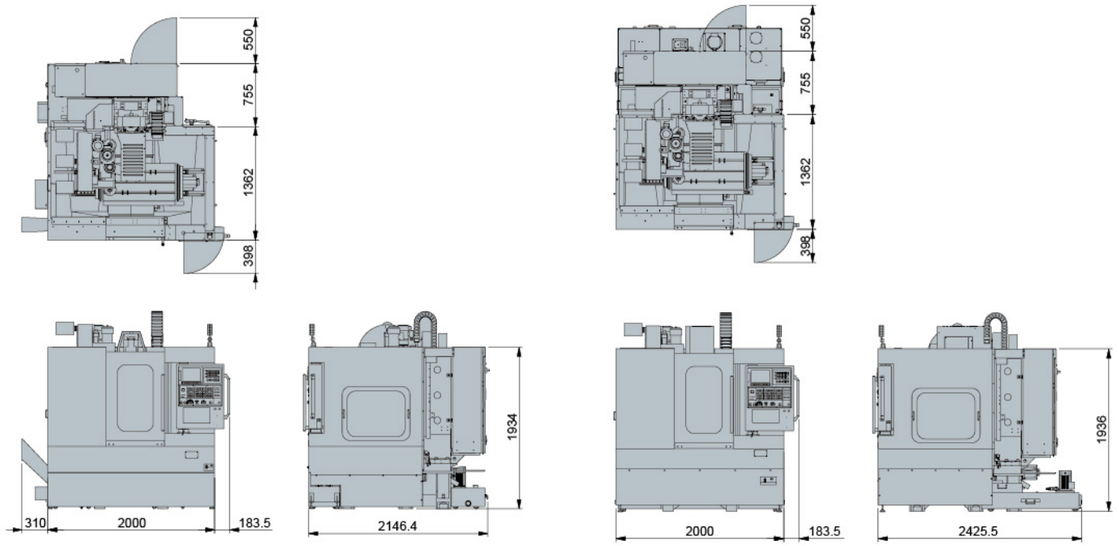


OUTLINE DIMENSION

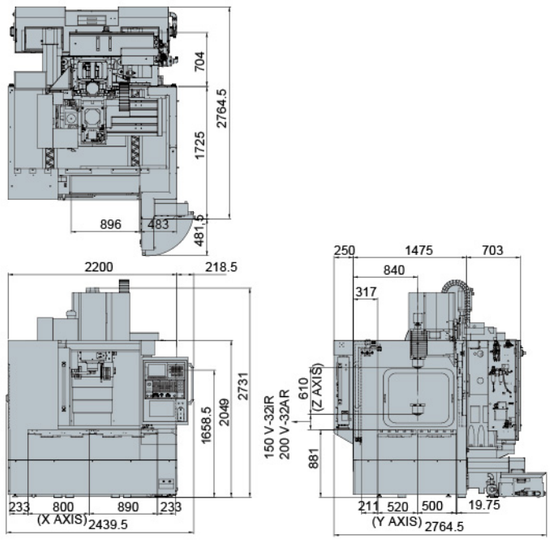
V-22iF/V-30iF

V-22iR/V-30iR

unit: mm



V-32iR/V-32AR

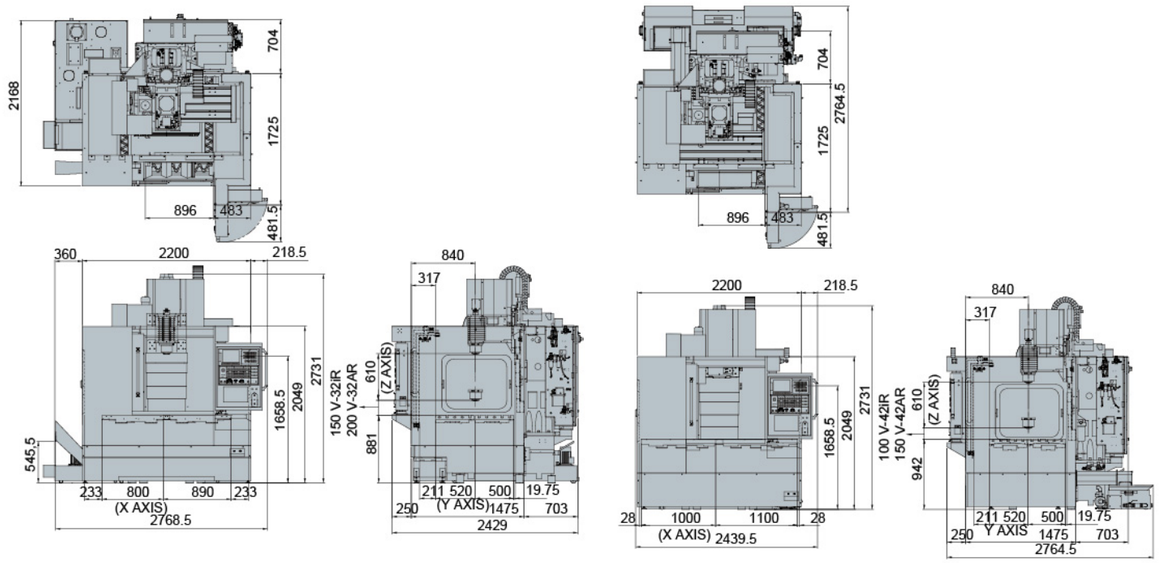


OUTLINE DIMENSION

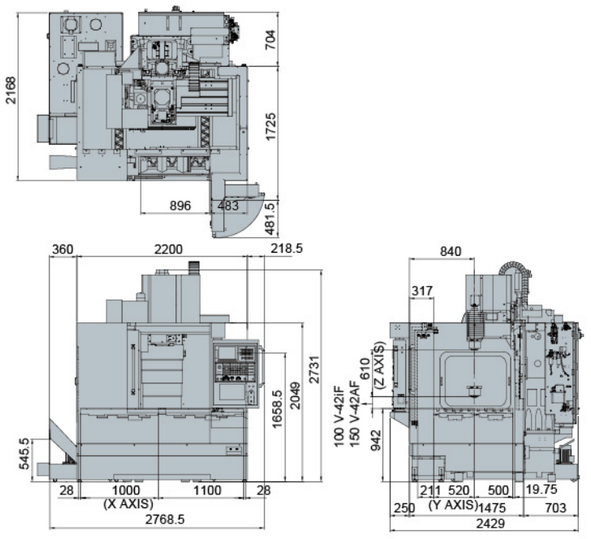
V-32iF/V-32AF

V-42iR/V-42AR

unit: mm

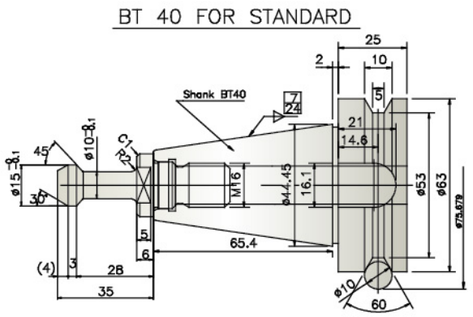


V-42iF/V-42AF

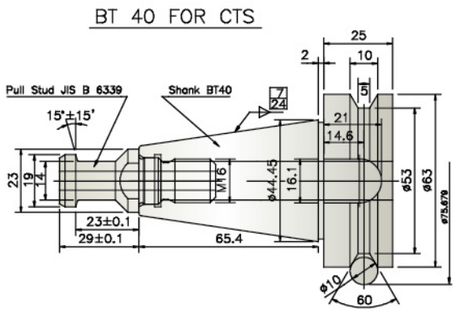


Pull Stud

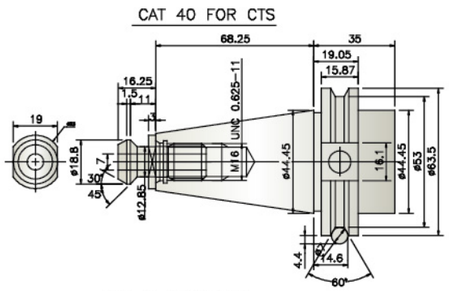
Standard

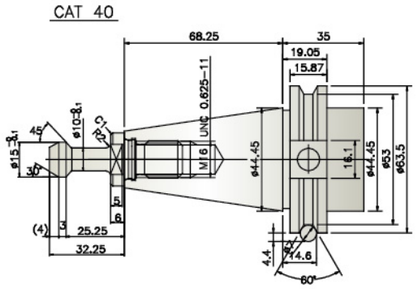


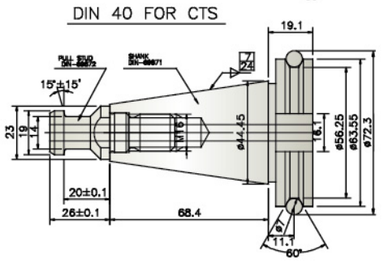
Optional

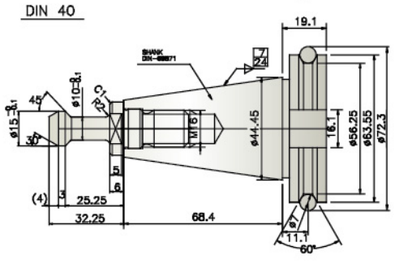


Optional



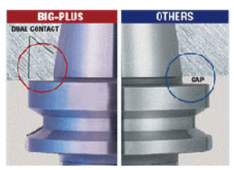






Cartridge Type Spindle

BBT Two face contact



LEADWELL®

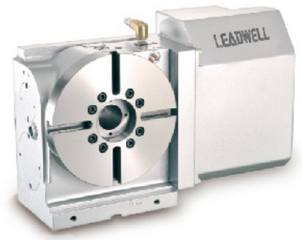
LWAR Series (Air Brake)
LWHR Series (Hydraulic Brake)

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



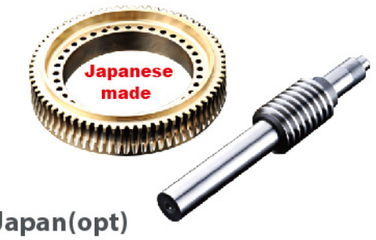
LWAR-210R

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

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.

Pre-machining setting

It contains the function that the operator will frequent use before the operations. This including the coordinates setting, tool measurement, tool magazine measurement, and the calculator function.

Machining setting

It includes the parameter data setting, and all the other statistics of the machines; such as the accumulated machining time, and the tool management.

Leadwell Assistor

The assistor contains the functions to help the user to optimize the machine setting.

Maintenance

Operators would be able to gain the current status of the machine, and to access the internet to obtain more useful information.

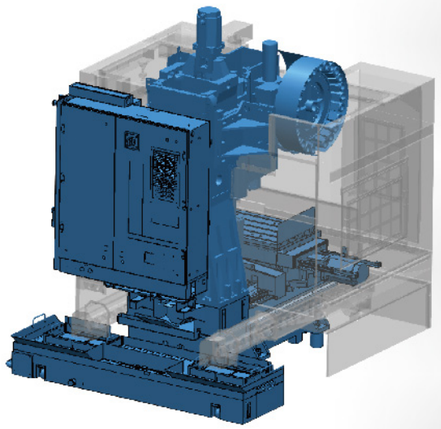
14 difference useful functions

Machined work pieces.

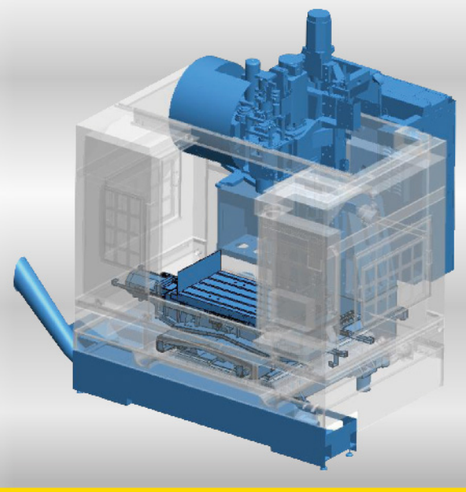
Users' full satisfaction have always been Leadwell's main focus.

COOLANT AND CHIP SEPERATION SYSTEM

Rear Chip Disposal



Front Chip Disposal



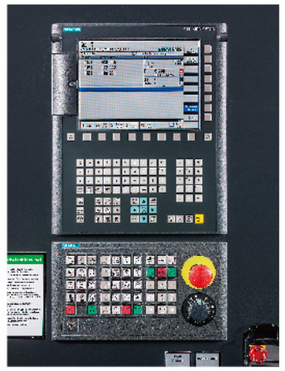
MACHINE SPECIFICATIONS

ITEM \ MODEL		V-22iF/iR	V-30iF/iR	V-32iF/iR	V-32AF/AR	V-42iF/iR	V-42AF/AR
A.T.C	Type	Arm	Arm	Arm	Arm	Arm	Arm
CAPACITY	Unit						
X axis travel	mm (in)	510(20.1)	800(31.4)	800(31.5)		1000(40)	
Y axis travel	mm (in)	420(16.5)	460(18.1)	520(20.5)		520(20.5)	
Z axis travel	mm (in)	510(20.1)	510(20.1)	610(24)	610(24)	610(24)	610(24)
Distance from table top to spindle end	mm (in)	100-610(4-24)		150-760(6-30)	200-810(8-32)	100-710(4-28)	150-760(6-30)
Distance from column front to spindle center	mm (in)	460(18.1)	510(20.1)	546.7(21.5)		546.7(21.5)	546.7(21.5)
TABLE							
Table size (L x W)	mm (in)	600x400(23.6x15.7)	860x450(33.8x17.7)	890x500(35x19.7)		1100x500(43.3x19.7)	
Max. table load weight	kg	250	300	500			
T-slot size		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)	60(2.36)	70(2.76)
FEED RATE							
Rapid traverse X/Y/Z	m/min(ipm)	48(1890)		36(1417)			
Max. cutting feed rate	m/min(ipm)	10(394)					
A.T.C.							
Tool storage capacity	pcs	24	24	24	24	24	24
Max. tool diameter(with adjacent tools)	mm(in)	80(3.15)	80(3.15)	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)	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)	2490(98)		2730(107)			
Floor space (L x W)	mm(in)	2494x2147 (98x85) FRONT / 2000x2426 (79x96) REAR		2770x2500 (109x98) FRONT / 2440x2765 (96x109) REAR			
Total machine weight	kg	3400		4700		4800	
Power requirement	KVA	25		30	35	30	35
Controller	FANUC	0i-M					

*AVAILABLE CONTROLLER:SIEMENS/MITSUBISHI/HEIDENHAIN

Control Panel OPTION

FANUC



SIEMENS

MITSUBISHI

LEADWELL

ITEM / MODEL	V-22iF/iR	V-30iF/iR	V-32iF/iR	V-32AF/AR	V-42iF/iR	V-42AF/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 (ceramic bearing)	■	■	■	■	■	■
Spindle speed 12000rpm (ceramic bearing)	■	■	■	■	■	■
Spindle speed 15000rpm (DDS)	▲	▲	▲	▲	▲	▲
Spindle speed 15000rpm (DDS with CTS)	▲	▲	▲	▲	▲	▲
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)