

**LEADWELL**  
LEADWELL CNC MACHINES MFG., CORP.

# ***MCV-1300is***

## **VERTICAL MACHINING CENTER**

### **The Ultimate in Performance**

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





# MCV-1300is

## MORE POWERFUL

## INCREASED CAPACITY

## FASTER/ MORE PRODUCTIVE

## ERGONOMIC CONSIDERATIONS

- Powerful spindle motor
- Massive cast iron base for extra stability
- Wide column design for extra rigidity
- X travel from 1,300mm
- Table size from 1,420x610mm
- X/Y/Z Rapid rates up to 24/24/20 M/minute
- 4,000 RPM standard
- Higher spindle speed options are available (10,000 RPM spindle option)
- Easy to use key-pad control station
- Easy moving operator door
- No chip or coolant leaks expensive floating tap holders and prevents thread distortion and thread pullout



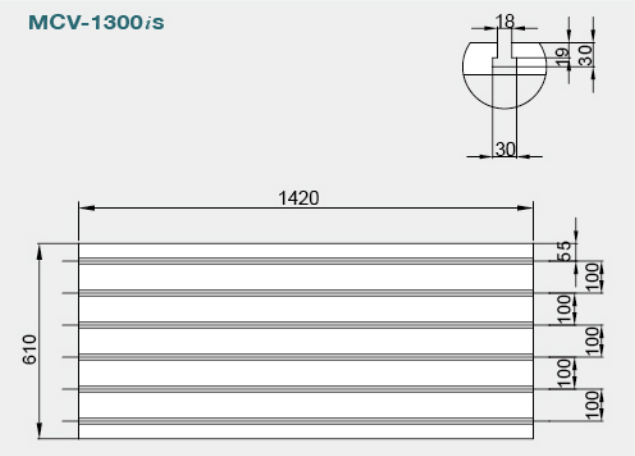
**Rigid construction, unsurpassed quality, high accuracy and excellent performance under severe machining conditions.**

## Cast Iron Construction

LEADWELL uses only top quality well - ribbed castings. Finite Element Analysis (FEA) is used on each new casting to determine the size and location of all internal ribs ensuring high torsional stiffness and minimum vibration. The cast iron base column, saddle, headstock, & tables have over 10 times the dampening capacity of those made from steel resulting in superior cutting performance.

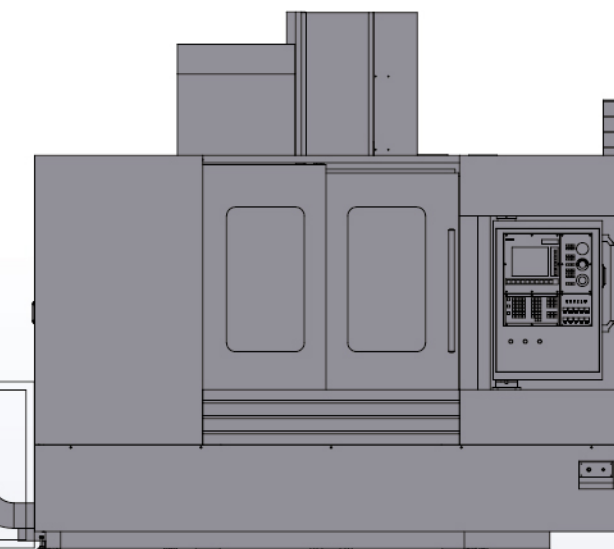


## Table Dimension Drawing



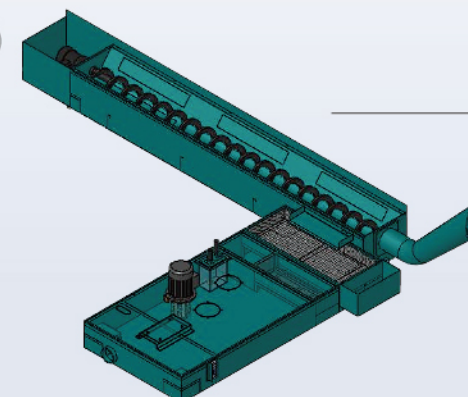
## Heavy-Duty Square Ways

The heavy-duty square ways are hardened to HS67-75 (HRC 50-60) and precision ground. The female square ways and gibs are coated with anti-friction Turcite-B. These features help allow the machine to maintain maximum accuracy levels.

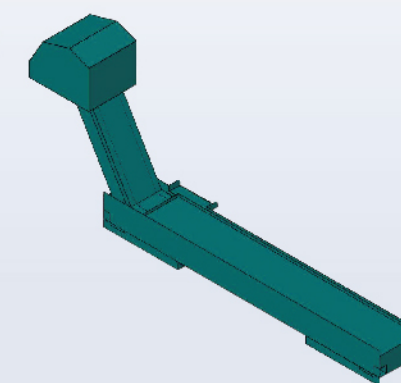


High efficient front-typed chip conveyor and best coolant tank design with outstanding chip removal.

STD



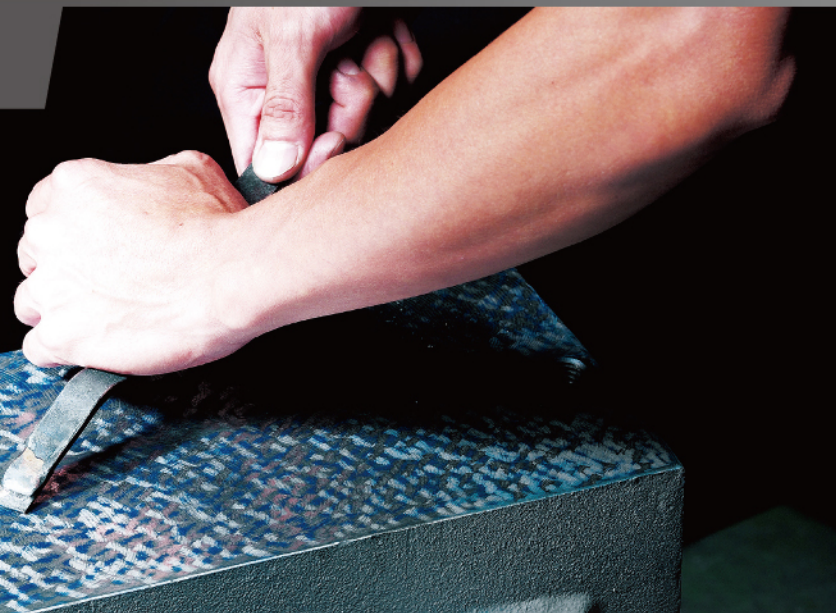
OPT



Scraper / chain type chip conveyor.



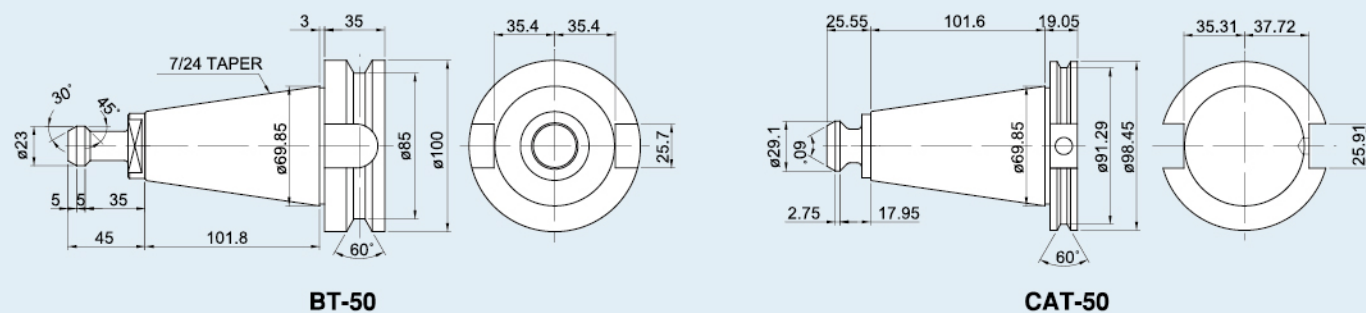
# MCV-1300is



This is good for heavy cutting and to get high removing ratio over 500cc/min in S45C material.

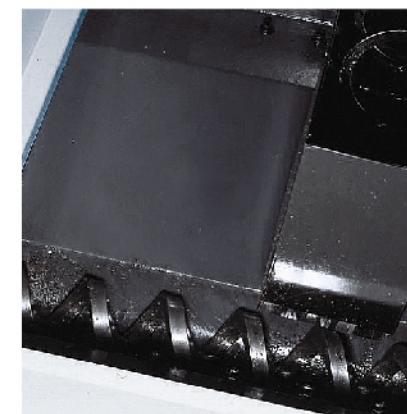
## Tool Drawing

### BT-50 & CAT-50



### Double-Nut Ball Screws

- LEADWELL uses only premium quality preloaded double-nut ball screws from high quality supply on the machines. Each ball screw is accurately aligned parallel to the guide ways and anchored at both ends. They are then pretensioned to improve machine stiffness. Ball screw tail bearing supports are integral to the castings for extra rigidity. With this design it can exceed customer requirements for accuracy and maximum life.
- Rotational torque variations are measured to guarantee a non-binding, highly accurate, and long running component.



### Chip Removal

- LEADWELL's simple and efficient chip removal design uses chip augers on both sides of the machine. High volume coolant washes the chips from the work area into the augers that move the chips in the disposal container.
- This accessory provides high efficiency by reducing operator's clean time.



### Directly Coupled Servo Motors

- MCV-1300is servo motors are connected directly to the ball screws with rigid shaft couplings. These couplings ensure that even under severe loading from sharp machining, precise interpolations is achieved. This design is superior to both belt driven and flexible shaft coupling designs.
- Servo motors have 1,000,000 pulse encoders for high accuracy positioning of linear axes.
  - Motors are easy to be obtained which reduces spare part requirements.

## High Productivity Options



### Coolant Through Spindle(CTS) Option

The CTS option includes an auxiliary high-pressure pump, which supplies high pressure coolant to the cutting edge. CTS improves tool life, allows both deep hole drilling and blind pocket milling. It also allows higher speeds, which reduces cycle time.



### Spindle Annular Coolant Jet With 8 Nozzles Option

This unique spindle annular coolant jet with 8 nozzles option provides a ring around spindle nose where powerful coolant fluid is coming out to cool down / lubricate workpiece and tooling from all sides.



### Spindle Probe Option

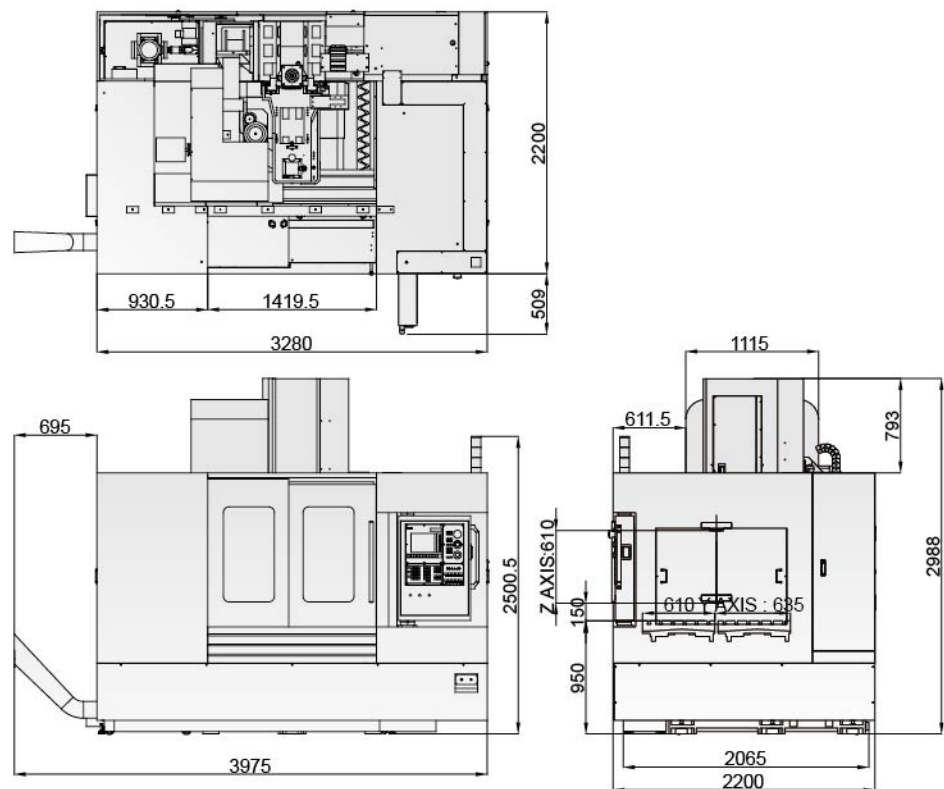
LEADWELL's spindle probe can automate workpiece setup and inspect parts.



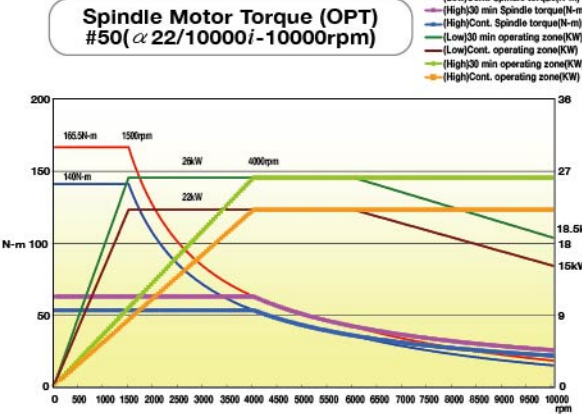
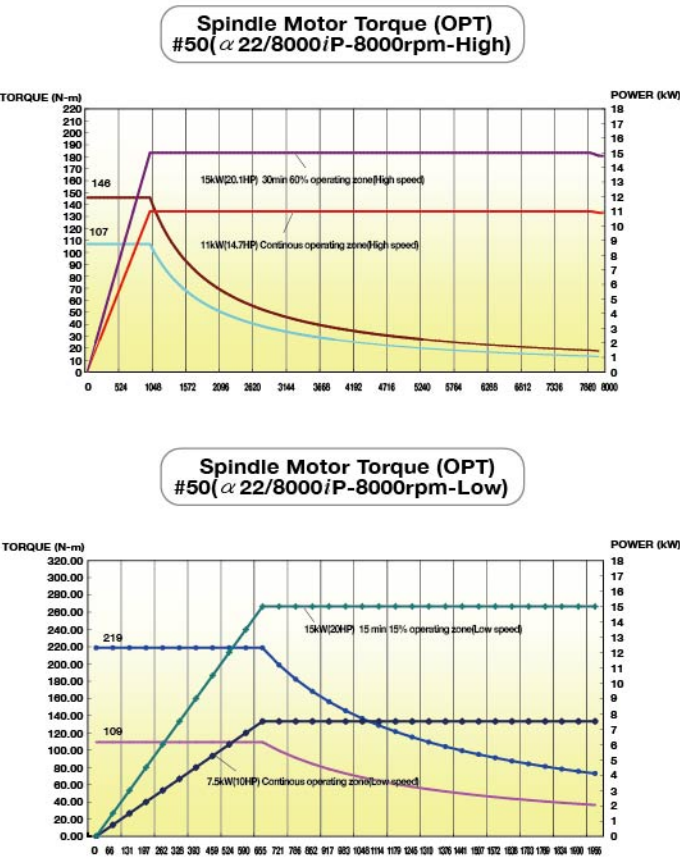
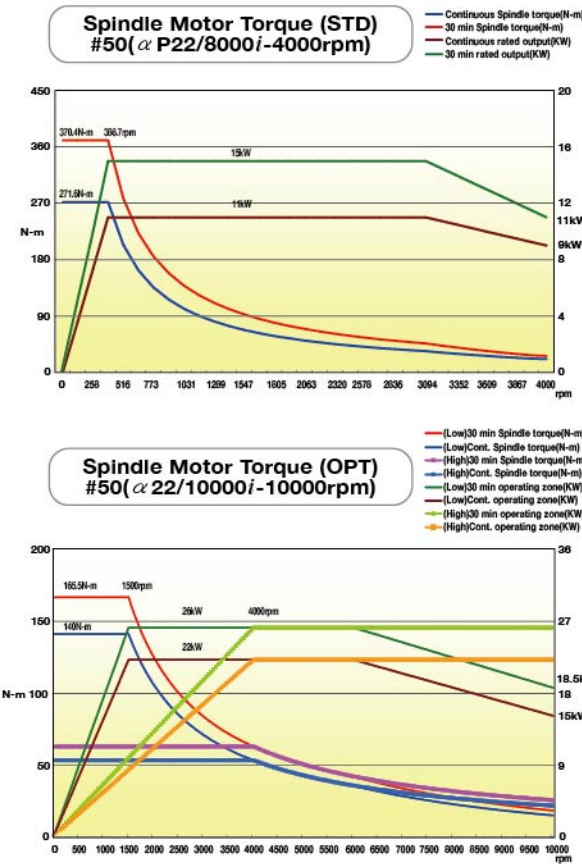
# MCV-1300is

## Outline Dimensional Drawing

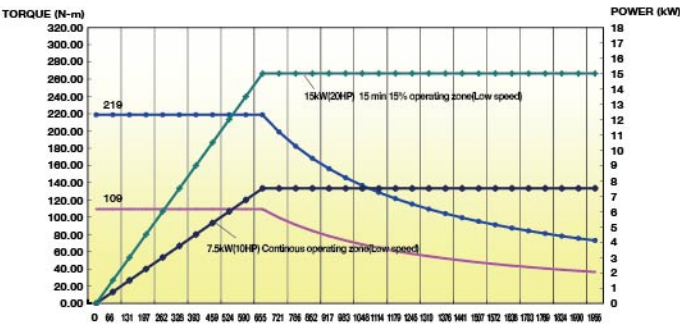
Unit:mm



## Power Output Diagram



Spindle Motor Torque (OPT) #50 (α 22/8000iP-8000rpm-Low)



## Machine Specifications

ITEM	MODEL	MCV-1300/s
A.T.C.	Type	ARM
CAPACITY	Unit	
X axis travel	MM (INCH)	1300(52)
Y axis travel	MM (INCH)	635 (25)
Z axis travel	MM (INCH)	610 (24)
Distance from spindle nose to table surface	MM (INCH)	150-760(6.2-30)
Distance from spindle nose to column surface	MM (INCH)	635 (25)
TABLE		
Table size (LxW)	MM (INCH)	1420x610 (56x24)
Max. table load weight	KG (LB)	1000 (2200)
T-slot size	MM	18Tx100x6
SPINDLE		
Spindle speed	RPM	4000
Spindle nose (nominal size, No.)		7/24 Taper, No.50
Spindle bearing inner diameter	MM	90 (3.6)
FEEDRATE		
Rapid traverse X/Y/Z	M/MIN (IPM)	24/24/20
Max. cutting feedrate	M/MIN (IPM)	10 (394)
A.T.C.		
Tool storage capacity	PCS	24
Max. tool diameter (with adjacent tools)	MM(INCH)	100 (39)
Max. tool length	MM(INCH)	300 (12)
Tool change time T(C)	SEC	3 (6)
MOTORS		
Spindle motor (30min) FANUC	KW (HP)	15/11 (20.1/14.7)
X/Y/Z axis motor	KW (HP)	4/4/7 (5/5/9.3)
MACHINE SIZE		
Height of machine (H)	MM(INCH)	2988 (118)
Floor space (LxW)	MM(INCH)	3975x2200 (156.5x86.6)
Total machine weight	KG(LB)	8000 (17637)
Power requirement	KVA	30
Controller	FANUC	0i

### STANDARD ACCESSORIES

- RS232 interface
- Rigid tapping
- Chip conveyor(auger type)
- Work light
- Alarm lamp
- Heat exchanger
- Remote MPG
- Coolant system including coolant tank
- Lubrication system
- Leveling screws and pads
- Maintenance tool box
- 4,000 rpm spindle
- Auto counter for work piece

### OPTIONAL ACCESSORIES

- Extra coolant tank
- 6000 rpm spindle
- 8000 rpm spindle
- 10000 rpm spindle
- Surrounding coolant system
- Spindle oil chiller
- Two speed gearbox
- C. T. S Form A
- Tool tip air blow system
- Linear scales
- Tool overload detection
- Auto tool length measurement (A.T. L.M)
- Automatic workpiece measurement
- Simple tool life management
- Fully enclosure guarding
- Chip conveyor outside machine & chip bucket
- Spindle air purge with valve
- Oil skimmer
- Coolant gun
- Air conditioner
- Rotary table preparation
- Manual tailstock for rotary table
- Through hole drill kit
- Programmable Nozzle
- Programmable air blow
- CTS preparation
- Spindle output switching function
- Automatic power off
- Oil collector
- Taper 40
- SIEMENS controller
- HEIDENHAIN controller