



SHANDONG DEED PRECISION MACHINE TOOL CO.,LTD

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**10** YEARS  
YEAR FOCUS

# V1160L

## VERTICAL MACHINING CENTER



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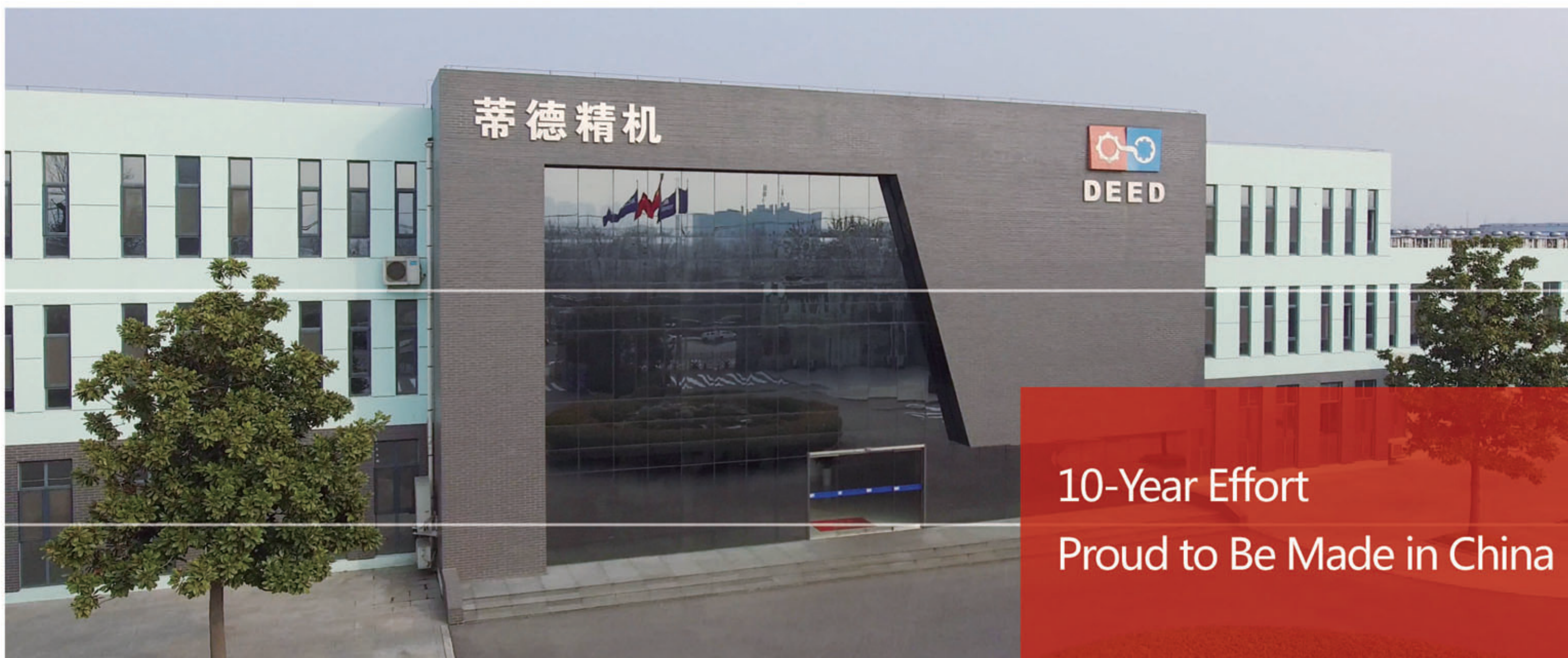


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ABOUT

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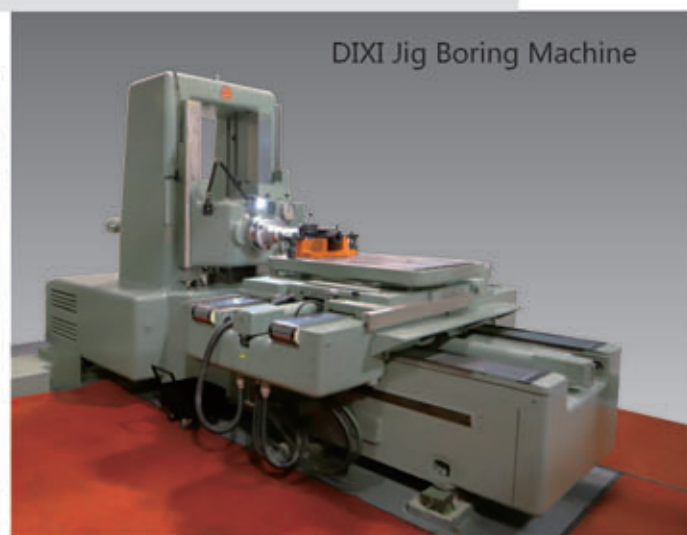
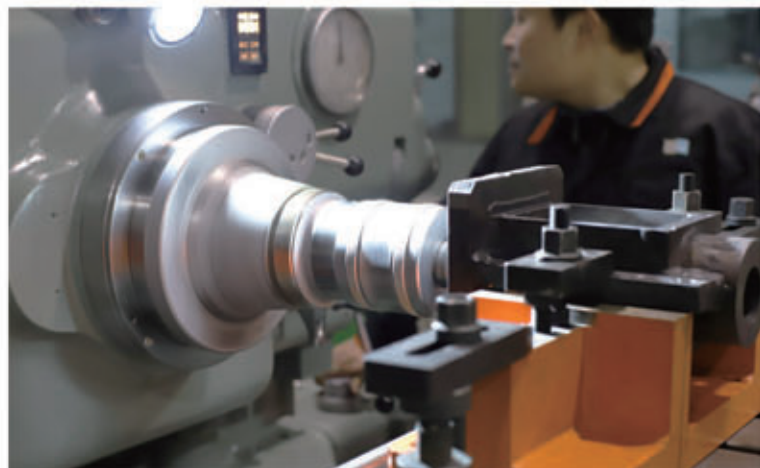
Shandong Deed Precision Machine Tool Co.,Ltd. have been cooperating with German partners since 2014, aimed to take in advanced German technology and absorb German design and production process by joint work between Chinese and German engineers. At the 10th Anniversary of the company, we combined all German concept we got , with new material UHPC, new process steel-board welding and new manufacture mode modularization, gave life to the 10-YEAR-CLASSIC vertical machining center V1160L, to provide more effective solutions for metal processing industry.



10-Year Effort  
Proud to Be Made in China



15000m<sup>2</sup> dust-free constant-temperature assembling plant, KELLENBERGER grinding machining center from Switzerland, WALDRICH Portal milling machine from Germany, KURAKI Milling and Boring machine from Japan, DIXI Jig Boring machine from Switzerland, imported top-brand high precision Grinding machine, Horizontal machining center, laser cutting machine as well as full automatic sheet metal painting line, all we owned now are aimed to provide reliable quality guarantee for machine parts and whole series products.



DIXI Jig Boring Machine



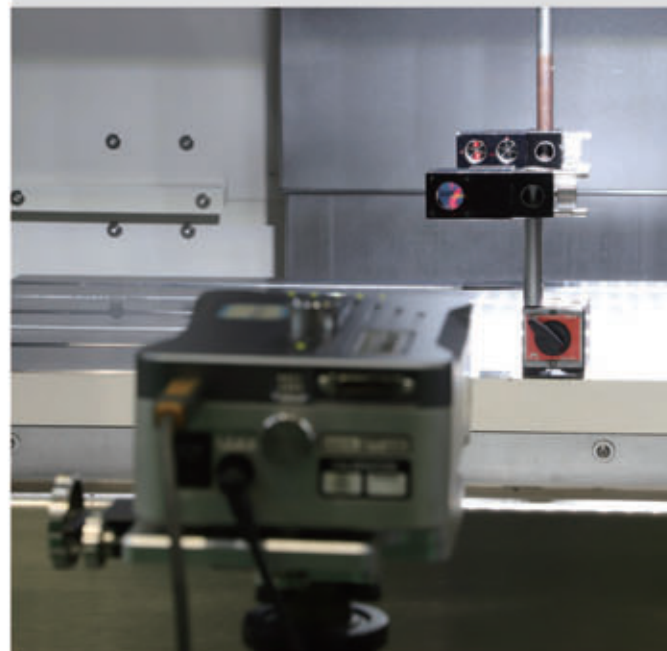
KELLENBERGER Grinding Machine



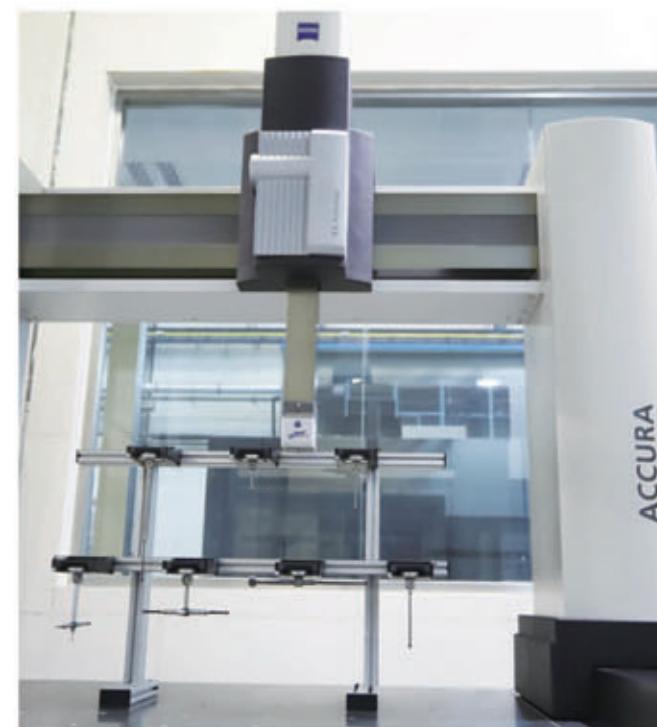
WALDRICH Portal Milling Machine



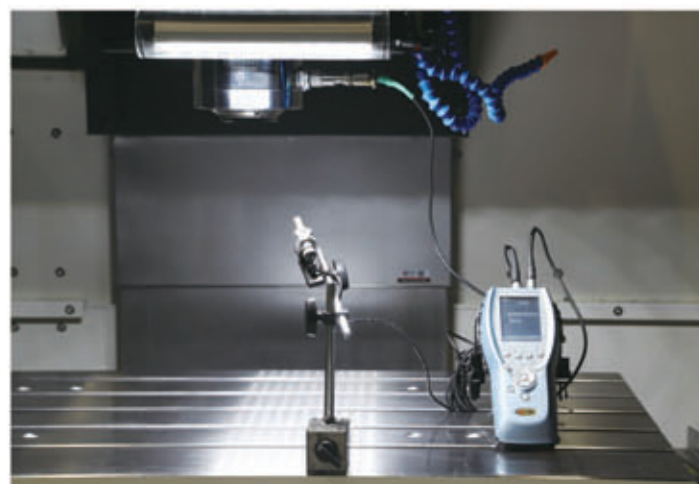
Quality control with strict internal standard,  
make sure all details under-control



Laser Interferometer



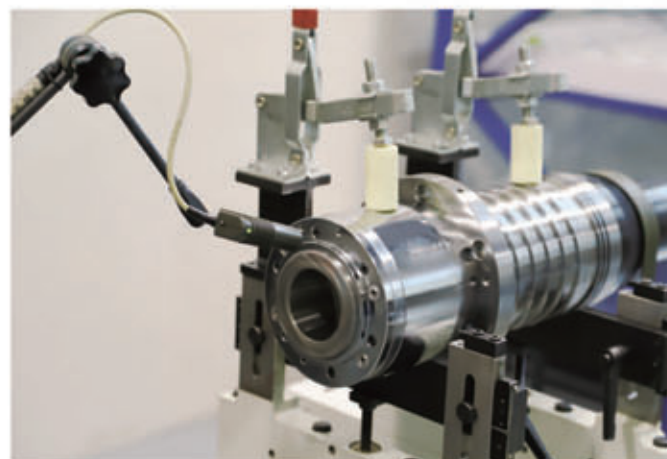
Three-coordinate Measure



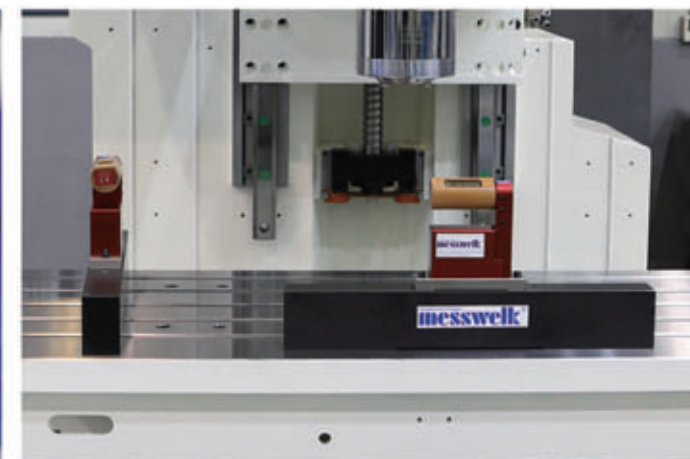
Dynamic Balance



Ball-bar tester



Horizontal Dynamic Balance



Electronic Leveling



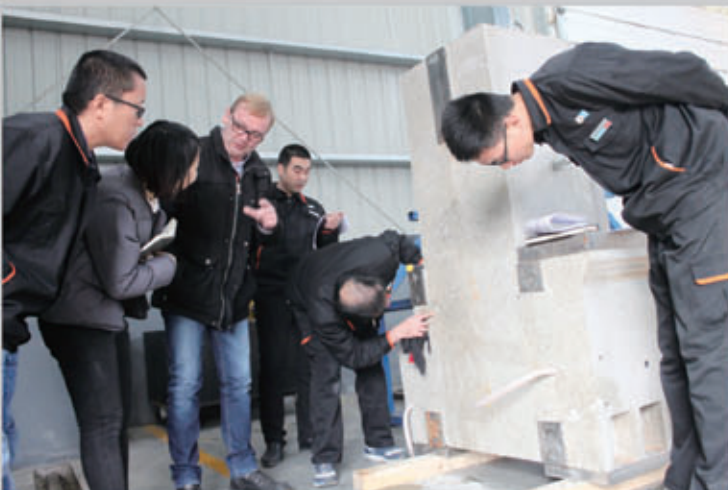
From product design to machine assembly, each process will be jointly finished by both Chinese and German engineers, to make sure each machine have top precision standard and stability ,gain perfect performance with German production engineering.



Key parts assembled by experienced German mechanics

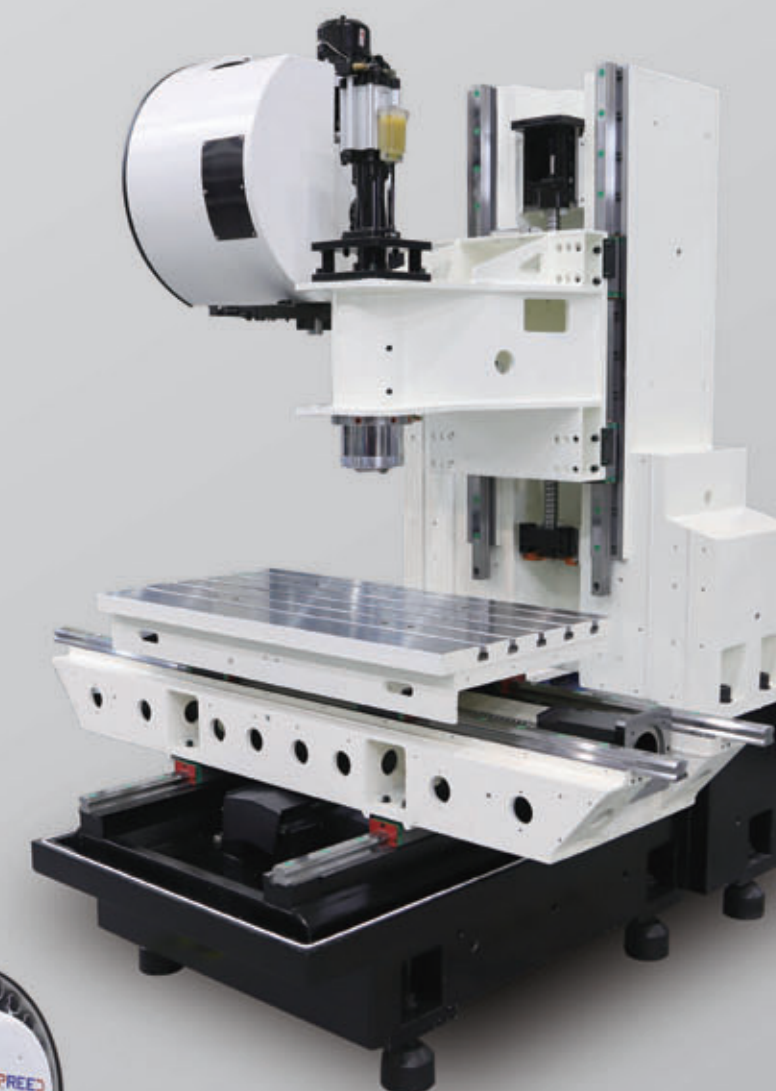
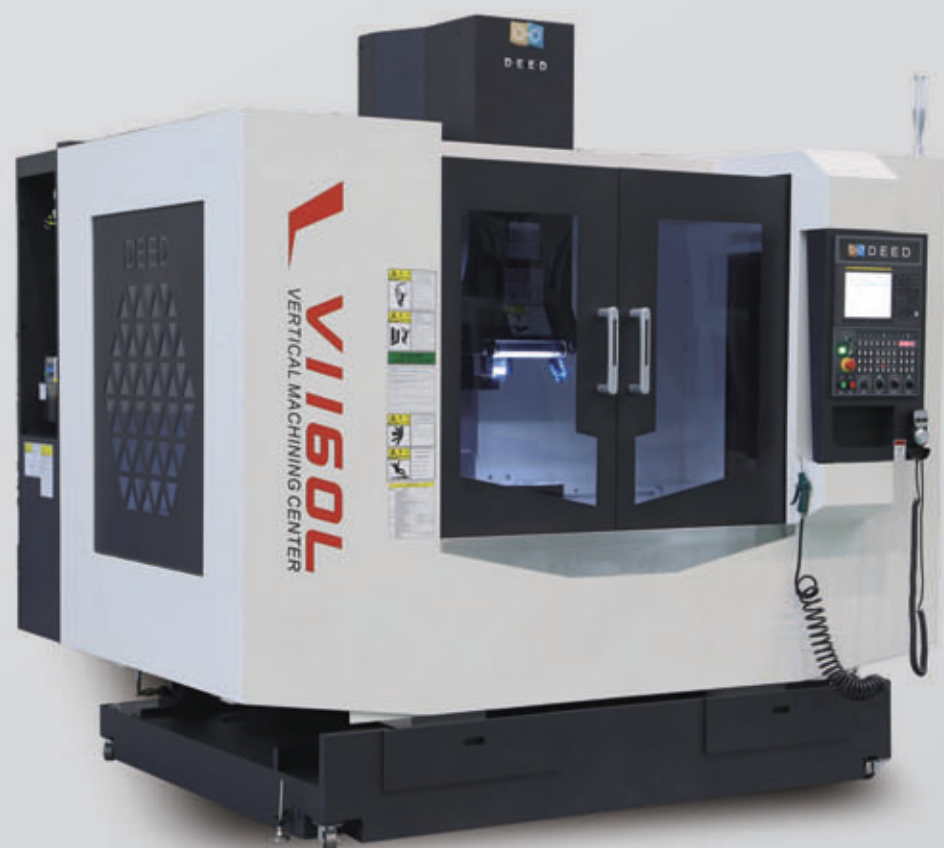


R&D and Design



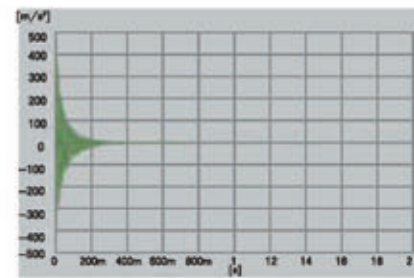
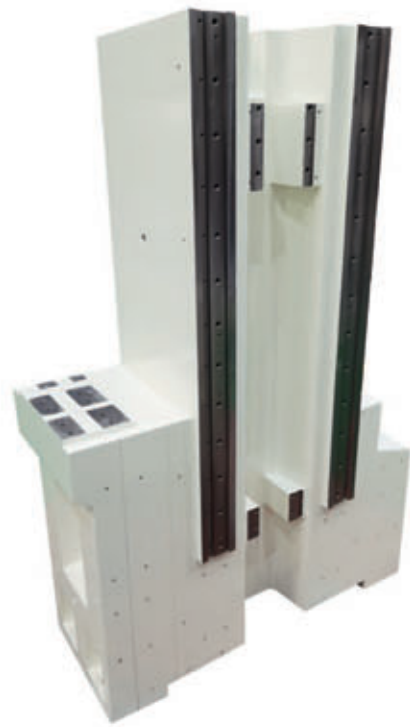
Manufacture Process



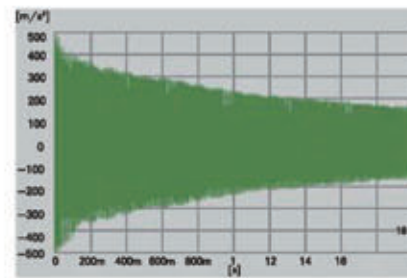




## Stable Physical and Mechanical Properties with UHPC



mineral casting



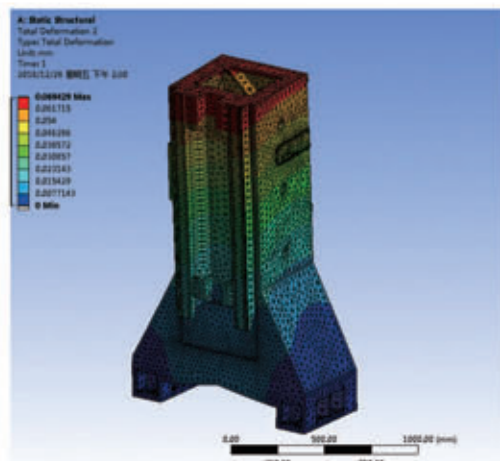
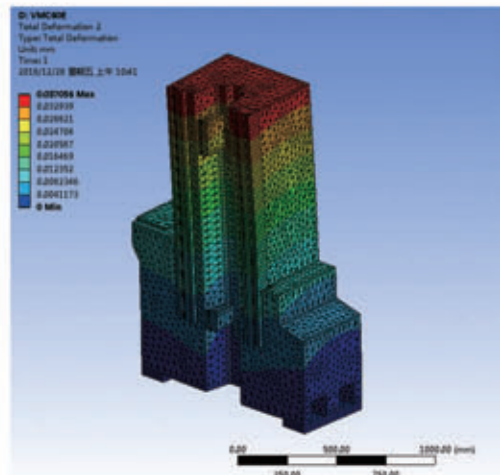
iron casting

## Better Vibration Absorption

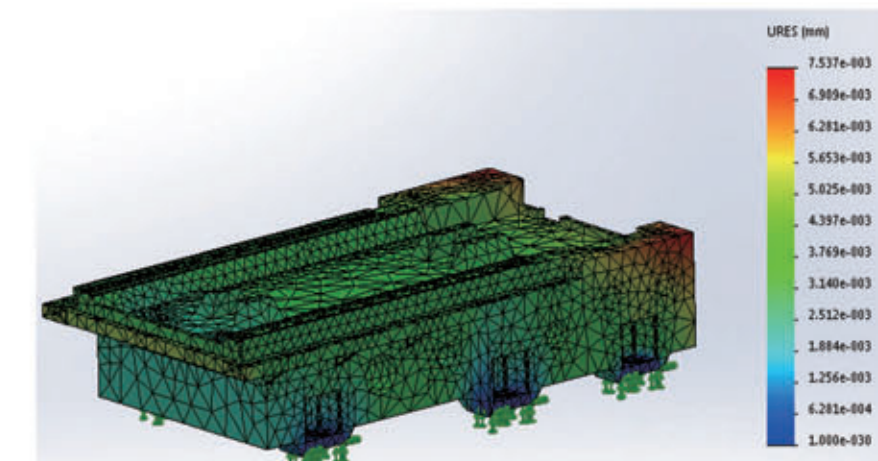
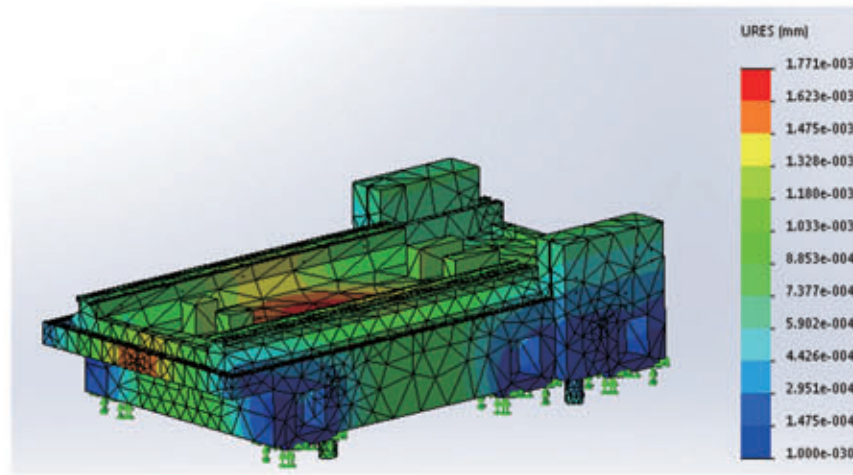
The vibration absorption of UHPC mineral casting is 10 times better than iron casting. Under large dynamic load, the stability of machine precision can be guaranteed, while the surface finish quality of the workpiece can also be improved by 20%.

## Excellent thermal stability

The thermal conductivity of UHPC mineral casting is 1/20 of that of iron casting, the specific heat capacity is 2.1 times of that of iron casting. Excellent thermal stability and thermal inertia can effectively control any kind of machine deformation caused by temperature change, the stability of machine precision is further guaranteed.

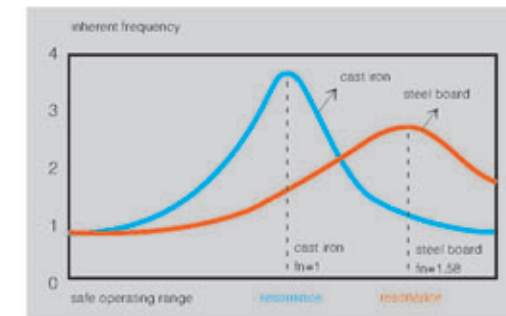


Column rigidity increased by 46%



Solid casted machine bed, deformation is only 24% of grey iron casting

## Moving Parts Stable in High-Speed with Lightweight, high rigidity welding structure

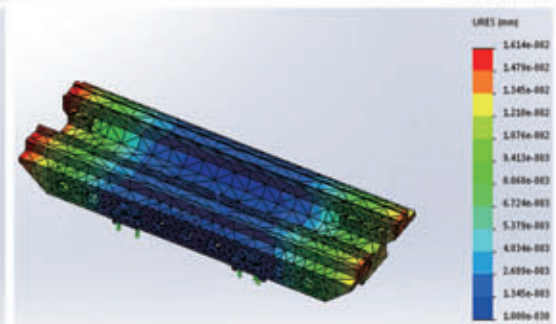
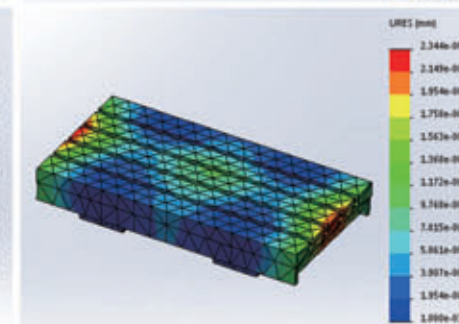
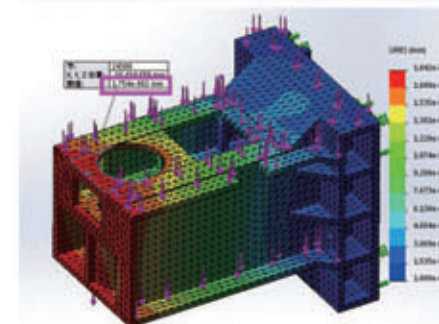
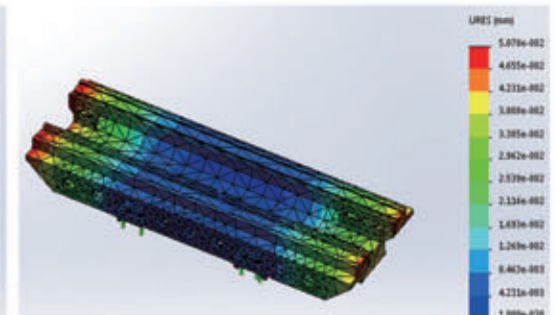
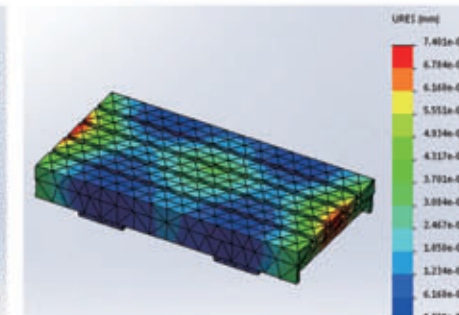
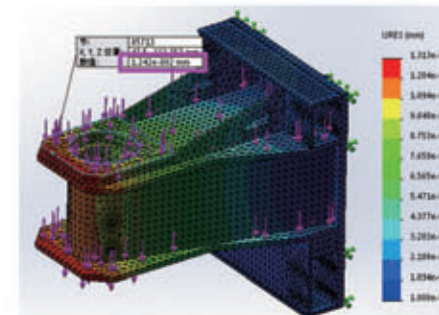
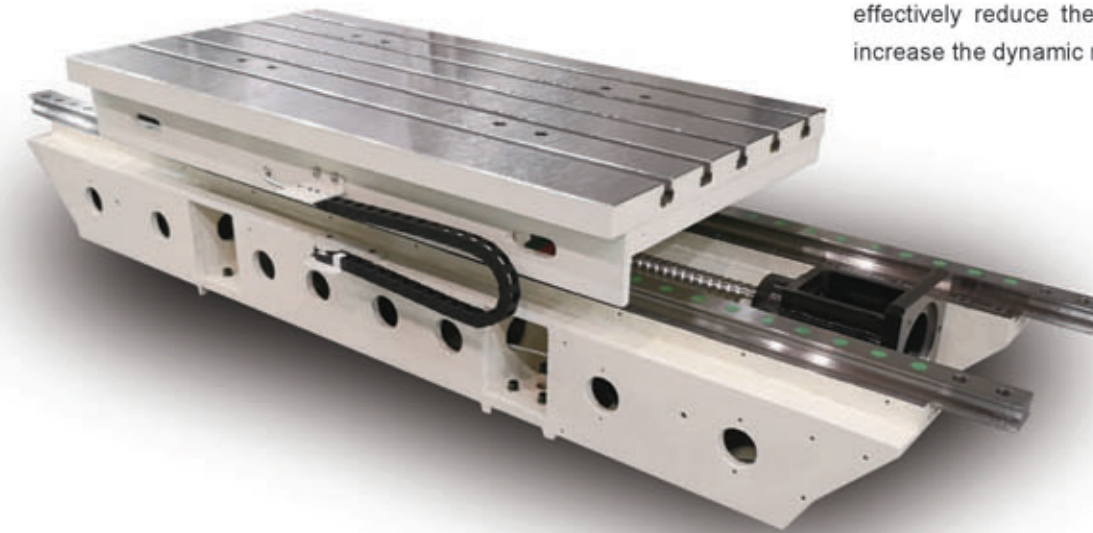


## High Rigidity

The moving parts are welded by high-strength low-alloy steel, the material elasticity modulus is around 1.4 times of that of iron casting, so the overall rigidity can be improved by more than 30%.

## Lighter Weight

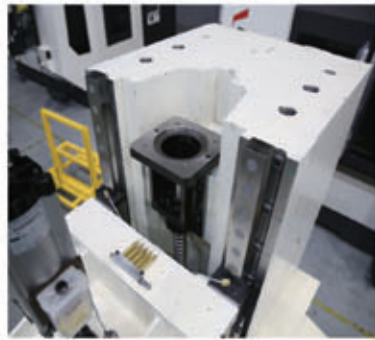
Compared to iron casting, the lighter-weight structure can reduce unit weight by 20%-30%, effectively reduce the inertia of moving parts and increase the dynamic response by 10-20%.



Steel-welded headstock is 22% lighter than grey iron casting, rigidity improved by 30%

Steel-welded saddle, worktable rigidity improved by 60%

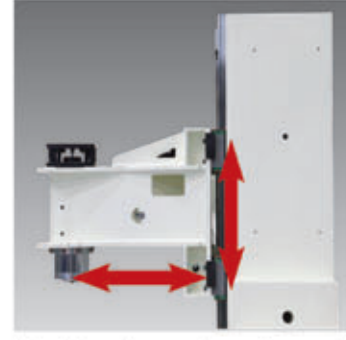




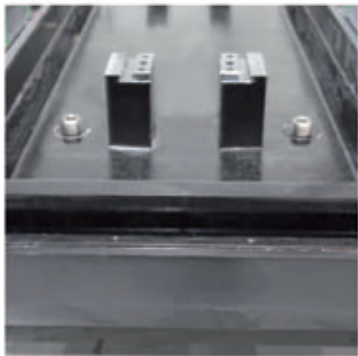
Z-axis no counterweight, effectively reduce vibration caused by Z-axis reverse .



Tool magazine vertical installed, reduce lateral deformation and improve tool change stability .



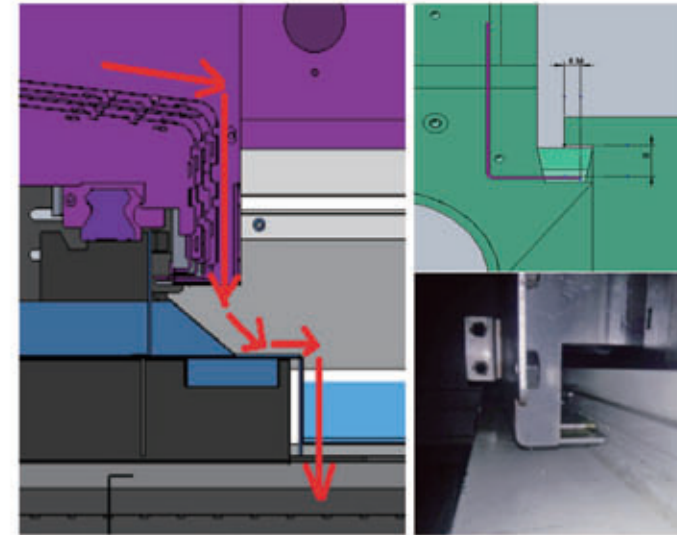
Headstock overhanging ratio 1:1 for higher rigidity .



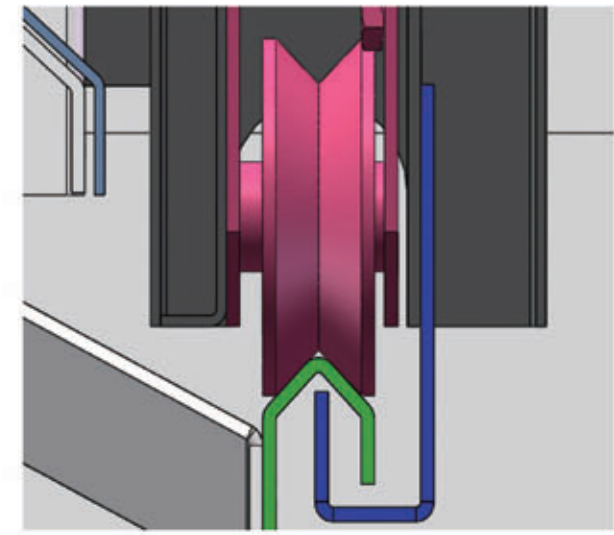
Solid structure for better vibration absorption .



3-axis linear guideway with large span, can help for bigger load capacity, higher rigidity and more stability .



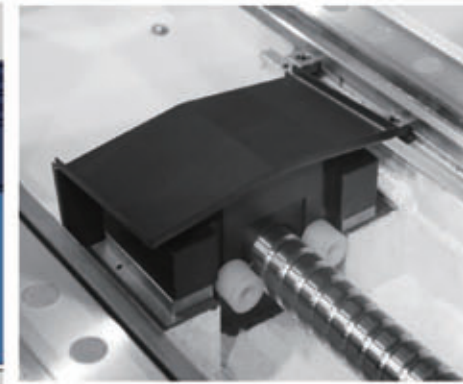
Inner protection with circulative design, base board with inclined surface, can protect chips or liquid going inside of the hood ,increase service life of functional parts .



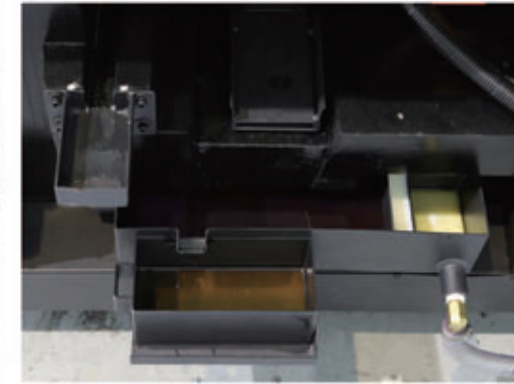
With anti-chips and derailment roller structure, front door can be guaranteed for frequent using.



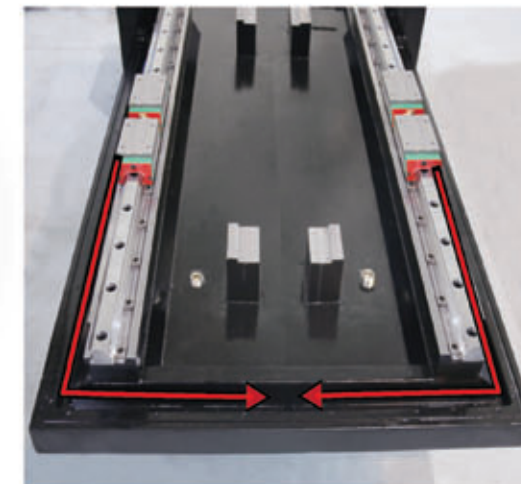
Inner protection has no fake guideway reserved for smooth run.



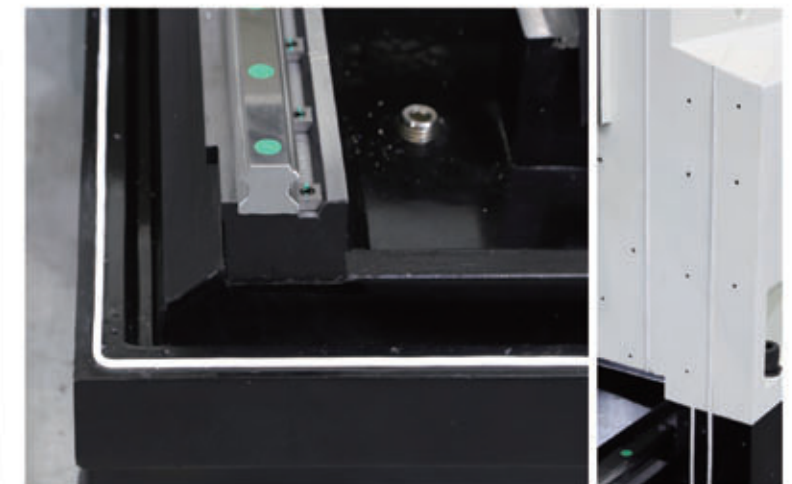
Double protection for bearing block for longer service life of bearings.



Oil and water separator to avoid cutting liquid pollution.



Water channel reserved on machine base, for cutting liquid backflow rather than overflow .



Pre-casted groove with sealing rubber strip to make machine cover non-leakage .





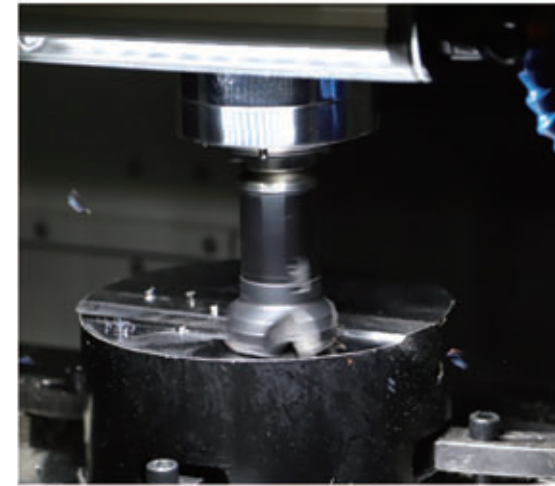
Air cylinder to effectively reduce tool changing faults .



Oil filter to avoid lubrication pipeline jam .



Precise pressure release valve to keep air pressure stable and extend spindle service life .



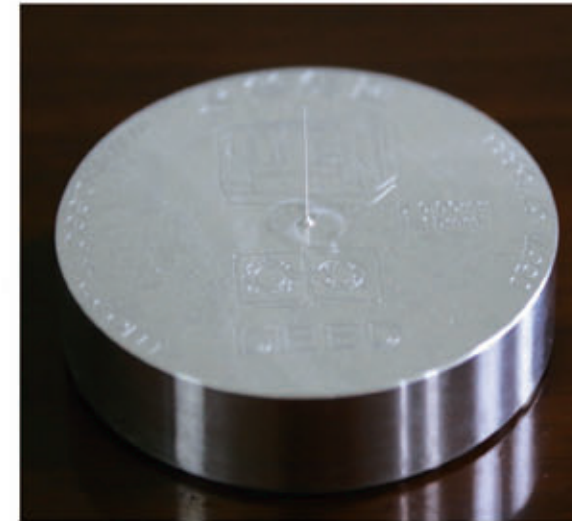
material	45
disc cutter diameter	80mm
cutting depth	4mm
cutting width	75%
S	890
F	600



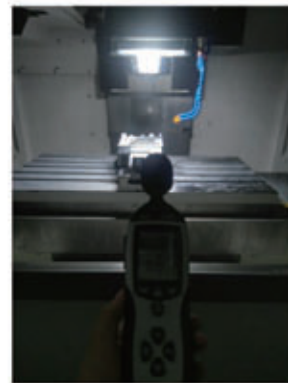
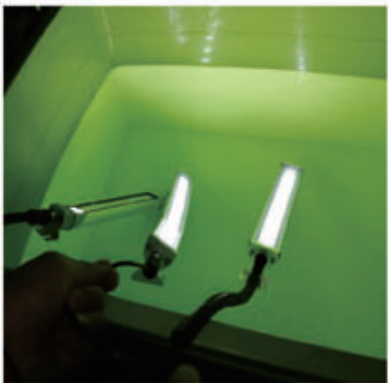
Air filter to reduce water and oil pollution in air and increase service life of spindle and ATC.



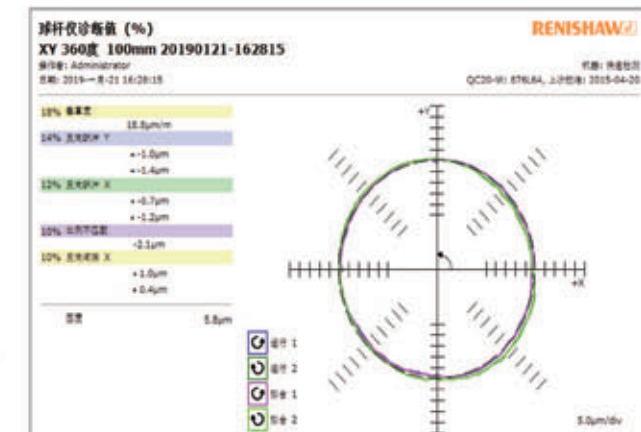
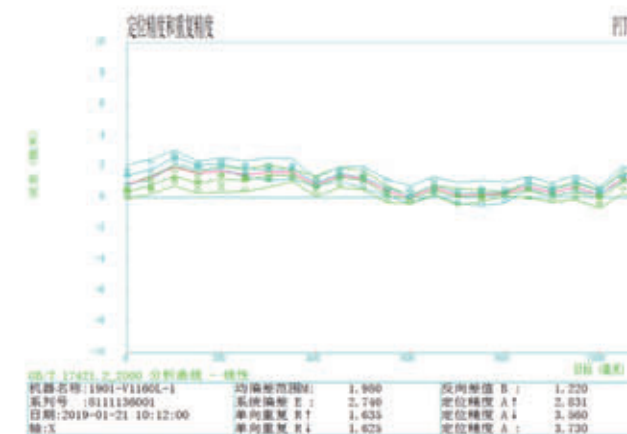
Low pressure monitor to avoid heavy damage to spindle.



material	AL-7075
feedrate	300
spindle speed	9000
cutting tool	φ4Alloy milling cutter
height	15mm
needle diameter	0.06mm

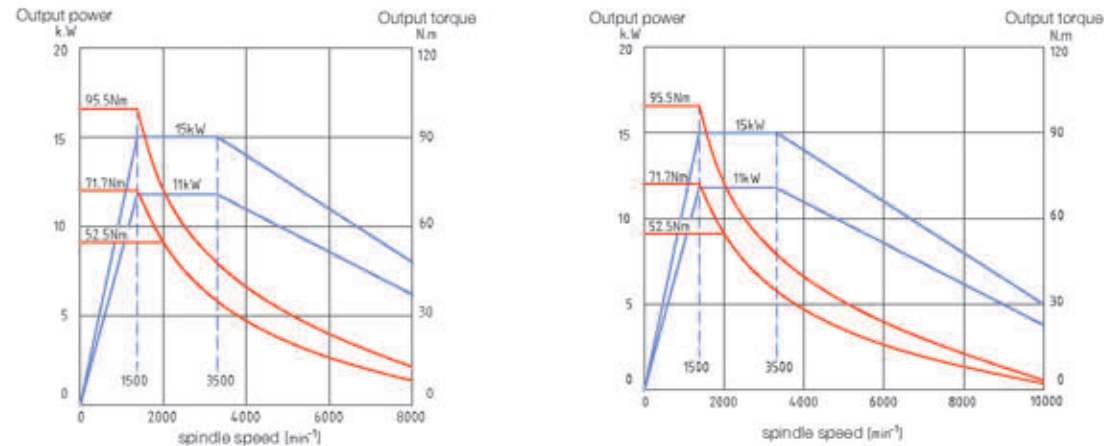


All parts are strictly tested, inspected, evaluated and approved to make sure all process top reliable and meet all standards.

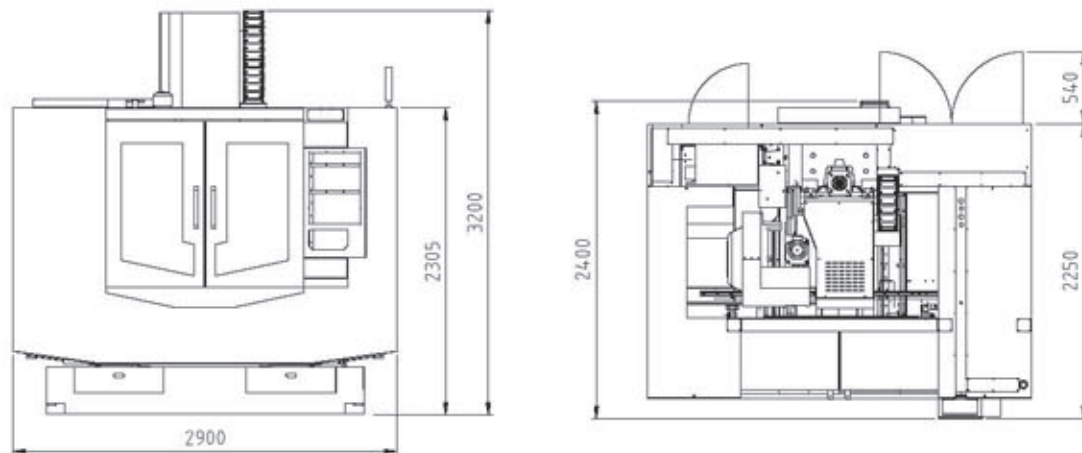




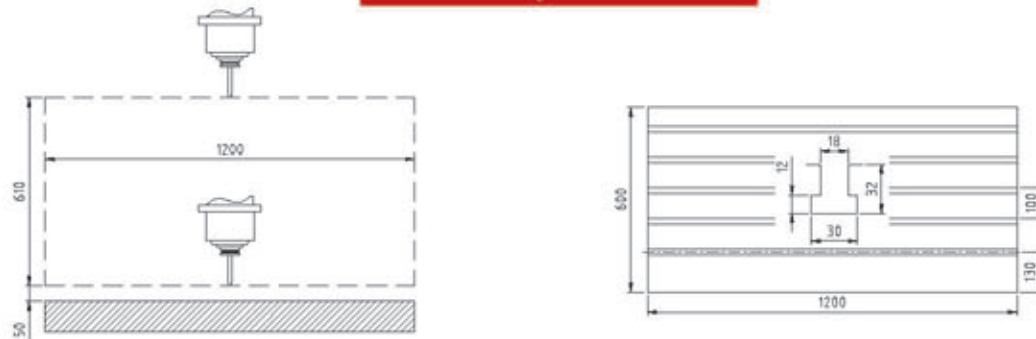
## Power &amp; Torque



## Overall Dimension



## Workpiece size



## Standard Configuration

Fanuc 0i-MF(5)  
Auto Lubrication system  
Air filter system  
Spindle taper air blow  
Spindle air curtain protection

Workpiece cooling system  
Whole machine cover  
Handheld pulse generator  
Working light  
Alarm Light

Spindle outside cooling  
Disk-type ATC-24T  
Communication interface  
Air cylinder  
Air gun

## TECHNICAL SPECIFICATIONS

Machine Model	V1160L	
spindle drive type	Belt type/direct type	
spindle max.speed	rpm	8000/10000
spindle power	kW	11/15
controller	FANUC 0i MF(5)	
Travel		
X/Y/Z travel	mm	1100/610/610
spindle nose-table	mm	150-760
Table		
table size(LxW)	mm	1200*600
T-slot(SizexNo.xPath)	mm	18*5*100
load capacity	kg	1000
Feedrate		
traverse speed	m/min	36/36/24
cutting speed	mm/min	1-12000
Accuracy		
3 axis positioning accuracy(ISO)	mm	0.008 full travel
repeatability(ISO)	mm	0.005 full travel
ATC		
type/capacity	Disk type/24T	
max.tool size(full /unfull/length)	mm	Φ78/Φ150/ 300
max. tool weight	kg	8
Others		
airpressure	MPa	0.65
power	KVA	25
machine weight	kg	7000
machine size (LxWxH)	mm	2900*2250*3200

## Options

Fanuc 0iMF(3),Mitsubishi,Siemens controller  
Chain type chip conveyor and cart  
Electrical cabinet door opening detection  
Door interlock  
Two sides chain type back chip conveyor

Column heighten 200mm  
Flushing device  
Tool probe  
Spindle oil cooler  
4 axis and tailstock

Pneumatic door  
Water gun  
CTS ( Coolant through spindle )  
Electrical cabinet air conditioner