



SHANDONG DEED PRECISION MACHINE TOOL CO.,LTD

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**10** YEARS  
FOCUS

# V SERIES

## VERTICAL MACHINING CENTER



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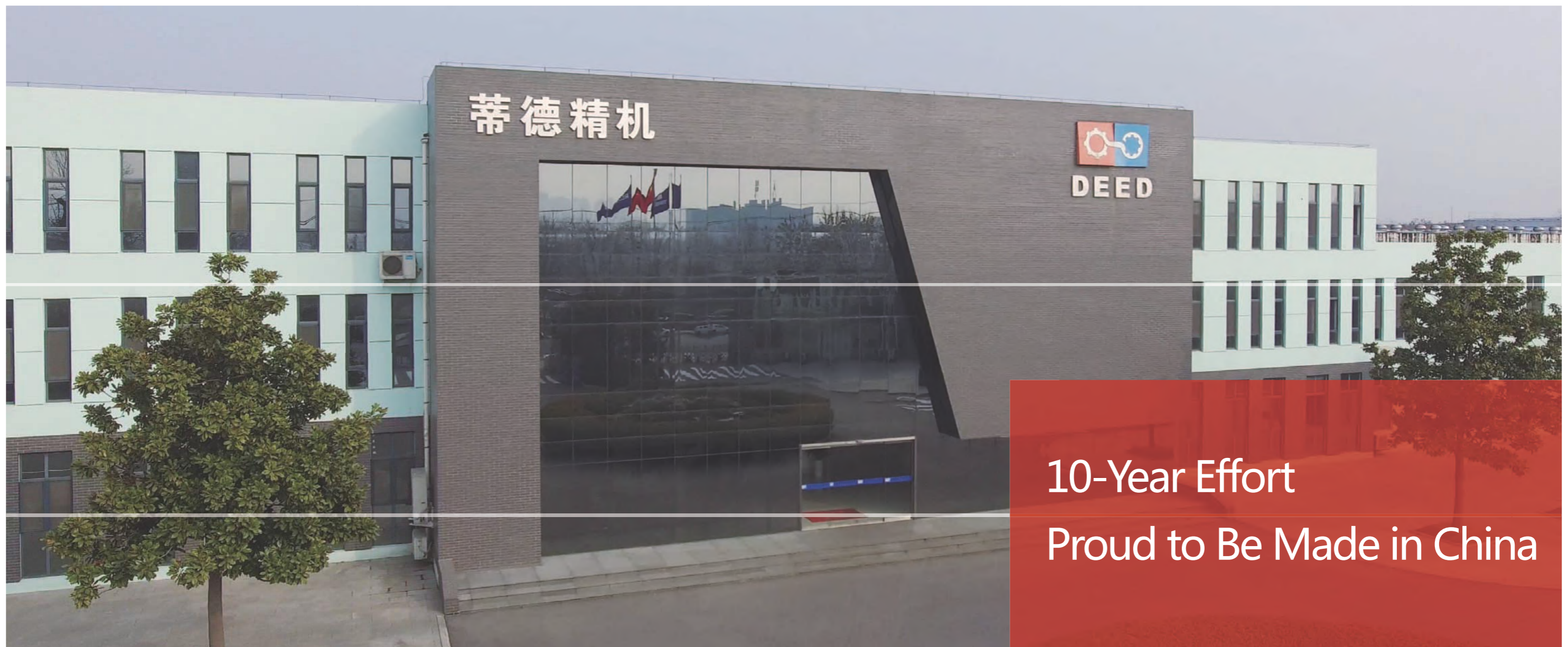
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## ABOUT

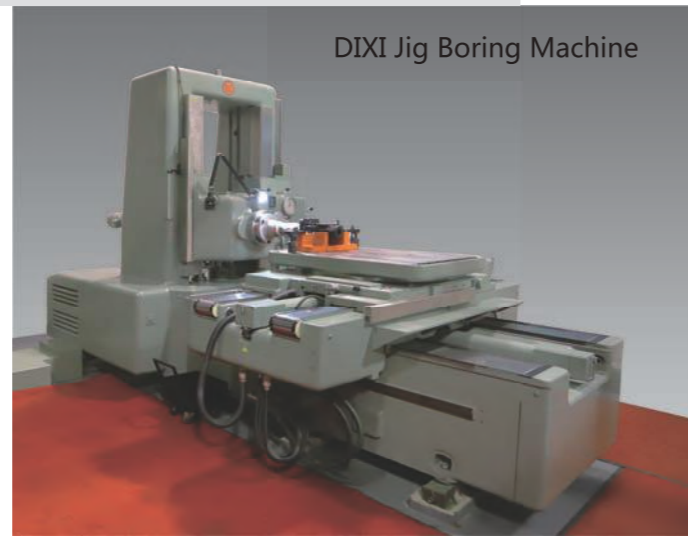
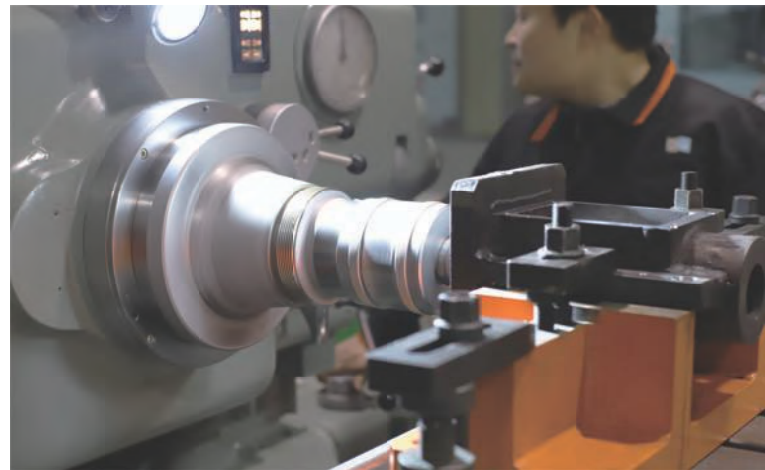
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Shandong Deed Precision Machine Tool Co.,Ltd. have been cooperating with German partners since 2014, aimed to take in advanced German technology and absorb German design and production process by joint work between Chinese and German engineers. At 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

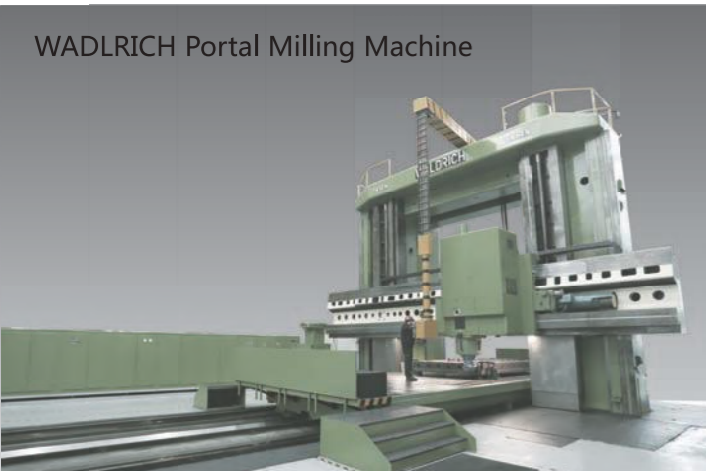
15000m<sup>2</sup> dust-free constant-temperature assembling plant, KELLENBERGER grinding machining center from Switzerland , WALDRICH Portal milling machine from Germany , KURAKI Milling and Boring machine from Japan, DIXI Jig Boring machine from Switzerland, imported top-brand high precision Grinding 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



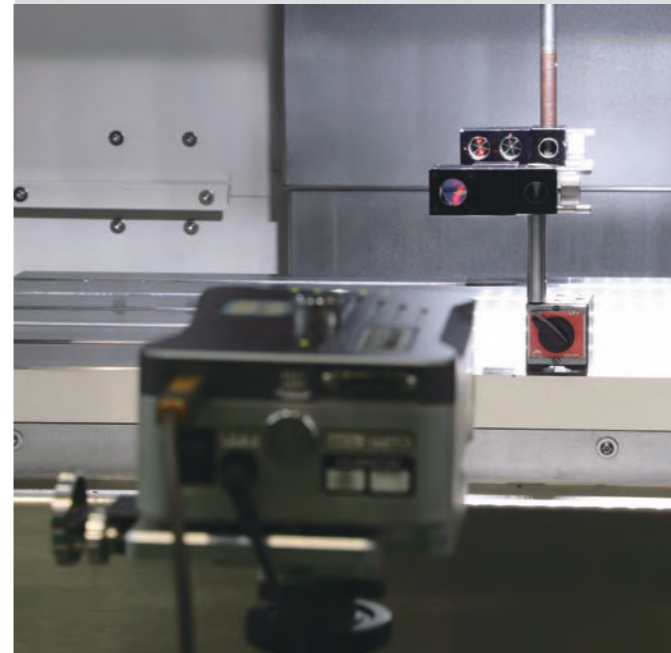
KELLENBERGER Grinding Machine



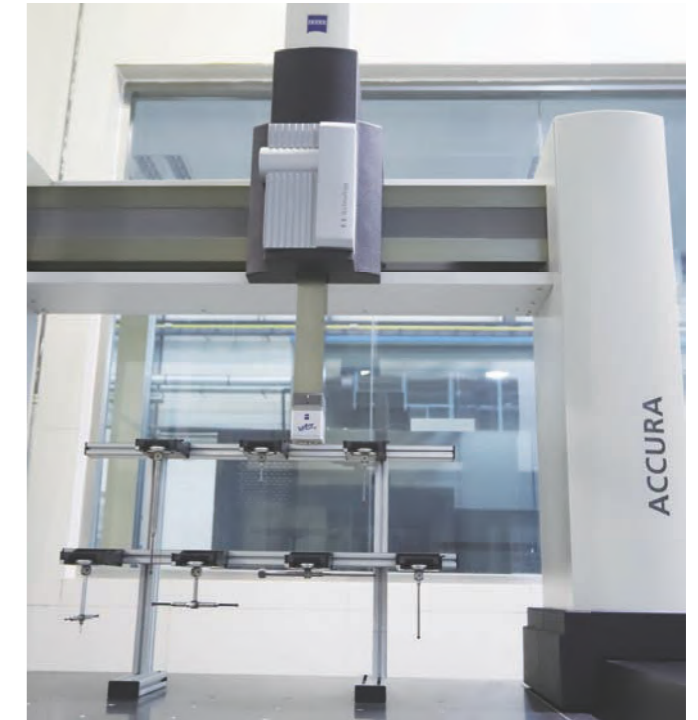
WALDRICH Portal Milling Machine



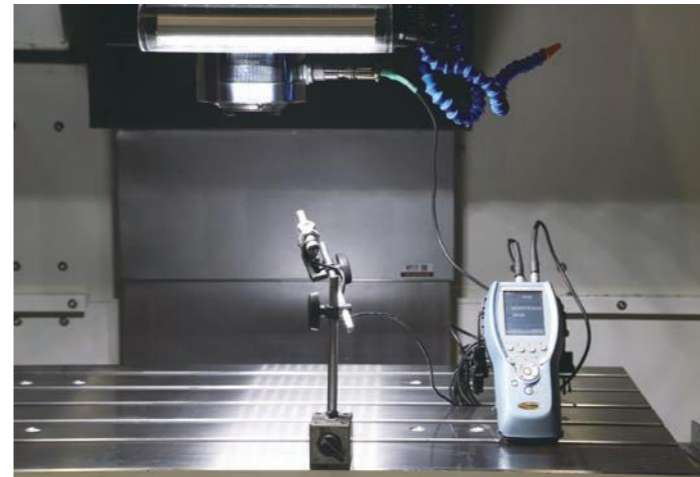
Quality control with strict internal standard, make sure all details under-control



Laser Interferometer



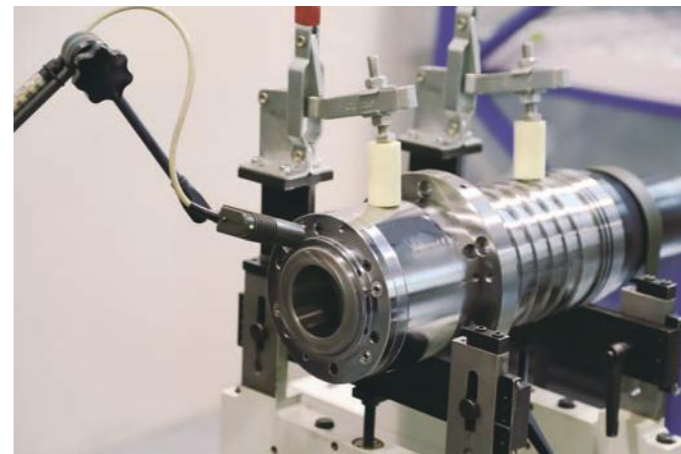
Three-coordinate Measure



Dynamic Balanc



Ball-bar tester



Horizontal Dynamic Balance



Electronic Leveling

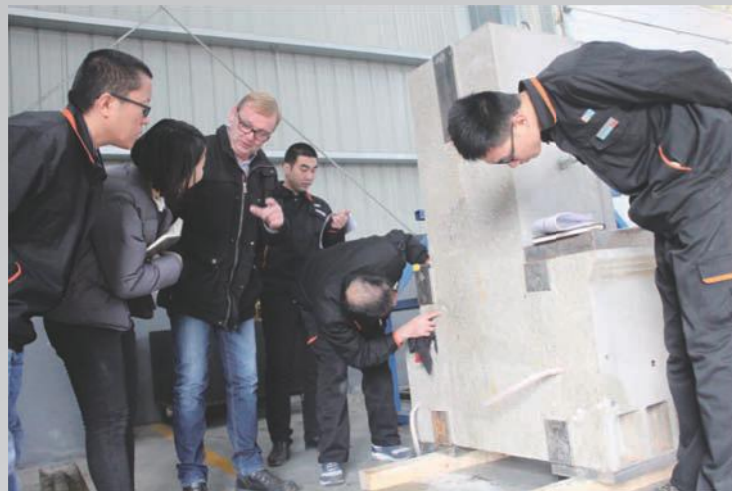
From product design to machine assembly, each process will be jointly finished by both Chinese and German engineers, to make sure each machine have top precision standard and stability ,gain perfect performance with German production engineering.



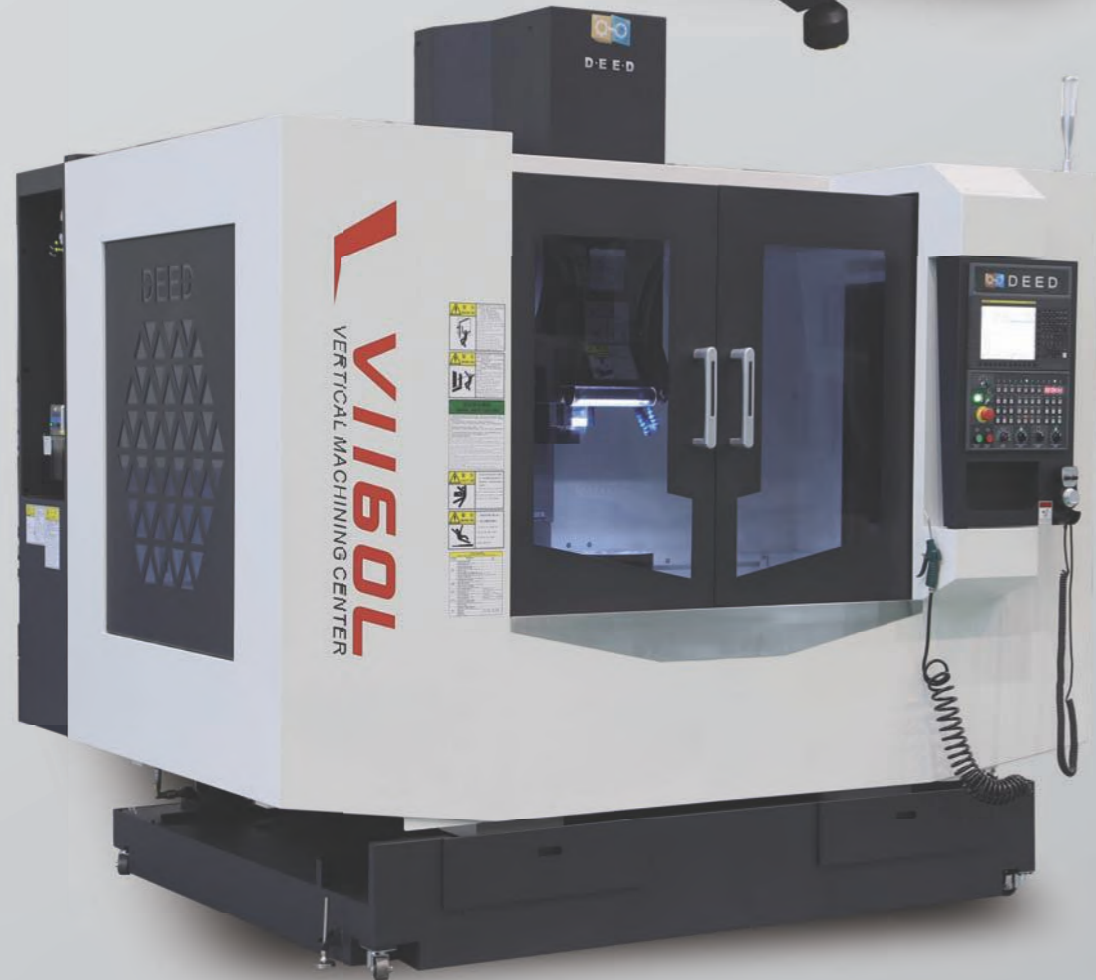
Key parts assembled by experienced German mechanics



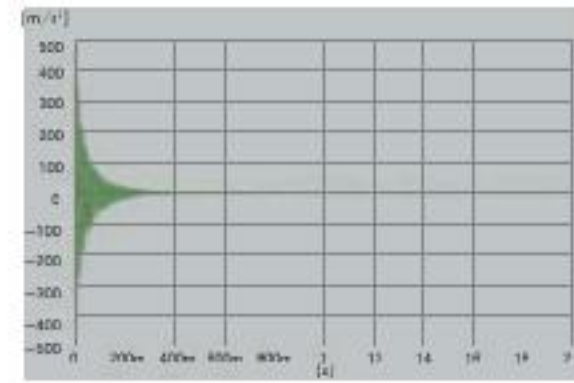
R&D and Design



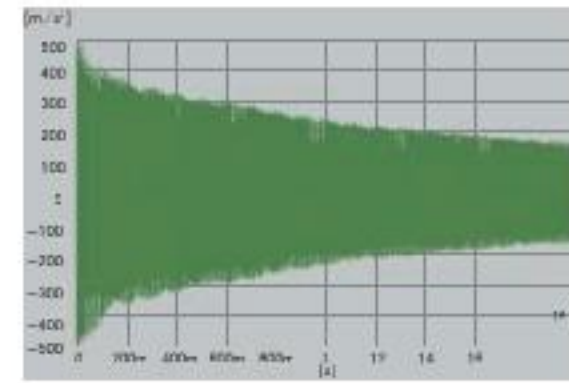
Manufacture Process



Stable Physical and Mechanical Properties with UHPC



mineral casting



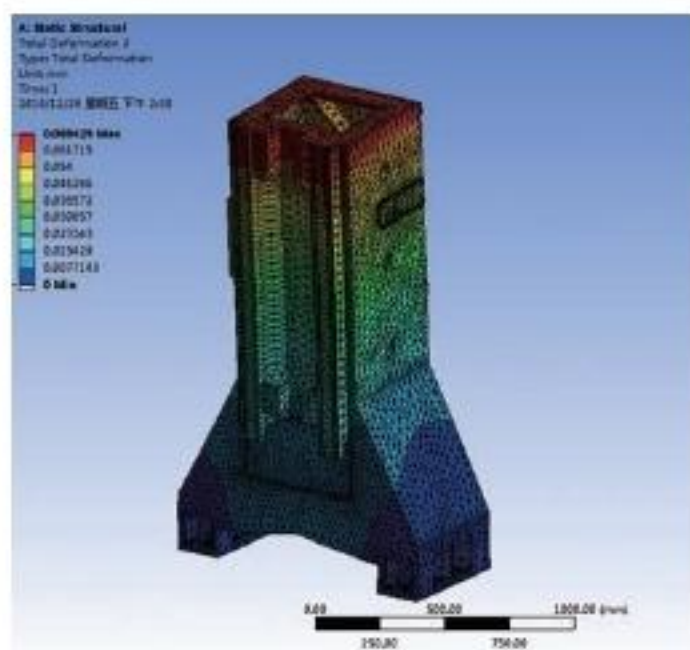
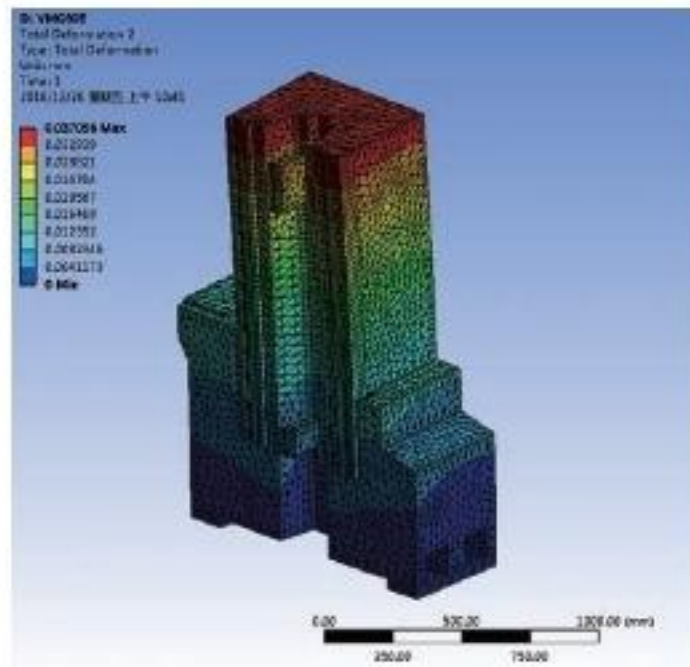
iron casting

Better Vibration Absorption

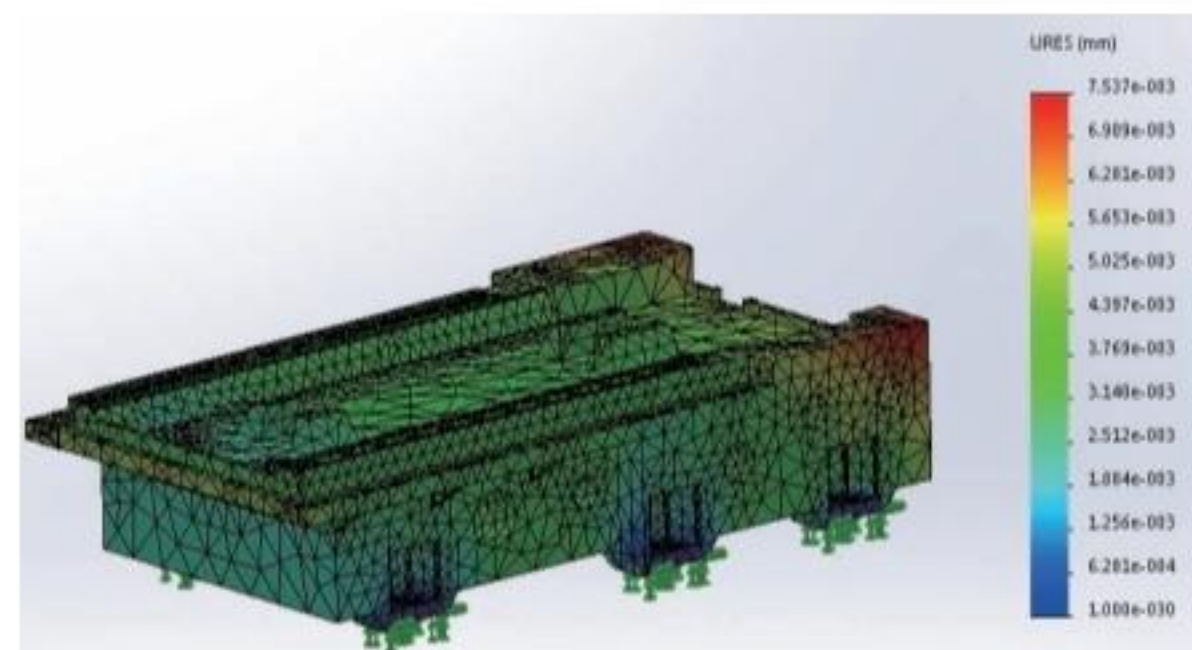
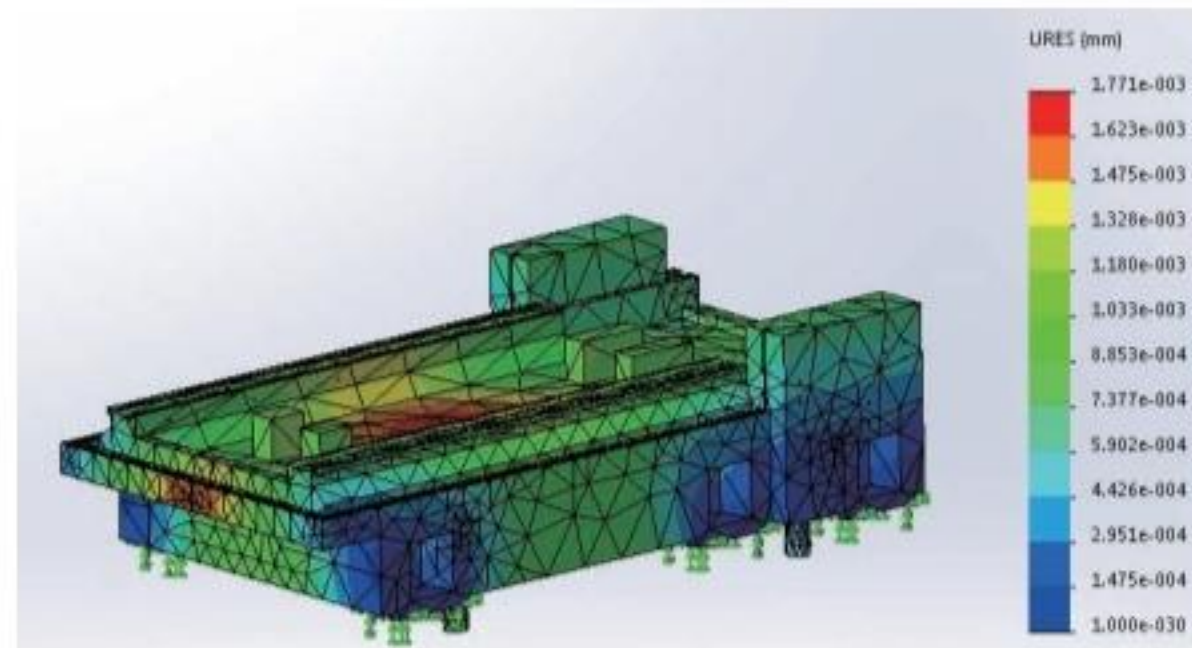
The vibration absorption of UHPC mineral casting is 10 times better than iron casting. Under large dynamic load, the stability of machine precision can be guaranteed, while the surface finish quality of the workpiece can also be improved by 20%.

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.

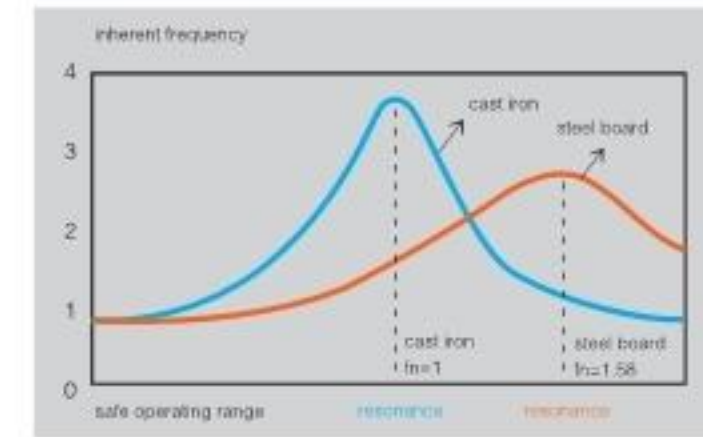


Column rigidity increased by 46%



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

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

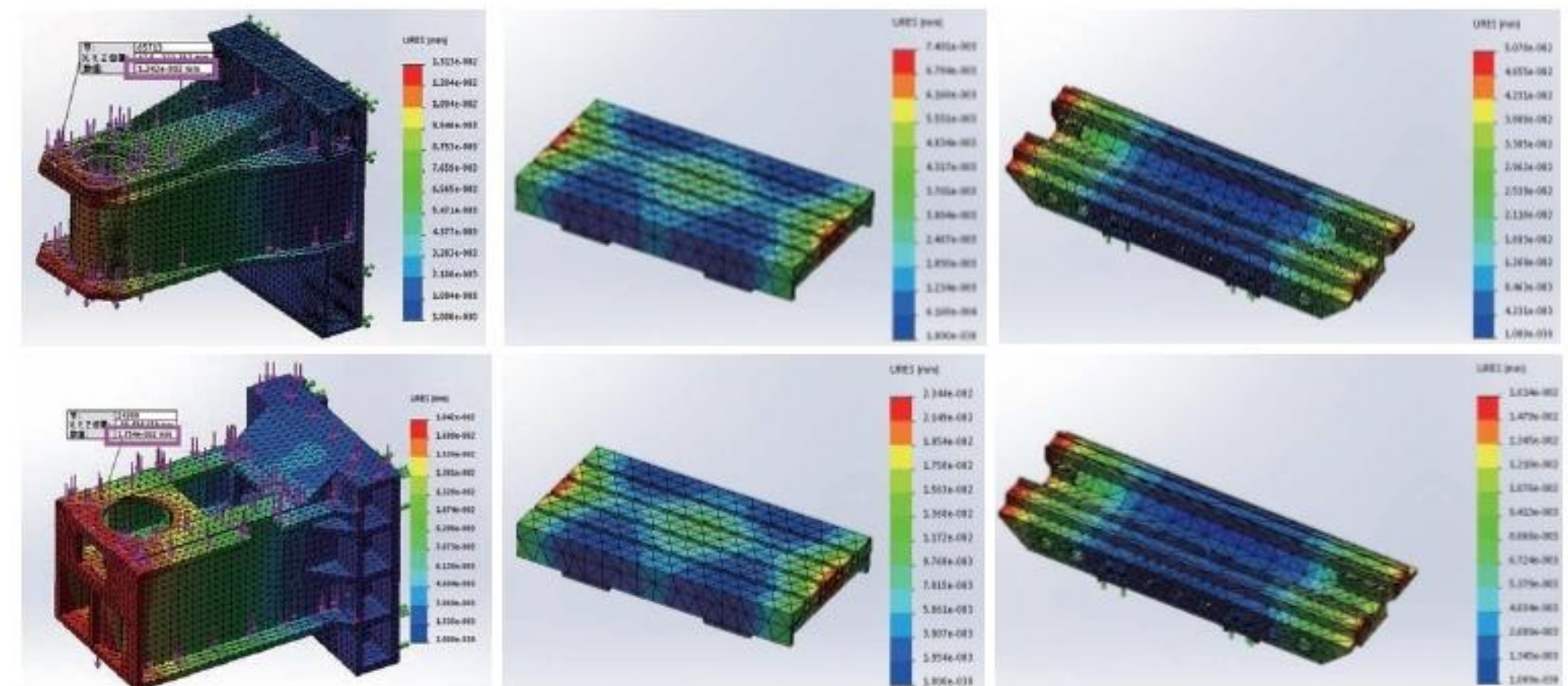


High Rigidity

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%.

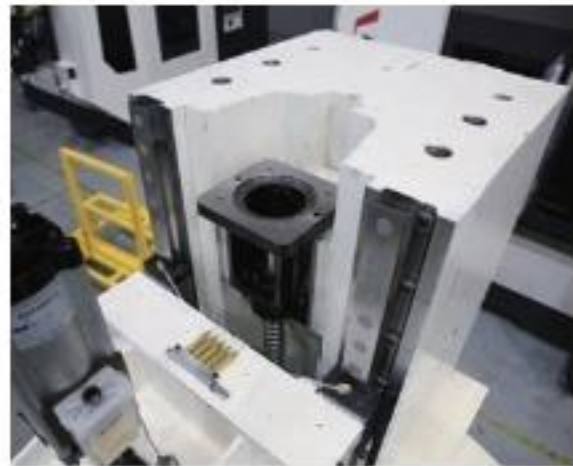
Lighter Weight

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%

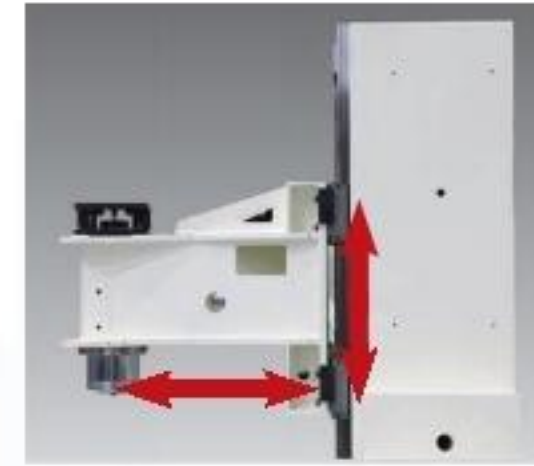
Steel-welded saddle, worktable rigidity improved by 60%



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



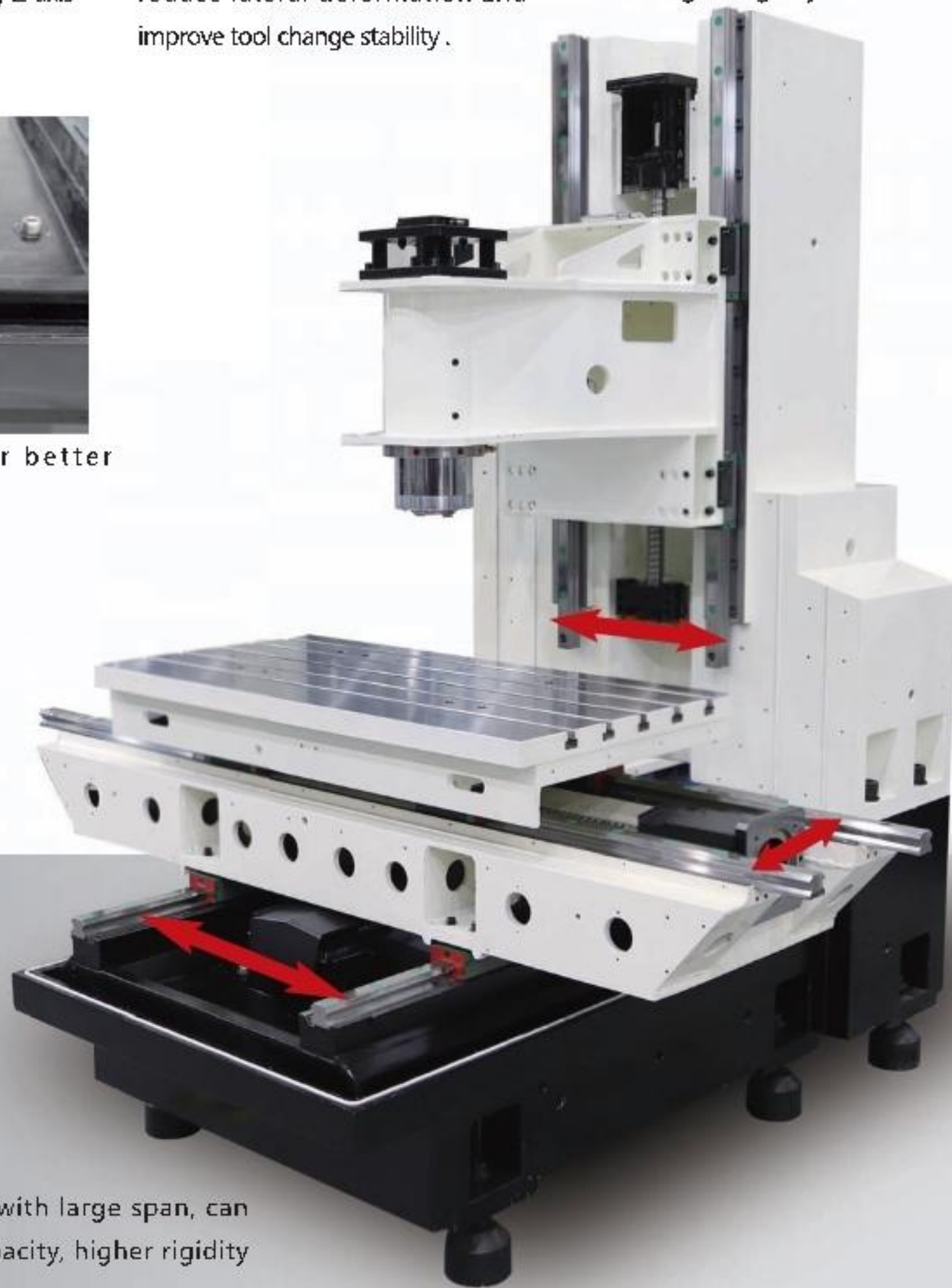
Tool magazine vertical installed, reduce lateral deformation and improve tool change stability .



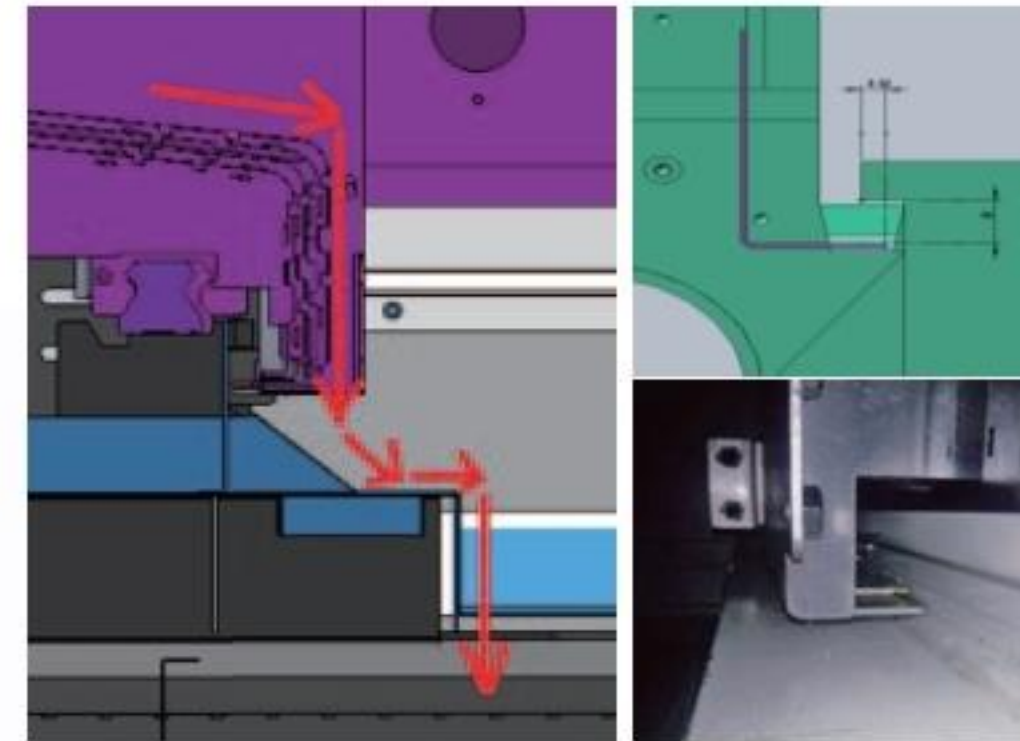
Headstock overhanging ratio 1:1 for higher rigidity .



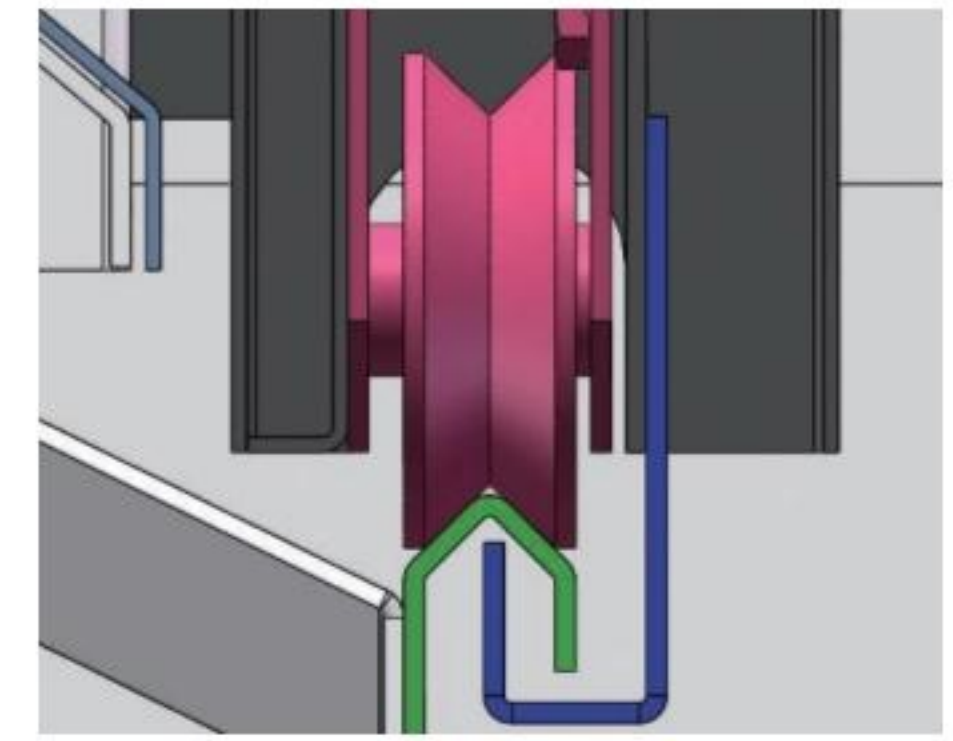
Solid structure for better vibration absorption .



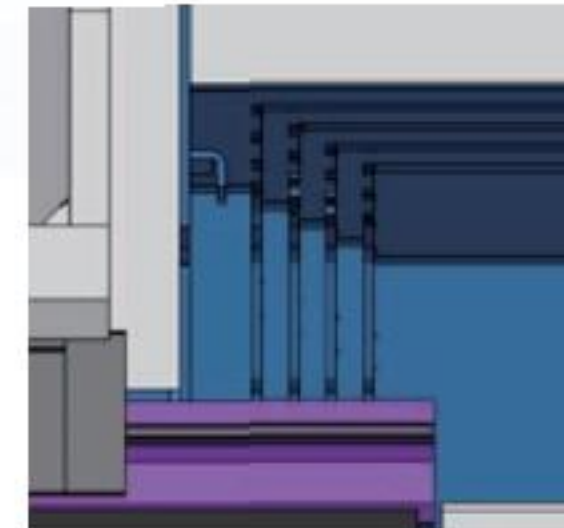
3-axis linear guideway with large span, can help for bigger load capacity, higher rigidity and more stability .



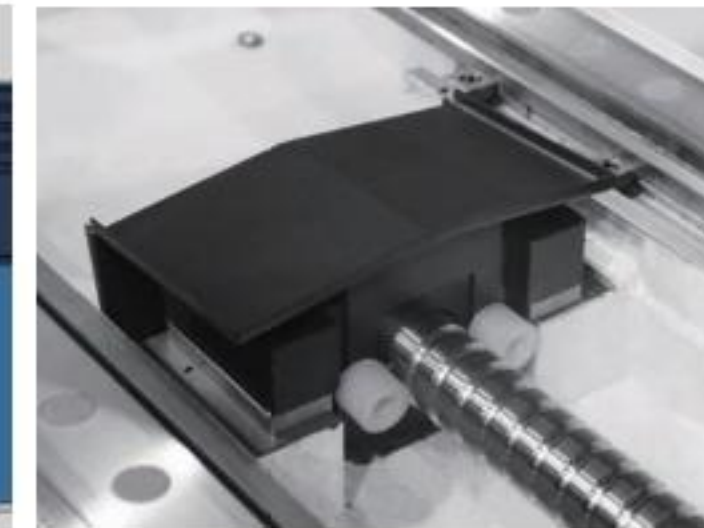
Inner protection with circulative design, base board with inclined surface, can protect chips or liquid going inside of the hood ,increase service life of functional parts .



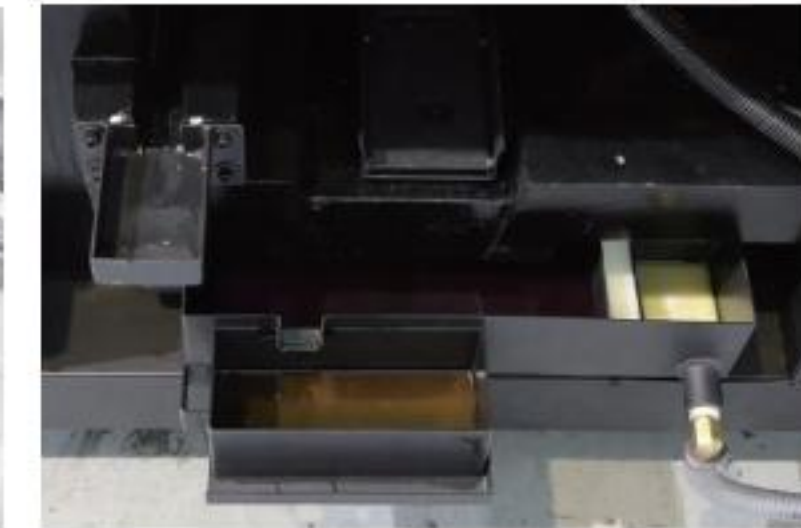
With anti-chips and derailment roller structure, front door can be guaranteed for frequent using.



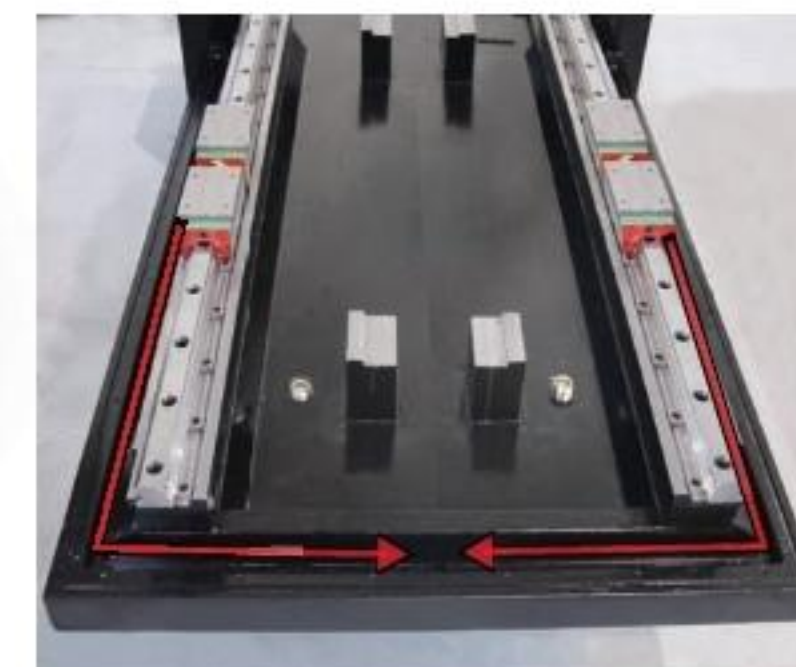
Inner protection has no fake guideway reserved for smooth run.



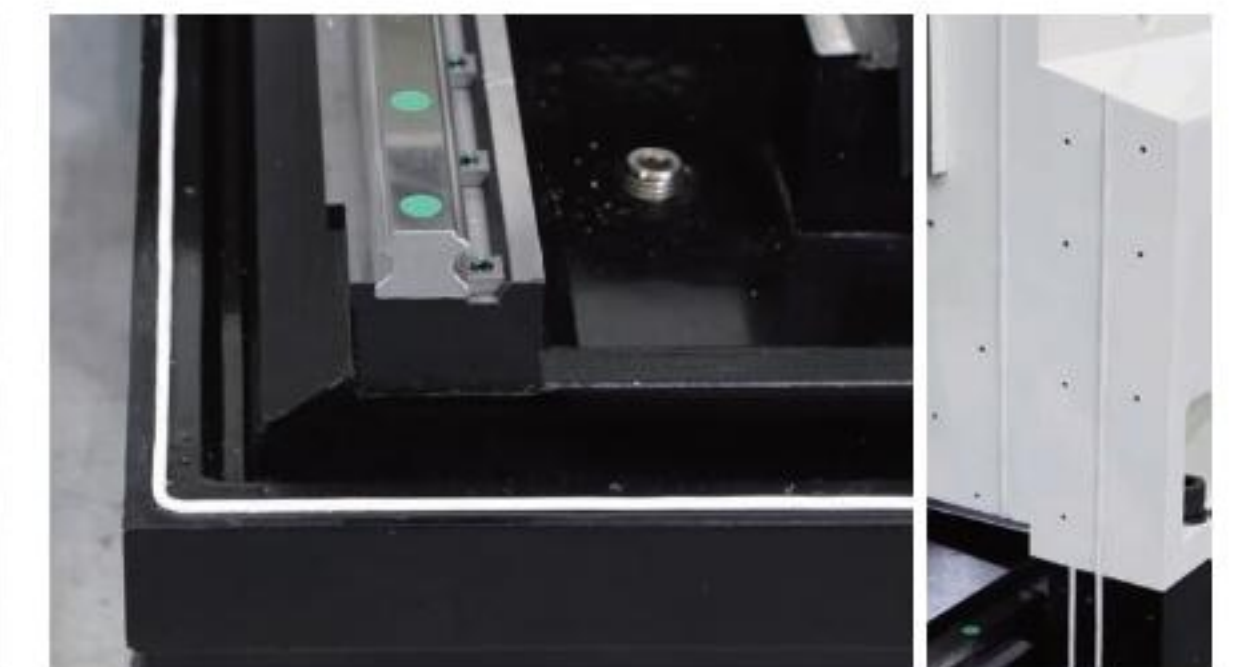
Double protection for bearing block for longer service life of bearings.



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 .



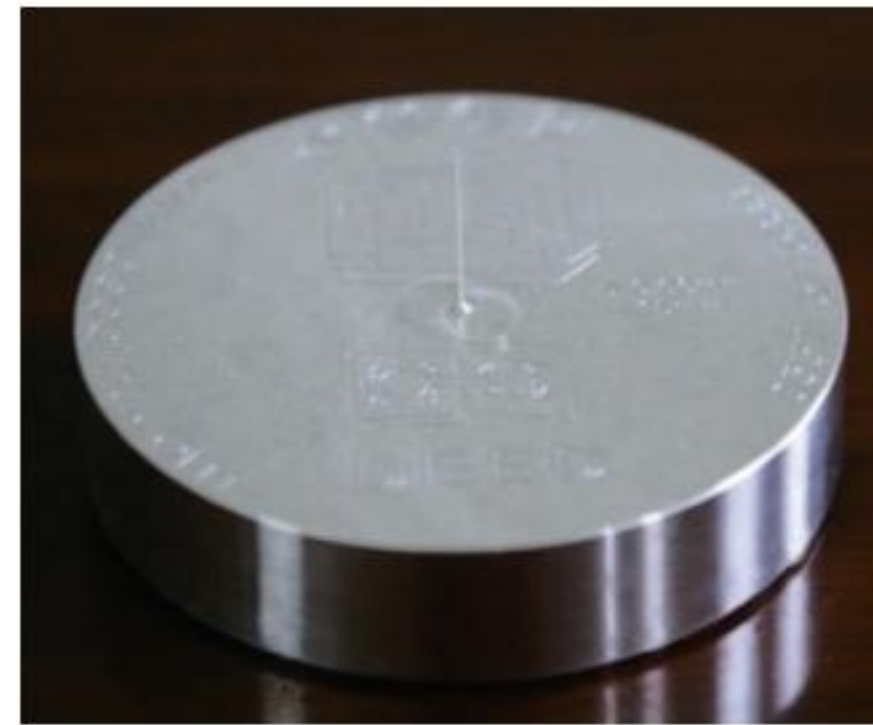
material	45
disc cutter diameter	80mm
cutting depth	4mm
cutting width	75%
S	890
F	600



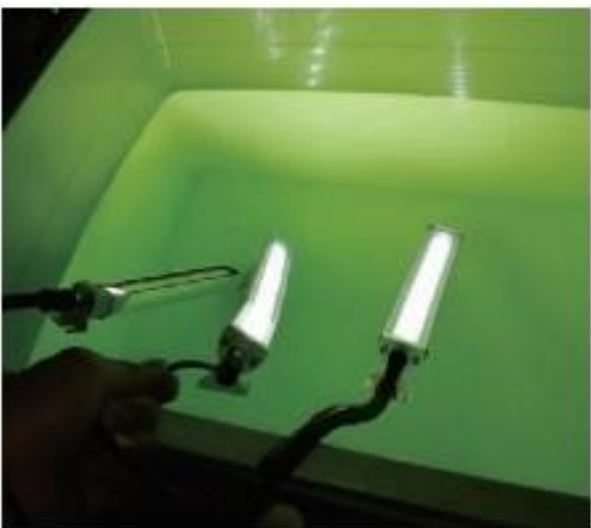
Air filter to reduce water and oil pollution in air and increase service life of spindle and ATC.



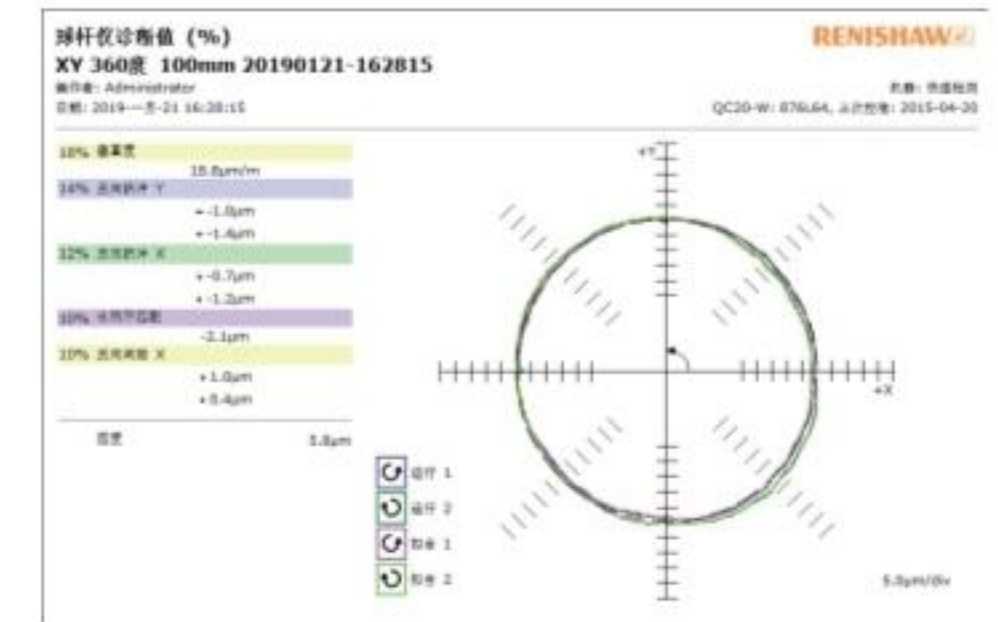
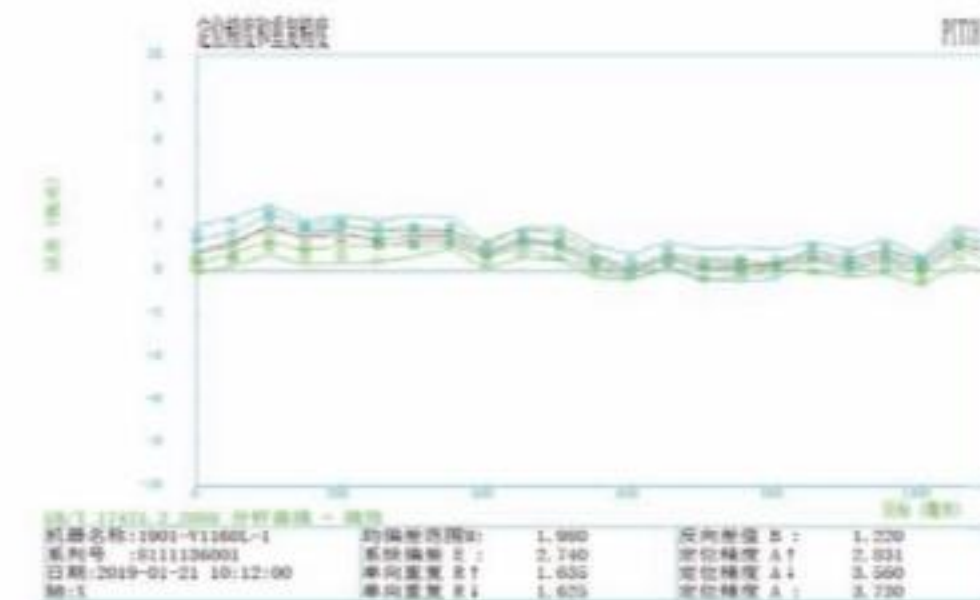
Low pressure monitor to avoid heavy damage to spindle .



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.





## TECHNICAL SPECIFICATIONS

Machine Model		V850L	V1160L	V1370L	V1580L	V1690L
spindle drive type		Belt type/direct type	Belt type/direct type	Belt type/direct type	Belt type	Belt type
spindle max.speed	rpm	8000/10000	8000/10000	8000/10000	5000	5000
spindle power	kW	11/15	11/15	11/15	11/15	11/15
controller		FANUC 0i MF(5)	FANUC 0i MF(5)	FANUC 0i MF(5)	FANUC 0i MF(5)	FANUC 0i MF(5)
<b>Travel</b>						
X/Y/Z travel	mm	850/500/510	1100/610/610	1300/710/710	1500/810/810	1600/910/810
spindle nose-table	mm	150-660	150-760	150-860	150-960	150-960
<b>Table</b>						
table size(LxW)	mm	950*500	1200*600	1400*700	1700*800	1800*900
T-slot(SizexNo.xPath)	mm	18*4*100	18*5*100	18*5*125	22*6*125	22*6*130
load capacity	kg	500	1000	1300	1500	1600
<b>Feedrate</b>						
traverse speed	m/min	36/36/24	36/36/24	30/30/24	20/20/20	20/20/20
cutting speed	mm/min	1-10000	1-12000	1-10000	1-8000	1-8000
<b>Accuracy</b>						
3 axis positioning accuracy(ISO)	mm	0.008 full travel	0.008 full travel	0.010 full travel	0.012 full travel	0.012 full travel
repeatability(ISO)	mm	0.005 full travel	0.005 full travel	0.006 full travel	0.008 full travel	0.008 full travel
<b>ATC</b>						
type/capacity		Disk type/24T	Disk type/24T	Disk type/24T	Disk type/24T	Disk type/24T
max.tool size(full /unfull/length)	mm	Φ78/Φ150/ 300	Φ78/Φ150/ 300	Φ78/Φ150/ 300	Φ105/Φ200/ 350	Φ105/Φ200/ 350
max. tool weight	kg	8	8	8	15	15
<b>Others</b>						
airpressure	MPa	0.65	0.65	0.65	0.65	0.65
power	KVA	25	25	25	-	-
machine weight	kg	6000	7000	10000	13500	14200
machine size (LxWxH)	mm	2600*2600*3050	2900*2250*3200	3300*3500*3350	4200*3700*3600	4500*3800*3600

### 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

### 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

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- After-sales engineer with average 10 years experience
- 95% spare parts available at each after-service office
- Complete training and operation guiding
- Standard after-sales service processing

