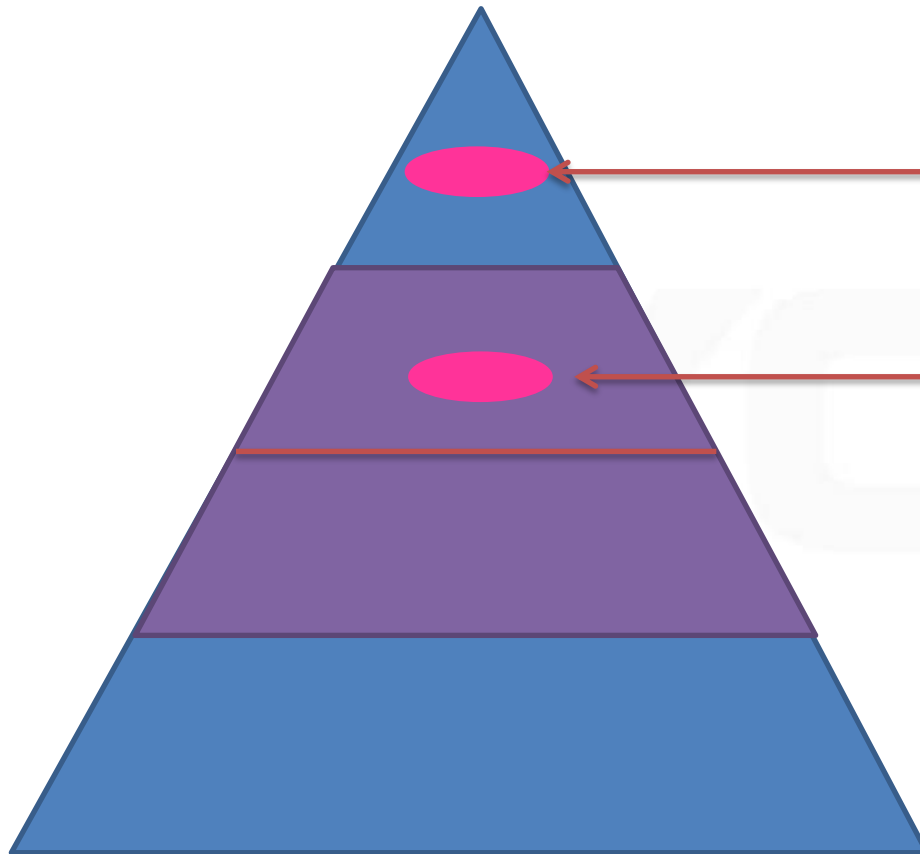




NFP500A-5AX

High Speed High Precision Gantry

5-axis machining center



1 High-end

- A. small double column **NFP500A-5AX**
- B. Big double column
DCV2018A-5AX series
- C. Big double column DCV4030B-5AX) series

2+ High-Intermediate

- A. Big double column NDC3018B-AHC series
- B. Big double column DCV4030B-5AF series
- C. Traveling column TCV3000A-5AX
- D. C-frame machine FX380A 、FX500A

Product Positioning

YCM NFP 500A-5AX Application

➤ Aerospace Industry

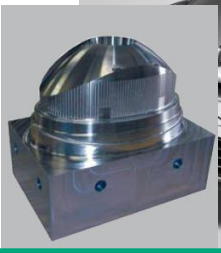
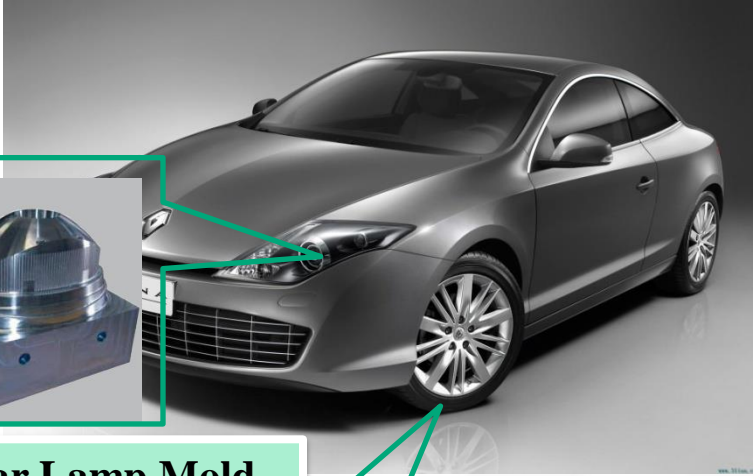


**Turbine
blades**

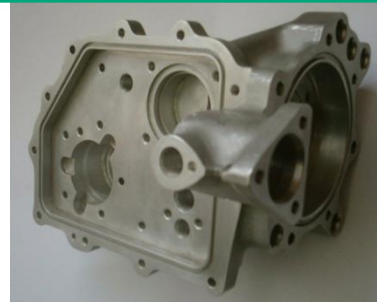


Hosing

➤ Automobile/Die & Mold Machining



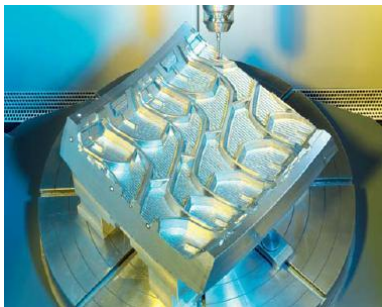
Car Lamp Mold



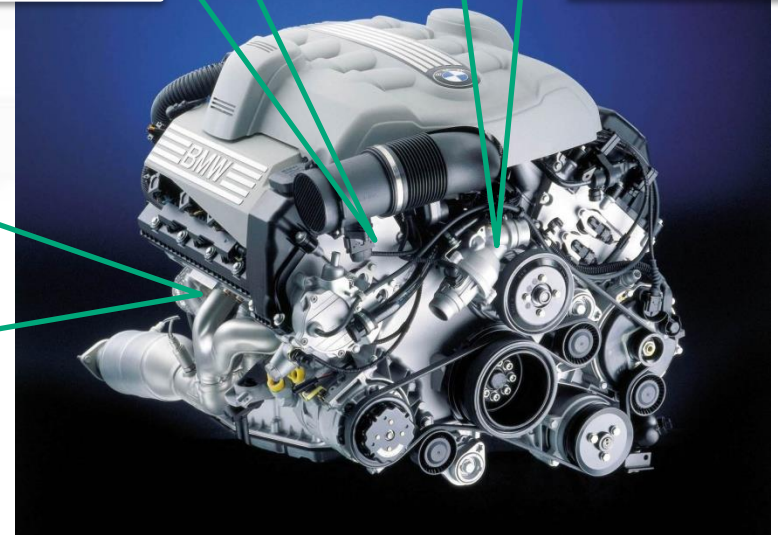
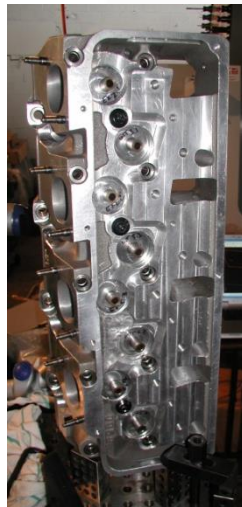
**Lubrication
channel**



**Intake
pipe**



**Tire
Mold**



**Cylinder
cover**

YCM NFP 500A-5AX Specification

SPINDLE	
Spindle Speed rpm	24,000
Max. Spindle Motor Power kW	22.5
Spindle Taper	HSK A63
TRAVEL	
X-axis Travel mm	700
Y-axis Travel mm	1000
Z-axis Travel mm	500
A/C AXIS	
A-axis	+30° ~ -120°
C-axis	360°
TABLE	
Table Size mm	Ø 500
Max. Load on Table kg	350
FEEDRATE	
Rapid Feedrate(X/Y/Z) m/min.	50/50/50
Cutting Feedrate mm/min.	1~32,000 mm
A/C Axis Feedrate rpm	50
ATC	
Tool Magazine Capacity T	40
Max. Tool Weight kg/pc	6
Max. Tool Dimensions (w/o Adjacent Tool) mm	76 (125)

Main features of NFP 500A-5AX

- ➔ ☒ High Speed
- ☒ High Power
- ☒ High Rigidity
- ☒ Large machining Envelope
- ☒ High Torque on
5-axis Trunnion table



YCM NFP 500A-5AX High Speed

**Spindle
24,000 rpm**

**Acceleration
0.7 G**



**Rapid
50m/min**

**A/C axis Max.
50 rpm**

Main features of NFP 500A-5AX

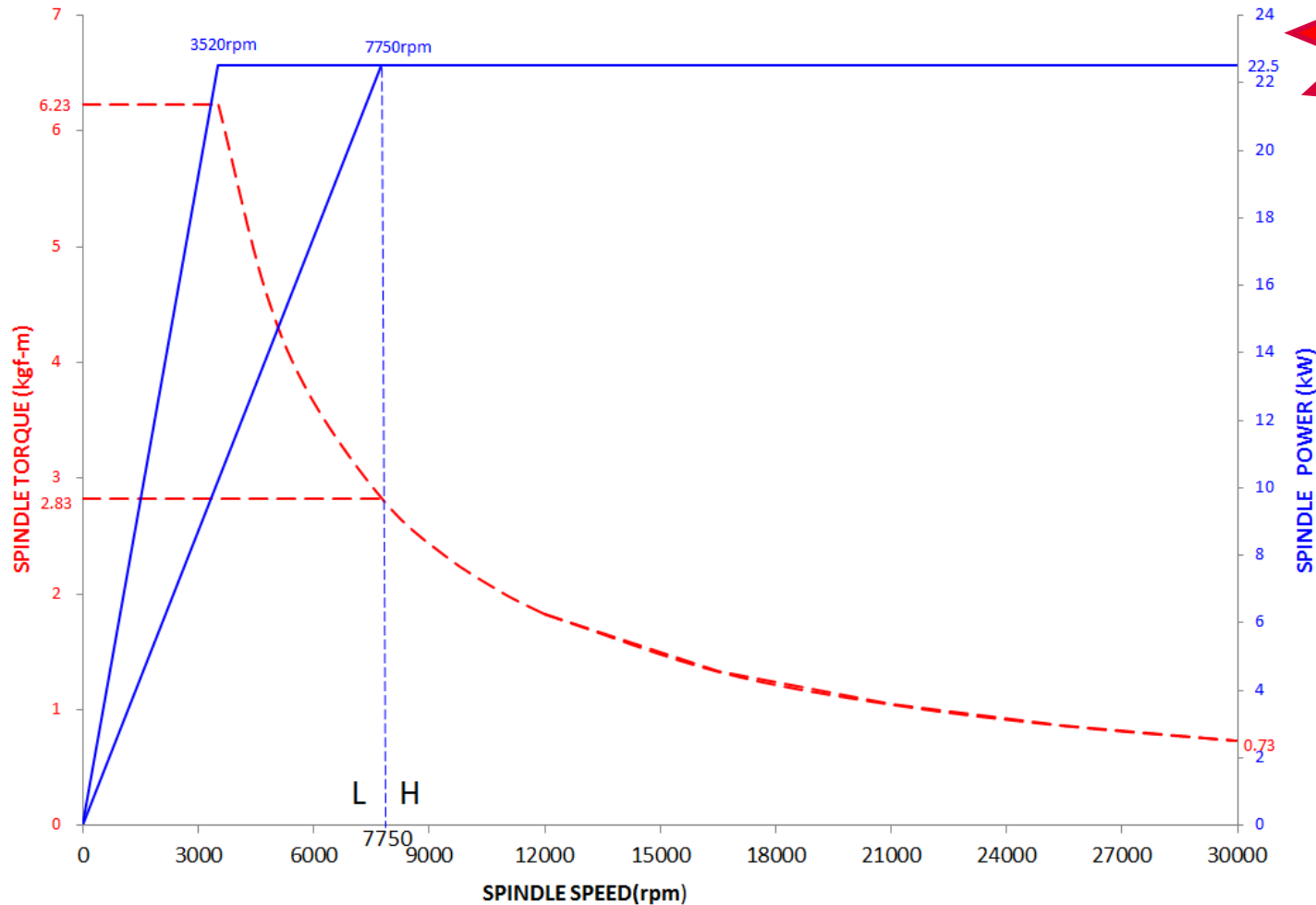
- ☑ High Speed
- ☑ High Power
- ☑ High Rigidity
- ☑ Large machining Envelope
- ☑ High Torque on
5-axis Trunnion table



Standard

Spindle : 24,000rpm

**22.5 kW
Spindle Motor**



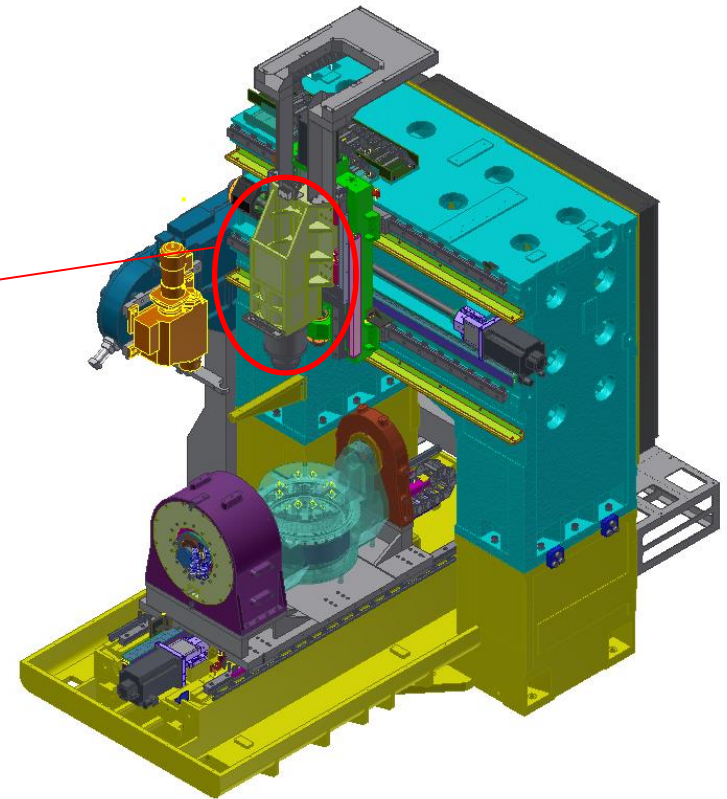
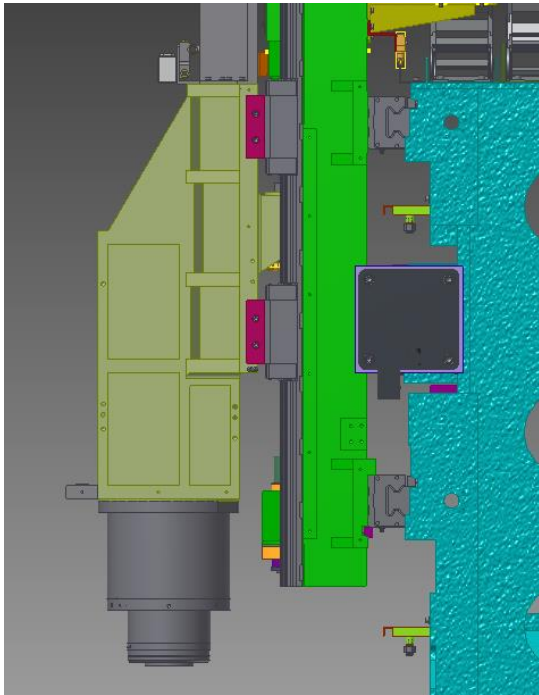
Main features of NFP 500A-5AX

- ✓ High Speed
- ✓ High Power
- ✓ High Rigidity
- ✓ Large machining Envelope
- ✓ High Torque on
5-axis Trunnion table



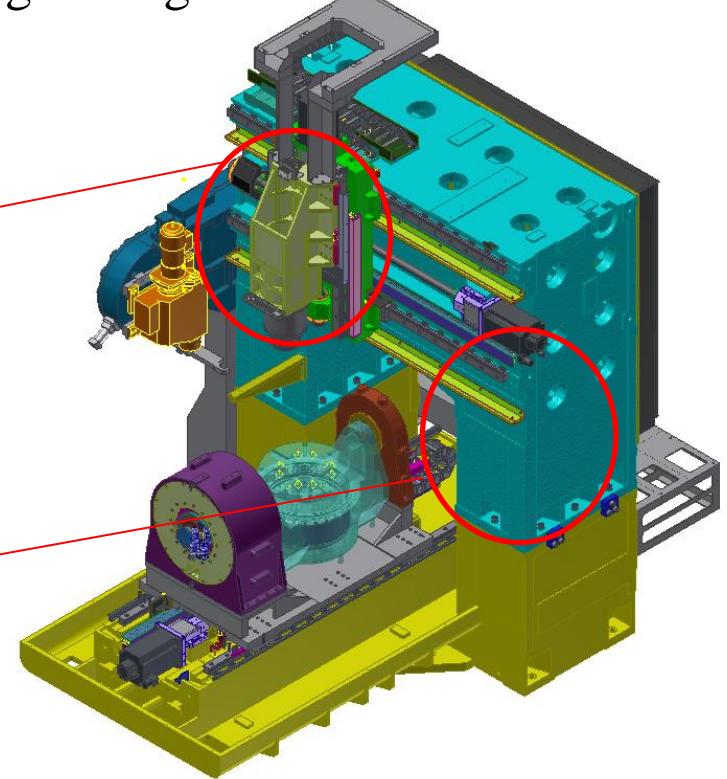
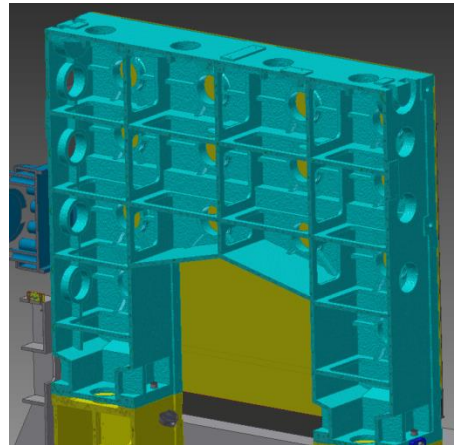
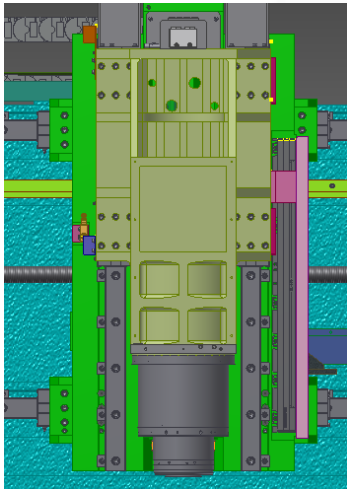
Head

- Fully Z travel support ensures best dynamic rigidity.



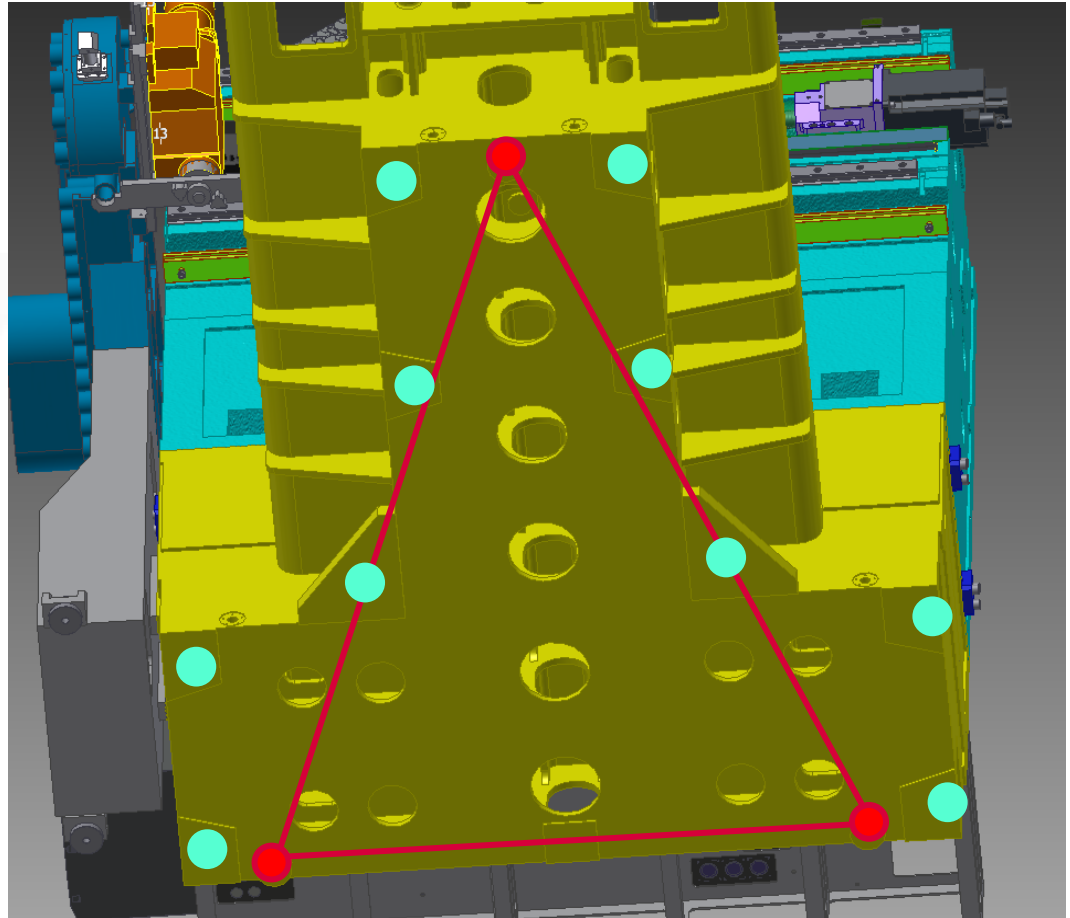
Saddle, Column

- Y, Z axis linear guideways design with large span provides best dynamic rigidity
- One piece high rigidity column design offers high straightness for Y axis and ensures no bending from column.



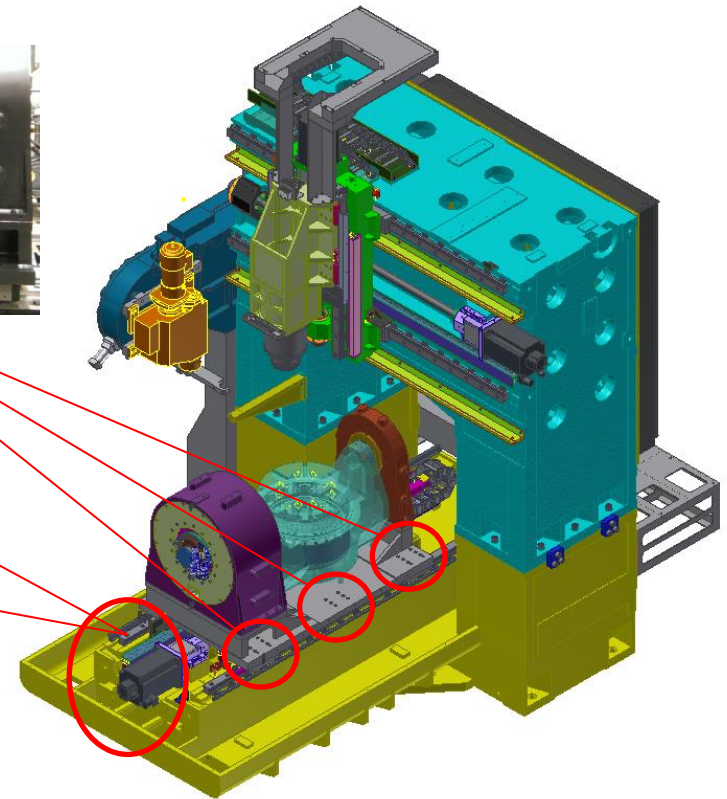
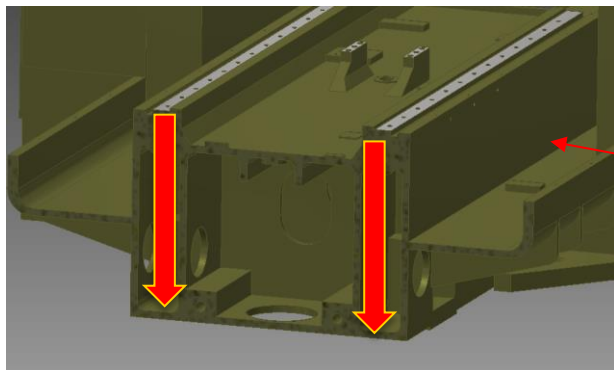
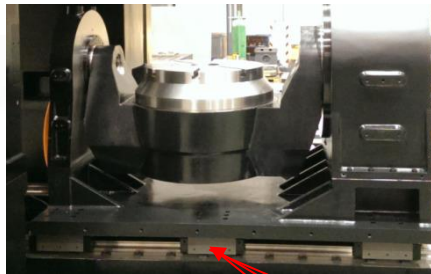
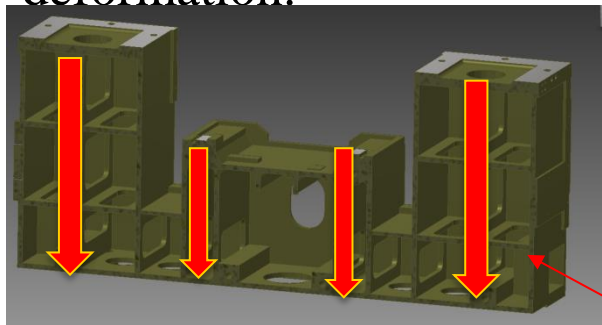
YCM NFP 500A-5AX High Rigidity

- 3 Point-leveling
- 10 Leveling Pads
- Full support for table reaches perfect dynamic balance



Base

- 6 Slide Blocks on X axis increase rigidity and offer best dynamic leveling on 5-axis trunnion
- Best Rib base design realizes high rigidity , the force on the 5-axis trunnion and column will be transmitted to the ground, reducing the force deformation.



**Hand-scraping to assure the
linear way accuracy**



Main features of NFP 500A-5AX

- ☑ High Speed
- ☑ High Power
- ☑ High Rigidity
- ➔ ☑ Large machining Envelope
- ☑ High Torque on
5-axis Trunnion table

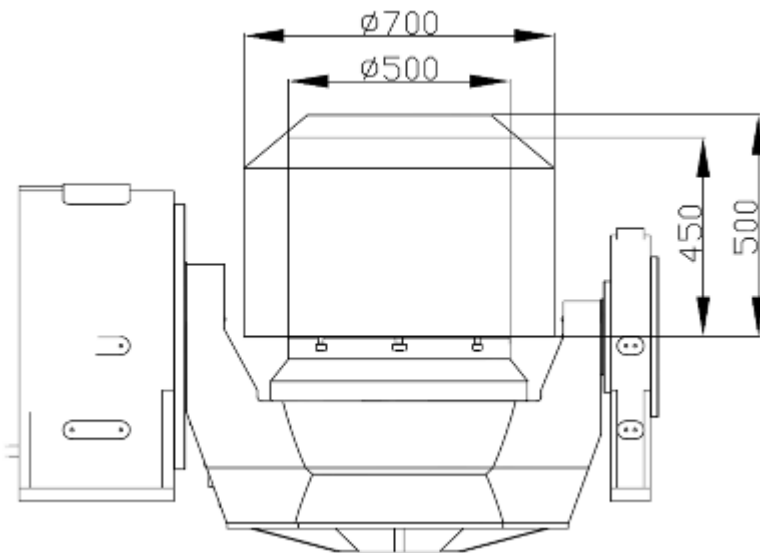


NFP 500A-5AX

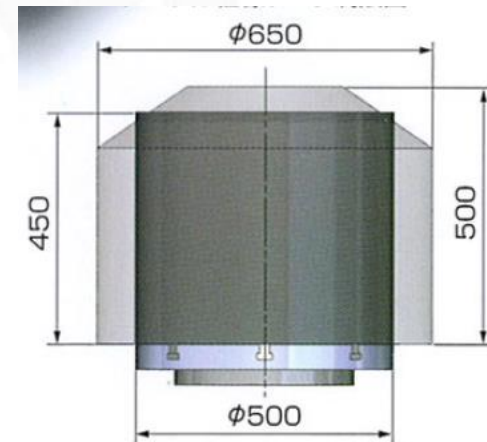
Large machining Envelope

- **Large Working Envelope** : $\varnothing 700$ mm x 500
- **High Payload** : 350 kg

NFP 500A-5AX



Others

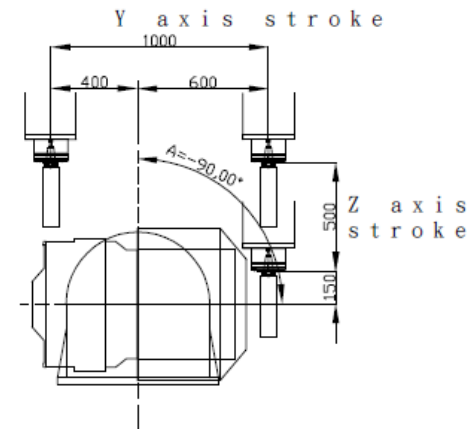
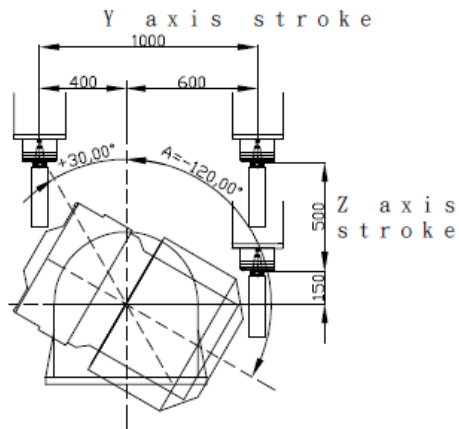
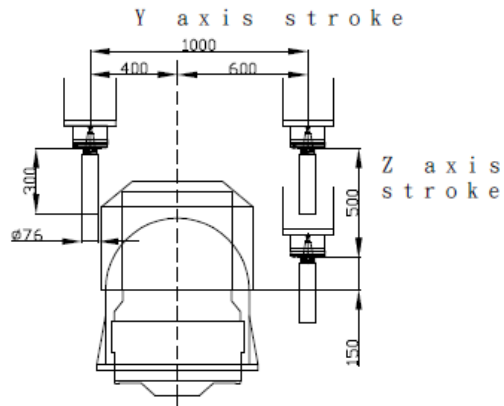
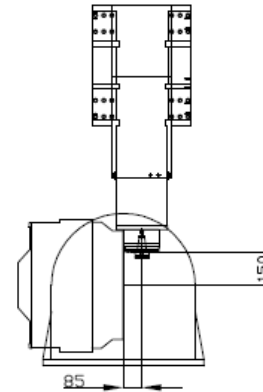
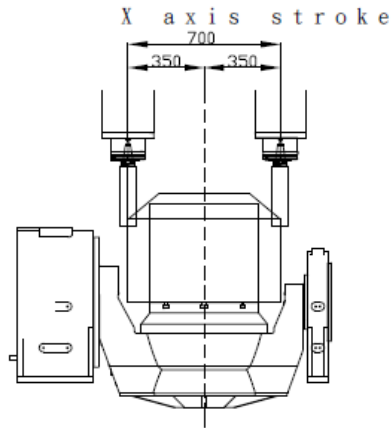


Working Envelop

X: 700 mm

Y: 1,000 mm

Z: 500 mm



Main features of NFP 500A-5AX

- ☑ High Speed
- ☑ High Power
- ☑ High Rigidity
- ☑ Large machining Envelope
- ☑ High Torque on
5-axis Trunnion table



C axis

Max. Torque: 2330Nm

C axis

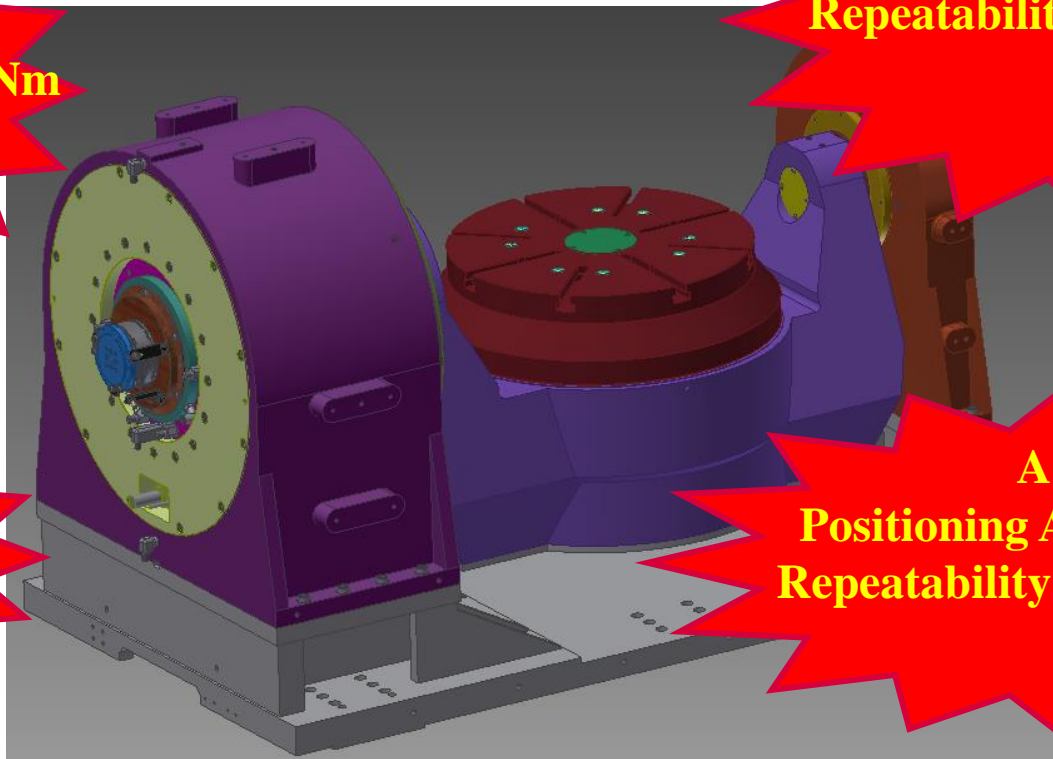
**Positioning Accuracy : 6 sec
Repeatability Accuracy : 4 sec**

A axis

**Max
Torque: 4990Nm**

A axis

**Positioning Accuracy : 6 sec
Repeatability Accuracy : 4 sec**

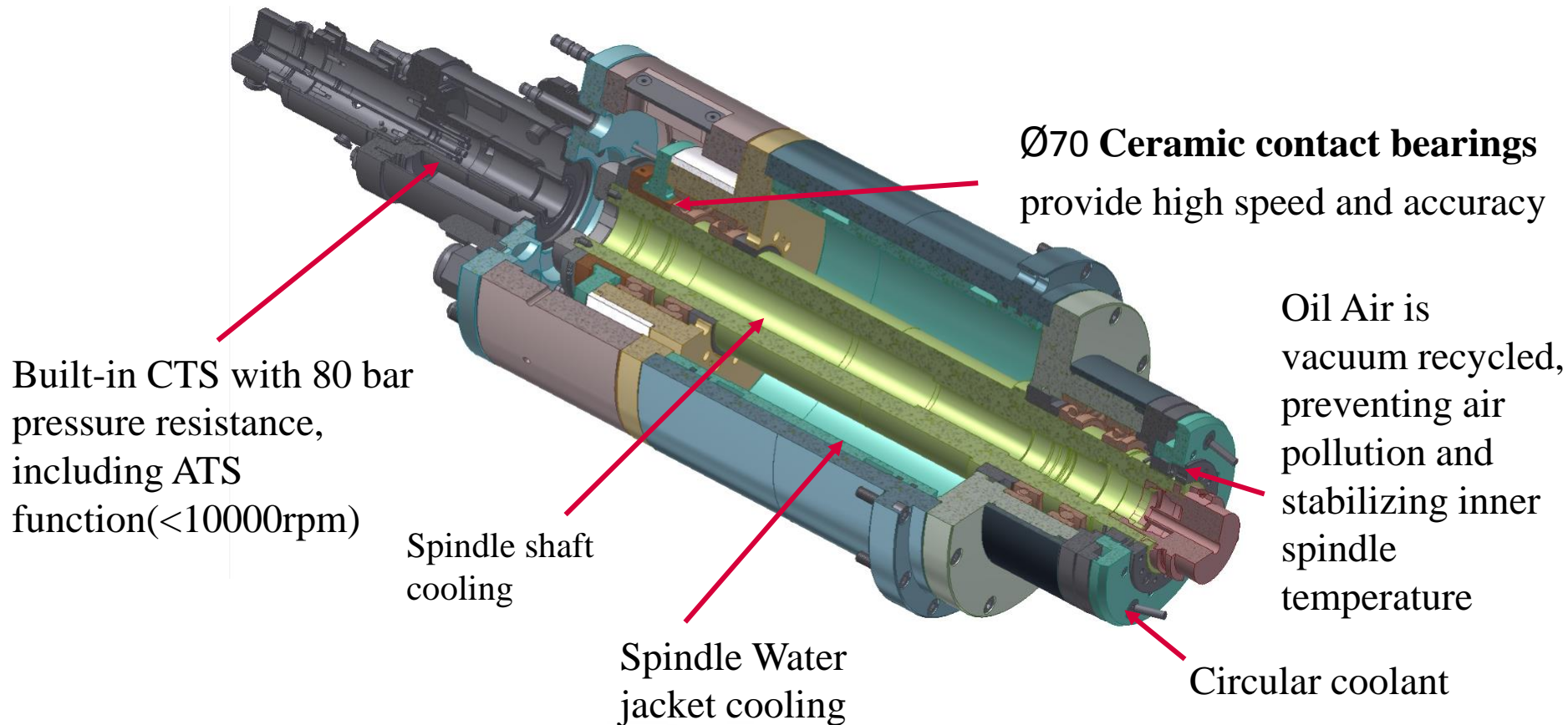


YCM | **NFP 500A-5AX Main Components**

- ☒ **Spindle Unit**
- ☒ **YCM-Made 5-axis trunnion**
- ☒ **Oil cooled ball screw nuts**
- ☒ **XYZ roller guideways**

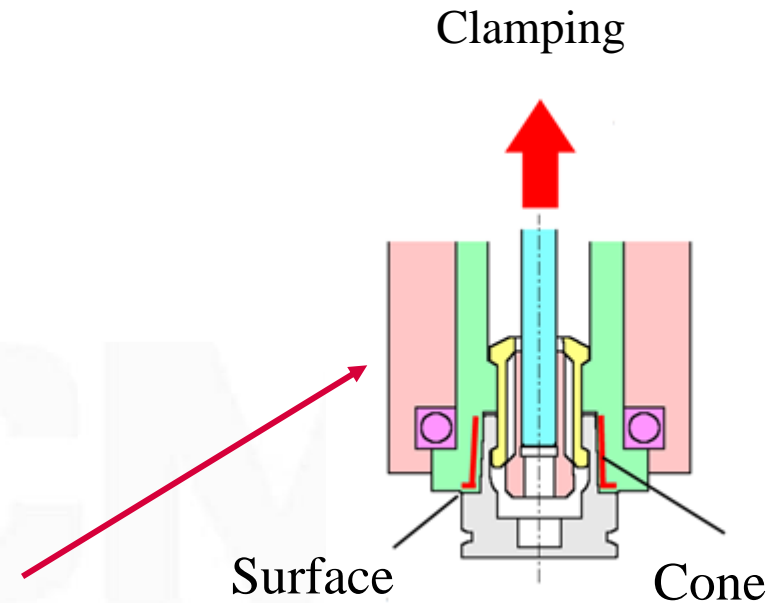
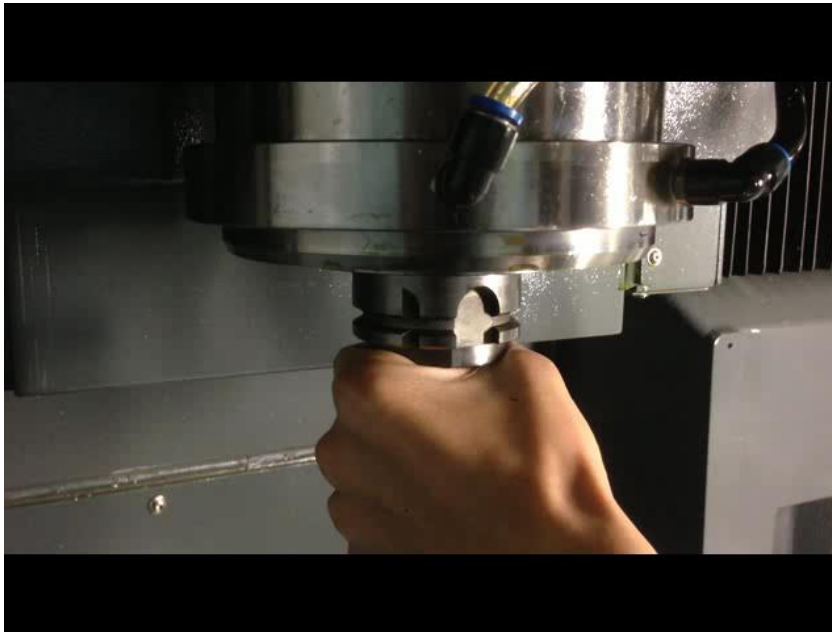
Spindle Unit

➤ Built-in / 22.5kW / 24,000 rpm



Spindle Unit

- High speed HSK A63 Dual Contact



YCM-Made 5-axis trunnion

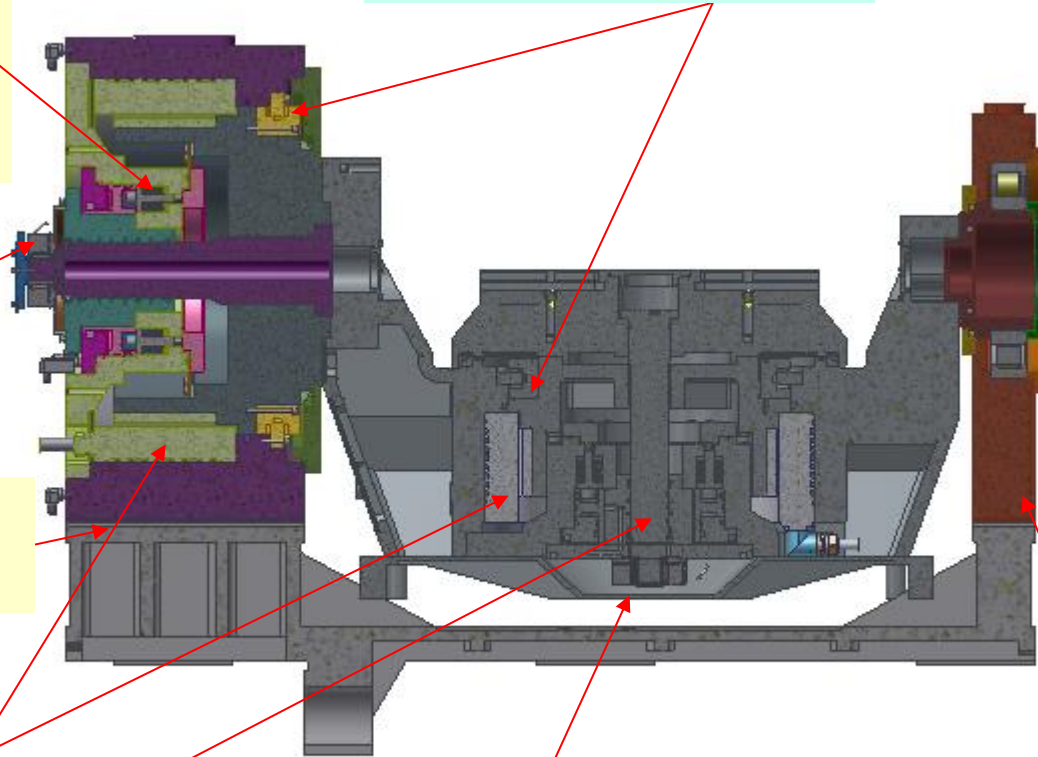
2. Disc brake used to prevent falling down in case of power outage

3. Heidenhain optical scale RCN5000 on A-axis

4. Big torque motor on A axis driven

5. DD motor on A/C axis with oil temperature control system

1. Three roller bearing



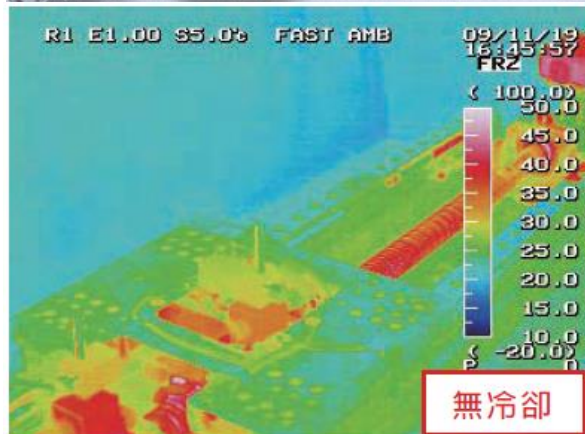
3. Heidenhain optical scale RCN5000 on C-axis

8. Roller bearings support tailstock

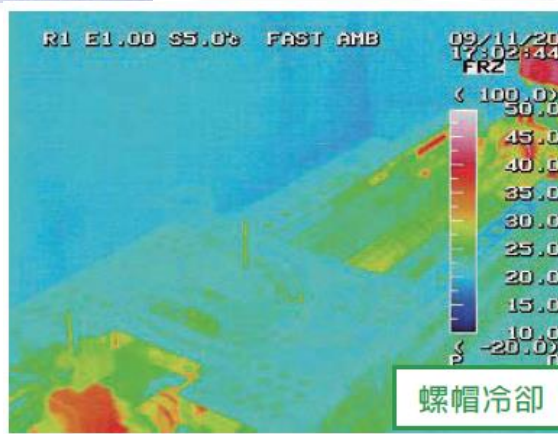
NSK XYZ Screws



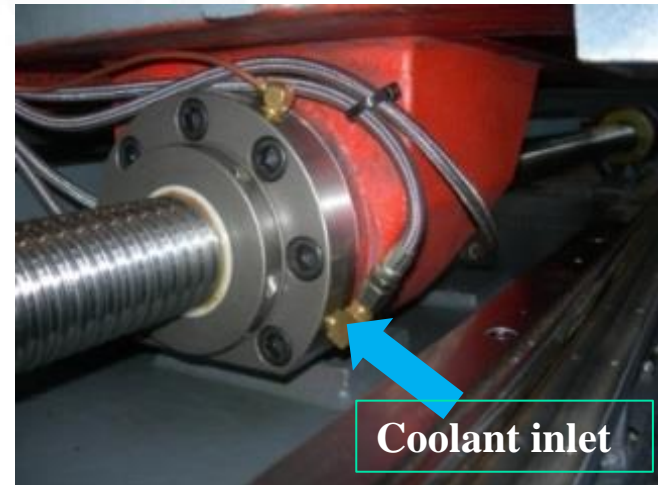
Nut cooling for temperature control and better accuracy



Nut temperature w/o cooling

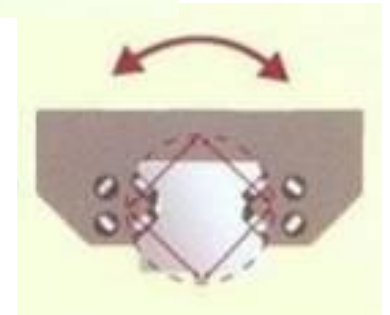
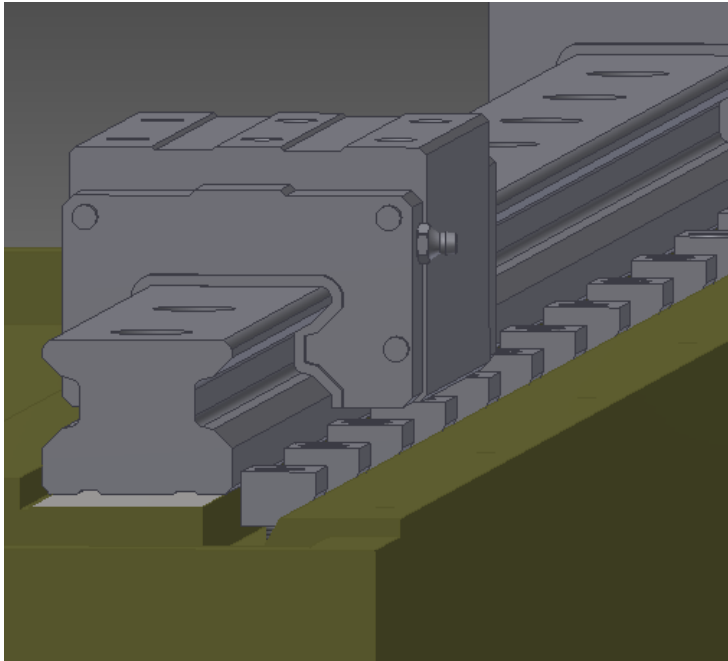


Nut temperature w/ cooling



Extra large roller guideway provides high cutting rigidity

- XYZ is 55mm in width



**Thanks
For
Your
Attention!**