

Multi Function Machines



Okuma Multus U4000

- Max turning diameter Ø450mm
- Turning length 1500mm
- Tool places 80 pcs, HSK63
- Extra accurate C axis

Gildemeister CTX Gamma 2000 TC

- Max turning diameter Ø700mm
- Turning length 2000mm
- Tool places 120 pcs, HSK63

Gildemeister CTX Gamma 2000 TC

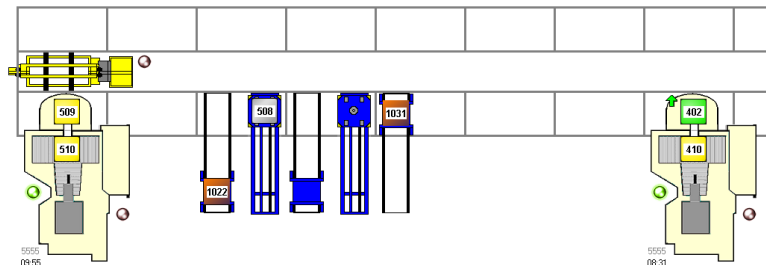
- Max turning diameter Ø700mm
- Turning length 2000mm
- Tool places 120 pcs, HSK63



Gildemeister GMX 400 Linear

- Max turning diameter Ø400mm
- Turning length 1500mm
- Tool places 60 pcs, HSK63

FMS (Flexible manufacturing system)



FMS

- Pallet size 400x400 and 500x500mm
- Number of pallets 25 pcs
- Loading stations 2 pcs
- Pallet max weight 750 kg



Kitamura MX 500 FMS

- Horizontal center
- Pallet size 500x500mm
- Tool places 196 pcs
- Renishaw measuring probe



Kitamura HX 400 FMS

- Horizontal center
- Pallet size 400x400mm
- Tool places 50 pcs
- Renishaw measuring probe

Machining centers

Makino A77

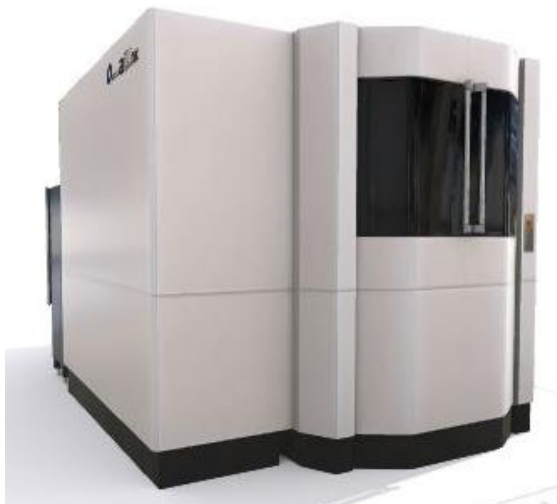
X=610mm

Y=500mm

Z=500mm

-4 -axis machining center

-Marposs measuring probe



Kitamura H400

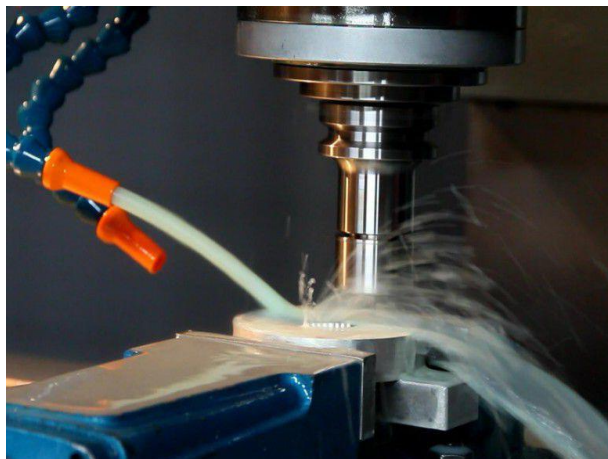
X=610mm

Y=500mm

Z=500mm

-4 -axis machining center

-Renishaw measuring probe



Supermax YCM-V116A

X=1100mm

Y=600mm

Z=630mm

-Table size 1200x600mm

-Tool places 30 pcs

Supermax YCM-116B

X=1100mm

Y=600mm

Z=550mm

-Table size 1200x600mm

-Tool places 40 pcs



Dah Lih MCV-720

X=720mm

Y=500mm

Z=500mm

-Table size 950x560mm

-Tool places 24 pcs

Dah Lih MCV-1020

X=1020mm

Y=550mm

Z=560mm

-Table size 1300x660mm

-Tool places 24 pcs

CNC-Turning



PUMA 500

-Max turning diameter Ø700mm
-Turning length 1500mm
X-axis 370mm
Z-axis 1575mm

Daewoo PUMA 350L

-Max turning diameter Ø550mm
-Turning length 1050mm
X-axis 362mm
Z-axis 1105mm

Doosan PUMA 300L

-Max turning diameter Ø400mm
-Turning length 630mm
X-axis 250mm
Z-axis 680mm

Doosan PUMA 2100

-Max turning diameter Ø400mm
-Turning length 520mm
X-axis 259mm
Z-axis 590mm

PUMA 240 GL

-Max turning diameter Ø390mm
-Turning length 260mm
X-axis 195mm
Z-axis 260mm

PUMA 230 M

-Max turning diameter Ø290mm
-Turning length 492mm
X-axis 205mm
Z-axis 580mm

PUMA 400L

-Max turning diameter Ø550mm
-Turning length 2093mm
X-axis 362mm
Z-axis 2155mm

Doosan PUMA 300

-Max turning diameter Ø355mm
-Turning length 1233mm
X-axis 282mm
Z-axis 1330mm



PUMA 12 L-C

-Max turning diameter Ø480mm
-Turning length 1021mm
X-axis 185mm
Z-axis 1049mm

Gildemeister CTX 420 Linear 3pcs

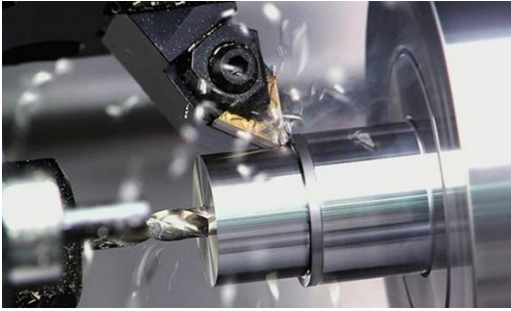
-Max turning diameter Ø560mm
-Turning length 600mm
X-axis 185mm
Z-axis 635mm

Okuma LB 300

-Max turning diameter Ø370mm
-Turning length 980mm
X-axis 260mm
Z-axis 520mm

Okuma LB 25

-Max turning diameter Ø360mm
-Turning length 650mm
X-axis 185mm
Z-axis 670mm



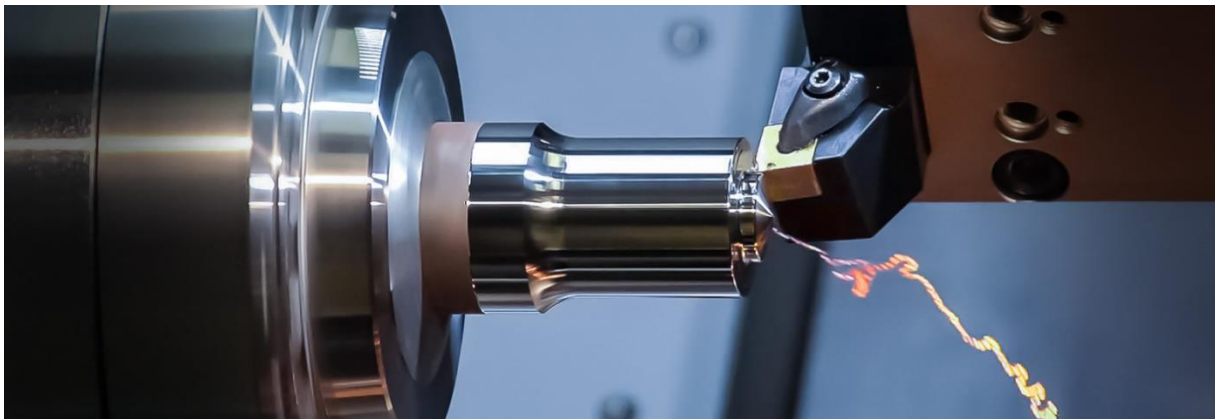
Okuma LB 15

-Max turning diameter Ø250mm

-Turning length 500mm

X-axis 130mm

Z-axis 520mm



Automated Saws



Kasto Twin A4

-Max saw diameter Ø400mm

Kasto ssb A2

-Max saw diameter Ø250mm

Mega BS 300

-Max saw diameter Ø300mm

Mega BS 250

-Max saw diameter Ø250mm

Honing Machines



Sunnen SV-2410

- Vertical honing machine
- Max length of workpiece 600mm
- Max hole diameter Ø200mm
- Precision spindle with high torque delivers superior bore quality with consistent crosshatch pattern

Cylinder king CK-21 (2pcs)

- Vertical honing machine
- Max length of workpiece 300mm
- Max hole diameter Ø200mm

Nagel Vertical honing machines (2pcs)

Sunnen MBB-1800-G Horizontal honing machine

- Max hole diameter Ø75mm

CNC-Grinding machines

Okuma GP-36II

- Max grinding diameter Ø240mm
- Max grinding length 450mm
- Marposs automatic diameter measuring
- Automatic balancing
- Mitutoyo laser measuring station

Studer S33

- Max grinding diameter Ø230mm
- Max grinding length 600mm
- Sensitron touch sensor
- Z-axis measurement sensor



Proflex II

- Max grinding diameter Ø240mm
- Max grinding length 500mm
- Marposs automatic diameter measuring
- B-axis (grinding + lapping)

Manual grinding machines

Fortuna

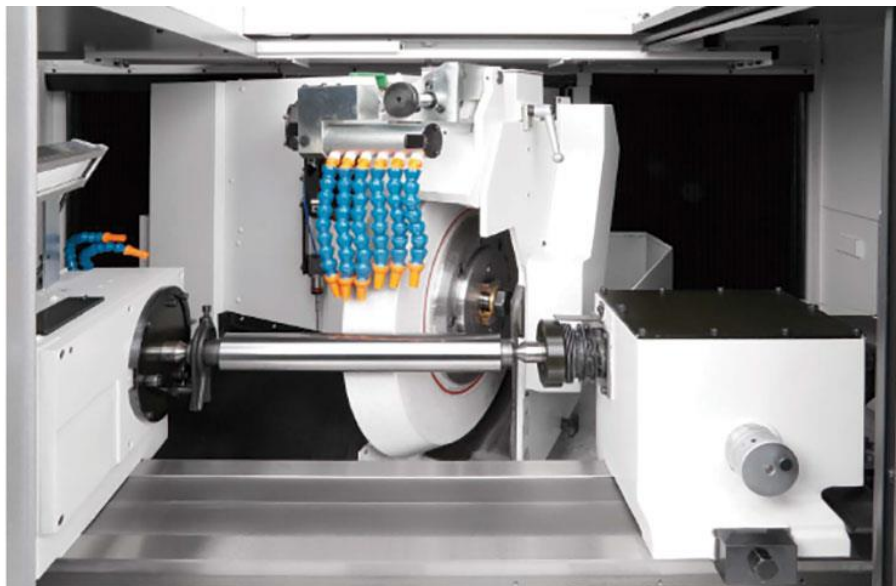
- Max grinding diameter Ø500mm
- Max grinding length 2000mm

Karstens

- Max grinding diameter Ø150mm
- Max grinding length 400mm

Schautt

- Max grinding diameter Ø220mm
- Max grinding length 500mm



Face grinder Kehren L15B

- Table size 450x1500mm

Lapping machines

Proflex II

- Max lapping diameter Ø240mm
- Max lapping length 500mm

Stähli

- Max lapping diameter Ø270mm
- Max lapping length 425mm

Manual lapping machines 3kpl

- Max lapping diameter Ø300mm
- Max lapping length 500mm



Robots



Robots fanuc

- Fanuc R-2000iA 165F 11 pcs
- Fanuc R-2000iC 210F 2 pcs
- Fanuc S-430 1 pcs
- Fanuc LR Mate 200iD 2 pcs



Quality Control

Mitutoyo Crysta Apex S 9108

Y=1000mm

X=900mm

Z=600mm

-Max workpiece weight 1200kg



Mitutoyo Crysta Apex S 544

Y=700mm

X=500mm

Z=400mm

-Max workpiece weight 180kg



Mahr Formtester MMQ40

-Max measuring diameter $\varnothing$ 250mm

-Max workpiece weight 90kg



Rondcom 73A

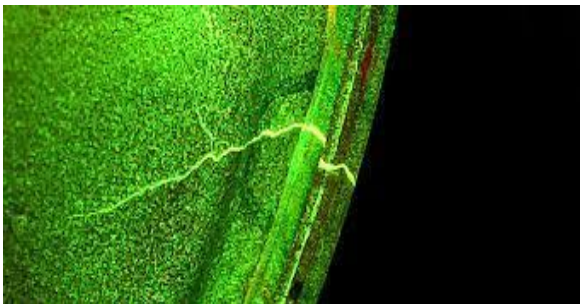
-Max measuring diameter $\varnothing$ 450mm

-Max workpiece weight 200kg



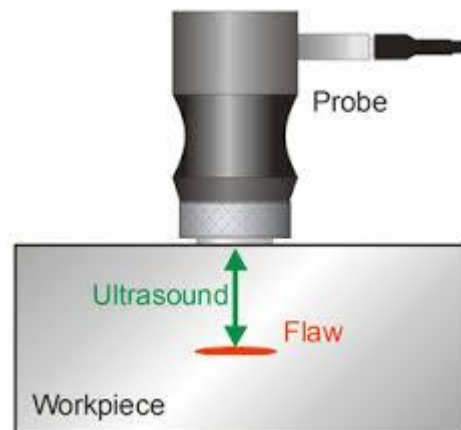
Magnetic particle inspection

- Diameter Ø10-280mm
- Max workpiece length 600mm



Ultrasonic inspection

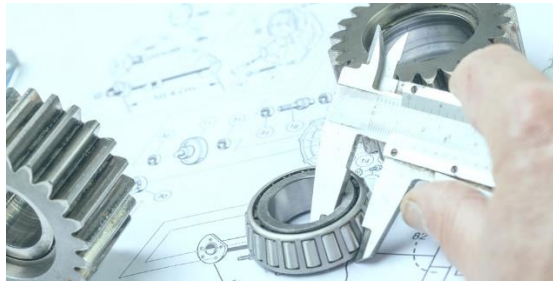
- Diameter Ø50-250mm
- Max workpiece length 550mm



Assembly

Manual assembly

- We offer our customers a wide variety of different assembly solutions



Automated robotic assembly cell

- Automated cell with two Fanuc R-2000iA 165F robots
- Flexible and versatile assembly
- Precise torque and excellent repeatability with full traceability



Other machinery

- Polishing machines
- Washing machines
- Manual lathes and milling cutters
- Also 15 pcs of other machinery