

Machine List

Windschiegl Maschinenbau GmbH

What began as a one-man business developed into a dynamic medium-sized company, which is now backed by a great and motivated team. The employees are up to the requirements of their customers with passion and constantly growing know-how. The products of Windschiegl Maschinenbau GmbH are characterized by accuracy of fit and stability as well as sustainable durability. As a qualified and reliable supplier of high-quality goods, we stand by our customers and in the middle of the age of Industry 4.0.

Dear Ladies and Gentlemen,

Our mechanical engineering company is a medium-sized company that currently employs 70 people. We attach great importance to the highest precision and productivity. The machining of turning, milling, gearing, eroding and grinding is carried out using state-of-the-art machining centres.

Our quality policy is based on our entrepreneurial diligence to provide products and services of high quality (ISO 9001:2015 certification) with optimal customer satisfaction.

Below you will find our machine list, which provides you with detailed information about our entire range of services. If you have any questions, Mr. Höck will of course be happy to assist you.
Best regards,

WINDSCHIEGL
Maschinenbau GmbH

(This document is an automatic translation of the German version into the English version, realized with Microsoft.)

CNC-Milling (1)

IBERIMEX ZAYER GMCU 20.000AR

Travelling distance:	X-axis 20000 mm Y-axis 7500 mm Z-axis 1250 mm W-axis 2100 mm
Max. workpiece size:	20000 x 4800 x 2900 mm
Control:	Heidenhain iTNC-530
Tool magazine:	80 tools SK 50
Table size:	21000 mm x 3500 mm
Additional equipment:	Automatic swivelling milling head 0/45° pitch 0.001° CAD/CAM connection

SORAMILL FS 8000

Travelling distance:	X-axis 8000 mm Y-axis 3300 mm Z-axis 1500 mm
Control:	Heidenhain iTNC-530
Tool magazine:	80 tools SK 50
Additional equipment:	Automatic swivelling milling head 0/45° pitch 2.5° Rotary table (4th axis) 1500 mm x 1500 mm

SORAMILL SL 8000

Travelling distance:	X-axis 6500 mm Y-axis 1600 mm Z-axis 900 mm
Control:	Heidenhain iTNC-530
Tool magazine:	30 SK 50 tools
Additional equipment:	Automatic swivelling milling head 0/45° pitch 2.5°



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- CNC-Gear Cutting
- CNC-Eroding
- Measurement technology
- Conventional processing
- Welding
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- Assembly
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CNC-Milling

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CNC-Eroding

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CNC-Milling (2)

SORAMILL SP 18000

Travelling distance:

X-axis 16500 mm

Y-axis 2000 mm

Z-axis 1200 mm

Control:

Heidenhain TNC-640

Tool magazine:

60 tools SK 50

Additional equipment: Automatic swivelling milling head 0/45° pitch 0.001°

MAZAK AJV 60/120

Travelling distance:

X-axis 3200 mm

Y-axis 1400 mm

Z-axis 500 mm

Tool magazine:

60 tools SK 50

MAZAK FH 6800

Travelling distance:

X-axis 1050 mm

Y-axis 800 mm

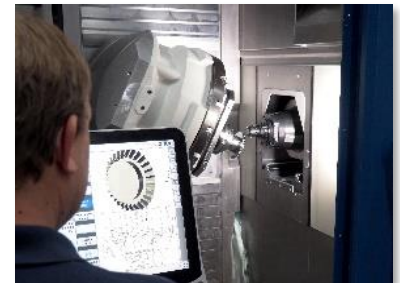
Z-axis 880 mm

Tool magazine:

80 tools SK 50

Additional equipment: 2-fold pallet changer pallet 630 mm x 630 mm

Rotary table pitch 1°



← Milling 1

Milling 3 →

CNC-Milling

CNC-Turning

CNC-Grinding

CNC-Gear Cutting

CNC-Eroding

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CNC-Milling (3)

MAZAK VTC 820/20

Travelling distance:

X-axis 2000 mm

Y-axis 820 mm

Z-axis 720 mm

Tool magazine:

48 tools SK 40

Additional equipment:

CAD/CAM connection

MAZAK VTC 300 C

Travel:

X-axis 1740 mm

Y-axis 760 mm

Z-axis 660 mm

Tool magazine:

30 SK 40 tools

Additional equipment:

CAD/CAM connection

POSmill H 500 U

Travel:

X-axis 650 mm

Y-axis 850 mm

Z-axis 500 mm

Tool magazine:

80 tools HSK 63

Additional equipment:
processing possible

zero-point clamping system CAD/CAM connection, 3D simultaneous

GROB G352

Travelling distance:

X-axis 600 mm

Y-axis 855 mm

Z-axis 750 mm

Tool magazine:

120 tools HSK 63

Additional equipment:

CAD/CAM connection, 3D simultaneous processing possible



← Milling 2

Milling 4 →

CNC-Milling (4)

MAZAK FH 880

Travelling distance:

X-axis 1300 mm

Y-axis 1100 mm

Z-axis 1000 mm

Tool magazine:

80 tools SK 50

Additional equipment:

2-fold pallet changer pallet 800 mm x 800 mm

Rotary table controlled (4th axis)



← Milling 3

Milling 5 →

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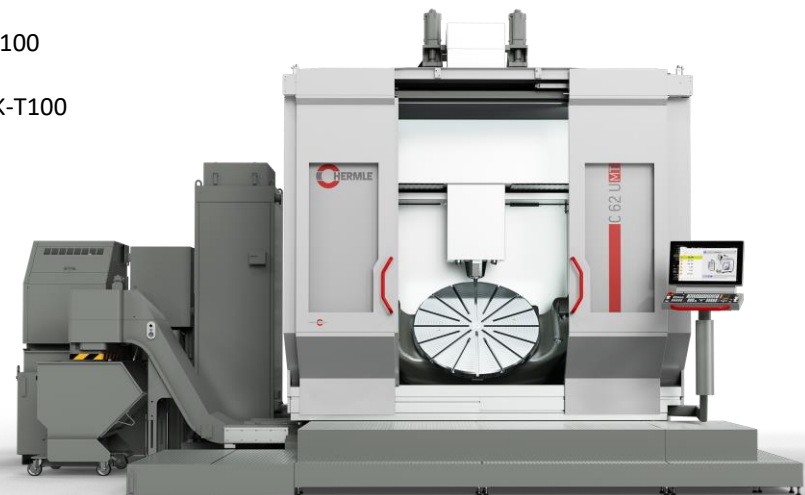
Assembly

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CNC-Milling (5)

Hermle C62 U-MT Machining center

Working range travel X-Y-Z 1200 - 1300 - 900 mm
Linear measuring system resolution 0.01 μm
Positioning Uncertainty A
For the X-Y-Z axes according to ISO 230-2 A ≤ 0.006 mm
Rotary Functionality C62U MT
Siemens 840 D sl Operate
incl. Load Adaptive Correction (LAC)
incl. pitch compensation (NOCO)
incl. friction compensation /
Quadrant Error Compensation (QFK)
Lift-Off (ESR)
Tool spindle 14000 1/min HSK-T100
50 tool positions HSK-T100
Additional Magazine ZM128 HSK-T100
Swivel rotary table PW
Table load rotate 1500 kg
Table load Milling 2500 kg



← Milling 4

(Photo: HERMLE AG – www.hermle.de)

Turning 1 →

CNC-Turning (1)

MAZAK QUICK TURN 250 MY

Travelling distance: X-axis \varnothing 458 mm
Y-axis \pm 50 mm
Z-axis 1500 mm
C-axis 360°

Tool magazine: 12 tool positions
Auxiliary equipment: Powered tools

MAZAK QUICK TURN NEXUS 200 MSY

Travelling distance: X-axis \varnothing 450 mm
Y-axis \pm 70 mm
Z-axis 500 mm
C-axis 360°

Tool magazine: 12 tool positions
Additional equipment: W-axis
Powered tools: Bar loading magazine 1200 mm to \varnothing 65 mm

MORI SEIKI SL 25

Travelling distance: X-axis 250 mm
Z-axis 600 mm

Tool magazine: 10 tool positions
Additional equipment: Hydraulic bar feeder 3000 mm

MAZAK SUPER QUICK TURN 18 M

Travelling distance: X-axis 250 mm
Z-axis 600 mm

Tool magazine: 12 tool positions
Powered tools



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← Milling 5

Turning 2 →

CNC-Turning (2)

MICROCUT CHALLENGER BNC 1860

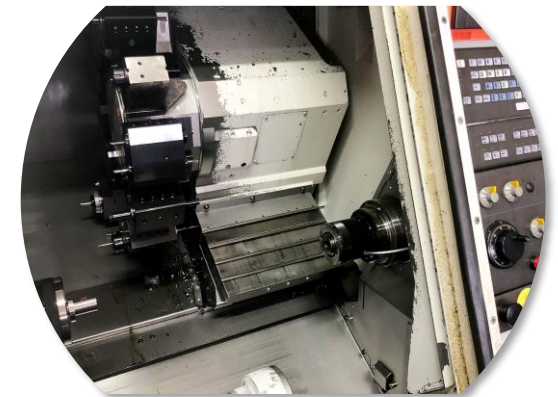
Travelling distance: X-axis 500 mm
Z-axis 1600 mm
Tool magazine: 8 tool positions

MAZAK NEXUS 350 II M

Travelling distance: X-axis 260 mm
Z-axis 1240 mm
C-axis 360°
Tool magazine: 12 tool positions
Auxiliary equipment: Powered tools

MAZAK INTEGRIX 300 IV ST

Travelling distance: X-axis 630 mm
Y-axis 230 mm
Z-axis 1585 mm
B-axis 225°
C-axis 360°
Tool magazine: 80 tool positions
Auxiliary equipment: Powered tools



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CNC-Turning (3)

CNC Dreh- und Fräszentrum MAZAK Integrex 200-IVST + Flex GL100F

max. turning diameter 660 mm
 Max. turning length 1,495 mm
 Travelling distance X1/X2/Y/Z1/Z2/W 580/150/160/1545/1490/1550 mm
 Main spindle 22 kW
 Max. spindle speed 5,000 rpm
 Sub-spindle 18.5 kW max. spindle speed 5,000 rpm
 Tool changer with 40 stations
 KM-63 Tool System 9-Fold Lower Turret
 Milling spindle 18.5 kW max spindle speed Milling spindle 12,000 rpm
 15 bar, cooling by the spindle
 Gantry Loader GL100F + Pallet Table Type 2 + D3 Hand EIA/ISO
 5-axis simultaneous machining
 Tool Tip Point Control / Simultaneous 5-axis
 Tool Radius Compensation / 5-Axis
 EIA Dynamic Compensation
 Synchronized Tapping - Milling Spindle
 Synchronized Tapping - Main Spindle
 Full C-axis on the sub-spindle
 2 pcs 3-jaw chuck matrix control



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CNC-Turning (4)

CNC-Zyklendrehmaschine JESSEY JAGUAR 2060

Specifications:

Main Engine Data

- Center height 255 mm
- Circumferential \varnothing over bed 510 mm
- Circulating \varnothing over cross slide 340 mm
- Circulating \varnothing in the recess 760 mm
- Length of the recess 230 mm
- Bed width 345 mm
- Workpiece weight with tailstock 1500 kg
- Workpiece weight between tips 600 kg

Headstock

- Spindle speeds 26-2400 rpm
 - Speed levels 3 levels
 - 1st speed level 26-266 rpm
 - 2nd speed level 267-766 rpm
 - 3rd speed level 767-2400 rpm
 - Spindle bore 80 mm
 - Spindle holder C 8 DIN 55029
 - AC spindle motor 9 kW
 - Max. spindle torque 1124 Nm
- Sleigh

- X-axis transverse travel 289 mm
- Travel Z-axis 1569 mm
- Max. feed X-axis 3.2 Nm
- Max. feed Z-axis 11.6 Nm
- Rapid traverse X-axis 6 m/min
- Rapid traverse Z-axis 6 m/min

Tailstock

- Quill \varnothing 75 mm
- Quill stroke 200 mm
- Quill holder 5 MK

Ball screw

- X-axis 25xP5 mm
- Z-axis 40xP10 mm

Accuracy

- Positioning accuracy +/- 0.01 (X/Z) mm
- Repeatability +/- 0.005 (X) 0.01 (Z) mm



← Turning 3

Grind →

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CNC-Grinding

CNC camshaft grinding machine KOPP SN 1600

with 3 grinding units, grinding wheel diameter: 500 mm, 800 mm, 30 mm

Rotation axis for vertical swivel movement

(A-axis) thus 5-axis grinding of camshafts possible.

Max. workpiece diameter: 500 mm

Max. workpiece length: 1400 mm

Concave radius at cam: 17 mm

CNC universal cylindrical grinding machine STUDER S 33

Grinding wheel diameter: 500 mm

Max. workpiece diameter: 340 mm

Max. workpiece length: 650 mm

CNC universal cylindrical grinding machine STUDER ECO 1000

Grinding wheel diameter: 500 mm

Max. workpiece diameter: 340 mm

Max. workpiece length: 1000 mm

CNC universal cylindrical grinding machine STUDER S 40

Grinding wheel diameter: 500 mm

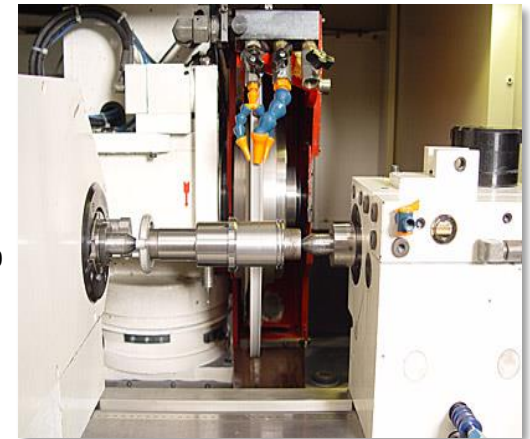
Max. workpiece diameter: 350 mm

Max. workpiece length: 1000 mm

Center Grinding Machine HENNINGER ZS 201

Workpiece diameter: 5 - 100 mm

Max. workpiece length: 1200 mm



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CNC-Gear Cutting (1)

CNC gear shaping machine LIEBHERR LS 500 E

Max. workpiece diameter: 500 mm

Max. stroke length: 120 mm

Max. gear size: Module 8

CNC hobbing machine MODUL ZFWZ 05

Max. outer diameter: 500 mm

Max. length: 360 mm

Max. tooth size: Module 10

CNC hobbing machine GLEASON P90EL

Max. outer diameter: 120 mm

Max. length: 1200 mm

Max. tooth size: Module 4

CNC gear grinding machine SAMPUTENSILI S 375 GX

Max. outer diameter: 375 mm

Max. Length: 800 mm

Max. tooth size: Module 10



← Grinding

Gear Cutting 2 →

CNC-Gear Cutting (2)

CNC Gear Center Burri BZ300, Hobbiing, Profile and Worm Grinding

Workpiece @ (max.): 300 mm with automation (400 mm with manual loading)

Module range: 0.5 - 7 mm*

Bevel Angle: +/- 45" (+135') Grinding Stroke (Max): 400 mm

Clamping length (max.): 650 mm from table to tailstock holder*

Workpiece speed (max.): 3,000 1/min

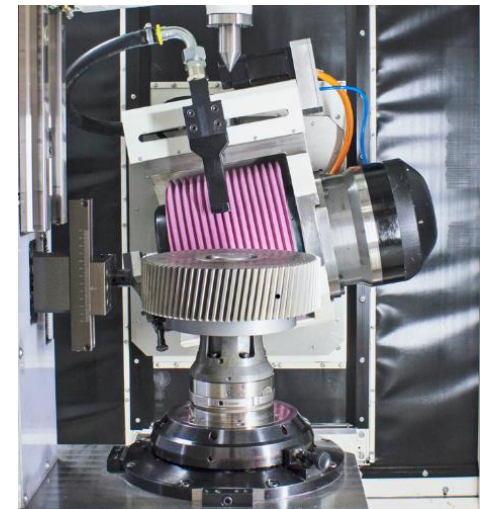
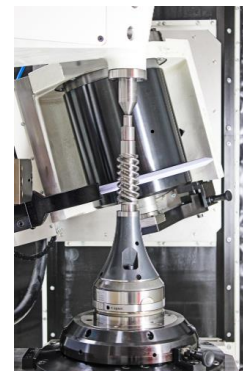
Workpiece weight (max.): 80 kg (40 kg with loader incl. clamping device)

Cutting speed (max.): 80 m/s

Grinding wheel dimensions: 300 x 200 x 160 mm (D x W x D) Diamond wheel dimensions: 120 - 140 x40 x52mm (D x W x D)

*Minus tensioning device and tailstock tip

Photo: www.burri.de



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CNC-Gear Cutting (3)

Gleason Pfauter Gear Shaping Machine GP300ES

Workpiece Nominal Diameter:

External gears: 400 mm

Internal gears: 400 mm

Largest circumferential diameter: 570 mm

Cutting wheel diameter max. 160 mm

Machine nominal module: approx. 6 mm

Max. push spindle stroke rate: 1,000 1/min

Largest toothing width: 100 mm

Largest Helix Angle +/- 45°

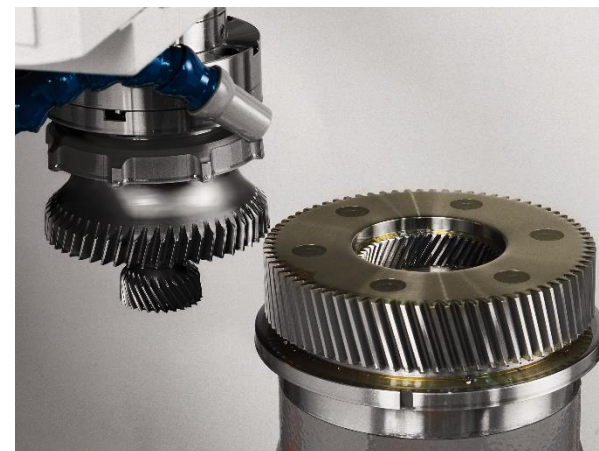
Smallest/largest center distance between tool and workpiece axis: -50/+300 mm

Axial slide adjustment range: 350 mm

Stand Tilt Range: -1 / +11°

Column side offset range: +/- 25 mm

Tool holder: HSK-B80



← Gear Cutting 2

Eroding →

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CNC-Eroding

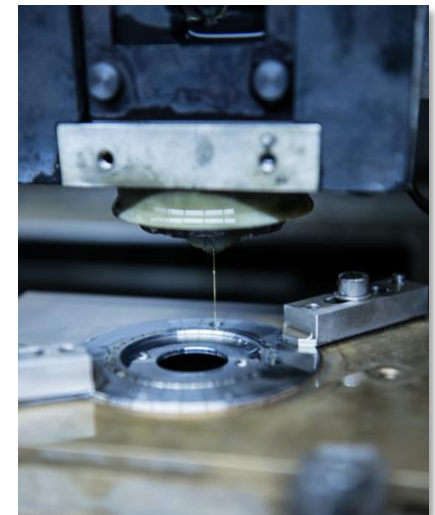
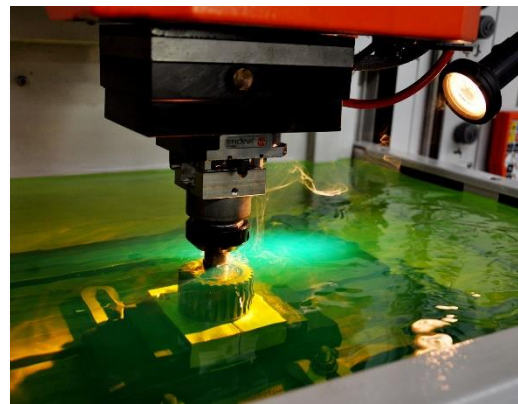
CNC wire EDM machine AGIE CUT 30

Travelling distance: X-axis 600 mm
Y-axis 400 mm
Z-axis 350 mm

CHARMILLES ROBOFORM 350 die-sinking EDM machine

Travelling distance: X-axis 600 mm
Y-axis 300 mm
Z-axis 300 mm
C-axis 360°

Tool magazine: 4 tool positions



← Gear Cutting 3

Measurement technology 1 →

Measurement technology (1)

3-D Coordinate Measuring Machine MITUTOYO CRYSTA-APEX V9106

Measuring range: X 900 mm
Y 1000 mm
Z 600 mm

3-D Coordinate Measuring Machine MITUTOYO CRYSTA-APEX S9166

Measuring range: X 905 mm
Y 1605 mm
Z 605 mm

3-D coordinate measuring machine and shape tester Mahr GMX 600

Center width: 1000 mm
Measuring range: Z 700 mm
max. \varnothing 600 mm

3-D coordinate measuring machine and shape tester Mahr GMX 600

Center width: 1000 mm
Measuring range: Z 700 mm
max. \varnothing 600 mm

Shaft measuring device Helio PAN II 1600

Measuring range: Max. length: 1600 mm
max. \varnothing 120 mm

GEPARD 5-M4 laser measuring system

Options: straightness, parallelism and Perpendicularity measurement
Evaluation software: WIN-Gepard



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Eroding

Measurement technology 2

Measurement technology (2)

Surface roughness tester MITUTOYO SJ 400

Measuring distance longitudinal scanning: 16 mm

Roughness standards: DIN EN ISO, VDA, ANSI, JIS, MOTIF

Maximum measuring range: 360 µm

Inclinometer WYLER BlueLEVEL

Measuring range: X 905 mm

Y 1605 mm

Z 605 mm

Height gauge STUDENROTH TRIMOS V7

Measuring range: 2122 mm

Contour graph CONTRACER CV-2100N4

Measuring range: 100 mm

Stroke: 50 mm

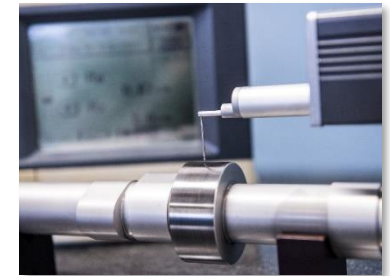
Gear Measuring Machine Kapp Niles KNM 4X

Max. workpiece diameter: 450 mm

Max. workpiece length inside/outside: 400/650 mm

Rotary table diameter: 300 mm

Max. workpiece weight: 500 kg.



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Conventional processing

Automatic band saw FORTE

Cutting width: 260 mm

Automatic band saw KALTENBACH

Cutting width: 550 mm

Mitre band saw KALTENBACH

Cutting width: 450 mm

Miter: 30°

Automatic band saw BOMAR Workline 410.280

- Incisional speed. 20-120 m/min. infinitely variable
- Working height approx. 760 mm
- Saw blade dimensions 3800x27x0.9 mm

Hydraulic press PFAFF

Press force: 160 t

Hydraulic press TIGERMETAL

Pressing force: 200 t

Surface Grinding Machine ABA FFU750/50

Working length: 750 mm

Working width: 400 mm

Picture: example photo, kaltenbach.com



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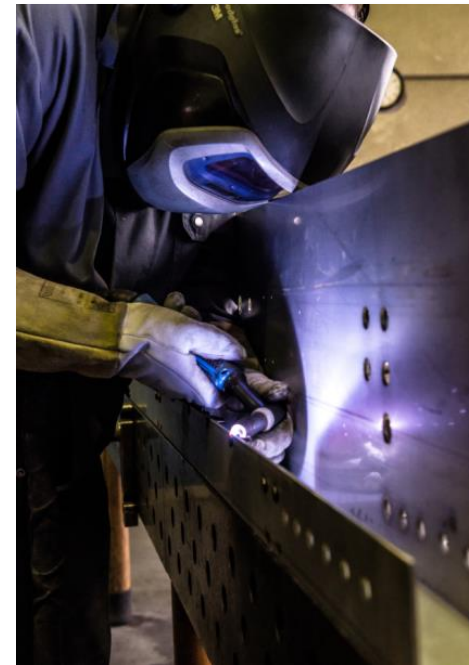
Welding

MIG, MAG, TIG welding processes (steel, stainless steel and aluminium)

Welded constructions up to a weight of 140 tons, annealed and sandblasted

PunktWelding (up to sheet thickness 3 mm)

Mechanical processing up to 20000 x 4800 x 2900 mm possible



Conventional procesing

Sheet metal working

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Sheet metal working

Guillotine shears

Max. length: 3000 mm

Max. sheet thickness: 6 mm



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← Welding

Washing and cleaning →

Washing and cleaning

Parts washer AQUEDUS

Loading basket Ø: 680 mm
Loading weight: 250 kg



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Laser marking system IMES ICORE

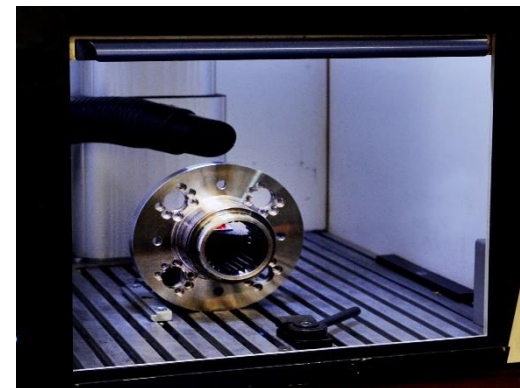
Lettering field size: \varnothing 150 mm

Mobile Engraver FLYMARKER MINI

Lettering panel size: 120 mm x 45 mm

Marking system GRAVIERTEUFEL

Lettering panel size: 80 mm x 50 mm



← Washing and cleaning

Lacquering →

Lacquering

Paint booth WALTHER

Cabin interior dimensions: 6000 mm x 4000 mm x 3500 mm



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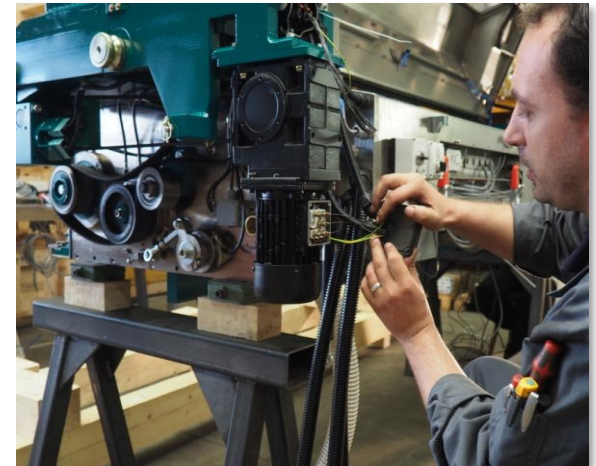
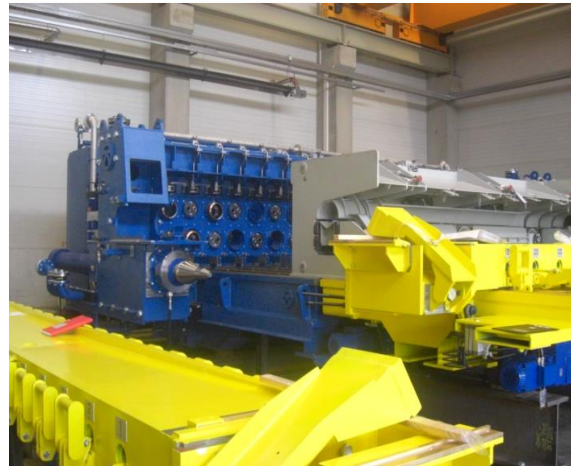
Lacquering

Assembly

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Assembly

Assembly hall approx. 500 m² with indoor crane 140 t
Complete assembly of machines, systems or assemblies
including electrical, pneumatic and hydraulic systems



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