

## DESIGN AND CONSTRUCTION

**Software** SolidWorks, 3DQuickPress, Catia, Siemens NX, Visi 21 with Forming simulation and board detection, ANSYS for FEM and CFD, data exchange (DWG, DXF, STEP, IGES, Pro E, Odette, PRT)

## FORMING TECHNOLOGY

**Punching and bending** 1 x Punching machine ebu STA 400/2500 PSR, 400 t Servo - Eccentric press with roller feed and straightening machine, strip width max. 500 mm and material thickness max. 6 mm, table top max. 2.500 x 1.500  
 1 x Punching machine ebu, 320 t, table top max. 1.600 x 1.300  
 2 x Eccentric presses ebu, 200 t, table top max. 1.200 x 800  
 4 x Eccentric presses ebu, 160 t, table top max. 1.200 x 670  
 3 x Eccentric presses ebu, 125 t, table top max. 1.200 x 650  
 2 x Eccentric presses ebu, 50 t, table top max. 650 x 510  
 1 x Punching machine ebu, 40 t, table top max. 700 x 450

**Test press** Hydraulic presses from 30 t bis 250 t

**Laser cutting** TRUMPF 2D TruLaser 1030 with 2 KW power, workspace 1500 x 3000

**Welding** Resistance welding machines  
 WIG/MAG welding

## TOOLMAKING, FIXTURE AND PROTOTYPE CONSTRUCTION

**Milling** 5-ohs-Simultan DMU 50 with automation  
 5-ohs-Simultan DMU 50  
 5-ohs-Simultan DMU 50 eco Mill 3+2 on,  
 5-ohs-DMU 50 NEW DMG 3+2 on  
 Cover MAHO DMC 100V hi-dyn  
 3D-machining center Depo MCFV 1060 with 24-times tool changer and measuring switch, workspace 1.000 x 600 x 600

**Turning** Mori Seiki CLX 350, max. workpiece Ø 700, max. turning length 1.290  
 Cycle-controlled lath Weiler E80, Weiler E35

**Flat grinding** Ziersch ZT 510 with Z-Control Controller  
 Ziersch ZT48  
 Jung JF 415

**Round grinding** Studer S20  
 Studer S40

**Tipless round grinding** 2 x Monza 500  
 2 x Monza 400  
 2 x Monza 300  
 Ø1,5 to Ø150 up to 1000 length

**Wire eroding** Fanuc alpha - 1 iD with wire threading, workspace 600 x 400 x 310  
 Fanuc alpha 0 iA with wire threading, workspace 320 x 220 x 180  
 Fanuc alpha - C600 iA with wire threading, workspace 600 x 400 x 310  
 Mitsubishi MV 4800R with rotary axis, workspace 800 x 600 x 310

**Laser** Lightworx, 50W fibre laser with workstation, marking fields 175 x 175 mm, with rotary axis

**3D print** Bambu Lab X1E Combo 3D printer

**Start hole drilling machine** River 3, workspace 300 x 200 x 200

**MACHINING TECHNOLOGY**

<b>Turn-mill center</b>	Mori Seiki NT4200 DCG, max. workpiece Ø 600, max. turning length to 1000
<b>Horizontal milling</b>	Mori Seiki NHX 5000, max. workpiece Ø 1000, max. workpiece height 1000 Mori Seiki MH 630/50, max. workpiece Ø 1000, max. workpiece height 1000 Mori Seiki NH 5000/40 DCG, max. workpiece Ø 800, max. workpiece height 1000 Mori Seiki NH 5000/40, max. workpiece Ø 730, max. workpiece height 900 Mori Seiki NH 5000/40 POOL, 5 pool-places, tool magazine with 150 places
<b>Vertical milling</b>	Mori Seiki NV 4000/40 DCG, table size 700 x 450, max. table weight 350 kg Mori Seiki SV 50/50, table size 1320 x 600, max. table weight 1200 kg
<b>Multi-axes-turning with bar loader</b>	Mori Seiki ZT 1500YB, max. workpiece Ø 190, max. turning length 680 Traub TNC 65EGY, max. workpiece Ø 184, max. turning length 450 2x INDEX C200 with FANUC-controler, max. workpiece Ø 140, max. turning length 700 INDEX C100 with FANUC-controler, max. workpiece Ø 140, max. turning length 500 2x INDEX ABC with FANUC-controler, max. workpiece Ø 140, max. turning length 80 Maier ML 32-E long lath, max. Ø 32 2x Maier ML 32-C, max. Ø 32 Maier MLK32 Hybrid long and short lathes, max. Ø 32 Manurhin KMX16 long lath, max. Ø16
<b>Turning</b>	Mori Seiki ZT 1500Y, max. workpiece Ø 190, max. turning length 450 Mori Seiki CL 200 AM Mori Seiki CL 20 B, Mori Seiki DL 151 MC
<b>Washing</b>	Washing machine Dürr Ecoclean Universal 81 W

**QUALITY MANAGEMENT**

<b>Measuring technique</b>	3D-measuring machine Mitutoyo CRYSTA-Apex S574, workspace 505 x 705 x 405 Profile projector Mitutoyo, workspace 150 x 50 x 70 3D-coordinate measuring machine Mitutoyo Euro C 776 incl. Software MCosmos Contour measuring machine Mitutoyo Contracer CV 3000 incl. Software Formpak Surface measuring instrument Mitutoyo Surftest SJ 401
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**MANAGEMENT SYSTEMS**

<b>Certification</b>	IATF 16949:2016, DIN EN ISO 9001:2015 und ISO 14001:2004
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