

MACHINE OVERVIEW

<u>Sawing</u>	Largest cutting area equals a length of 650 mm at a height of 220 mm. Longitudinal cut-cold circular saw TRENNJÄGER PMC 8, semi-automatic cold circular saw TRENNJÄGER VC 260, hacksaw RUCOCO.
<u>General milling</u>	Up to 970 x 220 x 370 mm (L x W x H) max., table size 1250 x 355 mm. General milling machines BRIDGEPORT, MIKRON WF 2, LID FP 2, FP 3, FP 4, WANDERER 1 G/E partially with digital display.
<u>Turning/milling</u>	Turning-milling center MAZAK Quick Turn Nexus 200MSY, control unit Mazatrol
<u>CNC-milling</u>	Vertical-CNC-production center CHIRON FZ 16/L with control unit SINUMERIK 6MB. Work area 1600 x 400 x 425mm (x, y, z). clamping area 1890x 400 mm, spindle 5.7 kW, SK 30. Automatic tool changer, 32 areas. MAHO MH 600 E, 20 tools. Machining center HECKERT CWK400D, 240 tools, Round pallet storage with 8 pallets. Machining center DMCSOH with 2 pallets and 40 tools. Three HURCO-machining centers BMC 30 with control unit Ultimax 4.0, 760 x 460 x 610 mm, 24 tools, rotary table SPIRSIN F/300
<u>Turning</u>	Up to 1500 mm turning length, max. diameter 770 mm in the offset, 305 mm over transverse feed. Production turning machines TRAUB A 25, LEINEN, HUNGER, GOPPINGEN, COLCHESTER.
<u>CNC-Turning</u>	Up to 1000 mm turning length, diameter 360 mm over the belt and 150mm over the transverse feed. Turning machine SCHAUBLIN 180CCN with cycle control Fanuc 18i-T and controlled revolver, 8 tools. EMCO-COMPACT 6P CNC, turning diameter 90 mm, 1 revolver with 4 tools. EMCOturn342, control unit Siemens 810T, turning diameter 155mm, rod diameter 42mm, 1 revolver with 12 tools (6 powered), bar feed SAMECA. CNC-automatic production turning machine GIIDEMEISTER GDM 30/4 A turning diameter 80 mm, rod diameter 42 mm, 2 revolver with 12 tools, 6 tools of which are powered, 3 tools for reverse side machining.
<u>Drilling and threading</u>	Diameter up to 30 mm and M20 in steel. Drilling and tapping machines FLOTT, SE, CORDIA, WORNER, IXION, WEBO, SOLID. A total of 23 spindles, partially arranged in sequence, as well as 1 hydraulic 6-spindle automatic revolver drilling machine STAMA with program control and coordinate table BREGNARD (working range = DIN A 4).
<u>CNC-drilling and threading</u>	Vertical drilling center STAMA/FANUC MC 010, 10 tools SK 30, Processing range X=500 mm, Y =380 mm, Z =300, clamping table 650 x 380 mm.
<u>Eroding</u>	Wire erosion machine MAKINO EC 3040, working range X =300 mm, Y =400 mm, Z = 280 mm. Wire erosion machine AGIE Evolution BC3, working range X=500mm, Y = 350mm, Z =250mm. EDM machine Deckel DE 25, working range 500x345x310mm

<u>Stamping and pressing</u>	Up to 40 mp pressure and 70 mm stroke. Eccentric press MÜLLER, hydraulic shop press ENERPAC.	
<u>Internal cylindrical grinding</u>	Up to a max. depth of 100 mm, smallest diameter 5mm. Internal grinding machines or equipment SAACKE, WMW, TEMPO.	
<u>CNC-grinding</u>	STUDER S36CNC circular grinding machine with inner and formed contour grinding equipment of a grinding length up to 1000 mm max., max. grinding diameter of 300 mm.	
<u>Flat grinding</u>	MININI CNC flat grinding machine, 1300mm x 400mm grinding bed Grinding machines JUNG HF50 up to 300 x 650 mm magnetic clamping area	
<u>Tool grinding</u>	Grinding machines DECKEL, BRIERLEY.	
<u>Honing</u>	Up to 30 mm inner diameter with standard mandrels and up to 60 mm with special mandrels, Horizontal honing machines SUNNEN MBB 1600 and SUNNEN MBC 1804.	
<u>Checking and measuring</u>	Brinell and Rockwell hardness testing device BRIRO UV. Tool adjusting microscope and projector KELCH V 320 EA3 with data transfer to the production center. Shop measuring microscope MITUTOYO TM-1 01, scale division 0.005 mm. Length measuring device TRIMOS-Chavannes, type TVD 1300 A, on a hard rock plate NOVOLITH 1000 x 1000 mm, max. error over a total distance of 10 µm Length measuring devices TESA, MAUSER. Surface measuring device MITUTOYO SURFTEST 301 with protocol printer. MITUTOYO 3D-CNC coordinate measuring machine 710 Hardness testing machine Mitutoyo ARK	
<u>Welding</u>	WIG welding with compact system DALEX TGKL 55. Spotwelds with spotwelder DALEX SL 16 ZG. Autogenous welding and hard soldering areas, electro-welding areas for direct and three phase current.	
<u>Sand blasting</u>	Up to a part size of approx. 500 x 400 x 300 mm, unit weight up to approx 20 kg. One bead and abrasive blasting booth with manual work piece and blasting guide, made by SABLUX.	
<u>Black finishing</u>	(Black boiling) according to size 1000 x 400 mm, effective depth 400 mm. 5-bath oxidizing and black finishing system with lubrication.	
<u>Shaping</u>	Up to max. 650 mm shaping length, approx. 800 mm shaping width. Quick shaping machine KLOPP.	
<u>Hardening</u>	Up to 1200° C and 400 x 250 x 145 mm inner chamber dimension, electric hardening ovens.	
<u>Auxiliary machines and equipment</u>	Engraving machine DECKEL Sanding and sawing machine THIEL Edge cutting machine CHRISTEN Groove milling machine HURTH	Various contour milling devices Manual metal bending and trimming device Paint spraying and flash-off booth Compressed air network up to a max. of 10 bar