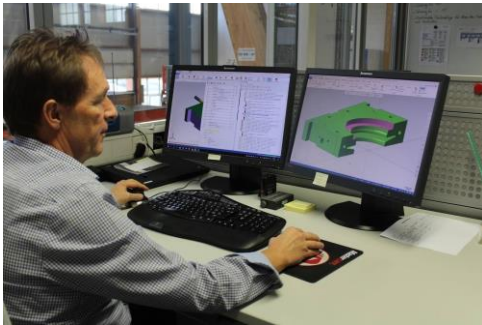


Aartech GmbH – Swiss Manufacturing Experts

Service & Equipment overview



Engineering

- Manufacturing consulting
- Mechanical / sheet metal Design
- Development of electromechanical systems
- Jigs & Tools Design
- Prototyping (Incl. SLM / 3D Printing)



Machining

- Casting and forging parts, rings and plates
- 5-Axis milling parts
- CNC turning parts
- Flat- and round grinding
- 2D/3D Dim check (CMM / Laser Scan)



Sheet metal manufacturing

- Laser cutting
- CNC punching
- Automatic die punching
- Laser- punching
- Robot welding



Systems & Assemblies

- Mechanical assembly up to 8 meters
- Electrical Device assembly
- Hydraulics & Pneumatics
- Functional tests

Engineering, Assembly, Quality Assurance and logistics

Engineering / work preparation / programming and data exchange

System	Software	File Exchange formats
CAD	Solidworks, SPI Sheet Metal Editor	Step, dxf (iges, ipt, idw, iam, sat, prt, asm)
CAM	Mastercam X4	Step, dxf, stl usw
NC Punching – and Laser programming	Tru Tops Boost (Laser, Punch, Bend)	
ERP System	Pro Alpha	
Advanced Planning System (APS)	Pro Alpha	
EDI	Customer Platforms (SAP Ariba, ASCC, Pool4Tool)	Electronic data exchange

Quality assurance and logistics

Process	Machine	Dimensions	Additional Information
3-D measuring machine	Zeiss Prismo MP5	900x1800x650 mm	air conditioned, 500 kg crane
2-D Plus measuring machine	Virtek Laser QC	1500x1500 mm	air conditioned, 500 kg crane
Height measuring instruments	Tesa Microhite (several)	up to 850 mm	
Hall cranes	several	up to 2 tons	
Automated sheet metal storage system	Stopa	Plates up to 1'500x3'000 mm	300 boxes
Heavy load shifting shelf system	Schäfer PR 600	300 pallet spaces	Warehouse Management System
Packaging / commissioning	several	unlimited	on site packager available

Assembly

Process	Anlage	Dimensions	Additional Information
Large systems assemblies	Flexible assembly zone	100 m ²	
Medical systems assemblies (dust free)	dust free assembly room	60 m ²	e.g. for electromechanical and medical systems

Machining, Jigs & tooling's manufacturing

Machining

Process	Machine	Dimensions	Additional Equipment
5- Axis milling (HSC simultaneous)	Reiden RX10	1000x1100x810 mm	5-fold pallet exchange system
4-Axis milling	DMU 100 monoBLOCK®	1250x710x710 mm	NC-controlled swivel milling head NC dividing attachment: Height 220 mm
CNC turning	Okuma LB45	bis Ø 890 und Length 2000 mm	With driven tools and Y-axis
CNC turning	Gildemeister NEF 400	bis Ø 385 und Length 800 mm	With driven tools
Conventional turning	Reiden R20 2		

Grinding

Process	Machine	Dimensions	Additional Equipment
EDM drilling machine	Charmilles Drill 11	300x200x300 mm	
Round grinding machine	Kellenberger URF 320	Ø630 and length 450 mm	
Round grinding machine	Studer RHU400125C	Ø240 and length 400 mm	
Flat grinding machine	Elb Perfekt BD12	1200x600x400 mm	
Flat grinding machine	Blohm Simplex 5	600x300x250 mm	

Assembly and Service

Process	Machine	Dimensions	Additional Equipment
2-Axis milling / drilling Fehlman	PICOMAX P 100 CNC 3	1000x420x500 mm	
Band hacksaw	Petrazzi SN 360	up to Ø 360 mm	
Band saw	Mössner Rekord	785x500 mm	
Surface finishing	Micro-Glass pearls		
Engraving	Graphograph IS 400	305x210 mm	
Pressure / Tightness Tests	Hydraulic test device	up to 60 bar	Medium: water

Sheet metal manufacturing

Flat metal processing / Laser cutting and punching

Process	Machine	Dimensions	Materials
CNC Flatbed laser with Liftmaster	Trumpf TC L-3030 Laser Power: TLF 5000 Turbo	1500x3000 mm	Steel 25 mm / CrNi 20 mm / Alu 12 mm
CNC punching / Laser	Trumpf TC 6000L Laser Power: 2700 W Press force: 22 t	1250x2500 mm	Steel bis 8 mm / CrNi 6 mm / Alu 4 mm
Punching automat	Weingarten Press force: 60 t		Steel bis 3 mm / CrNi bis 3 mm / Alu bis 3 mm Kupfer bis 3 mm
Hydraulic press	Laufer / Müller Press Force: 40t		Steel bis 6 mm / CrNi bis 4 mm / Alu bis 6 mm Kupfer bis 3 mm

Metal levelling

Process	Machine	Dimensions	Material thickness
Plan rolling	Schubert	Width max. 600 mm Length min. 50 mm	min. 0.5 mm / max. 8 mm
Plan rolling	Schubert	Width max. 150mm	max. 3 mm
Round rolling	Auerbach	Width max. 100 mm	max. 15 mm
Round rolling	Diverse	Width max. 1800 mm	

CNC bending / forming

Process	Machine	Dimensions	Material thickness
CNC bending with sensor	Trumabend 5230 Press force: 230 t	3200 mm	
CNC bending with sensor	Trumabend V230 Press force: 230 t	3000 mm	
NC bending	Promecam Press force: 50 t	2000 mm	
Forming	Laufer / Müller Press Force: 40t	several	

Welding technology

Process	Machine	Dimensions	Additional Equipment
Robot welding MIG/MAG & CMT	ABB FlexArc 250R	Length : 1200 mm Width: 1000 mm	Steel, Cr-Ni, Alu
Linear welding	Kemppi Pro Evolution	Length: 1000 mm Width: several	Steel, Cr-Ni, Alu
Hand spot welding	Nimak L193T Press force max. 6 bar	Reach: 500 mm	Steel up to 4 mm / Cr Ni bis 3 mm
Spot welding machine	PMP 11 / 80 - 200 kVA	3000x1050 mm	Steel up to 6 mm / CrNi bis 3 mm / Alu 3 mm
Additional manual Processes:	TIG, MIG / MAG,		Construction steel / CrNi alloys, Aluminium

Heat and surface treatment technologies

Heat treatment

Process	Machine	Max. Batch dimension	Additional Equipment
Gas nitriding / nitro carburizing Protective gas annealing	Rhode	Ø 1000x1500 mm	Nitriding sensor to ensure the nitriding quality
Aluminium tempering	Nabertherm	Ø 1200x700 mm	Quench tank with 11 m ³ volume and circulation
Quenching, hardening, Carbo-nitriding, tempering under protection atmosphere, Oxi - nitriding	Codere	Ø 700x1000 mm Length	Oil bath
Annealing, hardening and brazing under vacuum	High Vacuum ovens	up to 1200x800x600 mm	
Atmospheric glowing	Nabertherm	2500x2500x1300 mm	

Surface treatment technologies

Process	Machine	Dimensions	Remarks
Rotary brush machine with wide belt grinding unit	Grindingmaster Typ 1350-WRB	Width max. 1300 mm Thickness max. 40 mm	Type dry
Flat grinding machine Plannishing / finishing units (Bell and dryer)	Niederberger TT25 / TT90 Circlon CL505 / CV55	Width max. 150 mm	
Plannishing	Length vibration V150	Width max. 200 mm Length max. 1000 mm	
Galvanic / Painting / Laser engraving	Aartech Supply chain	Length max. 2'000 mm	
Glass / sand pearl surface finishing	IEPCO		

Material testing lab

Process	Machine	Dimensions	Additional Information
Roughness test	Hommel Tester		Ra und Rz measurements
Hardness tests	Brinell, Rockwell und Vickers, Equotip	up to 800 mm height	DIN EN 6506-1, DIN EN 6507-1, DIN EN 6508-1
Tensile tests	up to 150 kN	Probe holder Ø 4 - 30 mm	DIN EN 50125:2009 und DIN EN ISO 6892-1:2009-12
Electrical conductivity tests			All common Non ferric alloys
Spectral analysis	Spectrotest Metal Analysis	Mobile Version	All common metal alloys
Metallographic- tests	Keyence	Grinding probe	All common metal alloys
Crack inspection test	Fish & Partner	1000x700x600 mm	Fluorescent crack detecting

Material Experience

Korrosionsbeständige Stähle [Corrosion resistant steels]	Baustähle [structural steels]	Nickel-Basislegierungen [Nickel-based alloys]	Titan / Aluminium
1.4301	1.0038	2.4602	3.7164
1.4306	1.0570	2.4856	3.7165
1.4404	1.1133	2.4951	3.3547
1.4310	1.1191	2.4851	3.3535
1.4713	1.0330	2.4967	3.3315
1.4944	1.0332	2.4733	3.2315
1.4962	1.0980	1.4923	
1.5919	1.0398	1.7709	
1.5415	1.0347	1.7380	
1.4541	1.0226		

Sonderwerkstoffe (BBC) [special BBC alloys]	Metallguss [molding]	Kunststoffe [synthetic materials]
St 11T	EN-GJL (GG)	Polyoxymethylene (POM)
ST 12T / St 12 TS	EN-GJS (GGG)	Polyetheretherketon (PEEK)
St 18/8	Stahlguss [steel castings]	Polymethylmethacrylat (PMMA)
St 17/13W	Aluminiumguss [cast aluminium]	Thermoformed parts
St 525		Polyurethane moulded parts
St 575		
ST 530 TS		
St 330		
ST460 TS		
Vacoflux 50		

Certifications

Certification	Description	Additional information
ISO 9001:2015	Quality Management System	Ongoing
ISO 3834-2:2005	Quality requirements for fusion welding of metallic materials - Part 2: Comprehensive quality requirements	Ongoing

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