

SOLUTIONS

Design



PROJECTS

Engineering

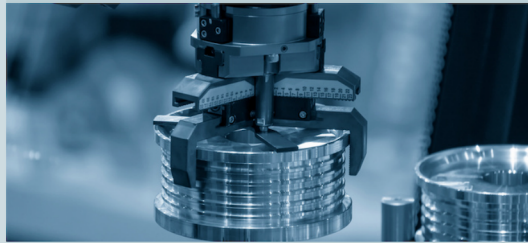


PARTS

Manufacturing and Quality Control

Do you need to develop and manufacture precision mechanical tooling to support your production? Do you want to optimize or customize a mechanical part, to improve your production efficiency or quality?

Our project engineers delve into your mechanical challenge with you and design a sustainable tailor-made solution, not only through inventive and feasible CAD design, but also through adjusted material or treatment choices, reverse engineering, cam calculation, standardization, etc.



Is your design finalized, and does the challenge now lie in the complexity of the specifications or the project requirements? At this stage, our engineers prepare the most efficient production method that will ultimately deliver the required quality.

As an integral partner for your mechanical projects, we carry out the critical and high-precision operations in-house, while relying on expert partners for heat and surface treatments. Technologies that we do not possess internally are outsourced, provided confidentiality requirements are met.

Where possible, we automate our internal manufacturing processes during this phase.

Our objective remains, of course, "making critical components according to specifications."

Stewal has over 50 years of experience, a team of skilled technicians, a range of technological software, versatile and high-end machinery, robots and pallet pools, as well as a climate-controlled measuring lab with multiple CMM's and scanners.



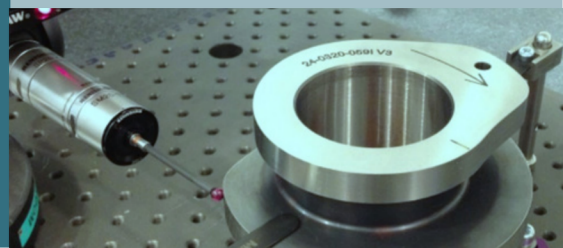
Even after design and engineering have been rationalized, we offer added value in the supply of your prototypes, recurring parts, and small to medium series. Depending on your requirements, we can also provide measurement reports, material certificates and/or conformity certificates.

Our ERP system and warehouse enable us to set up logistics formulas for your recurring parts according to your needs, such as JIT, make-to-stock, vendor-managed inventory, or customized contracts with semi-finished products.



Some specialties

- Molds and mold components
- Cams (including calculation)
- High-end precision parts
- 3D scanning and reverse engineering
- Miniature machining
- 3D and multi-axis machining
- Welding according to EN15085-2 standard
- Machining of exotic and hard materials



TECHNICAL INFORMATION SHEET STEWAL

SOFTWARE

ERP: CRM- and project and order management system	-Software for REVERSE ENGINEERING of 3D- scanned objects
CAD: 3D development and design: solids and surfaces Kinematic presentation of designed mechanism	- MiCAT -software for generation of CMM measuring programs on 3D- CAD - models with PMI-data
CAM: Machining of 2 1/2D and 3D surfaces Pluri-axial machining	-Software for the optimal dynamic calculation and manufacturing of CAMS

MACHINERY

TURNING	#	max. Ø through spindle	Max. Ø from sledge	Max. Ø from bed	distance between centers	EXTRA
Conventional turning	3	51 mm	300 mm	575 mm	1500 mm	
CNC turning	2	78 mm	260 mm	475 mm	1500 mm	
Turn-mill center 5-axis	1	51 mm	520 mm	540 mm	1005 mm	Sub-spindle
Turn-mill center 5-axis '24/7'	1	80 mm	680 mm	500 mm	629 mm	Bar feeder and robot

MILLING	#	Max. travels X - Y - Z	EXTRA
Conventional milling	2	500 x 400 x 400 mm	
3 axis vertical milling center '24/7'	1	762 x 508 x 508 mm	Pallet pool (4 large pallets) + robot (7 kg)
4 axis traveling column vertical machining center	1	2000 x 750 x 400 mm	2 work zones
5 axis universal milling machines	3	800 x 630 x 630 mm	Rotary tables
5 axis milling center '24/7', high precision	1	400 x 240 x 350 mm	Pallet pool (18 small pallets) – tools Ø0.3-Ø10mm

EDM	#	Longitudinal travel	Transversal travel	Vertical travel	Tank dimensions
Die sinking EDM	1	320 mm	250 mm	420 mm	820 x 450 x 300 mm
CNC Die sinking EDM	1	500 mm	350 mm	500 mm	1200 x 800 x 600 mm
CNC Wire cutting EDM	1	350 mm	250 mm	256 mm	800 x 700 x 600 mm
EDM-drilling	1	max. workpiece dimensions: 660 x 360 x 240 mm		Holes from Ø0.3 upto Ø3mm, depth upto 250 mm	

GRINDING	#	Longitudinal travel	Transversal travel
Plane grinding	1	800 mm	550 mm
Plane and Profile grinding	3	610 mm	200 mm
Cylindrical grinding	2	Max. interior Ø: 150mm	Max. exterior Ø: 360mm distance between centers: 1000mm

DRILLING	#	Longitudinal travel	Transversal travel	Max. range
Deep hole drilling	1	600 mm	400 mm	600 mm
Various conventional drilling and tapping machines				

WELDING	#	certified according to EN15085-2 -CL2 - P	EXTRA
TIG welding	1	I-max 220A	separate storage and welding areas for C-steel and stainless steel/non-ferrous metals
MIG welding	1	I-max 300A	
Laser welding	1	Pulsed YAG laser 800 x 300 x 600 mm, P=120W	

MISCELLANEOUS	#	
Sawing	3	Max. Ø 400 mm
Heat treatment	1	Oven (internal dimensions 210 x 350 x 500 mm)
Hydraulic press	1	30T, stroke 600 mm
Injection moulding	1	Closing pressure 200T, max. mold dimensions 508 x 770 mm, max. injection volume 372g
Mechanical surface finishing	var	Rotary vibrator , sand blasting, polishing equipment...

METROLOGY (CLIMATISED MEASURING ROOM)

CMM accuracy 1.7µm	1	500 x 700 x 400 mm, max. load 180 kg, swiveling head	Digital height gauge	1
CMM accuracy 1.7µm	1	900 x 1000 x 600 mm, max 1200kg, streaming probes , swiveling head	Roughness Tester (Ra/Rz)	1
Optical CMM (camera)	2	250 x 200 x 150 mm, precision 3 µm, max. 10 kg	Hardness tester (HRC)	1
3D scanner (handheld)	1	range <400 mm, resolution 0.1mm, accuracy 0.03mm	Profile projector	1