

WILHELM HERM. MÜLLER

Development. Service. Partnership.



**PLASTICS
TECHNOLOGY**

whm.net

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YOUR ONE-STOP SHOP PACKED FULL OF EXPERTISE

Wilhelm Herm. Müller GmbH & Co. KG has been a byword for technical skill, precision and reliability in drive, rubber and plastics technology for over a century. These are values you can rely on and that produce proven quality day in, day out.

WHM has combined these areas of expertise into a high-performing portfolio in which experience, vertical integration and consulting expertise complement one another perfectly. Its Plastics Technology division focuses on manufacturing components and assemblies in line with your specifications. We use state-of-the-art CNC milling technology, specialist acrylic glass machining and professional plastic welding to produce your made-to-order parts.

Rely on powerful manufacturing, an in-depth knowledge of materials and one-on-one support throughout your project, from development through to delivery.

PRECISION WORK ON AN INDUSTRIAL SCALE

Because quality means nothing unless it's there down to the tiniest detail. Put us to the test - and we'll supply solutions that are just what you're looking for!



AN ENTIRE WORLD OF PLASTICS



PERFECTION IN PLASTIC

What began back in 1916 continues to be shaped by innovation, reliability and partnership to this day. From the moment we built our own production line for milled plastic parts in 1999, we have firmly established ourselves as an expert partner in the technical processing of plastics. 2016 saw us integrate a company that specialised in working with acrylic glass, a move that significantly expanded the range of our machining services and our expertise in transparent plastics even further. These days, we can craft solutions for your specific applications out of virtually any thermosetting or thermoplastic material, tailored precisely to your requirements.



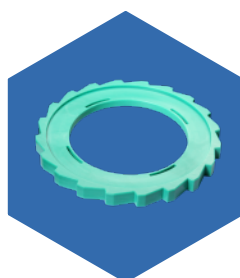
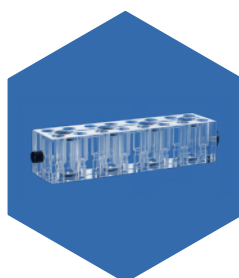
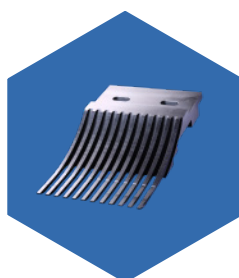
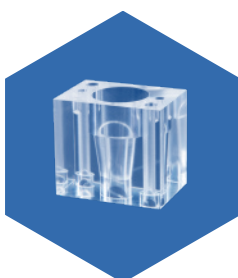
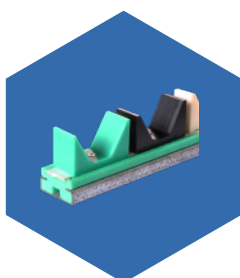
COST-EFFICIENT SOLUTIONS

Our powerful machinery gives you maximum flexibility. We can manufacture plastic parts up to 3,000 × 2,000 × 1,000 mm in size on 3- and 5-axis CNC machining centres and CNC gantry milling machines – from small batches through to whole series, ensuring accurate dimensions and tight tolerances at all times. With our many years of experience, our extensive expertise in materials and the personalised advice we provide, we will find the right technique for every component.



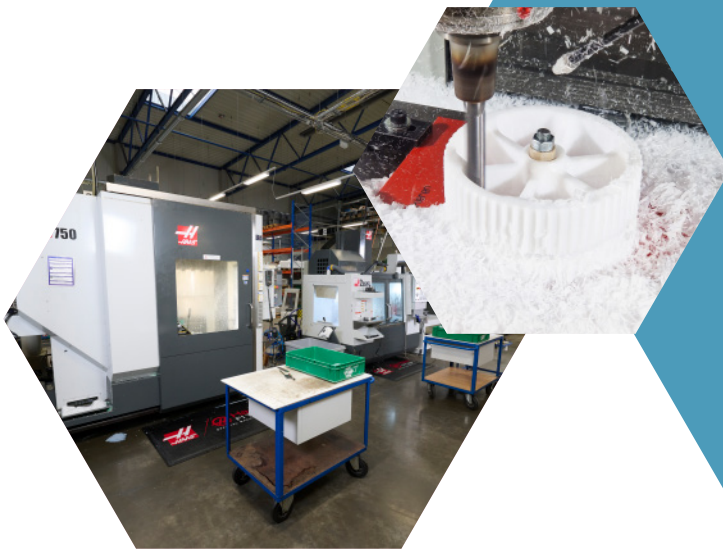
COMPELLING QUALITY

Our mission is to craft precisely manufactured components with a flawless look. We are committed to taking the utmost care down to the tiniest detail, especially when processing transparent plastics – one of our core areas of expertise. Each and every workpiece is professionally deburred, cleaned and packaged for safe onward transport. Being certified to ISO 9001:2015 means that we ensure consistency and traceable workflows in all our process steps.



MANUFACTURING OPTIONS

With our ultra-precise CNC technology and an extensive range of specialist machining techniques, we can meet any requirement – from custom-made individual pieces through to series production, crafted precisely to your specifications and boasting unbeatable manufacturing quality.



OUR RANGE OF SERVICES

- Milling on 3- and 5-axis machining centres
- Gantry milling up to 3,000 x 2,000 x 1,000 mm
- CNC turned parts
- Sawing to length and planing
- Hot and cold forming
- Adhesive bonding of all kinds
- Bubble-free bonding (hoods, covers)
- Sandwich panel bonding, either metal/plastic or plastic/plastic
- Plastic welding and tank construction
- Machine-polishing transparent surfaces
- Thermal deburring and ultrasound cleaning
- Tempering
- Laser engraving, mechanical marking
- Coating and printing on components
- Inserting threaded bushings
- Design service and advice on materials
- Customised packaging solutions

PLASTIC MATERIALS

Our many years' experience in mechanical machining makes us your expert partner for manufacturing high-quality precision parts. We process a wide range of materials for all manner of different uses:

High-performance plastics:

PEEK, PPS, PSU, PPSU, PAI, PBI, PEI

Engineering plastics:

POM, PET, PC, PMMA (acrylic glass), PVC, ABS and polyamides (PA 6G, 6E, 6.6, 4.6, 12G)

Fluoropolymers:

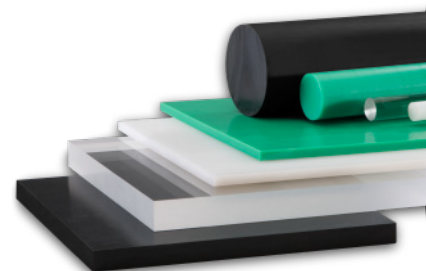
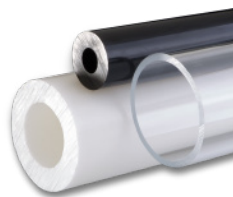
PTFE, PVDF, PCTFE – with or without fillers in each case

Polyolefins and specialist materials:

PE, PP and metal- and X-ray-detectable plastics



What solution may we prepare for you? Your requirements are our roadmap – let's talk.

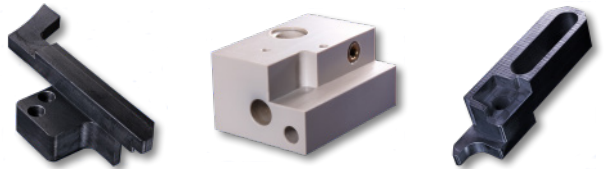
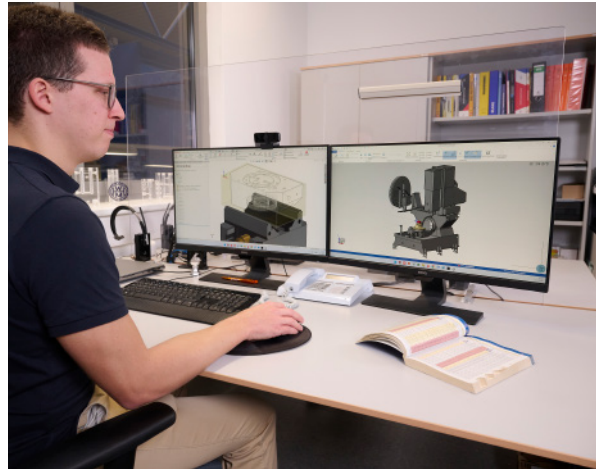


CNC MILLING

DIGITAL PROCESS CHAIN AND PROGRAMMING

Our CNC programming is underpinned by a powerful CAD/CAM system with multiple specialised programming workstations. This technological equipment lets us use your CAD data as is and incorporate it highly efficiently into the manufacturing process. Thus we can create complex 3D freeform surfaces, precise curves and perfectly smooth transitions using simultaneous multi-axis machining.

We prefer to work with the standard exchange formats STEP, IGES and DXF so that we can process your requests as quickly as possible. This allows us to import your design data straight into our CAD/CAM environment.



Please attach a technical drawing, including tolerances, as a PDF file.

3-AXIS CNC MILLING

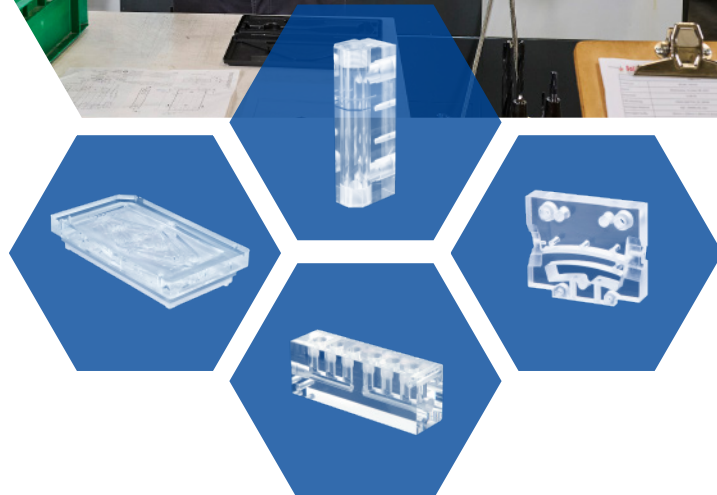
We use 3-axis machining centres to produce both complex individual pieces and semi-automated series runs, optimising our make-ready processes and running our machinery at high capacity to maximise cost-efficiency.

Depending on geometry and other requirements, we opt for flexible clamping solutions such as vacuum clamps, clamping towers or traditional clamping tools to ensure maximum dimensional accuracy.



5-AXIS CNC MILLING

One of our core areas of expertise in 5-axis CNC milling is manufacturing complex PMMA (acrylic glass) components milled to a crystal-clear finish. From manifolds and components with precise dimensions through to functional parts for laboratory equipment, we are experts at combining machining with a perfect surface finish. Machine-controlled polishing processes allow us to achieve a crystal-clear finish even in the case of deep drilled holes and complex internal geometries. These components find use wherever absolute cleanliness is required or fluid flows need monitoring, such as in the pharmaceutical and medical technology sectors.



VERSATILITY IN MECHANICAL AND PLANT ENGINEERING

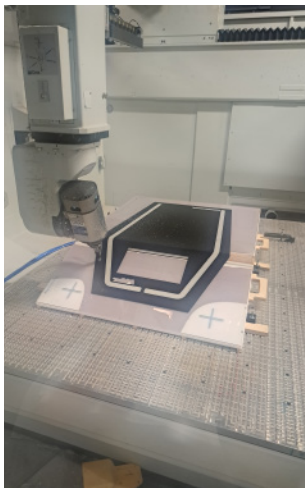
Our manufacturing expertise also covers making technical components for day-to-day use in industry. We can craft complex individual pieces and small batches for you using engineering plastics such as POM, PA6 and PE.

Our focus here lies on ensuring reliability and a perfect fit. Our many years of machining experience have made us masters of the specific properties of each material, from adhering precisely to the very narrowest of tolerances to preventing components from warping. Our range covers everything from sturdy brackets and guide rails through to highly complex housing parts and base plates with elaborate internal geometries.



YOUR PARTNER FOR CUSTOM-MADE ASSEMBLIES

Save valuable time and money on your own production lines and take advantage of our assemblies service, where we put your milled, turned and bought-in parts together into turnkey units that are ready to install. Whether you're after a bespoke individual piece or a whole customised series, we take care in our workmanship and guarantee high quality for your components. We give you all you need from a single source, from materials advice to find the right milled part through to ready-to-install components.



PRECISION WRIT LARGE

We use 5-axis gantry milling centres to craft complex components with dimensions up to 3,000 x 2,000 x 1,000 mm in height. Armed with technical expertise and cutting-edge equipment, we manufacture both single parts and whole series reliably, even when dealing with models with narrow tolerances.

Pendulum machining minimises make-ready and unproductive times and optimises machine throughput, delivering an immediate capacity benefit for your time-critical projects.

We can also handle precise 5-axis finishing for deep-drawn plastic parts to ensure that your components will ultimately all fit perfectly.



Tell us what you need, and we'll deliver it – cost-effectively, reliably, and just how you want it.

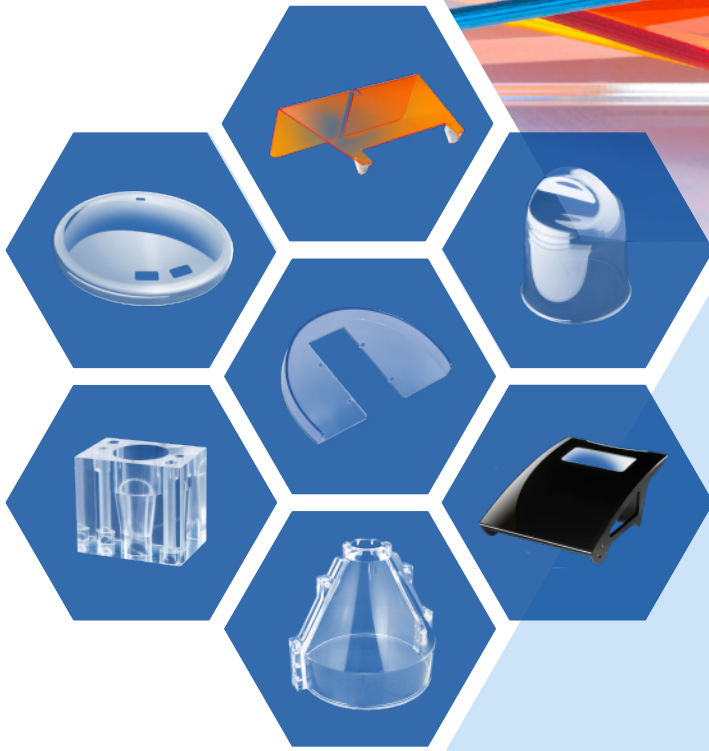
PROCESSING ACRYLIC GLASS

TRANSPARENT TECHNICAL PLASTIC PARTS

Technical plastic parts must be processed with the utmost care, so we pair powerful CNC technology with specialist craftsmanship to produce individual made-to-order parts that combine technical functionality with a high-quality look.

From filigree individual pieces to complex assemblies, we are masters of your material – from initial machining through to the final finish.





FOCUS INDUSTRIES

The components that we manufacture from transparent plastic have proved their worth wherever close scrutiny is the order of the day.

Analytical and laboratory technology: highly transparent measurement cells and housings

Mechanical and equipment engineering: inspection domes, protective hoods and functional coverings

Fluid technology: ultra-precise distributor blocks, flow devices and manifolds

Renewable energy: design components for state-of-the-art charging stations (e-mobility)

Food industry: hygienic machine elements with visual inspections

MILLING TECHNOLOGY FOR INDIVIDUAL COMPONENTS

Our in-house CNC milling centres produce precision parts made from PMMA (acrylic glass), PC (polycarbonate) and PETG. Challenging geometries and threads are implemented directly in the transparent material, always ensuring tension-free machining to maximise your components' useful lives.

COLD AND HOT FORMING

We use thermal or mechanical forming techniques for transparent components with flowing shapes such as protective hoods and covers. Whether you need cold or hot forming or deep-drawing, your plastics will be given the shapes and contours you want without compromising their look or material properties.

BONDING AND PUTTING TOGETHER HIGH-QUALITY ASSEMBLIES

Joining transparent or coloured plastics requires absolute precision. We create high-strength, clean adhesive bonds that ensure a flawless overall appearance, even on complex housings. By also offering the assembly of bought-in parts, we can supply ready-to-use components from a single source upon request.

WELDING PLASTICS

PRECISION CRAFTSMANSHIP

Screw connections have a tendency to form cracks, especially in components exposed to high levels of mechanical stress or vibrations. We use our specialist plastic welding technology to join components into a homogeneous unit that can tolerate tension and that is safe, stable and long-lasting.

WELDING INSTEAD OF SCREWING OR GLUING

We mainly weld PP and PETG, which cannot always be adhesive-bonded reliably on account of their design. Precise mitre cuts followed by filling in the weld groove give the structure a clean overall appearance. Welding wires of different thicknesses (2 mm, 3 mm and 4 mm) can be used depending on the requirements to match the bonding strength to the load acting on the component.

SPECIALIST TANK AND APPARATUS CONSTRUCTION

Our plastic welding expertise is focused on the manufacture of thick-walled tanks and welded assemblies.

Pharmaceutical and chemical industry: leak-tight seals and closures and high chemical resistance

Food technology: transparent PETG used for housings and tanks, taking account of the applicable regulations

Electronics and equipment engineering: sturdy protective housings that can withstand mechanical impacts over the long term



Together we'll get your ideas taking shape. Get your project up and running and talk to us!



YOUR BENEFITS AT A GLANCE

Maximum strength: uniform connection thanks to weld seam – much more resilient than conventional joining methods

Vibration-resistant: no cracking around drilled holes or screwing points under mechanical stress

Wide range of materials: professional processing for PP and PETG (transparent)

Flexibility: manufacture of individual pieces through to optimised series applications

Full service: from helping you to draft your projects through to complete installation by our trained specialists

CNC TURNING

PRECISION IN EVERY DIMENSION

We want to provide you with the best possible solution for any requirement, which is why our portfolio includes a wide range of CNC turning services alongside our specialist CNC milling technology. We combine various manufacturing technologies to give you sophisticated components that match your drawing 1:1 and offer the quality you are looking for.



YOUR BENEFITS AT A GLANCE

Complete solutions: seamless efficiency – we coordinate the whole process

Value for money: picking the most suitable manufacturing pathway (integrated or downstream)

Precision: decades of plastics expertise mean we keep to the narrowest of tolerances

Materials expertise: advice on choosing the right turned material for your purpose

MAXIMUM EFFICIENCY IN JUST ONE CLAMPING PROCESS

Our portfolio includes manual turning as well as machining on state-of-the-art CNC turning centres. Using powered tools enables multiple work steps – such as cut-outs, spanner flats, drilled holes, threads and markings – to be performed there and then in a single clamping process, ensuring maximum dimensional and positional tolerances for your components.

We will always choose the most cost-effective approach for your project depending on complexity and desired quantity. It will sometimes make sense to combine turning and milling into a single downstream process.

This will ensure that you get the best possible result in technology and price terms for every single component – from a simple milled part through to a highly complex component.

OUR RANGE OF SERVICES

- Conventional chuck parts up to 450 mm in diameter
- CNC turned parts up to 280 mm in diameter
- Combined CNC turned and milled parts
- CNC parting for diameters up to 85 mm



ANY QUESTIONS?

*If so, we look forward to
talking with you.*

Germany

Wilhelm Herm. Müller GmbH & Co. KG
Heinrich-Nordhoff-Ring 14
30826 Garbsen

P.O. Box 141230 · 30812 Garbsen

T +49 5131 4522-0
F +49 5131 4522-110

info@whm.net
whm.net

OUR OTHER LOCATIONS

Leipzig Branch Office

Westringstraße 160
04435 Schkeuditz
T +49 34205 785-0
F +49 34205 785-10
Niederlassung.Leipzig@whm.net
whm.net

Poland

W. H. Müller Polska Sp. z o.o.
ul. Solna 20 · 85-862 Bydgoszcz
T +48 52 349 07 15
F +48 52 349 00 75
whm@whm.pl
whm.pl

Czech Republic

W. H. Müller, s.r.o.
Brněnská 995 · 664 42 Modřice
T +420 543 211 008
F +420 543 217 468
whm@whm.cz
whm.cz

OUR PRODUCT RANGES

- Drive technology
- Plastics technology
- Rubber technology
- Design service
- Tubes and fittings technology