



**RICHTER**  
FORMTEILE



**Moldings of Highest Precision**

# Richter Formteile – We take precision to the next level



We accompany you along the complete value chain with our comprehensive skills: from technical consulting and production of parts over pre-financing and storage up to just-in-time delivery. All this for products that conform to the drawings.

**So you get molded parts and full service from a single source.**

- ! Production of small to very small precision parts made of metal,
- ! in medium to large series,
- ! in the processes investment casting, MIM, sintering and drop forging.
- ! Full Service: from development and advice to production, up to logistics and just in time delivery.
- ! Extended workbench: machining, surface treatment and/or assembly.
- ! Satisfied customers from all industries.



# Our Strengths - Your Advantages



**Expert advice**  
in each casting and forging process



**No risk**  
through conformity with drawings and ISO-certifications



**Optimal resource planning**  
through our international production network



**Secure processing**  
as a German legal partner



**Just in time delivery**  
ex warehouse Leonberg nearby Stuttgart



**High process competence**  
through over 40 years of experience



**Maximum economy**  
through optimal resource planning



**Pre-financing**  
and storage of the complete annual requirement



# Full-Service

From your inquiry to the just-in-time delivery of your components





# Investment Casting

## Endless Possibilities

The investment casting offers **unlimited design freedom**. In this way, small to large components, even with complex geometries, can be produced in great detail.

Since the workpieces can be poured cleanly, we get a **high surface quality** through investment casting that does not have to be reworked or only needs slight finishing touches.

Depending on your specific requirements, different materials such as **steel, stainless steel** or **aluminum** as well as **other alloys** can be processed.



### Advantages

- high dimensional accuracy
- first-class surface quality
- delicate structures and unique level of detail
- great freedom of design and implementation of complex geometries from a single source
- near-net-shape with reduced mechanical processing
- wide range of materials and alloys



# MIM [Metal Injection Moulding]

Innovative and with the highest Precision

The MIM-procedure offers a **diverse selection of shaping options** and is used wherever **multi-layer component geometries** are required. Moreover, a **wide range of materials** can be accessed.

The metal parts impress with their **high level of accuracy** and **optimum surface quality**. **Post-processing** is usually **superfluous**. The **low error rate** is an additional plus.

In addition, there are **no assembly and joining steps**, which means that we can also use materials that are difficult to process productively. Threads, bores, logos or other inscriptions can also be precisely incorporated into your component.



## Advantages

- great geometric design freedom
- production of complex parts
- internal & external threads can already be formed during casting
- high dimensional accuracy and unique level of detail
- good dimensional tolerances of +/- 0.5%
- better adhesion of anti-corrosion treatments
- relative density of 95-98%

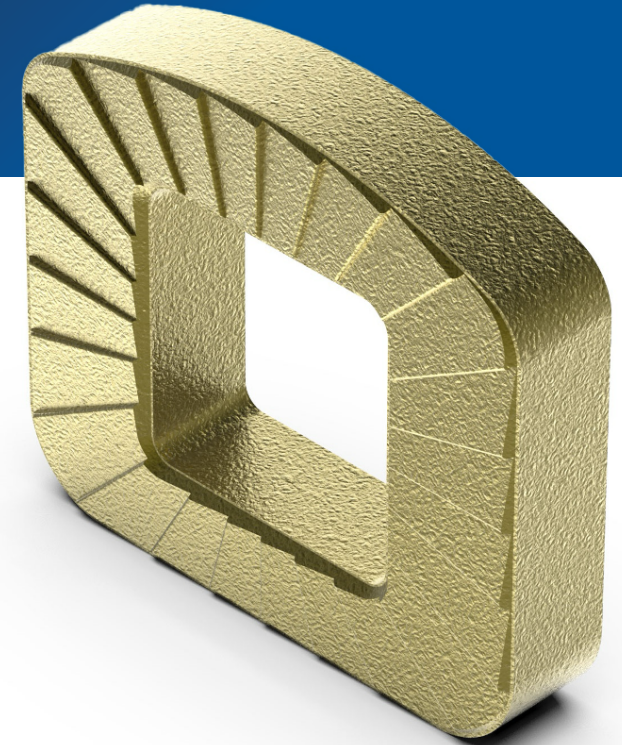


# Sintering

Reliable and ecological

Sintering offers a **high degree of dimensional accuracy** and **great freedom of design**. In this way, ready-to-install products with **complex shapes** and **different geometries** can be manufactured in just a few steps, which usually do **not require any additional mechanical processing**.

Additional: With sintering, the production materials can be used effectively. This results in significant **energy savings** and **less material loss**.



## Advantages

- high dimensional accuracy
- ideal for complex shapes
- reliability & reproducibility
- ready-to-install castings
- waste free production
- energy-saving & environmentally friendly



# Drop Forging

## Durable and Pore-free Components

Drop forging creates forgings with an **optimal fiber alignment** and **first-class strength**. The forgings convince through a **homogeneous, dense structure**, which has **neither pores nor other cavities**.

Forgings are reproducible with only one tool in **large numbers** at **constant precision**.



### Advantages

- ideal for complex shapes
- high reproducibility
- longevity
- homogeneous structure
- short processing time



# Facts

	INVESTMENT CASTING	MIM	SINTERING	DROP FORGING
<b>standard weight:</b>	0,05 – 150 kg	0,001 – 0,150 kg	0,001 – 0,150 kg	0,04 – 150 kg
<b>production:</b> • Europe • Asia	✓ ✓	– ✓	– ✓	✓ ✓
<b>certified acc. to:</b> • DIN ISO 9001 • DIN ISO14001 • TS 16949	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
<b>tolerances:</b>	according to VDG leaflet P 690 D1 (approx. +/- 0,7% of the nominal size)	approx. +/- 0,3% of the nominal size	approx. +/- 0,4% of the nominal size	EN 10243-1:1999
<b>surfaces:</b>	RA 6,3	RA 3,2	RA 3,2	DIN EN 10243-1: 2000-06
<b>materials:</b>	<a href="#">steel alloys, stainless steel alloys and aluminum</a>	<a href="#">steel, stainless steel, hard metal and copper</a>	<a href="#">steel, stainless steel, bronze and brass alloys</a>	<a href="#">steel, stainless steel alloys and aluminum</a>
<b>post-processing:</b>	own CNC processing centers, heat treatments according to customer specifications			
<b>approvals in the fittings area:</b> • AD 2000 • TRD 100	✓ ✓	– –	– –	✓ ✓



# Processing | Assemblies

Use our services as an extended workbench



Depending on the use of the molded parts, a more or less extensive **processing, surface treatment** and / or **preassembly** or **assembly** is required. On request, we also carry out the pre-assembly or assembly of assemblies with the **provided parts**.

You decide on the scope of our work: We would be happy to explain the various options to you.

## Excerpt of our processing options

- Drill
- Turn
- Milling
- Threading
- Polishing
- Ribbons

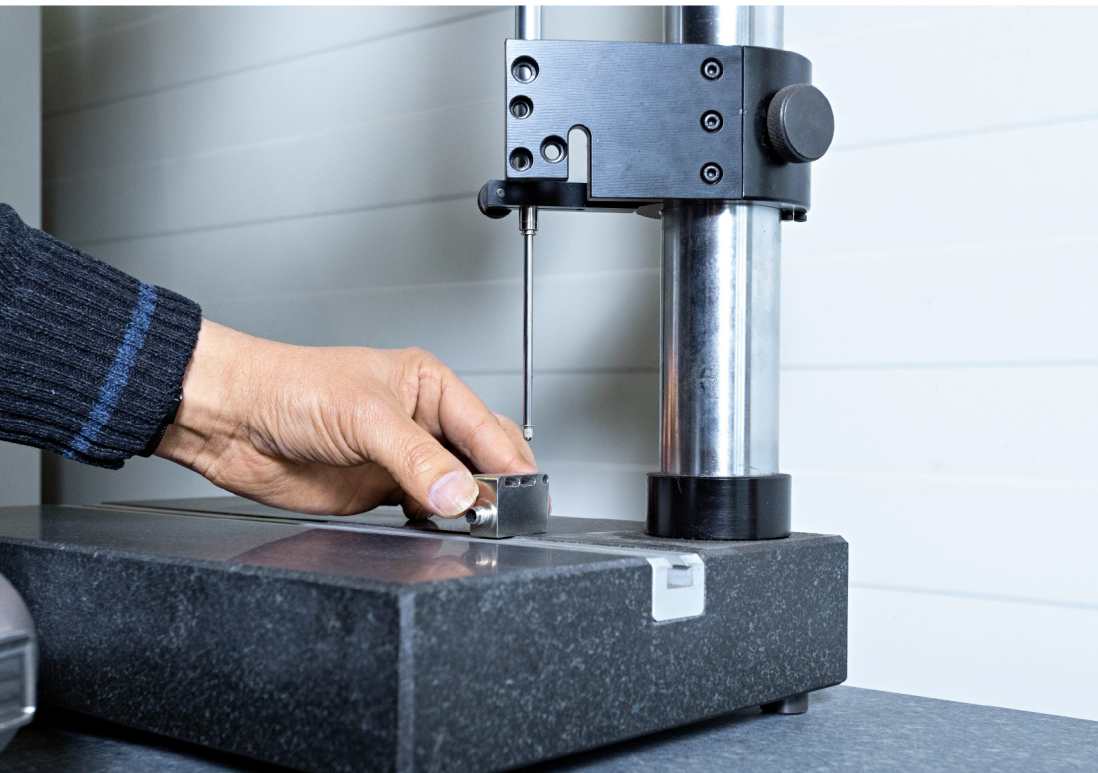
## Surface Treatments

- Radiation
- Electropolishing
- Galvanizing
- Phosphate
- Zinc Plate (chrome-6 free)
- Passivation
- Coating
- Powder Coating
- Anodizing
- Prime Coating
- Vibratory Grinding
- CED Coating
- Black-oxide
- Sand / Glass Bead Blasting



# Quality Management

Our Goal: Drawing-compliant Molded Parts



Our stringent quality control, which begins with **independent inspectors** in the production facilities, is an integral part of our daily work.

Furthermore, we have **internal test equipment** and can also subject your components to **specific test and measurement techniques**, depending on your requirements. The results are then kept in **test certificates**.

## Testing Options

- 3D laser / measuring probe
- impact strength
- yield point
- chemical analysis
- X-Ray
- fluxing
- ultrasound
- tensile strengths
- acc. to customer requirement



# Supply-Chain-Management

We minimize your Procurement Risk



As your **German legal partner**, we take care of the complete international processing for you - procurement, logistics and customs clearance.

We pre-produce your annual requirement and store it for you, checked and commissioned, in our warehouse in Leonberg near Stuttgart. You can call up the agreed lot sizes **just-in-time**. Only then we will invoice you for the respective amount.

- **We are your german legal partner.**
- **We pre-produce your annual demand and store it in our warehouse.**
- **Just-in-time delivery from Leonberg warehouse near Stuttgart.**





# 3D Measurement

## Optical 360° 3D Measurement

Whether design, quality assurance, production or just recording:

With our service of optical 3D measurement of workpieces, you save a lot of time and money. Even when it comes to the 3D digitization of components, molds, cast parts, injection molded parts, machine components and others. Time-consuming tactile measurements with coordinate machines are a thing of the past.

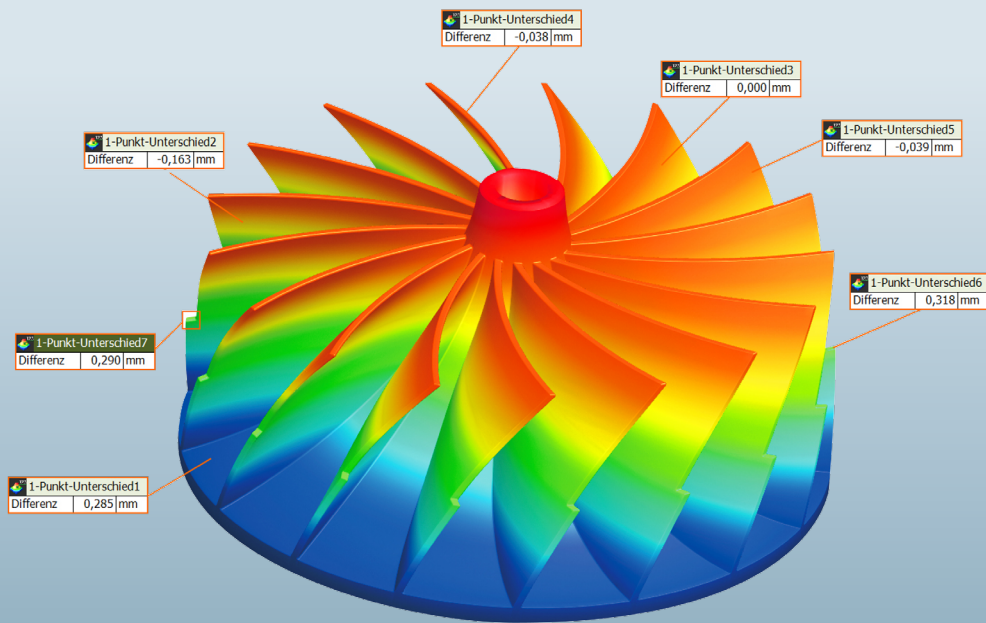
### Advantages

- quick and inexpensive
- non-contact measurement
- high-resolution and artifact-free scans



# 3D Measurement

## Facts



precision:	0,01 mm
repeat accuracy:	0,002 mm
max. component size:	width / length = 500 mm height 250 mm
resolution of measurement:	up to 16 Millionen points
optical measurement:	measurement of levels and sections, shape and position tolerances, tolerances of heights
Vergleichsmessungen:	comparison measurement of CAS and measuring objects, wall thickness measurement, 3D colour visual imaging

# Contact



We are your partner along the complete value chain and we are at your side with words and deeds in every step.

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**Because Precision is just the Beginning!**