

## TISOMA - the company

The foundation of TISOMA Anlagenbau und Vorrichtungen GmbH was in 1996. The demand of our client forms the center of our work having as motto:

„The client does not want the explanation,  
but the solution of his problem.“

The base of our capabilities is our highly qualified personnel. We are in the position to serve with our staff members the following fields of business:

- **Hard metal**
- **sintered metal**
- **ceramics**
- **metal injection moulding**
- **other applications**



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## Engineering

**We design and construct for you:**

- Electrically heated industrial furnances up to 2000°C under vacuum and various atmospheres
- Furnances according to the specific requirements of the client
- Heat treatment equipment applying inert gas and vacuum
- Mills equipment with agitator
- Ball mills
- Drying plants for suspensions
- Machines for CNC-treatment of hard metal green compacts and ceramics

**Furthermore we built for you:**

- Assemblies and machines according to outsidess designs
- Partial components of plants
- Electrical and electronical equipment with modern control engineering
- Mounting fixtures
- Welding fixtures
- Special equipment for mass production (CNC-techniquw)
- Measuring devices
- Special processes

## How to reach us



## **MIM – Metal Injection Moulding**

- ▶ **Sintering Furnaces**
- ▶ **Sinter-Hip-Furnaces**
- ▶ **Binder-Removing Installations**

## TISOMA – your partner since 20 years ...

... for the production of customer-oriented furnaces for debinding, sintering and heat treatment of metal injection moulding (MIM), ceramic injection moulding (CIM) as well as sintered parts and hard metals

We offer to you:

Technologies and furnaces for the production of MIM/CIM parts:

- sintering
- rest debinding
- debinding catalytic
- debinding thermic

### Walking beam sintering furnace



### Catalytic and thermic binder-removing installation



### Binder-removing installation with solvent



## Vacuum sintering furnace vertical, filling from bottom

temperature: up to 1500 °C  
heating: graphite heating  
insulation: graphite hard felt  
muffle: graphite  
vacuum:  $5 \times 10^{-3}$  mbar  
gases: argon, nitrogen, hydrogen



## High vacuum sintering installation



temperature: up to 1500 °C  
heating: molybdenum  
insulation: molybdenum  
muffle: molybdenum  
vacuum:  $5 \times 10^{-3}$  mbar,  
max.  $5 \times 10^{-5}$  mbar  
gases: argon, nitrogen, hydrogen,  
mixed gases

## Vacuum sintering furnace, vertical, filling from above

temperature: up to 1400 °C  
heating: molybdenum  
insulation: ceramic  
vacuum:  $5 \times 10^{-2}$  mbar  
gases: argon, nitrogen, hydrogen



## Vacuum sintering furnace for sintering and rest debinding



temperature: up to 1400 °C  
heating: molybdenum  
insulation: ceramic  
vacuum:  $5 \times 10^{-2}$  mbar  
gases: argon, nitrogen, hydrogen