





# One of the leading manufacturers and suppliers of high performance connecting technology worldwide



## 1 PROFILE

# History

## We are MAX MOTHES - 100 years of quality

1918	founded in the Hansahaus on today's Konrad-Adenauer-Platz in Dusseldorf
1921	the first machine tools start into operations
1970	expansion of warehouse capacity in Dusseldorf to 30,000 items
1985	expansion of the Neuss site, warehouse capacity for additional 45,000 items
1996	initial certification to ISO 9001
2009	warehouse capacity 100,000 items
2012	relocation to Neuss and merging the sites of Dusseldorf and Neuss
2013	establishment of MAX MOTHES Turkey as the first foreign site
2014	establishment of MAX MOTHES Belgium
2015	acquisition of MAX MOTHES China and initial certification of ISO 14001
2017	acquisition of MAX MOTHES Italy, MAX MOTHES acquires the italian bolt manufacturer VSP FASTE- NERS
2018	initial certification to IATF 16949
2018	SUMEEKO Industries Co. Ltd. joins the MAX MOTHES Group

# MAX MOTHES

At MAX MOTHES, we are global specialists in the production and logistics of high performance connecting technology. Our mission is to provide our customers with an efficient and competent solution at any time and worldwide, and to build sustainable and reliable partnerships.

### We are faster

MAX MOTHES is a manufacturer and distributor with a 100-year-old tradition of quality and sustainable customer relationships.

Through consistent customer focus and a high degree of technical know-how, we have developed into a globally active company and have thus become one of the leading manufacturers and suppliers of high-performance connecting technology.

Founded in 1918, we now find ourselves a hundred years later with

- · More than 300 emplyees
- · Having developped a sophisticated global logistics system
- With the most modern machinery

We are prepared for the challenges of advancing internationalization and globalization with the following in-house production technologies:

- Cold forging
- Hot forging
- · Machining operations

As a producer, we can quickly and flexibly plan individual requests in-house with our team, implement them on our modern machinery and deliver them worldwide.

In this process, individual steps of our competencies are linked to ensure smooth and qualityassured production of small, medium and large series for all uses.

That is how we manage to provide our customers with an efficient and competent solution at any time and worldwide, and to form sustainable and reliable partnerships.

## Range of services

Our production is fast and flexible with a wide range of services:

- · Implementation of short-term orders through a sophisticated logistics system
- · Short delivery times due to a large pre-material warehouse
- · Cost advantages through several production processes in our group
- Best possible quality
- Modern machinery with advanced automation
- · Rod material also available in custom steels

# Locations





#### Europe

- Neuss, Germany
- Munich, Germany
- Linz, Austria
- Zedelgem, Belgium

#### Asia

- Suzhou, China
- Kaohsiung/Pingtung, Taiwan

#### Middle East

Turkey

#### North America

Detroit, USA





### MAX MOTHES location Neuss, Germany

Employees: 185 Area: 65,000 m2 Storage capacity: 25,000 pallets, 40,000 bins for small parts Production volume: 6,000 tons Turnaround: over 500,000 picks per year

#### Capabilities: Machining operations, Central Warehouse (worldwide distribution)

Certificates: ISO 9001:2015 ISO 14005 AD 2007 IATF 16949

#### **Production capabilities:**

#### Turned parts

- Ø 3 mm to 160 mm x length 3 mm up to 4,000 mm
- Individual parts in a range of up to Ø 350 mm x length 2000 mm

#### Milled parts

• Length 5 mm 5 mm to 1,050 mm x width 5 mm x 530 mm height up to 510 mm

Thread manufacturing

- Metric, standard and fine threads rolled from M5 to M100
- Metric, standard and fine threads cut from M5 to M150
- · Metric left-handed thread
- Inch thread WW, UNC and UNF from ¼ "up to 6"
- Trapezoid thread
- · Pipe and gas thread
- · as well as all kinds of customized threads on request

### MAX MOTHES location Turkey

Employees: 60 Area: 5.000 m2 Production volume: 6.000 t

#### Capabilities: Hot forging, machining operations

Certificates: ISO 9001:2015

#### **Production capabilities:**

- Screws: M12 M64 ; 40 mm 600 mm
- Screws: DIN931, DIN933, DIN912, DIN7991, DIN 6921 etc.

Coating

- Zinc
- Geomet
- · Delta Protekt (Extern)





### MAX MOTHES location China

Employees: 170 Area: 30,000 m2 Production volume: 8,000 tons

#### Capabilities: Cold forging, machining operations

Certificates: IATF 16949 ISO 9001:2015

#### **Production capabilities:**

Parts

- Screws: M2 M8; 6 mm 100 mm
- Bolts: M4 M14; 5 mm 200 mm
- Nuts: M5 M27
- Internal thread cutting: M5 M24; 1/4"- 7/16"
- Further machining: ø6 ø32

Fully automated assembly machines

In-house heat treatment

- Multi-Safe sorting system for 100% control
- Capacity: 500 tons/month

Magni Coating coating system

- Automatic "dip-n-spin" device
- Type M-304394

Oberflächenbeschichtungen

- Zinc nickel
- Geomet
- Delta
- · Zinc
- MAGNI

## MAX MOTHES location Taiwan/Sumeeko

Employees: 240 Area: 8.000 m2 (Kaohsiung); 16,500 m2 (Pingtung) Production volume: 10.000 t

#### Capabilities: Cold forging, machining operations

Certificates: IATF 16949 Magni Coating (approved by GM) ISO 14001 Mathread Patent

#### Production capabilities:

- Nut forming M4 M14
- Bolt forming M2 x 5 mm M14 x 140 mm
- Threading
  - Magni coating
  - Stamping
  - Heat-Treating
  - Patching
  - Ultra Sonic cleaning
  - Customized auto-production line



## 2 PRODUCTS

# MAX MOTHES is a manufacturer and distributor

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DIN and standard parts



MOTHES FIX



Drawings and customized parts



Sealing nuts

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### DIN and standard parts

90,000 different items in excellent quality directly from stock.

We offer all fasteners made of steel, stainless steel, brass or plastic and deliver about 90,000 different items in excellent quality directly from stock.



### Drawings and customized parts

You have a special requirement? We have a special solution!

Do you have a special application that cannot be met with standard parts, or an individual design of different components that needs to be combined into one?

We not only manufacture individual parts according to drawings, our application engineers are also happy to produce the necessary drawings.

The parameters of parts can be just as individualised as the requirements for fasteners. This ranges from the right material selection to the combination of several functions in a single component.

Last but not least, the selection of the right production process contributes significantly to economic and technical feasibility.

Machined parts are manufactured to the highest standards at our production site in Neuss. That is how we are able to support the production of prototypes and samples with short development times, and of course also of small and pilot series.

For cold and hot-pressed parts as well as stamped and bent parts, we can access our facilities in Italy and China and always deliver the optimum quality and design.

Of course, we are happy to take care of the downstream and final processing steps such as surface treatment and finishing.

## MOTHES FIX

#### The screw that is fastened even before installation.

A captive sleeve-and-bolt connection is an indispensable part of modern connection technology. System suppliers can supply pre-assembled modules directly to the production line of the OEMs for assembly.

The resulting savings potential in the areas of logistics, assembly and quality are enormous and can be generated immediately. A small component with a big impact on your process.



### Sealing nuts

In the area of sealing nuts, MAX MOTHES has developed a nut that reliably prevents the escape of liquids and gases and provides a firm, permanent fit due to the securing device. The has a wide range of applications, especially in the construction of gearboxes, motors and pumps. Those who use it include automotive manufacturers and their suppliers as well as mechanical and systems engineering.

A well-known problem: The secure sealing of threaded connections is complex. Once hemp and sealing tape were indispensable. Although liquid or micro-encapsulated sealants are available today, processing takes time. Such weak spots are a thing of the past with the sealing nut.

This is made possible by the combination of nut body and a sealing ring that is resistant to oils and solvents. When tightening the nut, the sealing ring presses under high pressure in a specially cultivated recess on the metallic nut body and at the same time against the wall of the through bore. Special advantage: Even after repeated loosening and tightening again, the connection remains tight.

The sealing nuts are available from M6 to M20. Different surfaces are available. The temperature resistance ranges from minus 40 degrees to about 110 degrees, the pressure load over 640 bar





## 3 EXPERTISE

## PRODUCTION MAX MOTHES is a producer. That's our DNA

## ENGINEERING The basis for efficient series production

Representation of the standard in all processes

PROTOTYPING Prototyping and small series are becoming increasingly important

# SURFACE TREATMENTS

LOGISTICS

WORLDWIDE We are where our customers are!d

> SOURCING We purchase where it makes sense







## MAX MOTHES is a producer. That's our DNA.

## Machining operations

Turning, together with milling, drilling and grinding, is one of the most important production methods of machining technology. In these methods, chips are separated from a workpiece to produce the desired shape.

Turning is divided into numerous process variants. In addition to flat and round turning for the production of flat or round surfaces, there are variants for thread manufacturing or for any rotationally symmetrical shapes (e.g. cones or balls) that can be produced with NC turning. CNC lathes are used, whose controls steer the tools on the required paths. For larger series, it involves profile turning with tools that contain the form to be produced as a negative. Internal surfaces in hollow bodies can also be turned.

Location: MAX MOTHES GmbH, Neuss, Germany

## Cold forging

Cold forging refers to the plastic deformation of metals below the recrystallisation temperature. Due to the cold work hardening that occurs, the material strength continuously increases. If the increase in strength is undesirable, it must be removed again by a subsequent heat treatment. Cold working is used primarily when narrow dimensional tolerances and good surface properties are desired, or to increase the strength of the materials in a targeted manner.

Location: MAX MOTHES (SUZHOU) Co., Ltd., China / Sumeeko Ltd., Taiwan

## Hot forging

Hot forging is the pressure forming of metals or alloys between two tools with local variation of the cross-sectional shape above the recrystallisation temperature of a metal. It is not absolutely necessary that the material is heated. Cold-forged workpieces have higher strengths. In industrial production technology, forging is usually understood to mean free-forming (open-die forging with tools that do not contain the shape of the workpieces) and die-forging (with tools that contain the shape of the workpieces), and extrusion is also included.

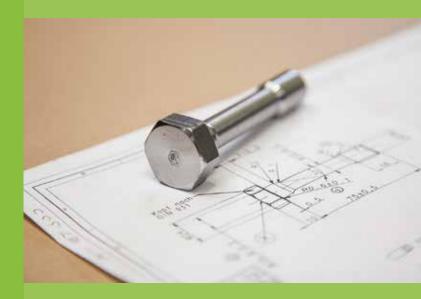
#### Location: MAX MOTHES Turkey

## PRODUCTION

## Our production is fast and flexible with a wide range of services.

- Cost advantages through several production processes (machining operations, coldforging, hot forging) in our group
- Smooth and process-reliable production of small, medium and large batches for all demands
- State of the art production equipment with a steadily increasing degree of automation
- Short delivery times due to a large rawmaterial stock
- We only purchase our rawmaterial from qualified European suppliers in tempered quality and with 3.1 certificates





## PROTOTYPING

The sample becomes the serial part, prototyping and small batches are becoming increasingly important.

- Certified rawmaterial that we use for prototypes or very small batches is re-tested in accordance with our QM guidelines
- We develop customized parts or very small batches based on CAD drawings that we hand over to our customers to apply in tests and other simulations
- Our experienced application engineers work together with the engineers at the customer to develop all aspects of serial production
- Different versions of surface treatments for prototypes are applicable

## LOGISTICS

#### Fast, flexible and worldwide.

- Delivery of the entire range of all required C-parts in the right quantity and at the right time
- Development of tailor-made concepts for KANBAN systems for automatically supplying your demands
- Warehousing of 90,000 standard parts and 100,000 customised items
- Sophisticated logistics system for complex logistics tasks
- Express service for fast deliveries





## WORLDWIDE

#### We are where our customers are!

- We at MAX MOTHES have adapted to increasing globalisation
- Global procurement of our rawmaterial and selected products
- With our production sites in Germany, Italy, Turkey and China, we are where our customers are
- Our logistics systems are designed to deliver quickly and flexible worldwide

## ENGINEERING

## Experienced technical advice is the basis for efficient serial production.

- Specially trained application engineers provide technical expertise in the following areas
- Product development
- Standardisation
- Threadlocks
- Corrosion protection and surface treatment





### SURFACE TREATMENTS

## Surface treatments for all applications.

- Corrosion protection: phosphating, galvanising, zinc-iron deposition, zinc-nickel coating, zinc lamella coating
- Threadlocks: Adhesive anti-rotation locks, clamping securing devices
- Heat treatment to increase the mechanical resistance: hardening, blacking, nitriding, carburising, annealing
- Finishing of very high quality components: grinding, honing, lapping, etching, electropolishing
- Plastic coatings for high-performance and heavy-duty corrosion protection
- Colour by means of powder coating, cathodic dip coating or with varnish

## SOURCING

#### Global - national - regional: We purchase where it makes sense in our partner network.

- Most of the fasteners we buy come from European manufacturers
- Increasing importance of supply sources on a global scale
- Certifications in accordance with DIN ISO 9001 and IATF 16949 are prerequisites for cooperation with us
- functioning, regional partner network





## QUALITY

MAX MOTHES is committed to a high quality standard in all processes.

- · Certifications of all parts of the company
- Extensive testing opportunities of rawmaterials and finished parts with our own test equipment or special tests at accredited testing laboratories and university institutes.
- Test equipment in-house: 1,400 different pieces of testing and measuring equipment, 2D profile projector, Hardness testers / mobile hardness tester, Tensile tester, Spectral analyzer (proper materials check), Contour gauge, Concentricity gauge, Salt spray test chamber
- Constant quality assurance of all production processes through CASQ-it

## MAX MOTHES

is a leading manufacturer and supplier of high performance connecting technology worldwide

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## **4 INDUSTRIES**

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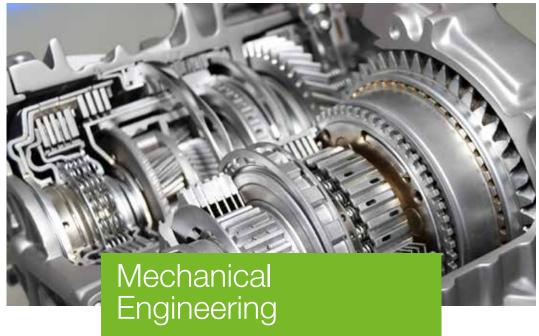


- Reduction of suppliers and cost reduction through consolidation of manufacturers
  Internal production of prototypes
  Global sourcing in our strong and reliable partner pattwork



### Construction and Agriculture

- Internal production of prototypes
- Remote warehousing
- Process and part optimisation through in-house consulting with our application engineers

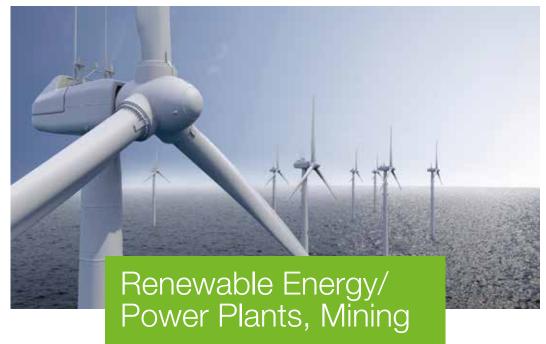


- Parts up to M150 from stock
- Process and part optimisation through in-house
- consulting with our application engineers
- Flexible KANBAN systems



## Commercial Vehicles

- Coatings and strength classes for safe mechanical connections in high-load applications
- C-parts management
- Efficient screw locking systems



- Availability of large dimensions
  Individual kit packaging for direct delivery to the job site
  TÜV certified manufacturer of fasteners





## 5 Quality and environmental policy

# Quality and environmental policy

MAX MOTHES GmbH is a leading manufacturer and distributor of fasteners with one of the broadest product lines in the industry.

We are distinguished by our high capacity to deliver not just standard parts, but also parts in unusual dimensions. We also offer tailored sourcing of special and engineered parts. Our inhouse production gives us the ability to react flexibly to customer requests without depending on upstream suppliers. We also offer our customers a wide variety of solutions for surface coatings and personalised C item management. Providing our customers with technical support is another important component of our services.

Being C items, screws, nuts and washers are certainly not the most important components of a product - but equally certainly, these C items are indispensable to the final product. Therefore, the use of high quality products and the application of optimal processes to implement their requirements are of crucial importance to our customers. We are aware of the importance of product and process, which we address both through our quality management system and by continuously developing that same system.

In addition to the quality of our products, occupational safety, health protection and environmental protection are of paramount importance to us and make an important contribution to the company's success. We consider compliance with our legal obligations and requirements to be a matter of course. We also identify and assess hazards, liabilities and risks, which allows us to introduce preventive measures to constantly improve occupational safety and environmental protection. We - including through our upstream suppliers - are committed to the use of products, manufacturing processes and services which are compatible with the health of both people and the environment, as well as to the careful use of resources.

Quality and environmental management standards serve both as a framework and as necessary minimum requirements for our internal structures. In all company processes, they support us in achieving our goal of continuous optimisation and the avoidance or elimination of sources of error.

Our primary goal is to achieve the highest level of customer satisfaction and to therefore ensure the economic success of our company. Therefore, the incorporation of our quality and environmental management processes receives unqualified support from the management. However, compliance with these processes can only be ensured with the involvement of every single employee in the company. Therefore, we expect all employees to be aware of their responsibility for quality and for the environment, and to conduct themselves according to our corporate policy.





## 6 Careers

# Working at MAX MOTHES

#### Our employees are our capital. Motivated and committed employees are the key to the economic success of a company.

At MAX MOTHES, we are global specialists in the production and logistics of high performance fastener technology. Our mission is to provide our customers with an efficient, capable solution any time, anywhere, as well as to build sustainable and reliable partnerships.

We're ready to make the future better. Our global team works in multiple locations, constantly searching for innovative, success-oriented solutions. At MAX MOTHES, we are proud to be a valued and reliable employer for our employees.

We offer our employees varied tasks and responsibilities within their area of responsibility and excellent development opportunities, along with support and further training initiatives.

Become part of a motivated, successful team at a company rich in tradition.

- Training
- Dual studies
- · Unsolicited applications

### Our values

Our values unite and commit us to a common understanding of our corporate philosophy.

The way we treat each other and our workplace environment makes us unique. We cultivate straightforward and reliable cooperation with our partners.

- Dedicated
- · Customer-oriented
- Human
- Future-oriented
- Reliable
- Innovative

#### Contact:

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## Contact

How to reach us.

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