## **MWM** Service

Partnership: The next step.



# MWM Service. When every operating hour counts.

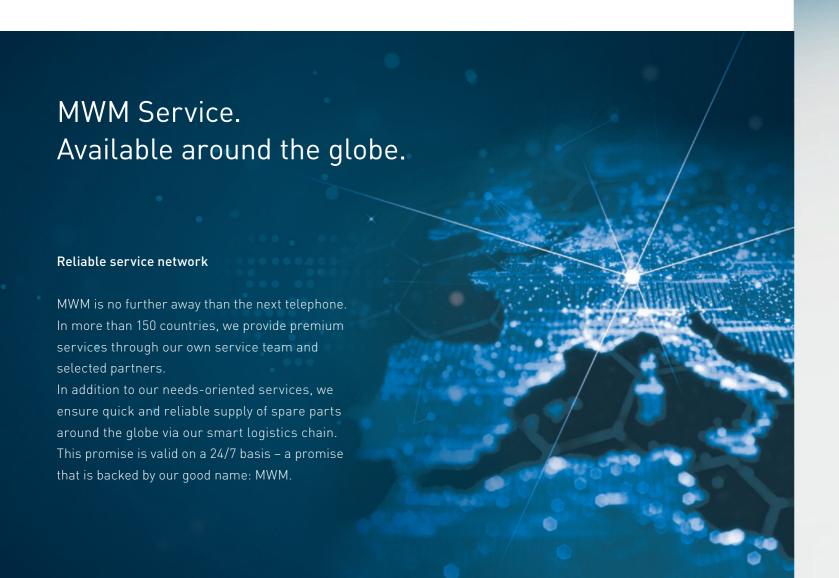
#### Decades of experience, maximum availability

MWM looks back on 150 years of experience in the field of distributed energy supply. All along, one principle has never changed: availability is a decisive success factor for efficiency. Therefore, MWM quality is not only limited to reliable engines and gensets, but also comprises progressive service concepts. MWM is your reliable partner and is always ready to provide competent assistance.

#### MWM Service: Competence and customer proximity

MWM Service is at your command around the clock. Thus, you have access to a comprehensive service portfolio that is especially designed for MWM plants. Your regional contact will clarify all organizational details during your first call and take over the management of the entire process.

However, we offer even more: apart from our competent service engineers, we make further specialists available to you for the technical clarification, productivity boost, optimization, service parts, and commissioning. Your advantage: experienced MWM experts are available to you for all subject areas.



## Service straight from the manufacturer: Rely on the company that knows best.

We know what matters

We are the ones who have designed and built your genset – so we are familiar with it to the last detail like no one else. For every model series, we offer original spare parts that are readily available. Apart from preventive maintenance, these are key advantages that ensure maximum availability. Have your plant serviced by the most competent party: the manufacturer. In this way, your genset will achieve maximum profitability.

#### We know your plant in detail

Through ongoing further development, we make sure that your plant is always up to date. Custom-tailored documentation provides first-hand service information. Based on our data, we are able to quickly and precisely identify the current revision status of your plant.

#### Global network of highly qualified service engineers

MWM Service stands for highly qualified personnel, expertise, and effective consulting with a view to a long-term, trusting cooperation.

Through ongoing training of our service engineers, we continually upgrade the skills and qualifications of our team. We invest in the training of our technical staff – for your success.

#### Remote diagnosis

MWM Service offers you direct support and diagnosis. A phone call is sufficient to request the specialists of MWM to analyze your plant via remote data access. Your advantage: optimum availability thanks to computer-supported remote diagnosis and remote parameterization.

#### MWM puts emphasis on customer training

With application-oriented seminars and train-the-trainer concepts that are specifically tuned to customer needs, we convey the expertise that your employees need for operating MWM plants.

We train you and your team in the best way possible in our training center or on your premises.

# TPEM The doorway to the digital age.

With its comprehensive, digital power plant control TPEM (Total Plant & Energy Management), MWM sets a new control standard for gas gensets and energy solutions.

In many application scenarios, TPEM eliminates the need for an additional control system, as all power plant data for the genset and plant control are combined in one system. The optimum power plant control delivers a high level of efficiency through central bundling and control.

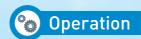


- ✓ Data management and analysis deliver information that can be used to optimize the system
- ✓ Life cycle history
  enables logging and of and access
  to data throughout the life cycle of
  the genset and the peripherals



- Design your own custom-tailored solutions with TPEM
- Integrated operating concept, suitable for all common cogeneration power plant applications
- ✓ Various functions for individual solutions





- ✓ High efficiency

  through optimum control
- Enables remote administration and monitoring
- To use the full genset potential with maximum reliability

# TEM Optimum control concept.

The TEM (Total Electronic Management) system controls not only the engine, but the entire plant including the heat from cogeneration.

Monitoring of each cylinder and anti-knock control ensure ideal fuel utilization and maximum output even if the gas composition should fluctuate.

# MWM plant check: Optimize your plant operation.

The MWM plant check for all MWM gas gensets boosts the availability and profitability of your CHP plant.

With their proven high efficiency levels, MWM gensets meet all preconditions for profitable operation of your plant. For these benefits to come to the fore, it is vital to maximize the service life. In many cases, we have demonstrated that the plant availability can be improved significantly by means of systematic plant checks. Therefore, we now offer our customers on-site plant checks by our qualified engineers.



- ☑ Transparency concerning error sources during operation
- ✓ If necessary, quick improvement of the plant operation through elimination of minor errors
- More stable plant operation through elimination of error sources
- ✓ Plant optimization to minimize wear and tear

#### Availability problems: Frequent causes and our solutions.

Availability problems can have various causes. While we have been able to effectively solve availability problems of MWM gensets and CHP plants through continuous product optimization, the MWM plant check is able to discover problems that arise from non-observance of our installation guidelines or application errors in the daily operation.

## State-of-the-art logistics: Made in Germany

#### Quick availability of spare parts

The MWM logistics center is one of the most modern of its kind worldwide. We make sure that you get your spare parts without delay. For the ordering and shipping of spare parts, optimized processes make for very short flow times. On request, orders received by 5 p.m. will be shipped on the same day.

State-of-the-art warehouse technology

State-of-the-art warehouse technology ensures maximum supply security. The entire supply chain – including the order center, the warehouse logistics, and the scheduling – is unified under one umbrella.

The MWM logistics center has more than 2 million spare parts on stock for delivery around the clock – from 0-rings weighing only 1 g to crankcases weighing a massive 20 t.

#### **Efficient logistics**

The logistics center is the central hub for all spare parts. From here, the company coordinates the world-wide shipping and supply. The short distance to the Mannheim production site guarantees highly efficient logistics. Moreover, being located only about 30 miles from the Frankfurt airport, in-house air freight partners ensure expedited shipping.

# Original MWM parts for perfect fit.

All parts of MWM gensets are designed for performance and efficiency. This also applies to our original spare parts, which are subject to the same regulations as standard parts. They are subject to the strict MWM quality control, and their specifications and design match the current state of the art. This guarantees maximum availability and performance.

#### Tested material quality

Thanks to our high quality and availability standards, MWM has gained a reputation for reliability and maximum operating life. This is just one of the fields in which we do not make any compromises.

## Facts and figures

Efficiency, reliability, high performance: central spare part logistics in Lorsch, Germany

Storage space	12,000 m²
Stock part numbers	ø 40,000
Operating hours Mon - Fr 7	:00 a.m. to 8 p.m.
Emergency service	24/7, 365 days



Now available: The product catalog of the MWM Service.

The product catalog of MWM Service provides our end customers and business partners with an overview of the products and services offered by MWM Service.

Customer-specific, personalized marketing of MWM Service products and services is possible through flexible product selection and entry of the business partner or contact.

Our business partners can directly customize the content of the MWM Service product catalog. All flyers provided are standardized and thus suitable for use around the globe. The brochures are available in English and German and can easily be produced in other languages as well.

The access\* takes place via the Service Portal https://tcg-portal.mwm.net

End customers are welcome to approach their usual contact at MWM.

\*For business partners and subsidiaries

## X-Change: High-end repair.

#### X-Change: Our refurbished replacement parts

X-Change for MWM engines offers an economically attractive alternative to on-site maintenance. With our factory expertise, we offer refurbished stripped engines, cylinder heads, and other replacement parts at short notice. Thus, you can benefit from manufacturer-grade quality of the replaced components. Another advantage is that the provision of needed parts minimizes downtimes. The take-back of the old parts closes the usage cycle. This saves resources and benefits your budget.







More than 2,000 refurbished engines and upwards of 100,000 cylinder heads in more than 20 years: Benefit from our experience.

#### Your MWM X-Change benefits

- ✓ Inexpensive, comprehensive solutions to keep your plant operable
- ✓ Outsourcing of time-consuming, complex repairs
- ✓ Fast order processing thanks to our stock
  of basic engines and spare parts
- ✓ Fast, accurately fitting solutions with professionally overhauled short and long blocks
- ✓ Cost-saving, resource-friendly
- ✓ Sustainability through reuse of components
- ✓ Maximum precision through standardized processes and modern measurement procedures
- ✓ Manufacturer warranty

# Replacement gensets: Installation of new cogeneration power plant engines in only four days.

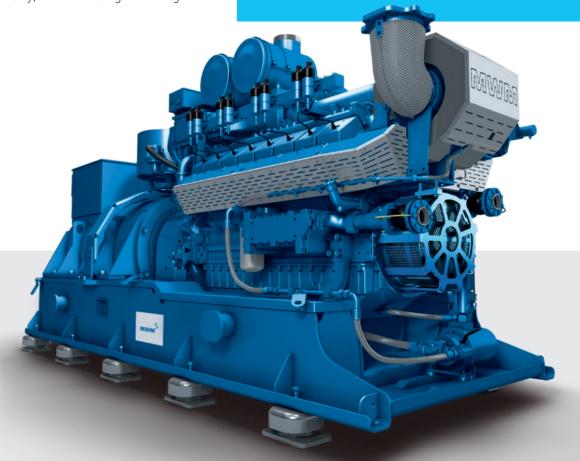
The MWM Service Centers in Germany offer fully refurbished replacement gensets for MWM TCG 2016 and TCG 2020 engines. This offering for the replacement of engines of cogeneration power plants with TCG 2016 and TCG 2020 gensets is unique among all MWM Service Centers and takes place according to the latest manufacturer specifications at attractive fixed prices.

## Minimum downtime of distributed energy generation despite general overhaul of key components

To ensure seamless operation and to minimize the downtime of the CHP (combined heat and power) plants, the gensets are ready for operation within only 3–4 days. To enable maintenance according to the latest manufacturer specifications, the engine replacement comprises a full overhaul and replacement of the frame, the coupling, and the generator. Only original MWM X-Change short blocks and cylinder heads, new MWM parts, MWM spare parts, and manufacturer-overhauled components are used for the engine replacement. Additionally, the entire engine wiring is replaced.

#### Overview of the offering

- ✓ Only 3–4 days of plant downtime for E70 maintenance
- ✓ General overhaul of engine, frame, coupling, and generator
- ✓ Use of original MWM X-Change short blocks and cylinder heads
- ✓ Use of MWM replacement and spare parts
- ✓ Component overhaul in our own workshop
- ✓ 12-month warranty without any cap on operating hours
- ✓ Transport, removal, installation, and commissioning
- ✓ Maintenance according to the latest manufacturer specifications
- ✓ Attractive prices



# Planning security is part of MWM's service.

MWM Service stands for a long-term trusting partnership with a clear goal: your economic success. Tailored to your needs, the service agreements provide you with a solid basis for calculation. Expert MWM maintenance is the best approach to prevent malfunction on a long-term basis.

MWM Service Agreements guarantee planning security over the entire term. Regular maintenance work by MWM Service ensures quality and efficiency that pay.



# Maximum performance, maximum availability – The formula for economic success.

#### MWM engines

MWM engines are designed for long-term high performances with a maximum level of efficiency and maximum service lives. This leads to a high return on investment and short amortization periods.

#### MWM high-performance engine oils

MWM engine oils enable longer oil change intervals with reduced lube oil consumption. The high cleanliness also minimizes the wear of the engine components and the formation of deposits on catalytic converters and exhaust heat exchangers.

#### MWM service contract

MWM service contract ensures tailored calculation and planning safety for the entire contract duration as well as the value retention of your plant. The highest plant quality at low overall operating costs is ensured.

#### MWM high-performace coolant

MWM Premium Antifreeze –20 has an optimized glycol content for safe frost and corrosion protection with a maximum heat transmission capacity. As a read-mix, MWM Premium Antifreeze –20 always has the correct inhibitor and glycol concentration.

# Training offerings for sales representatives, customers, and operators of MWM CHP plants.

The right know-how is crucial for correct operation and target-oriented sale of our gas gensets, power gensets, and CHP plants. For this reason, our training units are a key component of the extensive MWM Service range.

Our two Training Centers in Mannheim, Germany, effectively assist you with plant, technology, or project-specific training of your staff. We want you to be successful!

#### **Training Center Service**

Application-oriented training modules and contents spanning a wide range of subjects provide MWM customers with comprehensive knowledge and practical application competence, enabling them to operate their own combined heat and power plants, gas gensets, and power gensets correctly and perform minor maintenance tasks.

#### Training Center Sales

The Training Center Sales in Mannheim, Germany, provides MWM partners, distributors, and sales staff with target-oriented training for the sale of our MWM gensets, power gensets, and CHP plants. Usually, three days (Tuesday to Thursday) are required for the individual training blocks. Accommodation is available to participants at special conditions.



### Do not hesitate to contact us:

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