

www.mwm.net

TCG 2032

Efficiency straight down the line.

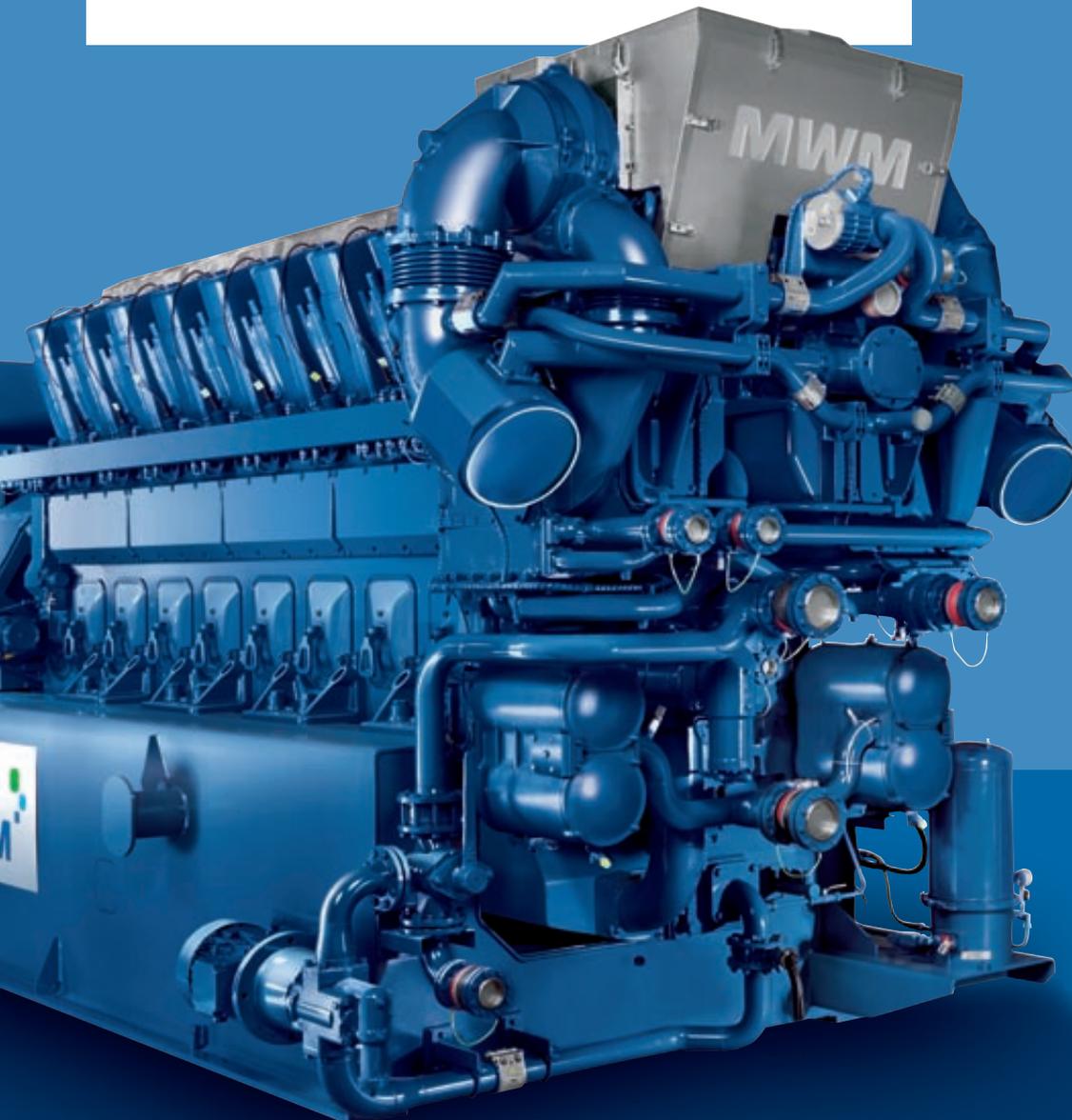


Reliability

System

Service

Profit



The TCG 2032. Top performance from MWM – used successfully worldwide.

Precision Energy, Bangladesh

In 2010, MWM shipped 15 TCG 2032 V16s to Precision Energy Bangladesh within just three months. The gas engines produce a constant overall output of 60 MW_{el}. All of the electric energy that has been generated is fed into the public grid. More information about this project can be found in our MWM movie “60 MW Around the World” at www.mwm.net.



AMD Dresden, Germany

MWM engines were chosen for the energy supply center of the AMD chip factory in Dresden, since our system generates electricity of supreme quality. Moreover, the waste heat is used for heat supply and cold production, thus achieving very high primary energy utilization.



Italiana Coke, Italy

MWM engines were installed for the environmentally friendly utilization of the coke oven gas generated at the coke oven plant Italiana Coke. The electricity rebate, whose amount is determined by law, gives the operator a secure income from the sale of the electricity generated at the plant, in addition to the company's core business, the production of metallurgic coke.



CITIC Guan project, China

The TCG 2032 V12 gas engines in Dongtai as well as the engines of the type TCG 2032 V16 in Xitai produce a total of 18 MW_{el} for the CITIC Guan project for the extraction of raw materials. Building the two plants at the salt lake of the Chaidam basin at an altitude of 3,000 m above sea level presented very special challenges to the project.



Strong arguments for a strong brand: MWM.

MWM has 140 years of experience

MWM has made a tradition out of innovation. We have been developing and building engines and gensets for a wide range of uses since 1871. Our global success is founded on having invented the most advanced four-stroke diesel engines. And, 30 years ago, we became one of the first manufacturers to revolutionize generator technology using high-performance gas engines. To this day we continue to work constantly on making our systems more efficient.

MWM understands what's really needed

Today, cost-effectiveness is crucial! MWM offers cooperation all along the line, which pays off right across the process chain. We are the complete partner to our customers: from the selection of the system layout for the project, all the way to service and repair.

MWM offers the most economical service concepts

With its worldwide service network, long service intervals and low maintenance costs, MWM Service is an important factor for lasting efficiency. Innovative offerings such as remote diagnosis, remote parameter configuration and the generation of operating values can be

provided cheaply anywhere in the world using the Internet. The new MWM Logistics Centre also means fast deliveries and low spares costs. Shortblocks can be delivered and assembled easily, so your system will be ready for operation in the shortest possible time. Another benefit is that our own training centre offers top-level, practically oriented courses for your technicians.

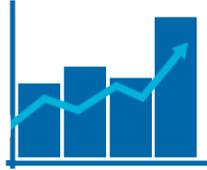
MWM thinks in terms of the complete solution

Only if all of the components in your system are selected and configured perfectly for your needs will you achieve optimum overall efficiency. We have the experience, the technology and the capacity. Our engineers can develop tailor-made complete solutions especially for you. From comprehensive cogeneration concepts for electricity, heat and cooling, to containerized solutions, to turn-key systems – MWM can develop complete concepts to suit your needs, and implement them reliably too. All in all, system engineering just the way you want it.

You can rely on MWM

Clear statements, transparent offers: we keep our promise. We are always there when you need us. Test us – on site, at your plant.

Performance. Reliability. Cost-effectiveness. For your success.



More profit

The optimized maintenance concept with cylinder units simplifies accessibility and, along with the reduction of the number of different parts, minimizes the time required for maintenance. This saves up to 20% in service costs. At the same time you profit from up to 30% less lubricating oil consumption compared to other engines.



Longer runtimes

Thanks to the extended service intervals, the TGC 2032 runs up to 200 hours longer per annum than comparable products.



Greater reliability

The particle-free combustion with chamber plugs extends the service intervals for the exhaust gas heat exchanger and reduces service costs compared to other combustion methods.



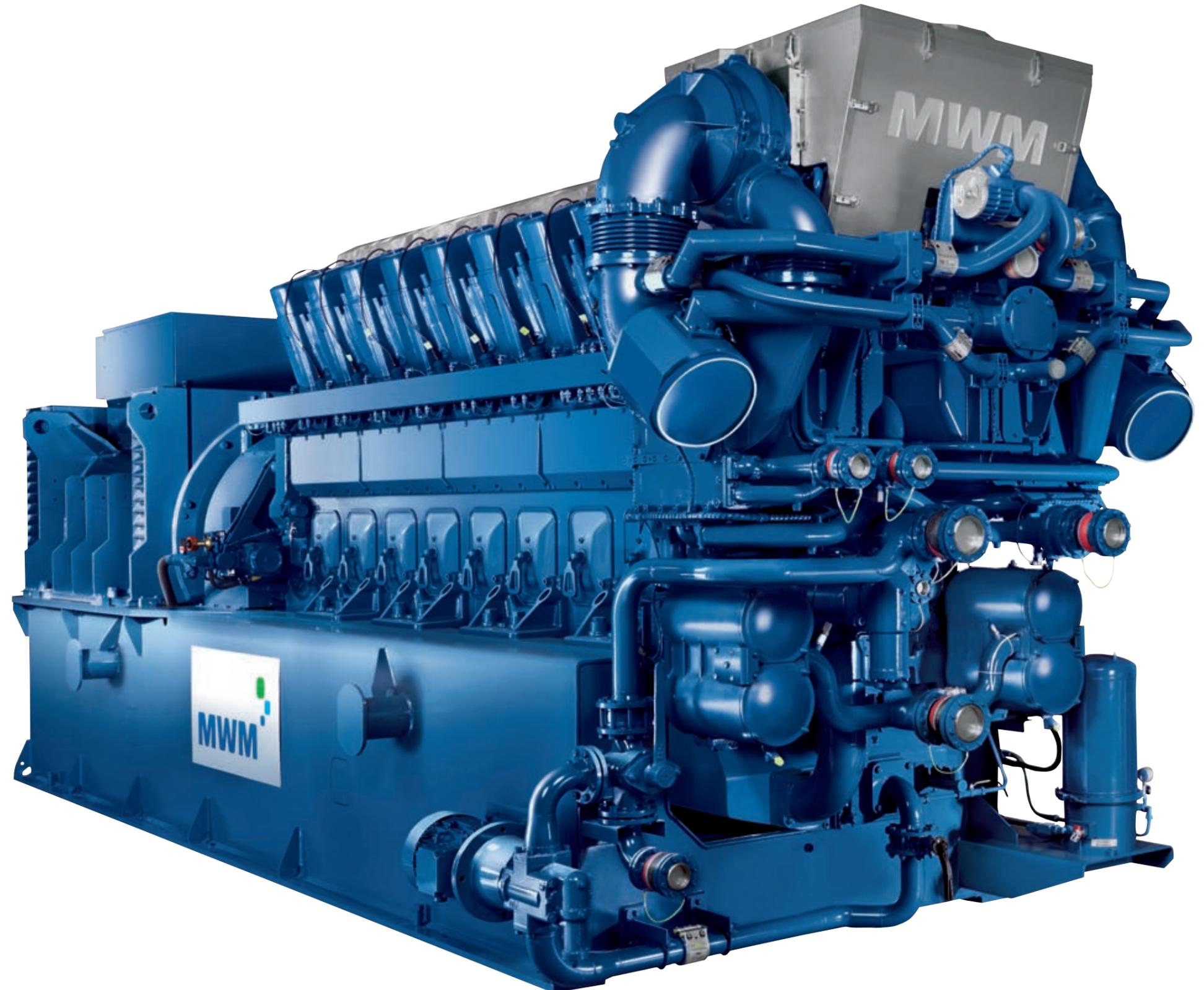
Optimum efficiency

State-of-the-art technologies, such as the optimized gas mixer and TEM (Total Electronic Management), ensure efficient operation even with such difficult gases as mine gas, landfill gas, or sewage gas. This is also true when the gas composition is fluctuating – thanks to fast response times due to the temperature monitoring for each cylinder. TEM not only controls the engine, but the entire system, including heat extraction.



Full turbo power

The new high-pressure turbo charger A140 in combination with optimized gas exchange allows the engine to run at full power, even under tropical conditions.



Technical data 50 Hz

Engine type		TCG 2032 V12	TCG 2032 V16
Bore/stroke	mm	260/320	260/320
Displacement	dm ³	203.9	271.8
Speed	min ⁻¹	1000	1000
Mean piston speed	m/s	10.7	10.7
Length	mm	8100	9300
Width	mm	2700	2700
Height	mm	3800	3800
Dry weight engine	kg	41000	50500

Natural gas applications

NO_x ≤ 500 mg/m_n^{3 1)}

dry exhaust pipes

Engine type		TCG 2032 V12	TCG 2032 V16
Electrical power ²⁾	kW	3333	4300
Mean effective pressure	bar	20.0	19.4
Thermal output ³⁾	±8% kW	3295	4274
Electrical efficiency ⁴⁾	%	43.5	43.5
Thermal efficiency ⁴⁾	%	43.0	43.2
Total efficiency ⁴⁾	%	86.5	86.7

Biogas applications

NO_x ≤ 500 mg/m_n^{3 1)}

Sewage gas (65% CH₄ / 35% CO₂)

Biogas (60% CH₄ / 32% CO₂, rest N₂)

Landfill gas (50% CH₄ / 27% CO₂, rest N₂)

minimum heating value H_u = 5.0 kWh/m_n³
dry exhaust pipes

Engine type		TCG 2032 V12	TCG 2032 V16
Electrical power ²⁾	kW	2830	3770
Mean effective pressure	bar	17.0	17.0
Thermal output ³⁾	±8% kW	2920	3853
Electrical efficiency ⁴⁾	%	42.3	42.5
Thermal efficiency ⁴⁾	%	43.6	43.4
Total efficiency ⁴⁾	%	85.9	85.9

1) NO_x-emissions: NO_x ≤ 0.5 g NO₂/m_n³ Exhaust gas dry at 5% O₂.

2) According to ISO 3046/1 at U = 11 kV, cosphi = 1 for 50 Hz and a minimum methane number of MN 70.

3) Exhaust gas cooled to 120°C with natural gas and to 180°C with biogas.

4) Valid for a methane number of MN 70.

Data for special gases and dual gas operation on request.

The values given on these datasheets are for information purposes only and not binding.

The information given in the offer is decisive.

Technical data 60 Hz

Engine type		TCG 2032 V12	TCG 2032 V16
Bore/stroke	mm	260/320	260/320
Displacement	dm ³	203.9	271.8
Speed	min ⁻¹	900	900
Mean piston speed	m/s	9.6	9.6
Length	mm	8000	9400
Width	mm	2700	2700
Height	mm	3800	3800
Dry weight engine	kg	40200	52000

Natural gas applications

NO_x ≤ 500 mg/m_n^{3 1)}

dry exhaust pipes

Engine type		TCG 2032 V12	TCG 2032 V16
Electrical power ²⁾	kW	3000	4000
Mean effective pressure	bar	18.1	18.1
Thermal output ³⁾	±8% kW	2898	3890
Electrical efficiency ⁴⁾	%	43.6	43.6
Thermal efficiency ⁴⁾	%	42.1	42.4
Total efficiency ⁴⁾	%	85.7	86.0

Biogas applications

NO_x ≤ 500 mg/m_n^{3 1)}

Sewage gas (65% CH₄ / 35% CO₂)

Biogas (60% CH₄ / 32% CO₂, rest N₂)

Landfill gas (50% CH₄ / 27% CO₂, rest N₂)

minimum heating value H_u = 5.0 kWh/m_n³
dry exhaust pipes

Engine type		TCG 2032 V12	TCG 2032 V16
Electrical power ²⁾	kW	2530	3370
Mean effective pressure	bar	17.0	17.0
Thermal output ³⁾	±8% kW	2587	3453
Electrical efficiency ⁴⁾	%	42.2	42.3
Thermal efficiency ⁴⁾	%	43.1	43.4
Total efficiency ⁴⁾	%	85.3	85.7

1) NO_x-emissions: NO_x ≤ 0.5 g NO₂/m_n³ Exhaust gas dry at 5% O₂.

2) According to ISO 3046/1 at U = 13.8 kV, cosphi = 1 for 50 Hz and a minimum methane number of MN 80.

3) Exhaust gas cooled to 120°C with natural gas and to 180°C with biogas.

4) Valid for a methane number of MN 80.

Data for special gases and dual gas operation on request.

The values given on these datasheets are for information purposes only and not binding.

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Performance

