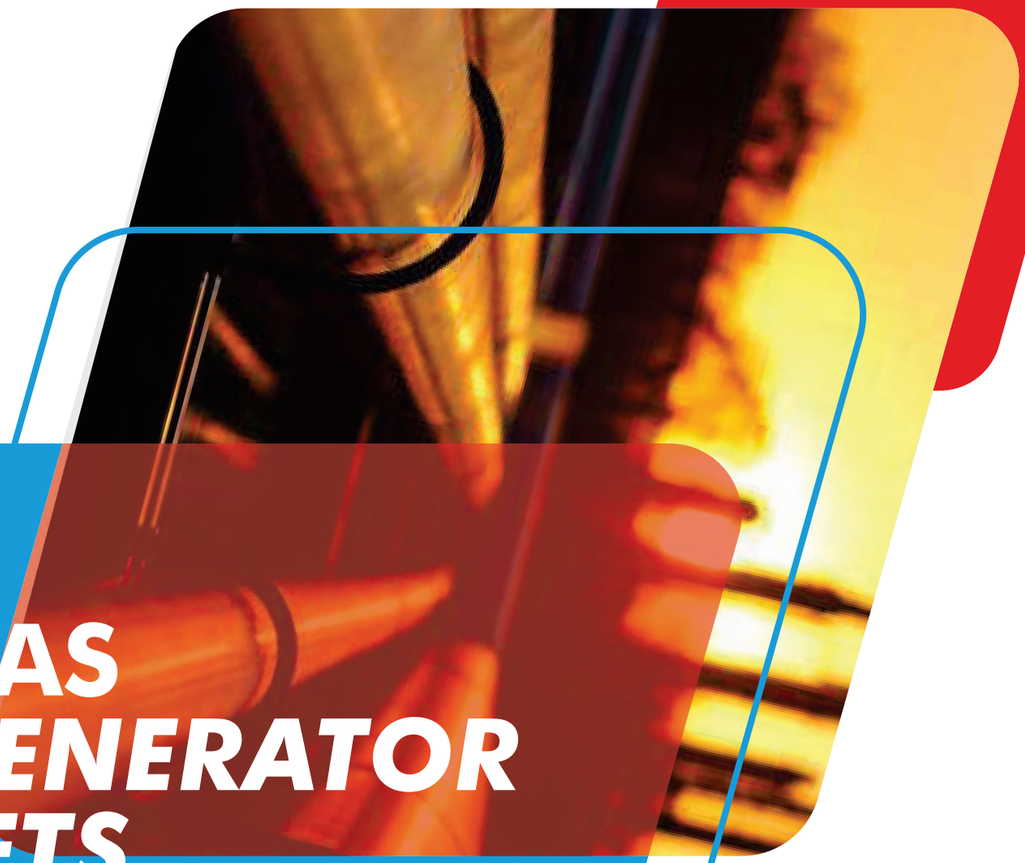
CCETC Clean Energy | Powered by MWM

AntEnergy Ltd



GAS GENERATOR SETS

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Marketed by AntEnergy Ltd

ABOUT US

As the authorized manufacturer of MMM, CCETC Power Equipment Co. Ltd. is a new energy company specialized in the manufacturing gas and fuel generating sets power plant investment, EPC engineering and operation and maintenance service. CCETC will be adhering to the “heritage, innovation, value” concept, continue to create value for customers.

Our development goal is: to become the world’s leading clean power provider!

CONTENT

Gas Applications

Gensets can be operated with natural gas, biogas, landfill, sewage, and coalmine gas as well as a wide variety of special gases.
Always a step ahead: key technologies for high-performance, efficient and clean engines.The MWM portfolio is perfectly geared to the challenges of a dynamic market environment. Our gas engines and generator sets with a capacity of 400 to 4,500 KWel (50 Hz) meet the high requirements of a broad range of applications and guarantee efficiency, reliability, flexibility and environmental sustainability, together with low lifecycle costs and high profitability. For distributed power generation, we cover an output range between 300 kWel and 100 MWel with our generator sets.

Biogas as energy source

Biogas – a mixture of methane and carbon dioxide – is created during anaerobic fermentation and serves as a highly efficient and profitable alternative for power generation. Biogas-fueled gas engines improve waste management while maximizing the use of an economical energy supply.

Agricultural biogas plant concept

The process of biogas generation is divided into three steps:

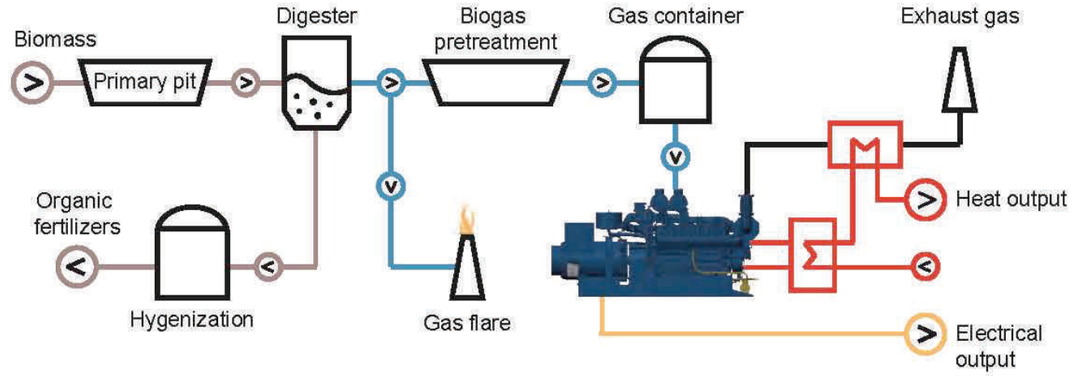
- Preparation of the bio-input
- Fermentation
- Post-treatment of the residual material

At the start, the organic material is collected in a primary pit, sterilized to remove to the digester. The biogas produced in the digester is collected in a gas storage tank to ensure a continuous supply of gas, independent of fluctuations in the gas production. Finally, the biogas is fed into a gas engine.
For safety reasons, the installation of a gas flare is recommended so that excess gas can be burned off in the event of excessive gas production. The end product from the fermentation of the biomass can be utilized as fertilizer. The gas mixture produced in the digester consists of 45 to 70% methane (CH_4) and 20 to 55% carbon dioxide (CO_2). This composition makes biogas well suited for combustion in gas engines.

Advantages of using own biogas in agricultural power plants

- High potential for reduction of greenhouse gases
- An alternative disposal of dung, liquid manure and biowaste, while simultaneously harnessing energy
- Remaining substrate is used as high-quality agricultural fertilizer, characterized by its neutralized acid, higher ph-value, retained nutrients and lack of odor.

We offer gas engines specially matched to biogas, complete systems as well as containers for combined heat and power. These systems achieve the highest levels of efficiency in the various power segments. What's more, we also provide the required system components for gas treatment and purification. For installation of the generator in remote areas, the generated energy can also be used exclusively by the system.



Landfill gas as an energy source

Landfill gas is produced naturally as organic waste decomposes in landfills. It is composed of methane and small amounts of non-methane organic compounds. Depending on the landfill design and its management, as well as waste composition, compaction, moisture and several other factors, thousands of landfills are available worldwide to collect and utilize this valuable energy source for power generation.

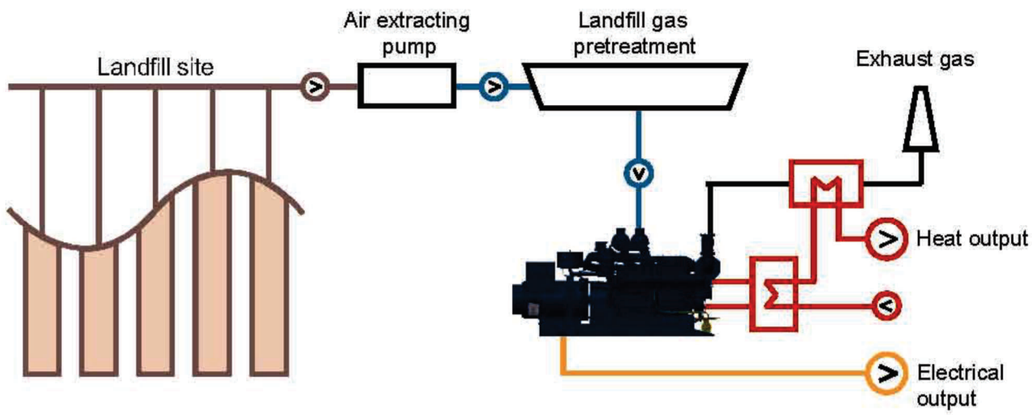
Landfill gas plant concept

Operators of landfill-gas-to-energy power systems, such as municipalities, generally use blowers or vacuums to direct the gas from a collection site through a network of pipes to a central facility. Before the landfill gas can be fed into the gas engines, it needs to be dried and compressed. Severe contaminants such as siloxanes should be removed if exceeding a certain level. Not only will these measures considerably increase the availability, but they also will reduce the O&M engine costs. Since landfills are usually located near big cities, emission standards are becoming more and more rigid in many countries. To comply with those standards, the whole system must be managed, beginning with the fuel gas conditioning up to the installation of an exhaust treatment device, if needed.

Advantages of deploying landfill-gas-to-energy power generators

- Extend equipment life and maintenance intervals for landfill applications
- Deliver improved output and reliability
- Offer lower operating and maintenance costs
- Efficient solutions even for the lowest methane content
- Reduce environmental impact

With today's focus on renewable energy and carbon emissions reductions, landfill-gas-to-energy projects are gaining momentum. We continually researches, develops and delivers landfill gas products specifically designed to be operated on landfill gas fuels.



Sewage gas as an energy source

Previous generations of waste water professionals have often accepted the high costs of operating waste water treatment facilities as a consequence of meeting their discharge permit requirements. However, as the costs of energy rises and emphasis on renewable energy increases, municipalities are now seeking cost-effective and energy-efficient solutions.

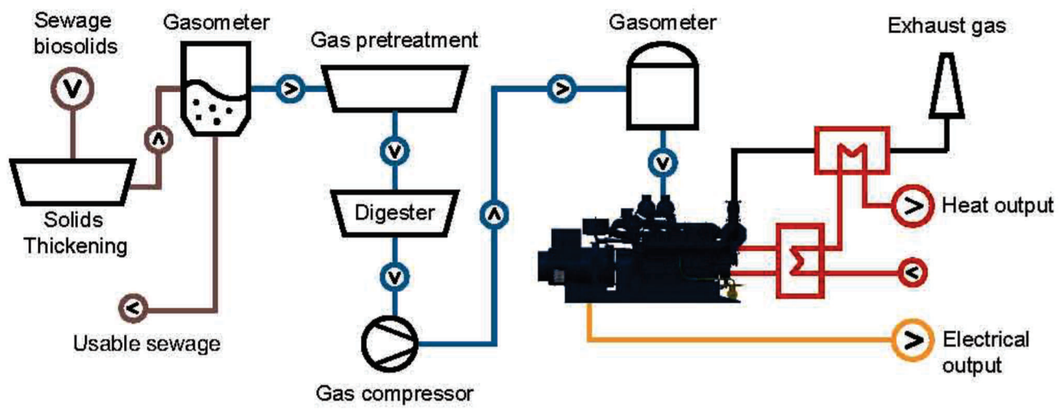
Sewage gas plant concept

Many wastewater treatment facilities use waste gas or digester gas from wastewater treatment as a fuel source of generator sets. This gas is comprised mostly of methane and carbon dioxide that is generated by wastewater digesters used in the water treatment process. This waste gas is then captured and used by gas engines to provide the plant with electricity and heat for the digester or other thermal loads.

Advantages of sewage -gas-to energy projects

- Increased energy efficiency
- Reduced electricity costs
- Decreased environmental impact

We provide tailored solutions that result in long-term savings for wastewater treatment plants. Our customers receive expert advice on how to design, install and maintain power plants designed especially for wastewater plant gas fuel.

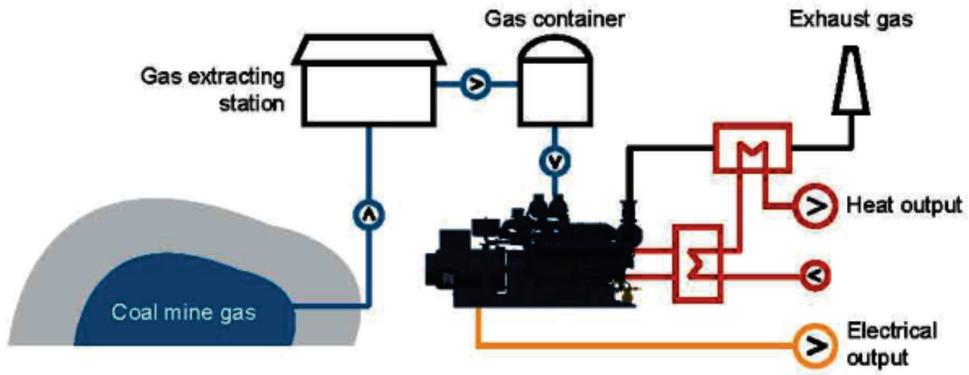


Coal mine gas as an energy source

Coal mine gas develops during the geochemical conversion of organic substances to coal (carbonization). It is present in fissures, faults and pores of coal seams and as adsorbed gas on the inner surface of coal and neighboring rock. Worldwide, many underground mines with a certain rank, permeability and location of coal strata can be considered gassy.

Power and heat from coal mine gas

Coal mine gas is released from seams of coal during mining activities. We distinguish between four kinds of coal mine gas: Methane exhausted from unexplored coal beds (CBM), methane coming from active underground mining (CMM), methane exhausted from abandoned mines (AMM) and lean gas. Due to the high methane content of 30 to 95 %, especially CBM, CMM and AMM are suitable for the utilization in gas engines. Only lean gas cannot be used for energy generation, because of the low methane content of 0.2 – 1.5%.
By using coal mine gas with a methane content of up to 30 percent, methane, which is harmful to the environment, can be converted to energy.



Advantages of coal mine gas plants

The use of coal mine gas in a gas engine has two main advantages: First, methane is converted into CO2 by combustion. CO2 is up to 25 times less harmful to the environment. Second, up to 90 % of the energy bound in methane is converted into power and warmth.

Natural gas as an energy

Natural gas is a gas which is largely composed of methane. It is extracted from underground deposits, mostly together with crude oil, and features a methane content of about 80 to 99 percent depending on the composition. Further constituents include ethane, propane, butane and ethene as well as carbon dioxide and nitrogen. Depending on the composition, the usable heat value varies from 9.5 to 10.5 kWh / Nm³; natural gas is therefore ideally suited as a fuel for gas engines.

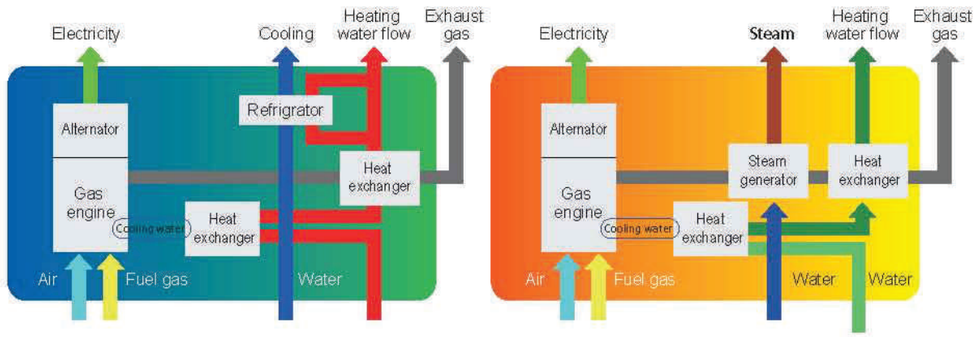
Today, natural gas is one of the most important sources of energy. The demand is on the rise, and fossil resources are becoming increasingly valuable. Rising natural gas prices and the need for sustainable conservation of the environment necessitate maximum efficiency in the transformation of energy to power, heat, and cold. Today, highly efficient power production and cogeneration (CHP) plants run on natural gas.

Distributed Energy

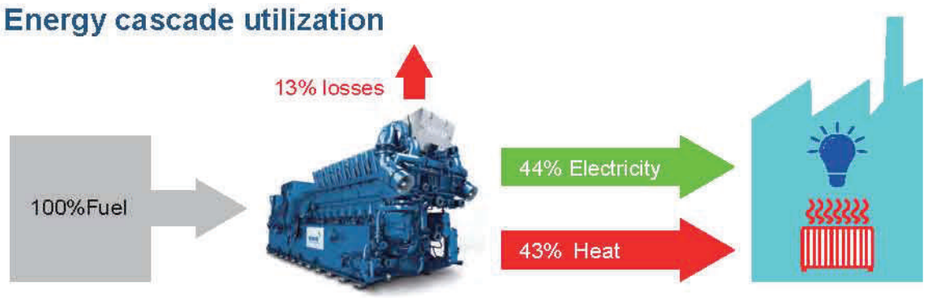
Distributed energy can make rational use of resources, reduce wastage, reduce pollution, operate flexibly and economically, and greatly reduce CO2 emissions.

Features of distributed energy	
■ total efficiency up to 88% ;	■ solutions to maximize environmental
■ energy cascade utilization ;	benefits according to customer needs

CCHP	CHP
CCHP: Combined Heat, Power and Cooling	CHP: Combined Heat and Power
■ improve energy utilization rate	■ distributed energy
■ refrigeration and heating with waste heat	■ operate in grid-connected or island mode
■ high economic benefit	■ further utilization of waste heat to improve energy utilization



Energy cascade utilization

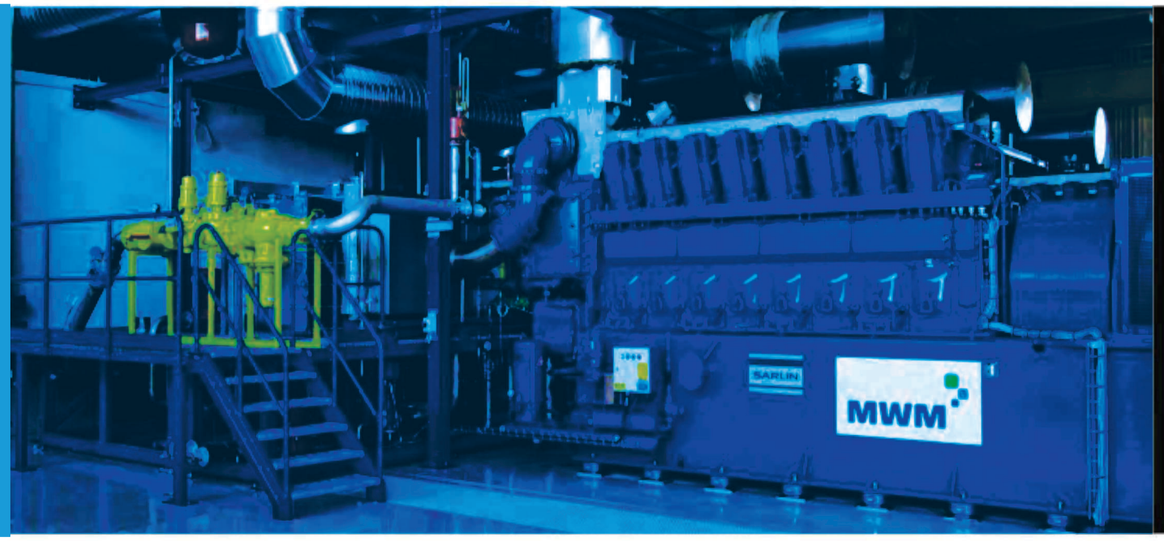


Waste Heat Utilization Table

Genset type		CEN400M	CEN600M	CEN800M	CES400M	CES600M	CES800M
Genset power	[kW]	400	600	800	400	600	800
Engine type	MWM	TCG2016V08C	TCG2016V12C	TCG2016V16C	TCG2016V08C	TCG2016V12C	TCG2016V16C
Fuel type		NG	NG	NG	Biogas	Biogas	Biogas
Fuel consumption	[Nm^3/h][1]	96	145	192	192	289	383
Exhaust gas temperature	[℃]	451	458	458	446	450	446
				Heating[6]			
Exhaust gas heating capacity	[kW]	200	308	407	160	245	320
Hot water heating capacity	[kW]	191	286	369	202	299	400
Total heating capacity	[kW]	391	594	776	362	544	720
				Cooling			
Exhaust gas cooling capacity	[kW][2]	266	410	542	214	326	427
Heating water cooling capacity	[kW][3]	161	242	312	170	252	337
Hot water lithium bromide absorption	[kW][4]	297	451	590	275	413	547
Exhaust gas - hot water lithium bromide absorption	[kW][5]	412	627	819	382	574	760
				Heating water			
Heating water from exhaust gas (10→60℃)	[t/h]	3.4	5.3	7.0	2.7	4.2	5.5
Heating water from hot water (10→60℃)	[t/h]	3.3	4.9	6.3	3.5	5.1	6.9
60℃ heating water (10→60℃)	[t/h]	6.7	10.2	13.3	6.2	9.3	12.3
90℃ heating water (10→90℃)	[t/h]	4.2	6.4	8.3	3.9	5.8	7.7
95℃ air conditioning (75→95℃)	[t/h]	16.7	25.5	33.2	15.5	23.3	30.9
				Steam			
8 bar steam from exhaust gas	[t/h]	0.3	0.4	0.5	0.3	0.4	0.5

Notes :

1. Calorific value of natural gas is calculated by 36MJ/Nm3 and that of biogas is calculated by 18MJ/Nm3.
2. The COP of exhaust gas lithium bromide absorption genset is calculated as 1.2. The natural gas genset is cooled to 120℃ and the biogas genset is cooled to 180℃.
3. The COP of hot water lithium bromide absorption genset is calculated as 0.76.
4. Using the heat of cylinder liner water and exhaust gas to generate hot water through heat exchanger (efficiency 90%) into hot water lithium bromide absorption genset;
5. The COP of exhaust gas-hot water lithium bromide absorption genset is calculated as 0.95.
6. Heat recovery is calculated by 90% efficiency.



The future of efficiency is digital.

With MWM Digital Power, the energy market enters a new age. State-of-the-art components combined with smart and secure data analysis ensure improved maintenance, efficiency and optimized capacity utilization of your plants.

The new gas engines and turnkey solutions represent an entirely new development – perfectly tailored to the challenges of Industry 4.0 and the changed framework conditions of a dynamic energy market in the age of global value chains.

Superior operation and efficiency

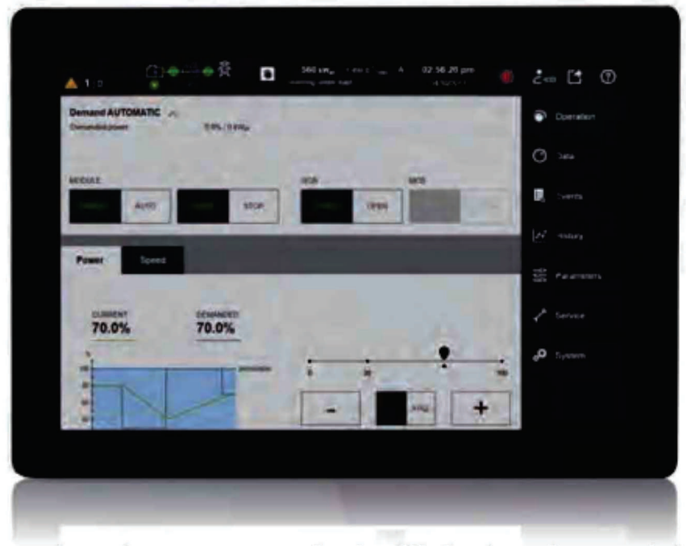
Best total cost of ownership in its power range through unique combination of a long operating period until the major overhaul (80,000 hour for natural gas)and outstanding efficiency (electrical efficiency of up to 43.5 percent)

Lower gas consumption
through improved efficiency and fuel flexibility

Reduced maintenance costs
through longer service intervals and longer operating hours until the major overhaul

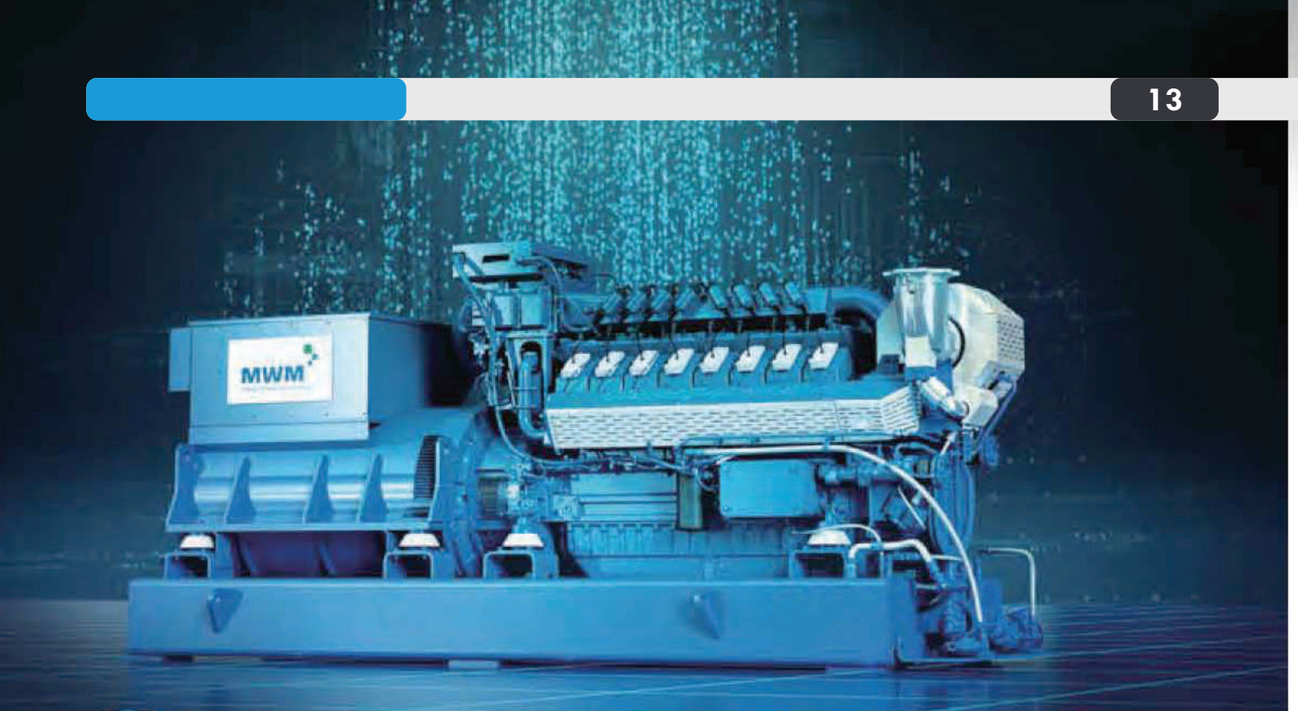
Lower lube oil consumption
lead to lower operating cost

Improved durability
ensures higher reliability and availability



State–of–the–art system: economical, efficient and complete

- **One user interface**
  - ☑ Complete power plant control and setup
- **Remote access**
  - ☑ Remote power plant control on site and via VPN connection with the free visualization "TPEM Remote Client"
- **Security-oriented technology**
  - ☑ Meets latest ISO 27001 standards
  - ☑ Safety chain for cogeneration plant monitoring (TüV-certified)



Set up

- Custom-tailored technical solutions
- One integrated, flexible control system for all electric power applications
- Multiple functionalities for individual solutions

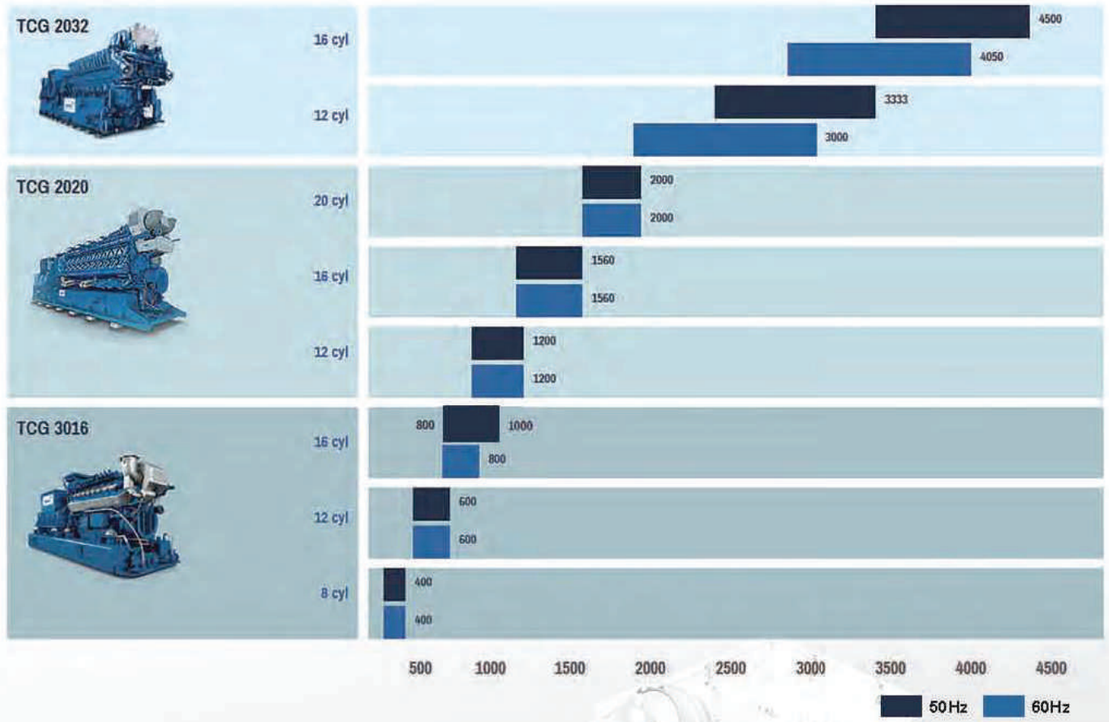
Operate

- High efficiency through optimal power plant control
- Custom-tailored technical solutions
- Enables remote power plant management and monitoring
- Use the full genset potential with maximum reliability

Optimize

- Data management and analysis delivers information for optimizing the power plant
- Life cycle history enables the logging of and access to data throughout the life cycle of the genset and the peripherals

Output range from 400 kWel to 4,500 KWel



MWM's product portfolio comprises gas engines and gensets in the output range from 400 kWel to 4,500 kWel. In this way, it is possible to set up power plants with an output of up to 100,000 kWel and more.

THE COMPACT MWM PERFORMANCE PACKAGE.

More profit

The TCG 2016 is highly efficient thanks to its optimized inlet duct, combustion chamber and spark plugs. Save as much as 15% per annum on fuel costs - and increase your plant's profitability.

Less overall cost

With its optimized engine components, the TCG 2016 requires up to 50% less lubricating oil than other similar gensets. In terms of efficiency that means long-term savings.

Lower installation costs

Thanks to its smaller dimensions (width x length), the TCG 2016 takes up to 50% less space than comparable systems. For you, that means lower installaion costs.

Optimum control concept

TEM (total Electronic Management) controls not just the engine but the entire system including the heat supply from cogeneration. Temperature monitoring for each cylinder and anti-knock control ensure the best possible utilization of fuel and maximum power output, even if gas composition fluctuates.

Flexible usage

The latest technology such as our gas-mixer and TEM allows you to use a wide variety of gases. Even the most problematic gases such as colliery gas, landfill gas and sewage gas can be used without difficulty.

Gas Genset

MWM engine
Power: 400kW, 600kW, 800kW
RPM: 1500RPM/1800RPM
Voltage: 0.4 / 6.3 / 10.5kV
Frequency: 50/60Hz

Application

Hospital
Hotel
Public transport hub
Factories or industrial zones for refrigeration(heat)requirements
Data center

Technical data 50Hz

Natural gas applications

NOx ≤500mg/m_n^3 1) Dry exhaust manifold

Genset type		CEN400M	CEN600M	CEN800M
Engine type		TCG 2016 V08 C	TCG 2016 V12 C	TCG 2016 V16 C
Electrical power	kW	400	600	800
Thermal output ±8%	kW	434	660	862
Electrical efficiency	%	42.0	41.8	42.3
Thermal efficiency	%	45.5	46.0	45.6
Total efficiency	%	87.5	87.8	87.9

Biogas applications

Sewage gas（65% CH_4 / 35% CO_2）
Biogas （60% CH_4 / 32% CO_2， rest N_2）
Landfill gas （50% CH_4 / 27% CO_2 ， rest N_2）

NOx≤500mg/m_n^3 1)
LHV Hu=5.0kWh/m_n^3
Dry exhaust manifold

Engine type		CES400M	CES600M	CES800M
Engine type		TCG 2016 V08 C	TCG 2016 V12 C	TCG 2016 V16 C
Electrical power	kW	400	600	800
Thermal output ±8%	kW	402	604	800
Electrical efficiency	%	41.7	41.6	41.8
Thermal efficiency	%	41.9	41.9	41.8
Total efficiency	%	83.6	83.5	83.6

Technical data 60Hz

Natural gas applications

NOx ≤500mg/m_n^3 1) Dry exhaust manifold

Genset type		CEN400M	CEN600M	CEN800M
Engine type		TCG 2016 V08 C	TCG 2016 V12 C	TCG 2016 V16 C
Electrical power	kW	400	600	800
Thermal output ±8%	kW	447	680	892
Electrical efficiency	%	41.2	41.1	41.5
Thermal efficiency	%	46.0	46.6	46.2
Total efficiency	%	87.2	87.7	87.7

Biogas applications

Sewage gas（65% CH_4 / 35% CO_2）
Biogas （60% CH_4 / 32% CO_2， rest N_2）
Landfill gas （50% CH_4 / 27% CO_2 ， rest N_2）

NOx≤500mg/m_n^3 1)
LHV Hu=5.0kWh/m_n^3
Dry exhaust manifold

Engine type		CES400M	CES600M	CES800M
Engine type		TCG 2016 V08 C	TCG 2016 V12 C	TCG 2016 V16 C
Electrical power	kW	400	600	800
Thermal output ±8%	kW	424	645	845
Electrical efficiency	%	41.5	41.3	41.6
Thermal efficiency	%	43.9	44.4	44.0
Total efficiency	%	85.4	85.7	85.6

Genset size

Open-type(Length x Width x Height)		Enclosure(Width x Height x Length)	
CEN400M	3.07×1.48×2.28 m	CEN400M	2.438×2.896×10.973 m
CEN600M	3.70×1.45×2.20 m	CEN600M	2.438×2.896×12.192 m
CEN800M	4.40×1.48×2.20 m	CEN800M	2.438×2.896×12.192 m

Notes: 1) NOx ≤500mg/mn3 (exhaust gas dry at 5% O2) ;
2) Exhaust gas cooled to 120%with natural gas and 150℃ with biogas ;
3) The values given on these date sheets are for information purposes only and not binding

TCG 3016. NEW on the block

Robust. Efficient. Digital.

The TCG 3016 is the first of a new generation: State-of-the-art components and the TPEM (Total Plant & Energy Management) control ensure maximum reliability and availability. The improved oil management and optimized cylinder and turbo chargers set new standards in terms of durability and reliability.

▪ Highest efficiency in its power range

- ☑ Electrical efficiency of up to 43.5 percent
- ☑ Maximum profitability through rock-bottom operating costs
- ☑ More efficiency through numerically optimized, low-loss flow design

▪ Optimized lube oil management

- ☑ Lowest-in-class lube oil consumption: < 0.1 g/kWh $_{el}$
- ☑ Longer oil change intervals
- ☑ Oil tank and integrated daily refill tank

▪ Flanged genset concept

- ☑ Vibration-decoupled base frame for lower installation costs and reliable operation
- ☑ Greater integrated lube oil volume
- ☑ Integrated oil management

▪ Improved turbo charger for a wide field of deployment

- ☑ Longer maintenance intervals
- ☑ Wider suction air temperature window

▪ Higher availability and longer useful life

- ☑ Optimized combustion through evenly charged cylinders
- ☑ Optimized combustion with lower peak pressure
- ☑ Smoothly running, low-vibration genset

▪ Maximum reliability

- ☑ Very good island mode capability
- ☑ Fulfills G1, G2 & G3 classes according to ISO 8528 with less than 10 steps in most applications

▪ TPEM – the new control system

- ☑ Easy human-machine interface
- ☑ Fully integrated remote access
- ☑ Expanded scope, e.g. synchronization, power switch, and plant control

Gas Genset

MWM engine
Power: 400kW, 600kW, 800kW
RPM: 1500RPM/1800RPM
Voltage: 0.4 / 6.3 / 10.5kV
Frequency: 50/60Hz

Application

Hospital
Hotel
Public transport hub
Factories or industrial zones for refrigeration(heat)requirements
Data center

Technical data 50 Hz

Engine type	TCG3016	V08	V12	V16	V16 S
Bore/stroke	mm	132/160	132/160	132/160	132/160
Displacement	dm^3	17.5	26.3	35.0	35.0
Speed	min^{-1}	1500	1500	1500	1500
Mean piston speed	m/s	8.0	8.0	8.0	8.0
Length	mm	3100	3830	4200	4200
Width	mm	1780	1780	1780	1780
Height	mm	2150	2150	2150	2150
Dry weight genset	kg	5720	7000	8070	8560

Natural gas applications

NOx ≤500mg/m_n^3 1)

Engine type	TCG3016	V08	V12	V16	V16 S
Electrical power	kW	400	600	800	1000
Mean effective pressure	bar	18.9	18.9	18.8	23.5
Thermal output ±8%	kW	404	618	821	1139
Electrical efficiency	%	43.1	43.3	43.5	41.0
Thermal efficiency	%	43.6	44.6	44.6	47.0
Total efficiency	%	86.7	87.9	88.1	88.0

Biogas applications

Sewage gas （65% CH_4 / 35% CO_2）
Biogas （60% CH_4 / 32% CO_2， rest N_2）
Landfill gas （50% CH_4 / 27% CO_2， rest N_2）

NOx≤500mg/m_n^3 1)
LHV Hu=5.0kWh/m_n^3

Engine type	TCG3016	V08	V12	V16
Electrical power	kW	400	600	800
Mean effective pressure	bar	18.9	18.9	18.8
Thermal output ±8%	kW	394	599	791
Electrical efficiency	%	42.8	42.9	43.1
Thermal efficiency	%	42.2	42.8	42.6
Total efficiency	%	85.0	85.7	85.7

Technical data 60 Hz

Engine type	TCG3016	V08	V12	V16
Bore/stroke	mm	132/160	132/160	132/160
Displacement	dm^3	17.5	26.3	35.0
Speed	min^{-1}	1800	1800	1800
Mean piston speed	m/s	9.6	9.6	9.6
Length	mm	3100	3830	4200
Width	mm	1780	1780	1780
Height	mm	2150	2150	2150
Dry weight genset	kg	5720	7000	7700

Natural gas applications

NOx ≤500mg/m_n^3 1)

Engine type	TCG3016	V08	V12	V16
Electrical power	kW	400	600	800
Mean effective pressure	bar	15.9	15.7	15.7
Thermal output ±8%	kW	427	648	856
Electrical efficiency	%	42.2	42.4	42.6
Thermal efficiency	%	45.1	45.7	45.5
Total efficiency	%	87.3	88.1	88.1

Biogas applications

Sewage gas （65% CH_4 / 35% CO_2）
Biogas （60% CH_4 / 32% CO_2， rest N_2）
Landfill gas （50% CH_4 / 27% CO_2， rest N_2）

NOx≤500mg/m_n^3 1)
LHV Hu=5.0kWh/m_n^3

Engine type	TCG3016	V08	V12	V16
Electrical power	kW	400	600	800
Mean effective pressure	bar	15.8	15.7	15.7
Thermal output ±8%	kW	414	627	827
Electrical efficiency	%	41.6	41.7	41.9
Thermal efficiency	%	43.1	43.6	43.3
Total efficiency	%	84.7	85.3	85.2

MWM CASES AROUND THE WORD

With MWM, you benefit from about 150 years of experience in gas engine technology and energy generation.

Wentorf Biogas Plant

Norbert Hack, plant operator: “I’ve been running the TCG 3016 for a few months. As far as I’m concerned, this is the most efficient engine currently available on the market. Compared to its output, its biogas consumption is astonishingly low. The engine is perfectly tuned and runs very quietly. I have already seen many other gensets and models at my colleagues’ facilities, but this engine’s quality is truly outstanding - a genuine trend-setter. The new development (TPEM) from Mannheim will doubtlessly make the interaction between the control and the engine even more effective. The TPEM offers more possibilities for reading out engine data, which will further improve the plant operation.”

Anderlingen-Ohrel, Grmany

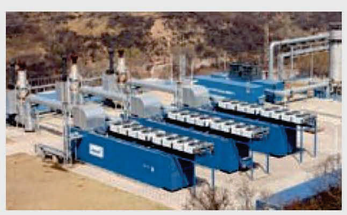
A container-hosted TCG 2016 V08 C generates 3,200 MWh of power and 2,552 MWh of heat a year, which are used for the biogas plant. Additionally, a previously installed TCG 2016 V16 B, which runs on gas from the same plant, supplies a local heat network. The integrated MWM biogas processing secures the technology bonus according to the German Renewable Energies Act.

Biogas Plant Géotexia, France

The biogas plant in Brittany, France, uses pig manure and industrial fats to produce round 700m3 of biogas per hour. The biogas is used in 2 containerized TCG 2016 V16C. The special feature of this plant is the complete recycling of the fermentation residues for dry an liquid fertilizers. Also the waste water is cleaned in a hydrolyse an reverse osmosis and then used for irrigation of a wood planation.

CHP Plant, Kletkamp Farm, Germany

Nawaro Kletkamp GmbH&Co. KG uses a biogas CHP plant. Every day, about 20 tons of corn silage are used as input substance. The engine’s exhaust heat is used to dry grain and to heat the company’s own buildings as well as part of the neighboring town of Ltjenburg. Following the fermentation processes, the residual substrate is used as fertilizer. In total the plant saves 4,000 tons of CO2 equivalents a year.



Coal mine Taiyuan, China

In 2008, MWM equipped the state coal mine in Taiyuan with a total of three TCG 2020 V20 gensets. The plant uses the coal mine gas for the generation of power. The procedure easily met the requirements of the CDM certification, thereby qualifying the plant for CDM subsidies. Consequently, the client ordered another four TCG 2020 V20 units.

Bioenergie Fargau GmbH & Co. KG Fargau / Plön, Germany

“The 2010 investment in the cogeneration power plant including the MWM TCG 2016 gas engine was the right decision. I’m very satisfied with the engine and the service provided by MWM. The plant achieves power production of 3.7 million kWh and a thermal output of 3 million kWh per year. The utilization of thermal energy is practically 100%: Thanks to the operation of a digestion residue dryer, we utilize the waste heat of the genset for drying the digestion residue produced by the system. This enables us to produce a high-grade and sterile bedding material for our cow barn. At the same time, we achieve high overall efficiency, which also allows us to meet the planned amortization period.”

Van der Knaap, Berkel en Rodenrijs

“We’ve been operating at our current location since 2003. With a company surface area of 10.8 ha, a CHP offered attractive possibilities. When we started to look around, we found that the price levels of CHPs were more or less comparable. We therefore had to use other criteria in the selection of a supplier. The decisive factor for us was the short lead time offered by MWM. And we do not regret the choice we made. The systems were supplied and installed entirely according to schedule.

Kwekerij Darolin, Brakel

“At the end of 2008, we opened our latest nursery, Darolin II. The selection of a CHP was pretty obvious. Right now, CHP is the most profitable solution. We use about half of the power that is generated, and the other half goes straight back to the grid. We’d already had a lot of experience with the MWM CHP because we’ve got CHP at other locations too. In total, we’re talking about approximately 5 megawatt.”

Ronald Bunnik Bromelia’s, Pijnacker

“We started looking for a system which met the needs of our specific situation. Together with Ronald-Jan Post from DLV, we decided to install 2.4 megawatt, divided in two 1.2-megawatt engines. That flexibility is crucial for us, as each season has different light levels. This means that we don’t constantly need to operate at full power. Our discussions with MWM were very enjoyable and they offered us a suitable solution for a good price. I assume that MWM will fulfil its service promise too, because we are charged for every hour that we fail to deliver to the grid!”

Weinheim Wastewater Treatment Plant, Bergstrasse Waste Water Utility District Weinheim/Bergstrasse, Germany

In addition to the CHP plants, the Weinheim Wastewater Treatment Plant has over 5,000 m2 of photovoltaic panels installed on the roof tops of the buildings, yielding up to 560,000 kWh/year. Together with the cogeneration power plants, they produce up to 162% of the plant’s own electricity requirement.another four TCG 2020 V20 units.

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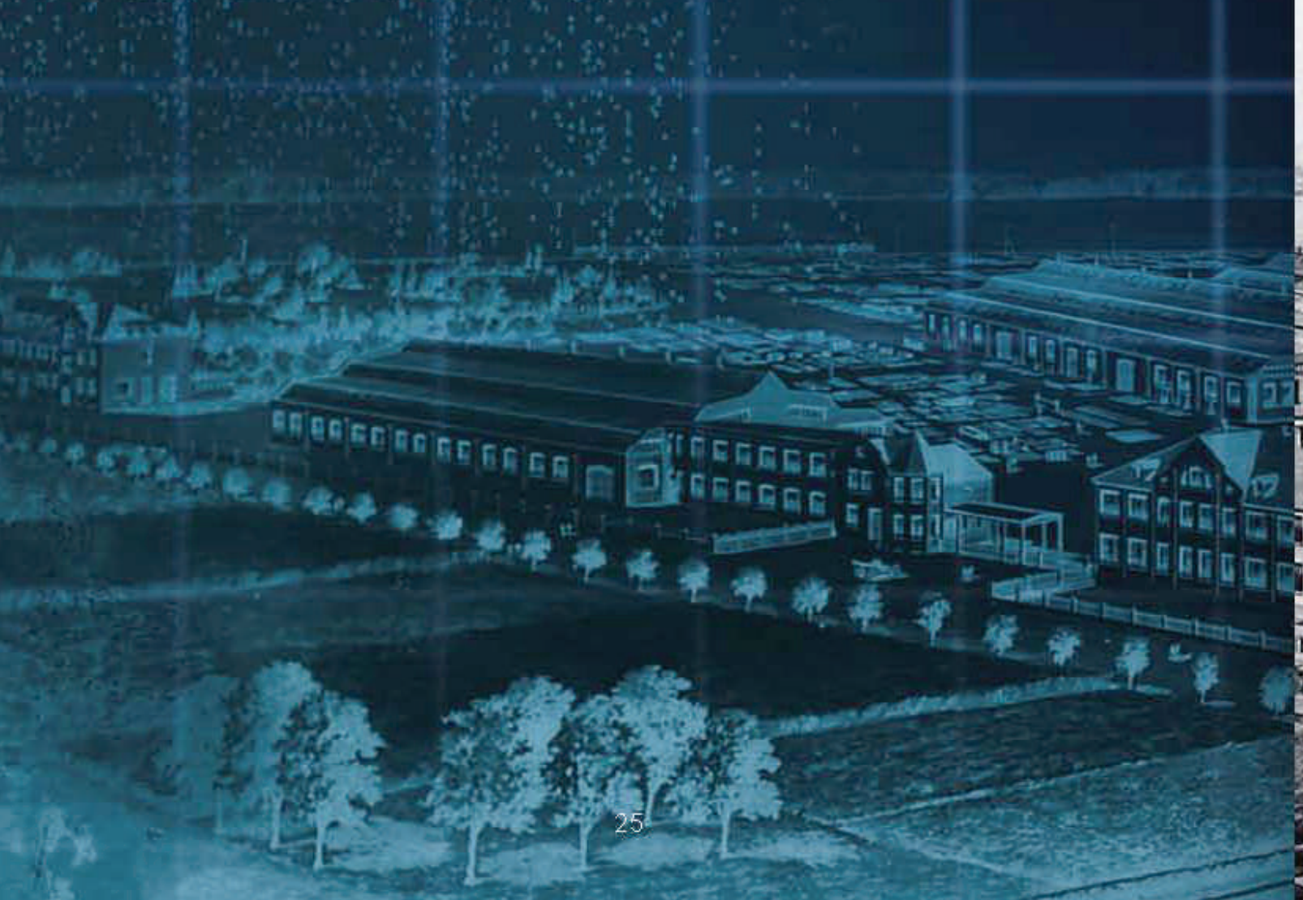

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