

Product presentation.

■ TCG 2020



Agenda.

Design and Output

Characteristics

Benefits

Applications

References



Agenda.

Design and Output

Characteristics

Benefits

Applications

References



Technical Data.

50 Hz $\text{NO}_x \leq 500 \text{ mg/m}_n^3$

Natural Gas Applications

Engine Type		V 12	V 16	V20
Mechanical Output	kW	1,200	1,600	2,070
Electrical Output	kW	1,169	1,558	2,014
Electrical Efficiency	%	43.0	42.5	42.8
Thermal Efficiency	%	42.6	43.2	43.0
Total Efficiency	%	85.6	85.7	85.8



Technical Data.

50 Hz $\text{NO}_x \leq 500 \text{ mg/m}_n^3$

Biogas Applications

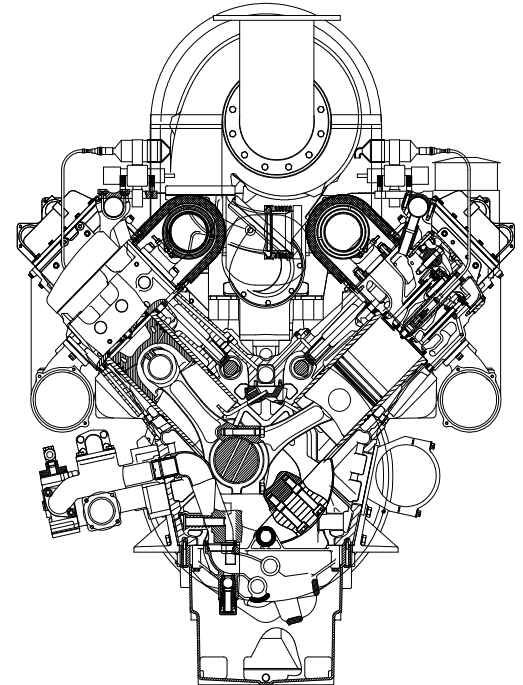
Engine Type		V 12	V 16	V 20
Mechanical Output	kW	1,050	1,400	1,750
Electrical Output	kW	1,021	1,364	1,703
Electrical Efficiency	%	41.0	41.0	41.0
Thermal Efficiency	%	43.0	43.0	42.7
Total Efficiency	%	84.0	84.0	83.7



Dimensions and Weights.

Genset

Engine Type		V 12	V 16	V 20
Length	mm	5,500	6,300	7,300
Width	mm	1,800	1,800	1,800
Height	mm	2,500	2,500	2,600
Dry Weight Genset	kg	10,400	13,800	17,300



Agenda.

Design and Output

Characteristics

Benefits

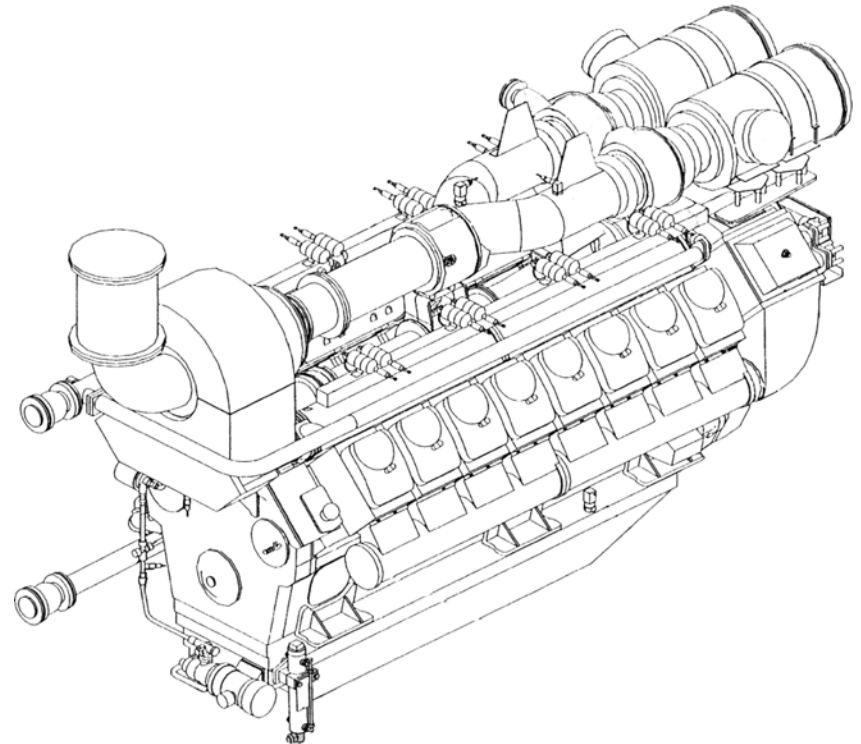
Applications

References



Characteristics.

- Output range: 1,050 – 2,070 kW at 1,500 min⁻¹ (50 Hz)
- State-of-the-art 12, 16 and 20 cylinder V-engines
- Air-fuel turbocharging and two-stage intercooling
- Single cylinder heads with four-valve technology
- Centrally arranged industrial spark plug with intensive seat cooling
- Microprocessor-controlled high-voltage ignition system
- One ignition coil per cylinder
- Electronic control and monitoring of genset operation through TEM
- Exhaust emissions controlled according to combustion chamber temperature



Characteristics.

TEM Evo – Main Functions

- Wide range of control and monitoring options
- Easily adjustable to local conditions
- Simple and secure operational concept
- Convenient remote diagnosis and remote control.
- Functions allowing optimized economical efficiency
- Available for the engine series TCG 2016 to TCG 2032
- A modular system to govern all auxiliary functions
- Multiple language documentation and handling



Agenda.

Design and Output

Characteristics

Benefits

Applications

References



Benefits.

Scheduled Maintenance Intervals (Natural Gas – 1,500 rpm)

- Spark-Plug change: 1,500 hrs
- Valve clearance check: 1,500 hrs
- Cylinder heads overhaul: on demand but no later than 32,000 hrs
- Intercooler cleaning: 32,000 hrs



Benefits.

Scheduled Maintenance Intervals (Biogas – 1,500 rpm)

- Spark-Plug change: 1,500 hrs
- Valve clearance check: 1,500 hrs
- Cylinder heads overhaul: after 12,000 hrs
- Intercooler cleaning: 24,000 hrs



Characteristics and Benefits.

Package of favourable investment and low operating cost

- 
- Compact engine design
 - Low gas and oil consumption
 - Easy engine intergration space
 - Long service intervals, ease of service
 - Easy access to maintenance points
 - Innovative technology
 - TEM Evo engine control
 - Miller-Cycle
 - ➔ Easy installation
 - ➔ High profitability
 - ➔ Low installation costs
 - ➔ Additional cost savings
 - ➔ Fast and user-friendly maintenance
 - ➔ Reduced emissions, increased reliability, use of gases with low methane numbers
 - ➔ Full electronic engine control and protection
 - ➔ Advanced power and efficiency

Agenda.

Design and Output

Characteristics

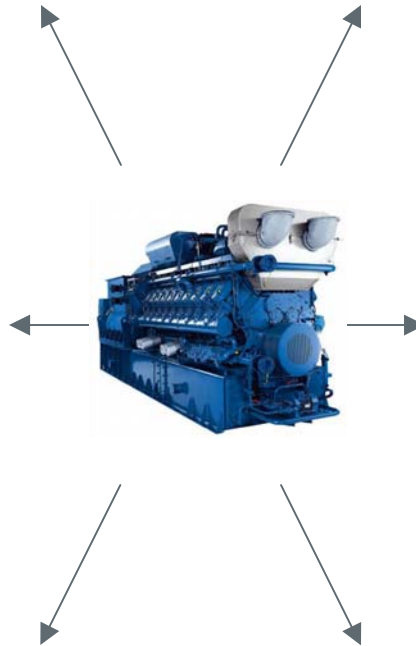
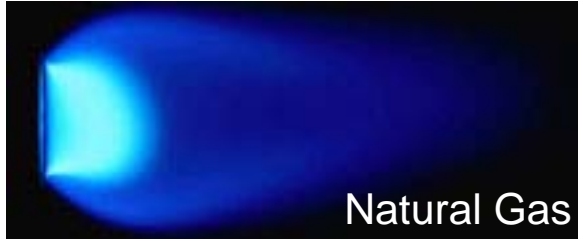
Benefits

Applications

References



Applications.



Agenda.

Design and Output

Characteristics

Benefits

Applications

References



References.

TCG 2020



Delta Nutsbedrijven B.V., Holland
Natural Gas / 25 MW / 16 units



Emschermündung Sewage Plant, Germany
Sewage Gas / 5.0 MW / 4 units



Mangga Dua Square, Indonesia
Natural Gas / 14.7 MW / 8 units



Cuno-Kraftwerk, Herdecke, Germany
Natural Gas / 3.9 MW / 2 units



AMEC, Melbourne Water, Australia
Natural Gas, Sewage Gas / 9.8 MW / 7 units



Pattonville, Ludwigsburg, Germany
Natural Gas / 2.0 MW / 1 unit

Thank you.

■ Contact:

Max Mustermann

Phone +49 (0) 1234 5678

Fax +49 (0) 1234 5678

Mail max.mustermann@mwm.net