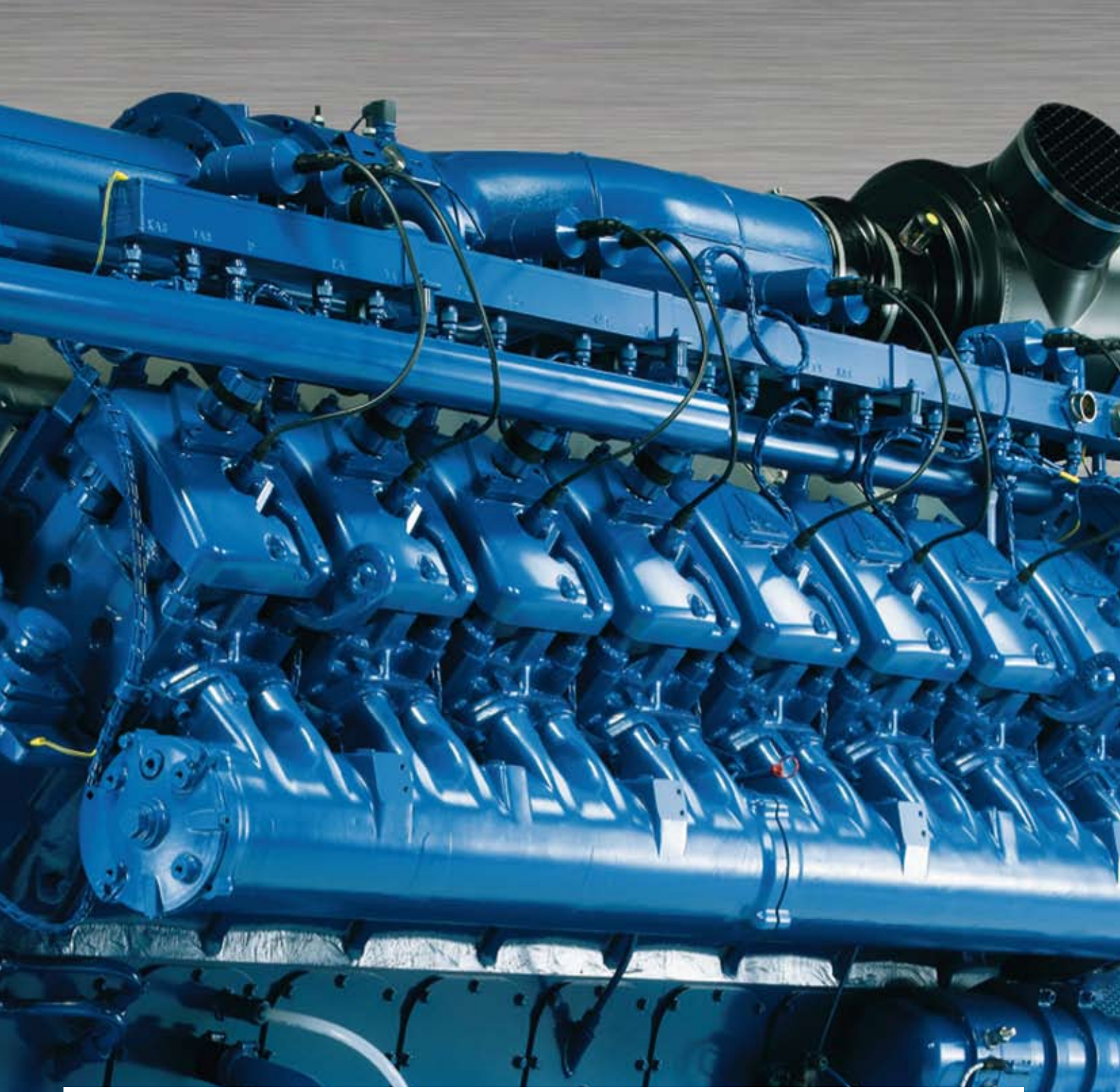

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TCG 2020 OLS

1125 – 1500 kW at 1500 min^{-1} (50 Hz)

MWM

Energy. Efficiency. Environment.

Technical data 50 Hz – Natural gas applications

NO_x <= 500 mg /m_n^3 [1]

Minimum methane number MN 70
dry exhaust manifolds

Engine type			TCG 2020 V12 OLS	TCG 2020 V16 OLS
Engine power [2]		kW	1155	1540
Speed		min^{-1}	1500	1500
Mean effective pressure		bar	17.4	17.4
Exhaust temperature	approx.	°C	496	497
Exhaust mass flow wet	approx.	kg/h	6075	8113
Combustion air mass flow [2]	approx.	kg/h	5869	7839
Combustion air temperature minimum/design		°C	10/35	10/35
Ventilation air flow [3]	approx.	kg/h	33376	42409

Engine parameters			
Bore/stroke	mm	170/195	170/195
Displacement	dm^3	53.1	70.8
Compression ratio		12 : 1	12 : 1
Mean piston speed	m/s	9.8	9.8
Lube oil content [4]	dm^3	630	865
Lube oil consumption mineral oil [5]	g/kWh	0.20	0.20

Generator			
Efficiency [6]	%	97.4	97.4

Energy balance				
Electrical power [6]		kW	1125	1500
Jacket water heat	± 8 %	kW	569	754
Intercooler LT heat [7]	± 8 %	kW	106	151
Exhaust cooled to 120 °C	± 8 %	kW	710	950
Engine radiation heat		kW	60	72
Generator radiation heat		kW	30	40
Fuel consumption [8]	+ 5 %	kW	2791	3721
Electrical efficiency		%	40.3	40.3
Thermal efficiency		%	45.8	45.8
Total efficiency		%	86.1	86.1

System parameters		TCG 2020 V12 OLS	TCG 2020 V16 OLS
Engine jacket water flow rate min./max.	m^3/h	36/56	50/65
Engine K_{VS}-value [9]	m^3/h	42	46
Intercooler coolant flow rate	m^3/h	35	35
Intercooler K_{VS}-value [9]	m^3/h	30	30
Engine jacket water volume	dm^3	111	151
Intercooler coolant volume	dm^3	28	28
Engine jacket water temperature max. [10]	°C	80/92	80/92
– with glycol [10]	°C	(80/92)	(80/92)
Intercooler coolant temperature [10]	°C	40/42.7	40/43.8
Exhaust backpressure min./max.	mbar	30/50	30/50
Maximum pressure loss in front of air cleaner	mbar	5	5
Gas flow pressure, fixed between [11]	mbar	20...200	20...200
Starter battery 24 V, capacity required	Ah	430	430

Dimensions 50 Hz Genset		TCG 2020 V12 OLS	TCG 2020 V16 OLS
Length	mm	5500	6300
Width	mm	1800	1800
Height	mm	2500	2500
Dry weight genset	kg	10450	13800

Noise emissions* 50 Hz

Noise frequency band	Hz	63	125	250	500	1000	2000	4000	8000
Engine type TCG 2020 V12 OLS									
Exhaust noise 119.0 dB (A)	dB (lin)	116.0	122.0	121.0	118.0	110.0	110.0	108.0	107.0
Air-borne noise 103.0 dB (A)	dB (lin)	102.0	95.0	96.0	96.0	97.0	95.0	95.0	97.0
Engine type TCG 2020 V16 OLS									
Exhaust noise 120.0 dB (A)	dB (lin)	117.0	127.0	119.0	116.0	114.0	113.0	110.0	103.0
Air-borne noise 108.0 dB (A)	dB (lin)	102.0	90.0	95.0	94.0	97.0	96.0	99.0	107.0

Exhaust noise at 1 m, ∢ 45°, ± 2.5 dB (A)
Air-borne noise at 1 m from the side, ± 1 dB (A)

*Values apply to natural gas applications, measured as noise pressure level.

1) Exhaust emissions with oxidizing catalyst:
NO_x < 0.50 g NO_2/m_n^3 dry exhaust gas at 5 % O_2
CO < 0.3 g CO/m_n^3 dry exhaust gas at 5 % O_2
2) Engine power ratings and combustion air volume flows acc. to ISO 3046/1
3) Intake air flow at delta T = 15 K including combustion air
4) Including pipes and heat exchangers
5) This values are the mean lube oil consumption between maintenance steps which include an E 60 service. Also the procedures defined in the TPI 1111-E-06-02 and the Technical Circular TR 0199-99-2105 are to be carefully followed.
6) At 50 Hz, U = 0.4 kV, cosphi = 1
7) At 40 °C water inlet
8) With a tolerance of + 5 %
9) The K_{VS}-value is the parameter for the pressure loss in the cooling system (= flowrate for 1 bar pressure loss)
10) Inlet /outlet
11) Please consider TR 0199-99-3017

Data for special gas and dual gas operation on request.

The values given in this data sheet are for information purposes only and not binding.
The information given in the offer is decisive.

Characteristics

State-of-the-art 12 and 16 cylinder V-engines • Turbocharging and optimized loadsteps • Single cylinder heads with four-valve technology • Centrally arranged industrial spark plug with intensive plug seat cooling • Microprocessor-controlled highvoltage ignition system • One ignition coil per cylinder • Electronic control and monitoring of genset operation through TEM • Exhaust emissions controlled according to combustion chamber temperature

Your benefits

- Package of favorable investment and low operating costs.
- Low energy consumption thanks to maximum primary energy utilization.
- Long service intervals and ease of service guarantee additional cost savings.
- Efficient energy conversion with outstanding performance.
- Full power for operation in Non-ISO 3046 conditions.
- Reliable control and monitoring with high safety standards ensure optimum combustion and maximum engine protection.
- All governing, service, control and monitoring functions are easy and comfortable to operate.

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