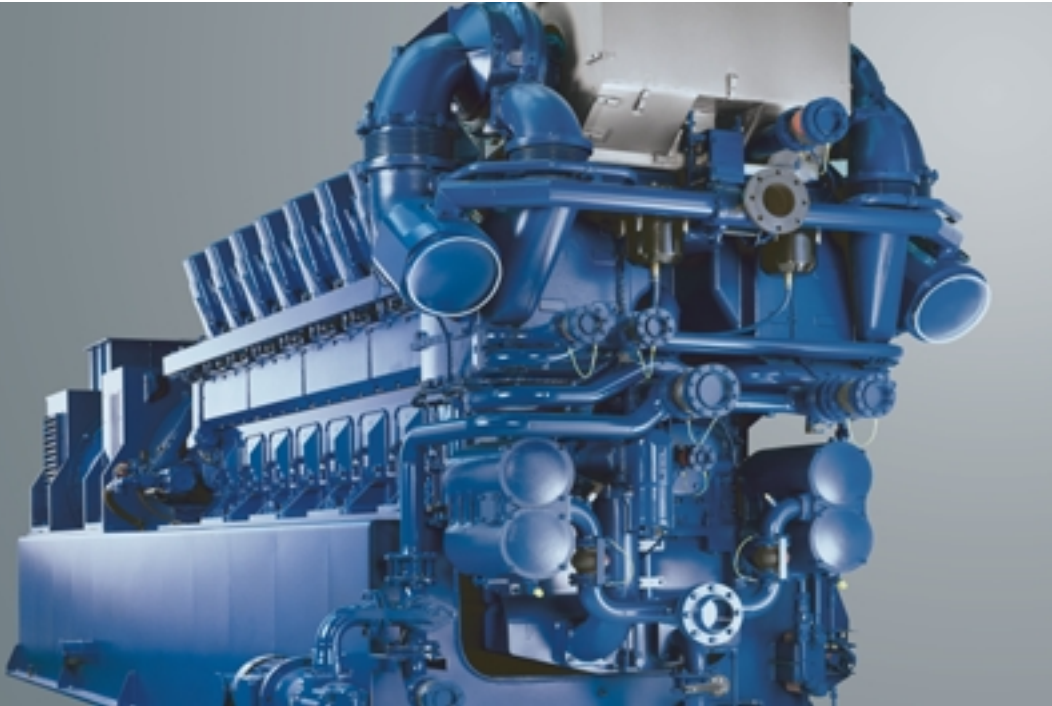


TCG 2032. The gas engine.

3000-4000 kW at 1000 min⁻¹ (50 Hz)



These are the characteristics of the TCG 2032:

State-of-the-art four-stroke Otto gas engines of V-configuration.

Single cylinder heads with four-valve technology.

Non-wearing high-voltage ignition system.

Turbocharging and two-stage intercooling.

Pearl[®]-exhaust system located in V-space (Pulse Energy Advanced Recovery Line).

TEM EVOLUTION SYSTEM (Total Electronic Management) for control of gas combustion as well as for monitoring and control of engine generator set with optional integration of peripheral and auxiliary equipment.

Your benefits:

- ▶ Extremely low operating costs thanks to high efficiency and excellent specific fuel and oil consumption figures.
- ▶ Innovative repair concept with easily exchangeable cylinder unit with cylinder head, piston, connecting rod, liner enhances ease of service.
- ▶ The extremely slim engine with compact dimensions, low noise emissions and excellent smooth-running characteristics guarantee minimized installation costs.
- ▶ The combination of high power and low weight provides an exceptional power-to-weight ratio. Precise governing and control of the combustion process ensures a very high level of speed stability.
- ▶ Exhaust emission levels which comply with the most stringent European standards and represent the best available control technology (B.A.C.T.) world-wide.

► Technical data 50 Hz

NO_x ≤ 500 mg/m_n^{3,1)}

Naturalgas applications

Minimum methane number MN: 80

Engine type		TCG 2032 V12	TCG 2032 V16
Engine power ²⁾	kW	3000	4000
Speed	min ⁻¹	1000	1000
Mean effective pressure	bar	17.7	17.7
Exhaust temperature	approx. °C	462	467
Exhaust mass flow wet	approx. kg/h	15673	20897
Combustion air mass flow ²⁾	approx. kg/h	15155	20206
Combustion air temperature minimum/design	°C	5/25	5/25
Ventilation air flow ³⁾	approx. kg/h	77722	95907

Generator

Efficiency ⁴⁾	%	97.6	97.9
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Energy balance

Electrical power ⁴⁾	kW	2928	3916
Jacket water heat	± 8 % kW	1103	1492
Intercooler LT heat ⁵⁾	± 8 % kW	189	223
Exhaust cooled to 120°C	± 8 % kW	1661	2248
Exhaust cooled to 150°C	± 8 % kW	1515	2054
Lube oil heat	± 8 % kW	325	433
Engine radiation heat	kW	190	233
Generator radiation heat	kW	72	84
Fuel consumption ⁶⁾	+ 5 % kW	7002	9336
Specific fuel consumption ⁶⁾	+ 5 % kWh/kWh	2.33	2.33
Electrical efficiency	%	41.8	41.9
Thermal efficiency	%	44.1	44.7
Total efficiency	%	85.9	86.6

System parameters

Engine jacket water flow rate min./max.	m ³ /h	80/100	110/130
Engine K _{vs} -value ⁷⁾	m ³ /h	89	93
Intercooler coolant flow rate	m ³ /h	55	65
Intercooler K _{vs} -value ⁷⁾	m ³ /h	57	57
Engine jacket water volume	dm ³	430	570
Intercooler coolant volume	dm ³	51	51
Engine jacket water temperature max. ⁸⁾	°C	78/90	78/90
– with glycol ⁸⁾	°C	(78/90)	(78/90)
Intercooler coolant temperature ⁸⁾	°C	40/–	40/–
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 (pressure variation +/- 10 %)	mbar	50...200	50...200
Air bottle, volume/pressure	dm ³ /bar	2000/30	2000/30
Dry weight engine	kg	19200	22400
Dry weight genset	kg	38800	45100

Engine type		TCG 2032 V12	TCG 2032 V16
Bore/stroke	mm	260/320	260/320
Displacement	dm ³	203.9	271.8
Compression ratio		12 : 1	12 : 1
Mean piston speed	m/s	10.7	10.7
Lube oil flow rate	m ³ /h	110	125
Lube oil content ⁹⁾	dm ³	1750	2200
Lube oil temperature without/with lube oil heat recovery	°C	70/75	70/75
Lube oil consumption mineral oil ¹⁰⁾	+ 20 % g/kWh	0.6	0.6
Lube oil consumption synthetic oil ¹⁰⁾	+ 20 % g/kWh	0.4	0.4

► Dimensions 50 Hz



Genset		Length	Width	Height
TCG 2032 V12	mm	7600	2700	3700
TCG 2032 V16	mm	8700	2700	3700

► Noise emissions* 50 Hz

Noise frequency band	Hz	63	125	250	500	1000	2000	4000	8000	
Engine type TCG 2032 V12										
Exhaust noise	124 dB (A)	dB (lin)	126	127	124	122	117	115	113	104
Air-borne noise	104 dB (A)	dB (lin)	98	96	100	97	95	96	99	93
Engine type TCG 2032 V16										
Exhaust noise	125 dB (A)	dB (lin)	130	123	120	120	116	114	122	108
Air-borne noise	106 dB (A)	dB (lin)	93	102	103	98	99	99	98	100

Exhaust noise at 1 m, $\leq 45^\circ$, ± 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:
 $\text{NO}_x < 0.50 \text{ g NO}_2/\text{m}_n^3$ dry exhaust gas at 5% O_2
 $\text{CO} < 0.3 \text{ g CO}/\text{m}_n^3$ dry exhaust gas at 5% O_2
 Formaldehyde $< 0.06 \text{ g}/\text{m}_n^3$ 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 $\Delta T = 15 \text{ K}$ including combustion air.
- 4) At 50 Hz, $U = 6.3 \text{ kV}$, power factor = 1.
- 5) At 40°C water inlet.
- 6) With a tolerance of + 5%.
- 7) The K_{V5} -value is the parameter for the pressure loss in the cooling system (= flowrate for 1 bar pressure loss).
- 8) Inlet/outlet.
- 9) Without pipes and heat exchangers.
- 10) At full load.

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.



We move your world.

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