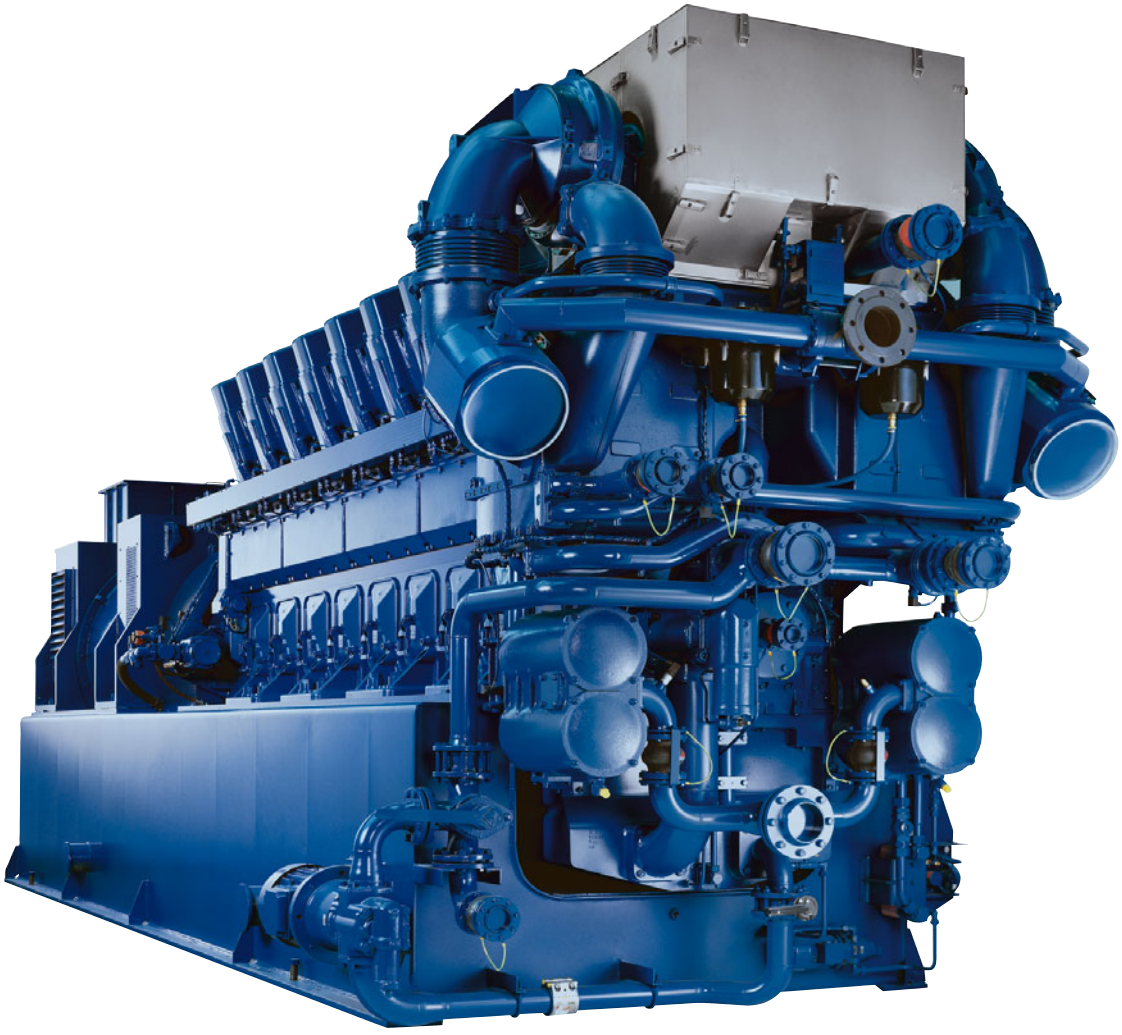
DEUTZ POWER SYSTEMS



TCG 2032

3000 – 4000 kW at 1000 min^{-1} (50 Hz)

Technical data 50 Hz – Natural gas applications

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

Minimum methane number MN 80
dry exhaust manifolds

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	472	476
Exhaust mass flow wet	approx.	kg/h	15673	20770
Combustion air mass flow [2]	approx.	kg/h	15154	20079
Combustion air temperature for engine with air preheater minimum/design		°C	10/35	10/35
Ventilation air flow [3]	approx.	kg/h	77721	99840
Engine parameters				
Bore/stroke		mm	260/320	260/320
Displacement		dm^3	203.9	271.8
Compression ratio			12.0 : 1	12.0 : 1
Mean piston speed		m/s	10.7	10.7
Lube oil flow rate		m^3/h	110	125
Lube oil content [4]		dm^3	1750	2200
Lube oil temperature without / with lube oil heat recovery		°C	70/75	70/75
Lube oil consumption mineral oil [5]	+20 %	g/kWh	0.6	0.6
Lube oil consumption synthetic oil [5]	+20 %	g/kWh	0.4	0.4
Generator				
Efficiency [6]		%	97.8	97.9
Energy balance				
Electrical power [6]		kW	2934	3916
Jacket water heat	±8 %	kW	1031	1342
Intercooler LT heat [7]	±8 %	kW	229	314
Exhaust cooled to 120 °C	±8 %	kW	1709	2290
Lube oil heat	± 8%	kW	357	476
Engine radiation heat		kW	190	250
Generator radiation heat		kW	72	84
Fuel consumption [8]	+5 %	kW	7002	9336
Specific fuel consumption [8]	+5 %	kWh/kWh	2.33	2.33
Electrical efficiency		%	41.9	41.9
Thermal efficiency		%	44.2	44.0
Total efficiency		%	86.1	85.9

System parameters		TCG 2032 V12	TCG 2032 V16
Engine jacket water flow rate min./max.	m^3/h	80/100	105/130
Engine K_{VS}-value [9]	m^3/h	89.0	93.0
Intercooler coolant flow rate	m^3/h	55	65
Intercooler K_{VS}-value [9]	m^3/h	57.0	57.0
Engine jacket water volume	dm^3	430	570
Intercooler coolant volume	dm^3	51	51
Engine jacket water temperature max. [10]	°C	79/90	79/90
– with glycol [10]	°C	(79/90)	(79/90)
Intercooler coolant temperature [10]	°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

Dimensions 50 Hz

Genset		TCG 2032 V12	TCG 2032 V16
Length	mm	7800	8900
Width	mm	2700	2750
Height	mm	3700	3800
Dry weight genset	kg	40300	46800

Noise emissions* 50 Hz

Noise frequency band	Hz	63	125	250	500	1000	2000	4000	8000
Engine type TCG 2032 V12									
Exhaust noise 123.9 dB(A)	dB(lin)	126.0	127.0	124.0	122.0	117.0	115.0	113.0	104.0
Air-borne noise 103.8 dB(A)	dB(lin)	98.0	96.0	100.0	97.0	95.0	96.0	99.0	93.0
Engine type TCG 2032 V16									
Exhaust noise 122.5 dB(A)	dB(lin)	129.7	123.0	120.2	120.2	116.4	114.4	112.0	108.2
Air-borne noise 106.2 dB(A)	dB(lin)	93.2	102.3	102.7	97.9	99.0	99.4	98.3	99.8

Exhaust noise at 1 m, ∢45°, ± 2.5 dB(A)
Air-borne noise at 1m 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 < 0.30 g CO/m_n^3 dry exhaust gas at 5 % O_2
   Formaldehyde < 0.06 g/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) Without pipes and heat exchangers
5) At full load
6) At 50 Hz, U = 6.3 kV, power factor = 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

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 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 world-wide.

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