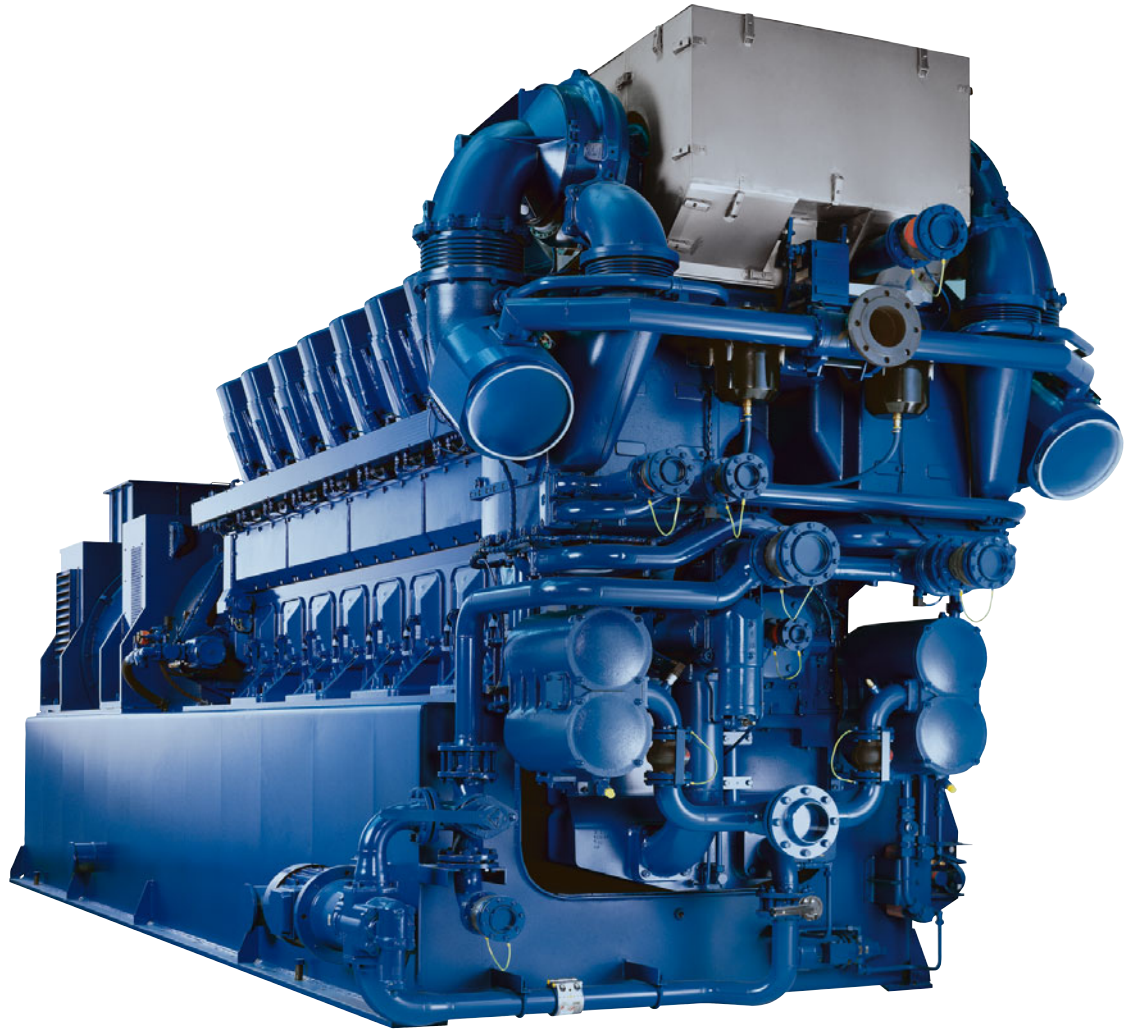


*DEUTZ POWER SYSTEMS*



**TCG 2032**

**3000–4000 kW at 1000 min<sup>-1</sup> (50 Hz)**

# Technical data 50 Hz – Natural gas applications

$\text{NO}_x \leq 500 \text{ mg/m}_n^3$  <sup>1)</sup>

Minimum methane number MN 80  
dry exhaust manifold

<b>Engine type</b>		<b>TCG 2032 V12</b>	<b>TCG 2032 V16</b>
Engine power <sup>2)</sup>	kW	3000	4000
Speed	min <sup>-1</sup>	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 <sup>2)</sup>	approx. kg/h	15154	20079
Combustion air temperature for engine with air preheater minimum/design	°C	10/35	10/35
Ventilation air flow <sup>3)</sup>	approx. kg/h	77721	99840
<b>Generator</b>			
Efficiency <sup>4)</sup>	%	97.6	97.9
<b>Energy balance</b>			
Electrical power <sup>4)</sup>	kW	2928	3916
Jacket water heat	± 8 % kW	1026	1360
Intercooler LT heat <sup>5)</sup>	± 8 % kW	235	323
Exhaust cooled to 120 °C	± 8 % kW	1709	2293
Exhaust cooled to 150 °C	± 8 % kW	1563	2100
Lube oil heat	± 8 % kW	356	476
Engine radiation heat	kW	190	250
Generator radiation heat	kW	72	84
Fuel consumption <sup>6)</sup>	+ 5 % kW	7002	9336
Specific fuel consumption <sup>6)</sup>	+ 5 % kWh/kWh	2.33	2.33
Electrical efficiency	%	41.8	41.9
Thermal efficiency	%	44.1	44.2
Total efficiency	%	85.9	86.1
<b>System parameters</b>			
Engine jacket water flow rate min./max.	m <sup>3</sup> /h	80/100	105/130
Engine $K_{VS}$ -value <sup>7)</sup>	m <sup>3</sup> /h	89.0	93.0
Intercooler coolant flow rate	m <sup>3</sup> /h	55	65
Intercooler $K_{VS}$ -value <sup>7)</sup>	m <sup>3</sup> /h	57.0	57.0
Engine jacket water volume	dm <sup>3</sup>	430	570
Intercooler coolant volume	dm <sup>3</sup>	51	51
Engine jacket water temperature max. <sup>8)</sup>	°C	79/90	79/90
– with glycol <sup>8)</sup>	°C	(79/90)	(79/90)
Intercooler coolant temperature <sup>8)</sup>	°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 <sup>3</sup> /bar	2000/30	2000/30
Dry weight engine	kg	19600	23200
Dry weight genset	kg	40300	46800

<b>Engine parameters</b>		<b>TCG 2032 V12</b>	<b>TCG 2032 V16</b>
Bore/stroke	mm	260/320	260/320
Displacement	dm <sup>3</sup>	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 <sup>3</sup> /h	110	125
Lube oil content <sup>9)</sup>	dm <sup>3</sup>	1750	2200
Lube oil temperature without / with lube oil heat recovery	°C	70/75	70/75
Lube oil consumption mineral oil <sup>10)</sup>	+ 20 % g/kWh	0.6	0.6
Lube oil consumption synthetic oil <sup>10)</sup>	+ 20 % g/kWh	0.4	0.4

#### Dimensions 50 Hz

<b>Genset</b>		<b>Length</b>	<b>Width</b>	<b>Height</b>
TCG 2032 V12	mm	7800	2700	3700
TCG 2032 V16	mm	8900	2750	3800

#### Noise emissions\* 50 Hz

<b>Noise frequency band</b>	<b>Hz</b>	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>
<b>Engine type TCG 2032 V12</b>									
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
<b>Engine type TCG 2032 V16</b>									
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,  $\angle 45^\circ$ ,  $\pm 2.5$  dB(A)

Air-borne noise at 1m from the side,  $\pm 1$  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%  $\text{O}_2$   
 $\text{CO} < 0.30 \text{ g CO}/\text{m}_n^3$  dry exhaust gas at 5%  $\text{O}_2$   
 Formaldehyde  $< 0.06 \text{ g}/\text{m}_n^3$  dry exhaust gas at 5%  $\text{O}_2$   
 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  $K_{VS}$ -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.