

DEUTZ POWER SYSTEMS



TCG 2016 B

555 – 740 kW at 1500 min⁻¹ (50 Hz)

Technical data 50 Hz – Bio gas applications

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

Sewage gas (65% CH_4 / 35% CO_2)

Bio gas (60% CH_4 / 32% CO_2 , rest N_2)

Landfill gas (50% CH_4 / 27% CO_2 , rest N_2)

Lower heating value (LHV) $\geq 5.0 \text{ kWh/m}_n^3$
dry exhaust manifolds

Engine type		TCG 2016 B V12	TCG 2016 B V16
Engine power ²⁾	kW	555	740
Speed	min ⁻¹	1500	1500
Exhaust temperature	approx. °C	445	448
Exhaust mass flow wet	approx. kg/h	2995	3965
Combustion air mass flow ²⁾	approx. kg/h	2760	3655
Combustion air temperature minimum/design	°C	20/25	20/25
Water inlet temperature intercooler	°C	50	50

Engine parameters

Bore/stroke	mm	132/160	132/160
Displacement	dm ³	26.3	35.0
Compression ratio		15.0 : 1	15.0 : 1
Mean piston speed	m/s	8.0	8.0
Lube oil content ⁴⁾	dm ³	100	135
Typical mean lube oil consumption ⁵⁾	g/kWh	0.15	0.15

Generator

Efficiency ⁶⁾	%	96.7	96.8
--------------------------	---	------	------

Energy balance

Electrical power ⁶⁾	kW	537	716
Jacket water heat	± 8 % kW	205	271
Intercooler LT heat ⁷⁾	± 8 % kW	100	128
Exhaust cooled to 150 °C	± 8 % kW	290	388
Engine radiation heat	kW	21	29
Generator radiation heat	kW	18	24
Fuel consumption ⁸⁾	+ 5 % kWh	1309	1735
Electrical efficiency	%	41.0	41.3
Thermal efficiency	%	37.8	38.0
Total efficiency	%	78.8	79.3

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

$\text{CO} < 0.30 \text{ g CO}/\text{m}_n^3$ 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 K including combustion air

4) Including pipes and heat exchangers

5) At full load

6) At 50 Hz, U=0.4 kV, power factor = 1

7) At 50 °C water inlet for biogas

8) With a tolerance of +5%

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.

