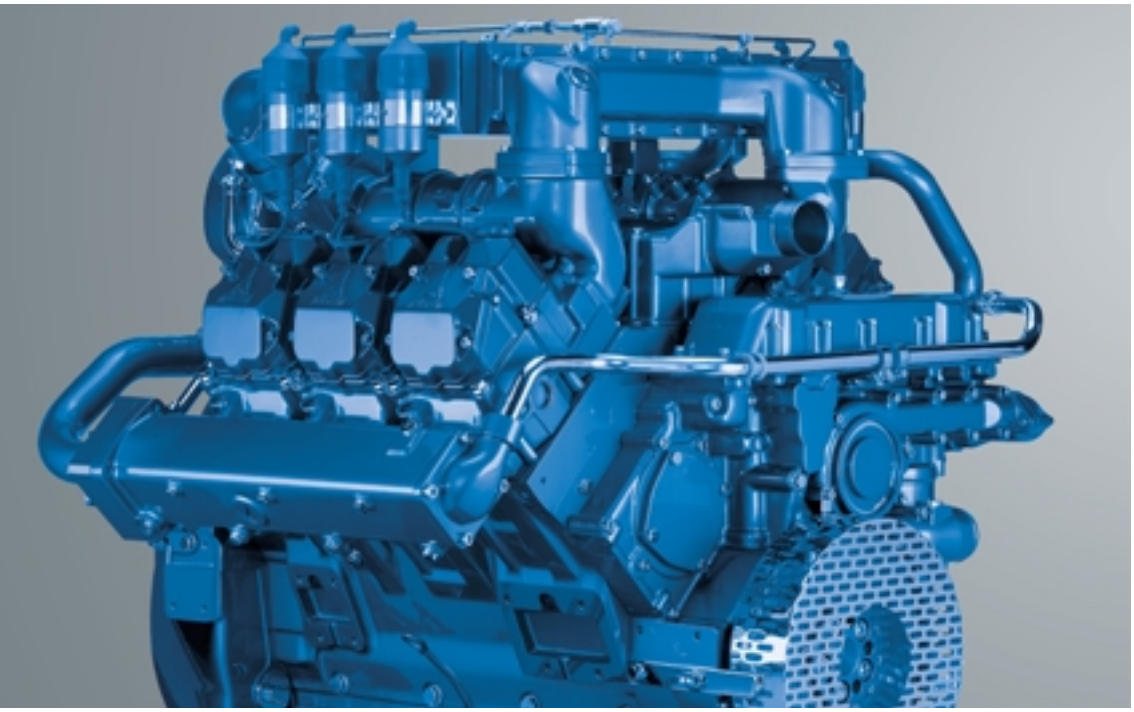
TCG 2015. The gas engine.

180 - 240 kW at 1500 min^{-1} (50 Hz)



These are the characteristics of the TCG 2015:

State-of-the art 6 and 8 cylinder V-engines.
Lean-burn technology with spark ignition.
Turbocharging and intercooling.
Water-cooled charge air coolers and exhaust manifolds in engine cooling circuit.
Single cylinder heads with four-valve technology.
One ignition coil per cylinder.
SAE 1 connections.
Compact dimensions.

Your benefits:

- Package of favourable investment and low operating costs.
- High profitability due to low gas and oil consumption.
- Long service intervals and ease of service guarantee additional cost savings.
- Intercooling permits maximum power even when using gases with low methane numbers.
- Low operating noise renders complex and expensive insulation measures unnecesary.

Technical data 50 Hz

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

Natural gas applications

Minimum methane number MN: 70
wet exhaust manifold

Engine type		**TCG 2015 V6**	**TCG 2015 V8**
Engine power [2]	kW	180	240
Speed	min^{-1}	1500	1500
Mean effective pressure	bar	12.1	12.1
Exhaust temperature	approx. °C	423	420
Exhaust mass flow wet	approx. kg/h	1032	1383
Combustion air mass flow [2]	approx. kg/h	996	1335
Combustion air temperature minimum/design	°C	5/25	5/25
Ventilation air flow [3]	approx. kg/h	6011	7783
Generator			
Efficiency [4]	%	95.3	95.8
Energy balance			
Electrical power [4]	kW	172	230
Jacket water heat	±8 % kW	164	223
Exhaust cooled to 120°C	±8 % kW	97	128
Exhaust cooled to 150°C	±8 % kW	87	115
Engine radiation heat	kW	13	17
Generator radiation heat	kW	8	10
Fuel consumption [5]	+5 % kW	484	649
Specific fuel consumption [5]	+5 % kWh/kWh	2.69	2.70
Electrical efficiency	%	35.5	35.4
Thermal efficiency	%	53.9	54.1
Total efficiency	%	89.4	89.5
System parameters			
Engine jacket water flow rate min./max.	m^3/h	15/27	20/35
Engine K_{VS}-value [6]	m^3/h	19	20
Engine jacket water volume	dm^3	34	46
Engine jacket water temperature max. [7]	°C	80/88	80/88
– with glycol [7]	°C	(80/88)	(80/88)
Exhaust backpressure min./max.	mbar	–/50	–/50
Maximum pressure loss infront of air cleaner	mbar	5	5
Gas flow pressure, fixed between (pressure variation +/– 10 %)	mbar	50...100	50...100
Starter battery 24 V, capacity required	Ah	143	143
Dry weight engine	kg	900	1150
Dry weight genset	kg	2180	2675

Engine type		**TCG 2015 V6**	**TCG 2015 V8**
Bore/stroke	mm	132/145	132/145
Displacement	dm^3	11.9	15.9
Compression ratio		12 : 1	12 : 1
Mean piston speed	m/s	7.3	7.3
Lube oil content [8]	dm^3	60	70
Lube oil consumption mineral oil [9]	+20 % g/kWh	0.3	0.3

Technical data 50 Hz

NO_X <= 500 mg/m_n^3

Sewage gas application (65 % CH_4/35 % CO_2)
Landfill gas application (50 % CH_4/27 % CO_2, rest N_2)

Minimum heating value (LHV) = 5.0 kWh/m_n^3
wet exhaust manifold

Engine type		**TCG 2015 V 6**	**TCG 2015 V 8**
Engine power [2]	kW	180	240
Speed	min^{-1}	1500	1500
Mean effective pressure	bar	12.1	12.1
Exhaust temperature	approx. °C	436	431
Exhaust mass flow wet	approx. kg/h	1023	1368
Combustion air mass flow [2]	approx. kg/h	935	1251
Combustion air temperature minimum/design	°C	5/25	5/25
Ventilation air flow [3]	approx. kg/h	5950	7699
Generator			
Efficiency [4]	%	95.3	95.8
Energy balance			
Electrical power [4]	kW	172	230
Jacket water heat	± 8 % kW	172	228
Exhaust cooled to 120 °C	± 8 % kW	100	132
Exhaust cooled to 150 °C	± 8 % kW	91	119
Engine radiation heat	kW	13	17
Generator radiation heat	kW	8	10
Fuel consumption [5]	+ 5 % kW	492	659
Specific fuel consumption [5]	+ 5 % kWh/kWh	2.73	2.75
Electrical efficiency	%	35.0	34.9
Thermal efficiency	%	55.3	54.6
Total efficiency	%	90.3	89.5
System parameters			
Engine jacket water flow rate min./max.	m^3/h	15/27	20/35
Engine K_{VS}-value [6]	m^3/h	19	20
Engine jacket water volume	dm^3	34	46
Engine jacket water temperature max. [7]	°C	80/88	80/88
– with glycol [7]	°C	(80/88)	(80/88)
Exhaust backpressure min./max.	mbar	–/50	–/50
Maximum pressure loss infront of air cleaner	mbar	5	5
Gas flow pressure, fixed between (pressure variation +/– 10 %)	mbar	50...100	50...100
Starter battery 24 V, capacity required	Ah	143	143
Dry weight engine	kg	900	1150
Dry weight genset	kg	2180	2675

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

5) With a tolerance of + 5 %.

6) The K_{VS}-value is the parameter for the pressure loss in the cooling system (= flowrate for 1 bar pressure loss).

7) Inlet/outlet.

8) Including pipes and heat exchangers.

9) 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.

Dimensions 50 Hz

Genset		Length	Width	Heigth
TCG 2015 V6	mm	1090	1120	1610
TCG 2015 V8	mm	1280	1120	1610

Order No. 0031 1982 / 03 / 2003 / VM-V

We move your world.

DEUTZ AG
DEUTZ ENERGY
Carl-Benz-Straße 5
D-68167 Mannheim
Phone: + 49 (0) 6 21-3 84-86 10
Fax: + 49 (0) 6 21-3 84-86 12
Internet: www.deutz.de
eMail: deutzenergy.v@deutz.de