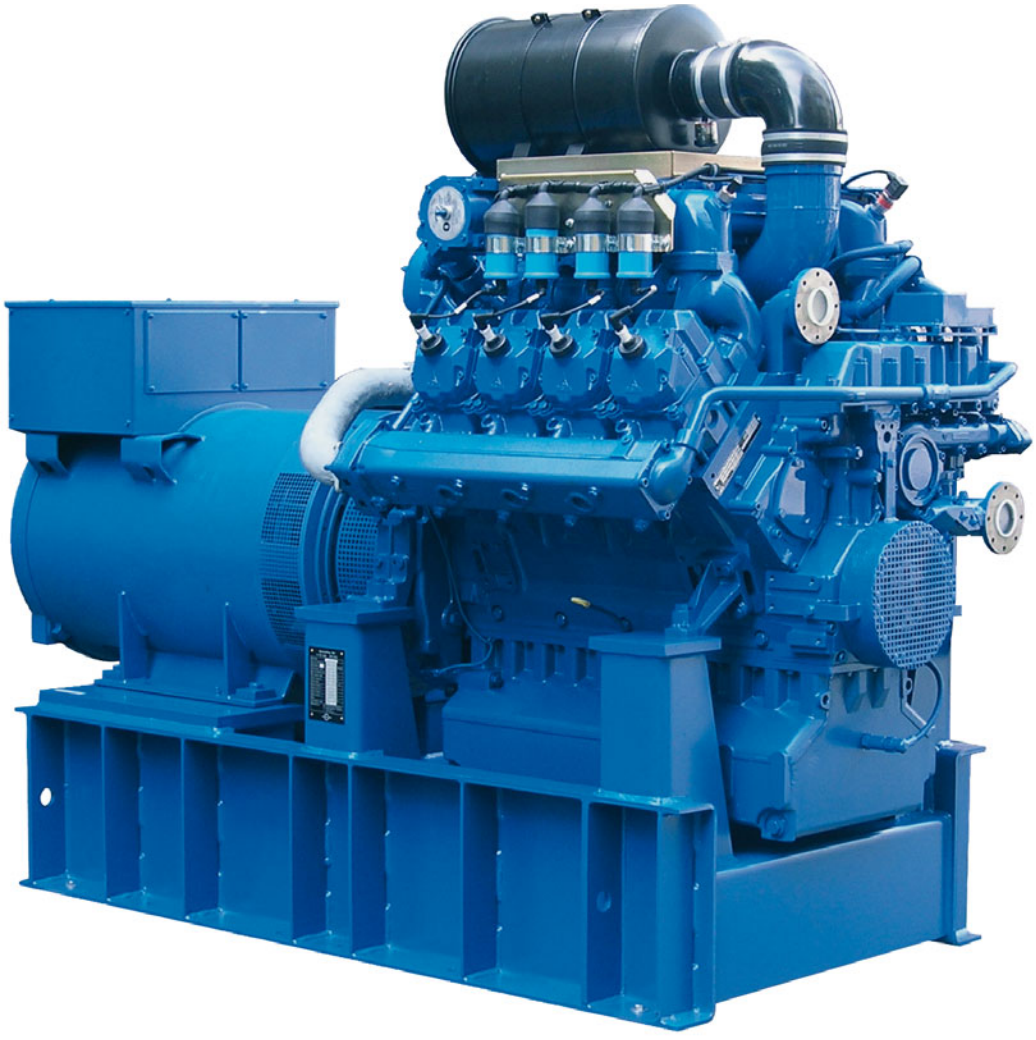
DEUTZ POWER SYSTEMS



TCG 2015

180 – 240 kW at 1500 min^{-1} (50 Hz)

Technical data 50 Hz – Natural gas applications

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

Minimum methane number MN 70
wet exhaust manifolds

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	6250	7783
Engine parameters				
Bore/stroke		mm	132/145	132/145
Displacement		dm^3	11.9	15.9
Compression ratio			12.0 : 1	12.0 : 1
Mean piston speed		m/s	7.3	7.3
Lube oil content [4)]		dm^3	60	70
Typical mean lube oil consumption [5)]		g/kWh	0.2	0.2
Generator				
Efficiency [6)]		%	95.1	95.8
Energy balance				
Electrical power [6)]		kW	171	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	9	10
Fuel consumption [7)]	+5 %	kW	484	649
Specific fuel consumption [7)]	+5 %	kWh/kWh	2.69	2.70
Electrical efficiency		%	35.3	35.4
Thermal efficiency		%	53.9	54.1
Total efficiency		%	89.2	89.5
System parameters				
Engine jacket water flow rate min./max.		m^3/h	15/27	20/35
Engine K_{VS}-value [8)]		m^3/h	19.0	20.0
Engine jacket water volume		dm^3	34	46
Engine jacket water temperature max. [9)]		°C	80/88	80/88
– with glycol [9)]		°C	(80/88)	(80/88)
Exhaust backpressure min./max.		mbar	–/50	–/50
Maximum pressure loss in front 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

Technical data 50 Hz – Sewage, bio and landfill gas applications

NO_X <= 500 mg/m_n^3
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)

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

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	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	6189	7699
Generator				
Efficiency [6]		%	95.1	95.8
Energy balance				
Electrical power [6]		kW	171	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	9	10
Fuel consumption [7]	+5 %	kW	492	659
Specific fuel consumption [7]	+5 %	kWh/kWh	2.73	2.75
Electrical efficiency		%	34.8	34.9
Thermal efficiency		%	55.3	54.6
Total efficiency		%	90.1	89.5
System parameters				
Engine jacket water flow rate min./max.		m^3/h	15/27	20/35
Engine K_{VS}-value [8]		m^3/h	19.0	20.0
Engine jacket water volume		dm^3	34	46
Engine jacket water temperature max. [9]		°C	80/88	80/88
– with glycol [9]		°C	(80/88)	(80/88)
Exhaust backpressure min./max.		mbar	–/50	–/50
Maximum pressure loss in front 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

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) Including pipes and heat exchangers
5) This values are the mean lube oil consumption between maintenance steps which include an E 60 service. Also the procedures defined in the TPI 1111-E-06-02 and the Technical Circular TR 0199-99-2105 are to be carefully followed.
6) At 50 Hz, U = 0.4 kV, power factor= 1
7) With a tolerance of + 5 %
8) The K_{VS}-value is the parameter for the pressure loss in the cooling system (= flowrate for 1 bar pressure loss)
9) Inlet /outlet

Data for special 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		TCG 2015 V6	TCG 2015 V8
Length	mm	2250	2400
Width	mm	1120	1120
Height	mm	2010	2010
Dry weight genset	kg	2390	2880

Characteristics:
State-of-the-art 6 and 8 cylinder V-engines | Lean-burn technology with spark ignition | Turbocharging and intercooling | Water-cooled 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 favorable 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 unnecessary.

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