

## Technical data 50 Hz TCG 2016 V 8K, Natural gas, 50 NOx

Power : ISO standard power ICN	Fuel gas :	Natural gas, MN = 70
Speed : 1500 min <sup>-1</sup>		Methane number MN : >= 70,0
Speed governor : TEM	Starter motor :	5,4 kW, 24V DC Emission NOx : <= 500,0 mg/m <sup>3</sup> n

### Engine type

### TCG 2016 V 8K wet exhaust manifold with inliner

Number of cylinder / configuration					
Bore / stroke	mm	132,0	/	160,0	
Displacement	dm <sup>3</sup>	17,5			
Compression ratio		12,0	:	1	
Mean piston speed	m / s	8,0			
Lube oil content	dm <sup>3</sup>	70			
typical mean lube oil consumption at full load	g / kWh	0,20			

Engine jacket water volume/ Kvs value	dm <sup>3</sup> / m <sup>3</sup> /h	28	/	30,8	- with glycol
Engine jacket water temperature in / out max.	°C	78,0	/	90	( 74,0 / 86 )
Engine jacket water flow rate min. / max.	m <sup>3</sup> /h	16	/	30	
Engine jacket water flow rate / pressure loss	m <sup>3</sup> /h / bar	21,3	/	0,48	( 22,9 / 0,55 )
Intercooler coolant volume engine / Kvs value	dm <sup>3</sup> / m <sup>3</sup> /h	3,0	/	18,8	
Intercooler coolant temperature in / out	°C	40,0	/	42,3	( 40,0 / 42,5 )
Intercooler coolant flow rate / pressure loss	m <sup>3</sup> /h / bar	8,0	/	0,18	( 8,0 / 0,18 )

### Generator

Generator brand / type	Marelli MJB 400 SB 4	or equal			
Voltage / frequency	V / Hz	400	/	50	
Generator efficiency	(with power factor = 1,00) %	96,4		96,1	95,2

### Load

	%	<b>100</b>		<b>75</b>	<b>50</b>
Engine power according ISO 3046/1	kW	350		262	175
Mean effective pressure	bar	16,0		12,0	8,0
Exhaust temperature	approx. °C	377		388	391
Exhaust mass flow wet	approx. kg / h	1940		1484	1019
Combustion air mass flow - ISO 3046/1	approx. kg / h	1872		1432	982

### Energy balance

(tolerance for heat rejection ± 8%)

Electrical power	(with power factor = 1,00)	kWel	337	252	167
Jacket water heat		kW	289	228	168
Intercooler LT heat with coolant temperature	40 °C	kW	21	15	9
Exhaust heat cooled to	120 °C	kW	153	122	85
Engine radiation heat		kW	20	20	20
Generator radiation heat		kW	13	10	8
Fuel consumption	(tolerance + 5%)	kW	914	709	500
Specific fuel consumption		kWh / kWh	2,61	2,71	2,86
Mechanical efficiency		%	38,3	37,0	35,0
Electrical efficiency		%	36,9	35,5	33,4
Thermal efficiency	(exhaust cooled to 120 °C)	%	48,4	49,4	50,6
Total efficiency		%	85,3	84,9	84,0

### System parameters

see also DPS " Layout of Power Plants "

Ventilation air flow for	ΔT =	15 K	approx. kg / h	11813	(including combustion air)
Combustion air temperature minimum / design	Altitude	°C	20 / 25	100	m
Exhaust backpressure minimum / maximum		mbar	30 / 50		
Maximum pressure loss in front of air cleaner		mbar	5,0		
Zero-pressure gas control unit: gas flow pressure, fixed between		mbar	20 / 200		(see also TR 0199-99-3017)
Pre-pressure gas control unit: gas flow pressure, fixed between		bar	0,5 / 10		(see also TR 0199-99-3017)
Starter battery 24V, capacity required		Ah	143		
Dry weight engine		kg	1810		
Dry weight genset		kg	4110		

### Noise emissions (at 1m)

TCG 2016 V 8K	Frequency band	Hz	63	125	250	500	1000	2000	4000	8000
Exhaust noise	120 dB(A) ± 2,5	dB(lin)	108	125	123	116	114	112	107	103
Air-borne noise	97 dB(A) ± 1,0	dB(lin)	85	85	91	93	87	88	92	91

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