

R-Gen 50plus/100

technical specification sheet.

Date: October 2021

		R-Gen 50plus/100		
Performance				
Fuel		Natural Gas		
Load	%	50	75	100
Electrical Output	kWe	25	38	50
Electrical Efficiency	Nett %	26.8	31.9	34.5
	Gross %	24.1	28.7	31.1
Thermal Output ⁽⁵⁾	kWt	65	79	93
Thermal Efficiency	Nett %	69.4	67.0	63.8
	Gross %	62.5	60.4	57.5
Total Efficiency	Nett %	96.1	98.8	98.3
	Gross %	86.6	89.02	88.6
Power Performance Coefficient	Ratio	0.39	0.48	0.54
Operation	Type	Modulating		
		Condensing		
Fuel Input	kW	93	118	145
Gas Rate	m ³ /hr	9.0	11.4	14.1
Engine				
Type	Stroke	4		
Cylinders	Number	4		
Service Intervals	Hrs	4000		
Speed	RPM	1517		
Electrical				
Voltage	V	400		
Frequency	Hz	50		
Own Use	kW	< 0.6		
Generator	Type	Synchronous		
Grid Connection	Type	G99		
Grid System	Type	TN-S		
Circuit Breaker	Type	C		
Noise				
Sound Pressure (1m)	db(A)	55		
Sound Power (1m)	db(A)	70		
Dimensions				
Width	mm	1200		
Depth	mm	2800		
Height	mm	1600		
Service space				
Side	mm	1600		
Front	mm	800		
Rear	mm	800		
Weight				
Dry Weight	kg	2370		
Efficiency class				
ErP	Banding	N/A		

R-Gen 50plus/100		
Connections		
Exhaust	DN	60
Flow & Return	Inch	1½" (40mm)
Gas	Inch	¾" (22mm)
Condensate	Inch	½" (15mm)
Pressures		
Min Working Pressure	bar	1
Max Working Pressure	bar	2.8
CHP Safety Valve Fitted	bar	3*
Min Gas Pressure	mbar	20
Max Gas Pressure	mbar	100
Emissions		
NOx @ 5% Excess Air	mg/kWh	<125
COx @ 5% Excess Air	mg/kWh	<150
Combustion air		
Mass	kg/h	179
Volume Flow	m³/hr	151
Flue gas		
Flue Gas Mass (wet)	kg/h	191
Flue Gas Mass (dry)	kg/h	168
Flue Gas Volume (wet)	m³/hr	152
Flue Gas Volume (dry)	m³/hr	125
Flue Gas Temperature	°C	70
Operating Temperature		
Min operating temperature	°C	20
Min Operating Temperature	°C	85

Unless otherwise specified, all data is based on full engine load with the respective indicated media temperatures and subject to technical improvements. The generator output measured at the generator terminals serves as a basis for delivered electrical power. All power and efficiency specifications are gross specifications. The fuel gas quality must conform to the specifications of 'TA-004 Gas'. The operating fluids and plant room system layouts must conform to the 'Technical Instructions' of 2G.

- > Performance conditions in accordance with DIN ISO 3046. Tolerance for specific fuel use amounts to +5% of nominal performance. Efficiency specifications are based on an engine in new condition. An abatement in efficiency over the service life is reduced with observance of maintenance requirements.
- > The tolerance for usable heat outputs +/- 8% under normal load
- > The tolerance for the exhaust temperature +/- 8% under normal load
- > Corresponding to a residual oxygen concentration in the exhaust of 5%
- > Electrical generator terminal power at cos = 1
- > Volume specifications for normal status: Pressure – 1013 mbar, Temperature – 0°C.
- > Standard deviation of reproducibility for dB in accordance with DIN EN 150 3746.
- > At heating water return temperature of 30°C. The heating water supply temperature is approximately 25°C higher than water return temperature. Power specifications in this document relate to standard reference conditions.

Standard reference conditions in accordance with DIN ISO 3046-1: Air pressure – 1000mbar, Air temperature – 25°C, relative air humidity – 30%
 Power reduction due to installation at altitude >100m a.s.l and/or air suction temperature >25°C shall be determined specifically for each project according to 'TI-049 Load Reduction'.