

# XRGI<sup>®</sup> 15

BI  GENIC  
TECHNICAL DATA

# TECHNICAL DATA FOR THE XRGI® 15 BIOGENIC

Product data sheet in accordance with Regulation (EU) No. 811/2013; 813/2013, Dated 26.09.2019



The XRGI® is a combined heat and power plant (CHP) that works on the principle of cogeneration.  
 The XRGI® 15 BIOGENIC is powered by biogas.  
 An XRGI® system consists of three main components – the Power Unit, Q-Heat Distributor and the iQ-Control Panel.  
 For optimal operation you should extend your XRGI® system by a Storage Tank with a minimum capacity of 800 litres.

## ORDERING DATA

Supplier's name or trademark	EC POWER	
Supplier's model identifier	<b>XRGI® 15 BIOGENIC without condensing technology<sup>2</sup></b>	<b>XRGI® 15 BIOGENIC with condensing technology<sup>2</sup></b>
Article number	X150006	X150006+K000105
Modules	Power Unit, iQ15-Control Panel, Q80-Heat Distributor	Power Unit, iQ15-Control Panel, Q80-Heat Distributor + Condensing and exhaust gas heat exchanger BW8+

## OUTPUT<sup>1</sup>

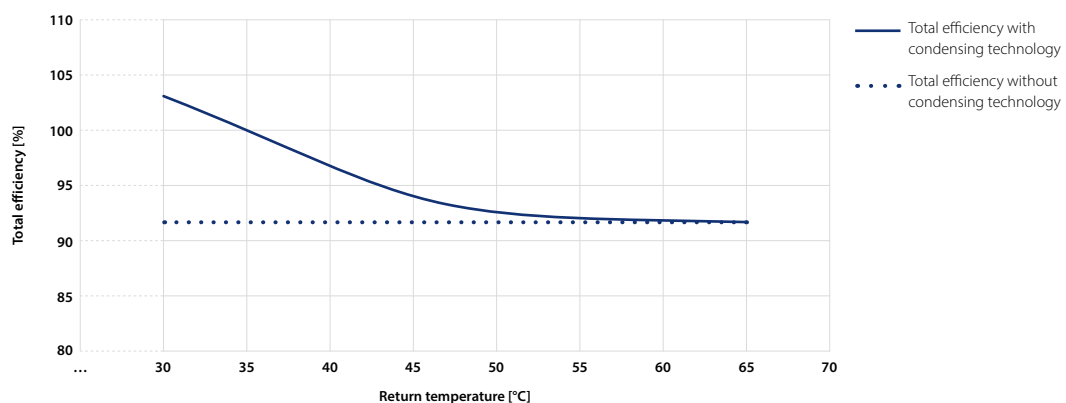
XRGI® system		XRGI® 15 BIOGENIC without condensing technology <sup>2</sup>	XRGI® 15 BIOGENIC with condensing technology <sup>2</sup>
Electrical output	kW	14.5	14.5
Thermal output	kW	30.8	36.7
Power consumption, gas in accordance with LCV <sup>3</sup>	kW	49.4	49.6
Electrical own demand, production	kW	0.059	0.059
Electrical own demand, stand-by	kW	0.034	0.034

## EFFICIENCIES & OPERATING PARAMETERS<sup>1</sup>

Electrical efficiency in accordance with LCV <sup>3</sup>	%	29.5	29.3
Thermal efficiency in accordance with LCV <sup>3</sup>	%	62.3	73.9
Total efficiency in accordance with LCV <sup>3</sup>	%	91.8	103.2

## TOTAL EFFICIENCY AT FULL LOAD<sup>1</sup>

**XRGI® 15 BIOGENIC total efficiency / return temperature**



<b>FLOW/ RETURN TEMPERATURE</b>	<b>XRGI® system</b>		<b>XRGI® 15 BIOGENIC without condensing technology<sup>2</sup></b>	<b>XRGI® 15 BIOGENIC with condensing technology<sup>2</sup></b>
	Flow temperature, constant	°C	~ 85	~ 85
	Return temperature, variable	°C	5 – 75	5 – 75
<b>EXHAUST GAS<sup>1</sup></b>	Max. exhaust gas temperature	°C	120	90
	Condensate <sup>4</sup>	kg/h	-	5.5
	Emissions (Test data at max. output)	CO < 150	mg/Nm <sup>3</sup>	93
NOx, pond, HCV <sup>3,5</sup> < 240		mg/kWh	209	184
<b>SOUND</b>	Sound pressure level at a distance of up to 1 m (based on surroundings)	dB(A)	53	
<b>POWER CONNECTION</b>	Voltage, 3 phases + N + Earth	V	400	
	Frequency	Hz	50	
<b>SERVICE</b>	Service interval (operating hours)	Hours	4,000	

<b>DIMENSIONS AND WEIGHT</b>			<b>Power Unit XRGI® 15</b>	<b>Q80-Heat Distributor</b>	<b>iQ15-Control Panel</b>
	Dimensions, W x H x D	mm	750 x 1,170 x 1,120	550 x 600 x 295	600 x 600 x 210
	Footprint	m <sup>2</sup>	0.84	wall mounted	wall mounted
	Weight	kg	580	44	40

<b>FUELS</b>	Biogas
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<b>Parameters</b>	<b>Symbol</b>	<b>Unit</b>	<b>Limit value</b>
Methane <sup>6</sup>	CH <sub>4</sub>	Vol.-%	> 55
Methane number			80 – 145
Calorific value	Hn	kWh/Nm <sup>3</sup>	6 – 8
Hydrogen sulphide <sup>7</sup>	H <sub>2</sub> S	mg/Nm <sup>3</sup>	0
Total sulphur content	S	mg/Nm <sup>3</sup>	< 5
Siloxane <sup>8</sup>	Si	mg/Nm <sup>3</sup> CH <sub>4</sub>	< 2
Chlorine <sup>6</sup>	Cl	mg/Nm <sup>3</sup> CH <sub>4</sub>	< 80
Fluorine <sup>6</sup>	F	mg/Nm <sup>3</sup> CH <sub>4</sub>	< 40
Ammonia	NH <sub>3</sub>	mg/Nm <sup>3</sup>	< 3
Oxygen	O <sub>2</sub>	Vol.-%	0.5- 1.5
Relative humidity <sup>9</sup>	φ	%	< 70
Temperature	Tg	°C	10 < Tg < 30
Gas pressure	Pg	mBar	20 < Pg < 45

**PLEASE NOTE:**

The values specified apply for the cleaned gas before it enters the XRGI® 15 BIOGENIC system.

Where the volume % of methane is lower, admixture of other methane-containing gases such as natural gas or (bio) LPG is required. The combustion air/gas must not contain any phosphorus or arsenic, nor any heavy metals, halogen or other corrosive elements. Additional components such as activated carbon filter, carbon filter material, gas detector, shut-off valve for gas detector, methane sensor, hydrogen sulphide sensor, sound/light alarm, flame arrester and exhaust gas system may be required for the safe operation of an XRGI® 15 BIOGENIC system.

<sup>1</sup> The composition of the biogas may affect the above values. <sup>2</sup> Return temperatures as per EN 50465 2015 7.6.1: Without condensing technology 47 °C, with condensing technology 30 °C. <sup>3</sup> LCV = lower calorific value, HCV = higher calorific value <sup>4</sup> Temporary condensation will occur on start-up. Depending on the quality of the biogas, it may be necessary to install a neutralisation system at the condensate outlet. <sup>5</sup> As per the delegated Commission Regulation (EU) No. 811/2013; 813/2013 <sup>6</sup> In the event of a different concentration, please refer to EC POWER. <sup>7</sup> In principle, the H<sub>2</sub>S filtering should be 100% effective. However, under exceptional circumstances, the system can be operated for a short time with a concentration of < 5 mg/Nm<sup>3</sup>. <sup>8</sup> The impregnation of the filter material must be dimensioned based on the siloxane pollution. <sup>9</sup> There must be no condensation in the gas circuit.

Deviations in values depend on the ambient and operating conditions, tolerance +/- 5 %. Subject to technical modifications, deviations from design and errors.



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