

# R-Gen CHP.

Specification guide



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This specification guide should be used in conjunction with the technical manuals to ensure a safe and energy-efficient design and installation.



# Remeha, the expert choice.

Complete commercial solutions from the experts in sustainable heating and hot water.

Choose Remeha's advanced commercial Combined Heat and Power systems for your next commercial project. We invest heavily in research and development which

enables our specialist teams to design high performance products at every level. From using the latest materials and manufacturing techniques to meticulously designing and engineering each product, we ensure they're efficient to specify, install, run and maintain.

We're the experts in heating and hot water solutions, built with sustainable technology. Our teams will guide you through the right choices for your commercial heating and hot water project. So from specification to sign-off through to supply and handover, our customer service and product support is second to none.

## Introducing the Remeha R-Gen CHP range.

The Remeha R-Gen CHP range, from 5.5-50 kWe, is the sustainable solution available in natural gas and LPG\*, providing highly-efficient heat and power to commercial buildings that demand significant, consistent heating and electricity.

### How does it work?

The units operate by burning natural gas in an engine to drive the electrical generator and provides electrical power for the building. The heat from the engine water jacket, along with the hot exhaust gas produced by the engine, enters a heat recovery exchanger to provide Low Temperature Hot Water (LTHW) for space heating and Hot Water Service (HWS) generation.

### How does it save energy?

The units operate by burning natural gas in an engine to drive the electrical generator and provides electrical power for the building. The heat from the engine water jacket, along with the hot exhaust gas produced by the engine, enters a

heat recovery exchanger to provide Low Temperature Hot Water (LTHW) for space heating and Hot Water Service (HWS) generation.

By simultaneously generating heat and power, the system can operate to significantly higher efficiency levels, typically achieving total fuel efficiency of 85-90%, double that of conventional technology. That means primary energy savings of up to 30% and an emissions reduction of around 20%, compared with traditional generation.

The savings are even higher with condensing CHP units. The Remeha R-Gen SenerTec Dachs, R-Gen 20/44 NG and 50plus NG models achieve outstanding total fuel efficiencies of between 99-103.1% (NCV), reducing greenhouse emissions by up to 60% and primary energy consumption by up to 40%.

\*Excludes R-Gen 50plus NG which is only available in natural gas.

# Why choose Remeha R-Gen CHP?

Remeha's knowledgeable, dedicated CHP team are with you every step of the way, supporting you from the initial scoping and design phase through to knowledgeable aftercare service.

Please contact us at [info@remeha.co.uk](mailto:info@remeha.co.uk) for more information on pricing.

## Environmental and financial benefits

The increased energy-efficiency of CHP and more cost-effective, locally generated electricity means impressive efficiency savings. Your Technical Sales Manager will be able to help you maximise the savings with your CHP solution.

CHP plants also purchase less electricity from the grid. We can offer advice to help ensure your planned Remeha CHP installation meets the requirements of the CHPQA scheme.

The Remeha R-Gen CHP range doesn't just have economic benefits, it also minimises CO<sub>2</sub> emissions by generating both heat and electricity simultaneously.

## CHP Applications

Remeha R-Gen CHP systems are best suited to applications with high, continuous demands for thermal energy and electricity. This makes them particularly suitable for colleges and universities, hotels and leisure centres, hospitals and care homes, as well as district and centralised heating systems. They can be installed in new build developments and refurbishment projects.

## Reduced carbon footprint

Using Remeha R-Gen CHP systems to generate low carbon heat and electricity reduces a building's carbon footprint. This can help meet environmental legislations such as Part L low carbon compliance. The units can also bring Building Research Establishment Environmental Assessment Method (BREEAM) credits that can significantly improve the environmental rating of a building.

## Features and benefits

High-efficiency up to 103.1% (NCV)	<p>Environmental benefits:</p> <ul style="list-style-type: none"> <li>&gt; Sustainable operation</li> <li>&gt; Reduced waste heat</li> <li>&gt; Reduced Greenhouse Gas (GHG) emissions</li> </ul> <p>Financial benefits:</p> <ul style="list-style-type: none"> <li>&gt; Reduced energy costs</li> <li>&gt; Eligible for Enhanced Capital Allowance</li> </ul>
Produces heat and power from one fuel source	Reduced primary energy use for lower energy costs, reduced GHG emissions and financial payback
Zero BREEAM NO <sub>x</sub> thermal emissions complete with integrated catalytic converter *20/44 only	<p>Low pollutant emissions that meet environmental regulations including BREEAM and Clean Air Act</p> <ul style="list-style-type: none"> <li>&gt; Helps with Part L compliance</li> <li>&gt; Helps reduce carbon footprint</li> </ul>
Low noise – under free-field conditions at 1m distance as low as ≤52 dB(A) max	Thermal and acoustically isolating cladding and low-vibration mean quieter operation for improved comfort
Designed for easy connection	Versatile solution to low carbon heat and power for new build and refurbishment projects with year-round heat and electrical demand
All Remeha R-Gen CHP models are condensing units	Increased efficiency
ErP Eco design A+++ and A++ rating (for 5.5kWe and 20kWe models respectively)	Improved efficiency for lower operating costs and ErP compliant
Remote monitoring via the internet	Easier, flexible operation and maintenance
Integrated G98/G99 relay panel*	Improved communication with the Distribution Network Operator (DNO)

\*Your Technical Sales Manager can help you with this process. Contact us to find out more information.

# Why choose Remeha R-Gen CHP?

## Design principle

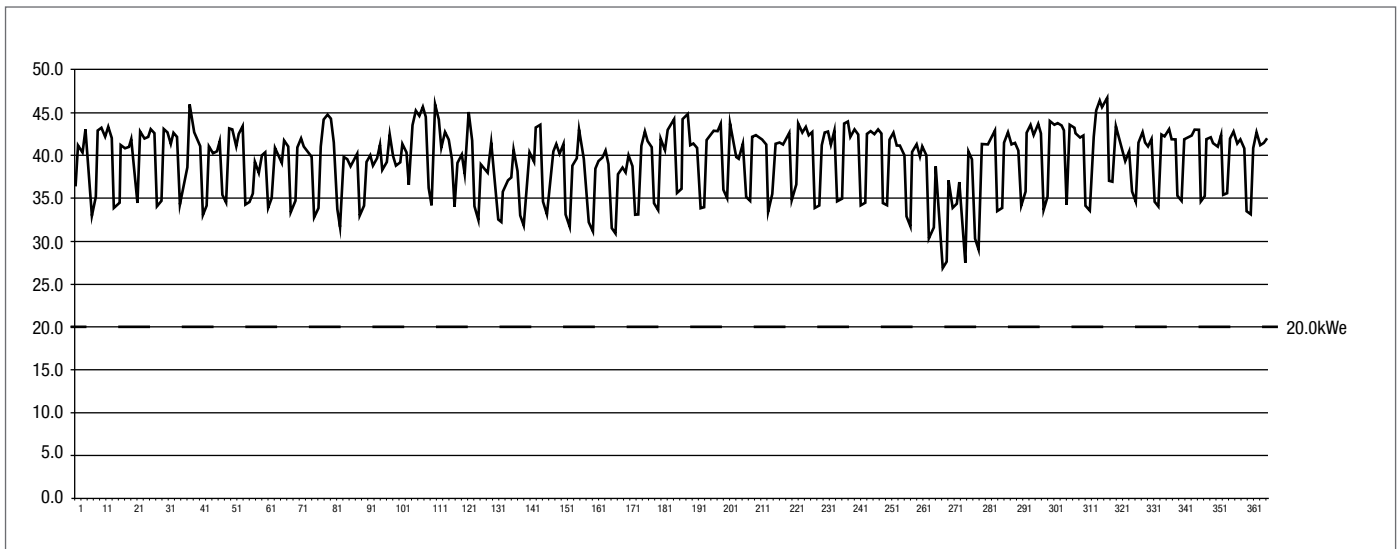
To achieve maximum efficiency, CHP units should be considered in conjunction with condensing boilers. The CHP unit should operate as the lead boiler with the condensing boiler providing additional heat during peak periods when required.

Thermal peak and base loads are just as important as electrical peak and base loads when it comes to correct sizing for the CHP unit. Using the electrical and thermal demand will help to determine the right size.

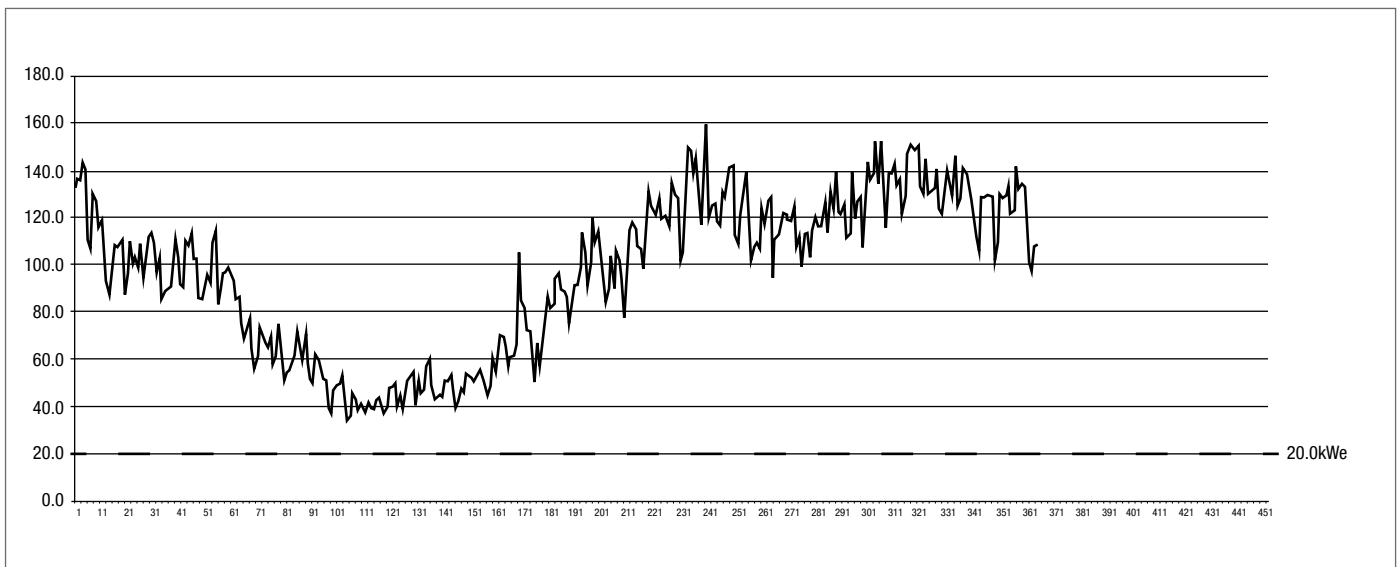
Our expert knowledge of boiler technology allows Remeha to recommend the best package based on the specific needs of the project. For illustrative purposes only, the graph below shows electrical demand as 20kWe baseload and 50kWe peak. As the thermal summer load is quite small, we'd recommend our R-Gen 20/44 NG unit with condensing boilers taking the rest of the load.

Hydraulic integration is also important for the efficiency of the system. Condensing boiler technology operates most effectively at lower return water temperatures. Therefore, it's important to connect the CHP to the low loss header to promote full condensing – achieving higher efficiency levels.

## Electricity



## Gas



# Remeha R-Gen Senertec Dachs.

The Remeha R-Gen SenerTec Dachs G5.5 mini CHP use an internal combustion engine that can be fuelled by either natural gas or LPG. It's designed for use in larger residential buildings or light commercial premises, plus the flexibility of using a multi-module system means it can be tailored to suit your specific requirements.

The Remeha R-Gen SenerTec Dachs range, was previously provided by our sister company SenerTec.

The Remeha R-Gen SenerTech Dachs unit is housed in a soundproofed and thermally insulated enclosure. The flue gas exhaust is passed through a flue duct system, specifically designed for mini CHP systems, with flue gas exhaust temperatures lower than 120°C.

The specially-developed water-cooled synchronous generator drives the generator via a single-stage gear. The nominal active electrical power of 5.5kWe is achieved with up to 99% total efficiency (NCV).

The unit is controlled according to the heat demand. The MSR3 controller monitors the requirement for heat within the building based on the information provided by the four

temperature sensors attached to the SE800 litre buffer vessel supplied as part of the package with the Dachs 2. As the demand for heat to the building reduces, the controller will modulate the engine to reduce the thermal output in three phases from 14.8kW – 7.5kW. The electrical output will be reduced in three phases of energy output also between the maximum of 5.5kWe down to 2.9kWe.

## BMS interface

The Remeha R-Gen SenerTec Dachs can be integrated into the BMS system. For further information on BMS integration, speak to your Technical Sales Manager.

## Remote monitoring system

Remote access is via an internet connection, either by a mobile network modem or an optional ethernet module (subject to room location – speak to your Technical Sales Manager who can recommend the best option). It allows the R-Gen SenerTec Dachs unit to be connected with the dedicated portal server. It monitors operating status information such as electrical data and temperatures.

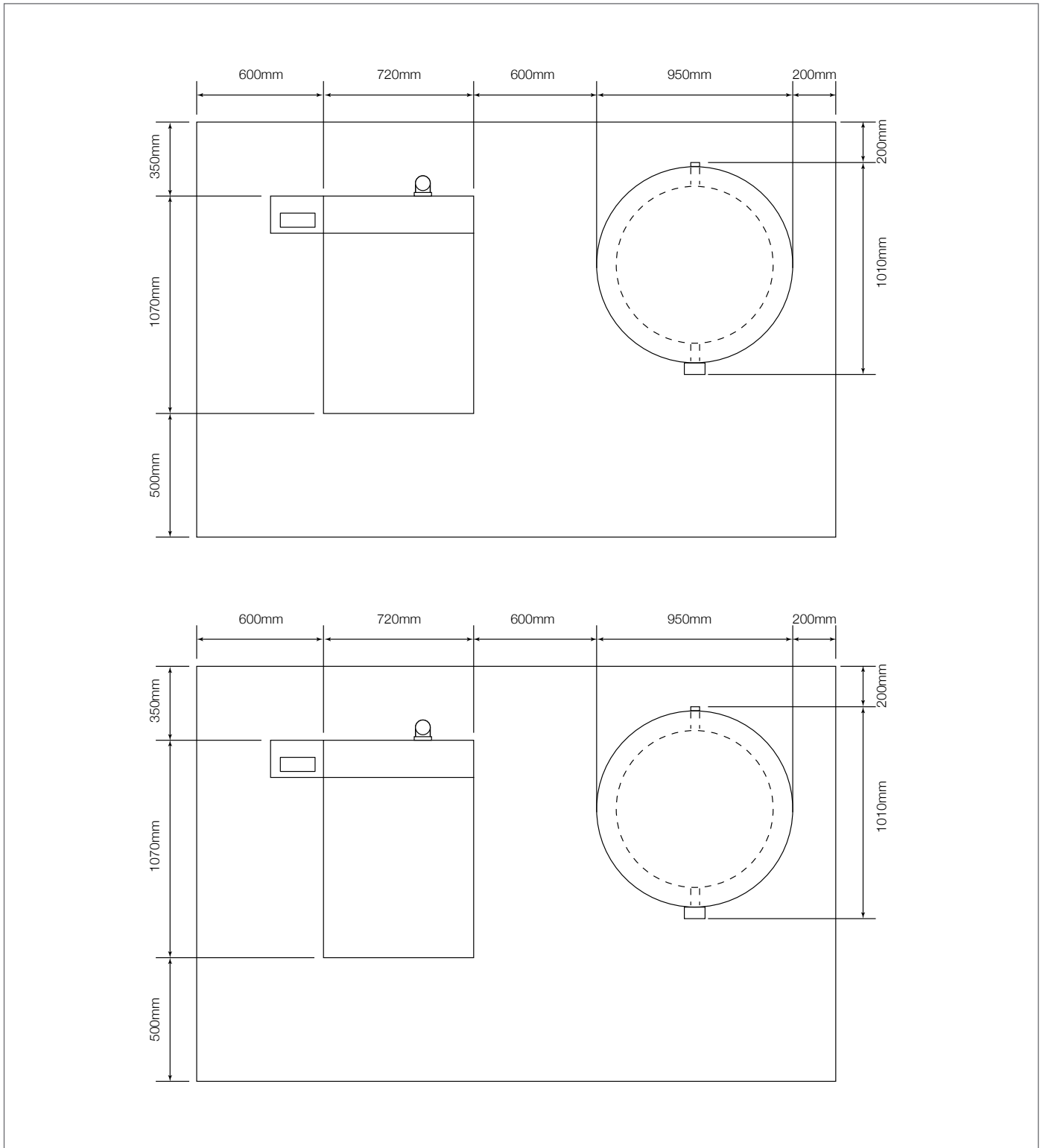
## Features and benefits

Single-cylinder, four-stroke Dachs engine	Proven technology, purpose-built for CHP
Easily integrates with existing heating systems	Suitable for older buildings and new builds
Supplied with controls and thermostats to suit complete CHP buffer installation	Links easily to site controls for ease of installation
Can be installed in multiple modules with additional buffer tank, controls and accessories	Can be customised to suit individual applications, maximising efficiency and CO <sub>2</sub> savings
Remote monitoring	Helps plan maintenance and ensures optimum performance
ErP energy label rating A+++	Most efficient product performance under the new ErP Directive
Integrated G98/1 grid protection relay, for connecting generators <16A phase in parallel with public low voltage distribution networks*	Allows quick application approval with the District Network Office

\*Contact your Technical Sales Manager for advice and help with your G98 application.

# Remeha R-Gen Senertec Dach.

## Dimensions, connections and clearances



# Remeha R-Gen 20/44 LPG/NG and 50plus NG CHP units.

The Remeha R-Gen 20/44 LPG/NG and the R-Gen 50plus NG are compact CHP units supplied for easy connection. The spark-ignition gas engine is industrial serial produced.

The flow, return and gas connections are equipped with one metre long flexible hoses and are mounted external to the casing for easy connection. The engine and generator connect to the module's base frame on an anti-vibration mounting.

The control cabinet is designed as a separate unit on the module.\* All control and regulation functions, as well as operating elements are integrated into it. All operating and status values can be read and set using a menu-guided HMI.

## Connecting the Remeha R-Gen 20/44 LPG/NG and R-Gen 50plus NG units to the Grid

As part of the installation process, the Remeha R-Gen 20/44 LPG/NG and 50plus NG units need to be connected to the electrical distribution network and require a G99 application prior to operating. Our expert team are able to help with the application, making connection to the grid a smooth process. We'd usually recommend scoping out the feasibility

and application of connection at the design stage, but applications need to be approved before the unit can run. We can organise the application, testing and witnessing to get your CHP unit fully connected. Speak to your Technical Sales Manager at the design stage who'll be more than happy to help.

## BMS Interface

The Remeha R-Gen BMS interfacing has an enable, run and fault indication, along with a 0-10v control supplied as standard. An optional MODBUS BMS card can be supplied if the BMS needs to interface with the CHP. This allows the BMS to read the parameters on the CHP unit.

## Remote Monitoring System

The Remote Monitoring System, connected via a mobile network modem or Ethernet connection, monitors the operating status of the unit. It also allows for remote access to provide some software updates and parameter changes.

## Features and benefits

Water-cooled and synchronous generator	No need for external ducting
Easily integrates with existing heating systems	Suitable for older buildings and new builds
Condensing flue gas heat exchanger, operates at return temperatures of <55°C	Increased efficiency, reduced operating costs and carbon emissions
Filling, drain and vent valves as standard	Easier installation
Integrated plate heat exchanger separates system heating water from the CHP engine, complete with primary and secondary circulating pumps	Increased engine protection and service life
Integrated pressure relief valves for both primary and secondary circuits	Easier installation
ErP energy label rating A++ (for 20kWe only)	Efficient product performance

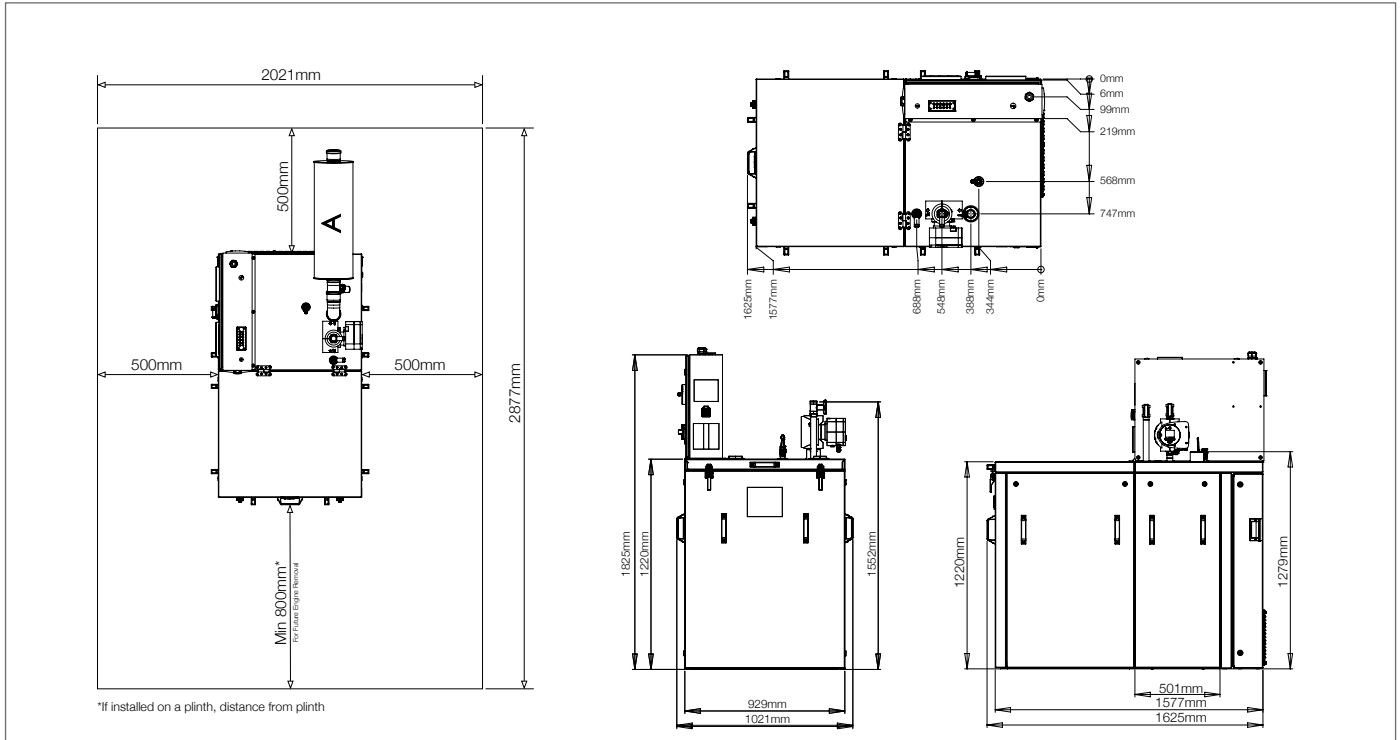
\*Can be mounted directly onto the R-Gen 20/44 LPG/NG unit.



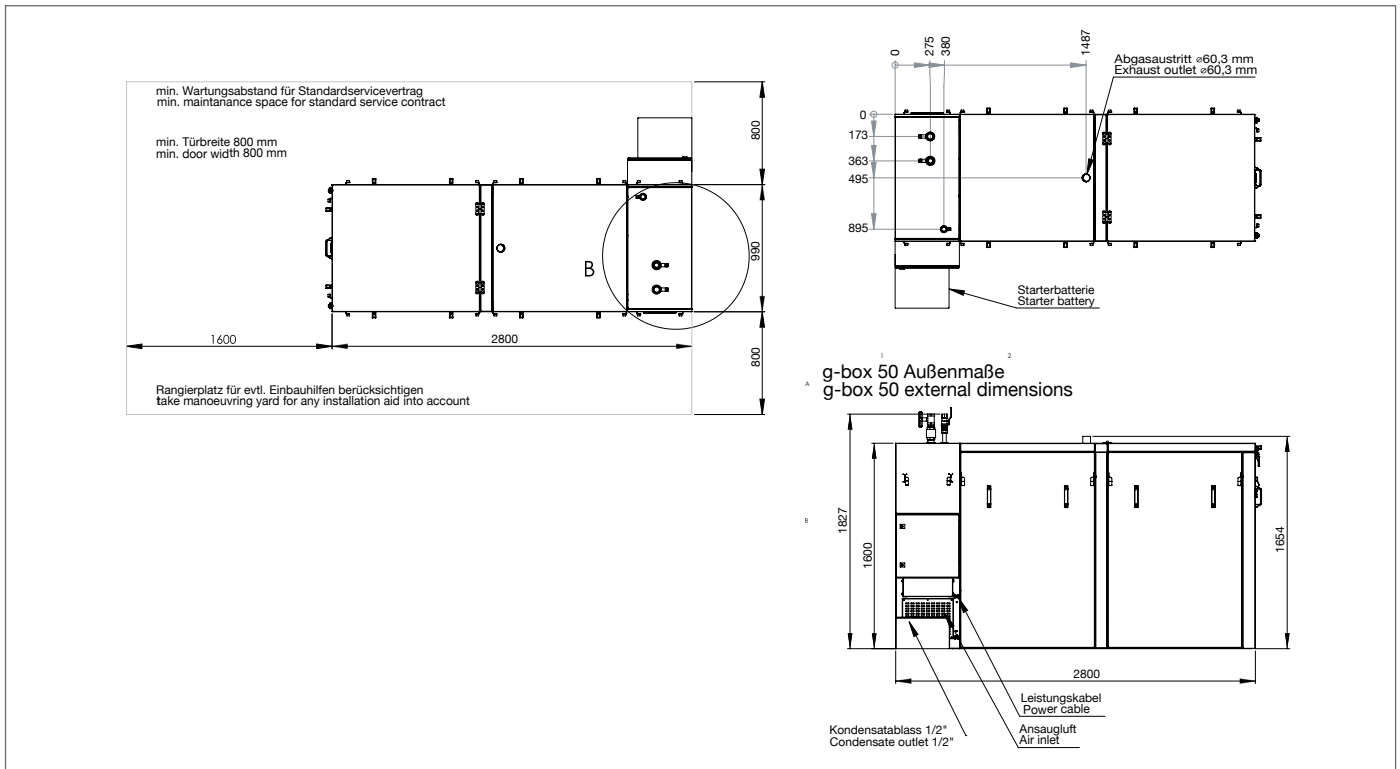
# Remeha R-Gen 20/44 LPG/NG and 50plus NG CHP units.

## R-Gen 20/44 LPG/NG and 50plus NG. dimensions, connections and clearances

### R-Gen 20/44 NG



### R-GEN 50PLUS NG





# R-Gen Senertec Dachs Range

## technical information.

DACHS G5.5 <sup>(2)</sup>				
Power Level		1	2	3
Seasonal space heating efficiency class		A+++		
Rated heat output (P rated)	kW	7.5	10.6	14.8
Seasonal space heating energy efficiency		186		
Annual energy consumption	kWh/GJ	6366/23		
Sound power level L WA indoors		63		
Electrical efficiency	%	26.5	26.5	25.6

Fuel		Natural Gas			LPG		
Power level		1	2	3	1	2	3
Electrical output <sup>(3)</sup>	kW	2.85	4.1	5.5	3.0	4.1	5.5
Thermal output <sup>(4)</sup>	kW	7.5	10.6	14.8	7.4	10.2	13.8
Fuel input <sup>(5)</sup>	kW	9.7	14.1	19.5	10.1	14.0	19.0
Voltage / frequency		3 ~ 230V / 400V; 50 Hz					
Electrical auxiliary demand <sup>(4)</sup>	kW	0.065	0.070	0.080	0.065	0.070	0.080

# R-Gen Senertec Dachs Range<sup>(1)</sup>

## technical information.

DACHS G5.5 <sup>(2)</sup>							
Efficiency							
Electrical ( $H_s/H_e$ )	%	26.5/29.4	26.5/29.4	25.6/28.4	27.6/30.0	27.4/29.7	26.8/29.1
Thermal ( $H_s/H_t$ )	%	68.9/76.4	68.1/75.5	68.4/75.9	67.7/73.5	67.2/73.0	67.0/72.8
Overall efficiency ( $H_s/H$ )	%	95.3/105.7	94.6/104.9	93.9/104.2	95.3/103.5	94.6/102.7	93.8/101.9
Primary energy factor f PE,WV <sup>(6)</sup>		0.417			0.416		
Power coefficient		0.39	0.39	0.37	0.41	0.41	0.40
Sound pressure level <sup>(7)</sup>	dB(A)	48			47		
Flexible service interval	oh	7000-11000 <sup>(8)</sup>					
Engine stroke	N°	4					
Engine cylinders	N°	1					
Generator type	Type	Synchronous					
Grid connection	Type	G98/1					
Grid system	Type	TN-S					
Circuit breaker	Type	B					
Dimensions (WxDxH)	mm	720 x 1070 x 1270					
Weight	kg	580					
Space requirements min (WxD)	mm	1920 x 2020					
Exhaust connection size	DN	80					
Mass flue gas volume (wet)	kg/h	40					
Flue gas volume (wet)	m <sup>3</sup> /h	33					
Flue gas volume (dry)	m <sup>3</sup> /h	27					
Flow connection size	Inch	1"					
Return connection size	Inch	1"					
Gas connection size	Inch	½"					
Condensate connection size	Inch	½"					
System working pressure (min)	bar	1					
System working pressure (max)	bar	2.8					
Chp safety valve fitted	bar	3					
Gas pressure (min)	mbar	15			37		
Gas pressure (max)	mbar	24			54		

# R-Gen Senertec Dachs Range<sup>(1)</sup>

## technical information.

DACHS G/F5.5							
Type Dachs Gen2 <sup>(1)</sup>		G5.5 <sup>(2)</sup>			F5.5 <sup>(2)</sup>		
Seasonal space heating efficiency class		A <sup>+++</sup>			A <sup>+++</sup>		
Rated heat output (P rated) with power level I / II / III		kW			7.5 / 10.6 / 14.8		
Seasonal space heating energy efficiency		%			186		
Annual energy consumption		kWh / GJ			6366 / 23		
Sound power level L WA indoors		dB			63		
Electrical efficiency with power level I / II / III		%			26.5 / 26.5 / 25.6		
					27.6 / 27.4 / 26.8		
Fuel		Natural Gas			LPG		
Power level		1	2	3	1	2	3
Rotations per minute		min <sup>-1</sup>	1200-1250	1700-1850	2200-2400	1200-1250	1650-1800
Electrical output <sup>(3)</sup>		kW	2.85	4.1	5.5	3.0	4.1
Thermal output <sup>(4)</sup>		kW	7.5	10.6	14.8	7.4	10.2
Fuel input <sup>(5)</sup>		kW	9.7	14.1	19.5	10.1	14.0
Voltage / frequency		3 ~ 230V / 400V; 50 Hz			3 ~ 230V / 400V; 50 Hz		
Electrical auxiliary demand <sup>(4)</sup>		kW	0.065	0.070	0.080	0.065	0.070
							0.080
Efficiency							
Electrical (H <sub>s</sub> /H <sub>i</sub> )		%	26.5/29.4	26.5/29.4	25.6/28.4	27.6/30.0	27.4/29.7
Thermal (H <sub>s</sub> /H <sub>i</sub> )		%	68.9/76.4	68.1/75.5	68.4/75.9	67.7/73.5	67.2/73.0
Overall efficiency (H <sub>s</sub> /H <sub>i</sub> )		%	95.3/105.7	94.6/104.9	93.9/104.2	95.3/103.5	94.6/102.7
Primary energy factor f PE,WV <sup>(6)</sup>			0.417			0.416	
Power coefficient			0.39	0.39	0.37	0.41	0.41
Sound pressure level <sup>(7)</sup>		dB(A)	48			47	
Flexible service interval		oh	7000-11000 <sup>(8)</sup>				
Flue gas evacuation			Common flue gas evacuation with other CHP units or supplementary heater possible				
Dimensions (W w/o controller x D x H)		mm	720 x 1070 x 1270				
Weight		kg	Approx. 580				
Space Requirements min (WxD)		mm	At least 1920 / 2020 x 2020				
Type		MSR3 controller					
Class		II					
Contribution to space heating energy efficiency		2%					

1) The Dachs complies with the high efficiency criteria according to German CHP law;

Values measured with standard gas G20 and/or G31 under standard conditions

2) Minimum methane number: 35; including setting and nozzle adjustment on site

3) According to ISO 30461, measured at the frequency converter outlet, tolerance ±3%; values may differ depending on altitude, ambient and operating conditions

4) Values from type/component test report for a return temperature of 30°C with integrated condensing heat exchanger; maximum supply flow temperature 83°C, maximum return flow temperature 70°C

5) Values for a return temperature of 30°C referred to Hi, tolerance ±5%

6) Calculation with the following power level percentages of the annual system uptimes: I = 30 %, II = 15 %, III = 55%

7) Sound power level at a distance of 1m according to DIN EN ISO 3744, ambient conditions according to DIN EN 15036-1

8) Depending on the operating hours on the respective power level; but not later than 2 years

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# R-Gen 20/44 LPG/NG and 50plus NG

## technical information.

		R-GEN 20/44			R-GEN 50PLUS NG		
<b>Performance</b>							
Fuel		Natural Gas			Natural Gas		
Load	%	50	75	100	50	75	100
Electrical output	kWe	10	15	20	25	38	50
Electrical efficiency	Nett %	28.1	30.6	32	26.8	31.9	34.5
	Gross %	25.3	26.2	28.8	24.1	28.7	31.1
Thermal output <sup>(5)</sup>	kWt	29	37	44	65	79	93
Thermal efficiency	Nett %	81.5	75.3	70.4	69.4	67.0	63.8
	Gross %	73.4	67.8	63.4	62.5	60.4	57.5
Total efficiency	Nett %	109.6	106	102.4	96.1	98.8	98.3
	Gross %	98.7	95.4	92.3	86.6	89.02	88.6
Power performance coefficient	Ratio	0.34	0.41	0.45	0.39	0.48	0.54
Operation	Type	Modulating			Modulating		
		Condensing			Condensing		
Fuel input	kW	35.6	49	64	93	118	145
Gas rate	m <sup>3</sup> /hr	3.39	4.67	6.1	9.0	11.4	14.1
<b>Engine</b>							
Type	Stroke				4		
Cylinders	N°				4		
Service intervals	Hours	6000			2500		
Speed	RPM	1500			1517		
<b>Electrical</b>							
Voltage	V				400		
Frequency	Hz				50		
Own use	kW				<0.6		
Generator	Type	Asynchronous			Synchronous		
Grid connection	Type				G99		
Grid system	Type				TN-S		
Circuit breaker	Type				C		

# R-Gen 20/44 LPG/NG and 50plus NG

## technical information.

		R-GEN 20/44	R-GEN 50PLUS NG
<b>Noise</b>			
Sound pressure (1m)	db(A)	51	55
Sound power (1m)	db(A)	67	70
<b>Dimensions</b>			
Width	mm	929	1200
Depth	mm	1625	2800
Height	mm	1220	1600
<b>Service space</b>			
Side	mm	800	800
Front	mm	500	1600
Rear	mm	500	0
<b>Weight</b>			
Dry weight	kg	858	2370
<b>Efficiency class</b>			
ErP	Banding	A++	N/A
<b>Connections</b>			
Exhaust	DN	80	60
Flow & return	Inch	1" (25mm)	1½" (40mm)
Gas	Inch	¾" (22mm)	¾" (22mm)
Condensate	Inch	½" (15mm)	½" (15mm)
<b>Pressures</b>			
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

\*Can be changed to 6 bar on-site.



# R-Gen 20/44 LPG/NG and 50plus NG

## technical information.

		R-GEN 20/44	R-GEN 50PLUS NG
<b>Emissions</b>			
NO <sub>2</sub> @ 5% Excess Air	mg/kWh	<40	<125
CO <sub>2</sub> @ 5% Excess Air	mg/kWh	<150	
<b>Combustion air</b>			
Mass	kg/h	77	179
Volume flow	m <sup>3</sup> /hr	65	151
<b>Flue gas</b>			
Flue gas mass (wet)	kg/h	82	191
Flue gas mass (dry)	kg/h	72	168
Flue gas volume (wet)	m <sup>3</sup> /hr	65	152
Flue gas volume (dry)	m <sup>3</sup> /hr	54	125
Flue gas temperature	°C	80	70
<b>Operating temperature</b>			
Min operating temperature	°C	20	
Min operating temperature	°C	80	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.

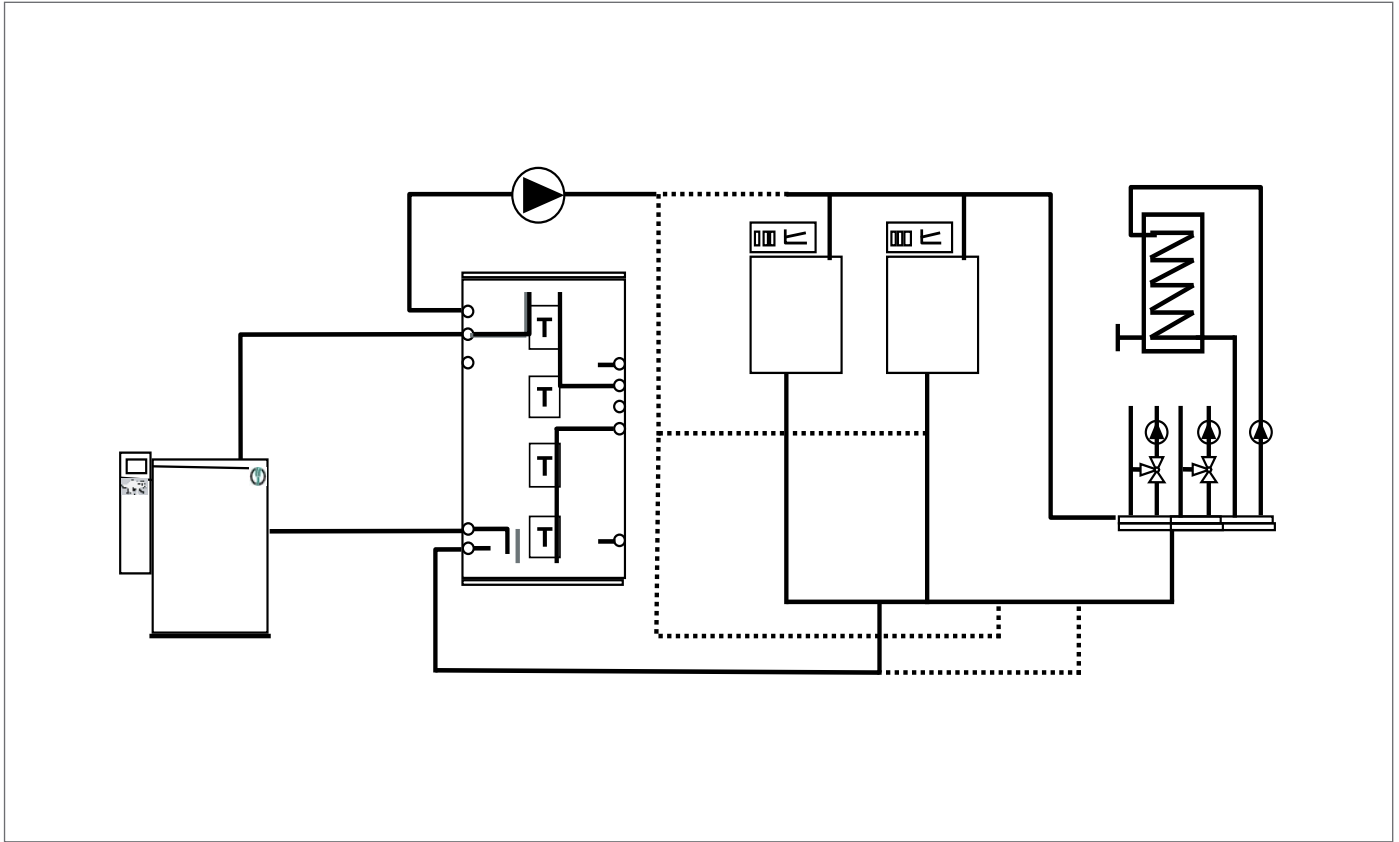
- > Performance conditions in accordance with DIN ISO 3046. Tolerance for specific fuel use amounts to +5% of nominal performance. Efficiency specifications are based on an engine in new condition. An abatement in efficiency over the service life is reduced with observance of maintenance requirements.
- > 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'.

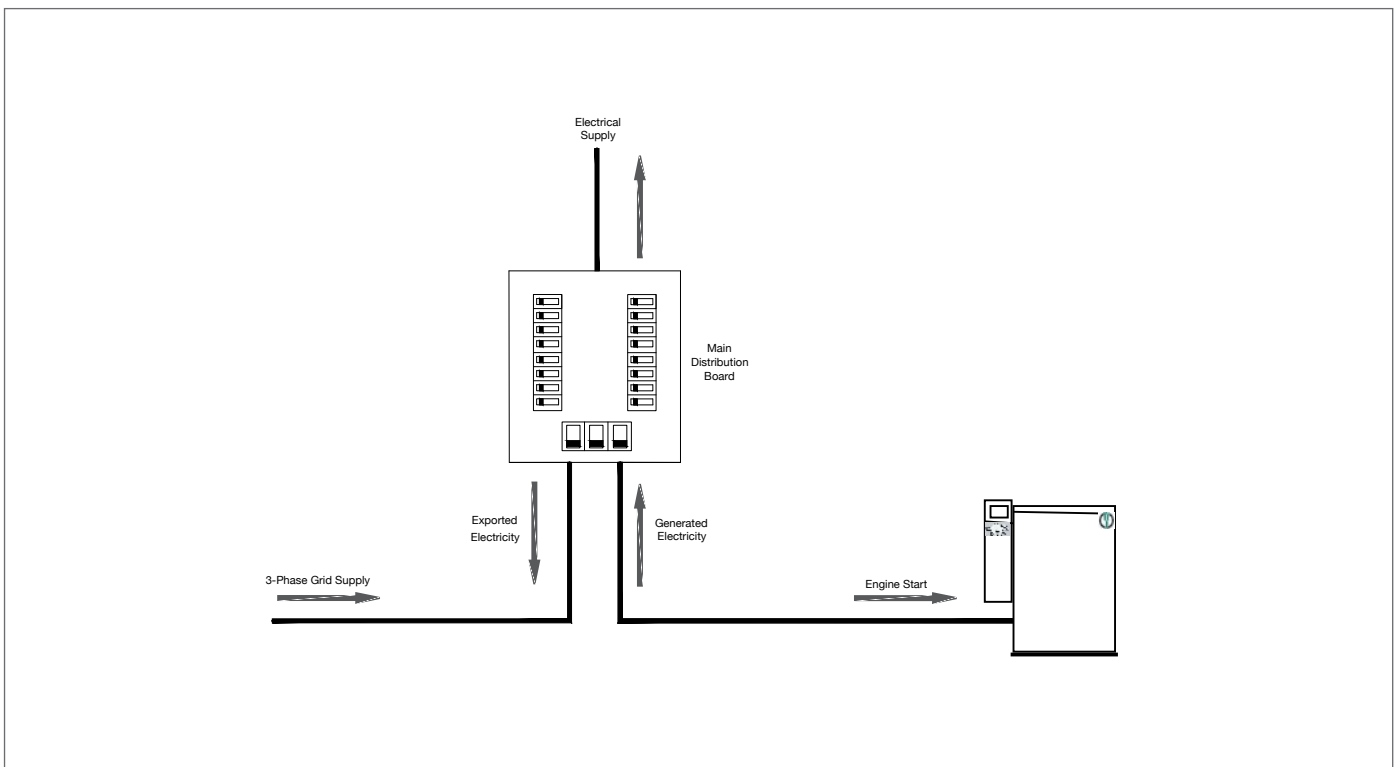


# Hydraulic principle drawings.

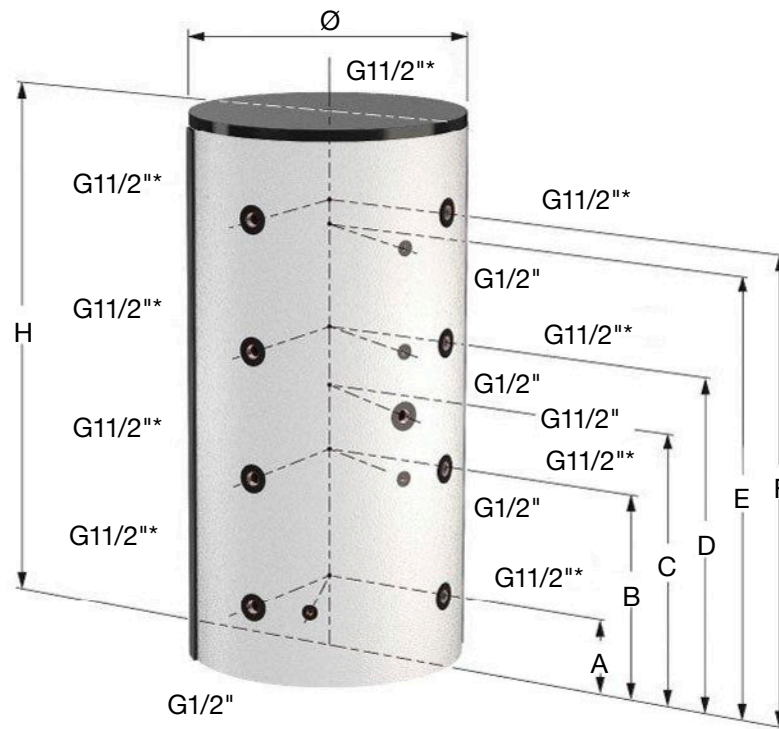
## Dachs 2 plus two boilers for a hot water pre-heat system



## R-Gen Senertec Dachs – electrical single line drawing



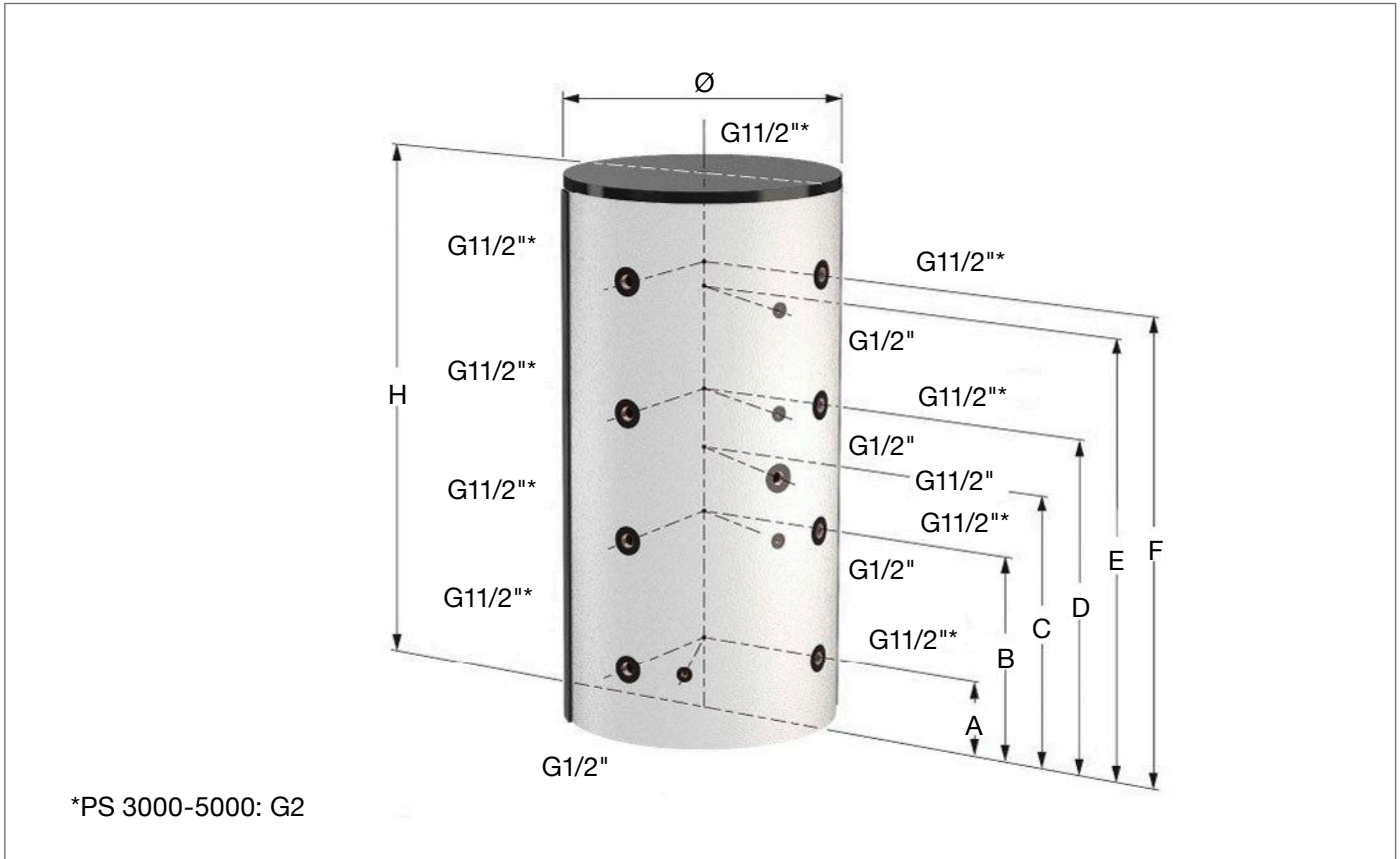
# R-Gen buffer vessel.



\*PS 3000-5000: G2

Model	200	300	500
Part No 6 bar	FL702	FL703	FL704
Part No 3 bar	FL689	FL690	FL691
Capacity (L)	200	300	500
Diameter (mm)	480	550	650
Height (mm)	1300	1590	1650
Tilting height (mm)	1350	1650	1700
Dry weight (kg)	47	66	80
No of connections	8	8	8
Connection A mm (from floor)	180	210	180
Connection B mm (from floor)	480	590	600
Connection C mm (from floor)	-	-	770
Connection D mm (from floor)	780	980	1010
Connection E mm (from floor)	980	1260	1330
Connection F mm (from floor)	1080	1080	1430

# R-Gen Senertec Dachs buffer vessel details.



Model	750	850	1000	1000	1200	1500	1800	2000	3000	5000
Part No 6 bar	FL705	FL706	FL707	FL708	FL709	FL710	FL711	FL712	FL713	FL714
Part No 3 bar	FL692	FL693	FL694	FL695	FL696	FL697	FL698	FL699	FL700	FL701
Capacity (L)	750	850	1000	1000	1200	1500	1800	2000	3000	5000
Diameter (mm)	790	790	790	850	850	1000	1100	1100	1250	1600
Height (mm)	1800	1950	2200	2000	2250	2320	2200	2350	2800	3250
Tilting height (mm)	1850	2000	2250	2050	2300	2380	2250	2400	2900	3350
Dry weight (kg)	102	140	170	172	175	225	272	310	586	970
No of connections	8	8	8	8	8	8	8	8	8	8
Connection A mm (from floor)	270	270	270	305	305	340	350	350	450	695
Connection B mm (from floor)	690	740	820	790	855	890	850	900	1060	1305
Connection C mm (from floor)	940	970	995	1075	1195	1230	1100	1310	1390	1635
Connection D mm (from floor)	1100	1200	1370	1220	1405	1440	1350	1450	1720	1965
Connection E mm (from floor)	1420	1570	1820	1605	1855	1890	1750	1900	2240	2485
Connection F mm (from floor)	1520	1670	1920	1705	1955	1990	1850	2000	2330	2575





The speed can be changed...  
parameter P17, E.g. to adapt the...  
boiler to Gae H (G20)  
A linear relationship exists between...  
the speed and the input. See graph.

# Technical support and declaration of compliance.

## Technical support

From brochures to CAD drawings, you can access all the information you need at [remeha.co.uk](http://remeha.co.uk)

Or call our sales or technical departments on **0345 070 1055**.

**We're always happy to help.**

We can provide you with:

- > Brochures
- > Technical specification sheets
- > Case studies
- > Installation manuals
- > CAD files
- > Energy-related products directive data
- > Commissioning
- > Technical information
- > Spare parts (after sales)

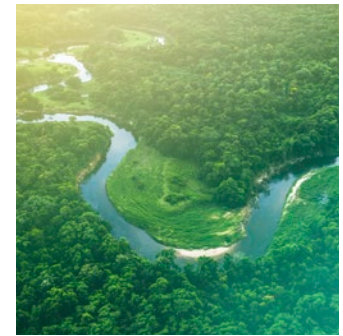
## Declaration of compliance

We hereby certify that the series of appliances specified herein is in compliance with the standard model described in the EC declaration of compliance, and that it is manufactured and marketed in compliance with the requirements and standards of the following European Directives.

- > 2016/426 EU (appliances burning gaseous fuels) as well as additional applied regulations, including the applicable amendments at the time of declaration
- > 2004/108/EC (electromagnetic compatibility)
- > 97/23/EC (pressure equipment according to Article 3, Section 3)
- > The safety objectives of the Low-voltages Directive 2006/95/EC were complied in accordance with Appendix I, No. 1.5.1 of the Machinery Directive

### The following harmonised standards have been applied:

- > EN ISO 121000, safety of machines, devices and plants
- > EN ISO 13732-1, ergonomics of the thermal environment
- > EN 50465, gas appliances – Fuel cell gas heating appliance. Fuel cell gas heating appliance of nominal heat input inferior or equal to 70 kW
- > EN 60335-1/-2, household and similar electrical appliances safety
- > EN 61000-6-2, EMC interference resistance



Our Technical Sales Managers can help develop the right heating solution tailored to your requirements.

For your Technical Sales Manager's details please visit [remeha.co.uk/CHP](http://remeha.co.uk/CHP), email us at [info@baxiheating.co.uk](mailto:info@baxiheating.co.uk) or call our team on **0345 070 1055**.

- > EN 61000-6-4, disruptive EMC emissions
- > G98/1, engineering Recommendation G83/2: 2012 – Recommendation for the Connection of Type Tested Small Scale Embedded Generators (up to 16A per Phase) in Parallel with Low Voltage Distribution Systems
- > EN 298, automatic burner control systems for burners and appliances burning gaseous or liquid fuels
- > EN 60730 -1/-2-5, automatic electrical controls for household or similar use
- > EN 303-1, heating boilers with forced draught burners
- > EN 60068 -2 -1/ -2/-30, environmental testing
- > EN 61810 -1, electromagnetic compatibility (EMC)
- > EN 60947 -5 -1, low voltage switchgear and controlgear
- > EN 61558 -2 -4, safety of transformers, reactors, power supply units or similar products for supply voltages up to 1100v
- > EN 50438, requirements for the connection of microgenerators in parallel with public low-voltage distribution networks
- > EN 13384, chimneys – Thermal and fluid dynamic calculation methods
- > EN 82079, preparation of instruction for use – structuring, content, and presentation: part 1: General principles and detailed requirements

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