



Product Range



CHP-Systems



Heat Pump



Gas2Power



Service

Contents

Information about 2G

Facts	4
Locations	5
Products and Services	6
Areas of Application	9

CHP-Systems

g-box	12
aura	14
agenitor	16
avus	18
Hydrogen	21

Heat Pumps

afilia-water	22
afilia-air	26

Gas2Power (G2P) Solutions

30

GreenCube

32

Data Center Solutions

34

Container Solutions

36

Service

38

Service and Service Products	40
2G TrainingCenter	42
MY2G	43

Generally

CHP-Systems

Heat pumps

Gas2Power

GreenCube

Data Center

Container-Solutions

Service

Facts about 2G

Founded in
1995



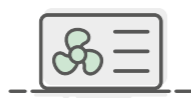
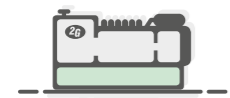
38
Average age



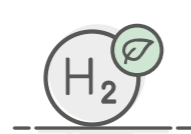
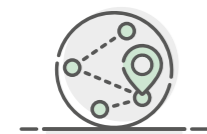
> 1.000 Employees



50%
International sales
share



17 Subsidiaries



Locations

In Germany

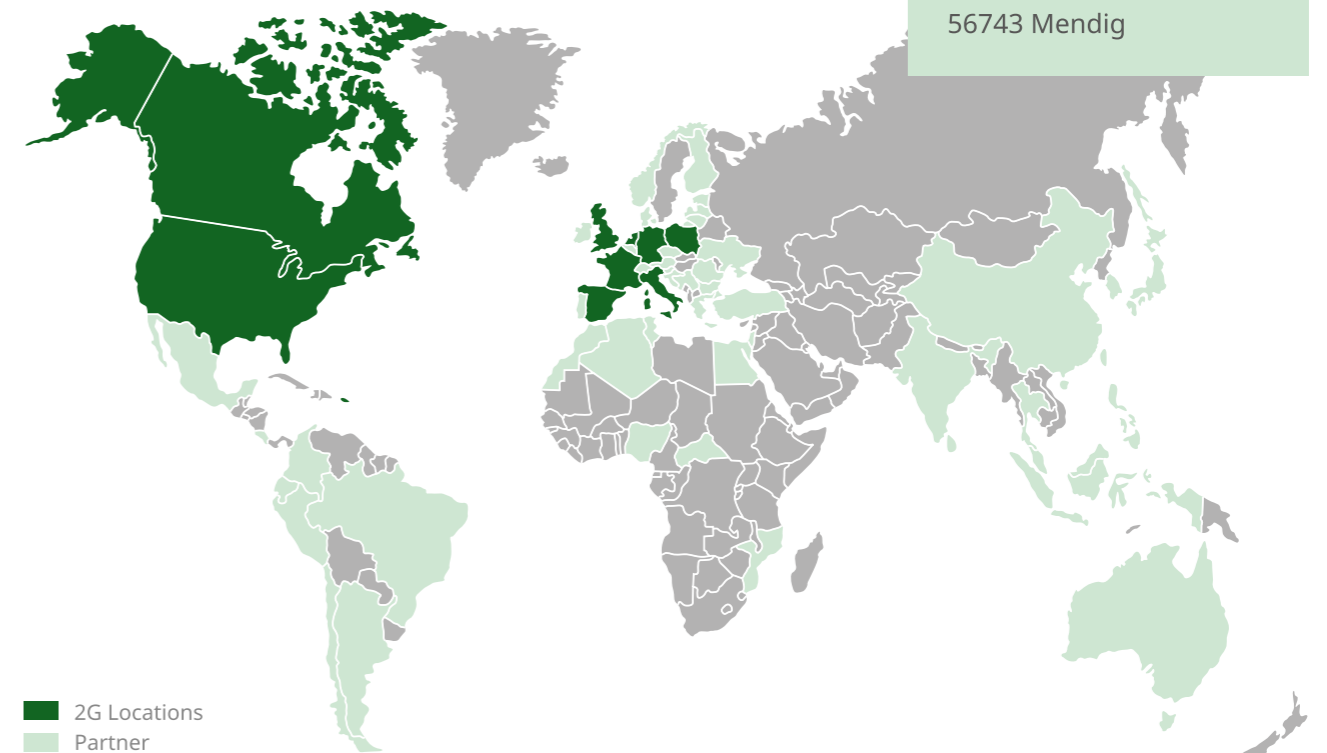


2G Energietechnik GmbH
Benzstraße 3
48619 Heek

2G Energy International GmbH
Siemensstraße 26
48619 Heek

Locations and Partners

Worldwide



Branch North
Tempowerkring 1b
21079 Hamburg

Branch South
Alpenstraße 33
83556 Griesstätt

Branch East
Am Krümming 1
06184 Kabelsketal

2G Regional Mitte GmbH
Heini-Dittmar-Straße 8
97424 Schweinfurt

2G Rental GmbH
Oldenburger Allee 18
30659 Hannover

HJS Motoren GmbH
Albert-Glück-Straße 4
88279 Amtzell

ServioTec GmbH
Hermann-Schumann-
Straße 7
16761 Hennigsdorf

KWK-tec GmbH
Siemensstraße 5
56743 Mendig

Our Products and Services

Products



CHP-Systems
20kW to 4,500kW
page 10



Heat Pumps
88.9kW to 3,200kW
page 22



Gas2Power
470kW to 620kW
page 30

Rental Solutions from 2G

10 YEARS
2G Rental

With our in-house rental models, we offer you the opportunity to benefit from highly efficient, decentralized energy technology without any investment.

» Flexible, predictable and economical.

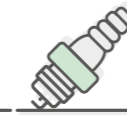
Long-term rental model

With a rental model tailored to your individual needs, projects can be realized quickly and independently of banks, without requiring any investment. A fixed, predictable monthly rental rate is charged.

Short-term rental model

You have the option of renting a CHP plant for a short-term period, for example, or for test phases lasting from one month to four years. If necessary, the short-term rental can easily be converted into a long-term rental.

Accessories and Peripherals



Accessories
and Peripherals

We offer field-tested accessories and peripheral systems for almost every application, drawing on our extensive experience. You can find our standard product range on our website.



Website

Digital Solutions



MY2G

MY2G platform

Ordering spare parts, managing documents, setting up interfaces to other systems – this and much more is made possible by the MY2G digital platform.

Further information on page 43.



I.R.I.S

Intelligent fault prediction

Over 1.1 billion sensor readings are transmitted to our service every week from our installed systems around the world and evaluated – all completely automated. Based on this, the system detects and reports irregularities before they even occur.



For more information about our products and services, please visit our website.



Everything from a Single Source

With 2G at your side, you can rely on a combination of cutting-edge technology and valuable expertise. From planning to implementation and maintenance, experienced experts are at your side at every stage. This allows you to continue to focus fully on your core business.



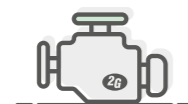
Conception

Planning
Project management



Development

In-house engine technology
In-house control system



Production

CHP-systems
Heat pumps
Gas2Power



Installation

Commissioning
Plug and play container solutions



Service

Digital services
Intelligent outage prediction
Own onlineshop

Which Customers already Benefit from our Expertise



Biogas plants

- Conventional biogas plants
- Wastewater treatment plants
- Landfill sites
- Waste recycling
- etc.



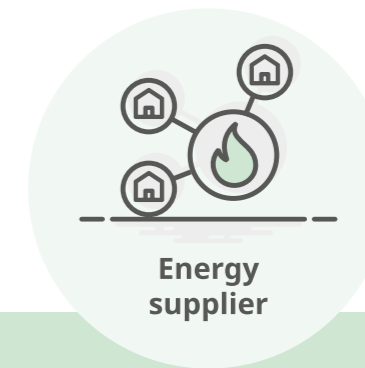
Industry

- Food industry
- Medicine | Pharmaceuticals
- Mechanical engineering
- etc.



Object-supply

- Healthcare (hospitals, etc.)
- Hotels
- Commercial
- Residential
- Greenhouses
- Educational institutions
- etc.



Energy supplier

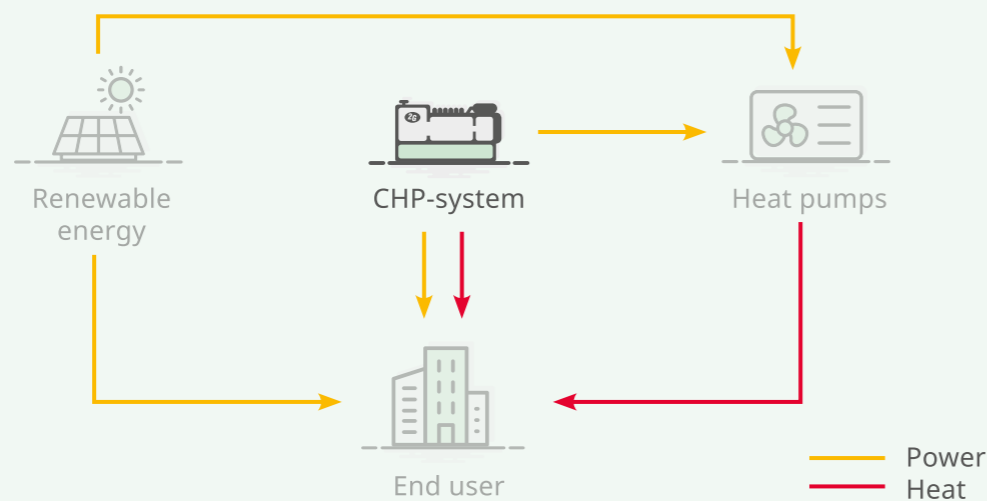
- Heating networks
- Microgrids
- Energy services
- etc.

CHP-Systems

CHP? Use energy correctly!

Combined heat and power (CHP) refers to the simultaneous generation of mechanical energy and useful heat. While the mechanical energy is directly converted into electricity, the heat can be used for heating, cooling, or steam generation.

The heat generated during electricity production does not simply escape unused into the atmosphere, but is put to good use. This is what makes combined heat and power technology so efficient and climate-friendly. Up to 40% of primary energy is saved. CO2 emissions are reduced by up to 60% compared to conventional electricity generation in large-scale power plants.



Our Portfolio



g-box
20kW_{el} to 50kW_{el}



aura
135kW_{el} to 420kW_{el}



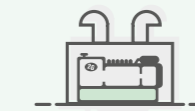
agenitor
80kW_{el} to 500kW_{el}



avus
550kW_{el} to 4,500kW_{el}



Efficient operation
Reduces fuel costs through high efficiency gas engine



High reliability
Performs reliably even when operated with frequent starts and stops, thanks to highly wear resistant engine components



State-of-the-art technology
Our internal research and development team always drives innovation at 2G

20kW or 4,500kW, natural gas or hydrogen, default, or custom configuration, it does not matter: As the technological leader of our sector, we always have the solution that fits your demands. Our dependable, powerful, and visionary combined heat and power systems are being used worldwide – and our internal R&D team continuously works on improving them. See for yourself.



Further information about our CHP systems can be found here.



g-box

The current data can be found here:



**Highly efficient and quiet,
no more rising energy costs**

The g-box is 2G's high performance small power plant with an electrical output range of 20 to 50kW. It is delivered as a ready-to-connect compact module. The control cabinet, with the PLC controller and operating unit, is installed as a separate unit on the module. The g-box is not only highly efficient but also very quiet thanks to its completely enclosed sound enclosure.

- Ready-to-connect, ultra-quiet compact module
- Highly economical thanks to high thermal efficiency thanks to condensing technology (standard)
- Long operating times, reliable, and low-maintenance
- Modular design allows for installation in tight spaces
- Completely water-cooled, eliminating the need for supply and exhaust air, reducing installation costs
- Robust and low-maintenance

g-box 20kW to 50kW

Type	Configu- ration	Electrical output	Thermal output	Electrical efficiency	Thermal efficiency	Overall efficiency
		Natural gas	Natural gas	Natural gas	Natural gas	Natural gas
g-box 20	as22-4	20kW	44kW	32.0%	70.8%	102.8%
g-box 50plus*	as22-4	50kW	108kW	33.7%	72.7%	106.4%
		Biogas	Biogas	Biogas	Biogas	Biogas
g-box 50plus	asl135-1	50kW	79kW	34.9%	54.8%	89.6%
g-box 50plus	asr135-1	50kW	77kW	32.8%	50.8%	83.7%

* Also available as a HT version with a feed temperature up to 95 °C



aura

The current data can be found here:



Maximum efficiency with minimal pollutant emissions

Based on the successful engine concept of the Agenitor 4 series, the Aura from 2G boasts outstanding efficiency characteristics.. Equipped with 2G's proprietary Lambda 1 technology and a low-pressure turbocharger, it also features extremely low exhaust emissions and, in particular, meets the increasing global requirements for low nitrogen oxide limits

- Low emissions
- High thermal efficiency
- Reliable, service-friendly engine concept
- 15% higher specific power compared to conventional systems with the same displacement
- Designed as a ready-to-connect compact module

aura 135kW to 420kW

Type	Configu- ration	Electrical output	Thermal output	Electrical efficiency	Thermal efficiency	Overall efficiency
		Natural gas	Natural gas	Natural gas	Natural gas	Natural gas
aura 404	bt70-B-0	135kW	211kW	37.0%	58.1%	95.1%
aura 406	bt70-B-0	200kW	295kW	37.6%	55.5%	93.1%
aura 408	bt70-0	280kW	408kW	38.4%	55.9%	94.3%
aura 412	bt70-0	420kW	615kW	38.5%	56.3%	94.8%



agenitor

The current data can be found here:



For maximum yield through reliable top performance

The agenitor from 2G is the result of extensive work by the 2G Energy development team. Thanks to an improved combustion chamber geometry, the efficiency of the agenitor series has been significantly increased.

- Designed as a ready-to-connect compact module
- Highly efficient power plant with optimized gas engine – therefore lower fuel costs
- Modular design facilitates installation in hard-to-reach locations
- Highly reliable, even with regular start-stop operation, thanks to highly wear-resistant engine components
- Robust and low-maintenance

agenitor 80kW to 500kW

Type	Configuration	Electrical output	Thermal output	Electrical efficiency	Thermal efficiency	Overall efficiency
		Natural gas	Natural gas	Natural gas	Natural gas	Natural gas
agenitor 404	bt80-0	100kW	128kW	38.4%	49.9%	87.6%
	ct80-B-0	180kW	186kW	41.2%	42.5%	83.7%
agenitor 406	bt70-0	250kW	315kW	39.7%	50.0%	89.7%
	ct80-B-0	275kW	282kW	42.0%	43.0%	85.1%
agenitor 408	bt70-B-0	360kW	459kW	39.6%	50.5%	90.1%
	ct80-B-0	400kW	416kW	42.8%	44.5%	87.2%
agenitor 412	bt70-B-0	450kW	580kW	39.1%	50.5%	89.6%
	ct80-B-0	500kW	537kW	41.6%	44.6%	86.2%
		Biogas	Biogas	Biogas	Biogas	Biogas
agenitor 404	at135-0	80kW	103 kW	37.3%	48.1%	85.4%
	bt135-0	100kW	117kW	38.6%	45.4%	84.0%
	ct135-B-0	180kW	172kW	41.7%	39.9%	81.6%
agenitor 406	ct135-B-0	275kW	260kW	42.5%	40.2%	82.8%
agenitor 408	ct135-B-0	400kW	373kW	42.8%	39.8%	82.6%
agenitor 412	ct135-B-0	500kW	482kW	41.9%	40.4%	82.3%



avus

The current data can be found here:



The powerful complete solution for industry and energy suppliers

The avus is a high-performance 2G power plant for high electrical power requirements (from 550 kW) that is used in larger industrial projects or to supply heat networks. Experienced 2G engineers familiar with large-scale engine technology can take over the complete planning and management of the entire project if required and provide professional support in the design of peripheral components.

- Complete solutions for industry: project planning, design of all components, communication with all on-site interfaces, piping, integration into containers or existing buildings
- Efficient operation and long service life thanks to excellent motor quality

avus 550kW to 4.500kW

Type	Configuration	Electrical output	Thermal output	Electrical efficiency	Thermal efficiency	Overall efficiency
		Natural gas	Natural gas	Natural gas	Natural gas	Natural gas
avus 500plus	bt70-B-0	550kW	703kW	39.7%	50.8%	90.5%
	ct80-B-0	600kW	628kW	42.8%	44.8%	87.6%
avus 416plus	ct70-0	800kW	804kW	42.8%	43.0%	85.8%
avus 500a	F209 - F	599kW	609kW	43.3%	44.0%	87.3%
avus 500b	F05 - F	638kW	672kW	42.7%	45.0%	87.8%
avus 500c	-	600kW	622kW	43.2%	44.7%	87.9%
avus 800a	F05 - F	851kW	917kW	42.6%	45.9%	88.5%
avus 800b	C05 - F	962kW	952kW	43.5%	44.4%	87.9%
avus 800c	-	800kW	825kW	43.4%	44.7%	88.1%
avus 800e	L64 FNER	1,012kW	1,084kW	43.5%	46.5%	90.0%
avus 1000plus	ct80-1	1,035kW	1,052kW	43.8%	44.5%	88.3%
avus 1000a	F05 - F	1,067kW	1,146kW	42.7%	45.9%	88.6%
avus 1000b	C05- F	1,248kW	1,268kW	43.7%	44.3%	88.0%
avus 1000c	-	1,380kW	1,313kW	44.7%	42.5%	87.2%
avus 1200e	L64 FNER	1,521kW	1,566kW	44.4%	45.7%	90.1%
avus 1500b	E05 - F	1,561kW	1,637kW	43.7%	45.8%	89.5%
avus 1500c	-	1,840kW	1,756kW	44.7%	42.6%	87.3%
avus 1600e	L64 FNER	2,028kW	2,174kW	43.9%	46.4%	90.3%
avus 2000a	J01 - G	2,004kW	1,904kW	45.3%	43.0%	88.3%
avus 2000b	J01 - G	2,676kW	2,527kW	45.5%	42.9%	88.4%
avus 2000c	-	2,300kW	2,164kW	45.0%	42.3%	87.3%
avus 2000e	L64 FNER	2,538kW	2,538kW	43.9%	44.8%	88.7%
avus 3000a	J11 - G	3,360kW	3,172kW	45.6%	43.0%	88.6%

Type	Configuration	Electrical output	Thermal output	Electrical efficiency	Thermal efficiency	Overall efficiency
		Biogas	Biogas	Biogas	Biogas	Biogas
avus 500 plus	ct135-B-0	600kW	569kW	42.8%	40.6%	83.5%
avus 416 plus	ct135-0	800kW	759kW	43.0%	40.8%	83.8%
avus 500a	F225	551kW	519kW	42.9%	40.3%	83.3%
avus 500b	F25 - G	638 kW	640kW	42.0%	42.2%	84.2%
avus 500c	-	600kW	598kW	42.1%	42.0%	84.1%
avus 800a	F25 - G	851kW	875kW	41.9%	43.1%	85.0%
avus 800b	C25 - F	934kW	904kW	43.2%	41.9%	85.1%
avus 800c	-	800kW	788kW	42.4%	41.8%	84.2%
avus 800e	L64FB	1,013kW	1,005kW	43.1%	42.8%	85.9%
avus 1000plus	ct135-0	1,035kW	966kW	43.7%	40.8%	84.4%
avus 1000a	F25 - G	1,067kW	1,093kW	42.0%	43.0%	85.0%
avus 1000b	C25 - F	1,248kW	1,224kW	43.1%	42.2%	85.3%
avus 1000c	-	1,380kW	1,319kW	43.3%	41.4%	84.7%
avus 1200e	L64 FB	1,521kW	1,434kW	44.1%	41.7%	85.8%
avus 1500b	C25 - F	1,561kW	1,537kW	43.3%	42.6%	85.9%
avus 1500c	-	1,840kW	1,759kW	43.3%	41.4%	84.7%
avus 1600e	L64 FB	2,028kW	1,969kW	43.7%	42.4%	86.1%
avus 2000c	-	2,000kW	1,982kW	42.6%	42.2%	84.8%
avus 2000e	L64 FB	2,539kW	2,709kW	43.7%	46.6%	90.3%

With over 35 hydrogen projects on three continents, we are actively shaping the future of sustainable energy – global, innovative, and forward-looking.



Click here to visit our project in Haßfurt:

Hydrogen CHP



Ready for hydrogen when you are.

The use of hydrogen as an energy carrier is a milestone on the path to climate neutrality. H2 is the key technology that enables the flexible, safe, and physical use of renewable energy on a large scale.

Investing in a 2G CHP plant is more worthwhile than ever: As the only provider worldwide, we enable you to convert a natural gas or biogas-powered CHP plant to hydrogen operation – all as part of regular maintenance.

➤ Only with 2G: Buy a CHP today, convert it to H2 tomorrow.

agenitor H₂ 115kW to 360kW

Type	Configuration	Electrical output	Thermal output	Electrical efficiency	Thermal efficiency	Overall efficiency
		Hydrogen	Hydrogen	Hydrogen	Hydrogen	Hydrogen
agenitor 404c H ₂	ct0-0	115 kW	116 kW	37.8 %	38.0 %	75.8 %
agenitor 406c H ₂	ct0-0	200 kW	192 kW	41.0 %	39.3 %	80.3 %
agenitor 408c H ₂	ct0-0	280 kW	274 kW	41.7 %	40.8 %	82.6 %
agenitor 412c H ₂	ct0-0	420 kW	396 kW	41.6 %	39.2 %	80.7 %

avus H₂ 600kW to 750kW

Type	Configuration	Electrical output	Thermal output	Electrical efficiency	Thermal efficiency	Overall efficiency
		Hydrogen	Hydrogen	Hydrogen	Hydrogen	Hydrogen
avus 1000plus	ct0-1	750kW	735kW	42.1%	41.2%	83.3%
avus 416plus	ct0-1	600kW	602kW	42.0%	42.1%	84.2%

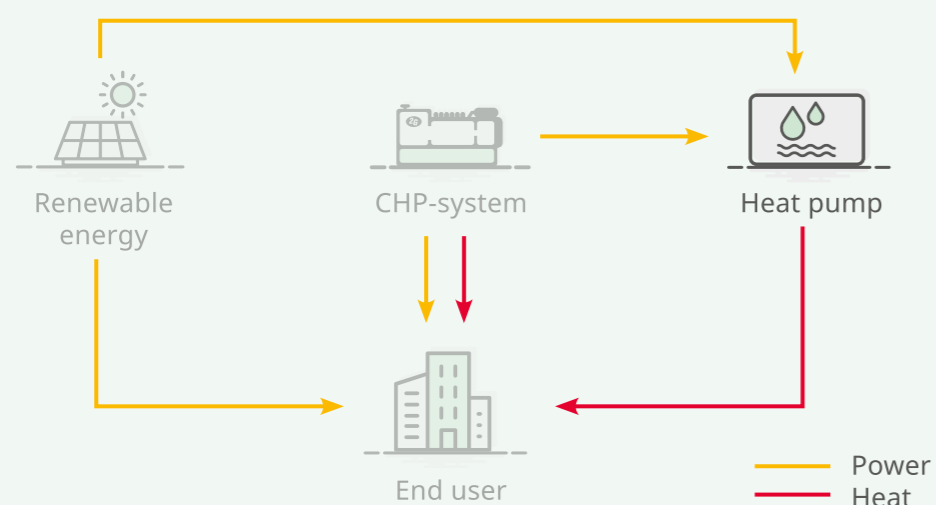
afilia water

Water-to-water heat pump

The heat pumps of the afilia series from 2G adapt fully automatically and very flexibly to the heat demand in the building or in the industrial process and deliver a constant temperature.

Even in single-stage versions, our water-to-water heat pumps can achieve temperature fluctuations of up to 85 K. Two-stage concepts are available for applications with higher temperature fluctuations – including project-specific solutions with flow temperatures from 95 °C to 120 °C.

All units are fully assembled, tested, and filled with refrigerant and oil at the factory. At the installation site, they only need to be positioned and connected to the hydraulic and power supply lines.



The current data can be found here:



Please note that our heat pumps with SG Ready interfaces are compatible with control units and smart meter gateways, thus meeting the legal requirements of the Energy Industry Act (Section 14a of the Energy Industry Act) and the Metering Point Operation Act (MsbG).

Our Portfolio

Highly efficient water-to-water heat pumps

R513A

R1234ze



afilia water C-B-r
62 kW_{th} to 388 kW_{th}

R600a



afilia water C-B-sc
285 kW_{th} to 1,360 kW_{th}

R717



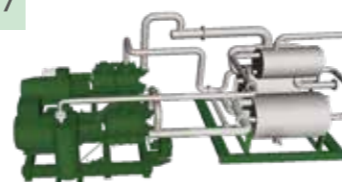
afilia water C-S-r
534 kW_{th} to 2,287 kW_{th}

R717



afilia water C-G-r
837 kW_{th} to 3,128 kW_{th}

R717



afilia water D-SG-r
607 kW_{th} to 2,492 kW_{th}



BAFA-eligible

afilia meets the minimum efficiency requirements and is SG-ready



Containerized solutions

in different sizes and variations



Integration of spot market optimization

Flexible operation and redispatch through partner



Intelligent failure prediction

in combination with the 2G AI „I.R.I.S.“



Convenient system management

Via my.2-g.ag (monthly reports, operating range monitoring)



Comprehensive control

Ensured by master control (monitoring)



Comprehensive control concepts

Including auxiliary drives (pumps, mixers, data collection for heat source/sink)

afilia water C-B-r R513A-VSD

Type	Heating output	COP	Power consumption	Source in/out	Depression in/out
C-80-B-r-6-L	104 kW	2.72	37 kW	10/5	60/80
C-80-B-r-6-2S	154 kW	2.76	54 kW	10/5	60/80
C-80-B-r-6-2L	207 kW	2.69	75 kW	10/5	60/80
C-80hts-B-r-6-L	192 kW	3.78	49 kW	30/25	60/80
C-80hts-B-r-6-2S	296 kW	3.79	76 kW	30/25	60/80
C-80hts-B-r-6-2L	380 kW	3.75	99 kW	30/25	60/80

GWP F-Gas-VO₅: 629

afilia water C-B-r R1234ze -VSD

Type	Heating output	COP	Power consumption	Source in/out	Depression in/out
C-90-B-r-6-L	62 kW	2.40	26 kW	10/5	70/90
C-90-B-r-6-2S	95 kW	2.54	38 kW	10/5	70/90
C-90-B-r-6-2L	124 kW	2.39	52 kW	10/5	70/90
C-90hts-B-r-6-L	199 kW	3.92	51 kW	45/40	70/90
C-90hts-B-r-6-2S	304 kW	3.95	77 kW	45/40	70/90
C-90hts-B-r-6-2L	388 kW	3.88	100 kW	45/40	70/90

GWP F-Gas-VO₅: 1,37

afilia water C-100-B-sc R600A-VSD

Type	Heating output	COP	Power consumption	Source in/out	Depression in/out
C-100-B-sc-8593	285 kW	2.28	125 kW	20/15	80/100
C-100-B-sc-8593	425 kW	3.02	141 kW	35/30	80/100
C-100-B-sc-8593	635 kW	4.15	153 kW	50/45	80/100
C-100-B-sc-95113	587 kW	2.30	255 kW	20/15	80/100
C-100-B-sc-95113	915 kW	3.02	303 kW	35/30	80/100
C-100-B-sc-95113	1,360 kW	4.11	331 kW	50/45	80/100

GWP F-Gas-VO₅: 3

Heating capacity and power input according to (EN14511)

afilia water C-S-r R717-VSD

Type	Heating output	COP	Power consumption	Source in/out	Depression in/out
C-50-S-r-06L	562 kW	4.60	122 kW	10/5	35/50
C-50-S-r-08L	750 kW	4.60	162 kW	10/5	35/50
C-50-S-r-12L	1,123 kW	4.60	244 kW	10/5	35/50
C-50-S-r-16L	1,498 kW	4.60	325 kW	10/5	35/50
C-70-S-r-06	847 kW	5.32	159 kW	30/25	50/70
C-70-S-r-08	1,142 kW	5.32	214 kW	30/25	50/70
C-70-S-r-12	1,716 kW	5.32	322 kW	30/25	50/70
C-70-S-r-16	2,287 kW	5.32	429 kW	30/25	50/70
C-90-S-r-06	534 kW	4.55	117 kW	40/35	65/90
C-90-S-r-08	715 kW	4.55	157 kW	40/35	65/90
C-90-S-r-12	1,072 kW	4.55	235 kW	40/35	65/90
C-90-S-r-16	1,427 kW	4.55	313 kW	40/35	65/90

GWP F-Gas-VO₅: 0

afilia water C-G-r R717-VSD

Type	Heating output	COP	Power consumption	Source in/out	Depression in/out
C-50-G-r-700	837 kW	4.14	202 kW	10/5	38/58
C-50-G-r-1100	1,257 kW	4.15	303 kW	10/5	38/58
C-50-G-r-1400	1,677 kW	4.15	404 kW	10/5	38/58
C-50-G-r-1800	2,096 kW	4.15	505 kW	10/5	38/58
C-95-G-r-350	1,250 kW	5.21	240 kW	48/43	65/95
C-95-G-r-550	1,875 kW	5.19	361 kW	48/43	65/95
C-95-G-r-750	2,503 kW	5.19	482 kW	48/43	65/95
C-95-G-r-950	3,128 kW	5.20	602 kW	48/43	65/95

GWP F-Gas-VO₅: 0

afilia water D-SG-r R717-VSD

Type	Heating output	COP	Power consumption	Source in/out	Depression in/out
C-95-SG-r-06-08	607 kW	2.80	217 kW	10/5	65/95
C-95-SG-r-08-350	974 kW	2.86	341 kW	10/5	70/90
C-95-SG-r-16-550	1,562 kW	2.55	613 kW	3/-2	65/95
C-95-SG-r-11-550	2,865 kW	3.68	778 kW	30/25	70/90
C-95-SG-r-18-950	2,492 kW	2.82	884 kW	6/1	65/95

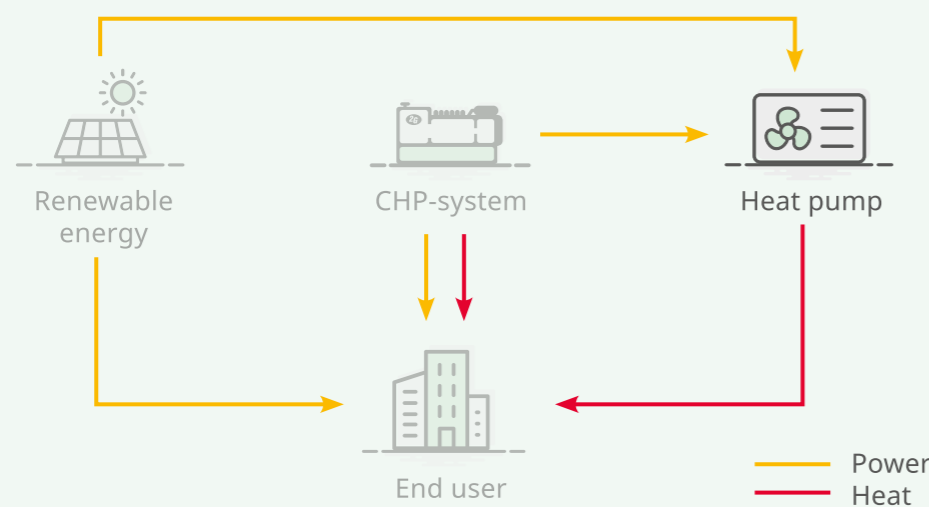
GWP F-Gas-VO₅: 0

afilia air

air-to-water heat pump

The air-to-water heat pumps of the afilia air series are suitable for outdoor installation and are used for cooling and heating liquids in air conditioning applications or for ventilation units that operate in a particularly environmentally friendly manner due to the refrigerant used.

The units are designed for outdoor installation in accordance with the European standard EN 378 and its subsequent updates. Depending on the heat output, several versions are available, each with one or more compressors on one or two completely separate refrigerant circuits. Thanks to a wide range of accessories, the units can be customized to meet specific requirements. All units are fully factory-assembled, tested, and filled with refrigerant and oil. At the installation site, they only need to be positioned and connected to the hydraulic and power supply lines.



The current data can be found here:



Please note that our heat pumps with SG Ready interfaces are compatible with control units and smart meter gateways, thus meeting the legal requirements of the Energy Industry Act (Section 14a of the Energy Industry Act) and the Metering Point Operation Act (MsbG).

Our portfolio

Highly efficient air-to-water heat pumps

R290



afilia air M-sl-AEK
89 kW_{th} bis 888 kW_{th}
afilia air M-sl-PEK
87 kW_{th} bis 866 kW_{th}

R290



afilia air M-sl3-AEK
108 kW_{th} bis 1,080 kW_{th}



BAFA-eligible

afilia meets the minimum efficiency requirements and is SG-ready



Low Noise solutions

with various accessories



Containerized solutions

in different sizes and variations



Integration of spot market optimization

Flexible operation and redispatch through partner



Intelligent failure prediction

in combination with the 2G AI „I.R.I.S.“



Convenient system management

Via my.2-g.ag (monthly reports, operating range monitoring)



Comprehensive control

Ensured by master control (monitoring)



Comprehensive control concepts

Including auxiliary drives (pumps, mixers, data collection for heat source/sink)

afilia air M-sl-AEK R290

2-pipe heat pump
Heating or cooling optimized for thermal efficiency

Type	Heating output	COP	Power consumption	Water temperature in/out	Sound power in dB(A)
AEK-R290-1	89 kW	3.98	22 kW	30/35	81.5
AEK-R290-2	178 kW	3.95	45 kW	30/35	84.5
AEK-R290-3	266 kW	3.98	67 kW	30/35	86.3
AEK-R290-4	355 kW	3.98	89 kW	30/35	87.5
AEK-R290-5	444 kW	3.98	112 kW	30/35	88.5
AEK-R290-6	533 kW	3.98	134 kW	30/35	89.3
AEK-R290-7	622 kW	3.98	156 kW	30/35	90.0
AEK-R290-8	710 kW	3.98	178 kW	30/35	90.5
AEK-R290-9	799 kW	3.98	201 kW	30/35	91.0
AEK-R290-10	888 kW	3.98	223 kW	30/35	91.5

GWP F-Gas-VO₅: 3

afilia air M-sl3-AEK R290

2-pipe heat pump
Heating or cooling optimized for thermal efficiency

Type	Heating output	COP	Power consumption	Water temperature in/out	Sound power in dB(A)
AEK-R290-1	108 kW	3.97	27 kW	30/35	82.3
AEK-R290-2	216 kW	3.97	54 kW	30/35	85.3
AEK-R290-3	324 kW	3.97	82 kW	30/35	87.1
AEK-R290-4	432 kW	3.97	109 kW	30/35	88.3
AEK-R290-5	540 kW	3.97	136 kW	30/35	89.3
AEK-R290-6	648 kW	3.97	163 kW	30/35	90.1
AEK-R290-7	756 kW	3.97	190 kW	30/35	90.8
AEK-R290-8	864 kW	3.97	218 kW	30/35	91.3
AEK-R290-9	972 kW	3.97	245 kW	30/35	91.8
AEK-R290-10	1,080 kW	3.97	272 kW	30/35	92.3

GWP F-Gas-VO₅: 3

afilia air M-sl-PEK R290

4-pipe heat pump
Simultaneous heating and cooling possible

Type	Heating output	COP	Power consumption	Water temperature in/out
PEK-R290-1	87 kW	3.88	22 kW	30/35
PEK-R290-2	173 kW	3.88	45 kW	30/35
PEK-R290-3	260 kW	3.88	67 kW	30/35
PEK-R290-4	346 kW	3.88	89 kW	30/35
PEK-R290-5	433 kW	3.88	112 kW	30/35
PEK-R290-6	520 kW	3.88	134 kW	30/35
PEK-R290-7	606 kW	3.88	156 kW	30/35
PEK-R290-8	693 kW	3.88	178 kW	30/35
PEK-R290-9	779 kW	3.88	201 kW	30/35
PEK-R290-10	866 kW	3.88	223 kW	30/35

GWP F-Gas-VO₅: 3

Medium: Water temperature in/out: 30/35°C - outside air temperature 7°C
Heating capacity and power input according to (EN14511)



Gas2Power (G2P) Solutions

Flexibility and security with 2G

With our 2G Gas2Power solutions, we offer customized solutions for a wide range of distributed energy supply requirements. Our systems are divided into four standardized operating modes: ESP, LTP, PRP, and COP. Each of these configurations meets different technical requirements and application scenarios – from reliable emergency power supply to continuous operation.

The current data can be found here:



ESP (Emergency Standby Power) - Reliable in an emergency

Function: Emergency power supply in the event of a power failure
 Special feature: Runtime up to 200 operating hours per year, 100% load step change in 10 sec
 Areas of application: Hospitals, data centers, safety-relevant industrial sectors

LTP (Limited Time Power) - For targeted network support

Function: Grid stabilization and shutdown during peak loads
 Special feature: Operating time up to 500 operating hours per year, no overload capacity
 Areas of application: Industry, commerce, construction site supply

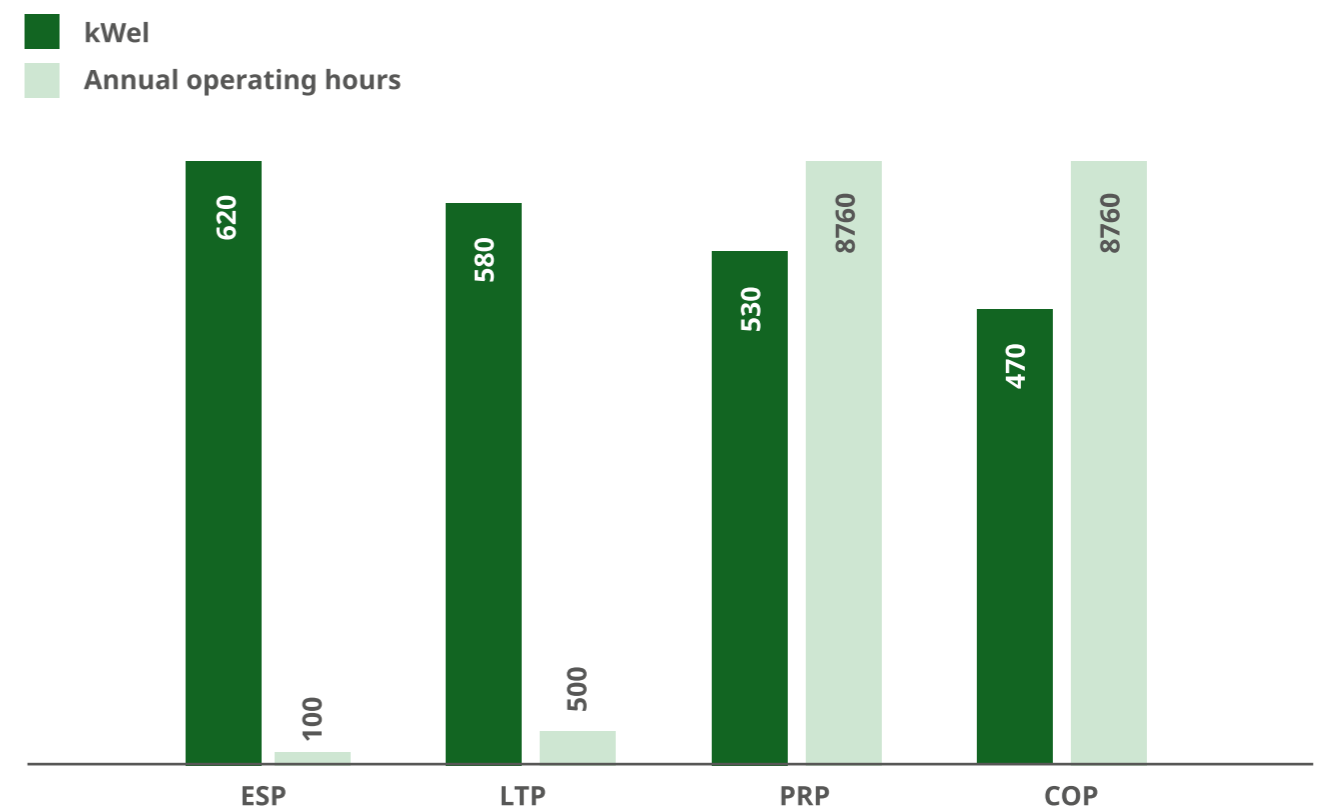
PRP (Prime Rated Power) - Flexibility for regular operations

Function: Regular continuous operation with variable load
 Areas of application: Peak shaving / demand response

COP (Continuous Power) - Reliable base load supply

Function: Continuous operation under constant load
 Special feature: 24/7 constant base load
 Areas of application: Off-grid systems, continuous industrial loads

All operating modes according to ISO 8528



GreenCube

Turnkey energy centers
for municipal heat planning



CHP plants and heat pumps are often perceived as competing technologies. The opposite is true. Both our CHP plants and our heat pumps operate highly efficiently and are demand-oriented, making them natural partners for renewables. A combination of CHP and heat pumps also increase the overall efficiency of the heating network.

CHP and heat pump in perfect harmony

The current data can be found here:



Cheaper heat price

By using on-site generation of electricity with CHP, combining with a heat pump can reduce heating prices by up to 44%.



Subsequently adaptable and expandable

The energy center is a modular container solution, allowing for easy subsequent system adaptations and expansions without interface issues.



Renewable energy share

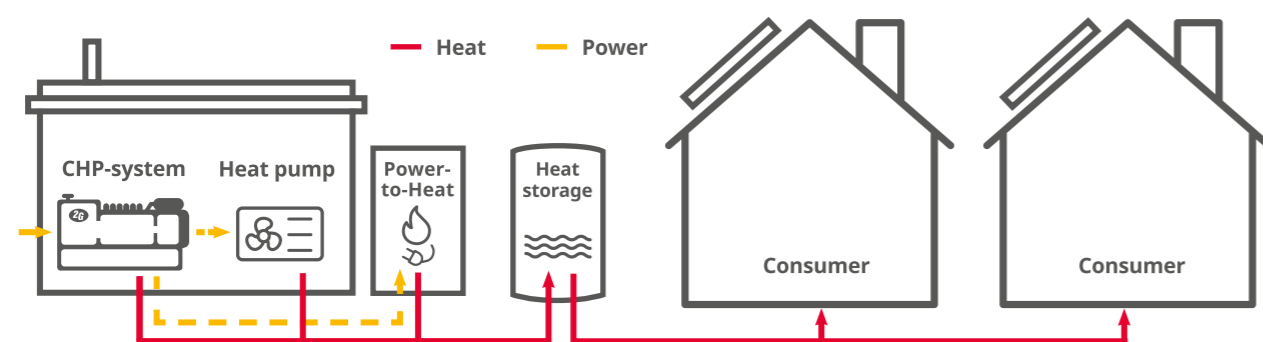
With a renewable energy share of 75%, the GreenCube makes a significant contribution to sustainable and climate-friendly energy supply.



Various heat sources possible

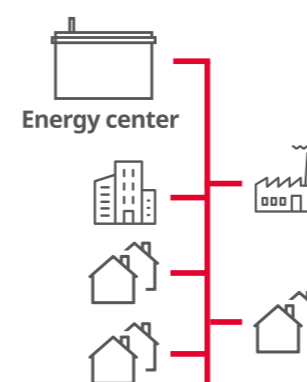
Thanks to the air-to-water heat pump, various heat sources can be tapped highly efficiently. If local conditions change, you can switch heat sources at any time. Operation with pure hydrogen is also already possible (H2-ready).

ENERGY CENTER

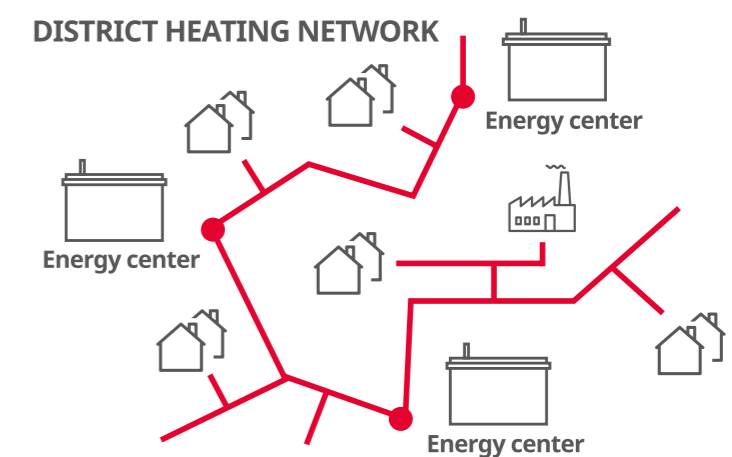


In order to effectively advance the heat transition, 2G offers the Green Cube, a turnkey energy center that, as the heart of decentralized heating networks, meets all the requirements of a sustainable energy solution.

ENERGY CENTER



DISTRICT HEATING NETWORK



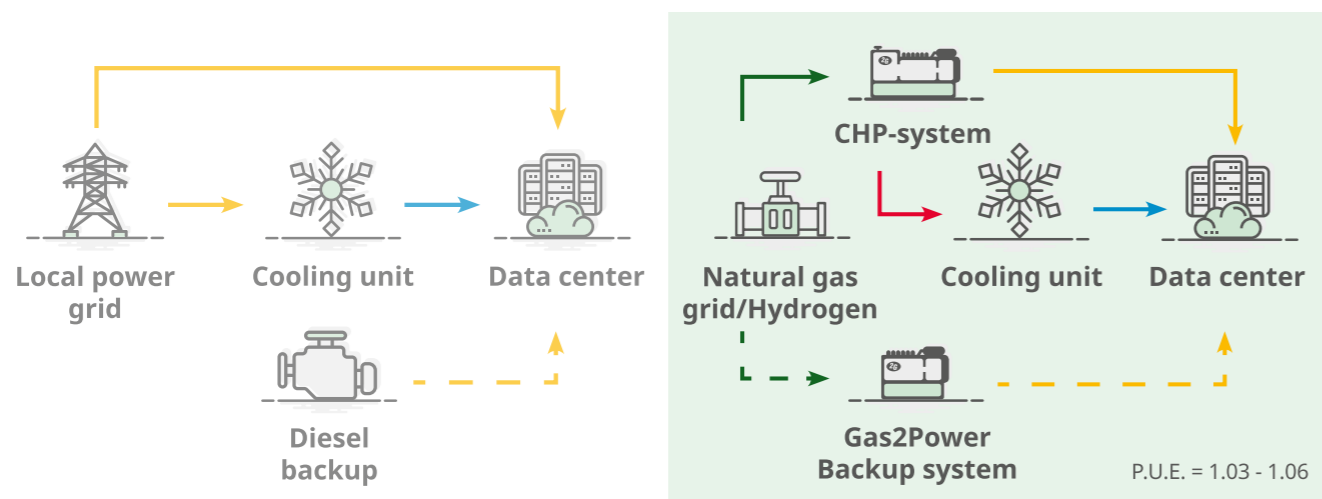
Data Center Solutions

1MW to 1GW



2G CHP concepts and Gas2Power solutions

A guaranteed power supply is a prerequisite for the safe and efficient operation of data centers. 2G CHP and Gas2Power concepts offer solutions that ensure energy autonomy, reliability, and sustainability even in the most complex situations.



Conventional power supply via the local grid

Secure decentralized electricity, heat and cooling supply

Plug and Play Container Solutions

Turnkey, ready-to-use, and tailored to your requirements

2G products offer a highly efficient way to reliably supply data centers with electricity, as well as heat or cooling. Our ready-to-connect container solutions integrate seamlessly into your environment and provide exactly the equipment needed for the energy-efficient operation of your data center. This enables the flexible, space-saving, and cost-effective implementation of modern energy concepts.

The following applies to all container solutions:

- Turnkey and standardized
- Fast delivery and installation
- Low project risk
- Low noise emissions
- Suitable for high ambient temperatures
- Easy approval

Stackable container solution

Module: avus 1000plus
 Power: 1,035kW per container
 Efficiency: up to 43.7% el
 Noise emission: up to 55dB(A) at 10m
 Stackable containers



Illustration (example):

45MW_{el} | 55m x 14m

Standard container solution

Module: avus 2000
 Power: ~2,500kW per container
 Efficiency: up to 44.1% el
 Noise emission: up to 58dB(A) at 10 m
 Standard container



Illustration (example):

50MW_{el} | 45m x 45m

Other sizes available upon request

Installation Solutions

Containerized and noise-reduced solutions. Individually equipped and ready to connect upon delivery.

2G power plants can be installed in a variety of ways, depending on the local conditions and sound insulation requirements. They can be integrated into existing buildings or heating plants, or installed separately in a container or suitable room. With the appropriate sound insulation package, noise emissions do not exceed 35dB(A) at a distance of 10m.



Container



Simple installation made possible by complete pre-assembly at factory and compact design, electric installation integrated.

Available for: aura, agenitor, avus
Noise emissions: 65 | 55dB(A)*, 65 | 52dB(A)*, 52 | 45dB(A)*

Basic concrete acoustic enclosure



Complete concrete enclosure of the CHP, 160 mm wall thickness, electric installation integrated.

Available for: aura, agenitor, avus 500plus
Noise emissions: 65 | 45dB(A)*, 65 | 35dB(A)*

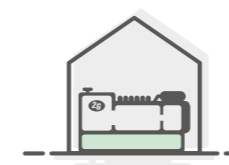
Soundproof encapsulation



Encapsulation of the entire CHP with steel sheet elements, easily accessible through doors and maintenance hatches, 1.5 mm galvanized steel sheets on the outside, 1.0 mm galvanized perforated sheet metal on the inside.

Available for: individuell
Noise emissions: 50dB(A)*

Existing building



Bespoke installation inside existing buildings, project planning and configuration by 2G, often combined with soundproof encapsulation.

Available for: individual
Noise emissions: up to 35dB(A)*

* at a distance of 10 m

Service

Quick and reliable. 24/7 worldwide

In person or digitally: The 2G Service makes sure that your CHP always operates reliably – and that you can focus on your core business

As a Full-Service provider, we always keep tabs on everything that matters to you. You do not have to take care of anything else. Our products and services originate from a single source and are therefore seamlessly integrated – which saves time and money, thus providing a low total cost of ownership.

At 2G, we believe that it should be as easy as possible to operate your own CHP. We minimise downtimes, and other irregularities. Therefore, we offer you way more than only a modern combined heat and power system.

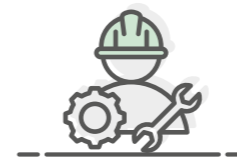
We, as the manufacturer, want to relieve you as an operator and sustainably maximize the availability of your system - and your satisfaction with our product in turn.



Service-Facts

>150

Customer-oriented service technicians in Germany



Certified Service Partner of Jenbacher, MWM, MTU, MAN, Liebherr

>1.000

Technicians in the network worldwide

Excellent parts availability from all manufacturers

24/7

Service hotline

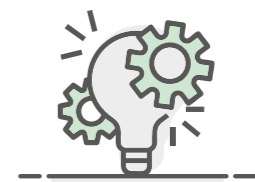
>200

Service partners worldwide



6.000m² Service central warehouse

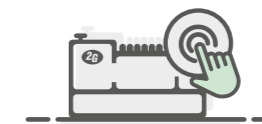
Intelligent flow prediction in conjunction with the 2G AI „I.R.I.S.“



AT engines and AT generators available within

24h

(within Germany)



Remote commissioning through AR

>75%

of error messages are resolved remotely

Services and Service Products

With our technical components, you have the option of operating your CHP plant in compliance with legal requirements at all times, effectively preventing signs of wear and tear, and thus ultimately increasing the overall efficiency of your system. Upon request, 2G will keep track of all measurement intervals, limit values, and documentation requirements for you, so you can focus on important matters.



Manufacturer independent

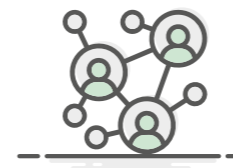
Products

- Spare parts
- 2G Premium Parts
- Catalysts | SCR systems
- Replacement and new engines
- Replacement and new generators
- Gas compressor
- Lubricating oil
- Activated carbon
- Glysanin

Services

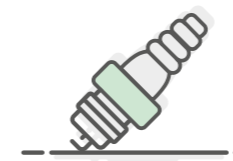
- Plant service
- System check
- Emissions measurement (FA)
- DGUV test
- Engine repair
- Generator maintenance
- Emergency radiator cleaning
- Control conversion
- Plate heat exchanger replacement
- Exhaust gas heat exchanger cleaning
- System conversions and upgrades to 2G technology
- Rebuilds in situ

Network of service technicians



We can draw on a vast network of highly trained specialists who, as service technicians, can be at your location in no time and ensure the smooth operation of your system. Our fleet of service vehicles is equipped with everything that is required to analyze, maintain, and repair a CHP.

Original spare parts



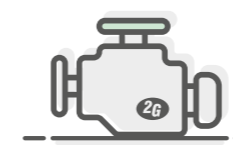
We exclusively use original 2G spare parts or spare parts of renowned manufacturers. This way, we can guarantee that the elevated quality, operational safety, and efficiency of your 2G system are preserved. Thanks to a well-organized, central spare parts depot and state-of-the-art logistics, the rapid availability of your spare parts is guaranteed.

Premium service contract



All servicing and maintenance at a fixed price: The Premium Service Contract guarantees you absolute certainty with regards to planning and expenses.

Remanufacturing program ReFit-Center



For the development and equipment of its products, 2G strictly relies on durable materials. Many of the components we use can therefore be reused beyond their initial life cycle – often even more than once. For you, that means you get the same quality for less money.

2G TrainingCenter

Practical knowledge. Directly from the manufacturer

As one of the leading manufacturers of combined heat and power systems with an internal research and development department, 2G Energy constantly works towards perfecting cogeneration system and heat pump technology.

No matter if you are a customer, operator, or partner: you can benefit from the most recent technology development and practical experiences made directly by the manufacturer. We offer user-specific Sales and Service training for our complete product range, either at the 2G TrainingCenter in Heek (Germany), at one of our international locations or, upon request, directly at your location.

Many of the courses we offer are composed in-person and digital training. In these cases, the online training is required for in-person session. This process balances the theoretical knowledge among participants which leads to a deeper and more efficient in-person learning experience.



MY2G

Your central platform for intelligent asset management

MY2G is your central platform for intelligent asset management. It combines cutting-edge AI support and personalized service options to personalize your asset management. With MY2G, you have access to data, services, and tools from anywhere, anytime. Take the first step toward digitally optimized asset management for free.

About the platform:
my.2-g.ag



Plant monitoring

Access to operating states and performance data



MY2G Store

The right solutions for your systems can be easily booked online.



Documents ready to hand

Easy download of operating manuals, maintenance reports, software, and other relevant documents



Artificial intelligence

Fast answers and assistance from our AI-based virtual assistant I.R.I.S.



Online service ordering

Exclusively in Germany: Request and track service calls directly via the platform



Would you like to generate your own electricity and heat in the future and sustainably reduce your energy costs? Whether with highly efficient heat pumps or through the use of modern cogeneration systems – we offer you customized solutions for an economical and environmentally friendly energy supply.

Contact us – we would be happy to advise you!

**2G Energy AG | Benzstraße 3 | 48619 Heek |
T +49 (0) 2568 9347-0 | info@2-g.de | 2-g.com**