

# BEYOND ENERGY

FUEL CELL TECHNOLOGY

BLUEGEN

BG-15



# SOLIDpower

SOLIDpower is a leading company offering best-in-class solid oxide fuel cell (SOFC) technology for independent power generation. Our products achieve the highest efficiencies. This is the result of over 20 years of technical expertise and continuous innovation in Italy, Germany, Switzerland and Australia. Its reliable operating products, built in Europe's largest fuel cell manufacturing plant and approved by thousands of satisfied users, contribute to meeting the increasing need for decentralized and future-oriented energy production.

# Fuel cell technology

A fuel cell is a device that generates electricity through an electrochemical reaction. As no combustion takes place, the fuel cell system is clean, highly efficient, reliable and quiet. Fuel cells continuously produce electricity and heat as long as fuel is provided, ensuring 24/7 operation.

## LOCATIONS

SOLIDpower operates six production, assembly and research facilities in four different countries: Italy, Germany, Switzerland and Australia. The SOLIDpower Group has a workforce of 270 employees.

### SOLIDpower S.p.A. GROUP HEADQUARTERS

**PERGINE VALSUGANA | ITALY**  
STACK INDUSTRIAL PRODUCTION PLANT

**MEZZOLOMBARDO | ITALY**  
PILOT PRODUCTION PRE-INDUSTRIALISATION



### SOLIDpower GmbH

**HEINSBERG | GERMANY**

ASSEMBLY BG-15  
HEAD OFFICE SALES, MARKETING  
AND SERVICE



### SOLIDpower S.A.

**YVERDON | SWITZERLAND**

INNOVATION CENTER



### SOLIDpower AU

**MELBOURNE | AUSTRALIA**

INNOVATION CENTER

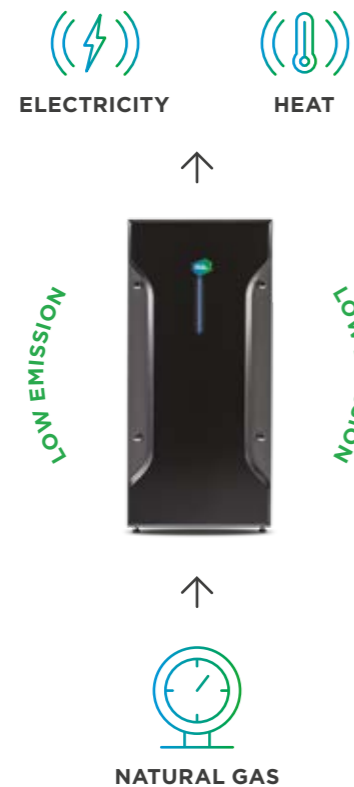
# BLUEGEN

The micro-cogenerator BLUEGEN extracts hydrogen from natural gas and converts it directly into electricity and heat using fuel cell technology. BLUEGEN continuously supplies cleaner and more efficient energy. It can run on a variety of fuels, including natural gas, natural gas with up to 20% hydrogen, bio-methane and synthetic methane.

With an overall efficiency up to 88%, a single BLUEGEN can produce up to 13,000 kWh of electricity and 7,500 kWh of heat per year. Providing the ideal baseload supply for residential and commercial buildings, the single units can also be interconnected in a cascade.

BLUEGEN reduces the carbon footprint by up to 50% in natural gas operation and 0% in H<sub>2</sub> operation. No nitrogen or sulphur oxides are produced and no harmful particulates are released into the atmosphere.

The quiet operation makes it perfect for any environment.



# Advantages

One technology, many advantages.

- HIGH EFFICIENCY**  
OVERALL EFFICIENCY UP TO 90% (57% ELECTRICAL)
- LESS CO<sub>2</sub>**  
UP TO 50% CO<sub>2</sub> REDUCTION IN NATURAL GAS OPERATION
- NO EMISSIONS**  
NO NITROGEN OR SULPHUR IN NATURAL GAS OPERATION
- LOWER TEMPERATURE**  
790°C OPERATING TEMPERATURE, LOWER THAN USUAL RANGE FOR SOFC STACKS = COST AND LIFETIME BENEFITS
- FUEL FLEXIBILITY**  
NATURAL GAS, NATURAL GAS WITH UP TO 20% HYDROGEN, BIO-METHANE AND SYNTHETIC METHANE
- MODULATION**  
THE POWER OUTPUT CAN BE MODULATED ACCORDING TO CUSTOMER DEMAND
- QUIET OPERATION**  
NO VIBRATIONS, FEW MOVING PARTS, REDUCED SERVICE INTERVALS (ONCE A YEAR)
- OUTPUT FLEXIBILITY**  
THE SYSTEM GENERATES ELECTRICITY AND CAN PRODUCE THERMAL ENERGY VIA BUILT-IN WASTE HEAT RECOVERY
- WIDE POWER RANGE**  
BY CASCADING MULTIPLE UNITS
- 98% AVAILABILITY**  
HIGHLY RELIABLE, BASELOAD
- REFERENCES**
  - MORE THAN 1,900 MICRO-CHP UNITS DEPLOYED IN 12 COUNTRIES
  - MORE THAN 43 GWh OF CLEAN ENERGY PRODUCED
  - MORE THAN 34 M OPERATING HOURS
  - 10 YEAR SERVICE CONTRACT

# Applications

## PRIVATE

### Ideal for different types of buildings:

- Single-family homes
- Multi-family homes



## COMMERCIAL

### Suitable for small-scale commercial buildings, businesses and more:

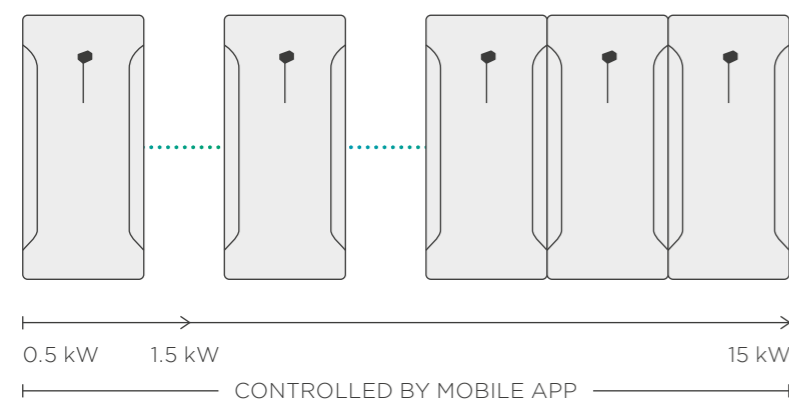
- Restaurants
- Hotels
- Office buildings
- Workshops
- Data centres
- Stores
- Medical centres
- Schools
- Banks



Designed to cover a wide range of energy requirements ranging from 0.5 kW to 1.5 kW, BLUEGEN is the solution that can be applied in private homes as well as in commercial buildings. Energy requirements can be satisfied by simply installing one or more BLUEGEN units that work reliably, efficiently and quietly round the clock.

Using the app, performance can be easily monitored and the power adapted to suit your requirements at any time, no matter where you are.

### CASCADING CONNECTION



### COMPACT



# Technical data

## BG-15

### Application fields

Electrical energy generator with heat recovery for single-family homes, multi-family homes, companies, public and commercial buildings

### Operating mode

All year round (approx. 8,700 hours)

### Monitoring

Remote monitoring available 24 hours via app online/smartphone

### Fuel

Natural gas, natural gas with up 20% hydrogen admixture, bio-methane, synthetic natural gas

### Fuel cell type

Solid Oxide Fuel Cell (SOFC)

### Overall efficiency

Up to 88%

### Electrical efficiency

Up to 57%

### Electrical energy

Min. 0.5 kW - max. 1.5 kW

### Thermal power

Up to 0.85 kW

### Electrical energy generated/year

Up to 13,000 kWh

### Weight

250 kg

### Height x width x depth

1,200 mm x 550 mm x 800 mm

### Noise level

< 47 db (A)

### Service interval

12 months

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## INSTALLATION REQUIREMENTS

- CONTINUOUS SUPPLY OF NATURAL GAS
- CONTINUOUS SUPPLY OF TAP WATER
- CONNECTION TO THE GRID
- STABLE INTERNET CONNECTION
- INSTALLATION IN CLOSED ENVIRONMENTS
- POSSIBILITY TO DISCHARGE EXHAUSTS

# Get in touch

We would welcome the chance to answer your questions.

**Our teams are here to provide more information and effective solutions to suit your needs.**



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