

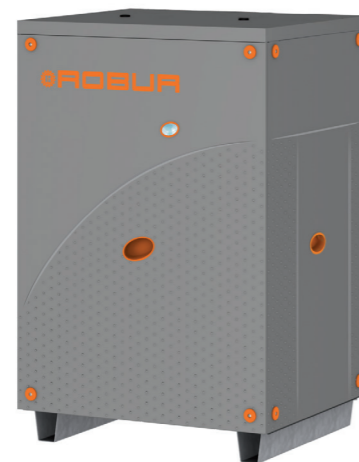
Water Source WS Series

Condensing gas absorption heat pump & Water source renewable energy for heating and cooling

- Efficiency up to 244%
- Almost total reduction in electrical power
- Free domestic hot water production in cooling mode operation

Advantages

- Efficiency levels of 244%.
- It does not require an external exchange source, thus reducing installation and running costs.
- It reduces electricity consumption to a minimum, thanks to the prevalent use of gas. To produce more than 43 kWt and 17 kWc, it consumes less than 0.5 kW of electricity.
- It uses traditional polypropylene flues, exploiting condensation. The high pressure of the combustion system (up to 80 Pa) enables the extension of the vent to more than 20 m. In the case of existing buildings, a configuration of a coaxial flue gas discharge is possible.



Heating: 43.9kW, 35~65°C
DHW: 70°C
Cooling 17.6kW, 3°C

Chiller ACF with Heat Recover HR



Cooling: 17.9kW, 3°C
Recovered Heat: 21kW, 70°C

Gas absorption chiller-heater for cooling with heat recovery for the production of hot water

Efficiency up to 170%

- Almost total reduction in electrical power
- Free domestic hot water production in cooling mode operation

Advantages

- Production of hot water for free during cooling operation.
- Extremely low electricity consumption: saving up to 88% of electricity compared with a traditional electrical system, thus requiring neither additional energy nor upgrading or modification of the electrical cabin.
- Complete system flexibility and modularity, ensuring continuity of service and providing the cooling output according to seasonal demands (multiple links available on request).

ROBUR
caring for the environment



ROBUR
caring for the environment



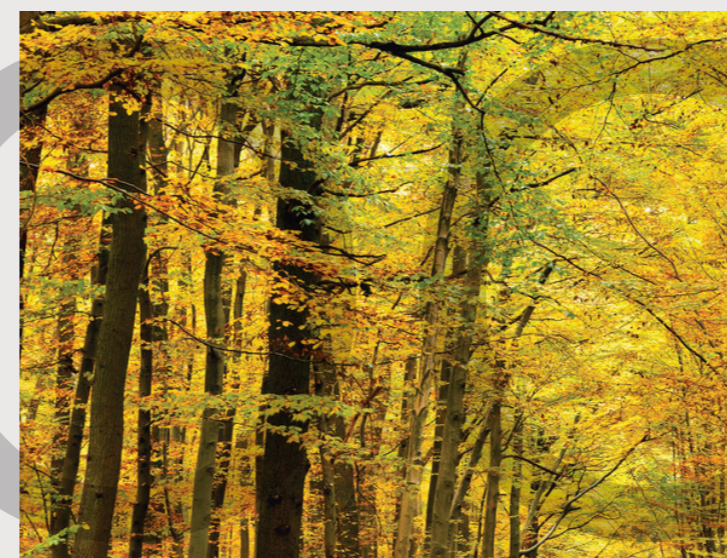
ESS Ltd: SUPPORTING CONSULTING ENGINEERS SINCE 2000

Environmental Site Supplies (ESS) has been a UK distributor for Heat Pumps since 2000, assisting with the design and application of Heat Pumps including VRF systems for commercial applications.

Since 2003, ESS has been the leading UK distributor and specialist for Gas Engine VRF (Sanyo GHP)

Robur acquired Gas Absorption technology from Servel in 1991 and has developed these original cooling only machines into highly efficient and effective heat pumps.

In 2012 ESS became the UK distributor for Robur and this partnership is pleased to bring the unique benefits of this technology to the UK market.



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High Efficiency Gas Absorption Heat Pumps & Chillers



High efficiency gas powered heating & cooling systems

ROBURS ENVIRONMENTAL SOLUTIONS

In a world where environmental effect should be a primary driver for equipment selection the Robur range of Gas Absorption heat pumps offers the ideal solution. Offering a range of products for air source, ground source and water source renewables for heating, the Robur range meets the most stringent building demands.

Manufactured in Italy to the highest quality control, the product is specifically designed for the UK and European requirements. Utilising a sealed Ammonia heat exchanger system as its heart the Robur GAHP out performs all other forms of Gas Powered systems on the market.

PARTNERSHIP WITH ESS

ESS, the exclusive UK distributor and Robur form the perfect partnership. ESS have been in business since 2000 supplying the market with the very best in heating & cooling solutions and are well used to the needs and demands of the marketplace. ESS recognises that correct design and application is critical to any project and therefore this is at the forefront of ESS's activities in addition ESS offers the level training and commissioning assistance that guarantees success.

KEY PRODUCT FEATURES & BENEFITS

- SINGLE PHASE POWER SUPPLY
- HEATING, COOLING & DHW
- AIR, GROUND & WATER SOURCE
- MAINS GAS OR LPG
- NO HCFCs, ZERO ODP, GWP=1
- BREEAM CREDITS & PART L BENEFITS
- LOW CO2 & NOX EMISSIONS
- HOT WATER UP TO 65°C, DHW 80°C
- CONTINUOUS HEATING DURING DEFROST
- CHILLED WATER AT 3°C
- DIGITAL CONTROLS, BMS INTERFACE
- FACTORY ASSEMBLED LINKED SYSTEMS

How to reduce operating costs with high efficiency systems: energy class A without building thermal envelope

Energy efficiency in cooling is of great interest, as highlighted by the latest regulations. An Energy Certificate is a mandatory document establishing the energy efficiency of both new and existing buildings. It is to be expected that the catch phrase "self contained heating", in the last decade has been widely used, which will be quickly replaced by the new phrase "Energy class A building".

So far energy efficiency and certification of buildings has been recalling for many years the increase in costs, energy certification is now introducing a tool for increasing the value of buildings.

Two emerging trends are to be expected in the building construction industry: on one hand the improvement of energy efficiency in buildings, on the other hand the increase in building costs. Actually, a different approach could be taken: a strong reduction in construction costs (material, insulation, glass areas...), while investing in innovative technologies to meet the heating requirements of buildings, thus achieving the best energy performance

certificate. Actually, this would be a valid alternative if there was a profitable technology, especially if its purchase cost was lower than the investment costs on construction.

This technology is already available on the market and provides efficiency by 40% higher when compared to the best condensing boilers

Air Source Heat Pump A Series



Heating: 41kW, 35~65°C
DHW: 70°C

Ground Source GS Series

Condensing gas absorption heat pump & ground source renewable energy for heating

- Efficiency up to 170%
- Almost total reduction in electrical power

Advantages

- Exceeds peak efficiencies of 170%, guaranteeing up to 50% reductions in annual heating costs and in CO2 emissions compared to condensing boilers.
- Reduces the costs for geothermal loops over 60%. GAHP GS needs only two 100 metres probes to develop the same thermal capacity of an electrical systems that uses 5 probes.
- It uses traditional polypropylene flues, exploiting condensation. The high pressure of the combustion system (up to 80 Pa) enables the extension of the vent to more than 20 m. In the case of existing buildings, a configuration of a coaxial flue gas discharge is possible.
- It reduces electricity consumption to a minimum, thanks to the prevalent use of gas. To produce more than 40 thermal kW the unit electrical power consumption is less than 0.5 kW.



Heating: 42.6kW, 35~65°C
DHW: 70°C

Air Source Heat & Cool AR Series

High efficiency reversible gas absorption heat pump & air source renewable energy for heating & cooling

- Efficiency up to 149%
- Almost total reduction in electrical power

Advantages

- Designed to exceed peak efficiencies of 140%, guaranteeing up to 30% reductions in annual heating costs and in CO2 emissions compared to the best condensing boilers.
- The most beneficial heating system to enhance the energy qualification of buildings, because it permits a considerable promotion of the building's energy classification with the consequent increase in the value of the building.
- Also designed for cooling purposes, using gas as fuel.
- Reduces electricity requirements up to 86% (0.9 kWe for 35.3 kW of heating capacity or 16.9 kW of cooling capacity) compared to traditional electrical systems, thanks to the prevalent use of gas.
- Ensures efficiency levels in excess of 100% even at -20 °C, so it is also used in especially cold climates.



Heating: 42.6kW, 35~65°C
DHW: 70°C
Cooling 16.9kW, 3°C

EFFICIENCY EVOLUTION

The absorption heat pumps, gas fired and renewable energy driven, are the perfect combination between innovative research and planning and manufacturing capability with low environmental impact.

The water-ammonia absorption technology, successfully developed by ROBUR for the manufacturing of water chillers, is applied also to systems for the production of thermal energy. As a result, ROBUR incomparable heat pumps can reach energy efficiencies up to 40% higher than the best boilers available on the market.