

GAHP Line W Series

Gas Fired Absorption Heat Pump

Heating and Cooling

Simultaneous Heating and Cooling with the Gas Fired Absorption Heat Pump.

Robur GAHP-W is the only water source heat pump operating on a gas fired water-ammonia absorption cycle, which combines the advantages of water heat recovery with the advantages of gas fired

appliances. For indoor installation, it is designed for heating/cooling applications, with contemporary pond/pool water heat exchange. Thermal energy can also be recovered from industrial processes (waste waters). Natural gas/LPG fired, it supplies hot water up to 149 °F and

chilled water down to 37.4 °F, providing simultaneous heating and cooling with renewable energy recovery from the water with heating efficiency up to 139%.

Units may be piped into modular configurations to satisfy greater cooling and heating requirements.



Use Simultaneous production of hot and chilled water

Type Water - water

Heat transfer fluid Water

Heating capacity 132,400 BTU/h

Cooling capacity 54,600 BTU/h

Renewable energy percentage contributing to the total heat output 25

Heating efficiency 139%

Cooling efficiency 57%

Outlet water temperature

cooling 37.4 °F - heating 149 °F

Main application Simultaneous water heating and cooling

Main advantage Two separate circuits, hot and chilled water, compose a complete heating and air conditioning system without any needs of additional energy sources.

Additional advantages

- **Single Phase Power.**
- **Modular Systems** containing up to 5 modules are available preassembled from Robur. Remote management and

staging by a Direct Digital Controller (DDC) is a popular option. One DDC can manage up to 16 Robur modules on a common hydronic loop.

- The prevailing use of gas **reduces the need of electric power by approximately 92%** in comparison with electric compression units.
- **No need to increase electric power demand.**
- For applications requiring standby power, the **electric output requirements will be lower.**
- **High Reliability** due to few moving parts inside the unit.
- **Easy Maintenance**, similar to gas fired boilers.
- **No Water Consumption.** No cooling tower and related water treatment and maintenance.
- **No use of Harmful Refrigerants.**
- **Indoor Installation.**

Features

- **Patented absorption cycle.**
- **Refrigerant circuit** made of low carbon steel and completely sealed; externally coated with epoxy paint.
- **Evaporator/Condenser-Absorber** tube and shell tower geometry made of stainless steel.
- **Refrigerant accumulator** to optimize refrigerant volume inside the evaporator relative to operational conditions.
- **Pre mixed gas burner.** Stainless steel multiple gas type with ignition and flame sensor device controlled by an electronic flame control box.
- **Microprocessor Control.** Printed resin electronic circuit with LED display. Ensures optimum operation of the absorption cooling process while allowing easy access of

- unit data for preventative maintenance and diagnostics.
- **Optional Direct Digital Controller (DDC).** A single device to fully manage and control Robur units.
- **Built-in safety and control devices**, comprised of water flow switch; sealed circuit safety valve and by-pass valve between high and low pressure side; generator high temperature limit switch with manual reset; antifreeze control system; redundant gas valve; microprocessor control with LED readout to assist with maintenance and service diagnostics; flue temperature limit switch with automatic reset to avoid overheating.

PERFORMANCE RATINGS - HEATING ⁽¹⁾

		GAHP-W	
Heating capacity ⁽²⁾		BTU/h	132,400
Gas input		BTU/h	95,500
Ambient operating temperature	maximum	°F	113
	minimum	°F	10.4
Hot water temperature	maximum outlet (to hydronic system)	°F	149
	maximum inlet (to unit)	°F	113
Water flow	nominal	GPM	14.5
Internal pressure drop at nominal water flow		Feet of Head	12.7
		psi _g	5.5

PERFORMANCE RATINGS - COOLING ⁽¹⁾

Cooling capacity ⁽²⁾		BTU/h	54,600
Gas input		BTU/h	95,500
Chilled water temperature	minimum outlet (to hydronic system)	°F	37.4
	maximum inlet (to unit)	°F	113
Chilled water flow	nominal	GPM	12.3
Internal pressure drop at nominal water flow		Feet of Head	12.7
		psi _g	5.51

ELECTRICAL RATINGS ⁽¹⁾

Required voltage, 60 Hz, single phase ⁽³⁾	V	208-230
Operating consumption-chiller + heaters ⁽⁴⁾	kW	0.4

PHYSICAL DATA

Operating weight		pounds	630
Dimensions	width	inches	33 1/4
	length	inches	25 3/4
	height	inches	50 3/4

⁽¹⁾ All illustrations and specifications contained herein are based on the latest information available at the time of publication.

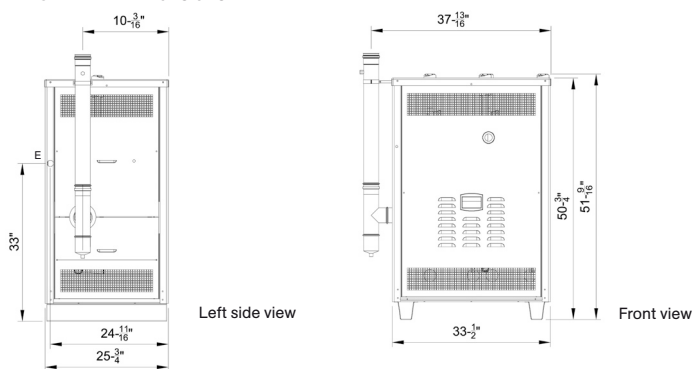
⁽²⁾ GAHP-W standard test conditions: W50/W122.

⁽³⁾ Units are factory-wired for 208-230 volts operation.

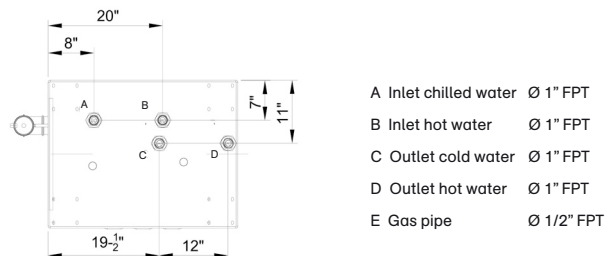
⁽⁴⁾ May vary by ± 10% as function of both power supply and electrical motor input tolerance.

Due to continuous product innovation and development, Robur reserves the right to change product specifications without prior notice.

GAHP-W Dimensions



GAHP-W Connection Panel



GAHP-W Hydronic System: Typical Installation Arrangement (External Components not included with Robur Unit)

