

## GAHP Line A Series

### Gas Fired Absorption Heat Pump

#### Heating

##### High efficiency gas fired heating.

The Robur GAHP-A is the first air-source water-ammonia absorption heat pump. By using natural gas as the primary energy source, it supplies hot water up to 140 °F. It is suitable for heating systems where the most efficient gas appliance available is required. With a gas efficiency at rated conditions of 129%,

##### Use Heating

**Type** Air to water

**Heat transfer fluid** Water

**Heating capacity** 123,500 BTU/h  
**Renewable energy percentage contributing to the total heat output** 38

**Heating efficiency** 129%

**Outlet water temperature** 140 °F

**Main applications** High efficiency low temperature heating; examples: terminal fan coil systems, radiant panels, swimming pools, industrial heating

**Main advantage** Savings up to 40% in operation costs in comparison with the best gas fired boilers, thanks to the energy recovered from a renewable source (air).

##### Additional advantages

- **Single Phase Power.**
- This unit may be linked to lower performance boilers to **raise total system efficiency.**

this unit is suitable for raising the average efficiency of traditional boiler heating systems. In moderate climate areas, operating with a Robur GAHP-A unit in conjunction with a standard heating unit will raise the average overall heating system efficiency up to approximately 112-122%. The GAHP-A unit offers a wide variety of convenient

- **High Efficiency** recovering part of the thermal energy from the outdoor air.
- The prevailing use of gas **reduces the need of electric power by approximately 87%** in comparison with electric compression units (0.9 electric kW for 123,500 BTU/h heating).
- **Complete flexibility for capacity control.** Robur units may be combined for greater heating capacity, modularity and redundancy.
- **High Reliability** due to few moving parts inside the unit.
- **Easy Maintenance,** similar to gas fired boilers.
- **No Use of Harmful Refrigerants.**
- **Outdoor Installation.**
- **No Comfort Reduction during Defrosting Cycles:** the unit supplies about 50% of the total heating capacity.

applications:

- high efficiency hot water heating systems for light commercial, industrial, residential and multi-family buildings;
- any system where hot water, up to 140 °F, is required;
- any system that has continuous hot water demands or 24 hour industrial requirements.



##### Features

- **Patented absorption cycle.**
- **Air source evaporator** with single row aluminium fin coil.
- **All sealed circuit components** are made of steel assembled by welding, coated with epoxy paint.
- **Optional Direct Digital Controller (DDC).** A single device to fully manage and control Robur units.
- **Pre-mixed gas burner.** Stainless steel multiple gas type with ignitor and flame sensor device controlled by an electronic ignition box.
- **Microprocessor control.** Printed resin electronic circuit with LED display. Ensures optimum operation of the absorption heating process while allowing easy access of unit data for preventative maintenance and diagnostics.

- **Built-in safety and control devices,** comprised of water flow switch; sealed circuit safety valve and safety 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 <sup>(1)</sup>**

		GAHP-A	
Heating capacity <sup>(2)</sup>		BTU/h	123,500
Gas input		BTU/h	95,500
Ambient operating temperature	maximum	°F	113
	minimum	°F	-20
Hot water temperature	maximum outlet (to hydronic system)	°F	140
	maximum inlet (to unit)	°F	122
Water flow	nominal	GPM	13.6
	maximum	GPM	22
	minimum	GPM	6.2
Internal pressure drop at nominal hot water flow		Feet of Head	10.1
		psi <sub>g</sub>	4.3

**ELECTRICAL RATINGS <sup>(1)</sup>**

Required voltage, 60 Hz, single phase <sup>(3)</sup>	V	208 - 230
Operating consumption <sup>(4)</sup>	kW	0.9

**PHYSICAL DATA <sup>(1)</sup>**

Operating weight	pounds	770	
Gas inlet connections	FPT	1/2"	
Dimensions	width	inches	33 1/2
	length	inches	48 1/2
	height	inches	50 3/4

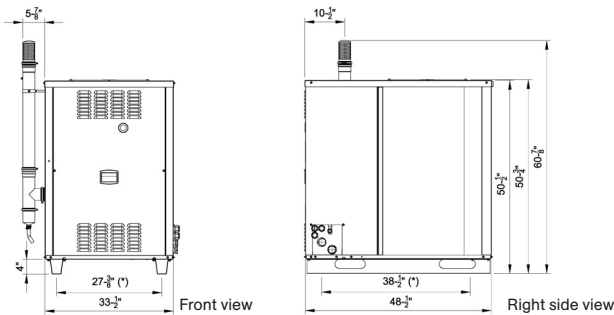
<sup>(1)</sup> All illustrations and specifications contained herein are based on the latest information available at the time of publication.

<sup>(2)</sup> Heating capacity at standard conditions of 44.6 °F ambient temperature. Hot water outlet temperature 122 °F, hot water inlet temperature 104 °F.

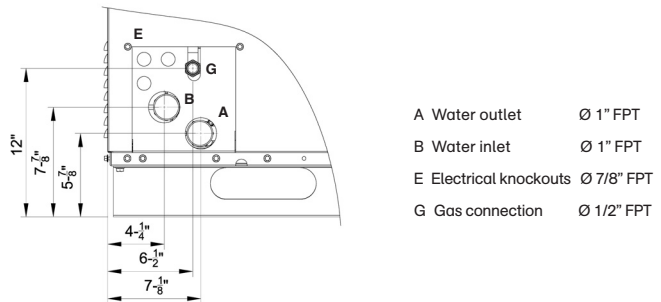
<sup>(3)</sup> Units are factory-wired for 208-230 volts operation.

<sup>(4)</sup> 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-A Dimensions



GAHP-A Connection Panel



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

