

ROBUR

GAHP INSTALLATION GUIDE & CHECKLIST

North American Field Summary

Gas-fired absorption heat pumps • GAHP A Plus / GAHP AR Plus
Installer-oriented quick reference with checklists

How to use this guide

This document is a concise field guide for North American contractors, installers and project teams. It summarizes the installation sequence and the checks that should be completed before Robur commissioning. It does not replace the model-specific Installation, Use and Maintenance Manual, project drawings, the rating plate, or requirements of the Authority Having Jurisdiction (AHJ).

IMPORTANT - COMMISSIONING

Final commissioning, combustion setup and gas adjustment are to be performed by a Robur Qualified Service Company (QSC). The installing contractor should complete the pre-commissioning checklist before the QSC visit.

North American compliance framework

Follow the AHJ and all local codes. The Robur manual references the National Fuel Gas Code ANSI Z223.1 in the United States, CAN/CGA B149.1 and B149.2 in Canada, and NFPA 70 / NEC or CSA C22.1 for electrical installation. Local code requirements take precedence where more restrictive.

1. Receiving, handling and positioning

Key objective

Keep the unit undamaged, outdoors, level and freely ventilated, with enough clearance for airflow, service access and safe flue termination.
All boxes must be checked.

Handling and placement (Check boxes)

- ☐ Inspect packaging, panels and finned coil for transport damage before installation.

Keep the unit packaged until it is at the final installation location. Handle/lift the unit using equipment rated for the load.

- ☐ Install outdoors only, with free air circulation and no recirculation of discharge air.

If the unit is surrounded by more than two walls, or by three/four walls or a roof, consult Robur Representative before finalizing the location.

- ☐ Keep the top fan discharge unobstructed by canopies, balconies, roofs, trees or similar structures.
- ☐ Locate away from polluted/hot exhaust air and away from roof drip lines.
- ☐ Provide safe access for maintenance and removal of service panels.

Mounting base and clearances

- ☐ Provide a flat, level, fire-resistant base capable of supporting the operating weight.

- *In case of ground installation, provide a concrete slab at least 4 in. (100 mm) thick and extending approximately 4-6 in. (100-150 mm) beyond the unit footprint on each side.*
 - *In case of roof/terrace installation: confirm structural capacity; use suitable support bases and consider vibration isolation and flexible piping connections.*

- ☐ Do not rigidly connect the slab to the building foundation where vibration transmission may result.

- ☐ Maintain model-specific service clearances shown in the manual and comply with stricter local mechanical-code clearances when applicable.

Keep the appliance at least 6 ft (1.8 m) from external building air intakes; for roof/terrace installations keep at least 8 ft (2.4 m) from chimneys, outlets and similar vents.

2. Hydronic installation

Operating principle

GAHP units require constant primary water flow during operation and through the shutdown sequence. The primary-loop pump must be controlled by the unit electronics.

Piping and required components

- ☐ Use hydronic piping suitable for heating/cooling service and protect exposed piping from weather.
Insulate piping for heat loss; for chilled-water sections use a vapor barrier to prevent condensation.
- ☐ Thoroughly flush piping and connected components before connecting the appliance.
- ☐ Install isolation valves and pressure gauges on both supply and return near the unit.
- ☐ Install anti-vibration connections on the water connections.
- ☐ Install a strainer/filter on the inlet/return line and provide access for cleaning.
- ☐ Install the primary-loop pump toward the appliance and size it for total primary-loop pressure drop.
- ☐ Install a 51 psig (3.5 bar) safety valve and a properly sized expansion tank; the unit does not include an expansion tank.
- ☐ Where hydraulic decoupling is needed, use a hydraulic separator or a 2-pipe/4-pipe buffer-tank arrangement.

Flow, volume and connections - quick reference

Item	Heating (GAHP A & AR)	Cooling (GAHP AR only)
Water connection	1-1/4 in. FPT	1-1/4 in. FPT
Nominal water flow	15.0 GPM (3,400 l/h)	13.0 GPM (2,900 l/h)
Minimum water flow	6.0 GPM (1,400 l/h)	11.0 GPM (2,500 l/h)
Minimum system volume	50 gal/unit (190 l/unit)	25 gal/unit (95 l/unit)

3. Freeze protection and water quality

Freeze protection

Keep gas and electrical power available when relying on the active antifreeze function. This function is default factory enabled

Use inhibited glycol only; do not use automotive antifreeze.

Account for glycol effects on pumping pressure drop and thermal capacity when sizing the system.

Water quality limits

Parameter	Required value
pH	> 7
Chlorides	< 125 ppm
Free chlorine	< 0.2 ppm
Total hardness (CaCO ₃)	< 15 °f / < 8.4 °d
Iron	< 0.5 ppm
Copper	< 0.1 ppm
Aluminum	< 1 ppm
Fluorides	< 1 ppm
Sulphides	Absent

Fill and purge checklist

- ☐ After completing water, gas and electrical connections, pressurize and vent the water loop to at least 20 psig (1.5 bar).
- ☐ Circulate water with the burner off, then stop the request before burner operation.
- ☐ Check and clean the inlet strainer/filter.
- ☐ Repeat pressurization, circulation and filter cleaning until system pressure stabilizes at or above 20 psig (1.5 bar).
- ☐ Check for water leaks

4. Gas supply, venting and drainage

Gas piping checklist

- ☐ Confirm the appliance gas type on the rating plate before connection (natural gas or propane).

Maximum supply pressure: 14 in. w.c. (35 mbar).

Minimum supply pressure: 5 in. w.c. for natural gas (13 mbar) and 11 in. w.c. (27 mbar) for propane.

Static and dynamic pressure must meet the model-specific commissioning requirements.

- ☐ Provide a 1/2 in. female gas connection at the unit and an approved anti-vibration/flexible connection where required.
- ☐ Install a manual gas shutoff valve near the appliance and an approved union downstream of the shutoff.
- ☐ Provide the required sediment trap/drip leg arrangement in accordance with applicable codes.
- ☐ Provide an accessible 1/8 in. NPT plugged test tapping immediately upstream of the appliance gas connection.
- ☐ Leak-test the appliance gas piping before startup.
- ☐ Disconnect the appliance and its shutoff valve from gas piping during pressure tests above 1/2 psig (35 mbar); isolate it by closing the individual shutoff for tests at or below that pressure.
- ☐ For propane systems only: provide first- and second-stage pressure regulation as required.

Flue and condensate checklist

- ☐ Install the factory-supplied flue exhaust kit before operation.
- ☐ Keep the flue termination and appliance air intake clear of building openings and recirculation zones.

If extending or replacing the supplied vent arrangement, have the vent system designed/sized using the model-specific allowable pressure information and applicable codes.

- ☐ Provide an accessible flue-gas sampling port when a custom flue is used.
- ☐ Drain flue condensate in accordance with local codes and protect against corrosion/freezing as applicable.
- ☐ Provide defrost-water drainage independent of or coordinated with site drainage so ice cannot form around the appliance.

5. Electrical supply and controls

North American electrical basis

GAHP Plus units are wired for 208-230 V, single-phase, 60 Hz. In North American field terminology, the manual instructs installers to treat terminal "L" as L1 and "N" as L2. Always use the rating plate and current model manual for MCA/MOCP and branch-circuit protection.

Power and grounding

- ☐ Provide a dedicated protected 208-230 V, 1-phase, 60 Hz branch circuit sized to the unit rating plate and applicable code.
- ☐ Provide a disconnecting means within sight of the appliance and no more than 50 ft (15 m) away where required by the manual/code.

- ☐ Connect L1/L2 and equipment grounding conductor to the designated terminals; do not use gas piping as an electrical ground.
- ☐ Keep power wiring physically separated from low-voltage/signal wiring.
- ☐ Do not use the main disconnect as the normal ON/OFF control. Use the provided control device.

Do not energize or operate the unit before the hydronic system is filled with the required water/glycol solution.

Primary pump control

- ☐ Connect and control the primary-loop water pump from the S61 board as indicated in the Installation Manual; independent pump switching is not permitted.
- ☐ Check pump current and wiring arrangement. The S61 N.O. pump-control contact is rated up to 4 A; use an interposing relay when required.
- ☐ If the pump is powered from the unit electrical panel, account for its current in branch-circuit sizing in accordance with the model manual and code.

For multi-unit systems, follow the dedicated low-voltage transformer/control-relay arrangement shown in the manual.

6. DDC / CAN bus control

A Robur DDC is strongly recommended for multiple-unit systems and provides staging, water setpoint management, outdoor reset, diagnostics and BMS interfacing.

A simple external dry-contact request can be used for very basic single-unit applications only.

DDC / CAN Bus

- ☐ Connect H, L and GND/common signal conductors with shielded cable. GND is the communication common, not protective earth.
- ☐ Use approved CAN-bus cable types for longer networks or more nodes.

For up to 4 nodes and total length up to 650 ft (200 m), a 3 x 18 AWG shielded cable is permitted by the manual/training material.

- ☐ Set the CAN termination jumpers CLOSED at the two terminal nodes and OPEN at intermediate nodes.
- ☐ Bind the connected units to the DDC and verify that all units are visible before completing setup.

- ☐ If an outdoor reset sensor is used, mount the 10 kΩ NTC sensor preferably on a north-facing wall and protect it from direct solar radiation.

External request option (no DDC installed)

- ☐ Use a voltage-free normally-open request contact.
- ☐ Connect R = 24 VAC common, W = heating request, Y = cooling request as shown in the manual.
- ☐ Use an isolation relay if another powered control/transformer is interfaced with the unit control circuit.
- ☐ Use external-request control only for simple applications where fixed-setpoint ON/OFF control is acceptable.

Project:		Date:	
Company:		Signature:	