

1 APPLIANCE POSITIONING

1.1 WARNINGS

Aggressive substances in the air

Halogenated hydrocarbons containing chlorine and fluorine compounds cause corrosion. The air of the installation site must be free from aggressive substances.

Environmental or operational heavy conditions

In environmental or operational conditions particularly heavy (for example: heavy-duty use of the appliance, salty environment, etc.), maintenance and cleaning operations must be more frequent.

1.2 AEROTHERMAL APPLIANCES

Do not install the aérothermal appliances indoors

Aérothermal appliances include appliances equipped with a finned coil and fan, approved for outdoor installation, with the exception of the GAHP A Indoor only, which is approved for indoor installation.

- Do not install inside a room, not even if it has openings.
- In no event start the appliance inside a room.

GAHP A Indoor


Although the GAHP A Indoor is an aérothermal appliance, it is approved for installation inside a technical room. Refer to Paragraph 1.3 p. 1.

Ventilation of aérothermal appliances

- Aérothermal appliances require a large space, ventilated and free from obstacles, to enable smooth flow of air to the finned coils and free air outlet above the mouth of the fan, with no air recirculation.
- Incorrect ventilation may affect efficiency and cause damage to the appliance.
- The manufacturer shall not be liable for any incorrect choices of the place and setting of installation.

1.3 APPLIANCES SUITABLE FOR INSTALLATION IN A TECHNICAL ROOM

The installation premises must meet all requirements set forth by laws, standards and regulations of the Country and place of installation concerning gas appliances and cooling appliances

 Do not install inside a room that has no aeration openings.

1.3.1 GAHP A Indoor

GAHP A Indoor unit ventilation

The aérothermal appliance requires aerated premises for regular air flow into the finned coil. The air exhaust above the fan mouth must be ducted outside in order to

prevent air recirculation towards the aeration openings. Incorrect ventilation may affect efficiency and cause damage to the appliance. The manufacturer shall not be liable for any incorrect choices of the installation premises and setting.

Other appliances

Any other gas appliances in the room must necessarily be type C.

1.3.1.1 Features of the installation premises

- ▶ The premise must be provided with permanent and sufficiently wide ventilation openings to permit even air flow to the finned coil (11000 m³/h).
- ▶ The appliance's flue gas exhaust must be ducted to the outside. The flue outlet must not be immediately close to openings or air intakes of buildings, and must comply with environmental and safety regulations.
- ▶ Combustion air intake may be ducted from the outside (type C installation).

1.3.2 GAHP GS/WS appliances (indoor version) and AY boilers

Hydrothermal and geothermal Link (composed with GAHP GS/WS modules) and AY boilers may be installed either indoors or outdoors.

1.3.2.1 Features of the installation premises

- ▶ The premises must be provided with permanent and sufficiently wide ventilation openings to permit even air flow for aeration and possibly for combustion (if type B installation).
- ▶ Combustion air intake may be ducted from the outside (type C installation).
- ▶ The appliance's flue gas exhaust must be ducted to the outside. The flue outlet must not be immediately close to openings or air intakes of buildings, and must comply with environmental and safety regulations.

1.4 WHERE TO INSTALL THE APPLIANCE

In general, the appliances:

- ▶ May be installed at ground level, on a terrace or on a roof, compatibly with their size and weight.
 - ▶ May be only installed out of the dripping line of rain gutters or the like. Do not require protection from weathering.
 - ▶ No obstruction or overhanging structure (e.g. protruding roofs, canopies, balconies, ledges, trees, ...) must interfere with the exhaust flue gas.
 - ▶ The appliances flue gas exhausts must not be immediately close to openings or air intakes of buildings, and must comply with environmental and safety regulations.
- In particular, for aérothermal appliances:
- ▶ They must be installed outside buildings, in an area of natural air circulation.
 - ▶ No obstruction or overhanging structure (e.g. protruding roofs, canopies, balconies, ledges, trees) must interfere with the air flowing out from the top of the appliance.
 - ▶ Do not install near the exhaust of flues, chimneys or hot polluted air. In order to work correctly, the appliance needs clean air.

1.5 DEFROSTING WATER DRAINAGE

In winter, for GAHP A/GAHP-AR appliances, frost may form on the finned coils and the appliance performs defrosting cycles.

- ▶ To prevent overflowing and damage provide for a drainage system.

1.6 ACOUSTIC ISSUES

- ▶ Pre-emptively assess the appliance's sound effect in

connection to the site, taking into account that building corners, enclosed courtyards, restricted spaces may amplify the acoustic impact due to the reverberation phenomenon.

- ▶ In case of appliances suitable for installation in utility room, assess beforehand the appliances' sound effect inside the room and to the adjacent rooms and outside.
- ▶ In Section C01.14 further advice on acoustic design can be found.

2 MINIMUM CLEARANCE DISTANCES

2.1 DISTANCES FROM COMBUSTIBLE OR FLAMMABLE MATERIALS

Keep the appliance away from combustible or flammable materials or components, in compliance with applicable regulations.

2.2 CLEARANCES AROUND THE APPLIANCE

The minimum clearance distances shown in the following Figures (barring any stricter regulations) are required for safety, operation and maintenance.

2.2.1 Single GAHP/GA appliances

The distances shown in Figure 2.1 p. 2 below are valid:

- ▶ for all GAHP GS/WS appliances
- ▶ for aerothermal appliances, in the absence of walls close to the appliance that are higher than the appliance itself
- ▶ for aerothermal appliances, in the case of a single wall that is higher than the appliance (Figure 2.2 p. 2)

Figure 2.1 Clearances

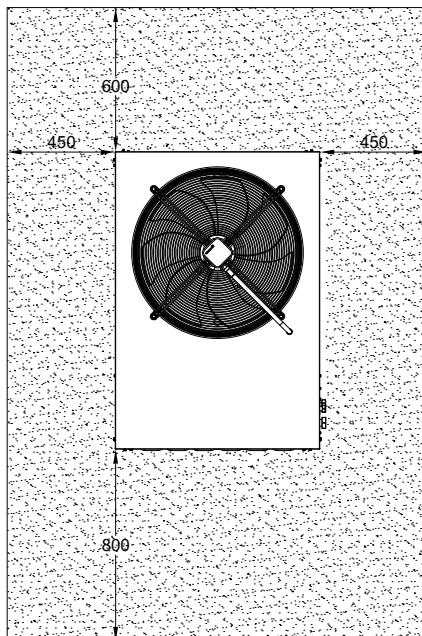
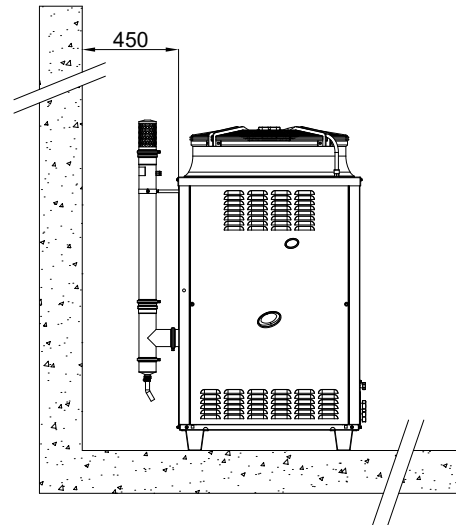
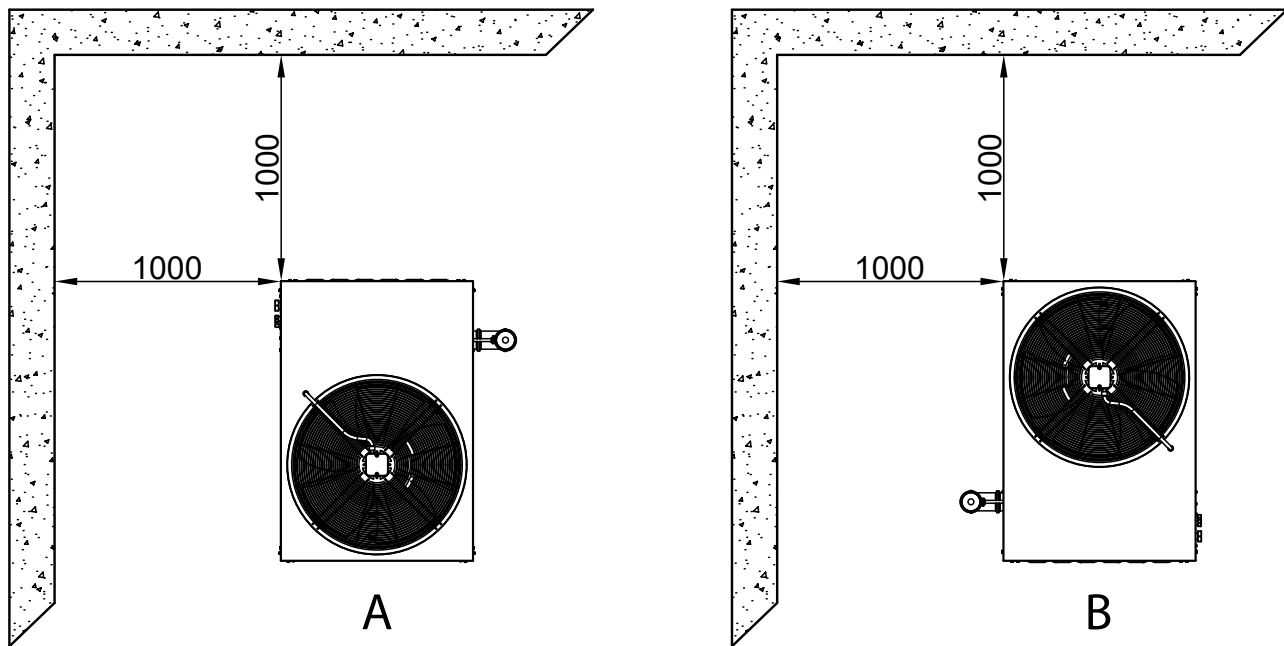


Figure 2.2 Clearances for a single aerothermal appliance with 1 wall higher than the appliance



If there are two walls higher than the aerothermal appliance (Figure 2.3 p. 3), the distance of the appliance must be increased to 1 m from each wall. If possible, the aerothermal appliance should always be positioned with the finned coil facing outwards and not towards the walls.

Figure 2.3 Clearances for a single arothermal appliance with 2 walls higher than the appliance



A Optimum positioning

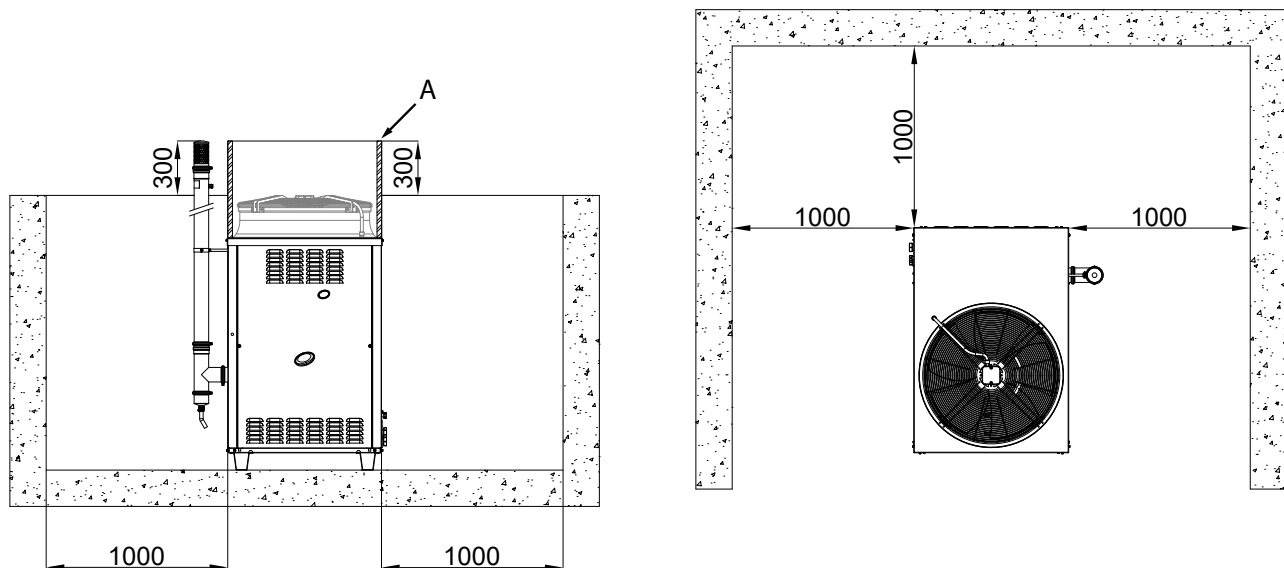
B Allowed positioning

If there are three walls higher than the arothermal appliance (Figure 2.4 p. 3), you must:

- ▶ keep at least 1 m away from each wall
- ▶ orient the finned coil outwards, so as to facilitate air circulation

- ▶ Extend the flue gas exhaust (for appliances in which it is provided) beyond the wall height by at least 300 mm
- ▶ Duct the expulsion of air from the fan beyond the height of the walls by at least 300 mm

Figure 2.4 Clearances for a single arothermal appliance with 3 walls higher than the appliance

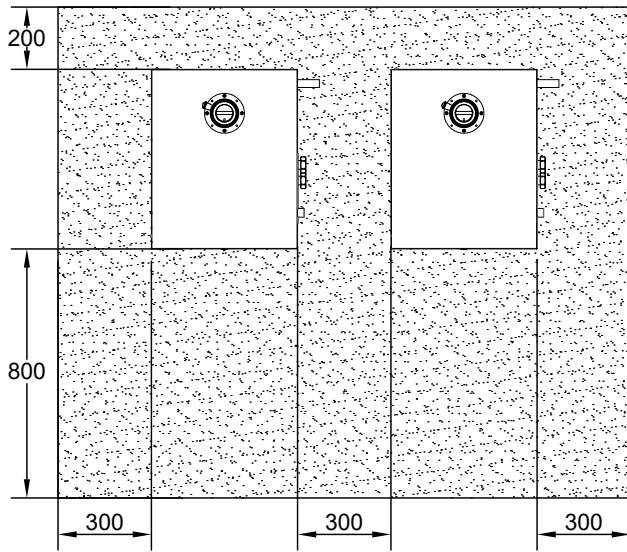


A Ducting of exhaust air from the fan

i Installation in trenches (i.e. with the arothermal appliance surrounded on all four sides by walls) is permitted in accordance with the specific instructions provided by Robur technical service.

2.2.2 AY appliances

Figure 2.5 Clearances



2.2.3 Gitié appliances

Figure 2.6 Clearances

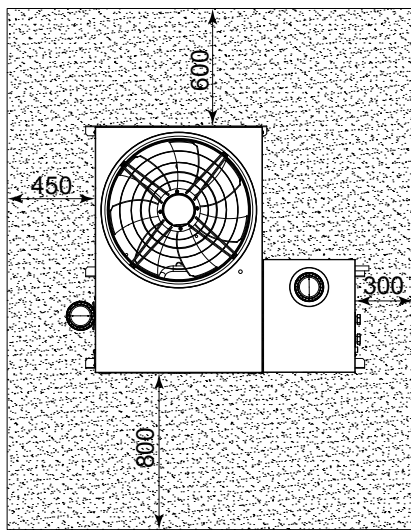
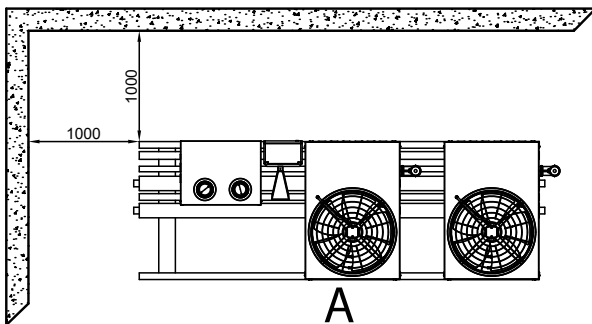


Figure 2.9 Clearances for a single aerothermal link with 2 walls higher than the appliance



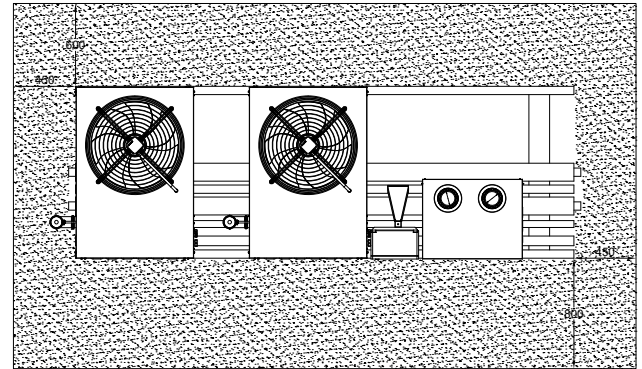
A Optimum positioning

2.2.4 Link

The distances shown in Figure 2.7 p. 4 below are valid when installing a single Link:

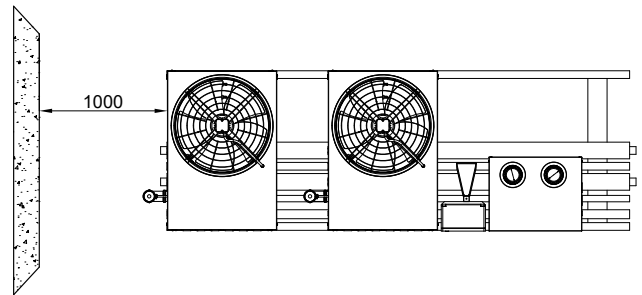
- ▶ for all RTGS/RTWS/RTY Link
- ▶ for all aerothermal Link, in the absence of walls near the Link that are higher than the appliance

Figure 2.7 Clearances

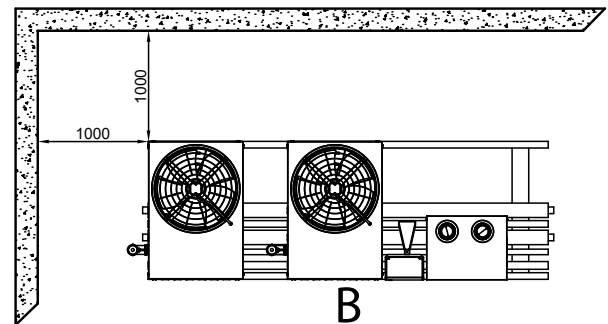


If the wall is higher than the aerothermal Link (Figure 2.8 p. 4), the lateral distance must be increased to 1 m from the wall.

Figure 2.8 Clearances for a single aerothermal link with 1 wall higher than the appliance



If there are two walls higher than the aerothermal Link (Figure 2.9 p. 4), the distance of the Link must be increased to 1 m from each wall. If possible, the aerothermal Link should always be positioned with the finned coil facing outwards and not towards the walls.



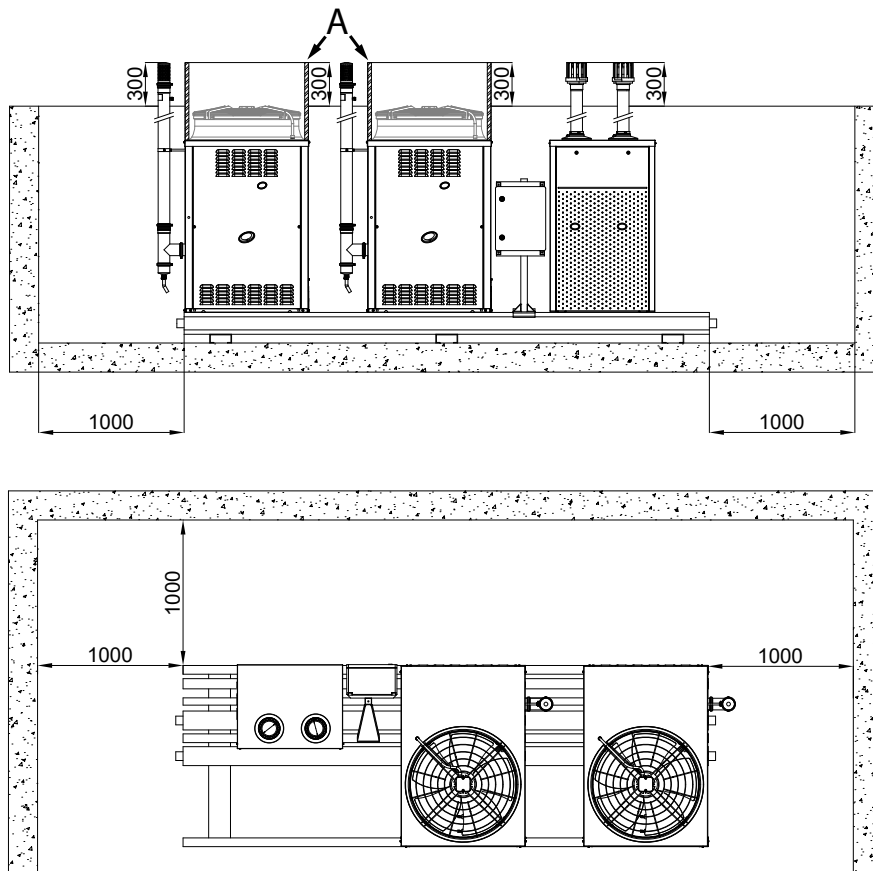
B Allowed positioning

If there are three walls higher than the aerothermal Link (Figure 2.10 p. 5), you must:

- ▶ keep at least 1 m away from each wall
- ▶ orient the finned coil outwards, so as to facilitate air

- circulation
- ▶ Extend the flue gas exhaust (for appliances in which it is provided) beyond the wall height by at least 300 mm
- ▶ Duct the expulsion of air from the fan beyond the height of the walls by at least 300 mm

Figure 2.10 Clearances for a single aerothermal link with 3 walls higher than the appliance



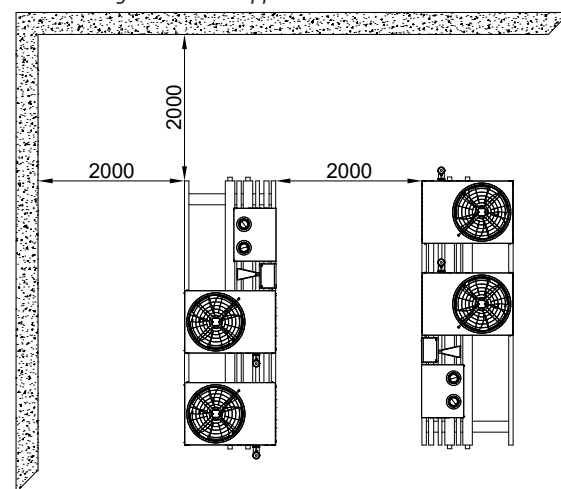
A Ducting of exhaust air from the fan

i Installation in trenches (i.e. with the aerothermal Link surrounded on all four sides by walls) is permitted in accordance with the specific instructions provided by Robur technical service.

If there are several aerothermal Link:

- ▶ if there are no walls near the Link that are higher than the appliance, refer to Figure 2.7 p. 4
- ▶ if there is only one wall higher than the Link, refer to Figure 2.8 p. 4
- ▶ if there are two walls higher than the Link, at least 2 m distance from each wall must be kept (Figure 2.11 p. 5)

Figure 2.11 Clearances for multiple aerothermal links with 2 walls higher than the appliance



i Robur technical service is available for in-depth evaluation of installation situations with specific problems.

3 MOUNTING BASE

3.1 MOUNTING BASE CONSTRUCTIVE FEATURES

Place the appliance on a level flat surface made of fireproof material and able to withstand its weight.

3.2 INSTALLATION AT GROUND LEVEL

Failing a horizontal supporting base, make a flat and level concrete base, at least 150 mm larger than the appliance size per side.

3.3 INSTALLATION ON TERRACE OR ROOF

- ▶ The structure of the building must support the total weight of the appliance and the supporting base.
- ▶ If necessary, provide a maintenance walkway around the appliance.

3.4 ANTI VIBRATION MOUNTINGS

Although the appliance's vibrations are minimal, resonance phenomena might occur in roof or terrace installations.

- ▶ Use anti-vibration mountings.
- ▶ Also provide anti-vibration joints between the appliance and water and gas pipes.