



INSTALLATION MANUAL

AIR-TO-WATER HEAT PUMPS IGLU Inuit



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Correct Disposal of This Product (Waste Electrical & Electronic Equipment)



(Applicable in countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

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1.Important safety instructions



This manual contains critical safety instructions for the installation, operation, and maintenance of the IGLU Inuit Heat Pump. These instructions must be followed exactly to ensure safe and correct operation.

Installation and servicing of the IGLU Inuit must be performed only by IGLU TECH Certified Installers. The unit involves pressurized refrigerants and high-voltage components, requiring qualified technical expertise.

IGLU TECH assumes no liability for injury, equipment damage, or property loss caused by unauthorized servicing or failure to follow the instructions provided. All warnings and cautions included in this manual must be strictly observed.

Product specifications

All specifications and descriptions in this document are accurate as of the time of printing. However, because IGLU TECH is committed to continuous improvement, we may make product modifications at any time.

The images in this document are for demonstration purposes only. Product details may vary slightly depending on the version and region.

Errors or omissions

If you notice any inaccuracies or omissions in this manual, please email us at: info@iglutech.eu

Meaning of warnings and symbols

Symbol / Label	Meaning
	WARNING: indicates a hazardous situation which, if not avoided, could result in injury or death.
	CAUTION: indicates a hazardous situation which, if not avoided, could result in minor injury or damage to the equipment.
	NOTE: indicate an important step or tip that leads to the best results but is not safety or damage related
	REFER TO OPERATING INSTRUCTIONS: indicates that the user should refer to operating or installation instructions before proceeding
	RISK OF ELECTRIC SHOCK: indicates components that present the risk of electrical shock.
	WARNING: FLAMMABLE MATERIAL

2.About this document

Introduction

This installation manual provides information on the installation of the IGLU heat pump. It is an integral part of the product and must be easily accessible to the installer. The manual must be available throughout the life of the device. In the event of a change in the owners of the device, the manual must be passed on to the new owners or users. Read the instructions before installing the heat pump. Follow all instructions as specified by the manufacturer. If you have any questions, please contact the company that performs the installation of heat pumps or your local manufacturer's representative. This installation manual was written for several types of devices; you must always follow the parameters applicable to the respective type of equipment.

Purpose

The manual is intended only for people who install the devices. Treat all constituents responsibly. The heat pump may only be used for its intended purpose, which means:

- Heating
- Domestic hot water preparation
- Cooling

The device can only be operated according to its technical parameters.

Liability

The manufacturer shall not be liable for damage caused by improper use or installation of the heat pump. The manufacturer's liability shall also not apply:

- If work has been performed that differs from the specifications in these operating instructions.
- If work has been carried out on the equipment which is not described in this manual, or which has not been approved in writing by the manufacturer.
- If the equipment or its components have been modified, altered, or removed without the written consent of the manufacturer.

If the heat pump does not operate in proper conditions or is not used properly, the present rules and requirements are not followed or the checks are not performed, the manufacturer shall not bear liability for the operation of the product. The heat pump operator must take precautions to prevent accidents and injuries to bystanders. The user is responsible for the safety of the heating system and compliance with environmental protection requirements.

If a fault is detected, it is necessary to react promptly, within a reasonable time and as provided in this user manual, because failure to rectify a fault in a timely manner may result in other faults or damage.

If the fault or other actions were carried out by an unqualified worker and in prejudice to the rules, the manufacturer cannot be held liable for the consequences and the warranty obligations may no longer apply.

The warranty does not apply to normal wear and tear, external damage due to improper maintenance or negligence.

Warranty

The product is covered by an IGLU TECH manufacturer's warranty.

To maintain warranty coverage, it is essential that the product is installed, operated, and maintained strictly in accordance with the instructions and requirements provided in this manual. Failure to comply with these instructions — including improper installation, unauthorized modifications, use of non-approved components, or lack of maintenance — will void the warranty.

Details regarding the warranty and post-warranty periods, including all applicable terms and conditions, are provided in the purchase documents.

Product packaging and transportation

After purchasing a heat pump:

- Inspect the delivered product for external damage during delivery.
- In the event of delivery defects, submit a claim to the company that sold the device immediately.

The heat pump may only be transported and stored in an upright position. The device can only be temporarily tilted, not laid down. The device can be stored at a temperature no lower than 10 °C.

Display of energy consumption, energy yields and efficiencies.

The product, the system control and the app show approximate values for energy consumption, energy yields and efficiencies, which are extrapolated based on calculation algorithms. The values that are displayed in the app may differ from the other display options due to staggered transfer intervals. The determined values depend on:

- Installation and system of heating installation
- User behavior
- Seasonal weather effects
- Various tolerances of unit-internal components

The recording of the values only includes the product in the factory-delivered condition. Supplementary accessories, even if they are installed on the product, as well as any other components in the heating system and other external consumers, are not part of data recording. Deviations between the determined values and the actual values may be significant. The determined values are therefore not suitable for creating or comparing energy billing, for example.

3. Applicability of the Installation Manual

The Installation Manual is applicable to the following units:

Model	Unit type	Model code
IGLU Inuit 6	Indoor	IN006INANSISrc
	Outdoor	IN006INANSOSrc
IGLU Inuit 6 WT	Indoor	IS006IWANSISrc
	Outdoor	IN006INANSOSrc
IGLU Inuit 9	Indoor	IN009INANSITrc
	Outdoor	IN009INANSOTrc
IGLU Inuit 9 WT	Indoor	IS009IWANSITrc
	Outdoor	IN009INANSOTrc
IGLU Inuit 12	Indoor	IN012INANSITra
	Outdoor	IN012INANSOTra
IGLU Inuit 12 WT	Indoor	IS012IWANSITra
	Outdoor	IN012INANSOTra
IGLU Inuit 16	Indoor	IN016INANSITra
	Outdoor	IN016INANSOTra
IGLU Inuit 16 WT	Indoor	IS016IWANSITra
	Outdoor	IN016INANSOTra

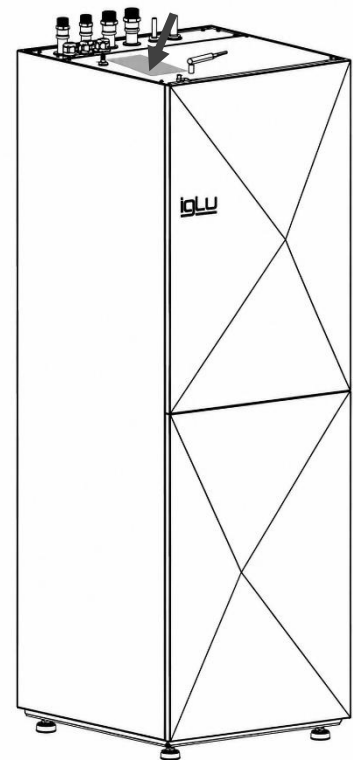
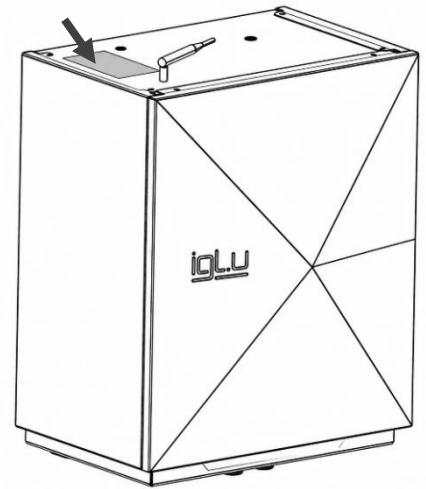


NOTE:

- The exact model code can be found on the internal product label attached to the unit itself or on the packing box label.
- The Installation manual applies to the IGLU Inuit air-to-water heat pump indoor and outdoor units.

The sequence of IGLU TECH products configuration

X1 – IGLU Aleut/IGLU Aleut WT/IGLU Aleut I/IGLU Aleut WTI – AL;
 X1 – IGLU ALEUT WTI (598x674x1876) – AS;
 X1 – IGLU Inuit /IGLU Inuit WT – IN;
 X1 – IGLU Inuit WT (598x674x1876) – IS;
 X1 – IGLU Max – MA;
 X1 – IGLU Inuit Mono/IGLU Inuit Mono WT – MB;
 X2 – Capacity of pump – 5/7/9... kW;
 X3 – Kind of compressor (I – inverter/F – fixed speed);
 X4 – Water tank – (W);
 X5 – Active cooling – (A);
 X6 – Passive cooling – (P);
 X7 – Construction – Split (S);
 X8 – Unit location – Inside/Outside, (I/O);
 X9 – Energy supply:
 Sr - single phase 1P 230 V;
 Tr - triple phase 3P 400V;
 Sn – single phase to north 2P 230 V;
 Tn – triple phase to north 3P 230 V;
 X10 – Agent (R 410A – a; R 407C – b; R32 – c; R 290– d);
 N – not applicable;



Product label with the serial number and QR code

The serial number and QR code of the IGLU Inuit and IGLU Inuit WT heat pump are located:

- On the top of the unit
- On the packaging box

An example of the full code of a specific heat pump model:

X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
IS	006	I	W	A	N	S	I	Sr	c

4. Safety precautions



Carefully follow the precautions listed below because they are essential to guarantee the safety of IGLU TECH products.



WARNING

- Always disconnect the power supply of the Air-Water Heat Pump before servicing it or accessing components inside the unit.
- Verify that installation and testing operations shall be performed by qualified personnel.
- To prevent severe damage to the system and injuries to users, precautions and other notices shall be observed.

4.1 General Safety Information

- Carefully read the content of this manual before installing the air-to-water heat pump and store the manual in a safe place to be able to use it as a reference after installation
- For maximum safety, installers should always carefully read the following warnings.
- Store the user and installation manual in a safe location and remember to hand it over to the new owner if the air to water heat pump is sold or transferred.
- This manual explains how to install an Air-Water Heat Pump. The use of other types of units with different control systems may damage the units and invalidate the warranty. The manufacturer shall not be responsible for damages arising from the use of non-compliant units.
- The manufacturer shall not be responsible for damage originating from unauthorized changes or the improper connection of electric and hydraulic lines. Failure to comply with these instructions or to comply with the requirements outlined in the "Operating limits" table, included in the technical data sheet, shall immediately invalidate the warranty.
- Failure to comply with these instructions or to comply with the requirement on the Operating Range (Heat: -25~35 °C / ~55 °C, cool: 10-46 °C) outlined in the technical data sheet immediately invalidate the warranty.
- Do not use the units if you see some damage on the units and recognize something bad such as loud noise, or smell of burning.
- In order to prevent electric shocks, fires, or injuries, always stop the unit, and disable the protection switch and contact technical support if the unit produces smoke if the power cable is hot or damaged or if the unit is very noisy - please contact the nearest Iglu Tech equipment distributor.
- Always remember to inspect the unit, electric connections, refrigerant tubes, and protections regularly. These operations shall be performed by qualified personnel only.
- The unit contains moving parts and electrical parts, which should always be kept out of the reach of children.
- Do not attempt to repair, move, alter, or reinstall the unit by unauthorized personnel, these operations may cause product damage, electric shocks, and fires.
- Do not place containers with liquids or other objects on the unit. All the materials used for the manufacture and packaging of the air to water heat pumps are recyclable.
- The packing material and exhaust batteries of the remote controller (optional) must be disposed of by local regulations.
- The air-to-water heat pump contains a refrigerant that must be disposed of as special waste. At the end of its life cycle, the heat pump must be disposed of in authorized centers or returned to the retailer so that it can be disposed of correctly and safely.
- Wear protective gloves to unpack, move, install, and service the unit to avoid your hands being injured by the edge of the parts.
- Do not touch the internal parts (water pipes, refrigerant pipes, heat exchangers, etc.) while running the units. And if you need to adjust and touch the units, have enough time for the unit to be cooled, and be sure to wear protective gloves.
- In case of refrigerant leakage, try to avoid getting in contact with the refrigerant because this could result in severe wounds.
- When you install the Air to water heat pump in a small room, you must consider proper ventilation to prevent a leakage level within the maximum permissible limit.
- In that case, you may die from suffocation by some possibility.
- Make sure to safely dispose of packing materials. Packing materials, such as nails and other metal or wooden pallets may cause children to get injured.
- Inspect the product shipped and check if damaged during transport. If the product has some damage, DO NOT INSTALL, and immediately discuss the damage with the carrier or retailer (if the installer or the authorized technician has collected the material from the retailer.)
- Our units shall be installed in compliance with the spaces described in the installation manual, to ensure accessibility from both sides and allow repairs or maintenance operations to be carried out. If the units are installed without complying with the procedures described in the manual, additional expenses can be asked because special harnesses, ladders, scaffolding, or

any other elevation system for repair service will NOT be considered part of the warranty and will be charged to the end customer.

- Always make sure that the power supply is compliant with local safety standards.
- Verify that the voltage and frequency of the power supply comply with the specifications and that input power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines. Always verify that the cut-off and protection switches are suitably selected.
- Always verify that electric connections (cable entry, a section of leads, protections...) are compliant with the electric specifications and with the instructions provided in the wiring scheme. Always verify that all connections comply with the standards applicable to the installation of air to water heat pumps. Devices disconnected from the power supply should be completely disconnected in the condition of the overvoltage category.
- Do not connect the earth wire to the gas pipe or water pipe, lightning rod, surge absorber, or telephone earth wire. If the earthing is not complete, it may cause an electric shock or fire.
- Be sure to install both an earth leakage detector and circuit breaker with specified capacity by relevant local and national regulations.
- If it is not installed properly, it may cause electric shocks and fire.
- Make sure that the condensed water runs well out of the unit at low ambient temperature. Drainpipe and Cond heater can frost/ice cannot grow. If drain work is not effective for releasing condensed water, it can make the units get damaged by massive ice and the system can be stopped, covered by ice.
- Install the power cable and communication cable of the indoor and outdoor unit at least 1 m away from the electric appliance. Protect the unit from rats or small animals. If an animal contacts the electric parts, it can cause malfunctions, smoke, or fire. Please instruct the customer to keep the area around the unit clean.
- Do not disassemble and alter the heater at your discretion.
- Wear protective equipment (such as safety gloves, goggles, and headgear) during installation and maintenance work.
- Installation/repair technicians may be injured if protective equipment is not properly equipped.
- This appliance is not intended for use by people (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- For use in Europe: This appliance can be used by children aged 8 years and above and people with reduced physical, sensory, or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be done by children without supervision.
- Be sure not to perform power cable modification, extension wiring, and multiple wire connection. It may cause electric shock or fire due to poor connection, poor insulation, or current limit override.
- When extension wiring is required due to power line damage, refer to "How to connect your extended power cables" in the installation manual.
- Do not use means to accelerate the defrost operation or to clean, other than those recommended by Iglu Tech.
- Do not pierce or burn. Be aware that refrigerators may not contain an odor.

Preparation of fire extinguisher

- Appropriate fire extinguishing equipment should always be available during any type of hot work.
- A dry powder or CO₂ fire extinguisher must be available near the charging area. Please comply with local rules and regulations regarding working with open flames. Always respect waiting times and requirements regarding the type and quantity of the extinguishing equipment.

Caution of Ignition sources



- Make sure to store the units in a place without continuously operating ignition sources (for example, open flames, an operating gas appliance or an operating electric heater).
- The service engineers shall not use any ignition sources with the risk of fire or explosion.
- Potential ignition sources shall be kept away from the work area where the flammable refrigerant can possibly be released to the surrounding.
- The work area should be checked to ensure that there are no flammable hazards or ignition risks. The "No smoking" sign shall be attached.
- Under no circumstances shall potential sources of ignition be used while in the detection of leakage.
- Make sure that the seals or sealing materials have not degraded.
- Safe parts are the ones with which the worker can work in a flammable atmosphere. Other parts may result in ignition due to leakage.
- Replace components only with parts specified by manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak. In the case of electric components replacement, care should be taken to ensure that electrical terminals, including capacitor terminals, are adequately tightened and secured against loosening and that adequate insulation is provided to avoid live parts shorting together.

Area ventilation

- Make sure that the work area is well ventilated before performing a hot work.
- Ventilation of the installation areas must be maintained during the work.
- The ventilation should safely disperse any released gases and preferably expel them into the atmosphere.

4.2 Leakage detection and refrigerant recovery

- The leakage detector shall be calibrated in a refrigerant-free area.
- Make sure that the detector is not a potential source of ignition.
- Leak detector shall be set at percentage of LFL of the refrigerant and shall be calibrated to the refrigerant employed. The detector should be confirmed to trigger at an appropriate concentration of refrigerant, not exceeding 25% of the LFL, in compliance with safety regulations.
- The use of detergents containing chlorine shall be avoided for cleaning because the chlorine may react with the refrigerant and corrode the pipings.
- If leakage is suspected, open flames must be extinguished immediately.
- If a leakage is found while in brazing, the entire refrigerant shall be recovered from the product or isolated (e.g. using shut-off valves). It shall not be directly released to the environment. Oxygen free nitrogen (OFN) shall be used for purging the system before and during the brazing process.
- The work area shall be checked with an appropriate refrigerant detector before and during work.
- Ensure that the leakage detector is appropriate for use with flammable refrigerants.

Labelling

- The parts shall be labeled to ensure that they have been decommissioned and emptied of refrigerant.
- The labels shall be dated.
- Make sure that the labels are affixed on the system to notify it contains flammable refrigerant.

Refrigerant recovery

- Empty recovery cylinders shall be evacuated and cooled before recovery.
- When removing refrigerant from the system for servicing or decommissioning, it is recommended to remove the entire refrigerant.
- When transferring refrigerant into cylinders, make sure that only the refrigerant recovery cylinders are used.
- All cylinders used for the recovered refrigerant shall be labelled.
- Cylinders shall be equipped with pressure relief valves and shut-off valves in a proper order.
- The recovery system shall operate normally according to the specified instructions and shall be suitable for refrigerant recovery.
- In addition, the calibration scales shall operate normally.
- Hoses shall be equipped with leak-free disconnect couplings.
- Before starting the recovery, check for the status of the recovery system and sealing state. Consult with the manufacturer if suspected.
- The recovered refrigerant shall be returned to the supplier in the correct recovery cylinders with the Waste transfer note attached.
- Do not mix refrigerants in the recovery units or cylinders.
- If compressors or compressor oils are to be removed, make sure that they have been evacuated to the acceptable level to ensure that flammable refrigerant does not remain in the lubricant.
- The evacuation process shall be performed before sending the compressor to the suppliers.
- Only the electrical heating to the compressor body is allowed to accelerate the process.
- Oil shall be drained safely from the system.
- Never install motor-driven equipment to prevent ignition.

4.3 Caution

Do not install the Air-to-Water Heat Pump in the following places:

- Places where there is mineral oil or arsenic acid – risk of component damage due to burned resin; reduced heat exchanger performance; unit malfunction.
- Places where corrosive gases such as sulfurous acid gas are present – may cause corrosion of copper pipes and refrigerant leaks.
- Places where combustible gas, carbon fibers, flammable dust, or thinner/gasoline is handled – increased risk of fire or explosion.
- Areas with a danger of combustible gas leakage.

- Locations with heat sources nearby.
- Confined spaces – do not work in a confined place.
- Where the refrigerant piping may be exposed to corrosive substances – install piping where there's no corrosion risk.
- Where ventilation devices or outlets are obstructed or not operating normally.
- Spaces that lack mechanical ventilation (where required).
- Locations where passersby might be in direct contact with hot air from the outdoor unit – install at least 2 m above ground if placed along a walkway (as per Ministry of Construction and Transportation regulations).
- Environments with open flames or hazardous substances – avoid installation near stoves, heaters, or similar devices.
- Bathrooms, laundry rooms, greenhouses, garages, or similar areas where temperature/humidity control is not guaranteed.

Safety instructions during installation or servicing

- While installing or relocating the product, do not mix the refrigerant with other gases, including air or unspecified refrigerant – doing so may cause pressure increase and risk of explosion or injury.
- Do not cut or burn the refrigerant container or piping.
- Never directly touch any leaking refrigerant – severe frostbite may result.
- Do not place heat sources near the unit.
- Be cautious not to generate sparks:
 - Do not remove fuses with power on.
 - Do not unplug the unit from the outlet with power on.
- Always purge air with a vacuum pump before charging refrigerant.
- Note that refrigerant is odorless – leakage might not be immediately detectable.
- Upon refrigerant leakage, ventilate the room. Exposure to flame may generate toxic gases.
- After installation, check for refrigerant leaks. If leaked gas contacts a heat source (fan heater, stove, cooker), toxic gas may be produced.
- Use dedicated tools and piping materials when handling refrigerant.
- Only use clean and suitable service equipment (manifold gauge, vacuum pump, charging hose) compatible with R-32 and R-410A refrigerants.
- Ensure that all leak detection devices are safe and compatible with the refrigerant used.
- Servicing and installation must be:
 - Performed by qualified personnel.
 - In accordance with local regulations and manufacturer instructions.
 - Conducted using controlled procedures to minimize ignition risk with flammable refrigerants.
- If other technicians are involved, work must be supervised by someone competent in handling flammable refrigerants.
- Safety checks are required to minimize risk of ignition when servicing units containing flammable refrigerants.
- This product contains fluorinated gases, which must not be vented into the atmosphere.
- Make sure that the work area is safe from flammable substances.
- The work area shall be blocked off to prevent unauthorized access.
- Ensure all markings and safety signs on the equipment are visible and legible.
- The units are not explosion-proof – install only in areas free from explosion risks.
- For disposal of the product, follow local laws and regulations.
- When mechanical ventilation is required, do not obstruct ventilation openings.

4.4 Installing the unit



NOTE

When installing the unit, remember to firstly connect the water pipework, then the electrical lines. Always disassemble the electric lines before the water pipework.

Before the installation

- Upon receipt, inspect the product to ensure it hasn't been damaged during transport.
 - If damage is found, do not install the product.
 - Move the unit to a safe outdoor area, away from ignition sources (minimum 6 meters).
 - Contact your supplier/distributor/manufacturer immediately.
 - Ensure refrigerant is removed or recovered safely by qualified service personnel.
- Wear protective gloves when unpacking, moving, installing, or servicing the unit to avoid injuries from sharp parts.
- Do not disassemble or alter the heater components

Installation requirements-outdoor unit

- Install the product outdoors only.
- Ensure that the outdoor unit base is firmly fixed, especially if installed at height.
- Observe safety zones as per this manual.
- Ensure proper drainage from the unit:
 - Water must run off safely and correctly.
- Install power and communication cables at least 1 m away from other electrical appliances.
- Protect the unit from rodents or small animals – damage may lead to malfunction, smoke, or fire.
- Install the unit according to the space and clearance specifications in the manual to ensure service access.
 - Non-compliant installations may incur additional service costs not covered by warranty.
- To prevent ignition, do not install motor-driven equipment near the unit.

Installation requirements-indoor unit

- Install in a dry, frost-protected, well-ventilated indoor location on a flat, level, and non-combustible surface.
 - The surface must support:
 - The static load of the unit (with or without integrated tank)
 - The dynamic load during operation (vibration, expansion)
- Ensure the location which:
- Provides adequate clearance for piping, electrical connections, and maintenance access.
 - Has ambient temperature between +5 °C and +35 °C and relative humidity below 80%.
 - Is free from condensation, water splashes, flammable gases, or corrosive vapors.
 - Is not adjacent to quiet living spaces such as bedrooms (to reduce noise impact).
 - Allows proper routing of hydraulic/electrical connections to heating system, outdoor unit, DHW tank, and safety components.

5.Handling the box

This chapter describes what needs to be done after the boxes with the outdoor and indoor units are delivered on-site.

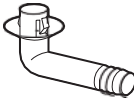


NOTE

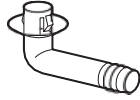
- Directly after delivery, the unit must be checked for (transport) damage. Any damage must be reported immediately to the applicable distributor of the products. After inspection, the protective wrapping and box must be put back correctly in order to protect the product.
 - It is important to protect the product, therefore transport the product in the protective packaging and keep covered until final installation.
 - Preparation of both horizontal and vertical transport (routes and equipment) might be required in order to get the product in the correct installation location.
- Keep supplied accessories until the installation is finished.
 - Hand the installation manual over to the customer after finishing installation.
 - The quantities are indicated in parentheses.
 - The base heater inside the outdoor unit works in accordance with the weather outdoors.

5.1 Accessories of outdoor unit

IGLU Inuit 6 / IGLU Inuit 6 WT

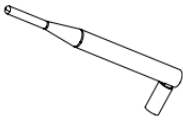
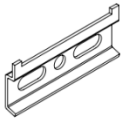
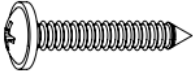
Drain plug (1)	Drain cap (1)	Rubber leg (4)	Wire for silent mode
			

IGLU Inuit 9/ 12/ 16 / IGLU Inuit 9/ 12/ 16 WT

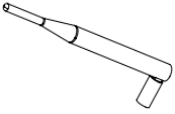
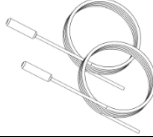
Drain plug (1)	Drain cap (1)	Rubber leg (4)
		

5.2 Accessories of indoor unit

IGLU Inuit 6/ 9/ 12/ 16

Installation manual (1)	User manual (1)	Technical Data sheet (1)
		
Wi-Fi Antenna (1)	Temperature sensor (2)	Internal Temperature sensor box (1)
		
Mounting bracket T1 (2)	Pan head screw (4)	Wall plugs (4)
		

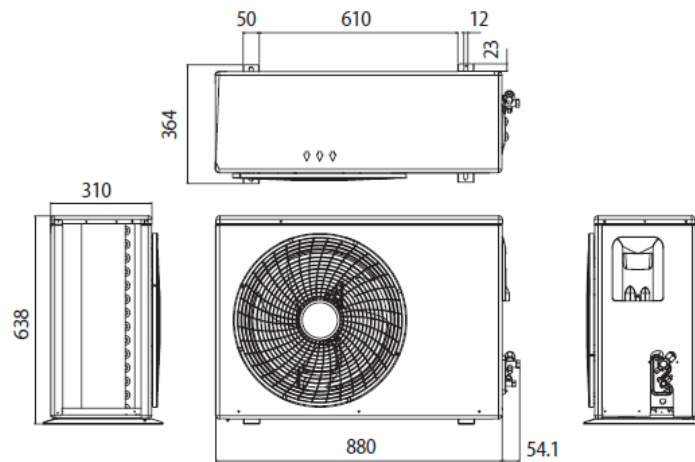
IGLU Inuit 6/ 9/ 12/ 16 WT

Installation manual (1)	User manual (1)	Technical Data sheet (1)
		
Wi-Fi Antenna (1)	Temperature sensor (1)	Internal Temperature sensor box (1)
		
Anti-vibration mount (4)		
		

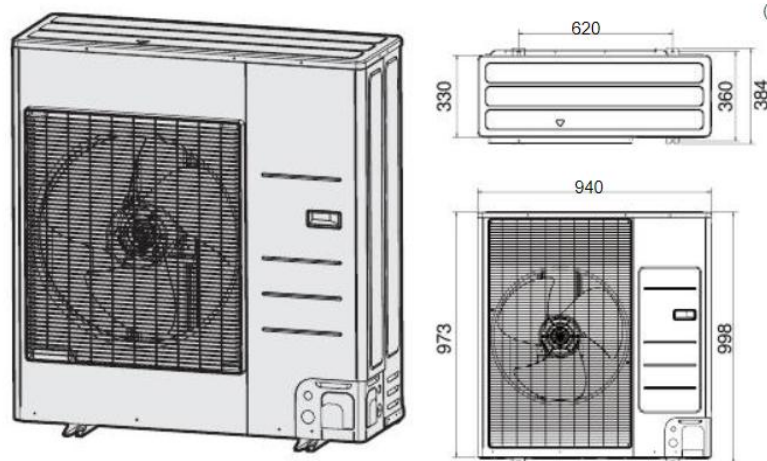
5.3 Product line-up

Dimensions of outdoor unit

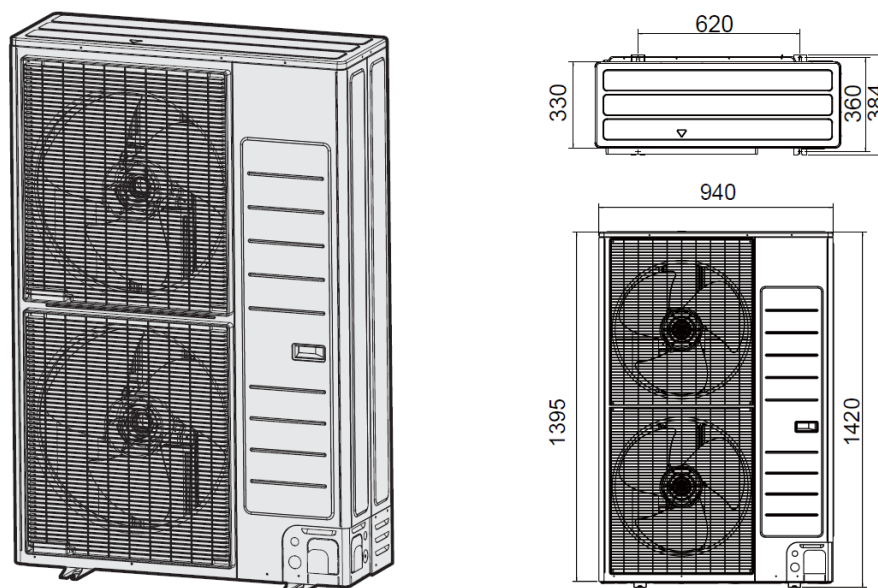
IGLU Inuit 6/ IGLU Inuit 6 WT (outdoor unit)



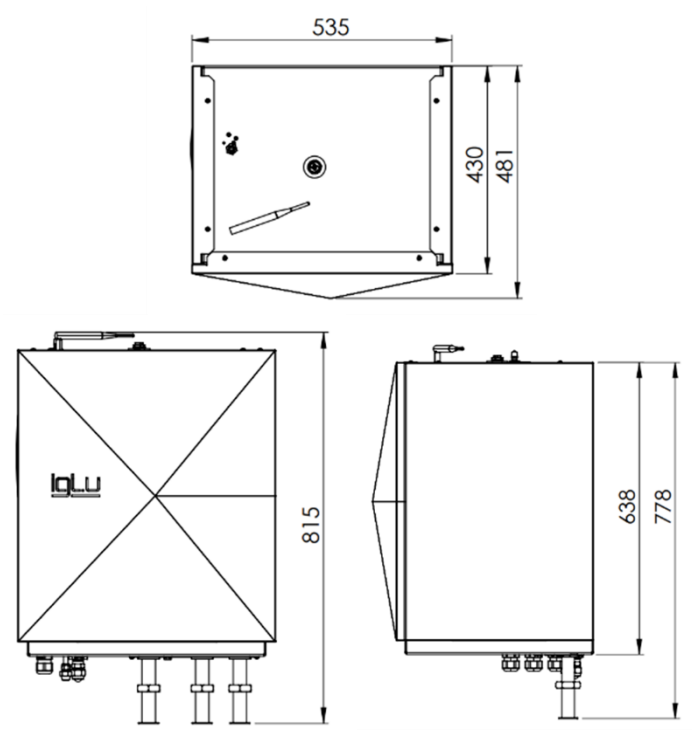
IGLU Inuit 9 / IGLU Inuit 9 WT (outdoor unit)



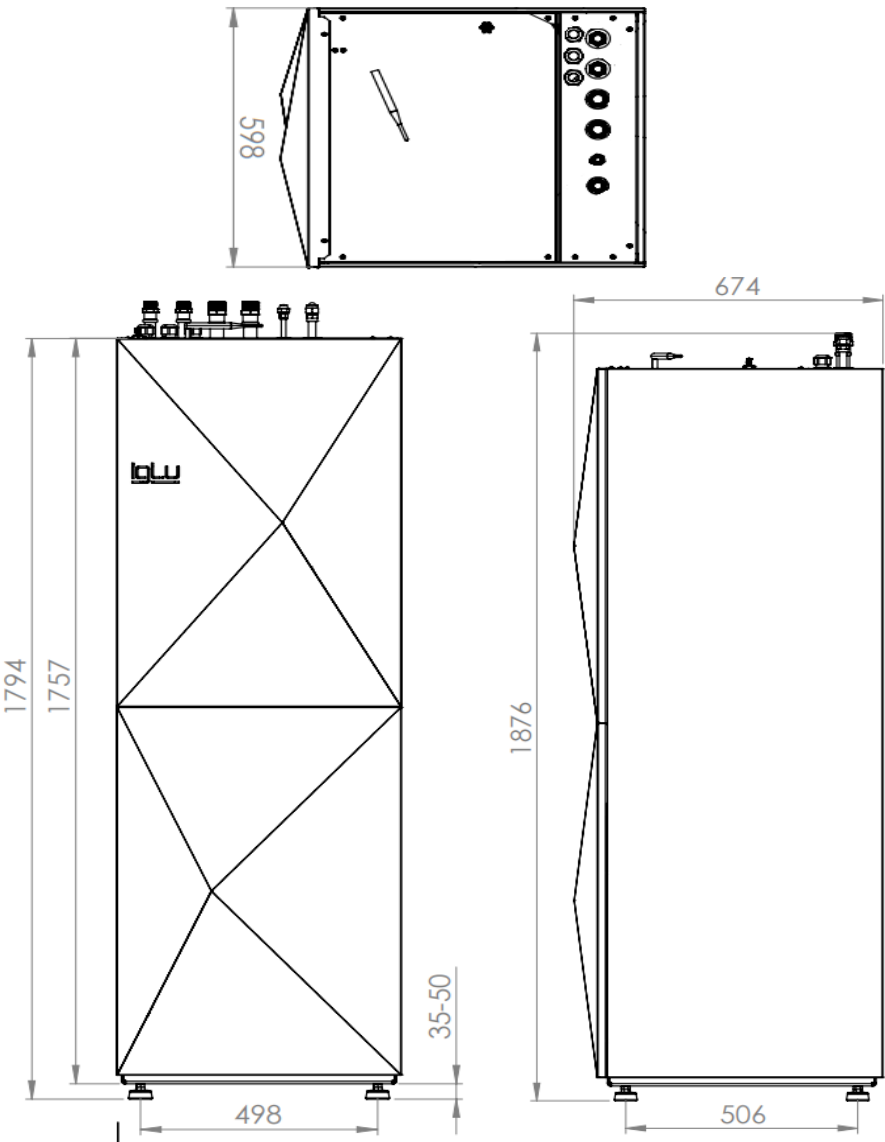
IGLU Inuit 12/ 12 WT / IGLU Inuit 16/ 16 WT (outdoor unit)



IGLU Inuit 6/ 9/ 12/ 16 (indoor unit)



IGLU Inuit 6/ 9/ 12/ 16 WT (indoor unit)



6. Outdoor Unit installation



CAUTION

- Choose a sufficient space for carrying the unit to the installation location in advance.
- Avoid installing near dust sources (such as a construction work site)
- The outdoor unit must not be placed on its side or upside down, as the compressor lubrication oil will run into the cooling circuit and seriously damage the unit.
- Verify that the air to water heat pump is not installed in an easily accessible area (vandalism/ sabotage/ other harmful activities).
- To handle, purge, and dispose the refrigerant, or break into the refrigerant circuit, the worker should have a certificate from an industry-accredited authority in order to be compliant with regulations.
 - **For general safety and refrigerant handling precautions, refer to Section 3.3**

Choosing the installation location



NOTE

- **Read the precautions and requirements in the part "General safety information".**
 - The outdoor unit is designed for outdoor installation only, and for the following ambient temperatures:
 - Space heating mode -25~35 °C
 - Domestic hot water mode -25~43 °C
 - Space cooling mode 10~46°C
- Decide the installation location regarding the following condition and obtain the user's approval
- Choose a location that is dry and sunny but not exposed to direct sunlight or strong winds.
- Do not block any passageways or thoroughfares.
- Choose a location where the noise of the air to water heat pump when running and the discharged air does not disturb any neighbors.
- Choose a position that enables the pipes and cables to be easily connected to the other hydraulic system.
- Install the outdoor unit on a flat, stable surface that can support its weight and does not generate any unnecessary noise and vibration.
- Position the outdoor unit so that the air flows directly towards the open area.
- Place the outdoor unit where there are no plants and animals because they may cause malfunction of outdoor unit.
- Maintain sufficient clearance around the outdoor unit, especially from a radio, computer, and stereo system.
- The outdoor unit shall be installed in an open space that is always ventilated.
- **For unsuitable locations and prohibited environments, refer to Section 3.3.**

6.1 Installation dimensions and clearances of outdoor unit



CAUTION

The units must be installed according to distances declared, in order to permit accessibility from each side, to guarantee correct operation of maintenance or repairing of the products. The unit's parts must be accessible and serviceable under safe working conditions (for people or things).

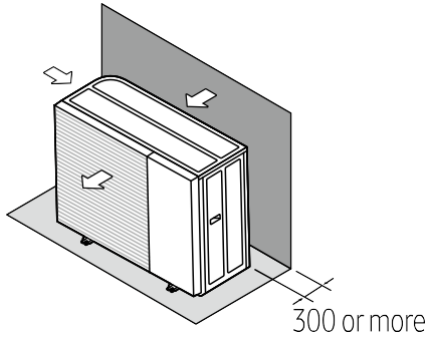


NOTE

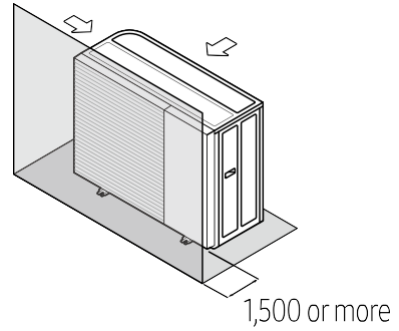
The appearance of the unit may be different from the picture depending on the model.

When installing 1 outdoor unit

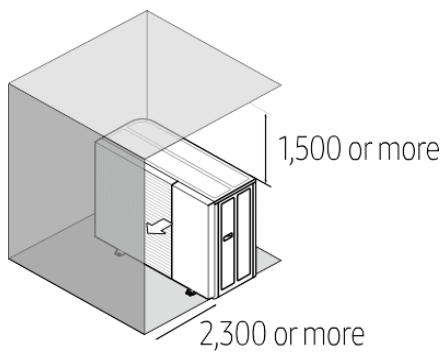
(Unit : mm)



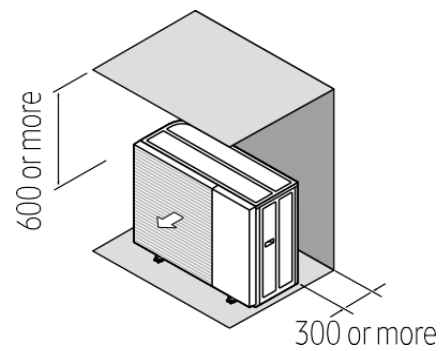
- Wall on suction-side



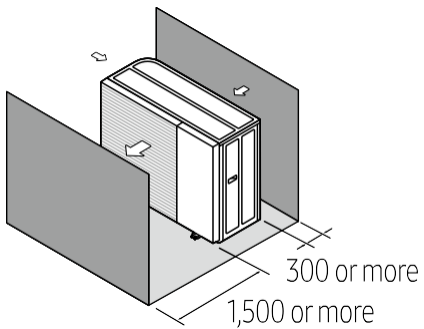
- When the air outlet is towards the wall



- Top-side obstacle
- Discharge-side obstacle
- Wall on discharge-side



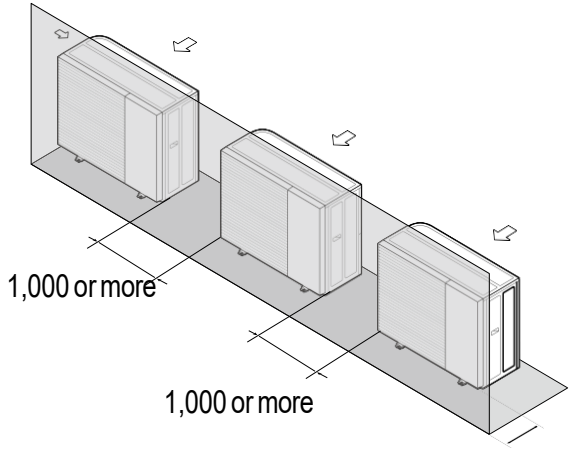
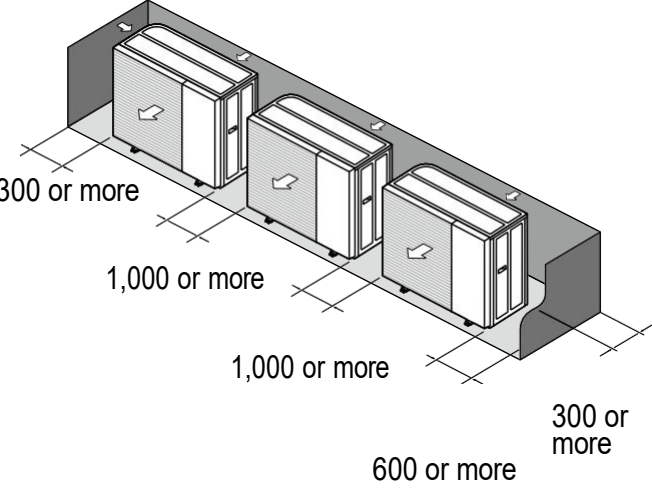
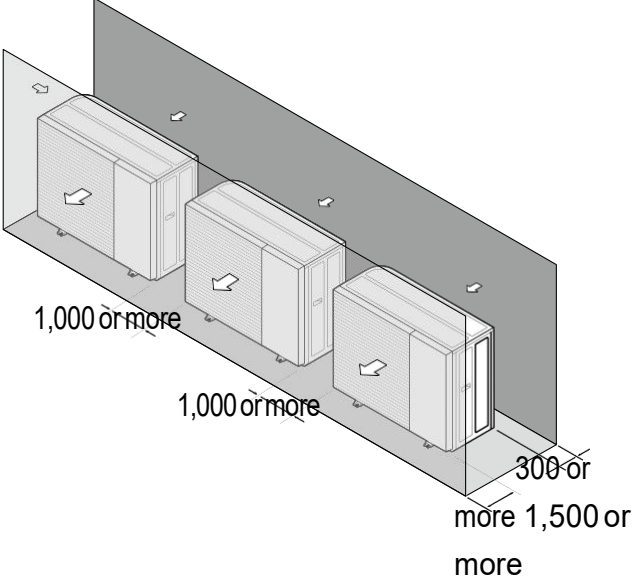
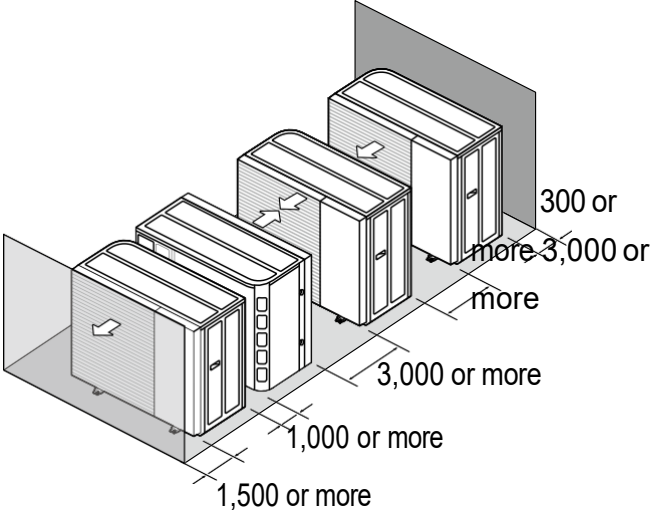
- Top-side obstacle
- Wall on suction-side



- Suction-side obstacle
- Wall on discharge-side

When installing more than 1 outdoor unit

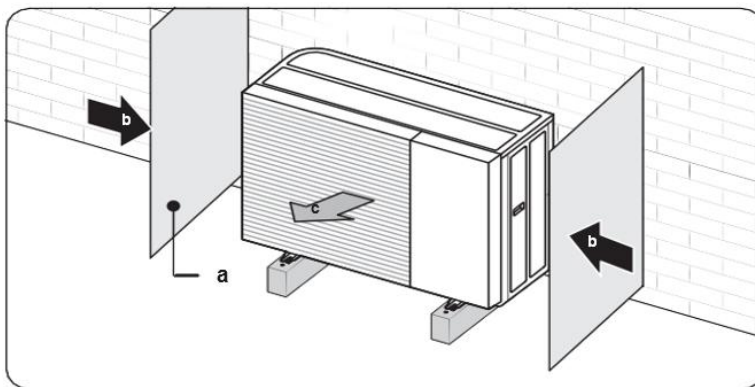
(Unit; mm)

 • Wall on discharge-side	 • Suction-side obstacle (3 sides) • No top-side obstacle
 • Wall on suction-side • Wall on discharge-side	 • Wall on suction-side • Wall on discharge-side

6.2 Guidelines for installation in harsh environments

Installing the unit at a location with strong winds:

- Outdoor unit must be fixed firmly so that it can withstand the wind speed of the strong wind. If you cannot fix the outdoor unit on the base ground, fixate it sideways or use an extra support structure.
- To prevent exposure to (strong) wind, install a baffle plate on the air discharge side of the unit. (If there is a strong wind facing the outdoor air outlet, it causes a short circuit. This can lead to performance degradation, broken fan (motor), and acceleration of frost.)
- Install a wind protection shielding with anticipation of the dominant wind direction. If the direction of the air discharge part is pointing to the dominant direction of the wind, it could cause performance decrease and potential damage to the product.



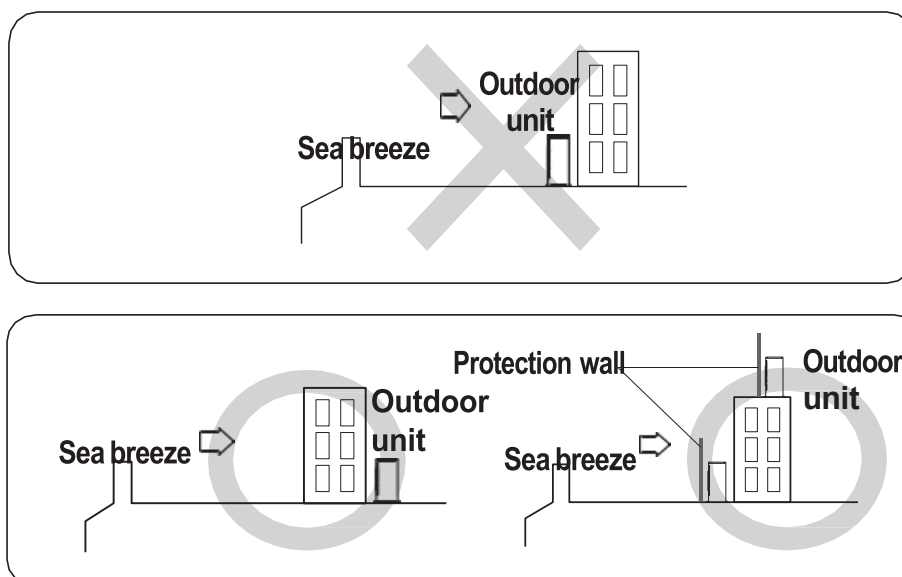
*The appearance of the unit may be different from the picture depending on the model.

- a. Baffle plate
- b. Prevailing wind direction
- c. Air outlet

Installation guide at the seashore

Make sure to follow the below guides when installing at the seashore:

- Do not install the product in a place where it is directly exposed to sea water and sea breeze.
- Make sure to install the product behind a structure (such as a building) that can block sea breeze.



- A protection wall should be constructed with a solid material that can block the sea breeze and the height and width of the wall should be 1.5 times larger than the size of the outdoor unit. (Please secure more than 700 mm of space between the protection wall and the outdoor unit for air circulation.)

- Consider that the salt particles clinging to the external panels should be sufficiently washed off
 - When a product is installed at the seashore, periodically clean it with fresh water to remove attached salt deposits.
- Make sure that the base of the unit is installed at water level and therefore has optimum drainage. Because trapped water at the bottom of the outdoor unit significantly promotes corrosion.
 - Prevent blockage of the drain hole by foreign substances, by cleaning adequately.
 - Make sure to clean the base plate adequately and regularly as dirt, sand and other substances stay moist and promote corrosion.
- If the product is installed within 500 m of a seashore, special anticorrosion treatment (like special coating) is required.
 - Please contact your local IGLU TECH representative for further details.
- When the product is installed at a seashore, periodically clean it with water to remove attached salinity.
- If the (protective) coating or galvanised steel of the product is damaged during the installation or maintenance, make sure to repair it.
- Check the condition of the product periodically.
 - Check the installation site every 3 months and perform anticorrosion treatment.

Selecting a location in cold climates

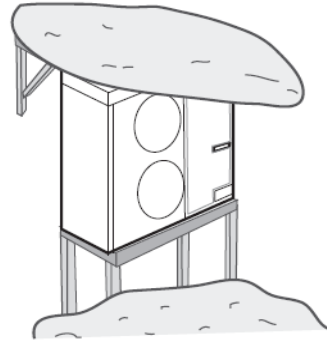


NOTE

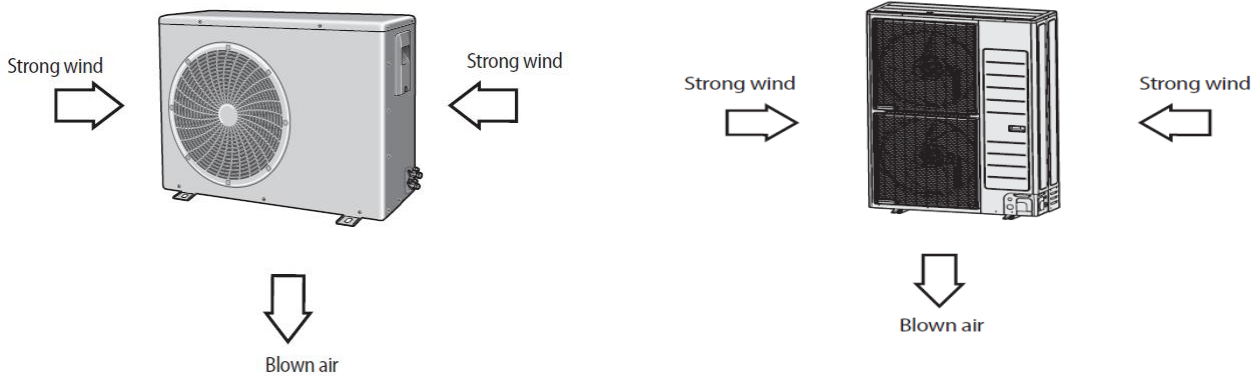
When operating the unit in a low outdoor ambient temperature, be sure to follow the instructions described below.

- To prevent exposure to wind, install the unit with its suction side facing the wall.
- Never install the unit at a site where the suction side may be exposed directly to the wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the unit.
- In heavy snowfall areas it is very important to select an installation location where the snow will not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow. (If necessary construct a lateral canopy).

1. Construct a large canopy.
2. Construct a pedestal. Install the unit high enough off the the ground to prevent it from being buried under snow.



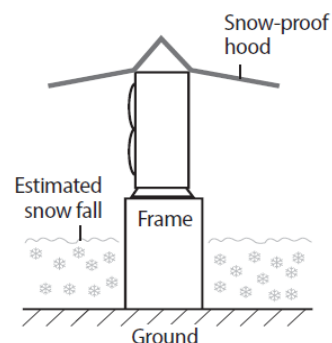
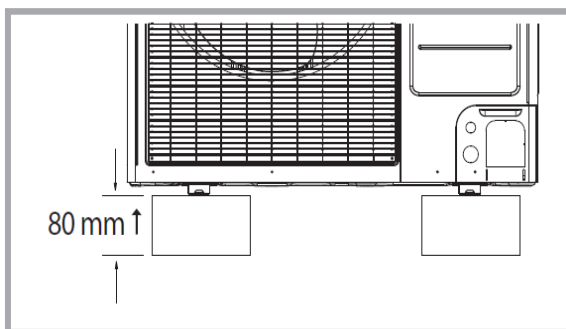
- The outdoor unit should be installed with consideration of the direction of strong winds. These can make the unit turn over, so the side of the unit should be set to face the wind, not the front of the unit.



Heavy snow fall area

When using the air conditioner in the heating mode, ice may accumulate. During de-icing (defrost operation), the condensed water must be drained off safely. For the air conditioner to operate well, you must follow the instructions below:

- If the product is installed in a region of heavy snow, allow enough distance between the product and the ground (or piled up snow).
- Make a space more than 80 mm between the bottom of the outdoor unit and the ground for installation
- When installing the product, make sure that the rack is not placed under the drain hole.
- Ensure that the drained water runs off correctly and safely.





CAUTION

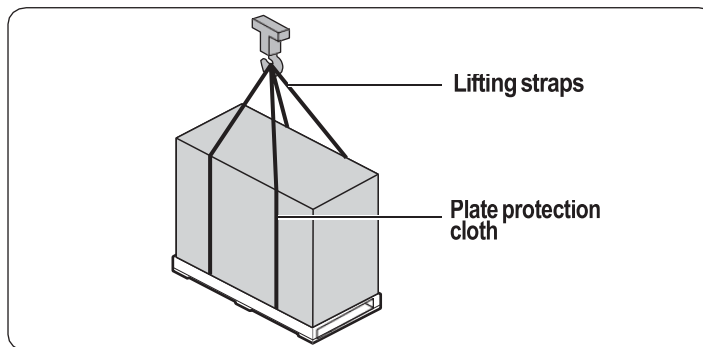
- In areas with heavy snow fall, piled snow could block the air intake. To avoid this, install a frame that is higher than estimated snow fall. In addition, install a snow-proof hood to avoid snow from piling on the outdoor unit.
- If ice accumulates on the base, it may cause critical damage to the product. (e.g., a lakeside in a cold area, the seashore, an alpine region, etc.)
- In a heavy snowfall area, do not install the drain plug and drain cap in the outdoor unit. And, it may cause frozen ground. Therefore, take appropriate measures to prevent it.

6.3 Moving the outdoor unit

- Be sure that the moving route is safe by anticipating the weight of the outdoor unit in advance.
- Do not slant the product more than 30° when carrying it. (always keeping the unit upright)
- The surface of the heat exchanger is sharp. Be careful not to be injured while moving and installing by wearing your personal protective equipment (gloves, etc.).

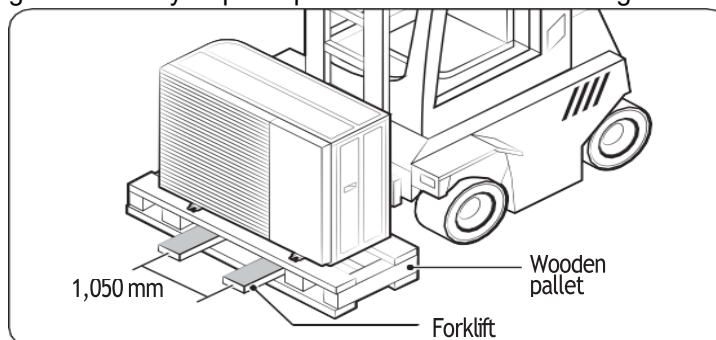
Moving the outdoor unit by hoisting

- Only hoist the product with using approved lifting straps (according to local regulations). Keep long straps to avoid damage to the panels. Always wear personal protective equipment (safety helmet) when hoisting. To prevent scratches, insert a piece of cloth between the straps and the outdoor unit if needed.



Moving the outdoor unit with a forklift

Insert the fork into the wooden pallet at the bottom of the outdoor unit carefully. Be careful that the fork does not damage the outdoor unit. Operating a forklift may require special certification or training according to local regulations.



*The appearance of the unit may be different from the picture depending on the model

6.4 Mounting the outdoor unit

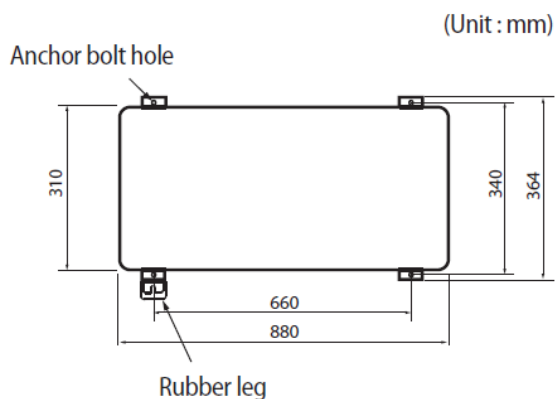
The outdoor unit must be installed on a rigid and stable base to avoid any increase in the noise level and vibration, particularly if the outdoor unit is to be installed in a location exposed to strong winds or at a height, the unit must be fixed to an appropriate support (wall or ground).



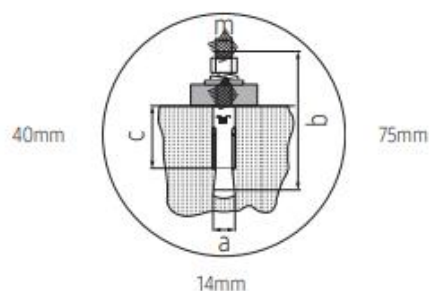
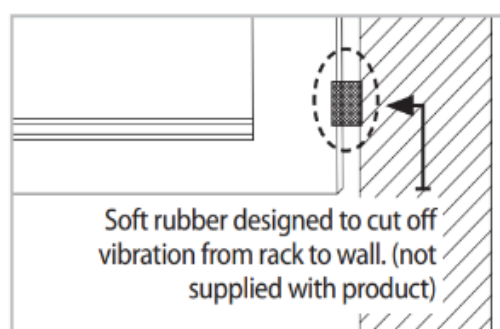
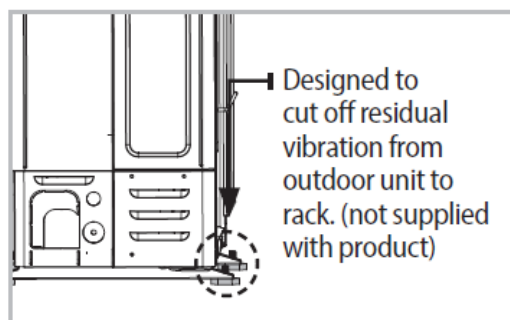
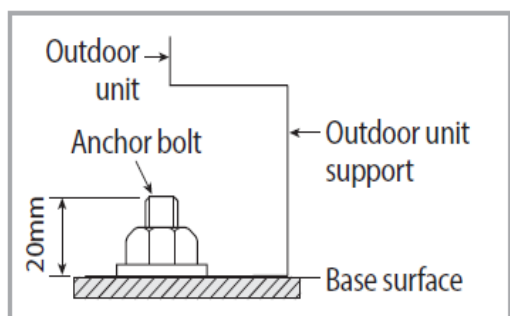
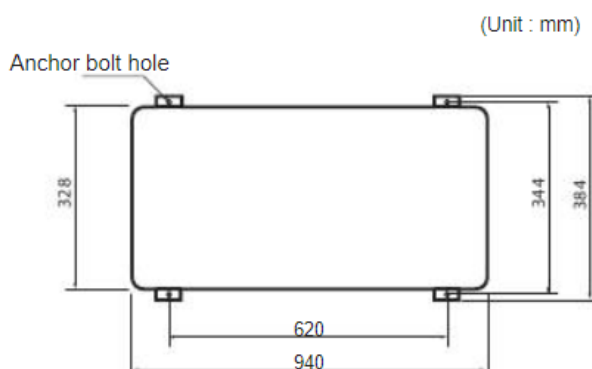
CAUTION

- When tightening the anchor bolt, tighten the rubber washer to prevent the outdoor unit bolt connection part from corroding.
- Make a drain outlet around the base for outdoor unit drainage.
- If the outdoor unit is installed on the roof, you have to check the ceiling strength and waterproof the unit.
- The anchor bolt must be 20 mm or higher from the base surface.

IGLU Inuit 6 / IGLU Inuit 6 WT



IGLU Inuit 9/ 12/16 / IGLU Inuit 9/ 12/16 WT



Size	Diameter of drill bit (a)	Anchor length (b)	Sleeve length (c)	Insert depth	Fastening torque
Ø 10	14 mm	75 mm	40 mm	50 mm	30 N·m

Note: Use the anchor bolts and nuts that is zinc plated or made of STS material. Regular anchor bolts or nuts may get damaged by corrosion

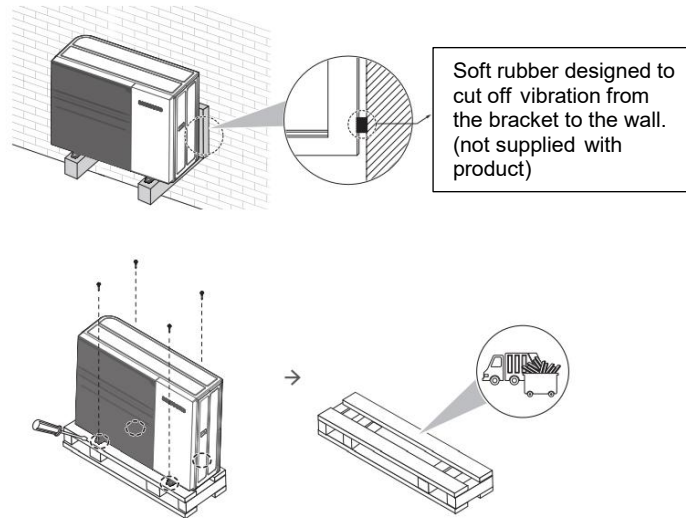
Outdoor unit installatin on a bracket suspended from a wall



WARNING

With an outdoor unit having a net weight upper than 60 kg, we suggest not installing it suspended on the wall, but considering a floor-standing one. In this case only IGLU Inuit 6/ 6 WT outdoor unit is suitable for installation on a bracket suspended wall.

- Ensure the wall will be able to support the suspended weight of both rack and outdoor unit.
- Install the bracket close to a constructional column as much as possible.
- Install the proper grommet in order to reduce noise and residual vibration transferred by the outdoor unit towards the wall.



*The appearance of the unit may be different from the picture depending on the model.



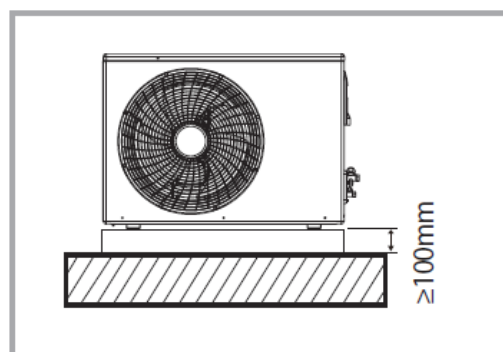
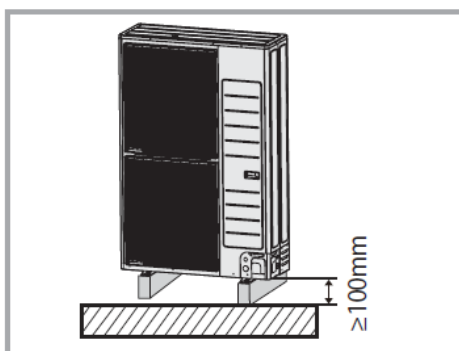
WARNING

- When installing air guide duct check and make sure that screws do not damage the copper pipe. Secure the air guide duct on the guard fan.
- Be sure to remove the transport pallet below the bottom side of the unit base panel before fixing the bolt. Its sole purpose is to carry the product during transport, it has no installation value. Please discard the pallet in accordance to local waste regulations once the unit is correctly installed.

6.5 Outdoor unit drain work (general area)

While the air to water heat pump is operating in heating mode, ice can accumulate on the surface of the condenser. To prevent ice from growing, the system occasionally enters a defrost mode and the ice on the surface thaws off. Dropped water from the condenser shall be eliminated through running drain holes to prevent ice from growing at low temperatures.

- In case there is not enough space for natural drainage from the outdoor unit, additional drain work is required. Follow the description as per below:
 - Make space more than 100mm between the bottom of the outdoor unit and the ground for the installation of the drain hose.
 - Insert the drain plug into the hole at the bottom of the outdoor unit.
 - Connect the drain hose to the drain plug.
 - Make sure dirt and debris cannot block the drain (hose). Clean the base plate whenever needed.
 - For the remaining holes (that do not have the drain plug), insert the drain cap
 - Make sure that the water dripping from the drain hose runs away correctly and safely.





WARNING

If the drainage is not adequate, it can lead to stagnant water and ice build-up, causing system performance issues and possible damages.

IGLU Inuit 6 / IGLU Inuit 6 WT	IGLU Inuit 9/12/16 / IGLU Inuit 9/12/16 WT
Drain cap (4EA) Drain plug (1EA) Air discharge side 30 mm Drain plug x 1ea	Drain hole Ø20 x 4 ea Air discharge side 13 mm Drain plug x 1ea Drain cap x 3ea

- Prepare a water drainage channel around the foundation, to drain waste water from around the unit.
- If the water drainage from the unit is inadequate, please raise the unit on construction concrete blocks, etc. (the height of the construction should be a maximum of 150 mm).
- If you install the unit on a frame, please install a slanted waterproof plate within 150 mm of the underside of the unit to prevent water from plashing against the bottom plate from below.
- When installing the unit in a place frequently exposed to snow, pay special attention to elevating the foundation as high as the average snow height plus the additional required 150 mm.
- If you install the unit on a wall support bracket, please install drainage pipework. In order to avoid the drain water from dripping on the floor potentially creating a slippery surface or an ice layer under freezing conditions.

Note: Please securely mount the outdoor unit before connecting the water piping.

7. Indoor unit installation

The indoor unit is designed for indoor installation only and for the following room temperatures:

- 5~35°C (heating)
- 5~40°C (cooling)

Avoid installing against outer walls with a risk of freezing

Choosing the installation site

The indoor unit should be installed indoors and meet the following conditions:

- In area with suitable space for servicing.
- A place with adequate ventilation.
- Do not use extra platforms for indoor units.
- The construction for installation is a flat, capable of supporting the operational weight of the unit.
- For installation inside a building (this applies either to indoor or outdoor units installed inside) a minimum room floor area of space conditioned is mandatory according to IEC 60335-2-40:2018 (see the "Installation dimensions and clearances of outdoor and indoor unit")
- For general safety and unsuitable location guidelines, please refer to **Section 3.3**.

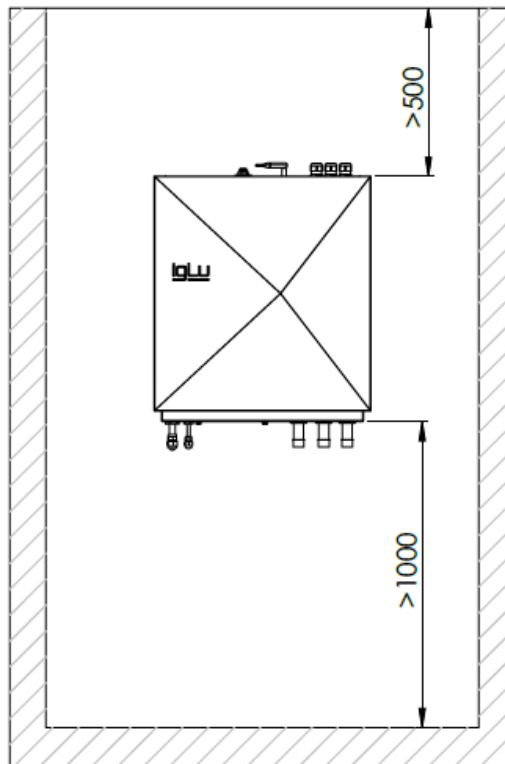
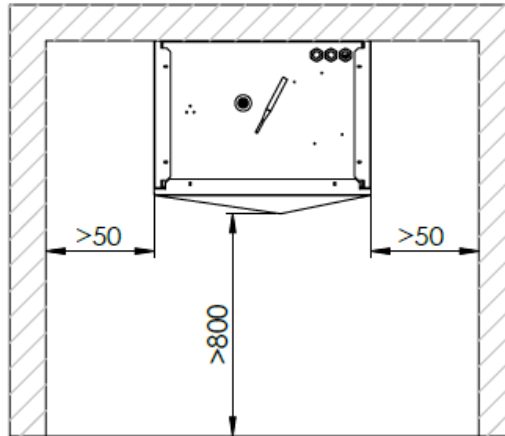
7.1 Installation dimensions and clearances of IGLU Inuit 6/ 9/ 12/ 16

When installing one indoor unit

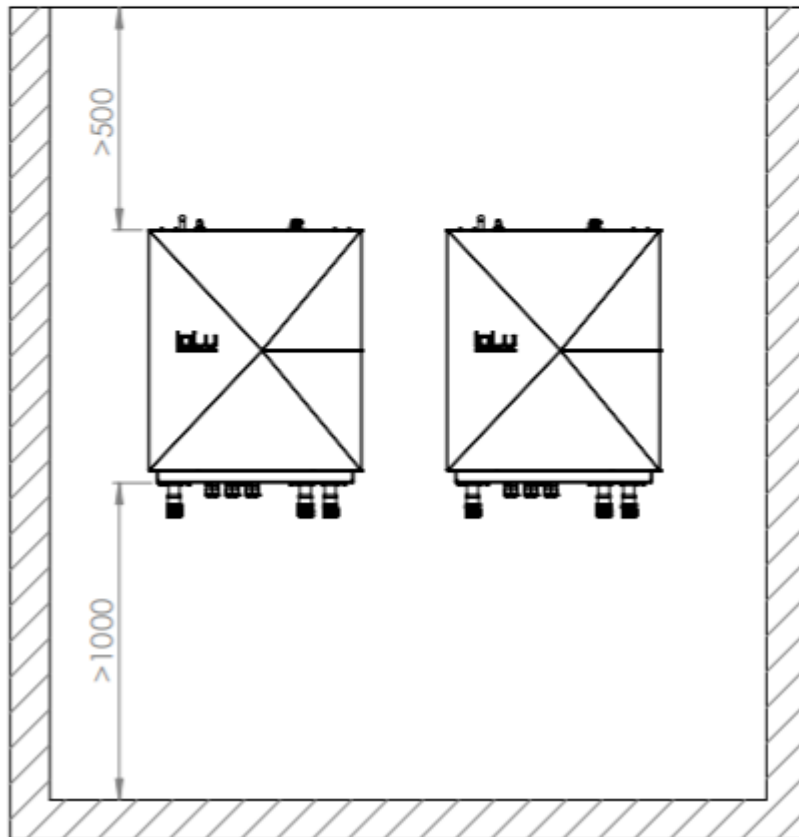
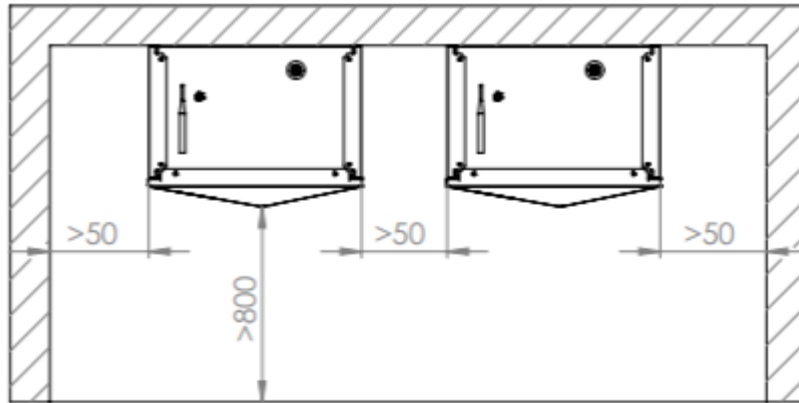


CAUTION

The units must be installed according to distances declared, in order to permit accessibility from each side, to guarantee correct operation of maintenance or repairing of the products. The unit's parts must be accessible and serviceable under safe working conditions (for people or things).



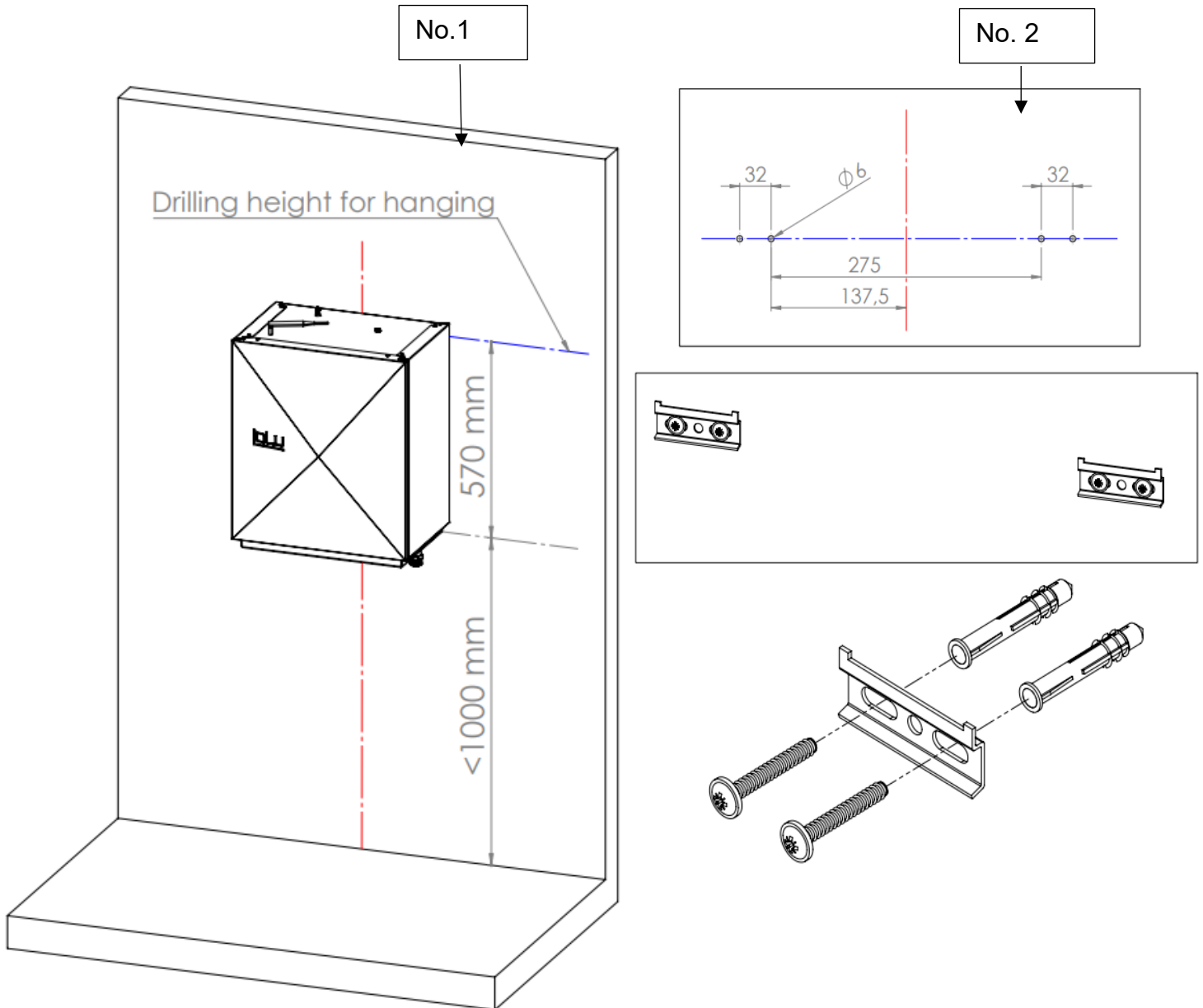
When installing more than one indoor unit



7.2 Wall Mounting Instructions of indoor unit IGLU Inuit 6 /9 /12 /16

Below you will find the illustrations and guidelines for mounting the IGLU Inuit heat pump without the integrated water tank on the wall.

- The red line shown in the schematic represent the centerline, which serves as a positioning reference.
- When mounting the unit, the bottom of the unit should be at least 1 meter above the ground.
- The blue line indicates the location where the mounting brackets should be installed — 570 mm from the bottom of the unit.
- The schematic (No. 2) illustrates the guidelines for the screw hole positions required to mount the unit on the wall.
- All accessories required for mounting are included in the packaging: mounting brackets, pan head screws, and wall plugs.



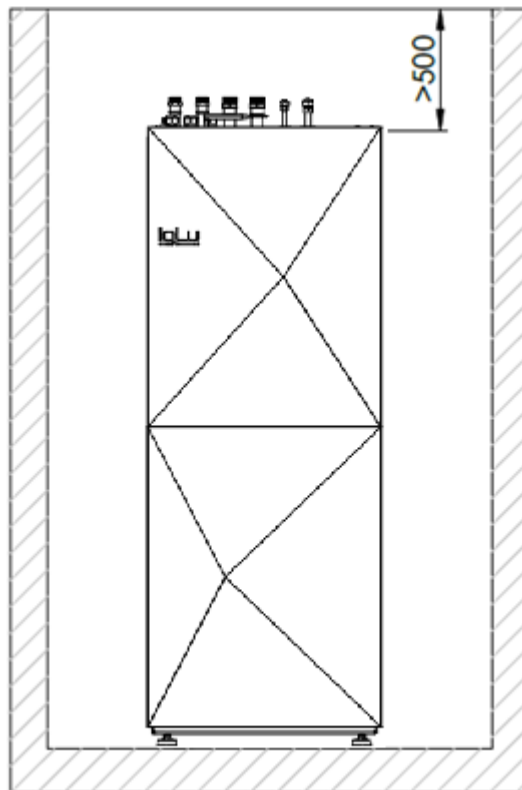
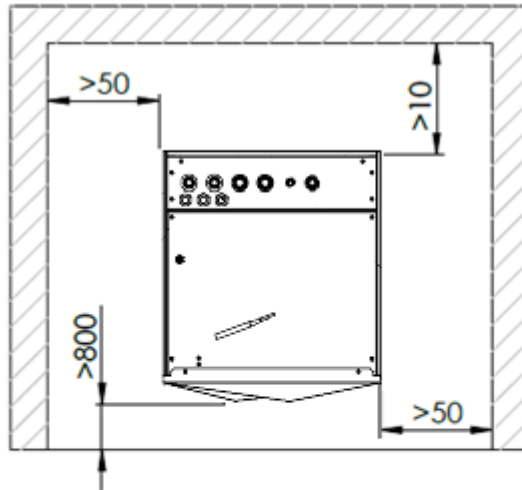
7.3 Installation dimensions and clearances of IGLU Inuit WT



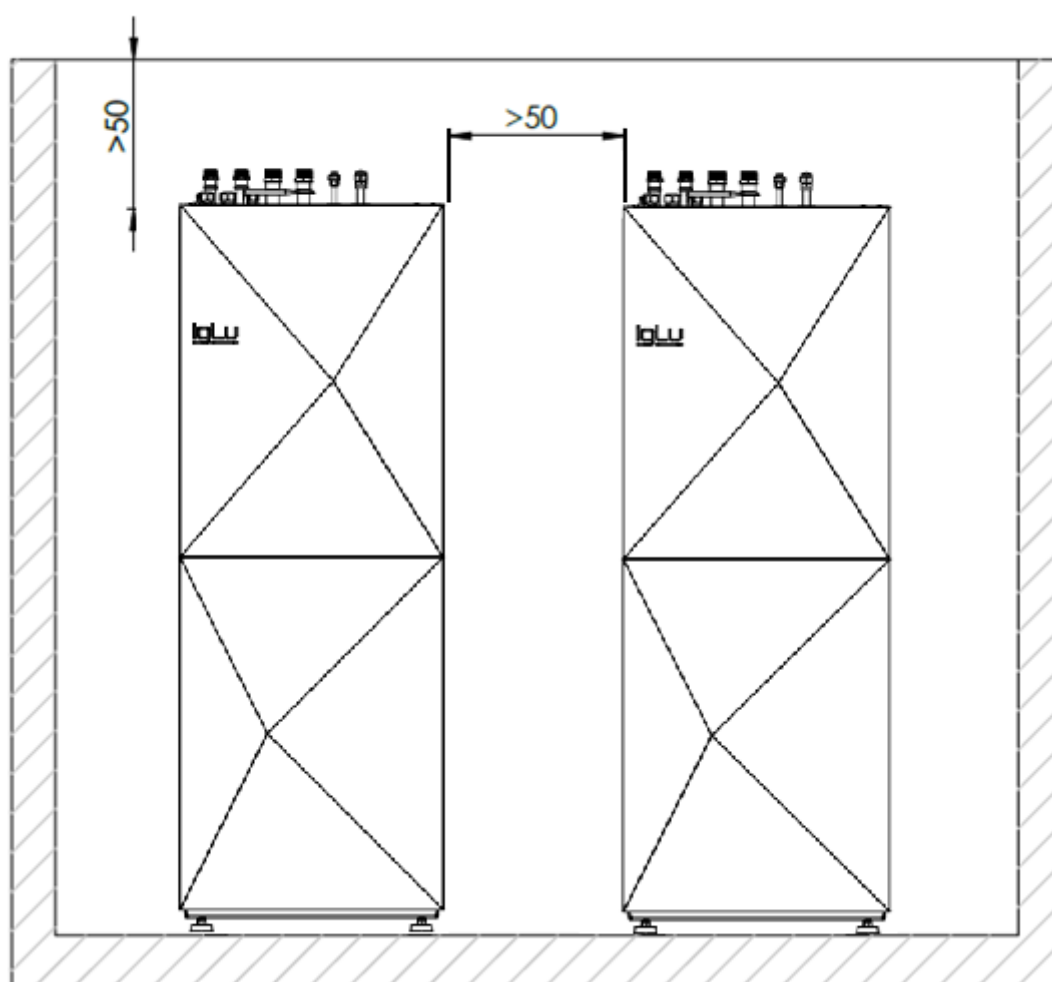
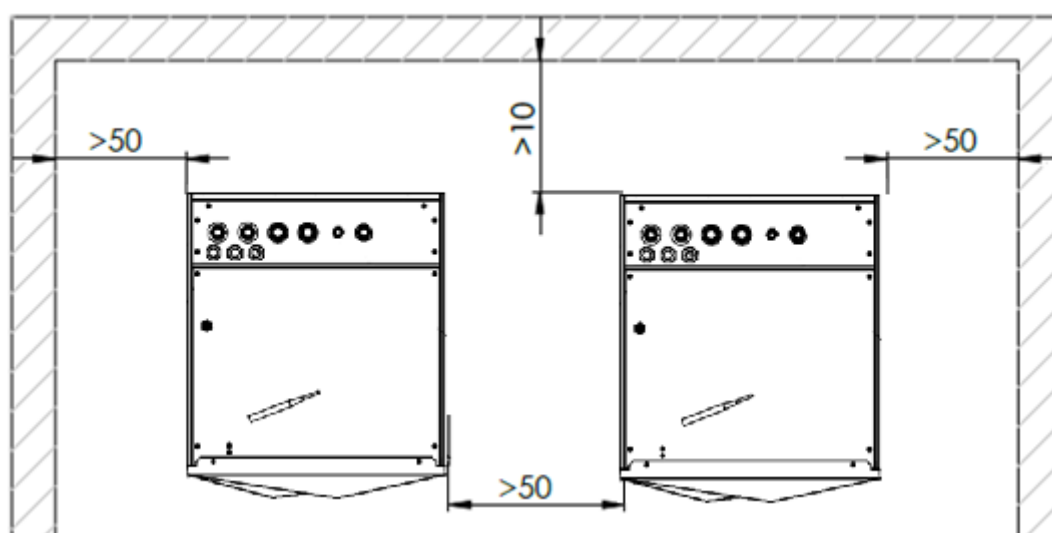
CAUTION

The units must be installed according to distances declared, in order to permit accessibility from each side, to guarantee correct operation of maintenance or repairing of the products. The unit's parts must be accessible and serviceable under safe working conditions (for people or things).

When installing one indoor unit



When installing more than one indoor unit



7.4 Opening the indoor unit IGLU Inuit

Normally the unit should remain closed, except for:

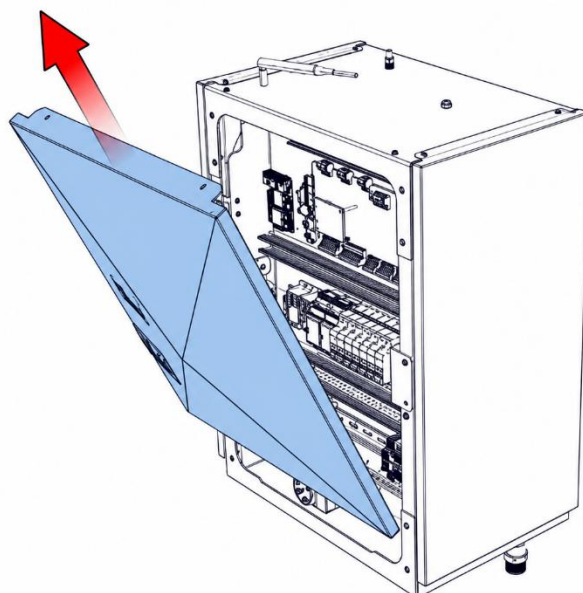
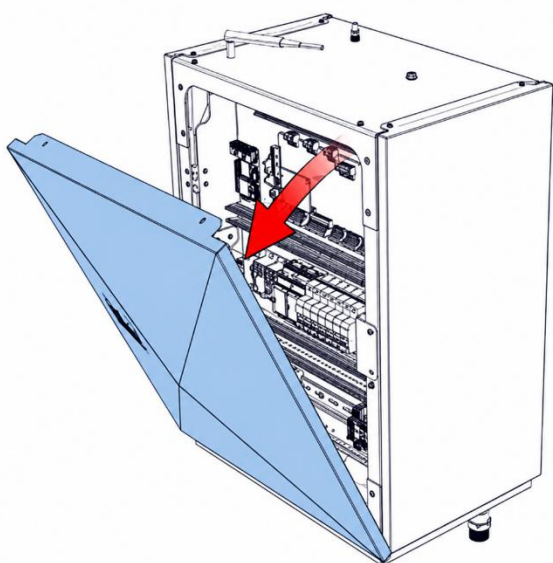
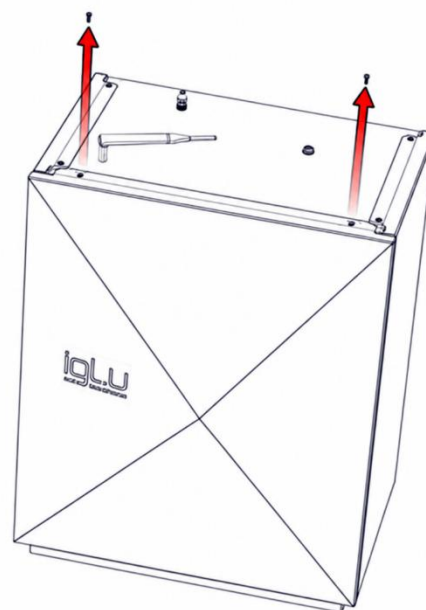
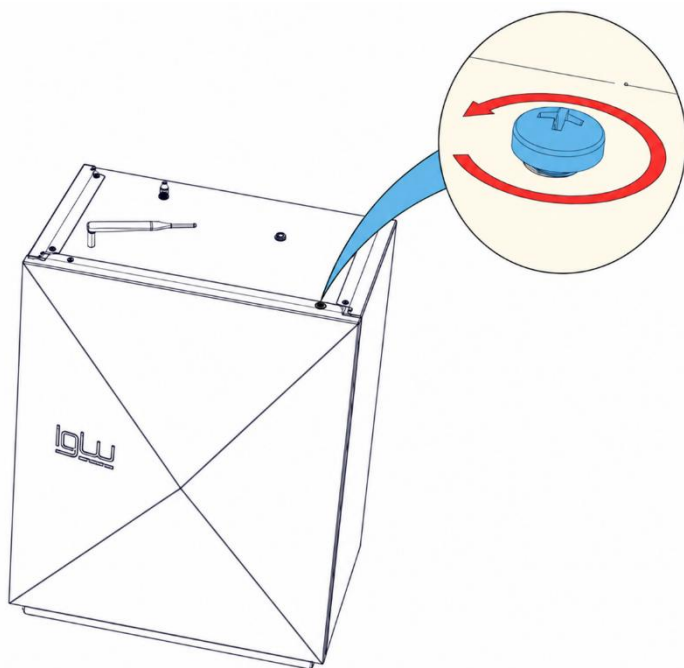
- When connecting the electrical wiring
- When maintaining or servicing the unit



WARNING

Do not leave the unit unattended when the service cover is removed. Installation and servicing must be performed only by Qualified Installers.

1. Locate the two screws on the top of the front panel
2. Unscrew them and place the screws in a safe location.
3. Tilt the front panel towards you.
4. Carefully remove the panel by lifting it from the locking tabs.



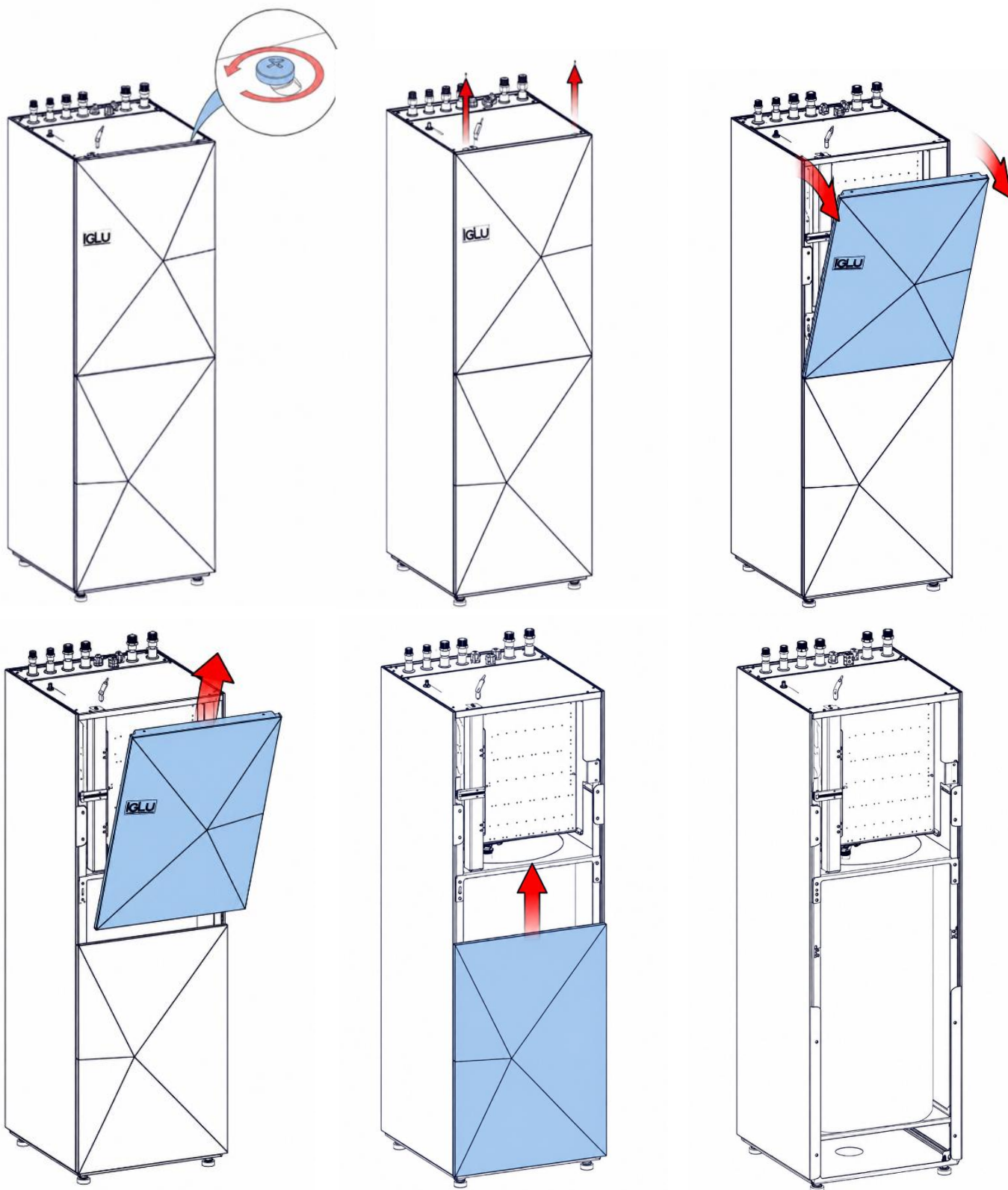
7.5 Opening the indoor unit IGLU Inuit WT



NOTE

The appearance of the unit may differ from the picture depending on the model, but the principle for opening the unit with an integrated water tank is the same.

1. Locate the two screws on the top of the front panel.
2. Unscrew them and place the screws in a safe location.
3. Tilt the front panel towards you.
4. Carefully remove the panel by lifting it from the locking tabs.
5. Carefully lift the bottom front panel from the locking tabs.
6. The unit is open, and now you can service it.



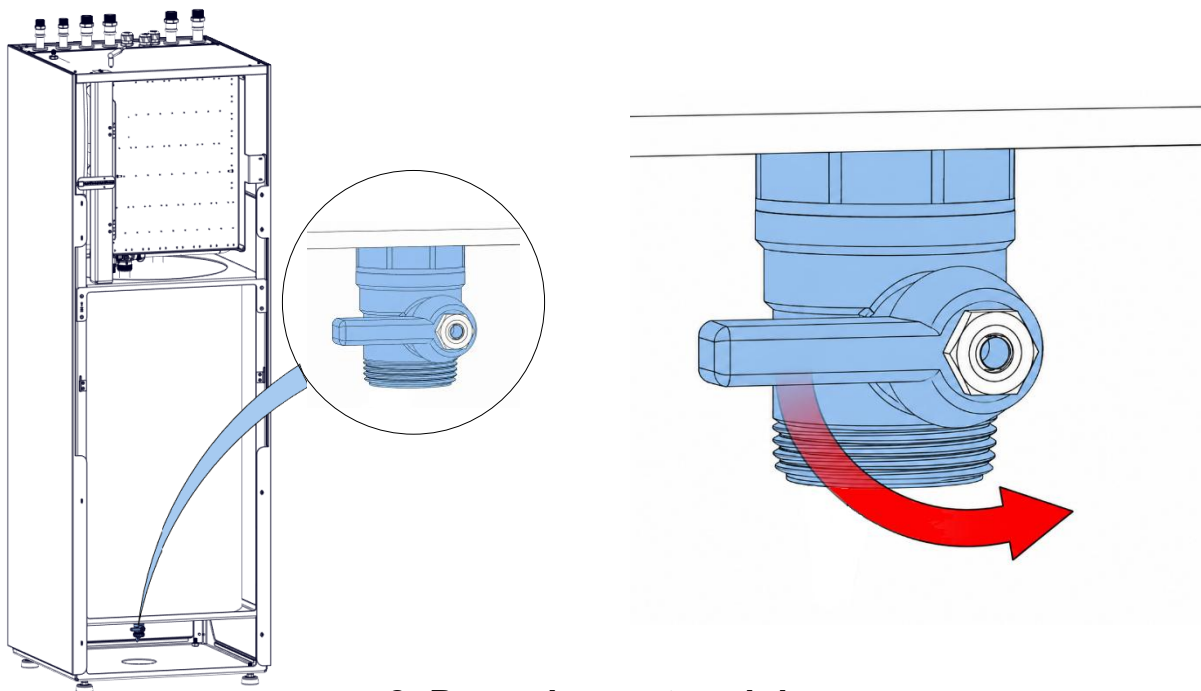
7.6 Drain work of indoor unit IGLU Inuit WT



WARNING

- Servicing must be carried out only by a qualified installer.
- Before draining the DHW tank, ensure that the water has cooled sufficiently to prevent the risk of scalding

1. Open the heat pump by removing the covers. (refer to the section “Opening the indoor unit IGLU Inuit WT”).
2. Connect a drainage hose to the valve outlet.
3. Open the valve to begin draining the water from the tank.



8. Preparing water piping

8.1 Water circuit requirements

Before installing the unit, ensure the following requirements are met. These apply to both indoor unit types — with and without the integrated water tank —

- The maximum water pressure of the unit is 3.0 bar static pressure.
- The operating range of leaving water temperature is 15~65°C at heating conditions and 5~25°C at cooling conditions.
- The minimum required waterflow rate for operation is 12 liters/min. Otherwise, the unit can stop due to a lack of water. The design of the installation should meet with the nominal flow for the corresponding heat pump model in order to achieve the efficiencies as declared by our TDS.
- When circulation in each space heating/cooling circuit is controlled by thermostatic valves or zone actuators, or when the system operates in active cooling mode, a buffer tank shall be installed to ensure sufficient system water volume and maintain the minimum required flow through the heat pump. In all other cases, the installation of a buffer tank is recommended.
- Domestic hot water tank. The operating pressure of the domestic hot water tank is 10 bar. Provide adequate safeguards in the water circuit to ensure that the maximum pressure is NOT exceeded.
- Potable water quality must comply with Directive (EU) 2020/2184 on the quality of water intended for human consumption.
- Heating water quality must comply with the requirements of VDI 2035.
- The unit is designed to be used in a closed-loop system. Do not use any other components which are designed only for an open-loop system.
- Never use uncoated parts in the water circuit. Because it can cause excessive corrosion
- All hydraulic parts including field piping must be insulated to reduce heat loss and condensation.
- It is recommended to install the water inlet combination valve to feed small quantities of water to the system automatically, replacing the minor water losses and maintaining the system pressure.
- Drain taps must be provided at all low points of the system to permit complete drainage of the circuit for maintenance use.
- Make sure that the check valves are correctly installed in the system.
- Flush pipes out with clean water to remove contaminants in pipes during installation.

- The strainer (water filter) must be cleaned after flushing the pipes, and it should be cleaned periodically. Replace the strainer when necessary.
- Fill the heating circuit to a pressure of approximately ~1.5 bar using the make-up water assembly. Since the unit is not equipped with an integrated pressure gauge (manometer), an external pressure gauge must be installed to monitor the system pressure. NOTE: The system pressure will vary depending on the water temperature. The required filling pressure shall be determined according to the system design, static height, and expansion vessel pre-charge. The system pressure must not exceed the maximum allowable static pressure of 3.0 bar.
- Make sure that air should be vented from the system at start-up or after installing/servicing. The air vent valve must be opened during charging the water (at least 2 turns) in order to remove all air in the circuit.
- Provide air vents at all high points of the system, which must also be easily accessible for servicing.
- Always use materials which are compatible with water used in the system and with the materials used on the indoor unit.
- Select piping diameter in relation to required waterflow and available ESP of the pump.
- Do not operate the system with closed valves because it results in damaging the heat pump.
- It is recommended to avoid long runs of piping between the DHW tank and the hot water end point (shower, bath,) and to avoid dead ends
- To avoid stagnation of water, it is important that the storage capacity of the DHW tank meets the daily consumption of DHW. Immediately after installation, the DHW tank must be flushed with fresh water.
- If the DHW system has not been used for an extended period, flush the tank and DHW pipework with fresh potable water before use. Where required, activate the DHW disinfection function in accordance with applicable local regulations
- In accordance with the applicable legislation, it may be necessary to install thermostatic mixing valves.
- The installation must be in compliance with the applicable legislation and may require additional hygienic installation measures.

8.2 Circulation pump performance curves of IGLU Inuit 6/9 – Inuit 6/9 WT

The performance curves of circulation pumps are illustrated in the graph. The upper diagram shows the pump head (H) in meters [m] or pressure (p) in kilopascals [kPa] plotted against the flow rate (Q) in cubic meters per hour [m³/h] or liters per second [l/s].

The lower diagram displays the corresponding absorbed power (P_1) in watts [W] as a function of the same flow rate.

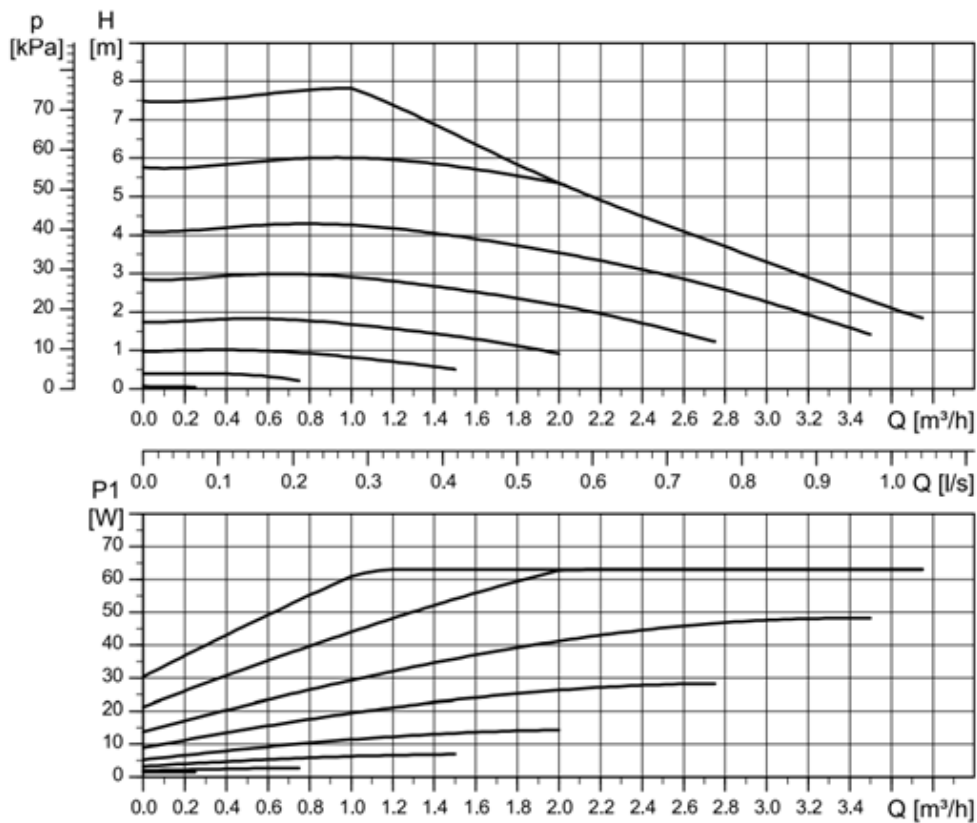
Both curves use a common horizontal axis for flow rate, allowing for a direct comparison between hydraulic performance and power consumption.

The power curve demonstrates that the pump consumes minimal power at low flow rates. As the flow rate increases, the absorbed power rises significantly.

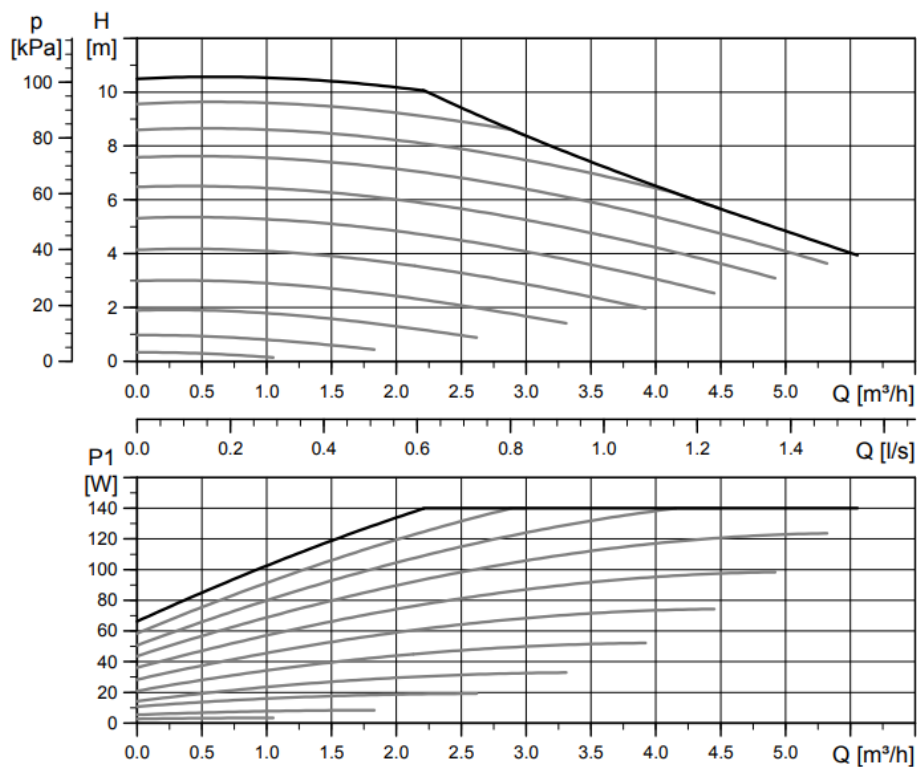


CAUTION

These curves are for reference only and should not be used as guaranteed performance values. If minimum performance is required, individual measurements must be made.



8.3 Circulation pump performance curve of IGLU Inuit 12/16– Inuit 12/16 WT



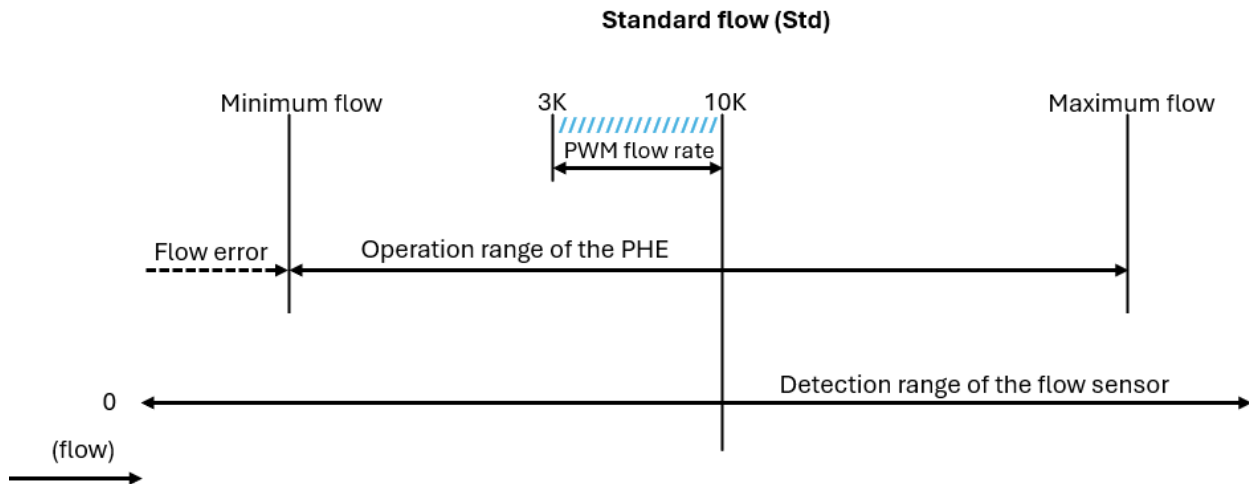
8.4 Flow rate

The heat pump delivers its rated capacity at exactly the designed flow rate (also standard or nominal flow). Therefore, it is required to always meet with the designed flow rate as indicated in our technical data sheet.

The installer is responsible to meet with the exact designed flow rate (Water Flow Rate (Std)[H/C], as stated in the applicable TDS).

- In case the flow is too high, it should be balanced out by increasing the pressure drop of a balancing (or flow regulator) valve.

- If the flow is too low, an additional pump must be installed to assist the built-in pump. The control logic for the PWM pump can adjust the flow between 3K and 10K of the standard flow to meet with the required temperature differences in the heating and cooling processes.



CAUTION

- If the flow rate is too low, the generated heat might not meet with the designed capacity.
- If the flow rate is too high, it may cause noise, cavitation and erosion and impact on the efficiency of the product.

8.5 Minimum active water volume

The minimum active water volume of the system is the amount of water which is always pumped around, even when all valves in the system are closed. The use of a buffer tank can increase the active volume and therefore the operation time between compressor start and stop.

Ideally, systems should be designed for around 12 to 15 minutes of operation, in order to meet with our declared efficiencies.

This time frame is based on a maximum of 4 On/Off cycles per hour.

The required minimum active water volume can be calculated via the below stated formula:

$$V_{\min} = \frac{t_{\min} \times \Phi_{\min}}{C_{\text{water}} \times \Delta T}$$

$V_{\min}$: Minimum active volume

[dm³]

$t_{\min}$: Minimum allowed operation time is 12 min or 720 sec per cycle

[s, sec]

$\Phi_{\min}$: Minimum compressor output

[kW = kJ/s]

C_{water} : Specific heat of water (4,2)

[kJ/kg*K]

ΔT : Temperature increase (5 - 10 K)

[K]



CAUTION

- High number of compressor cycles per hour increases electricity consumption and may significantly reduce the service life of the compressor.



CAUTION

- Water volume of total system (except tank integrated hydro unit) for reliable defrost cycles is minimum 30 Liter (IGLU Inuit 6/9), 50 Liter (Iglu Inuit12/16).
- This volume is not to be mistaken for the minimum active water volume, as that serves a different purpose against short cycling of the compressor.



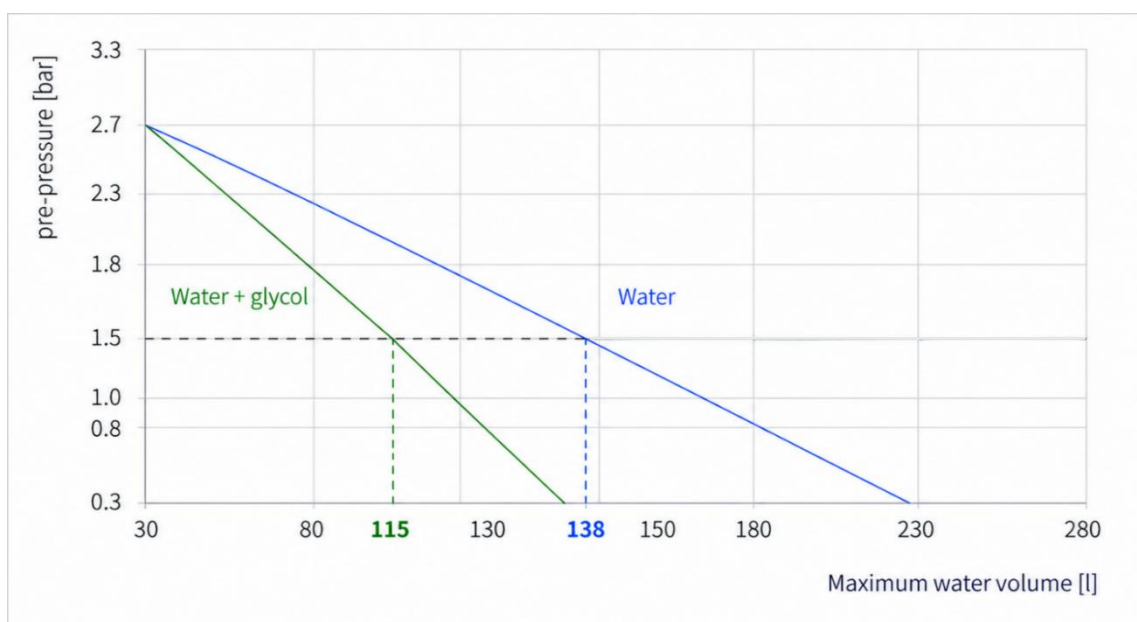
NOTE

- When circulation in each space heating/cooling circuit is controlled by thermostatic valves or zone actuators, or when the system operates in active cooling mode, a buffer tank shall be installed to ensure sufficient system water volume and maintain the minimum required flow through the heat pump. In all other cases, the installation of a buffer tank is recommended.

8.6 Setting capacity and pre-pressure of the expansion vessel

When it is required to change the default pre-pressure of the expansion vessel (1.5 bar), keep in mind the following guidelines:

- Use only dry nitrogen to set the expansion vessel pre-pressure.
- Inappropriate setting of the expansion vessel pre-pressure will lead to malfunction of the system. Therefore, the pre-pressure should only be adjusted by a licensed installer.



Installation height difference(a)	Water volume	
	< 138 Litres	> 138 Litres
<7m	No pre-pressure adjustment required.	Actions required: Pre-pressure must be decreased, calculate according to "Calculating the pre-pressure of the expansion vessel". Check if the water volume is lower than maximum allowed water volume.
>7m	Actions required: • Pre-pressure must be increased, calculate the appropriate value following by "Calculating the pre-pressure of the expansion vessel". • Check if the water volume is lower than maximum allowed water volume.	Expansion vessel of the unit too small for the installation.

(a) Installation height difference: height difference (m) between the highest point of the water circuit and the indoor unit. If the unit is located at the highest point of the installation, the installation height is considered 0 m.

Calculating the pre-pressure of the expansion vessel

- When Expansion vessel has a capacity 10 liters and 1.5 bar pre-charged.
- The pre-pressure(P_g) to be set depends on the maximum installation height difference(H) and is calculated as below :
 $P_g = (H/10 + 0.3)$ bar

Example: Let's say the highest point in the system is 6 meters above the indoor unit (so H=6), to calculate the required pre-pressure:

$$P_g = \left(\frac{6}{10} + 0.3 \right) = (0.6 + 0.3) = \boxed{0.9 \text{ bar}}$$

***NOTE:** If the required pre-pressure exceeds the allowable limit of the built-in expansion vessel (maximum 3.0 bar), the built-in vessel is not sufficient for the system. In such cases, an additional external expansion vessel must be installed on the heating circuit.

Furthermore, if the total system water volume exceeds the capacity of the built-in expansion vessel, an additional expansion vessel must be installed to ensure proper pressure control during operation.

Changing the pre-pressure of the expansion vessel should be done by releasing or increasing nitrogen pressure through the expansion vessel's service valve, the location of which is illustrated below:



CAUTION

Only a qualified installer can change the pre-pressure of the expansion vessel

Expansion vessel service valve of indoor unit IGLU Inuit	Expansion vessel service valve of indoor unit IGLU Inuit WT

8.7 Hydraulic System Components and Flow Management

Flow through the heating system

When thermostatic valves or zone actuators may close all heating circuits, a differential pressure bypass valve shall be installed. The bypass valve is not supplied with the heat pump.

A buffer tank must be installed to ensure a sufficient water volume when all thermostatic valves are closed, and the flow circulates only through the bypass valve.



CAUTION

The buffer tank is required when individual heating zones are controlled by thermostatic valves or zone actuators.

Differential bypass valve

Differential pressure bypass valve shall be installed between the supply and return pipes, downstream of the circulation pump and upstream of the zone control valves, in accordance with the flow direction indicated on the valve body. The valve shall be adjusted to maintain the minimum required flow rate through the heat pump.

- Mind the minimum water volume when choosing the installation location of the differential bypass valve (at the indoor unit, or at the collector).
- Mind the minimum flow rate when adjusting the differential bypass valve setting

Pressure relief valve

The heat pump itself is not equipped with a pressure relief valve. To protect the heating circuit against excessive pressure, an external pressure relief valve with a set pressure not exceeding 3.0 bar must be installed by the installer on the heating circuit (supply pipe of the heat transfer fluid) in accordance with applicable regulations.



CAUTION

Ensure that the discharge from the pressure relief valve is safely managed:

- The discharge pipe must be installed in a continuously downward direction.
- It must terminate in a frost-free environment, and prevent any risk of water backflow or freezing.
- Do not allow discharged water to come into contact with any electrical components or wiring.

Safety valve for Domestic Hot Water tank (DHW)

Domestic hot water tank. The operating pressure of the domestic hot water tank is 10 bar. Provide adequate safeguards in the water circuit to ensure that the maximum pressure is NOT exceeded.

A safety valve must be installed on the domestic hot water (DHW). The safety valve shall be installed on the cold-water inlet to the tank. The selection of the safety valve must be based on the characteristics of the potable water supply system. The set pressure of the safety valve shall be chosen to ensure safe operation of the system but must not exceed 8 bar.

The filter/strainer must also be installed on the cold-water inlet to the DHW tank to prevent contaminants and debris from entering the tank and associated components.

Filter/Strainer

The installation of a filter or strainer is mandatory in the water circuit of the system. It must be installed on the inlet pipe to the heat pump. During system operation, dust and foreign particles may circulate within the water loop. Without proper filtration, these contaminants can block the heat exchangers and cause corrosion or damage to internal components, leading to reduced system performance or failure.

Internal circuit circulation pump

The internal circuit pump is included in the heat pump set and is installed in the device at the factory. The circulation pump is controlled by the central processor while maintaining optimal flow. The control system monitors the operation of the circulation pumps, and a warning is received in the event of a deviation.

9. Hydraulic system installation

9.1 About the piping work

Water connections must be made in accordance with the Water Piping and Wiring diagram delivered with the unit, respecting the water inlet and outlet. If air, moisture or dust gets in the water circuit, problems may occur. Therefore, always take into account the following when connecting the water circuit:

- Use clean pipes only.
- Hold the pipe end downwards when removing burrs.
- Cover the pipe end when inserting it through a wall so that no dust and dirt enter.
- Use a good thread sealant for the sealing of the connections.
- The sealing must be able to withstand the pressures and temperatures of the system.
- Use appropriate tooling for connecting the water circuit. Inappropriate tooling will cause damage to the pipes.



CAUTION

- Be careful not to deform the unit piping by using excessive force when connecting the piping. Deformation of the piping can cause the unit to malfunction.
- Always use two wrenches (spanners) for tightening or loosening the water connections, and tighten connections with a torque wrench as specified in the below table. If not, connections and parts can be damaged and leak.
- The unit is only to be used in a closed water system. If applications are in open water circuit, it will generate heat exchangers fouling, corrosion, and leak.

9.2 The heating system rising and filling

The heat pump is an integral part of the heating system. Heat pump failures are usually caused by poor water quality in the heating system, or by the presence of air in the system. The presence of air in the system produces corrosive products such as magnetite or sediment. Magnetite has an abrasive effect that is especially enhanced in pumps, valves, or eddy-flow components, such as a condenser. Before installing a heat pump in a heating system that needs to be filled or uses water that is not pure, auxiliary measures such as the installation of filters and automatic outlets must be taken. Filling with untreated drinking water will inevitably result in the formation of sediment. Effect: formation of limescale deposits on the heat transfer surfaces. Decreased efficiency and energy consumption increases. 1 millimeter of lime deposits cause an energy loss of 10%.

Do not use water treatment additives in the heating system. Additives can be used to adjust the pH of the water; the recommended pH of the water is 7.5-9. The safest and most efficient operation of the system is achieved by using low-salt water.

When combining a heat pump with a boiler, it may be necessary to fill the system with desalinated water to protect the boiler from corrosion. This reduces electrical conductivity and the risk of corrosion.



WARNING!

Sediment in the piping can damage the heat pump. To prevent this, make sure to flush the pipes. Damage to sediment and corrosion heating systems is low if:

- planning and start-up are carried out properly.
- the system is closed in terms of corrosion.
- The pressure in the heating system is adequate.
- regular maintenance and prevention.

DHW Water quality

Only potable water that complies with the applicable national drinking water quality requirements and the requirements of Directive (EU) 2020/2184 on the quality of water intended for human consumption shall be supplied to the domestic hot water (DHW) tank.

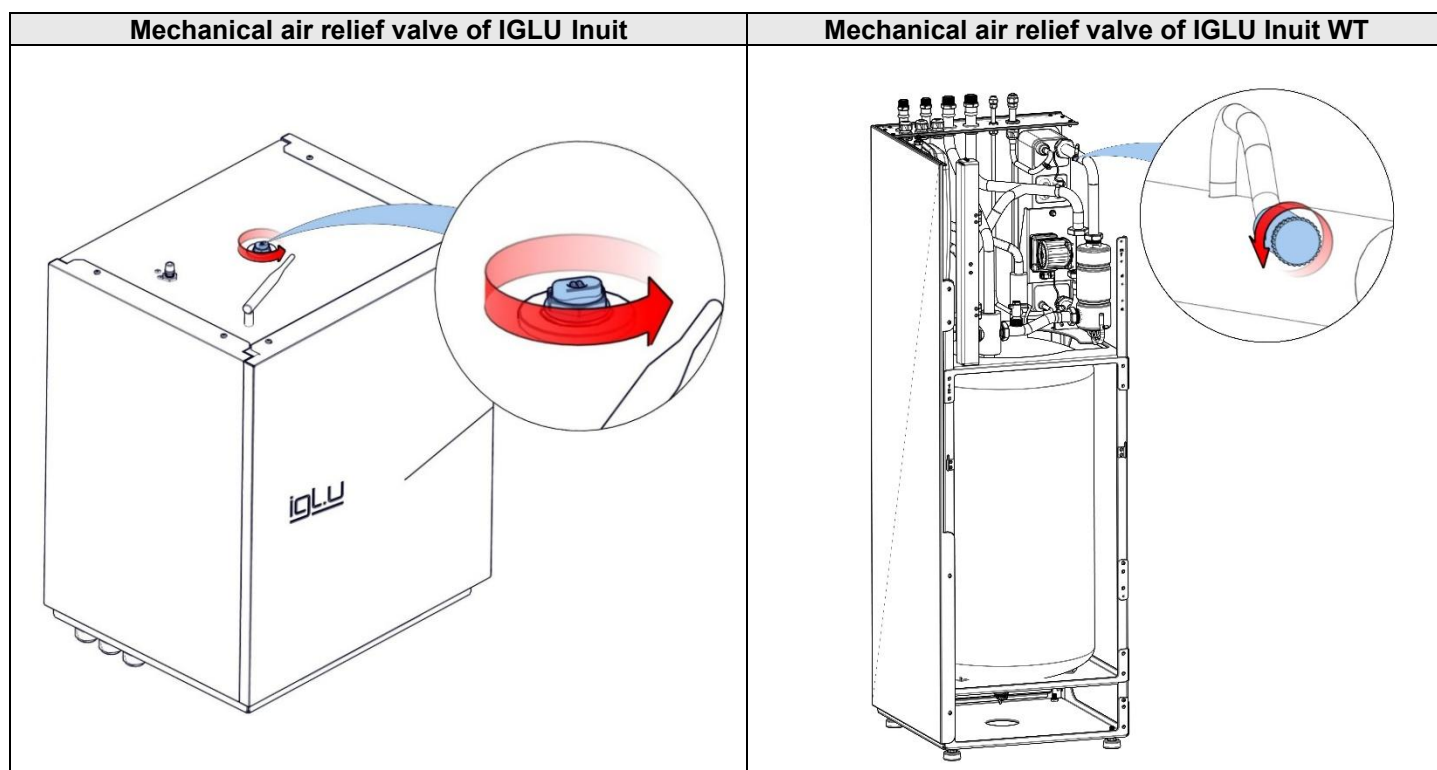
9.3 Air purging of indoor unit

During system filling, maintenance, or startup, the mechanical air relief valve should be opened to allow trapped air to escape from the system. Once a steady stream of water flows from the valve without any air bubbles, it indicates that the air has been successfully purged. At this point, the valve should be closed tightly to ensure a proper seal and prevent any water leakage.



CAUTION

- Do not overtighten the valve when closing it, as this can damage the sealing mechanism or make future use difficult.
- Do not allow discharged water to come into contact with any electrical components or wiring.



9.4 Heating system freeze protection

As additional frost protection, the heating circuit may be filled with a water/glycol mixture. This option is recommended only in case where: There is a risk of freezing during long shutdowns.

The glycol concentration must not exceed 15-25%, as higher concentrations significantly reduce heat pump efficiency and increase pumping power. Glycol reduces the heat transfer performance of the system, so use only if strictly necessary. Use only glycols with suitable corrosion inhibitors; automotive glycols are not permitted.



CAUTION

If a glycol mixture is used, a backflow prevention device (non-return valve) must be installed on the mains water supply to prevent glycol from entering the potable water system. Filling must comply with all applicable local drinking water and environmental regulations.

Freeze protection by glycol

Freeze protection solutions must use propylene glycol with a toxicity rating of Class 1 as listed in Clinical Toxicology of Commercial Products, 5th Edition.



WARNING

- Ethylene glycol is toxic and must not be used in the primary water circuit in case of any cross-contamination of the portable circuit.

If an anti-freeze protection is used, it will result in increased pressure drop and it may also cause a slight capacity reduction.



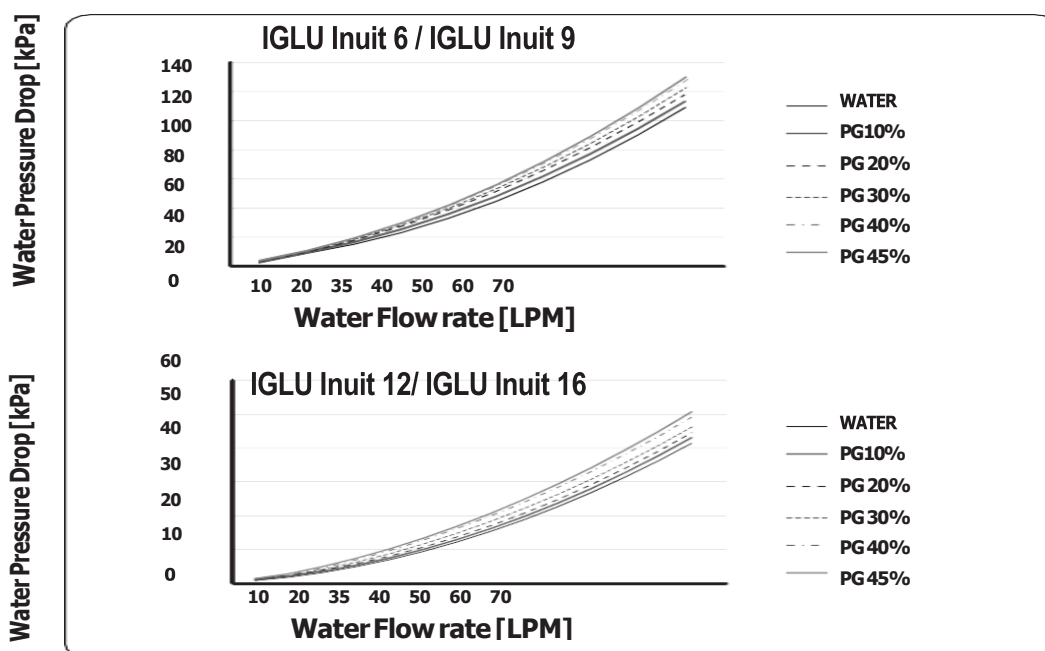
CAUTION

- Due to the presence of glycol, corrosion of the system is possible. Uninhibited glycol will turn acidic under the influence of oxygen. The acidic uninhibited glycol attacks metal surfaces and forms galvanic corrosion cells that cause severe damage to the system.
- A glycol with corrosion inhibitors is selected to counteract acids formed by the oxidation of glycols.
- No automotive glycol is used because their corrosion inhibitors have a limited lifetime and contain silicates which can foul or plug the system.

Galvanized pipes are NOT used in glycol systems since the presence may lead to the precipitation of certain components in the glycol's corrosion inhibitor.

Unit resistance and PHE resistance by glycol concentrate

To ensure correct operation and predict the expected performance, Flow and Resistance table can be used and Flow and resistance characteristic is dependent on Glycol concentration.



Changing Glycol concentration can cause the pressure drop of the system and it can lead to make flow rate slow.

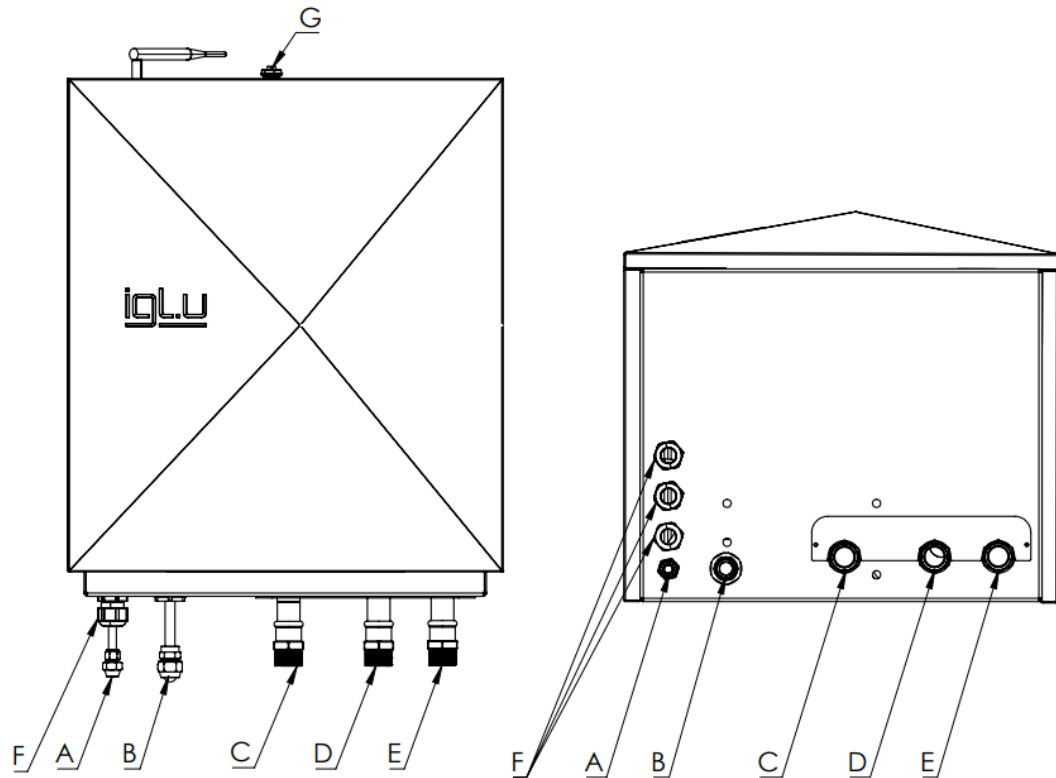
Just in case of performance degradation, installer shall be careful of flow rate changes.

The required concentration of glycol depends on the lowest expected outdoor temperature, and on whether you want to protect the system from bursting or from freezing. To prevent the system from freezing, more glycol is required.

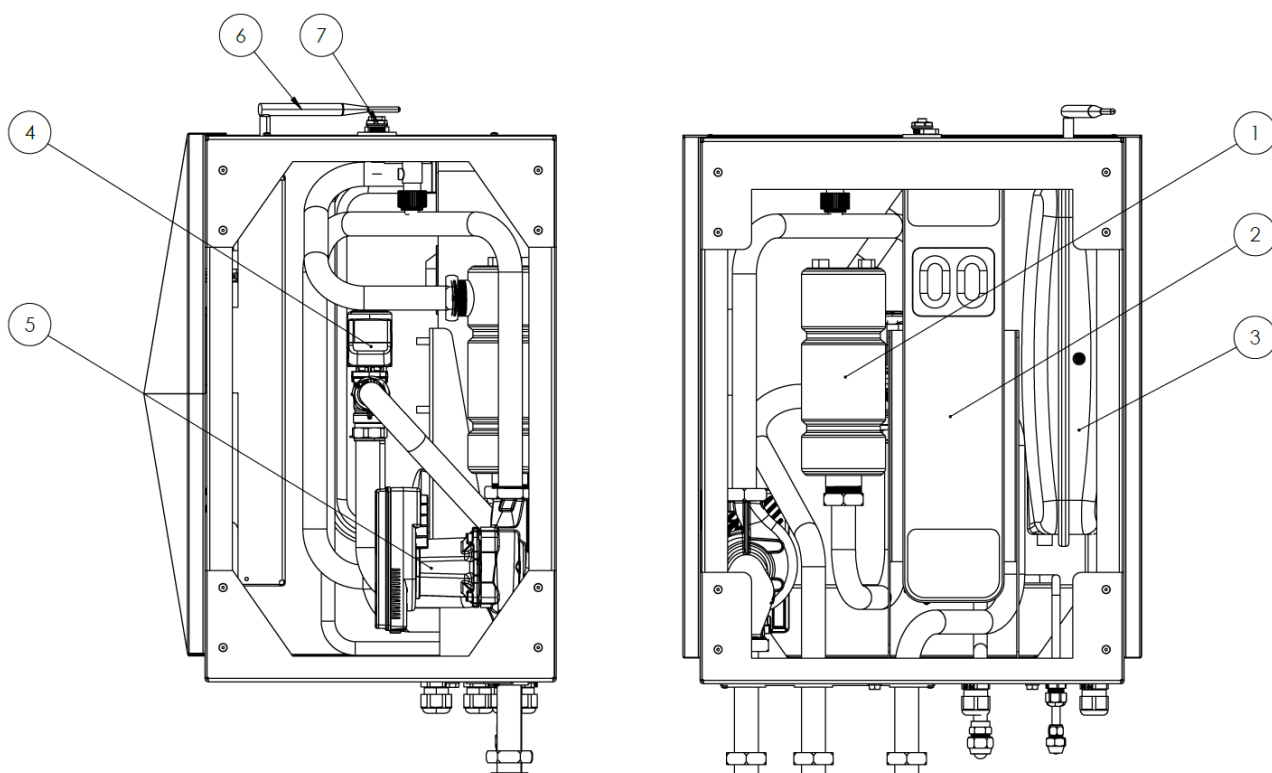
Add glycol according to the table below.

Freezing Points of Propylene Glycol - Water Mixtures		
Percent Propylene Glycol [wt.%]	Freezing Point [°F]	Freezing Point [°C]
0	32	0
10	26	-3
20	20	-7
30	10	-12
36	0	-18
40	-5	-20
43	-10	-23
48	-20	-29

9.5 Indoor Unit Components and Piping Connections of IGLU Inuit 6/9/12/1

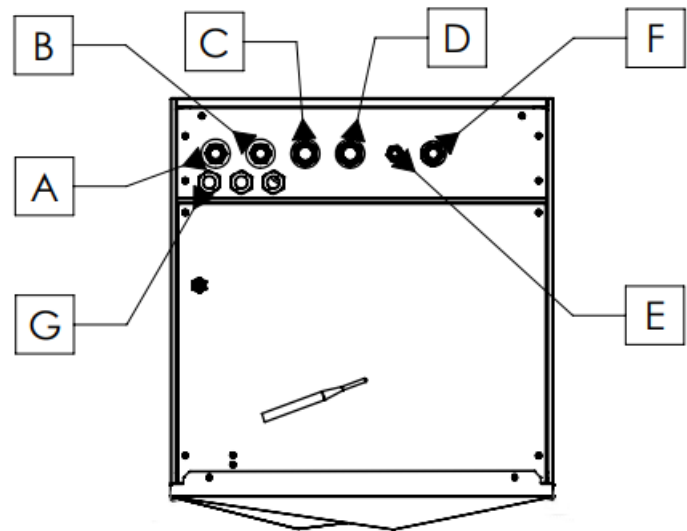
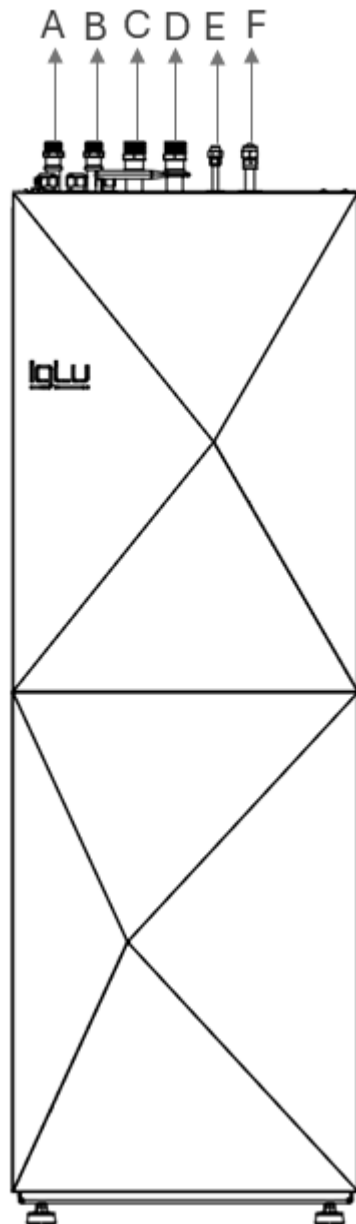


No	Description	Pipe connection
A	Refrigerant line (inlet) (IGLU Inuit 6/9)	1/4
A	Refrigerant line (inlet) (IGLU Inuit 12/16)	3/8
B	Refrigerant line (outlet)	5/8
C	Supply to DHW tank (outlet)	1"
D	Supply to system (outlet)	1"
E	Return from system (inlet)	1"
F	Electrical inputs	PG21
G	Air relieve valve	-

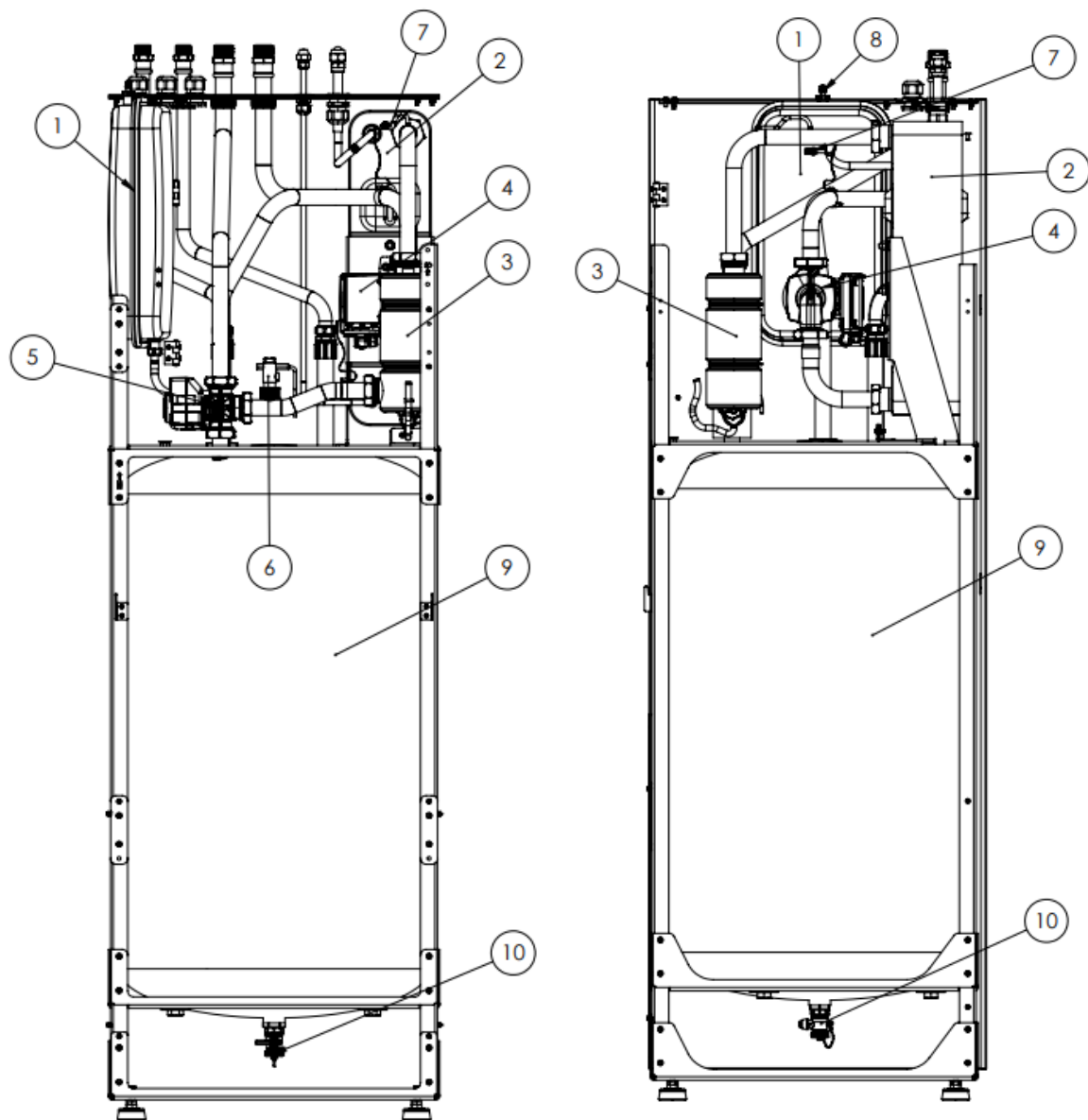


No.	Name
1	Backup heater element
2	Plate heat exchanger
3	Expansion tank
4	Three-way valve
5	Water pump
6	Antenna
7	Air relief mechanical valve

9.6 Indoor Unit Components and Piping Connections of IGLU Inuit 6/9/12/16 W



No	Description	Pipe connection
A	Hot water DHW (outlet)	3/4"
B	Cold water DHW (inlet)	3/4"
C	Supply to system (outlet)	1"
D	Return from system (inlet)	1"
E	Refrigerant line (inlet) (IGLU Inuit 6/9 WT)	1/4"
E	Refrigerant line (inlet) (IGLU Inuit 12/16 WT)	3/8"
F	Refrigerant line (outlet)	5/8"
G	Electrical inputs	PG-21



No.	Name
1	Expansion vessel
2	Plate heat exchanger
3	Backup heater element
4	Circulation pump
5	Three-way valve
6	Flow sensor
7	Air relief mechanical valve
8	Expansion vessel service valve
9	Water tank
10	Drain valve

9.7 Indoor Unit Installation and Application Examples

The hydraulic application examples given below are for illustration purposes only. When the IGLU Inuit heat pump without the water tank system is used in series with another heat source (e.g., gas boiler), ensure that the return water temperature does not exceed 55 °C.

The unit is only to be used in a closed-water system. Application in an open water circuit can lead to excessive corrosion of the water piping.

IGLU TECH cannot be responsible for incorrect or unsafe situations in the water system. Make sure that the boiler, radiators, convectors, solar collectors, UFHs, FCUs, additional pumps, piping, and controls in the water system are in accordance with relevant local laws and regulations under the installer's responsibility. IGLU TECH shall not be held liable for any damage resulting from not observing this rule.

Please note that IGLU TECH does not provide specific water system components such as Pressure relief valves, Air vent valve, buffer tank, etc. Installers and end-users shall consider how to install the below-designated components in the overall water system depending on the installation conditions. If the components are not installed in an appropriate location, the water system cannot be operated as designed.



CAUTION

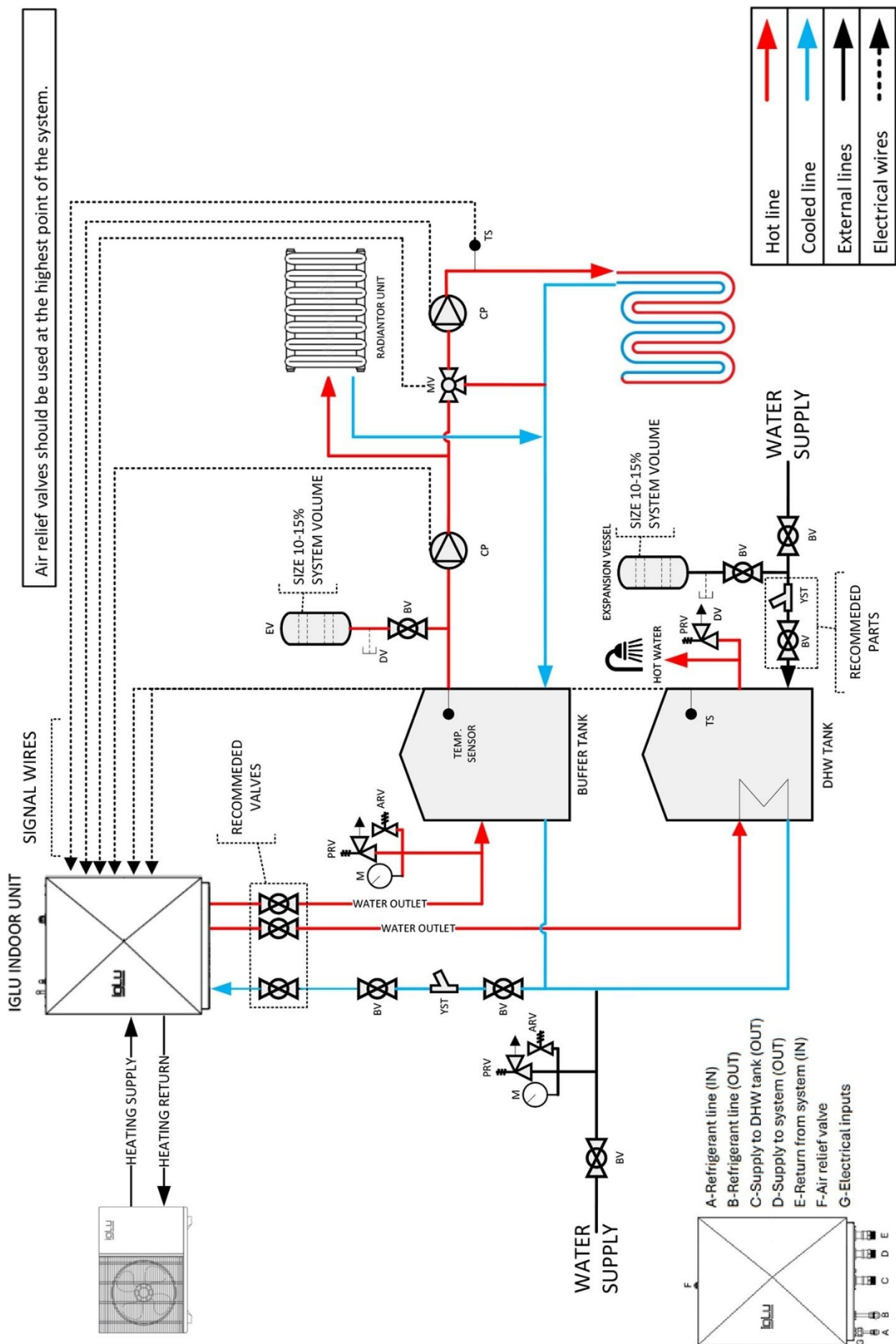
When circulation in each space heating/cooling circuit is controlled by thermostatic valves or zone actuators, or when the system operates in active cooling mode, a buffer tank shall be installed to ensure sufficient system water volume and maintain the minimum required flow through the heat pump. In all other cases, the installation of a buffer tank is recommended.

9.8 Indoor Unit Hydraulic scheme abbreviations and legends

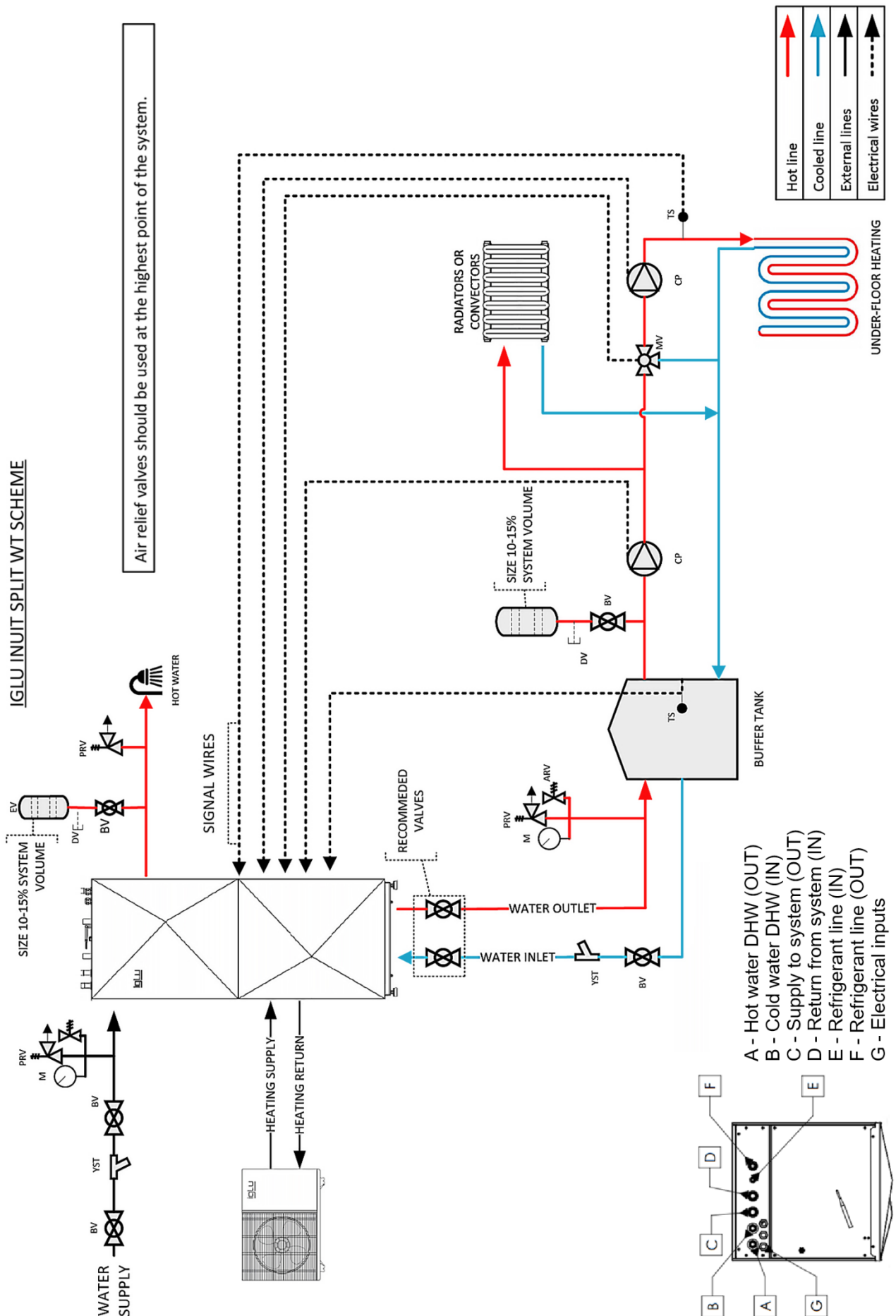
ABBREVIATIONS			
Ball valve (BV)		Mixing valve (MV)	
Check valve (CV)		Drain valve (DV)	
Y Strainer (YST)		Circulating pump (CP)	
Monometer (M)		Temperature sensor (TS)	
Pressure relief valve (PRV)		Expansion vessel (EV)	
Air relief valve (ARV)		Hot water	

9.9 Hydraulic Scheme – IGLU Inuit (without integrated water tank)

IGLU INUIT SPLIT SCHEME



9.10 Hydraulic Scheme – IGLU Inuit WT (with integrated water tank)

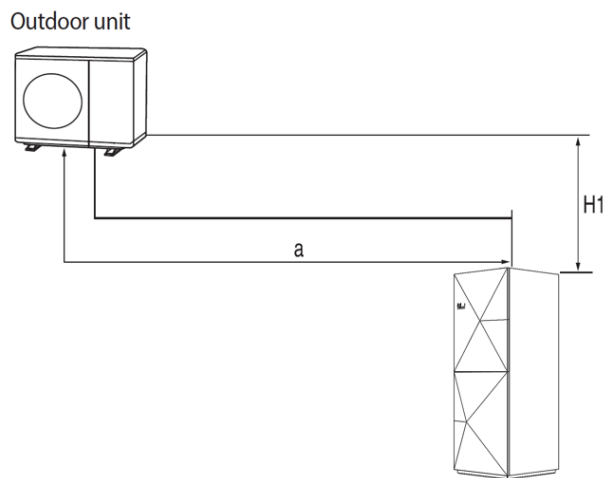


10.Refrigerant piping work

- Install the refrigerant pipe within the maximum allowable length, the difference in height and length after the first branch pipe.
- The pressure of the R-410A/R-32 is high.
- Use only rated refrigerant pipe and follow the installation method.
- Use clean refrigerant pipe where there is no harmful ion, oxide, dust, iron content, or moisture.
- Use adequate tools and accessories for R-410A/R-32

Manifold	Use a manifold gauge only for R-410A/R-32 to prevent the inflow of foreign substances.
Vacuum pump	Use a vacuum pump with a check valve to prevent pump oil from flowing backward while the vacuum the pump is stopped. Use the vacuum pump so that the vacuum induction is available up to 5Torr. (-100.7kPa)
Flare nut	Use only the flare nut supplied with the product.

10.1 Allowable length of the refrigerant pipe and the installation examples



ITEM				EXAMPLE	REMARKS
The maximum allowable length of pipe	Outdoor unit	Total length	Less than 50m	$a \leq 50 \text{ m}$	
Maximum allowable height	Outdoor unit	Less than 30 m		H1	If outdoor unit is located lower position H1 $\leq 15 \text{ m}$
Additional refrigerant calculation		$R = \text{Basic charge} + \text{additional charge by the piping length}$			

10.2 Selecting the refrigerant pipe

Outdoor unit capacity (kW)	Liquid side (mm)	Gas side (mm)
IGLU Inuit 6 / IGLU Inuit 6 WT	ø6.35	ø15.88
IGLU Inuit 9 / IGLU Inuit 9 WT	ø6.35	ø 15.88
IGLU Inuit 12 / IGLU Inuit 12 WT	ø 9.52	ø 15.88
IGLU Inuit 16 / IGLU Inuit 16 WT	ø 9.52	ø 15.88

- Install refrigerant pipe depending on the outdoor unit capacity.
- Make sure to use C1220T-1/2H (Semi-hard) pipe for more than ø 19.05 mm. In the case of using a C1220T-O (Soft) pipe for ø 19.05 mm, the pipe may be broken, which can result in an injury.
- To prevent foreign materials or water from entering the pipe, pipes shall be sealed by caps.

Temper grade and minimum thickness of the refrigerant pipe		
Outer diameter (mm)	Minimum thickness (mm)	Temper grade
ø 6.35	0.7	C1220T-0
ø 9.52	0.7	
ø 12.70	0.8	
ø 15.88	1.0	
ø 15.88	0.8	C1220T-1/2H OR C1220T-H
ø 19.05	0.9	
ø 22.23	0.9	

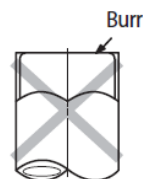
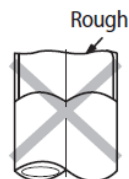
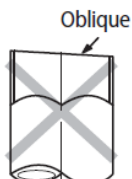
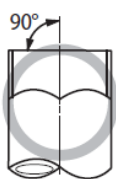
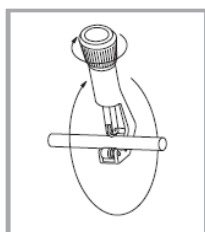


NOTE

The material specification (thickness) of the refrigerant pipes must be in accordance with EU and/or local legislation and standards

10.3 Cutting or flaring the pipes

- Make sure that you have prepared the required tools.
-Pipe cutter, reamer, flaring tool, pipe holder, etc.
- If you want to shorten the pipe, cut it with a pipe cutter ensuring that the cut edge remains at 90° with the side of the pipe.
-There are some examples of correct and incorrect cut edges below.

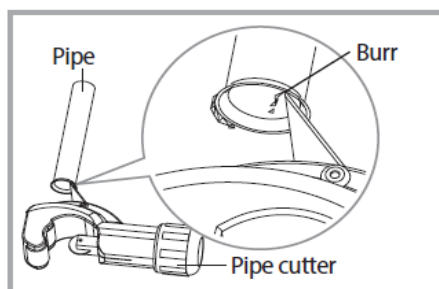


- To prevent a gas leak, remove all burrs at the cut edge of the pipe with a reamer.



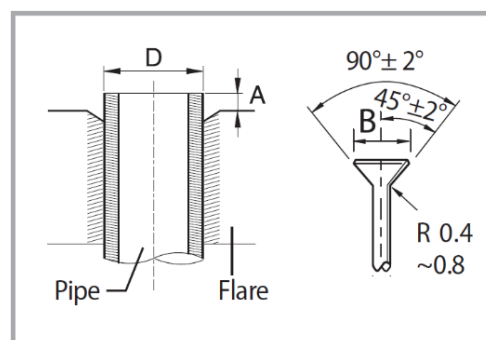
CAUTION

Face the pipe down while removing the burrs to make sure that burrs do not get into the pipe.

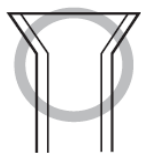


- Put a flare nut slightly into the pipe and modify the flare.

Outer diameter [D(mm)]	Depth [A (mm)]	Flaring Size [B (mm)]
ø 6.35	1.3	8.7~9.1
ø 9.52	1.8	12.8~13.2
ø 12.70	2.0	16.2~16.6
ø 15.88	2.2	19.3~19.7
ø 19.05	2.2	23.6~24.0



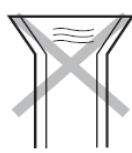
5. Check that you flared the pipe correctly. The below figures show some examples of incorrectly flared pipes.



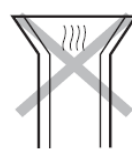
Correct



Inclined



Damaged
surface



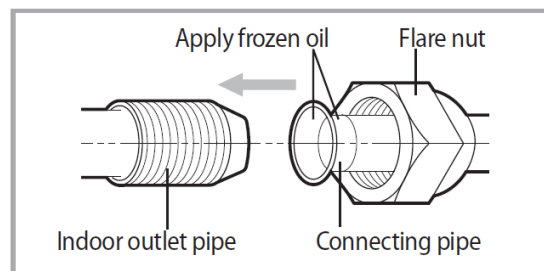
Cracked



Uneven
thickness

6. Align the pipes to connect them easily. Tighten the flare nuts first with your hands, and then with a torque wrench, applying the following torque:

Outer diameter [mm(inch)]	Torque (N•m)
ø 6.35	14~18
ø 9.52	34~42
ø 12.70	49~61
ø 15.88	68~82
ø 19.05	100~120



CAUTION

- Excessive torque can be cause of gas leakage.
- You must purge with oxygen free nitrogen while brazing

10.4 Refrigerant piping work



- Tighten the nuts to the specified torques. If overtightened, the nuts could be broken so refrigerant may leak.
- Protect or enclose refrigerant tubing to avoid mechanical damage.
- Keep the piping length at a minimum to minimize the additional refrigerant charge due to piping extension.
- When connecting the pipes, make sure that surrounding objects do not interfere with or contact them to prevent refrigerant leakage due to physical damage.
- Make sure that the spaces where the refrigerant pipes are installed comply with national gas regulations.
- Be sure to perform works such as additional refrigerant charging and pipe welding under the conditions of good ventilation.
- Be sure to perform welding and piping works for mechanical connections under the conditions that the refrigerant does not circulate.
- When reconnecting the pipes, make sure to perform flared jointing newly to prevent refrigerant leakage.
- When working on the refrigerant pipes and the flexible refrigerant connectors, be careful that they are not damaged physically by surrounding objects.
- For installation with handling the R-32 refrigerant, use the special tools for the R-32 refrigerant (manifold gauge, vacuum pump, charging hose, etc.).
- During tests never pressurize the appliances with a pressure higher than the maximum allowable pressure (as indicated on the nameplate of the unit).
- Never directly touch any accidental leaking refrigerant. This could result in severe wounds caused by frostbite.
- Never install a dryer in this unit to guarantee its lifetime.
- If you need a pipe longer than specified in piping codes and standards, you must add refrigerant to the pipe. Otherwise, the indoor unit may freeze.
- While removing the burrs, put the pipe face down to make sure that the burrs do not get into the pipe.

10.5 Thermal insulation Requirements

All heat- and cold-conductive components of the piping system — including heating circuits, domestic hot water lines, and tank connections — must be insulated using appropriate thermal insulation materials.

Thermal insulation must comply with the following standard:

„EN 12828 – Heating systems in buildings – Design for water-based heating systems: This standard defines insulation requirements for heating circuits, including the use of suitable materials, full coverage across fittings and joints, and protection against condensation.“



NOTE

Proper insulation ensures energy efficiency, user safety, and reliable system operation.

10.6 Selecting the insulator of the refrigerant pipe

- According to pipes size, insulate pipes on the gas and liquid side by selecting appropriate insulations.
- Standard conditions are under a temperature of 30 °C and a humidity of 85 %. If the units are installed in extreme weather conditions, select the insulator in the table below.

Pipe type	Pipe diameter (mm)	Thickness of insulator		Remarks
		Normal (under 30C, 85%)	High humidity (over 30C, 85%)	
		EPDM, NBR		
Liquid	ø6.35~ø19.05	9	9	The material shall have heat resistance over 120 °C.
	ø12.70~ø19.05	13	13	
Gas	ø6.35	13	19	
	ø9.52	19	25	
	ø12.70			
	ø15.88			
	ø19.05			



CAUTION

- Install the insulation not to get wider and use the adhesives on the connection part of it to prevent moisture from entering.
- Wind the refrigerant pipe with insulation tape if it is exposed to outside sunlight.
- Install the refrigerant pipe respecting that the insulation does not get thinner on the bent part or hanger of the pipe.

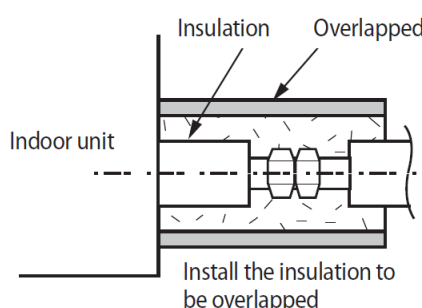
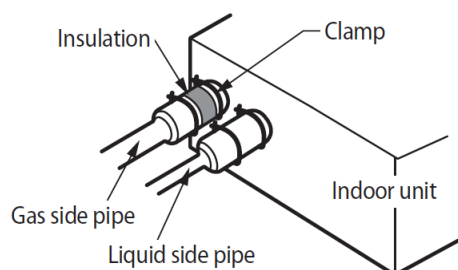
10.7 Insulating the refrigerant pipe

- You must check if there is a gas leak before completing the installation process.
- Use EPDM insulation that meets the following conditions.

ITEM	UNIT	STANDARD	REMARKS
Density	g/cm ²	0.048~0.96	KSM 3014-01
Dimension change route by heat	%	-5 or less	
Water absorption rate	g/cm ²	0.005 or less	
Thermal conductivity	kcal/m·h·°C	0.032 or less	KSL 9016-95
Moisture transpiration factor	ng/(m ² ·s·Pa)	15 or less	KSM 3808-03
Moisture transpiration grade	{g/(m ² ·24h)}	15 or less	KSA 1013-01
Formaldehyde dispersion	mg/L	-	KSF 3200-02
Oxygen rate	%	25 or less	ISO 4589-2-96

- Be sure to insulate the refrigerant pipe, joints, and connections with class 'o' material.

- If you insulate the pipes, the condensed water does not fall from the pipes and the capacity of the Air to Water Heat Pump is improved.
- Check if there are any insulation cracks on the bent pipe.

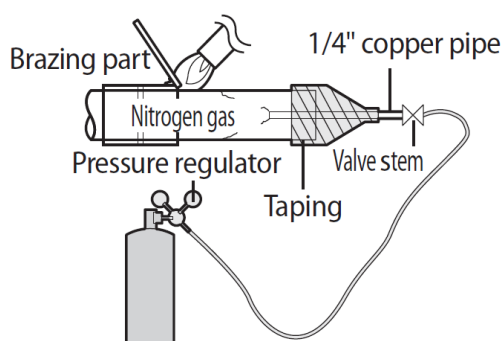


Brazing the pipe

- Make sure that there is no moisture inside the pipe.
- Make sure that there are no foreign materials or impurities in the pipe.

10.8 Replacement of nitrogen gas

1. Use oxygen-free nitrogen gas when brazing the pipes as shown in the picture.
2. If you do not use Nitrogen gas when brazing the pipes, oxidation may form in the pipe. It can cause damage to the compressor and valves.
3. Adjust the flow rate of the replacement with a pressure regulator to maintain 0.05 m³/h or more.
4. Perform brazing of the service valve after protecting the valve.



10.9 Performing the refrigerant gas leak test

- Use a manifold gauge for R-32/ R-410A to prevent the inflow of foreign substances and resist internal pressure.
- Pressure test with dry oxygen-free nitrogen only.

Apply pressure to the liquid side pipe and gas side pipe with Nitrogen gas of 4.6 MPa (46.9 kgf/cm²)	If you apply pressure of more than 4.6MPa, the pipes may be damaged. Apply pressure using a pressure regulator.
Keep it for a minimum of 24 hours to check if the pressure drops.If the pressure drops, check if there is a gas leak.	After applying Nitrogen gas, check the change of pressure using a pressure regulator.
If the pressure drops, check if there is gas leak.	If the pressure changes, apply soapy water to check the leak. Check the pressure of the Nitrogen gas again.
Maintain 1.0MPa of the pressure before performing vacuum drying and checking for further gas leaks.	After checking the first gas leak, maintain 1.0MPa to check for further gas leaks

Make sure to use a recommended bubble test solution for Gas Leak Test. Soap water could cause cracking of the flare nuts or lead to corrosion of flared joints

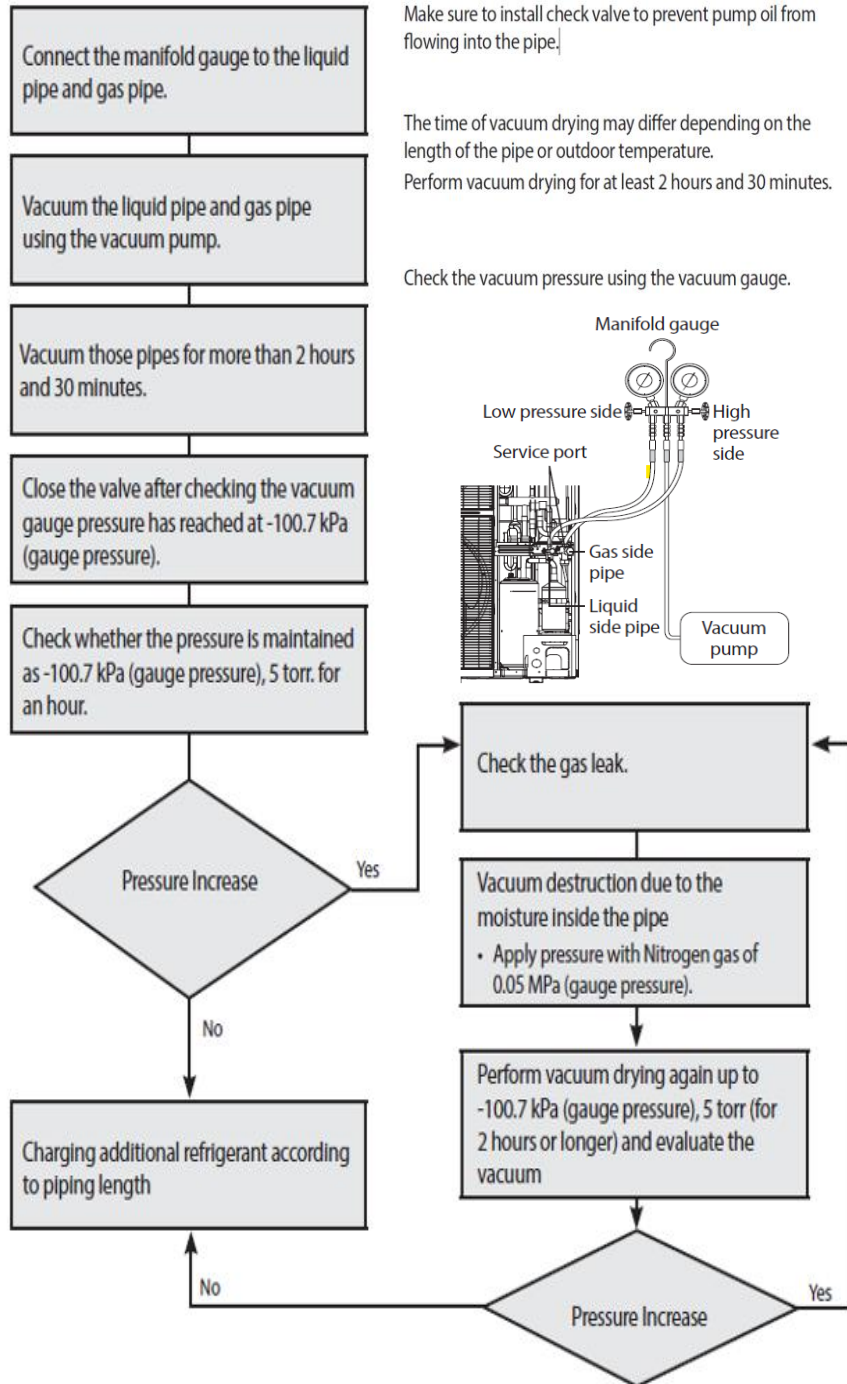


WARNING

You may get injured when the joint on the high-pressure side detaches and the gas encounters your body. Make sure to tighten the joint to prevent such accidents.

10.10 Vacuum drying

- Use the tools for R-410A/R-32 only to prevent the inflow of foreign substances and resist against internal pressure.
- Use the vacuum pump with the check valve to prevent pump oil from flowing backward while the vacuum pump stopped suddenly.
- Use the vacuum pump that can be vacuumed up to 666.6Pa (5 mmHg).
- Close the service valve of the liquid side pipe, and gas side pipe completely when performing an air tightening test or vacuum drying.



**CAUTION**

If the pressure rises in an hour, either water remains inside the pipe, or there will be a leak.

11. Charging refrigerant

11.1 Selecting an additional refrigerant charge

The basic amount of refrigerant for outdoor units charged in the factory is:

OUTDOOR UNIT (SERIES)	FACTORY CHARGE (kg)
IGLU Inuit 6 / IGLU Inuit 6 WT	1.2
IGLU Inuit 9 / IGLU Inuit 9 WT	1.4
IGLU Inuit 12 / IGLU Inuit 12 WT	2.98
IGLU Inuit 16 / IGLU Inuit 16 WT	2.98

- Charge additional refrigerant according to the total length of the pipe.
- Each factory charging values are determined according to a basic pipe length of 15 m.
- When extra pipe lengths are required, additional charging works must be implemented as described below.

Additional charging amount is determined based on liquid pipe specifications

	IGLU Inuit 6 / IGLU Inuit 6 WT	IGLU Inuit 9 / IGLU Inuit 9 WT	IGLU Inuit 12 / IGLU Inuit 12 WT	IGLU Inuit 16 / IGLU Inuit 16 WT
Outdoor unit of liquid	ø6.35	ø6.35	ø 9.52	ø 9.52
Additional charging (g)	20 g/m	20 g/m	50 g/m	50 g/m

Additional Charge (g) = (L1-15) *20 (IGLU Inuit 6 / IGLU Inuit 6 WT, IGLU Inuit 9 / IGLU Inuit 9 WT)

Additional Charge (g) = (L1-15) *50 (IGLU Inuit 12/ IGLU Inuit 12 WT, IGLU Inuit 16 / IGLU Inuit 16 WT)

*L1-TOTAL LENGTH OF LIQUID PIPE

EXAMPLES:

IGLU In 6 I, the total length of the liquid pipe is 20 m.

$\varnothing 6.35 = (20\text{m} - 15\text{m}) \times 20 \text{ g/m} = 100 \text{ g}$.

IGLU Inuit 12 I, the total length of the liquid pipe is 20 m.

$\varnothing 9.52 = (20\text{m} - 15\text{m}) \times 50 \text{ g/m} = 250 \text{ g}$.

**CAUTION on adding the R-32 refrigerant**

In addition to the conventional charging procedure, the following requirements shall be kept.

- Make sure that contamination by other refrigerants does not occur for charging.
- To minimize the amount of refrigerant, keep the hoses and lines as short as possible.
- The cylinders shall be kept upright.
- Make sure that the refrigeration system is earthed before charging.
- Label the system after charging, if necessary.
- Extreme care is required not to overcharge the system.
- Before recharging, the pressure shall be checked with nitrogen blowing.
- After charging, check for leakage before commissioning.
- Be sure to check for leakage before leaving the work area

11.2 Charging refrigerant

- The R-410A refrigerant is blended. Add only liquid refrigerant.
- Measure the quantity of the refrigerant according to the length of the liquid side pipe. Add the quantity of the refrigerant using a scale.



CAUTION

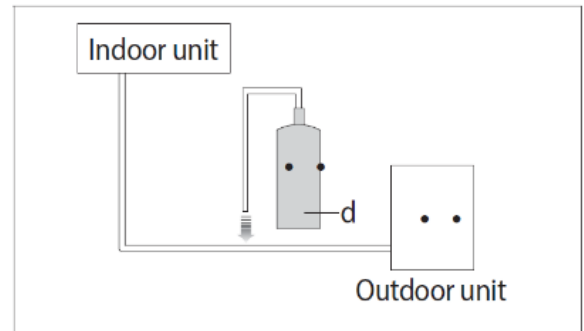
Important information regulation regarding the refrigerant used

This product contains fluorinated greenhouse gases. Do not vent gases into the atmosphere.

Inform the user if the system contains 5 tCO₂e or more fluorinated greenhouse gases. In this case, it must be checked for leakage at least once every 12 months, according to regulation No. 517/2014. This activity must be covered by qualified personnel only. In the case of the situation above, the installer (or authorized person with responsibility for the final check) must provide a maintenance book, with all the information recorded, according to REGULATION (EU) No. 517/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 on fluorinated greenhouse gases.

Please fill in the following indelible ink on the refrigerant charge label supplied with this product on and on this manual.

- ① The factory refrigerant charge of the product.
- ② The additional refrigerant amount charged in the field.
- ①+② The total refrigerant charge.



NOTE

- Factory refrigerant charge of the product: See unit name plate.
- Additional refrigerant amount charged in the field. (Refer to the above information for the quantity of refrigerant replenishment.)
- Total refrigerant charge.
- Refrigerant cylinder and manifold for charging.

UNIT	Kg	tCO ₂ e
①, a		
②, b		
①+②, c		

Refrigerant type	GWP
R-410A	2088
R-32	675

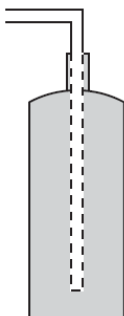
GWP: Global Warming Potential

Calculating tCO₂e: kg x GWP/1000

Before charging, check whether the refrigerant cylinder has a siphon attached or not, and position the cylinder accordingly.

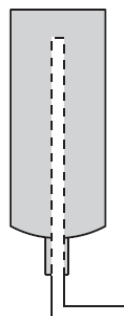
Charging using a cylinder with a siphon attached

Charge the liquid refrigerant with the cylinder in upright position.



Charging using a cylinder without a siphon attached

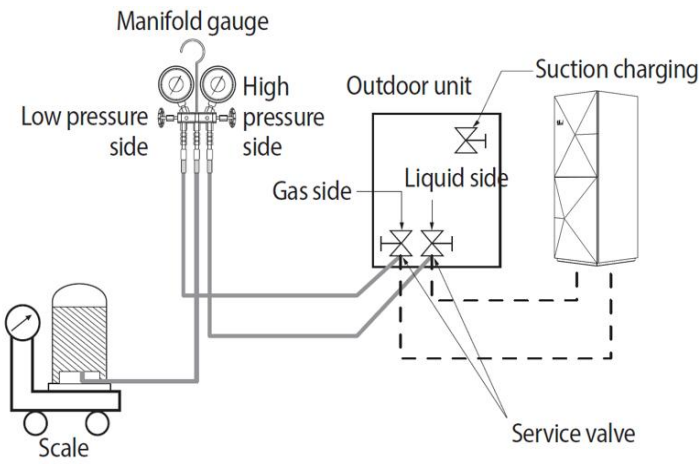
Charge the liquid refrigerant with the cylinder in up-side-down position.



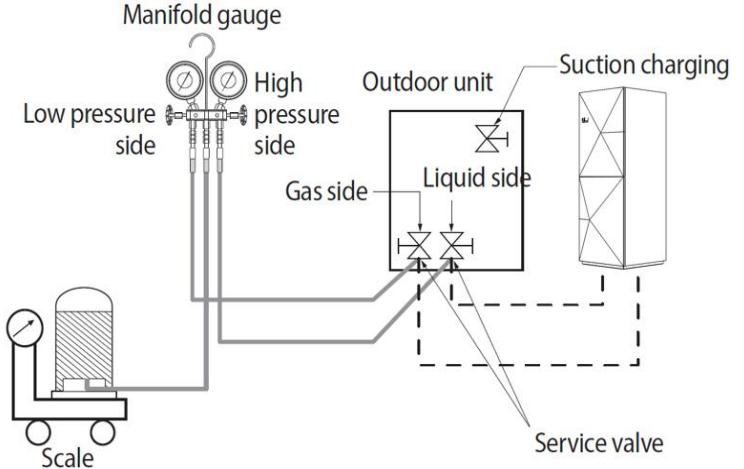
11.3 Adding refrigerant

- The R-410A refrigerant is blended. Add only liquid refrigerant.
- Measure the quantity of the refrigerant depending on the length of the liquid side pipe. Add a fixed quantity of the refrigerant using a scale.

Adding refrigerants in cooling conditions



Adding refrigerants in heating conditions



- Connect the manifold gauge and purge the manifold gauge.
- Open the manifold gauge valve of the liquid side service valve and add the liquid refrigerant.
- If you cannot fully recharge the additional refrigerant while the outdoor unit is stopped, use the key on the outdoor unit PCB to recharge the remaining refrigerant.

• Adding the cooling refrigerant:

- 1) Press the function key for adding refrigerant in cooling mode.
- 2) After 20 minutes of operation, open the valve on the gas side.
- 3) Open the valve for the low-pressure side on the manifold gauge to recharge the remaining refrigerant.

• Adding the heating refrigerant:

- 1) When recharging the heating refrigerant, connect the low-pressure pipe from the manifold gauge to the suction charging port.
- 2) Press the function key for adding refrigerant in heating mode.
- 3) After 20 minutes of operation, open the valve on the suction charge port.
- 4) Open the valve for the low-pressure side on the manifold gauge to recharge the remaining refrigerant.



CAUTION

Open the gas side and liquid side service valves completely after charging the refrigerant. (If you operate the Air to Water Heat Pump with the service valve closed, the important parts may be damaged.)

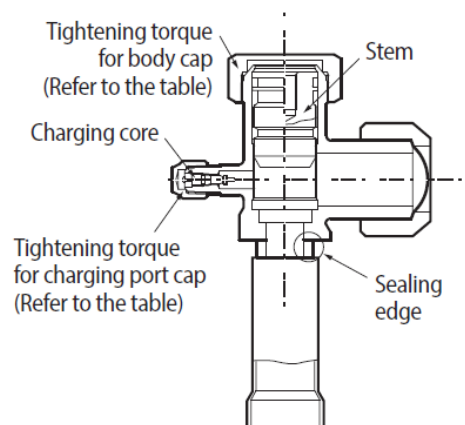
11.4 Valve Stem Operation

To close the valve stem

1. Open the cap and turn the valve stem clockwise by using a hexagonal wrench.

Outer Diameter (mm)	Tightening torque (N•m)		Operating torque (N•m)
	Body cap	Charging port cap	Stem
ø 6.35	20 ~ 25	10 ~ 12	Max 5
ø 9.52			Max 5
ø 12.70			Max 5
ø 15.88			Max 5
ø 19.05			Max 12

* 1 N•m = 10 kgf•cm



2. Tighten the valve stem until it reaches the sealing edge.



CAUTION

- Do not apply excessive force to the valve stem and always use special instruments. Otherwise, the contact of the surface between the valve stem and sealing edge can be damaged and refrigerant can leak through this damage
- If the refrigerant leaks, turn the valve stem back by half and tighten the valve stem again, then check the leakage. If there is no leakage anymore, tighten the valve stem entirely.

3. Tighten the cap securely.

To open the valve stem

1. Remove the cap.
2. Turn the valve stem counterclockwise by using a hexagonal wrench.
3. Turn the valve stem until it is stopped.
4. Tighten the cap securely.



CAUTION

- When you use the service port, always use a charging hose, too.
- Check the leakage of refrigerant gas after tightening the cap.
- Must use a spanner and wrench when you open/tighten the valve stem.

11.5 Pump down procedure

For product repairs and indoor unit relocation, the pump-down operation must be done to recover the refrigerant into the outdoor unit.

Cautious when performing the pump down procedure

- The product limits the amount of refrigerant in the outdoor unit due to its slim design.
- Collect much of the refrigerant in the system in an empty refrigerant vessel and perform a pump-down operation with the remaining refrigerant. The maximum amount of refrigerant is 5 kg.
- If the amount of refrigerant exceeds the maximum allowable limit, increased pressure may cause a compressor trip or burnout.

1. Close the manifold gauge.
2. Close the liquid side service valve.
3. Set the unit to the Cooling Test mode by pushing the K2 button 1 time.
4. Observe the low-pressure side using a manifold gauge when the compressor is operating.
5. When the pressure gauge indicates "0", turn the low-pressure side valve counterclockwise to close.
6. Stop the operation of the unit by pushing the K3 button.
7. Close each cap of the valve.



CAUTION

Use a transfer cylinder when recovering refrigerant to be reused. Using a modified refrigerant vessel may cause explosion and cause damage or personal injury.



NOTE

Relocation of the Air to the water heat pump

- Refer to this procedure when the unit is relocated.
- Carry out the pump-down procedure. (Refer to the details of 'pump down'.)
- Collecting refrigerant may be hard since multi-type products exceed the allowable charging amount of refrigerant in the outdoor unit to support long piping.
- Remove the power cord.
- Disconnect the assembly cable from the indoor and outdoor units.
- Remove the flare nut connecting the indoor unit and the pipe.
- Currently, cover the pipe of the indoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Disconnect the pipe connected to the outdoor unit. Currently, cover the valve of the outdoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Make sure you do not bend the connection pipes in the middle and store them together with the cables.
- Move the indoor and outdoor units to a new location.
- Remove the mounting plate for the indoor unit and move it to a new location



NOTE

- When recharging R-32 refrigerant after it has been completely removed, be sure to charge only the factory refrigerant amount.
- When vacuuming the product, be sure to proceed for at least 1 hour.
- Be sure to use an electronic balance when measuring the amount of refrigerant, and make sure that only the specified amount is charged.

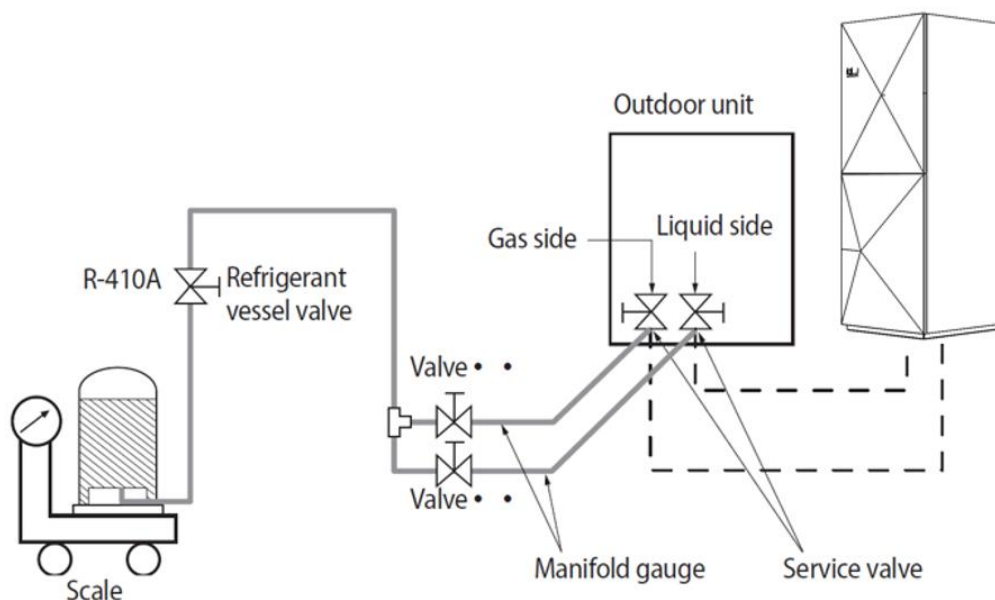


If more than the amount of refrigerant specified on the label is charged, a fire may occur when the refrigerant leaks.

11.6 Collecting refrigerant in refrigerant vessel before pump down operation

If the amount of refrigerant in the system exceeded the maximum allowable limit, reduce the amount of refrigerant by following the below instructions before the pump down operation.

1. Prepare an exclusive rechargeable refrigerant vessel, scale, and manifold gauge.
2. Check the amount of refrigerant in the entire system.
3. Connect a refrigerant vessel to an outdoor unit and operate about 50 % of the indoor unit in cooling mode.
4. After 10 minutes of cooling operation, check the pressure on the high-pressure side with the manifold gauge. If the pressure on the high-pressure side is over 3.0 MPa (30.59 kgf/cm²), reduce the number of operating indoor unit to decrease the pressure below 3.0 MPa (30.59 kgf/cm²).
5. When the pressure becomes lower than 3.0 MPa (30.59 kgf/cm²) open the manifold gauge valve □ which is connected to a liquid side. Then, open the valve on the refrigerant vessel for the refrigerant to flow from the liquid side pipe to a vessel.
6. Check the weight difference with the scale. When the desired amount of the refrigerant is collected into the vessel, close the valve and remove the manifold gauge.
7. Make sure that the amount of refrigerant in the vessel is about 50 % of the entire system.
8. Measure the amount of refrigerant correctly to not exceed the amount of collected refrigerant.



12. Electrical installation

12.1 Precautions when connecting the electrical wiring



WARNING

- Make sure first the water piping is connected before the electrical wiring work.
- When removing or relocating the equipment, power off first and then disconnect the electrical wiring.
- Connect the air to water heat pump to a protected earth (PE) before connecting the phase and neutral to the product.
- Follow the local installation standards and regulations when installing electrical wiring. Electrical wiring should be installed by a certified electrician or certified installer. Failing to comply, might lead to damaging the product, starting a fire and personal injury, electrocution or death.

- Make sure that wiring work must be done by an authorized electrician. The wiring materials and wiring work must comply with the applicable legislation.
- Always verify that a suitable grounding connection is available.
- Verify that the voltage and frequency of the power supply comply with the specifications and that the installed power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines.
- Always verify that the cut-off and protection switches are suitably dimensioned.
- Verify that the air to water heat pump is connected to the power supply in accordance with the instructions provided in the wiring diagram included in the manual.
- Always verify that electric connections (cable entry, the section of leads, protections...) comply with the electric specifications, local regulations and installation standards and with the instructions provided in the wiring scheme. Always verify that all connections comply with the standards applicable to the installation of air to water heat pumps.
- Depending on the condition of power supply, unstable power or voltage may cause malfunction of the parts or control system. (Avoid using power supply from an electric generator, like on a ship etc).



- Make sure that you earth the cables.
 - Do not connect the earth wire to the gas pipe, water pipe, lighting rod or telephone wire. If earthing is not complete, electric shock or fire may occur.
- Install the circuit breaker.
 - Failing to install a circuit breaking device may result in electric shock and fire occurrence.
- Install the power cable and communication cable of the indoor and outdoor unit according to IEC 60364-1 (Electrical installations and protection against electric shock).
- Be sure to install both an earth leakage detector and circuit breaker with specified capacity in accordance with relevant local and national regulations.
 - If it is not installed properly, it may cause electric shocks and fire.

12.2 Specification of power cables

IGLU Inuit 6 / IGLU Inuit 6 WT					
Rated		MCA (outdoor unit)	MCA (indoor unit)	MFA (outdoor unit)	MFA (indoor unit)
HZ	Volt	Min Circuit Amps.	Min Circuit Amps.	Max Fuse Amps.	Max Fuse Amps.
50	220-240	16	28.26	20	32

IGLU Inuit 9 / IGLU Inuit 9 WT				
RATED		MCA (outdoor unit)	MCA (indoor unit)	MFA (indoor + outdoor)
HZ	Volt	Min Circuit Amps.	Min Circuit Amps.	Max. Fuse amps.
50	380-415	10	15,2	32

IGLU Inuit 12 / IGLU Inuit 12 WT				
RATED		MCA (outdoor unit)	MCA (indoor unit)	MFA (indoor + outdoor)
HZ	Volt	Min Circuit Amps.	Min Circuit Amps.	Max. Fuse amps.
50	380-415	10	15,2	32

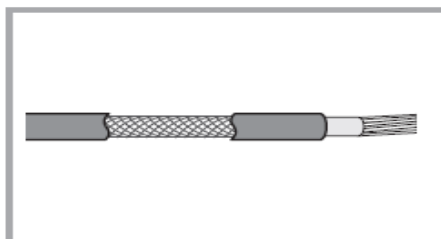
IGLU Inuit 16 / IGLU 16 WT				
RATED		MCA (outdoor unit)	MCA (indoor unit)	MFA (indoor + outdoor)
HZ	Volt	Min Circuit Amps.	Min Circuit Amps.	Max. Fuse amps.
50	380-415	12	15,2	32

- The power cables are not supplied with the air to water heat pump.
- Power supply cords of parts of appliances use shall not be lighter than polychloroprene sheathed flexible cord (Code designation IEC:60245 IEC 66 / CENELEC:H07RN-F)
- This equipment complies with IEC 61000-3-12 provided that the short-circuit power (SSC) is greater than or equal to 3.3[MVA] at the interface point between the user's supply and the public system. It is the responsibility of the installer to ensure, by consultation with the energy company if necessary, that the equipment is connected only to a supply with a short-circuit power (SSC) greater than or equal to 3.3[MVA].

12.3 Specification of connection cables (common in use)

IGLU Inuit 6 / IGLU Inuit 6 WT		
POWER SUPPLY	MAX/MIN (V)	COMMUNICATION CABLE
1F, 220-240 Vac, 50 Hz	±10%	0.75 -1.5 mm ² , 2 Wires
IGLU Inuit 9 / IGLU Inuit 9 WT		
POWER SUPPLY	MAX/MIN (V)	COMMUNICATION CABLE
3F, 380-415 Vac, 50 Hz	±10%	0.75 -1.5 mm ² , 2 Wires
IGLU Inuit 12 / IGLU Inuit 12 WT		
POWER SUPPLY	MAX/MIN (V)	COMMUNICATION CABLE
3F, 380-415 Vac, 50 Hz	±10%	0.75 -1.5 mm ² , 2 Wires
IGLU Inuit 16 / IGLU Inuit 16 WT		
POWER SUPPLY	MAX/MIN (V)	COMMUNICATION CABLE
3F, 380-415 Vac, 50 Hz	±10%	0.75 -1.5 mm ² , 2 Wires

- For Power Cable, use the grade H07RN-F or H05RN-F materials.
- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 57 / CENELEC: H05RN-F or IEC:60245 IEC 66 / CENELEC: H07RN-F)
- When installing the outdoor unit in a computer room or network room, server room, or in the presence of risk of disturbance to the communication cable, use the double shielded (tape aluminum /polyester braid + copper) cable of FROHH2R type.



User Electrical Panel – Safety Precautions and Recommendations



CAUTION

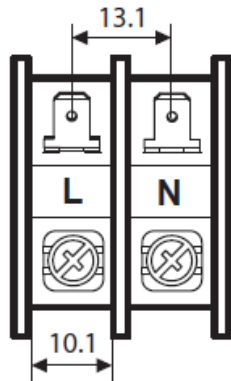
The user's electrical panel must be equipped with properly dimensioned circuit breakers providing over-current and electric leakage protection as specified in the table

IGLU Inuit 6 – 16 kW air-to-water heat pumps	Circuit breakers	Power cable to indoor	Power cable from indoor to outdoor
Inuit 6 (1P) & Inuit 6WT (1P)	Indoor unit C32 (1P) + Outdoor unit C20	Separate power cable to indoor unit 3x4mm ²	Separate power cable to outdoor unit 3x2,5mm ²
Inuit 9 & Inuit 9 WT	C32	5x4mm ²	5x2,5mm ²
Inuit 12 & Inuit 12WT	C32	5x4mm ²	5x2,5mm ²
Inuit 16 & Inuit 16WT	C32	5x4mm ²	5x2,5mm ²
Communication cable: 2 core shielded cable 0.75mm ² -1.5mm ²			
For cascade communication use 2 core shielded cable 0.75mm ² -1.5mm ²			

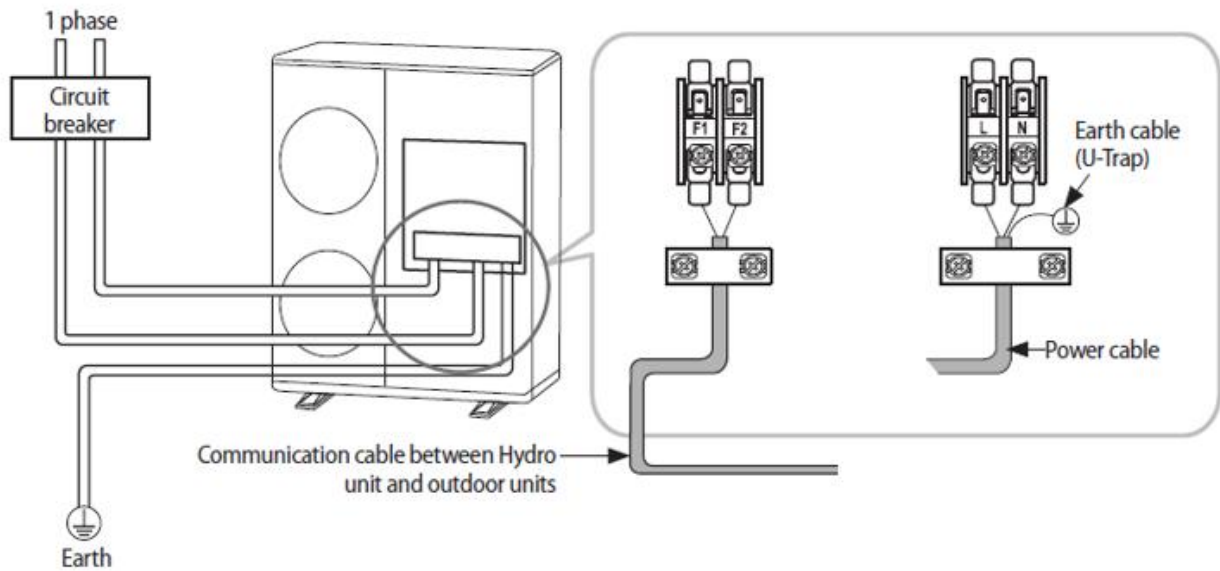
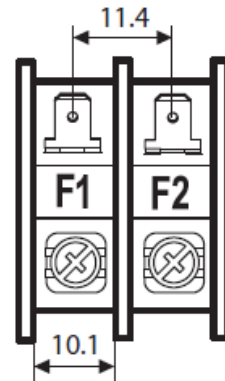
12.4 Connecting the cables

IGLU Inuit 6 / IGLU Inuit 6 WT

AC power : M4 screw

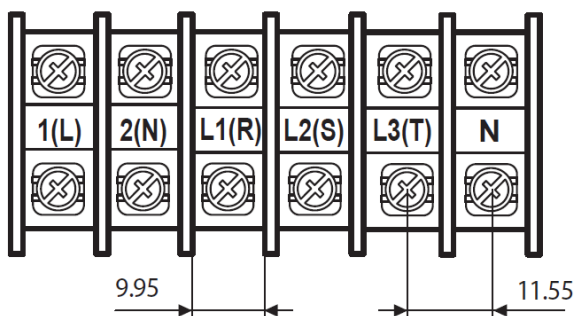


Communication : M4 screw

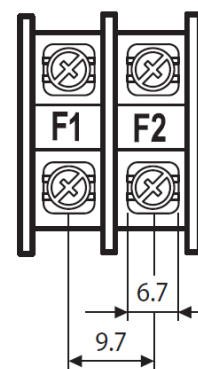


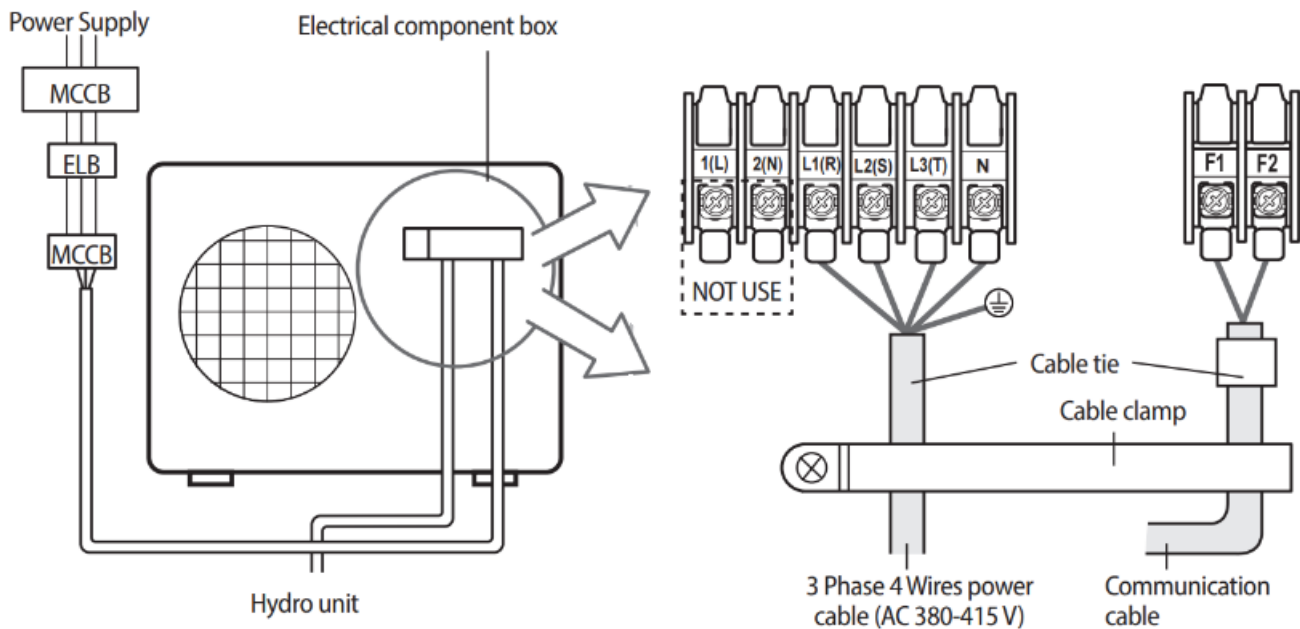
IGLU Inuit 9/12/16 IGLU Inuit 9/12/16 WT

AC power : M4 screw



Communication : M4 screw





*The appearance of the unit may be different from the picture depending on the model

- When removing the outer cover of the power cable, use the appropriate tools to prevent damaging the inner cover.
- Make sure to place the outer cover of the power cable and the communication cable, at least 20 mm into the electrical parts.
- Communication wiring should be done separately from the power cable and other communication cables.



CAUTION

- You should connect the power cable to the power cable terminal and fasten it with a clamp.
- The unbalanced power must be maintained within 2 % of the supply rating.
- If the power is greatly unbalanced, it may shorten the life of the condenser. If the unbalanced power is exceeded over 4 % of the supply rating, the indoor unit is protected, stopped and the error mode indicates.
- To protect the product from water and possible shock, you should keep the power cable and the connection cord of the indoor and outdoor units within ducts. (With appropriate IP rating and material selection for your application)
- Ensure that the main supply connection is made through a switch that disconnects all poles, with a contact gap of a least 3 mm.
- Devices disconnected from the power supply should be completely disconnected in the condition of overvoltage category.
- Keep distances of 50 mm or more between the power cable and the communication cable

- Connect the cables to the terminal board using the compressed ring terminal.
- Connect the rated cables only.
- Connect using a wrench that can apply the rated torque to the screws.
- If the terminal is loose, fire may occur caused by an arc. If the terminal is connected too firmly, the terminal may be damaged.

Tightening Torque (kgf.cm)	
M4	12 ~ 18
M5	20 ~ 30



CAUTION

For the product that uses the R-32 refrigerant, be cautious not to generate a spark by keeping the following requirements:

- Do not remove the fuses with power on.
- Do not disconnect the power plug from the wall outlet with power on.
- It is recommended to locate the outlet in a high position. Place the cords so that they are not tangled

12.5 Installing the earth wire

- Earthing must be done by your installation specialist for your safety.
- Use the earth wire by referring to the specification of the electric cable for the outdoor unit.

Earthing the power cable

The standard of earthing may vary according to the rated voltage and installation place of the Air to Water Heat Pump. **Earth the power cable according to the following.**

Installation place Power condition	High humidity	Average humidity	Low humidity
Electrical potential of lower than 150 V		Perform the earthing work 3. ^{Note 1)}	Perform the earthing work 3 if possible for your safety. ^{Note 1)}
Electrical potential of higher than 150 V		Must perform the earthing work 3. ^{Note 1)} (In case of installing circuit breaker)	

Note 1) Earthing work 3.

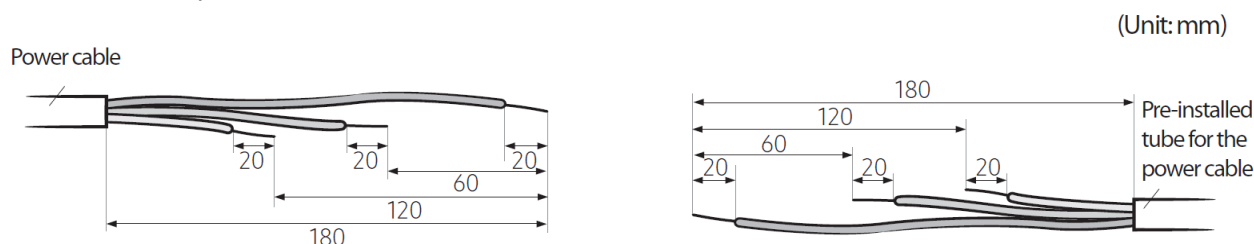
- Earthing must be done by your installation specialist.
- Check if the earthing resistance is lower than 100Ω. When installing a circuit breaker that can cut the electric circuit in case of a short circuit, the allowable earthing resistance can be 30~500Ω.

12.6 How to connect your extended power cables

1. Required tools

Tools	Specification	Shape
Crimping pliers	MH-14	
Connection sleeve (mm)	20x6.5 (HxOD)	
Insulation tape	Width 19mm	
Contraction tube (mm)	70x8 (LxOD)	

- As shown in the figure, peel off the shields from the rubber and wire of the power cable. Peel off 20 mm of cable shields from the pre-installed tube.





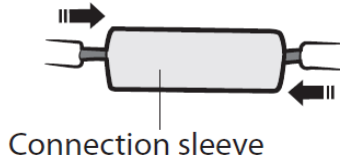
CAUTION

- For information about the power cable specifications for indoor and outdoor units, refer to the installation manual.
- After peeling off cable wires from the pre-installed tube, insert a contraction tube.

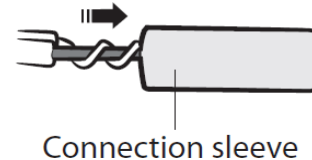
3. Insert both sides of the core wire of the power cable into the connection sleeve.

- Method 1: Push the core wire into the sleeve from both sides.
- Method 2: Twist the wire cores together and push it into the sleeve.

Method 1



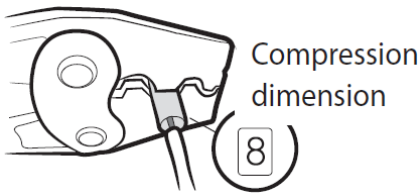
Method 2



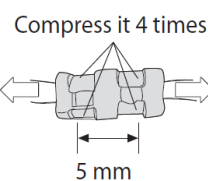
If cable wires are connected without using connecting sleeves, their contact area becomes reduced, or corrosion develops on the outer surfaces of the wires (copper wires) over a long time. This may cause an increase in resistance (reduction of passing current) and consequently may result in a fire.

4. Using a crimping tool, compress the two points and flip them over and compress another two points in the same location.

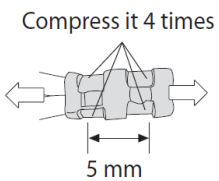
- The compression dimension should be 8.0
- After compressing it, pull both sides of the wire to make sure it is firmly pressed.



Method 1

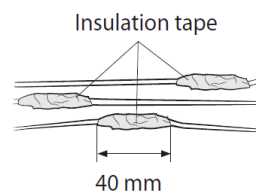


Method 2

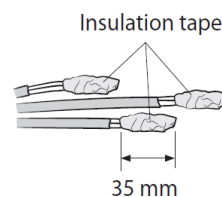


5. Wrap it with the insulation tape twice or more and position your contraction tube in the middle of the insulation tape.

Method 1

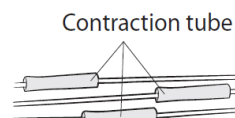


Method 2

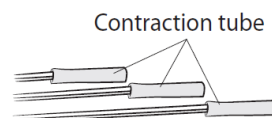


6. Apply heat to the contraction tube to contract it.

Method 1

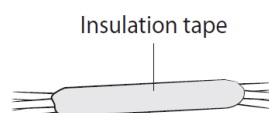


Method 2

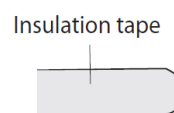


7. After tube contraction work is completed, wrap it with the insulation tape to finish. Three or more layers of insulation are required.

Method 1



Method 2



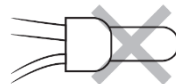


CAUTION

- Make sure that the connection parts are not exposed to the outside.
- Be sure to use insulation tape and a contraction tube made of approved reinforced insulating materials that have the same level of withstand voltage as the power cable. (Comply with the local regulations on extensions.)



In case of extending the electric wire, please DO NOT use a round-shaped Pressing socket. Incomplete wire connections can cause electric shock or fire.



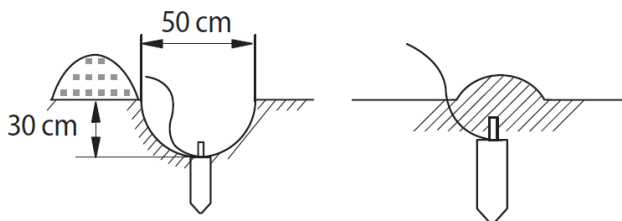
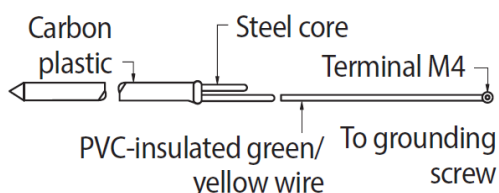
12.7 Checking the correct grounding



- The standard of grounding may vary according to the rated voltage and installation place of the heat pump.
- Grounding must be done by an authorized electrician (sometimes appointed by the electricity company), according to local regulation.
- Do not earth the installation via connecting to water or gas piping, telephone earth or surge absorber.
- Earthing wiring must have the same diameter of the phase and neutral lines.
- Earthing cables are recognizable by their green/yellow colour labeling.

If the power distribution circuit does not have grounding or the grounding does not comply with specifications, an A grounding electrode must be installed. The corresponding accessories are not supplied with the Air to Water Heat pump.

1. Select a grounding electrode that complies with the specifications given in the illustration.



2. Connect the flexible hose to the flexible hose port.
 - In damp hard soil rather than loose sandy or gravel soil that has a higher grounding resistance.
 - Away from underground structures or facilities, such as gas pipes, water pipes, telephone lines, and underground cables.
 - At least two meters away from a lightning conductor grounding electrode and its cable.



The grounding wire for the telephone line cannot be used to ground the Air to Water Heat pump

3. Finish wrapping insulation tape around the rest of the pipes leading to the outdoor unit.
4. Install a green/yellow colored grounding wire:
 - If the grounding wire is too short, connect an extension lead, mechanically and wrap it with insulating tape.
 - (Do not bury the connection).
 - Secure the grounding wire in position with staples.

**NOTE**

If the grounding electrode is installed in an area of heavy traffic, its wire must be connected securely.

5. Carefully check the installation by measuring the ground resistance with a ground resistance tester. If the resistance is above the required level, drive the electrode deeper into the ground or increase the number of grounding electrodes
6. Connect the grounding wire to the electrical component box inside the outdoor unit

Sensors and auxiliary components

Temperature sensors

The temperature sensors for the hydro unit (e.g., buffer tank, domestic hot water tank, and signal wires) are connected to the terminal blocks. A two-core 0.5–1.0 mm² cable must be routed from the heat pump to each sensor location. The sensor installation positions are defined in the hydraulic scheme to ensure accurate operation.

NTC 10K temperature sensor characteristics

T [°C]	R [Ω]	T [°C]	R [Ω]	T [°C]	R [Ω]
-30.0	175203	50.0	3605	130.0	298
-25.0	129289	55.0	2989	135.0	262
-20.0	96360	60.0	2490	140.0	232
-15.0	72502	65.0	2084	145.0	206
-10.0	55047	70.0	1753	150.0	183
-5.0	42158	75.0	1481	155.0	163
0.0	32555	80.0	1256	160.0	145
5.0	25339	85.0	1070	165.0	130
10.0	19873	90.0	915	170.0	117
15.0	15699	95.0	786	175.0	105
20.0	12488	100.0	677	180.0	95
25.0	10000	105.0	586	185.0	85
30.0	8059	110.0	508	190.0	77
35.0	6535	115.0	443	195.0	70
40.0	5330	120.0	387	200.0	64
45.0	4372	125.0	339		

Backup Heater

The unit has built-in backup heater. It is an electric element that activates only to reach the higher temperature needed for hot water preparation or to provide emergency heating if the compressor cannot operate.

**CAUTION**

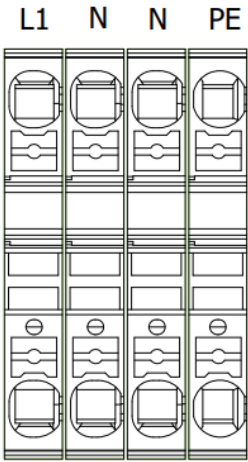
The backup heater is an integral part of the heat pump. We recommend not disconnecting, modify, or disable the backup heater or its wiring. Doing so may result in loss of domestic hot water, insufficient heating capacity, or failure of emergency heating functions.

12.8 Electrical connection scheme of IGLU Inuit 6



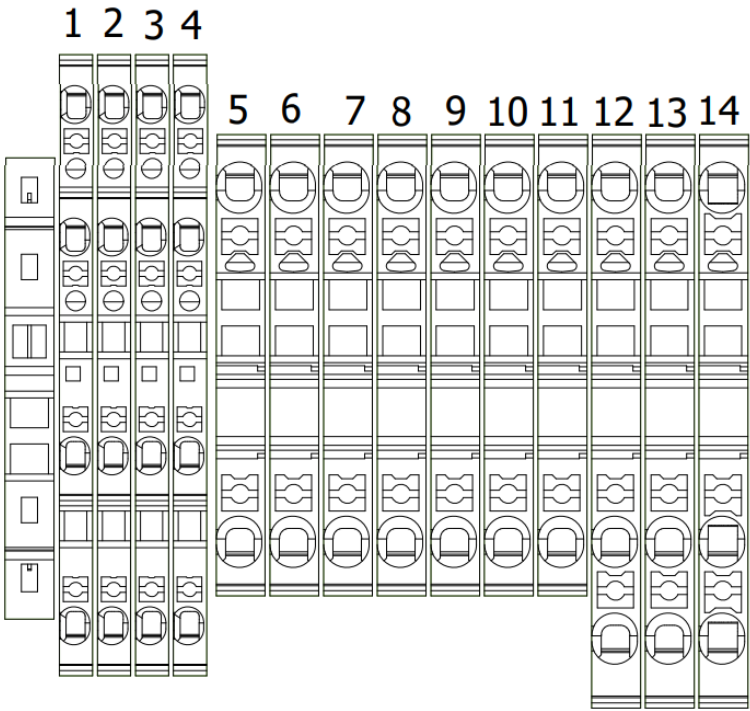
The electrical connection diagrams show bridges (or jumpers), which indicate a connection between terminals. These connections are already made by the manufacturer.

X1



No.	Component	Connection	Purpose	Jumper
1	EL000424	L1	Main Input	
2	EL000425	N	Main Input	X
3	EL000425	N	Main Input	X
4	EL000426	PE	Main Input	

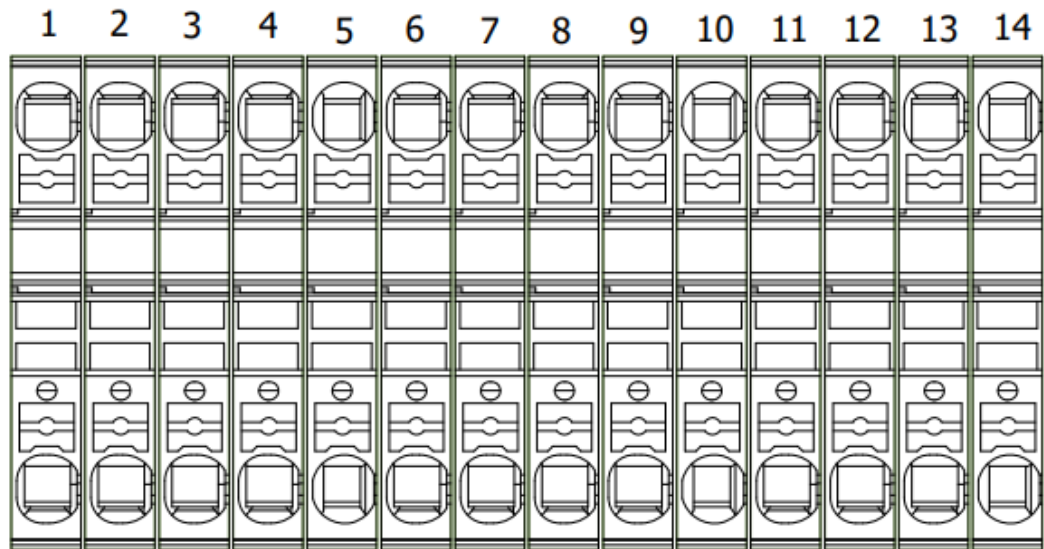
X2



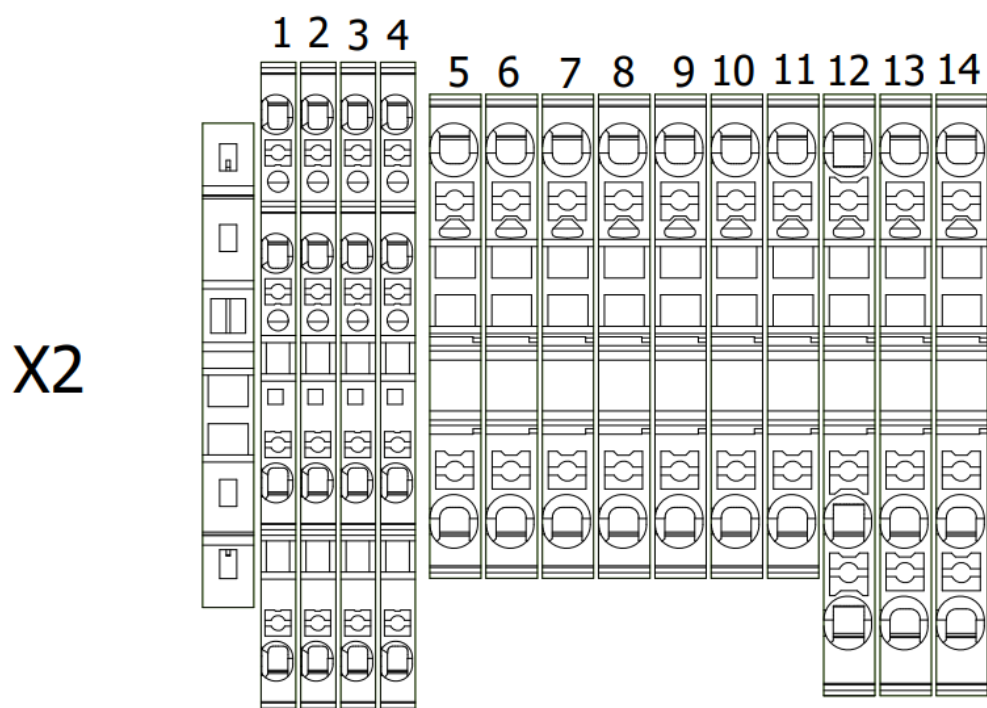
Nr.	Component	Connection	Purpose	Bridge
1.1	EL000419	B1	Boiler T	X
1.2		COM	COM	
2.1	EL000419	B2	Buffer tank T	X
2.2		COM	COM	
3.1	EL000419	B4	Floor heating T	X
3.2		COM	COM	
4.1	EL000419	B5	Indoor T	X
4.2		COM	COM	
5	EL000420	Fieldbus1	RS485 +	
6	EL000420		RS485 -	
7	EL000420		RS485 GND	
8	EL000420	NO8	Internal heating loop pump ON/OFF	
9	EL000420	Unit:230V	Three-way valve (L3)	
10	EL000420	NO7	Three-way valve ON/OFF	
11	EL000420	NO6	Buffer tank pump ON/OFF	
12	EL000422	N	Three-way valve (N)	
13	EL000422	N	Buffer tank pump (N)	X
		N	Internal heating loop pump N	
14	EL000423	PE	Internal heating loop pump PE	
		PE	Buffer tank pump (PE)	

12.9 Electrical connection scheme of Inuit 9/12/16

X1



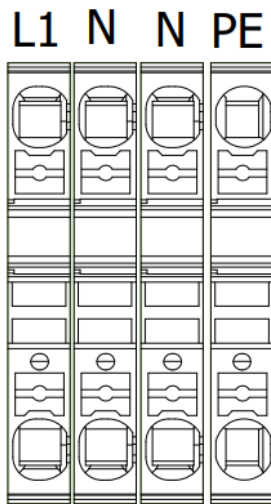
Nr.	Component	Connection	Purpose	Bridge
1	EL000424	L1	Main Input	
2	EL000424	L2	Main Input	
3	EL000424	L3	Main Input	
4	EL000425	N	Main Input	
5	EL000426	PE	Main Input	
6	EL000424	L1	Outdoor Unit	
7	EL000424	L2	Outdoor Unit	
8	EL000424	L3	Outdoor Unit	
9	EL000425	N	Outdoor Unit	
10	EL000426	PE	Outdoor Unit	
11	EL000425	EH1:N	Heating element N	X
12	EL000425	EH1:N	Heating element N	X
13	EL000425	EH1:N	Heating element N	X
14	EL000426	EH1:PE	Heating element PE	



Nr.	Component	Connection	Purpose	Bridge
1.1	EL000419	B1	Boiler T	X
1.2		COM	COM	
2.1	EL000419	B2	Buffer tank T	X
2.2		COM	COM	
3.1	EL000419	B4	Floor heating T	X
3.2		COM	COM	
4.1	EL000419	B5	Indoor T	X
4.2		COM	COM	
5	EL000420	Fieldbus1	RS485+	
6	EL000420		RS485 -	
7	EL000420		RS485 GND	
8	EL000420	NO8	Internal heating loop pump ON/OFF	
9	EL000420	Unit:230V	Three-way valve (L3)	
10	EL000420	NO7	Three-way valve ON/OFF	
11	EL000420	NO6	Buffer tank pump ON/OFF	X
12	EL000422	N	Three-way valve (N)	
13	EL000422	N	Buffer tank pump (N)	
		N	Internal heating loop pump N	X
14	EL000423	PE	Internal heating loop pump PE	
		PE	Buffer tank pump (PE)	

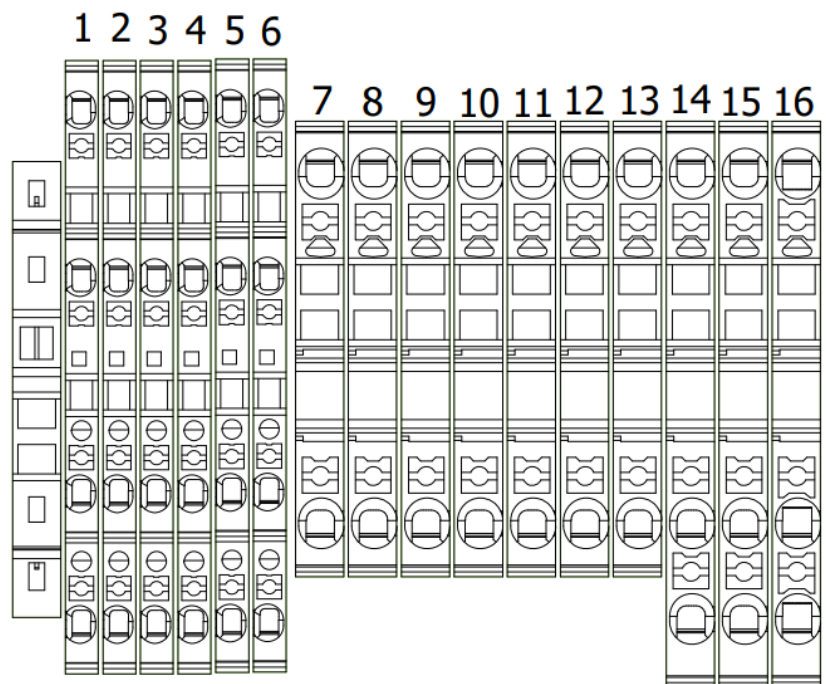
12.10 Electrical connection scheme of Inuit 6 WT

X1



No.	Component	Connection	Purpose	Jumper
1	EL000424	L1	Main Input	
2	EL000425	N	Main Input	X
3	EL000425	N	Main Input	X
4	EL000426	PE	Main Input	

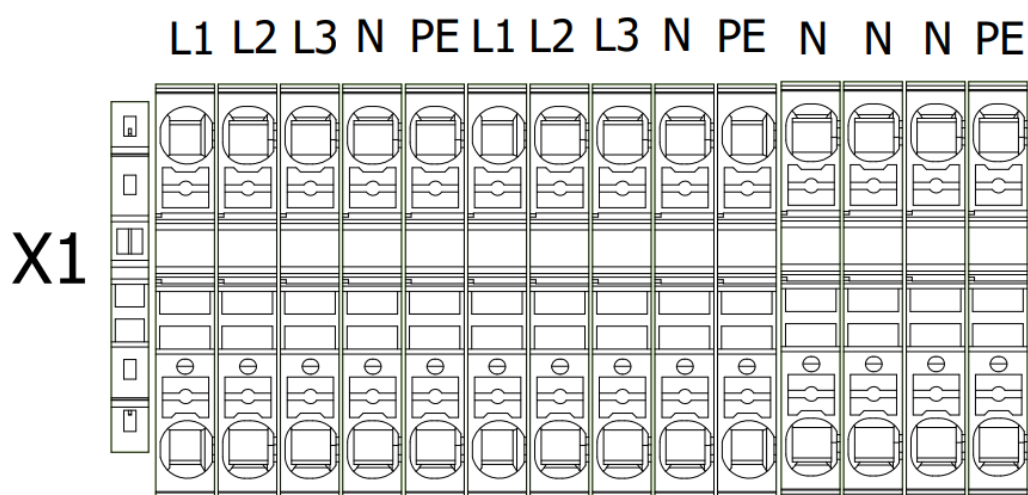
X2



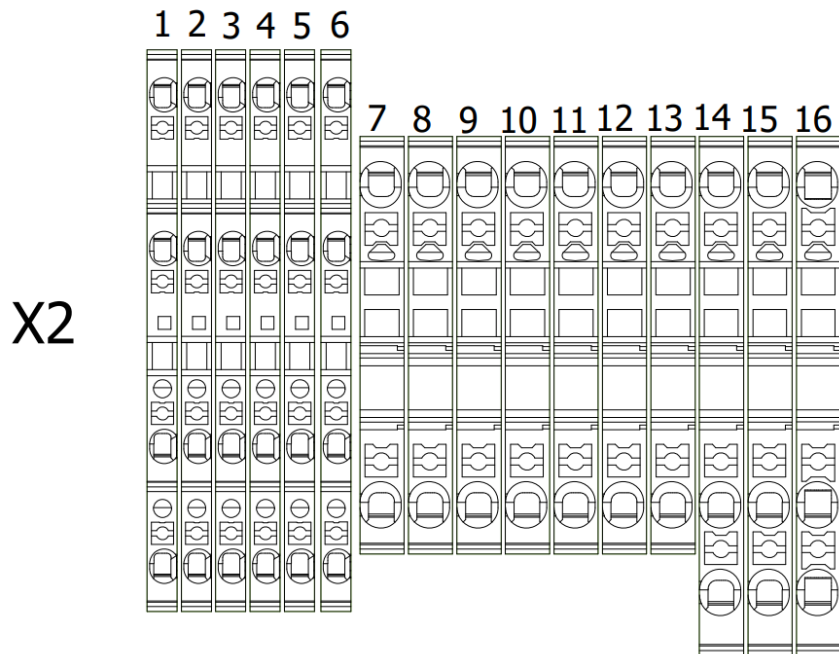
Nr.	Component	Connection	Purpose	Bridge
1.1	EL000419	B1	Boiler T	
1.2		COM	COM	X
2.1	EL000419	B2	Buffer tank T	
2.2		COM	COM	X
3.1	EL000419	B4	Floor heating T	
3.2		COM	COM	X
4.1	EL000419	B5	Indoor T	
4.2		COM	COM	X
5.1	EL000419	B9	Heating Return T	
5.2		COM	COM	X
6.1	EL000419	DI6	Cooling requirement	X
6.2		COM	COM	X
7	EL000420	Fieldbus1	RS485 +	
8	EL000420		RS485 -	
9	EL000420		RS485 GND	

10	EL000420	NO8	Internal heating loop pump ON/OFF	
11	EL000420	Unit:230V	Three-way valve (L3)	
12	EL000420	NO7	Three-way valve ON/OFF	
13	EL000420	NO6	Buffer tank pump ON/OFF	
14	EL000422	N	Three-way valve (N)	X
15	EL000422	N	Buffer tank pump (N)	X
		N	Internal heating loop pump N	
16	EL000423	PE	Internal heating loop pump PE	
		PE	Buffer tank pump (PE)	

12.11 Electrical connection scheme of Inuit 9/ 12/ 16 WT



Nr.	Component	Connection	Purpose	Bridge
1	EL000424	L1	Main Input	
2	EL000424	L2	Main Input	
3	EL000424	L3	Main Input	
4	EL000425	N	Main Input	
5	EL000426	PE	Main Input	
6	EL000424	L1	Outdoor Unit	
7	EL000424	L2	Outdoor Unit	
8	EL000424	L3	Outdoor Unit	
9	EL000425	N	Outdoor Unit	
10	EL000426	PE	Outdoor Unit	
11	EL000425	EH1:N	Heating element N	X
12	EL000425	EH1:N	Heating element N	X
13	EL000425	EH1:N	Heating element N	X
14	EL000426	EH1:PE	Heating element PE	



Nr.	Component	Connection	Purpose	Bridge
1.1	EL000419	B1	Boiler T	X
1.2		COM	COM	
2.1	EL000419	B2	Buffer tank T	X
2.2		COM	COM	
3.1	EL000419	B4	Floor heating T	X
3.2		COM	COM	
4.1	EL000419	B5	Indoor T	X
4.2		COM	COM	
5.1	EL000419	B9	Heating Return T	X
5.2		COM	COM	
6.1	EL000419	DI6	Cooling requirement	X
6.2		COM	COM	X
7	EL000420	Fieldbus1	RS485 +	
8	EL000420		RS485 -	
9	EL000420		RS485 GND	
10	EL000420	NO8	Internal heating loop pump ON/OFF	
11	EL000420	Unit:230V	Three-way valve (L3)	
12	EL000420	NO7	Three-way valve ON/OFF	
13	EL000420	NO6	Buffer tank pump ON/OFF	
14	EL000422	N	Three-way valve (N)	X
15	EL000422	N	Buffer tank pump (N)	
		N	Internal heating loop pump N	X
16	EL000423	PE	Internal heating loop pump PE	
		PE	Buffer tank pump (PE)	

13. System configuration

Setting the option switch and function of the keys

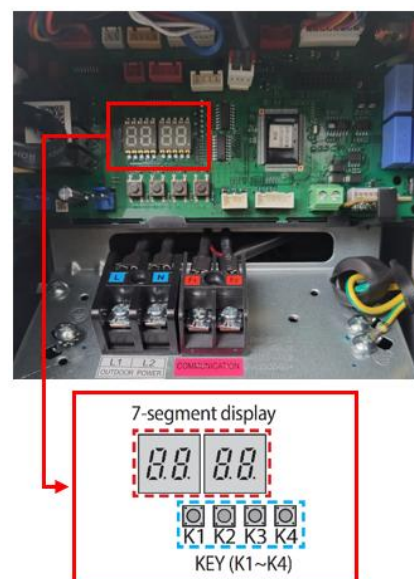
1. Check the power supply between the outdoor unit and the auxiliary circuit breaker.

- 1 phase power supply: L, N (**IGLU Inuit 6 / IGLU Inuit 6 WT**)
- 3 phases power supply: R, S, T, N (**IGLU Inuit 9 / IGLU Inuit 9 WT, IGLU Inuit 12 / IGLU Inuit 12 WT, IGLU Inuit 16 / IGLU Inuit 16 WT**)

2. Check that you have connected the power and communication cables correctly. (If the power cable and communication cables are mixed up or connected incorrectly, the PCB will be damaged.)

3. Press K1 or K2 on the outdoor unit PCB to run the test mode and stop.

KEY	KEY OPERATION	7-SEGMENT DISPLAY
K1	Press once: Heating test run	"H" "1" "BLANK" "BLANK"
	Press twice: Defrost test run	"H" "3" "BLANK" "BLANK"
	Press 3 times: Finishing test mode	-
K2	Press once: Cooling test run. (Heating Only: skip)	"H" "2" "BLANK" "BLANK"
	Press twice: Output signal test run	"H" "4" "BLANK" "BLANK"
	Press 3 times: Finishing test mode	-
K3	Reset	-
K4	View mode	Refer to the View mode display



4. View Mode: When the K4 switch is pressed, you can see information about our system state below.

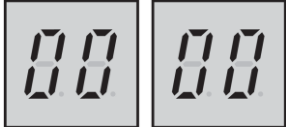
Number of press	Display contents	Display				Units
		Segment 1	Segment 2	Segment 3	Segment 4	
0	Communication State	10s digit of Tx	1s digit of Tx	10s digit of Rx	1s digit of Rx	-
1	Order frequency	1	100s digit	10s digit	1s digit	Hz
2	Current frequency	2	100s digit	10s digit	1s digit	Hz
3	Pump output	3	100s digit	10s digit	1s digit	%
4	Outdoor air sensor	4	+/-	10s digit	1s digit	°C
5	Discharge sensor	5	100s digit	10s digit	1s digit	°C
6	Eva in sensor	6	+/-	10s digit	1s digit	°C
7	Inlet water sensor	7	+/-	10s digit	1s digit	°C
8	Outlet water sensor	8	+/-	10s digit	1s digit	°C
9	Cond sensor	9	+/-	10s digit	1s digit	°C
10	Current	A	10s digit	1s digit	First decimal	A
11	Fan RPM	B	1000s digit	100s digit	10s digit	Rpm
12	Target discharge temperature	C	100s digit	10s digit	1s digit	°C
13	EEV	D	1000s digit	100s digit	10s digit	step
14	Protective control	E	0: Cooling 1: Heating	Protective control 0: No protective control 1: Freezing 2: Defrosting 3: Over-load	Frequency status 0: Normal 1: Hold 2: Down 3: Up limit 4: Down limit	-

				4: Discharge 5: Total current		
15	IPM temp.	F	+/-	10s digit	1s digit	°C
long-1	Main Micom version	Year (Dec)	Month (Hex)	Day (two digits)	Day (One digit)	-
long-1 and 1	Inverter Micom version	Year (Dec)	Month (Hex)	Day (two digits)	Day (One digit)	-
long-1 and 2	EEPROM version	Year (Dec)	Month (Hex)	Day (two digits)	Day (One digit)	-

13.2 Setting the option

1. Press and hold K2 to enter the option setting. (Only available when the operation is stopped)

- If you enter the option setting, the display will show the following.

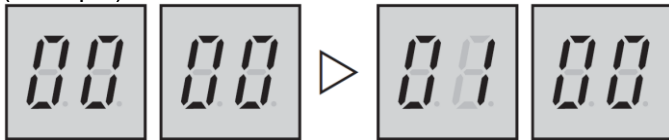


- Seg1 and Seg2 will display the number for the selected option.

- Seg3 and Seg4 will display the number for the set value of the selected option.

2. If you have entered the option setting, you can shortly press the K1 switch to adjust the value of the Seg1, and Seg2 and select the desired option.

(Example)



3. If you have selected desired option, you can shortly press the K2 to switch to adjust the value of the Seg3, and Seg4 and change the function for the selected option. Example:



4. After selecting the function for options, press and hold the K2 switch for 2 seconds. The edited value of the option will be saved when entire segments blink and tracking mode begins.



CAUTION

If the above instruction is not exactly followed, there is a risk that changed option settings are not saved.

- While you are setting the option, you may press and hold the K1 button to reset the value to the previous setting.
- If you want to restore the setting to factory default, press and hold the K4 button while you are in the options setting mode.
- If you press and hold the K4 button, the setting will be restored to factory default, but it doesn't mean that the restored setting is saved.
- Press and hold the K2 button. When the segments show that tracking mode is in progress, the setting will be saved.

OPTION	INPUT UNIT	SEG1	SEG2	SEG3	SEG4	FUNCTION OF THE OPTION
Channel address	Main	0	0	A	U	Automatic address setting (default) Manual address setting (0 to 15)
				0	0	
Base heater	Main	0	1	0	0	Enabled (default) Disabled
				0	1	
Operation mode	Main	0	2	0	0	Heat Pump (default) Heating Only
				0	1	
Snow accumulation prevention control	Main	0	3	0	0	Disabled (default) Enabled
				0	1	
Silent mode	Main	0	4	0	0	Manual Silent mode (-3 dB) Manual Silent mode * 0.9 (-5 dB) Manual Silent mode * 0.75 (-7 dB) Manual Silent mode (-3 dB) Low-noise Silent mode (default)
				0	1	
				0	2	
				0	3	
				0	4	
Energy saving mode	Main	0	5	0	0	Disabled (default) Enabled
				0	1	
1Defrost Entry Temperature Offset	Main	0	6	0	0	Defrost entering temperature = Default Defrost entering temperature = Default+1□ Defrost entering temperature = Default+2□ Defrost entering temperature = Default+3□
				0	1	
				0	2	
				0	3	

14. Pre-Startup Checklist

Before requesting the startup by qualified installers who are authorized to perform the startup of IGLU heat pumps, the installer must verify that the following conditions are met.

General Installation

- ☐ Installation space of outdoor unit is according to the manual (above average snow height /enough clearances).
- ☐ Outdoor unit is protected against direct wind on fan/snow ingress
- ☐ Outdoor unit is correctly secured to base
- ☐ For Outdoor unit provisions for condensate/drainage are made without any risk of freezing
- ☐ Installation space of indoor unit is according to the manual (installation room is clean, dry, ventilated, clearances for service access have been respected)

Hydraulic Circuits

- ☐ The heating circuit has been flushed, filled, and properly vented.
- ☐ Glycol/brine or other freeze protection added (if required)
- ☐ Water quality checked (pH, hardness, mg/L)
- ☐ The pressures in outdoor and indoor circuits meet the requirements.
- ☐ Expansion vessels are installed, correctly sized, and pre-charged to the proper pressure.
- ☐ Safety valves are installed, and discharge pipes are safely routed to a drain.
- ☐ Dirt strainers and magnetic/cyclone filters are installed and accessible

- ☐ Piping is leak-tight and properly insulated.
- ☐ Drain taps are installed at low points for future maintenance.
- ☐ System fully air purged.

Refrigerant Circuit

- ☐ Refrigerant piping diameter and pipe length comply with the installation manual requirements.
- ☐ Refrigerant piping and flare connections are properly insulated.
- ☐ Flare connections have been tightened according to specified torque values.
- ☐ Refrigerant piping leak test completed successfully.
- ☐ Additional refrigerant charge added according to pipe length requirements (if applicable).
- ☐ Refrigerant piping checked for visible damage, mechanical stress, and proper support.

Electrical Installation

- ☐ The electrical installation has been completed in accordance with local legislation and the wiring diagram
- ☐ The cables have been laid in accordance with the requirements between the indoor unit to and outdoor unit
- ☐ A dedicated power supply, and circuit breakers are installed.
- ☐ Protective earth (PE) is properly connected.
- ☐ Communication cable correctly connected (shielded and grounded)
- ☐ Supply voltage verified and within specified limits
- ☐ All cables are securely connected, protected from mechanical stress, and correctly routed.

Domestic Hot Water

- ☐ The DHW tank has been flushed with fresh water immediately after installation, and hygienic measures have been followed.
- ☐ The DHW safety valve installed
- ☐ Pipe runs are as short as possible to avoid stagnation.



NOTE

The startup may only be carried out by qualified installers authorized by the manufacturer. For the detailed startup procedure, refer to the “**IGLU Heat Pump Startup Manual for Installers**.” Upon completion of commissioning, the responsible service technician must complete and sign the official start-up report.



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