



# Ultimate Renewables Supplies

*Supplying your renewable future*

URS Pipe Schematics

Clivet Edge EVO 2.0

Three Phase





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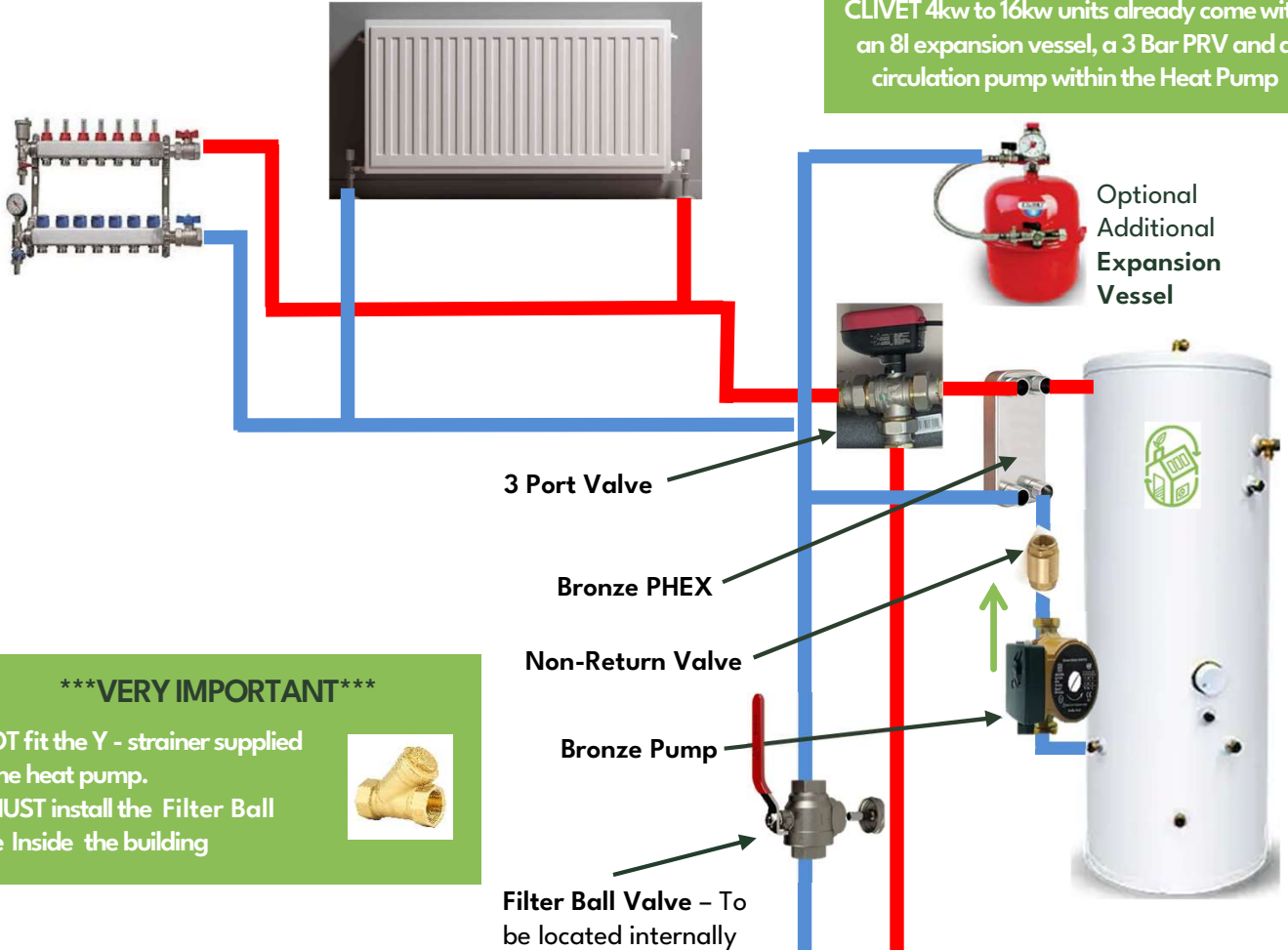





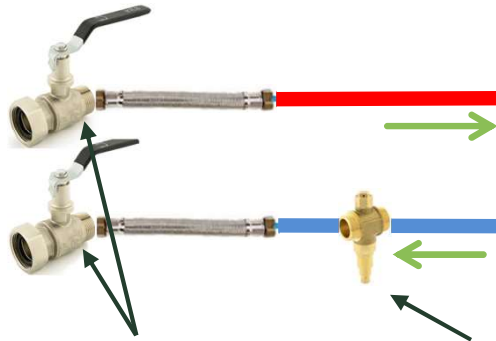
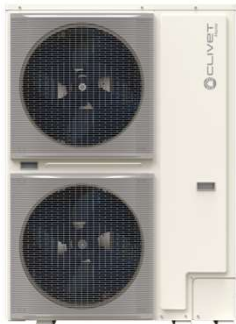
### System Layout (Plate Loaded Cylinder)

\*\*\*For Radiators and/or UFH systems, no zone valves are needed and TRV's are to be installed in bedrooms only\*\*\*

CLIVET 4kw to 16kw units already come with an 8l expansion vessel, a 3 Bar PRV and a circulation pump within the Heat Pump



**\*\*\*VERY IMPORTANT\*\*\***  
Do NOT fit the Y - strainer supplied with the heat pump. You MUST install the Filter Ball Valve Inside the building

Isolation Valves – To be connected directly to the HP

Anti Freeze Valve – Located on the primary return at the lowest part of the external pipework

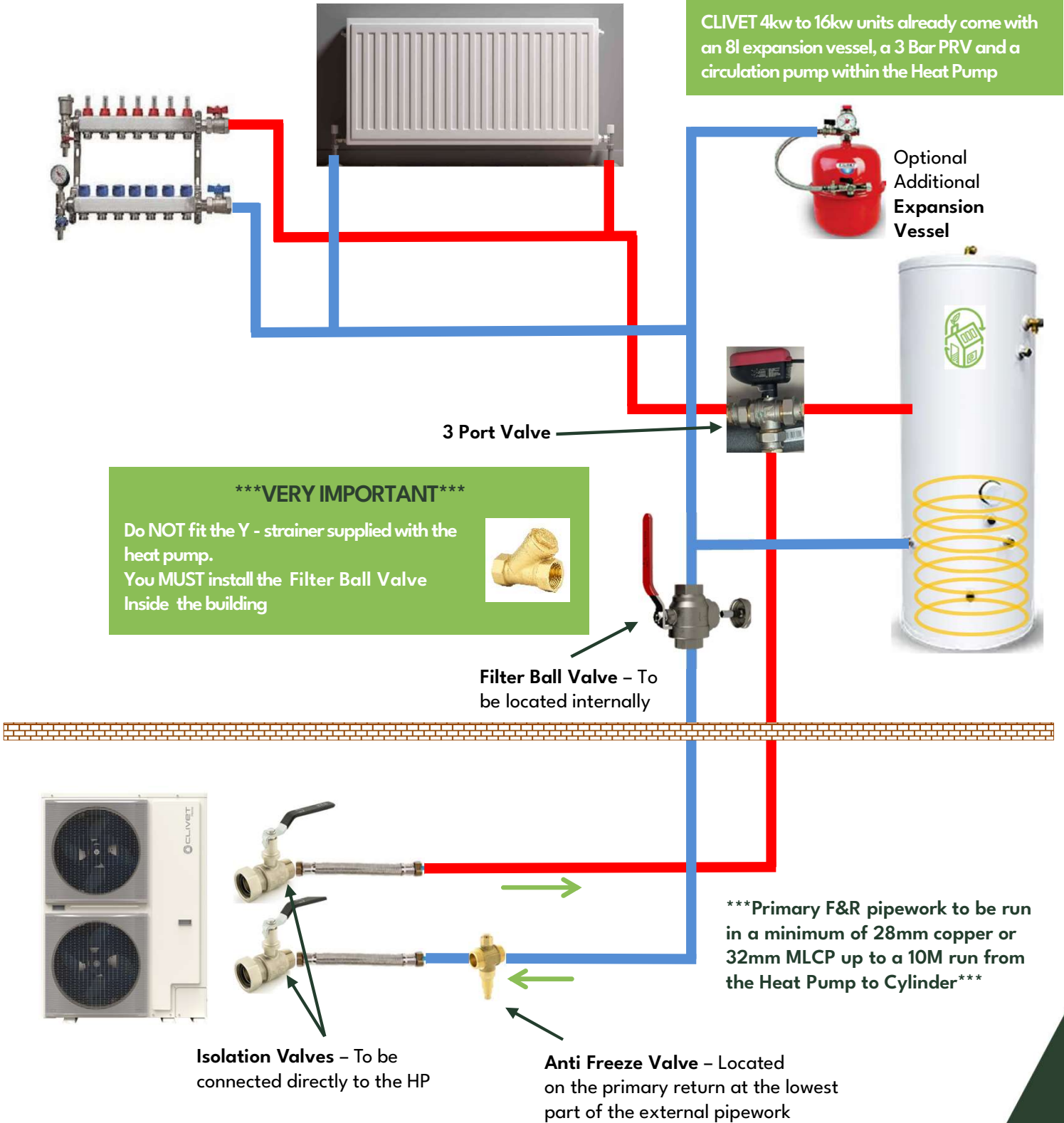
\*\*\*Primary F&R pipework to be run in a minimum of 28mm copper or 32mm MLCP up to a 10M run from the Heat Pump to Cylinder\*\*\*



### System Layout (Coiled Cylinder)

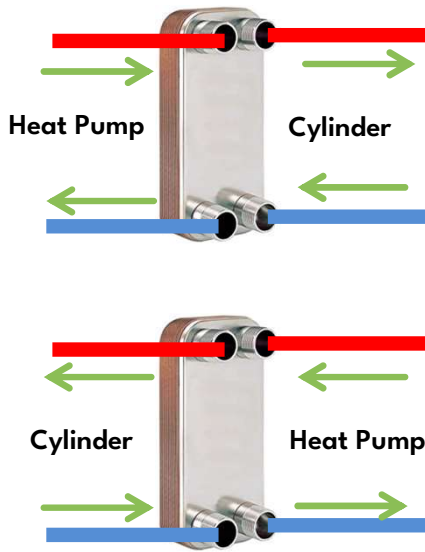
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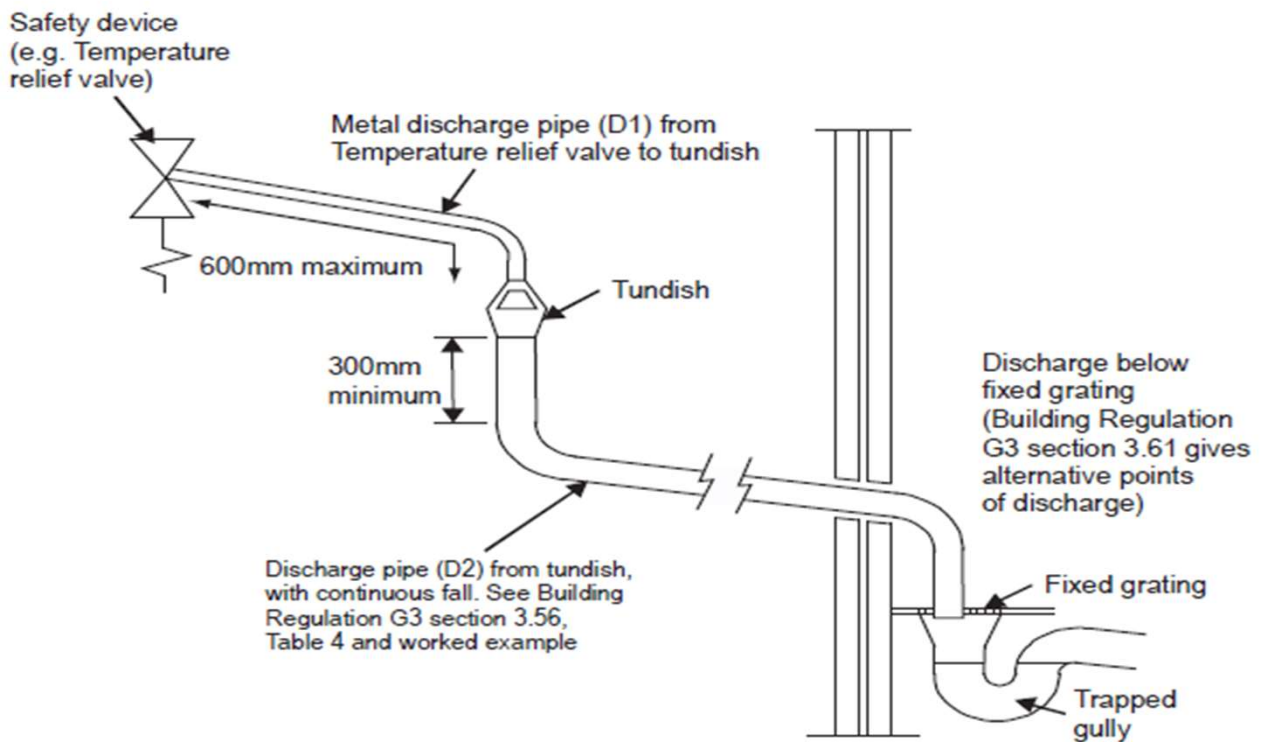


### Piping of the Plate Heat Exchanger



### Discharge Pipe Arrangement Schematic

**\*\*\*VERY IMPORTANT\*\*\***  
All DHW cylinders should be installed to meet the requirements of Approved Document G Part 3 and should only be installed by competent personnel. All DHW cylinder installations should be registered with the relevant building authorities.







## Things You Must Check/Do

**\*\*\* VERY IMPORTANT \*\*\***  
**Failure to complete these tasks will result in an aborted commission visit and chargeable revisit**

- Legionella Cycle – You must ensure that the thermostat in the immersion heater is set to a minimum of 60°C (4 for a Telford cylinder)
- In cold weather conditions the system must be powered on with the immersion heater running for at least 8 hours before trying to operate the system.
- A hot flush of at least 50 degrees to meet the requirements of BS7593 should be carried out before leaving the system operate in weather compensation mode.
- All pipework around the DHW cylinder and all hot water secondary pipework is to be insulated.
- The supplied bronze pump is for the potable water side of the plate heat exchanger/cylinder. This must be left in speed 1 for units under 10kw.

## Best Practice Water Quality

Please read the following before start-up of the unit, as these are important conditions of the Clivet Warranty\*

- Fit the **Ball Valve Filter and Magnet** (supplied by URS) on the return to the Heat Pump internally and in a serviceable place.
- The system should be flushed in accordance with BS7593, this is especially important if any part of the system is an existing gas or oil system.
- The primary pipe-work diameter should be sized in accordingly taking into account the length of the pipework run and the number of fittings and components but should have a minimum diameter **28mm** for copper pipework and **32mm** for MLCP pipework.
- The external Heat Pump should be installed on a base suitable for withstanding the weight of the unit and should be level.
- There shall be a proper means of condensate disposal, this should be via a drain or soak away. **NOT LEFT TO DRIP ON THE GROUND**
- The external Heat Pump unit should be positioned so that there is an adequate air flow around the unit. **OUTDOOR UNIT IS NOT TO BE BOXED IN**

## Minimum System Water Volume

You must ensure that the system has the correct minimum water volume. The total volume of water, excluding that contained in the unit, **must** exceed the values in the table below:

Size	9.1 to 14.1
MIN water volume	100l





## Checking Flow Rates

Unit	Minimum Flow Rate	Recommended	Maximum Flow Rate
Edge EVO 9.1	Lpm*	Lpm	Lpm
Edge EVO 10.1	Lpm*	Lpm	Lpm
Edge EVO 12.1	Lpm*	Lpm	Lpm
Edge EVO 14.1	Lpm*	Lpm	Lpm

**\*\*\*VERY IMPORTANT\*\*\***

Be aware that if the minimum flow rate is not achieved then the unit will not function correctly

OPERATION PARAMETER	#01
GAS BOILER	OFF
T1 LEAVING WATER TEMP.	35°C
WATER FLOW	1.72m 3/h
HEAT PUMP CAPACTIY	11.52kW
POWER CONSUM.	1000kWh
Ta ROOM TEMP	25°C
ADDRESS	3/9

To check the flow rate of the unit/system go to page 3 'Operation Parameter' on the Clivet Controller

Eg:  $1.72\text{m } 3/\text{h} / 60 = 1720 \text{ litres} / 60 \text{ seconds} = 28.6 \text{ litres per lpm}$

**\*\*\*On commissioning/flushing keep checking/cleaning the ball valve filter\*\*\***



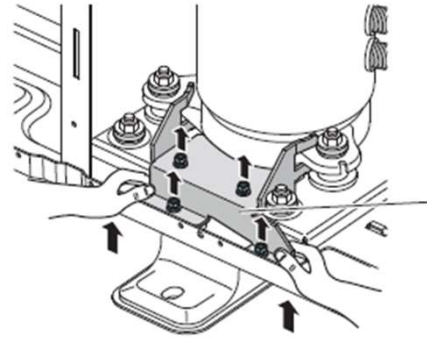


### Unit Clearances - Transit Bracket

Before starting the unit, a few pre-checks must be carried out.

On the larger 12/14/16kw units a transit bracket is installed on the compressor inside the outdoor unit, this bracket **must** be removed before starting the unit as per the image below.

\*\*\*Failure to remove the support bracket will result in the compressor becoming noisy and potentially being DAMAGED and would not be covered under the Warranty terms and conditions. Please find further details below\*\*\*



### Heat Pump Clearances

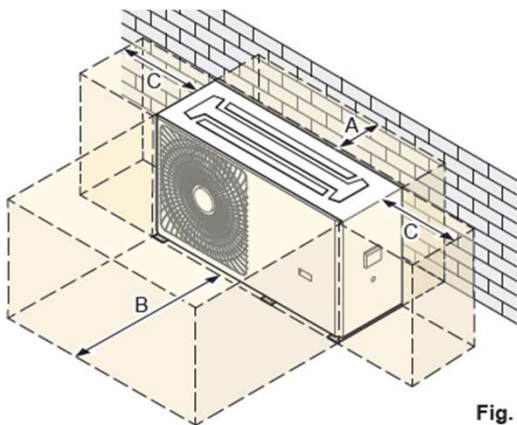
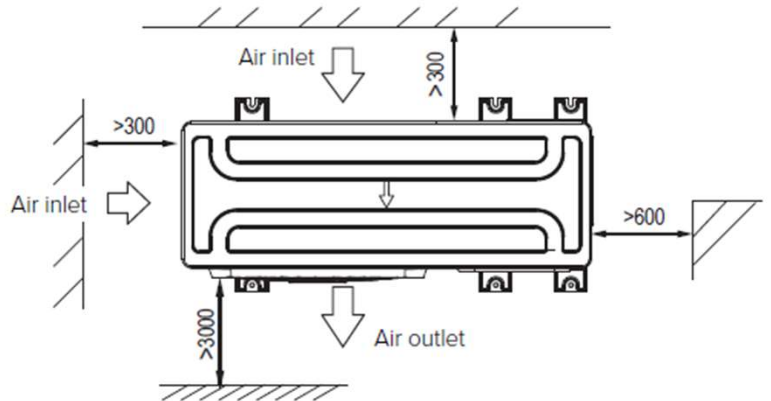


Fig. 8

In case of strong wind towards the heat pump, the orientation can be reversed. Turn the air outlet side towards the building, fence or screen (B Fig. 8).





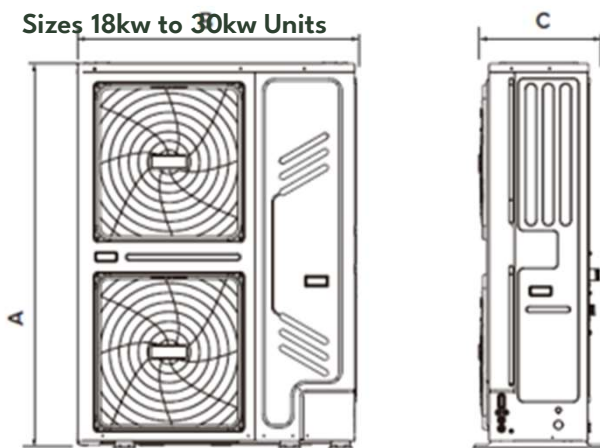


## Heat pump connections

### Size 18kw & 30kw Units

1. Aperture for mains voltage cable entry (power supply)
2. Aperture for low voltage cable entry (control and signal cables)
3. Aperture for condensate drain
4. Water outlet (flow)
5. Water inlet (return)

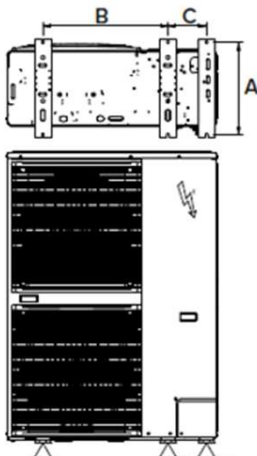
### Dimensions – 3 Phase Units



		Size			
		9.1	10.1	12.1	14.1
Length (A)	mm	1557	1557	1557	1557
Length (B)	mm	1120	1120	1120	1120
Length (C)	mm	400	400	400	400
Weight	kg	177	177	177	177

### Dimensions – feet mountings

#### Sizes 18kw to 30kw Units



		Size			
		9.1	10.1	12.1	14.1
A	mm	494			
B	mm	688			
C	mm	206			

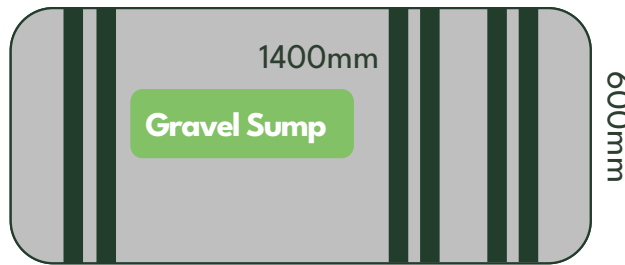




## Provisions For The Heat Pump Base

**\*\*\*VERY IMPORTANT\*\*\***

All heat pumps must be installed on a firm base, with drainage provision for the defrost cycles and condensation. All concrete bases must be a minimum of 150mm deep and 150mm away from the wall. If you require any advice, please contact our office.



## Insulation of Pipework

**\*\*\*VERY IMPORTANT\*\*\***

Well fitted insulation is one of the most important elements of a heat pump installation. Below are some examples of correct and incorrectly installed insulation.

### External Insulation

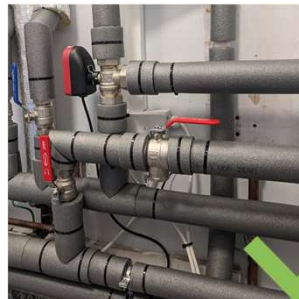
Our supplied Isolators and antifreeze valves insulated with Primary Pro Insulation, sealed with the supplied Primary Pro bond and seal



Non-UV rated insulation, the taped joints will soon come apart, even though these are antifreeze valves, they should also be lagged

### Internal Insulation

An example of internal Insulation in a cylinder cupboard/plant room



**\*\*\*You must ensure that plenty of sealant is used\*\*\***



## Installation of an Antifreeze Valve

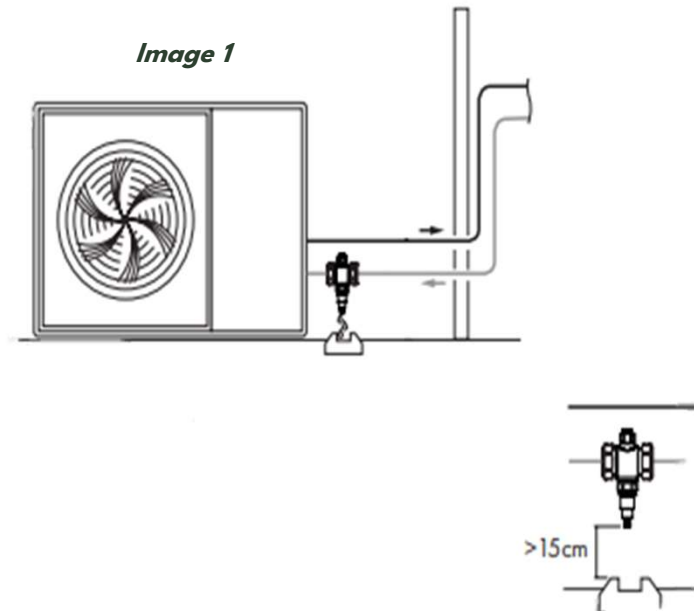
The antifreeze valve must only be installed in a vertical position, with the outlet facing downwards, to allow the draining water to flow out free from any obstructions.

The antifreeze valve must be installed outdoors, where the lowest temperatures can be reached if the heat pump is not operating.

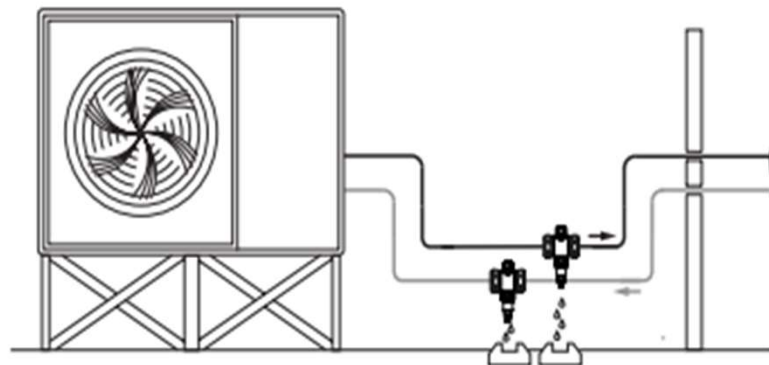
The antifreeze valve should be properly insulated and sealed to reduce heat loss.  
Only the vacuum breaker and discharge point should be exposed.

The valve **must not** be placed close to heat sources which could interfere with their function. For the valves to work properly, always keep the system under pressure.

We recommend at least 15cm clearance between the valve and the ground as discharged water could freeze and hinder the operation of the valve. The discharge from anti-freeze valves must be collected in a suitable drain and routed to a suitable collection point



*Image 2*



If the heat pump is elevated and the primary heating pipework drops below the level of the heat pump connections (as shown in image 2), two anti-freeze valves should be installed to completely drain system in the event of the pipework freezing.



## General Requirements

- Install the supplied ball valve filter internally on the heat pump return. **The Clivet Y- strainer should not be installed.**
- The system should be flushed in accordance with BS7593, this is especially important if any part of the system is an existing gas or oil system.
- The primary pipework should be sized accordingly taking into account the length of the pipework run and the number of fittings and components but should always have a minimum diameter of no less than **28mm** for copper pipework and **32mm** for MLCP pipework.
- The external monobloc should be installed on a base suitable for withstanding the weight of the unit and should be level. The steel plinth is structural and **must not** be removed.
- There shall be a proper means of condensate disposal, this should be via a drain or soak away **NOT LEFT TO DRIP ON THE GROUND.**
- The external monobloc unit should be positioned so that there is sufficient air flow around the unit. The minimum clearances are **300mm** to the left, **600mm** to the right, **300mm** behind the unit and **1000mm** in front on the **4-6kw** and **1500mm** on the **8-16kw** units.



**Example - Connecting the supplied valves and hoses to the back of the unit.**