

3.5. Heating and Cooling Systems.

3.5.1 Low Temperature Hot Water Heating

Residential only

The space heating demand of each residential unit shall be met by the use of a dedicated monobloc type, air source heat pump unit connected to a pre-plumbed domestic hot water cylinder which incorporates the properties domestic hot water storage requirement, primary heating pump, primary domestic hot water pump, and single zone space heating pump. For further details of the pre-plumbed cylinder, refer to the domestic hot water section of this specification.

The monobloc ASHP units shall be located as indicated on the tender drawings.

The ASHP unit and connected pre-plumbed cylinder shall be installed in strict compliance with all manufacturers' requirements and recommendations, whether identified within this specification or not.

The monobloc ASHP units shall be as manufactured by Mitsubishi Electric and shall be as tabled below.

Unit	Model	Heating Capacity	Dimension (WxDxH)	Electrical
A1	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
A2	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
B1	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
B2	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
C1 (Duplex)	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
C2 (Work / Live)	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
C3 (Work / Live)	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
C4 (1Bed)	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)
C5 (1Bed)	PUHZ-W50VHA2(-BS)	5kw	950x360x740	16A (230/1/50)

Each storage cylinder shall be provided with an intelligent controller which shall provide user control of both the space heating and domestic hot water systems. The controller shall be model FTC5 as manufactured by Mitsubishi Electric.

Each properties heating and domestic hot water system shall have the capability to be connected to Mitsubishi Electric's "MELCloud" cloud based controls system for monitoring and control via a smartphone / tablet / PC app, by incorporation of a PAC-WF010-E interface.

As cloud operation / control of the systems will be subject to each property having a suitable internet connection and Wi-Fi access, the contractor shall ensure that clear and simply instructions are provided in the Home Owner's manual for setting up the remote access once the Wi-Fi connection is available.

The LTHW heating system shall operate with a design flow temperature of 45°C, with a return water temperature of 40°C.

The single zone heating pump shall serve all of the underfloor heating manifolds within the property served.