



ISLAND PELLET
STOVES



**Passive
House
Design**



**Enjoy the warmth of an eco-friendly
and efficient real wood fire**

Passive House Pellet Stove

The use of wood as a heating fuel provides CO₂ (Carbon Dioxide) reduction benefits when compared to fossil fuels due to wood being a renewable fuel. CO₂ is emitted in the burning of wood fuel but it is absorbed during the re-growth of the tree; therefore as long as wood fuel is produced from sustainable forestry the contribution to greenhouse gases is very low.

Here at Island Pellet Stoves we have been developing our products for heating homes of the future by providing renewable heat and hot water from a low carbon solution whilst maintaining local air quality.

We believe that high air tightness and low demand for heat in a passive home should not exclude the enjoyment of a real wood fire.

This is how we have addressed the aims of passive house:

- Fully controllable – both the Lundy 5 and 8 pellet stoves will modulate down from 100% to 20% of its rated output and enter 'eco' mode when the house is up to temperature. Designed with a peak heat load of 10 W/m²(Therefore overheating as experienced with traditional log stoves is avoided)
- The door of the stove does not need to be opened to refuel as the fuel is added to a hopper which is mechanically separated from the combustion chamber. A full hopper will last 10hours at full output which is generally 3 to 4 days for a large passive house with hot water production in peak winter.
- Not leak more air than 0.6 times the house volume per hour. All our stoves are fully air sealed; this is achieved with a twin door seal with all air drawn from outside the house from the top of the balanced flue – there is no open path between room and the combustion zone of the stove.
- There will be no impact on air tightness tests and there will be no combustion emissions into the room.
- In the pursuit of efficiency, the concentric flue pre-heats the combustion air which increases efficiency by capturing heat from the flue gases.
- A balanced flue which has the incoming air in the outer section of the flue warms up from the flue gases leaving – with standard concentric fitting kits thermal bridging is minimised and heat losses are minimal compared to conventional twin wall flue stoves.
- We have integrated heat pumps, mechanical ventilation heat recovery and our Lundy stove to provide simple and effective solutions for passive house.

Example schematics

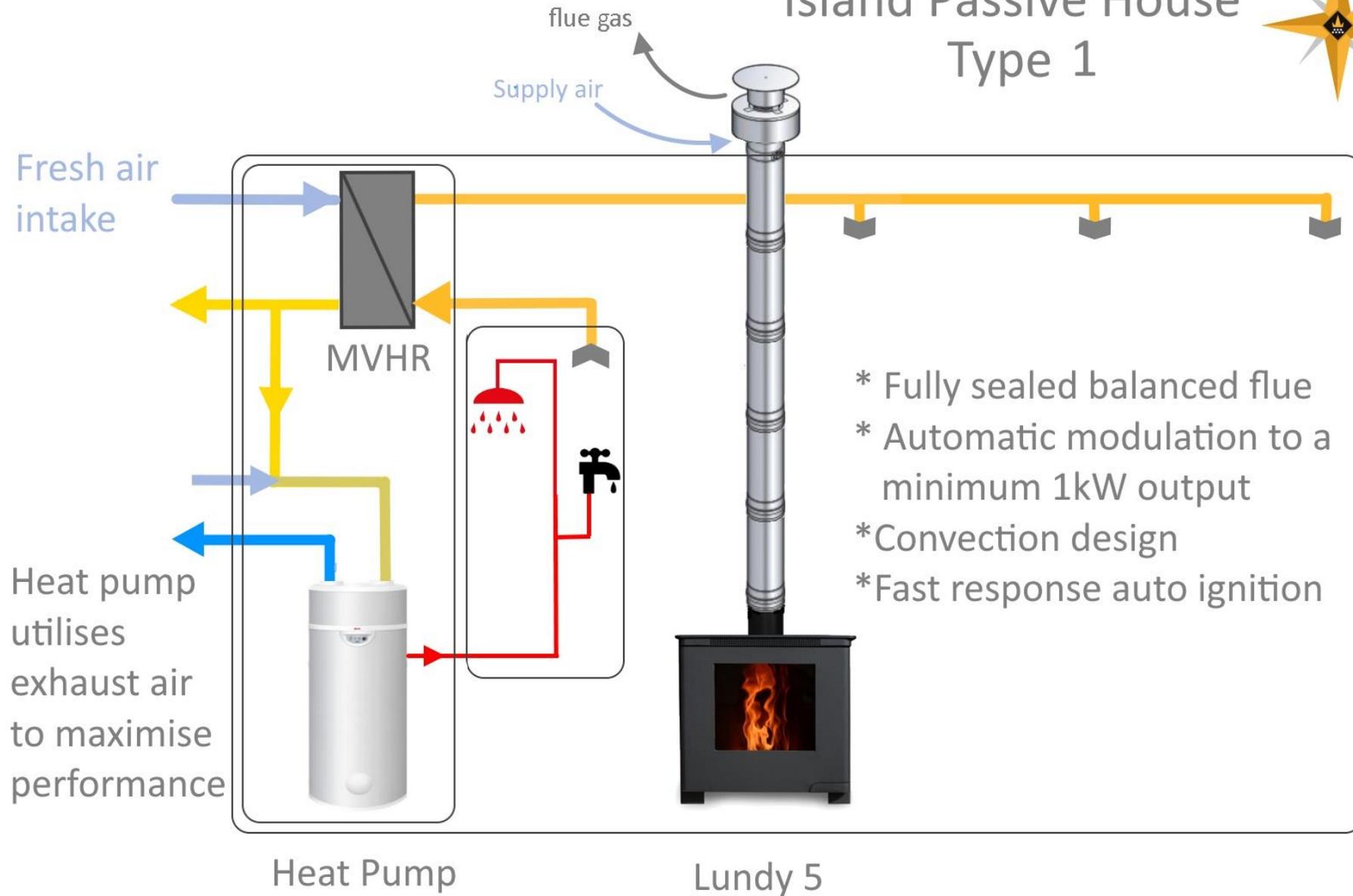
The following schematics are examples of our passive house designs for three sizes of dwellings

1 – a small bungalow

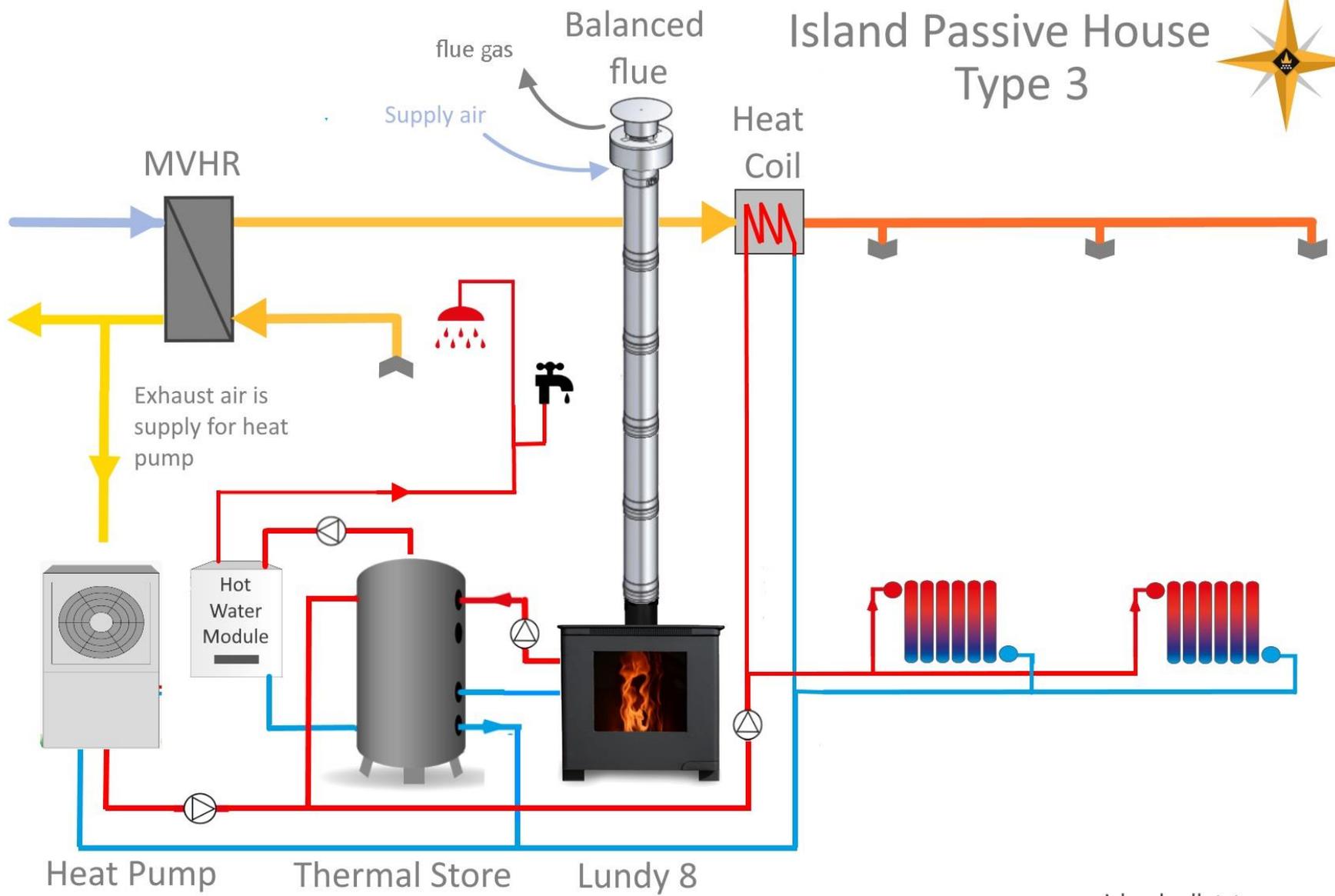
2 – a medium 2 story house

3 – a large detached house)

Island Passive House Type 1



Island Passive House Type 3





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