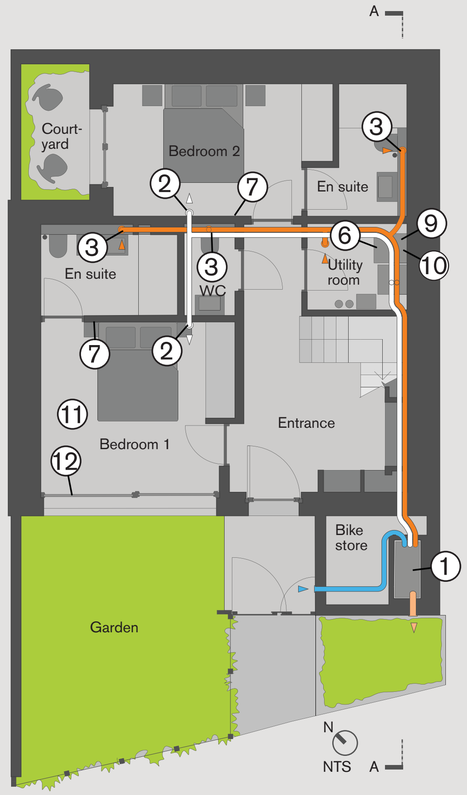
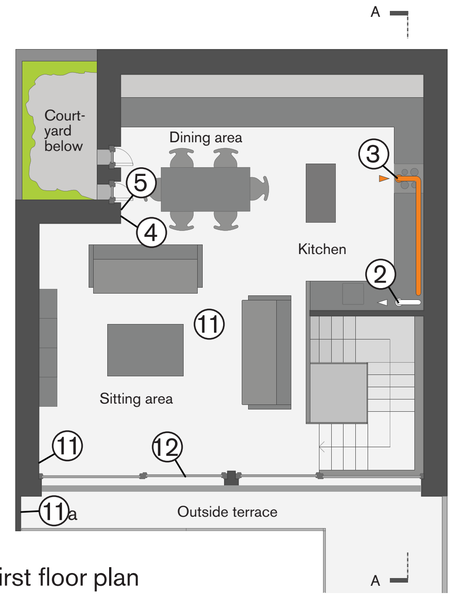
# Ranulf Road User Guide

Ranulf road south elevation

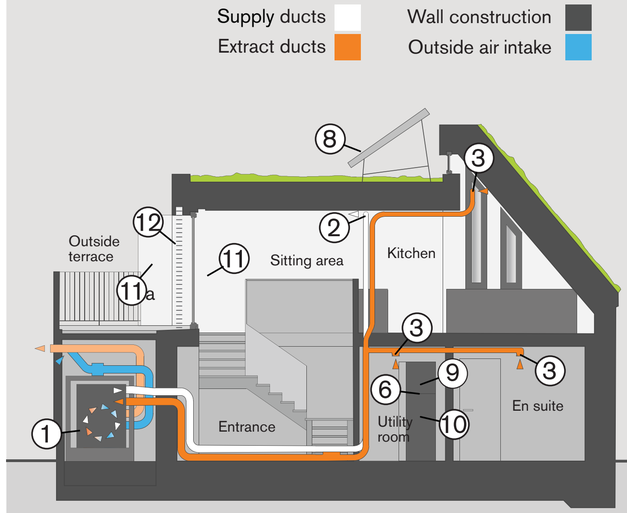



Ground floor plan




First floor plan

**This house is a Passivhaus.** The term passivhaus refers to an advanced low energy construction standard for buildings, which have excellent comfort conditions in both winter and summer. They typically achieve a heating saving of 90% compared to existing housing. Passivhaus buildings are easy to live in and require little maintenance, but they do have some important features, which are explained in this guide. The features are simple to operate, but a full understanding will help you get the lowest energy consumption and best comfort. This guide has been design by Alan Clarke and bere:architects for you (the user) to understand how a passivhaus works and how to operate the controls in this house.
Each feature is labelled on the drawings below, highlighting their locations and briefly explaining how to operate them in the corresponding text. Please take the time to read this guide and familiarise yourself with the controls.




Section A-A

## ① Heat recovery ventilation unit

This unit saves heat from the internal air produced by solar gains, people and electric items to pre-heat a supply of fresh air. If air heating is not required only fresh filtered air is supplied. These filters need to be replaced every 6months in London. The system saves about 10 times more energy than it uses! It is located in the store in an insulated cupboard.

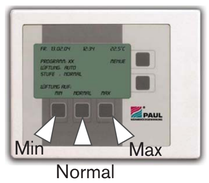
## ② Fresh air vents

The fresh air (pre-warmed in winter) is supplied by the heat recovery unit and delivered to the bedrooms and living room using these fresh air vents. The heating system (10) is automatic but you can adjust the fan speed (4) manually with the wall mounted panel in the dining area. This will keep the air fresh during a party or intensive cooking.

## ③ Extract air vents

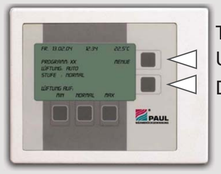
These vents remove possible stale and damp air from the kitchen, bathroom and utility room. The heat recovery unit saves heat, which saves money. The ventilation runs continuously all year round but special motors have tiny energy consumption. The extract air vent filter in the kitchen needs to be cleaned about every 3 months.

## ④ Heat recovery ventilation control panel




The fresh air system can be left on “auto” but the fan speed can also be manually changed using this panel during cooking or if the bathrooms are steamy. If you go away during the winter don’t turn it off but leave it on the lowest speed.

## ⑤ Thermostat




The thermostat in the living room sets the temperature in the room. 20-21°C is the normal temperature, but you could turn it down if you are away for a few days or just for a few hours to save energy.

## ⑥ Solar tank and boiler control panel

This should be set for all-day-long because the ventilation system is designed to provide gentle continuous heat. It can’t give a quick boost like radiators can. The space heating is controlled with the panel in the dining room (4) and not via this panel.

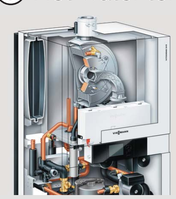
## ⑦ Towel radiator control


If at any time you wish to run the radiators press the ‘boost’ switch on the wall beside the shower rooms. You can choose half an hour, 1 hour or 2 hours depending on how many times you press the ’boost’ button. The time is indicated by the light display.

## ⑧ Hot water from the sun

In summer almost all the water in the solar tank is heated by the sun shining on the solar panel on the roof. In winter the panel can heat the bottom half of the tank and the boiler is used to top up the temperature. This means there is always hot water available in the tank even on a cloudy day.

## ⑨ Hot water temperature



Hot water is always ready in the tank this is due to the tank being very well insulated so that the water will not cool down overnight. On cold cloudy winter days most of the hot water will be provided by the integrated boiler above the tank .

## ⑩ Heating

A Passivhaus does need a small amount of heating. This comes from the air supply and boosted by the towel radiators in the shower room and bathroom. The heat for the towel radiators comes from the gas boiler normally used for hot water. Air heating is automatic but you adjust the temperature on the ventilation control panel (4).

## ⑪ External blinds control (for summer cooling)

In summer the outside blinds minimise solar gains from the sun. These come down automatically in the summer when sunny but can also be manually operated with use of the controller. The controllers have two programs; one blind operation or all together. If it’s too windy outside the blinds will retract to prevent them being damaged. NOTE: A waterproof controller needs to be kept outside to avoid you becoming stuck outside in sunny conditions (11a).

## ⑫ Windows (for summer cooling)

To keep the internal temperature cool in the summer utilise the cooler night temperatures by leaving the windows open in the secure “tilt” position overnight. If it’s hotter outside in the day you can shut the windows and external blinds and then turn the heat recovery ventilation to summer by pass using the user settings on the control panel (4) to keep cool inside. Refer to page 4 of the heat recovery ventilation unit manual.

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For further information regarding these features:


Alan Clarke (Energy Consultant and Building Services Engineer)
Tel: 01594 563356
E-mail: alan@arclarke.co.uk

bere:architects (passivhaus specialists)
Tel: 020 7359 4503
E-mail: bere@bere.co.uk