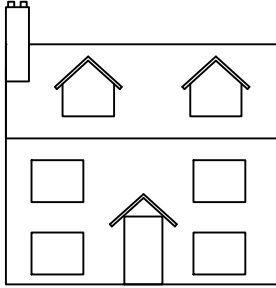


# Choosing a FARM2000 a step by step guide

Please have this information available when you contact us.

## 1. Size & Type of building(s) to be heated



Approx. overall volume:.....(cu m or cu ft)

Approx. age of building: .....Insulation standard poor / medium / good

Type & capacity of existing boiler: .....

Is current boiler adequate / oversize / undersize

Average weekly oil consumption Jan/Feb: .....

Average annual cost of heating & hot water: .....

Estimated heat loss at -1°C:.....(see overleaf for details)

Size of any future extension :.....(cu m or cu ft)

## 2. Main Fuel type to be used

Wood (logs)

Straw Bales

Wood & Straw 50:50

Pallets or similar

Woodchips/Pellets

Other .....

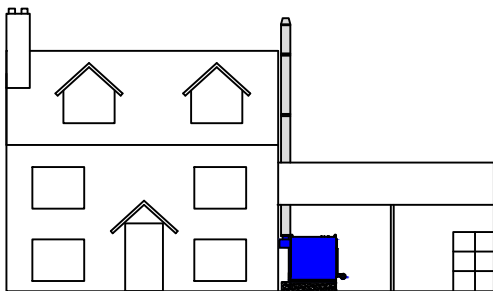
For stoking/loading frequencies refer to :

Boiler Selection Guidance leaflet

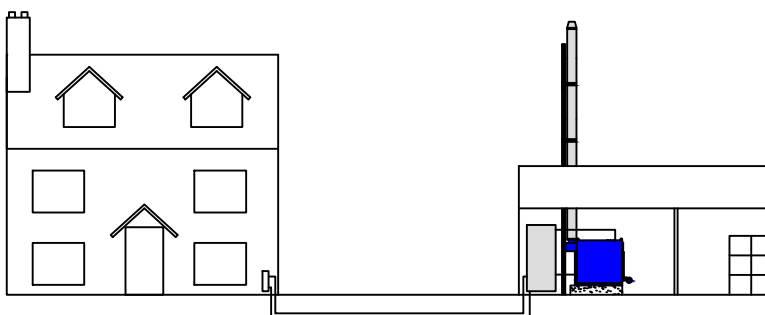
Please note - FARM2000 can provide general guidance on boiler sizing, but the ultimate responsibility for heat loss calculation remains with the customer.

## 3. Possible location of FARM2000 Boilers (batch loaded)

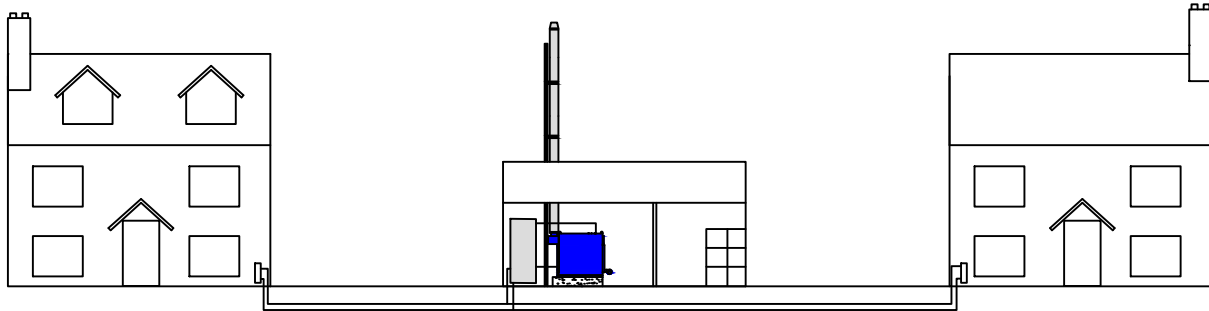
### A. Adjoining main building



### B. Remote with Accumulator



## C. Heating additional buildings



### Sizing your boiler:

The first thing is to establish the maximum heat demand. This should be done by your heating engineer, but also take reference from your current boiler, or approximate from the volume and insulation standard of the building as follows:

<u>Period</u>	<u>Insulation Standard</u>	<u>Max. Heat Demand (at -1degC)</u>	
		per cu.ft	per cu.metre
Pre 1960	Poor	4.5 Btu/hr	0.046 kW
Approx. 1980	Medium	3.5 Btu/hr	0.036 kW
2005 onwards	Good	2.5 Btu/hr	0.026 kW

Note: 1kW = 3412 Btu/hr      Total Volume = Width x Depth x Internal Height

#### **Example 1**      A pre-1960s farmhouse (3 - 5 bedroom)

$$\text{Cu. ft.} \quad 60 \times 33 \times 17 = 34,000 \text{ cu. ft.} \quad \times \quad 4.5 \quad = \quad 153,000 \text{ Btu/hr}$$

$$\text{Cu. metres} \quad 18 \times 10 \times 5 = 900 \text{ cu. m.} \quad \times \quad 0.046 \quad = \quad 41.4 \text{ kW}$$

$$(\text{Plus hot water } 7000\text{Btu/hr or } 2\text{kW}) \quad = \quad \text{Approx. } 160,000 \text{ Btu/hr or } 43.4 \text{ kW}$$

#### **Example 2**      A modern farmhouse (3 - 5 bedroom)

$$\text{Cu. ft.} \quad 60 \times 33 \times 17 = 34,000 \text{ cu. ft.} \quad \times \quad 2.5 \quad = \quad 85,000 \text{ Btu/hr}$$

$$\text{Cu. metres} \quad 18 \times 10 \times 5 = 900 \text{ cu. m.} \quad \times \quad 0.026 \quad = \quad 23.4 \text{ kW}$$

$$(\text{Plus hot water } 7000\text{Btu/hr or } 2\text{kW}) \quad = \quad \text{Approx. } 160,000 \text{ Btu/hr or } 43.4 \text{ kW}$$

### Choosing your boiler:

Once you have established the maximum heat demand, the boiler can be selected from the [FARM 2000 Boiler Selection guide](#) according to the main fuel and required stoking frequency.

The less often you want to stoke the boiler, the larger it has to be. Therefore, when using bulkier fuels (straw vs wood), a larger boiler should be selected.

Many FARM2000 customers use a combination of both fuels, using wood in the coldest periods and straw for less severe conditions. e.g. HT45 on wood can maintain the same heat output as HT60 on straw.

#### **How much wood or straw will be required?**

As a rough guide, when burned in a FARM2000 batch boiler, 1kg of dry straw (max. 16% water content) or wood (max. 20%) will provide approximately 2.6 - 3.0 kWh or 9,000 - 10,000 Btu's.

Bear in mind that maximum heat demand is normally calculated at -1 deg.C. The average 6 month heating season consumption, based on a thermostatically controlled system, is usually 30-40% of this. See boiler size guide.