

# Dragon Heat



Renewable Energy  
Biomass Heating Systems



## Dragon have been building biomass boilers for more than 40 years

For more than 40 years Dragon have been developing boilers to efficiently burn waste and by-products from industry, farms and commercial enterprises.

We specialise in the full system design, build and installation of all biomass process heating and hot water systems.

Biomass fuel replaces the reliance on fossil fuels such as oil or gas.

The hot water produced by the Dragon Biomass Boiler can be used for many processes throughout the domestic and commercial industries. Ask our experts for more information.

We have vast experience in all industries, requiring both process heat and hot water, from the agricultural sector to industrial systems and right through to the food processing industry.

The heat produced can be distributed in many ways e.g: blow heaters, heated mats, floor heating or drying floors.

We can design a system to work seamlessly with your existing operation (retro fit and alterations) or work with you on a new design to meet your heating requirements.

### Built to last

The furnace walls of the boiler are thicker than normal. this creates longevity of the boiler. Many of the Dragons built and installed in the seventies are still working today.

The cylindrical shape of the furnace is proven to be the most effective design for steel that must withstand more than 1100 degrees of heat during a burn cycle.

The furnace cylinder is well insulated using rock-wool. This reduces heat loss and therefore the boiler can stand outside.

The door is built using cement designed to withstand temperatures of up to 1600 degrees and then it is heavily insulated.

The heat exchanger tubes are seamless. This reduces the likelihood of irreparable damage during the boilers lifetime.

The weight of the boiler also gives an indication of the quantity and quality of the material used and shows the overall quality of the Dragon.

### RH/SSRH Compliance

All of our Dragons from D6 to D370 (50) are RHI certified and compliant in the UK. With the introduction of the same incentive in the Republic of Ireland (SSRH), we will be fully certified to comply with all requirements and standards of this also.





## Choosing your Dragon

There are two ranges of Dragon Biomass Boiler.

The Double Pass range of boilers is by far the most efficient boiler range ever produced by Dragon Heat.

With our bespoke control panel allowing us to add invertors and vary the speed of both the fan and the pump, our boilers are incredibly clean and efficient.

Dragons have the ability to burn many types of the fuel in one go. This eliminates the need to separate different materials you may have available as fuel for your system. Thus reducing the time needed to process fuel for your Dragon.

The Basic Range of boilers allows the user to burn difficult fuels.



## How much heat do you need?

Our expert Dragon team will visit your site to discuss with you your heating requirements and your available fuel. We will then be able to calculate how many kilowatts will be required to deliver all of your heating needs.

### Double Pass Specifications Boilers marked green are RHI compliant

|                                 | D2   | D4   | D6   | D8   | D10  | D12  | D15  | D220 | D240 | D270 | D330 | D370 | D370(50) |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| Output (kW)                     | 30   | 41   | 50   | 75   | 99   | 120  | 150  | 220  | 240  | 270  | 330  | 370  | 370      |
| Furnace Diameter (mm)           | 840  | 840  | 1140 | 1140 | 1476 | 1140 | 1476 | 1476 | 1780 | 1930 | 1476 | 1780 | 1930     |
| Furnace Length (mm)             | 1450 | 1950 | 1450 | 1950 | 1950 | 2950 | 2950 | 1950 | 1950 | 1950 | 2950 | 2950 | 2950     |
| Boiler Plate Thickness (mm)     | 6    | 6    | 8    | 8    | 8    | 8    | 8    | 10   | 10   | 10   | 10   | 10   | 10       |
| Overall width (mm)              | 1140 | 1140 | 1140 | 1140 | 1720 | 1140 | 1720 | 1720 | 2100 | 2230 | 1720 | 2100 | 2230     |
| Overall length inc fluebox (mm) | 1850 | 2350 | 2550 | 2850 | 3005 | 4005 | 4005 | 3005 | 3005 | 3005 | 4005 | 4005 | 4005     |
| Height exc legs (mm)            | 1540 | 1540 | 1840 | 1840 | 2310 | 1840 | 2310 | 2310 | 2500 | 2700 | 2310 | 2500 | 2700     |
| Weight exc water (kg)           | 900  | 1200 | 1700 | 2500 | 3000 | 3000 | 3500 | 4000 | 5000 | 6000 | 6000 | 7000 | 7500     |

### Single Pass Specifications

|                  | B2   | B4   | B6   | B8   | B12  | B10  | B15  | B20  | B30  | B40  | B50  |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| kW Output        | 25   | 34   | 46   | 62   | 100  | 94   | 180  | 154  | 230  | 187  | 310  |
| Furnace Diameter | 840  | 840  | 1140 | 1140 | 1476 | 1140 | 1476 | 1780 | 1780 | 1930 | 1930 |
| Furnace Length   | 1450 | 1950 | 1450 | 1950 | 1950 | 2950 | 2950 | 1950 | 2950 | 1950 | 2950 |
| Boiler Plate mm  | 6    | 6    | 8    | 8    | 8    | 8    | 8    | 10   | 10   | 10   | 10   |
| Overall width    | 1140 | 1140 | 1140 | 1140 | 1720 | 1140 | 1720 | 2100 | 2100 | 2230 | 2230 |
| Overall length   | 1850 | 2350 | 1850 | 2350 | 2350 | 3350 | 3350 | 2350 | 3350 | 2350 | 3350 |
| Height           | 1140 | 1140 | 1140 | 1140 | 1810 | 1440 | 1810 | 2100 | 2100 | 2230 | 2230 |
| Weight           | 800  | 1000 | 1200 | 1800 | 2400 | 2500 | 3300 | 3200 | 4700 | 4300 | 5300 |
| Water capacity   | 245  | 310  | 400  | 520  | 610  | 750  | 880  | 710  | 1000 | 780  | 1100 |



## Accumulator Tank

The advantages of an accumulator tank are that fuel can be burned quickly and therefore more cleanly enabling maximum efficiency from the available fuel.

The boiler can be loaded once per day rather than several smaller loads in a smaller boiler or only when the heat is actually required.

The heat can be stored during the time when the boiler is fired up and released only when it is required many hours later.



## Control Panel

Every Dragon will be delivered with a PLC based control panel. We supply an array of panels based on your specific requirements. All of our panels are of bespoke design from our very simplest model to our most complex operation designs.



We have the ability to remotely operate our systems for both primary and secondary processes should you require it. These panels are designed to suit your needs during the project development phase and are fitted and commissioned by our experts.

## Auto Feeders

All of our Auto-feeders are custom built by us to fit neatly into existing premises and are designed to work seamlessly with your existing buildings layout.

They can feed our Dragon with almost all types of chopped or chipped fuel. We can develop a feeder to suit the fuel you have available be it roughly chipped or even sawdust and shavings. Our fuel handling system will be designed to suit all of your needs.

Our unique auto-feeding process has features whereby the fuel delivery system can alter its feed volumes based around different chip sizes, coarseness and density. It can also alter the air volume input to the fire based around the moisture content to give maximum, efficient, clean burning. These changes are automatically handled by our unique computer program without any need for manual interaction.





## Installation Dragon D8 and Above

All of our Dragons from size D8 and above are sold on the basis that our Dragon team perform the installation. This is to ensure that any system for commercial premises is designed and installed both correctly and is set to perform to the highest standard of efficiency.

We offer several grades of installation for you to chose from for example:

(1) We can perform a "primary installation".

In this case we install the boiler to buffer tank only, including all associated equipment necessary for correct operation.

A number of ports would then be left available from the buffer for you to take to your secondary purpose or your desired heat demand.

(2) We can provide a "turn key" solution to heating requirements.

In this case we will complete the primary installation of boiler to buffer tank.

We will then also provide the secondary system works and take the heat available from the buffer tank to whatever application you require.

In all cases our project designer will work closely with you to ensure that we deliver a system based around your individual needs and proposed project plan.



## Installation Dragon D6 and below

We offer any Dragon size D6 and below on a supply only basis.

In this case full installation diagrams will be provided with the Dragon. However, should you choose to do so, we would be happy to quote you for installation by our expert Dragon team.



# Maintaining your Dragon

## Monthly

Our double pass boilers all require moderate cleaning on a monthly basis. This cleaning consists of removing ash from the over-head tubes with the boiler de-ashing utensil which will be provided to you. All ash also needs to be removed from the back flue box after tube cleaning has been completed.

It is also required that most, but not all, of the ash be removed from the fire chamber on a monthly basis.

This entire monthly process will take no more than 20 minutes to complete.

Fully certified training will be provided to the operative by our Dragon team.

## Annually

More extensive maintenance will be required on an annual basis. In order to comply with RHI requirements this annual service will be carried out by our Dragon team and will consist of the following:

1. Our team will check, and replace if required, all door seals.
2. A full power brushing of all tubes and chimney stacks will be performed to ensure that your Dragon continues to work at optimum efficiency.
3. A complete check of all computer sensors and hardware.
4. All pumping and valve equipment around the system will also be checked.

An annual service certificate will then be provided to you in accordance with RHI requirements.

## Training

Fully accredited and certified training in firing, feeding and maintaining your Dragon will be provided to your operative by our Dragon team on the day we commission your system.

Check lists will be provided for monthly maintenance compliance.

## Warranty

All our Dragons come with a 3 year parts and labour warranty. This warranty will remain valid provided that monthly maintenance is completed and recorded by your certified operative in accordance with training provided and that annual services are carried out by our Dragon team.

All other hardware comes with a 1 year manufacturers warranty. However an extended warranty is available to purchase upon registration of each item.

All piping and insulation have a 1 year warranty.

Pipe work warranty is only valid provided the insulation on any external piping is maintained to its full integrity and water ingress is prevented.

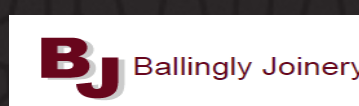
Our control panels/systems come with a 1 year manufacturers warranty.



## Clients

Dragon Heat are proud to have extensive experience in many commercial industries from manufacturing to farming and beyond. We are confident we can be a suitable fit for your business, whatever your heating requirements.

Below are a small selection of our existing clients.





# Dragon Heat History & Reputation forged in fire



Saving our clients expenditure  
on heating bills and  
biomass bi-product disposal  
for more than 40 Years.

WEB: [www.dragonheat.ie](http://www.dragonheat.ie)

EMAIL: [info@dragonheat.ie](mailto:info@dragonheat.ie)

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