**Biomass Boilers – A Reliable Source of Green Energy**

Biomass boilers have been used for many years. They are always proved to be effective and efficient. They are similar to conventional gas boilers we all are familiar with. They

are becoming more and more popular since people have started worrying about their carbon footprints.

What are Biomass Boilers?

The process of generating heat by burning wood, logs or wooden chips is called biomass heating process. It’s also known as wood-fueled heating process. Biomass heating systems include:

* Gasification
* Combined Heat and Power
* Direct Combustion
* Aerobic and Anaerobic Digestion

Use:

Smaller biomass stoves can also be used for water heating purposes as they have a back boiler to boil water. The basic use of biomass boiler is to provide warmth and heat.

Working:

Boilers convert 70% of the fuel into useful heat. When automatic pellet stoves operate at 85-90% efficiency. They spread the heat through convection, instead of traditional radiation. With automatic ignition and a thermostatic control, they are easy to use. The fuel is automatically charged by an integrated hopper. The large hopper sited nearby feeds wooden pellets, chips or logs in the boiler.

Maintenance:

* Sweeping boilers and stoves regularly will keep them clean and will remove ash.
* Remove all soot deposits and prevent blockage by cleaning the chimney and flue pipe of the burning stove
* It is mandatory to check before the heating season that if the chimney is blocked by bird’s nest.
* Logs should be air-dried before burning.

Benefits:

* Inexpensive Fuel – Wood prices are never the same. They keep on changing.
* Renewable Resources – The wood and chips used in the process of heating are the renewable resources. Wood boil systems benefit from renewable heat incentives. It also supports the company or the person financially.
* Less Pollution – The emissions are much lower than the emissions from fossil fuel. The emitted carbon dioxide is the same amount that was absorbed over the months when that plant was growing. The causes of these carbon dioxide emissions are transportation of fuel and cultivation of crops. The biomass is grouped as carbon neutral renewable energy.
* Cleaner smoke output – Biomass boilers generate chemicals such as Sulphur dioxide, carbon dioxide etc which are less toxic than the other pollutants produced by heavy machines.

Components of wood-fueled system

* Chips – For heating large buildings or houses, chips are the most useful thing to be used.
* Pellets – Pellets run automatically in the way gas or oil boils. They are effective for burners with automatic fuel feeders.
* Logs – Log-burning stoves are supposed to be filled in with logs using hand. It requires human labor to be operated.

Although, Biomass Boilers require high level of technologies but according to the research, it is cost effective and environment friendly. The inputs to operate this system is affordable and naturally sourced. It’s quite useful as it can work with agricultural residues and wastes as well. It is effective, efficient and reliable. During the days of inflation and low budget, it proves to be a best system for personal and commercial use.

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