Solid Fuel Boilers Systems

Solid fuel boilers are heating appliances that generate hot water or steam by burning solid fuels such as wood, coal, biomass pellets, or briquettes. The heat produced is transferred to a water-based system, which can then be used for space heating, underfloor heating, radiators, or domestic hot water. They are often used in off-grid or rural areas as an alternative to gas or electricity.

Gasification Boiler

Conventional Boiler

Solid Fuel Combustion Devices

❖ Gasification Boilers

- A gasification boiler is a high-efficiency solid fuel boiler that burns wood (or biomass) in two stages to extract more energy from the fuel, significantly reducing emissions and increasing heat output. These boilers are ideal for hydronic heating systems, such as underfloor heating, radiators, or thermal storage tanks.

❖ Key Features

- Very high efficiency (up to 90% or more) less wood used, lower heating costs.
- Low emissions due to clean, complete combustion.
- Often paired with a buffer or thermal storage tank for load balancing.

❖ Conventional Wood Boilers

- Conventional wood boilers are solid fuel systems that burn firewood to heat water, which is then distributed through a hydronic heating system such as underfloor coils, radiators, or fan coil units. These boilers operate using basic combustion principles, without the advanced features found in modern gasification boilers.

Key Features

- Low pressure open vented system.
- Designed for batch loading of wood logs.

Solid Fuel Boiler Applications

- Large properties with high heating demands.
- Farmhouses, cabins, and rural homes
- Backup systems for solar or electric heating.
- Suitable for off-grid and sustainable heating.