



SUNTEC
ENERGY SYSTEMS



Biomass Energy Solutions



SAVING ENERGY & PROTECTING THE CLIMATE

Taking the overall investment and current energy prices into consideration, a Biomass fuel Pellet combustion system is an economical alternative. "PELTEC" Pellet Combustion Systems are highly efficient & economical in their fuel consumption.

Extending / Retrofitting an existing heating system with a "PELTEC" Pellet Combustion System significantly reduces spending on Oil & Gas, will recover total investment in no time. At the same, use of Biomass Pellet as a fuel will make a positive contribution towards the sustained protection of climate as it is CO₂ neutral.

Pellets are the ideal fuel, future proof, inexpensive easy to store & CO₂ neutral. Some features & benefits of Pellets are as under,



Sustainable

- Made from refined & densified leftover organic & forest residues
- Sustainable and eco-friendly renewable fuel
- Replacement of conventional fossil fuels

User friendly

- Highly safe, non-inflammable, no risk of explosion during transit or at end use
- Better compatibility with multiple technologies

Efficient

- Remarkable consistency and burning efficiency
- High calorific value

Corporate responsibility

- Better carbon footprint
- Enhancing green and sustainable culture
- Improved workplace

Most clean and economical fuel

- Better and clean fuel with higher combustion efficiency
- Results in clean local environment as well as lesser human exploitation
- Significantly lower energy costs compared to other clean burning fuels like Natural Gas, LPG or Light oil

"PELTEC" offers complete Combustion Solutions for your existing heating system as well as complete units are available for Hot water, Hot air as well as Aluminum Melting furnaces.

ENERGY COST SAVINGS

Fuel Type	Calorific value (kcal/kg)	Apprx. Market rate (Rs./kg.)	Equivalent Pellet weight (kg.)	Equivalent Pellet Rate (Rs.)
Natural Gas	12,100	60	2.57	23
LPG	11,000	88	2.34	21
Heavy Oil	10,200	53	2.17	20
Light Oil	10,700	69	2.27	21
Biomass Pellets	4,700	9	1.00	9

Above Prices are indicative only.



BIOMASS PELLET BURNER

Biomass (straw, bamboo powder, wood chips) pellet burners are best option to replace Oil/Gas burners, to save 30-80% of the fuel cost, energy saving and environment protection.

For conversion, there is no need to change entire existing system. Need to replace only existing burner or combustion system with Pellet burner system.

Operation Principle

The Biomass wood pellets are automatically fed into the burning chamber, which produce high temperature gases. In this process, intermediate gases like H₂, CH₄, C_nH_n, CO and other combustibles are produced & they complete the combustion with sufficient oxygen & release the heat.

- Quick Start, high efficiency
- PLC & VFD controlled, fuel feeding device & blower
- Unique fuel feeding system to prevent back firing
- High temperature resistant burner blast tube
- Compact & user friendly design

Application

Pellet Burners are widely used in Steam boilers, Thermal oil heaters, Hot water boilers, Powder coating ovens, Industrial furnaces, Dryers, Heat treatment equipment etc.



Configuration

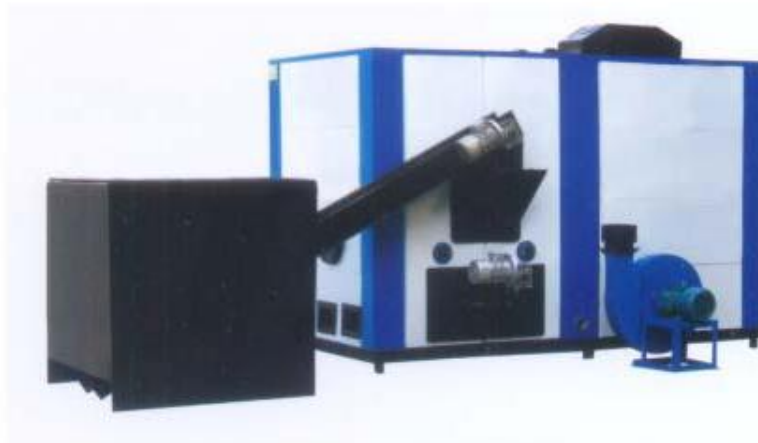
Suitable fuel	: Pellet fuel(straw, bamboo powder, wood chips), Size 6-12mm
Output range	: 0.2–6.0million kcal/hr
Feeding system	: Automatic / Manual
Ignition system	: Automatic / Manual
Damper adjustment	: PLC
Start-stop system	: Auto / Smart
Cylinder combustion	
Chamber cooling mode	: Air
Combustion chamber temperature	: ≤ 1700°C
Spray temperature	: ≤ 1100°C
Flame length	: ≤ 2500mm
Burner material	: SS 310S / 316

Technical Data

	Model	PV 20 P	PV 30 P	PV 45 P	PV 60 P	PV 80 P	PV 100 P	PV 120 P	PV180 P	PV 240 P	PV 360 P
Output	kcal/hr	200000	300000	4500000	600000	800000	1000000	1200000	1800000	2400000	3600000
Fuel		Wood Pellets									
Fuel Size	mm	6 to 10								8 to 12	
Consumption	kg/hr	55	82	123	165	218	273	330	492	660	1000
Power	kW	1.7	1.9	2.1	3	3.5	4.5	5.4	6	8	12



BIOMASS HOT WATER BOILER



Product features

- Biomass combustion technology - a completely smoke and tar free full combustion with no waste water discharge and complies with environmental requirements
- Unique heating equipment with thermal efficiency up to 96%, & flue gas temperature below 80°C.
- Boiler working at atmospheric pressure with fire controlled with intelligent circuits
- Biomass energy is eco friendly, non-polluting renewable, low carbon energy which can curb fuel cost up to 50% compared to traditional fuels.
- Suitable for domestic, commercial & industrial hot water requirement. Can be utilized as dual equipment for production of hot water as well as atmospheric water vapor.

Applications :

- Hotels, Hospitals and Restaurants
- Central Air conditioning and space heating
- Swimming pool heating and green house
- Auto and food industries
- Garment and laundries

Technical Data

Model		PHW 70	PHW 100	PHW 150	PHW 200	PHW 300	PHW 400	PHW 600	PHW 900	
Heat output	kcal/hr	70000	100000	150000	200000	300000	400000	600000	900000	
Water Temp.	°C	85								
Water Return Temp.	°C	65								
Water Pressure	Mpa	Atmospheric								
Efficiency	%	85			90					
Fual consumption	kg/hr	20	29	42	56	83	111	167	250	
Inlet	mm	40	50	50	65	80	80	100	100	
Outlet	mm	40	50	50	65	80	80	100	100	
Drain	mm	40	50	50	65	80	80	100	100	
Flush hole	mm	133	133	180	180	220	220	245	300	
Size L	mm	960	1110	1640	1780	2100	2100	2500	2850	
W	mm	580	630	630	630	720	850	950	1100	
H	mm	1360	1460	1570	1670	1810	1970	2300	2520	
Power consumption	kW	0.37	0.49	0.67	1.25	2	2.4	4.35	5.75	
Weight	kg	510	650	860	980	1450	1770	2690	4100	



BIOMASS HOT AIR GENERATOR

Product details

Biomass Hot Air Generator is based on biomass as fuel and air as medium, efficient heat transfer equipment. It can provide continuous & dust free clean hot air flow at uniform temperature & pressure.



Product Features

- The equipment is simple with automatic temperature control, high safety and easy maintenance. Operating cost is significantly lower compared to traditional fuel equipment
- Equipment is provided with insulation to reduce the heat loss & improve thermal efficiency.
- The overall structure of heater is compact, and does not emit any noise. Easy to install with minimum failure rate.
- Releases negligible and manageable amount of powdered ash residue post combustion.

Application

- Textile dyeing
- Rubber coated heat setting
- Iron paint drying room
- Metal surface paint drying after treatment
- All Drying applications like-Paper, Grain feed, Fish meal, Tea, Tobacco, Plywood, Gypsum Board, Chemical materials etc.

Technical Data

	Model	PV 12 S	PV 20 S	PV 30 S	PV 45 S	PV 60 S	PV 80 S
Heat output	kcal/hr	120000	200000	300000	450000	600000	800000
Efficiency		90 %					
Fuel consumption	kg/hr	33	55	83	125	167	222
Inlet	mm	200x200	200x250	250x300	300x350	350x400	550x600
Outlet	mm	220	245	300	350	400	550
Flue gas outlet	mm	133	180	180	220	220	270
Power consumption	kW	0.34	0.55	1.25	2	2.4	4.35
Size L	mm	1900	2000	2100	2250	2400	3800
W	mm	750	800	860	960	1060	1860
H	mm	1850	2000	2100	2200	2350	2300
Weight	kg	1100	1350	1570	2200	3600	3200



BIOMASS ALUMINUM MELTING FURNACE

Biomass Aluminum melting furnace is a crucible furnace with burning, melting & insulation capabilities with premium design & highest automation. It is majorly used in melting & smelting of Aluminum, Zinc, Lead, Tin, Cadmium and other low melting non-ferrous metals as well as supports di-cast function. It can be used for liquid aluminum insulation also. Being user friendly as well as environment friendly, it possess other attributes like low operating cost, easy operation / maintenance, and most importantly widely acceptable in its appliance field. Its greatest advantage is that it curbs the fuel cost by 30 to 60% compared to costs incurred with traditional fuels (Oil/Gas).



Operation Principle

The Biomass wood pellets are automatically fed into the burning chamber, which produces high temperature gases. In this process, intermediate gases like H₂, CH₄, C_nH_n, CO and other combustibles are produced & they complete the combustion with sufficient oxygen & release the heat.

Application

It is widely used Metal melting, like Aluminum, Zinc, Lead, Tin, Cadmium, other low melting point non-ferrous metal melting & metal scraps.

Configuration

- Suitable fuel : Pellet fuel (straw, bamboo powder, wood chips), Size 6-10mm
- Crucible capacity : 300 kg / 500 kg / 800 kg
- Feeding system : Automatic / Manual
- Ignition system : Automatic / Manual
- Damper adjustment : Automatic / Manual
- Control system : PLC
- Combustion chamber temperature : ≤ 1200°C
- Flame control : size of the fire can be set
- Melted time : 3 – 4 hr the first pot, 2 hr for second pot
- Other features : Inspection window in hopper, replaceable circle observation port in chamber, emergency start /stop.

Technical Data

Model	Melting Capacity kg/hr	Liquid Aluminum kg	Di-Casting T	Power kW
PV 300 AL	100	300	180 - 350	0.75
PV 500 AL	150	500	350 - 500	0.75
PV 800 AL	180	800	500 - 630	1.3

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