

DONT LET THE FUEL BURN OUT YOUR PROFIT

cut your fuel costs by half



Infinite Energy Pvt Ltd

advantage efficient gasification

Introduction

The INFINITE Vergassen is a simple and reliable solution for bringing down the fuel cost by over 50%.

The INFINITE Vergassen converts wood into a burnable gas (producer-gas) by means of a process known as thermal gasification. The producer gas can be piped from the gasifier (which may be located outside the plant building) to the ovens/furnaces/etc located in the plant building and burnt in specially designed burners, in place of fossil fuels like F.O/L.D.O/Diesel/LPG/CNG etc.

Thus, expensive liquid/gas fuels can be effectively replaced by low cost wood without any changes in operations, temperature profile, temperature control and cleanliness in the plant area

Fuel	Diesel 1 Litre	L.D.O 1 Litre	F.O 1 kg	L.P.G 1 kg
Wood Required in kg*#	4	4	4.5	5

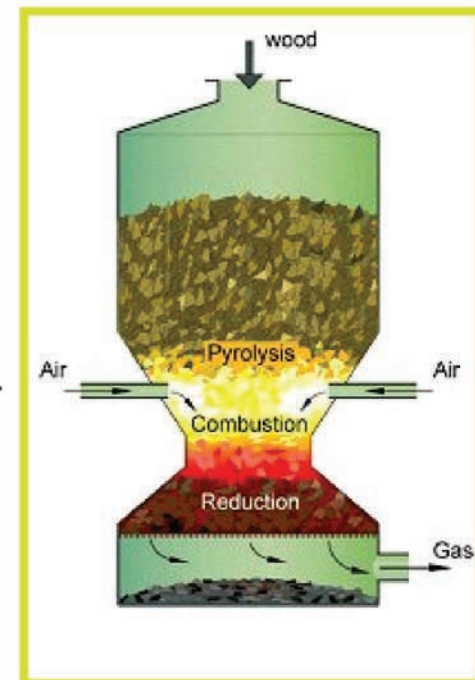
* moisture content < 15%. # Indicative values for applications < 400 °C.

Gasification Basics

The gasifier is essentially a chemical reactor, where several thermo-chemical processes such as pyrolysis, combustion and reduction take place.

Most biomass materials can be converted into a gaseous fuel known as producer gas, which comprises of carbon monoxide, hydrogen, carbon dioxide, methane, and nitrogen. This gas has a lower calorific value (1000–1200 kcal/nm³) compared to natural gas or liquefied petroleum gas, but can be burnt with high efficiency and good degree of control without emitting smoke. The producer gas flame temperature can be as high as 1100°C. Each kilogram of air-dry biomass (10% moisture content) yields about 2.5 nm³ of producer gas. In energy terms, the conversion efficiency of the gasification process is in the range of 80–90%.

For thermal applications, the technology is well proven and gasifier systems are already working in the field with capacities ranging from 100 kW_{th} to 3000 kW_{th}.



The Infinite Advantage

Our gasifiers have range of special features that gives them the distinctive edge in thermal applications.

- Dry gas system:** We offer completely dry gas generators which do not require water/scrubber based gas cleaning. This not only improves the overall thermal efficiency, but also eliminates the problems with effluent treatment and discharge.
- Hot gas filter:** We have developed a unique gas filter that operates at temperatures upto 400°C and can trap very fine dust particles, resulting in a very clean hot gas.
- Compact foot print:** The INFINITE Vergassen series gasifiers are the most compact gasification systems available in India. The compact design not only requires a much lesser area for installation but also minimizes heat loss and increases overall thermal efficiency.

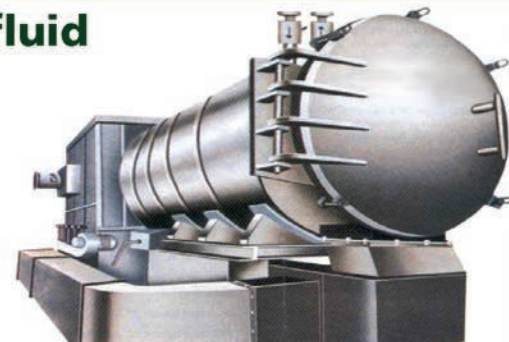
- » **Zero effluent system:** The INFINITE Vergassen series is designed to have minimum waste products and zero liquid effluents.
- » **Highest overall efficiency:** INFINITE Vergassen systems are designed for maximum overall thermal efficiency. The conversion and overall thermal efficiency of the system are as high as 90%.
- » **Advanced control and automation:** INFINITE Vergassen gasifiers are provided (optional) with a range of innovative control and automation features so that the gas generation (and consequently fuel wood consumption) is automatically controlled to follow the thermal load requirement.
- » **Fully automatic burners (optional):** The production of good quality gas from wood is just one half of the solution. The solution is complete only when an appropriately designed burner is used to burn the gas. We have indigenously developed a wide range of fully automatic burners for producer gas from capacities ranging from 50,000 kcal/hr to 25,00,000 kcal/hr. These burners are loaded with all the safety features of conventional automatic burners. We offer single stage, double stage or continuously modulating type burners depending upon the capacity and application.

Applications

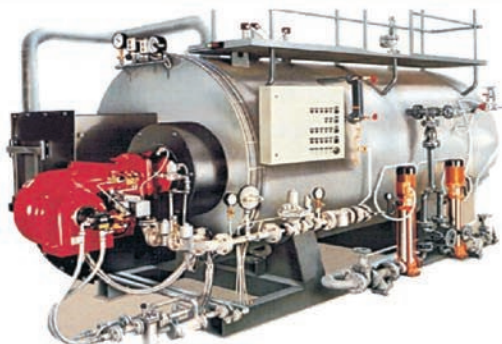
Hot air dryers



Thermic fluid heater



Boiler



Furnaces

- » Continuous annealing (steel/aluminium etc)
- » Batch annealing (steel/aluminium etc)
- » POP rotary kiln
- » Lube and grease refinery furnace
- » Tea dryers
- » Coffee curing



Bakery

- » Rotary oven
- » Swing tray
- » Moving tray



Fried foods

- » Potato chips plant
- » Automatic sev fryer
- » Namkeen fryer



Gasifier Models

Gasifier Model		UPDRAFT		DOWNDRAFT MODELS							
		RG-100	RG-200	DG-100	DG-150	DG-200	DG-300	DG-400	DG-500	DG-1000	
Gasifier Output	KWth	150	300	150	250	360	600	1000	1500	3000	
Fuel Oil Equivalent	lph	12	30	12	21	32	52	85	130	260	
Wood consumption -Max (12% moisture content)	kg/h	45	110	45	75	110	180	300	450	900	
Wood consumption -Max (40% moisture content)	kg/h	60	150	60	105	160	210	425	650	1300	
Gas Cleaning System		NA			Dry Dust Collection only						
Connected Load	hp	1.5	3.0	1.5	4	6	13	18	25	45	

RG200



DG150



DG200



DG300



Company Profile

M/s INFINITE Energy (P) Ltd., is one of the leaders in biomass conversion & processing technologies in India. Since inception, our focus is to develop better technologies and products to process biomass for energy.

We have indigenously designed and developed various systems for biomass gasification, biomass pyrolysis, biomass briquetting and biomass drying.

At INFINITE our endeavor is to involve and understand our customers' need and objectives so as to offer not only a superior product but also a most suitable business solution. The emphasis is on better interaction and understanding towards building long term relationships.

It is the commitment to our customers business that drives our effort towards creating advances in technology through innovation. Not for the sake of technology, but towards bettering our customers business through productivity, profitability and peace-of-mind.