

Proven Design over 2 Decades

AIRPACK

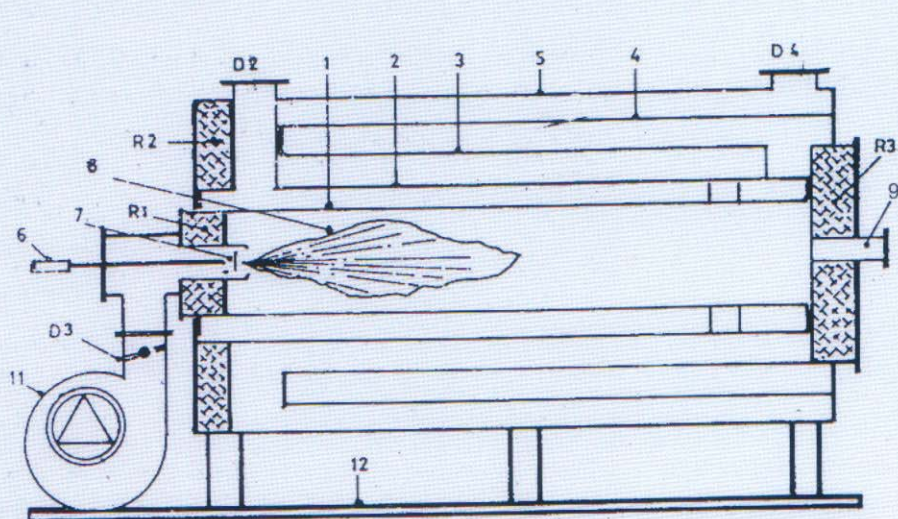
OIL/GAS FIRED FULLY AUTOMATIC HOT AIR GENERATOR

- Clean & Contamination Free Air
- Thermal Efficiency of 84% on GCV & 91% on NCV of Fuel Oil
- Instant Hot Air
- 100% Depreciation in 1st Year



**ELITE THERMAL
ENGINEERS PVT. LTD.**





- 1) Furnace
- 2) Shell No 2
- 3) Shell No 3
- 4) Shell No 4
- 5) Shell No 5
- 6) Burner Head
- 7) Diffuser Plate
- 8) Flame
- 9) Watch Glass
- 10) Fuel Pump
- 11) Blower
- 12) Base Flame
- D1) Hot Air Outlet
- D2) Combustion Air Duct
- D3) Flue Gas Outlet
- R1 / R2 / R3
Regractories

HOT AIR GENERATOR(CROSS SECTION)

CONSTRUCTION

This Hot Generator is horizontal in construction with concentrically placed shells and seal welded thereby forming mutually isolated Air and Flue Gas passages. These shells perform as a Heat Exchanger between Flue Gases and air to be heated. The furnace placed at center acts as radiant heat transfer area and the other passages take part in convective Heat Transfer.

Liberal designed & fabricated heat exchange parts ensure highest Fuel Efficiency and low wall temperatures. Thus ensures fuel economy and longer unit life throughout the operation.

The furnace is easily and quickly accessible for maintenance and repair. This particular feature reduces the break down time to a great extent and increases reliability of the unit. The furnace and other materials are properly selected & sized such that the constant wall temperature is much below the safe operating temperature limits. The fresh air layout is carefully and suitably designed to maintain lowest air pressure drop at rated air flow conditions.

FUNCTIONING

The operation of this unit is fully automatic with ON-OFF modulation of burner for smaller capacities & High-Low on-off / continuous modulation for larger capacities. All the automatic operations are controlled through a control panel which is supplied along with this unit. The burner is of pressure atomizing type & self / igniting which maintains clean & smokeless combustion throughout the operation. The unit is supplied with all safeties viz, Flame Failure Device, Low Air Flow Cutout, Super Heat Controller, Motor Protection Relays, Fuses etc.

In case of any abnormal operating conditions the unit stops its function safely & go to lockout by giving audiovisual alarm. Precisely tuned air flow rate with fuel burning rates gives accurate desired quantity of air, modulating burner ensures high efficiency and no wastage of heat. The unit operates in such a way that it burns only necessary quantity of fuel oil proportional to heat demand from plant giving highest overall thermal efficiency.

OUR DESIGN ADVANTAGES

HIGH FUEL EFFICIENCY

- High Overall Thermal Efficiency of 83% 1+/- on Gross Calorific Value (GCV) of fuel oil & 90 +/-1% on Net Calorific Value (NCV) of fuel oil, for stack temperature less than 250 degree C.
- Three Flue Gas Passes give maximum total length of Flue Gas travel which means large residence time of gases & a very effective heat transfer.
- Extra large furnace volume gives efficient complete combustion of oil, no carbon formation hence no Maintenance.
- Large radiation heat transfer area Directly exposed to furnace which promises high effectiveness of heat transfer area.
- Large overall heat transfer area and hence Low Heat Flux Densities.

MODULAR STANDARDISED RUGGED CONSTRUCTION

- Modular construction ensures quick & simple maintenance formalities. Easy replacement of components ensured.
- Assembly design ensures perfect three passes of flue gases. All inner surfaces of the unit easily accessible for cleaning & repairs.
- All heat transfer parts made of heat resistance steel giving long life, safe working & wide operating pressure range.
- Rugged, sturdy & reliable instruments selected from reputed manufacturers.
- Modular control panels for easy trouble shooting & maintenance / control panels made with high quality & oversafe designs. (as per ISI standards) Packaged factory assembled & tested units.
- Standard reputed make bought out components.

- Instant Hot Air from cold start (within 15-20 min.) Hence no loss of fuel & time during initial warming up period. Shutting of period is also very small ensuring negligible residual heat loss to atmosphere simple starting & stopping formalities.
- Ideally suitable for batch processes & continuous Operation.
- Saves upto 80% on energy cost compared to electric heating.
- Specific models to suit specific requirements also can be designed and supplied.

APPLICATION AND ADVANTAGES

- AIRPACK in conjunction with suitable drying chamber eliminates costly and maintenance prone Steam Boiler / Thermic Fluid based dryer. This saves 13% in energy costs.
- AIRPACK & Drying Chamber / Drying Oven combination saves 75-80% on energy bills compared to electricity heated dryers.
- AIRPACK finds typical applications in Spray Dryers, Fluid Bed Dryers, Ovens, Curring Chambers, Drying Chambers etc. Such applications are in Textiles Painting Industries Bakery / Food Processing Chemical Processing Drying Systems

SIMPLE & CLEAR IN INSTALLATION & OPERATION

All accessories mounted on the unit which makes compact & tidy unit saving valuable floor space. Compact unit gives easy visualization of unit behaviour.

Complete unit & control panel designed with "FAIL SAFE" concept, this eliminates possibilities of accident.

SPECIFICATIONS

DETAILS		UNITS	AIRPACK 100	AIRPACK 200	AIRPACK 300	AIRPACK 400	AIRPACK 500	AIRPACK 600
Rated Heat Output		Kcal/hr	50000	100000	200000	300000	400000	600000
Maximum Air Temp		Deg.C.	250	250	250	250	250	250
Outlet Air Pressure		mm of Water G.	100	100	100	100	100	100
Approx. Hot Air available at 250 Deg. C.		Kg./Hr	1185	2370	4740	7110	9480	14220
Overall Thermal Efficiency On G.C.V		%	87%	87%	87%	87%	87%	87%
Overall Thermal Efficiency On N.C.V		%	94%	94%	94%	94%	94%	94%
Fuel Oil Consumption For rated Output	LDO (GCV-10700) (Kcal / Kg)							
Burner Control	FO (GCV-10200) (Kcal/Kg)	Kg/Hr	-	-	23.3 ON-OFF	34.9	46.6	69.8 High /Low On-Off
Electric Supply								
Main Air Blower Motor		HP/KW	3/2.2	5/3.7	5/3.7	7.5/5	10/7.5	15/10
Combustion Air Blower Motor		HP/KW	0.5/0.37	1/0.75	1/0.75	2/1.5	3/2.25	5/3.7
Fuel Oil Preheater (For Operation on furnace oil		KW	-	-	3.0	3.0	6.0	6.0
Total connected LDO		KW	-	4.45	4.45	6.5	9.75	13.7
Electrical load FO		KW	-	-	7.45	9.5	15.75	19.7
OVERALL	HEIGHT	MM	2050	2400	2675	3000	3150	3600
Dimensions	LENGTH	MM	2050	2650	3000	3650	4000	4600
	WIDTH	MM	2000	2200	2500	3000	3200	3200
Dry Weight		KGS.	1800	3000	4200	6000	7500	8500

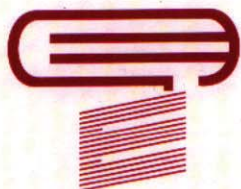
Units in smaller capacities upto 20,000 Kcal/Hr & Higher capacity 15,00,000 Kcal/Hr available on Request.

Units with Higher outlet Air Temperature also available on request.

Units can be supplied to suit tailor made Air - Flows and outlet pressure and Temperature.

OUR OTHER PRODUCTS RANGE OF HIGH FUEL EFFICIENCY

- Steampack** Range of Non-IBR Oil Fired Steam Boilers upto 850Kg/Hr. Capacity.
 - Aquawarm** Range of Oil/Gas Fired water Boilers.
 - Fluidtherm** Range of Oil / Gas Fired Thermic Fluid Heaters upto 15,00,000 Kcal/Hr capacity.
 - Flamelight** Range of Oil / Gas Burners upto 50,00,000 Kcal /Hr. Output.
 - Electrotherm** Range of Electrical Thermic Fluid Heaters upto 1.00,000 Kcal /Hr Heat Output.
 - Aquasoft** Range of Water softning plants & demineralizers.
 - Steamobile** Range of Miniature Oil/Gas Fired Boilers 20KG/Hr to 75 KG/HR Capacity.
- Pressurised Hot Water Boilers / Fluid Bed Dryer / Incinerator / Concentrator / Spray Dryer / Spray Cooler.



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