

# ENERGYPACK BOILERS



## INTRODUCTION

The Professionals of ENERGYPACK Boilers have 30 years of experience in the boiler field. (Boilers of foreign origin were also handled with expertise to the satisfaction of the customers.) The continuous development in the Boiler technology resulting into the latest package ENERGYPACK Boilers.

## CONSTRUCTION

ENERGYPACK Boilers (Except small size in coal fired) are three pass wet back, horizontal, smoke tube type fusion welded. Boilers are made to IBR/DIN/BS/ASME code. Components are engineered for maximum safety, highest efficiency, dependability and quiet operation. Wet back models eliminate rear end refractory and its inherent maintenance cost, reduces stress of rear tube sheet and ligament cracking, radiant heat is eliminated, lengthening tube life and reducing heat loss from rear turnaround.

## IBR OIL FIRED BOILERS



1) Fully wet-back design effectively absorbs radiant heat into the water, keeping tube ends and rear of boiler cooler than in dry back design.

2) Three passes extract maximum usable heat from the fuel.

3) Large, water-surrounded furnace tube assures complete combustion and heat absorption without flame impingement.

MODEL.NO.	EBPL 0-I	EBPL 0-II	EBPL 0-III	EBPL 0-IV	EBPL 0-V	EBPL 0-VI	EBPL 0-VII	EBPL 0-VIII	EBPL 0-IX	EBPL 0-X	EBPL 0-XI	EBPL 0-XII	EBPL 0-XIII	EBPL 0-XIV	EBPL 0-XV
STEAM OUTPUT TONS/HR	0.5	0.75	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	14.0

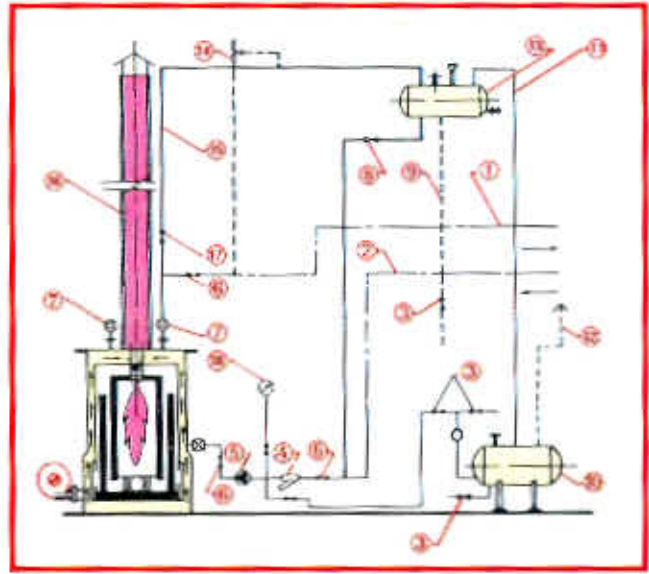
(FROM & AT 100°C)

OVERALL LENGTH MTRS	3.80	4.00	4.20	4.30	4.60	5.10	5.25	5.54	5.85	6.20	7.00	8.00	8.80	9.50	9.50
OVERALL WIDTH MTRS	2.20	2.20	2.35	2.45	2.55	2.70	2.75	2.77	2.93	3.12	3.20	3.30	3.60	3.90	4.00
OVERALL HEIGHT MTRS	3.00	3.10	3.20	3.37	3.50	3.67	3.75	3.80	4.00	4.10	4.20	4.35	4.50	5.00	5.20
FLUE GAS DUCT SIZE MM	225	225	250	250	300	300	300	300	400	400	475	550	650	750	800



## THERMIC FLUID HEATER

- 1) Outflow
- 2) Return Flow
- 3) Check Valve
- 4) Strainer
- 5) Oil Circulation Pump
- 6) Isolating Valve
- 7) Header
- 8) Shutoff Valve
- 9) Drain Pipe
- 10) Drain Tank
- 11) Air Expansion Pipe
- 12) Airvent
- 13) Expansion Tank
- 14) Pressure Relief Valve
- 15) Air Vent
- 16) Chimney
- 17) Needle Valve
- 18) Pressure Gauge



### THREE PASS VERTICLE / HORIZONTAL

**I Pass** : First pass of the flue gas is downward inside spirally wound coil through which thermic oil circulates. Exposed to maximum heating area to radiant heat.

**II Pass** : Upward in between the two spirally wound coil. Convective heating area.

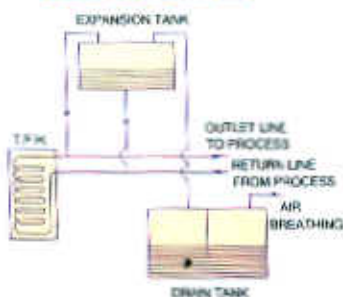
**III Pass** : Downward between outside coil & inner shell. Unique shell design reduces stack loss.

**Insulation** : Combustion air is forced between the two shells & aluminium radiator which acts as insulation for outer shell & preheats the air for better combustion efficiency.

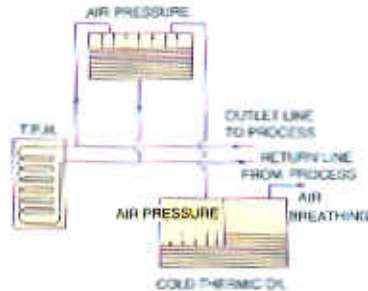
**Burner & it's Controls** : Fully automatic, downward firing, pressure jet, On-Off Modulation or High/Low modulation. Burner will have all safeties like flame failure device (Photocell), high temperature cut off, low flow safety, high pressure cut off. In case of abnormal condition unit will go to lockout by audio- visual alarm. The modulation is achieved by providing on-off temperature controller which will start & stop the burner according to heat load & reduces fuel consumption in proportion to heat load in plant giving best fuel efficiency for plant operation.

### LIQUID SEALING SYSTEM PREVENTS THERMIC OIL OXIDATION

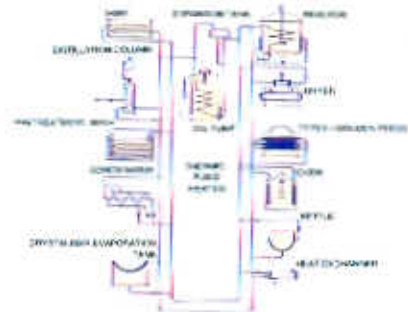
#### OIL LEVELS AT COLD CONDITIONS



#### OIL LEVELS AT HOT CONDITIONS



#### APPLICATIONS OF ENERGYPAK THERMIC FLUID HEATER



MODEL	HEAT OUTPUT KCAL / HR	FUEL CONSUMPTION	
		L.D.O. KGS / HR	F.O. KGS / HR
EPT / 05	50,000	5.5	5.75
EPT / 010	1,00,000	11	11.5
EPT / 020	2,00,000	22	23
EPT / 030	3,00,000	33	34.6
EPT / 040	4,00,000	44	46
EPT / 050	5,00,000	55	57.5
EPT / 060	6,00,000	66	68
EPT / 100	10,00,000	110	115
EPT / 150	15,00,000	165	172.5
EPT / 200	20,00,000	220	230



### IBR STEAM BOILERS

MODEL NO.		EPS/100	EPS / 200	EPS / 300	EPS / 400	EPS / 500	EPS / 600
CAPACITY IN Kgs/hr		100	200	300	400	500	600
WORKING PRESSURE IN Kgs/cm <sup>2</sup>		15	15	15	15	15	15
EFFICIENCY		88%	88%	88%	88%	88%	88%
FUEL CONSUMPTION KGS/HR		6	12	18	24	30	36
CONNECTED POWER HP		1.5	1.5	2.25	2.5	3	3
OVER ALL	L	800	900	900	1100	1350	1500
DIMENSIONS	W	800	900	950	1100	1100	1100
	H	900	1100	1100	1500	1600	1600
WEIGHT IN Kgs		650	700	800	1150	1350	1650

- Consistent higher Fuel Efficiency of 88%
- High dependability, reducing maintenance time & cost.
- Maximum reliability of operation leading to higher Productivity.
- Prompt after sales service
- Backed by 30 years of experience & a company which understands Customer's Satisfaction
- Indigenous Pressure jet Burner, low spare cost & Easy availability of spares.
- All adding up to offer real value to your money.







## ERECTION & MAINTENANCE

"Energypack" Boilers are shop assembled and no special foundation is required. Each unit is a complete package ready for quick installation and Connection for your service lines. For easy internal maintenance and cleaning, Manhole & Mudhole doors are well placed. Boiler tubes are easy to inspect as hinged front & back doors enable quick and easy Maintenance, inspection or cleaning. Spares are easily available.

## PERFORMANCE

Efficiency of oil fired boiler on N.C.V. is 88% with B.S./DIN tolerance on a very wide working range and higher figures are not un-common. Steam of high purity and dryness fraction is generated as heat transfer surfaces in the boiler is judiciously accommodated.

## CUSTOMISED INSTALLATION

Our boiler is tested before shipment including a complete check of controls. Energypack offer start-up adjustments to your fuel and steam load. Special training of operator is available.

## STEAM RAISING TIME

After over night shut-down only twenty minutes are required to raise steam to maximum continuous rating from 5 Kg./Cm<sup>2</sup> to 10.54 Kg/Cm<sup>2</sup> (150 psig) in standard package smoke tube boilers.

## WASTE HEAT BOILER

Energypack is fully equipped to make waste heat boilers for varieties of waste gases produced in different industries. Complete with heat transfer calculation on turnkey basis.

## ENERGYPACK FORCED DRAFT BURNER SYSTEM

A Safe efficient, reliable burner control system gives precise air / fuel mixture that saves your money every hour.

## OTHER PRODUCTS

- Self Supported Chimneys.
- Hot water Boilers.
- Heat Exchangers (TEMA).
- Pressure Vessels (ASME).
- Waste Heat Boilers (IBR).
- Dewaxing Boiler Auto Clave for Investment Casting
- Electrode Boilers.
- SIB Boilers.
- Incinerators.

*ALL DESIGN & DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.*

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