



Manufacturer of Boilers, Thermal Oil Heaters, Heat Exchangers
Pressure Vessels, Storage Tanks & Industrial Water Treatment Equipments ,...

New Product
Provisional



Fire Tube Boiler

Packman firebox boiler with Efficient F.P.B three-pass design, available in 150 Kw to 500 Kw models, are fitted with a forced draft flame retention burner that results in an efficiency of over 85%.



PACKMAN Firebox Boiler

Today's process and heating applications continue to be powered by steam and hot water. The mainstay technology for generating heating or process energy is the packaged firetube boiler. The packaged firetube boiler has proven to be highly efficient and cost effective in generating energy for process and heating applications.

Efficient F.P.B three-pass design, available in 150 Kw to 800 Kw models. Our Firebox boilers are fitted with a forced draft flame retention burner that results in an efficiency of over 85%. This boiler-burner combination gives reliable operation with minimum maintenance.



Standard features

All unit and factory packaged with operating controls, relief valves, burner and fuel train. Installation is made simple in that only service connections are need to place in operation. Flexible burner systems are available for firing natural gas & oil or combination. High density 2" mineral wool insulation assures lower radiant heat loss.

Efficiency

Conventional atmospheric burners operate at high excess air levels, up to 300%, which decrease flame temperature. Variation of adiabatic flame temperature by excess air is illustrated in fig. 1. It is obvious that excess air has substantial effect on flame temperature and consequently on the rate of heat transfer and efficiency. Influence of excess air on thermal efficiency at different stack temperature is illustrated in fig. 2. Forced draft burners which are used in our boilers operate at lower excess air, about 10-30 percent.

By accounting appropriate heat transfer area, stack temperature decreased to 130-150 oC which jail energy inside boiler. These cases provide acceptable efficiency of 84-85% which lessen operation costs. The initial cost of a boiler is the lowest portion of your boiler investment. Fuel costs and maintenance costs represent the largest portion of your boiler equipment investment. Some basic design differences can reveal variations in expected efficiency performance levels. Evaluating these design differences can provide insight into what efficiency value and resulting operating costs you can expect.

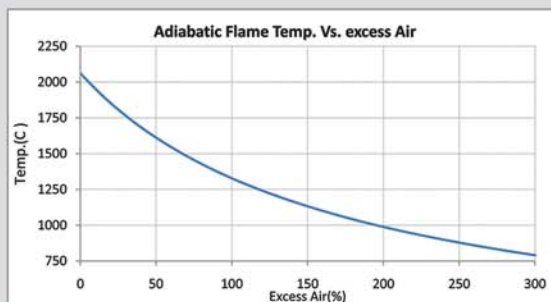
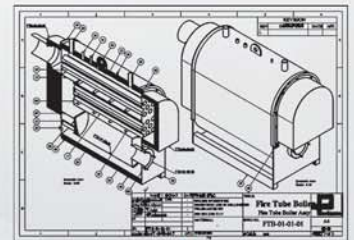


Figure 1

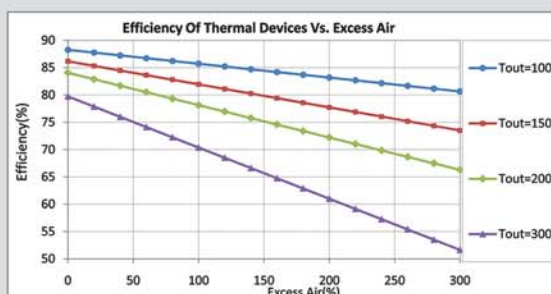
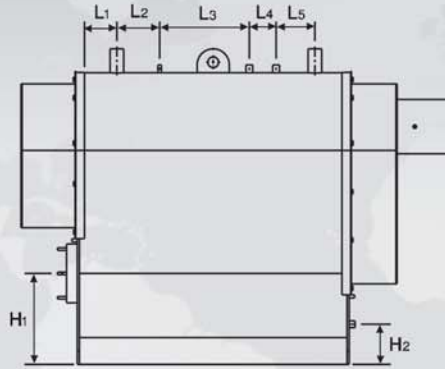
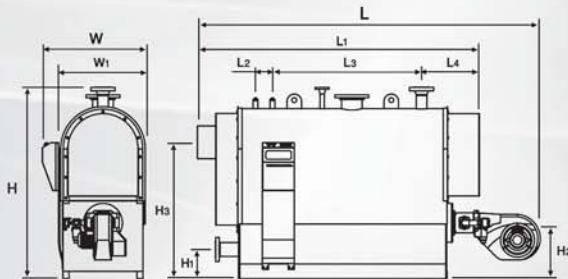


Figure 2



Type 1

Boiler model		PHW FB150	PHW FB200	PHW FB250	PHW FB300	PHW FB400
Input	KW	150	200	250	300	400
	Kcal/h	129000	172000	215000	258000	344000
Fuel consumption	M3/h	15	20	25	30	40
Supply & return nozzle size	in	2	2	2	3	3
Safety relief size	in	1/2	1/2	1/2	1	1
Drain size	in	1	1	1	2	2
Total length	mm	1610	1770	1930	1960	2180
Tota height	mm	1180	1180	1180	1440	1440
Total width	mm	580	580	580	660	660
Dimension L1	mm	140	160	180	180	200
Dimension L2	mm	160	210	220	355	390
Dimension L3	mm	335	375	420	120	180
Dimension L4	mm	100	105	130	120	140
Dimension L5	mm	145	160	190	345	390
Dimension H1	mm	340	340	340	410	410
Dimension H2	mm	150	150	150	160	160
Operating weight	kg	760	850	940	1370	1540
Transport weight	kg	500	550	600	900	1000
Pressure vessel volume	M3	0.26	0.3	0.34	0.47	0.54



Type 2

Boiler model		PHW FB250	PHW FB325	PHW FB400	PHW FB500	PHW FB600	PHW FB700	PHW FB800	PHW FB1000	PHW FB1200
Input	KW	250	325	400	500	600	700	800	1000	1200
	Kcal/h	215000	279500	344000	430000	516000	602000	688000	860000	1032000
Fuel consumption	M3/h	25	32.5	40	50	60	70	80	100	120
Supply & return nozzle size	in	3	3	3	4	4	4	4	4	4
Safety relief size	in	1	1	1	1-1/2	1-1/2	1-1/2	1-1/2	1 1/2	1-1/2
Drain size	in	1	1	1	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
Hand hole size	in	6	6	6	8	8	8	8	10	10
Total length	mm	2400	2600	2800	2900	3100	3300	3500	3860	4080
Tota height	mm	1550	1550	1550	1900	1900	1900	1900	2100	2100
Total width	mm	830	830	830	1090	1090	1090	1090	1190	1190
Dimension L1	mm	1900	2100	2300	2400	2600	2800	3000	3310	3524
Dimension L2	mm	110	120	140	140	140	160	160	230	250
Dimension L3	mm	1000	1100	1200	1230	1420	1500	1610	840	950
Dimension L4	mm	440	440	470	485	495	540	595	1040	1080
Dimension H1	mm	200	200	200	250	250	250	250	250	250
Dimension H2	mm	420	420	420	535	535	535	535	560	560
Dimension H3	mm	1180	1180	1180	1430	1430	1430	1430	1500	1500
Dimension W1	mm	760	760	760	920	920	920	920	1000	1000
Operating weight	kg	1960	2120	2340	3470	3740	4030	4340	4830	5040
Transport weight	kg	1220	1310	1400	2300	2460	2620	2790	3000	3300
Pressure vessel volume	M3	0.74	0.81	0.94	1.17	1.29	1.42	1.56	1.83	2.06





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The Packman Company was established in February of 1975. In that year it was also registered in Tehran's Registration Department. Packman's construction and services company was active in building construction and its services in the early years of its formation.

In 1976 in cooperation with (Brown Boveri and Asseck) companies some power plant mega projects was set up by the company.

The company started its official activity in the field of construction of High-Pressure Vessels such as Hot-Water Boilers , Steam Boilers , Pool Coil Tanks , Softeners and Heat Exchangers from 1984. Packman Company was one of the first companies which supplied its customers with hot- water boilers which had the quality and standard mark.

Packman has exported its products to countries such as Uzbekistan, United Arab Emirates and other countries in the region. It is one of the largest producers of hot-water and steam boilers in the Middle East.

Packman Company has got its degree from the Budget and Planning Organization in construction and services in the membership of some important associations such as:

1. Construction Services Industry Association
2. Industry Association
3. Construction Companies' Syndicate
4. Engineering Standard Association
5. Technical Department of Tehran University's Graduates Association
6. Mechanical Engineering Association

Advantages

- Efficient 3-Pass firebox design incorporating the wetback principal
- Competitively priced, easily maintained, designed for efficiency
- Gas fired burner standard but can be modified for other fuel sources
- ASME code constructed and stamped for 6 bar
- Our boilers can be custom built to ASME code for higher pressures if desired
- All welded construction is used throughout
- Large firebox volume insures quiet operation through the complete cycle
- Large furnace volume for ultimate combustion efficiency
- Insulated with 2 inches of mineral wool
- Easy access to fireside surfaces
- Fully automatic operation
- Forced draft burners
- Low Heat Release



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