

PARKER INDIRECT FIRED HEATER THE HEAT PUMP OR SWIM POOL BOILER

**THE PARKER NATURAL THERMAL CIRCULATING INDIRECT FIRED WATER HEATER IS
THE NATURAL CHOICE FOR WATER SOURCE HEAT PUMP, SWIM POOL,
AND HIGH OR LOW TEMPERATURE APPLICATIONS**

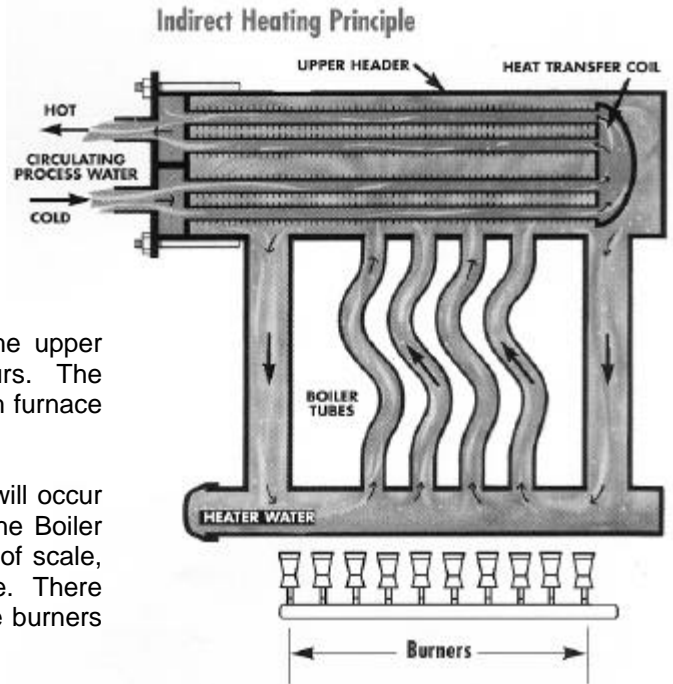
The Parker WH Model Indirect Fired Water Heater is an excellent choice for Low Temperature Applications. This same Indirect Fired Water Heater is also used for Domestic Water Heating, and higher temperatures applications.

The basic principle of indirect heating is accomplished by circulating the low temperature (or secondary) water through a copper tube Heat Exchanger which is mounted internally and immersed in the primary Boiler water which is a closed system. The primary Boiler water is contained in a Bent Steel Tube Bundle and is heated in the furnace area, it rises to the upper header where the heat transfer into the secondary water occurs. The colder secondary water does not come into contact with the high furnace temperatures or into contact with the flue gas at all.

This eliminates any possibility of flue gas condensation, which will occur on Direct Fired Heaters. Sweating and external corrosion of the Boiler Structure and tubes is essentially eliminated. The possibilities of scale, rust and corrosion are minimized by the indirect design principle. There is no refractory with the Parker Design to erode and fall into the burners as can happen on some Direct Fired Units.

The furnace remains at a steady uniform temperature, which results in high combustion efficiency and lower fuel consumption. This principle has proven more efficient and provides for a longer life from the heating system as opposed to a direct system.

The unit will respond with no problem to load or temperature fluctuations. For heat pump service the unit when piped properly will provide excellent system temperature control preventing nuisance cold water lock-outs of heat pump units with no condensation. The need for primary/secondary pumping, 3-way valves or blend back pumps is eliminated thus, reducing initial and maintenance costs.



RECOMMENDED FLOW RATE CHART

MODEL NUMBER	WH	*300	*395	*490	*600	*730	970	1210	1410	*1900	*2270	*2650	*3000
MBTU OUTPUT		240	316	392	480	584	776	968	1128	1520	1816	2120	2400
FLOW RATE THRU HX (GPM)		27	33	33	40	40	47	47	55	87	87	100	110
ΔT °F		18	19	23	24	29	33	41	41	35	41	42	43
PRESSURE DROP PSI (ΔP)		1	1.5	1.6	1.5	1.6	1.75	1.8	2.0	1.75	1.75	2.0	2.0

- *These Models can have additional H.X. tube or tubes installed, at added cost, to reduce ΔP or increase GPM flow rate.
- Flow Rate (GPM) =
$$\frac{\text{BTUH OUTPUT}}{8.33 \text{ LBS/Gal.} \times 60 \text{ Min/Hr} \times \Delta T \text{ °F (Boiler)}}$$
- Equation for determining loop supply temperature based on mixing of water through Boiler and bypass.

$$T - \text{loop supply} = \frac{(\text{GPM bypass}) \times (T - \text{loop return}) + (\text{GPM boiler}) \times (T - \text{boiler discharge})}{\text{GPM Loop}}$$
- Stainless Steel Heat Exchangers available at extra cost and reduced output.