Firestorm™

Direct-Contact Water Heaters

- 99 percent efficient
- Water temperatures up to 185°F
- Flow rates up to 467 gpm

THERMAL PRODUCTS Inc.

HEATEC®

Thermal Products, Inc. / Phone: (518) 877-0231 / Email: sales@thermalproducts.com / Website: www.thermalproducts.com

FIRESTORM™ water heaters are designed to heat water for making concrete, and for other applications.

Firestorm heaters have extremely high thermal efficiency: up to 99 percent. They raise the temperature of water up to 185 degrees F at flow rates from 13 to 467 gpm depending on heater size. Stack temperatures are close to incoming water temperatures.

The benefits of hot water on-demand

With the Firestorm heater, water is heated on-demand. Unlike using a heated water tank, there is no need to heat, store and maintain the temperature of thousands of gallons of water.

Since water is being heated and used on-demand, the burner is fired to heat only the amount of water used, as it is used. The result is fast response: you have hot water when you need it, without paying to heat water you don't use.

Design

The heater uses a fully-modulating, forced-draft burner that fires into the side of the heater shell. Cold water is sprayed into the top of the shell and migrates downward through a bed of stainless steel rings, called packing. Packing temporarily slows the flow of water and provides surface area for heat transfer.

As water migrates downward through the packing, hot burner gasses flow upward through the falling water. The water is heated by direct contact with the hot burner gasses. Heated water flows to the bottom of the shell where it accumulates momentarily.

Hot water is pumped from the collection area at the bottom of the shell directly to the concrete mixing equipment or to other applications.

Structural components, piping and internal parts are made from stainless steel. Controls are automated using PLC (Programmable Logic Controller) technology.

Push-button simplicity

Firestorm heaters are very easy to use. Set your desired water temperature on the digital controller, and let the heater do the rest. It's that easy.

Control panel meets NEMA 4 requirements for protection against windblown dust and rain, splashing water and hose-directed water. It includes a PLC (programmable logic controller) for automated control of the heater. It also includes a Fireye Flame Monitor that provides microprcessor-based burner management.

Fuels

The burners on Firestorm heaters are available as natural gas-fired or propane-fired. Oil-fired burners are not available.

Safety features

Firestorm heaters provide safe, unattended operation. Burner controls include a Fireye Flame Monitor to provide microprocessor-based burner management. This ensures that all safety limits are met before the burner is fired.

Low-level switches prevent the burner from firing when there is no flow of water through the heater. This ensures that the structural walls of the heater cannot be damaged by overheating. High-level switches shut off the burner and incoming water. Additionally, there is a water overflow and a drain valve.

Service & Support

Heatec engineers are available for consultation on your project. Moreover, our factory-trained service technicians can start up the heater for you. We back our products with round-the-clock support from our in-house parts and service departments. And, we use off-the-shelf burner parts and other components that should be readily available from your local supplier. Anyone who purchases our products can be fully assured of our commitment to customer satisfaction.

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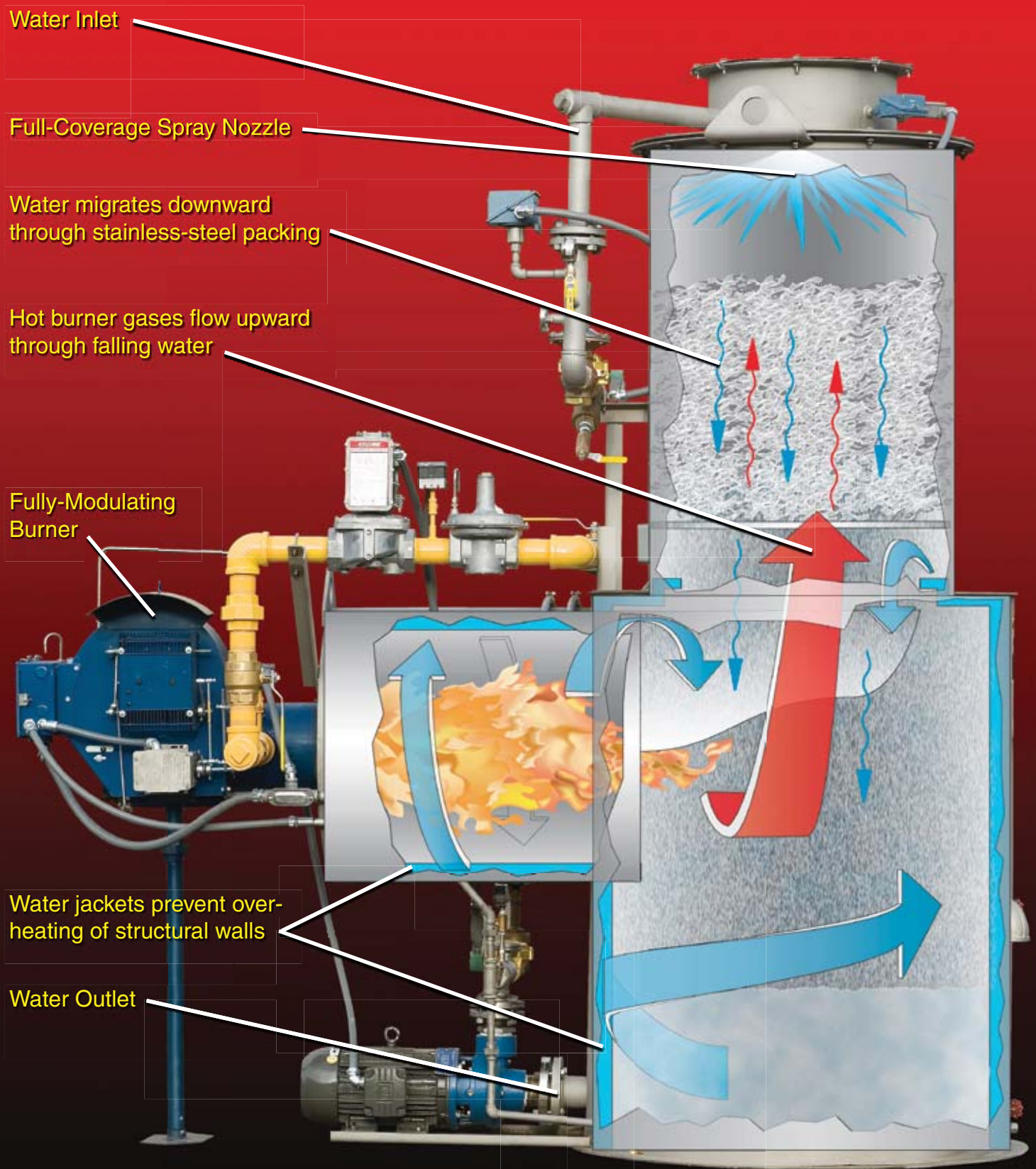

Firestorm Direct-Contact Water Heater

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Characteristics of Firestorm heaters

Model	BTU/hour (million)	Mix Water Flow Rate (gpm)							Approx. Dimensions (Length, Width, Height: inches)			Burner Requirements	
		Temperature Rise (degrees F)							L	W	H	Natural Gas (cfh)	Propane (gph)
		60	70	80	90	100	110	120					
HHW-07	0.75	25	21	19	17	15	14	13	78	42	117	750	8.5
HHW-10	1	33	29	25	22	20	18	17	84	52	117	1000	11.3
HHW-16	1.6	53	46	40	36	32	29	27	88	55	117	1600	18.0
HHW-23	2.3	77	66	58	51	46	42	38	91	57	117	2300	25.9
HHW-40	4	133	114	100	89	80	73	67	117	65	117	4000	45.1
HHW-60	6	200	171	150	133	120	109	100	136	76	129	6000	67.6
HHW-80	8	267	229	200	178	160	145	133	144	84	129	8000	90.1
HHW-110	11	367	314	275	244	220	200	183	150	90	141	11000	123.9
HHW-140	14	467	400	350	311	280	255	233	156	96	141	14000	157.7

To pick the most suitable heater for your use you have to know the *flow rate* of the mix water and the temperature rise needed. Pick the temperature rise approximately the same as the temperature rise you need. In the column below, find a flow rate equal to or greater than the flow rate you need. The heater model most suitable for that temperature rise is shown on the same line. The cfh (cubic feet per hour) values shown for natural gas assume an HHV (high heating value) of 1030 Btu/cubic foot. The gph (gallons per hour) values shown for propane assume an HHV of 91,500 Btu/gallon

Firestorm water heaters leave the factory fully-assembled, piped, wired and tested. No assembly required! Heatec Service technicians are also available for startup.

Hatches on the heater's upper section provide full access to the spray nozzle and packing area for inspection & maintenance. A manway on the lower section allows internal access to the combustion area.