

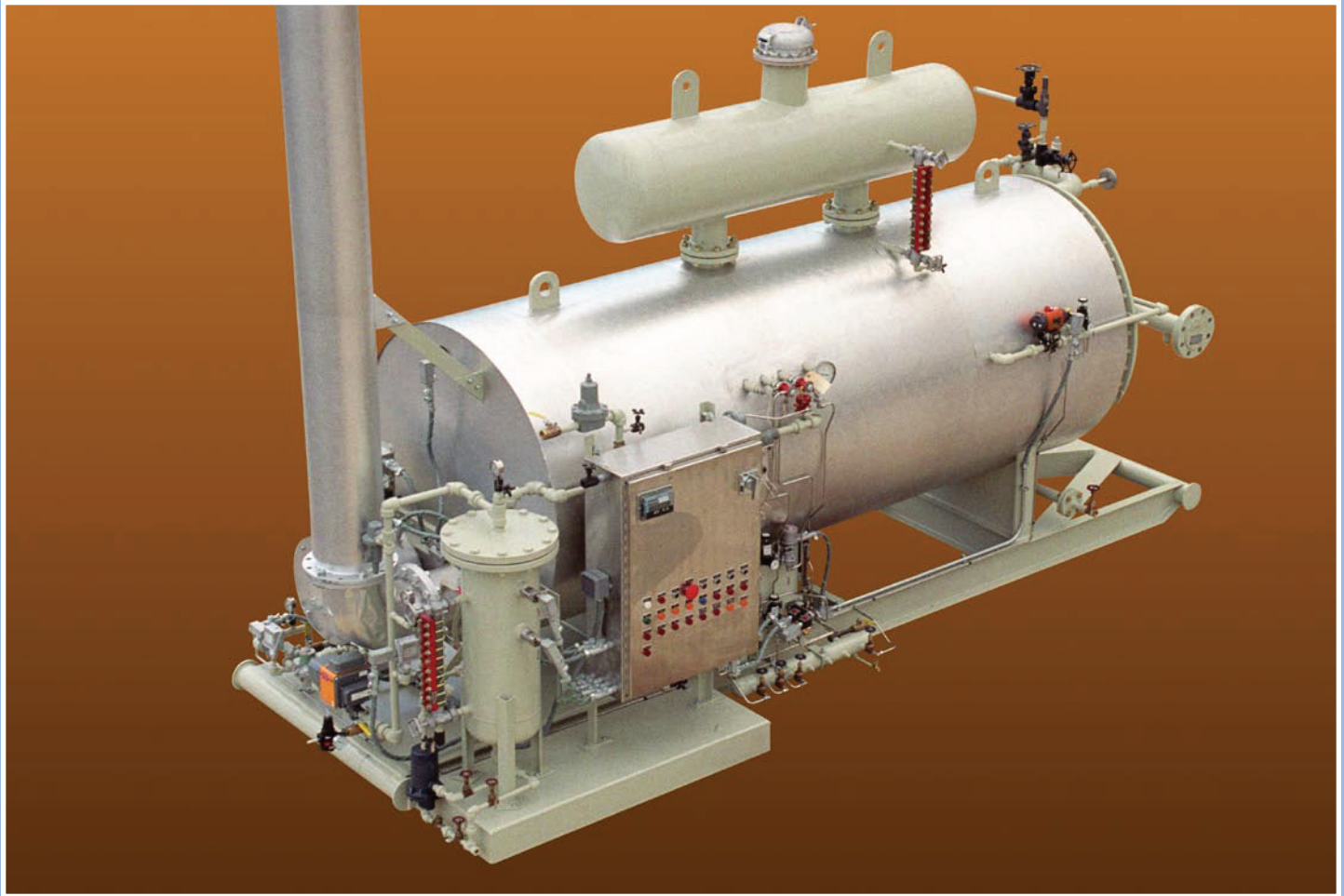
AQUATEC™



WATER BATH HEATERS



HEATEC®



Heatec 400,000 Btu/hour water-bath heater for heating natural gas. Has a natural draft burner.

AQUATEC™ is the name for a *new* series of water-bath heaters from Heatec. The name distinguishes this line of heaters from the many other types of heaters we make. Aquatec heaters are used mostly to heat fuel gas and liquids such as crude oil.

The heater is used to heat fuel gas at power generation plants, compressor stations and well-heads. The gas is heated before its pressure is reduced. Heating fuel gas while it is still at a high pressure keeps ice crystals and hydrates from forming in the lines when its pressure is reduced for combustion. Ice and hydrates can cause major damage to gas-fired turbines and other equipment.

The heater is used to heat crude oil at offshore platforms and refineries. The oil is heated to reduce its viscosity so it can be easily pumped.

Aquatec heaters are normally gas-fired. Outputs of our standard models range from 0.65 million to 9 million Btu/hour. They may be customized to

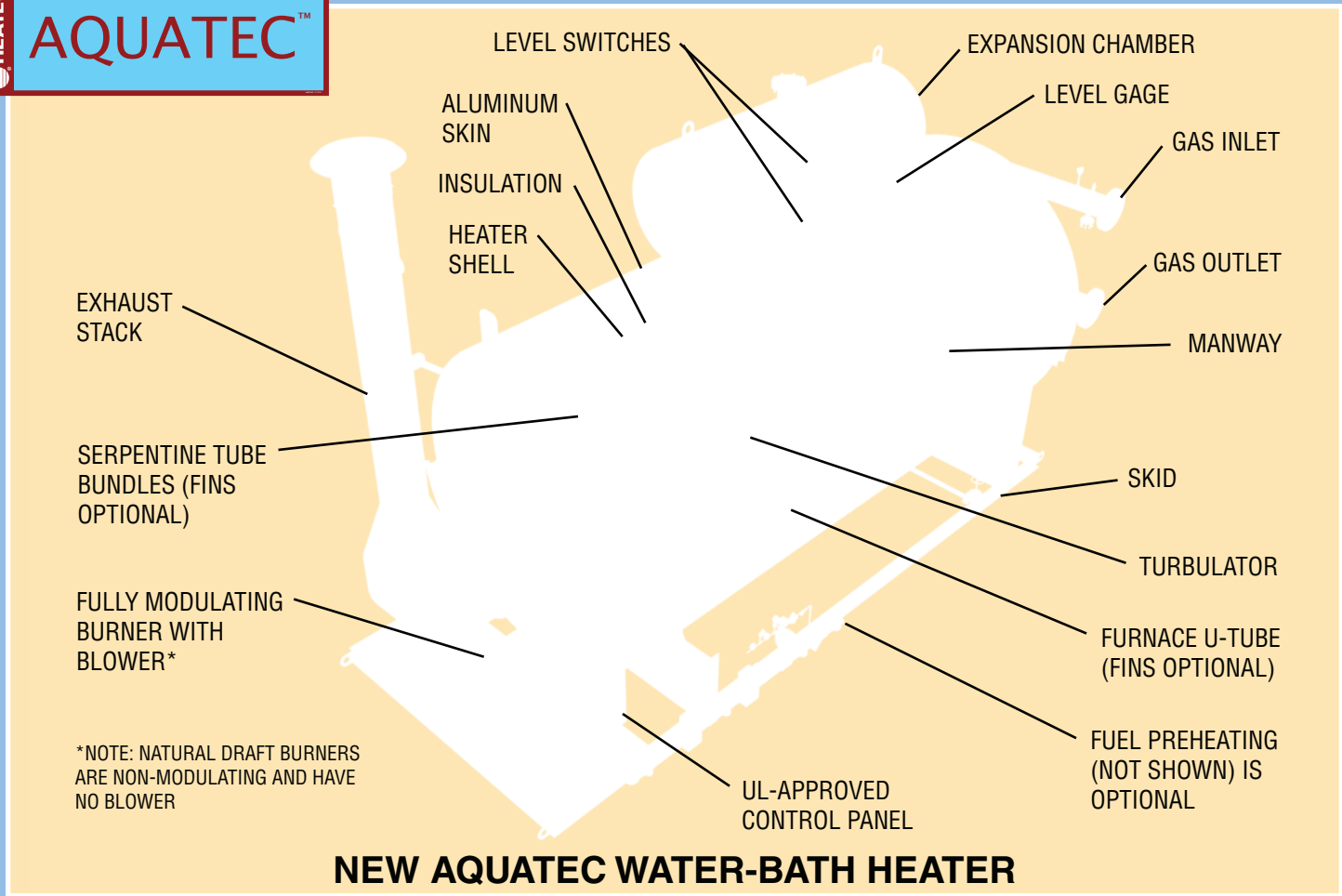
suit your needs. They can be configured for use in hazardous areas (Class 1, Div.1 or 2) where safety is a concern. And they can also be designed to operate in isolated areas where electrical power is not available.

Heater Construction

Aquatec heaters are skid-mounted, factory-wired and piped. Key components of the heater are the heater shell, burner, furnace tube, serpentine tube bundles, and expansion chamber. (Please see illustration).

The furnace tube may be either a single U-tube or multiple U-tubes, depending on Btu needed. Likewise, one or more burners may be used. Burners that operate on a forced draft using a blower can be used. Or, burners that operate on natural draft without a blower can be used.

Tube bundles and furnace tubes are removable as required by API-12. The heaters are externally insulated and have an aluminum skin.



How The Heater Works

Gas or liquid products are heated to 130–150 degrees F as they flow through tube bundles in the heater. The tube bundles are heated *indirectly* by a water bath that surrounds the tube bundles and the furnace tube.

To avoid creating unwanted condensates, high temperature burner gases do not heat the tube bundles *directly*. If the high temperature gases were allowed to come into direct contact with the tube bundles (which are at a relatively low temperature), moisture in the gas would condense on the tube bundles and create a corrosive liquid.

The expansion chamber stores water overflow created by expansion. It also serves as water saver by reducing evaporation.



Heatec 670,000 Btu/hour water-bath heater for heating natural gas. It has a natural draft burner.

About Heatec

Heatec has been in business since 1977. We design, manufacture and service heating and storage systems. These products are used in the hot mix asphalt industry and numerous other industries.

You will find Heatec products at chemical plants, at oil-and-gas refineries, on off shore platforms and on barges. You will also find them at power generation plants, wood product manufacturers, food producers, textile factories, pharmaceutical companies, roofing manufacturers and others.

Heatec products include heaters, vaporizers, and heat recovery units. The heaters are either horizontal or vertical and have either helical coils or serpentine coils. Heater and vaporizer sizes range from 0.5 to 70 million Btu/hour. Products also include pump skids, storage tanks and expansion tanks.

Aquatec™ forced draft heaters

Basic Model	Btu/hour (million)	Length (feet)	Width (feet)	Height (feet)	Gas Flow Rate (MMSCFD)	Gas inlet temp (degF)	Gas outlet temp (degF)	Net Weight (pounds)
WB-65F	0.65	21	6	6	3	100	150	15,511
WB-150F	1.5	32	7	7	9	100	150	25,918
WB-300F	3	34	9	9	16	100	150	36,534
WB-500F	5	49	11	11	27	100	150	50,694
WB-700F	7	58	11	11	38	100	150	63,081
WB-900F	9	61	11	11	48	100	150	76,124

Heights shown include expansion tank, but do not include the stack.

Aquatec™ natural draft heaters

Basic Model	Btu/hour (million)	Length (feet)	Width (feet)	Height (feet)	Gas Flow Rate (MMSCFD)	Gas inlet temp (degF)	Gas outlet temp (degF)	Net Weight (pounds)
WB-65N	0.65	19	7	7	3	100	150	11,004
WB-150N	1.5	32	6	6	9	100	150	20,370
WB-300N	3	44	7	7	16	100	150	30,747
WB-500N	5	50	8	8	27	100	150	41,479
WB-700N	7	52	11	11	38	100	150	55,002
WB-900N	9	61	11	11	48	100	150	66,853

Heights shown include expansion tank, but do not include the stack.



Heatec facility in Chattanooga, Tennessee

Publication No. 11-08-206. Specifications are subject to change without prior notice or obligation.

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