

Direct Contact Water Heater



The Kemco Difference

Kemco designs, engineers, and manufactures fully integrated water systems to match your plant requirements. Water heating is the first step in unsurpassed fuel savings, wastewater heat energy reclamation, water conservation, and sewer cost savings.

Conventional gas water heaters operate at about 70% system efficiency, returning only \$70 for every \$100 spent on fuel. Steam boilers, even with a heat exchanger to boost efficiency, return only \$65 for every \$100 spent.

For example, to receive a full \$100 benefit of gas water heating you would spend:

Technology	System Efficiency	Fuel Cost
Conventional Gas Water Heater	70%	\$142.86
Steam Boiler & Heat Exchanger	65%	\$153.85
Kemco Direct Contact Water Heater	99.7%	\$100.30

The direct contact water heater's non-pressure vessel does not require licensed operator or high pressure insurance. Boiler feed chemicals and high maintenance costs are a thing of the past. In many cases, the Kemco direct contact water heater eliminates the need for steam entirely, giving you a 100% steam-free heating system.

Kemco's patented direct contact process between flame and water captures all the flame's heat energy, for the fastest and most efficient water heating process.

Hot water is always available within seconds, not hours, after start-up. No need to plan production around hot water availability or heat during high peak utility periods. Stored or direct-to-process, no other water heating method comes close to Kemco's direct contact water heater.

Kemco is the Solution

We surpass the
competition

fuel efficiency
99.7%
vs.
65%

temperatures
as high as
199°F

wide-range of
capacities
15 to over
500 gpm

Direct Contact Water Heater



Low Temperature Combustion Gases Exit

Water In

**Water
Distribution**

Spray Nozzle Distributes
Incoming Cold Water
over Media Rings

Combustion Heat is
Transferred from the
Rising Gases as Water
Trickles through the
Media Rings

**Heat
Transfer
Zone**

**Combustion
Zone**

Water Droplets Contact
Combustion Heat

Natural Gas or
LP Gas is Cleanly
Burned, Producing
Hot Combustion
Product Gases

Hot Water is Collected
in Bottom of Heater
and then Exits to
Storage Tank

TE-100 Series

Food Processing



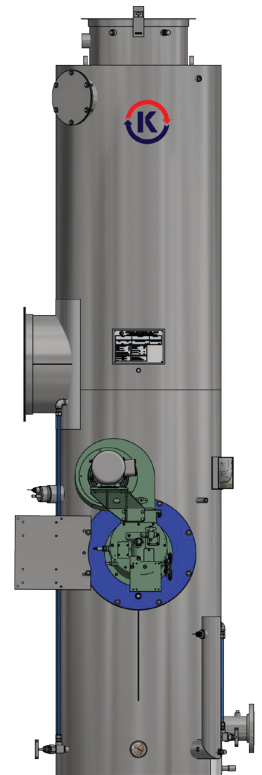
Kemco's pioneering 99.7% efficient direct contact water heater, the TE-100 delivers hot water on demand. Each unit is custom designed to meet the customer's individual requirements, heating large volumes of water from an incoming cold temperature to a final hot usage temperature, in a single pass. Heated water, ready for use, is then stored in an open hot water tank.

Features:

- On-Demand Hot Water
- Stainless Steel Construction
- Non-Pressure Vessel
- Heating Flows to 500 gpm
- Temperature as High as 199°F
- NSF-Certified Models
- Insurance-Rated Gas Trains
- PLC-Based System Control Panel
- Media Tower Manway
- No Operator Certification Required
- Low NO_x Available

Applications:

- Process Hot Water
- Heating Water for "Water to Water" Heat Exchanger Applications



Specifications:

Heater Size (mbtu)	Water Heating Capacity at ΔT 100°F (gph)	Dimensions (D X H)	Weight Empty (lbs)	Weight Flooded (lbs)	Water Inlet	Water Outlet	Gas Inlet	Min. Typical Connected Load (FLA)
1.2	1,440	25 1/2" x 9'	1,000	1,450	1" - 2"	2"	1 1/2"	5.0
2.0	2,400	30" x 10'	2,400	3,100	1 1/4" - 2"	3"	1 1/2"	5.0
3.0	3,600	30" x 10'	2,400	3,100	1 1/2" - 2"	3"	1 1/2"	6.5
4.5	5,400	42" x 10'	2,650	3,850	2" - 2 1/2"	4"	2"	6.5
5.5	6,600	42" x 10'	3,000	4,250	2" - 3"	4"	2"	8.0
7.0	8,400	54" x 11'	3,200	5,800	2 1/2" - 3"	4"	2"	14.5
9.0	10,800	54" x 11'	3,200	5,800	3"	4"	2"	17.5
10.0	12,000	54" x 11'	3,200	5,800	3" - 4"	4" - 6"	2 1/2"	24.5
12.0	14,400	69" x 11'	4,900	9,100	3" - 4"	6"	3"	24.5
15.0	18,000	76" x 11'	5,100	10,200	4"	6"	3"	24.5
18.0	21,600	84" x 11'	6,000	12,200	4"	6"	3"	43.5
21.0	25,200	84" x 11'	6,000	12,200	4"	6"	3"	55.5
25.0	30,000	96" x 12'	7,000	15,100	4"	8"	3"	68.5

GP Series

Kemco's GP water heater is a direct contact water heater line specifically engineered and designed for the laundry industry.

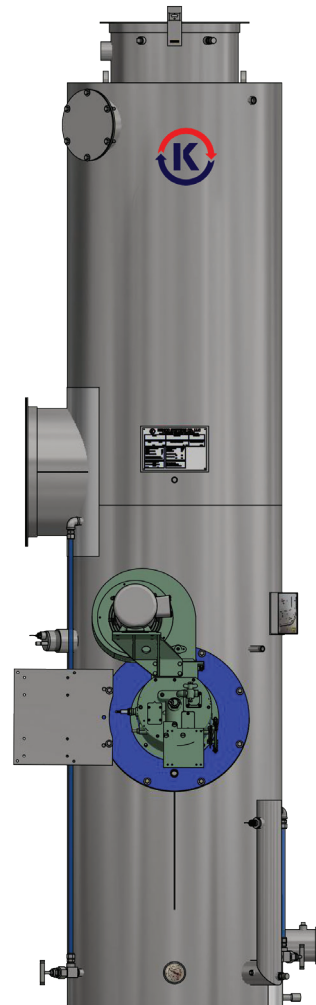


Features:

- On-Demand Hot Water
- 99.7% Efficiency
- Stainless Steel Construction
- Non-Pressure Vessel
- Temperature as High as 199°F
- Insurance-Rated Gas Trains
- Economical Choice
- Relay Logic-Based System Control Panel

Applications:

- Process Hot Water
- Cart Wash



Specifications:

Heater Size (mbtu)	Water Heating Capacity at ΔT 100°F (gph)	Dimensions (D X H)	Weight Empty (lbs)	Weight Flooded (lbs)	Water Inlet	Water Outlet	Gas Inlet	Min. Typical Connected Load (FLA)
2.0	1,714	30" x 10'	2,400	3,100	1 1/4" - 2"	3"	1 1/2"	5.0
3.0	2,571	30" x 10'	2,400	3,100	1 1/2" - 2"	3"	1 1/2"	6.5
4.5	3,857	42" x 10'	2,650	3,850	2" - 2 1/2"	4"	2"	6.5
5.5	4,714	42" x 10'	3,000	4,250	2" - 3"	4"	2"	8.0
7.0	6,000	54" x 11'	3,200	5,800	2 1/2" - 3"	4"	2"	14.5
9.0	7,714	54" x 11'	3,200	5,800	3" - 4"	4"	2"	17.5
10.0	8,571	54" x 11'	3,200	5,800	3" - 4"	4" - 6"	2 1/2"	24.5

RM 99 Series

Concrete



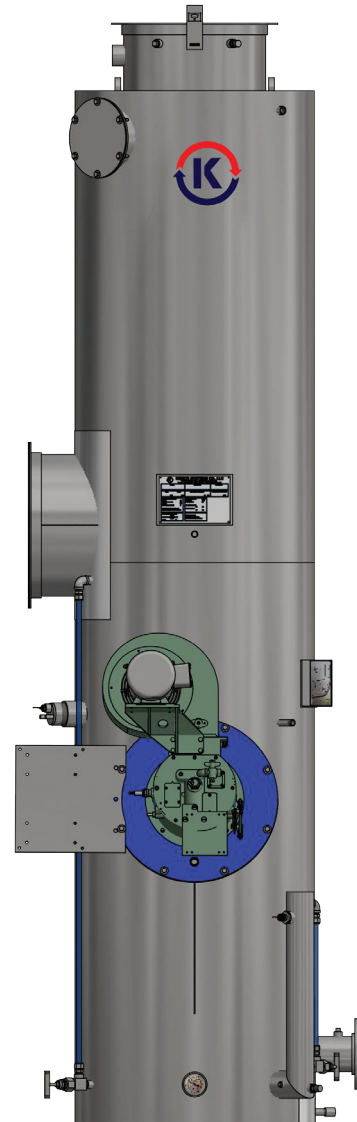
Kemco's RM 99 is a total hot water package, specifically designed and engineered for the Ready-Mix industry. Operating at atmospheric pressure, the unit does not have to meet the regulations of pressurized vessels and it is available with programmable logic controls (PLC). Kemco heaters are sized, based on total yards per hour in peak production time. This ensures that the heater will generate the hot water needed for batching operations.

Features:

- On-Demand Hot Water
- 99.7% Efficiency
- Stainless Steel Construction
- Non-Pressure Vessel
- Temperature as High as 199°F
- Insurance-Rated Gas Trains
- Economical Choice
- PLC-Based System Control Panel

Applications:

- Process Hot Water



Specifications:

Heater Size (mbtu)	Water Heating Capacity at ΔT 100°F (gph)	Dimensions (D X H)	Weight Empty (lbs)	Weight Flooded (lbs)	Water Inlet	Water Outlet	Gas Inlet	Min. Typical Connected Load (FLA)
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*sizes larger than 10.0 mbtu/hr available