

# O. E. Frank Heater and Engineering Co., Inc.

Offices in All Principal Cities

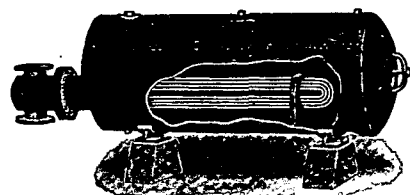


BUFFALO, N. Y.

O. E. F. Products.—U-Tube and Straight Tube Storage Heaters, U-Tube and Straight Tube Instantaneous Heaters, U-Tube and Straight Tube Feed-water Heaters, U-Tube and Straight Tube Swimming Pool Heaters, Bleeder Turbine Heaters, Domestic Service Heaters, Power Plant Heaters, Oil Coolers, Special Heat Exchange Equipment for Industrial Plants.

O. E. F. Storage Heaters are furnished in either the U-Tube or Straight Tube types to meet your requirements.

Tanks are made of high quality flange boiler steel. Tube Sheets of rolled steel, Castings of heavy gray iron, and Tubes of heavy gauge copper.



O. E. F. U-Tube Storage Heater

All Heaters, unless otherwise specified are constructed for a working pressure of 100 lb. Information for higher pressures furnished on request.

When it is necessary to use both high and low pressure steam, the steam chamber and tubes can be so arranged as to eliminate installation of a separate tube bundle.

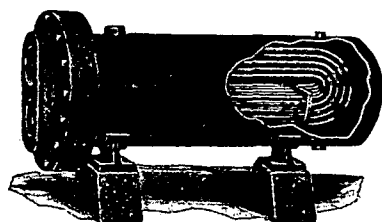
All tube bundles or heating elements are removable from the tank for ease in inspection, cleaning, or repairing.

## O. E. F. Storage Heaters

For heating water from 50 to 180 deg. Fahr. with steam at 212 deg. Fahr.

| Storage Capacity Gal. | 141     | 370     | 940      | 1445     | 2956     | 2538     | 2961     |
|-----------------------|---------|---------|----------|----------|----------|----------|----------|
| Tank Size Inches      | 24 x 72 | 36 x 84 | 48 x 120 | 54 x 144 | 60 x 168 | 72 x 144 | 72 x 168 |
| Gallons per Hour      | C-5     | K-5     | W-5      | CX-5     | MX-5     | PX-5     | RX-5     |
| 100                   | C-11    | K-11    | W-11     | CX-11    | MX-11    | PX-11    | RX-11    |
| 200                   | C-27    | K-27    | W-27     | CX-27    | MX-27    | PX-27    | RX-27    |
| 500                   | C-43    | K-43    | W-43     | CX-43    | MX-43    | PX-43    | RX-43    |
| 800                   | C-54    | K-54    | W-54     | CX-54    | MX-54    | PX-54    | RX-54    |
| 1000                  | C-81    | K-81    | W-81     | CX-81    | MX-81    | PX-81    | RX-81    |
| 1500                  | C-108   | K-108   | W-108    | CX-108   | MX-108   | PX-108   | RX-108   |
| 2000                  | C-162   | K-162   | W-162    | CX-162   | MX-162   | PX-162   | RX-162   |
| 3000                  | C-269   | K-269   | W-269    | CX-269   | MX-269   | PX-269   | RX-269   |
| 5000                  |         |         |          |          |          |          |          |

O. E. F. U-Tube Instantaneous Heaters and Economizers—An economical heater low in price but having high heating efficiency and made of best materials. Extensively used for heating



O. E. F. Instantaneous U-Tube Heater and Economizer

water instantaneously or for connection to storage tanks. Also for use as economizers in cooling condensate in steam systems or generators in hot water heating systems.

These heaters are adaptable for connecting below the water line of the boiler.

## Capacities and General Dimensions O. E. F. U-Tube Instantaneous Heaters

Heating Water from 50–180 deg. Fahr., with Steam at 212 deg. Fahr.

| Gallons per Hour | Size  | Width In. | Length Ft.-In. | Steam In. | Water In. | Drain. In. |
|------------------|-------|-----------|----------------|-----------|-----------|------------|
| 100              | U-6   | 11        | 4-9/4          | 3         | 1 1/2     | 1          |
| 500              | U-15  | 13 1/2    | 6-3/4          | 3         | 2         | 1 1/2      |
| 800              | U-24  | 13 1/2    | 6-3/4          | 3         | 2 1/2     | 1 1/2      |
| 1000             | U-30  | 16        | 6-3/4          | 3         | 2 1/2     | 1 1/2      |
| 1500             | U-45  | 16        | 7-4/4          | 4         | 3         | 1 1/2      |
| 2000             | U-60  | 19        | 7-5/4          | 4         | 3         | 1 1/2      |
| 3000             | U-90  | 19        | 7-5/4          | 6         | 4         | 2          |
| 5000             | U-150 | 22 1/4    | 7-7/4          | 8         | 4         | 3          |

# The Patterson-Kelley Co.

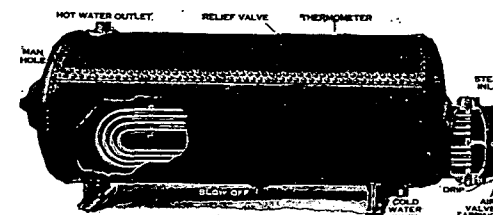
99 Park Avenue

New York City

Hot Water Heaters for all purposes. Pool Heaters and Converters. Preheaters, Heat Exchangers, Heaters for Chemicals, Gases, Oils. Coolers for Brine, Chemicals, Gases, Oil and Water.

The Patterson Combined Hot Water Service and Storage Heater, Type B, is for any service where requirements for hot water are not constant, or where a large volume must be stored for sudden heavy demands.

We guarantee to furnish heaters that will deliver the quantity of hot water called for. Without obligation our Engineering Department will be glad to give engineers the benefit of our 48 years' experience.



## General Specifications

Constructed like a high grade boiler—of heavy steel plate. Steam inlet and outlet chamber is a heavy, grey iron casting. Tube head is a heavy, steel forging into which both ends of each tube are expanded. Tubes are of pure, cold drawn seamless copper and 'U' shaped to provide against contraction and expansion strains. Heater is for any service and in any required size per tables below. Write us for engineering advice.

## STORAGE CAPACITIES

| No.  | Dimensions in Inches | Capacity in Gals. | Approx. Wt. in Lbs. | No.  | Dimensions in Inches | Capacity in Gals. | Approx. Wt. in Lbs. |
|------|----------------------|-------------------|---------------------|------|----------------------|-------------------|---------------------|
| 1 S  | 24 x 48              | 94                | 650                 | 21 S | 42 x 144             | 860               | 2450                |
| 2 S  | 24 x 60              | 118               | 750                 | 22 S | 42 x 168             | 1000              | 2800                |
| 3 S  | 24 x 72              | 141               | 850                 | 23 S | 42 x 192             | 1155              | 3100                |
| 4 S  | 24 x 84              | 164               | 950                 | 24 S | 48 x 96              | 750               | 2600                |
| 5 S  | 30 x 60              | 180               | 875                 | 25 S | 48 x 120             | 940               | 2925                |
| 6 S  | 30 x 72              | 215               | 1000                | 26 S | 48 x 144             | 1125              | 3350                |
| 7 S  | 30 x 84              | 255               | 1150                | 27 S | 48 x 168             | 1300              | 3840                |
| 8 S  | 30 x 96              | 285               | 1300                | 28 S | 48 x 192             | 1500              | 4200                |
| 9 S  | 30 x 120             | 360               | 1500                | 29 S | 54 x 120             | 1190              | 3500                |
| 10 S | 36 x 72              | 310               | 1250                | 30 S | 54 x 144             | 1425              | 3900                |
| 11 S | 36 x 84              | 365               | 1400                | 31 S | 54 x 168             | 1665              | 4300                |
| 12 S | 36 x 96              | 415               | 1550                | 32 S | 54 x 192             | 1900              | 4700                |
| 13 S | 36 x 108             | 475               | 1700                | 33 S | 60 x 120             | 1400              | 4300                |
| 14 S | 36 x 120             | 500               | 1850                | 34 S | 60 x 144             | 1700              | 4950                |
| 15 S | 36 x 144             | 640               | 2100                | 35 S | 60 x 168             | 2000              | 5600                |
| 16 S | 42 x 72              | 430               | 1500                | 36 S | 60 x 192             | 2240              | 6200                |
| 17 S | 42 x 84              | 500               | 1650                | 37 S | 72 x 174             | 3000              | 7000                |
| 18 S | 42 x 96              | 575               | 1800                | 38 S | 84 x 168             | 4000              | 8700                |
| 19 S | 42 x 108             | 650               | 1950                | 39 S | 96 x 168             | 5200              | 10000               |
| 20 S | 42 x 120             | 720               | 2200                | 40 S | 96 x 192             | 6000              | 11000               |

## HEATING CAPACITIES—40° F. to 180° F.—Steam at Atmospheric Pressure

| No.  | Gallons per Hour | Approx. Wt. in Lbs. | No.  | Gallons per Hour | Approx. Wt. in Lbs. |
|------|------------------|---------------------|------|------------------|---------------------|
| 1 H  | 100              | 200                 | 15 H | 2000             | 700                 |
| 2 H  | 150              | 215                 | 16 H | 2500             | 800                 |
| 3 H  | 200              | 235                 | 17 H | 3000             | 900                 |
| 4 H  | 250              | 255                 | 18 H | 3500             | 1050                |
| 5 H  | 300              | 285                 | 19 H | 4000             | 1200                |
| 6 H  | 400              | 315                 | 20 H | 4500             | 1350                |
| 7 H  | 500              | 350                 | 21 H | 5000             | 1500                |
| 8 H  | 600              | 370                 | 22 H | 6000             | 1750                |
| 9 H  | 700              | 400                 | 23 H | 7500             | 2000                |
| 10 H | 800              | 425                 | 24 H | 10000            | 3200                |
| 11 H | 1000             | 450                 | 25 H | 12500            | 3800                |
| 12 H | 1250             | 500                 | 26 H | 15000            | 4500                |
| 13 H | 1500             | 550                 | 27 H | 20000            | 5100                |
| 14 H | 1750             | 600                 | 28 H | 25000            | 5800                |

NOTE.—To specify Type B. Heaters, combine the numbers of the required storage and heating capacities. For example, "One Patterson Type B. Heater with No. 22 S. and No. 17 H." has 1000 gallons storage with 3000 gallons hourly heating capacity.