

technical catalog bulle

# APT

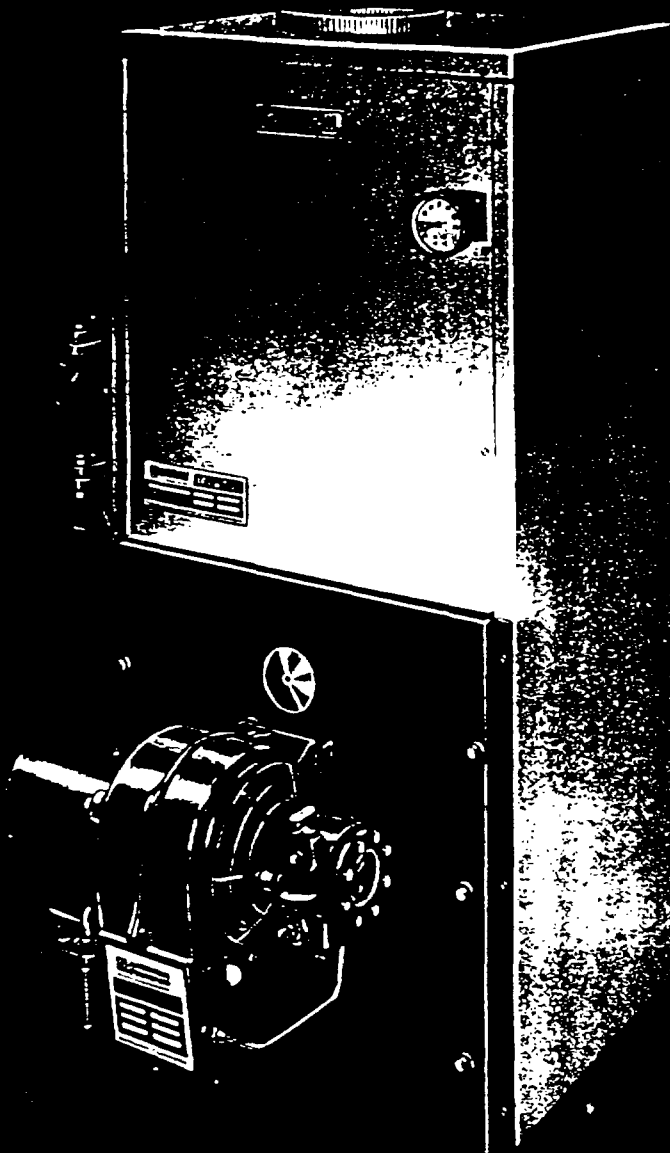
## and AP

packaged oil-fired boii

hot water

PLAINTIFF'S EXHIBIT

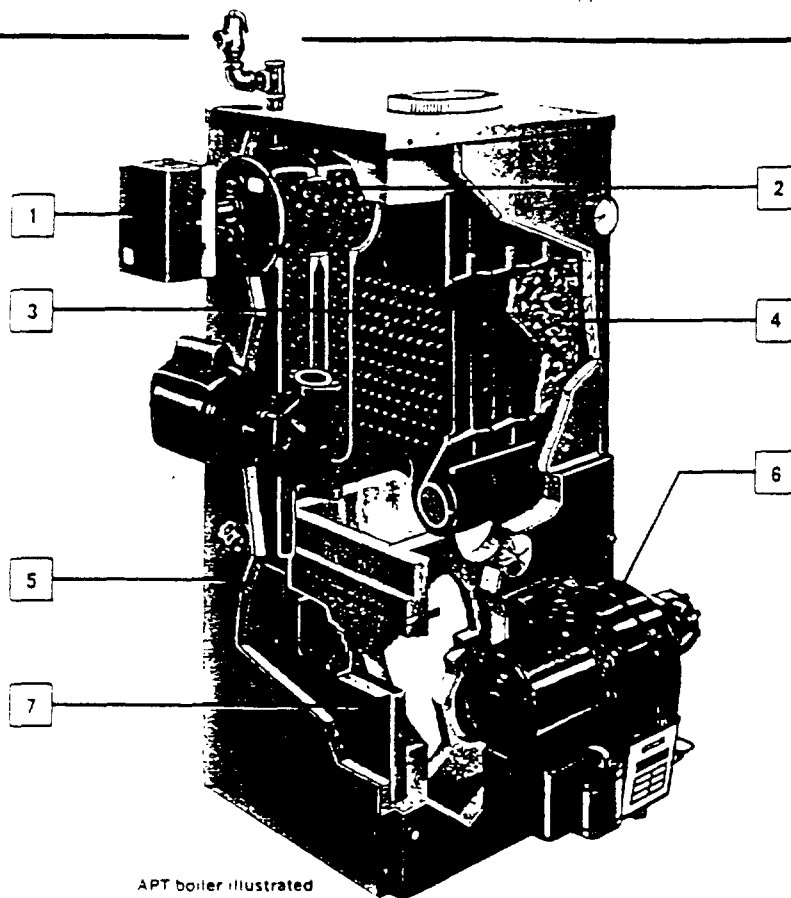
ASI-97



## the oil-fired APT and AP boilers...cast iron, completely packaged for fast installation

The compact APT meets the need for an oil-fired hot water boiler that can furnish, at low cost, both the superior quality of hydronic heat and a dependable supply of domestic hot water. It comes completely packaged with an I=W=H rated tankless coil. If a tankless coil is not required, the same unit is available without heater as the AP boiler. Both the APT and AP boilers are available in 4, 5 and 6 section sizes—with I=B=R approved

ratings in the important 95,000 to 165,000 Btu/hr. range. Compactly packaged to easily fit through a doorway, the boilers come equipped with factory-mounted, pre-wired controls for fast, easy installation. Rugged cast iron sections, precision DH-5 oil burner, and ELIMINAIRE® design, guarantee durability, economy and efficiency in operation. For the finest in cast iron—and the fastest in installation—select the APT or AP boiler!



APT boiler illustrated

1—controls—combination light-sensing primary and triple immersion control is factory-mounted, pre-wired on the APT. (The AP has separate limit and primary controls.)

2—water heater—provides ample supply of domestic hot water; I=W=H ratings.

3—cast iron sections—multiple pin-type projections extract maximum heat from flue gases. Sections are tested at 2½ times maximum working pressure.

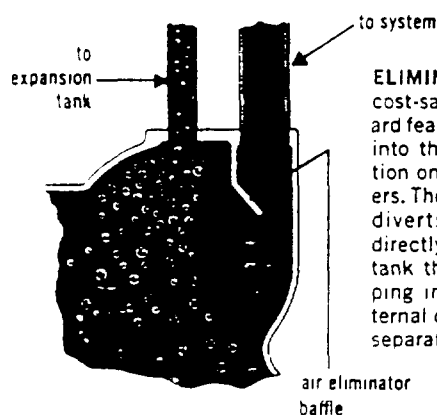
4—front cleanout panel—one-piece panel allows full cleaning of all flue surfaces from the front—a big advantage in close clearance installations—without disturbing burner, controls and accessories.

5—jacket—smartly styled of sturdy steel in sparkling gray finish; fully insulated.

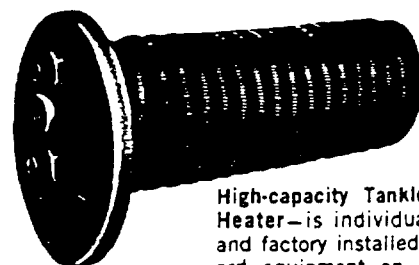
6—model DH-5 oil burner—with quick-connect sling mount for simple hanging. Specifically designed for APT and AP boilers. Easy-to-adjust EXACTAIRE control assures proper air-oil mixture for clean, economical firing. Special ceramic turbulator and stainless steel air tube assure long burner life.

7—insulated steel base—firmly supports cast iron sections and encloses refractory combustion chamber to keep jacket temperatures low.

EXACT-AIRE and ELIMINAIRE® are trademarks of AMERICAN-STANDARD Inc.



**ELIMINAIRE®**—a patented cost-saving American-Standard feature—is integrally cast into the left hand end section on all APT and AP boilers. The ELIMINAIRE® baffle diverts rising air bubbles directly into the expansion tank through a special tapping in the section. No external device is necessary to separate air and water.



**High-capacity Tankless Water Heater**—is individually sized and factory installed as standard equipment on each APT packaged boiler. Specifically designed for forced circulation boilers, the copper coil fits into the extra large 5" nipple port at the top of the section. High I=W=H approved ratings have been confirmed by actual test in the boiler.

# APT

## and AP

### packaged oil-fired boiler



### APT and AP ratings

| boiler number              |                            | gross<br>I=B=R<br>output<br>(Btu/hr) | net<br>I=B=R<br>ratings<br>(Btu/hr) | I=B=R<br>burner<br>capacity<br>(gph) | chimney          |                  | water<br>content<br>(gallons) |
|----------------------------|----------------------------|--------------------------------------|-------------------------------------|--------------------------------------|------------------|------------------|-------------------------------|
| with<br>tankless<br>heater | less<br>tankless<br>heater |                                      |                                     |                                      | size<br>(inches) | height<br>(feet) |                               |
| APT-95                     | AP-95                      | 95,000                               | 82,600                              | 0.95                                 | 8x8              | 15               | 9.6                           |
| APT-130                    | AP-130                     | 130,000                              | 113,000                             | 1.25                                 | 8x8              | 15               | 11.7                          |
| APT-165                    | AP-165                     | 165,000                              | 143,500                             | 1.60                                 | 8x8              | 15               | 13.7                          |

■ Net I=B=R ratings shown are based on a piping and pick up allowance of 1.15. American-Standard should be consulted before selecting a boiler for installations having unusual piping and pick up requirements.

● Nozzle sizes, gph, 60°S, furnished with APT and AP packaged hot water boilers: APT/AP-95, 0.90; APT/AP-130, 1.25; APT/AP-165, 1.50. (Based on oil at 140,000 Btu per gallon.)

### tankless heater ratings

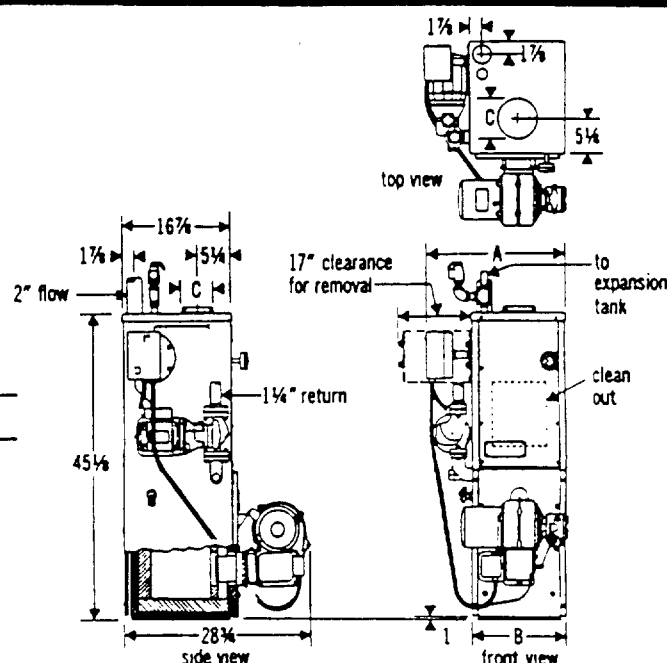
| boiler number | I=B=R<br>burner<br>capacity<br>(gph) | heater<br>number | I=W=H<br>ratings<br>(gpm)Δ | pressure<br>drop<br>(psi) |
|---------------|--------------------------------------|------------------|----------------------------|---------------------------|
| APT-95        | 0.95                                 | 218              | 2¾                         | 7                         |
| APT-130       | 1.25                                 | 222              | 3¾                         | 12                        |
| APT-165       | 1.60                                 | 230              | 3¾                         | 22                        |

● Domestic hot water connection sizes for all heaters is ½" I.P.S.

Δ Gallons of water per minute heated from 40° F to 140° F with 200° F boiler water temperature.

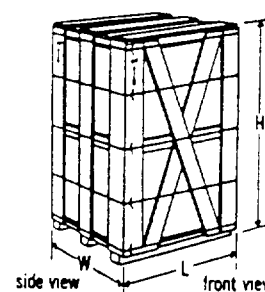
### dimensions and tappings

| boiler number              |                            | number of<br>sections | size of tappings<br>(inches) |        | dimensions<br>(inches) |     |   |
|----------------------------|----------------------------|-----------------------|------------------------------|--------|------------------------|-----|---|
| with<br>tankless<br>heater | less<br>tankless<br>heater |                       | flow                         | return | A                      | B   | C |
| APT-95                     | AP-95                      | 4                     | 2                            | 1¼     | 21½                    | 14¼ | 6 |
| APT-130                    | AP-130                     | 5                     | 2                            | 1¼     | 24¾                    | 17½ | 6 |
| APT-165                    | AP-165                     | 6                     | 2                            | 1¼     | 28                     | 20¾ | 7 |



### crated dimensions

| boiler number              |                            | dimensions (inches) |     |     | approximate<br>shipping wt.<br>(lbs.) |     |
|----------------------------|----------------------------|---------------------|-----|-----|---------------------------------------|-----|
| with<br>tankless<br>heater | less<br>tankless<br>heater | H                   | W   | L   | APT                                   | AP  |
| APT-95                     | AP-95                      | 46½                 | 21¾ | 23¾ | 484                                   | 470 |
| APT-130                    | AP-130                     | 46½                 | 21¾ | 27¼ | 548                                   | 537 |
| APT-165                    | AP-165                     | 46½                 | 21¾ | 30¾ | 621                                   | 607 |



APT and AP packaged oil-fired boilers are designed and built to comply with the American Society of Mechanical Engineer's Code, and bear their approval symbol. Ratings have been approved by the Institute of Boiler and Radiator Manufacturers. The Model DH-5 Oil Burner is listed by the Underwriters' Laboratories, Inc. for No. 1 and No. 2 fuel oil; complies with Commercial Standard CS-75; and is approved by the New York City Board of Standards and Appeals, by the State Fire Marshal of the Commonwealth of Massachusetts, and by the Department of State Police, State of Connecticut.

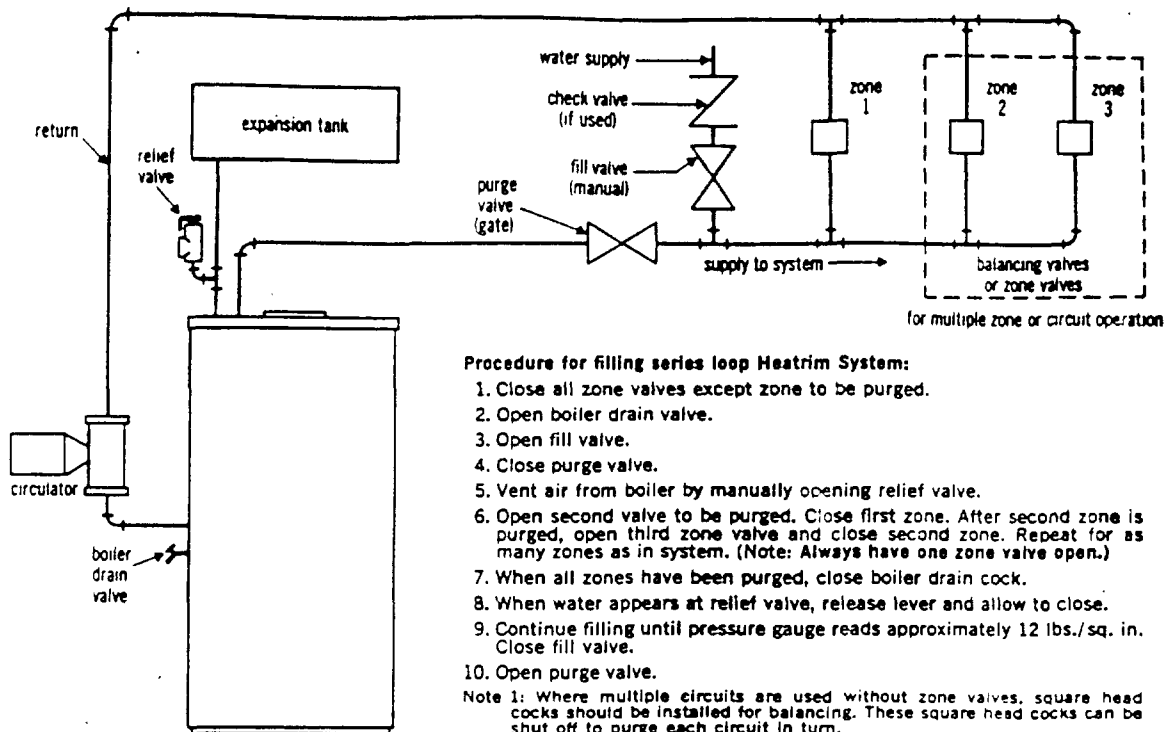
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# APT

## and AP

### packaged oil-fired boilers

#### near boiler piping



#### Procedure for filling series loop Heatrim System:

1. Close all zone valves except zone to be purged.
2. Open boiler drain valve.
3. Open fill valve.
4. Close purge valve.
5. Vent air from boiler by manually opening relief valve.
6. Open second valve to be purged. Close first zone. After second zone is purged, open third zone valve and close second zone. Repeat for as many zones as in system. (Note: Always have one zone valve open.)
7. When all zones have been purged, close boiler drain cock.
8. When water appears at relief valve, release lever and allow to close.
9. Continue filling until pressure gauge reads approximately 12 lbs./sq. in. Close fill valve.
10. Open purge valve.

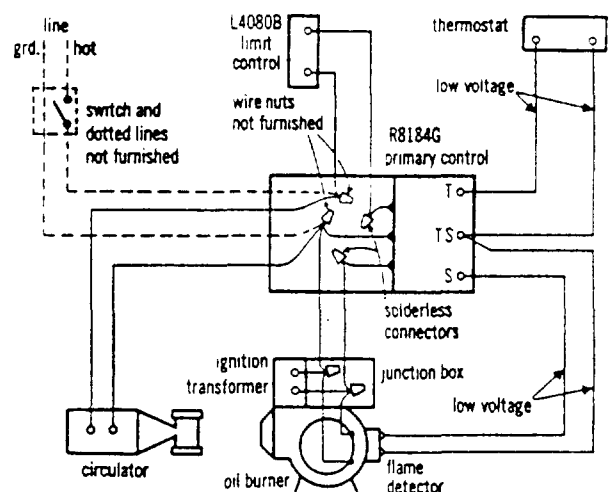
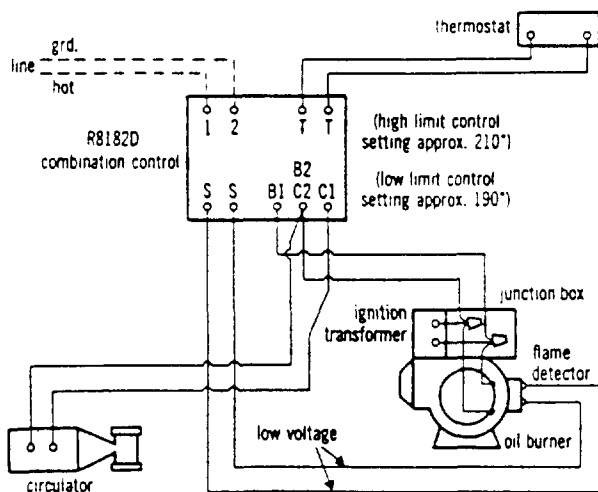
Note 1: Where multiple circuits are used without zone valves, square head cocks should be installed for balancing. These square head cocks can be shut off to purge each circuit in turn.

Note 2: For a single loop Heatrim System, no additional vents, cocks, valves, drains, or other accessories are required—with one exception. If tankless heater is used and Heatrim is above the boiler outlet, a flow check valve must be installed to prevent gravity circulation.

#### APT

#### standard wiring diagrams

#### AP



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## PLUMBING / HEATING

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