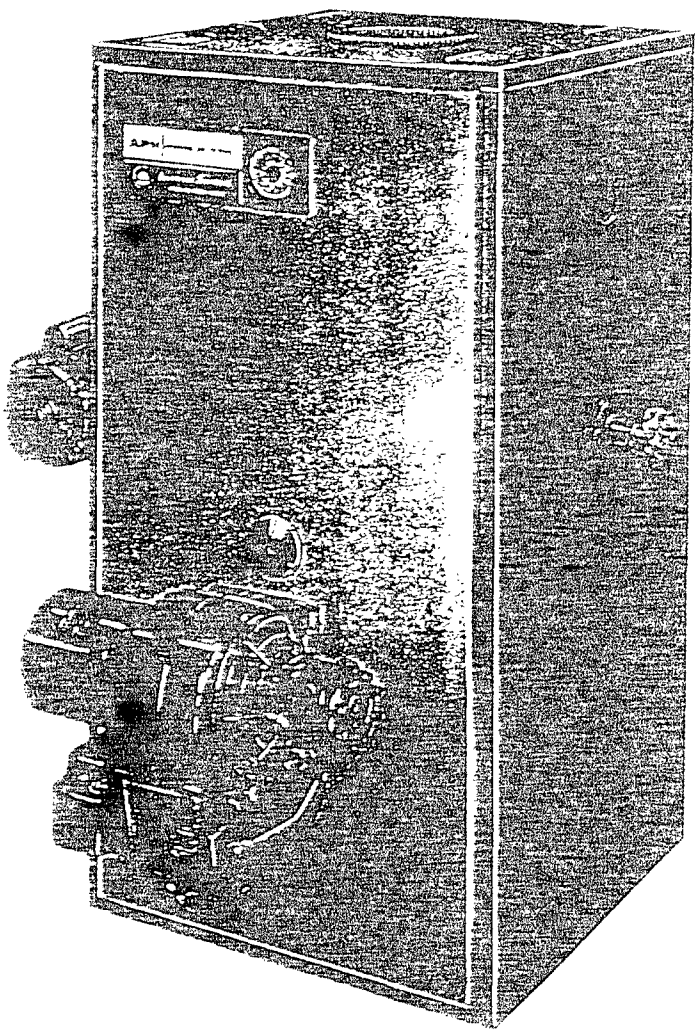
AMERICAN-Standard

# APH

## packaged oil-fired boilers

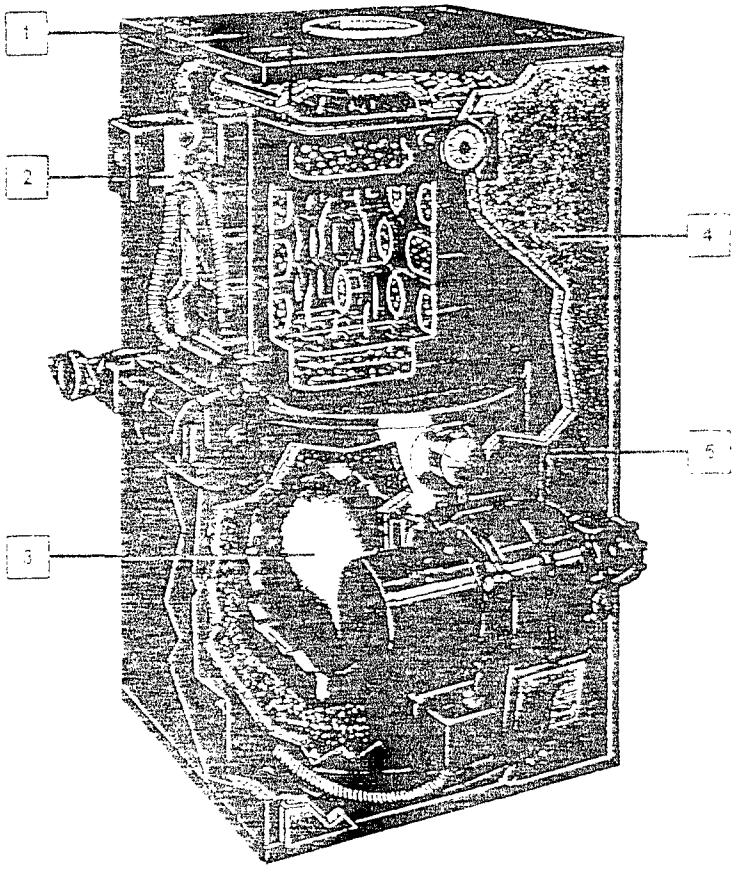
PLAINTIFF'S EXHIBIT

ASI-144



## APH oil-fired packaged boiler — a compact, low-cost unit with big heating output

With the introduction of the new APH, American-Standard expands its line of light-weight, easy-to-install oil-fired boilers for low-cost residential hydronic heating systems. The APH will satisfy almost any home heating requirement—a most important factor in new construction. I=B=R approved outputs are rated at 115,000, 150,000 and 185,000 Btuh. The APH is available completely packaged in three sizes (4, 5, and 6 sections). For quick, easy installation, all controls are factory-mounted and pre-wired. For superior performance, the APH features: exclusive THERM-O-GRID section assembly; smooth-firing DH-5 Arcoflame burner and built-in air separation. The clean jacket lines are highlighted by attractive two-tone color scheme.




1—sturdy steel canopy—is easily removable for servicing. Integral asbestos gasket forms gas-tight seal.

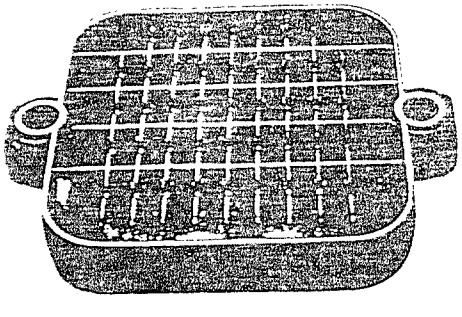
2—controls—are factory mounted, pre-wired and easily accessible for service. Two limit controls, with manual Hi-Lo switch, offer an option for the maximum allowable leaving boiler water temperature of either 225°F or 200°F. Primary control features light-sensitive detector for instant response to ignition.

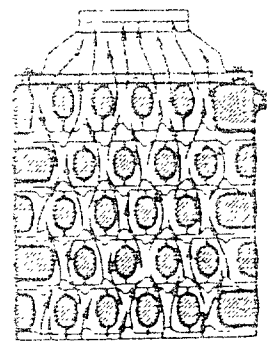
3—cast ceramic fiber refractory combustion chamber—is supported in vermiculite-lined steel container suspended from section assembly. Combustion chamber and container can be quickly and easily replaced as a single unit.

4—insulated steel jacket—features attractive two-tone styling with brown top and side panels, light beige front panel. Top and front are easily removable for access to section assembly and combustion area.

5—model DH-5 Arcoflame oil burner—is engineered to provide top operating efficiency. EXACT-AIRE control and special turbulator-disc combination insure proper air-oil mixture for clean, economical firing.

The exclusive THERM-O-GRID is a compact (15x15x3"), light-weight (51 pound) cast iron section designed to produce a high ratio of heat output per pound, through the use of tubular-finned surfaces. When assembled in the boiler (far right) the tubes and fins oppose each other to increase flue gas turbulence and further improve heat transfer. Air removal is accomplished internally by using the ELIMINAIRE principle. Air is allowed to collect in the top section and pass directly to the expansion tank through a special tapping. No additional external device is necessary.





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## APH ratings

| boiler number | gross I=B=R output (Btu/hr) | net I=B=R ratings water* (Btu/hr) | I=B=R burner capacity (gph) | chimney size (inches) | chimney height (feet) | water content (gallons) |
|---|---|---|---|---|---|---|
| APH-115 | 115,000 | 86,300 | 1.15 | 8 x 8 | 15 | [illegible] |
| APH-150 | 150,000 | 112,500 | 1.45 | 8 x 8 | 15 | [illegible] |
| APH-185 | 185,000 | 138,800 | 1.80 | 8 x 8 | 15 | [illegible] |

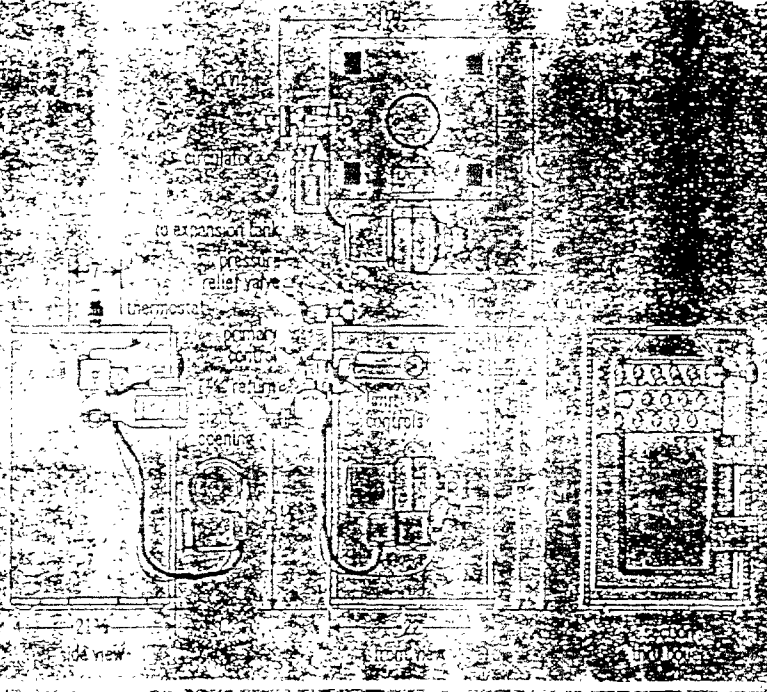
Nozzle sizes: gph furnished with APH packaged boilers: APH-115, 1.10-60° S; APH-150, 1.35-60° S; APH-185, 1.75-60° S.

Net I=B=R ratings shown include allowance for normal piping and pick up load. American-Standard should be consulted before selecting a boiler for installations having unusual piping and pick up requirements.

Note: APH packaged boiler furnished for continuous forced hot water circulation only.

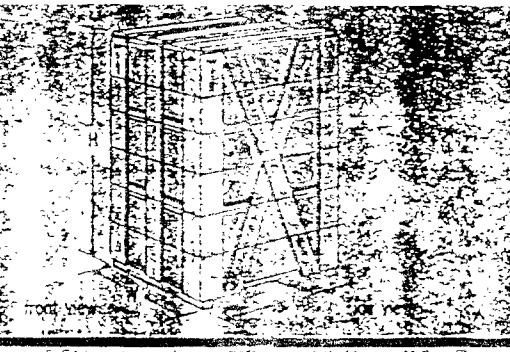
## dimensions and tappings

| boiler number | number of sections | size of tappings (inches) | | dimensions (inches) | |
|---|---|---|---|---|---|
| | | low | return | A | B |
| APH-115 | 3 | [illegible] | 1¼ | 37½ | 31⅛ |
| APH-150 | 4 | [illegible] | 1¼ | 40½ | 34⅛ |
| APH-185 | 5 | [illegible] | 1¼ | 43½ | 37⅛ |




## crated dimensions

| boiler number | dimensions (inches) H | W | L | approx. shipping weight* (pounds) |
|---|---|---|---|---|
| APH-115 | 39¼ | 27½ | 34 | 330 |
| APH-150 | 42¼ | 27½ | 34 | 375 |
| APH-185 | 45¼ | 27½ | 34 | 420 |




* DH-5 Arcoflame burner shipped in separate carton.

APH 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 Arcoflame 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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PLUMBING AND HEATING DIVISION

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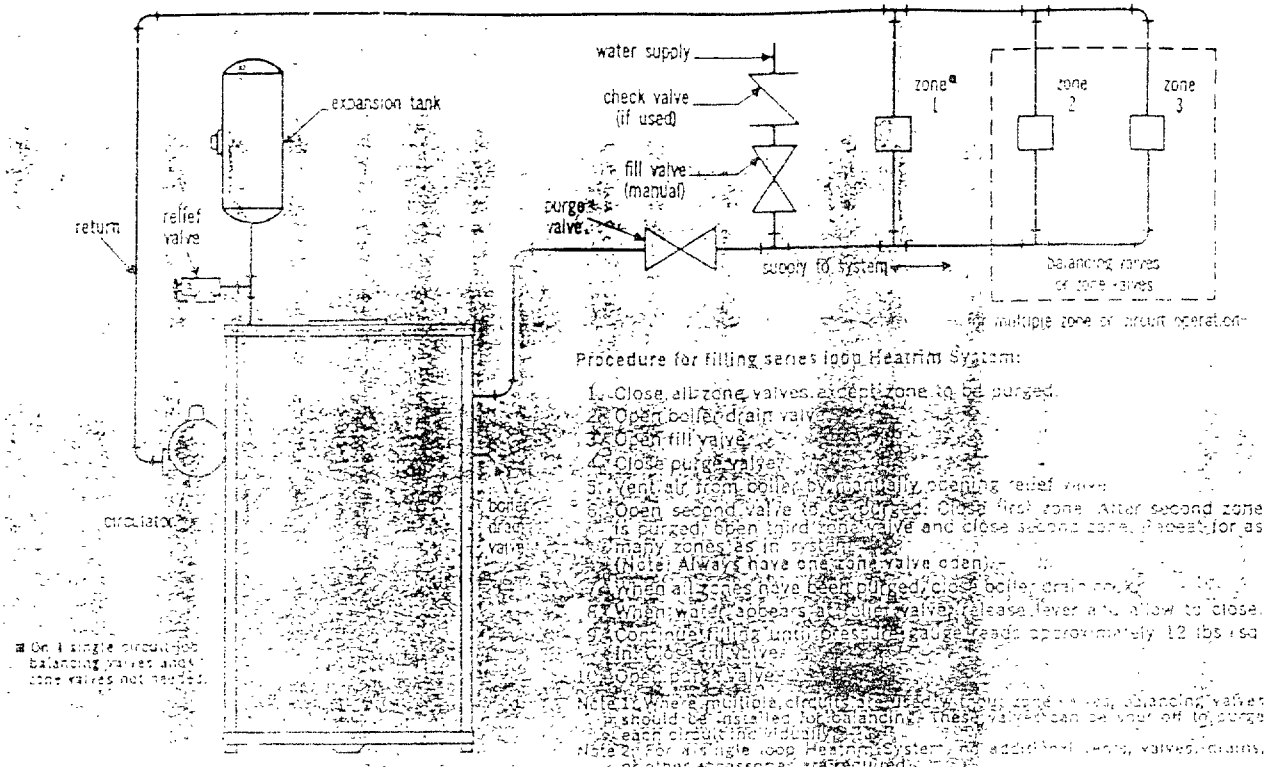
## near boiler piping




■ for multiple zone or circuit operation

**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.

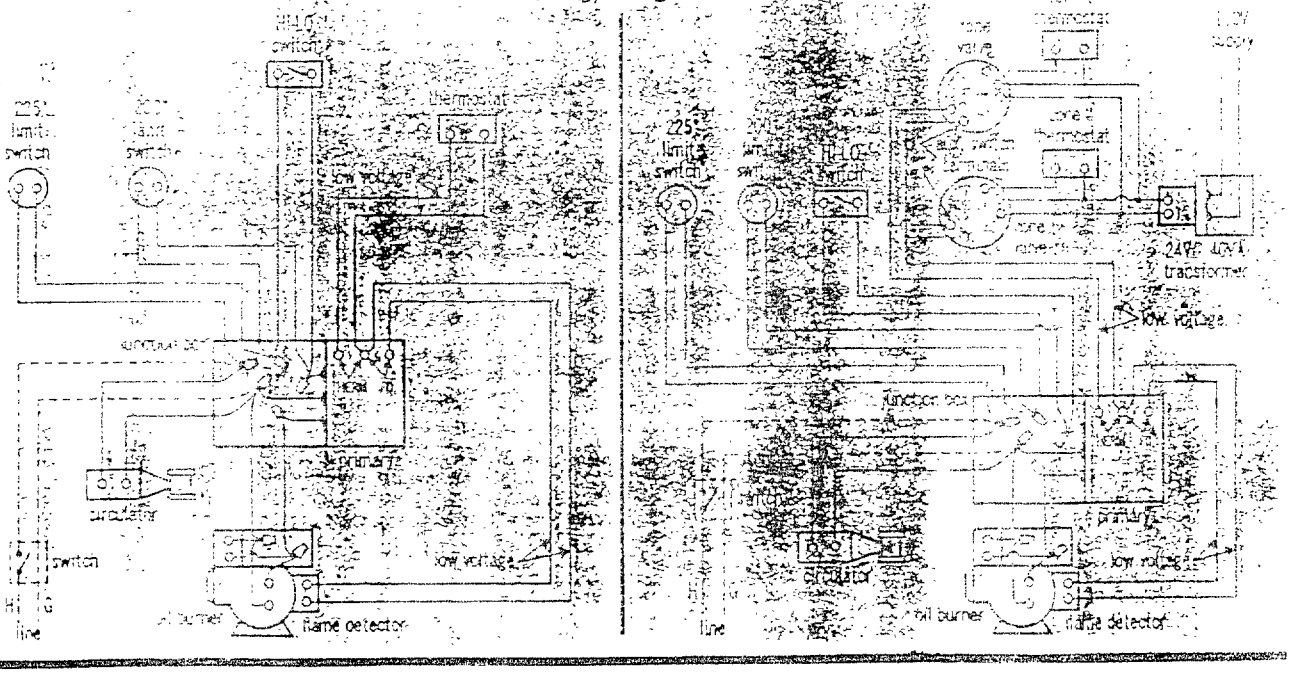
(Note: Always have one zone valve open.)

7. When all zones have been purged, close boiler drain valve.
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, only one zone valve, balancing valves should be installed for balancing. These valves can be shut off to purge each circuit line individually.

Note 2: For a single loop Heatrim system, no additional zone valves, drains, or other accessories are required.

## wiring diagrams

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