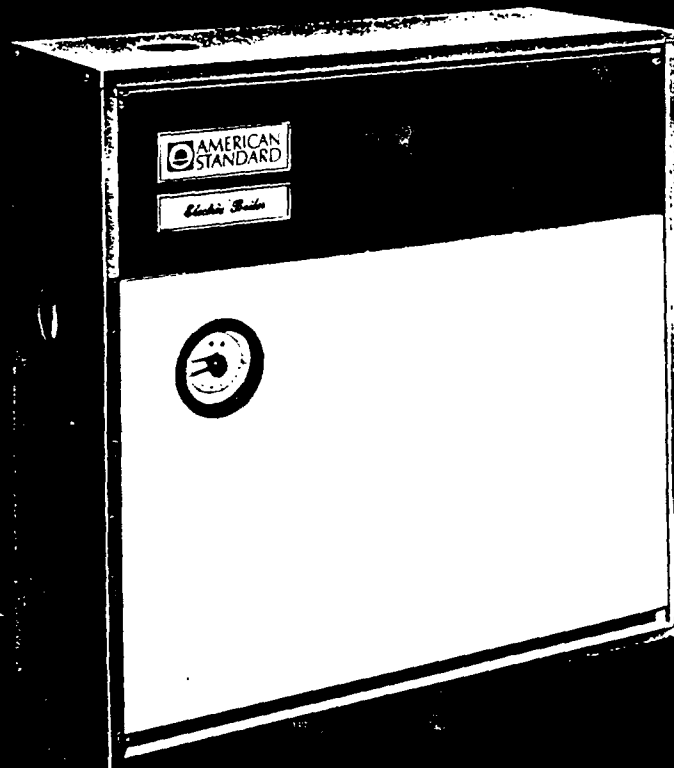


 **AMERICAN
STANDARD**

technical catalog bulletin

Electra II

packaged electric boilers
hot water



PLAINTIFF'S
EXHIBIT

AST-280

00286

Electra II—the new compact electro-hydronic cast iron boiler—

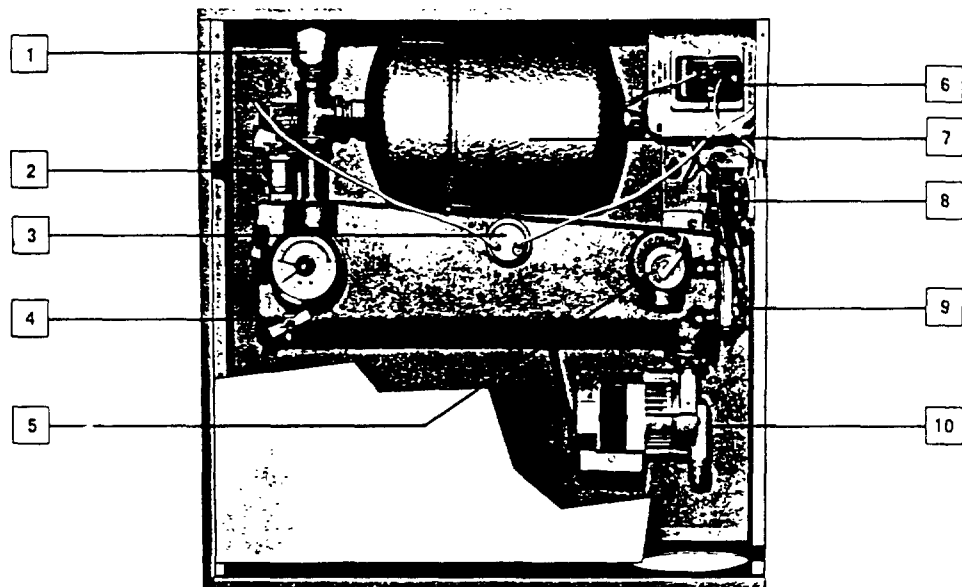
completely packaged, easy to install.

Modern compact electric heating at its best. Electra II has all of the advantages of the larger electric boilers, plus a lower installation cost. And there is still the superior comfort and convenience of a hydronic heating system, coupled with clean, flameless electric power. With output ranges from 6800 B.T.U. to 20,400 B.T.U., Electra II boilers are especially suitable for individual apartment heating or for residential zoned heating through the use of several units.

The Electra II is completely packaged with all controls, circulator, expansion tank, cast iron shell and electric heating elements inside the jacket. It weighs so little

it can be installed hanging on a wall, in a small closet or even under a kitchen countertop. The brown jacket is accented by a 2-piece, two-tone black and beige front panel. Installation is fast and easy—two simple electrical connections—to the main power supply and room thermostat. Piping connections are simple, too!

Five Electra II boiler models let you tailor the heating system to the dwelling. External jacket size remains constant—only the element changes. The Electra II offers the flexibility formerly restricted to other types of electric heat—with the addition of dependable hydronic heating, rugged construction and low installation cost.



1—automatic air vent—bleeds off trapped air from the system water.

2—adjustable limit control—allows selection of maximum boiler water temperature for system design.

3—pre-set pressure control—guarantees safe operation within prescribed pressure range.

4—drain valve—readily available for draining boiler and system when necessary.

5—water pressure relief valve—is safely remote from all electrical connections.

6—transformer—factory installed and wired. Provides low voltage to the operating controls.

7—factory-installed expansion tank—is concealed inside jacket.

8—relay—factory wired on/off switch controlled by low voltage thermostat.

9—electric heating element—mounted inside end of boiler casting. Of low density for extra quiet performance.

10—circulator—is wired for continuous operation.

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Electra II

packaged electric boilers

Electra II (model EP) ratings

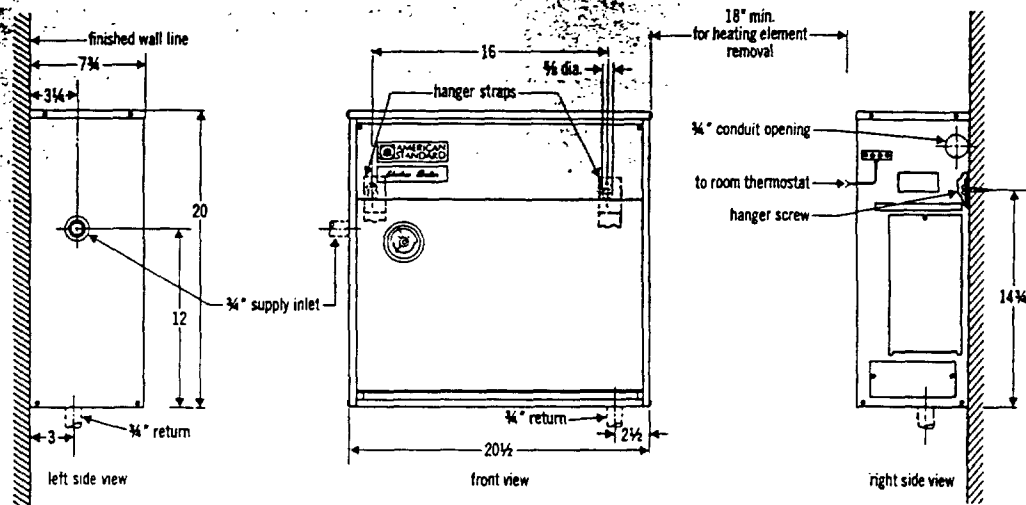
boiler number	no. of elements	watts	Btuh	amps @ 240 volts	water capacity of casting (gallons)
EP-7	1	2,000	6,826	8.34	.5
EP-10	1	3,000	10,236	12.50	.5
EP-14	1	4,000	13,648	16.65	.5
EP-17	1	5,000	17,060	20.81	.5
EP-20	1	6,000	20,472	25.00	.5

This boiler is intended for use on 240 volt a-c (nominal) three-wire, single-phase, 60-cycle service only. Internal wiring takes 120 volts from this source to operate the circulator and transformer. Output ratings based on 240 volts. Reduced output ratings for other voltages are as follows: 230 volts, 8%; 220 volts, 16%; 208 volts, 25%.

crated shipping weight

boiler number	approx. shipping weight (pounds)
EP-7	49
EP-10	49
EP-14	49
EP-17	49
EP-20	49

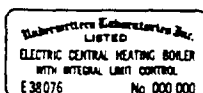
dimensions and tapings (inches)



controls

Special temperature and pressure controls keep Electra II boilers operating within a safe range at all times. These controls are:

- 1—An adjustable immersion limit that allows installer to set maximum water temperature for system design. It shuts off the boiler if temperature exceeds his pre-determined setting.
- 2—A pre-set safe-fill switch that keeps elements from being energized unless pressure in the system is 4 psi. This prevents any chance of heating elements burning out should an attempt be made to operate the boiler while dry.



EP packaged electric boilers are designed and built to comply with the American Society of Mechanical Engineers' Code. They have been examined and listed by Underwriters' Laboratories under their Label Service Procedure.

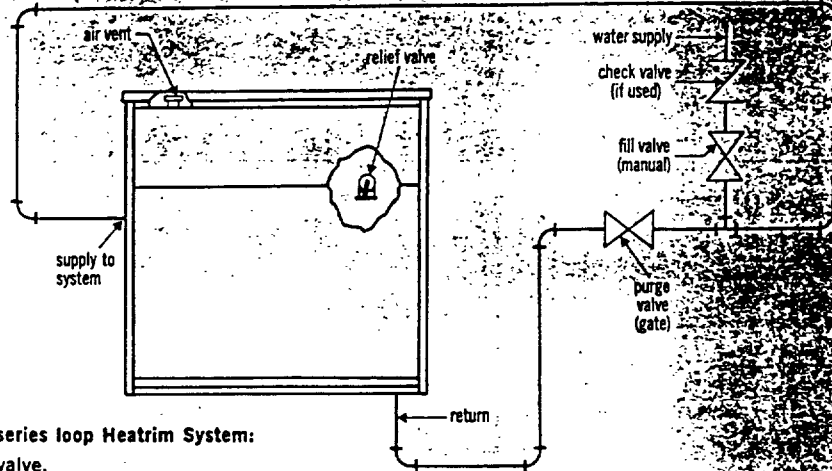


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Electra II

packaged electric boilers

near boiler piping



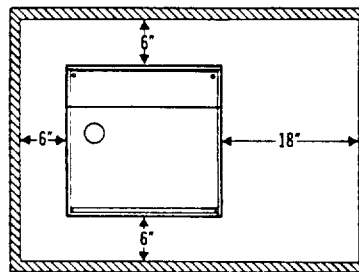
Procedure for filling series loop Heatrim System:

1. Open boiler drain valve.
2. Open fill valve.
3. Close purge valve.
4. Vent air from boiler by manually opening relief valve.
5. When water appears at relief valve, release lever and allow to close.
6. Continue filling until pressure gauge reads approximately 12 lbs./sq. in. Close fill valve.
7. Open purge valve.

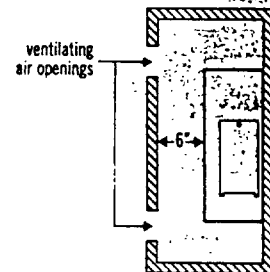
minimum installation clearance

These minimum installation clearances should be provided for service accessibility.

Note: Approved for closet installation with above clearance to combustible material and with two air openings of 108 sq. in. (6" x 18") each.



front view



side view

field wiring specifications

■ For supply connections, use wire suitable for at least 90°C (194°F)

boiler number	conductor size ■ (AWG)	amps @ 240 volts	fuse size
EP-7	14	8.34	15
EP-10	12	12.50	20
EP-14	12	16.67	20
EP-17	10	20.81	25
EP-20	8	25.00	35

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