

# Electric Hot Water Boilers

## Performance and Reliability in a Small Package

- A compact and economical unit that delivers maximum kilowatts in minimum space requirements.
- Ideal for new boiler applications or as a replacement unit to upgrade existing installations.
- This model takes up less floor area and fits through smaller openings than oil or gas-fired units.
- Easy and economical to install, available in sizes from 9 kW to 3600 kW at all common voltages up to 600 V, 3 PH.
- Pressure vessels are built to ASME Code.
- National Board or CRN registration are available.
- The standard design pressure is 1035 kPa (150 PSI). Other higher design pressures are available.
- Pressure vessels can be in Carbon Steel or Stainless Steels - SS304 or SS316.



ACME boilers are manufactured under rigid progressive quality control.

Protection and control sequences are simulated and verified. Unit is factory prewired and mechanically complete and arrives on site ready to operate after main piping and electrical connections are made.

## STANDARD BOILER FEATURES

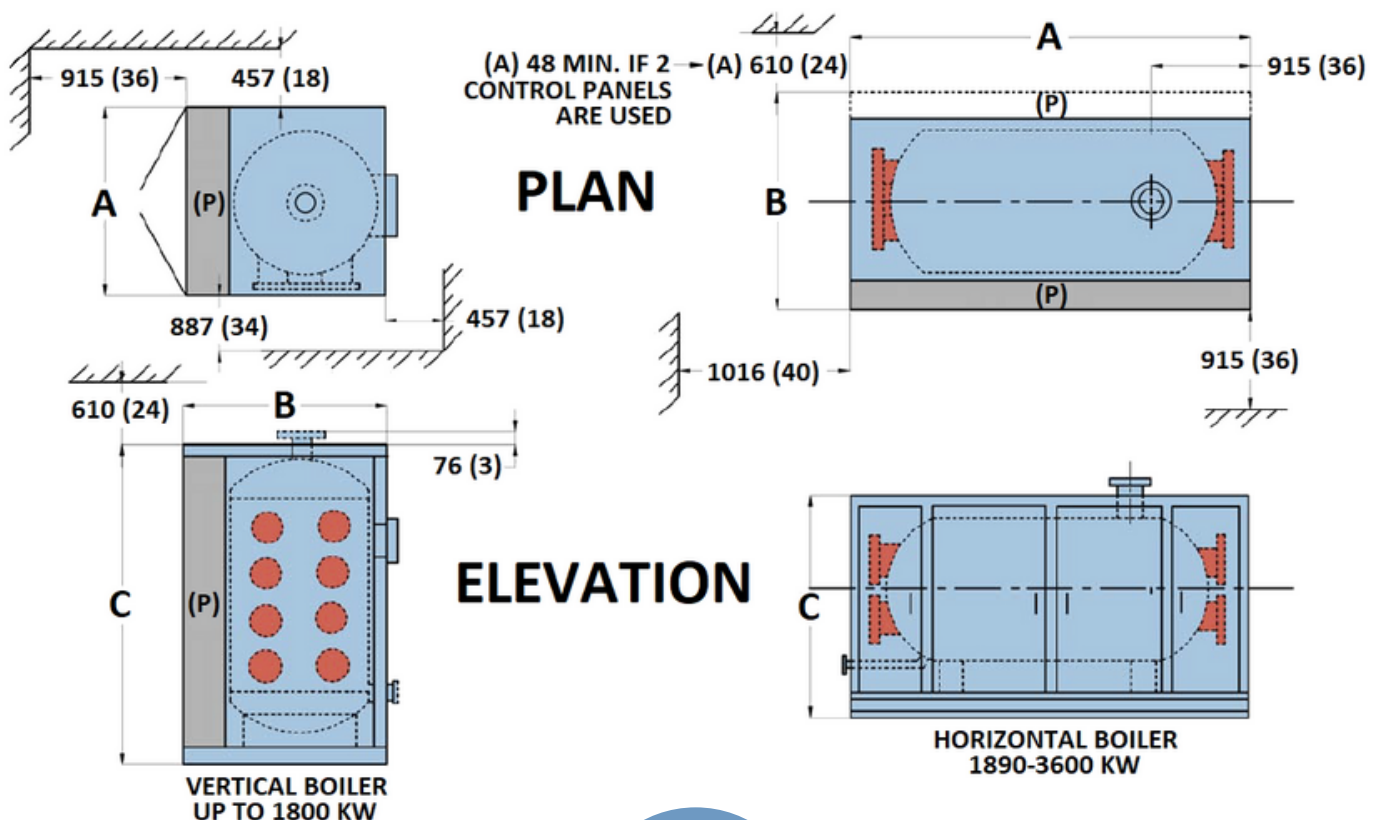
All hot water boilers include the following items:

- Main lugs for cable supply circuits
- Individual circuit fusing
- Magnetic contactors
- Heating elements
- 120V control circuits
- Customer's external interlock connection
- High-temperature cutoff, manual reset
- Low water cutoff, electronic
- Temperature control, electronic
- Solid-state progressive sequencing step control
- Built to the latest standards
- Temperature sensor
- Main control on/off switch
- Pilot light, control power
- Pressure-temperature gauge (loose)
- Pressure relief valve
- Heating elements with Incoloy sheathing individually field-replaceable (150PSI & 300PSI)
- Lifting lugs for 36 CWB & 42 CWB Series

## OPTIONAL BOILER FEATURES

These are some of the most frequent optional items. Our engineering staff can provide for many other special requirements:

- Boiler disconnect switch, door interlocked
- Terminals for external demand limiting control
- Manual reset low water cutoff
- Auxiliary low water cutoff
- High or low-pressure cutoff
- Pilot lights for individual steps
- Outdoor reset controls
- Tactile HMI interface
- Demand limiting controls
- Electric door interlocks
- Ground fault detection with shunt trip or disconnect switch or circuit breaker
- Individual stage toggle switches
- Voltmeter with phase selector switch
- Ammeters, one per phase
- kW indicator
- An audible and visual alarm circuit



# STANDARD HOT WATER BOILER

Model No.		A Length mm (in)	B Width mm (in)	C Height mm (in)	Electrical Panel			Approx. Weight Kg (Lbs)	Inlet & Outlet mm (in)	Drain mm (in)
Number	kW				Height mm (in)	Width mm (in)	Depth mm (in)			
12CWB-1	9	784 (31)	635 (25)	940 (37)	876 (34 1/2)	712 (28)	200 (8)	300 (660)	76 (3T)	19 (3/4T)
	12									
	18									
	36									
	54									
	72									
	90									
	108									
	126									
	144									
36CWB-1	180	1270 (50)	1372 (54)	1092 (43)	1092 (43)	1270 (50)	230 (9)	450 (990)	76 (3T)	25 (1T)
	225									
	270									
	315									
	360									
	405									
	450									
	495									
	540									
	585									
36CWB-1	630	1372 (54)	1397 (55)	1397 (55)	1397 (55)	1270 (50)	230 (9)	650 (1430)	125 (5F)	38 (1 1/2T)
	675									
	720									
	765									
	810									
	855									
	900									
	945									
	990									
	1035									
36CWB-1	1080	1524 (60)	1372 (54)	1702 (67)	1702 (67)	1524 (60)	305 (12)	1500 (3300)	76 (3T)	25 (1T)
	1125									
	1170									
	1215									
	1260									
	1305									
	1350									
	1395									
	1440									
	1485									
36CWB-2	1485	1524 (60)	1372 (54)	2007 (79)	2007 (79)	1524 (60)	305 (12)	1750 (3850)	200 (8F)	25 (1T)
	1530									
	1575									
	1620									
	1665									
	1710									
	1755									
	1800									
	1845									
	1890									
42CWB	1890	2947 (116)	1372 (54)	2617 (103)	1880 (74)	1524 (60)	305 (12)	2850 (6270)	76 (3T)	25 (1T)
	1980									
	2070									
	2160									
	2250									
	2340									
	2430									
	2520									
	2610									
	2700									
42CWB	2790	1727 (68)	1880 (74)	1880 (74)	1880 (74)	2947 (116)	305 (12)	3300 (7260)	76 (3T)	25 (1T)
	2880									
	2970									
	3060									
	3150									
	3240									
	3330									
	3420									
	3510									
	3600									

- Dimensions and weight may vary according to voltage



# HEATING ELEMENTS

ACME Standard heating elements are INCOLOY sheathed designed for efficient heat transfer, long service life, and safety. Each element is rated at 75 W/sq.in. dissipation. The blades are individually fielded replaceable with standard tools which greatly reduces the cost and time required to replace them. Since the size of each element is small in comparison to the total boiler capacity, the loss of a single element does not dramatically affect the boiler operation. As a result, the replacement of a defective element can be postponed until a regular maintenance interval.



## TYPICAL SPECIFICATIONS

**1.0 SCOPE:** Furnish an electrically heated hot water boiler complete with standard equipment and accessories as described herein. The hot water boiler shall be of a package type, factory assembled, wired, and tested and shall be built to the latest applicable codes.

**1.1 WORK BY OTHERS:** The following work will be performed by others:

1. Receipt, inspection, and storage of equipment at the job site in a clean dry location suitable for electrical equipment.
2. Installation of the unit including all external wiring and piping.
3. Power supply wiring from main service panel through circuit breaker or disconnect switch (if required, and if mounted externally), to supply lugs in electrical panel.
4. Any external wiring or piping pertaining to boiler controls or accessories hereinafter specified

**1.2 RATING:** Hot water boilers shall be ACME electrical model No. \_\_\_\_\_ rated \_\_\_\_\_ kW at \_\_\_\_\_ volts, \_\_\_\_\_ phase, \_\_\_\_\_ wire, 60 / 50 cycle suitable for operating under the following conditions:

System flow rate: \_\_\_\_\_ L/ sec. (US GPM)  
Outlet water temperature: \_\_\_\_\_ deg. C (F)  
Return water temperature: \_\_\_\_\_ deg. C (F)  
System operation pressure: \_\_\_\_\_ kPa ( \_\_\_\_\_ PSI)

**1.3 VESSEL:** The boiler vessel shall be constructed in accordance with the ASME code, certified for \_\_\_\_\_ kPa ( \_\_\_\_\_ PSI). Relief valve to be ASME set at \_\_\_\_\_ kPa ( \_\_\_\_\_ PSI). Vessel shall be insulated with 2" of fiber blanket insulation.

**1.4 HEATING ELEMENTS:** Shall be 15 kW each, 600 V, Incoloy 800 sheathed, rod type, individually mounted so as to be field

replaceable with standard tools. Heating element watt density shall not exceed 75W / sq. in. (48A limit at all voltages).

**1.5 CONTROLS:** Boiler shall be complete with an EEMAC 12 (NEMA 12) Control Panel incorporating the following standard controls:

- \* Main lugs for cable supply circuits
- \* Individual circuit fusing
- \* Magnetic contactors
- \* Heating elements
- \* 120V control circuits
- \* Customer's external interlock connection
- \* High temperature cut-off, manual reset
- \* Low water cut-off, electronic
- \* Temperature control, electronic
- \* Solid state progressive sequencing step control
- \* Temperature sensor
- \* Main control on/off switch
- \* Pilot light, control power
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**1.6 OPTIONS:** Specify here any options requested from selection shown on page 2.

**1.7 ENCLOSURE:** The boiler shall be mounted on a structural steel base full size with extension supporting the control panel. All angle frames welded to the base shall support removable aluminum panels covering the insulation. Dimension of the boiler shall be: \_\_\_\_\_ long x \_\_\_\_\_ wide x \_\_\_\_\_ high.



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