

ELECTRIC STEAM BOILERS



A compact, reliable source of steam for space and process heating, these immersion element boilers are virtually 100% energy efficient. They are completely packaged boilers ideally suited for applications requiring from 30 to more than 10,000 pounds of steam per hour.

ACME Steam Boilers are designed and built based on half a century of accumulated experience in this field.

Easy and economical to install, ACME Steam Generators are available in sizes from 6 kW to 3600 kW at all common voltages up to 600V, 3PH.

LARGE STEAM BOILER WITH SEPARATION BETWEEN POWER AND CONTROL PANEL

Pressure vessels are built to ASME Code. National Board or CRN registration are available.

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:

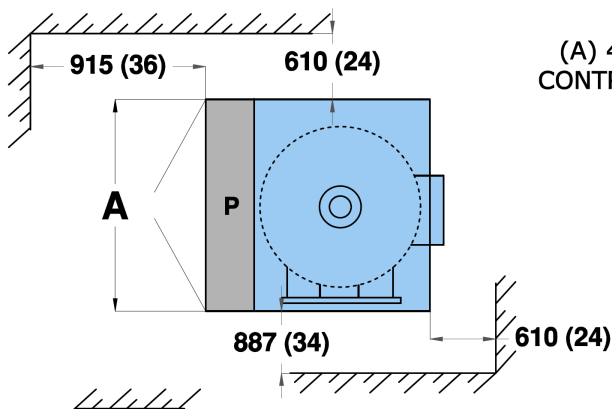
All steam boilers include the following items:

- * Main lugs for cable supply circuits
- * Individual circuit fusing
- * Magnetic contactors
- * Control transformer
- * Main control on/off switch - 120V circuits
- * Water control with level display for control of water control and low water cutoff
- * Auxiliary low water cutoff - electronic
- * - On/off pressure switch for 90kW & below
- Dual digital display, electronic pressure controller
- * Solid state progressive sequencing step control for 105kW and above
- * Pressure gauge (loose)
- * Safety valve(s)
- * Heating elements with incoloy sheathing field replaceable with standard tools (150PSI & 300PSI)

OPTIONAL BOILER FEATURES

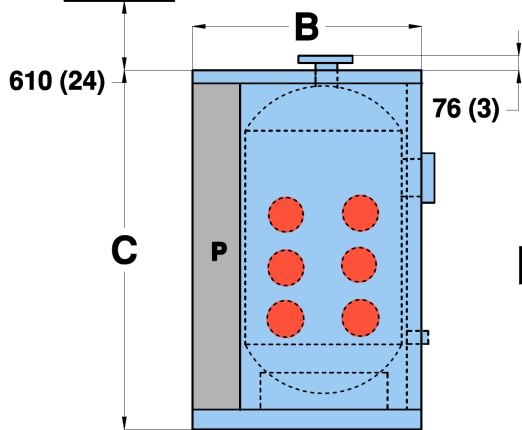
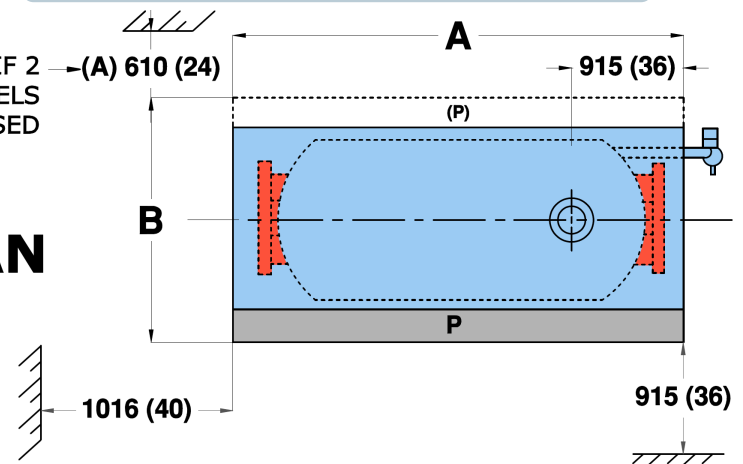
These are some of the most frequent optional items. Our engineering staff can provide for many other special requirements:

- * Boiler disconnect switch, door interlocked
- * Manual reset low water cutoff
- * Pressure transmitter with Manual reset high pressure cutoff
- * Automatic low pressure limit circuit
- * Pilot lights for individual steps
- * Demand limiting controls
- * Electric door Interlocks
- * Ground fault detection with shunt trip requiring circuit breaker
- * Individual stage toggle switches
- * Voltmeter with phase selector switch
- * Ammeters, one per phase
- * kW indicator
- * Audible and visual alarm circuit for high pressure and low water
- * Audible and visual alarm circuit for high pressure, low water and high water level.



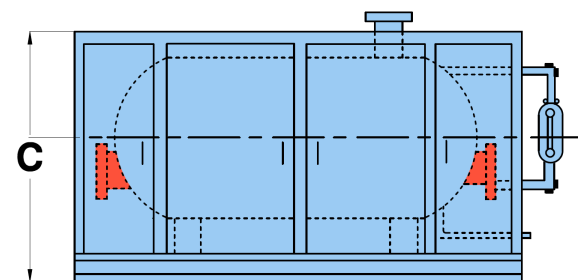
(A) 48 MIN. IF 2 CONTROL PANELS ARE USED

PLAN



VERTICAL BOILER
UP TO 1350 KW

ELEVATION



HORIZONTAL BOILER
1395-3600 KW

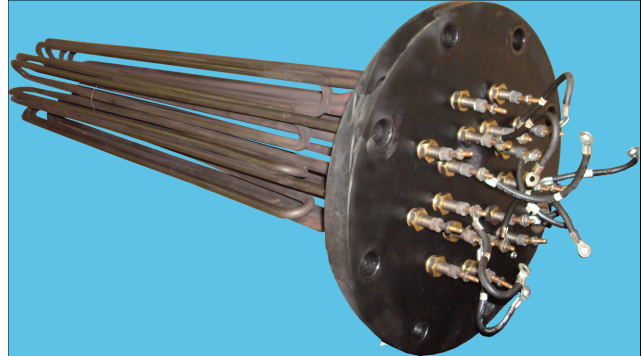
STEAM BOILERS

MODEL #		A	B	C	ELECTRICAL PANEL			INLET	OUTLET	OUTLET	BLOW	APPROX.
NUMBER	kW	LENGTH	WIDTH	HEIGHT	HEIGHT	WIDTH	DEPTH		15 #	150 #	DOWN	WEIGHT
		mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	kg (lbs.)
12S	6	635 (25)	560 (22)	940 (37)	940 (37)	635 (25)	203 (8)	25 (1)	38 (1 1/2)	25 (1)	19 (3/4)	300 (660)
↓	9	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	12	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	15	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	18	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	24	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	30	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	36	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	45	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
16S	60	712 (28)	661 (26)	1232 (48 1/2)	1232 (48 1/2)	712 (28)	203 (8)			38 (1 1/2)		450 (990)
↓	75	↓	↓	↓	↓	↓	↓			↓		↓
↓	90	↓	↓	↓	↓	↓	↓			↓		↓
24SC	135	1270 (50)	1372 (54)	1296 (51)	1296 (51)	1270 (50)	230 (9)				25 (1)	700 (1540)
VERTICAL	225	↓	↓	↓	↓	↓	↓				↓	↓
↓	270	↓	↓	↓	↓	↓	↓		100 (4)		↓	↓
↓	315	↓	1372 (54)	1651 (65)	1651 (65)	↓	230 (9)			50 (2)		↓
↓	360	↓	↓	↓	↓	↓	↓			↓		↓
↓	405	↓	↓	↓	↓	↓	↓			↓		1400 (3080)
↓	450	↓	↓	↓	↓	↓	↓			75 (3)		↓
↓	540	↓	↓	↓	↓	↓	↓			↓		1800 (3960)
↓	585	↓	1372 (54)	2108 (83)	2108 (83)	↓	305 (12)		100 (4)			↓
↓	630	↓	↓	↓	↓	↓	↓		↓			↓
↓	675	↓	↓	↓	↓	↓	↓		↓			↓
↓	720	↓	↓	↓	↓	↓	↓		↓			2300 (5060)
↓	765	↓	↓	↓	↓	↓	↓			100(4F)		↓
↓	810	↓	↓	↓	↓	↓	↓		↓			↓
↓	855	↓	1372 (54)	2617 (103)	2617 (103)	↓	305 (12)		150 (6)			↓
↓	900	↓	↓	↓	↓	↓	↓		↓			↓
↓	945	↓	↓	↓	↓	↓	↓		↓			↓
↓	990	↓	↓	↓	↓	↓	↓		↓			3200 (7040)
↓	1035	↓	↓	↓	↓	↓	↓		↓			↓
↓	1080	↓	↓	↓	↓	↓	↓		↓		38 (1 1/2)	↓
↓	1125	1524 (60)	1372 (54)	2617 (103)	2617 (103)	1524 (60)	305 (12)	38 (1 1/2)				↓
↓	1170	↓	↓	↓	↓	↓	↓	↓				↓
↓	1215	↓	↓	↓	↓	↓	↓	↓				↓
↓	1260	↓	↓	↓	↓	↓	↓				50 (2)	3700 (8140)
↓	1305	↓	↓	↓	↓	↓	↓		200 (8)			↓
↓	1350	↓	↓	↓	↓	↓	↓		↓			↓
24SC	1395	2947 (116)	1727 (68)	1727 (68)	1727 (68)	2947 (116)	305 (12)					↓
HOR.	1530	↓	↓	↓	↓	↓	↓	51 (2)				↓
↓	1665	↓	↓	↓	↓	↓	↓	↓				↓
↓	1800	↓	↓	↓	↓	↓	↓	↓				4000 (8800)
↓	1935	2947 (116)	1905 (75)	1880 (74)	1880 (74)	2947 (116)	305 (12)		↓	↓		↓
↓	2070	↓	↓	↓	↓	↓	↓		↓			↓
↓	2205	↓	↓	↓	↓	↓	↓		250 (10)	↓		↓
↓	2340	↓	↓	↓	↓	↓	↓		↓	150 (6)		↓
↓	2475	↓	↓	↓	↓	↓	↓		↓	↓		↓
↓	2610	↓	↓	↓	↓	↓	↓		↓	↓		4600 (10120)
↓	2745	↓	↓	↓	↓	↓	↓		↓	↓		↓
↓	2880	↓	↓	↓	↓	↓	↓		↓	↓		↓
↓	3105	↓	↓	↓	↓	↓	↓		↓	↓		↓

* DIMENSIONS AND WEIGHT MAY VARY ACCORDING TO VOLTAGE

HEATING ELEMENTS

ACME Standard heating elements are incoloy 800 sheathed design for efficient heat transfer, long service life and safety. Each element is rated at 75 W/sq.in. for maximum reliability. The elements are individually field 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, replacement of a defective element can be postponed until a regular maintenance interval.



TYPICAL SPECIFICATION

ELECTRIC STEAM BOILERS

1.0 SCOPE: Furnish an electric steam boiler complete with standard equipment and accessories as described herein. The steam boiler shall be of the 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:

- * Receipt, inspection and storage of equipment at the job site in a clean dry location suitable for electrical equipment.
- * Installation of the unit including all external wiring and piping.
- * 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.
- * Any external wiring or piping pertaining to boiler controls or accessories hereinafter specified.

1.2 RATING: Steam boiler shall be ACME electrical model No. _____ rated _____ kW at _____ volts, _____ phase, _____ wire, 60 / 50 cycle suitable for operating under the following conditions:
Operating steam pressure _____ kPa (PSI)

1.3 VESSEL: Boiler vessel shall be constructed in accordance with the ASME code, and certified for _____ kPa (PSI). Relief valve to be ASME set at _____ kPa (PSI). Vessel shall be insulated with 100 mm (4") 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
- * Control transformer
- * Main control on/off switch - 120V circuits
- * Water control with level display for control of water control and low water cutoff
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- Dual digital display,
electronic pressure controller
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- * Safety valve(s)
- * Heating elements with incoloy sheathing field replaceable with standard tools (150PSI & 300PSI)

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 generator shall be: _____ long x _____ wide x _____ high.

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