

Specification Data Sheet - Industrial Electro-Boiler®

Electric Hot Water Boiler Series

STANDARD EQUIPMENT

- Pressure vessel built in accordance with the requirements of the ASME Boiler and Pressure Vessel Code (National Board and CRN registered)
- Meets the requirements of ASME CSD-1
- ASME pressure relief valve, 30 psi (125 psi optional, must specify when ordering)
- Low water cut-off with manual reset
- Auto reset hi-limit control, 210° F
- Manual reset hi-limit, 220° F
- Pressure/temperature gauge
- Circuit breaker or fuse protection on each stage
- Integrated ½" air vent
- 3" NPT inlet and outlet
- 3" inspection opening
- Safety door interlock and lockable door latch
- Emergency shut-down connection point
- Digital temperature control with display
- Supply and return water temperature sensing
- Outdoor reset, field configurable
- Stage active indicator lights
- 0-10VDC configurable for building boiler control
- Multi-boiler lead/lag control
- SCCR rated at 5 kA



 **Made in USA**

OPTIONS

- 125 psi vessel
- BACnet or LonWorks interface
- Bender fault monitor
- T775R controller



All specifications subject to ELECTRO INDUSTRIES STANDARD TERMS AND CONDITIONS, download at www.electromn.com/terms.pdf.



**ELECTRO
INDUSTRIES**

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DESIGN SPECIFICATIONS

Model	Volts 3-Phase	kW	Btu/h Output	Total Amps	Amps		Element Quantity	Steps	Flow Rate @20°F ΔT	Head Loss		Boiler Weight (LBS)
					Feed #1	Feed #2				Required GPM	FT	
EB-NB-60-600	600	60	204,728	57.7	57.7	-	5	5 @ 12	21	0.1	0.03	685
EB-NB-72-600	600	72	245,674	69.3	69.3	-	6	6 @ 12	25	0.1	0.03	690
EB-NB-84-600	600	84	286,619	80.8	80.8	-	7	7 @ 12	29	0.1	0.03	695
EB-NB-96-600	600	96	327,565	92.4	92.4	-	8	8 @ 12	33	0.1	0.03	700
EB-NB-108-600	600	108	368,511	103.9	57.7	46.2	9	9 @ 12	37	0.1	0.03	705
EB-NB-120-600	600	120	409,457	115.5	57.7	57.7	10	10 @ 12	41	0.1	0.03	710
EB-NB-132-600	600	132	450,402	127.0	69.3	57.7	11	11 @ 12	45	0.1	0.03	715
EB-NB-144-600	600	144	491,348	138.6	69.3	69.3	12	12 @ 12	50	0.1	0.03	720
EB-NB-160-600	600	160	545,942	154.0	154.0	-	8	8 @ 20	55	0.1	0.03	700
EB-NB-180-600	600	180	614,185	173.2	96.2	77.0	9	9 @ 20	62	0.1	0.03	705
EB-NB-200-600	600	200	682,428	192.5	96.2	96.2	10	10 @ 20	69	0.1	0.03	710
EB-NB-220-600	600	220	750,671	211.7	115.5	96.2	11	11 @ 20	76	0.1	0.03	715
EB-NB-240-600	600	240	818,914	230.9	115.5	115.5	12	12 @ 20	82	0.1	0.03	720
EB-NB-260-600	600	260	887,156	250.2	134.7	115.5	13	13 @ 20	89	0.1	0.03	725
EB-NB-280-600	600	280	955,400	269.4	134.7	134.7	14	14 @ 20	96	0.1	0.03	730
EB-NB-280-600H	600	278	948,575	267.5	134.7	132.8	13	7 @ 20/6 @ 23	95	0.1	0.03	725
EB-NB-300-600	600	300	1,023,642	288.7	154.0	134.7	15	15 @ 20	103	0.1	0.03	735
EB-NB-300-600H	600	299	1,020,230	287.7	154.9	132.8	13	13 @ 23	102	0.1	0.03	725
EB-NB-60-480	480	60	204,728	72.2	72.2	-	5	5 @ 12	21	0.1	0.03	685
EB-NB-72-480	480	72	245,674	86.6	86.6	-	6	6 @ 12	25	0.1	0.03	690
EB-NB-84-480	480	84	286,619	101.0	101.0	-	7	7 @ 12	29	0.1	0.03	695
EB-NB-96-480	480	96	327,565	115.5	115.5	-	8	8 @ 12	33	0.1	0.03	700
EB-NB-108-480	480	108	368,511	129.9	72.2	57.7	9	9 @ 12	37	0.1	0.03	705
EB-NB-120-480	480	120	409,457	144.3	72.2	72.2	10	10 @ 12	41	0.1	0.03	710
EB-NB-132-480	480	132	450,402	158.8	86.6	72.2	11	11 @ 12	45	0.1	0.03	715
EB-NB-144-480	480	144	491,348	173.2	86.6	86.6	12	12 @ 12	50	0.1	0.03	720
EB-NB-160-480	480	160	545,942	192.5	192.5	-	8	8 @ 20	55	0.1	0.03	700
EB-NB-180-480	480	180	614,185	216.5	120.3	96.2	9	9 @ 20	62	0.1	0.03	705
EB-NB-200-480	480	200	682,428	240.6	120.3	120.3	10	10 @ 20	69	0.1	0.03	710
EB-NB-220-480	480	220	750,671	264.6	144.3	120.3	11	11 @ 20	76	0.1	0.03	715
EB-NB-240-480	480	240	818,914	288.7	144.3	144.3	12	12 @ 20	82	0.1	0.03	720
EB-NB-260-480	480	260	887,156	312.7	168.4	144.3	13	13 @ 20	89	0.1	0.03	725
EB-NB-280-480	480	280	955,400	336.8	168.4	168.4	14	14 @ 20	96	0.1	0.03	730
EB-NB-280-480H	480	278	948,575	334.4	168.4	166.0	13	7 @ 20/6 @ 23	95	0.1	0.03	725
EB-NB-300-480	480	300	1,023,642	360.8	192.5	168.4	15	15 @ 20	103	0.1	0.03	735
EB-NB-300-480H	480	299	1,020,230	359.6	193.7	166.0	13	13 @ 23	102	0.1	0.03	725

DESIGN SPECIFICATIONS (continued)

Model	Volts 3-Phase	kW	Btu/h Output	Total Amps	Amp		Element Quantity	Steps	Flow Rate @ 20°F ΔT		Head Loss		Boiler Weight (LBS)
					Feed #1	Feed #2			Required GPM	FT	M		
EB-NB-60-208	208	60	204,728	166.5	166.5	-	4	4 @ 15	21	0.1	0.03	680	
EB-NB-75-208	208	75	255,910	208.2	208.2	-	5	5 @ 15	26	0.1	0.03	685	
EB-NB-90-208	208	90	307,092	249.8	249.8	-	6	6 @ 15	31	0.1	0.03	690	
EB-NB-105-208	208	105	358,274	291.5	291.5	-	7	7 @ 15	36	0.1	0.03	695	
EB-NB-120-208	208	120	409,457	333.1	333.1	-	8	8 @ 15	41	0.1	0.03	700	
EB-NB-135-208	208	135	460,639	374.7	208.2	166.5	9	9 @ 15	47	0.1	0.03	705	
EB-NB-150-208	208	150	511,821	416.4	208.2	208.2	10	10 @ 15	52	0.1	0.03	710	
EB-NB-165-208	208	165	563,003	458.0	249.8	208.2	11	11 @ 15	57	0.1	0.03	715	
EB-NB-180-208	208	180	614,185	499.6	249.8	249.8	12	12 @ 15	62	0.1	0.03	720	
EB-NB-60-240	240	60	204,728	144.3	144.3	-	4	4 @ 15	21	0.1	0.03	680	
EB-NB-75-240	240	75	255,910	180.4	180.4	-	5	5 @ 15	26	0.1	0.03	685	
EB-NB-90-240	240	90	307,092	216.5	216.5	-	6	6 @ 15	31	0.1	0.03	690	
EB-NB-105-240	240	105	358,274	252.6	252.6	-	7	7 @ 15	36	0.1	0.03	695	
EB-NB-120-240	240	120	409,457	288.7	288.7	-	8	8 @ 15	41	0.1	0.03	700	
EB-NB-135-240	240	135	460,639	324.8	180.4	144.3	9	9 @ 15	47	0.1	0.03	705	
EB-NB-150-240	240	150	511,821	360.8	180.4	180.4	10	10 @ 15	52	0.1	0.03	710	
EB-NB-165-240	240	165	563,003	396.9	216.5	180.4	11	11 @ 15	57	0.1	0.03	715	
EB-NB-180-240	240	180	614,185	433.0	216.5	216.5	12	12 @ 15	62	0.1	0.03	720	

ENGINEERING SPECIFICATION STATEMENT

The electric hot water boiler shall be an Electro Industries, Inc. model number EB-NB-_____. The Boiler output shall be _____ Btu/h or _____ kW at _____ volts three phase. Wiring within the main cabinet shall be rated at 75°C or higher. Aluminum or copper conductors may be used for field installed power wiring. The boiler shall include provisions to connect directly to utility load control. The boiler shall include a dedicated 15A 120V single phase control circuit (general service).

As a preferred option the boiler (dependant upon kW) shall be wired using (2) three phase delta feeds without neutral (unbonded neutral) within the dedicated utility transformer XO terminal. All Delta 3-phase require optional Bender fault monitor.

The vessel shall be wrapped with 3" insulation. The vessel shall be enclosed in a 14 gauge fully enclosed cabinet. The cabinet and vessel shall be attached to a 10 gauge structural steel base. The base includes integral fork pockets for easy maneuvering during installation. Both base and cabinet shall be painted with powder coated enamel. The cabinet shall include a full length hinged door with an included lockable T-handle. The inside dead front panel shall include an integral door safety interlock switch.

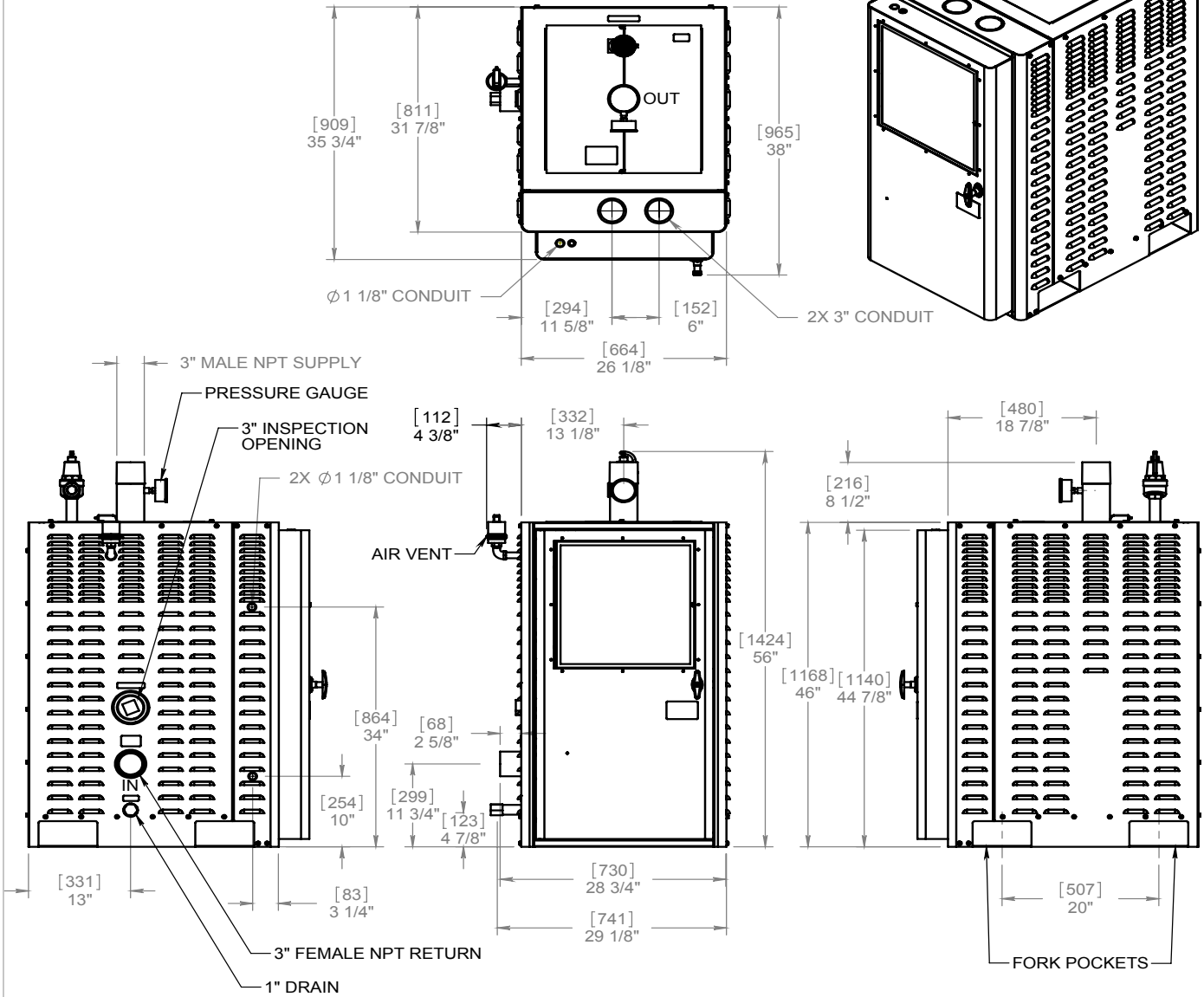
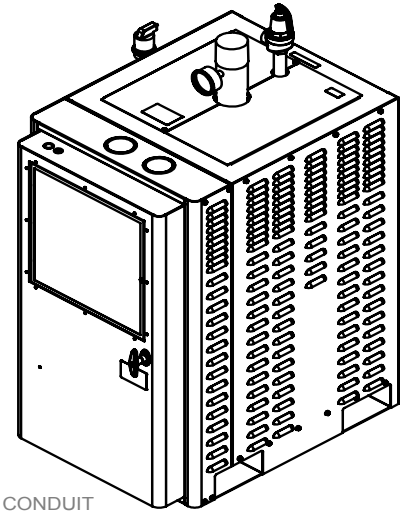
The vessel shall have a capacity of 40 gallons. The vessel shall be "H" stamped and National Board registered with a maximum working pressure of 30 or 125 PSI. The Vessel shall have 3" NPT threaded inlet and outlet nozzles. The outlet nozzle shall be located on the top of the vessel. The inlet nozzle shall be located on the left side of the vessel.

The immersion heating elements shall be installed in the top of the vessel and threaded into vessel for easy servicing (water draw-down not required). The heating elements shall be constructed using incoloy sheathing for long service life. The low-watt density heating elements shall be 30" in length. The cabinet shall have a split cover top for easy access to the heating elements. Contactors used to operate the heating elements shall be rated for 500,000 cycles.

The boiler shall include mounted control enclosure. The control enclosure shall contain all boiler controls and adjustments. Operator is not required to enter main cabinet for resets or other functions. The control assembly shall include a digital boiler control with O-LED digital display and keypad for boiler mode set-up, water temperature set point adjustment, and alarm fault monitoring. Boiler digital display shall be visible to operator through the front panel. The control assembly shall include a sequencer control board for element contactors. The sequencer shall include provisions for stage rotation. An optional emergency stop switch can be field installed at the terminals provided in the boiler. The boiler shall include a 5-year limited warranty on the vessel and a 1-year limited warranty on the parts. The boiler shall be fully tested using standard UL834 and shall bear the CSA mark.

INDUSTRIAL BOILER, EB-N*-***-***

Hydronic Boilers
Submittal Data



CLEARANCES

	MINIMUM CLEARANCE FROM COMBUSTIBLE SURFACES		SUGGESTED MINIMUM SERVICE CLEARANCE	
	INCH	MM	INCH	MM
BACK	0 INCH	0 MM	0 INCH	0 MM
LEFT	12 INCHES	305 MM	24 INCHES	610 MM
RIGHT	8 INCHES	203 MM	12 INCHES	305 MM
FRONT	24 INCHES	457 MM	36 INCHES	914 MM
TOP	26 INCHES	660 MM	26 INCHES	660 MM

DIMENSIONS ARE:
[mm]
IN