SafeAdvantage™ (NEMA 4 Incl.)

For Safety Applications – Eye/Face Wash and Drench Showers

Specifications
Tankless Electric Water Heater

Applications

- Eye/face wash
- Emergency drench showers
- Where tepid water is needed

Features

- 90°F max. output temperature or as specified
- Fully Modulating - Predictive control algorithm and diverse safety features ensures conformity to ANSI Z358.1 tepid water without additional mixing valves (check local codes)
- Fast response rate eliminates the requirement for any additional hot water purge system (no dedicated drain system required)
- T&P not required per UL499 - Check local codes
- Thermo-Optical Sensor for infrared element monitoring
- LCD display and control with built in diagnostics
- Standard model includes NEMA 4 cabinet. NEMA 4X (304 stainless steel) is optional; NEMA 4X6 (316 stainless steel) optional and available on special order - call for quote and availability

Optional Features

- NEMA 4 cabinets:
  N4 = powdercoated steel
  N4X = 304 stainless steel for corrosion resistance
  N4X6 = 316 stainless steel for maximum corrosion resistance
- FP = Freeze Protection down to -30°F
- EDS = Non-Fused Disconnect Switch
- FDS = Fused Disconnect Switch
- EP = Explosion Proof compliant to Class 1 Division II (C1D2) conditions. For other classifications other than C1D2 contact factory
- GFCI = Ground Fault Circuit Interruptor with True TMS operation, digital display, and reset
- SK =Stand Kit 24" legs for freestanding applications
- RD = Remote Display (compatible with EP option)
- SB = Siren/Beacon audible & visual alarm (compatible with EP option)
- DC = Dry Contact for remote monitoring
- ES = Emergency Stop pushbutton

Product Specifications

Min. Operating Pressure:	35 PSI
Max. Operating Pressure:	150 PSI
Optimum Operating Pressure:	60-90 PSI

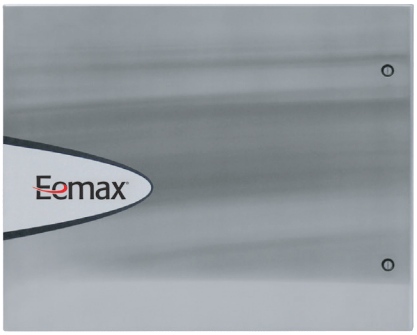
U.S. Patent #'s: US20140023354 and US20140178057

Installation Requirements

- Properly sized water hammer arrestor
- Minimum 35 PSI dynamic pressure at inlet
- Sediment filter installed on inlet
- EP option requires customer-supplied source of inert gas

Special Design Service

- Inquiries for units for unique applications are welcome. Call our Technical Service department at **1 800 543 6163**.
- Custom orders non-refundable



LISTED

LOW LEAD CONTENT

NO LEAD*
*The wetted surface of this product contacted by water contains less than 0.25% lead and meets NSF/ANSI 372

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Certified by CSA to the ASSE 1085 standard.

Suggested Specification

Tankless water heater shall be an Eemax SafeAdvantage model number AP_____.

Factory installation in a _____(N4/N4X/N4X6) enclosure.

Enclosure to be fitted with the following features:

_____	**FP**	Freeze protection (-30°F)
_____	**EDS**	Non-fused disconnect
_____	**FDS**	Fused disconnect
_____	**EP**	Explosion proof (C1D2 compliant)
_____	**GFCI**	True RMS GFCI with digital display and reset
_____	**SK**	24" legs for free standing applications
_____	**RD**	Remote display
_____	**SB**	Siren and Beacon
_____	**DC**	Dry contact
_____	**ES**	Emergency stop - push button

Tankless water heater must have water connections on the bottom, and be constructed with NSF 372 listed materials. Direct heating element to be non-ferrous, cartridge style, designed for field replacement. Tankless water heater to utilize a dual PID algorithm, actively managing power application to real-time system demand. Integrated flow meter capable of volumes in excess of 30 GPM drives predictive control algorithm. Water heater must be protected by redundant safeties. Redundant safeties to include thermo mechanical safety switches, infrared element monitoring via thermo optical sensors, and dual temperature monitoring via master control board. Tankless water heater user interface must have the following capabilities:

- Selectable display including Celsius/Fahrenheit, inlet temperature, outlet temperature, flow rate, and setpoint temperature.
- Capable of displaying flow rate in gallons per minute or liters per minute.
- Diagnostic features to include error and fault code display.
- Control board must maintain error/fault history of 9 events.
- Capable of factory coded temperature setting (max. and min.)
- Capable of firmware upgrades via USB port.
- ASSE 1085-certified and conforms to ANSI Z358.1 tepid water without additional mixing or purge features (inlet temperatures must not exceed 100°F).

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10/2026 FORM NO. SAFEADVANTAGE_SPEC_SHEET_R1

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Specifications
Tankless Electric Water Heater

Suffix Definitions

EE Emergency Eyewash. Max. outlet temperature 90°F. Conforms to ANSI Z3581.1 tepid water without additional mixing valve. Shipped with display "Locked."

EFD Emergency Eye, Face & Drench. Max. outlet temperature 90°F. Conforms to ANSI Z3581.1 tepid water without additional mixing valve. Shipped with display "Locked."

Note: Models with an EE or EFD suffix have a 90°F maximum temperature. Temperature rise data is provided for reference, but temperature is electronically limited to factory preset not to exceed temperature.

Pressure Drop 63-150kW

Flow Rate (GPM)	Delta PSI
2	0
3	0
4	0
6	0
8	1
11	3
12	4
15	8
18	8
20	10
22	13
24	14
27	17
30	22
33	26
35	30
37	34
40	43

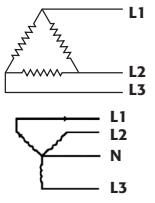
	MODEL NUMBER	kW	BTU/H	AMPS PER PHASE	TURN ON (GPM)	RECOMMENDED WIRE SIZE (75° C/CU)	TEMPERATURE RISE °F 3.0 GPM	4.0 GPM	5.0 GPM	6.0 GPM	20.0 GPM	23.0 GPM	26.0 GPM	30.0 GPM
	VOLTS 208 Three Phase Delta													
	AP032208 EE N4	32	109,189	89	1.0	3AWG	73°	55°	44°	36°	11°	10°	8°	7°
	AP032208 EE N4X	32	109,189	89	1.0	3 AWG	73°	55°	44°	36°	11°	10°	8°	7°
	AP036208 EE N4	36	122,832	100	1.0	3 AWG	82°	61°	49°	41°	12°	11°	9°	8°
	AP036208 EE N4X	36	122,832	100	1.0	3 AWG	82°	61°	49°	41°	12°	11°	9°	8°
	AP041208 EFD N4	41	139,189	113	1.0	2 AWG	†	70°	56°	47°	14°	12°	11°	9°
	AP041208 EFD N4X	41	139,189	113	1.0	2 AWG	†	70°	56°	47°	14°	12°	11°	9°
	AP054208 EFD N4	54	184,256	150	1.5	1/0 AWG	†	†	74°	61°	18°	16°	14°	12°
	AP054208 EFD N4X	54	184,256	150	1.5	1/0 AWG	†	†	74°	61°	18°	16°	14°	12°
	AP064208 EFD N4	64	218,377	178	2.5	3/0 AWG	†	†	87°	73°	22°	19°	17°	15°
	AP064208 EFD N4X	64	218,377	178	2.5	3/0 AWG	†	†	87°	73°	22°	19°	17°	15°
	VOLTS 480 Three Phase Delta													
	AP036480 EE N4	36	122,837	43	1.0	8 AWG	82°	61°	49°	41°	12°	11°	9°	8°
	AP036480 EE N4X	36	122,837	43	1.0	8 AWG	82°	61°	49°	41°	12°	11°	9°	8°
	AP039480 EE N4	39	133,074	47	1.0	8 AWG	89°	67°	53°	44°	13°	12°	10°	9°
	AP039480 EE N4X	39	133,074	47	1.0	8 AWG	89°	67°	53°	44°	13°	12°	10°	9°
	AP048480 EFD N4	48	163,783	58	1.0	6 AWG	†	82°	66°	55°	16°	14°	13°	11°
	AP048480 EFD N4X	48	163,783	58	1.0	6 AWG	†	82°	66°	55°	16°	14°	13°	11°
	AP054480 EFD N4	54	184,256	65	1.5	6 AWG	†	†	74°	61°	18°	16°	14°	12°
	AP054480 EFD N4X	54	184,256	65	1.5	6 AWG	†	†	74°	61°	18°	16°	14°	12°
	AP063480 EFD N4	63	214,965	76	2.5	4 AWG	†	†	86°	72°	22°	19°	17°	14°
	AP063480 EFD N4X	63	214,965	76	2.5	4 AWG	†	†	86°	72°	22°	19°	17°	14°
	AP072480 EFD N4	72	245,674	87	2.5	3 AWG	†	†	†	82°	25°	21°	19°	16°
	AP072480 EFD N4X	72	245,674	87	2.5	3 AWG	†	†	†	82°	25°	21°	19°	16°
	AP096480 EFD N4	96	327,552	116	2.5	1 AWG	†	†	†	†	33°	29°	25°	22°
	AP096480 EFD N4X	96	327,552	116	2.5	1 AWG	†	†	†	†	33°	29°	25°	22°
	AP108480 EFD N4	108	368,511	130	2.5	1 AWG	†	†	†	†	37°	32°	28°	25°
	AP108480 EFD N4X	108	368,511	130	2.5	1 AWG	†	†	†	†	37°	32°	28°	25°
	AP126480 EFD N4	126	429,930	151	2.5	2/0 AWG	†	†	†	†	43°	37°	33°	29°
	AP126480 EFD N4X	126	429,930	151	2.5	2/0 AWG	†	†	†	†	43°	37°	33°	29°
C	**AP144480 EFD N4**	144	491,348	173	2.5	2/0 AWG	†	†	†	†	49°	43°	38°	33°
C	**AP144480 EFD N4X**	144	491,348	173	2.5	2/0 AWG	†	†	†	†	49°	43°	38°	33°
	VOLTS 600 Three Phase Delta													
C	**AP061600 EFD N4**	61	208,141	59	2.5	6 AWG	†	†	83°	69°	21°	18°	16°	14°
C	**AP061600 EFD N4X**	61	208,141	59	2.5	6 AWG	†	†	83°	69°	21°	18°	16°	14°
C	**AP071600 EFD N4**	71	242,262	68	2.5	4 AWG	†	†	†	81°	24°	21°	19°	16°
C	**AP071600 EFD N4X**	71	242,262	68	2.5	4 AWG	†	†	†	81°	24°	21°	19°	16°
C	**AP102600 EFD N4**	102	348,038	98	2.5	3 AWG	†	†	†	†	35°	30°	27°	23°
C	**AP102600 EFD N4X**	102	348,038	98	2.5	3 AWG	†	†	†	†	35°	30°	27°	23°
C	**AP130600 EFD N4**	130	443,578	125	2.5	1 AWG	†	†	†	†	44°	39°	34°	34°
C	**AP130600 EFD N4X**	130	443,578	125	2.5	1 AWG	†	†	†	†	44°	39°	34°	34°
C	**AP150600 EFD N4**	150	511,821	144	2.5	1/0 AWG	†	†	†	†	51°	45°	39°	34°
C	**AP150600 EFD N4X**	150	511,821	144	2.5	1/0 AWG	†	†	†	†	51°	45°	39°	34°

† Temperature electronically limited to factory preset temperature.

"C" indicates evaluation and compliance to either Underwriters Laboratories (UL) or Intertek (ETL) under CAN/CSA-C22.2 No. 64/No. 88.

Electrical configuration and requirements

All Eemax three phase units are custom made to order and as such, are non-returnable and non-refundable. Check your electrical supply, making sure all criteria for operating your Eemax water heater are met.



SafeAdvantage is compatible with both Delta and Wye electrical configuration requirements. When installing SafeAdvantage to a Wye electrical configuration, the neutral leg is not used.

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NEMA Cabinet Options*

Dimensions: 24″H x 30″W x 13.5″D (Total weight est 130 lb)

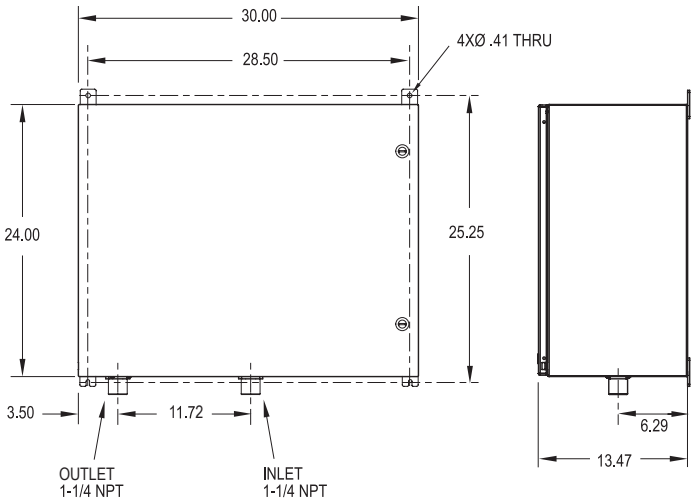
N4 Powder coated steel

N4X Corrosion-resistant 304 stainless steel

N4X6 Corrosion-resistant 316 stainless steel



Designed for wall mounted installation. Free standing legs and other options available.



NEMA Cabinet Options Accessories

Dimensions: 36″H x 30″W x 17.3″D

FP Freeze protection (-30°F)

EDS Non-fused disconnect

FDS Fused disconnect

EP Explosion proof (C1D2 compliant)

GFCI True RMS GFCI with digital display and reset

SK 24″ legs for free standing applications

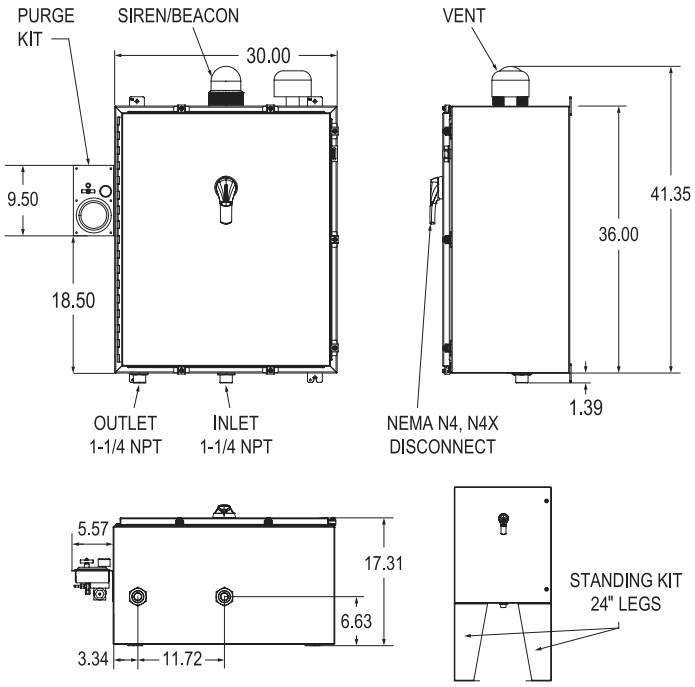
RD Remote display

SB Siren and Beacon

DC Dry contact

ES Emergency stop - push button





Est. total weight 225 lb. varies based on options.
Designed for wall mounted installation. Free standing legs and other options available.

*Refer to page 47 and 48 of this specification guide for more details regarding selection.

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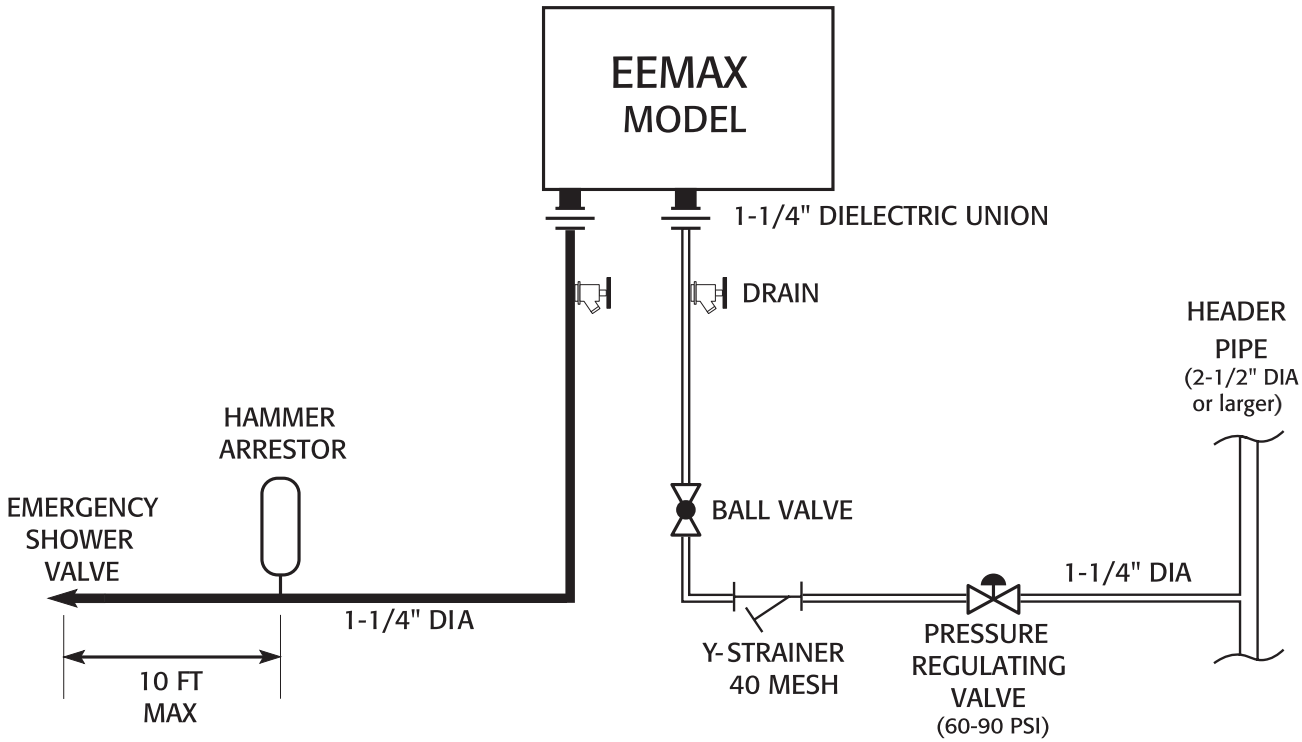
Typical Safety Shower - Piping Installation Schematic

Below represents an installation of our SafeAvantage heater for safety shower application. Please note the required use of water hammer arrestors, Y-strainer, ball valves and drains.

System Criteria

Max Flow Rate:	30 GPM
Pipe Diameter:	1-1/4" or larger
Optimum Operating Pressure:	60-90 PSI

Suggested piping diagram; additional piping diagrams can be found in the Installation Guide and Owner's Manual.



Water Hammer Arrestor Sizing Chart

Pipe Length (header to shower)	**Arrestor Size**
15'	B
15' - 30'	C
30' - 50'	D
50' - 75'	E
75' - 90'	F
90' +	Contact Arrestor Mfgr.

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