



Hazloc Heaters™

Safe heat when you need it!



Includes our
EXCaliber™
HEAT EXCHANGER CORE



AEU1

Explosion-Proof Electric Air Heater For Hazardous Locations

CE 0518 Ex II 2G, Ex d IIB T4 Gb IP55 (ATEX)

Ex d IIB T4 Gb IP55 (IECEx)

1Ex d IIB T4 X IP55 (EAC Ex)

(Suitable for ATEX/IECEx/EAC Ex Zone 1 & 2)

or

CE 0518 Ex II 2D, Ex tb IIIB T135°C Db IP65 (ATEX)

Ex tb IIIB T135°C Db IP65 (IECEx)

Ex tb IIIB T135°C Db X IP65 (EAC Ex)

(Suitable for ATEX/IECEx/EAC Ex Zone 21 & 22)



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Hazloc Heaters™ is a manufacturer of industrial-grade unit heaters suitable for hazardous and severe-duty locations.



The **AEU1** series of explosion-proof electric air heaters is designed to meet the most demanding requirements of heavy industry. The harsh operating conditions of this industry require heating equipment that is safe, reliable, dependable, and available when you need it. **AEU1** unit heaters are designed to provide primary or supplementary heating for comfort or freeze protection in areas that are classified as hazardous locations (Gas or Dust atmospheres).

Designed for hazardous locations!

All **Hazloc Heaters™ AEU1** models are **CE Marked and certified for hazardous locations to meet ATEX and IECEx requirements**. They have also received the **Eurasian Conformity (EAC Ex) Mark** certifying them for hazardous locations to the new **Customs Union Technical Regulations**. The three sizes of **AEU1** heaters include our **ExCaliber™** high performance liquid-to-air heat-exchanger cores that are available in **fourteen 400 Volt, 50 Hz model choices** to meet your specific heat output requirements at supply voltages between 380 V to 440 V and **fourteen 480 Volt, 60 Hz models** to accommodate shipping vessels, off-shore rigs or other applications requiring 60 Hz.

The rugged and versatile **AEU1** heater incorporates a high quality immersion heater, high performance fan and motor assembly, a sturdy 2 mm (14 GA) steel cabinet with epoxy/polyester powder coating for corrosion resistance, large control enclosure with an extra port for convenient wiring of an external room thermostat, and enclosure O-rings to minimize moisture ingress. Standard safety features include two temperature high limits and a pressure relief device.

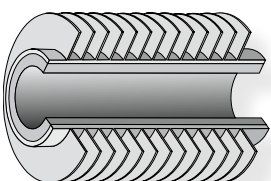


AEU1 heaters are suitable for a wide variety of applications that include but are not limited to oil & gas drilling rigs, petrochemical facilities, refineries, chemical storage and handling facilities, paint storage areas, sewage treatment plants, aircraft servicing areas, grain elevators, or areas containing carbonaceous dusts.

Rugged design, but easily maintained!

All **AEU1** heaters are designed for industrial applications with all features being heavy-duty to meet your most demanding environments and long-life expectations. Even with heavy-gauge steel construction used throughout the heater it does not inhibit maintenance of the product since the **AEU1** has been designed for easy field servicing with a removable heat exchanger core assembly, split fan guard, and replaceable automatic and manual reset high-limits. An added benefit is our 36-month heater warranty!

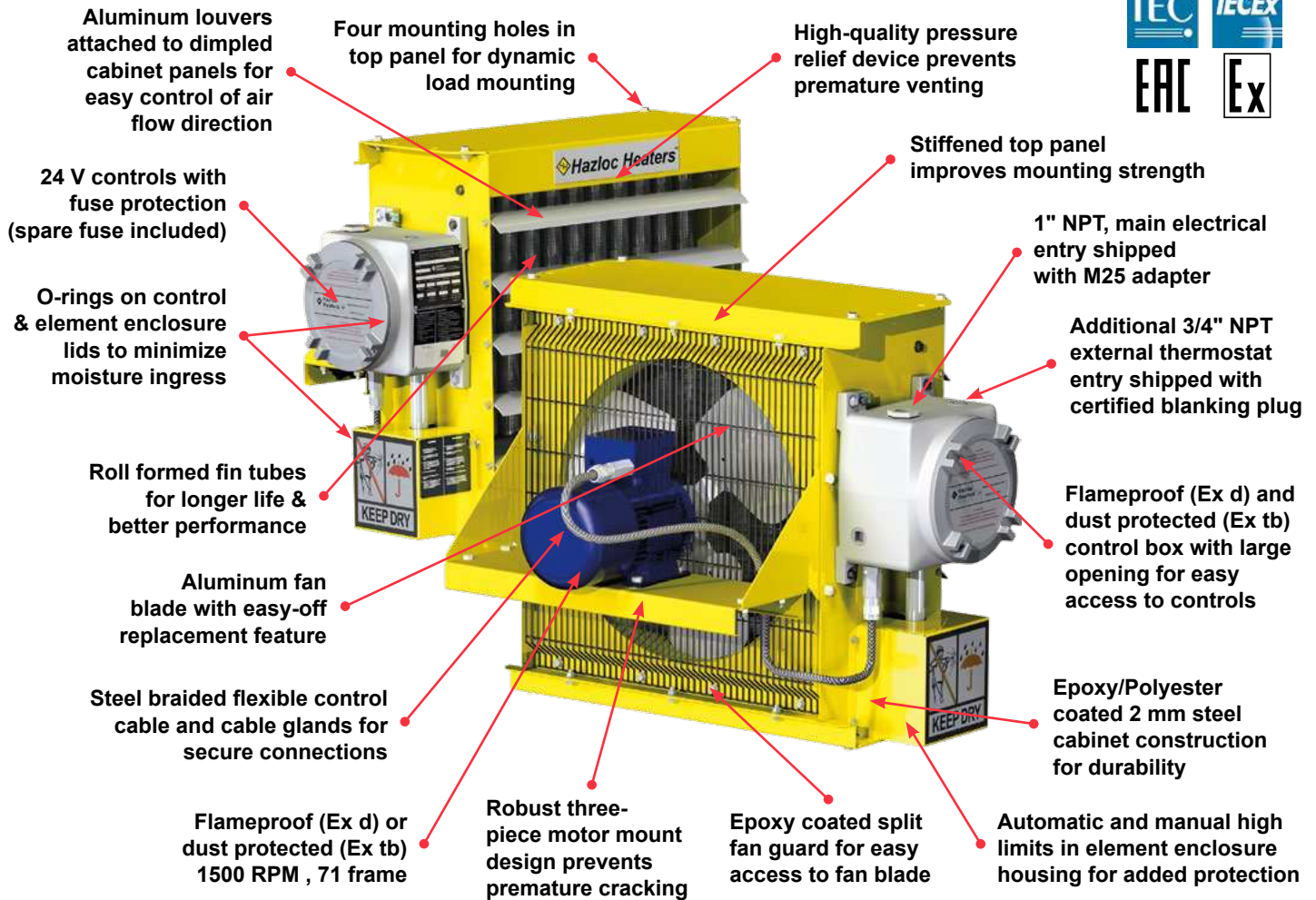
Maximum durability... rugged fin tubes!



All **AEU1 ExCaliber™** liquid-to-air heat-exchanger cores are evacuated & sealed and are constructed using rugged carbon-steel tubes with roll-formed aluminum fins to maximize heat transfer and carbon-steel headers for **maximum durability, resistance to corrosion, and longer life** in your demanding applications.



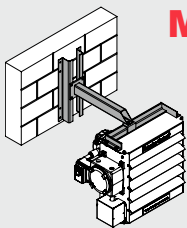
Dedicated to Performance and Reliability!



Accessories

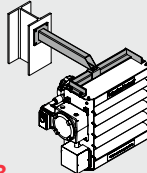


Mounting Brackets



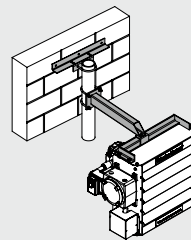
WMB

Wall Mounting Bracket
For use in buildings that have substantial walls. The Z sections provide additional support where necessary.



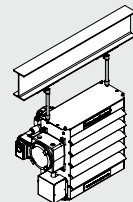
BMB

Basic Mounting Bracket
For applications where the support arm can be bolted or welded directly to structural steel or concrete.



PMB

Pipe Mounting Bracket
For buildings with insufficient strength to use other types of mounting brackets. Requires 3 in. pipe (3.5 in. O.D., min. Sch. 40, not supplied).



HMB

Hanging Mounting Bracket
Ideal and economical if adequate overhead structure exists. Requires 1/2 in. pipe, cut and threaded (min. Sch. 40 not supplied).

Note: When ordering mounting brackets, please specify the type of bracket preferred and the basic model code of the heater to be mounted. Example, **PMB-AEU1-16**.
Mounting kits are made of steel with a black enamel paint finish.
Structural support of heater and bracket during transit is required.



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AEU1 Model Coding

Model Code Sequence Required for Ordering

Factory Assigned

AEU 1 - G - 12 - 100 - 400 3 50 - B - N - A

Model Series		Product Revision No. For minor revisions
Generation For major revisions		Factory Options
Flammable Substance		N No integral thermostat
Gas G		T Integral thermostat
Dust (5 mm max) D		Control Voltage
		B 24 volt A.C.
Fan Size		Frequency
12 in. (305 mm) 12		50 50 hertz
16 in. (406 mm) 16		60 60 hertz
20 in. (508 mm) 20		Phase
		3 3 phase
Power Output		Heater Line Voltage
5 kW 050	12 in. (305 mm) fan size	400 400 volts ^{1,2}
7.5 kW 075	12 in. (305 mm) fan size	480 480 volts ³
10 kW 100	12 in. (305 mm) fan size	
15 kW 150	16 in. (406 mm) fan size	
20 kW 200	16 in. (406 mm) fan size	
25 kW 250	20 in. (508 mm) fan size	
30 kW 300	20 in. (508 mm) fan size	

Consult factory

@ 400 volts only
@ 480 volts only

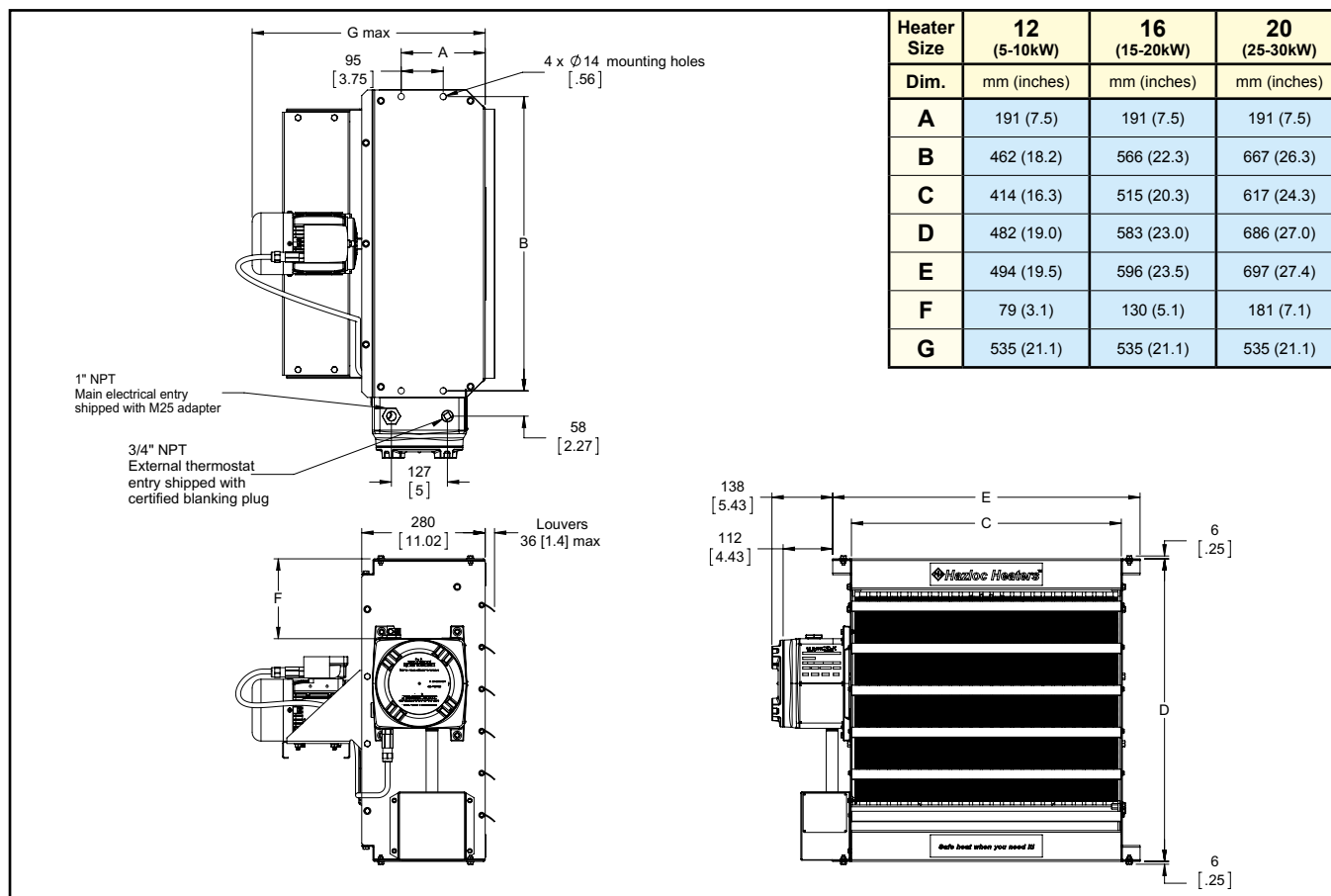
@ 50 hertz only
@ 60 hertz only

¹ 230 Volt, 50 Hz configuration is available by special order only. Please contact factory for ordering details.

² Line Voltage is 400 Volt +/- 10%. For countries utilizing line voltages of 380 Volt to 440 Volt, refer to Page 7 for heater performance data. Do not exceed 440 Volt power supply.

³ Line Voltage is 480 Volt +/- 10%.

AEU1 Physical Dimensions



AEU1 Specifications for all 50 Hz Models by Size

Model	AEU1-12			AEU1-16		AEU1-20	
Fan diameter in (mm)	12 (305)			16 (406)		20 (508)	
Nominal kW	5	7.5	10	15	20	25	30
Air delivery m ³ /hr	680	1019	1359	2039	2888	3568	5097
Approximate air velocity m/s	2.4	3.6	4.9	4.1	5.8	4.6	6.6
Approximate horizontal air throw m	4.6	6.7	9.1	10.1	14.0	12.5	18.6
Motor power kW (hp)	0.37 (½)						
Maximum mounting height (to underside of heater) m	2.1	2.3	2.9	3.0	3.4	3.6	4.6
Approximate net weight kg (lbs)	65.4 (144)		67.2 (148)	79.8 (176)		91.5 (201)	
Approximate shipping weight kg (lbs)	92.2 (203)		94.0 (207)	108.4 (239)		122.8 (270)	
Wood crate dimensions W x D x H in mm Wood packaging material is in compliance with ISPM No. 15.	31.5 x 29.5 x 29.25 800 x 749 x 743			35.5 x 29.5 x 31.75 902 x 749 x 806		39.5 x 29.5 x 35.75 1003 x 749 x 908	

AEU1 Specifications for all 60 Hz Models by Size

Model	AEU1-12			AEU1-16		AEU1-20	
Fan diameter in (mm)	12 (305)			16 (406)		20 (508)	
Nominal kW	5	7.5	10	15	20	25	30
Air delivery m ³ /hr	815	1225	1630	2445	3465	4280	6115
Approx. air velocity m/s	2.9	4.3	5.9	4.9	7.0	5.5	7.9
Approx. horizontal air throw m	5.5	8.0	11.0	12.1	16.8	15.0	22.3
Motor power kW (hp)	0.37 (½)						
Max. mounting height (to underside of heater) m	2.1	2.3	2.9	3.0	3.4	3.6	4.6
Approx. net weight kg (lbs)	65.4 (144)		67.2 (148)	79.8 (176)		91.5 (201)	
Approx. shipping weight kg (lbs)	92.2 (203)		94.0 (207)	108.4 (239)		122.8 (270)	
Wood crate dimensions W x D x H in mm Wood packaging material is in compliance with ISPM No. 15.	31.5 x 29.5 x 29.25 800 x 749 x 743			35.5 x 29.5 x 31.75 902 x 749 x 806		39.5 x 29.5 x 35.75 1003 x 749 x 908	



How to Order

When ordering refer to Page 7 to determine the specific model and then please follow the **“Model Code Sequence Required for Ordering”** format on Page 4.

Example Model Code: AEU1-G-12-100-400350-B-N

Important:

Heater is to be used only in atmospheres that are compliant with the hazardous area atmosphere certification of the heater. Please ensure equipment is suitable for your application.

The **maximum** allowable dust layer thickness for “dust protected, Ex tb” heaters is 5mm. Based on the environment the heater is installed in ensure the maintenance program is designed to meet this criteria.

Do not operate heater in atmospheres which are corrosive to aluminum or steel.



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AEU1 General Specifications

Hazardous Location Approvals	ATEX (Gas atmospheres)	SIRA 13 ATEX 1240X CE 0518 II 2G Ex d IIB T4 Gb IP55	-40°C ≤ Tamb ≤ +40°C (Suitable for Zone 1 and 2)
	ATEX (Dust atmospheres) 5 mm maximum	SIRA 13 ATEX 1240X CE 0518 II 2D Ex tb IIIB T135°C Db IP65	-40°C ≤ Tamb ≤ +40°C (Suitable for Zone 21 and 22)
	IECEX (Gas atmospheres)	IECEX CSA 13.0034X Ex d IIB T4 Gb IP55	-40°C ≤ Tamb ≤ +40°C (Suitable for Zone 1 and 2)
	IECEX (Dust atmospheres) 5 mm maximum	IECEX CSA 13.0034X Ex tb IIIB T135°C Db IP65	-40°C ≤ Tamb ≤ +40°C (Suitable for Zone 21 and 22)
	EAC Ex (Gas atmospheres)	RU C-CA. GB06.B.00282 1 Ex d IIB T4 X, IP55	-40°C ≤ Tamb ≤ +40°C (Suitable for Zone 1 and 2)
	EAC Ex (Dust atmospheres) 5 mm maximum	RU C-CA. GB06.B.00282 Ex tb IIIB T135°C Db X, IP65	-40°C ≤ Tamb ≤ +40°C (Suitable for Zone 21 and 22)
Cabinet	Cabinet material	2 mm (14-gauge) steel. Yellow epoxy/polyester powder coated with five-stage pretreatment, including iron phosphate.	
	Fan guard	Split design with close wire spacing. A 9.5 mm diameter probe will not enter. Black polyester powder coated.	
	Louver blades	Anodized extruded aluminum.	
	Fasteners	Zinc plated steel for corrosion resistance.	
	Enclosure	Flame proof (Ex d) and dust protected (Ex tb) cast aluminum with O-ring.	
	Mounting holes	14 mm diameter holes – Four located on the top face of heater.	
Motor/Fan	Motor type	Flameproof (Ex d) or dust protected (Ex tb), thermally protected, 1500 RPM (nominal) permanently lubricated ball bearing type with 71 frame and “easy-off” fan blade replacement feature.	
	Fan	Multi-blade non sparking aluminum, steel spider and hub with 14 mm bore.	
Heat Exchanger	Heat transfer fluid	Ethylene glycol and water including corrosion inhibitors.	
	ExCaliber™ Core	Carbon steel shells and carbon steel tubes with copper-free, roll-formed aluminum fins @ 2.5mm pitch. Evacuated and sealed. Sprayed with black, high heat enamel paint.	
Protection	Temperature high limits	One automatic reset rated for 100,000 cycles, and one manual reset. Both are snap-action bimetal type, open on temperature rise.	
	Pressure relief	High-quality pressure relief device.	
Controls	Control circuit	Built in 24 V control. (1.04 amps, 25 VA, grounded)	
	Control contactor	40 FLA amp (50 A resistive per pole) Definite Purpose. Rated for 500,000 mechanical operations.	
	Control transformer	24 VAC output.	
	Fuse protection	Thermal delay fuse (with spare fuse included).	
	Room thermostat	A wall mount thermostat is available. Consult factory for integral thermostat details.	
Operating Limits	Ambient temperature	-40°C to 40°C. Storage -40°C to 60°C.	
	Maximum altitude	3000 m above sea level.	



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AEU1 Heater 50 Hz Performance Data (Gas or Dust atmospheres)

kW	Line Volts	Ø	Fan Dia. in.	Model See page 4 to complete model coding	Total Amps A	Air Temp. Rise
						°C
4.5*	380*	3	12	AEU1-?-12-050-400350-B-#	7.9*	19.1*
5	400				8.2	21.2
5.4*	415*				8.5*	22.8*
6.1*	440* max				8.9*	25.7*
6.8*	380*	3	12	AEU1-?-12-075-400350-B-#	11.3*	20.2*
7.5	400				11.8	22.4
8.1*	415*				12.2*	24.1*
9.1*	440* max				12.9*	27.1*
9.0*	380*	3	12	AEU1-?-12-100-400350-B-#	14.7*	19.5*
10	400				15.4	21.6
10.8*	415*				16.0*	23.3*
12.1*	440* max				16.9*	26.1*
13.5*	380*	3	16	AEU1-?-16-150-400350-B-#	21.6*	19.6*
15	400				22.7	21.7
16.1*	415*				23.5*	23.4*
18.2*	440* max				24.8*	26.3*
18.1*	380*	3	16	AEU1-?-16-200-400350-B-#	28.4*	18.7*
20	400				29.9	20.7
21.5*	415*				31.0*	22.3*
24.2*	440* max				32.8*	25.0*
22.6*	380*	3	20	AEU1-?-20-250-400350-B-#	35.3*	18.8*
25	400				37.1	20.8
26.9*	415*				38.4*	22.4*
30.3*	440* max				40.7*	25.2*
27.1*	380*	3	20	AEU1-?-20-300-400350-B-#	42.1*	15.8*
30	400				44.3	17.5
32.3*	415*				45.9*	18.8*
36.3*	440* max				48.6*	21.2*

AEU1 Heater 60 Hz† Performance Data (Gas or Dust atmospheres)

kW	Line Volts	Ø	Fan Dia. in.	Model See page 4 to complete model coding	Total Amps A	Air Temp. Rise
						°C
5	480	3	12	AEU1-?-12-050-480360-B-#	6.7	17.7
7.5	480	3	12	AEU1-?-12-075-480360-B-#	9.7	18.7
10	480	3	12	AEU1-?-12-100-480360-B-#	12.7	18.0
15	480	3	16	AEU1-?-16-150-480360-B-#	18.7	18.1
20	480	3	16	AEU1-?-16-200-480360-B-#	24.8	17.3
25	480	3	20	AEU1-?-20-250-480360-B-#	31.1	17.4
30	480	3	20	AEU1-?-20-300-480360-B-#	37.1	14.6

(*) Actual output figures are prorated based on 400 Volt wye connected heating elements.
Do not exceed 440 Volt supply power.

(?) Refer to Page 4 for Flammable Substance selection of Gas or Dust.

(#) Refer to Page 4 for Factory Option codes to complete entire model code for ordering.



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Packaging Certification



Hazloc Heaters™ has been certified under the Canadian Wood Packaging Certification Program (CWPCP) for export and production of wood packaging that meets the International Standard for Phytosanitary Measures No. 15 (ISPM No. 15). Facility Registration Number CA-01420.

 **Hazloc Heaters™** *“Safe heat when you need it!”*

Quality Mission Statement

Quality is... customers that come back, and products that don't.

Limited 36-Month Warranty

Hazloc Heaters™ warrants all **AEU1** series of explosion-proof electric heaters against defects in materials and workmanship under normal conditions of use for a period of thirty-six (36) months from date of purchase based on the following terms:

1. The heater must not be modified in any way.
2. The heater must be stored, installed and used only in accordance with the owner's manual and attached data plate information.
3. Replacement parts will be provided free of charge as necessary to restore any unit to normal operating condition, provided that the defective parts be returned to us freight prepaid and that the replacement parts be accepted freight collect.
4. The complete heater may be returned to our manufacturing plant for repair or replacement (at our discretion), freight charges prepaid.
5. Contamination by dirt, dust, etc. or corrosion will not be considered as defects.
6. This warranty shall be limited to the actual equipment involved and, under no circumstances, shall include or extend to installation or removal costs, or to consequential damages or losses.



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