ISO 9001:2008 CERTIFIED

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)
1Ex d IIB T4 Gb X IP55 (EAC Ex)
(Suitable for ATEX/IECEx/EAC Ex Zone 21 & 22)

New models and options now available

www.HazlocHeaters.com

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 **twenty-six 230VAC or 400VAC, 50 Hz model choices** to meet your specific heat output requirements and **sixteen 480VAC, 60 Hz models** to accommodate shipping vessels, offshore rigs or other applications requiring 60 Hz.

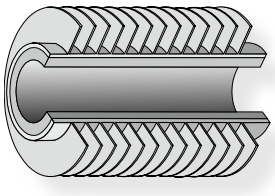
The rugged and versatile **AEU1** heater incorporates a high quality immersion heater, high performance fan and motor assembly, a sturdy 2 mm (14 GA) steel cabinet with epoxy/polyester powder coating for corrosion resistance, large control enclosure with an extra port for convenient wiring of an external 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!

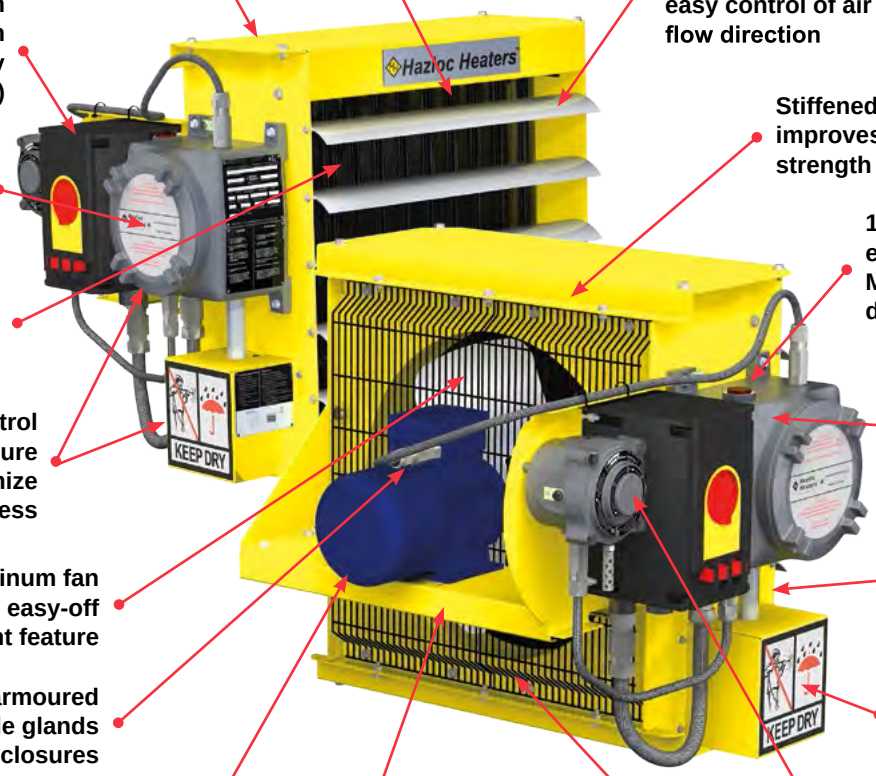
All **AEU1** heaters are designed for industrial applications with all features being heavy-duty to meet your most demanding environments and long-life expectations. Even with heavy-gauge steel construction used throughout the heater it does not inhibit maintenance of the product since the **AEU1** has 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!



Four mounting holes in top panel for dynamic load mounting

High-quality pressure relief device prevents premature venting

Aluminum louvers attached to dimpled cabinet panels for easy control of air flow direction

† Optional built-in disconnect switch with M25 field entry (Option Code D4 shown)

Stiffened top panel improves mounting strength

24VAC controls with fuse protection (spare fuse included)

1" NPT, main electrical entry shipped with M25 adapter (without disconnect switch option)

Roll formed fin tubes for longer life & better performance

Flameproof (Ex d) and dust protected (Ex tb) control box with large opening for easy access to controls

O-rings on control & element enclosure lids to minimize moisture ingress

Epoxy/Polyester coated 2 mm steel cabinet construction for durability

Aluminum fan blade with easy-off replacement feature

Automatic and manual high limits in element enclosure housing for added protection

Marine-grade armoured cable and cable glands between enclosures

Flameproof (Ex d) or dust protected (Ex tb) 1500 RPM, 71 frame motor

Robust three-piece motor mount design prevents premature cracking

Epoxy coated split fan guard for easy access to fan blade

Optional built-in room thermostat (Option Code T2 shown)

(†) Built-in disconnect switch is shipped with a prebuilt gland/cable assembly that must be installed and inspected on site.

The ***ExCaliber™*** vacuum sealed liquid-to-air heat exchanger core is constructed using rugged, copper-free, roll-formed aluminum fins and protected by a pressure relief device, automatic reset high limit, and a back-up manual reset high limit.

The **AEU1** heater has the highest air temperature rise, on average, in the industry across our complete kW range.

ExCaliber™ heat-exchanger core is easy to remove

AEU1 Model Coding

Heater Model Code & Option Codes

Model Codes | Option Codes

AEU 1 - G - 12 - 100 - 400 3 50 - B - Y - B , T1, D2, etc.

(stamped on separate field of data plate)

Model Series
AEU1

Generation
For major revisions

Flammable Substance	
Gas	G
Dust	D

Fan Size	
12 in. (305 mm)	12
16 in. (406 mm)	16
20 in. (508 mm)	20

Power Output		
3 kW	030	12 in. (305 mm) fan size
5 kW	050	12 in. (305 mm) fan size
7.5 kW	075	12 in. (305 mm) fan size
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

Heater Line Voltage		
230 Volts[1]	230	@ 50Hz only
400 Volts[2]	400	@ 50Hz only
480 Volts[3]	480	@ 60Hz only

[1] Line voltage must be 230VAC +/- 5% @ 50Hz. For countries utilizing line voltages of 220 to 240VAC, refer to Page 8 for heater performance data.

[2] Line voltage must be 400VAC +/- 5% @ 50Hz. For countries utilizing line voltages of 380 to 415VAC, refer to Page 8 for heater performance data.

[3] Line voltage must be 480VAC maximum @ 60Hz. For countries utilizing line voltage of 440VAC, refer to Page 8 for heater performance data. Motor has a rated voltage of 460VAC +/- 5%.

Built-in disconnect switch is shipped with a prebuilt gland/cable assembly that must be installed and inspected on site.

Product Revision No.
For minor revisions

Factory Built-in Options	
N	No options selected
Y	Yes, options selected

Option Codes (stamped on separate **field of data plate**)		
Refer to page 9 for description	T1	Thermostat, Bi-metal **(BTX1-E-A)**
Refer to page 9 for description	T2	Thermostat, Electronic **(XET1-1-E-A)**
Refer to page 8 for availability	**D2**[4]	Disconnect Switch, **20A**
Refer to page 8 for availability	**D4**[4]	Disconnect Switch, **40A**
	F	Continuous Fan
	H1	Heresite Core
Includes louvers & fan blade	H2	Heresite Cabinet
Includes louvers & fan blade	H3	Heresite Core/Cabinet

Control Voltage	
B	24VAC

Frequency	
50	50Hz
60	60Hz

Phase	
3	3 Phase

Model Code Format

When requesting a quote or ordering refer to page 8 and then please follow the **"Model Code"** format above.

Example Model Code: AEU1-G-12-100-400350-B-Y-B Option Code: ,T1, D2, etc.

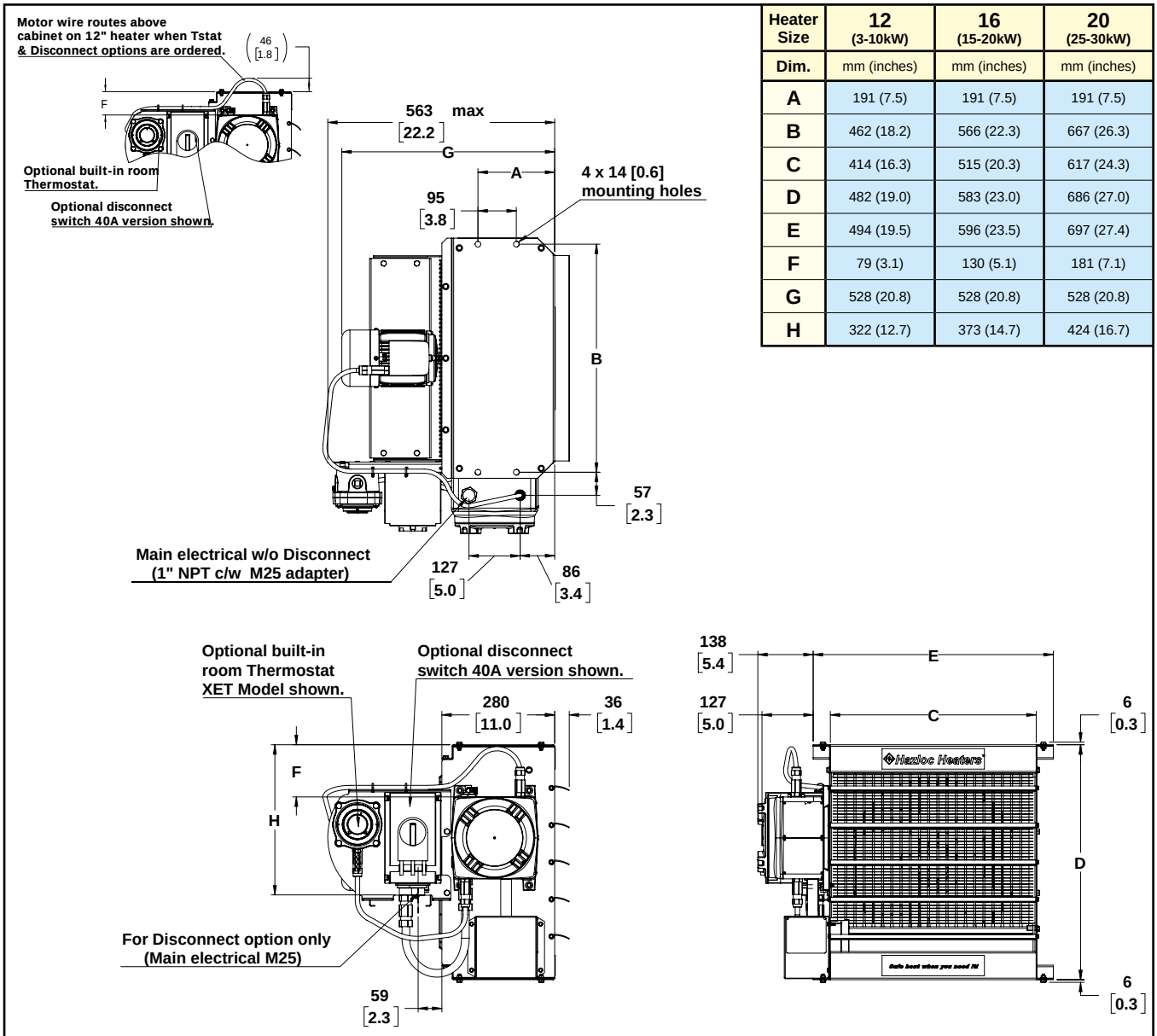
Important:

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.

AEU1 Physical Dimensions



Heater Size	12 (3-10kW)	16 (15-20kW)	20 (25-30kW)
Dim.	mm (inches)	mm (inches)	mm (inches)
A	191 (7.5)	191 (7.5)	191 (7.5)
B	462 (18.2)	566 (22.3)	667 (26.3)
C	414 (16.3)	515 (20.3)	617 (24.3)
D	482 (19.0)	583 (23.0)	686 (27.0)
E	494 (19.5)	596 (23.5)	697 (27.4)
F	79 (3.1)	130 (5.1)	181 (7.1)
G	528 (20.8)	528 (20.8)	528 (20.8)
H	322 (12.7)	373 (14.7)	424 (16.7)

Sample ATEX & IECEx Data Plate Marking

CE 0518 Ex II 2 G Ex d IIB T4 Gb IP55

Complies with European Directive*	Notified Body Number*	Specific Marking for Explosion Protection*	Equipment Group*	Equipment Category*	Environment*	Explosion Protection	Protection Type	Atmosphere Group	Temperature Class	Equipment Protection Level (EPL)	Ingress Protection Rating

* ATEX only (Directive 2014/34/EU)

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		3	5	7.5	10	15	20	25	30
Air delivery	m³/hr	595	680	1019	1359	2039	2888	3568	5097
Approximate air velocity	m/s	2.1	2.4	3.6	4.9	4.1	5.8	4.6	6.6
Approximate horizontal air throw	m	3.9	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	2.1	2.3	2.9	3.0	3.4	3.6	4.6
Approximate net weight									
(no built-in options)	kg (lbs)	65.4 (144)			67.2 (148)	79.8 (176)		91.5 (201)	
(with thermostat)	kg (lbs)	68.5 (151)			70.3 (155)	83.0 (183)		94.3 (208)	
(with disconnect)	kg (lbs)	70.3 (155)			72.1 (159)	81.8 (187)		96.1 (212)	N/A
(with thermostat & disconnect)	kg (lbs)	73.0 (161)			74.8 (165)	87.5 (193)		98.8 (218)	N/A
Approximate max. shipping weight									
(no built-in options)	kg (lbs)	92.0 (203)			93.9 (207)	108.4 (239)		122.5 (270)	
(with thermostat)	kg (lbs)	95.7 (211)			97.0 (214)	111.6 (246)		126.0 (278)	
(with disconnect)	kg (lbs)	97.0 (214)			98.9 (218)	113.4 (250)		127.5 (281)	N/A
(with thermostat & disconnect)	kg (lbs)	99.8 (220)			101.6 (224)	116.1 (256)		130.2 (287)	N/A
Wood crate dimensions	WxDxH								
Wood packaging material is in compliance with ISPM No. 15.	in	31.5 x 29.5 x 29.25				35.5 x 29.5 x 31.75		39.5 x 29.5 x 35.75	
	mm	800 x 749 x 743				902 x 749 x 806		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		3	5	7.5	10	15	20	25	30
Air delivery	m³/hr	714	815	1225	1630	2445	3465	4280	6115
Approx. air velocity	m/s	2.2	2.9	4.3	5.9	4.9	7.0	5.5	7.9
Approx. horizontal air throw	m	4.7	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	2.1	2.3	2.9	3.0	3.4	3.6	4.6
Approximate net weight									
(no built-in options)	kg (lbs)	65.4 (144)			67.2 (148)	79.8 (176)		91.5 (201)	
(with thermostat)	kg (lbs)	68.5 (151)			70.3 (155)	83.0 (183)		94.3 (208)	
(with disconnect)	kg (lbs)	70.3 (155)			72.1 (159)	81.8 (187)		96.1 (212)	N/A
(with thermostat & disconnect)	kg (lbs)	73.0 (161)			74.8 (165)	87.5 (193)		98.8 (218)	N/A
Approximate max. shipping weight									
(no built-in options)	kg (lbs)	92.0 (203)			93.9 (207)	108.4 (239)		122.5 (270)	
(with thermostat)	kg (lbs)	95.7 (211)			97.0 (214)	111.6 (246)		126.0 (278)	
(with disconnect)	kg (lbs)	97.0 (214)			98.9 (218)	113.4 (250)		127.5 (281)	
(with thermostat & disconnect)	kg (lbs)	99.8 (220)			101.6 (224)	116.1 (256)		130.2 (287)	
Wood crate dimensions	WxDxH								
Wood packaging material is in compliance with ISPM No. 15.	in	31.5 x 29.5 x 29.25				35.5 x 29.5 x 31.75		39.5 x 29.5 x 35.75	
	mm	800 x 749 x 743				902 x 749 x 806		1003 x 749 x 908	

AEU1 General Specifications

Hazardous Location Approvals	ATEX (Gas atmospheres)	SIRA 13 ATEX 1240X CE 0518 Ex II 2G Ex d IIB T4 Gb IP55 (Suitable for Zone 1 and 2)	-40°C ≤ T_{amb} ≤ +40°C
	ATEX (Dust atmospheres) 5 mm maximum	SIRA 13 ATEX 1240X CE 0518 Ex II 2D Ex tb IIIB T135°C Db IP65 (Suitable for Zone 21 and 22)	-30°C ≤ T_{amb} ≤ +40°C
	IECEx (Gas atmospheres)	IECEX CSA 13.0034X Ex d IIB T4 Gb IP55 (Suitable for Zone 1 and 2)	-40°C ≤ T_{amb} ≤ +40°C
	IECEx (Dust atmospheres) 5 mm maximum	IECEX CSA 13.0034X Ex tb IIIB T135°C Db IP65 (Suitable for Zone 21 and 22)	Without disconnect: -30°C ≤ T_{amb} ≤ +40°C With disconnect: -20°C ≤ T_{amb} ≤ +40°C
	EAC Ex (Gas atmospheres)	1Ex d IIB T4 Gb X IP55 (Suitable for Zone 1 and 2)	-40°C ≤ T_{amb} ≤ +40°C
	EAC Ex (Dust atmospheres) 5 mm maximum	Ex tb IIIB T135°C Db X IP65 (Suitable for Zone 21 and 22)	-30°C ≤ T_{amb} ≤ +40°C
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	Three-blade non sparking aluminum, steel spider and hub with 14 mm bore.	
Heat Exchanger	Heating elements	Long-life, low watt-density, high grade metal-sheathed.	
	Heat transfer fluid	Ethylene glycol and water including corrosion inhibitors.	
	ExCaliber™ Core	Carbon steel headers and element housing with O-ring. Fin tubes are carbon steel tubes with copper-free, roll-formed aluminum fins @ 2.5 mm pitch. Vacuum sealed. Coated with black, high-heat enamel.	
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 stainless steel pressure relief device.	
Controls	Control circuit	Built-in 24VAC control. (1.04 amps, 25VA, grounded)	
	Control contactor	40 FLA amp (50 A resistive per pole) Definite Purpose. Rated for 500,000 mechanical operations.	
	Control transformer	Multitap primary, 24VAC secondary.	
	Fuse protection	Thermal delay fuse with spare, .25” x 1.25” , 24VAC = 1A.	
	Room thermostat with lockable temperature dial (option code T1 or T2)	Built-in, **BTX1-E-A** bi-metal (T1) or **XET1-1-E-A** (T2) electronic explosion-proof thermostat, 5°C to 25°C (40°F to 80°F). Marine-grade armoured cable and cable glands between enclosures. Wall mount thermostats also available. See Page 9.	
Load Isolation	Disconnect switch with lockable handle (option code D2 or D4)	Built-in CEAG 20 Amp (D2) or 40 Amp (D4) disconnect switch with lockout feature. Built-in disconnect switch is shipped with a prebuilt gland/cable assembly that must be installed and inspected on site.	
Additional Options	Continuous fan (option code F)	Continuous fan operation. Circulates air and prevents gas pockets from forming.	
	Heresite Coating (option code H1, H2, H3)	H1 = Heresite core; or H2 = Heresite cabinet (includes louvers & fan blade); or H3 = Heresite core and cabinet. Note: contact factory for Heresite lead time.	
Operating Limits	Ambient temperature	Operation: *refer to above Hazardous Location Approvals.* Storage: -50°C to 60°C.	
	Maximum altitude	3000 m above sea level.	

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

Nominal Heat Output kW	Line Voltage V	Ø	Fan Dia. in.	Model See page 4 to complete model coding	Built-in Disconnect Option Code	Max. Total Amps A	Air Temp. Rise °C
2.7◊	220◊	3	12	AEU1-?-12-030-230350-B-#-B	D2	9.0◊	17.1◊
3	**230**					**9.3**	**18.4**
3.2◊	240◊					9.6◊	19.7◊
4.5◊	220◊	3	12	AEU1-?-12-050-230350-B-#-B	D2	13.7◊	22.9◊
5	**230**					**14.3**	**24.8**
5.4◊	240◊					14.8◊	26.7◊
6.8◊	220◊	3	12	AEU1-?-12-075-230350-B-#-B	D4	19.7◊	21.9◊
7.5	**230**					**20.5**	**23.8**
8.1◊	240◊					21.3◊	25.7◊
9.1◊	220◊	3	12	AEU1-?-12-100-230350-B-#-B	D4	25.6◊	21.4◊
10	**230**					**26.7**	**23.3**
10.8◊	240◊					27.8◊	25.2◊
13.6◊	220◊	3	16	AEU1-?-16-150-230350-B-#-B	Not available	37.5◊	20.9◊
15	**230**					**39.2**	**22.8**
16.2◊	240◊					40.8◊	24.7◊
2.7*	380*	3	12	AEU1-?-12-030-400350-B-#-B	D2	5.2*	16.9*
3	**400**					**5.4**	**18.4**
3.2*	415*					5.5*	19.5*
4.5*	380*	3	12	AEU1-?-12-050-400350-B-#-B	D2	7.9*	22.7*
5	**400**					**8.3**	**24.8**
5.4*	415*					8.5*	26.5*
6.8*	380*	3	12	AEU1-?-12-075-400350-B-#-B	D2	11.3*	21.7*
7.5	**400**					**11.9**	**23.9**
8.1*	415*					12.3*	25.6*
9.0*	380*	3	12	AEU1-?-12-100-400350-B-#-B	D2	14.8*	21.3*
10	**400**					**15.5**	**23.4**
10.8*	415*					16.0*	25.1*
13.5*	380*	3	16	AEU1-?-16-150-400350-B-#-B	D4	21.6*	20.8*
15	**400**					**22.7**	**22.9**
16.1*	415*					23.5*	24.6*
18.1*	380*	3	16	AEU1-?-16-200-400350-B-#-B	D4	28.5*	19.3*
20	**400**					**29.9**	**21.4**
21.5*	415*					31.0*	22.9*
22.6*	380*	3	20	AEU1-?-20-250-400350-B-#-B	D4	35.3*	19.4*
25	**400**					**37.1**	**21.5**
26.9*	415*					38.5*	23.1*
25.8*	380*	3	20	AEU1-?-20-300-400350-B-#-B	Not available	42.1*	16.2*
30	**400**					**44.3**	**17.9**
30.8*	415*					45.9*	19.3*

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

Nominal Heat Output kW	Line Voltage V	Ø	Fan Dia. in.	Model See page 4 to complete model coding	Built-in Disconnect Option Code	Max. Total Amps A	Air Temp. Rise °C
2.5†	440	3	12	AEU1-?-12-030-480360-B-#-B	D2	4.4†	13.3†
3	**480**					4.7	15.3
4.2†	440	3	12	AEU1-?-12-050-480360-B-#-B	D2	6.6†	17.8†
5	**480**					7.1	20.7
6.3†	440	3	12	AEU1-?-12-075-480360-B-#-B	D2	9.3†	17.0†
7.5	**480**					10.1	19.9
8.4†	440	3	12	AEU1-?-12-100-480360-B-#-B	D2	12.1†	16.6†
10	**480**					13.1	19.5
12.6†	440	3	16	AEU1-?-16-150-480360-B-#-B	D2	17.6†	16.2†
15	**480**					19.1	19.1
16.8†	440	3	16	AEU1-?-16-200-480360-B-#-B	D4	23.1†	15.0†
20	**480**					25.1	17.8
21.0†	440	3	20	AEU1-?-20-250-480360-B-#-B	D4	28.6†	15.1†
25	**480**					31.1	17.9
25.2†	440	3	20	AEU1-?-20-300-480360-B-#-B	D4	34.1†	12.6†
30	**480**					37.1	15.0

(◊) Line voltage must be 230VAC +/- 5% @ 50Hz. Actual output figures are prorated based on 230VAC, 3 phase, 3 wire, delta connected heating elements. Data plate is stamped with 230VAC data.

(*) Line Voltage must be 400VAC +/- 5% @50Hz. Actual output figures are prorated based on 400VAC, 3 phase, 3 wire, wye connected heating elements. Data plate is stamped with 400VAC data.

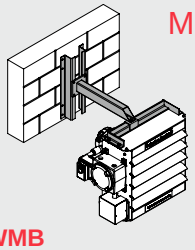
(†) Line Voltage must be 480VAC maximum @ 60Hz. Actual output figures are prorated based on 480VAC, 3 phase, 3 wire, delta connected heating elements. Data plate is stamped with 480VAC data. Motor has a rated voltage of 460VAC +/- 5%.

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

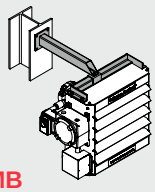
(#) Refer to Page 4 for Factory Option codes to complete entire model code for ordering.

Accessories

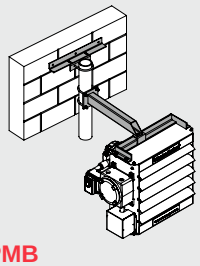
Mounting Brackets



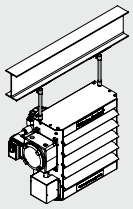
WMB
Wall Mounting Bracket
For use in buildings that have substantial walls. The Z sections provide additional support where necessary.



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 carbon steel and coated with black enamel.
Structural support of heater and bracket during transit is required.

Explosion-proof ExCaliber™ Series Thermostats, Remote Mount

BTX1-E-A (Bi-metal thermostat used on AEU1 heaters with built-in option code (T1) selected)
Bi-metal thermostat, SPDT, heating or cooling applications

CE 0518 Ex II 2G Ex db IIB+H_2 T6 Gb (ATEX)
Ex db IIB+H_2 T6 Gb (IECEx)
1ExdIIBT6 /H_2 (EAC Ex)
-50°C ≤ T amb ≤ +40°C, IP65
(Gas Atmosphere Certified for ATEX / IECEx / EAC Ex Zone 1 and 2)

CE 0518 Ex II 2D Ex tb IIIC T85°C Db (ATEX)
Ex tb IIIC T85°C Db (IECEx)
Ex tb IIIC T85°C Db X (EAC Ex)
-50°C ≤ T amb ≤ +40°C, IP65
(Dust Atmosphere Certified for ATEX / IECEx / EAC Ex Zone 21 and 22)

Temperature adjustment range: 5°C to 25°C (40°F to 80°F); 3/4" – NPT conduit opening on top and bottom; Ship wt - 1.6 kg
22 Amps Resistive Load, 480VAC Max; 1/2HP @ 125VAC; 1HP @ 250VAC

XET1-1-E-A (Electronic thermostat used on AEU1 heaters with built-in option code (T2) selected)
Electronic thermostat, 24VAC required, heating applications only

CE 0518 Ex II 2G Ex db IIB+H_2 T6 Gb (ATEX)
Ex db IIB+H_2 T6 Gb (IECEx)
1ExdIIBT6 /H_2 (EAC Ex)
-50°C ≤ T amb ≤ +40°C, IP66
(Gas Atmosphere Certified for ATEX / IECEx / EAC Ex Zone 1 and 2)

CE 0518 Ex II 2D Ex tb IIIC T85°C Db (ATEX)
Ex tb IIIC T85°C Db (IECEx)
Ex tb IIIC T85°C Db X (EAC Ex)
-50°C ≤ T amb ≤ +40°C, IP66
(Dust Atmosphere Certified for ATEX / IECEx / EAC Ex Zone 21 and 22)

Temperature adjustment range: 5°C to 25°C (40°F to 80°F); 3/4" - NPT conduit opening on top and bottom; Ship wt - 1.5 kg
24VAC 50/60Hz; 1 Amp max continuous

AEU1 Engineering Specifications

1.0 General

1.1 The explosion-proof unit heater(s) shall be supplied and installed, in accordance with the plans and specifications, with ratings as listed in the schedule of electrical heating equipment, and shall be Hazloc Heaters' AEU1 series.

1.2 The unit heater(s) shall be ATEX, IECEx and EAC Ex certified and be suitable for the hazardous area classification.

2.0 Heat Exchanger

2.1 The Heat Exchanger shall be a liquid-to-air type consisting of steel tubes with integral aluminum fins @ 2.5 mm pitch, vacuum sealed and painted with black, high heat enamel.

2.2 The heat exchanger shall be protected by a high-quality stainless steel pressure relief device with no serviceable parts.

2.3 The Heat Exchanger shall be filled and sealed to design level with a custom-blended, long-life solution of ethylene-glycol and water including inhibitors to provide superior corrosion protection.

2.4 The Heat Exchanger shall include heavy-duty immersion heating elements brazed into a heavy steel flange. The elements shall consist of high-quality resistance wire embedded in a magnesium oxide refractory and sheathed in a metal tubing. The heater is to be protected by two snap-action bimetal temperature high-limit cutouts. The primary high-limit shall be an automatic reset type rated for 100,000 cycles, and the secondary high-limit a manual reset type and will shut off the heater if the fluid temperature rises due to a lack of heat dissipation. The high-limits shall not be effected by altitude or changes in atmospheric pressure.

3.0 Fan and Motor Assembly

3.1 The Fan Assembly shall include a ball bearing, permanently lubricated, thermally protected explosion-proof motor rated for continuous duty at 40°C (104°F). The motor shaft shall provide a method for easy field replacement of fan blade assembly without the use of special tools.

3.2 The Fan shall be spark resistant aluminum. The Fan shall be directly connected to the motor, dynamically balanced, and designed specifically for the heater application.

3.3 The Fan shall be shielded with a heavy-duty steel wire, polyester-coated guard. To provide easy maintenance and cleaning of the fan and motor, the fan guard shall be of a two piece construction. The guard shall not allow a 9.5 mm probe to enter.

4.0 Control Center

4.1 The Control Center shall be completely factory pre-wired and tested, and enclosed in a control enclosure with O-ring and a large threaded cover for easy access. The cover shall include a locking set screw.

4.2 The Control Center shall include a 40 FLA (50A resistive per pole) Definite Purpose magnetic contactor sized to handle the heater and motor current, and shall be rated for 500,000 cycles operation. The encapsulated severe-duty coil shall be rated 24VAC and separately fuse protected.

4.3 The Control Center shall include a control voltage transformer, the primary voltage being the same as the heater voltage and the secondary to be 24VAC.

4.4 The Control Center shall include a terminal block for thermostat connection.

4.5 The Control Center shall include in-line thermal delay fuse protection on secondary side of transformer. The fuse holder shall be mounted on the printed circuit board and contain both an operating fuse and a spare fuse.

5.0 Cabinet Assembly

5.1 The Cabinet Assembly shall be fabricated from 14 gauge steel with a baked epoxy/ polyester powder coating over a 5-stage pretreatment including iron phosphate, for protection from corrosive atmospheres.

5.2 The Cabinet shall include four 14 mm mounting holes located on top face of heater.

5.3 Louver blades shall be individually adjustable and made of anodized extruded aluminum.

6.0 Mounting Brackets

6.1 The heater shall be provided with a steel Mounting Bracket, coated with black enamel, specifically designed to bear the weight of the heater assembly.

6.2 The Mounting Bracket shall be – (select one):

- ☐ Type WMB – Wall Mounting Bracket
- ☐ Type BMB – Basic Mounting Bracket
- ☐ Type PMB – Pipe Mounting Bracket
- ☐ Type HMB – Hanging Mounting Bracket

7.0 Room Thermostat Options

7.1 The heater shall be supplied with (select one):

- ☐ Built-in BTX1-E-A explosion-proof room thermostat mounted on the control enclosure side of the heater.
- ☐ Built-in XET1-1-E-A explosion-proof room thermostat mounted on the control enclosure side of the heater.
- ☐ Field installed remote mount BTX1-E-A explosion-proof thermostat.
- ☐ Field installed remote mount XET1-1-E-A explosion-proof thermostat (24VAC required).

8.0 Disconnect Switch Options

8.1 The heater shall be supplied with (select one):

- ☐ Built-in disconnect switch mounted on the control enclosure side of the heater. (Built-in disconnect switch is shipped with a prebuilt gland/cable assembly that must be installed and inspected on site)
- ☐ Field installed remote mount disconnect switch.

9.0 Additional Options

9.1 The heater shall be supplied with (select up to two):

- ☐ Continuous fan operation.
- ☐ Heresite coated core.
- ☐ Heresite coated cabinet (includes louvers & fan blades).
- ☐ Heresite coated core/cabinet (includes louvers & fan blades).

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.

Hazloc Heaters™

Safe heat when you need it!

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www.HazlocHeaters.com

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