



Safe heat when you need it!

















# AEU1 **Explosion-Proof Electric Air Heater**

For Hazardous Locations C €2813 **(28) 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)

New models and options now available

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)



Thorne & Derrick +44 (0) 191 410 4292 TERNATIONAL www.heatingandprocess.com

# HAZIOC Heaters<sup>™</sup>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.

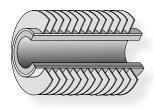


**AEU1** heaters are suitable for a wide variety of applications that include but are not limited to oil & gas drilling rigs, petrochemical facilities, refineries, chemical storage and handling facilities, paint storage areas, sewage treatment plants, aircraft servicing areas, grain elevators, or areas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



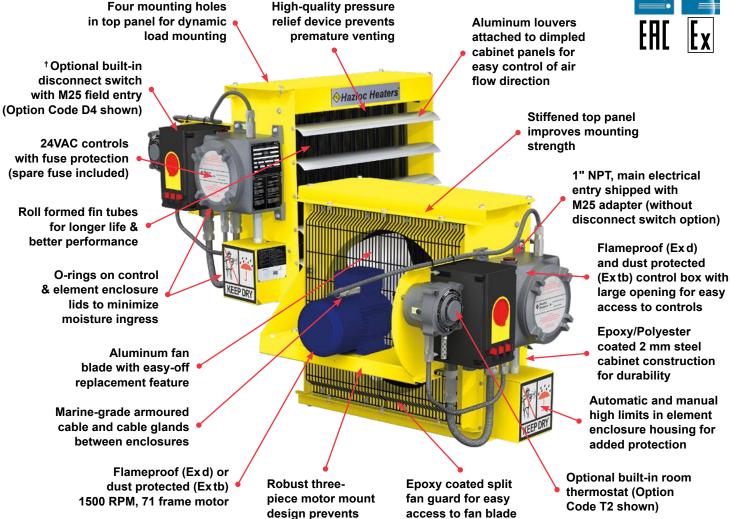
# Dedicated to Performance and Reliability!











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

premature cracking

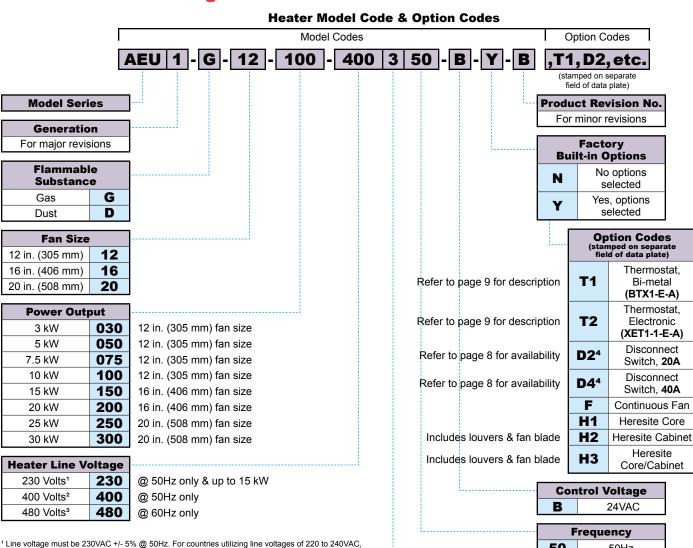


The *ExCaliber*™ vacuum sealed liquid-to-air heat exchanger core is constructed using rugged, copper-free, roll-formed aluminum fins and protected by a pressure relief device, automatic reset high limit, and a back-up manual reset high limit.

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**



Model Code Format

<sup>2</sup> Line voltage must be 400VAC +/- 5% @ 50Hz. For countries utilizing line voltages of 380 to 415VAC,

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

<sup>3</sup> 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%

refer to Page 8 for heater performance data

refer to Page 8 for heater performance data.

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:**

50

60

3

50Hz

60Hz

3 Phase

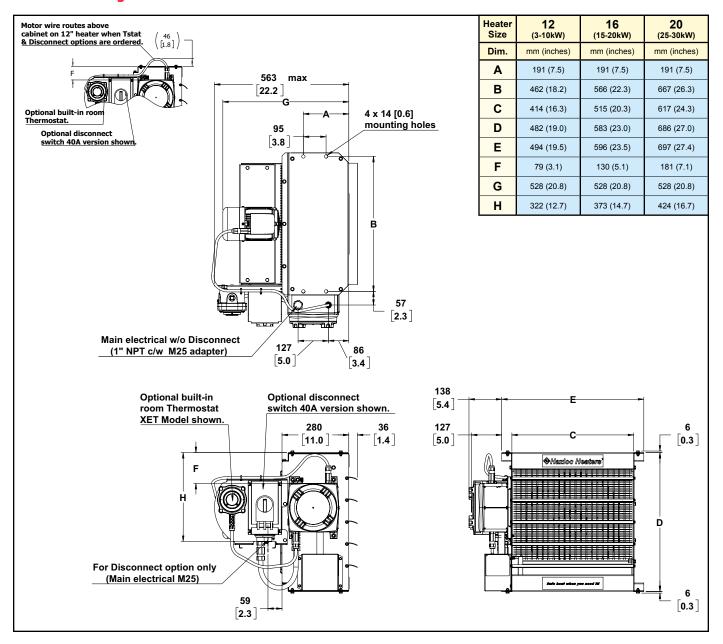
**Phase** 

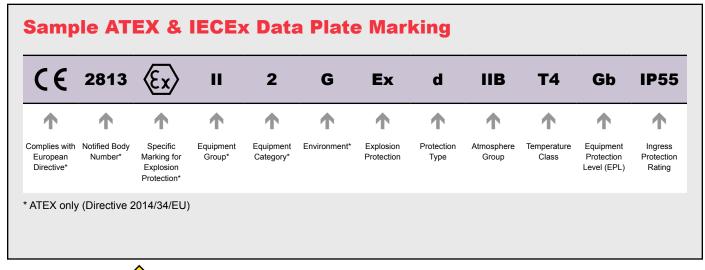
Heater is to be used only in atmospheres that are compliant with the hazardous area atmosphere certification of the heater. Please ensure equipment is suitable for your application.

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**





# **AEU1 Specifications for all 50 Hz Models by Size**

Model	AEU1-12				AEU1-16		AEU1-20	
Fan diameter in (mm)		12	2 (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 m (to underside of heater)	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) (with thermostat) kg (lbs) (with disconnect) kg (lbs) (with thermostat & disconnect) kg (lbs)	65.4 (144) 68.5 (151) 70.3 (155) 73.0 (161)		67.2 (148) 70.3 (155) 72.1 (159) 74.8 (165)	79.8 (176) 83.0 (183) 81.8 (187) 87.5 (193)		91.5 (201) 94.3 (208) 96.1 (212) N/A 98.8 (218) N/A		
Approximate max. shipping weight (no built-in options) kg (lbs) (with thermostat) kg (lbs) (with disconnect) kg (lbs) (with thermostat & disconnect) kg (lbs)	92.0 (203) 95.7 (211) 97.0 (214) 99.8 (220)		93.9 (207) 97.0 (214) 98.9 (218) 101.6 (224)	108.4 (239) 111.6 (246) 113.4 (250) 116.1 (256)		122.5 (270) 126.0 (278) 127.5 (281) N/A 130.2 (287) N/A		
Wood crate dimensions WxDxH Wood packaging material is in compliance with ISPM No. 15. mm	31.5 x 29.5 x 29.2 800 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		AE	U1-12		AEU1-16		AEU1-20	
Fan diameter in (mm	)	1:	2 (305)		16 (406)		20 (508)	
Nominal kW	3	5	7.5	10	15	20	25	30
Air delivery m³/r	r 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	n 4.7	5.5	8.0	11.0	12.1	16.8	15.0	22.3
Motor power kW (hp	)	_	1		0.37 (½)			
Max. mounting height r (to underside of heater)	n 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 (with thermostat) kg (lbs (with disconnect) kg (lbs (with thermostat & disconnect) kg (lbs	)	65.4 (144 68.5 (151 70.3 (155 73.0 (161	) 5)	67.2 (148) 70.3 (155) 72.1 (159) 74.8 (165)	83.0 81.8	(176) (183) (187) (193)	91.5 94.3 96.1 (212) 98.8 (218)	` '
Approximate max. shipping weight (no built-in options) kg (lbs (with thermostat) kg (lbs (with disconnect) kg (lbs (with thermostat & disconnect) kg (lbs	)	92.0 (203) 95.7 (211) 97.0 (214) 99.8 (220)		93.9 (207) 97.0 (214) 98.9 (218) 101.6 (224)	108.4 (239) 111.6 (246) 113.4 (250) 116.1 (256)		122.5 (270) 126.0 (278) 127.5 (281) 130.2 (287)	
Wood crate dimensions WxDxl Wood packaging material is in i compliance with ISPM No. 15. mr	า	31.5 x 29.5 x 29. 800 x 749 x 74			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 General Specifications**

AFEX (Gas atmospheres)   SIRA 13 ATEX 1240X (Gas atmospheres)   Catal © III 26 Ex d IIB T4 Gb IP5 (Sultable for Zone 1 and 2)		v							
Countrol			<b>C €</b> 2813 🗟 II 2G Ex d IIB T4 Gb IP55	-40°C ≤ Tamb ≤ +40°C					
Hazardous   Coat		(Dust atmospheres)	C € 2813 © II 2D Ex tb IIIB T135°C Db IP65	-30°C ≤ T <sub>amb</sub> ≤ +40°C					
(Dust atmospheres) EAC Ex (Gas atmospheres) EAC Ex (Gas atmospheres) EAC Ex (Gas atmospheres) EAC Ex (Gas atmospheres) EX b IIIB T135°C bX IP55 (Sultable for Zone 21 and 22) EAC EX (Gas atmospheres) EX b IIIB T135°C bX IP55 (Sultable for Zone 1 and 2) EAC EX (Dust atmospheres) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIB T135°C bX IP65 (Sultable for Zone 21 and 22) EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone 1 and 2)  EX b IIB T135°C bX IP65 (Sultable for Zone			Ex d IIB T4 Gb IP55	-40°C ≤ T <sub>amb</sub> ≤ +40°C					
(Gual atmospheres) (Suitable for Zone 1 and 2) 40°C \$ lamb \$ *40°C \$ EAC Ex (Dust atmospheres) (Suitable for Zone 1 and 2) - 30°C \$ lamb \$ *40°C \$ S mm maximum  Cabinet  Cab	Approvals	(Dust atmospheres)	Ex tb IIIB T135°C Db IP65						
Cubinet				-40°C ≤ T <sub>amb</sub> ≤ +40°C					
Cabinet Marena   pretreatment, including iron phosphate.		(Dust atmospheres)		-30°C ≤ T <sub>amb</sub> ≤ +40°C					
Cabinet   Louver blades   Anodized extruded aluminum.		Cabinet material		er powder coated with five-stage					
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.  Flame proof (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 Shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum in steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum in steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum in steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum in steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum in steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum in steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum in steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub eather.  Fan shroud Spark-resistant aluminum, s		Fan guard		n diameter probe will not enter. Black					
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.  Flame proof (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 spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan Shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Interest aluminum.  Heating elements  Long-life, low watt-density, high grade metal-sheathed.  Heat transfer fluid Ethylene glycol and water including corrosion inhibitors.  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.  One automatic reset rated for 100,000 cycles, and one manual reset. Both are snapaction bimetal type, open on temperature rise.  Control circuit Built-in 24VAC control. (1.04 amps, 25VA, grounded)  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.  Built-in, BTX1-E-A bi-metal (T1) or XET1-1-E-A (T2) electronic explosion-proof the control of the mostsat, 5" to 125° (40" F to 80"F). Marine-gade amoured cable and cable glands between enclosures. Wall mount thermostats also available. See Page 9.  Disconnect switch with lockoble handle (option code T1 or T2)  Operating (potion code H1, H2, H3)  Operating Ambient temperature  Protection Thermal delay fuse with spare, 25" to 40" for Bod SP. Marine-gade amoured cable and cable glands between enclosures. Wall mount thermostats also available. See Page 9.  Continuous fan (option code F)  Continuous fan operation. Circulates air and prevents ga	Cabinet	Louver blades	Anodized extruded aluminum.						
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 spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud It cong-life, low watt-density, high grade metal-sheathed.  Heat transfer fluid Ethylene glycol and water including corrosion inhibitors.  ExCaliber™ Core Ethylene glycol and water including corrosion inhibitors.  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 snapaction bimetal type, open on temperature rise.  Pressure relief High-quality stainless steel pressure relief device.  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.  Built-in Agrica-A bi-metal (T1) or XET1-1-E-A (T2) electronic explosion-proof themostat, 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.  Continuous fan (option code D2 or D4)  Disconnect switch with lockable handle (option code B1 or Continuous fan option code Will have been enclosures. Wall mount thermostats also available. See Page 9.  Continuous fan (option code B1, H2, H3)  or Ha = Heresite core; or H2 = Heresite cabinet (includes louvers & fan blade); or H3 = Heresite core; or H2 = Heresite cabinet (includes louvers & fan blade); or H3 = Heresite core; or H2 = Heresite contact factory for Heresite lead time.  Operation;		Fasteners	Zinc plated steel for corrosion resistance.						
Motor/Fan		Enclosure	Flame proof (Ex d) and dust protected (Ex tb)	cast aluminum with O-ring.					
Motor/Fan		Mounting holes	14 mm diameter holes – Four located on the top face of heater.						
Fan Shroud Spark-resistant aluminum, steel spider and hub with 14 mm bore.  Fan shroud Spark-resistant aluminum.  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.  Pressure relief Pigh-quality stainless steel pressure relief device.  Pressure relief High-quality stainless steel pressure relief device.  Control circuit Built-in 24VAC control. (1.04 amps, 25VA, grounded)  Control contactor Quality ample of So 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)  Disconnect switch with lockable handle (option code T2 or T4)  Disconnect switch with lockable handle (option code D2 or D4)  Additional Options  Additional Options  Pressite Coating (option code F) Continuous fan (option code F)  Continuous fan (option code F) Continuous fan (option code F)  Coperating I milts  Ambient temperature  Operating I milts  Fan Shrove Attention Ambient temperature  Theresite core; or H2 = Heresite core; the 2 element of the content factory for Heresite lead time.  Operating I milts	Motor/Fan	Motor type	permanently lubricated ball bearing type with 71 frame and "easy-off" fan blade						
Heat Exchanger    Heat transfer fluid   Ethylene glycol and water including corrosion inhibitors.	motor/i un	Fan	Three-blade spark-resistant aluminum, steel sp	oider and hub with 14 mm bore.					
Heat Exchanger    Exchanger   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.    Temperature high limits   One automatic reset rated for 100,000 cycles, and one manual reset. Both are snapaction bimetal type, open on temperature rise.   Pressure relief   High-quality stainless steel pressure relief device.   Control circuit   Built-in 24VAC control. (1.04 amps, 25VA, grounded)		Fan shroud	Spark-resistant aluminum.						
Exchanger  Exclaiber™ 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.  Temperature high limits  One automatic reset rated for 100,000 cycles, and one manual reset. Both are snapaction bimetal type, open on temperature rise.  Pressure relief  High-quality stainless steel pressure relief device.  Control circuit  Built-in 24VAC control. (1.04 amps, 25VA, grounded)  Control transformer  Multitap primary, 24VAC secondary.  Fuse protection  Room thermostat with lockable temperature dial (option code T1 or T2)  Disconnect switch with lockable temperature dial (option code D2 or D4)  Load Isolation  Additional Options  Disconnect switch with lockable dandle (option code F)  Continuous fan (option code F)  Continuous fan operation. Circulates air and prevents gas pockets from forming.  H = Heresite core; or H2 = Heresite cabinet (includes louvers & fan blade); or H3 = Heresite core and cabinet. Note: contact factory for Heresite lead time.  Operating I mirts  Carbon steel headers and element housing with O-ring. Fin tubes are carbon steel tubes with condition and ename.  Carbon steel headers and element housing with O-ring. Fin tubes are carbon steel tubes with condition 100,000 cycles, and one manual reset. Both are snap-action black, high-heat ename!  Control contact factory for Heresite lead time.  Carbon steel headers and element housing with One,000 cycles, and one manual reset. Both are snap-action black, high-heat ename!  Control contact fine type, open on temperature rise.  Continuous fan ename.  Carbon steel headers and element housing with One condent such and one manual reset. Both are snap-action black in the presence rise.  Continuous fan operation of 100 presence relief device.  Continuous fan operation. Circulates air and prevents gas pockets from forming.  Operating  Ambient temperature  Operation: refer to above Hazardous Location Approvals.  Stor		Heating elements	Long-life, low watt-density, high grade metal-s	heathed.					
Exchanger         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 snapaction bimetal type, open on temperature rise.           Pressure relief         High-quality stainless steel pressure relief device.           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 lockout feature. Built-in disconnect switch is shipped with a prebuilt gland/cable assembly that must be installed and inspected on site.           Additional (option code D2 or D4)         Continuous fan (option code F)         Continuous fan operation. Circulates air and prevents gas pockets from forming.           Additional (	Heat	Heat transfer fluid	Ethylene glycol and water including corrosion inhibitors.						
Protection  Pressure relief device.  Built-in Q4VAC control. (1.04 amps, 25VA, grounded)  Pressure relief Pressure relief Pressure relief device.  Built-in Q4VAC control. (1.04 amps, 25VA, grounded)  Pressure relief Pressure relief device.  Built-in Q4VAC control. (1.04 amps, 25VA, grounded)  Pressure relief device.  Built-in Q4VAC control. (1.04 amps, 25VA, grounded)  Pressure relief device.  Pressure relief device.  Built-in Q4VAC control. (1.04 amps, 25VA, grounded)  Built-in Pressure very relief device.  Pressure relief device.  Built-in Q4VAC control. (1.04 amps, 25VA, grounded)  Built-in Q5VAC entrol. (1.04 amps, 25VA, grounded)  Pressure relief device.  Built-in Q4VAC control. (1.04 amps, 25VA, grounded)  Built-in Q5VAC entrol. (1.04 amps, 25VA, grounded)  Built-in Q5VAC entrol. (1.04 amps, 25VA, grounded)  Built-in Q5VAC entrol. (1.04 amps, 25VA, grounded)  Built-in, 25VAC entrol. (1.04 amps, 25VA, grounded)  Built-in, BTX1-E-A bi-metal (T1) or XET1-1-E-A (T2) electronic explosion-proof thermostal, 25° C to 25° C	Exchanger	ExCaliber™ Core	with copper-free, roll-formed aluminum fins @ 2.5 mm pitch. Vacuum sealed. Coated with						
Controls  Control circuit  Control contactor  Controls  Control contactor  Control contactor  Control transformer  Fuse protection  Room thermostat with lockable temperature dial (option code T1 or T2)  Disconnect switch with lockable handle (option code D2 or D4)  Additional Options  Continuous fan (option code H1, H2, H3)  Operating Limits  Controls  Control transformer  Built-in 24VAC control. (1.04 amps, 25VA, grounded)  40 FLA amp (50 A resistive per pole) Definite Purpose. Rated for 500,000 mechanical operations.  Multitap primary, 24VAC secondary.  Thermal delay fuse with spare, .25" x 1.25", 24VAC = 1A.  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.  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.  Continuous fan (option code F)  Heresite Coating (option code H1, H2, H3)  Coperating Limits  Control contact for 500,000 mechanical operations.  Control contact factory for Heresite lead time.  Operation: refer to above Hazardous Location Approvals.  Storage: -50°C to 60°C.	Protection	Temperature high limits							
Controls  Control contactor  Controls  Control transformer  Fuse protection  Room thermostat with lockable temperature dial (option code T1 or T2)  Continuous fan (option code F)  Continuous fan (option code H1, H2, H3)  Coperating  Limits  Control transformer  Additional  Control transformer  Additional  Control transformer  Autitiap primary, 24VAC secondary.  Thermal delay fuse with spare, .25" x 1.25" , 24VAC = 1A.  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.  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.  Continuous fan (option code F)  Continuous fan operation. Circulates air and prevents gas pockets from forming.  Continuous fan operation. Circulates air and prevents gas pockets from forming.  Continuous fan operation. Note: contact factory for Heresite lead time.  Operating  Limits		Pressure relief							
Controls  Control contactor  Rated for 500,000 mechanical operations.  Control transformer  Multitap primary, 24VAC secondary.  Thermal delay fuse with spare, .25" x 1.25", 24VAC = 1A.  Room thermostat with lockable temperature dial (option code T1 or T2)  Load Isolation  Load Isolation  Disconnect switch with lockable handle (option code D2 or D4)  Additional Options  Continuous fan (option code F)  Heresite Coating (option code H1, H2, H3)  Operating  Ambient temperature  Multitap primary, 24VAC secondary.  Multitap primary, 24VAC secondary.  Multitap primary, 24VAC = 1A.  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.  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.  Continuous fan (option code F)  Continuous fan operation. Circulates air and prevents gas pockets from forming.  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  Ambient temperature  Operation: refer to above Hazardous Location Approvals.  Storage: -50°C to 60°C.		Control circuit	Built-in 24VAC control. (1.04 amps, 25VA, gro	unded)					
Fuse protection  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.  Continuous fan (option code F)  Continuous fan operation. Circulates air and prevents gas pockets from forming.  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  Thermal delay fuse with spare, .25" x 1.25", 24VAC = 1A.  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.  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.  Continuous fan operation. Circulates air and prevents gas pockets from forming.  Option code F)  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  Ambient temperature  Operation: refer to above Hazardous Location Approvals.  Storage: -50°C to 60°C.		Control contactor							
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.  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.  Continuous fan (option code F)  Continuous fan operation. Circulates air and prevents gas pockets from forming.  Continuous fan operation. Circulates air and prevents gas pockets from forming.  Heresite Coating (option code H1, H2, H3)  Coperating  Ambient temperature  Thermal delay fuse with spare, .25" x 1.25", 24VAC = 1A.  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.  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.  Continuous fan operation. Circulates air and prevents gas pockets from forming.  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  Ambient temperature  Operation: refer to above Hazardous Location Approvals.  Storage: -50°C to 60°C.	Controls	Control transformer	Multitap primary, 24VAC secondary.						
Load   Solation   Disconnect switch with lockable handle (option code D2 or D4)   Disconnect switch with lockable handle (option code D2 or D4)   Disconnect switch with lockable handle (option code D2 or D4)   Disconnect switch with lockable handle (option code D2 or D4)   Disconnect switch with lockable handle (option code D2 or D4)   Disconnect switch with lockable handle (option code D2 or D4)   Disconnect switch with lockable handle (option code D2 or D4)   Disconnect switch is shipped with a prebuilt gland/cable assembly that must be installed and inspected on site.      Continuous fan (option code F)   Continuous fan operation. Circulates air and prevents gas pockets from forming.     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   Ambient temperature   Operation: refer to above Hazardous Location Approvals.     Storage: -50°C to 60°C.   Storage: -50°C to 60°C.   Operation: refer to above Hazardous Location Approvals.		Fuse protection	Thermal delay fuse with spare, .25" x 1.25", 2	24VAC = 1A.					
Solation   lockable handle (option code D2 or D4)   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.		lockable temperature dial	thermostat, 5°C to 25°C (40°F to 80°F). Marine-grade armoured cable and cable glands						
Additional Options Options Heresite Coating (option code H1, H2, H3) Operating Limits  Continuous fan operation. Circulates air and prevents gas pockets from forming.  Continuous fan operation. Circulates air and prevents gas pockets from forming.  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		lockable handle	Built-in disconnect switch is shipped with a pro-						
(option code H1, H2, H3) or H3 = Heresite core and cabinet. Note: contact factory for Heresite lead time.  Operating Limits  Operation: refer to above Hazardous Location Approvals. Storage: -50°C to 60°C.	Additional		Continuous fan operation. Circulates air and p	prevents gas pockets from forming.					
Uperating Ambient temperature Storage: -50°C to 60°C.	Options								
Maximum altitude 3000 m above sea level.	-	Ambient temperature		Approvals.					
	Limits	Maximum altitude	ude 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 <sup>◊</sup> 3 3.2 <sup>◊</sup>	220° 230 240°	3	12	AEU1-?-12-030-230350-B-#-B	D2	9.0° <b>9.3</b> 9.6°	17.1° <b>18.4</b> 19.7°
4.5° <b>5</b> 5.4°	220° 230 240°	3	12	AEU1-?-12-050-230350-B-#-B	D2	13.7 <sup>0</sup> 14.3 14.8 <sup>0</sup>	22.9° <b>24.8</b> 26.7°
6.8° <b>7.5</b> 8.1°	220° 230 240°	3	12	AEU1-?-12-075-230350-B-#-B	D4	19.7 <sup>0</sup> <b>20.5</b> 21.3 <sup>0</sup>	21.9° <b>23.8</b> 25.7°
9.1° <b>10</b> 10.8°	220° 230 240°	3	12	AEU1-?-12-100-230350-B-#-B	D4	25.6° <b>26.7</b> 27.8°	21.4° 23.3 25.2°
13.6° <b>15</b> 16.2°	220° 230 240°	3	16	AEU1-?-16-150-230350-B-#-B	Not available	37.5° <b>39.2</b> 40.8°	20.9° <b>22.8</b> 24.7°
2.7* 3 3.2*	380* <b>400</b> 415*	3	12	AEU1-?-12-030-400350-B-#-B	D2	5.2* <b>5.4</b> 5.5*	16.9* <b>18.4</b> 19.5*
4.5* <b>5</b> 5.4*	380* <b>400</b> 415*	3	12	AEU1-?-12-050-400350-B-#-B	D2	7.9* <b>8.3</b> 8.5*	22.7* 24.8 26.5*
6.8* <b>7.5</b> 8.1*	380* <b>400</b> 415*	3	12	AEU1-?-12-075-400350-B-#-B	D2	11.3* 11.9 12.3*	21.7* 23.9 25.6*
9.0* <b>10</b> 10.8*	380* <b>400</b> 415*	3	12	AEU1-?-12-100-400350-B-#-B	D2	14.8* <b>15.5</b> 16.0*	21.3* <b>23.4</b> 25.1*
13.5* <b>15</b> 16.1*	380* <b>400</b> 415*	3	16	AEU1-?-16-150-400350-B-#-B	D4	21.6* 22.7 23.5*	20.8* 22.9 24.6*
18.1* <b>20</b> 21.5*	380* <b>400</b> 415*	3	16	AEU1-?-16-200-400350-B-#-B	D4	28.5* 29.9 31.0*	19.3* <b>21.4</b> 22.9*
22.6* <b>25</b> 26.9*	380* <b>400</b> 415*	3	20	AEU1-?-20-250-400350-B-#-B	D4	35.3* <b>37.1</b> 38.5*	19.4* <b>21.5</b> 23.1*
25.8* <b>30</b> 30.8*	380* <b>400</b> 415*	3	20	AEU1-?-20-300-400350-B-#-B	Not available	42.1* <b>44.3</b> 45.9*	16.2* <b>17.9</b> 19.3*

# AEU1 Heater 60 Hz<sup>†</sup> 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 <sup>†</sup>	440 <b>480</b>	3	12	AEU1-?-12-030-480360-B-#-B	D2	4.4 <sup>†</sup> 4.7	13.3 <sup>†</sup> 15.3
4.2 <sup>†</sup> 5	440 <b>480</b>	3	12	AEU1-?-12-050-480360-B-#-B	D2	6.6 <sup>†</sup> 7.1	17.8 <sup>†</sup> 20.7
6.3 <sup>†</sup> 7.5	440 <b>480</b>	3	12	AEU1-?-12-075-480360-B-#-B	D2	9.3 <sup>†</sup> 10.1	17.0 <sup>†</sup> 19.9
8.4 <sup>†</sup> 10	440 <b>480</b>	3	12	AEU1-?-12-100-480360-B-#-B	D2	12.1 <sup>†</sup> 13.1	16.6 <sup>†</sup> 19.5
12.6 <sup>†</sup> 15	440 <b>480</b>	3	16	AEU1-?-16-150-480360-B-#-B	D2	17.6 <sup>†</sup> 19.1	16.2 <sup>†</sup> 19.1
16.8 <sup>†</sup>	440 <b>480</b>	3	16	AEU1-?-16-200-480360-B-#-B	D4	23.1 <sup>†</sup> 25.1	15.0 <sup>†</sup> 17.8
21.0 <sup>†</sup>	440 <b>480</b>	3	20	AEU1-?-20-250-480360-B-#-B	D4	28.6 <sup>†</sup> 31.1	15.1 <sup>†</sup> 17.9
25.2 <sup>†</sup> 30	440 <b>480</b>	3	20	AEU1-?-20-300-480360-B-#-B	D4	34.1 <sup>†</sup> 37.1	12.6 <sup>†</sup> 15.0

- ( $^{\circ}$ ) 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

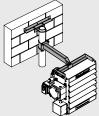


# Wall Mounting Bracket

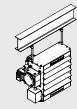
For use in buildings that have substantial walls. The Z sections provide additional support where necessary.



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



**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).



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

C €2813 WII 2G Ex db IIB+H, T6 Gb (ATEX) Ex db IIB+H<sub>2</sub> T6 Gb (IECEx) 1ExdIIBT6 /H<sub>2</sub> (EAC Ex) -50°C ≤ T amb ≤ +40°C. IP65

(Gas Atmosphere Certified for ATEX / IECEx / EAC Ex Zone 1 and 2)















C €2813 WII 2D Ex th 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

C €2813 **(2)** II 2G Ex db IIB+H, T6 Gb (ATEX) Ex db IIB+H<sub>2</sub> T6 Gb (IECEx) 1ExdIIBT6 /H2 (EAC Ex) -50°C ≤ T amb ≤ +40°C, IP66 (Gas Atmosphere Certified for ATEX / IECEx / EAC Ex Zone 1 and 2)

C €2813 WII 2D Ex th 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 and Fan Shroud 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.



### **AEU1 Engineering Specifications** (continued)

- 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. **Additional Options**

### 9.0

9.1	The heater shall be supplied with (select up to two):
	☐ Continuous fan operation.

					•			
Her	esite	e c	oat	ed	C	ore	€.	

☐ 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.



# **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.





**Available from:** 



THORNE & Derrick
DERRICK +44 (0) 191 410 4292

ERNATIONAL www.heatingandprocess.com

PRINTED IN CANADA
© Copyright 2019
Cat No. AEU1-201910-0.0