CXH-EP

Explosion Proof Electric Blower Unit for Hazardous Locations

- **3 to 35kW**
  10,200 to 119,420 BYU/Hour

NORTH AMERICAN RATINGS

- **208 to 600 Volts**
- **Single or Three Phase 60Hz**
- **Meets NEC, CSA, OSHA and UL Requirements**

EUROPEAN RATINGS

- **208 to 600V Single or Three Phase 60Hz**
- **380/400/415V Three Phase 50Hz**

CE 0359 Ex II 2 G

- **ATEX Directive 94/9/EC**
- **Electromagnetic Compatibility Directive 89/336/EEC/EMC**

Description

The Chromalox CXH-EP unit heaters are designed to heat areas classified as hazardous locations to provide primary or supplementary heating for comfort or freeze protection. The rugged, versatile, CXH-EP blower heater incorporates a factory sealed heat exchanger. High performance fan and motor in a sturdy steel cabinet. Easily installed with optional mounting kits, the CXH-EP requires little maintenance. Standard controls include a built-in explosion-proof control center. UL listed optional integral thermostat and disconnect switch available. CXH-EP is designed to meet the stringent requirements of NEC, OSHA, and is covered by UL (File No. E32299, Guide KFVR and KFVRT).

The CHX-EP is in conformance with the European requirements concerning equipment and protective systems intended for use in explosive atmospheres. It is covered by ITS report ref. 02007784 Issue I, dated January 2003.

Applications

Chromalox CHX-EP heaters are used for comfort heating and freeze protection in areas classified as hazardous environments. These areas include but are not limited to:

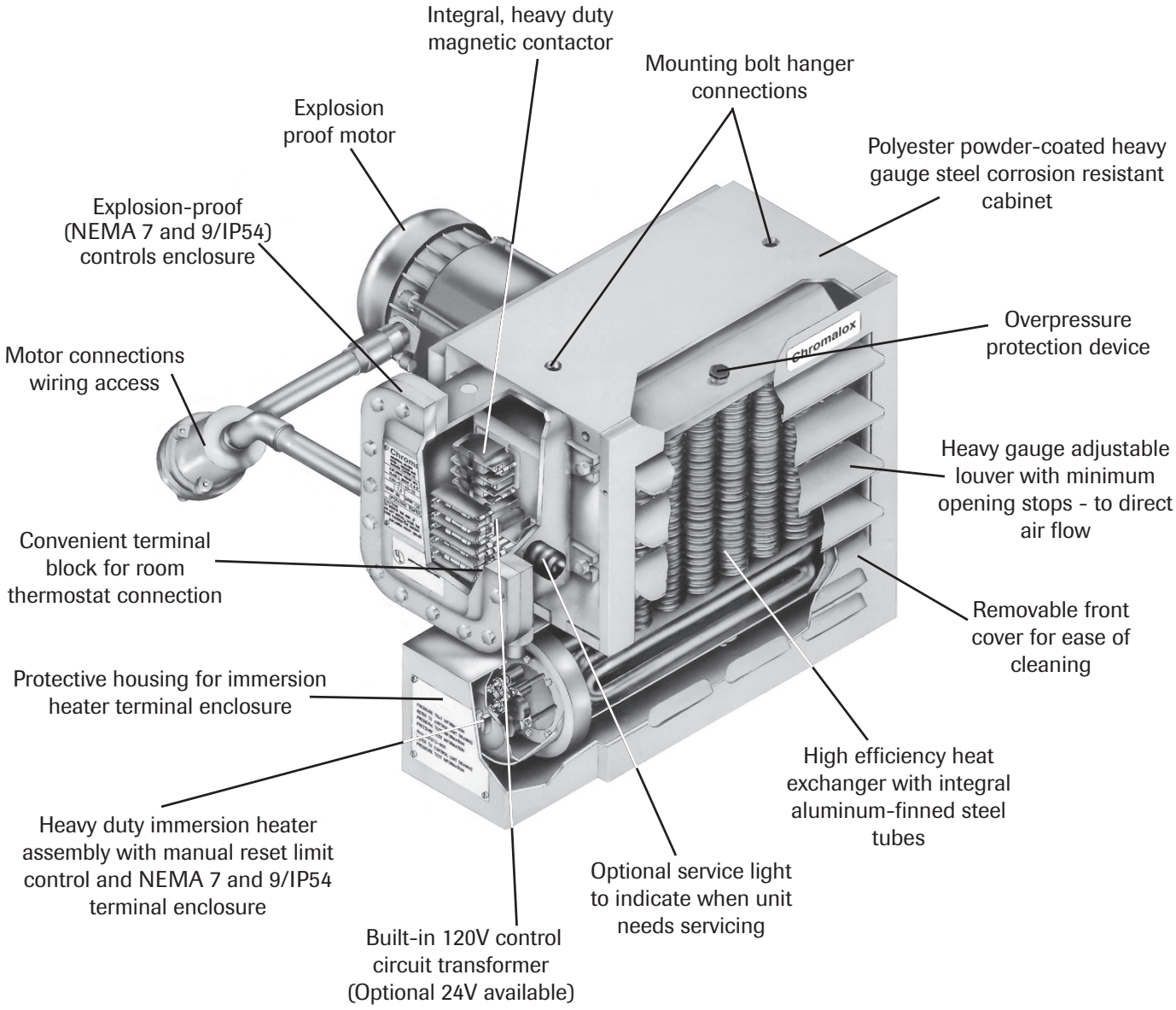
- Sewage treatment plants
- Petrochemical facilities
- Unattended pumping stations
- Chemical storage and handling facilities
- Paint storage areas
- Grain elevators
- Coal preparation plants
- Aircraft servicing areas
- Oil refineries
- Areas containing metal dust

Features

- Rugged heavy-gauge steel construction
- Polyester powder-coated cabinet for corrosion-resistance
- Low surface temperature heat exchanger permitting installation in a wider range of areas that other designs
- Individually adjustable louvers to direct airflow
- Choice of wall, ceiling or pole mounting accessories
- Spark-free, dynamically and statically balanced aluminum fan with an epoxy coated finish
- Heavy duty magnetic control contactor, standard in all models
- Optional thermostat and disconnect switch available
- Built-in control circuit transformer provides 24V or 120V control power
- Convenient terminal block for wiring external temperature control
- Removable front cabinet panel to permit easy cleaning of heat exchanger
- Environmentally safe, long-life, a propylene glycol heat transfer fluid
- All service can be made without dismounting unit

CXH-EP Electric Blower Unit Heater

Features



Classifications

North America

Low operating temperature for atmospheres having an ignition temperature higher than 165˚C (329˚F) code T3B.

- Class I, Group D - Divisions 1 & 2
- Class II, Groups E, F & G - Divisions 1 & 2
- Arctic Duty Construction is available

CXH-EP heaters are also available for:
- Class I, Groups C & D - Divisions 1 & 2
- Class II, Groups F & G - Divisions 1 & 2

Europe

For atmospheres having an ignition temperature higher that 200˚C (392˚F) Code T3

II 2 G, EEX d IIB T3

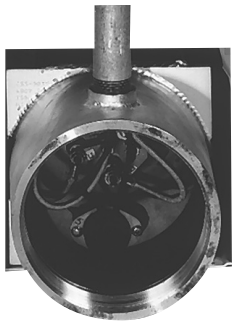
Design Features

Controls
CXH-EP has a pre-wired, self contained control center. Standard controls include a magnetic contactor and control circuit transformer. The control center includes a terminal strip and conduit access for external 120V or 24V thermostat circuit.

Control Options
An externally adjustable thermostat for space heating applications is available, as well as a manual disconnect switch. An optional “service light” is available to indicate that the heater requires service. (North American models only)

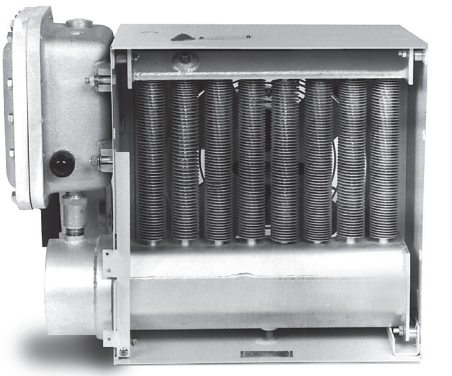
High Limit Cutouts
Each heater is equipped with quick-acting, high limit manual reset thermal cutout. Optional redundant auto-reset thermal cutout is also available.

Fan & Motor
The explosion-proof, ball-bearing motor is permanently lubricated and has built-in thermal overload protection. Both the fan and motor are protected by a heavy duty grill. The epoxy coated, aluminum fan blade prevents any possibility of sparking.



Cabinet
Heavy-duty constructed for hostile environments, the CXH-EP is housed in a polyester powder-coated 14-gauge steel cabinet. Adjustable louvers provide directional control of airflow.

Heating Element
Each CXH-EP uses heavy duty Chromalox immersion heater. The heater is constructed of rugged, seamless, copper sheathed, .475” (12 mm) diameter tubular elements. The low watt density allows for longer and fluid life. High grade resistance wire imbedded in high grade MgO refractory ensures long life and operating integrity.



Heat Exchanger
The advanced design allows lower operating temperatures from sealed liquid-to-air heat exchanger with steel tubes, and integral aluminum fins. The glycol-water heat transfer fluid is heated by a heavy-duty, copper sheathed immersion heater. The pressure relief device provides excess pressure protection. The normal operating pressure is 15-20 psig (103-138 kPa), and the heat exchanger is (50.8)factory helium leak tested to assure leak-proof design.

CXH-EP Electric Blower Unit Heater

Design Features

North America

(3 to 35kW)

Hazardous Location Classifications	3 to 35kW models - Class I, group D; Class II, Groups E, F & G, Divisions 1 & 2 Class I, Group C is also available
Temperature Codes	This temperature shall not exceed the ignition temperature of the gas or vapor to be encountered. All models 165˚C (329˚F) T3B

Europe

Hazardous Location Classifications	3 to 35kW models - Explosive vapor Atmosphered designated II B
Temperature Codes	This temperature shall not exceed the ignition temperature of the gas or vapor to be encountered. All models 200˚C (392˚F) T3

Installation	Maximum Mounting Height From Floor to bottom of Heater	8’ to 10’ (2.4 to 3 meters) normal, when heat is required at floor level.
	Ambient Temperature	-49˚F/-45˚C (Min.) 104˚F/40˚C (Max.)
	Operating Limits Maximum Operational Altitude above Sea Level	7500’ (2286 meters). Check with local Chromalox sales office for recommendations for higher elevations
Protection	High Limit	Manual reset quick acting linear type thermal cutout
	Pressure Relief	Pressure relief device
Heat Exchanger	General Description	Steel tubes, with integral rolled aluminum fins
	Core Material	Steel
	Heat Transfer Fluid	Propylene Glycol (Ethylene Glycol available for arctic duty - check with local Chromalox sales office)
	Heating Element Assembly	Immersion heater assembly with seamless copper sheathed heating elements
Cabinet	Cabinet	14 Gauge steel, polyester powder-coated. Individually adjustable louvers with minimum position stops
	Fan Guard	Heavy duty polyester powder-coated steel
	Fasteners	Nickel plated steel for corrosion resistance
	Control Enclosure	Cast aluminum (non-copper alloy) NEMA 7 and 9/IP54 enclosure
	Hanger Connections	2 (two) 5/8” UNC tapped holes
Controls	Control Circuit	Built in 120V control. Optional 24V control available
	Power Contactor	50 Amp/600V
	Transformer	Primary voltage same as heater voltage - secondary voltage, 24V or 120V
	Optional	Control circuit fusing-motor fusing (North America Only)

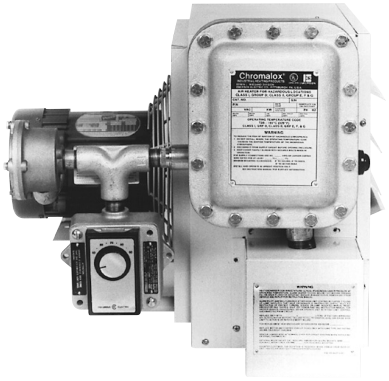
CXH-EP Electric Blower Unit Heater

	Size/kW	3-5	7.5	10(S)	10(M)	15	18-20	25-35
Motor/Fan	R.P.M. 60 Hz	1725	1725	1725	–	1725	1725	1725
	R.P.M. 50 Hz	1425	1425	1425	1425	1425	1425	1425
	Propeller fan, 3 blade, epoxy coated aluminum, inches (mm)	12(305)	12(305)	12(305)	16(406)	16(406)	16(406)	20(508)
	Motor - Explosion-proof, (N. A.) thermally protected (Europe) permanently lubricated with ball bearings - Voltage and phase is the same as heater rating.	1/4 H.P. 1/2 H.P.	1/4 H.P. 1/2 H.P.	1/4 H.P. 1/2 H.P.	– 1/2 H.P.	1/2 H.P. 1/2 H.P.	1/2 H.P. 1/2 H.P.	1/2 H.P. 1/2 H.P.
Air Flow	Air Delivery @ 70˚F (21˚C)							
	CFM (m^3/min)	700(19.8)	840(23.8)	840(23.8)	1450(41.1)	1450(41.1)	1450(41.1)	2330(65.9)
	Horizontal Throw, ft. (m)	28(8.53)	32(9.75)	32(9.75)	47(14.33)	47(14.33)	43(13.1)	54(16.5)
	Air velocity, standard conditions (sfm)	890	1077	1065	948	948	948	1050
	(sm/m)	(271)	(328)	(324)	(289)	(289)	(289)	(320)
Weight	Net Weight, lbs. (kg)	135(62)	135(62)	140(64)	160(73)	160(73)	171(73)	216(98)
	Shipping Weight, lbs. (kg)	175(80)	175(80)	180(82)	200(91)	200(91)	211(96)	256(117)

CXH-EP Electric Blower Unit Heater

Controls & Disconnect Options

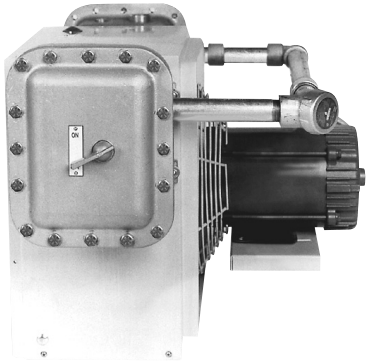
Built-in Adjustable Thermostat



(All Models)

- Temperature Range 50 to 90˚F
- Adjustable Control Knob on exterior of explosion-proof enclosure
- Mounted and wired to heater control center
- Eliminates installation of wall thermostats and associated explosion-proof conduit.

Built-in Disconnect Switch



(North American Models Only)

- 40 or 80 Amp as required by application
- Factory installed, eliminates field labor
- Meets National Electric Codes (NEC)
- European Models can be supplied with customer mount isolator kit

WR-80EP Explosion-Proof Thermostat Remote Mounting

- Comfort/space heating applications
- UL/CSA listed (Class I, Group D; Class II Groups E, F & G)
- Calibrated dial and adjustment knob to simplify setting
- Hydraulic action thermal element unaffected by vibration, no levelingrequired
- 1/2" female pipe wiring connection

Temp. Range (˚F)	Maximum Rating (amps/watts) 120Vac	240Vac	277Vac	480Vac
40-90	25/3000	22/5280	18/5000	125V/A*

Model No.	Status	PCN	Wt (kg)
WR-80EP	S	266124	5lbs (2-3)

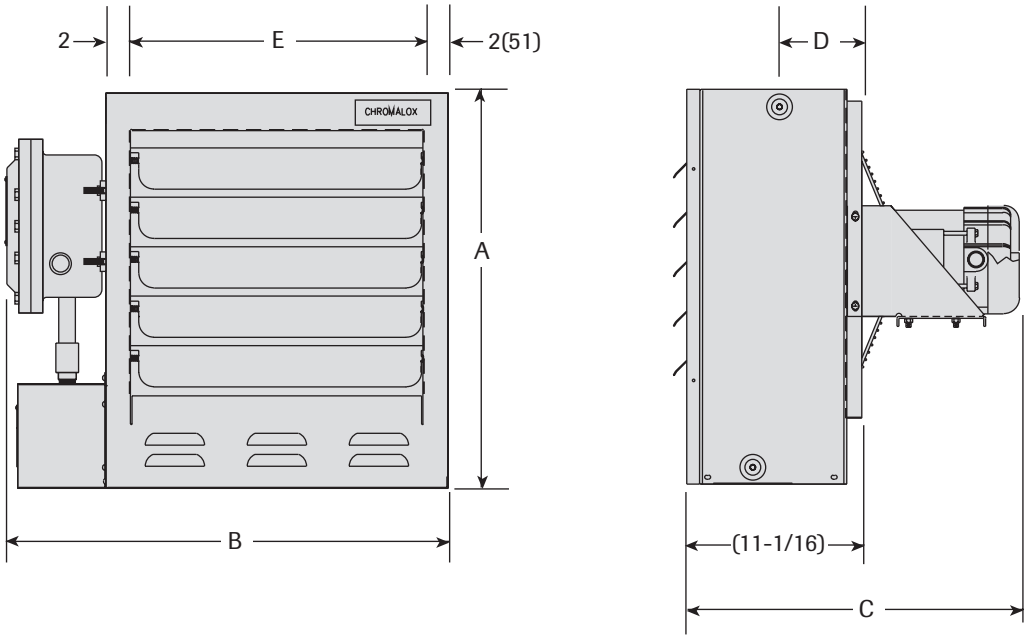
* Pilot duty (use with a-c contactor)

TAM-EX Explosion-Proof Ambient Thermostat Remote Mounting

- Remote wall thermostat for use in Europe
- Thermostat for controlling ambient temperature with sensing bulb mounted on the side of enclosure
- IP54 aluminum enclosure with integral "d" type microswitch (certification EExdIIC)
- Temperature adlustment possible without isolating power or removing cover through cover mounted window
- Supplied with 3m of cable, protected by flexible, stainless steel sleeve permanently connected to microswitch

Ref.	Range	Diff.	Ts Mini.	Ts Max.	Tm Mini.	Tm Max	Contact	Wt. (kg)
TAM050 EX	+50˚C	2˚C	-70	+70	-20	40	5A/250Vac	0 (4)

Dimensions



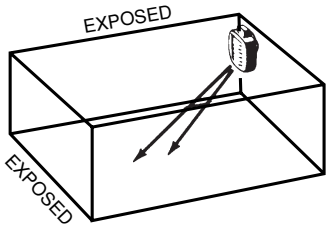
Dimensions - Inches (mm)

Model	A	B	C	D	E (Mounting Holes)	Disconnect Option (not shown)
CXH-03 thru CXH-10 (S)	19-1/8 (486)	23-7/8 (606)	21 (533)	3-1/2 (89)	13-5/8 (346)	Add 7" (178) to B dimension
CXH-10 M	25	27-7/8	21	4-13/32	17-5/8	(N.A. Models Only)
CXH-15 thru CXH-20	25 (635)	27-7/8 (708)	21 (533)	4-13/32 (112)	17-5/8 (448)	
CXH-25 thru CXH-35	32-1/8 (816)	31-7/8 (810)	21-3/4 (552)	5-1/2 (140)	21-5/8 (549)	

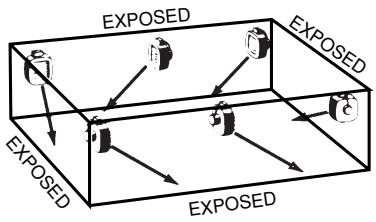
Application Tips

Installation – Heaters should be located so that the air streams wipe exposed walls without blowing directly at them. In multiple unit heater installations, it is good practice to locate units so each unit supports the air stream from another, thus setting up a circulatory air movement within the space. In warehouse type applications, where maintaining minimum temperature is the basic requirement, then one or more large unit heaters can be used in order to reduce initial installation expense.

Small Rooms can be heated by one unit heater. Where two walls are exposed, heaters should be mounted as shown.



Larger Rooms require multi-unit installations. The number and capacity of units is determined by the building volume and square footage of the floor area to be heated. Arrange units to provide perimeter air circulation.



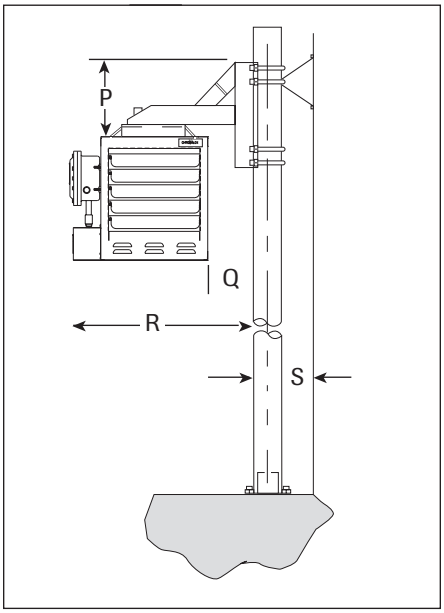
CXH-EP Electric Blower Unit Heater

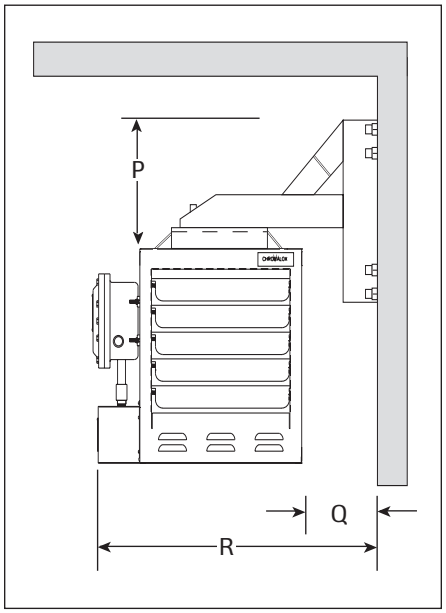
Mounting Kits

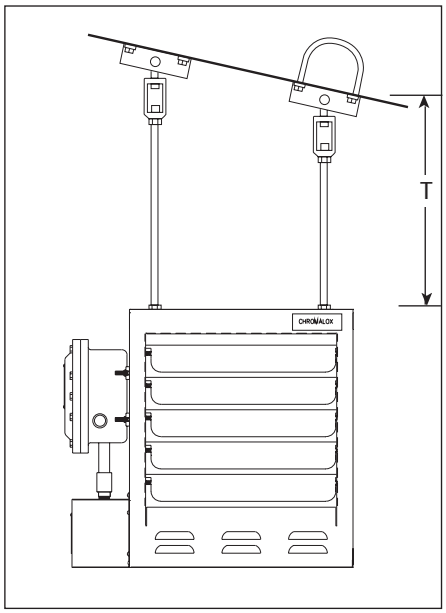
Pole (Type PMB)*
Particularly useful in buildings with insufficient strength to use other types of mounts. Requires 3-1/2" schedule 40 pipe (4" O.D.) - not supplied.

Wall (Type WMB)*
Ideal for use in buildings that have substantial walls. Arm only can also be bolted directly to structural steel.

Ceiling, Hanging (Type HMK)
Simple and economical if adequate overhead structure exists. Requires 5/8" rod, cut and threaded (not supplied).







* Units equipped with optional disconnect switch cannot be pole or wall mounted

Mounting Kit Dimensions

Heater	Pole	Wall	Ceiling (Hanging)	Dimensions - Inches (mm) P	Q	R	S	T (Min.)
CXH-03 thru CXH-10 (S)	PMB-12 PCN 025179	WMB-12 PCN 025152	HMK-00 PCN025195	10(254)	5-1/2(140)	29-1/2(749)	6(152)	7(178)
CXH-10 M thru CXH-20	PMB-16 PCN 025187	WMB-16 PCN 025160	HMK-00 PCN 025195	11-1/2(292)	5-1/8(130)	33(838)	6(152)	7(178)
CXH-25 thru CXH-35	PMB-20 PCN 029073	WMB-20 PCN 029065	HMK-20 PCN 025195	14-1/2(368)	6-3/8(162)	38-1/4(972)	6(152)	7(178)

Application Tips

Individual Spaces – For individual spaces, the total heating capacity is calculated using formulas in the ASHRAE Guide and National Electric Manufacturer's Association (NEMA) Manual.

Pedestrian Entryways – When heating capacity for a pedestrian entry is not known, a "rule of thumb" of 3000-5000 watts per door is often applied. The 3000 watts per door figure is applied to a low traffic single door entry or a large multiple door entry, and the 5000 watts per door figure to a high traffic single-door entry.

Dock Openings – Unit heaters are frequently used to combat cold air inrush when loading dock doors are opened. For such applications, one or more units should be arranged to blow warm air across the opening, not toward it.

Air Volume – To prevent air stratification, the total CFM capacity of all u nits should circulate the air volume at least three times per hour.

Technical Data – Standard Units (North American Specifcations)

kW	Volts	ø	Output Btu/Hr	Motor H.P.	Total Amps	Volume CFM	Air Temp. Rise	Throw Ft.	Control Volts	Model No.	PCN	Weight lbs. (kg)
3	208	1	10236	1/4	16.7	700	13°F	28	**120**	CXH-A-03-81-32-00-20EP	026008	135 (62)
	208	3	•	•	9.7	•	•	•	•	CXH-A-03-83-32-00-20EP	026016	•
	240	1	•	•	14.8	•	•	•	•	CXH-A-03-21-32-00-20EP	026024	•
	240	3	•	•	8.6	•	•	•	•	CXH-A-03-23-32-00-20EP	026032	•
	480	3	•	•	4.3	•	•	•	•	CXH-A-03-43-32-00-20EP	026040	•
	575	3	•	•	3.6	•	•	•	▼	CXH-A-03-63-32-00-20EP	026059	•
			•	•		•	•	•				•
	208	1	•	•	16.7	•	•	•	**24**	CXH-A-03-81-30-00-20EP	026067	•
	208	3	•	•	9.7	•	•	•	•	CXH-A-03-83-30-00-20EP	026075	•
	240	1	•	•	14.8	•	•	•	•	CXH-A-03-21-30-00-20EP	026083	•
	240	3	•	•	8.6	•	•	•	•	CXH-A-03-23-30-00-20EP	026091	•
	480	3	•	•	4.3	•	•	•	•	CXH-A-03-43-30-00-20EP	026104	•
	575	3	▼	▼	3.6	▼	▼	▼	▼	CXH-A-03-63-30-00-20EP	026112	▼
5	208	1	17060	1/4	26.3	700	22°F	28	**120**	CXH-A-05-81-32-00-20EP	026120	135 (62)
	208	3	•	•	15.3	•	•	•	•	CXH-A-05-83-32-00-20EP	026139	•
	240	1	•	•	23.1	•	•	•	•	CXH-A-05-21-32-00-20EP	026147	•
	240	3	•	•	13.4	•	•	•	•	CXH-A-05-23-32-00-20EP	026155	•
	480	3	•	•	6.7	•	•	•	•	CXH-A-05-43-32-00-20EP	026163	•
	575	3	•	•	5.6	•	•	•	▼	CXH-A-05-63-32-00-20EP	026171	•
			•	•		•	•	•				•
	208	1	•	•	26.3	•	•	•	**24**	CXH-A-05-81-30-00-20EP	026180	•
	208	3	•	•	15.3	•	•	•	•	CXH-A-05-83-30-00-20EP	026198	•
	240	1	•	•	33.6	•	•	•	•	CXH-A-05-21-30-00-20EP	026200	•
	240	3	•	•	19.4	•	•	•	•	CXH-A-05-23-30-00-20EP	026219	•
	480	3	•	•	9.7	•	•	•	•	CXH-A-05-43-30-00-20EP	026227	•
	575	3	▼	▼	8.1	▼	▼	▼	▼	CXH-A-05-63-30-00-20EP	026235	▼
7.5	208	1	25590	1/4	38.4	840	27°F	32	**120**	CXH-A-07-81-32-00-20EP	026243	135 (62)
	208	3	•	•	22.2	•	•	•	•	CXH-A-07-83-32-00-20EP	026251	•
	240	1	•	•	33.6	•	•	•	•	CXH-A-07-21-32-00-20EP	026260	•
	240	3	•	•	19.4	•	•	•	•	CXH-A-07-23-32-00-20EP	026278	•
	480	3	•	•	9.7	•	•	•	•	CXH-A-07-43-32-00-20EP	026286	•
	575	3	•	•	8.1	•	•	•	▼	CXH-A-07-63-32-00-20EP	026294	•
			•	•		•	•	•				•
	208	1	•	•	38.4	•	•	•	**24**	CXH-A-07-81-30-00-20EP	026180	•
	208	3	•	•	22.2	•	•	•	•	CXH-A-07-83-30-00-20EP	026198	•
	240	1	•	•	33.6	•	•	•	•	CXH-A-07-21-30-00-20EP	026200	•
	240	3	•	•	19.4	•	•	•	•	CXH-A-07-23-30-00-20EP	026219	•
	480	3	•	•	9.7	•	•	•	•	CXH-A-07-43-30-00-20EP	026227	•
	575	3	▼	▼	8.1	▼	▼	▼	▼	CXH-A-07-63-30-00-20EP	026235	▼
10	208	3	34120	1/4	29.2	840	36°F	32	**120**	CXH-A-10-83-32-00-20EP	026366	140 (64)
	240	1	•	•	44.0	•	•	•	•	CXH-A-10-21-32-00-20EP	026374	•
	240	3	•	•	25.5	•	•	•	•	CXH-A-10-23-32-00-20EP	026382	•
	480	3	•	•	12.7	•	•	•	•	CXH-A-10-43-32-00-20EP	025101	•
	575	3	•	•	10.6	•	•	•	▼	CXH-A-10-63-32-00-20EP	026390	•
			•	•		•	•	•				•
	208	3	•	•	29.2	•	•	•	**24**	CXH-A-10-83-30-00-20EP	026403	•
	240	1	•	•	44.0	•	•	•	•	CXH-A-10-21-30-00-20EP	026411	•
	240	3	•	•	25.5	•	•	•	•	CXH-A-10-23-30-00-20EP	026420	•
	480	3	•	•	12.7	•	•	•	•	CXH-A-10-43-30-00-20EP	026438	•
	575	3	▼	▼	10.6	▼	▼	▼	▼	CXH-A-10-63-30-00-20EP	026446	▼

CXH-EP Electric Blower Unit Heater

Technical Data – Standard Units (Con't.) (North American Specifcations)

kW	Volts	ø	Output Btu/Hr	Motor H.P.	Total Amps	Volume CFM	Air Temp. Rise	Throw Ft.	Control Volts	Model No.	PCN	Weight lbs. (kg)
15	208	3	51180	1/4	43.0	1450	31°F	47	**120**	CXH-A-15-83-32-00-20EP	026454	160 (73)
	240	3	51180	1/4	37.5	1450	31°F	47	120	CXH-A-15-21-32-00-20EP	026462	160 (73)
	480	3	51180	1/4	18.7	1450	31°F	47	120	CXH-A-15-43-32-00-20EP	026470	160 (73)
	575	3	51180	1/4	15.7	1450	31°F	47	120	CXH-A-15-63-32-00-20EP	026489	160 (73)
	208	3	51180	1/4	43.0	1450	31°F	47	**24**	CXH-A-15-83-30-00-20EP	026497	160 (73)
	240	3	51180	1/4	37.5	1450	31°F	47	24	CXH-A-15-23-30-00-20EP	026500	160 (73)
	480	3	51180	1/4	18.7	1450	31°F	47	24	CXH-A-15-43-30-00-20EP	026518	160 (73)
	575	3	51180	1/4	15.7	1450	31°F	47	24	CXH-A-15-63-30-00-20EP	026526	160 (73)
18	240	3	61420	1/4	44.7	1400	39°F	43	**120**	CXH-A-18-23-32-00-20EP	026534	171 (78)
	240	3	61420	1/4	44.7	1400	39°F	43	**24**	CXH-A-18-23-30-00-20EP	026542	
20	480	3	68240	1/4	24.8	1400	43°F	43	**120**	CXH-A-20-43-32-00-20EP	025110	171 (78)
	575	3	68240	1/4	20.7	1400	43°F	43	120	CXH-A-20-63-32-00-20EP	026550	171 (78)
	480	3	68240	1/4	24.8	1400	43°F	43	**24**	CXH-A-20-43-30-00-20EP	026569	171 (78)
	575	3	68240	1/4	20.7	1400	43°F	43	24	CXH-A-20-63-30-00-20EP	026577	171 (78)
25	480	3	85300	1/2	31.1	2330	32°F	54	**120**	CXH-A-25-43-32-00-20EP	028556	216 (98)
	575	3	85300	1/2	25.8	2330	32°F	54	120	CXH-A-25-63-32-00-20EP		216 (98)
	480	3	85300	1/2	31.1	2330	32°F	54	**24**	CXH-A-25-43-30-00-20EP		216 (98)
	575	3	85300	1/2	25.8	2330	32°F	54	24	CXH-A-25-63-30-00-20EP		216 (98)
30	480	3	102360	1/2	37.1	2330	39°F	54	**120**	CXH-A-30-43-32-00-20EP	028564	216 (98)
	575	3	102360	1/2	30.2	2330	39°F	54	120	CXH-A-30-63-32-00-20EP		216 (98)
	480	3	102360	1/2	37.1	2330	39°F	54	**24**	CXH-A-30-43-30-00-20EP		216 (98)
	575	3	102360	1/2	37.1	2330	39°F	54	24	CXH-A-30-63-30-00-20EP		216 (98)
35	480	3	119420	1/2	43.1	2330	45°F	54	**120**	CXH-A-35-43-32-00-20EP	028572	216 (98)
	575	3	119420	1/2	36.0	2330	45°F	54	120	CXH-A-35-63-32-00-20EP		216 (98)
	480	3	119420	1/2	43.1	2330	45°F	54	**24**	CXH-A-35-43-30-00-20EP		216 (98)
	575	3	119420	1/2	36.0	2330	45°F	54	24	CXH-A-35-63-30-00-20EP		216 (98)

Techincal Data – Units with Built-in Thermostats

kW	Volts	ø	Output Btu/Hr	Motor H.P.	Total Amps	Volume CFM	Air Temp. Rise	Throw Ft.	Control Volts	Model No.	PCN	Weight lbs. (kg)
10	480	3	34120	1/4	12.7	840	36°F	32	120	CXH-A-10-43-32-40-20EP	028580	150 (68)
20	480	3	68240	1/4	24.8	1400	43°F	43	120	CXH-A-20-43-32-40-20EP	028599	181 (82)
25	480	3	85300	1/2	31.1	2330	32°F	54	120	CXH-A-25-43-32-40-20EP	028601	226 (103)
30	480	3	102360	1/2	37.1	2330	39°F	54	120	CXH-A-30-43-32-40-20EP	028610	226 (103)
35	480	3	119420	1/2	43.1	2330	45°F	54	120	CXH-A-35-43-32-40-20EP	028628	226 (103)

Technical Data – Standard Units (European Specifications 60Hz)

II 2 G

kW	Volts	ø	Output Btu/Hr	Motor H.P.	Total Amps	Volume CFM	M³/hr	Air Temp.	Air Rise	Throw Ft.	Throw (M)	Control Volts	Model No.	Weight lbs. (kg)
3	208	1	10236	1/4	16.7	700	(1189)	13°F	(7.2°C)	28	(8.5)	**120**	CXH-A-03S-816-32-00-20-CE	135 (62)
	208	3	•	•	9.7	•	•	•	•	•	•	•	CXH-A-03S-836-32-00-20-CE	•
	240	1	•	•	14.8	•	•	•	•	•	•	•	CXH-A-03S-216-32-00-20-CE	•
	240	3	•	•	8.6	•	•	•	•	•	•	•	CXH-A-03S-236-32-00-20-CE	•
	480	3	•	•	4.3	•	•	•	•	•	•	•	CXH-A-03S-436-32-00-20-CE	•
	575	3	•	•	3.6	•	•	•	•	•	•	•	CXH-A-03S-636-32-00-20-CE	•
			•	•		•	•	•	•	•	•	▼		•
	208	1	•	•	16.7	•	•	•	•	•	•	**24**	CXH-A-03S-816-30-00-20-CE	•
	208	3	•	•	9.7	•	•	•	•	•	•	•	CXH-A-03S-836-30-00-20-CE	•
	240	1	•	•	14.8	•	•	•	•	•	•	•	CXH-A-03S-216-30-00-20-CE	•
	240	3	•	•	8.6	•	•	•	•	•	•	•	CXH-A-03S-236-30-00-20-CE	•
	480	3	•	•	4.3	•	•	•	•	•	•	•	CXH-A-03S-436-30-00-20-CE	•
	575	3	▼	▼	3.6	▼	▼	▼	▼	▼	▼	▼	CXH-A-03S-636-30-00-20-CE	▼
5	208	1	17060	1/4	26.3	700	(1189)	22°F	(12.1°C)	28	(8.5)	**120**	CXH-A-05S-816-32-00-20-CE	135 (62)
	208	3	•	•	15.3	•	•	•	•	•	•	•	CXH-A-05S-836-32-00-20-CE	•
	240	1	•	•	23.1	•	•	•	•	•	•	•	CXH-A-05S-216-32-00-20-CE	•
	240	3	•	•	13.4	•	•	•	•	•	•	•	CXH-A-05S-236-32-00-20-CE	•
	480	3	•	•	6.7	•	•	•	•	•	•	•	CXH-A-05S-436-32-00-20-CE	•
	575	3	•	•	5.6	•	•	•	•	•	•	•	CXH-A-05S-636-32-00-20-CE	•
			•	•		•	•	•	•	•	•	▼		•
	208	1	•	•	26.3	•	•	•	•	•	•	**24**	CXH-A-05S-816-30-00-20-CE	•
	208	3	•	•	15.3	•	•	•	•	•	•	•	CXH-A-05S-836-30-00-20-CE	•
	240	1	•	•	33.6	•	•	•	•	•	•	•	CXH-A-05S-216-30-00-20-CE	•
	240	3	•	•	19.4	•	•	•	•	•	•	•	CXH-A-05S-236-30-00-20-CE	•
	480	3	•	•	9.7	•	•	•	•	•	•	•	CXH-A-05S-436-30-00-20-CE	•
	575	3	▼	▼	8.1	▼	▼	▼	▼	▼	▼	▼	CXH-A-05S-636-30-00-20-CE	▼
7.5	208	1	25590	1/4	38.4	840	(1427)	27°F	(14.8°C)	32	(9.8)	**120**	CXH-A-07S-816-32-00-20-CE	135 (62)
	208	3	•	•	22.2	•	•	•	•	•	•	•	CXH-A-07S-836-32-00-20-CE	•
	240	1	•	•	33.6	•	•	•	•	•	•	•	CXH-A-07S-216-32-00-20-CE	•
	240	3	•	•	19.4	•	•	•	•	•	•	•	CXH-A-07S-236-32-00-20-CE	•
	480	3	•	•	9.7	•	•	•	•	•	•	•	CXH-A-07S-436-32-00-20-CE	•
	575	3	•	•	8.1	•	•	•	•	•	•	•	CXH-A-07S-636-32-00-20-CE	•
			•	•		•	•	•	•	•	•	▼		•
	208	1	•	•	38.4	•	•	•	•	•	•	**24**	CXH-A-07S-816-30-00-20-CE	•
	208	3	•	•	22.2	•	•	•	•	•	•	•	CXH-A-07S-836-30-00-20-CE	•
	240	1	•	•	33.6	•	•	•	•	•	•	•	CXH-A-07S-216-30-00-20-CE	•
	240	3	•	•	19.4	•	•	•	•	•	•	•	CXH-A-07S-236-30-00-20-CE	•
	480	3	•	•	9.7	•	•	•	•	•	•	•	CXH-A-07S-436-30-00-20-CE	•
	575	3	▼	▼	8.1	▼	▼	▼	▼	▼	▼	▼	CXH-A-07S-636-30-00-20-CE	▼
10	208	1	34120	1/4	29.2	840	(1427)	36°F	(19.8°C)	32	(9.8)	**120**	CXH-A-10S-836-32-00-20-CE	140 (64)
	240	1	•	•	44.0	•	•	•	•	•	•	•	CXH-A-10S-216-32-00-20-CE	•
	240	3	•	•	25.5	•	•	•	•	•	•	•	CXH-A-10S-236-32-00-20-CE	•
	480	3	•	•	12.7	•	•	•	•	•	•	•	CXH-A-10S-436-32-00-20-CE	•
	575	3	•	•	10.6	•	•	•	•	•	•	•	CXH-A-10S-636-32-00-20-CE	•
			•	•		•	•	•	•	•	•	▼		•
	208	3	•	•	29.2	•	•	•	•	•	•	**24**	CXH-A-10S-836-30-00-20-CE	•
	240	1	•	•	44.0	•	•	•	•	•	•	•	CXH-A-10S-216-30-00-20-CE	•
	240	3	•	•	25.5	•	•	•	•	•	•	•	CXH-A-10S-236-30-00-20-CE	•
	480	3	•	•	12.7	•	•	•	•	•	•	•	CXH-A-10S-436-30-00-20-CE	•
	575	3	▼	▼	10.6	▼	▼	▼	▼	▼	▼	▼	CXH-A-10S-636-30-00-20-CE	▼

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CXH-EP Electric Blower Unit Heater

Technical Data – Standard Units (European Specifications 60Hz) (Con't.)

kW	Volts	ø	Output Btu/Hr	Motor H.P.	Total Amps	Volume CFM	Air M^3/hr	Air Temp.	Air Rise	Throw Ft.	Throw (m)	Control Volts	Model No.	Weight lbs. (kg)
15	208	3	51180	1/4	43.0	1450	(2464)	31°F	(17°C)	47	(14.3)	**120**	CXH-A-15M-836-32-00-20-CE	160 (73)
	240	•	•	•	37.5	•	•	•	•	•	•	120	CXH-A-15M-236-32-00-20-CE	•
	480	•	•	•	18.7	•	•	•	•	•	•	120	CXH-A-15M-436-32-00-20-CE	•
	575	•	•	•	15.7	•	•	•	•	•	•	120	CXH-A-15M-636-32-00-20-CE	•
	208	•	•	•	43.0	•	•	•	•	•	•	**24**	CXH-A-15M-836-30-00-20-CE	•
	240	•	•	•	37.5	•	•	•	•	•	•	24	CXH-A-15M-236-30-00-20-CE	•
	480	•	•	•	18.7	•	•	•	•	•	•	24	CXH-A-15M-436-30-00-20-CE	•
	575	▼	▼	▼	15.7	▼	▼	▼	▼	▼	▼	24	CXH-A-15M-636-30-00-20-CE	▼
18	240	3	61420	1/4	44.7	1450	(2464)	39°F	(21°C)	43	(13.1)	**120**	CXH-A-18M-236-32-00-20-CE	171 (78)
	240	3	61420	1/4	44.7	1450	(2464)	39°F	(21°C)	43	(13.1)	**24**	CXH-A-15M-236-30-00-20-CE	171 (78)
20	480	3	68240	1/4	24.8	1450	(2464)	43°F	(24°C)	43	(13.1)	**120**	CXH-A-20M-436-32-00-20-CE	171 (78)
	575	3	•	•	20.7	•	•	•	•	•	•	120	CXH-A-20M-636-32-00-20-CE	•
	480	3	•	•	24.8	•	•	•	•	•	•	**24**	CXH-A-20M-436-30-00-20-CE	•
	575	3	▼	▼	20.7	▼	▼	▼	▼	▼	▼	24	CXH-A-20M-636-30-00-20-CE	▼
25	480	3	85300	1/2	31.1	2330	(3959)	32°F	(17.6°C)	54	(16.4)	**120**	CXH-A-25L-436-32-00-20-CE	216 (98)
	575	3	•	•	25.8	•	•	•	•	•	•	120	CXH-A-25L-636-32-00-20-CE	•
	480	3	•	•	31.1	•	•	•	•	•	•	**24**	CXH-A-25L-436-30-00-20-CE	•
	575	3	▼	▼	25.8	▼	▼	▼	▼	▼	▼	24	CXH-A-25L-636-30-00-20-CE	▼
30	480	3	102360	1/2	37.1	2330	(3959)	39°F	(21°C)	54	(16.4)	**120**	CXH-A-30L-436-32-00-20-CE	216 (98)
	575	3	•	•	30.2	•	•	•	•	•	•	120	CXH-A-30L-636-32-00-20-CE	•
	480	3	•	•	37.1	•	•	•	•	•	•	**24**	CXH-A-30L-436-30-00-20-CE	•
	575	3	▼	▼	37.1	▼	▼	▼	▼	▼	▼	24	CXH-A-30L-636-30-00-20-CE	▼
35	480	3	119420	1/2	43.1	2330	(3959)	45°F	(25°C)	54	(16.4)	**120**	CXH-A-35L-436-32-00-20-CE	216 (98)
	575	3	•	•	36.0	•	•	•	•	•	•	120	CXH-A-35L-636-32-00-20-CE	•
	480	3	•	•	43.1	•	•	•	•	•	•	**24**	CXH-A-35L-436-30-00-20-CE	•
	575	3	▼	▼	36.0	▼	▼	▼	▼	▼	▼	24	CXH-A-35L-636-30-00-20-CE	▼

Technical Data – Standard Units (European Specifications 50Hz)

kW	Volts	ø	Output Btu/Hr	Motor H.P.	Total Amps	Volume CFM	M³/hr	Air Temp. Rise	Throw Ft. (M)	Control Volts	Model No.	Weight lbs. (kg)
3	380	3	10236	1/2	5.6	700	(1189)	13°F (7.2°C)	28 (8.5)	120	CXH-A-03S-335-32-00-20-CE	135 (62)
3	380	3	10236	1/2	5.6	700	(1189)	13°F (7.2°C)	28 (8.5)	24	CXH-A-03S-335-30-00-20-CE	135 (62)
5	380	3	17060	1/2	8.6	700	(1189)	22°F (12.1°C)	28 (8.5)	120	CXH-A-05S-335-32-00-20-CE	135 (62)
5	380	3	17060	1/2	8.6	700	(1189)	22°F (12.1°C)	28 (8.5)	24	CXH-A-05S-335-30-00-20-CE	135 (62)
7.5	380	3	25590	1/2	12.4	840	(1427)	27°F (14.8°C)	32 (9.8)	120	CXH-A-07S-335-32-00-20-CE	135 (62)
7.5	380	3	25590	1/2	12.4	840	(1427)	27°F (14.8°C)	32 (9.8)	24	CXH-A-07S-335-30-00-20-CE	135 (62)
10	380	3	34120	1/2	16.2	1450	(2464)	23°F (12.6°C)	32 (9.8)	120	CXH-A-10M-335-32-00-20-CE	160 (73)
10	380	3	34120	1/2	16.2	1450	(2464)	23°F (12.6°C)	32 (9.8)	24	CXH-A-10M-335-30-00-20-CE	160 (73)
15	380	3	51180	1/2	23.8	1450	(2464)	31°F (17°C)	47 (14.3)	120	CXH-A-15M-335-32-00-20-CE	160 (73)
15	380	3	51180	1/2	23.8	1450	(2464)	31°F (17°C)	47 (14.3)	24	CXH-A-15M-335-30-00-20-CE	160 (73)
20	380	3	68240	1/2	31.4	1450	(2464)	43°F (24°C)	43 (13.1)	120	CXH-A-20M-335-32-00-20-CE	171 (78)
20	380	3	68240	1/2	31.4	1450	(2464)	43°F (24°C)	43 (13.1)	24	CXH-A-20M-335-30-00-20-CE	171 (78)
25	380	3	85300	1/2	39.0	2330	(3959)	32°F (17.6°C)	54 (16.4)	120	CXH-A-25L-335-32-00-20-CE	216 (98)
25	380	3	85300	1/2	39.0	2330	(3959)	32°F (17.6°C)	54 (16.4)	24	CXH-A-25L-335-30-00-20-CE	216 (98)
30	380	3	102360	1/2	46.6	2330	(3959)	39°F (21°C)	54 (16.4)	120	CXH-A-30L-335-32-00-20-CE	216 (98)
30	380	3	102360	1/2	46.6	2330	(3959)	39°F (21°C)	54 (16.4)	24	CXH-A-30L-335-30-00-20-CE	216 (98)

Sample Specifications

1 General

1.1 The explosion-proof unit heater(s) shall be supplied and installed in accordance with the plans and specifications, with rating as listed in the schedule of electrical heating equipment, and shall be Chromalox Series CXH-EP Unit Heaters suitable for appropriate Hazardous Area installations.

1.2 North America – The unit heater(s) shall be Underwriters Laboratories Inc. Listed and CSA Certified to Canadian Standards for continuous use in (Select One:)

- ❑ Class I, Divisions 1 and 2, Group D; Class II, Division 1, Groups E, F and G; and Class II, Division 2, Groups F and G, Hazardous Locations and shall be rated for National Electric Code Temperature Code T3B, 165˚F (329˚C).
- ❑ Class I, Divisions 1 and 2, Group C and D; Class II, Division 1 and 2, Groups F and G, Hazardous locations and shall be rated for national Electric Code Temperature Code T3B, 165˚F (329˚C).

1.2 European – The unit to be tested and designated to be in conformity with the Council Directive on the harmonization of the Law of the Member States concerning equipment and protective systems intended for use in explosive atmospheres 94/9/EC, and Electromagnetic Compatibility Directive 89/336/EEC/EMC as examined and reported by: ITS Testing and Certification Limited.

Sample Specifications (Cont'd)

2 Heat Exchanger

2.1 The Heat Exchanger shall be a liquid to air type consisting of steel tubes with integral aluminum fins.

2.2 The Heat Exchanger shall operate at a normal pressure between 20 and 25 psig, protected bey a pressure relief device and factory helium leak tested to assure leak-proof design.

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

2.4 The Heat Exchanger shall include a heavy duty flanged immersion heater consisting of seamless copper heating elements brazed into a heavy steel flange. The elements shall consist of high quality resistance wire imbedded in a magnesium oxide refractory which has been compacted for excellent dielectric strength and optimum thermal conductivity. The heater is to be protected by a high temperature limit cutout. The limit will be a manual reset type to shut off the heater if the fluid temperature rises due to a lack of heat dissipation.

3 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 104˚F (40˚C).

3.2 The Fan shall be aluminum to prevent sparking and be epoxy coated to prevent corrosion. The fan shall be directly connected to the motor, dynamically balanced, and designated specifically for the heater application.

3.3 The Fan and Motor Assembly shall be equipped with a combination heavy-duty polyester powder-coated guard, shock mounted at four points to absorb any motor vibration.

4 Control Center

4.1 This component to include the following Items completely factory prewired and tested, and enclosed in a NEMA 7 and 9 explosion-proof control enclosure mounted on the left side of the heater cabinet.

4.2 The Control Center shall include a magnetic contactor sized to handle heater and motor, and shall be rated for 500,00 cycles of operation. The encapsulated severe duty coil shall be rated 120V or 24V (specify one).

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 120V or 24V (specify one).

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

5 Cabinet Assembly

5.1 The cabinet assembly to be fabricated from 14 gauge steel with polyester powder coating for protection form corrosive atmospheres.

5.2 The cabinet shall include two (2) 5/8 inch NC threaded mounting holes located on the top.

5.3 The cabinet front shall be easily removable for inspection and cleaning of the heat exchange assembly by removal of metal fasteners. The front shall include adjustable louvers to direct the air flow.

Sample Specifications (Cont'd)

6 Optional Controls

6.1 Thermostat: A built-in thermostat temperature range 50˚F to 90˚F (10˚C to 32˚C) shall be provided and completely prewired and tested.

6.2 Disconnect: A built-in disconnect switch sized for the total load shall be provided and be completely prewired and tested (North American models only). European models can use remote fused isolator as required.

6.3 The control center shall include a warning service light to indicate abnormal operation, with a self test feature to verify the light's condition when cycled through the thermostat circuit (North American models only).

7 Mounting Kits

7.1 The heater shall be provided with a mounting kit specifically designed to bear the weight of the heater assembly.

7.2 The mounting kit shall be: (check one)
Type WMB wall mounting bracket
Type PMB pole mounting kit
Type HMK ceiling (hanging) mounting kit

CXH-EP Electric Blower Unit Heater

Model Numbers

When ordering CXH-EP heaters, specify the model number and corresponding PCN (Product Code Number), found on pages 8 and 9). If thermostat, or disconnect switch options are required, designate these options in addition to the model number when ordering. Always specify voltage, phase and kW by listing them on the purchase order product specifications.

Model Number Description (North America)

CXH-A — 10 — 4 — 3 — 30 — 40 — 1 — 1 — EP

Heater Voltage
2 = 240V 6 = 575V
3 = 380V 8 = 208V
4 = 480V 9 = 600V
5 = 415V

Heating Element Rating
03 = 3.0 kW 18 = 18.0 kW
05 = 5.0 kW 20 = 20.0 kW
07 = 7.5 kW 25 = 25.0 kW
10 = 10.0 kW 30 = 30.0 kW
15 = 15.0 kW 35 = 35.0 kW

Electric Blower Unit Heater for Hazardous Locations

Phase
1 = 1 Phase
3 = 3 Phase

30 = 24V Controls
32 = 120V Controls

00 = No Thermostat
40 = Thermostat

1 = Ethylene Group C & D, E, F, G T3B
2 = Propylene Group C & D, E, F, G T3B
3 = Ethylene Group C, D, F, G T3B
4 = Propylene Group C, D, F, G T3B

0 = No Disconnect
1 = 30 Amp Disc
2 = 60 Amp Disc.
3 = Pilot Light No Disconnect
4 = Pilot Light and 30 Amp Disc.
5 = Pilot Light and 60 Amp Disc.

Explosion Proof

Model Number Description (European)

CXH– □-□□□-□□□-□□-□□-□□- CE

MANUAL RESET (STD) A
AUTO & MANUAL RESET B

03 3kW
05 5kW
07 7kW
10 10kW
15 15kW
18 18kW
20 20kW
25 25kW
30 30kW
33 33kW
35 35kW

12" Fan (Small Frame) S
16" Fan (Medium Frame) M
20" Fan (Large Frame) L

21 240 Volt 1 Phase
23 240 Volt 3 Phase
221 220 Volt 1 Phase
33 380 Volt 3 Phase
403 400 Volt 3 Phase
443 440 Volt 3 Phase
463 460 Volt 3 Phase
43 480 Volt 3 Phase
53 415 Volt 3 Phase
63 575 Volt 3 Phase
81 208 Volt 1 Phase
83 208 Volt 3 Phase
93 600 Volt 3 Phase

5 50HZ
6 60HZ

00 No Thermostat
40 Built-On Thermostat

30 24V Internally Supplied Control Voltage
32 120V Internally Supplied Control Voltage

10 Ethylene Glycol
20 Propylene Glycol

Note: Maximum Heater Amperage is Limited to 50 Amps.