CX1 ProVector® Explosion-Proof Heaters

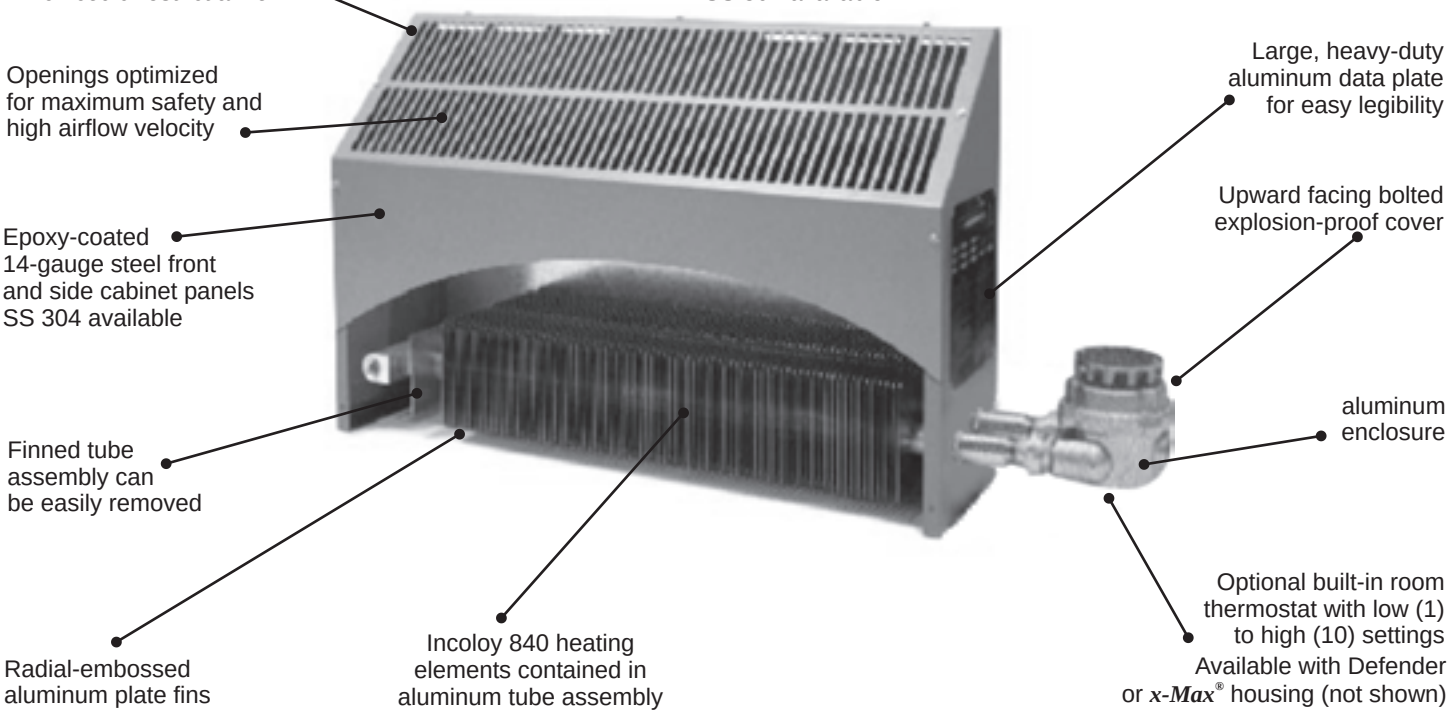
For hazardous locations heating, rely on the Ruffneck™ CX1 ProVector® for the most dependable, trouble-free service available. CCI Thermal manufactures explosion-proof air heaters to satisfy the demanding requirements of the oil and gas well drilling industry. The harsh operating conditions of this application require the utmost in heater reliability.

The unique design features and rugged, quality construction details that have made Ruffneck™ heaters the choice of the oil and gas industry are also appreciated by other heavy-duty industries throughout the world. The CX1 ProVector® explosion-proof heater offers the following outstanding features and benefits:

FEATURE	BENEFIT
sloped-top cabinet	• **prevents objects from being set on top which restrict airflow**
no exposed copper or brass	• **corrosion resistant, suitable for H_2S environments**
high-velocity airflow	• **heats up area faster with better heat distribution**
14-gauge steel cabinet, available with stainless steel construction	• **rugged reliability and unsurpassed corrosion resistance**
one of the shortest cabinet lengths available	• **smaller profile utilizes less wall and floor space**
optional built-in thermostat	• **reduced field installation costs**
incoloy 840 heating elements	• **longer life expectancy**
radial-embossed aluminum plate fins	• **reduced fin warping for better heat transfer capabilities**
galvanized steel mounting brackets	• **quick installation**
approvals (group A, B, C, D, IIA, IIB & IIC) available (IP55 moisture ingress protection)	• **industry first approvals for built-in thermostat with group A, B, C, D, IIA, IIB, IIC ratings**

C UL US LISTED

IP55



CX1 ProVector® Temperature Code - T2A 280°C (536°F) & T3 200°C (392°F)

Model #	Unit Wattage (kW)	Unit Output (BTU/HR)	Cabinet Length (inches)	Unit Voltage (volts)	Unit Current (amps)	Phase
Without built-in room thermostat						
CX1-120160-012-T2A-IIB	1.2	4097	31.34	120	10.0	1
CX1-208160-012-T2A-IIB	1.2	4097	31.34	208	5.8	1
CX1-240160-012-T2A-IIB	1.2	4097	31.34	240	5.0	1
CX1-277160-012-T2A-IIB	1.2	4097	31.34	277	2.5	1
CX1-480160-012-T2A-IIB	1.2	4097	31.34	480	2.0	1
CX1-600160-012-T2A-IIB	1.2	4097	31.34	600	4.3	1
CX1-120160-018-T2A-IIB	1.8	6146	31.34	120	15.0	1
CX1-208160-018-T2A-IIB	1.8	6146	31.34	208	8.7	1
CX1-240160-018-T2A-IIB	1.8	6146	31.34	240	7.5	1
CX1-277160-018-T2A-IIB	1.8	6146	31.34	277	3.8	1
CX1-480160-018-T2A-IIB	1.8	6146	31.34	480	3.0	1
CX1-600160-018-T2A-IIB	1.8	6146	31.34	600	6.5	1
CX1-208160-036-T2A-IIB	3.6	12292	31.34	208	17.3	1
CX1-240160-036-T2A-IIB	3.6	12292	31.34	240	15.0	1
CX1-277160-036-T2A-IIB	3.6	12292	31.34	277	7.5	1
CX1-480160-036-T2A-IIB	3.6	12292	31.34	480	6.0	1
CX1-600160-036-T2A-IIB	3.6	12292	31.34	600	13.0	1
CX1-208160-048-T2A-IIB	4.8	16389	49.45	208	23.1	1
CX1-240160-048-T2A-IIB	4.8	16389	49.45	240	20.0	1
CX1-277160-048-T2A-IIB	4.8	16389	49.45	277	10.0	1
CX1-480160-048-T2A-IIB	4.8	16389	49.45	480	8.0	1
CX1-600160-048-T2A-IIB	4.8	16389	49.45	600	17.3	1
CX1-208160-076-T2A-IIB	7.6	25950	59.49	208	36.5	1
CX1-240160-076-T2A-IIB	7.6	25950	59.49	240	31.7	1
CX1-277160-076-T2A-IIB	7.6	25950	59.49	277	15.8	1
CX1-480160-076-T2A-IIB	7.6	25950	59.49	480	12.7	1
CX1-600160-076-T2A-IIB	7.6	25950	59.49	600	27.4	1
CX1-380160-0075-T2A-IIB	0.75	2566	31.34	380	2.0	1
CX1-400160-0083-T2A-IIB	0.83	2843	31.34	400	2.1	1
CX1-415160-009-T2A-IIB	0.90	3061	31.34	415	2.2	1
CX1-380160-0113-T2A-IIB	1.13	3849	31.34	380	3.0	1
CX1-400160-0125-T2A-IIB	1.25	4265	31.34	400	3.1	1
CX1-415160-0135-T2A-IIB	1.35	4591	31.34	415	3.2	1
CX1-380160-0226-T2A-IIB	2.26	7699	31.34	380	5.9	1
CX1-400160-025-T2A-IIB	2.50	8530	31.34	400	6.3	1
CX1-415160-0269-T2A-IIB	2.69	9182	31.34	415	6.5	1
CX1-380160-0301-T2A-IIB	3.01	10265	49.45	380	7.9	1
CX1-400160-0333-T2A-IIB	3.33	11374	49.45	400	8.3	1
CX1-415160-0359-T2A-IIB	3.59	12243	49.45	415	8.7	1
CX1-380160-0476-T2A-IIB	4.76	16250	59.49	380	12.5	1
CX1-400160-0528-T2A-IIB	5.28	18006	59.49	400	13.2	1
CX1-415160-0568-T2A-IIB	5.68	19382	59.49	415	13.7	1
CX1-480160-036-T3-IIB	3.6	12292	49.45	480	7.5	1
CX1-600160-036-T3-IIB	3.6	12292	49.45	600	6.0	1
CX1-400160-036-T3-IIB	3.6	12292	49.45	400	9.0	1
CX1-380160-036-T3-IIB	3.6	12292	49.45	380	9.5	1
CX1-415160-036-T3-IIB	3.6	12292	49.45	415	8.7	1

Notes:

1. Heater is functioning normally. If, at rated voltage, the amp draw is within 10% of the value in this table.
2. Operation at lower voltages than rated will result in reduced output and amp draw.
   Actual Output (kW) = [(Supply Voltage)^2 / (Rated Voltage)^2] x Rated Unit Wattage (kW)
3. IIC Grouping available with optional ***x-Max***® housing.
4. Add suffix "T" for optional built-in t-stat.

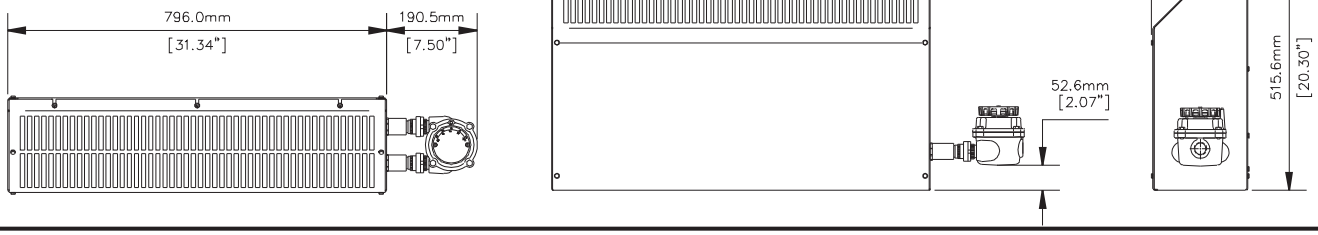
CX1 ProVector® General Specifications

Nominal kW		1.2	1.8	3.6	4.8	7.6
Net weight	(lbs.)	54.0	54.0	54.0	79.4	91.5
	(kg)	24.5	24.5	24.5	36.0	41.5
Shipping weight	(lbs.)	61.3	61.3	61.3	88.4	104.3
	(kg)	27.8	27.8	27.8	40.1	47.3

Approvals	$_{c}$UL Listed, IP55
Enclosure	Cast or extruded aluminum supplied with either a bolt on cover or two screwed on covers. Suitable for either a Defender or XT thermostat. Available with IP55 moisture ingress protection.
Mounting brackets	Two, 14-gauge (0.075 in)(1.90 mm) galvanized steel or stainless steel brackets.
Heating elements	Two incoloy 840 sheathed elements.
Optional built-in thermostat	Explosion-proof room thermostat, available with IP55 rating and suitable for Class I, Div. 1 & 2, Group A, B, C, D and Class I, Zone 1 & 2 Group IIA, IIB, IIC
Cabinet material	14 Ga. (0.075 in)(1.90 mm) epoxy powder coated steel. Rear panel is galvanized or optional SS 304 material with stainless steel mounting hardware.
Temperature code rating	Temperature Code T2A - 280°C (536°F) & T3 - 200°C (392°F)
Hazardous location classifications	
Without built-in thermostat	Defender housing Class I, Div. 1 & 2, Groups B, C & D; Zones 1 & 2, Groups IIA, IIB + H_2 *x-Max*® housing Class I, Div. 1 & 2, Groups A, B, C & D; Zones 1 & 2, Groups IIA, IIB & IIC
With built-in thermostat	XCT thermostat: Class I, Div. 1 & 2, Groups C & D; Zones 1 & 2, Groups IIA & IIB XT thermostat: Class I, Div. 1 & 2, Groups A, B, C & D; Zones 1 & 2, Groups IIA, IIB & IIC
Temperature limitations	Operational: -45°C to 40°C (-49°F to 104°F) Storage: -45°C to 80°C (-49°F to 176°F), optional up to 149°C (300°F) available

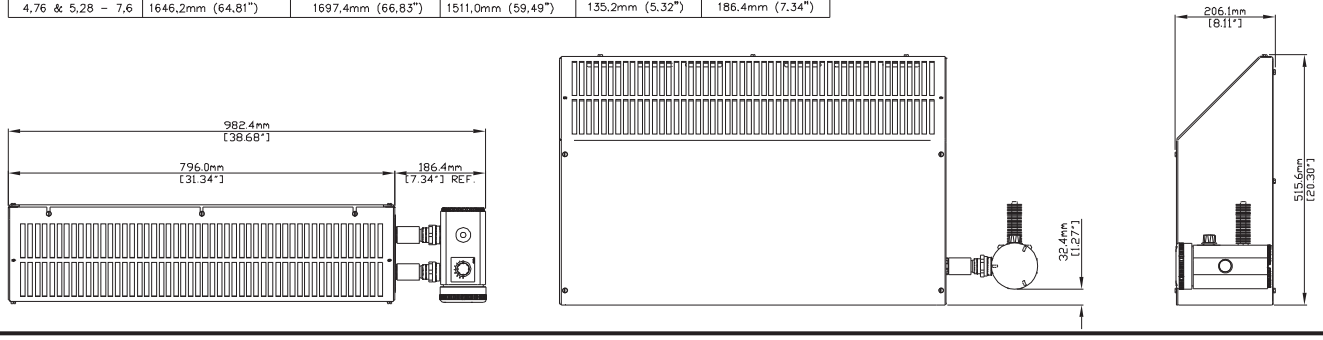
Physical Dimensions for built-in XCT Thermostat

HEATER KW RATING	"A" DIMENSION W/O EXTENSION	"A" DIMENSION WITH EXTENSION	"B" DIMENSION	"C" DIMENSION W/O EXTENSION	"C" DIMENSION WITH EXTENSION
0.75 – 2.69 & 3.6	940.0mm (37.0")	986.5mm (38.8"0	796.0mm (31.34")	144.0mm (5.67")	190.5mm (7.5")
3.01 – 3.59 & 4.8	1400.0mm (55.125")	1446.5mm (56.9")	1256.0mm (49.45")	144.0mm (5.67")	190.5mm (7.5")
4.76 & 5.28 – 7.6	1654.0mm (65.125")	1701.5mm (67.0")	1511.0mm (59.49")	144.0mm (5.67")	190.5mm (7.5")



Physical Dimensions for built-in XT Thermostat/*x-Max*® housing

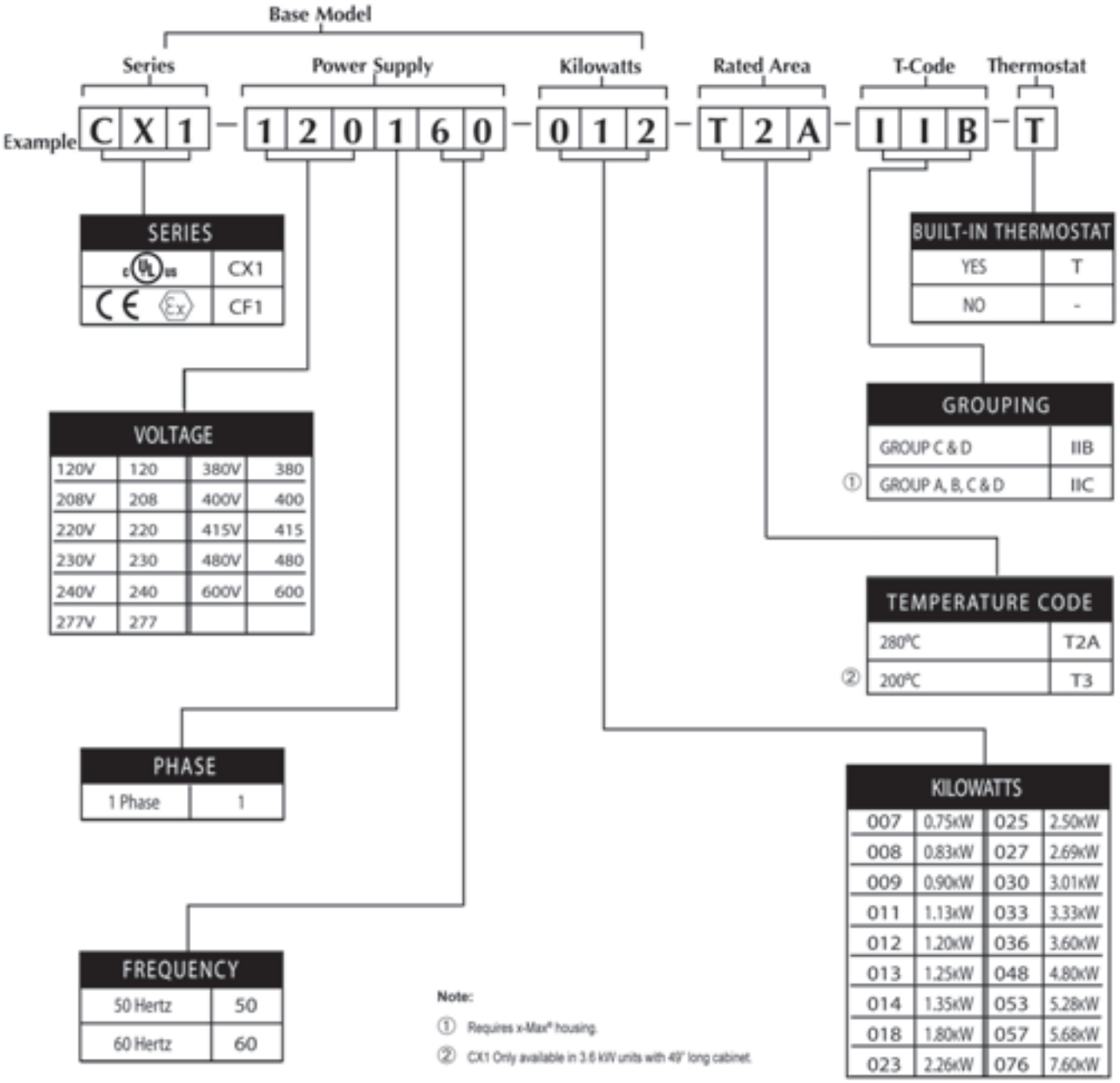
HEATER KW RATING	"A" DIMENSION W/O EXTENSION	"A" DIMENSION WITH EXTENSION	"B" DIMENSION	"C" DIMENSION W/O EXTENSION	"C" DIMENSION WITH EXTENSION
0.75 – 2.69 & 3.6	931.2mm (36.66")	982.4mm (38.68")	796.0mm (31.34")	135.2mm (5.32")	186.4mm (7.34")
3.01 – 3.59 & 4.8	1391.2mm (54.77")	1442.4mm (56.79")	1256.0mm (49.45")	135.2mm (5.32")	186.4mm (7.34")
4.76 & 5.28 – 7.6	1646.2mm (64.81")	1697.4mm (66.83")	1511.0mm (59.49")	135.2mm (5.32")	186.4mm (7.34")



CX1/CF1 – ELECTRIC CONVECTION AIR HEATERS

Model Code

(Use this 19-digit model coding system when ordering your heater)



SERIES	
c UL us	CX1
CE Ex	CF1

BUILT-IN THERMOSTAT	
YES	T
NO	-

GROUPING	
GROUP C & D	IIB
① GROUP A, B, C & D	IIC

VOLTAGE			
120V	120	380V	380
208V	208	400V	400
220V	220	415V	415
230V	230	480V	480
240V	240	600V	600
277V	277		

TEMPERATURE CODE	
280°C	T2A
② 200°C	T3

PHASE	
1 Phase	1

KILOWATTS			
007	0.75kW	025	2.50kW
008	0.83kW	027	2.69kW
009	0.90kW	030	3.01kW
011	1.13kW	033	3.33kW
012	1.20kW	036	3.60kW
013	1.25kW	048	4.80kW
014	1.35kW	053	5.28kW
018	1.80kW	057	5.68kW
023	2.26kW	076	7.60kW

FREQUENCY	
50 Hertz	50
60 Hertz	60

Note:

① Requires x-Max® housing.

② CX1 Only available in 3.6 kW units with 49" long cabinet.