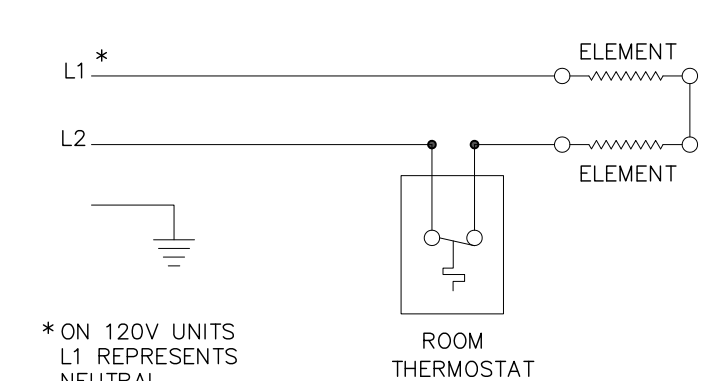
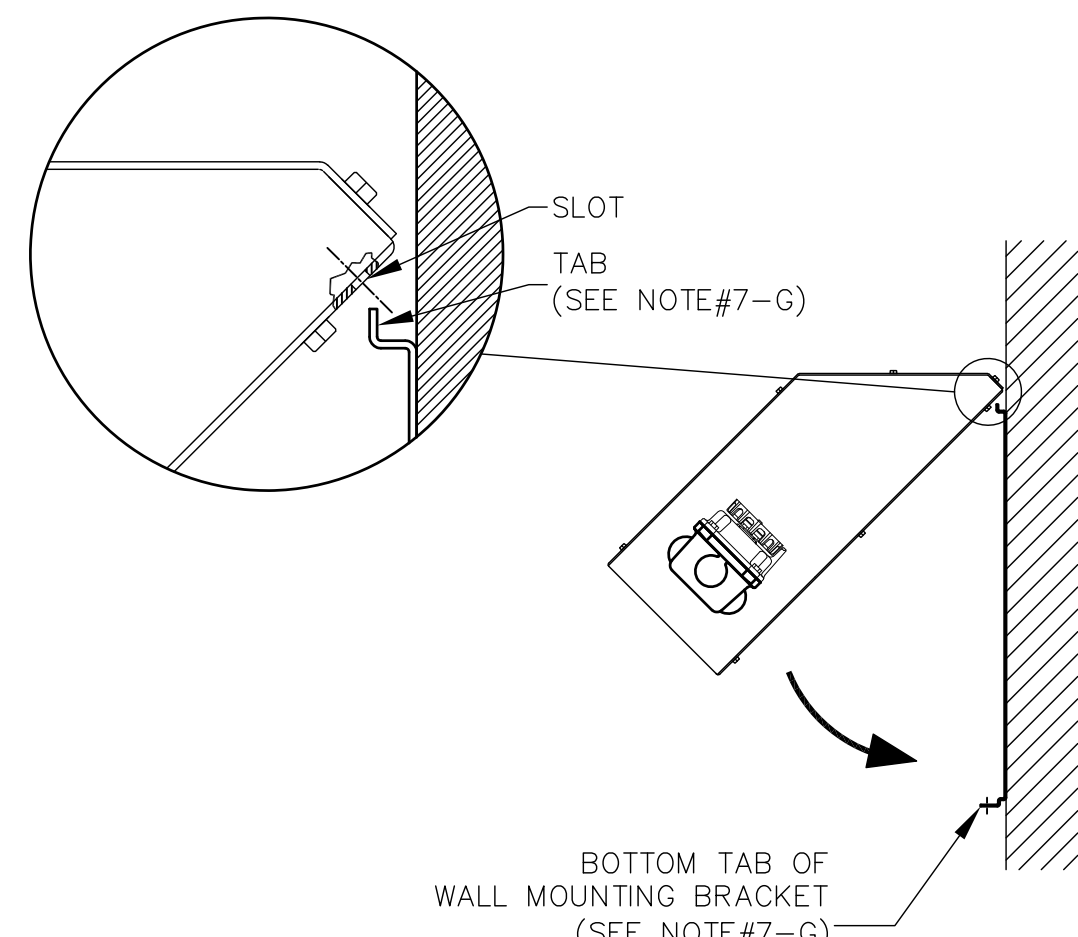
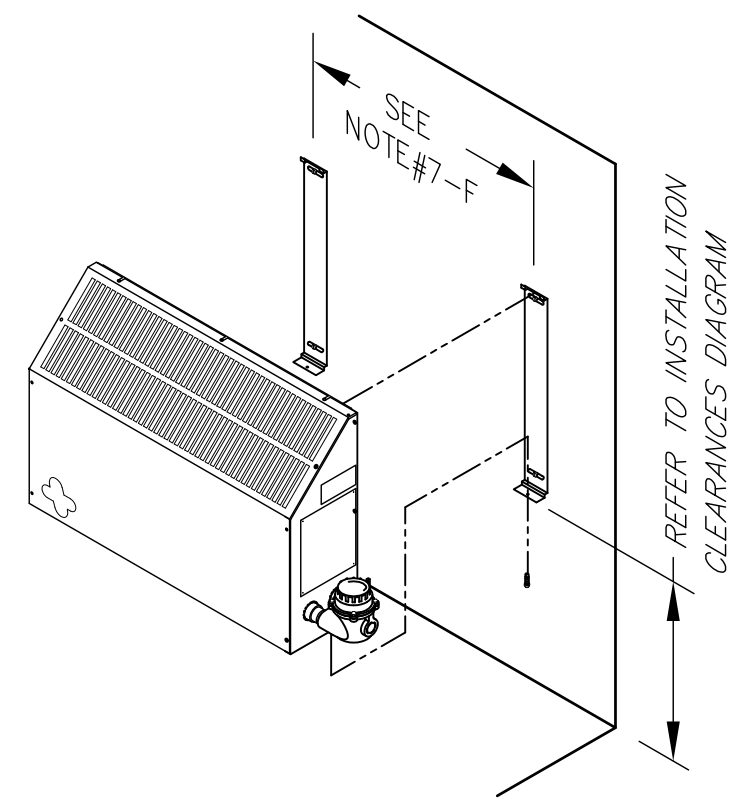
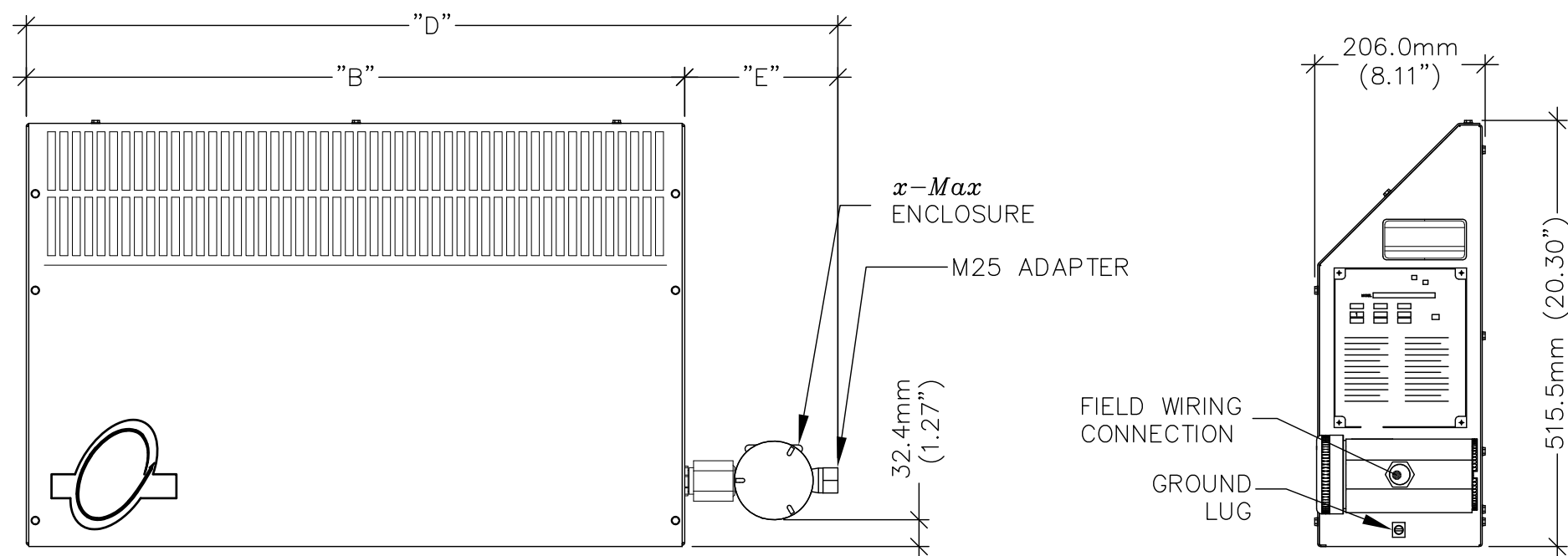


- FOR ALTERNATE ENCLOSURES AND HAZARDOUS LOCATION APPROVALS SEE NOTE#5

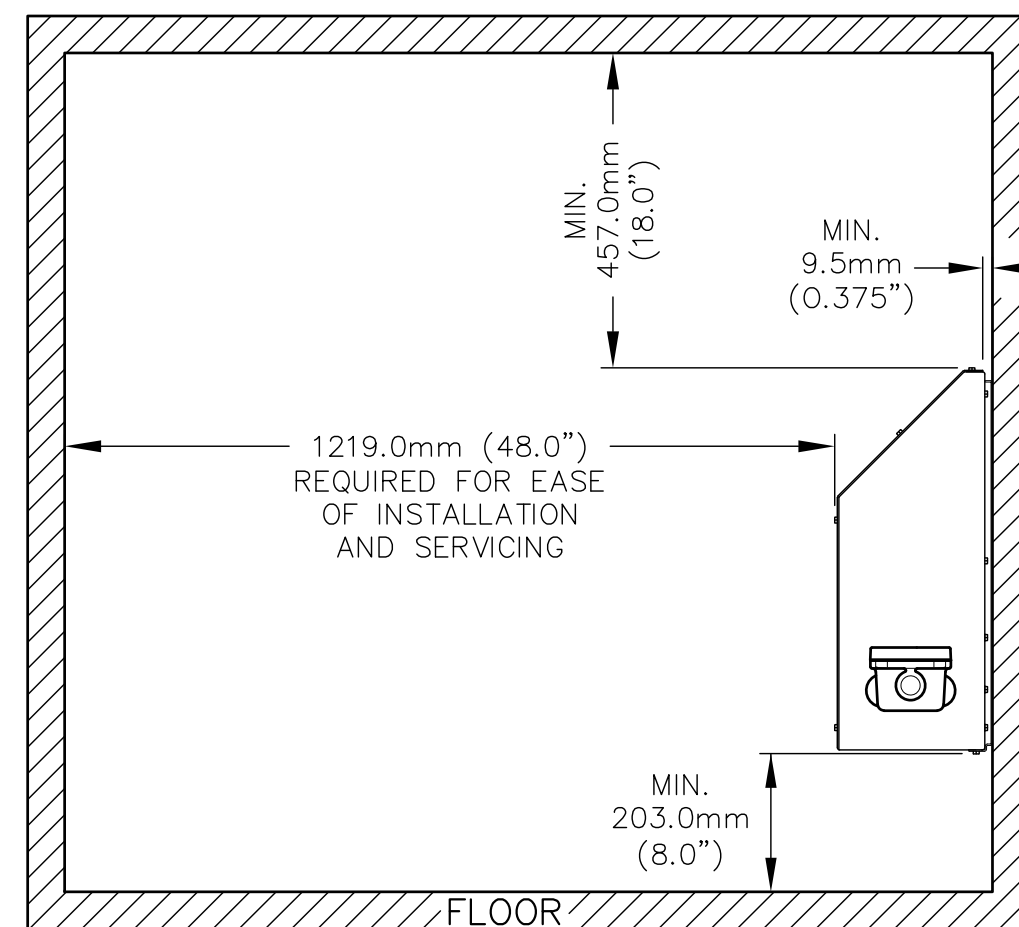
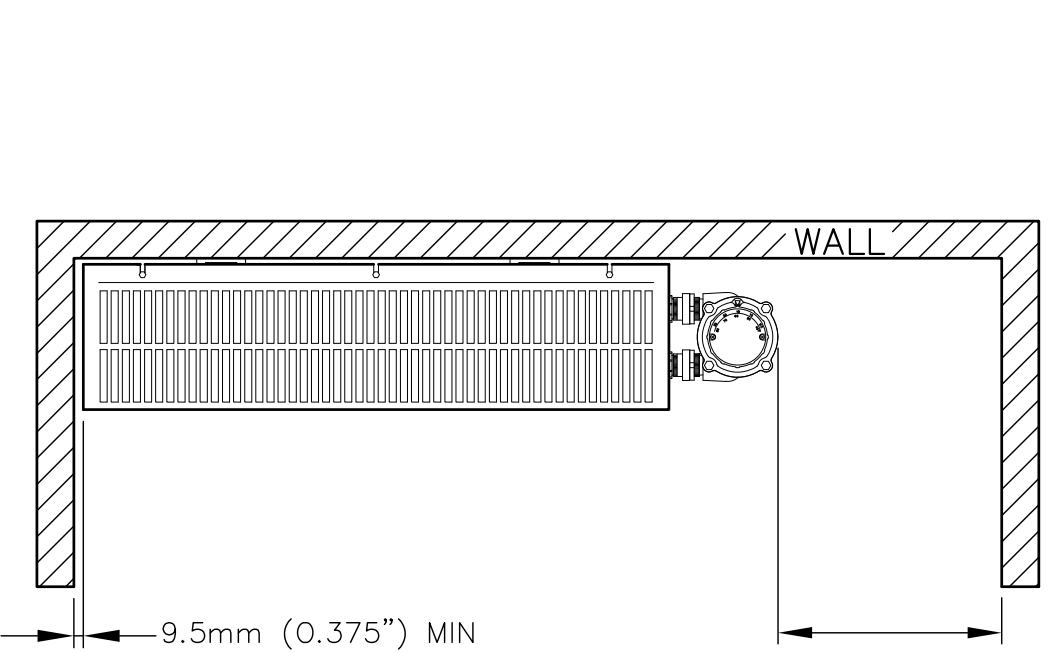


WIRING SCHEMATIC FOR BOTH REMOTE MOUNT AND BUILT-IN ROOM THERMOSTATS

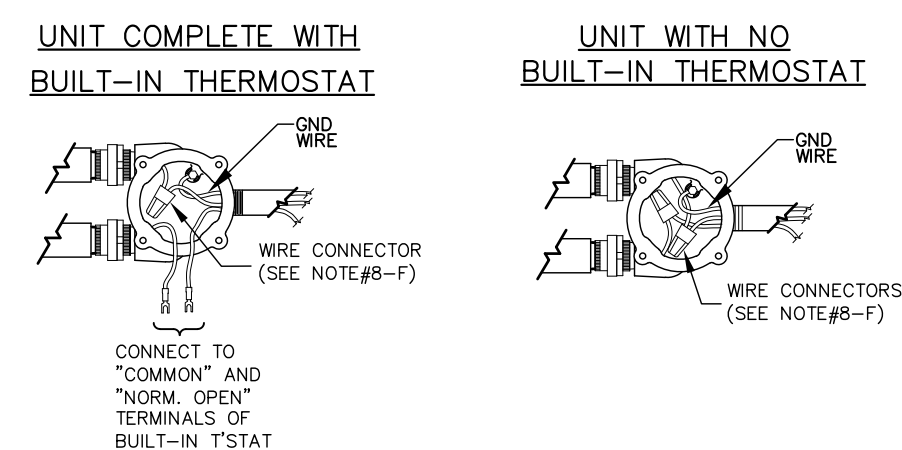
FIELD WIRING



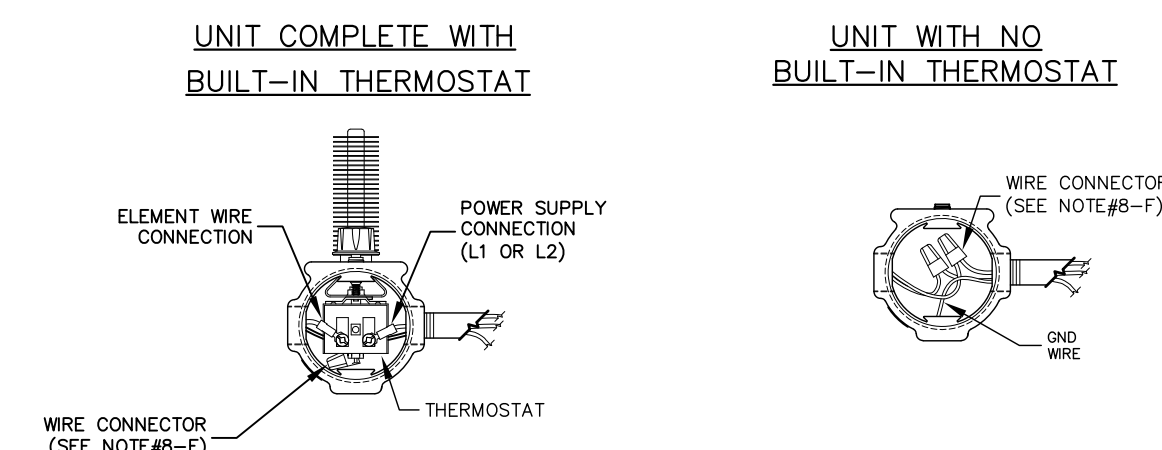
CONVECTOR MOUNTING DIAGRAMS



INSTALLATION CLEARANCES



CONVECTOR WIRING DIAGRAMS DEFENDER ENCLOSURE



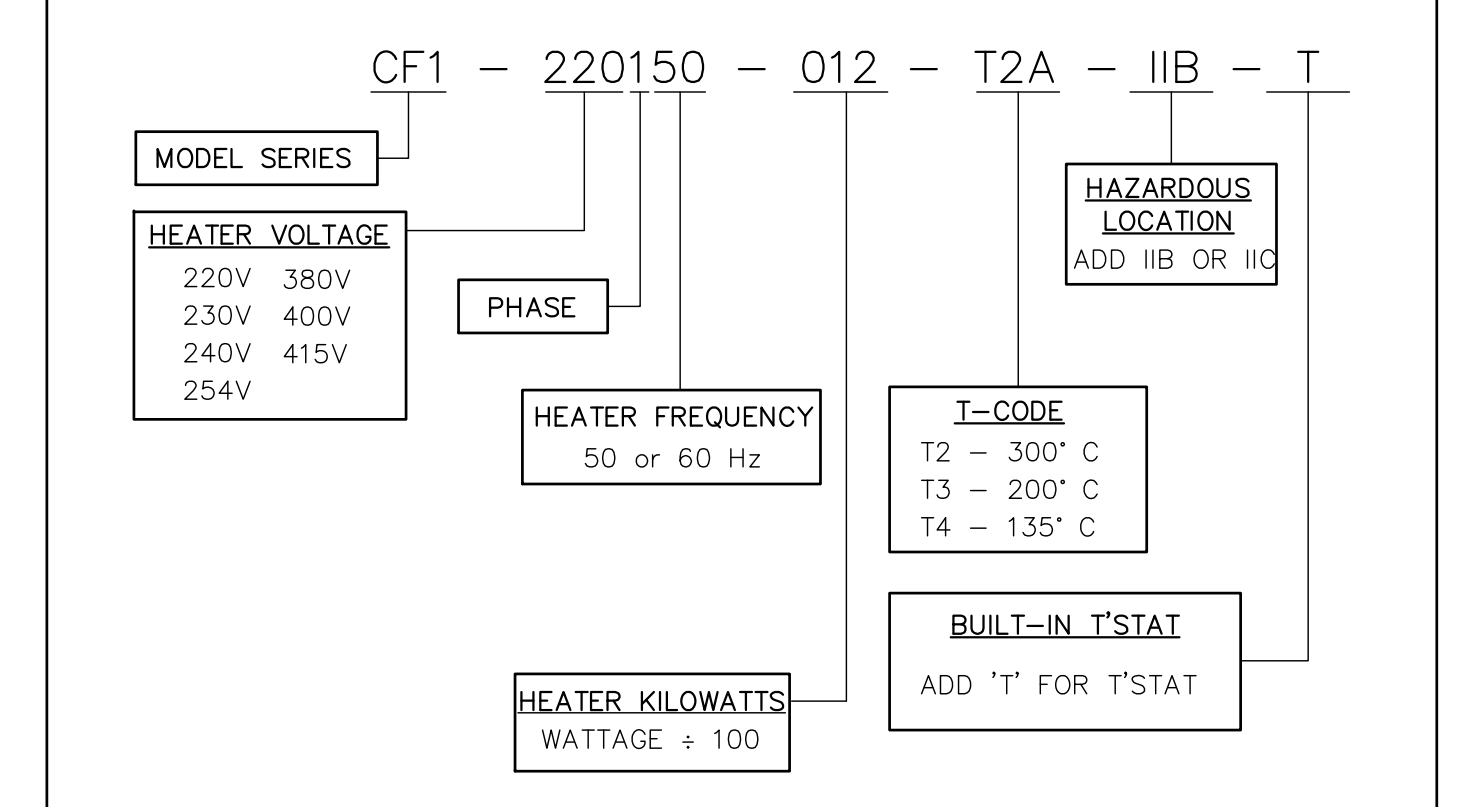
CONVECTOR WIRING DIAGRAMS x-Max ENCLOSURE

MODEL NUMBER	kW (BTU/Hr)	UNIT VOLTAGE (VOLTS)	BASIC UNIT	GAS GROUP				SUPPLY WIRE SIZE (AWG)***	UNIT CURRENT (AMPS)	MAXIMUM CIRCUIT FUSE (AMPS)*	CABINET LENGTH (mm)	TEMP CODE (°C)
				IIB	IIC	W/O T'STAT	W/ T'STAT					
CF1-220150-010-T4	1.0 (3412)	220						12	4.6	15	796	T4 (135)
CF1-220150-015-T3	1.5 (5118)	220						12	6.9	15	796	T3 (200)
CF1-220150-030-T2	3.0 (10236)	220						12	13.8	15	796	T2 (300)
CF1-220150-040-T3	4.0 (13648)	220						10	18.3	20	1256	T3 (200)
CF1-220150-064-T2 **	6.4 (21837)	220			N/A	N/A	N/A	8	29.0	30	1511	T2 (300)
CF1-230150-011-T4	1.1 (3753)	230						12	4.8	15	796	T4 (135)
CF1-230150-017-T3	1.7 (5801)	230						12	7.2	15	796	T3 (200)
CF1-230150-030-T3	3.0 (10236)	230						12	13.0	15	1256	T3 (200)
CF1-230150-033-T2	3.3 (11260)	230						10	14.4	15	796	T2 (300)
CF1-230150-044-T2	4.4 (15103)	230						10	19.2	20	1256	T2 (300)
CF1-230150-070-T2 **	7.0 (23885)	230			N/A	N/A	N/A	8	30.3	35	1511	T2 (300)
CF1-240150-012-T4	1.2 (4095)	240						12	5.0	15	796	T4 (135)
CF1-240150-018-T3	1.8 (6142)	240						12	7.5	15	796	T3 (200)
CF1-240150-030-T3	3.0 (10236)	240						12	12.5	15	1256	T3 (200)
CF1-240150-036-T2	3.6 (12284)	240			N/A	N/A		10	15.0	20	796	T2 (300)
CF1-240150-048-T2	4.8 (16378)	240			N/A	N/A		10	20.0	25	1256	T2 (300)
CF1-240150-076-T2 **	7.6 (25932)	240			N/A	N/A	N/A	8	31.7	35	1511	T2 (300)
CF1-254150-030-T3	3.0 (10236)	254						12	11.8	15	1256	T3 (200)
CF1-380150-0075-T4	0.75 (2559)	380						12	2.0	15	796	T4 (135)
CF1-380150-011-T4	1.1 (3753)	380						12	3.0	15	796	T4 (135)
CF1-380150-023-T3	2.3 (7848)	380				N/A	N/A	12	5.9	15	796	T3 (200)
CF1-380150-030-T3	3.0 (10236)	380						12	7.9	15	1256	T3 (200)
CF1-380150-036-T3	3.6 (12283)	380			N/A	N/A		12	9.4	15	1256	T3 (200)
CF1-380150-048-T2	4.8 (16378)	380				N/A	N/A	12	12.5	15	1511	T2 (300)
CF1-400150-0083-T4	0.83 (2832)	400						12	2.1	15	796	T4 (135)
CF1-400150-013-T4	1.3 (4436)	400						12	3.1	15	796	T4 (135)
CF1-400150-025-T3	2.5 (8530)	400				N/A	N/A	12	6.3	15	796	T3 (200)
CF1-400150-033-T3	3.3 (11260)	400						12	8.3	15	1256	T3 (200)
CF1-400150-036-T3	3.6 (12284)	400			N/A	N/A		12	9.0	15	1256	T3 (200)
CF1-400150-053-T2	5.3 (18084)	400				N/A	N/A	12	13.2	15	1511	T2 (300)
CF1-415150-009-T4	0.90 (3071)	415						12	2.2	15	796	T4 (135)
CF1-415150-014-T4	1.4 (4777)	415						12	3.2	15	796	T4 (135)
CF1-415150-027-T2	2.7 (9213)	415				N/A	N/A	12	6.5	15	796	T2 (300)
CF1-415150-036-T3	3.6 (12283)	415						12	8.7	15	1256	T3 (200)
CF1-415150-057-T2	5.7 (19449)	415				N/A	N/A	12	13.7	15	1511	T2 (300)

CONVECTOR TECHNICAL DATA

- ALL UNITS ARE SINGLE PHASE.
- UNITS CAN BE OPERATED AT 50 OR 60 HZ
- 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).
- * OR EQUIVALENT BREAKER AS PER LOCAL ELECTRICAL INSPECTION AUTHORITY REQUIREMENTS.
- ** OPTIONAL THERMOSTATS NOT AVAILABLE AS IT EXCEEDS CURRENT RATED CAPACITY.
- *** ENSURE SUPPLY WIRE SIZE ADHERES TO APPLICABLE LOCAL AND NATIONAL ELECTRICAL CODES.

MODEL CODING



NOTES:

- TOLERANCES ON ALL DIMENSIONS ARE ±2.0mm [±0.08"] UNLESS OTHERWISE SPECIFIED.
- WEIGHT:

	CABINET LENGTH	796	1256	1511
NET	[KG]	27.0	39.0	43.6
	[LBS]	58.0	86.0	96.0
SHIPPING	[KG]	30.0	44.0	48.0
	[LBS]	65.0	95.0	105.0
- AMBIENT TEMPERATURE LIMITATIONS:

OPERATIONAL: -45°C to 40°C (-49°F to 104°F)
STORAGE: -45°C to 80°C (-49°F to 176°F)
- EC-TYPE EXAMINATION CERTIFICATE NO.: DEMKO 02 ATEX 0152068X
IECEX UL 11.0020X
- CONVECTOR ENCLOSURES HAZARDOUS LOCATION APPROVALS:

DEFENDER ENCLOSURE

WITHOUT BUILT-IN T'STAT ENCLOSURE	CLASS I, ZONES 1 & 2, GROUPS IIA, IIB
BUILT-IN T'STAT ENCLOSURE	CLASS I, ZONES 1 & 2, GROUPS IIA, IIB

x-Max ENCLOSURE

WITHOUT BUILT-IN T'STAT ENCLOSURE	CLASS I, ZONES 1 & 2, GROUPS IIA, IIB, IIC
BUILT-IN T'STAT ENCLOSURE	CLASS I, ZONES 1 & 2, GROUPS IIA, IIB, IIC
- CABINET PAINT SPEC.:

DESCRIPTION - COLOR - SPECIFIC GRAVITY: GLOSS (60°) - FILM THICKNESS - PENCIL HARDNESS - CROSS HATCH - MANDREL BEND -	EPOXY SEMI GLOSS RUFFNECK GREEN 1.48 11' 2.5 MIL 2H 5b NO LIFTING OF SQUARES PASS 1/8" BEND, NO CRACKING OR LOSS OF ADHESION
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7. HEATER PLACEMENT:

- HEATER SHOULD BE INSTALLED AS FOLLOWS:
- HEATER MUST BE MOUNTED LEVEL ON A VERTICAL SURFACE USING FACTORY SUPPLIED MOUNTING BRACKETS SUCH THAT THERE ARE NO OBSTRUCTIONS TO IMPEDE AIR INLET OR DISCHARGE. [REFER TO INSTALLATION CLEARANCES DIAGRAM]
 - AIR DISCHARGE IS NOT DIRECTED AT A THERMOSTAT.
 - AIR DISCHARGE IS ACROSS AREAS OF HEAT LOSS (SUCH AS WINDOWS).
 - FOR EQUIPMENT FREEZE PROTECTION, LOCATE HEATER AS CLOSE TO EQUIPMENT AS POSSIBLE.
 - MOUNTING SURFACE MUST BE STRONG ENOUGH TO:
 - SUPPORT THE HEATER'S WEIGHT,
 - WITHSTAND ABUSIVE SITUATIONS SUCH AS TRANSPORTABLE INSTALLATIONS.
 - SECURE MOUNTING BRACKETS TO VERTICAL SURFACE WITH BRACKETS SPACED TO BOTH SUPPORT THE UNITS WEIGHT AND TO MATCH SPACING OF SLOTS IN REAR PANEL. THE MOUNTING BRACKETS TOP MOUNTING SLOT IS APPROXIMATELY 38.0mm (1.5") BELOW HEATER'S TOP SURFACE.
 - ALIGN SLOTS ON BACK PANEL OF HEATER WITH TABS AT TOP OF WALL MOUNTING BRACKETS. WITH HEATER TILTED, INSERT TABS INTO SLOTS AND ROTATE UNIT UNTIL IT RESTS AGAINST THE BOTTOM TAB OF WALL MOUNT BRACKET. SECURE HEATER TO BOTTOM OF TABS USING SCREWS SUPPLIED. [REFER TO CONVECTOR MOUNTING DIAGRAMS]

8. FIELD WIRING:

- CONDUIT SEALS ARE REQUIRED WITHIN 152.4mm (6") OF FIELD ENTRIES.
- USE ONLY COPPER CONDUCTORS RATED FOR 90°C (194°F) AND APPROVED EXPLOSION PROOF WIRING METHODS. [REFER TO TECHNICAL DATA CHART FOR APPROPRIATE CONDUCTOR SIZES]
- SUPPLY VOLTAGE MUST BE WITHIN 10% OF DATA PLATE RATINGS.
- EXTERNAL OVER-CURRENT PROTECTION IS REQUIRED AND MUST MEET DATA PLATE RATINGS FOR VOLTAGE, AMPERAGE, AND FREQUENCY.
- FIELD CONNECTION: 3/4" - 14 NPT OR OPTIONAL M25 ADAPTER
- WIRE CONNECTORS: 90°C (194°F) MIN. RATING (REMOTE T'STAT) & CONTROL DEVICES:
- ONLY USE HEATER IN LOCATION MATCHING HEATER'S HAZARDOUS CLASSIFICATION RATING. REMOTE T'STAT MUST MEET HAZARDOUS CLASSIFICATION FOR LOCATION AND NOT ALLOW ROOM TEMPERATURE TO EXCEED AMBIENT TEMPERATURE LIMITATION OF HEATER (SEE NOTE#3). VOLTAGE AND AMPERAGE RATINGS MUST MATCH HEATER'S ELECTRICAL RATING. IF NOT, A CONTACTOR MAY BE REQUIRED.

9. BEFORE APPLYING ELECTRICAL POWER:

- CHECK THAT ALL CONNECTIONS ARE SECURE, COMPLY WITH APPLICABLE CODES REQUIREMENTS, AND WITH WIRING DIAGRAM. [REFER TO FIELD WIRING]
- CONFIRM SUPPLY VOLTAGE IS COMPATIBLE WITH THE DATA PLATE SPECIFICATIONS.
- REMOVE ANY FOREIGN OBJECTS FROM HEATER.
- ENSURE EXTERNAL FITTINGS AND ENCLOSURE COVERS ARE SECURED.

22 OCT 2014	REMOVED +H2	△	LB	-
15 JAN 2013	UPDATED MODEL LISTINGS	△	LB	CF
DATE	REVISION	△	BY	CHK

UNLESS OTHERWISE NOTED TOLERANCES ARE TO BE: ±1mm ±1/2" ANGLES 3.2/um OR 125/um



DRAWN BY: RW	TITLE: CF1 APPROVAL DRAWING
CHECKED BY: NJS	
SCALE: 1:8	
DATE: 06-06-26	DRAWING NO.: 50919-D