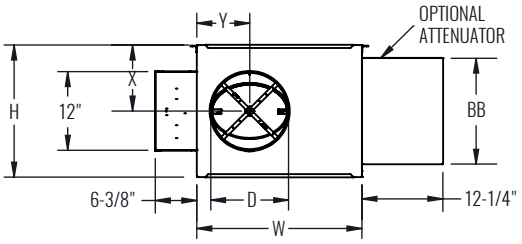
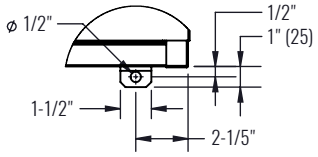
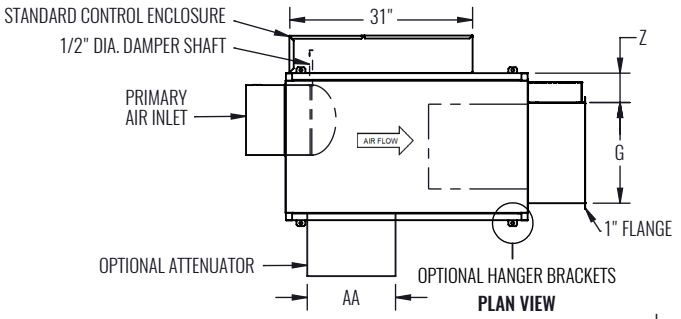
DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT | SIZE 3 - 6



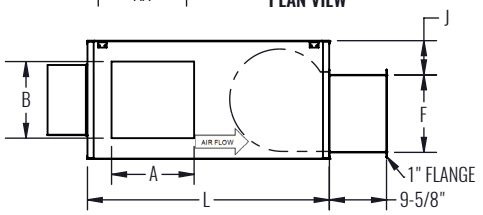
INLET VIEW



OPTIONAL HANGER BRACKETS DETAIL (TYP)



PLAN VIEW



SIDE VIEW

* Check NEC for unit clearance requirements.

UNI SIZE	INLET SIZE	ECM HP	L	W	H	INDUCED AIR		AA	BB	D	DISCHARGE		J	X	Y	Z
						A	B				F	G				
3	6	1/3	41-1/8"	19"	19"	11"	11"	13-1/8"	13"	5-7/8"	12"	11"	4"	9-1/2"	6"	4-1/2"
3	8	1/3	41-1/8"	19"	19"	11"	11"	13-1/8"	13"	7-7/8"	12"	11"	4"	9-1/2"	6"	4-1/2"
3	10	1/3	41-1/8"	19"	19"	11"	11"	13-1/8"	13"	9-7/8"	12"	11"	4"	9-1/2"	7"	4-1/2"
4	8	1/2	41-1/8"	25"	19"	11"	11"	13-1/8"	13"	7-7/8"	13"	15"	4-1/4"	9-1/2"	6"	5-3/8"
4	10	1/2	41-1/8"	25"	19"	11"	11"	13-1/8"	13"	9-7/8"	13"	15"	4-1/4"	9-1/2"	7"	5-3/8"
4	12	1/2	41-1/8"	25"	19"	11"	11"	13-1/8"	13"	11-7/8"	13"	15"	4-1/4"	9-1/2"	8"	5-3/8"
5	8	3/4	41-1/8"	25"	20"	14"	13"	16-1/8"	15"	7-7/8"	13-1/8"	17"	5-7/8"	10"	6"	5"
5	10	3/4	41-1/8"	25"	20"	14"	13"	16-1/8"	15"	9-7/8"	13-1/8"	17"	5-7/8"	10"	7"	5"
5	12	3/4	41-1/8"	25"	20"	14"	13"	16-1/8"	15"	11-7/8"	13-1/8"	17"	5-7/8"	10"	8"	5"
5	14	3/4	41-1/8"	25"	20"	14"	13"	16-1/8"	15"	13-7/8"	13-1/8"	17"	5-7/8"	10"	10"	5"
6	10	1	41-1/8"	30"	20"	15"	15"	17-1/8"	17"	9-7/8"	13-1/8"	17"	5-7/8"	10"	7"	7-3/8"
6	12	1	41-1/8"	30"	20"	15"	15"	17-1/8"	17"	11-7/8"	13-1/8"	17"	5-7/8"	10"	8"	7-3/8"
6	14	1	41-1/8"	30"	20"	15"	15"	17-1/8"	17"	13-7/8"	13-1/8"	17"	5-7/8"	10"	10"	7-3/8"
6	16	1	41-1/8"	30"	20"	15"	15"	17-1/8"	17"	15-7/8"	13-1/8"	17"	5-7/8"	10"	10-1/4"	7-3/8"

NOTES: Left-hand mounted controls shown above; right hand units (optional) are inverted, resulting in elevation change of discharge duct.

STANDARD FEATURES

- 20 gage galvanized steel construction
- NEMA 1 control enclosure for electronic components
- 1" thick dual density fiberglass insulation meeting NFPA 90A and UL 181 safety requirements
- 120V, 8V/240V, 277V EC motor (electronically commutated motor)
- Motor Speed Control: manual control, 0-10Vdc remote control, 2-10Vdc remote control
- Removable top and bottom panels allow easy access to motor, blower and primary air damper assemblies for servicing
- Four quadrant averaging cross flow sensor
- Discharge requires a flanged duct connection by others
- Factory supplied 24 volt control transformer
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40
- AHRI certified sound ratings

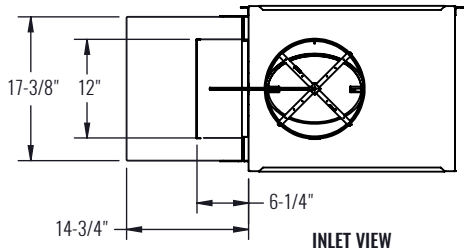
OPTIONAL FEATURES

- Liners: 1/2" dual density fiberglass, 1/2" cellular, 1" cellular, 1/2" foil encapsulated fiberglass, 1" foil encapsulated fiberglass, solid metal liner with 1" dual density fiberglass, perforated metal liner with 1" dual density fiberglass
- Induced Air Filter: 1" construction, 1" MERV 8, 2" MERV 13
- Induced air attenuator
- Cam lock access doors
- Hanger brackets
- Electrical Enclosures: bottom facing, 90° facing, remote mounted
- Door-interlocking disconnect switch: fused or non-fused
- LineaHeat controlled SSR heat
  - Discharge temperature sensor
- 24 VAC solid state relays
- Motor fusing
- Dust tight control enclosure

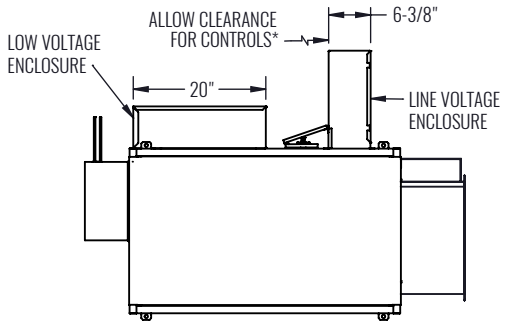
DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT | CONTROL ENCLOSURE OPTIONS | SIZE 3 - 6

90° FACING LINE VOLTAGE ENCLOSURE

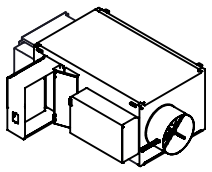
- Line voltage enclosure is mounted to direct NEC clearance requirement parallel to airflow.
- Enables easier placement during design and installation.



INLET VIEW



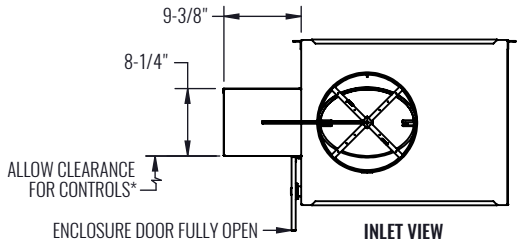
PLAN VIEW



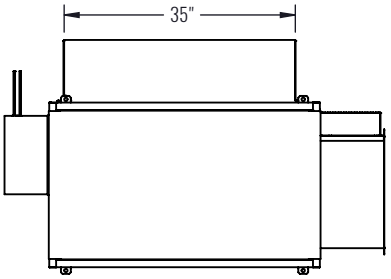
* Check NEC for unit clearance requirements.

BOTTOM FACING ENCLOSURE

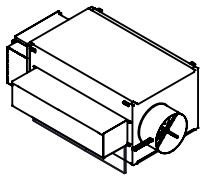
- Electrical enclosure door opens downward and is serviceable from underneath the unit.
- Direct NEC clearance requirement below the unit (towards the floor).
- Enables easier placement during design and installation.
- Easier serviceability with hard ceiling installation and limited ceiling access panels.



INLET VIEW



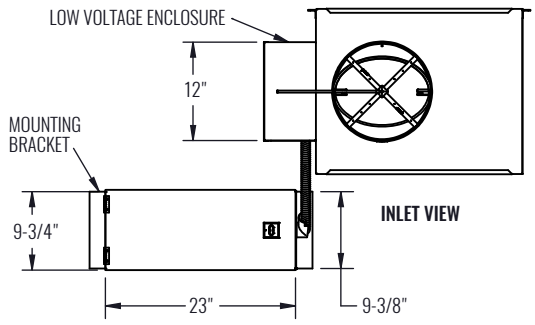
PLAN VIEW



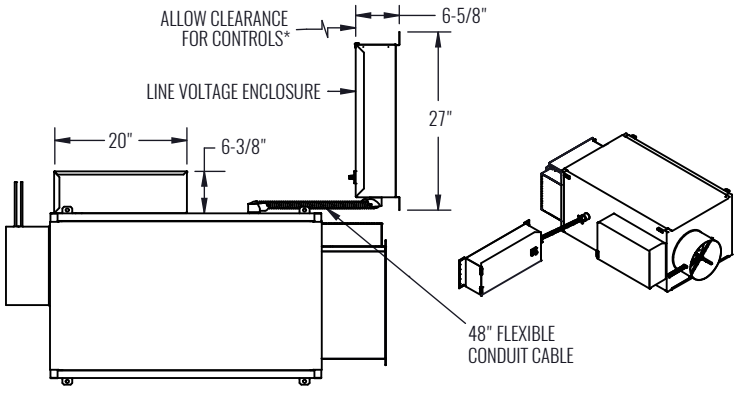
* Check NEC for unit clearance requirements.

REMOTE MOUNTED LINE VOLTAGE ENCLOSURE

- Line voltage enclosure is tethered to the unit by 48" flexible conduit cable and is to be field mounted.
- Provides flexibility for the installer to place the unit in tighter ceiling spaces while maintaining NEC clearance requirement for the line voltage enclosure.



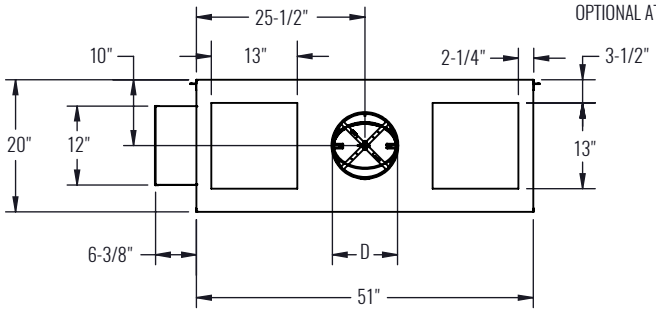
INLET VIEW



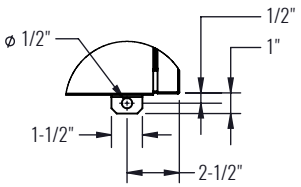
PLAN VIEW

*** Check NEC for unit clearance requirements.**

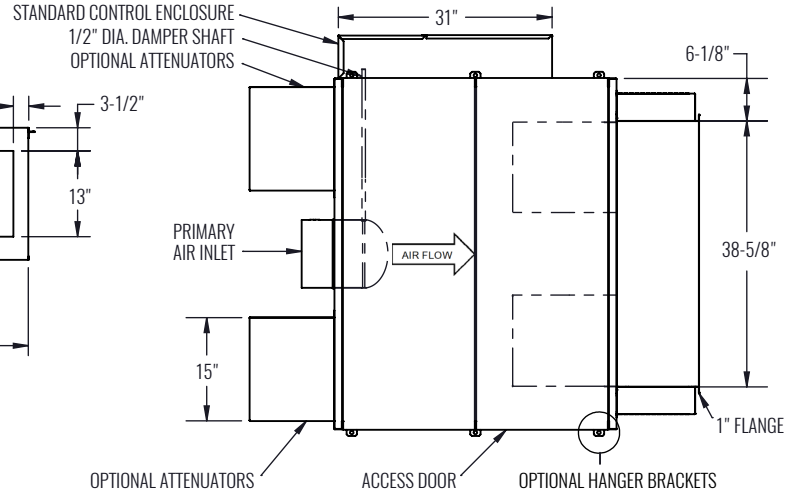
DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT | SIZE 7



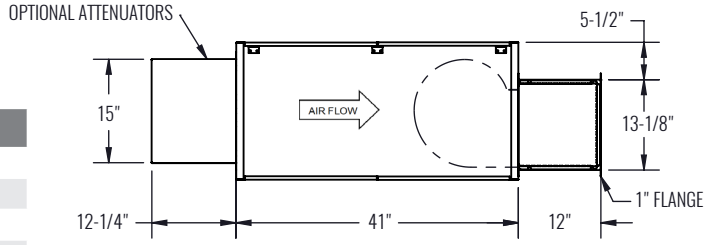
INLET VIEW



OPTIONAL HANGER BRACKETS DETAIL (TYP)



PLAN VIEW



SIDE VIEW

UNIT SIZE	INLET SIZE	ECM HP	D
7	10	(2) 3/4	9-7/8"
	12	(2) 3/4	11-7/8"
	14	(2) 3/4	13-7/8"
	16	(2) 3/4	15-7/8"

NOTES: Left-hand mounted controls shown above; right hand units (optional) are inverted, resulting in elevation change of discharge duct.

STANDARD FEATURES

- 20 gage galvanized steel construction
- NEMA 1 control enclosure for electronic components
- 1" thick dual density fiberglass insulation meeting NFPA 90A and UL 181 safety requirements
- 120V, 8V/240V, 277V EC motor (electronically commutated motor)
- Motor Speed Control: manual control, 0-10Vdc remote control, 2-10Vdc remote control
- Removable top and bottom panels allow easy access to motor, blower and primary air damper assemblies for servicing
- Four quadrant averaging cross flow sensor
- Discharge requires a flanged duct connection by others
- Factory supplied 24 volt control transformer
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40
- AHRI certified sound ratings

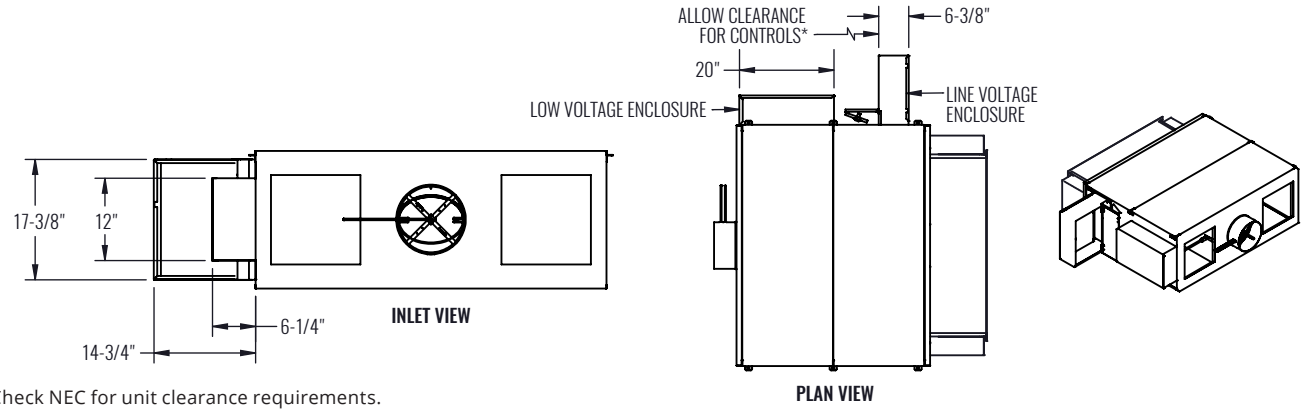
OPTIONAL FEATURES

- Liners: 1/2" dual density fiberglass, 1/2" cellular, 1" cellular, 1/2" foil encapsulated fiberglass, 1" foil encapsulated fiberglass, solid metal liner with 1" dual density fiberglass, perforated metal liner with 1" dual density fiberglass
- Induced Air Filter: 1" construction, 1" MERV 8, 2" MERV 13
- Induced air attenuator
- Cam lock access doors
- Hanger brackets
- Electrical Enclosures: bottom facing, 90° facing, remote mounted
- Door-interlocking disconnect switch: fused or non-fused
- LineaHeat controlled SSR heat
  - Discharge temperature sensor
- 24 VAC solid state relays
- Motor fusing
- Dust tight control enclosure

DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT | CONTROL ENCLOSURE OPTIONS | SIZE 7

90° FACING LINE VOLTAGE ENCLOSURE

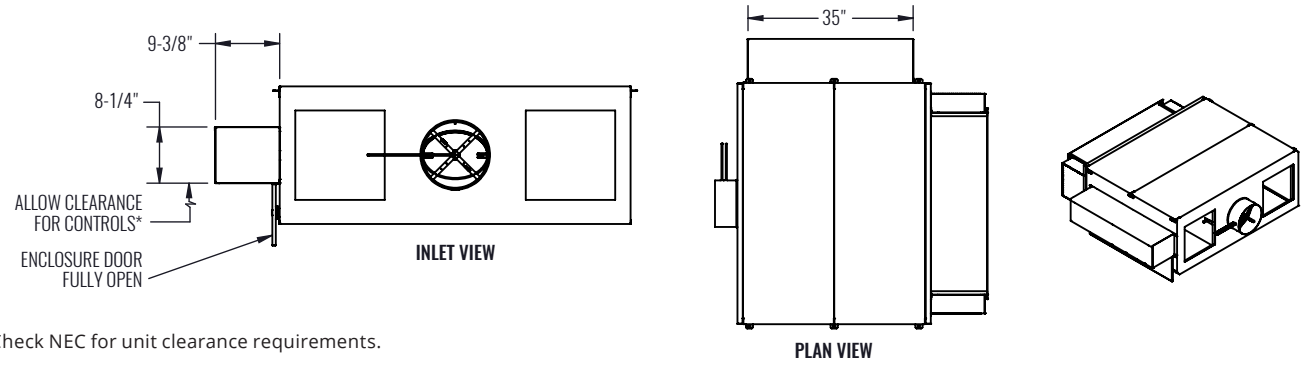
- Line voltage enclosure is mounted to direct NEC clearance requirement parallel to airflow.
- Enables easier placement during design and installation.



* Check NEC for unit clearance requirements.

BOTTOM FACING ENCLOSURE

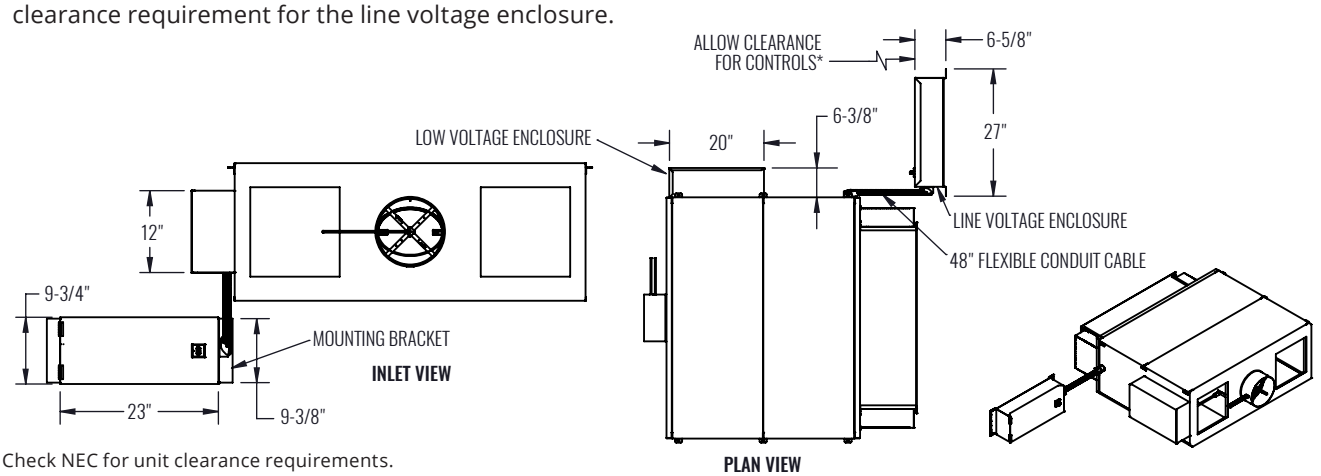
- Electrical enclosure door opens downward and is serviceable from underneath the unit.
- Direct NEC clearance requirement below the unit (towards the floor).
- Enables easier placement during design and installation.
- Easier serviceability with hard ceiling installation and limited ceiling access panels.



* Check NEC for unit clearance requirements.

REMOTE MOUNTED LINE VOLTAGE ENCLOSURE

- Line voltage enclosure is tethered to the unit by 48" flexible conduit cable and is to be field mounted.
- Provides flexibility for the installer to place the unit in tighter ceiling spaces while maintaining NEC clearance requirement for the line voltage enclosure.



* Check NEC for unit clearance requirements.

ELECTRIC HEAT FEATURES & CAPACITIES

The kW charts below indicates the maximum and minimum safe limit capacities for each of the KFSS units and has been specifically designed for Krueger fan powered terminals. For safe operation, the electric heater controls are interlocked with the airflow proving switch to allow the heater to energize only after the fan is running. Each terminal unit has been tested by ETL in accordance with UL standards.

ELECTRIC HEAT STANDARD FEATURES

- 20 gage zinc coated steel construction.
- Line voltage combinations:
  [120, 208/240, or 277 volt, 1-phase]
  [208 volt, 3-phase, 3-wire] [480 volt, 3-phase, 4-wire]
- Control transformer for direct digital controls.
- NEMA 1 electric heat control enclosure.
- Flanged discharge for field duct connection.
- Single point connection between the heater and the fan motor (see combinations below).
- 80/20 Ni-Cr heating elements.
- Automatic reset thermal cutout.
- Magnetic contactors.
- Positive pressure airflow switch.

NOTE: A minimum of 0.1" w.g. downstream static pressure is required in the duct to ensure proper heater operation.

OPTIONAL HEATER CONTROL

- LineaHeat solid state electronic proportional control of electric heat is available with or without leaving air temperature control. See Krueger's Terminal Unit Engineering section for additional information.
- AC solid state relays offer silent operation for staged electric heat.

SINGLE POINT CONNECTION COMBINATIONS ELECTRIC HEATER/FAN MOTOR

- [120, 208/240 or 277 volt, 1-phase] electric heat includes fan motor wired with same line voltage.
- [208 volt, 3-phase, 3-wire] electric heat utilizes a 208/240 volt, 1-phase fan motor.
- [480 volt, 3-phase, 4-wire] electric heat is equipped with 277 volt, 1-phase fan motor.

$$kW = \frac{CFM \times \Delta T\ (°F)}{3160}$$

CALCULATING ELECTRIC HEATER AMPERES

$$\text{1-Phase Amperes} = \frac{\text{Watts}}{\text{Line Voltage}}$$

$$\text{3-Phase Amperes} = \frac{\text{Watts}}{\text{Line Voltage} \times 1.73}$$

NOTES: When selecting electric heaters, do not exceed 120°F discharge air temperature, per NEC. The ASHRAE Handbook of Fundamentals states that discharge temperatures in excess of 90°F are likely to result in objectionable air temperature stratification in the space. Also, ventilation short circuiting may occur. ASHRAE Standard 62 now limits discharge temperatures to 90°F or increasing the ventilation rate when heating from the ceiling.

MAXIMUM kW

VOLTAGE / PHASE	EC MOTOR				
	UNIT SIZE 3	UNIT SIZE 4	UNIT SIZE 5	UNIT SIZE 6	UNIT SIZE 7
	MAX	MAX	MAX	MAX	MAX
120v / 1Ph	5.0	4.5	4.5	4.0	N/A
208v / 1Ph	9.0	9.0	8.5	8.0	7.0
240v / 1Ph	9.0	10.0	9.5	9.0	8.0
277v / 1Ph	9.0	12.0	11.5	11.0	10.0
208v / 3Ph	9.0	13.0	15.0	16.0	14.0
480v / 3Ph	9.0	13.0	15.5	21.0	30.5

NOTES: Maximum values apply to staged heaters only.
Contact your local Krueger representative for LineaHeat limits.