

KLPP | Low Profile, Parallel Flow

KLPP Electric Heat Features & Capacities

The kW charts below indicates the maximum and minimum safe limit capacities for each of the KLPP 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 galvanized steel casing construction.
- Line voltage combinations:
[120, 208/240, or 277 volt, single-phase]
[208 volt, three-phase, three-wire]
[480 volt, three-phase, four-wire]
- NEMA 2 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.

SINGLE POINT CONNECTION COMBINATIONS

ELECTRIC HEATER/FAN MOTOR

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

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

CALCULATING ELECTRIC HEATER AMPERES

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

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

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.

KLPP MINIMUM / MAXIMUM kW

		Unit Sizes				
		2		4		
		Min.	Max.	Min.	Max.	
1 Phase	120 Volt	1 Stage	1.0	4	1.0	4
		2 Stage	1.5	4	1.5	4
		3 Stage	2.0	4	2.0	4
	208 Volt	1 Stage	1.0	6	1.0	9
		2 Stage	1.5	6	1.5	9
		3 Stage	2.0	6	2.0	9
	240 Volt	1 Stage	1.0	6	1.0	10
		2 Stage	1.5	6	1.5	10
		3 Stage	2.0	6	2.0	10
	277 Volt	1 Stage	1.0	6	1.0	12
		2 Stage	1.5	6	1.5	12
		3 Stage	2.5	6	2.5	12
3 Phase	208 Volt (3 Wire)	1 Stage	1.5	6	1.5	14
		2 Stage	1.5	6	1.5	14
		3 Stage	1.5	6	1.5	14
	480 Volt (4 Wire)	1 Stage	2.5	6	2.5	14
		2 Stage	2.5	6	2.5	14
		3 Stage	2.5	6	2.5	14

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

FAN POWERED TERMINAL UNITS

KLPP