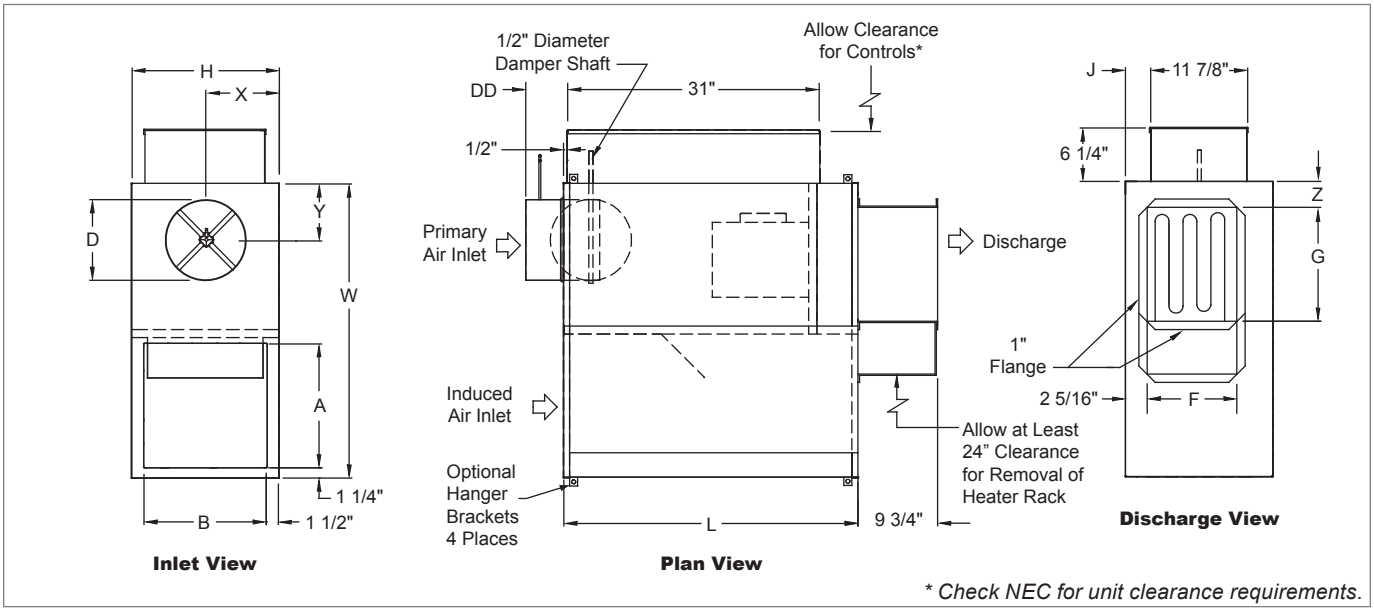
KQFS Unit with Electric Heat Dimensional Information

KQFS UNIT WITH ELECTRIC HEAT, INLET, PLAN, AND DISCHARGE VIEWS



** Check NEC for unit clearance requirements.*

KQFS UNIT WITH ELECTRIC HEAT, DIMENSIONAL DETAILS

Unit Size	Inlet Size	Max. Primary CFM	Max. Fan CFM	PSC HP	L	W	H	Induced Air		D	Discharge		J	X	Y	Z
								A	B		F	G				
2	06	515	530	1/10	39 1/2"	36 1/8"	18 1/16"	15 1/8"	15"	5 7/8"	11 1/2"	14 1/2"	3 1/8"	9"	6"	1 7/8"
2	08	530	530	1/10	39 1/2"	36 1/8"	18 1/16"	15 1/8"	15"	7 7/8"	11 1/2"	14 1/2"	3 1/8"	9"	6"	1 7/8"
3	08	920	1110	1/4	39 1/2"	36 1/8"	18 1/16"	15 1/8"	15"	7 7/8"	11 1/2"	14 1/2"	3 1/8"	9"	6"	1 7/8"
3	10	1110	1110	1/4	39 1/2"	36 1/8"	18 1/16"	15 1/8"	15"	9 7/8"	11 1/2"	14 1/2"	3 1/8"	9"	7"	1 7/8"
4	10	1400	1400	1/4	42 1/8"	46 1/8"	20 1/16"	20 1/8"	17"	9 7/8"	11 1/2"	14 1/2"	4 1/8"	10"	7"	4 7/8"
4	12	1400	1400	1/4	42 1/8"	46 1/8"	20 1/16"	20 1/8"	17"	11 7/8"	11 1/2"	14 1/2"	4 1/8"	10"	8"	4 7/8"
5	12	1850	1850	1/2	42 1/8"	46 1/8"	20 1/16"	20 1/8"	17"	11 7/8"	15"	17"	4 1/8"	10"	8"	4 3/8"
5	14	1850	1850	1/2	42 1/8"	46 1/8"	20 1/16"	20 1/8"	17"	13 7/8"	15"	17"	4 1/8"	10"	10"	4 3/8"
6	14	2600	2600	3/4	42 1/8"	46 1/8"	20 1/16"	20 1/8"	17"	13 7/8"	15"	17"	4 1/8"	10"	10"	4 3/8"
6	16	2600	2600	3/4	42 1/8"	46 1/8"	20 1/16"	20 1/8"	17"	15 7/8"	15"	17"	4 1/8"	10"	10 1/4"	4 3/8"
7	16	3000	3000	1	42 1/8"	46 1/8"	20 1/16"	20 1/8"	17"	15 7/8"	15"	17"	4 1/8"	10"	10 1/4"	4 3/8"

NOTES: Left-hand base unit with electronic control enclosure shown; right-hand is available. See next page for electric heat standard features. For a complete list of available inlet sizes, see page B2-7.

KQFS Unit with Electric Heat Features & Options

STANDARD FEATURES

- 20 Gage galvanized steel casing construction.
- Control enclosure for electronic components.
- 1/2" Thick Dual density fiberglass insulation that meets NFPA 90A and UL 181 safety requirements.
- Unit sizes include [120*, 208/240, or 277 volt, multi-voltage, single-phase, single-speed] permanently lubricated PSC motors. **Applies to unit sizes 2 - 6 only.*
- Field adjustable fan speed control.
- Integral induced air attenuator.
- Removable bottom panel allows easy access to motor/blower assembly and primary air damper.
- Four quadrant center averaging airflow sensor; inlet sizes 6 - 10 (DD = 4 7/8"); sizes 12 - 16 (DD = 6 7/8").
- Discharge requires flanged duct; connection by others.
- Includes 24 volt control transformer.
- AHRI certified sound ratings.
- Motor/blower isolation.
- ETL listed; adherence to UL 1995 and CSA C22.2 No. 236.95.

OPTIONAL FEATURES

- LineaHeat solid state electronic proportional control of electric heat.
- Liners: 1/2" or 1" Cellular insulation, 1" Dual density fiberglass insulation, 1/2" or 1" Foil encapsulated fiberglass insulation, Sterilwall, Steriliner, Perforated doublewall, or no liner.
- Linear averaging airflow sensor; inlet sizes 6 to 10 (DD = 4 7/8"), sizes 12 to 16 (DD = 6 7/8").
- [120, 208/240, or 277 volt, single-voltage] ECM motor with manual or remote adjustable speed controller (on unit sizes 3, 6, and 7).
- Hanger brackets (not available with Sterilwall or Perforated doublewall liner options).
- Fused or non-fused door interlocking disconnect.
- Dust tight control enclosure.
- Left-hand or right-hand control enclosure.
- Induced air filter, construction type; unit sizes 2 - 3 (17"x17"x1"); unit sizes 4 - 7 (22"x19"x1").
- AC solid state relays.
- Cam locks (access panel). • Motor fusing.

KQFS Electric Heat Features & Capacities

The kW charts below indicates the maximum and minimum safe limit capacities for each of the KQFS 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, single-phase]
  [208 volt, three-phase, three-wire]
  [480 volt, three-phase, four-wire]
- Control transformer for analog and direct digital controls.
- 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.
- 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, 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.

KQFS MINIMUM kW

	1 Phase						3 Phase		
	120 Volt	208 Volt	240 Volt		277 Volt		208 Volt	480 Volt	
Unit Size	2-6	2-7	2-4	5-7	2-4	5-7	2-7	2-4	5-7
Stage 1	0.5	0.5	1.0	0.5	1.0	0.5	1.5	2.5	1.5
Stage 2	1.0	1.0	1.5	1.0	1.5	1.0	1.5	2.5	1.5
Stage 3	1.5	1.5	2.0	1.5	2.5	1.5	1.5	2.5	1.5

KQFS MAXIMUM kW

	1 Phase				3 Phase	
Unit Size	120 Volt	208 Volt	240 Volt	277 Volt	208 Volt	480 Volt
2	5.0	5.0	5.0	5.0	5.0	5.0
3	5.0	8.0	8.0	8.0	8.0	8.0
4	5.0	9.0	10.0	12.0	14.0	14.0
5	4.5	9.0	10.0	12.0	14.0	20.0
6	4.5	8.5	10.0	12.0	14.0	25.0
7	-	8.5	9.0	11.0	14.0	25.0

NOTES: Dash indicates not available. Minimum and maximum values apply to staged heaters only. Contact your local Krueger representative for LineaHeat limits.