

### DIMENSIONAL DATA | BASE UNIT







\* Check NEC for unit clearance requirements.

IINIT SIZE	ECM		W		COOLII	NG COIL	-	DISC	HARGE	7		F	
UNII SIZE	SIZE HP L	W	н	В	C	L	J	K	L	2-ROW	4-ROW	6-ROW	
1	1/3	48"	32"	8 5/8"	7 1/2"	36"	8 1/8"	10"	5 7/8"	2"	7 7/8"	7 7/8"	10"
2	1/3	48"	32"	9 1/2"	7 1/2"	36"	8 1/8"	10"	5 7/8"	2"	7 7/8"	7 7/8"	10"
3	1/3	40"	26"	11"	8 3/4"	36"	9 5/8"	9"	6 7/8"	2 1/4"	7 7/8"	7 7/8"	10"
5	1/2	46"	36"	17"	12 1/2"	42"	12"	10"	10 5/8"	6 1/4"	7 7/8"	7 7/8"	10"

UNIT SIZE			1			2 3							5				
INLET SIZE	04	05	06	07	04	05	06	07	04	05	06	07	08	06	07	08	10
А	5″	5″	5"	5″	5″	5"	5″	5"	5"	6"	5″	6″	5″	5″	6″	6"	7"
D	3 7/8"	4 7/8"	5 7/8"	6 7/8"	3 7/8"	4 7/8"	5 7/8"	6 7/8"	3 7/8"	4 7/8"	5 7/8"	6 7/8"	7 7/8"	5 7/8"	6 7/8"	7 7/8"	9 7/8"

NOTE: Left-hand base unit with electronic control enclosure shown; right-hand is available.

### **STANDARD FEATURES**

- 20 gage galvanized steel casing construction
- Available in unit sizes 1, 2, 3, and 5
- Control enclosure for electronic components
- 1/2" thick, dual density fiberglass insulation that meets NFPA 90A and UL 181 safety requirements
- [120, 208/240, or 277 volt, single-voltage] ECM motor
- · Manual or remote adjustable speed controller
- Removable bottom panel allows easy access to all internal components for maintenance
- · Four quadrant, center averaging airflow sensor
- Includes 24 volt control transformer
- Sensible Cooling Coil factory installed on induced air inlet with drip tray
- Construction type air filter, two per unit, unit size 1 (18 7/8"x7 1/2"x1"), unit size 2 (18 7/8"x8 3/8""x1"), unit size 3 (18 1/2"x10"x1"), unit size 5 (22"x14 1/2"x1").
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40

### **OPTIONAL FEATURES**

- Liners: 1/2" or 1" Cellular insulation, 1/2" or 1" Foil encapsulated fiberglass insulation, Sterilwall, Perforated doublewall, 1" Dual density fiberglass. NOTE: 1" thick liner options are available on unit size 5 only.
- Linear averaging airflow sensor
- Left-hand or right-hand control enclosure
- Upstream or downstream cooling coil connection
- Motor toggle disconnect switch
- Motor fusing
- MERV 8 air filter, two per unit, unit size 1 (18 7/8"x 7 1/2" x1"), unit size 2 (18 7/8"x8 3/8""x1"), unit size 3 (18 1/2"x10"x1"), and unit size 5 (22"x14 1/2"x1")
- Dust tight control enclosure
- Hanger brackets
- Dual access panels with optional Cam locks

Fan Powered Terminal Units | Low Profile, Series Flow, DOAS

## DIMENSIONAL DATA | BASE UNIT WITH HOT WATER HEAT





\* Check NEC for unit clearance requirements.

IINIT SIZE	ECM		w	н	COOLING COIL		DISCI	HARGE	7	F			G		
UNII SIZE	HP L W	W	п	В	C		J	K	L	2-ROW	4-ROW	6-ROW	1-ROW	2-ROW	
1	1/3	48"	32"	8 5/8"	7 1/2"	36″	8 1/8"	20 1/2"	7 5/8"	1 1/2"	7 7/8"	7 7/8"	10"	9 1/2"	9 1/2"
2	1/3	48"	32"	9 1/2"	7 1/2"	36"	8 1/8"	20 1/2"	7 5/8"	11/2"	7 7/8"	7 7/8"	10"	9 1/2"	9 1/2"
3	1/3	40"	26"	11"	8 3/4"	36"	9 5/8"	21 1/8"	8 3/4"	1"	7 7/8"	7 7/8"	10"	9 1/2"	9 1/2"
5	1/2	46"	36"	17"	12 1/2"	42"	12"	22"	15"	2 1/4"	7 7/8"	7 7/8"	10"	8"	9 3/16"

UNIT SIZE	1					2				3				5			
INLET SIZE	04	05	06	07	04	05	06	07	04	05	06	07	08	06	07	08	10
А	5″	5"	5"	5"	5"	5"	5″	5"	5"	6"	5″	6"	5"	5"	6"	6"	7"
D	3 7/8"	4 7/8"	5 7/8"	6 7/8"	3 7/8"	4 7/8"	5 7/8"	6 7/8"	3 7/8"	4 7/8"	5 7/8"	6 7/8"	7 7/8"	5 7/8"	6 7/8"	7 7/8"	9 7/8"

NOTE: Left-hand base unit with electronic control enclosure shown; right-hand is available.

### **STANDARD FEATURES**

- 20 gage galvanized steel casing construction
- Available in unit sizes 1, 2, 3, and 5
- Control enclosure for electronic components
- 1/2" thick, dual density fiberglass insulation that meets NFPA 90A and UL 181 safety requirements
- [120, 208/240, or 277 volt, single-voltage] ECM motor
- Manual or remote adjustable speed controller
- Removable bottom panel allows easy access to all internal components for maintenance
- Four quadrant, center averaging airflow sensor
- Flanged discharge connection on hot water coil
- Includes 24 volt control transformer
- Sensible Cooling Coil factory installed on induced air inlet with drip tray
- Construction type air filter, two per unit, unit size 1 (18 7/8"x7 1/2"x1"), unit size 2 (18 7/8"x8 3/8""x1"), unit size 3 (18 1/2"x10"x1"), unit size 5 (22"x14 1/2"x1")
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40

### **OPTIONAL FEATURES**

- Liners: 1/2" or 1" Cellular insulation, 1/2" or 1" Foil encapsulated fiberglass insulation, Sterilwall, Perforated doublewall, 1" Dual density fiberglass. NOTE: 1" thick liner options are available on unit size 5 only.
- Linear averaging airflow sensor
- Left-hand or right-hand control enclosure
- Left-hand or right-hand hot water coil connection
- Upstream or downstream cooling coil connection
- Motor toggle disconnect switch
- Motor fusing
- MERV 8 air filter, two per unit, unit size 1 (18 7/8"x 7 1/2" x1"), unit size 2 (18 7/8"x8 3/8""x1"), unit size 3 (18 1/2"x10"x1"), and unit size 5 (22"x14 1/2"x1")
- Dust tight control enclosure
- Hanger brackets
- Dual access panels with optional Cam locks

### DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT



\* Check NEC for unit clearance requirements.

IINIT SI7F	ECM		147		COOLII	NG COIL	-	DISCI	HARGE	7		F 4-ROW 6 7 7/8" 7 7/8"	
UNIT SIZE	HP		W	n	В	C		J	K		2-ROW	4-ROW	6-ROW
1	1/3	48"	32"	8 5/8"	7 1/2"	36"	8 1/8"	10 1/2"	7 3/4"	1 1/8"	7 7/8"	7 7/8"	10"
2	1/3	48"	32"	9 1/2"	7 1/2"	36"	8 1/8"	10 1/2"	7 3/4"	1 1/8"	7 7/8"	7 7/8"	10"
3	1/3	40"	26"	11"	8 3/4"	36"	9 5/8"	10 1/2"	8 3/8"	1 1/8"	7 7/8"	7 7/8"	10"
5	1/2	46"	36"	17"	12 1/2"	42"	12"	14 1/2"	12 7/8"	6 1/4"	7 7/8"	7 7/8"	10"

UNIT SIZE			1			2					3					5	
INLET SIZE	04	05	06	07	04	05	06	07	04	05	06	07	08	06	07	08	10
А	5″	5"	5″	5″	5"	5"	5″	5"	5"	6"	5"	6"	5″	5″	6"	6"	7"
D	3 7/8"	4 7/8"	5 7/8"	6 7/8"	3 7/8"	4 7/8"	5 7/8"	6 7/8"	3 7/8"	4 7/8"	5 7/8"	6 7/8"	7 7/8"	5 7/8"	6 7/8"	7 7/8"	9 7/8"

NOTES: Left-hand base unit with electronic control enclosure shown; right-hand is available. See page B2-124 for electric heat standard features.

### **STANDARD FEATURES**

- 20 gage galvanized steel casing construction
- Available in unit sizes 1, 2, 3, and 5
- Control enclosure for electronic components
- 1/2" thick, dual density fiberglass insulation that meets NFPA 90A and UL 181 safety requirements
- [120, 208/240, or 277 volt, single-voltage] ECM motor
- Manual or remote adjustable speed controller
- Removable bottom panel allows easy access to all internal components for maintenance
- Four quadrant, center averaging airflow sensor
- Flanged discharge connection on electric heat coil
- Single point electrical connection
- Includes 24 volt control transformer
- Sensible Cooling Coil factory installed on induced air inlet with drip tray
- Construction type air filter, two per unit, unit size 1 (18 7/8"x7 1/2"x1"), unit size 2 (18 7/8"x8 3/8""x1"), unit size 3 (18 1/2"x10"x1"), unit size 5 (22"x14 1/2"x1")
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40

### **OPTIONAL FEATURES**

- LineaHeat solid state electronic controlled heater with or without leaving air temperature control
- Liners: 1/2" or 1" Cellular insulation, 1/2" or 1" Foil encapsulated fiberglass insulation, Sterilwall, Perforated doublewall, 1" Dual density fiberglass. NOTE: 1" thick liner options are available on unit size 5 only.
- · Linear averaging airflow sensor
- Left-hand or right-hand control enclosure
- Upstream or downstream cooling coil connection
- MERV 8 air filter, two per unit, unit size 1 (18 7/8"x 7 1/2" x1"), unit size 2 (18 7/8"x8 3/8""x1"), unit size 3 (18 1/2"x10"x1"), and unit size 5 (22"x14 1/2"x1")
- Fused or non-fused door interlocking disconnect
- · Dust tight control enclosure
- Hanger brackets
- Motor fusing
- AC Solid State Relays
- Manual reset cutout
- Fuse-block
- Dual access panels with optional Cam locks

KI PS-D

### **ELECTRIC HEAT FEATURES & CAPACITIES**

The kW charts below indicates the maximum and minimum safe limit capacities for each of the KLPS-D 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, 1-phase] [208 volt, 3-phase, 3-wire] [480 volt, 3-phase, 4-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.
- AC solid state relays offer silent operation for staged electric heat.

### MAXIMUM kW

		EC M	OTOR	
VOLTAGE / PHASE	UNIT SIZE 1	UNIT SIZE 2	UNIT SIZE 3	UNIT SIZE 5
	MAX	MAX	MAX	MAX
120v / 1Ph	5.0	5.0	5.0	4.5
208v / 1Ph	9.0	9.0	9.0	9.0
240v / 1Ph	9.5	9.5	9.5	10.0
277v / 1Ph	10.5	11.0	11.0	12.0
208v / 3Ph	9.5	11.5	11.5	15.0
480v / 3Ph	10.5	11.0	13.0	20.0

NOTES: Maximum values apply to staged heaters only.

Contact your local Krueger representative for LineaHeat limits.

# 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 = <u>CFM x ΔT (°F)</u> 3160

### CALCULATING ELECTRIC HEATER AMPERES

1-Phase Amperes =

3-Phase Amperes = Watts Line Voltage x 1.73

Watts

Line Voltage

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.



### DIMENSIONAL DATA | COOLING COIL



INLET VIEW

			1	1		1		1	
UNIT SIZE	NUMBER OF ROWS	W	Н	W1	H1	A	В	C	
	2					7 7/8''	2 1/8''		
1	4	36''	7 1/2''	38''	7 5/8''	7 7/8"	4 3/8"	6 3/4''	
	6					10"	6 1/2"		
	2					7 7/8"	2 1/8"		
2	4	36"	7 1/2"	38"	8 1/2"	7 7/8"	4 3/8"	6 3/4"	
	6					10"	6 1/2"		
	2					7 7/8''	2 1/8''		
3	4	36''	8 3/4''	38''	10 1/4''	7 7/8"	4 3/8''	8''	
	6					10"	6 1/2"		
	2	42''				7 7/8''	2 1/8''		
5	4		12 1/2''	44''	14 1/2''	7 7/8''	4 3/8''	11 3/4''	
	6		12 17 2			10''	6 1/2''		

### **STANDARD FEATURES**

- Cooling coils are shipped from the factory attached to the induction inlet
- Drip tray ships loose from the factory to be attached to the water coil in the field
- Filter rack is shipped from the factory attached to the water coil
- Connection Tubing: 7/8" O. D. male solder
- Coil Casing: 18 gage galvanized steel
- Coil Tubing: 1/2 ̈̈́O. D. x 0.016″ thick copper
- Coil Fins: 0.0045" thick aluminum, 10 per inch; mechanically bonded to tubing

NOTES: Entering water temperature must be above dew point to prevent condensation on coil. Typical design entering water temperature for cooling coil ranges from 55°F to 60°F.