

## PRODUCT DESCRIPTION

### CASING

- All QFC casing panels are constructed of 22 gage galvanized steel with a 20 gage option.
- Removable bottom panel allows easy access to all internal components.

### INLET COLLARS

- All round 20 gage inlet collars accommodate standard spiral and flex duct sizes.
- The primary air inlet is located on the left hand side of the unit inlet panel of QFC unit sizes 2 - 6. The primary air inlet is located in the center of the QFC, unit size 7. (Hand is determined by looking at the unit in the direction of airflow with the unit in the installed position.)

### OUTLET CONNECTIONS

- All outlet connections are rectangular and require a flanged duct connection.

### DAMPER ASSEMBLY

- All units utilize a round volume control damper with a solid shaft that rotates in self lubricating Delrin® bearings.
- Damper blade incorporates a flexible gasket for tight airflow shutoff and operates over a full 90 degree rotation.
- The damper position is marked by an arrow embossment on the end of the damper shaft.

### INDUCED AIR INLET ATTENUATOR

- A lined sound attenuator, which reduces radiated sound, is available.
- See Krueger's selection software for adjusted radiated sound data.

### INDUCED AIR INLET FILTER

- Induced air inlet filters (construction type or MERV 8) are available. These filters are typically used for job start-up and are provided with clip frames for easy filter replacement.

### CASING LINERS

All liners are attached to the unit casing with both adhesive and weld pins to ensure long term durability. The standard liner option is 1/2" thick, 1 1/2 lb. dual density fiberglass insulation that meets UL 181 and NFPA 90A.

- **(Optional)** 1" Thick Insulation: 1" thick, 1 1/2 lb. dual density fiberglass insulation that meets UL 181 and NFPA 90A.
- **(Optional)** Cellular Insulation: 1/2" or 1" thick, 1 1/2 lb. density, smooth surface, polyolefin, closed-cell foam insulation for fiber free applications. Cellular insulation meets UL 181 and NFPA 90A and does not support mold or bacteria growth.
- **(Optional)** Foil Encapsulated Insulation: Foil reinforced, wrapped edges, 1/2" or 1" thick, 1 1/2 lb. density fiberglass insulation that meets UL 181 and NFPA 90A.

### AIRFLOW SENSOR

- All units are equipped with a factory installed inlet airflow sensor device.
- K4 LineaCross: A four-quadrant, multi-point, center averaging airflow sensor.
- **(Optional)** A linear, multi-point, velocity averaging airflow sensor with an amplified signal.
- Balancing taps are provided for easy airflow verification.

### FAN MOTORS

- Fan motors are multi-voltage [120,208/240 or 277V, Single- Phase] permanent split capacitor (PSC) type.
- **(Optional)** [120, 208/240 or 277 volt, 1-phase] ECM (electronically commutated motor) fan motor is available.
- Units equipped with [120, 208/240 or 277 volt, 1-phase] electric heat have fan motors wired with the same line voltage. Units with [208 volt, 3-phase, 3-wire] electric heat utilize 208/240 volt fan motors. Units with [480 volt, 3-phase, 4-wire] heat are equipped with 277 volt fan motors.
- Quick electrical disconnects are provided on the motor wiring.
- A motor disconnect switch is available (not available if the unit is equipped with electric heat including the door locking disconnect option).
- Motor fusing is available.

### FAN SPEED CONTROL

- All units with PSC motors are equipped with an SCR fan speed controller capable of reducing fan output by as much as 50-55%.
- All units with optional ECM motors include either a manual or remote adjustable speed controller. The manual adjustable speed controller features a digital display that alternates between the RPM of the motor and percentage of flow and can be set and adjusted in the field. The remote adjustable speed controller communicates with a DDC controller to remotely set and/or adjust the fan speed using either a 0-10 VDC or 2-10 VDC signal and provides a manual override capability to set and/or adjust the fan speed in the field.

### CONTROLS

- Pneumatic, analog or direct digital control types are available. Digital controls can be provided by others or Krueger for factory mounting. A "no control" unit with control enclosure is also available for field mounting of direct digital controls.

### HOT WATER HEAT

- One or two row coils are constructed of ten aluminum fins per inch with 5/8" O.D. sweat type connection. Left-hand or right hand, tubing connection is available. The coil tubing is water leakage tested to 400 psig.
- Access panel in the hot water unit casing is available for upstream cleaning of the coil fins.
- Vent and drain option is available.

## PRODUCT DESCRIPTION (CONTINUED)

### ELECTRIC HEAT

- Heaters are UL listed and are constructed of 20 gage galvanized steel.
- Available combinations are:
  - [120, 208/240, or 277 volt, 1-phase],
  - [208 volt, 3-phase, 3-wire],
  - [480 volt, 3-phase, 4-wire]
- See fan motor description for electric heat/fan motor combinations.
- Heaters are equipped with standard automatic reset thermal cutout, magnetic contactors, airflow proving switch, and 80/20 Ni-Cr heating elements.
- Electric heater options include fused or non-fused door interlocking disconnect switch, fuse-block, manual reset cutout, and dust tight enclosure construction.
- LineaHeat solid state electronic proportional control of electric heat is available with or without leaving air temperature control. Contact your Krueger representative or the Krueger website for additional information. See Krueger's Terminal Unit Engineering section for additional information.
- AC solid state relays offer silent operation for staged electric heat.

### CONTROL TRANSFORMERS

- Units with and without electric heat include a factory supplied, mounted and wired, control transformer mounted inside the electric heat enclosure for electronic control applications.

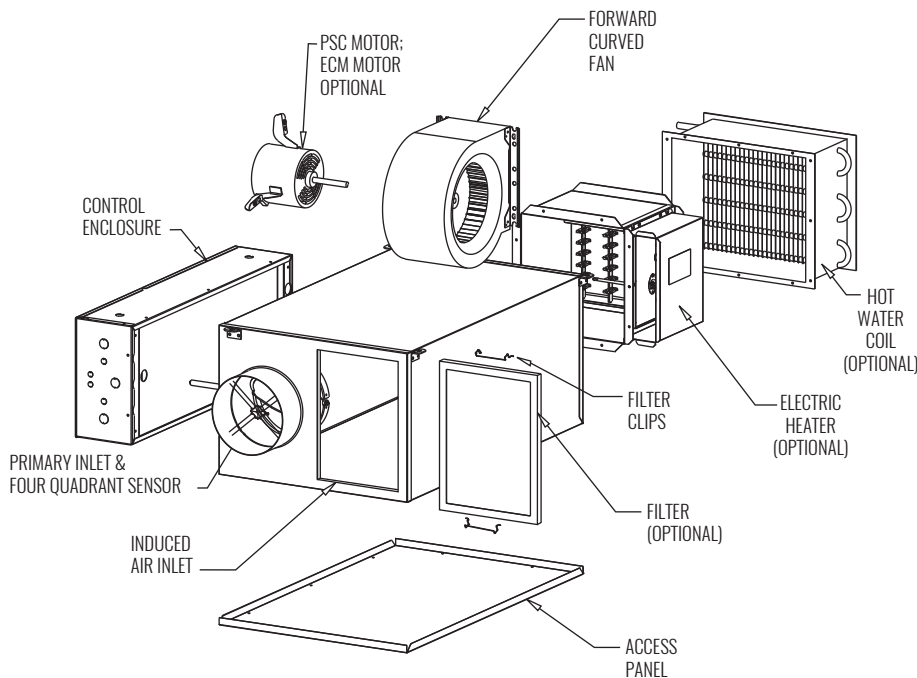
### LABELS

- Label information adhered to each unit includes model name, unit size, configuration code, airflow (CFM), balancing chart, tagging data, electrical ratings, removal of fan protection packing material information, and all required agency listings.

### PACKAGING

- Units are palletized. Each pallet of units is banded and stretch wrapped with cellophane.

## EXPLODED VIEW



## UNIT CAPACITIES

UNIT SIZE	INLET SIZE	QFC UNIT						QFC WITH ATTENUATOR						
		PRIMARY AIRFLOW		FAN AIRFLOW		MOTOR HP	MOTOR TYPE	MOTOR FLA			PRIMARY AIRFLOW		FAN AIRFLOW	
		MAX	MIN	MAX	MIN			120V	208/240V	277V	MAX	MIN	MAX	MIN
2	6	515	90 or 0	560	100	1/10	PSC	1.5	0.75	0.65	480	90 or 0	480	100
3	6	515	90 or 0	990	300	1/4		3.3	1.5	1.27	515	90 or 0	890	300
	8	920	160 or 0					890	160 or 0					
4	8	920	160 or 0	1440	550	1/4		3.3	1.5	1.27	920	160 or 0	1400	580
	10	1430	250 or 0								1400	250 or 0		
	12	1440	360 or 0								1400	360 or 0		
5	10	1430	250 or 0	2140	1100	1/2		6.4	3.2	2.6	1430	250 or 0	2050	1100
	12	2060	360 or 0								2050	360 or 0		
6	12	2060	360 or 0	2530	1200	3/4		10.5	5.1	4.2	2060	360 or 0	2500	1200
	14	2530	480 or 0								2500	480 or 0		
7	16	3660	630 or 0	3900	2100	(2) 3/4	-	10.2	8.4	3660	630 or 0	3900	2100	

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		PRIMARY AIRFLOW		FAN AIRFLOW		MOTOR HP	120V		208/240V	277V	
		MAX	MIN	MAX	MIN		120V		208/240V	277V	
3	6	515	90 or 0	1100	165	1/2	EC	7.7	4.3	4.1	
	8	920	160 or 0								
6	10	1430	250 or 0	2550	385	1		12.8	9.1	6.9	
	12	2060	360 or 0								
	14	2550	480 or 0								
7	16	3660	630 or 0	4550	685	(2) 1		-	18.2	13.8	

NOTES: QFC maximum primary airflow (CFM) is based on 1.00" WG differential pressure signal from inlet airflow sensor until the value reaches maximum fan CFM for that unit size. A properly balanced QFC unit will be set so the maximum primary CFM is never greater than the fan CFM. Minimum recommended airflow (CFM) is based on 0.03" WG differential pressure of the inlet airflow sensor, or 0 CFM. 0.03" WG is equal to 15%-20% of the nominal flow rating of the terminal. Less than 15%-20% may result in greater than +/-5% control of box flow. Maximum/minimum fan airflow (CFM) is based on 0.10"/0.60" WG external downstream static pressure. See page B2-69 and B2-70 for complete fan curves. Unit size 7 motor amps includes amperage for two motors.

## DAMPER LEAKAGE

INLET SIZE	DAMPER LEAKAGE		
	1.5" WG	3.0" WG	6.0" WG
	CFM	CFM	CFM
6	4	5	7
8	4	5	7
10	4	5	7
12	4	5	7
14	4	6	8
16	5	7	9

NOTES: Damper leakage is measured with the damper fully closed using an actuator. A precision low flow orifice is used upstream of the unit to measure the leakage rate as a function of the measured upstream static pressure. Leakage testing conducted in accordance with ASHRAE 130-2008.