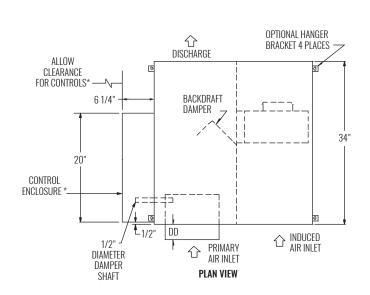
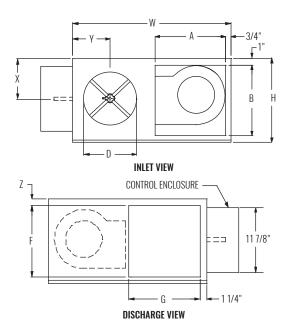


# **DIMENSIONAL DATA | BASE UNIT**





<sup>\*</sup> Check NEC for unit clearance requirements.

UNIT	INLET	MAX	MAX	PSC				DISCHARGE		v v		7		
SIZE	SIZE	PRIMARY CFM	FAN CFM	HP	vv	п	A	В	ע	F	G	٨	, i	L L
2	06	515	400	1/10	29"	15"	13"	13"	5 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
2	08	920	400	1/10	29"	15"	13"	13"	7 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	1 3/4"
3	08	920	600	1/10	29"	15"	13"	13"	7 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
3	10	1430	600	1/10	29"	15"	13"	13"	9 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	1 3/4"
4	10	1430	1050	1/4	29"	15"	13"	13"	9 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
4	12	2060	1050	1/4	29"	15"	13"	13"	11 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
5	12	2060	1500	1/2	37"	17 3/4"	17"	15 3/4"	11 7/8"	14"	15 1/2"	8 7/8"	8"	17/8"
5	14	2800	1500	1/2	37"	17 3/4"	17"	15 3/4"	13 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"
6	14	2800	1800	1/2	37"	17 3/4"	17"	15 3/4"	13 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"
6	16	3660	1800	1/2	37"	17 3/4"	17"	15 3/4"	15 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"
7	16	3660	2200	3/4	37"	17 3/4"	17"	15 3/4"	15 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"

NOTES: Unit available as left-hand primary air configuration only.

### STANDARD FEATURES

- 22 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
- [120, 208/240, or 277 volt, multi-voltage, 1-phase, single-speed] permanently lubricated PSC motors
- Field adjustable fan speed control
- Backdraft damper
- Removable bottom panel allows easy access to all internal components for maintenance
- · 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
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40
- · AHRI certified sound ratings

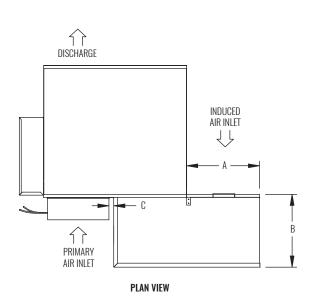
### **OPTIONAL FEATURES**

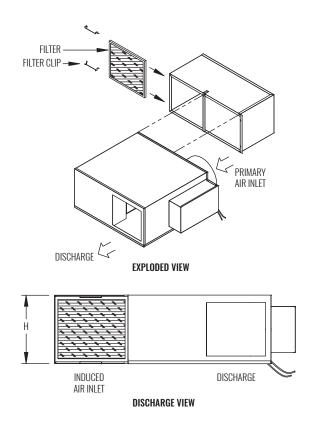
- 20 Gage galvanized steel casing construction
- Liners: 1/2" or 1" Cellular insulation, 1" Dual density fiberglass insulation, or 1/2" or 1" Foil encapsulated fiberglass insulation
- Linear averaging airflow sensor; inlet sizes 6 - 10 (DD = 4 7/8"), sizes 12 - 16 (DD = 6 7/8")
- Motor disconnect
- Motor fusing
- Induced air filter, construction type; unit sizes 2 4 (15"x15"x1"); unit sizes 5 - 7 (19"x17"x1")
- · Induced air inlet attenuator
- · Dust tight control enclosure
- Hanger brackets

**B2-81** © Copyright Krueger 2023



# **DIMENSIONAL DATA | ATTENUATOR**

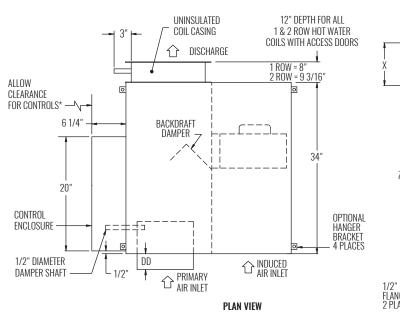


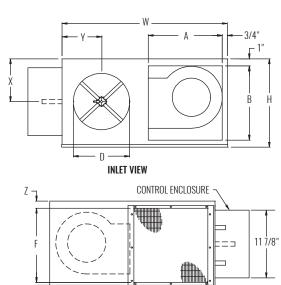


UNIT SIZE	INLET SIZE	Н	A	В	C
2	6	15"	15"	15"	4 1/2"
2	8	15"	15"	15"	3 1/2"
3	8	15"	15"	15"	3 1/2"
3	10	15"	15"	15"	2 1/2"
4	10	15"	15"	15"	2 1/2"
4	12	15"	15"	15"	1 1/2"
5	12	17 1/2"	19"	19"	3 1/4"
5	14	17 1/2"	19"	19"	2 1/4"
6	14	17 1/2"	19"	19"	2 1/4"
6	16	17 1/2"	19"	19"	1 1/4"
7	16	17 1/2"	19"	19"	1 1/4"



## DIMENSIONAL DATA | BASE UNIT WITH HOT WATER HEAT





**FLANGE** FLÄNGE 2 PLACES **DISCHARGE VIEW** 

\* Check NEC for unit clearance requirements.

UNIT	INLET	MAX	MAX F	AN CFM	PSC	W		INDUC	ED AIR	n .	DISCH	HARGE	v	v	7
SIZE	SIZE	PRIMARY CFM	1-ROW	2-ROW	HP	VV	"	Α	В	ע	F	G	^	T	L L
2	06	515	400	375	1/10	29"	15"	13"	13"	5 7/8"	12 1/2"	15"	7 1/2"	6 7/8"	1 3/4"
2	08	920	400	375	1/10	29"	15"	13"	13"	7 7/8"	12 1/2"	15"	7 1/2"	6 7/8"	1 3/4"
3	08	920	550	525	1/10	29"	15"	13"	13"	7 7/8"	12 1/2"	15"	7 1/2"	6 7/8"	1 3/4"
3	10	1430	550	525	1/10	29"	15"	13"	13"	9 7/8"	12 1/2"	15"	7 1/2"	6 7/8"	1 3/4"
4	10	1430	1000	900	1/4	29"	15"	13"	13"	9 7/8"	12 1/2"	22"	7 1/2"	6 7/8"	13/4"
4	12	2060	1000	900	1/4	29"	15"	13"	13"	11 7/8"	12 1/2"	22"	7 1/2"	6 7/8"	1 3/4"
5	12	2060	1400	1300	1/2	37"	17 3/4"	17"	15 3/4"	11 7/8"	15"	22"	8 7/8"	8"	1 7/8"
5	14	2800	1400	1300	1/2	37"	17 3/4"	17"	15 3/4"	13 7/8"	15"	22"	8 7/8"	9"	1 7/8"
6	14	2800	1700	1600	1/2	37"	17 3/4"	17"	15 3/4"	13 7/8"	15"	24 1/2"	8 7/8"	9"	1 7/8"
6	16	3660	1700	1600	1/2	37"	17 3/4"	17"	15 3/4"	15 7/8"	15"	24 1/2"	8 7/8"	9"	1 7/8"
7	16	3660	2000	1800	3/4	37"	17 3/4"	17"	15 3/4"	15 7/8"	15"	24 1/2"	8 7/8"	9"	1 7/8"

NOTES: Unit available as left-hand primary air configuration only.

### STANDARD FEATURES

- 22 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
- [120, 208/240, or 277 volt, multi-voltage, 1-phase, single-speed] permanently lubricated PSC motors
- Field adjustable fan speed control
- Removable bottom panel allows easy access to all internal components for maintenance
- Four quadrant center averaging airflow sensor; inlet sizes 6 - 10 (DD = 4 7/8"); sizes 12 - 16 (DD = 6 7/8")
- Flanged discharge connection on hot water coils
- Includes 24 volt control transformer
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40
- · AHRI certified sound ratings.

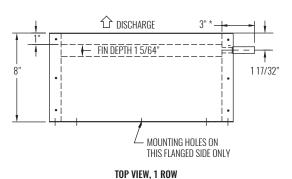
### **OPTIONAL FEATURES**

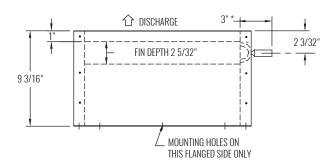
- 20 Gage galvanized steel casing construction
- Liners: 1/2" or 1" Cellular insulation, 1" Dual density fiberglass insulation, or 1/2" or 1" Foil encapsulated fiberglass insulation
- · Linear averaging airflow sensor; inlet sizes 6 - 10 (DD = 4 7/8"), sizes 12 - 16 (DD = 6 7/8")
- · Hot water coil vent and drain
- Coil access panel
- Induced air filter, construction type; unit sizes 2 4 (15"x15"x1"); unit sizes 5 - 7 (19"x17"x1")
- Induced air inlet attenuator (extends 6")
- · Dust tight control enclosure
- Motor disconnect
- Motor fusing
- Hanger brackets

B2-83 © Copyright Krueger 2023

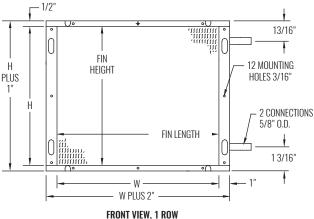


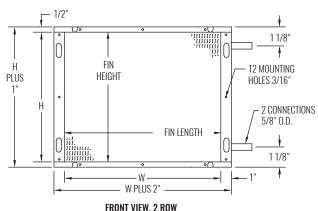
# **DIMENSIONAL DATA | HOT WATER COILS**





, 1 ROW TOP VIEW, 2 ROW





UNIT SIZE	W	Н
2	15"	12 1/2"
3	15"	12 1/2"
4	22"	12 1/2"
5	22"	15"
6	24 1/2"	15"
7	24 1/2"	15"

NOTE: For hot water performance data tables, visit the Krueger website at www. krueger-hvac.com or download the Krueger selection software to run customized selections. The selection program can provide performance data with different entering air and water conditions as well as show effects of altitude and glycol on the heating performance of the water coil. The selection software also allows selections to be saved in a schedule format that can be imported onto a set of project drawings.

NOTE: 6 1/16" Length connection with vent and drain.

### **STANDARD FEATURES**

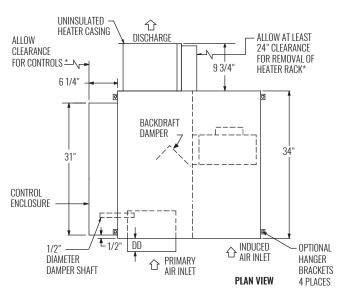
- QFV Coils are shipped from the factory attached to the unit discharge
- · Hot water coils are configured for a flanged duct work connection; coil section is uninsulated
- Coils are not for steam applications
- Contact your Krueger Representative for high capacity or steam coil information
- Connection Tubing 5/8" O. D. male solder
- · Coil Casing 20 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
- Optional vent and drain
- · Optional access panel

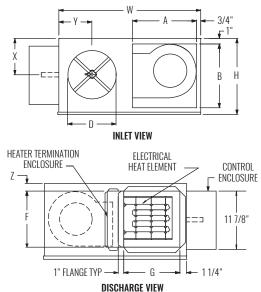
**B2-84** 



# QFV

## DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT





\* Check NEC for unit clearance requirements.

UNIT	INLET	MAX	MAX PSC w I INDUCE		CED AIR	DISCHARGE			v	v	7			
SIZE	SIZE	PRIMARY CFM	FAN CFM	HP	VV	п	Α	В	ע	F	G	_ ^		L
2	06	515	400	1/10	29"	15"	13"	13"	5 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
2	08	920	400	1/10	29"	15"	13"	13"	7 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
3	08	920	600	1/10	29"	15"	13"	13"	7 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
3	10	1430	600	1/10	29"	15"	13"	13"	9 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
4	10	1430	1050	1/4	29"	15"	13"	13"	9 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
4	12	2060	1050	1/4	29"	15"	13"	13"	11 7/8"	11 1/2"	11 1/2"	7 1/2"	6 7/8"	13/4"
5	12	2060	1500	1/2	37"	17 3/4"	17"	15 3/4"	11 7/8"	14"	15 1/2"	8 7/8"	8"	17/8"
5	14	2800	1500	1/2	37"	17 3/4"	17"	15 3/4"	13 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"
6	14	2800	1800	1/2	37"	17 3/4"	17"	15 3/4"	13 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"
6	16	3660	1800	1/2	37"	17 3/4"	17"	15 3/4"	15 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"
7	16	3660	2200	3/4	37"	17 3/4"	17"	15 3/4"	15 7/8"	14"	15 1/2"	8 7/8"	9"	17/8"

NOTES: Unit available as left-hand primary air configuration only. See next page for electric heat standard features.

### **STANDARD FEATURES**

- 22 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
- [120, 208/240, or 277 volt, multi-voltage, 1-phase, single-speed] permanently lubricated PSC motors
- Field adjustable fan speed control
- Removable bottom panel allows easy access to all internal components for maintenance
- Four quadrant center averaging airflow sensor; inlet sizes 6 - 10 (DD = 4 7/8"); sizes 12 - 16 (DD = 6 7/8")
- Flanged discharge connection on electric heat coil
- Single point electrical connection
- Includes 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**

- 20 Gage galvanized steel casing construction
- LineaHeat solid state electronic proportional control of electric heat
- Liners: 1/2" or 1" Cellular insulation, 1" Dual density fiberglass insulation, or 1/2" or 1" Foil encapsulated fiberglass insulation
- Linear averaging airflow sensor; inlet sizes
  6 10 (DD = 4 7/8"), sizes 12 16 (DD = 6 7/8")
- Fused or non-fused door interlocking disconnect
- · Hanger brackets
- Induced air filter, construction type; unit sizes 2 4 (15"x15"x1"); unit sizes 5 - 7 (19"x17"x1")
- · Induced air inlet attenuator
- Manual reset cutout
- · Dust tight control enclosure
- · Motor fusing
- AC solid state relay
- Fuse-block

B2-85



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

The kW charts below indicates the maximum and minimum safe limit capacities for each of the QFV 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.
- Control transformer for analog and direct digital controls.
- 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 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.
- [208/240 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**

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

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

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**

	PSC MOTOR											
VOLTAGE / PHASE	UNIT SIZE 2	UNIT SIZE 3	UNIT SIZE 4	UNIT SIZE 5	UNIT SIZE 6	UNIT SIZE 7						
	MAX	MAX	MAX	MAX	MAX	MAX						
120v / 1Ph	2.5	4.0	5.0	4.5	4.5	4.5						
208v / 1Ph	2.5	4.0	7.5	9.0	9.0	8.5						
240v / 1Ph	2.5	4.0	7.5	10.5	10.5	10.0						
277v / 1Ph	2.5	4.0	7.5	12.5	12.5	12.0						
208v / 3Ph	2.5	4.0	7.5	15.0	16.0	15.0						
480v / 3Ph	2.5	4.0	7.5	15.0	18.0	15.0						

NOTES: Maximum values apply to staged heaters only.

Contact your local Krueger representative for LineaHeat limits.