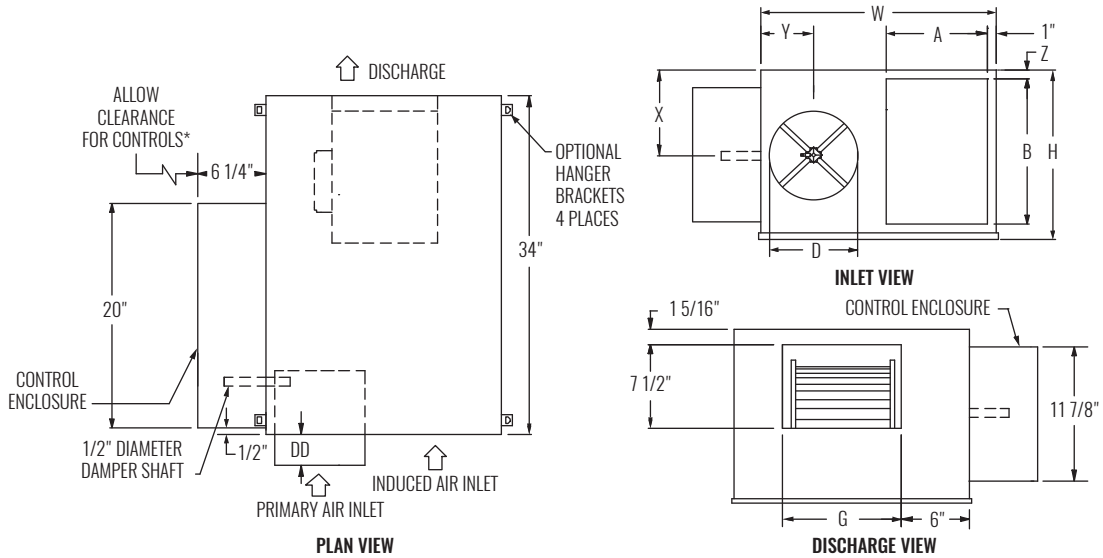
QFC

Fan Powered Terminal Unit | Standard, Series Flow

KRUEGER

DIMENSIONAL DATA | BASE UNIT | SIZES 2 - 6



* Check NEC for unit clearance requirements.

UNIT SIZE	INLET SIZE	MAX PRIMARY CFM	MAX FAN CFM	PSC HP	W	H	INDUCED AIR		D	G	X	Y	Z
							A	B					
2	06	515	560	1/10	21"	15"	9"	13"	5 7/8"	6 3/4"	7 1/2"	5 3/8"	1"
3	06	515	990	1/4	21"	15"	9"	13"	5 7/8"	9 1/4"	7 1/2"	5 3/8"	1"
3	08	920	990	1/4	21"	15"	9"	13"	7 7/8"	9 1/4"	7 1/2"	5 3/8"	1"
4	08	920	1440	1/4	32 1/4"	17 3/4"	14 3/8"	15"	7 7/8"	11 7/8"	8 7/8"	5 3/8"	1 3/8"
4	10	1430	1440	1/4	32 1/4"	17 3/4"	14 3/8"	15"	9 7/8"	11 7/8"	8 7/8"	7 3/8"	1 3/8"
4	12	1440	1440	1/4	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	11 7/8"	8 7/8"	8 3/8"	1 3/8"
5	10	1430	2140	1/2	32 1/4"	17 3/4"	14 3/8"	15"	9 7/8"	13 1/8"	8 7/8"	7 3/8"	1 3/8"
5	12	2060	2140	1/2	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	13 1/8"	8 7/8"	8 3/8"	1 3/8"
6	12	2060	2530	3/4	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	13 1/8"	8 7/8"	8 3/8"	1 3/8"
6	14	2530	2530	3/4	32 1/4"	17 3/4"	14 3/8"	15"	13 7/8"	13 1/8"	8 7/8"	8 3/8"	1 3/8"

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

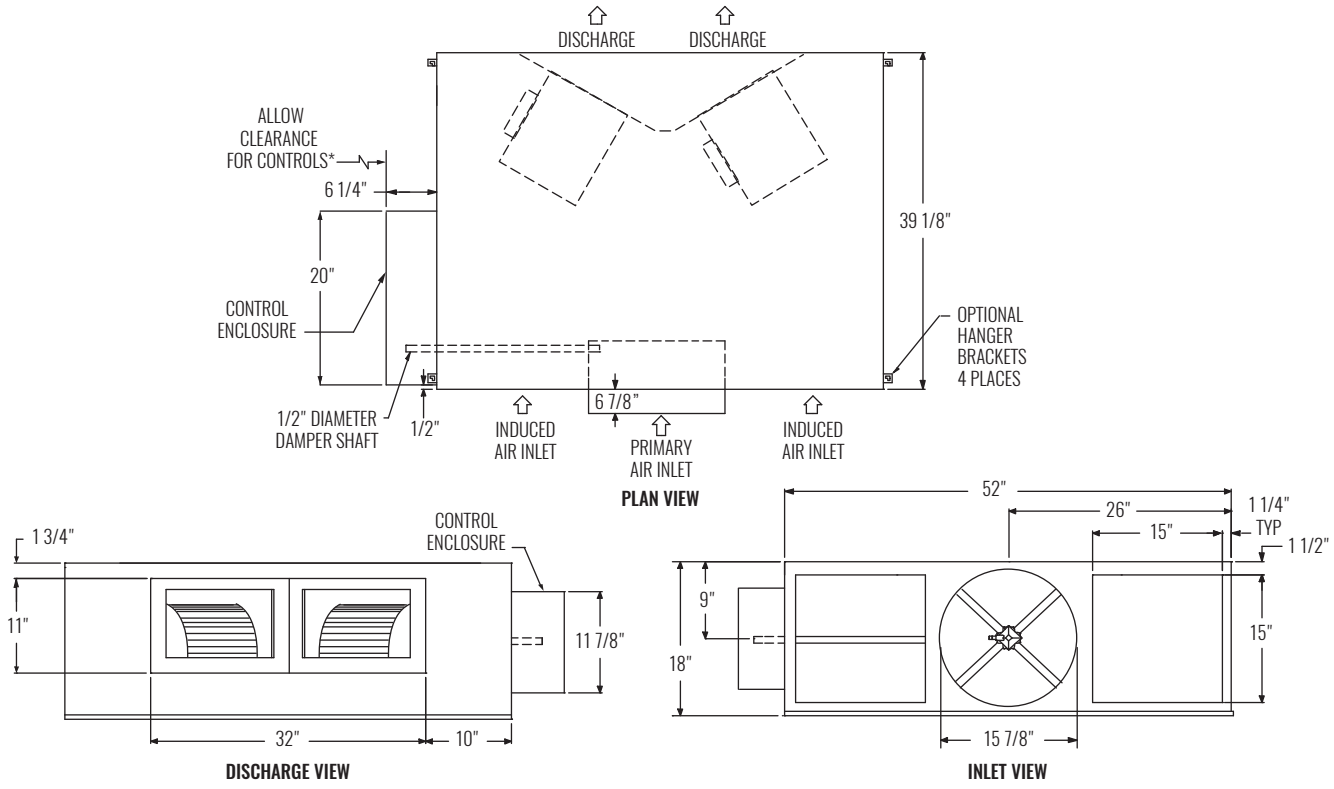
STANDARD FEATURES (UNIT SIZES 2 - 6)

- 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")
- 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 (UNIT SIZES 2 - 6)

- 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")
- [120, 208/240, or 277 volt, single-voltage] ECM motor with manual or remote adjustable speed controller (on unit sizes 3 and 6)
- Left-hand or right-hand hand control enclosure
- Motor disconnect
- Motor fusing
- Induced air filter, construction type; unit sizes 2 - 3 (11"x15"x1"); unit sizes 4 - 6 (17"x17"x1")
- Induced air inlet attenuator
- Dust tight control enclosure
- Hanger brackets

DIMENSIONAL DATA | BASE UNIT | SIZE 7



* Check NEC for unit clearance requirements.

UNIT SIZE	INLET SIZE	MAX PRIMARY CFM	MAX FAN CFM	PSC HP
7	16	3660	3900	(2) 3/4

NOTES: Left-hand base unit with electronic control enclosure shown; right hand is available. Recommended duct connection is 32"x11".

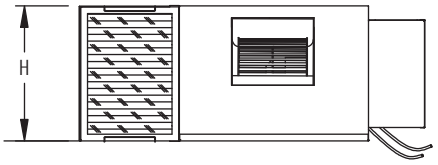
STANDARD FEATURES (UNIT SIZE 7)

- 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
- [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
- 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

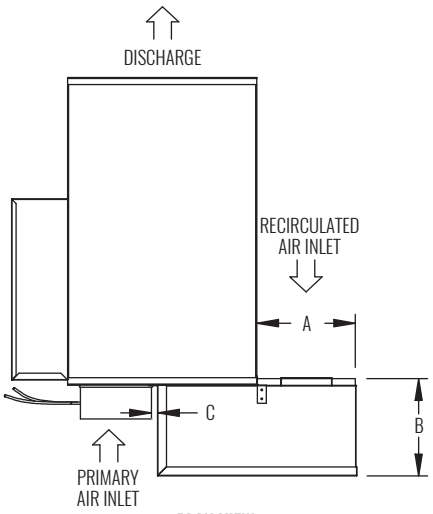
OPTIONAL FEATURES (UNIT SIZE 7)

- 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
- [120, 208/240, or 277 volt, single-voltage] ECM motor with manual or remote adjustable speed controller
- Left-hand or right-hand control enclosure
- Motor disconnect
- Motor fusing
- Induced air filter, construction type; size 17"x17"x1" (qty 2)
- Induced air inlet attenuator
- Dust tight control enclosure
- Hanger brackets

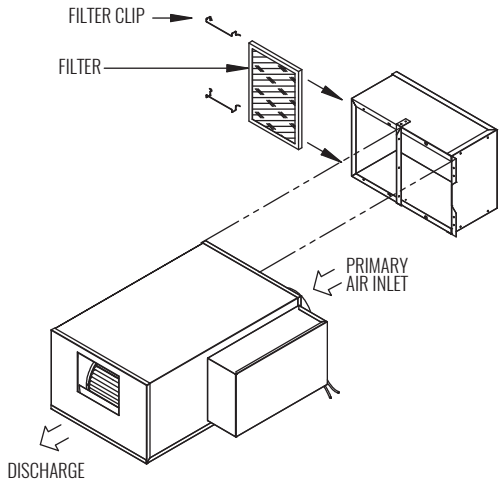
DIMENSIONAL DATA | ATTENUATOR | SIZES 2 - 6



DISCHARGE VIEW



PLAN VIEW

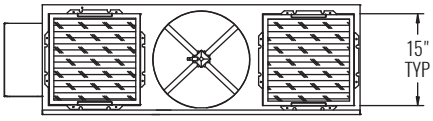


EXPLODED VIEW

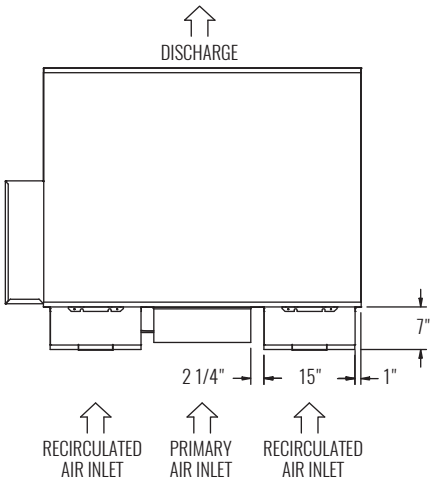
UNIT SIZE	INLET SIZE	H	A	B	C
2	6	15"	12"	11"	4 1/2"
3	6	15"	12"	11"	4 1/2"
3	8	15"	12"	11"	3 1/2"
4	8	17 1/2"	17"	16 1/2"	7 1/4"
4	10	17 1/2"	17"	16 1/2"	4 1/4"
4	12	17 1/2"	17"	16 1/2"	2 1/4"
5	10	17 1/2"	17"	16 1/2"	4 1/4"
5	12	17 1/2"	17"	16 1/2"	2 1/4"
6	12	17 1/2"	17"	16 1/2"	2 1/4"
6	14	17 1/2"	17"	16 1/2"	1 1/4"

NOTE: Unit size 7 includes two attenuator kits.

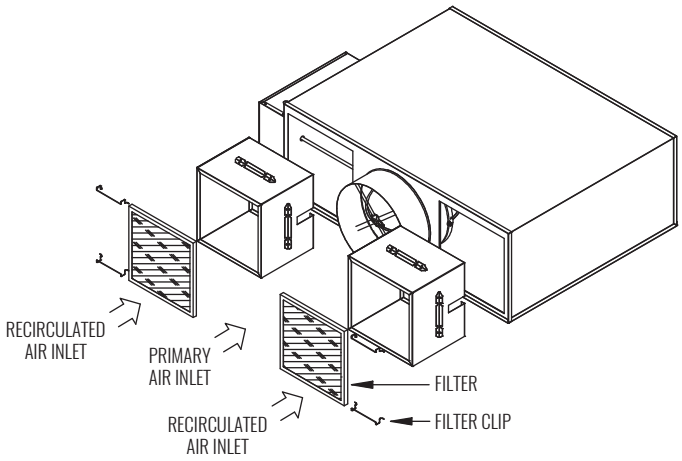
DIMENSIONAL DATA | ATTENUATOR | SIZE 7



INLET VIEW

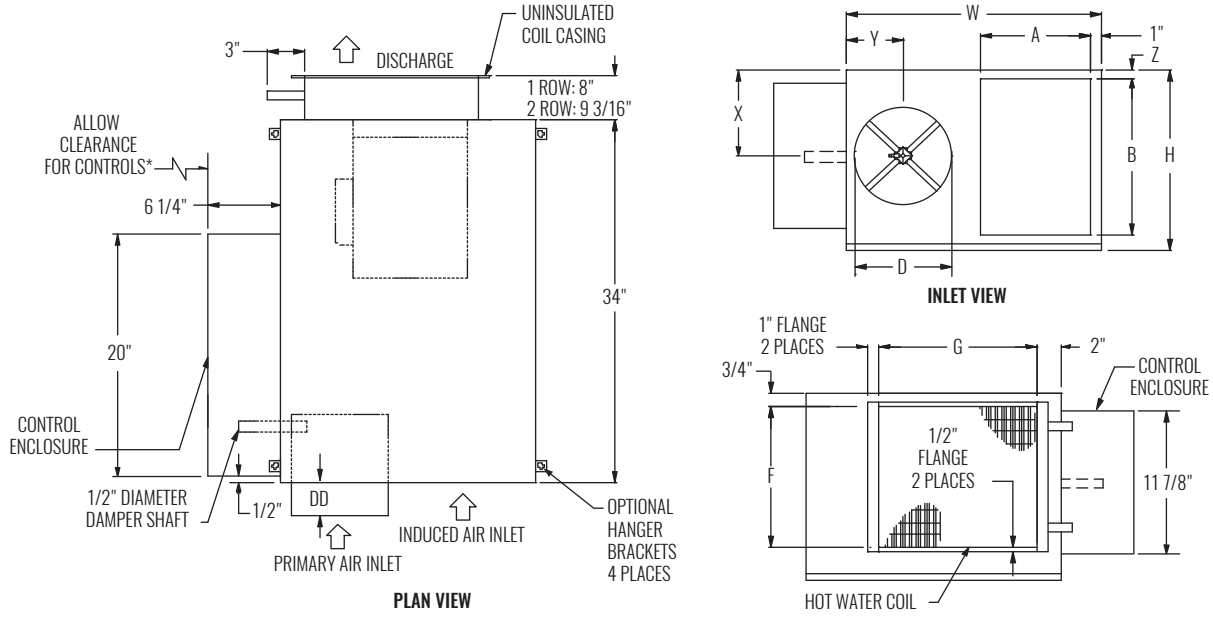


PLAN VIEW



EXPLODED VIEW

DIMENSIONAL DATA | BASE UNIT WITH HOT WATER HEAT | SIZES 2 - 6



* Check NEC for unit clearance requirements.

UNIT SIZE	INLET SIZE	MAX PRIMARY CFM	MAX FAN CFM		PSC HP	W	H	INDUCED AIR		D	DISCHARGE		X	Y	Z
			1-ROW	2-ROW				A	B		F	G			
2	06	515	545	535	1/10	21"	15"	9"	13"	5 7/8"	12 1/2"	15"	7 1/2"	5 3/8"	1"
3	06	515	925	910	1/4	21"	15"	9"	13"	5 7/8"	12 1/2"	15"	7 1/2"	5 3/8"	1"
3	08	910	925	910	1/4	21"	15"	9"	13"	7 7/8"	12 1/2"	15"	7 1/2"	5 3/8"	1"
4	08	920	1430	1415	1/4	32 1/4"	17 3/4"	14 3/8"	15"	7 7/8"	12 1/2"	22"	8 7/8"	5 3/8"	1 3/8"
4	10	1415	1430	1415	1/4	32 1/4"	17 3/4"	14 3/8"	15"	9 7/8"	12 1/2"	22"	8 7/8"	7 3/8"	1 3/8"
4	12	1415	1430	1415	1/4	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	12 1/2"	22"	8 7/8"	8 3/8"	1 3/8"
5	10	1430	2125	2105	1/2	32 1/4"	17 3/4"	14 3/8"	15"	9 7/8"	15"	22"	8 7/8"	7 3/8"	1 3/8"
5	12	2060	2125	2105	1/2	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	15"	22"	8 7/8"	8 3/8"	1 3/8"
6	12	2060	2430	2345	3/4	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	15"	24 1/2"	8 7/8"	8 3/8"	1 3/8"
6	14	2345	2430	2345	3/4	32 1/4"	17 3/4"	14 3/8"	15"	13 7/8"	15"	24 1/2"	8 7/8"	8 3/8"	1 3/8"

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

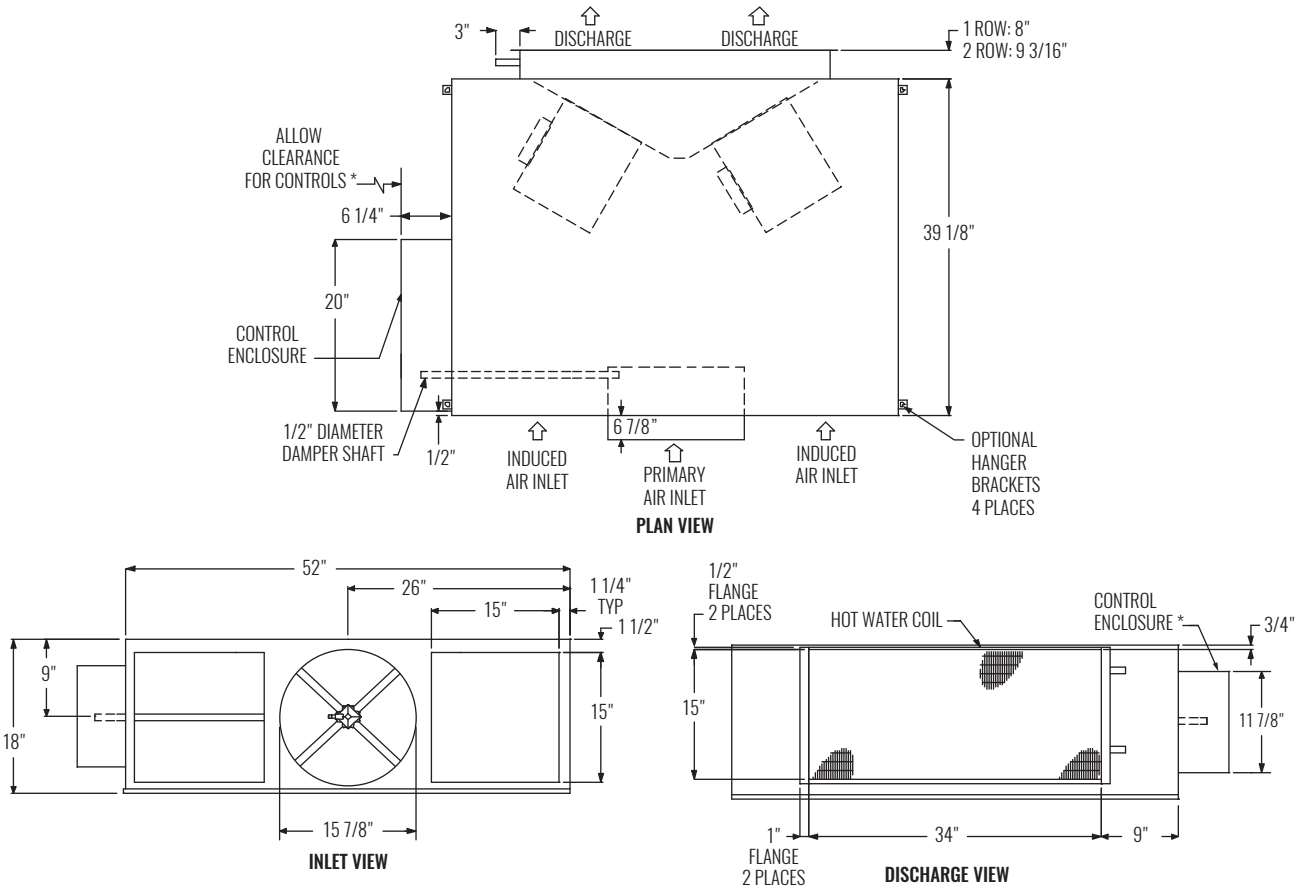
STANDARD FEATURES (UNIT SIZES 2 - 6)

- 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 (UNIT SIZES 2 - 6)

- 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")
- [120, 208/240, or 277 volt, single-voltage] ECM motor with manual or remote adjustable speed controller (on unit sizes 3 and 6)
- Left-hand or right-hand control enclosure
- Hot water coil vent and drain
- Coil access panel
- Induced air filter, construction type; unit sizes 2 - 3 (11"x15"x1"); unit sizes 4 - 6 (17"x17"x1")
- Induced air inlet attenuator
- Motor disconnect
- Dust tight control enclosure
- Motor fusing
- Hanger brackets

DIMENSIONAL DATA | BASE UNIT WITH HOT WATER HEAT | SIZE 7



* Check NEC for unit clearance requirements.

UNIT SIZE	INLET SIZE	MAX PRIMARY CFM	MAX FAN CFM		PSC HP
			1-ROW	2-ROW	
7	16	3530	3695	3530	(2) 3/4

NOTES: Left-hand base unit with electronic control enclosure shown; right hand is available. Recommended duct connection is 32”x11”.

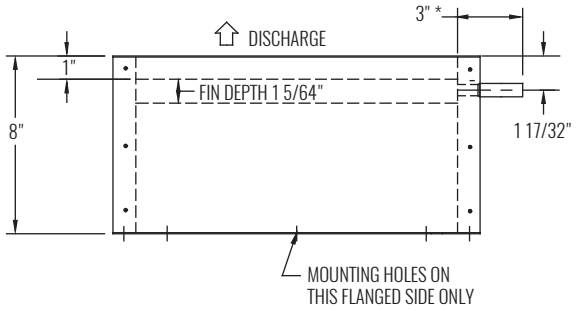
STANDARD FEATURES (UNIT SIZE 7)

- 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
- [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
- 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

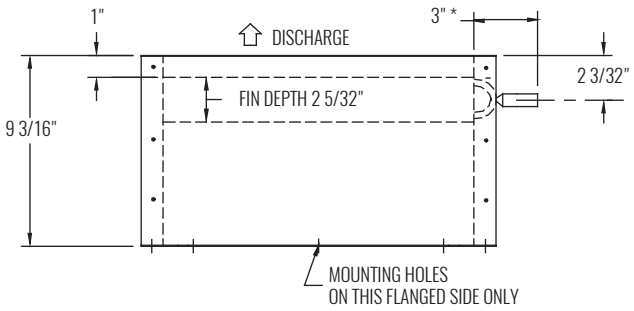
OPTIONAL FEATURES (UNIT SIZE 7)

- 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
- [120, 208/240, or 277 volt, single-voltage] ECM motor with manual or remote adjustable speed controller
- Left-hand or right-hand control enclosure
- Hot water coil vent and drain
- Coil access panel
- Motor disconnect
- Motor fusing
- Induced air filter, construction type; size 17”x17”x1” (qty 2)
- Induced air inlet attenuator
- Dust tight control enclosure
- Hanger brackets

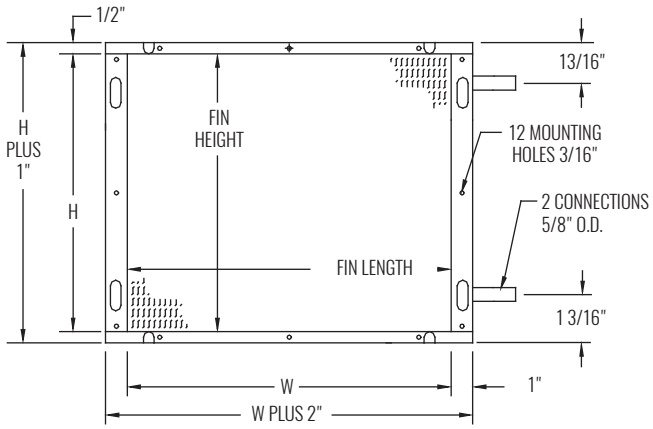
DIMENSIONAL DATA | HOT WATER COILS



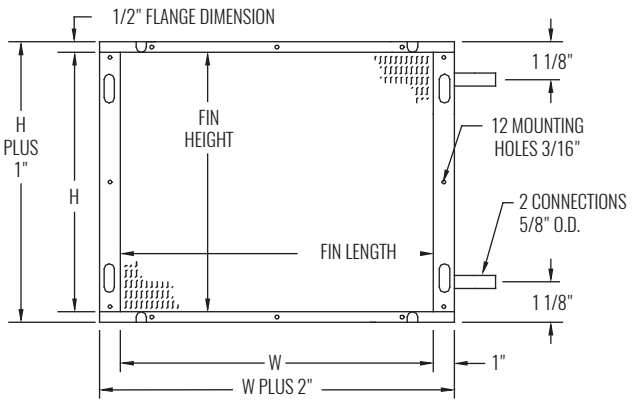
TOP VIEW, 1 ROW



TOP VIEW, 2 ROW



FRONT VIEW, 1 ROW



FRONT VIEW, 2 ROW

UNIT SIZE	W	H
2	15"	12 1/2"
3	15"	12 1/2"
4	22"	12 1/2"
5	22"	15"
6	24 1/2"	15"
7	34"	15"

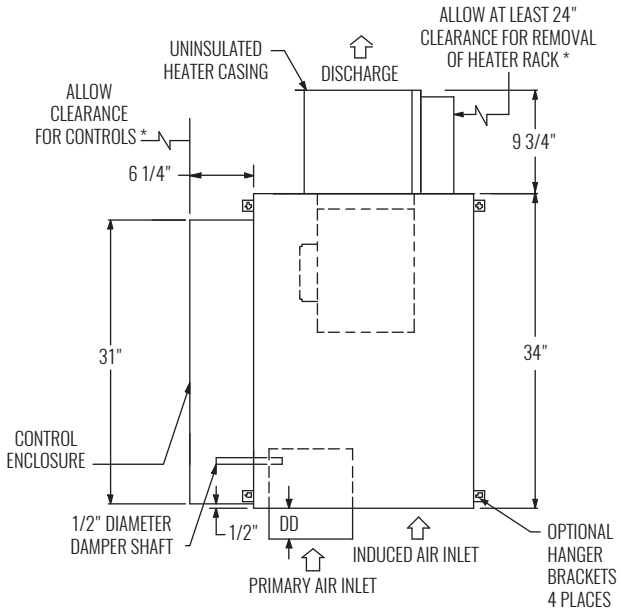
NOTES: 12" Depth for all 1 and 2 row hot water coils with accessories. 6 1/16" Length connection with vent and drain.

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.

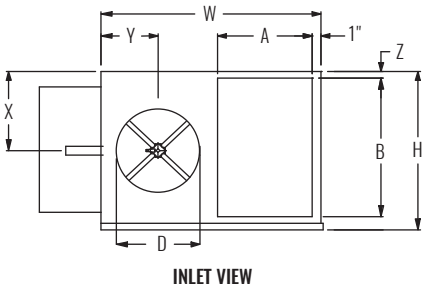
STANDARD FEATURES

- QFC coils are shipped from the factory attached to the unit discharge
- Hot water coils are configured for a flanged ductwork 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

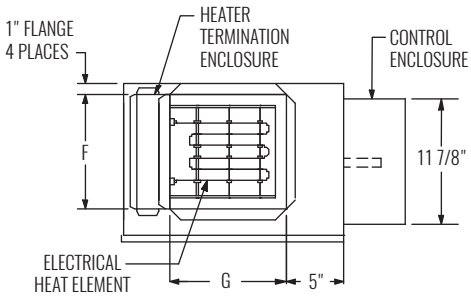
DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT | SIZES 2 - 6



PLAN VIEW



INLET VIEW



DISCHARGE VIEW

* Check NEC for unit clearance requirements.

UNIT SIZE	INLET SIZE	MAX PRIMARY CFM	MAX FAN CFM	PSC HP	W	H	INDUCED AIR		D	DISCHARGE		X	Y	Z
							A	B		F	G			
2	06	515	560	1/10	21"	15"	9"	13"	5 7/8"	11"	11"	7 1/2"	5 3/8"	1"
3	06	515	990	1/4	21"	15"	9"	13"	5 7/8"	11"	11"	7 1/2"	5 3/8"	1"
3	08	920	990	1/4	21"	15"	9"	13"	7 7/8"	11"	11"	7 1/2"	5 3/8"	1"
4	08	920	1440	1/4	32 1/4"	17 3/4"	14 3/8"	15"	7 7/8"	13"	14 1/2"	8 7/8"	5 3/8"	1 3/8"
4	10	1430	1440	1/4	32 1/4"	17 3/4"	14 3/8"	15"	9 7/8"	13"	14 1/2"	8 7/8"	7 3/8"	1 3/8"
4	12	1440	1440	1/4	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	13"	14 1/2"	8 7/8"	8 3/8"	1 3/8"
5	10	1430	2100	1/2	32 1/4"	17 3/4"	14 3/8"	15"	9 7/8"	13"	14 1/2"	8 7/8"	7 3/8"	1 3/8"
5	12	2060	2100	1/2	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	13"	14 1/2"	8 7/8"	8 3/8"	1 3/8"
6	12	2060	2530	3/4	32 1/4"	17 3/4"	14 3/8"	15"	11 7/8"	13"	14 1/2"	8 7/8"	8 3/8"	1 3/8"
6	14	2530	2530	3/4	32 1/4"	17 3/4"	14 3/8"	15"	13 7/8"	13"	14 1/2"	8 7/8"	8 3/8"	1 3/8"

NOTES: Left-hand base unit with electronic control enclosure shown; right hand is available. See page B2-68 for electric heat standard features.

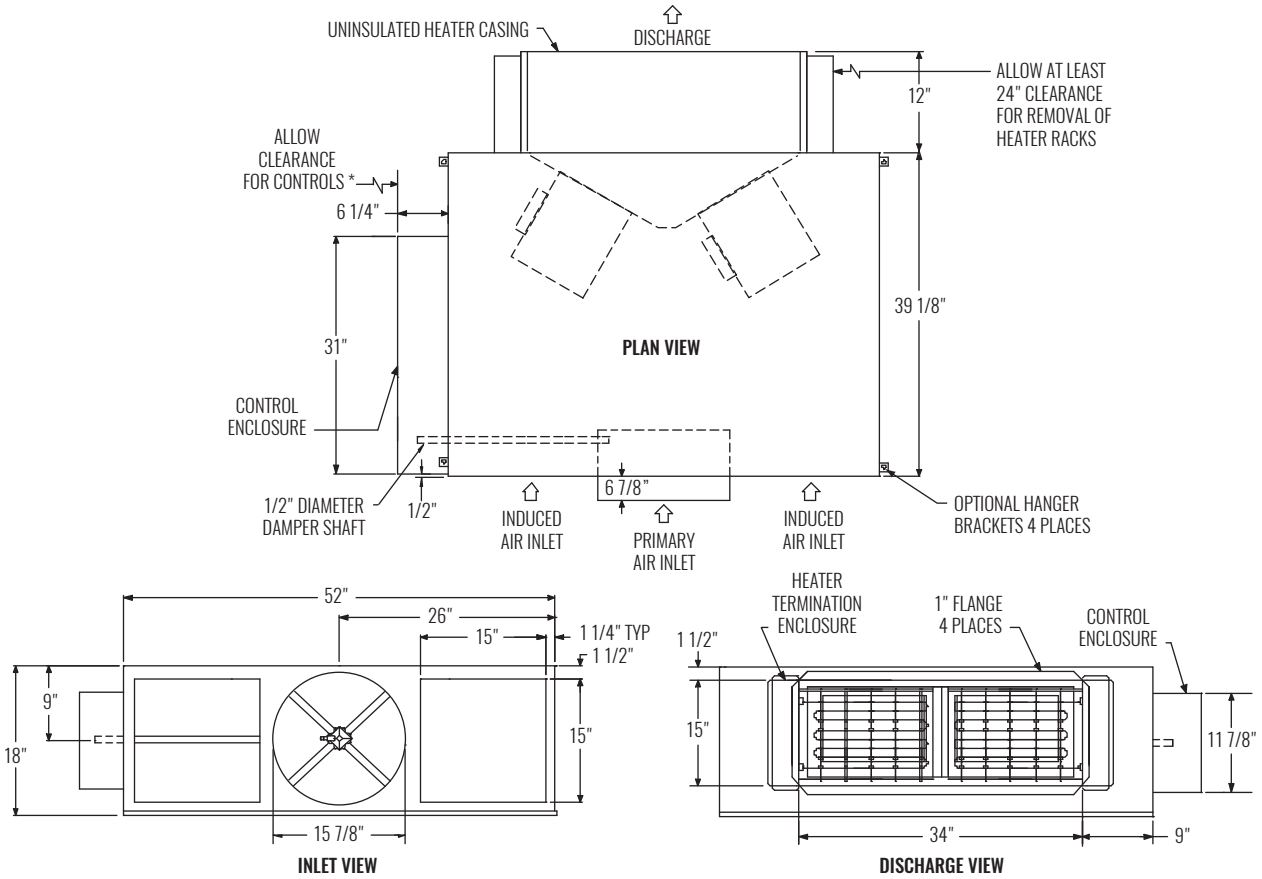
STANDARD FEATURES (UNIT SIZES 2 - 6)

- 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
- AHRI certified sound ratings
- ETL listed; adherence to UL 60335-2-40 and CSA C22.2 No. 60335-2-40
- AHRI certified sound ratings

OPTIONAL FEATURES (UNIT SIZES 2 - 6)

- 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")
- [120, 208/240, or 277 volt, single-voltage] ECM motor with manual or remote adjustable speed controller (on sizes 3 and 6)
- Left-hand or right-hand control enclosure
- Fused or non-fused door interlocking disconnect
- Induced air filter, construction type; unit sizes 2 - 3 (11"x15"x1"); unit sizes 4 - 6 (17"x17"x1")
- Induced air inlet attenuator • AC solid state relay
- Dust tight control enclosure • Manual reset cutout
- Hanger brackets • Motor fusing • Fuse-block

DIMENSIONAL DATA | BASE UNIT WITH ELECTRIC HEAT | SIZE 7



* Check NEC for unit clearance requirements.

UNIT SIZE	INLET SIZE	MAX PRIMARY CFM	MAX FAN CFM	PSC HP
7	16	3660	3900	(2) 3/4

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

STANDARD FEATURES (UNIT SIZE 7)

- 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
- [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
- Flanged discharge connection on electric heat coil
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OPTIONAL FEATURES (UNIT SIZE 7)

- 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
- [120, 208/240, or 277 volt, single-voltage] ECM motor with manual or remote adjustable speed controller
- Left-hand or right-hand control enclosure.
- LineaHeat solid state electronic controlled heater with or without leaving air temperature control
- Hanger brackets
- Motor fusing
- Fused or non-fused door interlocking disconnect
- Dust tight control enclosure
- AC solid state relay
- Manual reset cutout
- Induced air filter, construction type; size 17"x17"x1" (qty 2)
- Induced air inlet attenuator (extends 6")
- Fuse-block

ELECTRIC HEAT FEATURES & CAPACITIES

The kW charts below indicates the maximum and minimum safe limit capacities for each of the QFC 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.
- Units with electronic/pneumatic feature a PE switch per step and a fan PE switch.
- Units with controls include a fan relay and a 24 volt control transformer.
- 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, 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.

$$\text{Unit} = \frac{\text{CFM x } \Delta T\ (°F)}{3160}$$

CALCULATING ELECTRIC HEATER AMPERES

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

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

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

VOLTAGE / PHASE	PSC MOTOR						EC MOTOR		
	UNIT SIZE 2	UNIT SIZE 3	UNIT SIZE 4	UNIT SIZE 5	UNIT SIZE 6	UNIT SIZE 7	UNIT SIZE 3	UNIT SIZE 6	UNIT SIZE 7
	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX
120v / 1Ph	4.0	5.0	5.0	4.5	4.5	N/A	4.5	4.0	N/A
208v / 1Ph	4.0	8.0	9.5	9.0	8.5	7.5	9.0	8.0	6.0
240v / 1Ph	4.0	8.0	11.0	10.5	10.0	9.0	10.0	9.0	7.0
277v / 1Ph	4.0	8.0	12.5	12.5	12.0	10.5	12.0	11.0	9.0
208v / 3Ph	4.0	8.0	14.0	16.0	15.0	13.5	12.5	14.0	10.5
480v / 3Ph	4.0	8.0	14.0	25.0	24.0	32.0	12.5	30.0	28.0

NOTES: Dash indicates not applicable. Maximum values apply to staged heaters only.
Contact your local Krueger representative for LineaHeat limits.