Horizontal | High Capacity



### INTRODUCTION

The Krueger KHG Series A horizontal high capacity fan coil units are designed to maximize flexibility of selection and installation. The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market. Krueger horizontal fan coil units set the new standards for quality, flexibility, and competitive pricing.

### MODEL

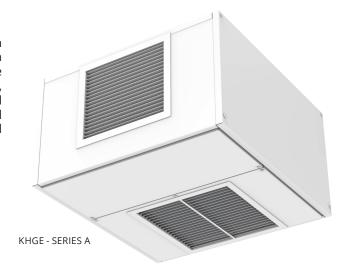
KHGE-Series A - Horizontal High Capacity Fan Coil,

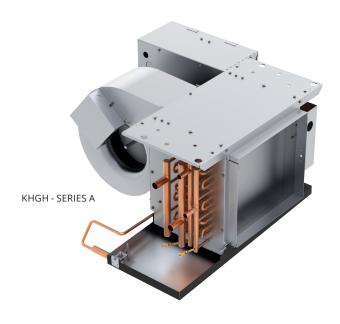
**Exposed Cabinet** 

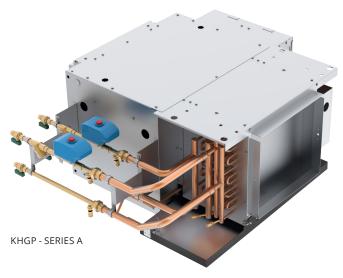
KHGH-Series A - Horizontal High Capacity Fan Coil,

Concealed Ceiling

KHGP-Series A - Horizontal High Capacity Fan Coil, Concealed with Plenum









Horizontal | High Capacity

### PRODUCT DESCRIPTION

### **HIGH PERFORMANCE**

The Krueger KHG Series A horizontal high performance fan coil units are designed to maximize flexibility of selection and installation.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market.

Krueger horizontal fan coil units set the new standards for quality, flexibility, and competitive pricing.

### **DESIGN FLEXIBILITY**

The extensive variety of standard options available on the KHG Series A units are where you find the versatility to fit any HVAC system designer's needs.

Options include: mixing box with linkage, rear or bottom ducted return, foil faced or elastomeric closed cell foam insulation, solid or telescoping bottom panels for unit recessing, single wall stainless steel drain pans, and electric heat with single power connection. All electric heat units are listed with ETL as an assembly and carry the cETL label.

All units comply with the latest edition of AHRI Standard 440 for testing and rating fan coil units, are certified, and display the AHRI symbol.

High efficiency motors, fan relays, disconnects and fusing mean easier coordination between mechanical and electrical trades.

Coil options allow for three, four or six row chilled water or DX coils. One to four row hot water or one and two row standard steam coils may be placed in the preheat or reheat position.

### **QUALITY PRODUCT**

KHG Series A fan coil units are built from galvanized steel. Exposed Model KHGE cabinetry is powder coated galvannealed steel.

Standard insulation is 1/2 inch thick fiberglass, complying with UL 181 and NFPA 90A. Optional foil faced or elastomeric closed cell foam insulation may be specified.

All units, with or without electric heat, are cETL listed and labeled. All wiring is in compliance with NEC, assuring safety and quality for the owner.

KHG Series A fan coil units have a removable fan assembly. The entire fan assembly can be removed from the unit and serviced easily on a workbench.

### **CONVENIENT INSTALLATION**

All KHG Series A fan coil units are shipped completely assembled, reducing field installation time and labor. All units are thoroughly inspected and tested prior to shipment, eliminating potential problems at startup. Motor wiring is brought to a junction box on the outside of the unit casing, reducing electrical hook-up time.

Plenum units are field convertible for either rear or bottom return without the need for special adapters and tools.

All KHG Series A fan coil units have a bottom and side access electrical enclosure, allowing easy access to all electrical components, terminal blocks and wiring.

Available factory installed control packages can greatly reduce field labor and setup time. Consisting of control transformer and all needed relays, these packages integrate seamlessly with either factory provided thermostats or field installed thermostats and controllers.

Factory furnished valve packages assure proper fit, operation and performance. Valve packages are completely assembled and shipped loose with the units.

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### PRODUCT DESCRIPTION (CONTINUED)

### STANDARD FEATURES

### Construction

### All Units

- AHRI 440 certified and labeled
- Galvanized steel construction
- 1/2" thick fiberglass insulation
- 1 1/2" duct discharge collar
- Four point hanger mounting brackets

### Plenum units

- Integral filter rack with 1" throwaway filter
- Integral rear ducted return field reversible to bottom return

### **Exposed units**

- Single deflection rear return grille
- · Double deflection discharge grille
- Durable powder coat paint
- 18 gauge cabinet construction

### Coils

- · AHRI 440 certified and labeled
- Cooling 3, 4 or 6-row chilled water or DX, heat pump compatible
- Heating 1, 2, 3 or 4-row hot water or 1 or 2-row steam - reheat or preheat position
- 8 total rows of cooling and heating coils maximum
- 3/8" O.D. seamless copper tubes
- 0.012" tube wall thickness
- High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- · Left or right-hand connections
- Manual air vent

### **Drain Pans**

- Single wall, galvanized steel, externally insulated fire retardant and antimicrobial closed cell foam
- Sloped to drain connection
- Tool-free removable
- 7/8" O.D. primary drain connection

### **Fan Assemblies**

- Forward curved, DWDI centrifugal type
- 115 volt, 1-phase, 3-tap PSC motors
- Quick disconnect motor connections
- Removable fan(s)/motor(s) for service

### **Electrical**

- cETL listed for safety compliance
- Electrical junction box for field wiring terminations
- Terminal block for field connections

### **Electric Heat**

- cETL listed as an assembly for safety compliance
- Integral electric heat assembly with removable elements for easy service
- Automatic reset primary and back-up secondary thermal limits
- Single point power connection
- · Bottom-hinged electrical enclosure

### **OPTIONAL FEATURES**

### Construction

### All Units

- Foil faced fiberglass insulation
- Elastomeric closed cell foam insulation

### Plenum Units

- Bottom return
- Mixing box with top/rear or rear/bottom dampers field reversible
- · Damper actuator
- Spare 1" throwaway filters; 1" and 2" pleated filters

### Exposed Units

- Single deflection bottom return grille
- Ducted supply and rear return

### Coils

- Automatic air vents
- Stainless steel coil casings
- 1/2" O.D. seamless copper tubes (0.016" or 0.025" tube wall thickness)

### **Drain Pans**

- Stainless steel with external insulation
- 5/8" O.D. secondary drain connection
- Auxiliary drip pans

### Fan Assemblies

- 208-230 & 277 volt, 1-phase, 3-tap PSC motors
- EC motors

### **Electrical**

- Side access electrical enclosure
- Silent solid state fan relays
- SCR fan speed controller (only for high speed)
- Toggle disconnect switch
- Condensate overflow switch (drain pan)
- Main fusing
- Unit and remote mounted 3-speed fan switches
- Fan relay packages
- Control power transformers

### **Electric Heat**

- · Door interlocking disconnect switches
- Main fusing
- · Silent relay / contactor

### **Piping Packages**

- Factory assembled shipped loose or pre-installed
- 1/2", 3/4", and 1", 2 and 3-way normally closed, 2-position electric motorized valves
- Isolation ball valves with memory stop
- Fixed and adjustable flow control devices
- Unions and P/T ports
- Modulating control valves

### **Thermostats**

- Remote mounted analog, digital display or programmable
- 2 and 4-pipe control sequences
- Automatic and manual changeover
- Integral 3-speed fan switches



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### **CONSTRUCTION HIGHLIGHTS**

1/2" thick fiberglass insulation (standard) or foil faced or elastomeric closed cell foam insulation (optional)

Integral filter rack with 1" filter and integral rear ducted (shown) or bottom return on all plenum units. Optional 2" filter available. Galvanized steel casing

1" minimum duct collar allows quick field connection of duct work

ETL and AHRI 440 listed and labeled



Coils are AHRI 410 listed and labeled

Chilled water or DX cooling coils up to 6 rows

Hot water heating coils up to 4 rows, or steam coils up to 2 rows can be mounted in the preheat or reheat position. Maximum of 8 rows total.

Optional electric resistance heat is ETL listed as an assembly for safety compliance

Enclosure allows easy side access to all electrical components

Permanently lubricated, three tap, PSC fan motors designed for quiet and efficient operation

Single point power connection on all units with electric heat

Removable fan assembly for bottom or rear access and servicing Single wall galvanized or stainless steel (optional) drain pans are sloped to drain connections.

Drain pans can be easily removed for cleaning. Available with optional auxiliary drip pan (shown above).

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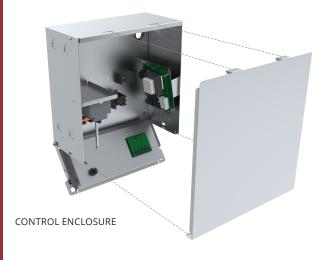
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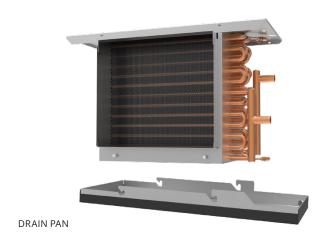


### **CONSTRUCTION HIGHLIGHTS**

**ELECTRICAL ENCLOSURE:** The side access electrical enclosure provides access to all electric heat and control components. Terminal strips are furnished for simple power and control wiring connections. Multiple knockouts allow wiring entries from either side of the compartment.

**DRAIN PAN:** Standard drain pans are externally insulated, single wall galvanized steel with an option for stainless steel. Drain pans are available with secondary drain connection. On concealed models, the KHG Series A drain pan is easily removable for cleaning.





**MIXING BOX:** The optional fully insulated mixing box section comes completely assembled to the KHGP unit, featuring low leakage, heavy gauge steel dampers with integral linkage. Damper positioning is field configurable and bottom filter access is standard. An optional factory provided and installed damper actuator is also available.

**FILTERS:** 1" throwaway filters are tight fitting to prevent air bypass. Filters are easily removable from the bottom without the need for tools. The filter rack is convertible from rear to bottom return without the need for additional parts. Optional 1" and 2" pleated filters are available for use with the KHGP unit.



MIXING BOX



**COILS:** All fan coils are available in 2 or 4-pipe configurations. The heating coil may be placed in the reheat or preheat position.

**POWDER COATED PAINTED SURFACE:** Exposed cabinet model KHGE features a powder coat finish that resists scuffing, scratching, fading, and fingerprints.

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### **COIL & FILTER DATA**

### COILS

Krueger offers hot water, chilled water, direct expansion (DX), and standard steam coils for specific application with all KHG Series A fan coil units. Strict on-site inspection before, during, and after installation guarantees the highest quality and performance available.

### STANDARD FEATURES

- Cooling 3, 4 or 6-row chilled water or DX
- Heating 1, 2, 3 or 4-row hot water, or 1 or 2-row steam
- 8 total rows of cooling and heating coils maximum
- 3/8" O.D. seamless copper tubes
- 0.012" tube wall thickness
- High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- · Left or right-hand connections
- Manual air vents

### **OPTIONAL FEATURES**

- 1/2" O.D. seamless copper tubes
- 0.016" or 0.025" tube wall thickness
- Automatic air vents
- Stainless steel coil casings
- DX coils are heat pump compatible

Krueger offers a web-based fan coil rating and selection program for complete unit, coil, and sound selection. Contact your representative for more information.

### NOMINAL COIL CONNECTION SIZES

				COIL TYPE			
UNIT SIZE		WA	ATER			STEAM	
	1-ROW	2-ROW	3-ROW	4-ROW	6-ROW	1-ROW	2-ROW
06	5/8" (16)	5/8" (16)	7/8" (22)	7/8" (22)	7/8" (22)	5/8" (16)	7/8" (22)
08	5/8" (16)	5/8" (16)	7/8" (22)	7/8" (22)	7/8" (22)	5/8" (16)	7/8" (22)
10	5/8" (16)	5/8" (16)	7/8" (22)	7/8" (22)	7/8" (22)	5/8" (16)	7/8" (22)
12	5/8" (16)	5/8" (16)	7/8" (22)	7/8" (22)	7/8" (22)	7/8" (22)	7/8" (22)
14	7/8" (22)	7/8" (22)	1 1/8" (29)	1 1/8" (29)	1 1/8" (29)	7/8" (22)	1 1/8" (29)
16	7/8" (22)	7/8" (22)	1 1/8" (29)	1 1/8" (29)	1 1/8" (29)	7/8" (22)	1 1/8" (29)
18	7/8" (22)	7/8" (22)	1 1/8" (29)	1 1/8" (29)	1 1/8" (29)	7/8" (22)	1 1/8" (29)
20	7/8" (22)	7/8" (22)	1 1/8" (29)	1 1/8" (29)	1 1/8" (29)	7/8" (22)	1 1/8" (29)

NOTES: All dimensional data is outside diameter (O.D.), measured in inches (millimeters). See submittal drawings for connection locations. Connection sizes are for standard circuit coils. Consult factory for special applications. Direct Expansion (DX) suction header connection sizes are either 5/8" (16mm) or 7/8" (22mm). Refer to coil selection. DX coils include a fixed orifice distributor for multi-circuited coils. A DX coil with a single circuit requires no distributor. Thermal expansion valves (TXV's) are field supplied by others.

### **FACE AREA, FREE AREA, AND FILTER SIZES**

•	•				
UNIT SIZE	COIL Face area	NOMINAL FILTER SIZES	1" THROWAWAY Face Area	1" PLEATED Gross Media Area	2" PLEATED Gross Media Area
06	1.46 [0.14]	(Qty 1) 16" x 16" (406 x 406)	1.62 [0.15]	4.0 [0.37]	5.4 [0.50]
08	1.94 [0.18]	(Qty 1) 16" x 20" (406 x 508)	2.04 [0.19]	4.8 [0.45]	6.8 [0.63]
10	2.33 [0.22]	(Qty 1) 16" x 25" (406 x 381)	2.57 [0.24]	6.0 [0.56]	8.5 [0.79]
12	2.82 [0.26]	(Qty 2) 16" x 16" (406 x 406)	3.23 [0.30]	8.0 [0.74]	10.4 [0.97]
14	3.31 [0.31]	(Qty 1) 16" x 16" and (Qty 1) 16" x 20" (Qty 1) (406 x 406) and (Qty 1) (406 x 508)	3.65 [0.34]	8.8 [0.82]	12.2 [1.13]
16	3.79 [0.35]	(Qty 2) 16" x 20" (406 x 508)	4.08 [0.38]	9.6 [0.89]	13.4 [1.24]
18	4.28 [0.40]	(Qty 1) 16" x 20" and (Qty 1) 16" x 25" (Qty 1) (406 x 508) and (Qty 1) (406 x 635)	4.61 [0.43]	10.8 [1.00]	14.3 [1.33]
20	4.67 [0.43]	(Qty 2) 16" x 25" (406 x 635)	5.14 [0.48]	12.0 [1.11]	17.0 [1.58]

NOTES: Face and free areas are in square feet [square meters]. Filter sizes are in inches (millimeters).

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### **UNIT WEIGHTS**

				1/2"	COILS				
20110	ONENT				UNIT	SIZE			
CUMP	ONENT	06	08	10	12	14	16	18	20
KHGH BA	ASE UNIT	68 [31]	73 [33]	77 [35]	114 [52]	119 [54]	124 [56]	128 [58]	132 [60]
KHGP BA	ASE UNIT	87 [40]	95 [43]	101 [46]	141 [64]	150 [68]	157 [71]	164 [75]	170 [77]
KHGP WITH	MIXING BOX	119 [54]	132 [60]	144 [65]	189 [86]	204 [93]	217 [99]	229 [104]	246 [112]
KHGE BA	ASE UNIT	137 [62]	146 [66]	158 [72]	202 [92]	219 [99]	228 [103]	240 [109]	250 [113]
KHGE EXTE	ENDED UNIT	162 [62]	171 [78]	183 [83]	227 [103]	244 [111]	253 [115]	265 [120]	275 [125]
	1 - DRY	5 [2]	6 [3]	7 [3]	8 [4]	10 [5]	10 [5]	11 [5]	12 [5]
	1 - WET	7 [3.2]	9 [4.1]	10 [4.5]	11 [5]	14 [6.4]	14 [6.4]	16 [7.3]	17 [7.7]
	2 - DRY	11 [5]	13 [5.9]	14 [6.4]	16 [7.3]	20 [9.1]	20 [9.1]	22 [10]	24 [10.9]
	2 - WET	14 [6.4]	18 [8.2]	20 [9.1]	23 [10.4]	27 [12.2]	28 [12.7]	32 [14.5]	35 [15.9]
	3 - DRY	16 [7.3]	19 [8.6]	21 [9.5]	24 [10.9]	30 [13.6]	30 [13.6]	33 [15]	36 [16.3]
	3 - WET	21 [9.5]	27 [12.2]	30 [13.6]	34 [15.4]	41 [18.6]	42 [19.1]	48 [21.8]	52 [23.6]
	4 - DRY	21 [9.5]	25 [11.3]	29 [13.2]	33 [15]	40 [18.1]	40 [18.1]	44 [20]	48 [21.8]
OOII DOWE	4 - WET	27 [12.2]	35 [15.9]	41 [18.6]	46 [20.9]	54 [24.5]	56 [25.4]	64 [29]	69 [31.3]
COIL ROWS	5 - DRY	26 [11.8]	30 [13.6]	34 [15.4]	38 [17.2]	42 [19.1]	46 [20.9]	50 [22.7]	54 [24.5]
	5 - WET	33 [15]	39 [17.7]	45 [20.4]	51 [23.1]	57 [25.9]	63 [28.6]	70 [31.8]	77 [34.9]
	6 - DRY	32 [14.5]	38 [17.2]	43 [19.5]	49 [22.2]	59 [26.8]	61 [27.7]	67 [30.4]	71 [32.2]
	6 - WET	42 [19.1]	53 [24]	61 [27.7]	69 [31.3]	80 [36.3]	85 [38.6]	97 [44]	103 [46.7]
	7 - DRY	38 [17.2]	42 [19.1]	48 [21.8]	54 [24.5]	60 [27.2]	66 [29.9]	72 [32.7]	78 [35.4]
	7 - WET	49 [22.2]	56 [25.4]	63 [28.6]	70 [31.8]	77 [34.9]	84 [38.1]	91 [41.3]	98 [44.5]
	8 - DRY	43 [19.5]	49 [22.2]	55 [24.9]	61 [27.7]	67 [30.4]	73 [33.1]	79 [35.8]	85 [38.6]
	8 - WET	55 [24.9]	63 [28.6]	71 [32.2]	79 [35.8]	87 [39.5]	95 [43.1]	103 [46.7]	111 [50.3]

NOTE: Unit weight data is in pounds [kilograms].

				3/8"	COILS				
20110	ONENT.				UNIT	SIZE			
COMPO	JNEN I	06	08	10	12	14	16	18	20
KHGH BA	ASE UNIT	68 [31]	73 [33]	77 [35]	114 [52]	119 [54]	124 [56]	128 [58]	132 [60]
KHGP BA	ASE UNIT	87 [39]	95 [43]	101 [46]	141 [64]	150 [68]	157 [71]	164 [74]	170 [77]
KHGP WITH I	MIXING BOX	119 [54]	132 [60]	144 [65]	189 [86]	204 [93]	217 [98]	229 [104]	246 [112]
KHGE BA	SE UNIT	137 [62]	146 [66]	158 [72]	202 [92]	219 [99]	228 [103]	240 [109]	250 [113]
KHGE EXTE	NDED UNIT	162 [73]	171 [78]	183 [83]	227 [103]	244 [111]	253 [115]	265 [120]	275 [125]
	1 - DRY	4 [1.7]	5 [2.1]	6 [2.6]	6 [2.9]	8 [3.6]	9 [3.9]	9 [4.3]	10 [4.5]
	1 - WET	5 [2.4]	7 [3.1]	8 [3.6]	9 [4]	11 [5]	12 [5.5]	14 [6.2]	14 [6.4]
	2 - DRY	8 [3.8]	10 [4.5]	11 [5.1]	13 [5.8]	16 [7.1]	17 [7.8]	19 [8.5]	20 [9.1]
	2 - WET	11 [4.8]	14 [6.2]	16 [7.3]	18 [8.3]	21 [9.6]	24 [10.9]	27 [12.4]	29 [13.2]
	3 - DRY	12 [5.5]	14 [6.5]	17 [7.7]	19 [8.7]	24 [10.7]	26 [11.7]	28 [12.8]	30 [13.6]
	3 - WET	16 [7.2]	20 [9.3]	24 [10.9]	27 [12.3]	32 [14.6]	36 [16.4]	41 [18.6]	43 [19.7]
	4 - DRY	17 [7.9]	20 [9.2]	24 [10.8]	27 [12.2]	33 [14.8]	32 [14.7]	35 [16.1]	38 [17.4]
OOII DOWO	4 - WET	20 [9.2]	27 [12]	33 [14.9]	37 [16.7]	42 [19.2]	48 [21.9]	55 [24.8]	58 [26.1]
COIL ROWS	5 - DRY	20 [8.9]	23 [10.3]	27 [12.4]	30 [13.8]	33 [14.9]	40 [18]	43 [19.4]	45 [20.4]
	5 - WET	25 [11.3]	30 [13.4]	36 [16.4]	41 [18.5]	45 [20.3]	54 [24.6]	60 [27.1]	64 [29.1]
	6 - DRY	24 [11]	29 [13.1]	35 [15.7]	39 [17.8]	46 [21]	53 [23.8]	57 [25.9]	59 [26.9]
	6 - WET	32 [14.4]	40 [18.2]	49 [22.2]	55 [25]	63 [28.4]	73 [33.2]	83 [37.5]	86 [39]
	7 - DRY	29 [13]	32 [14.4]	39 [17.5]	43 [19.6]	47 [21.3]	57 [25.8]	61 [27.9]	65 [29.5]
	7 - WET	37 [16.8]	42 [19.3]	51 [23]	56 [25.4]	60 [27.4]	72 [32.8]	78 [35.2]	82 [37.1]
	8 - DRY	32 [14.7]	37 [16.8]	44 [20]	49 [22.1]	53 [23.8]	63 [28.5]	67 [30.6]	71 [32.1]
	8 - WET	42 [18.8]	48 [21.7]	57 [25.9]	63 [28.7]	68 [30.9]	82 [37.1]	88 [39.9]	93 [42]

NOTE: Unit weight data is in pounds [kilograms].



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### **AHRI 440 CERTIFIED RATINGS**

	CO	DIL	AUDELOW OFM	COOLING	CAPACITY	WAT	ER	DOWED											
MODEL / SIZE	ROWS	FPI	AIRFLOW CFM (DRY FLOW)	QT (BTUH)	QS (BTUH)	FLOW RATE GPM	WPD ft-wg	POWER INPUT (Watts)											
KHGH06			668	21500	15800	4.9	8.4	229											
KHGH08			922	29900	21800	6.7	9.3	377											
KHGH10			939	30000	22200	6.7	4.2	419											
KHGH12	4	12	1459	40700	31500	9.4	4.3	517											
KHGH14	4	12	1748	53000	39500	12.0	7.9	683											
KHGH16			1985	53000	42100	12.0	2.5	864											
KHGH18			2005	59500	45300	13.5	3.5	835											
KHGH20			1986	62800	46600	14.1	4.0	706											
KHGP06			642	21000	15400	4.8	8.2	235											
KHGP08			900	29600	21500	6.7	9.3	386											
KHGP10			918	29700	21900	6.7	4.2	426											
KHGP12	4	12	1398	39700	30600	9.2	4.1	529											
KHGP14	4	12	12	12	1698	51800	38600	11.7	7.5	701									
KHGP16			1936	51800	41100	11.7	2.4	882											
KHGP18			1938	58100	44100	13.2	3.3	815											
KHGP20			1947	62200	46000	14.1	4.0	721											
KHGE06			663	21500	15700	4.9	8.4	230											
KHGE08			918	26900	20500	6.0	4.6	379											
KHGE10														957	30800	22800	7.0	4.6	413
KHGE12	4	10	1431	40400	31100	9.4	4.3	522											
KHGE14	4	12	1710	51900	38700	11.7	7.5	697											
KHGE16			1970	52800	41900	12.0	2.5	872											
KHGE18			2007	59500	45300	13.5	3.5	835											
KHGE20			2002	63500	47100	14.3	4.2	699											

NOTE: Based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F temperature rise, high fan speed. Motor type is ECM and motor voltage is 115/1/60. Airflow underdry coil conditions. All models tested at 0.20″ external static pressure.

### **HEATING CAPACITY**

IINIT	UNIT NOMINAL		1-ROW			2-ROW			3-ROW			4-ROW		
SIZE	CFM	QS (MBH)	GPM	WPD										
KHG06	600	17.5	0.9	1.6	30.2	1.5	1.4	41.7	2.1	1.0	48.3	2.5	0.9	
KHG08	800	24.3	1.2	3.2	41.8	2.1	2.6	57.6	2.9	2.0	66.5	3.4	1.6	
KHG10	1000	27.8	1.4	0.8	52.4	2.7	4.1	70.5	3.6	1.5	80.6	4.1	1.0	
KHG12	1200	34.5	1.8	0.9	61.8	3.2	1.8	86.4	4.4	2.3	98.8	5.1	1.6	
KHG14	1400	41.3	2.1	1.7	73.4	3.8	2.6	98.6	5.0	1.4	117.1	6.0	1.8	
KHG16	1600	48.1	2.5	2.4	85.1	4.4	3.6	114.5	5.9	1.9	126.5	6.5	0.6	
KHG18	1800	54.9	2.8	3.2	96.8	5.0	4.9	130.4	6.7	2.5	144.7	7.4	0.7	
KHG20	2000	61.0	3.1	4.1	107.5	5.5	6.1	145.3	7.4	2.4	161.7	8.3	0.9	

 $NOTE: Based \ on \ 70^{\circ}F \ DB \ EAT, \ 180^{\circ}F \ EWT, \ 40^{\circ}F \ temperature \ drop, high \ fan \ speed. \ KHGE \ performance \ data \ varies \ from \ KHGH \ and \ KHGP \ units.$ 

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Horizontal | High Capacity



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

### **ELECTRIC HEAT STANDARD FEATURES**

- ETL listed as an assembly for safety compliance.
- Single point power connection.
- · Mounted in preheat position.
- Automatic reset primary and back-up secondary thermal limits.
- Internal wiring rated at 105°C.
- Integral electric heat assembly with removable element for easy service.

### **OPTIONAL HEATER CONTROL**

- Solid state silent relay.
- · Door interlocking disconnect switch.
- Main fusing (for equal to or less than 48 AMPs).

### **ELECTRICAL CALCULATIONS INFORMATION**

- Refer to MCA/MOP values from performance printouts from software.
- Non-fused door interlock disconnect switch shall be sized according to MCA.
- Fused door interlock disconnect switch and main fusing shall be sized according to MOP.

### **USEFUL FORMULAS**

 $kW* = (CFM \times \Delta T \times 1.085**) / 3413$ 1Ø AMPs = ( $kW \times 1000$ ) / Volts

- \* 1kW = 3413 BTU/H
- \*\* Capacity at Sea Level

### **ALTITUDE CONSIDERATIONS:**

Reduce by 0.034 for each 1000 ft. of altitude above sea level.

Example: 5000 ft./1000 ft. = 5 5 x 0.034 = 0.17

5 x 0.034 = 0.17 1.085 - 0.17 = 0.915



### **ELECTRIC HEAT SELECTION**

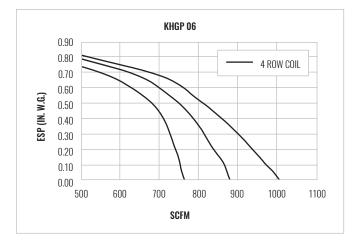
	МВН	6.8	8.5	10.2	11.9	13.7	17.1	20.5	23.9	27.3	30.7	34.1	41.0	47.8
UNIT SIZE	kW	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.0	8.0	9.0	10.0	12.0	14.0
SIZE	VOLTS							AMPS						
	115	17.4	21.7	26.1	30.4	34.8	-	-	-	-	-	-	-	-
06	208	9.6	12.0	14.4	16.8	19.2	-	-	-	-	-	-	-	-
Ub	230	8.7	10.9	13.0	15.2	17.4	-	-	-	-	-	-	-	-
	277	7.2	9.0	10.8	12.6	14.4	-	-	-	-	-	-	-	-
	115	17.4	21.7	26.1	30.4	34.8	43.5	-	-	-	-	-	-	-
0.0	208	9.6	12.0	14.4	16.8	19.2	24.0	28.8	-	-	-	-	-	-
08	230	8.7	10.9	13.0	15.2	17.4	21.7	26.1	-	-	-	-	-	-
	277	7.2	9.0	10.8	12.6	14.4	18.1	21.7	-	-	-	-	-	-
	115	17.4	21.7	26.1	30.4	34.8	43.5	-	-	-	-	-	-	-
10	208	9.6	12.0	14.4	16.8	19.2	24.0	28.8	33.7	-	-	-	-	-
10	230	8.7	10.9	13.0	15.2	17.4	21.7	26.1	30.4	-	-	-	-	-
	277	7.2	9.0	10.8	12.6	14.4	18.1	21.7	25.3	-	-	-	-	-
	115	-	-	-	-	34.8	43.5	-	-	-	-	-	-	-
12	208	-	-	-	-	19.2	24.0	28.8	33.7	38.5	43.3	-	-	-
IZ	230	-	-	-	-	17.4	21.7	26.1	30.4	34.8	39.1	-	-	-
	277	-	-	-	-	14.4	18.1	21.7	25.3	28.9	32.5	-	-	-
	115	-	-	-	-	34.8	43.5	-	-	-	-	-	-	-
14	208	-	-	-	-	19.2	24.0	28.8	33.7	38.5	43.3	48.1	-	-
14	230	-	-	-	-	17.4	21.7	26.1	30.4	34.8	39.1	43.5	-	-
	277	-	-	-	-	14.4	18.1	21.7	25.3	28.9	32.5	36.1	-	-
	115	-	-	-	-	34.8	43.5	-	-	-	-	-	-	-
16	208	-	-	-	-	19.2	24.0	28.8	33.7	38.5	43.3	48.1	57.7	-
10	230	-	-	-	-	17.4	21.7	26.1	30.4	34.8	39.1	43.5	52.2	-
	277	-	-	-	-	14.4	18.1	21.7	25.3	28.9	32.5	36.1	43.3	-
	115	-	-	-	-	34.8	43.5	-	-	-	-	-	-	-
18	208	-	-	-	-	19.2	24.0	28.8	33.7	38.5	43.3	48.1	57.7	-
10	230	-	-	-	-	17.4	21.7	26.1	30.4	34.8	39.1	43.5	52.2	-
	277	-	-	-	-	14.4	18.1	21.7	25.3	28.9	32.5	36.1	43.3	-
	115	-	-	-	-	34.8	43.5	-	-	-	-	-	-	-
20	208	-	-	-	-	19.2	24.0	28.8	33.7	38.5	43.3	48.1	57.7	67.3
20	230	-	-	-	-	17.4	21.7	26.1	30.4	34.8	39.1	43.5	52.2	60.9
	277	-	-	-	-	14.4	18.1	21.7	25.3	28.9	32.5	36.1	43.3	50.5

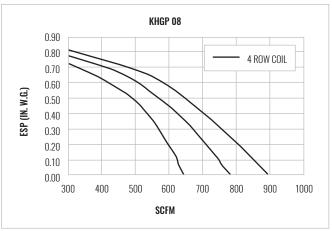
NOTES: Dash (-) areas indicate kW and voltage options not available. Available voltages are 1-phase, 60 hertz. Heaters over 48 AMPs are subdivided and fused per NEC.

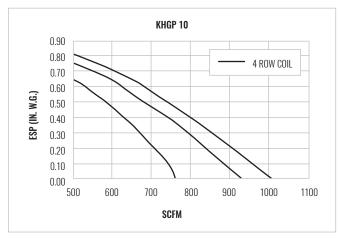


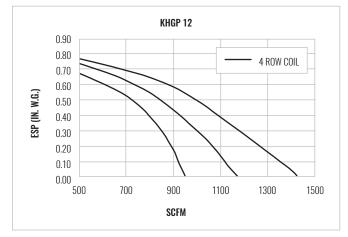
Horizontal | High Capacity

### FAN CURVES | PSC



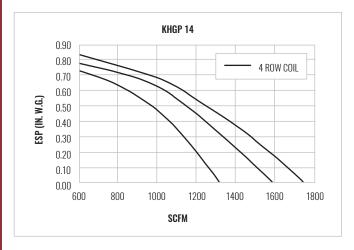


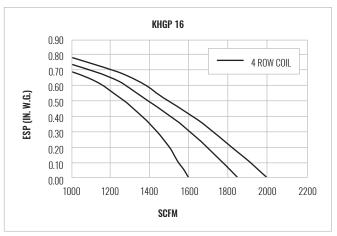




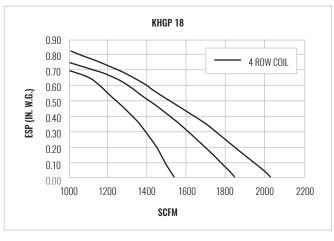
- 1. Fan curves depict actual performance of each motor tap without any additional fan balance adjustment. Actual capacities which fall below each curve can be obtained by adding an adjustment device. Units should not be run prior to installation of downstream ductwork; otherwise, damage to the motor may result.
- 2. Fan coil units are equipped with permanent split-capacitor (PSC) motors with three separate taps (High, Medium and Low) which provide variable horsepower outputs. Most often, size selections are conservative and actual CFM requirements and/or external static pressure requirements are lower than those specified. In this case, the unit fan motor can be run at low or medium tap, substantially reducing the operating cost of the unit.
- 3. All fan curves are for 115/1/60 motors and include pressure losses for cabinet, electric heater, and 3 or 4-row coil. Plenum units include a clean 1" throwaway filter. For other coil configurations, adjust performance curves based on pressure losses for the coils as selected with our selection software.
- 4. See page 55 for fan motor electrical data.
- 5. For additional high static pressure applications and rating points, contact factory.

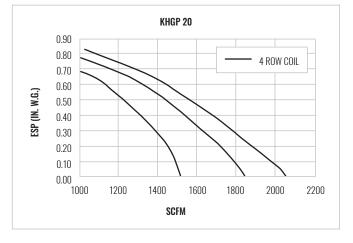
### FAN CURVES | PSC





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- 1. Fan curves depict actual performance of each motor tap without any additional fan balance adjustment. Actual capacities which fall below each curve can be obtained by adding an adjustment device. Units should not be run prior to installation of downstream ductwork; otherwise, damage to the motor may result.
- 2. Fan coil units are equipped with permanent split-capacitor (PSC) motors with three separate taps (High, Medium and Low) which provide variable horsepower outputs. Most often, size selections are conservative and actual CFM requirements and/or external static pressure requirements are lower than those specified. In this case, the unit fan motor can be run at low or medium tap, substantially reducing the operating cost of the unit.
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- 4. See page 55 for fan motor electrical data.
- 5. For additional high static pressure applications and rating points, contact factory.



Horizontal | High Capacity

### PERFORMANCE DATA | MOTOR AND FAN DATA

			MOTOR					AMPs @ 120/1/6	0	
UNIT	FAN		HP (QTY)		NUMBER			ECM		ECM 3-SPD
SIZE	SPEED	PSC	ECM	ECM3	OF FANS	PSC	FLA	3-PHASE Neutral Current	FLA	3-PHASE Neutral Current
06	HIGH MEDIUM LOW	(1) 1/6 (1) 1/8 (1) 1/10	(1) 1/3	(1) 1/3	1	2.6 2.1 1.8	4.9	8.5	4.8	8.3
08	HIGH MEDIUM LOW	(1) 1/4 (1) 1/6 (1) 1/8	(1) 1/3	(1) 1/3	1	4.4 3.6 3.0	5.0	8.7	4.8	8.3
10	HIGH MEDIUM LOW	(1) 1/4 (1) 1/5 (1) 1/6	(1) 1/3	(1) 1/3	1	4.9 4.1 3.2	5.0	8.7	4.8	8.3
12	HIGH MEDIUM LOW	(2) 1/6 (2) 1/8 (2) 1/10	(2) 1/2	(2) 1/3	2	5.2 4.2 3.6	7.7	13.3	9.6	16.6
14	HIGH MEDIUM LOW	(2) 1/4 (2) 1/6 (2) 1/8	(2) 1/3	(2) 1/3	2	8.8 7.2 6.0	10.0	17.3	9.6	16.6
16	HIGH MEDIUM LOW	(2) 1/4 (2) 1/5 (2) 1/6	(2) 1/3	(2) 1/3	2	9.8 8.2 6.4	10.0	17.3	9.6	16.6
18	HIGH MEDIUM LOW	(2) 1/4 (2) 1/5 (2) 1/6	(2) 1/3	(2) 1/3	2	9.8 8.2 6.4	10.0	17.3	9.6	16.6
20	HIGH MEDIUM LOW	(2) 1/4 (2) 1/5 (2) 1/6	(2) 1/2	(2) 1/3	2	9.8 8.2 6.4	13.0	22.5	9.6	16.6

NOTES: Motor electrical data is nameplate data. Actual data will vary with application. Motors name plated for 120/1/60. Data is at 120 volts. EC motors operated on 120/1/60 power result in reduced airflow.

			MOTOR			AMPs @ 208V-230V/1/60					
UNIT	FAN		HP (QTY)		NUMBER			ECM		ECM 3-SPD	
SIZE	SPEED	PSC	ЕСМ	ECM3	OF FANS	PSC	FLA	3-PHASE Neutral Current	FLA	3-PHASE Neutral Current	
	HIGH	(1) 1/6				1.0					
06	MEDIUM	(1) 1/8	(1) 1/3	(1) 1/3	1	0.9	3.0	5.2	2.8	4.8	
	LOW	(1) 1/10				0.6					
	HIGH	(1) 1/4				1.6					
08	MEDIUM	(1) 1/6	(1) 1/3	(1) 1/3	1	1.0	3.0	5.2	2.8	4.8	
	LOW	(1) 1/8				0.8					
	HIGH	(1) 1/4				2.0					
10	MEDIUM	(1) 1/5	(1) 1/3	(1) 1/3	1	1.4	3.0	5.2	2.8	4.8	
	LOW	(1) 1/6				1.2					
	HIGH	(2) 1/6				2.0					
12	MEDIUM	(2) 1/8	(1) 1/2	(2) 1/3	2	1.8	4.8	8.3	5.6	9.7	
	LOW	(2) 1/10				1.2					
	HIGH	(2) 1/4				3.2					
14	MEDIUM	(2) 1/6	(2) 1/3	(2) 1/3	2	2.0	6.0	10.4	5.6	9.7	
	LOW	(2) 1/8				1.6					
	HIGH	(2) 1/4				4.0					
16	MEDIUM	(2) 1/5	(2) 1/3	(2) 1/3	2	2.8	6.0	10.4	5.6	9.7	
	LOW	(2) 1/6				2.4					
	HIGH (2) 1/4			4.0							
18		(2) 1/5	(2) 1/3	(2) 1/3	2	2.8	6.0	10.4	5.6	9.7	
	LOW	(2) 1/6				2.4					
	HIGH	(2) 1/4				4.0					
20	MEDIUM	(2) 1/5	(2) 1/2	(2) 1/3	2	2.8	8.0	13.9	5.6	9.7	
	LOW	(2) 1/6				2.4					

## 

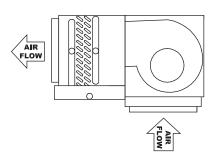
### PERFORMANCE DATA | MOTOR AND FAN DATA

		MOTOR						AMPs @ 277V/1/6	20	
UNIT	FAN		MOTOR HP (QTY)		MIMDED				)U	TOU 0 000
UNIT Size	FAN Speed		(411)		NUMBER Of Fans			ECM		ECM 3-SPD
SILL	SILLD	PSC	ECM	ECM3	OI IANS	PSC	FLA	3-PHASE Neutral Current	FLA	3-PHASE Neutral Current
	HIGH	(1) 1/6				0.9				
06	MEDIUM	(1) 1/8	(1) 1/3	(1) 1/3	1	0.8	2.4	4.2	2.6	4.5
	LOW	(1) 1/10				0.7				
	HIGH	(1) 1/4				1.3				
08	MEDIUM	(1) 1/6	(1) 1/3	(1) 1/3	1	0.8	2.6	4.5	2.6	4.5
	LOW	(1) 1/8				0.6				
	HIGH	(1) 1/4				1.9				
10	MEDIUM	(1) 1/5	(1) 1/3	(1) 1/3	1	1.6	2.6	4.5	2.6	4.5
	LOW	(1) 1/6				1.3				
	HIGH	(2) 1/6				1.8				
12	MEDIUM	(2) 1/8	(1) 1/2	(2) 1/3	2	1.6	3.9	6.8	5.2	9.0
	LOW	(2) 1/10				1.4				
	HIGH	(2) 1/4				2.6				
14	MEDIUM	(2) 1/6	(2) 1/3	(2) 1/3	2	1.6	5.2	9.0	5.2	9.0
	LOW	(2) 1/8				1.2				
	HIGH	(2) 1/4				3.8				
16	MEDIUM	(2) 1/5	(2) 1/3	(2) 1/3	2	3.2	5.2	9.0	5.2	9.0
	LOW	(2) 1/6				2.6				
	HIGH	(2) 1/4				3.8				
18	MEDIUM	(2) 1/5	(2) 1/3	(2) 1/3	2	3.2	5.2	9.0	5.2	9.0
	LOW	(2) 1/6				2.6				
	HIGH	(2) 1/4				3.8				
20	MEDIUM	(2) 1/5	(2) 1/2	(2) 1/3	2	3.2	6.4	11.1	5.2	9.0
	LOW	(2) 1/6				2.6				

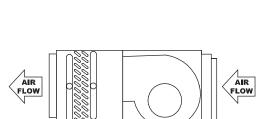
NOTES: Motor electrical data is nameplate data. Actual data will vary with application. Motors name plated for 277/1/60. Data is at 277 volts. EC motors operated on 277/1/60 power result in reduced airflow.



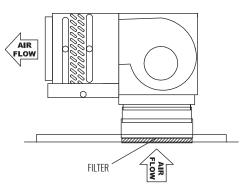
## AIRFLOW ORIENTATIONS | KHGP, KHGH



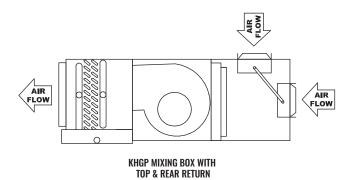
KHGP BOTTOM RETURN

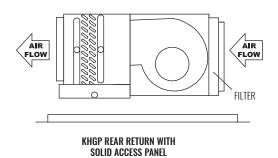


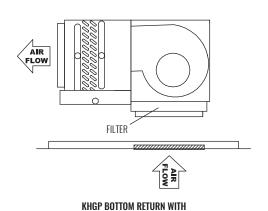
KHGP REAR RETURN



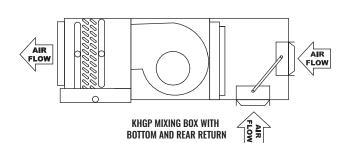
KHGP BOTTOM RETURN WITH TELESCOPING BOTTOM PANEL

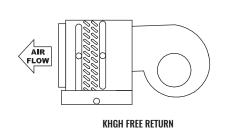






BOTTOM CEILING PANEL

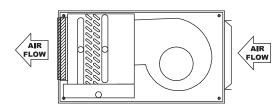




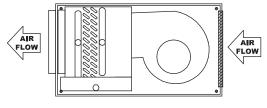
**E2-57** 

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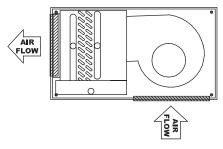
## **AIRFLOW ORIENTATIONS | KHGE**



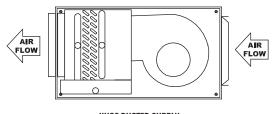
KHGE DOUBLE DEFLECTION SUPPLY GRILLE AND DUCTED REAR RETURN



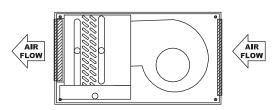
KHGE DUCTED SUPPLY AND SINGLE DEFLECTION REAR RETURN GRILLE



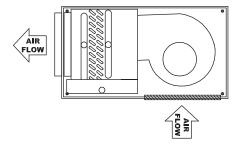
KHGE DOUBLE DEFLECTION SUPPLY GRILLE AND SINGLE DEFLECTION BOTTOM RETURN GRILLE



KHGE DUCTED SUPPLY And Ducted Rear Return



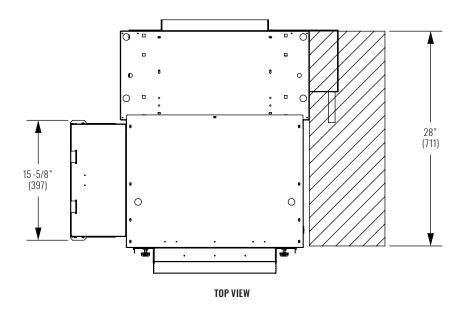
KHGE DOUBLE DEFLECTION SUPPLY GRILLE AND SINGLE DEFLECTION REAR RETURN GRILLE

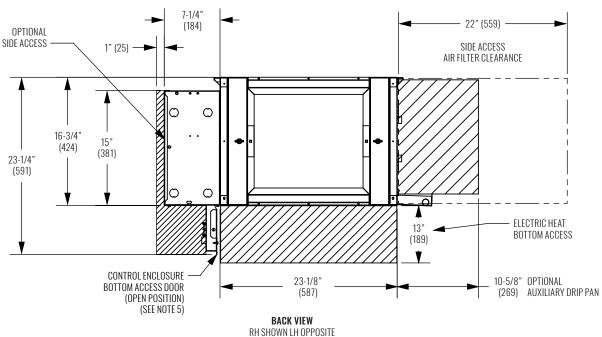


KHGE DUCTED SUPPLY AND SINGLE DEFLECTION BOTTOM RETURN GRILLE



### DIMENSIONAL DATA | KHGP | EXTERNAL SPACE REQUIREMENTS, REAR RETURN

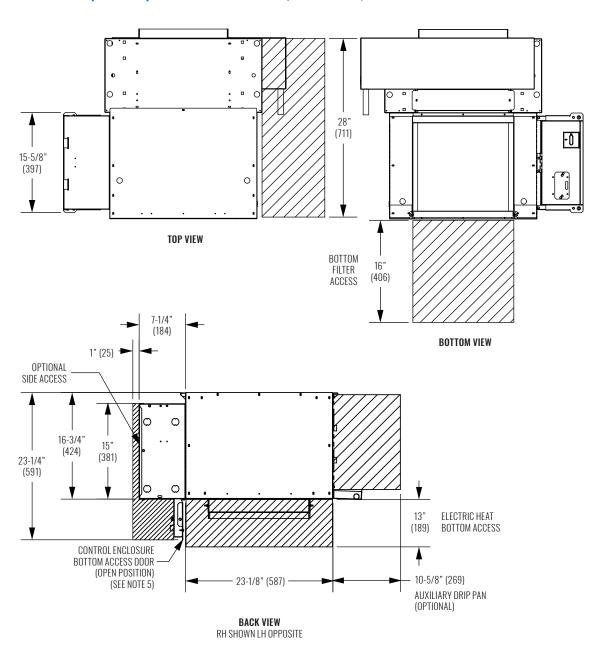




- 1. All chilled water piping that projects beyond the condensate pan or the optional auxiliary drip pan must be field insulated by others.
- All clinical water piping that projects beyond the condensate pair of the optional adxillary drip pair must be field insulated by others.
   Optional auxiliary drip pan (not shown) is mounted on the outlet side of the drain pan.
   Drain pan is installed with the outlet tube(s) on cooling coil connection end of coil on 4-pipe units with optional opposite end connection.
- 4. Dimensions shown on this drawing apply to standard CW and HW valve packages. Refer to Piping Details for more information. Contact factory for details on valve packages using non-standard or customer furnished components.
- 5. Drawings not for installation purposes. Refer to unit and size-specific submittal drawings for installation.
- 6. All dimensions in inches (millimeters). Metric values are soft conversion.

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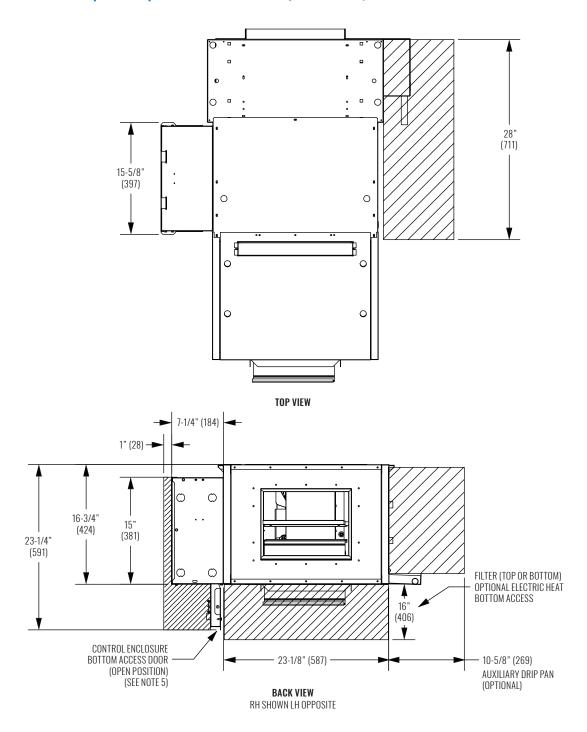
### DIMENSIONAL DATA | KHGP | EXTERNAL SPACE REQUIREMENTS, BOTTOM RETURN



- 1. All chilled water piping that projects beyond the condensate pan or the optional auxiliary drip pan must be field insulated by others.
- 2. Optional auxiliary drip pan (not shown) is mounted on the outlet side of the drain pan.
- Drain pan is installed with the outlet tube(s) on cooling coil connection end of coil on 4-pipe units with optional opposite end connection.
   Dimensions shown on this drawing apply to standard CW and HW valve packages. Refer to Piping Details for more information. Contact factory for details on valve packages using non-standard or customer furnished components.
- 5. Provide sufficient clearance to access electrical components and comply with all applicable codes and ordinances.
- 6. Drawings not for installation purposes. Refer to unit and size-specific submittal drawings for installation.
- 7. All dimensions in inches (millimeters). Metric values are soft conversion.



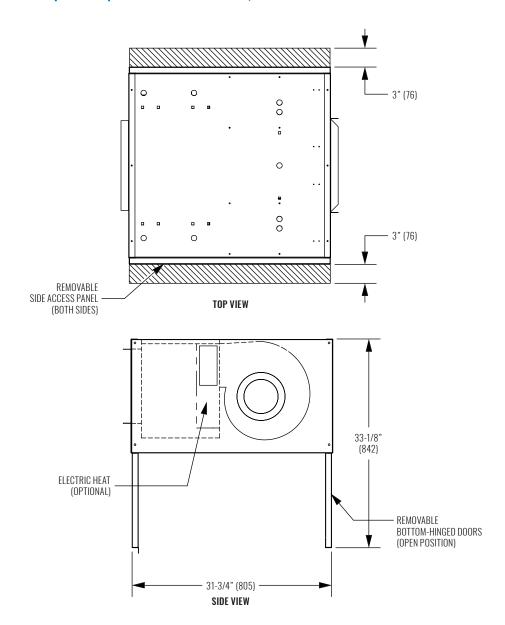
### DIMENSIONAL DATA | KHGP | EXTERNAL SPACE REQUIREMENTS, WITH MIXING BOX



- 1. All chilled water piping that projects beyond the condensate pan or the optional auxiliary drip pan must be field insulated by others.
- 2. Optional auxiliary drip pan (not shown) is mounted on the outlet side of the drain pan.
- Drain pan is installed with the outlet tube(s) on cooling coil connection end of coil on 4-pipe units with optional opposite end connection.
   Dimensions shown on this drawing apply to standard CW and HW valve packages. Refer to Piping Details for more information. Contact factory for details on valve packages using non-standard or customer furnished components.
- 5. Provide sufficient clearance to access electrical components and comply with all applicable codes and ordinances.
- 6. Drawings not for installation purposes. Refer to unit and size-specific submittal drawings for installation.
- 7. All dimensions in inches (millimeters). Metric values are soft conversion.

## **■** KRUEGER

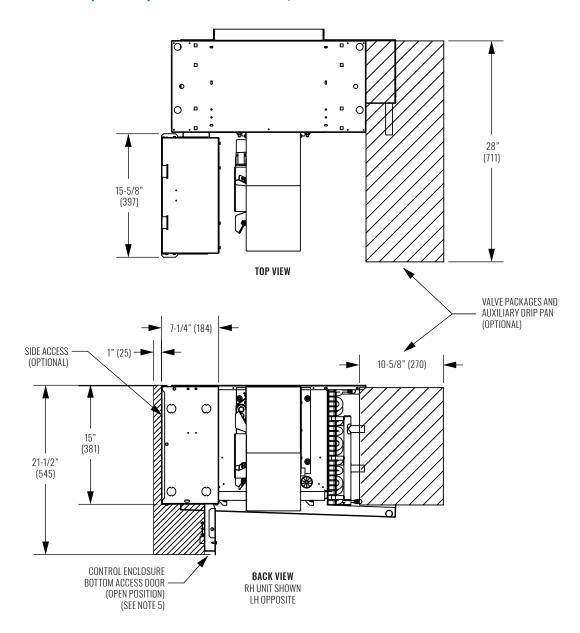
### DIMENSIONAL DATA | KHGE | EXTERNAL SPACE REQUIREMENTS



- 1. All chilled water piping that projects beyond the condensate pan or the optional auxiliary drip pan must be field insulated by others.
- 2. Optional auxiliary drip pan (not shown) is mounted on the outlet side of the drain pan.
- Drain pan is installed with the outlet tube(s) on cooling coil connection end of coil on 4-pipe units with optional opposite end connection.
   Dimensions shown on this drawing apply to standard CW and HW valve packages. Refer to Piping Details for more information. Contact factory for details on valve packages using non-standard or customer furnished components.
- 5. Provide sufficient clearance to access electrical components and comply with all applicable codes and ordinances.
- 6. Drawings not for installation purposes. Refer to unit and size-specific submittal drawings for installation.
- 7. All dimensions in inches (millimeters). Metric values are soft conversion.



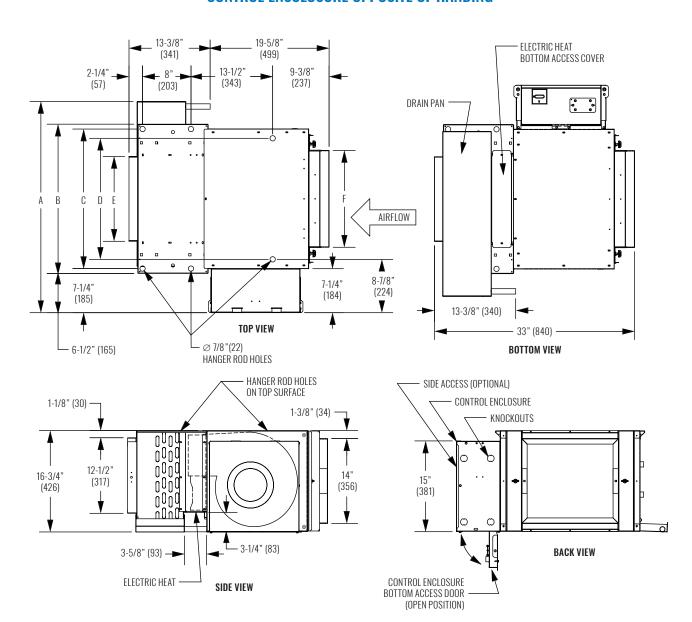
### DIMENSIONAL DATA | KHGH | EXTERNAL SPACE REQUIREMENTS



- 1. All chilled water piping that projects beyond the condensate pan or the optional auxiliary drip pan must be field insulated by others.
- 2. Optional auxiliary drip pan (not shown) is mounted on the outlet side of the drain pan.
- 3. Drain pan is installed with the outlet tube(s) on cooling coil connection end of coil on 4-pipe units with optional opposite end connection.
  4. Dimensions shown on this drawing apply to standard CW and HW valve packages. Refer to Piping Details for more information. Contact factory for details on valve packages using non-standard or customer furnished components.
- 5. Provide sufficient clearance to access electrical components and comply with all applicable codes and ordinances.
- 6. Drawings not for installation purposes. Refer to unit and size-specific submittal drawings for installation.
- 7. All dimensions in inches (millimeters). Metric values are soft conversion.

## $\square KRUEGER$

## DIMENSIONAL DATA | KHGP | REAR RETURN, 2-PIPE, WITH ELECTRIC HEAT, CONTROL ENSCLOSURE OPPOSITE OF HANDING

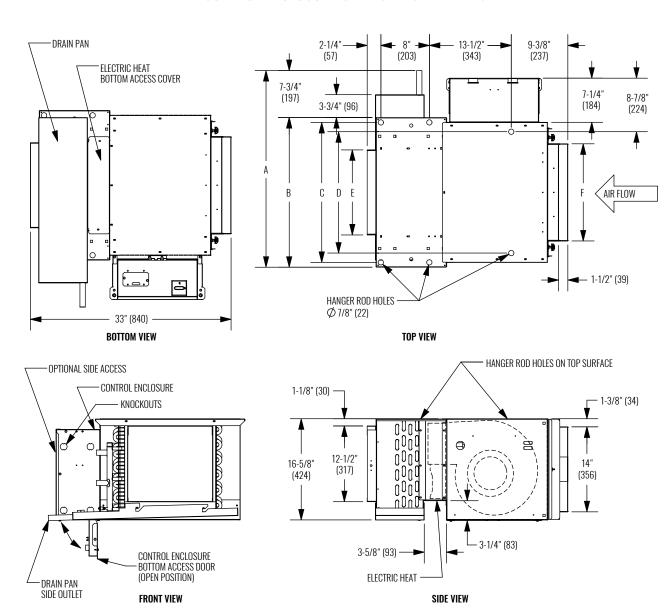


UNIT SIZE	А	В	C	D	E	F
06	34-7/8" (886)	24-5/8" (721)	23-1/8" (587)	20" (508)	14" (356)	16" (406)
08	39-7/8" (1013)	29-5/8" (737)	28-1/8" (714)	25" (635)	19" (483)	21" (533)
10	43-7/8" (1114)	33-5/8" (838)	32-1/8" (816)	29" (737)	23" (584)	25" (635)
12	48-7/8" (1241)	38-5/8" (965)	37-1/8" (943)	34" (864)	28" (711)	30" (762)
14	53-7/8" (1368)	43-5/8" (1092)	42-1/8" (1070)	39" (991)	33" (838)	35" (889)
16	58-7/8" (1495)	48-5/8" (1219)	47-1/8" (1197)	44" (1118)	38" (965)	40" (1016)
18	63-7/8" (1622)	53-5/8" (1346)	52-1/8" (1324)	49" (1245)	43" (1092)	45" (1143)
20	67-7/8" (1724)	57-5/8" (1448)	56-1/8" (1426)	53" (1346)	47" (1194)	49" (1245)

- All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.



## DIMENSIONAL DATA | KHGP | REAR RETURN, 2-PIPE, WITH ELECTRIC HEAT, CONTROL ENCLOSURE SAME SIDE OF HANDING



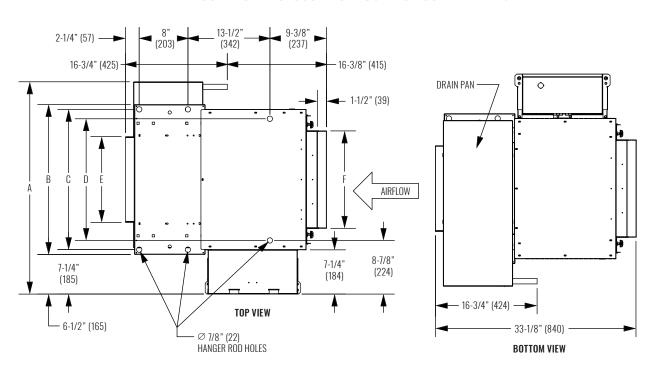
UNIT SIZE	A	В	C	D	E	F
06	32-3/8" (822)	24-5/8" (721)	23-1/8" (587)	20" (508)	14" (356)	16" (406)
08	37-3/8" (949)	29-5/8" (737)	28-1/8" (714)	25" (635)	19" (483)	21" (533)
10	41-3/8" (1050)	33-5/8" (838)	32-1/8" (816)	29" (737)	23" (584)	25" (635)
12	46-3/8" (1177)	38-5/8" (965)	37-1/8" (943)	34" (864)	28" (711)	30" (762)
14	51-3/8" (1304)	43-5/8" (1092)	42-1/8" (1070)	39" (991)	33" (838)	35" (889)
16	56-3/8" (1431)	48-5/8" (1219)	47-1/8" (1197)	44" (1118)	38" (965)	40" (1016)
18	61-3/8" (1558)	53-5/8" (1346)	52-1/8" (1324)	49" (1245)	43" (1092)	45" (1143)
20	65-3/8" (1660)	57-5/8" (1448)	56-1/8" (1426)	53" (1346)	47" (1194)	49" (1245)

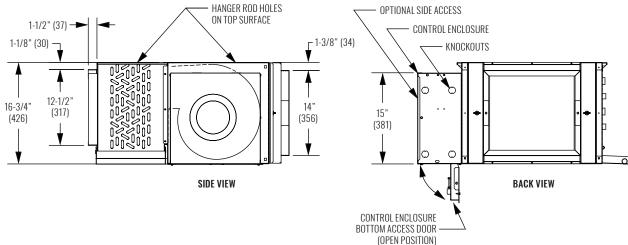
- All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- Same side control enclosure shown mounted on unit side same as cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

## **KHG - SERIES A**



### DIMENSIONAL DATA | KHGP | REAR RETURN, 2-PIPE OR 4-PIPE, WITHOUT ELECTRIC HEAT, CONTROL ENCLOSURE OPPOSITE OF COIL HANDING



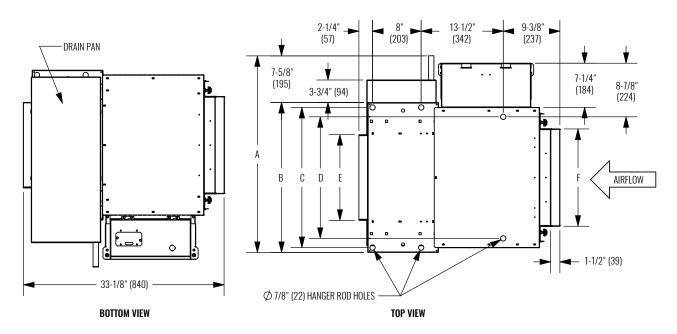


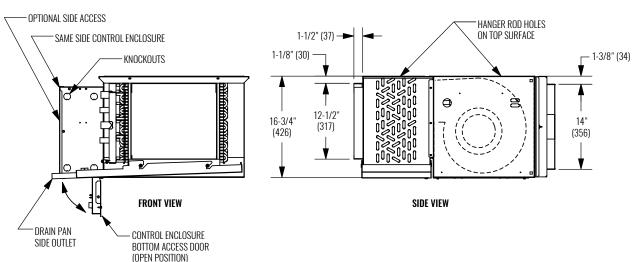
UNIT SIZE	A	В	C	D	E	F
06	34-7/8" (886)	24-5/8" (721)	23-1/8" (587)	20" (508)	14" (356)	16" (406)
08	39-7/8" (1013)	29-5/8" (737)	28-1/8" (714)	25" (635)	19" (483)	21" (533)
10	43-7/8" (1114)	33-5/8" (838)	32-1/8" (816)	29" (737)	23" (584)	25" (635)
12	48-7/8" (1241)	38-5/8" (965)	37-1/8" (943)	34" (864)	28" (711)	30" (762)
14	53-7/8" (1368)	43-5/8" (1092)	42-1/8" (1070)	39" (991)	33" (838)	35" (889)
16	58-7/8" (1495)	48-5/8" (1219)	47-1/8" (1197)	44" (1118)	38" (965)	40" (1016)
18	63-7/8" (1622)	53-5/8" (1346)	52-1/8" (1324)	49" (1245)	43" (1092)	45" (1143)
20	67-7/8" (1724)	57-5/8" (1448)	56-1/8" (1426)	53" (1346)	47" (1194)	49" (1245)

- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- 3. Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.



## DIMENSIONAL DATA | KHGP | REAR RETURN, 2-PIPE OR 4-PIPE, WITHOUT ELECTRIC HEAT, CONTROL ENCLOSURE SAME SIDE AS COIL HANDING



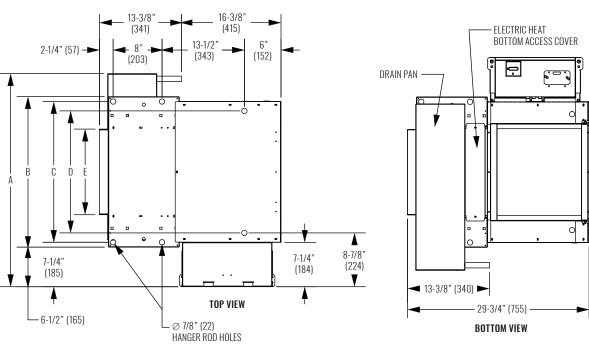


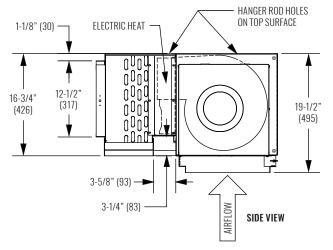
UNIT SIZE	A	В	C	D	E	F
06	32-3/8" (822)	24-3/4" (629)	23-1/8" (587)	20" (508)	14" (356)	16" (406)
08	37-3/8" (949)	29-3/4" (756)	28-1/8" (714)	25" (635)	19" (483)	20" (508)
10	41-3/8" (1050)	33-3/4" (858)	32-1/8" (816)	29" (737)	23" (584)	25" (635)
12	46-3/8" (1177)	38-3/4" (985)	37-1/8" (943)	34" (864)	28" (711)	32" (813)
14	51-3/8" (1304)	43-3/4" (1112)	42-1/8" (1070)	39" (991)	33" (838)	36" (915)
16	56-3/8" (1431)	48-3/4" (1239)	47-1/8" (1197)	44" (1118)	38" (965)	40" (1016)
18	61-3/8" (1558)	53-3/4" (1366)	52-1/8" (1324)	49" (1245)	43" (1092)	45" (1143)
20	65-3/8" (1660)	57-3/4" (1467)	56-1/8" (1426)	53" (1346)	47" (1194)	50" (1270)

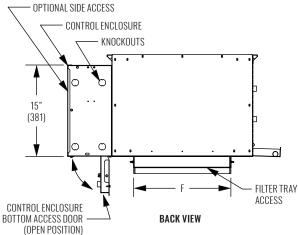
- All dimensions in inches (millimeters).
   All dimensions ±1/4" [6mm]. Metric values are soft conversion.
- 2. Right hand unit shown, Left hand unit opposite.
- Same side control enclosure shown mounted on unit same side as cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

## **■** KRUEGER

### DIMENSIONAL DATA | KHGP | BOTTOM RETURN, 2-PIPE, WITH ELECTRIC HEAT





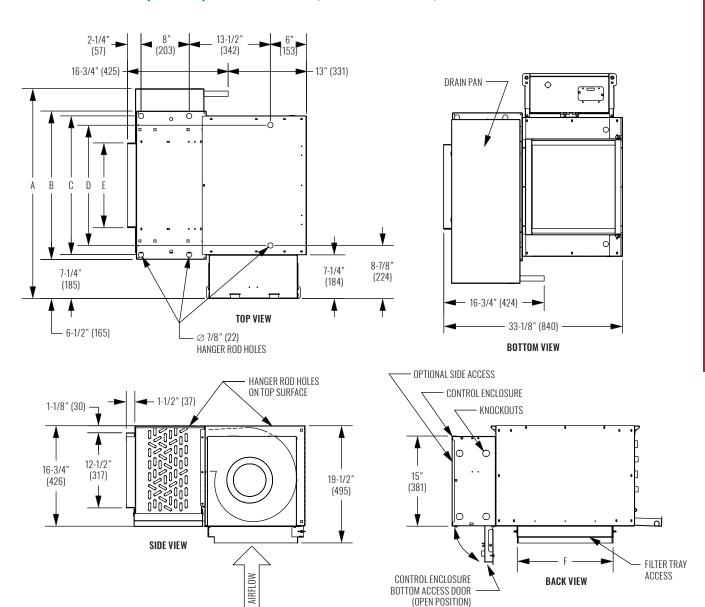


UNIT SIZE	A	В	C	D	E	F
06	34-7/8" (886)	24-5/8" (721)	23-1/8" (587)	20" (508)	14" (356)	16" (406)
08	39-7/8" (1013)	29-5/8" (737)	28-1/8" (714)	25" (635)	19" (483)	21" (533)
10	43-7/8" (1114)	33-5/8" (838)	32-1/8" (816)	29" (737)	23" (584)	25" (635)
12	48-7/8" (1241)	38-5/8" (965)	37-1/8" (943)	34" (864)	28" (711)	30" (762)
14	53-7/8" (1368)	43-5/8" (1092)	42-1/8" (1070)	39" (991)	33" (838)	35" (889)
16	58-7/8" (1495)	48-5/8" (1219)	47-1/8" (1197)	44" (1118)	38" (965)	40" (1016)
18	63-7/8" (1622)	53-5/8" (1346)	52-1/8" (1324)	49" (1245)	43" (1092)	45" (1143)
20	67-7/8" (1724)	57-5/8" (1448)	56-1/8" (1426)	53" (1346)	47" (1194)	49" (1245)

- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- 3. Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.



### DIMENSIONAL DATA | KHGP | BOTTOM RETURN, 2-PIPE OR 4-PIPE, WITHOUT ELECTRIC HEAT

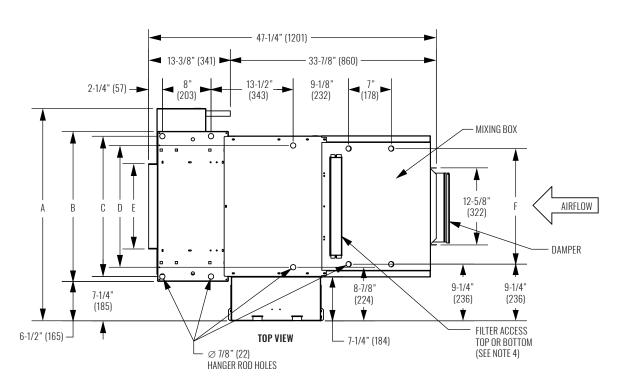


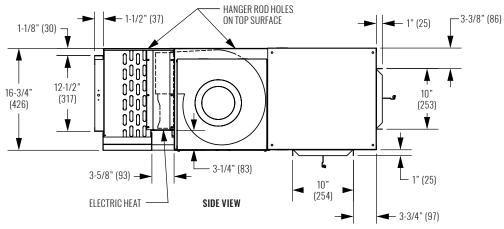
UNIT SIZE	A	В	C	D	E	F
06	34-7/8" (886)	24-5/8" (721)	23-1/8" (587)	20" (508)	14" (356)	16" (406)
08	39-7/8" (1013)	29-5/8" (737)	28-1/8" (714)	25" (635)	19" (483)	21" (533)
10	43-7/8" (1114)	33-5/8" (838)	32-1/8" (816)	29" (737)	23" (584)	25" (635)
12	48-7/8" (1241)	38-5/8" (965)	37-1/8" (943)	34" (864)	28" (711)	30" (762)
14	53-7/8" (1368)	43-5/8" (1092)	42-1/8" (1070)	39" (991)	33" (838)	35" (889)
16	58-7/8" (1495)	48-5/8" (1219)	47-1/8" (1197)	44" (1118)	38" (965)	40" (1016)
18	63-7/8" (1622)	53-5/8" (1346)	52-1/8" (1324)	49" (1245)	43" (1092)	45" (1143)
20	67-7/8" (1724)	57-5/8" (1448)	56-1/8" (1426)	53" (1346)	47" (1194)	49" (1245)

- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit
- 3. Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

## **■** KRUEGER

### DIMENSIONAL DATA | KHGP | WITH ELECTRIC HEAT, WITH MIXING BOX





UNIT SIZE	A	В	C	D	E	F
06	34-7/8" (886)	24-5/8" (721)	23-1/8" (587)	20" (508)	14" (356)	19" (483)
08	39-7/8" (1013)	29-5/8" (737)	28-1/8" (714)	25" (635)	19" (483)	24" (610)
10	43-7/8" (1114)	33-5/8" (838)	32-1/8" (816)	29" (737)	23" (584)	28" (711)
12	48-7/8" (1241)	38-5/8" (965)	37-1/8" (943)	34" (864)	28" (711)	33" (838)
14	53-7/8" (1368)	43-5/8" (1092)	42-1/8" (1070)	39" (991)	33" (838)	38" (965)
16	58-7/8" (1495)	48-5/8" (1219)	47-1/8" (1197)	44" (1118)	38" (965)	43" (1092)
18	63-7/8" (1622)	53-5/8" (1346)	52-1/8" (1324)	49" (1245)	43" (1092)	48" (1219)
20	67-7/8" (1724)	57-5/8" (1448)	56-1/8" (1426)	53" (1346)	47" (1194)	52" (1321)

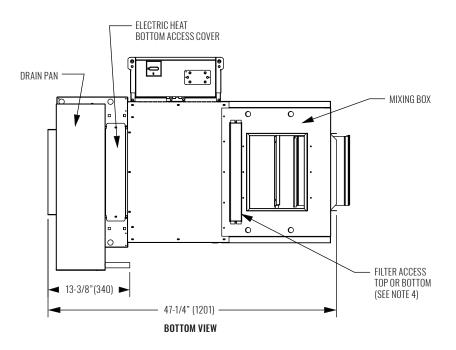
### NOTES:

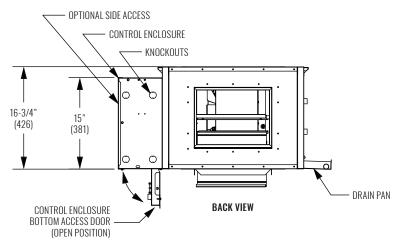
- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- 3. Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
- 4. No side filter access with mixing box.

E2-70



### DIMENSIONAL DATA | KHGP | WITH ELECTRIC HEAT, WITH MIXING BOX





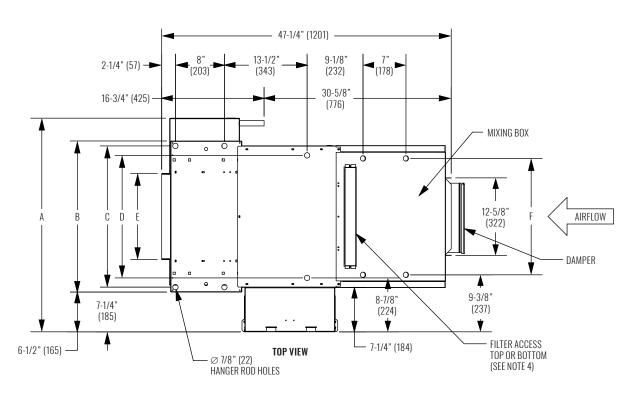
### NOTES

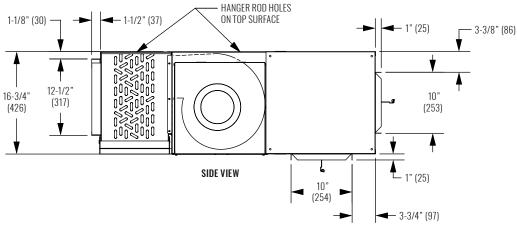
- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- 3. Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

4. No side filter access with mixing box.

## **■** KRUEGER

### DIMENSIONAL DATA | KHGP | WITH MIXING BOX, WITHOUT ELECTRIC HEAT





UNIT SIZE	A	В	C	D	E	F
06	34-7/8" (886)	24-5/8" (721)	23-1/8" (587)	20" (508)	14" (356)	19" (483)
08	39-7/8" (1013)	29-5/8" (737)	28-1/8" (714)	25" (635)	19" (483)	24" (610)
10	43-7/8" (1114)	33-5/8" (838)	32-1/8" (816)	29" (737)	23" (584)	28" (711)
12	48-7/8" (1241)	38-5/8" (965)	37-1/8" (943)	34" (864)	28" (711)	33" (838)
14	53-7/8" (1368)	43-5/8" (1092)	42-1/8" (1070)	39" (991)	33" (838)	38" (965)
16	58-7/8" (1495)	48-5/8" (1219)	47-1/8" (1197)	44" (1118)	38" (965)	43" (1092)
18	63-7/8" (1622)	53-5/8" (1346)	52-1/8" (1324)	49" (1245)	43" (1092)	48" (1219)
20	67-7/8" (1724)	57-5/8" (1448)	56-1/8" (1426)	53" (1346)	47" (1194)	52" (1321)

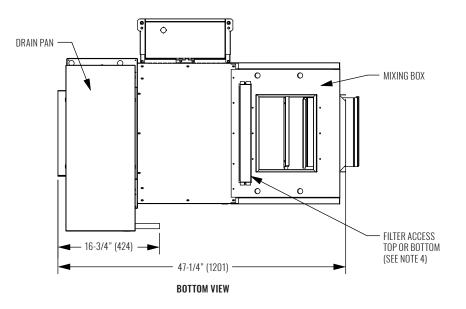
### NOTES:

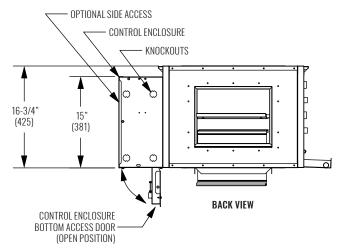
- All dimensions in inches (millimeters).
   All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
- 4. No side filter access with mixing box.

E2-72



### DIMENSIONAL DATA | KHGP | WITH MIXING BOX, WITHOUT ELECTRIC HEAT

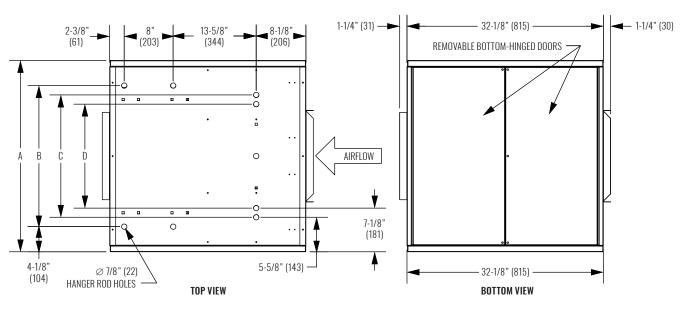


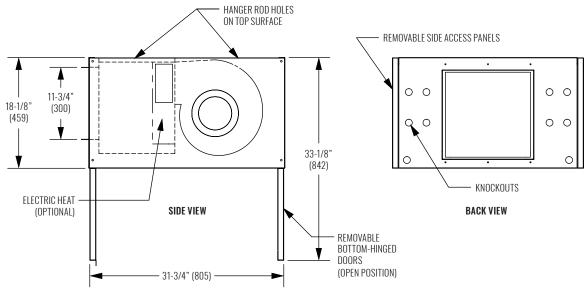


- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- 3. Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
- 4. No side filter access with mixing box.

## **■** KRUEGER

### DIMENSIONAL DATA | KHGE | DUCTED FRONT, REAR RETURN





UNIT SIZE	A	В	C	D	A + 6.0" Extended panel
06	31-1/4" (794)	23" (584)	20" (508)	17" (432)	37-1/4" (946)
08	36-1/4" (921)	28" (711)	25" (635)	22" (559)	42-1/4" (1073)
10	40-1/4" (1022)	32" (813)	29" (737)	26" (660)	46-1/4" (1174)
12	45-1/4" (1149)	37" (940)	34" (864)	31" (787)	51-1/4" (1302)
14	50-1/4" (1276)	42" (1067)	39" (991)	36" (914)	56-1/4" (1428)
16	55-1/4" (1403)	47" (1194)	44" (1118)	41" (1041)	61-1/4" (1556)
18	60-1/4" (1403)	52" (1321)	49" (1245)	46" (1168)	66-1/4" (1683)
20	64-1/4" (1632)	56" (1422)	53" (1346)	50" (1270)	70-1/4" (1784)

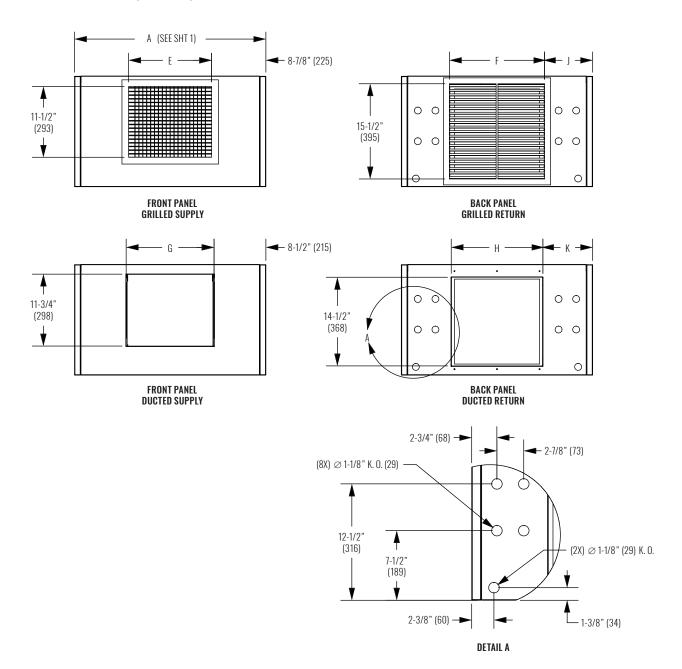
### NOTES:

- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft
- Right hand unit shown, left hand unit opposite.
   Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

E2-74



### DIMENSIONAL DATA | KHGE | GRILLED/DUCTED SUPPLY, GRILLED/DUCTED REAR RETURN

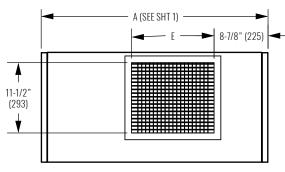


UNIT SIZE	E	F	G	Н	J	K
06	13-1/2" (344)	15-1/2" (394)	14-3/8" (365)	17" (381)	7-7/8" (200)	8-1/4" (208)
08	17-1/2" (445)	19-1/2" (495)	19-3/8" (492)	19" (483)	8-3/8" (213)	8-3/4" (222)
10	22-1/2" (572)	24-1/2" (622)	23-3/8" (594)	24" (610)	7-7/8" (200)	8-1/4" (208)
12	29-1/2" (749)	31-1/2" (800)	28-3/8" (721)	31" (787)	6-7/8" (175)	7-1/4" (184)
14	33-1/2" (851)	35-1/2" (902)	33-3/8" (848)	35" (889)	7-3/8" (187)	7-3/4" (197)
16	37-1/2" (953)	39-1/2" (1003)	38-3/8" (975)	39" (991)	7-7/8" (200)	8-1/4" (208)
18	42-1/2" (1080)	44-1/2" (1130)	43-3/8" (1102)	44" (1118)	7-7/8" (200)	8-1/4" (208)
20	47-1/2" (1207)	49-1/2" (1257)	47-3/8" (1203)	49" (1245)	7-3/8" (187)	7-3/4" (197)

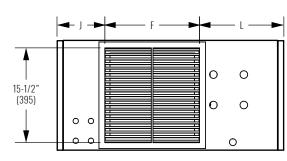
- All dimensions in inches (millimeters).
   All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

## ■ KRUEGER

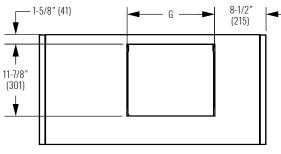
## DIMENSIONAL DATA | KHGE | GRILLED/DUCTED SUPPLY, GRILLED/DUCTED REAR RETURN, EXTENDED HOUSING



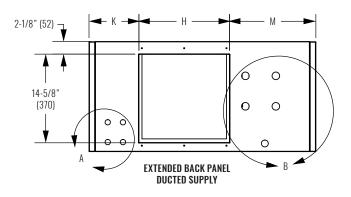
EXTENDED FRONT PANEL GRILLED SUPPLY

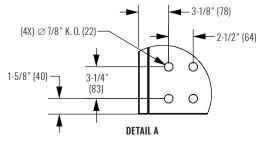


EXTENDED BACK PANEL GRILLED SUPPLY

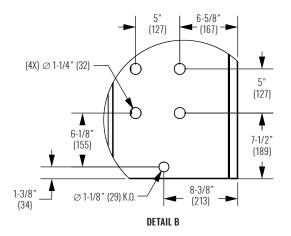


EXTENDED FRONT PANEL DUCTED SUPPLY





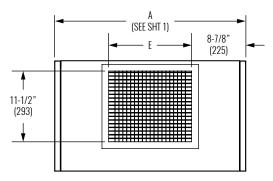
- 1. All dimensions in inches (millimeters). All dimensions  $\pm 1/4$ " (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.



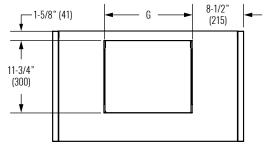
UNIT SIZE	E	F	G	Н	J	K	L	М
06	13-1/2" (344)	15-1/2" (394)	14-3/8" (365)	15" (381)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
08	17-1/2" (445)	19-1/2" (495)	19-3/8" (492)	19" (483)	8-3/8" (213)	8-3/4" (222)	14-3/8" (365)	14-3/4" (375)
10	22-1/2" (572)	24-1/2" (622)	23-3/8" (594)	24" (610)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
12	29-1/2" (749)	31-1/2" (800)	28-3/8" (721)	31" (787)	6-7/8" (175)	7-1/4" (184)	12-7/8" (327)	13-1/4" (337)
14	33-1/2" (851)	35-1/2" (902)	33-3/8" (848)	35" (889)	7-3/8" (187)	7-3/4" (197)	13-3/8" (340)	13-3/4" (349)
16	37-1/2" (953)	39-1/2" (1003)	38-3/8" (975)	39" (991)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
18	42-1/2" (1080)	44-1/2" (1130)	43-3/8" (1102)	44" (1118)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
20	47-1/2" (1207)	44-1/2" (1130)	47-3/8" (1203)	49" (1245)	9-7/8" (251)	7-3/4" (197)	15-7/8" (403)	13-3/4" (349)



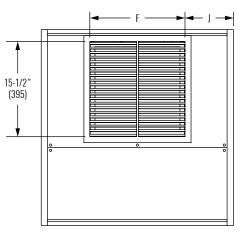
### DIMENSIONAL DATA | KHGE | GRILLED/DUCTED SUPPLY, GRILLED BOTTOM RETURN



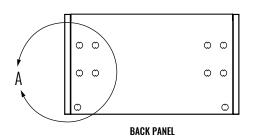
FRONT PANEL - GRILLED SUPPLY

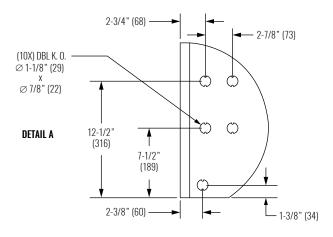


FRONT PANEL - DUCTED SUPPLY



**BOTTOM PANEL - GRILLED RETURN** 



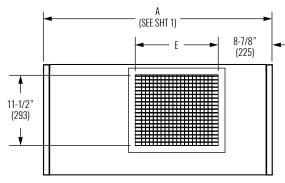


UNIT SIZE	E	F	G	J
06	13-1/2" (344)	15-1/2" (394)	14-3/8" (365)	7-7/8" (200)
08	17-1/2" (445)	19-1/2" (495)	19-3/8" (492)	8-3/8" (213)
10	22-1/2" (572)	24-1/2" (622)	23-3/8" (594)	7-7/8" (200)
12	29-1/2" (749)	31-1/2" (800)	28-3/8" (721)	6-7/8" (175)
14	33-1/2" (851)	35-1/2" (902)	33-3/8" (848)	7-3/8" (187)
16	37-1/2" (953)	39-1/2" (1003)	38-3/8" (975)	7-7/8" (200)
18	42-1/2" (1080)	44-1/2" (1130)	43-3/8" (1102)	7-7/8" (200)
20	47-1/2" (1207)	44-1/2" (1130)	47-3/8" (1203)	9-7/8" (251)

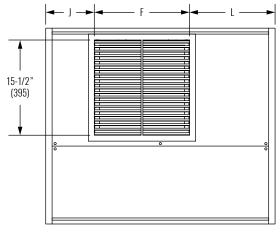
- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- 3. Standard control enclosure is mounted inside unit opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

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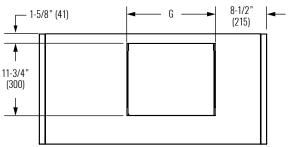
### DIMENSIONAL DATA | KHGE | GRILLED/DUCTED SUPPLY, GRILLED BOTTOM RETURN, EXTENDED HOUSING

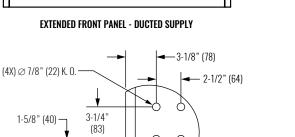


**EXTENDED FRONT PANEL - GRILLED SUPPLY** 



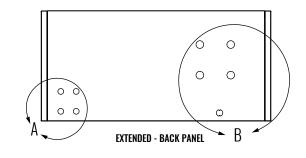
**EXTENDED BOTTOM PANEL - GRILLED RETURN** 

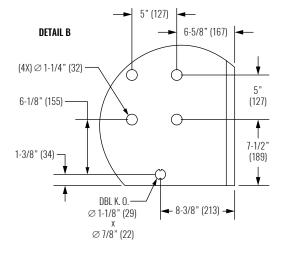




# 0 DETAIL A

- 1. All dimensions in inches (millimeters). All dimensions ±1/4" (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- 3. Standard control enclosure is mounted inside unit opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable clodes and ordinances.
- 4. Extended cabinet is only offered when 3-way valve package is selected.



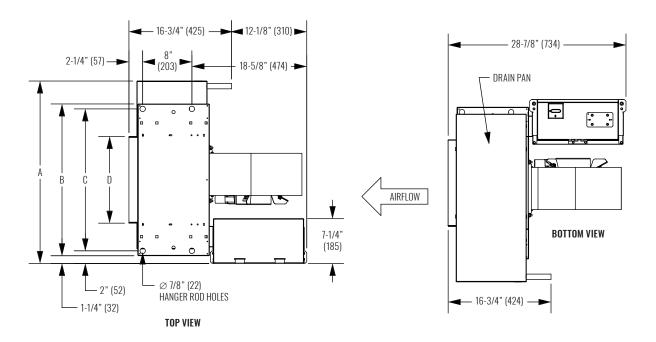


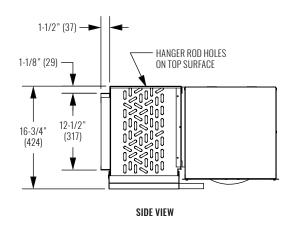
UNIT SIZE	E	F	G	Н	J	K	L	М
06	13-1/2" (344)	15-1/2" (394)	14-3/8" (365)	15" (381)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
08	17-1/2" (445)	19-1/2" (495)	19-3/8" (492)	19" (483)	8-3/8" (213)	8-3/4" (222)	14-3/8" (365)	14-3/4" (375)
10	22-1/2" (572)	24-1/2" (622)	23-3/8" (594)	24" (610)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
12	29 1/2" (749)	31-1/2" (800)	28-3/8" (721)	31" (787)	6-7/8" (175)	7-1/4" (184)	12-7/8" (327)	13-1/4" (337)
14	33-1/2" (851)	35-1/2" (902)	33-3/8" (848)	35" (889)	7-3/8" (187)	7-3/4" (197)	13-3/8" (340)	13-3/4" (349)
16	37-1/2" (953)	39-1/2" (1003)	38-3/8" (975)	39" (991)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
18	42-1/2" (1080)	44-1/2" (1130)	43-3/8" (1102)	44" (1118)	7-7/8" (200)	8-1/4" (208)	13-7/8" (352)	14-1/4" (362)
20	47-1/2" (1207)	44-1/2" (1130)	47-3/8" (1203)	49" (1245)	9-7/8" (251)	7-3/4" (197)	15-7/8" (403)	13-3/4" (349)

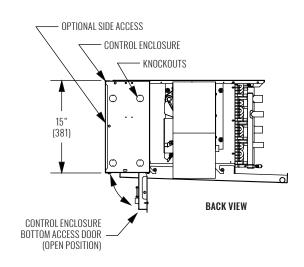
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## Horizontal | High Capacity

### **DIMENSIONAL DATA | KHGH**







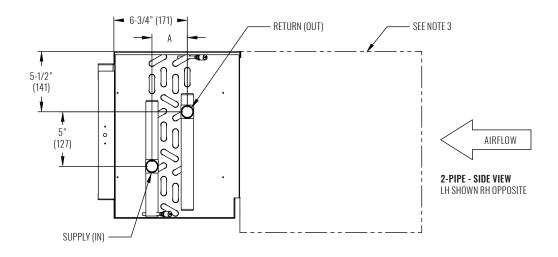
UNIT SIZE	A	В	C	E
06	34-7/8" (886)	24-5/8" (721)	23-1/8" (587)	14" (356)
08	39-7/8" (1013)	29-5/8" (737)	28-1/8" (714)	19" (483)
10	43-7/8" (1114)	33-5/8" (838)	32-1/8" (816)	23" (584)
12	48-7/8" (1241)	38-5/8" (965)	37-1/8" (943)	28" (711)
14	53-7/8" (1368)	43-5/8" (1092)	42-1/8" (1070)	33" (838)
16	58-7/8" (1495)	48-5/8" (1219)	47-1/8" (1197)	38" (965)
18	63-7/8" (1622)	53-5/8" (1346)	52-1/8" (1324)	43" (1092)
20	67-7/8" (1724)	57-5/8" (1448)	56-1/8" (1426)	47" (1194)

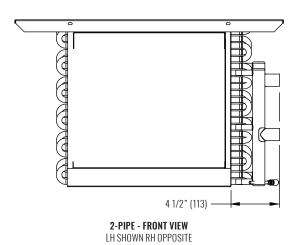
- 1. All dimensions in inches (millimeters). All dimensions  $\pm 1/4"$  (6mm). Metric values are soft conversion.
- 2. Right hand unit shown, left hand unit opposite.
- Standard control enclosure is mounted on unit side opposite cooling coil connections and includes (4) knockouts on (2) sides. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.

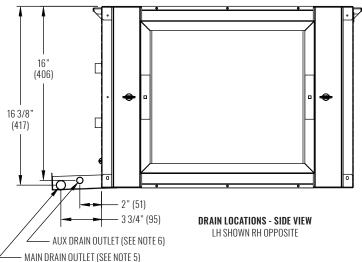
# **KHG - SERIES A**



### DIMENSIONAL DATA | KHGP, KHGH | FIELD CONNECTIONS, 2-PIPE







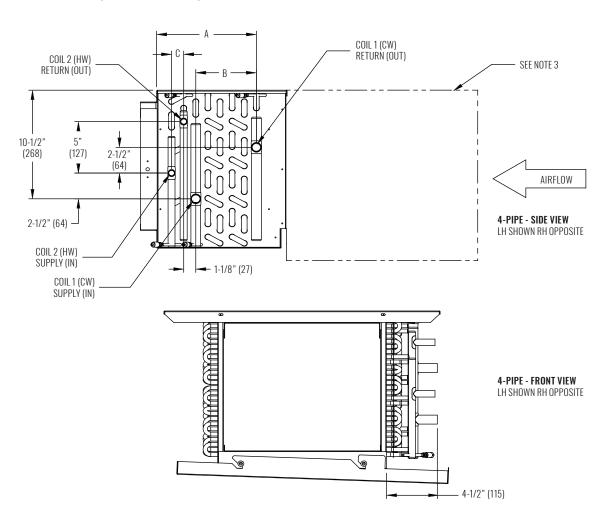
UNIT SIZE	COIL ROWS	A (1/2" Ø COIL)	A (3/8" Ø COIL)
	1	1-1/8" (29) *	7/8" (22) *
2-PIPE	2	1-1/8" (29)	7/8" (22)
HEATING	3	2-1/8" (54)	1-3/4" (44)
	4	3-1/4" (83)	2-5/8" (67)
	3	2-1/8" (54)	1-3/4" (44)
2-PIPE COOLING	4	3-1/4" (83)	2-5/8" (67)
OOOLING	6	5-3/8" (137)	4-3/8" (86)

- 1. All dimensions in inches (millimeters). All dimensions ±1/2" (13mm). Metric values
- 2. All drawings subject to change without notice.
  3. Model "KHGP" unit shown, typical for model "KHGH" units. Connections shown are internal on "KHGE" units.
- 4. Connection Size: See submittal.
- 5. Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.

  6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
- Single row / single circuit headers are vertical (horizontal distance is 0").



## DIMENSIONAL DATA | KHGP, KHGH | FIELD CONNECTIONS, 4-PIPE, 1/2" COIL, REHEAT



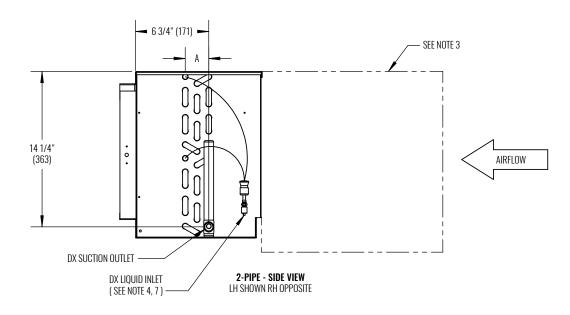
UNIT TYPE: 4-PIPE REHEAT						
COIL 1	COIL 2	1/2" COIL Ø				
CW ROWS	HW ROWS	A	В	C		
3	1	6-3/4" (171)	1-5/8" (143)	1-1/4" (32) *		
3	2	6-3/4" (171)	1-7/8" (48)	1-1/8" (29)		
3	3	6-3/4" (171)	2" (51)	2-1/4" (57)		
4	1	6-3/4" (171)	3" (76)	1-1/4" (32) *		
4	2	6-3/4" (171)	3" (76)	1-1/8" (29)		
3	4	8-7/8" (225)	2" (51)	3-1/4" (83)		
4	3	8-7/8" (225)	3-1/4" (83)	2" (51)		
4	4	8-7/8" (225)	3-1/4" (83)	3-1/4" (83)		
6	1	8-7/8" (225)	5" (127)	1-1/8" (29) *		
6	2	8-7/8" (225)	5-1/4" (133)	1-1/8" (29)		

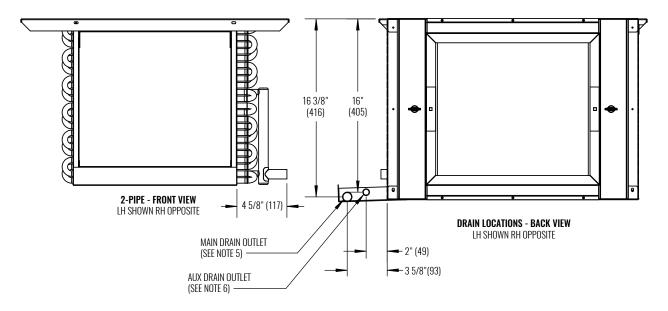
- 1. All dimensions in inches (millimeters). All dimensions ±1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- Model "KHGP" unit shown, typical for model "KHGH" units. Connections shown are internal on "KHGE" units.
- 4. Connection Size: See submittal.
- 5. Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.

  6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel
- respectively.
- \* Single row / single circuit headers are vertical (horizontal distance is 0").

# **■** KRUEGER

# DIMENSIONAL DATA | KHGP, KHGH | FIELD CONNECTIONS, 2-PIPE, DX COIL





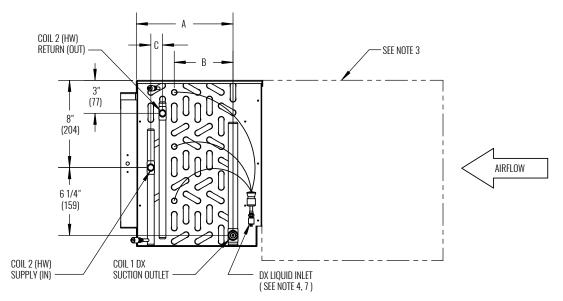
UNIT TYPE	DX Coil rows	A (1/2" Ø COIL)
2-PIPE COOLING	3	2-1/8" (55)
	4	3-1/4" (82)
	6	5-3/8" (137)

#### NOTES:

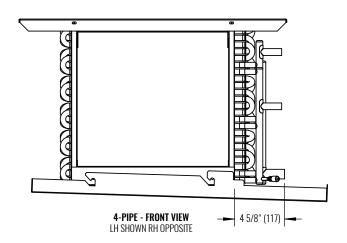
- 1. All dimensions are inches (millimeters). All dimensions 1/2" (13mm). Metric values are soft
- 2. All drawings subject to change without notice.
- 3. Model "KHGP" unit shown, typical for model "KHGH" units. Connections shown are internal on "KHGE" units.
- 4. Connection Size: See submittal.
- 5. Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- 6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel, respectively.
- 7. Liquid inlet arrangement may vary.



## DIMENSIONAL DATA | KHGP, KHGH | FIELD CONNECTIONS, 4-PIPE, 1/2" DX COIL, REHEAT



4-PIPE - SIDE VIEW LH SHOWN RH OPPOSITE



	UNIT TYPE: 4-PIPE REHEAT					
COIL 1	COIL 2	1/2" COIL Ø				
DX ROWS	HW ROWS	A	В	C		
3	1	6-3/4" (171)	2-1/8" (52)	7/8" (22) *		
3	2	6-3/4" (171)	2-1/8" (52)	1-1/8" (29)		
3	3	6-3/4" (171)	2-1/8" (52)	2-1/8" (54)		
4	1	6-3/4" (171)	3-1/4" (83)	1" (25.5) *		
4	2	6-3/4" (171)	3-1/4" (83)	1" (25.5)		
3	4	8-7/8" (225)	2-1/8" (52)	3-1/4" (83)		
4	3	8-7/8" (225)	3-1/4" (83)	2-1/4" (54)		
4	4	8-7/8" (225)	3-1/4" (83)	3-1/4" (83)		
6	1	8-7/8" (225)	5-1/2" (140)	7/8" (22) *		
6	2	8-7/8" (225)	5-1/2" (140)	1-1/8" (27)		

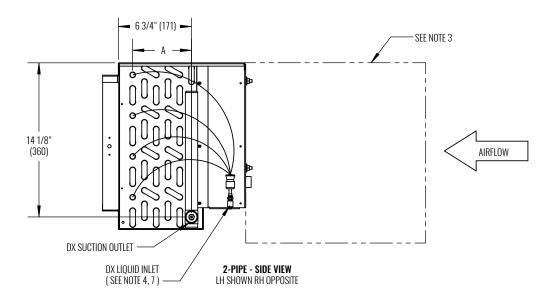
#### NOTES:

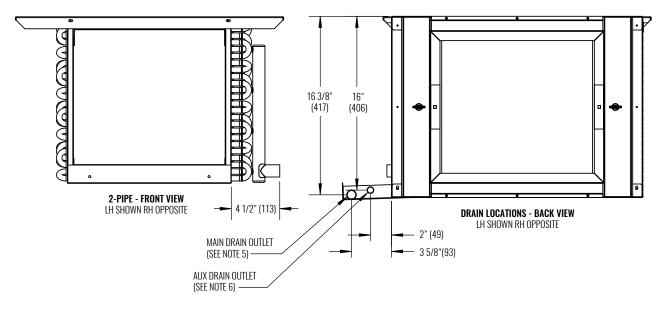
- 1. All dimensions are inches (millimeters). All dimensions 1/2" (13mm). Metric values are soft conversion.
- All drawings subject to change without notice.
   Model "KHGP" unit shown, typical for model "KHGH" units. Connections shown are internal on "KHGE" units.
- 4. Connection Size: See submittal.
- Connection 3ize. See Submitted.
   Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
   Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel,
- respectively.
- 7. Liquid Inlet arrangement may vary.
- \* Single row / single circuit headers are vertical (horizontal distance is 0").

Horizontal | High Capacity



# DIMENSIONAL DATA | KHGP, KHGH | FIELD CONNECTIONS, 2-PIPE, DX COIL, ELECTRIC HEAT





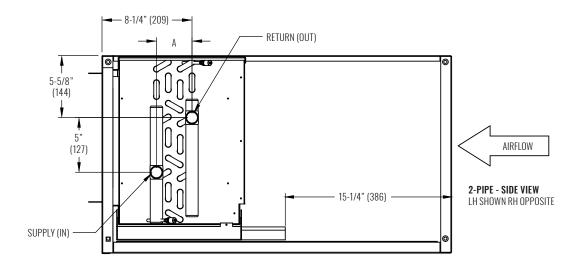
UNIT TYPE	DX Coil rows	A (1/2" Ø COIL)
2-PIPE COOLING	3	2-1/8" (55)
	4	3-1/4" (82)
	6	5-3/8" (137)

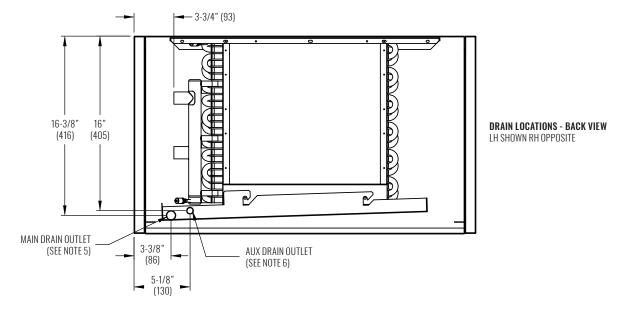
- 1. All dimensions are inches (millimeters). All dimensions 1/2" (13mm). Metric values are soft
- 2. All drawings subject to change without notice.
- 3. Model "KHGP" unit shown, typical for model "KHGH" units. Connections shown are internal on "KHGE" units.
- 4. Connection Size: See submittal.
- 5. Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.

  6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel, respectively.
- 7. Liquid inlet arrangement may vary.



## DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, 2-PIPE





UNIT SIZE	COIL ROWS	A (1/2" Ø COIL)	A (3/8" Ø COIL)
	1	1-1/8" (29) *	7/8" (22) *
2-PIPE	2	1-1/8" (29)	7/8" (22)
HEATING	3	2-1/8" (54)	1-3/4" (44)
	4	3-1/4" (83)	2-5/8" (67)
	3	2-1/8" (54)	1-3/4" (44)
2-PIPE COOLING	4	3-1/4" (83)	2-5/8" (67)
JOOLING	6	5-3/8" (137)	4-3/8" (86)

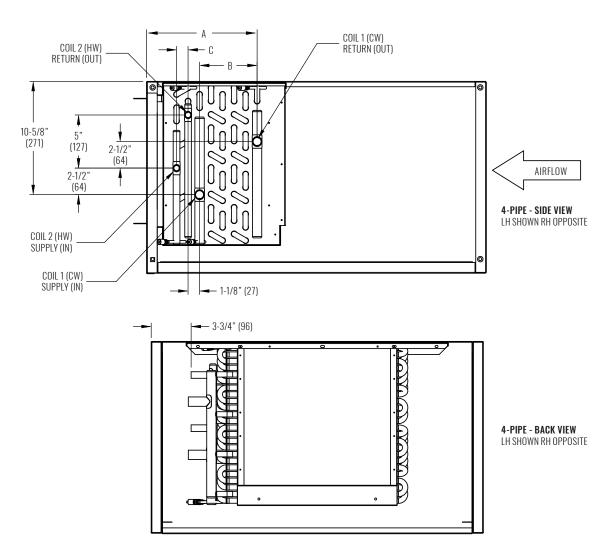
- 1. All dimensions in inches (millimeters). All dimensions ±1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. Model "KHGE" unit shown, side panel hidden for clarity.
- 4. Connection Size: See submittal.
- 5. Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.

  6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
- Single row / single circuit headers are vertical (horizontal distance is 0").

# **KHG - SERIES A**

**■** KRUEGER

# DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, 4-PIPE, 1/2" COIL, REHEAT



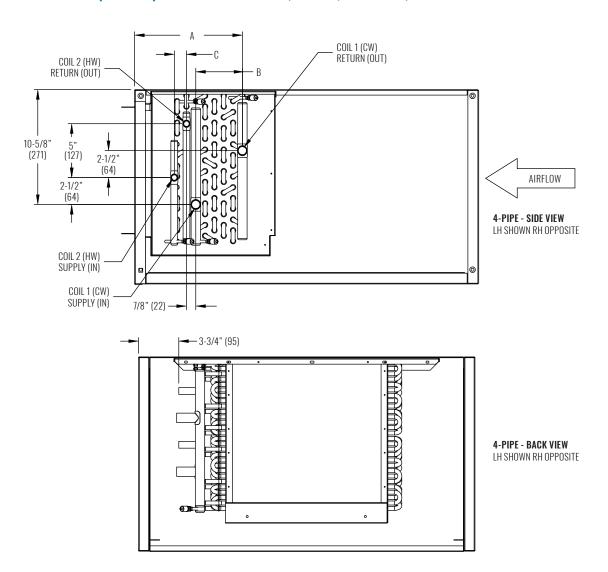
UNIT TYPE: 4-PIPE REHEAT					
COIL 1	COIL 2		1/2" COIL Ø		
CW ROWS	HW ROWS	A	В	C	
3	1	8-1/4" (210)	1-5/8" (143)	1-1/4" (32) *	
3	2	8-1/4" (210)	1-7/8" (48)	1-1/8" (29)	
3	3	8-1/4" (210)	2" (51)	2-1/4" (57)	
4	1	8-1/4" (210)	3" (76)	1-1/4" (32) *	
4	2	8-1/4" (210)	3" (76)	1-1/8" (29)	
3	4	10-3/8" (264)	2" (51)	3-1/4" (83)	
4	3	10-3/8" (264)	3-1/4" (83)	2" (51)	
4	4	10-3/8" (264)	3-1/4" (83)	3-1/4" (83)	
6	1	10-3/8" (264)	5" (127)	1-1/8" (29) *	
6	2	10-3/8" (264)	5-1/4" (133)	1-1/8" (29)	

#### NOTES:

- 1. All dimensions in inches (millimeters). All dimensions ±1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. Model "KHGE" unit shown, side panel and drain pan hidden for clarity.
- 4. Connection Size: See submittal.
- Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize
- 6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
  Single row / single circuit headers are vertical (horizontal distance is 0").



### DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, 4-PIPE, 3/8" COIL, REHEAT

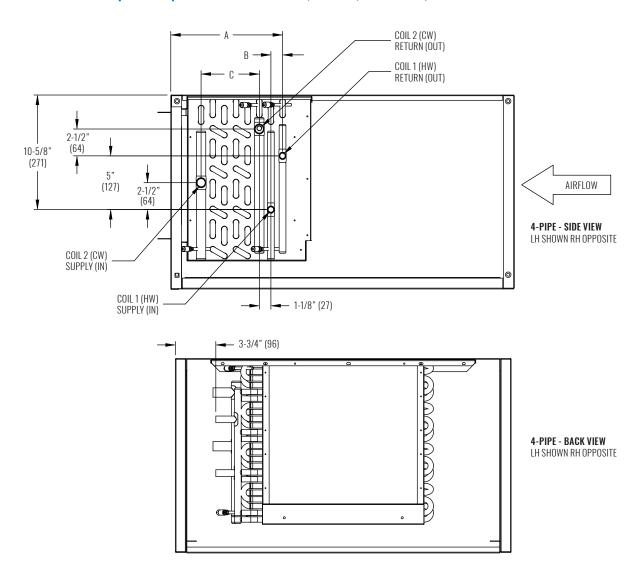


UNIT TYPE: 4-PIPE REHEAT					
COIL 1	COIL 2		3/8" COIL Ø		
CW ROWS	HW ROWS	A	В	С	
3	1	8-1/4" (210)	1-1/2" (38)	1" (25) *	
3	2	8-1/4" (210)	1-3/8" (35)	1" (25)	
3	3	8-1/4" (210)	1-3/4" (44)	1-1/2" (38)	
4	1	8-1/4" (210)	1-3/4" (44)	1" (25) *	
4	2	8-1/4" (210)	2-1/4" (57)	1" (25)	
3	4	10" (254)	1-1/2" (38)	2-5/8" (67)	
4	3	10" (254)	2-5/8" (67)	1-1/2" (38)	
4	4	10" (254)	2-5/8" (67)	2-1/4" (57)	
6	1	10" (254)	3-1/2" (89)	1" (25) *	
6	2	10" (254)	4" (102)	1" (25)	

- 1. All dimensions in inches (millimeters). All dimensions  $\pm 1/2$ " (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. Model "KHGE" unit shown, side panel and drain pan hidden for clarity.
- 4. Connection Size: See submittal.
- 5. Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
- \* Single row / single circuit headers are vertical (horizontal distance is 0").

# **■** KRUEGER

## DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, 4-PIPE, 1/2" COIL, PREHEAT



UNIT TYPE: 4-PIPE PREHEAT					
COIL 1	COIL 2		1/2" COIL Ø		
HW ROWS	CW ROWS	A	В	C	
1	3	9-1/8" (232)	1-1/8" (29) *	1-5/8" (41)	
1	4	9-1/8" (232)	1-1/8" (29) *	2-1/2" (64)	
2	3	8-1/4" (210)	1-1/8" (29)	2-1/8" (54)	
2	4	8-1/4" (210)	1-1/8" (29)	3-1/8" (79)	
3	3	8-1/4" (210)	2-1/8" (76)	2" (51)	
1	6	11-1/8" (283)	1-1/8" (29) *	4-3/4" (121)	
2	6	10-3/8" (264)	1-1/8" (29)	5-1/4" (133)	
3	4	10-3/8" (264)	2-1/8" (54)	3-1/8" (79)	
4	3	10-3/8" (264)	3-1/4" (83)	2-1/8" (54)	
4	4	10-3/8" (264)	3-1/4" (83)	3-1/8" (79)	

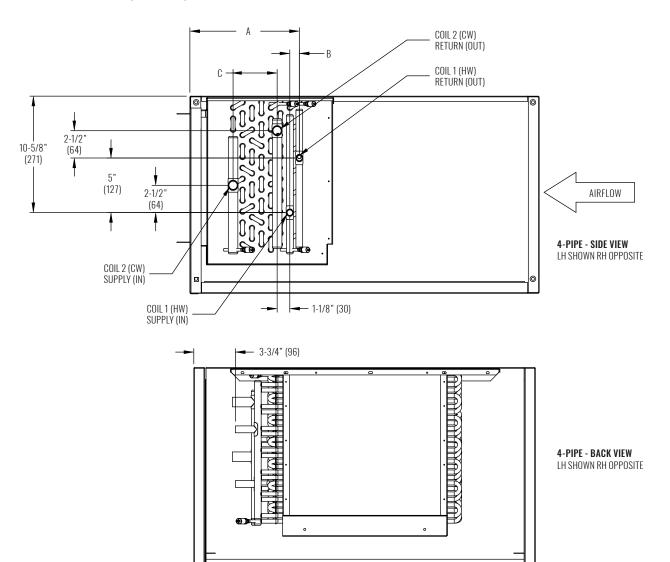
#### NOTES:

- 1. All dimensions in inches (millimeters). All dimensions ±1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. Model "KHGE" unit shown, side panel and drain pan hidden for clarity.
- 4. Connection Size: See submittal.
- 5. Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize
- 6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.

  \* Single row / single circuit headers are vertical (horizontal distance is 0").



## DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, 4-PIPE, 3/8" COIL, PREHEAT



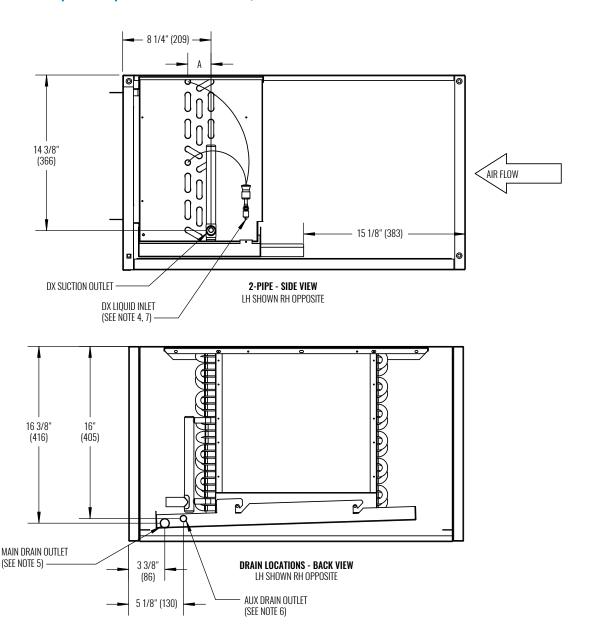
UNIT TYPE: 4-PIPE PREHEAT					
COIL 1	COIL 2		3/8" COIL Ø		
HW ROWS	CW ROWS	A	В	C	
1	3	9" (229)	1" (25) *	1-1/2" (38)	
1	4	9" (229)	1" (25) *	1-3/4" (44)	
2	3	8-1/4" (210)	1" (25)	1-1/2" (38)	
2	4	8-1/4" (210)	1" (25)	2" (51)	
3	3	8-1/4" (210)	1-3/4" (44)	1-1/2" (38)	
1	6	10-3/4" (273)	1" (25) *	3-1/2" (89)	
2	6	10" (254)	1" (25)	3-3/4" (95)	
3	4	10" (254)	1-3/4" (44)	2-1/4" (57)	
4	3	10" (254)	2-5/8" (67)	1-1/2" (38)	
4	4	10" (254)	2-5/8" (67)	2-1/4" (57)	

- 1. All dimensions in inches (millimeters), All dimensions  $\pm 1/2$ " (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. Model "KHGE" unit shown, side panel and drain pan hidden for clarity.
- 4. Connection Size: See submittal.
- Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
- \* Single row / single circuit headers are vertical (horizontal distance is 0").

# **KHG - SERIES A**

# **■** KRUEGER

### DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, DX COIL



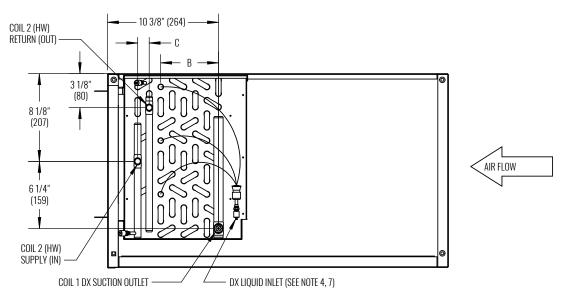
UNIT TYPE	DX COIL Rows	A (1/2" COIL Ø)
2-PIPE COOLING	3	2-1/8" (55)
	4	3-1/4" (82)
	6	5-3/8" (137)

- 1. All dimensions are inches (millimeters). All dimensions 1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.

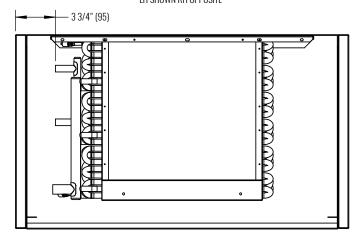
- And a wings subject to triange without notice.
   Model "HPE" unit shown, side panel hidden for clarity.
   Connection Size: See submittal. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
   Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet.
   Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- 6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
- 7. Liquid inlet arrangement may vary.



## DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, 4-PIPE, 1/2" DX COIL, REHEAT



#### 4-PIPE - SIDE VIEW LH SHOWN RH OPPOSITE



**4-PIPE - FRONT VIEW** LH SHOWN RH OPPOSITE

UNIT TYPE: 4-PIPE REHEAT				
COIL 1	COIL 2			
DX ROWS	HW ROWS	A	В	C
3	1	8-1/4" (210)	2-1/8" (52)	7/8" (22) *
3	2	8-1/4" (210)	2-1/8" (52)	1-1/8" (29)
3	3	8-1/4" (210)	2-1/8" (52)	2-1/8" (54)
4	1	8-1/4" (210)	3-1/4" (83)	1" (25.5) *
4	2	8-1/4" (210)	3-1/4" (83)	1" (25.5)
3	4	10-3/8" (364)	2-1/8" (52)	3-1/4" (83)
4	3	10-3/8" (364)	3-1/4" (83)	2-1/4" (54)
4	4	10-3/8" (364)	3-1/4" (83)	3-1/4" (83)
6	1	10-3/8" (364)	5-1/2" (140)	7/8" (22) *
6	2	10-3/8" (364)	5-1/2" (140)	1-1/8" (27)

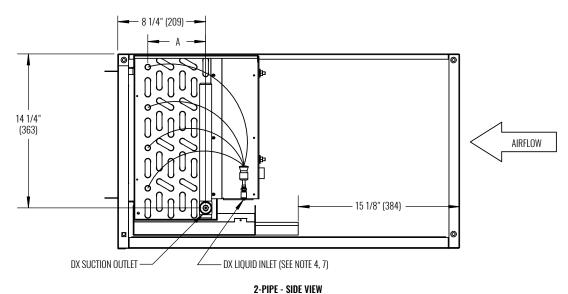
#### NOTES:

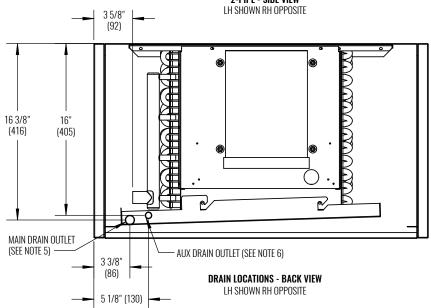
- All dimensions are inches (millimeters). All dimensions 1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. Model "HPE" unit shown, side panel hidden for clarity.
- Connection Size: See submittal. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- 6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
- 7. Liquid inlet arrangement may vary.
- \* Single row / single circuit headers are vertical (horizontal distance is 0")

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## DIMENSIONAL DATA | KHGE | FIELD CONNECTIONS, DX COIL, ELECTRIC HEAT



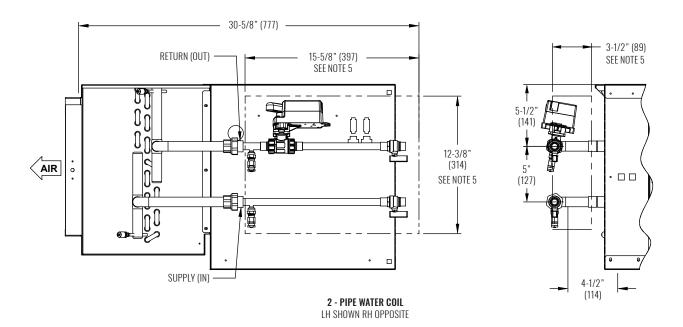


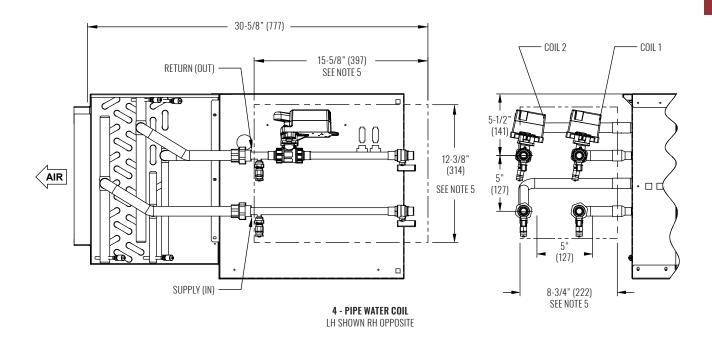
UNIT TYPE	DX COIL Rows	A (1/2" COIL Ø)
2-PIPE COOLING	3	2-1/8" (55)
	4	3-1/4" (82)
	6	5-3/8" (137)

- 1. All dimensions are inches (millimeters). All dimensions 1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.3. Model "HPE" unit shown, side panel hidden for clarity.
- 4. Connection Size: See submittal. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- Standard externally foam coated galvanize steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanize steel outlet.
- 6. Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively.
- 7. Liquid inlet arrangement may vary.



### DIMENSIONAL DATA | KHGP | VALVE PACKAGE CONNECTIONS

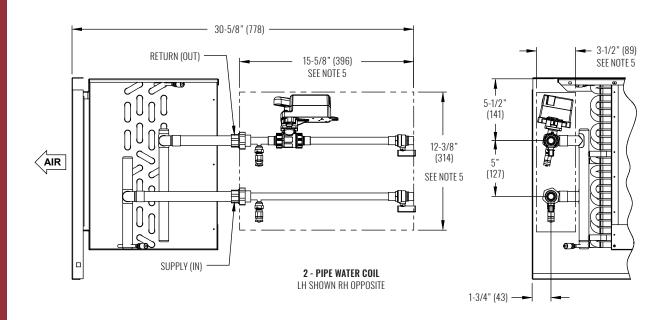


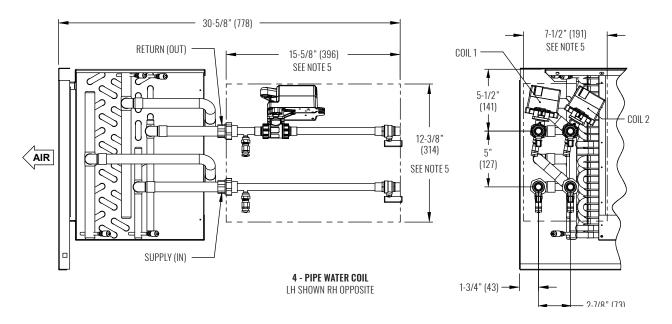


- 1. All dimensions in inches (millimeters). All dimensions  $\pm 1/2$ " (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. See "Coil Connection Location" drawing for drain pan specifications.
- Consult software selection summary for valve package components and specifications. Valve package end point dimensions are fixed value, regardless of selected valve package components.
- 5. Dimensions indicate space requirement for valve package install. Additional service space requirements depend on option selections.

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### DIMENSIONAL DATA | KHGE | VALVE PACKAGE CONNECTIONS, STANDARD WIDTH

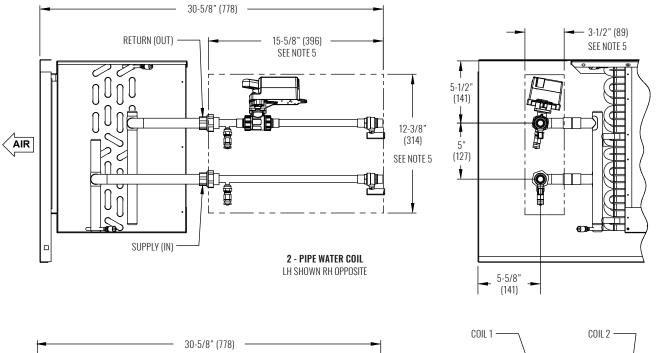


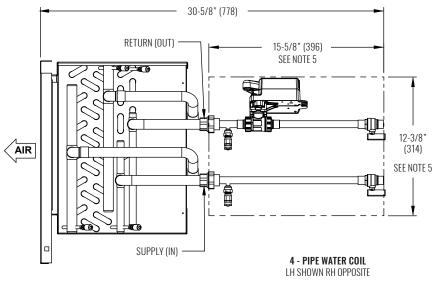


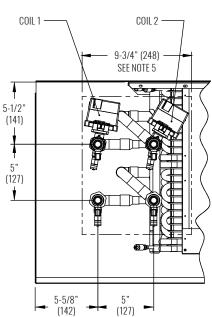
- 1. All dimensions in inches (millimeters). All dimensions ±1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
  3. See "Coil Connection Location" drawing for drain pan specifications.
- 4. Consult software selection summary for valve package components and specifications. Valve package end point dimensions are fixed value, regardless of selected valve package components.
- 5. Dimensions indicate space requirement for valve package install. Additional service space requirements depend on option selections.



## DIMENSIONAL DATA | KHGE | VALVE PACKAGE CONNECTIONS, EXTENDED WIDTH





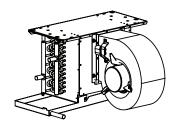


- 1. All dimensions in inches (millimeters). All dimensions ±1/2" (13mm). Metric values are soft conversion.
- 2. All drawings subject to change without notice.
- 3. See "Coil Connection Location" drawing for drain pan specifications.
- Consult software selection summary for valve package components and specifications. Valve package end point dimensions are fixed value, regardless of selected valve package components.
- 5. Dimensions indicate space requirement for valve package install. Additional service space requirements depend on option selections.

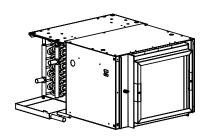
Horizontal | High Capacity



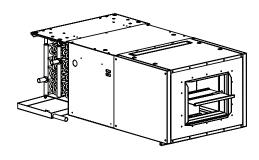
## **COIL CONNECTIONS**



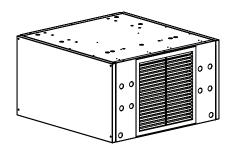
**MODEL KHGH** HIGH PERFORMANCE FREE RETURN FAN COIL UNIT



**MODEL KHGP** HIGH PERFORMANCE PLENUM RETURN FAN COIL UNIT



MODEL KHGP HIGH PERFORMANCE PLENUM RETURN FAN COIL UNIT WITH MIXING BOX



**MODEL KHGE**HIGH PERFORMANCE EXPOSED CABINET FAN COIL UNIT

- 1. Table applies to 1/2" and 3/8" tube diameters.
- 2. Number of circuits does not affect coil connection size.

WATER & DX COIL CONNECTION SIZES				
UNIT SIZE	TYPE	# ROWS	CONN. SIZE (OD)	
		1	5/8"	
06	HW	2	3/0	
		3	7/8"	
		4		
	CW OR DX	3	7/8"	
		6	110	
08		1		
	HW	2	5/8"	
		3	7/8"	
		4	1/0	
	CW OR DX	3	7/8"	
		4		
		6		
		1 2	5/8"	
	HW	3		
10		4	7/8"	
10		3		
	CW OR DX	4	7/8"	
		6		
	HW	1	5/8"	
		2	3/0	
		3	7/8"	
12		4	110	
	CW OR DX	3	7.00	
		4	7/8"	
		6 1		
	HW	2	7/8"	
		3		
14		4	1 1/8"	
	CW OR DX	3		
		4	1 1/8"	
		6		
16	HW	1	7/8"	
		2	0	
		3	1 1/8"	
		3		
	CW OR DX	4	1 1/8"	
		6	1 1/0	
20	HW	1	<b>3</b>	
		2	7/8"	
		3	1 1/8"	
		4	1 1/δ	
	CW OR DX	3		
		4	1 1/8"	
		6		
		1 2	7/8"	
		3		
		4	1 1/8"	
	CW OR DX	3		
		4	1 1/8"	
		6		



Horizontal | High Capacity

### SUGGESTED SPECIFICATION & CONFIGURATION

#### **GENERAL**

Furnish and install Krueger model KHG Horizontal Concealed Direct Drive Fan Coil Units where indicated on the plans and in the specifications. Units shall be completely factory assembled, tested and shipped as one piece. All units shall be capable of meeting or exceeding the scheduled capacities for cooling, heating and air delivery. All unit dimensions for each model and size shall be considered maximums. Units shall be ETL listed in compliance with UL/ANSI Standard 1995, and be certified as complying with the latest edition of AHRI Standard 440.

#### CONSTRUCTION

All unit chassis shall be fabricated of heavy gauge galvanized steel panels. All exterior panels shall be insulated with 1/2" thick fiberglass insulation with a maximum k value of .24 (BTU • in) / (hr • ft2 • °F) and rated for a maximum air velocity of 5000 f.p.m. Insulation must meet all requirements of ASTM C1071 (including C665), UL 181 for erosion, and carry a 25/50 rating for flame spread/smoke developed per ASTM E-84, UL 723 and NFPA 90A.

Option: Provide foil-faced insulation in lieu of standard. Foil insulation shall meet or exceed the requirements stated above, and in addition meet ASTM Standards C-665 and C-1136 for biological growth in insulation. Insulation shall be lined with aluminum foil, fiberglass scrim reinforcement, and 30 pound kraft paper laminated together with a flame resistant adhesive. All exposed edges shall be sealed to prevent any fibers from reaching the air stream.

Option: Provide Elastomeric Closed Cell Foam Insulation in lieu of standard. Insulation shall conform to UL 181 for erosion and NFPA 90A for fire, smoke and melting, and comply with a 25/50 Flame Spread and Smoke Developed Index per ASTM E-84 or UL 723. Additionally, insulation shall comply with Antimicrobial Performance Rating of 0, no observed growth, per ASTM G-21. Polyethylene insulation is not acceptable.

All concealed units shall have a minimum 1 1/4" duct collar on the dis-charge. Plenum units shall have a minimum 1" duct collar on the return.

<u>Option</u>: For concealed units, provide a hinged bottom access panel either solid or with bottom return single deflection grille. A telescoping plenum section is available with bottom return option.

All exposed units shall have exterior panels fabricated of galvannealed steel.

Option: For exposed units, the side and bottom access panels shall be attached with quick open fasteners to allow for easy removal and access for service.

Option: For exposed units, provide double deflection discharge grille and either a rear return or bottom return single deflection grille, powder coat painted to match unit color. Supply and return duct connections are available. Unit mounting shall be by hanger holes provided at a minimum of four locations.

#### SOUND

Units shall have published sound power level data tested in accordance with AHRI Standard 260-01.

#### **FAN ASSEMBLY**

Unit fan shall be a dynamically balanced, forwardly curved, DWDI centrifugal type constructed of 18 gauge zinc coated galvanized steel for corrosion resistance. Motors shall be high efficiency, permanently lubricated sleeve bearing, permanent split-capacitor type with UL and CSA listed automatic reset thermal overload protection and three separate horsepower taps. Single speed motors are not acceptable.

The fan assembly shall be easily removable for servicing the motor and blower at, or away from the unit. The entire fan assembly shall be able to come out of the unit by removing four nuts per fan and unplugging the motor(s). Plenum unit fan assemblies shall be easily serviced through the filter opening or through the bottom panel.

Option: Provide an electronic (SCR) fan speed controller as an aid in balancing the fan capacity. The speed controller shall have a turn down stop to prevent the possibility of harming the motor bearings, and incorporate electrical noise suppression to minimize noise on the incoming power lines. The SCR fan speed controller is only available for high speed setting.

<u>Option</u>: Provide Electronically Commutated (EC) Motor capable of operation with 3-speed thermostat.

Option: Provide Electronically Commutated (EC) Motor capable of operation with 3-speed thermostat. Each speed shall be manually adjustable in the field. All manual speed adjustments shall be stored in non-volatile memory.

Option: Provide Electronically Commutated (EC) Motor capable of variable speed operation. Motor shall be capable of accepting a 2-10 VDC output from BAS.

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Horizontal | High Capacity



### **SUGGESTED SPECIFICATION & CONFIGURATION (CONTINUED)**

All coils shall be AHRI 410 certified and tagged with an AHRI 410 label.

All cooling and heating coils shall optimize rows and fins per inch to meet the specified capacity. Coils shall have seamless copper tubes and shall be mechanically expanded to provide an efficient, permanent bond between the tube and fin. Coil tubes shall be 3/8" outside diameter with .012" tube wall thickness. Fins shall have high efficiency aluminum surface optimized for heat transfer, air pressure drop and carryover.

All coils shall be hydrostatically tested at 450 PSIG air pressure under water, and rated for a maximum of 450 PSIG working pressure at 200°F.

Direct expansion cooling coils shall include a fixed orifice distributor. All evaporator coils shall be factory sealed and charged with a minimum 5 PSIG nitrogen or refrigerated dry air.

Steam coils shall be standard steam type suitable for temperatures above 35°F and 15 PSIG maximum working pressure.

All coils shall be provided with a manual air vent fitting to allow for coil venting.

Option: Provide coil tubes with 1/2" outside diameter and .016" tube wall thickness.

Option: Provide coil tubes with 1/2" outside diameter and .025" tube wall thickness.

Option: Provide automatic air vents in lieu of manual air vents.

Cooling and heating coils shall be in a common tube sheet. Heating coils shall be furnished in the reheat or preheat position.

#### **FILTERS**

All plenum and exposed units shall be furnished with a minimum 1" nominal glass fiber throwaway filter. Filters shall be tight fitting to prevent air bypass. Plenum and exposed unit filters shall be easily removable from the bottom of the unit without the need for tools.

Option: Provide unit with 1" or 2" pleated filters rated at 25-30% efficiency and MERV 6 based on ASHRAE 52.2 -1999.

#### **DRAIN PANS**

Primary condensate drain pans shall be single wall; heavy gauge galvanized steel for corrosion resistance, and extend under the entire cooling coil. Drain pans shall be of one-piece construction and be sloped for condensate removal.

The drain pan shall be externally insulated with a fire retardant, closed cell foam insulation. The insulation shall carry no more than a 25/50 Flame Spread and Smoke Developed Rating per ASTM E-84 and UL 723 and an Antimicrobial Performance Rating of 0, no observed growth, per ASTM G-21.

Option: Provide a single wall primary drain pan constructed entirely of heavy gauge stainless steel for superior corrosion resistance. Stainless steel drain pans shall be externally insulated and meet or exceed the requirements stated above.

Option: Provide a secondary drain connection on the primary drain pan for condensate overflow.

Option: Provide a condensate overflow switch in the primary drain pan for condensate overflow.

#### MIXING BOX SECTION

Provide a fully insulated integral mixing box section with return and outside air dampers, including the interconnecting damper linkage. Mixing box section shall be shipped attached to the concealed plenum unit as an assembly.

Option: Factory-provided damper actuator to be mounted.

#### **ELECTRICAL**

Units shall be furnished with single point power connection. Provide an electrical junction box with terminal strip for motor and other electrical terminations. The factory mounted terminal wiring strip consists of a multiple position screw terminal block to facilitate wiring terminations for the electric control valves and thermostats.



Horizontal | High Capacity

### SUGGESTED SPECIFICATION & CONFIGURATION (CONTINUED)

#### **ELECTRIC HEAT**

Furnish an electric resistance heating assembly as an integral part of the fan coil unit, with the heating capacity, voltage and kilowatts scheduled. The heater assembly shall be designed and rated for installation on the fan coil unit without the use of duct extensions or transitions, and be located in the unit as to not expose the fan assembly to excessive leaving air temperatures that could affect motor performance.

The heater and unit assembly shall be listed for zero clearance and meet all NEC requirements, and be ETL listed with the unit as an assembly in compliance with UL/ ANSI Standard 1995.

All heating elements shall be open coil type Ni-Chrome wire mounted in ceramic insulators and located in an insulated heavy gauge galvanized steel housing. All elements shall terminate in a machine staked stainless steel terminal secured with stainless steel hardware for corrosion resistance. The element support brackets shall be spaced no greater than 3-1/2" on center. All internal wiring shall be rated for 105°C minimum.

All heaters shall include over temperature protection consisting of an automatic reset primary thermal limit and back up secondary thermal limit. All heaters shall be single stage unless noted otherwise on the plans.

All units with electric heat shall be provided with an incoming line power distribution block, designated to accept single point power wiring capable of carrying 125% of the calculated load current.

#### **PIPING PACKAGES**

Provide a standard factory assembled valve piping package to consist of a 2 or 3 way, on/off, motorized electric control valve and two ball isolation valves. Control valves are piped normally closed to the coil. Maximum entering water temperature on the control valve is 200°F, and maximum close-off pressure is 40 PSIG (1/2"), 20 PSIG (3/4"), or 17 PSIG (1"). Maximum operating pressure shall be 450 PSIG.

<u>Option</u>: Provide 3-wire floating point modulating control valve (fail-in-place) in lieu of standard 2-position control valve with factory assembled valve piping package.

<u>Option</u>: Provide high pressure close-off actuators for 2-way on/off control valves. Maximum close-off pressure is 50 PSIG (1/2"), 25 PSIG (3/4"), or 20 PSIG (1").

<u>Option</u>: Provide either a fixed or adjustable flow control device for each piping package.

<u>Option</u>: Provide unions and/or pressure-temperature ports for each piping package.

Piping package shall be completely factory assembled, including intercon-necting pipe, and shipped separate from the unit for field installation on the coil, so as to minimize the risk of freight damage.

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Horizontal | High Capacity



### **SUGGESTED SPECIFICATION & CONFIGURATION (CONTINUED)**

#### 1. SERIES:

- KHGE Horizontal High Capacity Fan Coil, Exposed Cabinet
- KHGH Horizontal High Capacity Fan Coil, Concealed Ceiling
- KHGP Horizontal High Capacity Fan Coil, Concealed with Plenum

#### 2. SIZE:

- 06, 08, 10, 12, 14, 16, 18, 20

#### 3. MOTOR:

(See Krueger's selection software.)

#### 4. MOTOR CONTROL:

- None
- 3-Speed Adjustable
- 2-10 VDC
- 3-Speed Fixed

#### 5. UNIT CAPACITY:

- Standard Capacity
- High Capacity

#### 6. COIL 1:

- 3-Row Cold Water
- 4-Row Cold Water
- 6-Row Cold Water
- 3-Row DX
- 4-Row DX
- 6-Row DX
- 1-Row Hot Water
- 2-Row Hot Water
- 3-Row Hot Water
- 4-Row Hot Water
- 3-Row with Changeover
- 4-Row with Changeover
- 6-Row with Changeover

#### 7. COIL 1 DIAMETER:

- 3/8" Tube Diameter
- 1/2" Tube Diameter

#### 8. COIL 1 TUBE WALL:

- 0.016" Tube Wall Thickness
- 0.012" Tube Wall Thickness

#### 9. COIL 1 AIR VENT:

- Manual Air Vent
- Auto Air Vent

### 10. COIL 1 REFRIGERANT TYPE: (KHGE/KHGH Only)

- R-410

### 11. COIL 1 DISTRIBUTOR:

(See Krueger's selection software.)

#### 12. COIL 1 PIPING SIZE:

- 1/2", 3/4", 1"

#### 13. COIL 1 PIPING VALVE:

- None
- 2-Way Control Valve
- 3-Way Control Valve
- 3-Way with Balance ByPass Valve

#### 14. COIL 1 PIPING PACKAGE:

- Manual Ball Valve w/ Memory Stop
- Manual Ball Valve w/ Memory Stop, Fixed Flow Ctrl
- Ball Valve in Bypass & Ball Valves w/ Memory Stop

#### 15. COIL 1 FIXED GPM:

- -1/2" = 0.5 to 4.0 GPM in 0.5 GPM increments
  - > 4.0 to 9.0 GPM in 1.0 GPM increments
- 3/4" = 3.0 to 4.0 GPM in 0.5 GPM increments
- > 4.0 to 12.0 GPM in 1.0 GPM increments
- 1" = 5.0 to 10.0 GPM in 1.0 GPM increments > 10.0 to 20.0 GPM in 2.0 GPM increments

#### 16. COIL 1 UNIONS:

- None
- Union

#### 17. COIL 1 P/T PORTS:

- None
- P/T Port

### 18. COIL 1 AQUASTAT BLEED LINE:

- None
- Aquastat Bleed Line

#### 19. COIL 1 ACTUATOR TYPE:

- Field Provided by Others 2-Position Close-Off
- Factory Provided 2-Position Close-Off, NC
- MV, 2-Way, Floating Point, Fail-In-Place, 24V
- MV, 3-Way, Floating Point, Fail-In-Place, 24V
- HP Close-Off Actuator, 2-Way Valve-24/115/208V
- HP Close-Off Actuator, 2-Way Valve-230/277V Note: MV = Modulating Valves, HP = High Pressure

# 20. ACTUATOR POSITION:

- Normally Closed 2-Pos Close Off
- Normally Open 2-Pos Close Off
- Normally Closed Modulating
- Normally Open Modulating
- Fail in Place Modulating
- Normally Closed Proportional - Normally Open - Proportional
- Fail in Place Proportional

#### 21. FACTORY MOUNTED PIPING PACKAGES:

- None
- Factory Mounted Piping Package



Horizontal | High Capacity

### **SUGGESTED SPECIFICATION & CONFIGURATION (CONTINUED)**

#### 22. ELECTRIC HEAT VOLTAGE:

- None
- 115 Volt, 1-Phase, 1-Stage
- 208 Volt, 1-Phase, 1-Stage
- 230 Volt, 1-Phase, 1-Stage
- 220 Volt, 1-Phase, 1-Stage
- 277 Volt, 1-Phase, 1-Stage

#### 23. kW:

(See Krueger's selection software.)

#### 24. SILENT RELAY:

- None
- Silent Relay

#### **25. MANUAL RESET:**

- None
- Manual Reset

#### **26. COIL 2 SELECTIONS**

(See Coil 1 options. Differences may apply.)

#### 27. COIL HAND:

- Left-Hand
- Right-Hand

#### 28. COIL FPI:

- 10 FPI
- 12 FPI

#### 29. COIL CASING:

- Galvanized Coil Casing
- Stainless Steel Coil Casing

#### 30. FILTER: (KHGE/KHGP Only)

- 1" Throwaway Filter
- 1" Pleated Filter MERV 8
- 2" Pleated Filter MERV 8

### 31. FILTER ACCESS: (KHGE/KHGP Only)

- Bottom Filter Access
- Side Filter Access (KHGP Only)

#### 32. SPARE FILTER: (KHGE/KHGP Only)

(See Krueger's selection software.)

#### 33. RETURN AIR LOCATION:

- Rear Return
- Bottom Return

#### 34. INLET: (KHGP Only)

- None
- Mixing Box with Linkage

#### 35. MIXING BOX DAMPER LOCATION: (KHGP Only)

- None
- Bottom and Rear Inlet
- Top and Rear Inlet

#### 36. DAMPER ACTUATOR MOUNT: (KHGP Only)

- None
- Mounted and Wired Damper Actuator

#### **37. INSULATION:**

- Standard 1/2" thick Fiberglass
- Foil Faced Insulation (KHGE/KHGP Only)
- Elastomeric Closed Cell Foam Insulation

#### 38. UNIT DRAIN PAN:

- Galvanized Drain Pan
- Stainless Steel Unit Drain Pan

#### 39. SECONDARY DRAIN CONNECT:

- None
- Secondary Drain Connection

#### **40. AUXILIARY DRIP PAN:**

- None
- Galvanized Auxiliary Drip Pan
- Stainless Steel Auxiliary Drip Pan

### 41. ACCESS PANEL: (KHGH/KHGP Only)

- None
- Ceiling Access RAP British White (KHGP Only, including bottom return)
- Solid Ceiling Access Panel British White
- Ceiling Access RAP with Telescoping Duct
- British White (KHGP Only)

### 42. ACCESS PANEL SIZE: (KHGH/KHGP Only)

(See Krueger's selection software.)

### **43. BASIC CONTROL PACKAGE:**

- Line Voltage with Electric Heat (EH)
- Line Voltage
- 24V, Unit S/S Relay, Fan Op. Relay, Trans.
- 24V, Unit S/S Relay, Fan Op. Relay, Trans. with EH

### 44. ENCLOSURE MOUNT:

- Unit Mount
- Remote Mount

#### 45. CONTROL ENCLOSURE HANDING:

- Opposite of Coil
- Same as Coil

#### **46. FAN SPEED CONTROLLER:**

- None
- SCR Fan Speed Controller

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### **SUGGESTED SPECIFICATION & CONFIGURATION (CONTINUED)**

#### **47. DISCONNECT SWITCH:**

- Door Interlocking non-Fused Disconnect
- Toggle Disconnect Switch

#### **48. SOLID STATE RELAY:**

- None
- SSR (1) in Lieu of Start/Stop Relay
- SSRs (2) for (High, Low) Fan Control
- SSRs (3) for (High, Medium, Low) Fan Control

#### 49. RETURN AIR: (KHGE Only)

- Bottom Aluminum Single Deflection Return Grille
- Rear Aluminum Single Deflection Return Grille
- Rear Duct Collar

### 50. SUPPLY AIR: (KHGE Only)

- Double Deflection Aluminum Supply Grille
- Front Duct Collar

#### 51. PAINT: (KHGE Only)

- Pearl White Satin
- British White

#### **52. THERMOSTAT:**

- D-Series Digital (No 7 Day program), On/Off Actuator
- P-Series Digital (7 day Program), On/Off Actuator
- N-Series Digital (Networking Compatible), On/Off Actuator
- F-Series Digital (Networking Compatible), Floating Point Actuator
- V-Series Digital (Networking Compatible), **Proportional Actuator**

#### **53. THERMOSTAT LOCATION:**

- Remote Mounted Thermostat
- Unit Mounted Thermostat

### **54. DISCHARGE AIR SENSOR:**

- None
- Discharge Air Sensor

#### **55. CURRENT SENSOR:**

- None
- Current Sensor

### **56. CONDENSATE PUMP:**

- None
- Condensate pump

#### **57. MAIN FUSING:**

- None
- Main Fusing

#### **58. FLOAT SWITCH:**

- None
- Drain Pan Float Switch

#### 59. SPEED SWITCH:

- None
- Unit Mount 3-Speed Switch with Off Position
- Remote Mount 3-Speed Switch with Off Position

### **60. AQUASTAT:**

- None
- Aquastat