INTRODUCTION

The active modular chilled beam features a 4-way air distribution pattern and an optimized nozzle design that delivers high capacity with low noise levels, while its modular form complements modern commercial architectural styling. Designed to fit seamlessly into standard 24-inch ceiling systems, it incorporates optimized diffuser geometry to improve air distribution and enhance overall occupant comfort.

MODEL

BAM - Modular Active Chilled Beam

FEATURES

- 4-way air distribution pattern
- 24” and 48” lengths
- 24” width
- Perforated induced air grille
- Side coil connections
- Top or side air inlet locations
- 2-pipe and 4-pipe coil configurations
- Configured nozzle geometry for capacity optimization
- Removable induced air grille for roomside coil access
- Commissioning port with roomside access for balancing
- Mounting brackets with adjustments in two directions
- Durable powder coat finish
- 1/2” Sweat water coil connections
- Coil air vent
- Coil drain valve

OPTIONS

- Internal closed cell foam insulation
- 1/2” or 3/4” MPT water coil connections
- 12”, 18” or 24” stainless steel braided hoses
- Lay-in and narrow tee frame styles
- Coil lint screen
- Constant volume regulator

FINISHES

- Standard Finish - #WHT British White
- Optional Finish - #BLK Black

ADVANTAGES

- Removal of high thermal loads is possible in this air/water system
- The size of the air duct system is reduced to a minimum, due to the low supply of primary air
- Substantial reduction in operating costs, due to low primary air volume
- Improvement of thermal comfort inside the room
- Suitable for several standard ceiling grids
- Contributing sound levels below NC-30

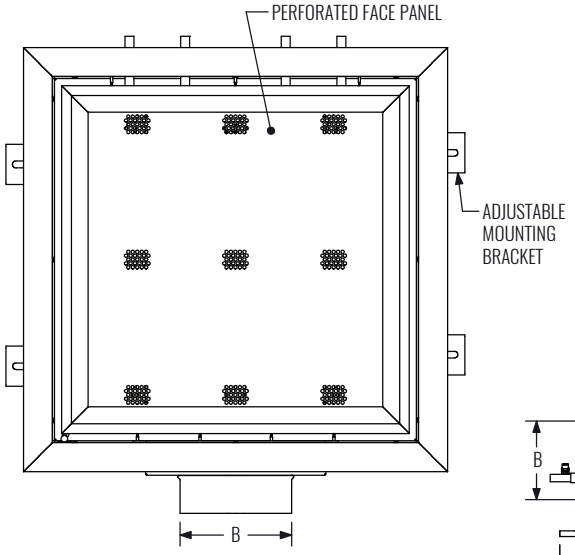
APPLICATION

Krueger active chilled beams feature the aerodynamic properties of Krueger ceiling diffusers and benefit from the use of hydronic coils and induced air to reduce energy consumption associated with removal of sensible thermal loads. The primary air is supplied to the chilled beam subsequent to it being discharged through a series of nozzles located along the perimeter of the beam. The nozzles inject the primary air into the mixing chamber at velocities capable of inducing room air through the water coil, where it mixes with the primary supply air. This mixture of air is then discharged into the space through the ceiling slot diffusers. This provides high cooling outputs with low amounts of primary air. The reduced volume of air results in the reduction of the air handler capacity and size, smaller duct sizes, and the overall energy consumption.

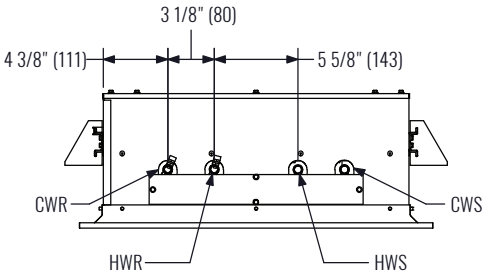
The supplied air from the air handling unit is tempered and dehumidified to handle the latent load. The remaining loads in the space are addressed with the heat exchanger which is incorporated into the chilled beam. Applications with low latent cooling loads could use 100% outdoor air, allowing for the use of a dedicated outdoor air system with energy recovery, further reducing total system energy consumption.

The BAMs are offered for both cooling and heating, and in 24” x 24” and 48” x 24” module sizes. They can be easily integrated into different grid styles, such as a suspended ceiling or even in drywall ceilings. The low overall height of the BAM product line is ideal for reducing the space required for false ceiling in any application.

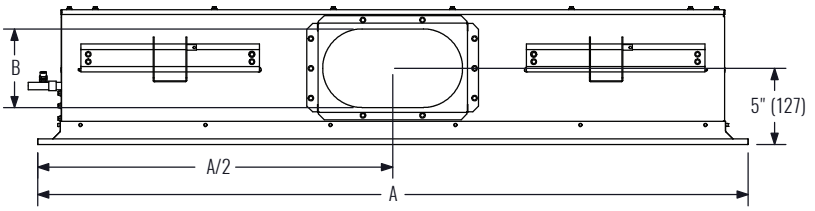
DIMENSIONAL DATA



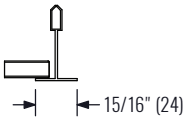
FACE VIEW



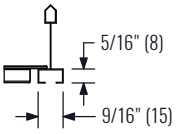
SIDE INLET
SIDE VIEW



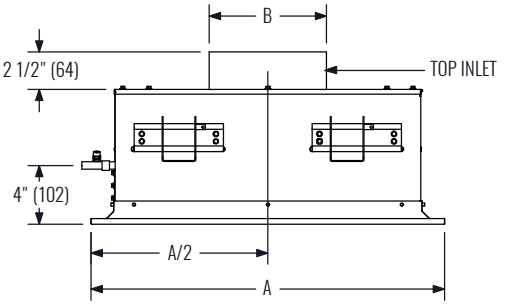
SIDE INLET
SIDE VIEW



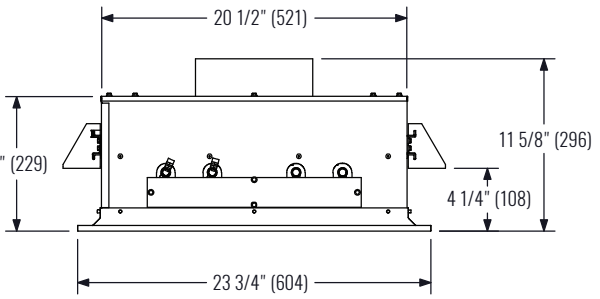
LAY-IN (LTF) FRAME



NARROW-T (NTG) FRAME



TOP INLET
SIDE VIEW



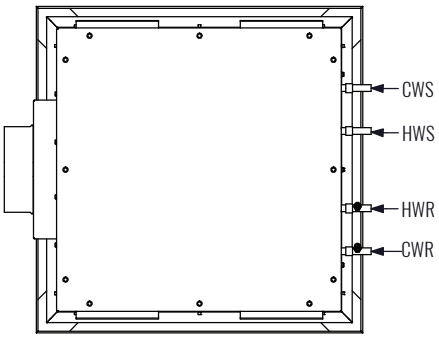
TOP INLET
SIDE VIEW

MODULE SIZE	FRAME STYLE	
	LTF	NTG
	A	A
24" x 24"	23 3/4 (604)	23 3/8 (594)
24" x 48"	47 3/4 (1213)	47 3/8 (1204)

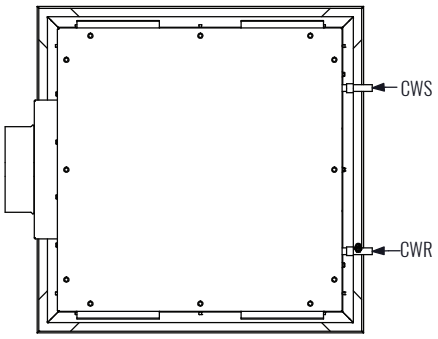
NOMINAL INLET	B
4" ROUND	3 7/8" (98)
5" ROUND	4 7/8" (124)
6" ROUND	5 7/8" (149)
8" ROUND	7 7/8" (200)
6 OVAL	5 1/4" x 6 1/2" (133 x 165)
8 OVAL	5 1/4" x 9 1/2" (133 x 241)

NOTE: Dimensions in parentheses are in millimeters.

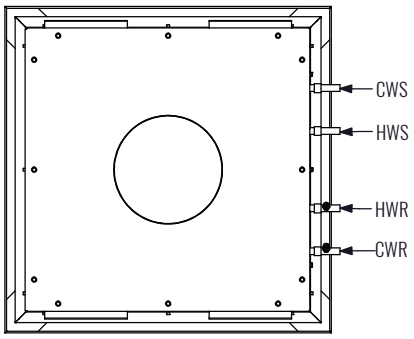
PIPING & HANDING



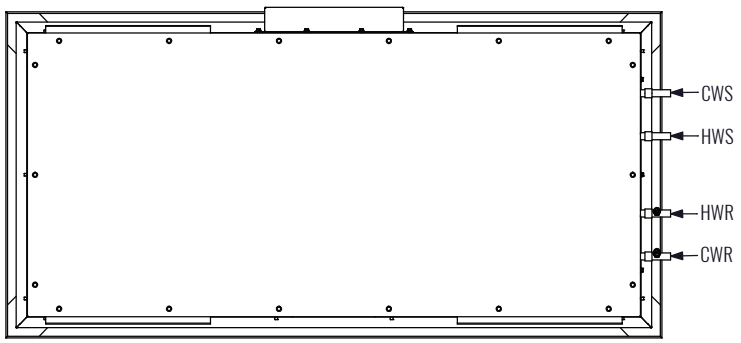
24A, 4 PIPE SIDE INLET
TOP VIEW



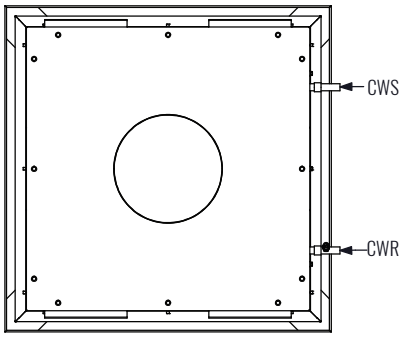
24A, 2 PIPE SIDE INLET
TOP VIEW



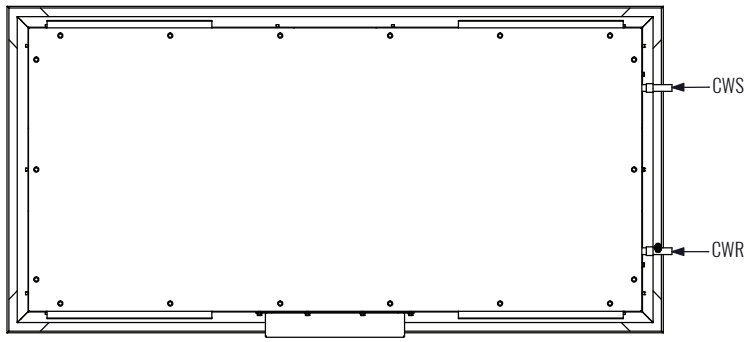
24T, 4 PIPE TOP INLET
TOP VIEW



48L, 4 PIPE LEFT HAND, SIDE INLET
TOP VIEW



24T, 2 PIPE TOP INLET
TOP VIEW



48R, 4 PIPE RIGHT HAND, SIDE INLET
TOP VIEW

CWS - Cold Water Supply
CWR - Cold Water Return
HWS - Hot Water Supply
HWR - Hot Water Return

PERFORMANCE DATA | 4-PIPE COOLING

NOMINAL SIZE L x W ft	NOZZLE SIZE	PRIMARY AIR			SOUND	COIL SENSIBLE COOLING (Btu/h)								INDUCTION RATIO	THROW
		INLET DIA.	FLOW RATE	INLET ΔPs		0.5 GPM		1.0 GPM		1.5 GPM		1.7 GPM			
		in	CFM	(in H_2O)	NC	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL		
2 x 2	M13	4	11	0.13	15	521	0.50	590	2.00	606	4.40	619	5.70	3.1	0 - 0 - 2
			16	0.28	15	686		785		808		815			0 - 1 - 3
			21	0.49	15	869		1042		1072		1102			1 - 1 - 6
	M17	4	18	0.18	15	626		711		731		738		2.5	0 - 1 - 3
			24	0.33	15	793		934		962		982			1 - 1 - 5
			30	0.51	18	936		1096		1138		1160			1 - 2 - 8
	M23	5	30	0.19	19	813		940		968		981		1.9	1 - 1 - 5
			45	0.44	24	1106		1273		1329		1347			1 - 3 - 9
			60	0.77	28	1314		1505		1588		1581			2 - 5 - 12
	M31	6	55	0.17	16	1046		1239		1281		1311		1.5	1 - 3 - 9
			85	0.4	22	1358		1554		1639		1637			3 - 6 - 13
			115	0.73	26	1511		1689		1787		1791			5 - 9 - 16
4 x 2	M13	4	18	0.15	15	851	1.00	923	3.90	951	8.70	956	11.20	3.5	0 - 1 - 3
			27	0.33	15	1228		1368		1446		1487			1 - 2 - 6
			36	0.59	18	1497		1708		1804		1844			1 - 3 - 11
	M17	5	25	0.14	15	916		999		1032		1038		3.0	0 - 1 - 4
			40	0.36	18	1366		1543		1633		1675			1 - 2 - 10
			55	0.68	23	1645		1907		2033		2061			2 - 5 - 14
	M23	6	50	0.22	23	1439		1609		1705		1756		2.6	1 - 2 - 9
			75	0.49	28	1836		2123		2261		2294			2 - 5 - 15
			95	0.79	31	2158		2625		2814		2896			4 - 9 - 19
	M31	8	90	0.18	20	1741		1991		2105		2149		1.8	2 - 5 - 14
			135	0.41	25	2247		2749		2949		3040			5 - 11 - 20
			180	0.73	29	2611		3166		3481		3562			9 - 14 - 23

NOTES: Reference page C3-50 for operational conditions used for performance notes.

PERFORMANCE DATA | 4-PIPE HEATING

NOMINAL SIZE L x W ft	NOZZLE SIZE	PRIMARY AIR			SOUND	COIL HEATING (Btu/h)								INDUCTION RATIO	THROW
		INLET DIA.	FLOW RATE	INLET ΔPs		0.5 GPM		1.0 GPM		1.5 GPM		1.7 GPM			
		in	CFM	(in H_2O)	NC	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL		
2 x 2	M13	4	11	0.13	15	858	0.10	971	0.30	998	0.70	1019	1.00	3.1	0 - 0 - 2
			16	0.28	15	1130		1293		1331		1343			0 - 1 - 3
			21	0.49	15	1432		1716		1766		1815			1 - 1 - 6
	M17	4	18	0.18	15	1031		1171		1204		1216		2.5	0 - 1 - 3
			24	0.33	15	1306		1538		1584		1617			1 - 1 - 5
			30	0.51	18	1542		1805		1874		1911			1 - 2 - 8
	M23	5	30	0.19	19	1339		1548		1594		1615		1.9	1 - 1 - 5
			45	0.44	24	1821		2096		2189		2219			1 - 3 - 9
			60	0.77	28	2164		2478		2615		2604			2 - 5 - 12
	M31	6	55	0.17	16	1722		2040		2109		2160		1.5	1 - 3 - 9
			85	0.4	22	2237		2560		2700		2697			3 - 6 - 13
			115	0.73	26	2488		2782		2943		2949			5 - 9 - 16
4 x 2	M13	4	18	0.15	15	1402	0.20	1519	0.70	1566	1.50	1575	2.00	3.5	0 - 1 - 3
			27	0.33	15	2022		2253		2382		2448			1 - 2 - 6
			36	0.59	18	2465		2813		2971		3037			1 - 3 - 11
	M17	5	25	0.14	15	1509		1645		1699		1710		3.0	0 - 1 - 4
			40	0.36	18	2249		2541		2689		2758			1 - 2 - 10
			55	0.68	23	2710		3141		3349		3394			2 - 5 - 14
	M23	6	50	0.22	23	2369		2649		2808		2892		2.6	1 - 2 - 9
			75	0.49	28	3023		3497		3724		3778			2 - 5 - 15
			95	0.79	31	3554		4323		4635		4769			4 - 9 - 19
	M31	8	90	0.18	20	2867		3278		3466		3539		1.8	2 - 5 - 14
			135	0.41	25	3700		4527		4857		5007			5 - 11 - 20
			180	0.73	29	4300		5213		5732		5866			9 - 14 - 23

NOTES: Reference page C3-50 for operational conditions used for performance notes.

PERFORMANCE DATA | 2-PIPE COOLING

NOMINAL SIZE L x W ft	NOZZLE SIZE	PRIMARY AIR			SOUND	COIL SENSIBLE COOLING (Btu/h)								INDUCTION RATIO	THROW
		INLET DIA.	FLOW RATE	INLET ΔPs		0.5 GPM		1.0 GPM		1.5 GPM		1.7 GPM			
		in	CFM	(in H_2O)	NC	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL		
2 x 2	M13	4	11	0.13	15	556	0.60	629	2.40	646	5.40	660	6.90	3.1	0 - 0 -2
			16	0.28	15	732		837		862		870			0 - 1 -3
			21	0.49	15	927		1111		1144		1176			1 - 1 -6
	M17	4	18	0.18	15	668		759		780		788		2.5	0 - 1 - 3
			24	0.33	15	846		996		1026		1047			1 - 1 - 5
			30	0.51	18	999		1169		1214		1238			1 - 2 - 8
	M23	5	30	0.19	19	868		1003		1033		1046		1.9	1 - 1 - 5
			45	0.44	24	1179		1357		1418		1437			1 - 3 - 9
			60	0.77	28	1402		1605		1694		1687			2 - 5 - 12
	M31	6	55	0.17	16	1115		1321		1366		1399		1.5	1 - 3 -9
			85	0.4	22	1449		1658		1749		1747			3 - 6 - 13
			115	0.73	26	1611		1802		1906		1910			5 - 9 - 16
4 x 2	M13	4	18	0.15	15	908	1.20	984	4.80	1014	10.70	1020	13.70	3.5	0 - 1 - 3
			27	0.33	15	1309		1459		1543		1586			1 - 2 - 6
			36	0.59	18	1596		1822		1925		1967			1 - 3 - 11
	M17	5	25	0.14	15	977		1065		1101		1107		3.0	0 - 1 - 4
			40	0.36	18	1457		1646		1741		1786			1 - 2 - 10
			55	0.68	23	1755		2034		2169		2198			2 - 5 - 14
	M23	6	50	0.22	23	1535		1716		1819		1873		2.6	1 - 2 - 9
			75	0.49	28	1958		2265		2412		2447			2 - 5 - 15
			95	0.79	31	2302		2800		3002		3089			4 - 9 - 19
	M31	8	90	0.18	20	1857		2123		2245		2292		1.8	2 - 5 - 14
			135	0.41	25	2397		2932		3146		3243			5 - 11 - 20
			180	0.73	29	2785		3377		3713		3799			9 - 14 - 23

NOTES: Reference page C3-50 for operational conditions used for performance notes.

PERFORMANCE DATA | 2-PIPE HEATING

NOMINAL SIZE, L x W ft	NOZZLE SIZE	PRIMARY AIR			SOUND	COIL HEATING (Btu/h)								INDUCTION RATIO	THROW
		INLET DIA.	FLOW RATE	INLET ΔPs		0.5 GPM		1.0 GPM		1.5 GPM		1.7 GPM			
		in	CFM	(in H_2O)	NC	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL	TOTAL	ΔP COIL		
2 x 2	M13	4	11	0.13	15	1489	0.60	1685	2.40	1732	5.40	1769	6.90	3.1	0 - 0 - 2
			16	0.28	15	1962		2244		2311		2330			0 - 1 - 3
			21	0.49	15	2485		2978		3065		3151			1 - 1 - 6
	M17	4	18	0.18	15	1790		2033		2090		2111		2.5	0 - 1 - 3
			24	0.33	15	2267		2670		2749		2807			1 - 1 - 5
			30	0.51	18	2676		3133		3253		3317			1 - 2 - 8
	M23	5	30	0.19	19	2325		2687		2767		2803		1.9	1 - 1 - 5
			45	0.44	24	3161		3638		3799		3851			1 - 3 - 9
			60	0.77	28	3756		4301		4538		4520			2 - 5 - 12
	M31	6	55	0.17	16	2989		3541		3661		3748		1.5	1 - 3 - 9
			85	0.4	22	3883		4443		4686		4681			3 - 6 - 13
			115	0.73	26	4319		4829		5109		5119			5 - 9 - 16
4 x 2	M13	4	18	0.15	15	2433	1.20	2637	4.80	2718	10.70	2734	13.70	3.5	0 - 1 - 3
			27	0.33	15	3509		3910		4135		4250			1 - 2 - 6
			36	0.59	18	4278		4882		5158		5271			1 - 3 - 11
	M17	5	25	0.14	15	2619		2855		2949		2968		3.0	0 - 1 - 4
			40	0.36	18	3905		4410		4667		4788			1 - 2 - 10
			55	0.68	23	4703		5451		5813		5891			2 - 5 - 14
	M23	6	50	0.22	23	4113		4598		4875		5019		2.6	1 - 2 - 9
			75	0.49	28	5248		6070		6464		6558			2 - 5 - 15
			95	0.79	31	6168		7503		8045		8278			4 - 9 - 19
	M31	8	90	0.18	20	4977		5690		6017		6143		1.8	2 - 5 - 14
			135	0.41	25	6423		7858		8430		8691			5 - 11 - 20
			180	0.73	29	7463		9049		9950		10182			9 - 14 - 23

NOTES: Reference page C3-50 for operational conditions used for performance notes.

PERFORMANCE DATA

NOTES:

1. All performance data is based on tests performed in accordance with ASHRAE Standard 200-2018.
2. ΔP_s values are measured in inches of water.
3. NC values are based on room absorption of 10 dB. A dash (-) indicates an NC value less than 15.
4. Throw values are based on isothermal supply air and represent throw distances at terminal velocities of 150, 100 and 50 fpm respectively.
5. ΔP_{Coil} values are measured in inches of water. ΔP_{Coil} values in shaded cells indicate use of a two circuit coil. All other values represent a single circuit coil.
6. Induction ratio is multiplied by the volume flow rate of primary air to estimate the volume flow rate of room air entrained through the coil.

COOLING PERFORMANCE:

- Cooling capacity listed (TOTAL) is the total sensible heat removal by the beam's integral coil. It does not include any contribution or offset by the primary air.
- Capacity is based on 18^0F ΔT between the induced air and the heating water supply. Table 1 provides correction factors for other temperature differentials.
- Primary air sensible cooling contribution can be calculated by the following equation:

  $q_{SENSPA} = 1.085 \times CFM_{PA} \times (T_{ROOM} - T_{PA})$
- Primary air latent cooling can be calculated by the following equation:

  $q_{LATENT} = 0.69 \times CFM_{PA} \times (W_{ROOM} - W_{PA})$

where W_{ROOM} and W_{PA} are the humidity ratio of the room and primary air respectively expressed in Grains of moisture per pound dry air.

TABLE 4: CORRECTION FOR (ΔT) BETWEEN ENTERING AIR AND ENTERING HEATING WATER

ACTUAL ΔT	10	12	14	16	**18**	20	22	24
MULTIPLY TABLE VALUE BY:	0.56	0.67	0.78	0.89	**1.00**	1.11	1.22	1.33

HEATING PERFORMANCE:

- Heating capacity listed (TOTAL) is the sensible heat added by the beam's integral coil. It does not include any contribution or offset by the primary air.
- Capacity is based on 50^0F ΔT between the induced air and the chilled water supply. Table 2 provides correction factors for other temperature differentials.
- Primary air sensible heating offset (or contribution) can be calculated by the following equation:

  $q_{SENSPA} = 1.085 \times CFM_{PA} \times (T_{PA} - T_{ROOM})$
- If the primary air temperature is lower than that of the room, it will offset the coil's heating.
- If the primary air temperature is higher than that of the room, it will contribute to the coil's heating.

TABLE 2: CORRECTION FOR (ΔT) BETWEEN ENTERING AIR AND ENTERING CHILLED WATER

ACTUAL ΔT	20	30	40	**50**	60	70	80	90	100	110	120
MULTIPLY TABLE VALUE BY:	0.40	0.60	0.80	**1.00**	1.20	1.40	1.60	1.80	2.00	2.20	2.40

LEGEND:

ΔP_s = Unit Inlet Pressure [in wg]

qCoil = Sensible Capacity, Coil [Btu/h]

ΔCoil = Water coil pressure drop [ft wg]

q_{SENSPA} = Sensible Capacity, Primary Air [Btu/h]

W_{ROOM} = Humidity Ratio of the Room

CFM_{PA} = Air Flowrate, Primary Air [CFM]

T_{PA} = Temperature Primary Air [^{0}F]

T_{ROOM} = Temperature Room Air [^{0}F]

q_{LATENT} = Latent Capacity, Primary Air [Btu/h]

W_{PA} = Humidity Ratio of the Primary Air

ENGINEERING SPECIFICATION & CONFIGURATION

Furnish and install active chilled beams in the sizes, configurations and capacities indicated on the project schedules and plans. Unit shall be comprised of a primary air connection, a pressurized inlet plenum feeding a series of room air induction nozzles, and an associated heat transfer coil contained in a single unit housing. A hinged perforated room air induction grille shall be provided for easy access to the unit heat transfer coil.

UNIT CASING

The unit casing shall be constructed from a minimum 24-gauge galvannealed sheet steel. Units shall have a maximum casing height of 9 7/8".

FACE

The face of the beam shall consist of a perforated room air induction section of 50% free area flanked by linear supply slots. Face and frame styles shall be designed for flush integration into a standard 24" wide module T-bar lay-in ceiling. The face section shall include hinged fastening that allows the face to be swung opened for coil cleaning.

FINISH

The entire visible face sections and all visible internal surfaces shall be finished in white powder coat paint or as specified by the architect (OPTIONAL). Concealed surfaces shall be G90 galvannealed steel.

PRIMARY AIR INLETS

Manufacturer shall provide round or oval inlet collars of diameter(s) as indicated on the project plans and schedules, and suitable for connection to common flexible or rigid ductwork sizes. The inlet collar shall be roll-formed to facilitate the connection of flexible or rigid ductwork. Inlet location may be side or top as indicated on the project plans and schedules. Nozzles shall be of a fixed size, selected with respect to cooling and heating requirements, and constructed of formed sheet metal.

PRIMARY AIR PLENUM PRESSURE TAP

A plenum air pressure tap shall be mounted within the pressurized plenum for measuring the pressure differential between the primary air plenum and the room. The pressure tap manometer connection port shall be fitted to the end of a plastic tube accessible from the diffuser face. Airflow calibration charts that relate the pressure differential reading with the primary airflow rates, shall be furnished with the IOM's.

MOUNTING RAILS

Factory installed mounting rails shall incorporate slotted holes for hanging using threaded rods.

HYDRONIC HEAT TRANSFER COIL

Integral heat transfer coils shall be provided with connections for either 2 or 4 pipe water connections as indicated on plans and schedules. Four pipe configurations shall require separate supply and return connections for chilled and hot water. The coil shall be mounted horizontally and shall be manufactured with seamless copper tubing (1/2" or 3/4" outside diameter as indicated on the plans and schedules) with minimum .016" wall thickness mechanically fixed to aluminum fins. The aluminum fins shall be limited to no more than ten (10) fins per inch. The coil shall have a working pressure of at least 360 PSI, and be factory tested for leakage at a minimum pressure of 500 PSI.

Each chilled beam shall be provided with factory integrated manual air vents.

COILS

- **(Optional)** Coil shall be provided with factory integrated drain fittings. Unless otherwise specified, coil connections shall be bare copper for field sweating to the water supply circuit(s).
- **(Optional)** The chilled water coil shall be provided with NPT male threaded fittings. These fittings must be suitable for field connection to a similar NPT female flexible hose spigot and shall be at least 1 1/2" long to facilitate field connection (by others).

Connections shall face upwards to avoid issues with coordination of ceiling installation. The coil shall be rated and certified in accordance with AHRI Standard 410.

PACKAGING

Beams shall be delivered to site clean with hydronic coils flushed and fitted with protective caps. Protective film shall be applied to the entire beam face to prevent ingress of dirt. Units shall be shipped to site in cartons and labeled with identification tagging.

THE MANUFACTURER SHALL PROVIDE THE FOLLOWING ACCESSORIES

- **(Optional) Lint Screens:** Manufacturer shall provide zinc plated steel mesh lint screens with galvannealed frames fitted to the heat exchange coils.
- **(Optional) Water Connection Hoses:** Manufacturer shall provide 1/2" or 3/4" dia. x (12"), (18") or (24") long stainless-steel braided hoses with female swivel connections. Hoses shall be constructed with a KEVLAR® reinforced EPDM core with stainless steel ferrules. Hoses shall be tested for working pressures up to 400 PSIG (at max. operating temperature of 248°F) with a burst pressure of 1600 PSIG.
- **(Optional) Airflow Regulators:** Manufacturer shall supply UL94 V-0 rated ABS polymer and UL2043 listed constant volume regulators (BFR's). BFR's shall be designed to fit inside rigid round ductwork and located at a minimum distance of three duct diameters upstream of the active chilled beam primary air inlet.

BAM

Modular Active Chilled Beam

KRUEGER

ENGINEERING SPECIFICATION & CONFIGURATION

1. **SERIES: (XXX)**
   BAM - Modular Active Chilled Beam

2. **MODULE SIZE: (XXX)**
   24T - 24" x 24" Top Inlet
   24A - 24" x 24" Side Inlet
   48T - 48" x 24" Top Inlet
   48L - 48" x 24" Left Side Inlet
   48R - 48" x 24" Right Side Inlet

3. **AIR PATTERN-NOZZLE TYPE: (XXX)**
   M13 - M13
   M17 - M17
   M23 - M23
   M31 - M31

4. **COIL TYPE: (XXXX)**
   2P1C - 2 Pipe Coil - 1 Circuit
   4P1C - 4 Pipe Coil - 1 Circuit

5. **COIL ACC1: (X)**
   M - Manual Air Vent

6. **COIL ACC2: (X)**
   0 - None
   D - Drain Pan

7. **WATER CONNECTION: (X)**
   S - Side of Unit

8. **PIPING TYPE: (XXX)**
   SWT - Sweat
   MPT - 1/2" Male Pipe Thread
   3PT - 3/4" Male Pipe Thread

9. **INLET SIZE: (X)**
   4 - 4" Round
   5 - 5" Round
   6 - 6" Round for Top, Oval for Side
   8 - 8" Round for Top, Oval for Side

10. **FACE PATTERN: (XX)**
    CP - Circular Perforation

11. **INSULATION: (X)**
    0 - None
    I - Internal Closed Foam Insulation

12. **FRAME STYLE: (XXX)**
    LTF - Lay-In
    NTG - Tegular 9/16" Frame

13. **FINISH: (XXX)**
    WHT - British White
    BLK - Black

14. **ACCESSORY 1: (XX)**
    0 - None
    LS - Lint Screen
    XX - Special

SAMPLE CONFIGURATION: BAM - 24T - M13 - 2P1C - S - M - 0 - SWT - 4 - CP - 0 - LTF - WHT - LS