



In-Floor Chilled Beam

AIFCB

MODEL:

DESCRIPTION:

AIFCB (In-Floor Chilled Beam) 2-Pipe or 4-Pipe models are designed to create an efficient and simple solution to meet perimeter cooling needs. Supply and return water connections are located on opposite ends of the trough. Chilled water can be passed through these connections based on the building demands and the facility operators control. By controlling water valves and time modulating the air valves in response to a thermostat located in the space, one can meet the perimeter demands of any season.

The air valve(s) uses time modulation to vary total air delivered to the conditioned space. Air velocity is constant any time the valve(s) is open; the short time duration between air pulses results in the sensation of continuous air delivered with consistent flow. The air valve(s) is rated for 24 volt (18-30VAC) operation and comes with one (1) PAP-1 Plug & Play cable. One (1) additional connection cable is included for dual air valve configurations.

All AIFCB's are available in variable dimensions, in both typical density (TD) and high density (HD) designs. These options reflect the ability to achieve a greater capacity by adding an additional air valve to create an HD unit.

The linear grille is extruded aluminum, and is available in ten (10) standard colors. Customized colors and finishes are available to match architectural design (specify on order).

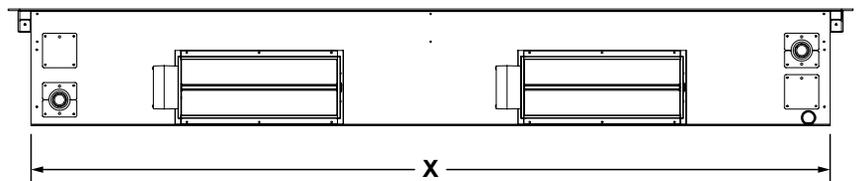
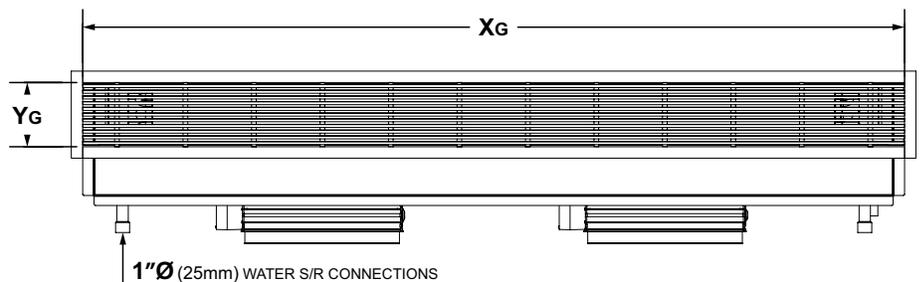
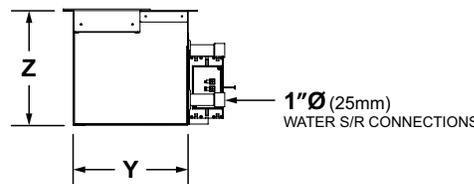


ALL DIMENSIONS NOMINAL +/- 0.1" (2.5mm)

X (in)	48	60	72	84	96	108	120
X (mm)	1219	1524	1829	2134	2438	2743	3048

Y (in)	8	10	12	Z (in)	8	10	12
Y (mm)	203	254	305	Z (mm)	203	254	305

X_G	X - 0.375" (9.5mm)
Y_G	Y - 0.375" (9.5mm)

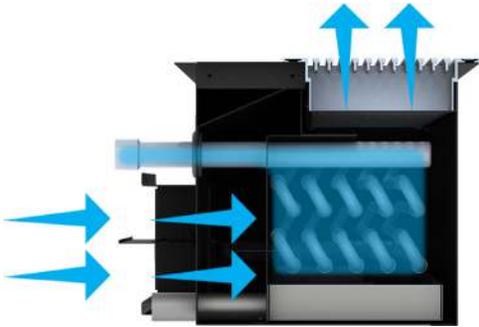


In-Floor Chilled Beam

AIFCB

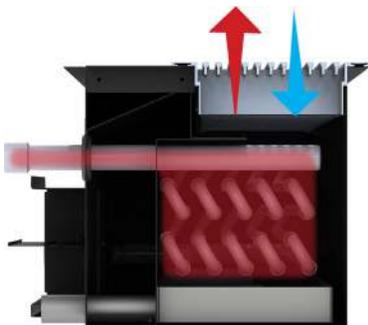
MODEL:

MODES OF OPERATION | 2-PIPE:



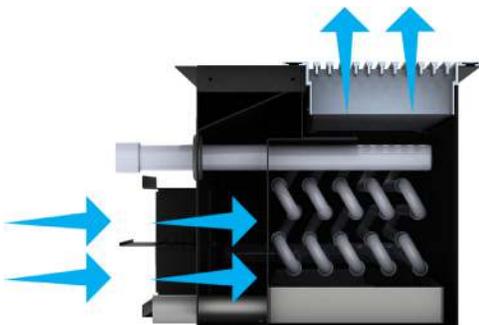
COOLING MODE

The thermostat detects a cooling condition and the aquastat detects chilled water: the control box will begin to time modulate the air valves and open the water valve. Chilled water flows through the coil, and air passes through the unit in a time modulation of six second full open bursts. Once the thermostat detects that the occupied space has reached set point, the system will return to suspend mode, closing the air and water valves awaiting further system demands.



HEATING MODE

The thermostat detects a heating condition and the aquastat detects hot water: the control box will begin to time modulate the water valve while the air valve remains closed. As hot water flows through the coil, air falls into the chilled beam where it is heated and convects out into the space. If additional heating is required to reach setpoint, the air valve will also time modulate. Once the thermostat detects that the occupied space has reached set point, the system will return to suspend mode, closing the air and water valves, awaiting further system demands.



SHOULDER SEASON

The thermostat detects a cooling condition and the aquastat detects hot water: the control box will time modulate the air valves while the water valve remains closed. Once the thermostat reaches set point, the air valves will close and the system will return to suspend mode.

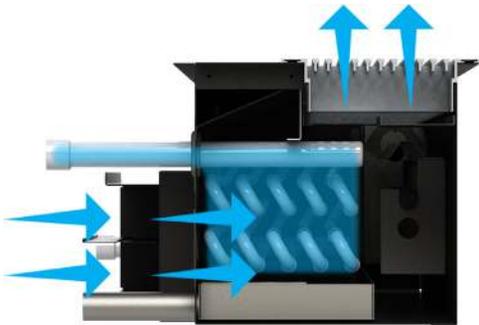
The thermostat detects a heating condition and the aquastat detects chilled water: the control box will instruct the system to remain in suspend mode, awaiting further system demands.

In-Floor Chilled Beam

MODEL:

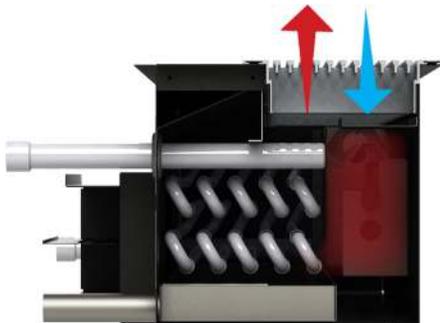
AIFCB

MODES OF OPERATION | 2-PIPE / ELECTRIC HEAT:



COOLING MODE

The thermostat detects a cooling condition and the aquastat detects chilled water: the control box will begin to time modulate the air valves and open the water valve. Chilled water flows through the coil, and air passes through the unit in a time modulation of six second full open bursts. Once the thermostat detects that the occupied space has reached set point, the system will return to suspend mode, closing the air and water valves awaiting further system demands.



HEATING MODE

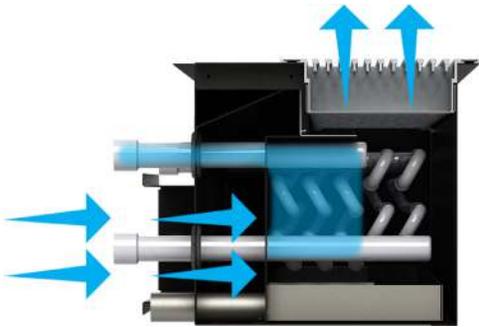
The thermostat detects a heating condition: the control box will begin to time modulate the electric heater while the air valve remains closed. As the electric coil heats up, air falls into the chilled beam where it is heated and convects out into the space. If additional heating is required to reach setpoint, the air valve will also time modulate. Once the thermostat detects that the occupied space has reached set point, the system will return to suspend mode, closing the air and de-energizing the heater, awaiting further system demands.

In-Floor Chilled Beam

MODEL:

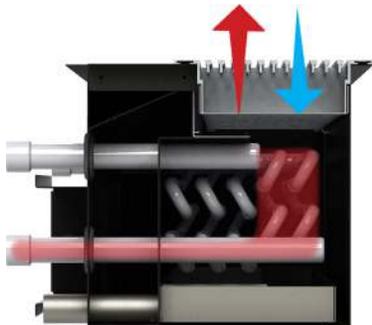
AIFCB

MODES OF OPERATION | 4-PIPE:



COOLING MODE

The thermostat detects a cooling condition: the control box will begin to time modulate the air valves and open the chilled water valve. Chilled water flows through the coil, and air passes through the unit in a time modulation of six second full open bursts. Once the thermostat detects that the occupied space has reached set point, the system will return to suspend mode, closing the air and chilled water valves awaiting further system demands.



HEATING MODE

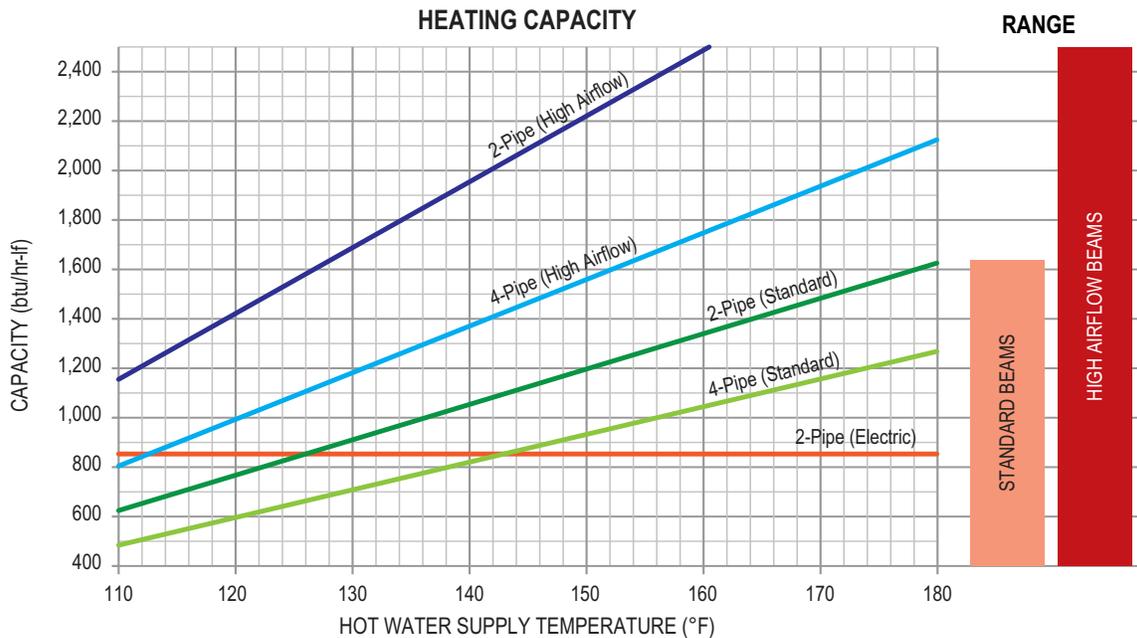
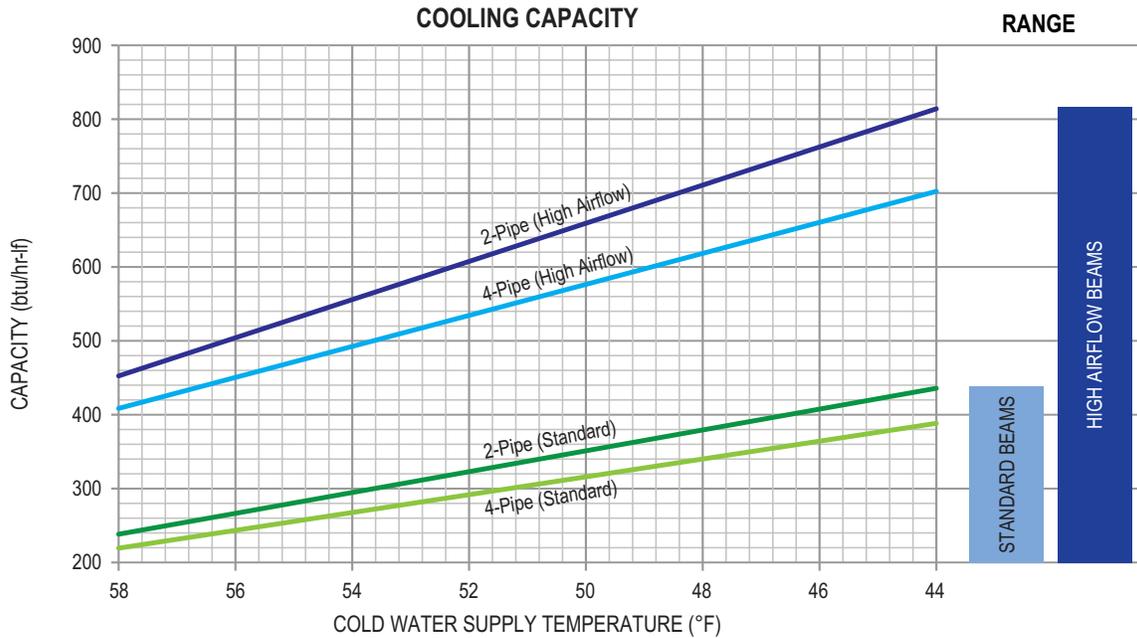
The thermostat detects a heating condition and the aquastat detects hot water: the control box will begin to time modulate the hot water valve while the air valve remains closed. As hot water flows through the coil, air falls into the chilled beam where it is heated and convects out into the space. If additional heating is required to reach setpoint, the air valve will also time modulate. Once the thermostat detects that the occupied space has reached set point, the system will return to suspend mode, closing the air and hot water valves, awaiting further system demands.



In-Floor Chilled Beam

AIFCB

MODEL:



- Standard ratings based on 19 cfm/lf @ 0.05" H₂O Static Pressure, 2.0 gpm, 66°F db Inlet Air @ 50% RH, and 72°F db room
- High airflow ratings based on 38 cfm/lf @ 0.05" H₂O Static Pressure, 2.0 gpm, 66°F db Inlet Air @ 50% RH, and 72°F db room
- Electric heat ratings based on 1/4 kW per linear foot



In-Floor Chilled Beam

AIFCB

MODEL:

SEQUENCE OF OPERATION:

COOLING MODE | The thermostat detects a cooling condition: the air valve(s) shall duty cycle open allowing cold plenum air into space. If additional cooling is required, the air valve will continue to time modulate open and chilled water valve shall open (modulate open) allowing chilled water to flow through coil. Once the thermostat detects that the occupied space has reached set point, the system will return to standby mode, closing the air and chilled water valves, awaiting further system demands.

HEATING MODE | The thermostat detects a heating condition: heating hot water valve shall open (modulate open) while the air valve remains closed. As hot water flows through the coil, room air is induced into the chilled beam where it is heated and convects out into the space. If additional heating is required, the air valve will time modulate open increasing airflow across coil. Once the thermostat detects that the occupied space has reached set point, the system will return to standby mode, closing the air and hot water valves, awaiting further system demands.

SPECIFICATIONS:

Application:	Underfloor Heating / Cooling Raised Access Floors 10.5" (267mm) +
Trough Dimensions:	Specify on Order
Trough Construction:	Galvanized Steel 20 Gauge (1mm) Pre-Painted Black
Grille Dimensions:	Specify on Order
Grille Rating:	Extruded Aluminum Conforms to NFPA 90a 1250 lbs. (567 Kg) Load Strength
Grille Configuration:	Refer to Data Sheet: LGC (Linear Grille Configuration)
Supply Air Pressure:	0.02–0.1 in. w.c. (5–25 Pa)
Air Flow Capacity:	Typical Density (TD): 150 cfm @ 0.05 in. w.c. (255 m ³ /hr @ 12.5 Pa)
Standard Air Valve (Nominal)	High Density (HD): 300 cfm @ 0.05 in. w.c. (510 m ³ /hr @ 12.5 Pa)
Cooling Capacity: (Nominal)	2P: 320 btu/hr @ EWT 52°F (93.8 watts/hr @ EWT 11°C) 2P-HD: 610 btu/hr @ EWT 52°F (178.8 watts/hr @ EWT 11°C) 4P: 290 btu/hr @ EWT 52°F (85.0 watts/hr @ EWT 11°C) 4P-HD: 535 btu/hr @ EWT 52°F (156.8 watts/hr @ EWT 11°C)
Heating Capacity: (Nominal)	2P: 1050 btu/hr @ EWT 140°F (307.7 watts/hr @ EWT 60°C) 2PE: 850 btu/hr @ EWT 140°F (249.1 watts/hr @ EWT 60°C) 2P-HD: 1950 btu/hr @ EWT 140°F (571.5 watts/hr @ EWT 60°C) 4P: 825 btu/hr @ EWT 140°F (241.8 watts/hr @ EWT 60°C) 4P-HD: 1375 btu/hr @ EWT 140°F (403.0 watts/hr @ EWT 60°C)



In-Floor Chilled Beam

AIFCB

MODEL:

AIFCB - 08 - 048 - 08 - 00 - 2P - 4R - TD

PRODUCT DESCRIPTION
AirFixture In Floor Chilled Beam

AIR FLOW DESCRIPTION
TD = Typical Density (One (1) Air Valve)
HD = High Density (Two (2) Air Valves)

TROUGH WIDTH
08 = 8" (203mm)
10 = 10" (254mm)
12 = 12" (305mm)

HYDRONIC COIL OPTIONS
4R = Four (4) Row Hydronic Fin Pack
5R = Five (5) Row Hydronic Fin Pack

TROUGH LENGTH
048 = 48" (1219mm)
060 = 60" (1524mm)
072 = 72" (1829mm)
084 = 84" (2134mm)
096 = 96" (2438mm)
108 = 108" (2743mm)
120 = 120" (3048mm)

PIPE CONFIGURATION
2P = Two (2) Pipe
4P = Four (4) Pipe

LINEAR GRILLE CONFIGURATION
00 = No Flanges
20 = Two (2) Flanges (Sides Only)
3L = Three (3) Flanges (Sides + Left End)
3R = Three (3) Flanges (Sides + Right End)
40 = Four (4) Flanges (All Sides + Ends)

TROUGH HEIGHT
08 = 8" (203mm)
10 = 10" (254mm)
12 = 12" (305mm)