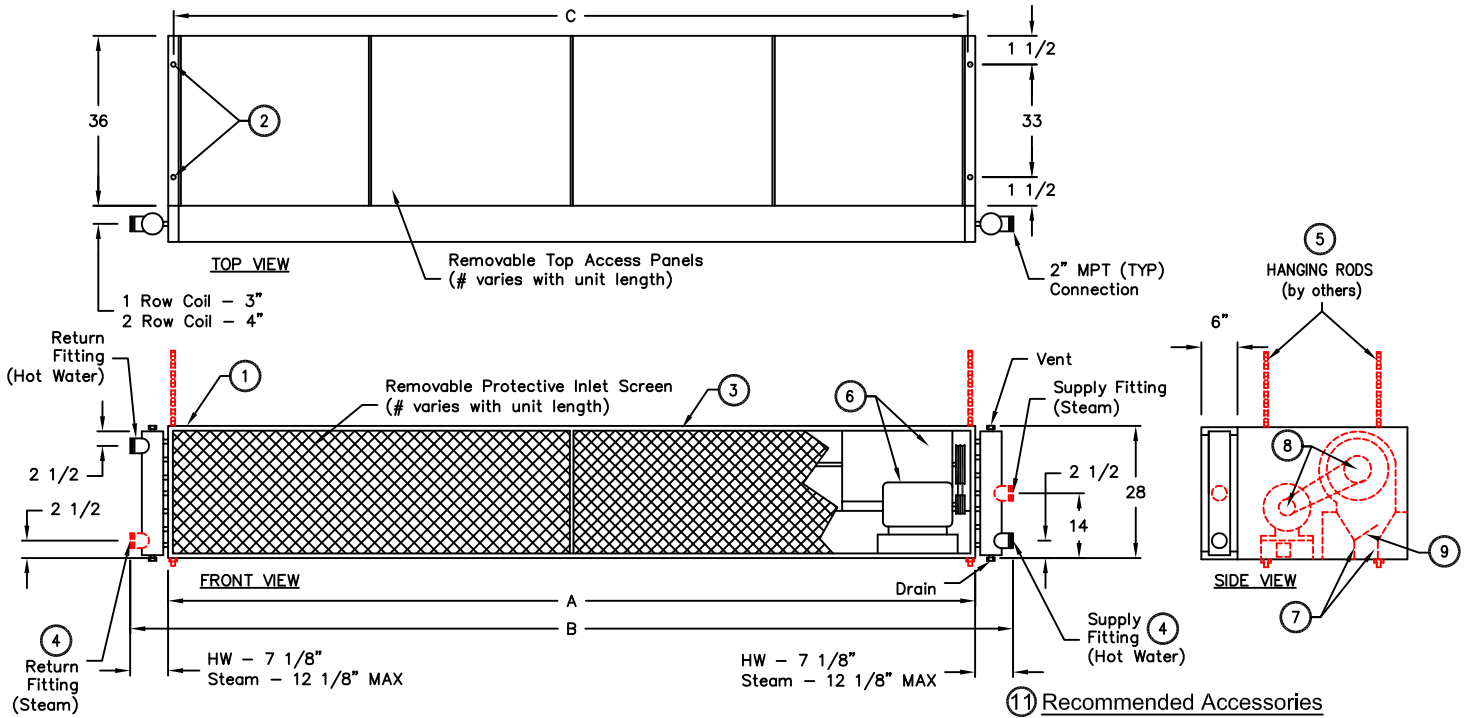**mars**
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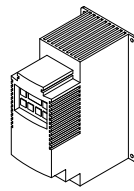Web Site: www.marsair.com · E-mail:info@marsair.com

PROJECT		OPTIONS/ITEMS	
TITLE			
COMMENTS		DATE 8/31/16	PAGE
		REV. NO	

| MODEL NO. BD30 Series | DRAWING NO BD30HWS—F | DRAWN BY BH | CHECKED BY | FILE NAME |

Hot Water/Steam Heated Drawing

BD30
(Belt Driven 30) Series

TOP VIEW

Removable Top Access Panels (# varies with unit length)

2" MPT (TYP) Connection

HANGING RODS (by others)

1 Row Coil — 3"
2 Row Coil — 4"

Return Fitting (Hot Water)

Removable Protective Inlet Screen (# varies with unit length)

Vent

Supply Fitting (Steam)

FRONT VIEW

Drain

Supply Fitting (Hot Water)

SIDE VIEW

Return Fitting (Steam)

HW — 7 1/8"
Steam — 12 1/8" MAX

HW — 7 1/8"
Steam — 12 1/8" MAX

⑪ Recommended Accessories

Variable Frequency Drive

Control Panels with Remote T'stat ⑩

Door Limit Switches

*- Use corresponding letters in "Coil Data" then "Electrical Data" columns to complete the model numbers.

MODEL NUMBER	NOZZLE LENGTH (in)	AIR CURTAIN LENGTH A (in)	OVERALL LENGTH B (in)	MOUNTING WIDTH C (in)
BD3096-1**-TS	96	107	121	105 1/2
BD30120-1**-TS	120	131	145	129 1/2
BD30144-1**-TS	144	155	169	153 1/2
BD30168-1**-TS	168	179	193	177 1/2
BD30192-2**-TS	192	203	217	201 1/2

Notes:

1. This product is designed to meet the National Electric Code (NEC).

2. (4) 3/4" mounting holes provided on for overhead mounting provided, (2) on each end.

3. All units have a self contained one piece cabinet, fire retardant and corrosion proof paint lock metal double protected with baked on Titanium Silver color, rust preventative electrostatic polyurethane powder coating.

4. Hot Water application shown. For Steam, return fitting is at bottom of manifold and supply is at center of manifold. (2" MPT Typical)

5. Cabinet is to be mounted from overhead and has sufficient strength for suspension from both ends without intermediate support.

6. High efficiency motor and dynamically balanced forward curved centrifugal blowers.

7. Unit is to be installed such that air flow is unobstructed. Unit has a 5" air discharge nozzle containing adjustable air directional vanes with 40° sweep front to back.

8. Unit provided with adjustable sheaves and pulleys field adjustable to suit varying conditions. VFD optional.

9. Adjustable perforated volume dampers (2). Capable of reducing air velocity up to 50%.

10. Circuit protection as per NEC by others.

11. Optional motor control panel and door limit switch are field installed and/or wired by others. The door limit switch is to be mounted such that the air curtain turns on as door begins to open. To prevent unit damage, the air curtain must be installed such that the bottom of the air curtain is not below the door header.

BD30 (Belt Drive) Series

Hot Water/Steam Heated

Model Lengths 96" – 192"

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Hot Water/Steam Heated Data Sheet

Applications: Environmental Separation = Max Height 32' / Insect Control = Max Height 30'

BD30 (WindGuard) Model Number	Mechanical Data						Lab Data	
	Nozzle Length (in)	Length (in)	Depth (in)	Height (in)	Motor (hp)	Weight (lbs)	Max Velocity (fpm)	Max Volume (cfm)
BD3096-1**-TS	96	117	44	28	20	1050	6950	19200
BD30120-1**-TS	120	141	44	28	25	1200	6950	24900
BD30144-1**-TS	144	165	44	28	30	1350	6950	30300
BD30168-1**-TS	168	189	44	28	30	1500	6950	33000
BD30192-2**-TS	192	213	44	28	Two 20	1650	6950	38100

* - Use corresponding letters in "Coil Data" then "Electrical Data" columns to complete the model numbers.

Note: Data above is for 60 Hz, 17% reduction in the performance data with 50 Hz.

Features:

Air Curtain
- ❖ 20 to 30 HP Heavy Duty Motors
- ❖ Air curtain has a self-contained cabinet with sufficient strength for fastening from overhead on both ends without intermediate support. Top and rear mounting holes provided (4) 3/4"
- ❖ Adjustable air directional nozzle with 40° sweep front to back
- ❖ Standard color is Titanium Silver
- ❖ Rust preventative electrostatic polyurethane powder coating
- ❖ All units are shipped fully assembled ready for installation
- ❖ 12-month parts warranty
- ❖ Freight Not Included (FOB Factory)
- ❖ Proudly Made in the USA

Hot Water and Steam Coils
- ❖ Coil casings shall not be less than 16-gauge galvanized steel with tube holes formed with extruded collars.
- ❖ Fins are die formed .006" aluminum (1 row – 10 FPI, 2 row – 8 FPI)
- ❖ Coils tubes constructed of heavy wall, 5/8" OD seamless copper (Steam - .035 & Hot Water - .025")
- ❖ Coil tubes arranged in a staggered pattern and mechanically expanded into fins to ensure a uniform pressure bond
- ❖ Manifolds shall be of heavy seamless copper construction
- ❖ All joints shall be brazed with high temperature silver brazing alloy (Steam – 5% & Hot Water – 2%), max steam operating pressure: 30 PSI
- ❖ Fittings shall be of wrought copper or similar construction such that the entire fluid circuit shall be of compatible nonferrous materials.
- ❖ Manifold shall be fitted with 1/4" vent or drain fittings
- ❖ Supply fitting is on the right side of coil. Return fitting is on the left side

Mars Recommended Accessories (see submittals for additional details):
- ❖ Controllers
  - ○ MCP*-†V‡, Motor Control Panel, 120V control voltage (* = HP Code, † = # of Motors, ‡ = Voltage Code)
  - Note: possible HP Codes = J (20 HP), K (25 HP), L (30 HP)
    - ▪ MCP-TD, Adjustable time delay, 1sec-100hr (panel required)
    - ▪ MCP-HD, Heat on Demand, Hot water/steam (thermostat included)
    - ▪ MCP-24V, Low voltage control option (panel required)
- ❖ Door limit switches
  - ○ 99-125, Industrial surface-mounted door limit switch
- ❖ Thermostats
  - ○ 99-063, Thermostat, 250V Max
- ❖ HSG-304SS-BD, Stainless steel housing
- ❖ INS-WD-S-BD, Washdown motor, 96"-120" units
- ❖ INS-WD-L-BD, Washdown motor, 144"-192" units
- ❖ Steam distribution coils, to prevent freezing

Coil Data

Coil Data	Hot Water			Steam		
	Coil Code (X)	GPM	MBH	Temp Rise (°F)	Coil Code (Y)	MBH	Temp Rise (°F)
BD3096-1**-TS	2 Row	46	610	30	1 Row	623	30
BD30120-1**-TS	2 Row	51	768	29	1 Row	787	29
BD30144-1**-TS	2 Row	50	899	28	1 Row	946	29
BD30168-1**-TS	2 Row	48	982	28	1 Row	1062	30
BD30192-2**-TS	2 Row	47	1091	27	1 Row	1217	30

* - Use corresponding letters in "Coil Data" then "Electrical Data" columns to complete the model numbers.

EAT: 70 F, EWT: 200 F, Steam pressure: 5 PSI

Electrical Data

Electrical Data (FLA)	Unit Voltage (Voltage Code)		
	208/230v (G)	460v (H)	575v (I)
BD3096-1**-TS	55.0/51.0	25.5	20.2
BD30120-1**-TS	65.0/60	30.0	24.8
BD30144-1**-TS	78.0/71.0	35.5	29.7
BD30168-1**-TS	78.0/71.0	35.5	29.7
BD30192-2**-TS	110.0/102.0	51.0	40.4

* - Use corresponding letters in "Coil Data" then "Electrical Data" columns to complete the model numbers.

Alternate voltage codes with FLA (Full Load Amp) data:

380-415V/3Ø/50Hz (W) - 22.5A per motor (20HP), 30.0A per motor (25HP), 36.5A per motor (30HP)

Note: For ampacity, multiply FLA X 1.25

EXAMPLE

BD30 96 - 1 X H - TS

- Series: BD30
- LENGTH OF UNIT
- # OF MOTORS
- X = 2 Row Hot Water
- VOLTAGE CODE
- COLOR

Sound Levels: (measured at 10' in an open field)

20 HP Motor Unit = 77 dBA, 25 HP Motor Unit = 78 dBA, 30 HP Motor Unit = 79 dBA, (2) 20 HP Motor Unit = 80 dBA