



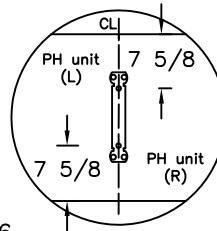
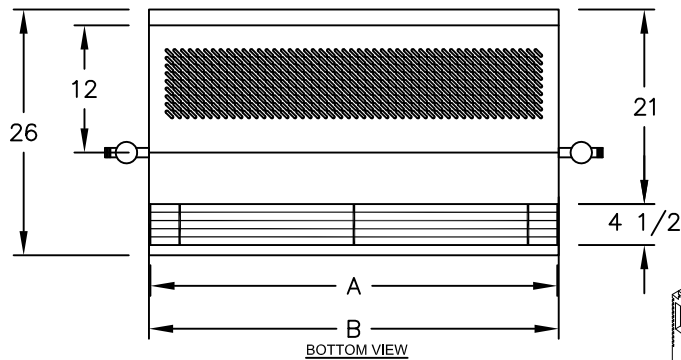
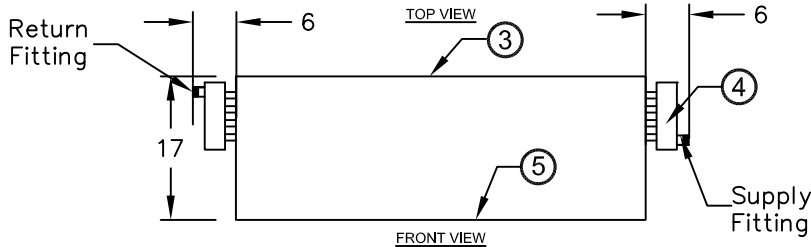
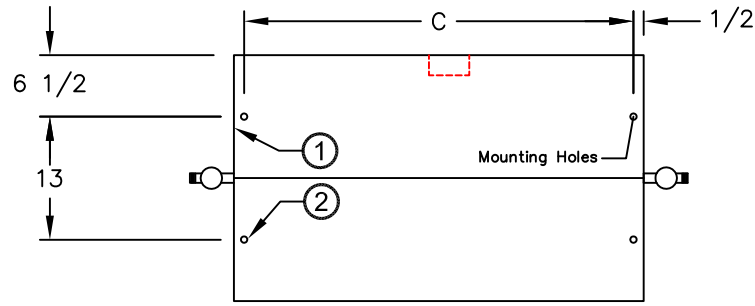
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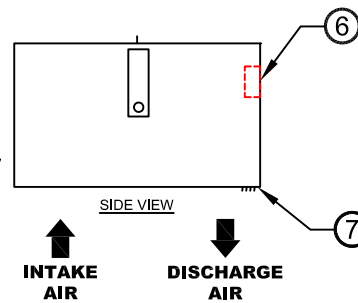
PROJECT		OPTIONS/ITEMS	
TITLE			
COMMENTS		DATE 4/02/15	PAGE
		REV. NO	
MODEL NO. PH12 Series	DRAWING NO PH12HWS-F	DRAWN BY NT	CHECKED BY
		FILE NAME	

Hot Water/Steam Heated Drawing

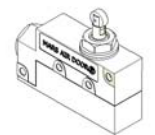
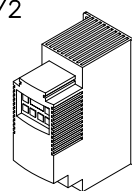
PH12 (Phantom 12 Series)



For tandem mounted units, center support required. The (2) center mounting holes are centerline of unit and 7 5/8" from front and rear of unit.



⑨ Recommended Accessories



Door Limit Switches

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

MODEL NUMBER	NOZZLE WIDTH A (in)	AIR CURTAIN LENGTH B (in)	MOUNTING CENTER C (in)	CONN. DIA. (in)
PH1248-1**-PW	48	48 1/8	47 1/8	1 1/2 MPT
PH1260-1**-PW	60	60 1/8	59 1/8	1 1/2 MPT
PH1272-2**-PW	72	72 1/8	71 1/8	1 1/2 MPT
PH1284-2**-PW	84	84 1/4	83 1/4	1 1/2 MPT
PH1296-2**-PW	96	96 1/4	95 1/4	1 1/2 MPT
PH12120-2**-PW	120	120 1/4	119 1/4	1 1/2 MPT
PH12144-4**-PW	144	144 1/4	143 1/4	1 1/2 MPT

Notes:

- This product is designed to meet the National Electric Code (NEC) and is ETL listed for the US and Canada (UL 1995 and CSA 22.2).
- (4) 3/8" mounting holes for overhead mounting provided, (2) on each end. Units greater than 72" are multiple units joined with top mounting bracket that has (2) additional mounting holes.
- All units have a self contained one piece cabinet, fire retardant and corrosion proof paint lock metal double protected with baked on white color, rust preventative electrostatic polyurethane powder coating. Four (4) trim pieces included to match air curtains and ceilings. (Does not increase unit size)
- Hot Water application shown. For Steam, return fitting is at bottom of manifold and supply is at center of manifold.
- Cabinet is to be mounted from overhead and has sufficient strength for suspension from both ends without intermediate support. Units greater than 72" needs (2) additional threaded rods at center.
- J-Box(es) for electrical wiring are provided.
- Unit is to be installed such that air flow is unobstructed. Unit has a 4 1/2" air discharge nozzle containing adjustable air directional vanes with 40° sweep front to back.
- Circuit protection as per NEC by others.
- Optional motor control panel, door limit switch and mounting brackets 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 mounting brackets must be installed such that the bottom of the air curtain is not below the door header.

PH12 (Phantom 12) Series

Hot Water/Steam Heated
Model Lengths 48" – 144"



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Hot Water/Steam Heated Data Sheet

Applications: Environmental Separation = Max Height 16' / Insect Control = Max Height 14'

PH12 (Phantom 12)	Mechanical Data						Lab Data					
Model Number	Nozzle Length (in)	Length (in)	Depth (in)	Height (in)	Motor (hp)	Weight (lbs)	Max Core Velocity at Nozzle (fpm)	Avg Velocity (fpm)	Volume (cfm)	Uniformity (%)	Power Rating (watts)	
PH1248-1**-PW	48	48	26	17	1	125	6450	2534	2534	89	1345	
PH1260-1**-PW	60	60	26	17	1	140	6866	2207	2759	86	1535	
PH1272-2**-PW	72	72	26	17	Two 1	205	6050	3097	4646	93	2316	
PH1284-2**-PW	84	84	26	17	Two 1	235	6300	2824	4942	90	2520	
PH1296-2**-PW	96	96	26	17	Two 1	250	6300	2534	5068	89	2690	
PH12120-2**-PW	120	120	26	17	Two 1	275	6866	2207	5518	86	3070	
PH12144-4**-PW	144	144	26	17	Four 1	410	6050	3097	9292	93	4632	

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

Note: Data above for 1725 RPM at 60 Hz. 50 Hz is 1425 RPM with a 17% reduction in the performance data.

Features:

Air Curtain

- ❖ 1 HP Continuous Duty TEAO Motors
- ❖ Recessed mounted in ceiling for invisible coverage
- ❖ ETL Certified to conform to UL 1995 (US) and CSA 22.2 (Canada) Standards
- ❖ (4) 3/8" top mounting holes provided
- ❖ Utilized in premium design concepts
- ❖ Durable aluminum construction
- ❖ Cabinet has sufficient strength for fastening to wall on both ends without intermediate support. (Tandem mounted units longer than 72" require center support)
- ❖ Cleanable polyester filters included as standard
- ❖ Adjustable air directional vanes with 40° sweep front to back
- ❖ Standard color is Pearl White
- ❖ Rust preventative electrostatic polyurethane powder coating
- ❖ 18-month parts warranty
- ❖ Freight Included (FOB Continental USA)
- ❖ 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 – 7% & Hot Water – 3%), 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

Coil Data	Hot Water				Steam		
	Coil Code (X)	GPM	MBH	Temp Rise (°F)	Coil Code (Y)	MBH	Temp Rise (°F)
PH1248-1**-PW	2 Row	7	95	35	1 Row	92	34
PH1260-1**-PW	2 Row	7	109	37	1 Row	108	36
PH1272-2**-PW	2 Row	12	164	33	1 Row	154	31
PH1284-2**-PW	2 Row	13	184	35	1 Row	172	32
PH1296-2**-PW	2 Row	15	205	38	1 Row	186	34
PH12120-2**-PW	2 Row	17	243	41	1 Row	217	36
PH12144-4**-PW	2 Row	19	328	33	1 Row	310	31

* - 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 (FLA)	Unit Voltage (Voltage Code)				
	115v/1Ø (A)	208-230v/1Ø (D)	208-230v/3Ø (G)	460v/3Ø (H)	575v/3Ø (I)
PH1248-1**-PW	9.0	5.0	3.3/3.2	1.6	1.3
PH1260-1**-PW	9.0	5.0	3.3/3.2	1.6	1.3
PH1272-2**-PW	18.0	10.0	6.6/6.4	3.2	2.6
PH1284-2**-PW	18.0	10.0	6.6/6.4	3.2	2.6
PH1296-2**-PW	18.0	10.0	6.6/6.4	3.2	2.6
PH12120-2**-PW	18.0	10.0	6.6/6.4	3.2	2.6
PH12144-4**-PW	36.0	20.0	13.2/12.8	6.4	5.2

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

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

277v/1Ø/60Hz (L) - 5.2A per motor 380-415v/3Ø/50Hz (W) - 1.8A per motor
220v/1Ø/50Hz (U) - 7.1A per motor

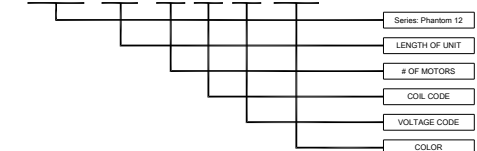
Note: For ampacity, multiply FLA X 1.25

Mars Recommended Accessories (see submittals for additional details):

- ❖ Door limit switches
 - 99-018, Commercial surface-mounted door limit switch
 - ❖ Controllers
 - MCPB-*V†, Motor Control Panel, 120V control voltage (* = # of Motors, † = Voltage Code)
 - 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)
 - BMS-306, BMS for monitor and control (panel required with MCP-24V)
- Note: Dry contact provided in panel for monitoring motor. 24Vac signal provided from panel for controlling motor
- ❖ Thermostats
 - 99-063, Thermostat, 250V Max
 - ❖ Non-fused disconnect, panel-mounted
 - ❖ HSG-304SS-PH, Stainless steel housing

EXAMPLE

PH12 72 - 2 X H - PW



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

1 Motor Unit = 70 dBA, 2 Motor Unit = 73 dBA, 3 & 4 Motor Unit = 75 dBA

NOTE: MARS AIR SYSTEMS, LLC reserves the right to change specifications and product design without notice. Such revisions do not entitle the buyer to corresponding changes, improvements, additions, or replacements for previously purchased equipment.