



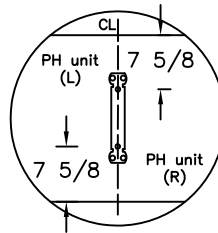
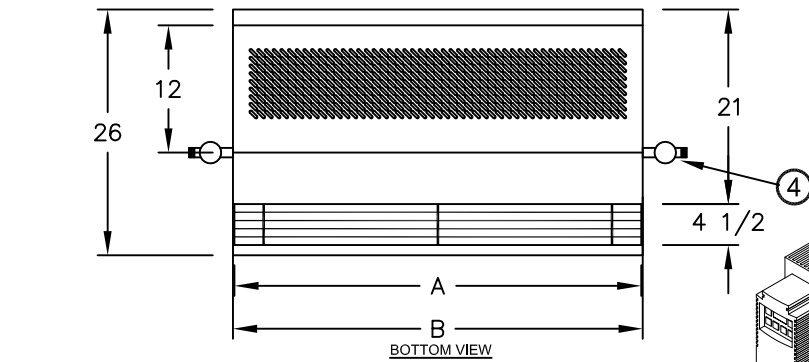
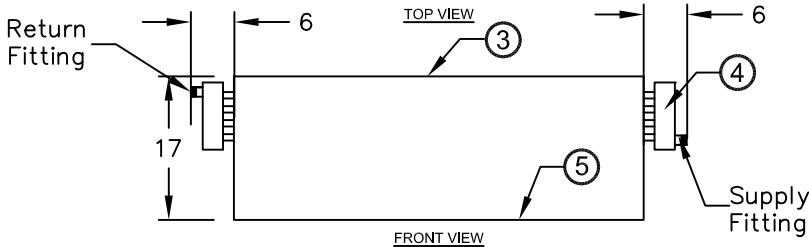
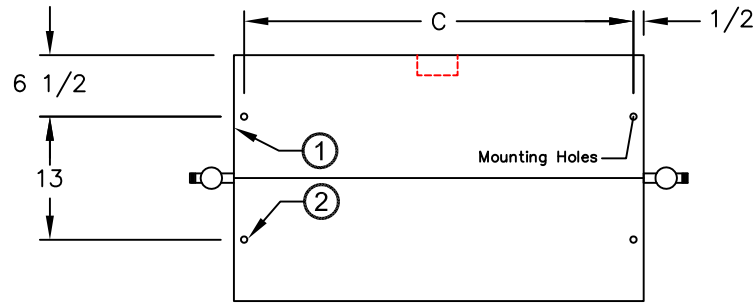
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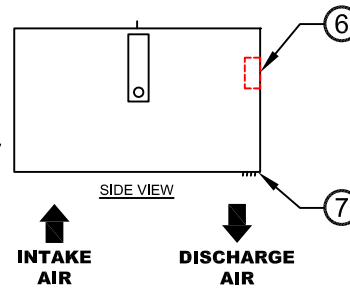
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| PROJECT               |                      | OPTIONS/ITEMS   |            |
| TITLE                 |                      |                 |            |
| COMMENTS              |                      | DATE<br>4/03/15 | PAGE       |
|                       |                      | REV. NO         |            |
| MODEL NO. PH10 Series | DRAWING NO PH10HWS-F | DRAWN BY TVN    | CHECKED BY |
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# Hot Water/Steam Heated Drawing

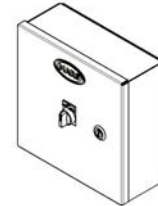
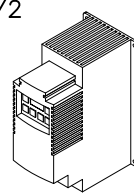
## PH10 (Phantom 10 Series)



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



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

#### Notes:

1. 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).
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.
3. All units have a self contained one piece cabinet, fire retardant with brushed aluminum housing. The exposed bottom surface is protected with baked on Pearl White color, rust preventative electrostatic polyurethane powder coating. Four (4) trim pieces included to match air curtains and ceilings. (Does not increase unit size)
4. Hot Water application shown. For Steam, return fitting is at bottom of manifold and supply is at center of manifold.
5. 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.
6. J-Box(es) for electrical wiring are provided.
7. 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.
8. Circuit protection as per NEC by others.
9. 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.

| MODEL NUMBER   | NOZZLE WIDTH A (in) | AIR CURTAIN LENGTH B (in) | MOUNTING CENTER C (in) | CONN. DIA. (in) |
|----------------|---------------------|---------------------------|------------------------|-----------------|
| PH1036-1**-PW  | 36                  | 36 1/8                    | 35 1/8                 | 1 1/2 MPT       |
| PH1042-1**-PW  | 42                  | 42 1/8                    | 41 1/8                 | 1 1/2 MPT       |
| PH1048-1**-PW  | 48                  | 48 1/8                    | 47 1/8                 | 1 1/2 MPT       |
| PH1060-2**-PW  | 60                  | 60 1/8                    | 59 1/8                 | 1 1/2 MPT       |
| PH1072-2**-PW  | 72                  | 72 1/8                    | 71 1/8                 | 1 1/2 MPT       |
| PH1084-2**-PW  | 84                  | 84 1/4                    | 83 1/4                 | 1 1/2 MPT       |
| PH1096-2**-PW  | 96                  | 96 1/4                    | 95 1/4                 | 1 1/2 MPT       |
| PH10120-4**-PW | 120                 | 120 1/4                   | 119 1/4                | 1 1/2 MPT       |

# PH10 (Phantom 10) Series

Hot Water/Steam Heated

Model Lengths 36" – 120"



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## Hot Water/Steam Heated Data Sheet

**Applications: Environmental Separation up to 12' and Insect Control up to 10'**

| PH10<br>(Phantom 10) | 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 (%) |
| PH1036-1**-PW        | 36              | 36                 | 26          | 17         | 1/2         | 76         | 3950         | 1947                              | 1460               | 91           | 460            |
| PH1042-1**-PW        | 42              | 42                 | 26          | 17         | 1/2         | 82         | 4150         | 1806                              | 1580               | 89           | 500            |
| PH1048-1**-PW        | 48              | 48                 | 26          | 17         | 1/2         | 88         | 3895         | 1632                              | 1632               | 91           | 520            |
| PH1060-2**-PW        | 60              | 60                 | 26          | 17         | Two 1/2     | 130        | 3750         | 2217                              | 2771               | 93           | 870            |
| PH1072-2**-PW        | 72              | 72                 | 26          | 17         | Two 1/2     | 138        | 3950         | 1947                              | 2920               | 91           | 920            |
| PH1084-2**-PW        | 84              | 84                 | 26          | 17         | Two 1/2     | 160        | 4150         | 1806                              | 3160               | 89           | 1000           |
| PH1096-2**-PW        | 96              | 96                 | 26          | 17         | Two 1/2     | 171        | 3895         | 1632                              | 3264               | 91           | 1040           |
| PH10120-4**-PW       | 120             | 120                | 26          | 17         | Four 1/2    | 250        | 3750         | 2217                              | 5541               | 93           | 1730           |

\* - 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

- ❖ 1/2 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

### Options and Accessories: (see Accessories Brochure)

- ❖ Motor Control Panels with remote mounted t'stat
- ❖ Steam distribution, Cupro Nickel and CRN coils
- ❖ Rust resistant epoxy coated or SS coils
- ❖ Custom housing colors and finishes (304SS, 316SS)

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

1 Motor Unit = 66 dBA, 2 Motor Unit = 68 dBA, 3 Motor Unit = 71 dBA, 4 Motor Unit = 73 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.

| Coil Data      | Hot Water     |     |       |                | Steam         |       |                |
|----------------|---------------|-----|-------|----------------|---------------|-------|----------------|
|                | Coil Code (W) | GPM | MBH   | Temp Rise (°F) | Coil Code (Y) | MBH   | Temp Rise (°F) |
| PH1036-1**-PW  | 1 Row         | 4   | 40.0  | 26             | 1 Row         | 60.0  | 38             |
| PH1042-1**-PW  | 1 Row         | 5   | 47.0  | 28             | 1 Row         | 67.0  | 40             |
| PH1048-1**-PW  | 1 Row         | 5   | 51.0  | 29             | 1 Row         | 73.0  | 42             |
| PH1060-2**-PW  | 1 Row         | 6   | 74.0  | 25             | 1 Row         | 108.0 | 36             |
| PH1072-2**-PW  | 1 Row         | 8   | 87.0  | 28             | 1 Row         | 121.0 | 39             |
| PH1084-2**-PW  | 1 Row         | 8   | 96.0  | 28             | 1 Row         | 136.0 | 40             |
| PH1096-2**-PW  | 1 Row         | 9   | 106.0 | 30             | 1 Row         | 148.0 | 42             |
| PH10120-4**-PW | 1 Row         | 11  | 153.0 | 26             | 1 Row         | 217.0 | 36             |

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) |
| PH1036-1**-PW         | 5.1                         | 2.5             | 1.8/1.6         | 0.8         | 0.7         |
| PH1042-1**-PW         | 5.1                         | 2.5             | 1.8/1.6         | 0.8         | 0.7         |
| PH1048-1**-PW         | 5.1                         | 2.5             | 1.8/1.6         | 0.8         | 0.7         |
| PH1060-2**-PW         | 10.2                        | 5.0             | 3.6/3.2         | 1.6         | 1.4         |
| PH1072-2**-PW         | 10.2                        | 5.0             | 3.6/3.2         | 1.6         | 1.4         |
| PH1084-2**-PW         | 10.2                        | 5.0             | 3.6/3.2         | 1.6         | 1.4         |
| PH1096-2**-PW         | 10.2                        | 5.0             | 3.6/3.2         | 1.6         | 1.4         |
| PH10120-4**-PW        | 20.4                        | 10.0            | 7.2/6.4         | 3.2         | 2.8         |

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

Note: For Ampacity Multiply FLA X 1.25

