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STD2 Series Packaged HEPA Models (HCP)

Standard Series 2
Commercial Air Curtain
Submittal Package
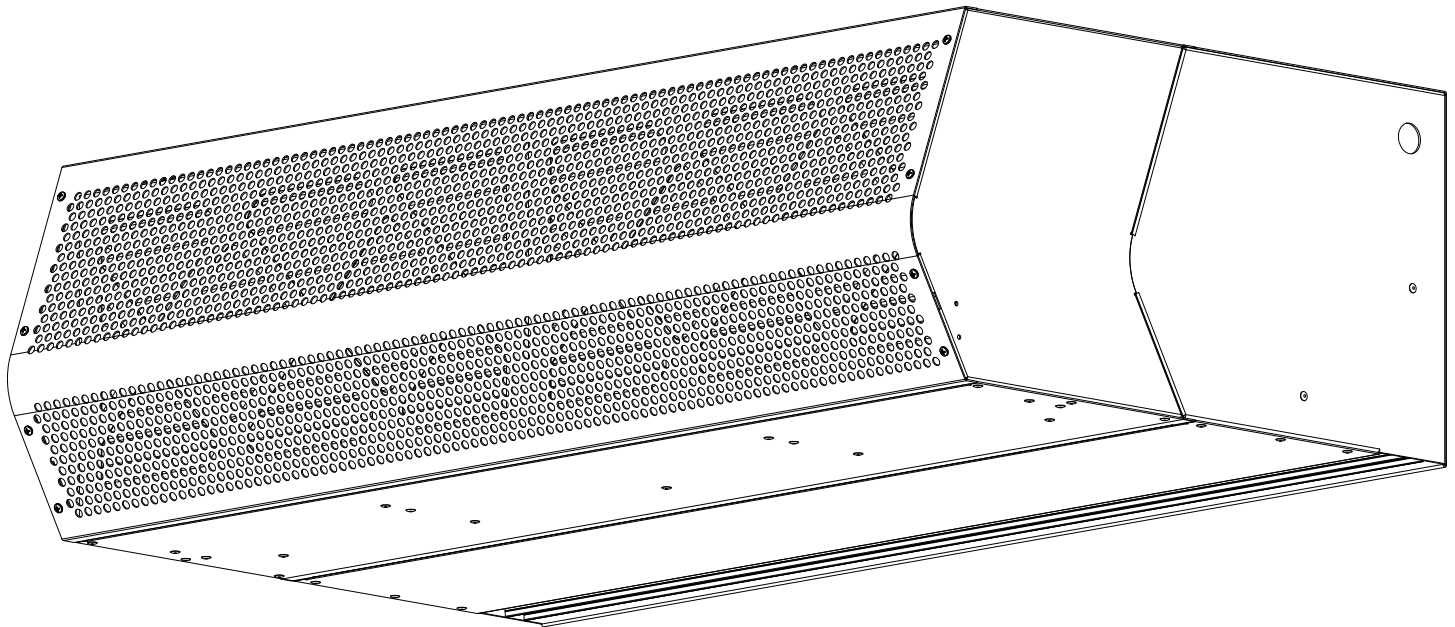
Submitted by:

Mars Air Systems, LLC
14716 S. Broadway
Gardena, CA 90248

Project Name	
P.O.#	
S.Q.	
Company	
Print Name	
Signature	
Date	

(Electronic Signature Preferred)

Company Seal or Stamp

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.

MARS AIR SYSTEMS, LLC ● GARDENA, CA ● USA

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MARS AIR SYSTEMS, LLC ● GARDENA, CA ● USA

Clean Air Series

(UVC and HEPAC Air Curtain)

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14716 S. BROADWAY, GARDENA, CA 90248 ● Ph: (310) 532-1555 Fax: (310) 532-3030 ● www.marsair.com

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Item No.	Description	Overall Length (in)	Weight (lbs)	Voltage Code & FLA			
				115V/1Ø		208-230V/1Ø	
				☐	(A)	☐	(D)
LPV2 Series	**Packaged UV Models**						
☐ LPV225-1U*-OB-UVP	LPV225, 1Mtr, 1/6HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	25	30		3		1.8
☐ LPV236-1U*-OB-UVP	LPV236, 1Mtr, 1/6HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	36	48		3		1.8
☐ LPV242-1U*-OB-UVP	LPV242, 1Mtr, 1/6HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	42	53		3		1.8
☐ LPV248-1U*-OB-UVP	LPV248, 1Mtr, 1/6HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	48	60		3		1.8
☐ LPV260-1U*-OB-UVP	LPV260, 1Mtr, 1/6HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	60	72		3.5		2.3
☐ LPV272-1U*-OB-UVP	LPV272, 1Mtr, 1/6HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	72	87		3.8		2.6
STD2 Series	**Packaged UV Models**						
☐ STD236-1U*-OB-UVP	STD236, 1Mtr, 1/2HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	36	90		5.7		3.1
☐ STD242-1U*-OB-UVP	STD242, 1Mtr, 1/2HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	42	98		5.7		3.1
☐ STD248-1U*-OB-UVP	STD248, 1Mtr, 1/2HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	48	105		5.7		3.1
☐ STD260-2U*-OB-UVP	STD260, 2Mtr, 1/2HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	60	135		11.1		5.9
☐ STD272-2U*-OB-UVP	STD272, 2Mtr, 1/2HP, Unhtd, Galv, OB, UVC, 24v Ctrl, Mag Sw (99-018)	72	180		11.4		6.2
STD2 Series	**Packaged HEPAC Models**						
☐ STD236-1U*-OB-HCP	STD236, 1Mtr, 1/2HP, Unhtd, Galv, OB, HEPAC, 24v Ctrl, Mag Sw (99-018)	36	120		5.1		2.5
☐ STD242-1U*-OB-HCP	STD242, 1Mtr, 1/2HP, Unhtd, Galv, OB, HEPAC, 24v Ctrl, Mag Sw (99-018)	42	130		5.1		2.5
☐ STD248-1U*-OB-HCP	STD248, 1Mtr, 1/2HP, Unhtd, Galv, OB, HEPAC, 24v Ctrl, Mag Sw (99-018)	48	140		5.1		2.5
☐ STD260-2U*-OB-HCP	STD260, 2Mtr, 1/2HP, Unhtd, Galv, OB, HEPAC, 24v Ctrl, Mag Sw (99-018)	60	180		10.2		5
☐ STD272-2U*-OB-HCP	STD272, 2Mtr, 1/2HP, Unhtd, Galv, OB, HEPAC, 24v Ctrl, Mag Sw (99-018)	72	240		10.2		5
STD2 Series	**Packaged UV, HEPAC, and Ionizer Models**						
☐ STD236-1U*-OB-VHP	STD236, 1Mtr, 1/2HP, Unhtd, Galv, OB, UVC/HEPAC/Ionizer, 24v Ctrl, Mag Sw (99-018)	36	150		5.7		3.1
☐ STD242-1U*-OB-VHP	STD242, 1Mtr, 1/2HP, Unhtd, Galv, OB, UVC/HEPAC/Ionizer, 24v Ctrl, Mag Sw (99-018)	42	163		5.7		3.1
☐ STD248-1U*-OB-VHP	STD248, 1Mtr, 1/2HP, Unhtd, Galv, OB, UVC/HEPAC/Ionizer, 24v Ctrl, Mag Sw (99-018)	48	175		5.7		3.1
☐ STD260-2U*-OB-VHP	STD260, 2Mtr, 1/2HP, Unhtd, Galv, OB, UVC/HEPAC/Ionizer, 24v Ctrl, Mag Sw (99-018)	60	225		11.1		5.9
☐ STD272-2U*-OB-VHP	STD272, 2Mtr, 1/2HP, Unhtd, Galv, OB, UVC/HEPAC/Ionizer, 24v Ctrl, Mag Sw (99-018)	72	300		11.4		6.2

* - Use corresponding letters in "Electrical Data" column headers to complete the model numbers (consult factory for alternate voltages).   **NOTE: for ampacity, multiply FLA x 1.25**

Features:

❖ Air curtains are ETL-certified to conform to UL 2021 (US) and CSA 22.2 (Canada) standards for indoor use
❖ Sleek self-contained one-piece heavy-gauge and corrosion-proof paint lock metal design with fire retardant and rust preventative electrostatic polyurethane powder coating
  ○ Standard color is Obsidian Black (OB)
❖ Top mounted and factory wired junction box with labeled wires for easy field wiring provided (6" to 10" service clearance required on the top for STD2 series)
❖ Low voltage (24Vac) control circuit
❖ Surface mounted magnetic switch (Part# 99-018) is included
❖ 12-month parts warranty
❖ Freight included (FOB continental USA)
❖ Proudly made in the USA

UVC Package (UVP)

❖ Patented dual bulb design standard (UVC & UVV) disinfects the airstream, destroying bacteria, mold, and viruses and reducing unwanted odors
  ○ Standard sequence of operation
▪ Door open: fan and UV ON
▪ Door closed: fan and UV ON
  • Fan speed can be adjusted using factory-installed variable speed switch
  ○ Fan ON/OFF Switch provided for unit to work as regular air curtain (If indoor sanitation is not desired)
    ▪ Door open: Fan and UV ON
    ▪ Door closed: Fan OFF and UV ON
  ○ UV ON/OFF Switch provided to turn UV lamps OFF
    ▪ Door open: Fan ON and UV OFF
▪ Door closed: Fan and UV OFF
  ○ Master controls to turn fan and UV OFF independent of door position
  ○ Safety switch to turn fan and UV OFF provided for service
❖ UVC Germicidal destroys biological contaminants
  ○ Sterilizes up to 99.99% of airborne bio-contaminants with multiple passes
  ○ Perfect for test labs, hospitals, and crowded waiting rooms
  ○ Reduces accumulation of pathogens on exposed surfaces of air curtain's internal components and minimizes pathogen redistribution
❖ UVV Oxidizing destroys chemicals and odors
  ○ Destroys ethylene produced by off-gassing, a leading cause of premature aging of fruits and vegetables
  ○ Ideal for food storage/processing facilities, waste areas, kitchens, and bathrooms with noxious gases
  ○ Low levels of ozone generated

HEPAC Package (HCP)

❖ HEPA® filters rated 99.99% per ASHRAE (0.3 micron) and meets UL Standard 900 for Flammability
❖ Includes 2" pre-filters, MERV 7-8 rated (Minimum Efficiency Reporting Value)
❖ Air curtain performance is reduced by 10-15% with clean filters. Motor are set to highest speed from the factory.

Combo Package (VHP)

❖ Package Includes UV, HEPA, and Ionizer
❖ Fully factory assembled and wired

Mars Recommended Accessories (see catalog for complete listing):

❖ Factory Mounted Control Options
  ☐ INS-TD, Adjustable time delay (1 sec to 17 min)
❖ Brackets (shipped loose)
  ☐ B0004, Adjustable mounting bracket set, 3 ½" clearance
  ☐ B0005, Adjustable mounting bracket set, 7"-13" clearance

← Overall Depth →

Overall Height

SIDE VIEW   Nozzle
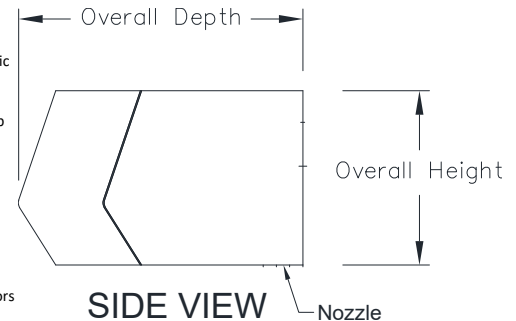
Air Curtain Series	Option	Overall Height (in)	Overall Depth (in)
LPV2	UVP	8	12 ½
STD2	UVP	10 ⅜	18 ⅛
STD2	HCP	10 ⅜	21 ½
STD2	VHP	10 ⅜	27

Room Size (W x L x H)	Minutes Required for Air Sanitation with UV Package*					
LPV2 Series	LPV225	LPV236	LPV242	LPV248	LPV260	LPV272
10' x 10' x 8'	20	14	12	11	9	7
15' x 15' x 8'	46	32	27	24	19	16
STD2 Series	-	STD236	STD242	STD248	STD260	STD272
10' x 10' x 8'	-	9	9	9	5	5
15' x 15' x 8'	-	21	20	20	11	10

*NOTE: test conducted in an enclosed, airtight chamber. Sanitation time may be longer for open space, or when doors/windows are opened.

ETL LISTED — Intertek
c US
Air Curtain only for HCP and VHP options

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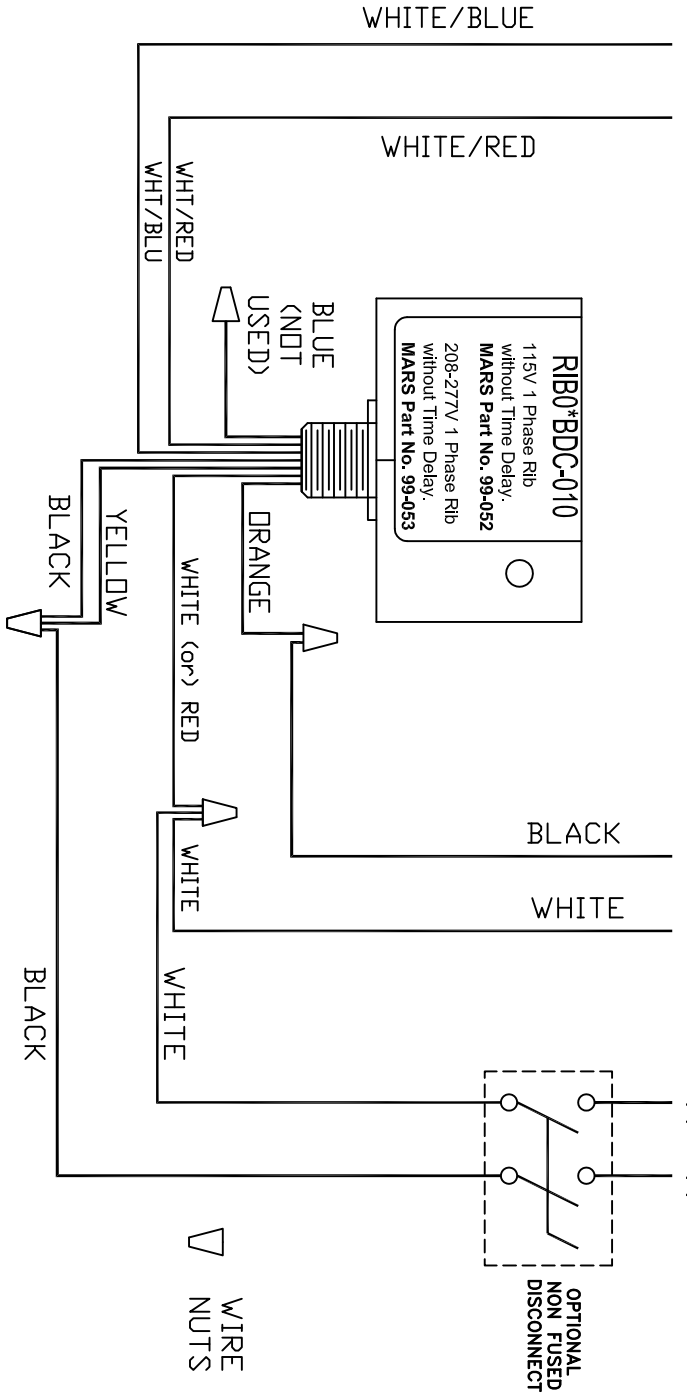
RIB Kit Rating:
- 115v or 208-230v
- 1/2 HP Max

RIB Kit Part Numbers:
- 115v/1∅
  - J0023, J0036, J0100
- 208-230v/1∅
  - J0024, J0037, J0104

To
Door Limit Switch(s)
N/C Contacts

WHITE/BLUE

WHITE/RED

WHT/RED
WHT/BLU

BLUE
(NOT
USED)

RIB0*BDC-010
115V 1 Phase Rib
without Time Delay.
MARS Part No. 99-052
208-277V 1 Phase Rib
without Time Delay.
MARS Part No. 99-053

BLACK

YELLOW

WHITE (or) RED

ORANGE

BLACK

WHITE

WHITE

BLACK

BLACK

WHITE

To
Air Curtain
Motor (s)

From
115V (or)
208-277V, 1∅
Power Supply

L2(N) L1(H)

OPTIONAL
NON-FUSED
DISCONNECT

WIRE
NUTS

Note:
The controllers are wired the same,
but are not interchangeable.

Optional
Motor 3
208-230v Only
(1/2 HP Max)

To
Air Curtain
Motor 2
(1/2 HP Max)

WHITE
BLK

To
Air Curtain
Motor 1
(1/2 HP Max)

WHITE
BLK

OPTIONAL
VARIABLE
SPEED SWITCH

H1
H1

To
Door Limit Switch(s)
N/O Contacts

WHITE/BLUE
WHITE/RED

1CR
1-2

ORANGE
(NOT USED)

BLU

YEL

WHITE (or)
RED

BLACK

RIB0*BDC-010
115V 1 Phase Rib
without Time Delay.
MARS Part No. 99-052
or
208-277V 1 Phase Rib
without Time Delay.
MARS Part No. 99-053

1CR

WHITE

Factory Wired 4x4 J-Box

WHITE
BLK

WIRE
NUTS

From
115V (or) 208-277V, 1 ∅
Power Supply

L1/N   L2/H

OPTIONAL
NON-FUSED
DISCONNECT

Kit J0705, J0706, J0722, J0723, J0726 & J0727

Note:
Controller Kit J0703, J0720 and J0724 require 115V, 1∅ power and Controller
Kit J0704, J0721 and J0725 require 208/277V, 1∅ power to operate properly.
The controllers are wired the same, but are not interchangeable.

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CLEAN AIR SERIES

NOTE
Before proceeding, refer to the units specific IOM Manual for safety, installation and start information. Verify proper voltage to the product per local and NEC codes. Ensure proper rotation for units with three phase motors.

CLEAN AIR SERIES

The HEPAC (High Efficiency Particulate Air Curtain) and UVC (Ultraviolet Curtain) section is intended for localized filtering and cleaning inside a building with a NEMA1 condition. The effective area should not exceed 15 cubic feet and may be more effective when the area is enclosed. Both options are available pre-factory mounted with the corresponding air curtains with single point connection or field retrofitted and wired by others.

HEPAC SECTION

The HEPAC section is specifically designed and compatible with the STD2 models only and available in section lengths of 36", 42", 48" and 60". For longer units, multiple tandem mounted sections are used to match the unit length.

Note:
1. Factory pre-assembled HEPAC section may require the removal of the pre and HEPA filters for mounting and wiring.

The HEPAC section is not suited for outdoor use or in areas with very high and/or large particulates. The frequency of service and/or filter replacement will vary depending on the usage time and application area conditions.

UVC SECTION

The UVC section is specifically designed and compatible with both the LPV2 and STD2 models. They are available in section lengths of 36", 42", 48", 60" and 72". For longer units, multiple tandem mounted sections are used to match the unit length.

Note:
1. Factory pre-assembled UVC Section with an Air Curtain are pre-wired and ready for field installation and single point wiring.

FIELD INSTALLED HEPAC AND UVC SECTION

Both the HEPAC and UVC sections may be field installed and added to an existing unheated Mars Air Curtain unit. (Available sizes previously listed). The top and bottom must be field secured to the existing units using the pre-drilled holes provided on the sections. The number of holes may vary per the length.

For the HEPAC section, the unit should set at the highest speed for multiple speed motors. No additional wiring is required for the HEPAC section.

UVC section will required additional field mounting and wiring with existing air curtains. Please refer to the wiring instructions and diagrams provided with the UVC Section for your existing field voltage and phase.

HEPAC Exploded View
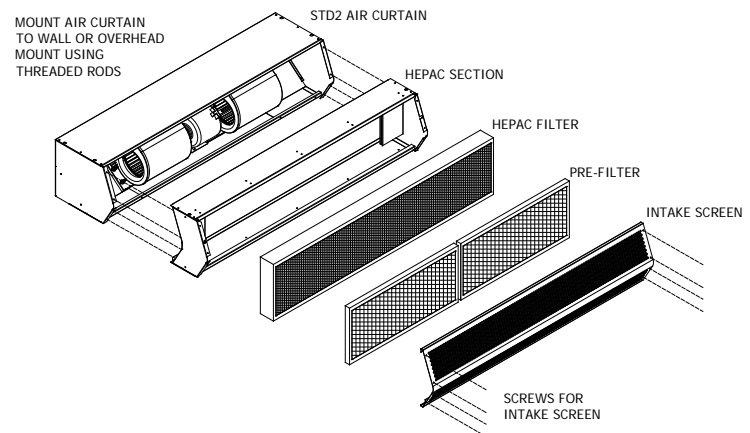
UVC Exploded View
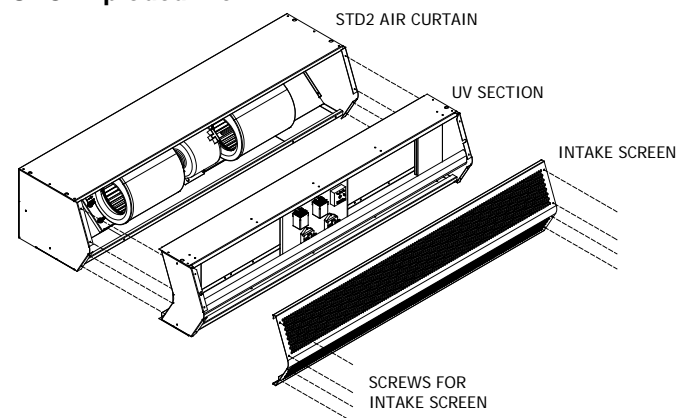
Warning:
Disconnect and lockout main power before replacing UV bulb.

Clean Air Series Applications Guide

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Mars Air Systems offer the **Mars UVC®** and **HEPAC®** packages and sections are designed to minimize the redistribution of airborne pathogens and fine particulates, as well as eliminate unwanted odors in the local space.

We offer three design configurations to address various applications. Each sections are designed to seamlessly integrate with unheated Mars air curtains and are all Proudly Made in the USA.

Packaged UV Models (Mars UVC® & UVP)
Ultraviolet Air Curtain Units

❖ Patented dual bulb design standard (UVC & UVV)
❖ UVC Germicidal destroys biological contaminants
❖ Sterilize up to 99.99% of airborne bio-contaminants with multiple passes
❖ Perfect for test labs, hospitals and small waiting rooms
❖ UVV Oxidizing destroys chemicals and odors
❖ Destroy ethylene off-gassing, which is a leading cause of premature aging of fruits and vegetables
❖ Ideal for food storage/processing facilities, waste areas with noxious gases
❖ Low levels of ozone generated
❖ UVC only bulb available for no ozone applications
❖ Reduces accumulation of pathogens on the exposed surface of the air curtain's internal components and minimizes pathogen redistribution
❖ 24VAC Control Circuit Standard
❖ LPV2 or STD2 air curtain required for UVC section
❖ HEPAC section and Ionizer may be used in tandem with UV for STD2 models
❖ Maximum operating temperature: 160F
❖ Indoor use only
❖ 1-year warranty on workmanship and defects
❖ Warranty does not cover normal bulb wear
❖ Proudly Made in the USA

Packaged HEPAC Model (Mars HEPAC® & HCP)
High Efficiency Particulate Arrestance Air Curtain Unit

❖ HEPA® filters rated 99.99% per ASHRAE (0.3 micron) and meets UL Standard 900 for Flammability
❖ HEPA® filter has extended life, up to 3 years, under normal conditions and with regular service
❖ 2" pre-filters MERV 7-8 rated (Minimum Efficiency Reporting Value)
❖ Optional HEPA® filter, ULPA (Ultra-Low Penetration Air) rated 99.99% of particles 0.12 micron and MERV 13 rated 2" pre-filters for extended usage applications or high particulate

❖ Most viruses, including all SARS-CoV-2, are 0.12 micron as a single virion (unattached to any fluid droplet) but transmission is typically through liquid droplets, which are larger
❖ The ULPA option is best suited for hospital environments and rooms with infected patients
❖ The HEPA® does not eradicate pathogens, but instead it distributes them through the large filter surface, collects and compacts them in the filter
❖ Maintaining a consistent service regiment based on the usage for the pre-filters will increase HEPA® filter life-span and ensure the air curtain performance is not adversely affected
❖ Air curtain performance is reduced by 10-15% with clean filters. Motor are set to highest speed from the factory.
❖ 24VAC Control Circuit Standard
❖ STD2 air curtain required for HEPAC section
❖ UV section and Ionizer may be used in tandem with HEPAC
❖ Maximum operating temperature is160 °F
❖ Indoor use only
❖ 1-year warranty on workmanship and defects
❖ Warranty does not cover filters
❖ Proudly Made in the USA

Air Wash System (AWS) for Doorways
Vertically Mounted Combination UVC, HEPAC & Ionizer System

❖ Triple sanitizing design that includes HEPAC, UVC and Ionizer combination
❖ Vertically mounted dual units includes mounting and framing kit
❖ Designed to help disperse debris on surfaces and collect airborne pathogens and debris
❖ Can assist in minimizing the introduction of pathogens and debris from cleaner areas
❖ Higher usage will require more periodic maintenance and filter and bulb replacement
❖ 24VAC Control Circuit Standard
❖ STD2 air curtain required for combination **Mars UVC®** and **Mars HEPAC®** sections
❖ Maximum operating temperature is160 °F
❖ Indoor use only
❖ 1-year warranty on workmanship and defects
❖ Warranty does not cover filters or normal bulb wear
❖ Proudly Made in the USA

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NT 10/16/20

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SECTION 23 34 33

AIR CURTAINS

Important Note: This specification contains hidden text appearing in red. To show or remove hidden text in MSWord, click the "File" tab or "Office" icon on the top-left corner, select "Options," select "Display," and check or uncheck the box marked "Hidden Text."

PART 1 GENERAL

1.1   SECTION INCLUDES

        A.   Air curtains for pedestrian entrances.

        B.   Air curtains for vehicular entrances.

        C.   Air curtains for clean room entrances.

1.2   RELATED SECTIONS

        A.   Section 05 50 00 – Metal Fabrications: Concealed steel support members.

        B.   Section 06 10 00 – Rough Carpentry.

        C.   Section 05 41 00 – Structural Metal Studs.

        D.   Section 07 62 00 – Sheet metal flashing.

        E.   Section 07 92 00 – Joint Sealants.

        F.   Section 08 10 00 – Metal Doors and Frames.

        G.   Section 08 33 00 – Overhead Coiling Doors.

        H.   Section 08 42 00 – Entrance Doors.

        I.   Section 26 05 00 – Equipment Wiring: Connections to building power distribution.

1.3   REFERENCES

      A.   ASTM A240 / A240M -10 – Standard Specification for Chromium and Chromium.

      B.   ASTM A879 / A879M -06 – Standard Specification for Steel Sheet, Zinc Coated by the Electrolytic Process for Application Requiring Designation of the Coating Mass on Each Surface.

      C.   ASTM A653 / A653M -09a – Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

      D.   UL 507 – UL Standard for Safety Electric Fans – Intertek Testing Services Listed for US and Canada.

      E.   UL508A – Standard for Industrial Control Panels

      F.   CEC – Approved Elec heating Coils

      G.   Electrical components UL/CUL listed.

      H.   NEC – National Electric Code.

1.4   SUBMITTALS

      A.   Submit under provisions of Section 01 33 00.

      B.   Product Data: Manufacturer's data sheets on each product to be used, including:
          1.   Preparation instructions and recommendations.
          2.   Storage and handling requirements and recommendations.
          3.   Installation methods.

      C.   Shop Drawings: Include plans, elevations, sections, and details, indicating dimensions, tolerances, materials, fasteners, hardware, finish, piping, electrical wiring diagrams, options, and accessories.

      D.   Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

      E.   Verification Samples: For each finish product specified, two samples, minimum size 6.25 inches (160 mm) square, representing actual product, color, and patterns.

      F.   Manufacturer's Certificates: Certify products meet or exceed specified requirements.

      G.   Operation and Maintenance Manual: Submit manufacturer's operation and maintenance manual, including operation, maintenance, adjustment, and cleaning instructions, trouble shooting guide, parts list, and electrical wiring diagrams.

1.5   QUALITY ASSURANCE

   A.   Manufacturer Qualifications: Minimum ten years documented experience producing the
         products specified in this Section

   B.   Installer Qualifications: Minimum five years documented experience installing products
         specified in this Section

1.6   DELIVERY, STORAGE, AND HANDLING

   A.   Store products in manufacturer's unopened packaging until ready for installation.

   B.   Store in a dry, heated storage area until installation of products.

   C.   Protect materials and finish from damage during handling and installation.

1.7   SEQUENCING

   A.   Ensure that locating templates and other information required for installation of products
         of this section are furnished to affected trades in time to prevent interruption of
         construction progress.

   B.   Coordinate the installation of wiring and control switches for air curtains with the
         openings and the hardware provided for such openings.

   C.   Install after doors, walls, ceilings, and other adjacent surfaces are finished and painted.

1.8   WARRANTY

   A.   Standard one-year limited parts warranty for units against defects in workmanship and
         material.

PART 2 PRODUCTS

2.1   MANUFACTURER

   A.   Acceptable Manufacturer: Mars Air Systems, LLC; 14716 South Broadway St., Gardena,
         CA 90248. Tel: (310) 532-1555 or (800) 421-1266. Fax: (310) 324-3030. Email:
         info@marsair.com. Web: www.marsair.com.

   B.   Delete one of the following two paragraphs: coordinate with requirements of Division 1
         section on product options and substitutions.

   C.   Requests for substitutions will be considered in accordance with provisions of Section 01
         33 00.

2.2   AIR CURTAIN ASSEMBLIES

A.   Motor Fan Assembly: Design for easy removal, assembly, repair, and maintenance.
      1.   Motor: Totally enclosed air over (TEAO) cooled motor with sealed lifetime pre-lubricated ball bearings, motor starter and thermal overload protection.
            a.   Wired for single speed operation.
            b.   Provide wash down type motors, NEC IP-54 for the locations indicated.
            c.   Provide explosion proof type motors, NEC Class 1, Division 1, Group D for the locations indicated.
            d.   Electrical Characteristics: 115V AC, single phase; 5.1 Amp full load per motor/fan.
            e.   Electrical Characteristics: 208/230V AC, single phase; 2.5 Amp full load per motor/fan.
            f.   Meets NEC. ETL Listed to conform to UL 507 (US) and CSA22.2 (Canada) Standards (air curtain only)
      2.   Fans: Forward curved centrifugal type, double width, and double inlet design, directly driven to an electric motor.
            a.   Provide resilient isolation dampening mountings between motor frame and motor mounting pan.
            b.   Factory balanced blower wheel assembly statically and dynamically.

B.   Housing: Self-contained one-piece type with sufficient strength for mounting from pre-punched mounting holes at both ends to adjacent walls or ceiling without intermediate support.
      1.   Size:
            a.   Unheated: 21 3/8 inches deep by 10-5/8 inches high (including discharge nozzle) by width of unit.
      2.   Mounting:
            a.   Unheated Inside Mount.
            b.   Mount Location Indicated.
      3.   Material:
            a.   Provide 18- and 20-gauge electro or hot dipped galvanized steel sheet housing conforming to ASTM A 879 and/or ASTM A 653.
            b.   Provide type 304 stainless steel housing with brushed finish. ASTM A 240/A 240M.
      4.   Air Inlet Grille
      5.   HEPA filtration, 12" HEPAC section with disposable MERV 8 pre-filters
      6.   Discharge: Provide integral discharge nozzle specified.
      7.   Finish and Color: Provide with, no VOC, corrosion resistant polyurethane powder coated finish for sheet metal housings.
            a.   Obsidian Black.
            b.   Pearl White.
            c.   Titanium Silver.
            d.   Stainless Steel.

C.   Environmental Air Curtains: Models for Heights to 8 feet (3656 mm) for Environmental Separation and Temperature Control
      1.   Discharge Nozzle: Wedge-shaped discharge outlet nozzle with adjustable air foil vanes with a plus/minus 40-degree sweep front to back.

2. Air Velocity at Nozzle:
    a. STD236-1: 36 Inch (915 mm) Wide Units: 2206 feet/min (11.2 m/s) single 1/2HP motor/fan assembly.
    b. STD242-1: 42 Inch (1065 mm) Wide Units: 1945 feet/min (9.9 m/s) single 1/2HP motor/fan assembly.
    c. STD248-1: 48 Inch (1220 mm) Wide Units: 1730 feet/min (8.8 m/s) single 1/2HP motor/fan assembly.
    d. STD260-2: 60 Inch (1524 mm) Wide Units: 2592 feet/min (13.2 m/s) single 1/2HP motor/fan assembly.
    e. STD272-2: 72 Inch (1830 mm) Wide Units: 2206 feet/min (11.2 m/s) two 1/2HP motor/fan assemblies.
3. Air Speed at Floor: Minimum of 300 fpm (1.53 m/s) at 3 feet (914 mm) from the floor.
4. Air Inlet Grille and Filters:
    a. Location: Front.
    b. Speed: 2550 cu ft/min (1200 L/s), minimum, per motor/fan assembly.
5. Sound Pressure Level At 10 feet (3 m) From Nozzle:
    a. Single Motor/Fan Units: 66 dBA.
    b. Two Motor/Fan Units: 68 dBA.

2.3   COMPONENTS

A. Door-Activated Limit switch(s): Provide, field installed magnetic door switch to control air curtain(s) as follows; Automatic on/off control, activates air curtain to full speed when door is opened and turns to low speed when door is closed.
    1. Type: Magnetic reed switch and actuator for swing and sliding doors. Industrial floor mounted or surface mounted switches for roll up doors

B. Optional Digital Programmable Controller:
    1. Fully programmable controller
    2. Pre-set and fully customizable programs
    3. Wireless WiFi control via field supplied smartphone, tablet or computer
    4. Time delay (Passive & Adaptive)
    5. Factory Integrated temperature control sensors. No external thermostat required.
    6. Summer-Winter modes
    7. 24/7 timer
    8. Maintenance schedule alerts
    9. Status display showing date, time, temperature and air curtain mode
    10. Multi-unit control capability
    11. English (IP) or Metric (SI) display readings
    12. Password protected
    13. Auto Lock display
    14. Emergency shut-off button
    15. High temperature lock from fan failure
    16. Low voltage control signal for door activation
    17. Integrated BMS controls
    18. VFD compatible with 0-10VDC output
    19. Optional BACnet option

20.   Optional adaptive fan speed control and heat control based on existing field conditions. Field mounted outdoor temperature sensors required.

C.   Provide mounting hardware as required for the opening.

PART 3 EXECUTION

3.1   EXAMINATION

A.   Verify that required utilities are in correct location and are of correct capacities for specified products.

B.   Verify openings to receive air curtains are plumb, level, square, accurately aligned, correctly located, and in tolerance.

C.   Examine surfaces to receive air curtains. If surface preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2   INSTALLATION

A.   Install air curtains in accordance with approved shop drawings and manufacturer's printed installation instructions.

B.   Install air curtains plumb, level, square, true to line, and weathertight, without warp or rack.

C.   Anchor air curtains securely in place to supports.

D.   Coordinate with sheet metal flashing as specified in Section 07 62 00.

E.   Install joint sealants as specified in Section 07 92 00.

F.   Coordinate with electrical power as specified in Section 26 05 00.

G.   Install door limit switches and adjust for correct operation.

H.   Provide connection to piped services and utilities as specified in Section 22 10 00 and 23 21 00.

3.3   FIELD QUALITY CONTROL

A.   Adjust air curtains to function properly.

B.   Adjust air foil vanes located within the discharge nozzle as required for prevailing conditions at each opening.

        C.   Check heated air curtain performance on a calm day by measuring air temperature 6 inches off the floor. Optimal reading is halfway between the temperature inside and outside the building.

3.4   CLEANING

        A.   Clean air curtains promptly after installation in accordance with manufacturer's instructions.

        B.   Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.

        C.   Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

        D.   Replace Pre-Filter periodically to extend the life of HEPA filter

3.5   PROTECTION

        A.   Protect materials and finish from damage until substantial completion.

3.6   SCHEDULES

        A.   Refer to Air Curtain Schedule appended to this section.

<div align="center">END OF SECTION</div>

Reference Links

Link	Description
https://marsair.com/	**Main website**
https://marsair.com/document-library	**Submittals for all Mars Air Curtains, Accessories, Installation, Brochures**
https://marsair.com/Content/Downloads/CSISpecs/STD2-Packaged-HEPAC-CSI-Spec.doc	**STD2-HCP Series CSI spec (Word doc)**