

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.

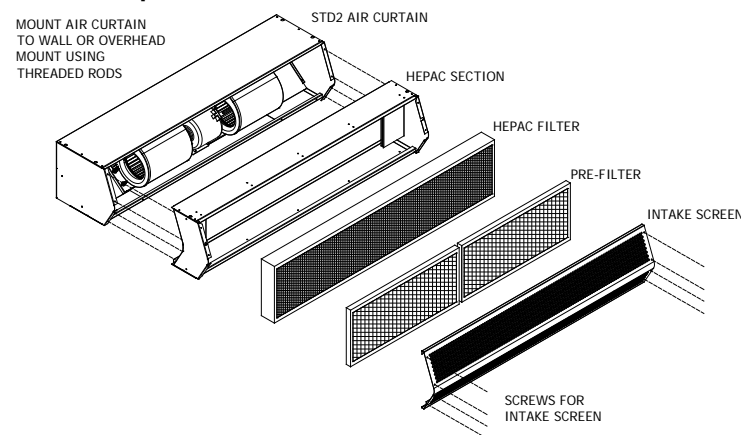
FIELD INSTALLED HEPAC AND UVC SECTION

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.

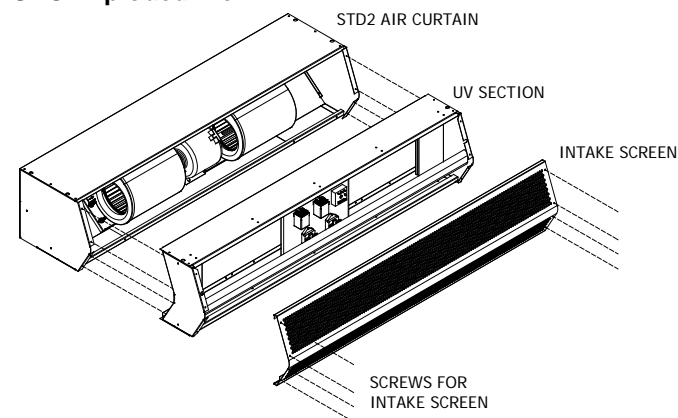
For the HEPAC section, the unit should set at the highest speed for multiple speed motors. No additional wiring is required for the HEPAC section.

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.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
NO AIR BLOWING OUT OF DISCHARGE NOZZLE	<ul style="list-style-type: none"> - No power being supplied to the unit from the electrical power source - Circuit breaker is tripped - Blown fuses on power supply - Motor overload is open or tripped - Motor contactor / relay defective (if applicable) - Failed switch 	<ul style="list-style-type: none"> - Confirm power source / check if in on position - Reset circuit breaker - Replace fuses - Allow the motor to cool down; motor has auto reset internal overload; if unit is panel equipped, press reset button on overload inside panel, or replace motor overload if overload remains tripped - Check voltage to coil; check contacts to see if they are pulling in - Replace or repair limit switch
MOTOR IS RUNNING BUT FANS ARE NOT SPINNING	<ul style="list-style-type: none"> - Loose or broken coupling (belt drive) - Loose set screws on wheel hubs - Fan spinning inside fan housing - Broken fan hub 	<ul style="list-style-type: none"> - Replace or tighten coupling - Tighten set screws on motor shaft flats - Tighten fan on shaft or replace fan - Replace fan wheels
ELECTRICAL CONTROLS NOT WORKING WHEN DOOR IS OPEN	<ul style="list-style-type: none"> - Switch is in off position - Door limit switch is not operating 	<ul style="list-style-type: none"> - Turn unit's switch to the on position - Repair or replace door limit switch
UNIT WILL NOT TURN OFF	<ul style="list-style-type: none"> - Door limit switch is permanently closed or energized 	<ul style="list-style-type: none"> - Position the door switch in a manner that turns off the unit when the door closes and turns on the unit when the door opens. Only light pressure required.
LOW AIR FLOW	<ul style="list-style-type: none"> - Discharge air vanes out of adjustment - Obstruction on intake or discharge - Power leads out of polarity - Blower motor rotating below normal speed - Fan rubbing against housing - Blower wheels clogged with dirt 	<ul style="list-style-type: none"> - Adjust vanes to proper position (Refer to Start-Up Section in this manual) - Remove obstruction or move air curtain - Switch power leads to correct polarity (3 phase models only) - Apply proper voltage per unit requirement (see unit label) / Adjust adjustable motor speed knob (if applicable) - Free fan from housing - Clean and remove dirt from blower wheels
EXCESSIVE AIR VELOCITY AT DOOR OPENING	<ul style="list-style-type: none"> - Nozzle out of adjustment and not angled far out enough (BD only) - Air temperature too cold - Air stream pushing air outside of the building 	<ul style="list-style-type: none"> - Adjust nozzle angle to outside - Add auxiliary heat to overcome wind chill - Adjust discharge angle back into building
AIR NOT HITTING THE FLOOR	<ul style="list-style-type: none"> - Low air velocity - Obstruction in the direction of air flow - Negative building pressure 	<ul style="list-style-type: none"> - Adjust vanes to proper position or check installation height (Refer to Start-Up Section in this manual) - Remove obstruction or move air curtain (Move out 3/8" for every 1" up from the door) - Provide a make-up air system to relieve negative building pressure
UNEVEN AIR	<ul style="list-style-type: none"> - Shaft rotating inside fan - One motor not functioning 	<ul style="list-style-type: none"> - Replace fan or tighten fan on shaft - Replace or repair motor
EXCESSIVE NOISE AND OR VIBRATION	<ul style="list-style-type: none"> - Loose or broken coupling (belt drive) - Loose set screws on wheel hubs - Fan spinning inside fan housing - Broken fan hub - Bearing end caps worn - Damaged blower wheel - Bearing end caps worn - Pillow block bearings make noise - Balancing clips missing 	<ul style="list-style-type: none"> - Replace or tighten coupling - Tighten set screws on motor shaft flats - Tighten fan on shaft or replace fan - Replace fan wheels - Replace Bearing end caps - Replace Blower Wheel - Replace Bearing end caps - Grease Bearing - Replace Blower Wheel

TROUBLESHOOTING MOTOR

To determine if the motor is in good operating condition, compare measured motor resistance at the motor terminals to the values shown below.

MARS MOTOR RESISTANCE READINGS												
Single Phase Motors												
<div> atmosphere is everything</div>										MOTOR WIRES OR TERMINAL (T) OHM READINGS		
										High Speed (1750)	Medium Speed (1650)	Low Speed (1450)
Applicable Air Curtain Series	Mars Part #	Manufacturer Part #	Brand	Motor Rating	HP	Voltage	Phase	Capacitor Rating	Motor Frame	Black Motor Wire & White Motor Wire	-	-
LPV2, LPN2	03-001	7190-1682	Fasco	Nema 1	1/6	115	1	5 µF 370Vac	-	11.5	-	-
	03-002	7190-1903	Fasco	Nema 1	1/6	115	1	5 µF 370Vac	-	8.4	-	-
	03-003	7190-1825	Fasco	Nema 1	1/6	230	1	4 µF 440Vac	-	64	-	-
	03-004	7190-1904	Fasco	Nema 1	1/6	230	1	6 µF 370Vac	-	44.6	-	-
	03-124	7190-3307	Fasco	Nema 1	1/6	115/230	1	10 µF 370Vac	-	8.2/36	-	-
	03-124	K33NVDHU-1446	US	Nema 1	1/6	115/230	1	10 µF 370Vac	-	8.1/32	-	-
Applicable Air Curtain Series	Mars Part #	Manufacturer Part #	Brand	Motor Rating	HP	Voltage	Phase	Capacitor Rating	Motor Frame	White Motor Wire (T1) & Black Motor Wire (T3)	White Motor Wire (T1) & Black Motor Wire (T5)	White Motor Wire (T1) & Black Motor Wire (T2)
STD2, N2, PH10, QP10	03-010	34G928X169	Baldor	Washdown (IP54)	1/2	115	1	-	56Z	1.2	-	-
	03-010	34G928X169	Baldor	Washdown (IP54)	1/2	208/230	1	-	56Z	4.6	-	-
	03-005	7124-1175	Genteq	Nema 1	1/2	115	1	7.5 µF 370Vac	48	2.6	3.8	5.2
	03-006	7124-1560	Genteq	Nema 1	1/2	208/230	1	10 µF 370Vac	48	9.9	15.9	22.5
	03-007	48S17T439	Marathon	Nema 1	1/2	277	1	-	48Z	7.7	-	-
	03-005	K055PWM1736C13H	Nidec	Nema 1	1/2	115	1	10 µF 370Vac	48Y	2.1	3.7	5.2
	03-005	K055PWM1736C13H	US	Nema 1	1/2	115	1	10 µF 370Vac	48Y	5.3	3.7	5.4
	03-006	K55HXPNA-2845	US	Nema 1	1/2	208/230	1	10 µF 370Vac	48Y	8.7	18.2	24.2
Applicable Air Curtain Series	Mars Part #	Manufacturer Part #	Brand	Motor Rating	HP	Voltage	Phase	Capacitor Rating	Motor Frame	White Motor Wire (T1) & Black Motor Wire (T2)	White Motor Wire (T1) & Black Motor Wire (T3)	-
HV2, NH2, PH12	03-021	35T276R025G1	Baldor	Washdown (IP54)	1	115	1	-	56Z	0.7	-	-
	03-015-Baldor	35M316S174	Baldor	Nema 1	1	115	1	-	56Z	0.6	-	-
	03-015-Baldor	35M316S174	Baldor	Nema 1	1	208/230	1	-	56Z	2.2	-	-
	03-021	35T276R025G1	Baldor	Washdown (IP54)	1	208/230	1	-	56Z	2.8	-	-
	03-014	7124-0985	Genteq	Nema 1	1	115	1	50 µF 370Vac	56	1.6	2.4	-
	03-015	7124-1096	Genteq	Nema 1	1	208/230	1	30 µF 370Vac	56	6.5	9.2	-
	03-015	-	Nidec	Nema 1	1	208/230	1	20 µF 370Vac	48Y	4.3	6.5	-
	03-014	K55BWJZB-2362	US	Nema 1	1	115	1	20 µF 370Vac	48Y	1	2.1	-
	03-015	-	US	Nema 1	1	208/230	1	20 µF 370Vac	48Y	3.2	6.3	-
Three Phase Motors												
Applicable Air Curtain Series	Mars Part #	Manufacturer Part #	Brand	Motor Rating	HP	Voltage	Phase	Motor Frame	LEAD WIRE OHM READINGS			
									Black Motor Wire (L1) & Red Motor Wire (L2)	Black Motor Wire (L1) & White Motor Wire (L3)	Red Motor Wire (L2) & White Motor Wire (L3)	
STD2, N2, PH10, QP10	03-008	P55YDHB-1527	US	Nema 1	1/2	208-230	3	48	16.1	16.1	16.1	
	03-008	P55YDHB-1527	US	Nema 1	1/2	460	3	48	63.6	63.6	63.6	
	03-009	48T17T135	Marathon	Nema 1	1/2	575	3	48	136	136	136	
HV2, NH2, PH12	03-017	56T17T5541	Marathon	Nema 1	1	208-230	3	56Z	4.3	4.3	4.3	
	03-017	56T17T5541	Marathon	Nema 1	1	460	3	56Z	16.5	16.5	16.5	
	03-018	56T17T5544	Marathon	Nema 1	1	575	3	56Z	26.6	26.6	26.6	
	03-022	35N127S902	Baldor	Washdown (IP54)	1	208-230	3	56Z	5.1	5.1	5.1	
	03-022	35N127S902	Baldor	Washdown (IP54)	1	460	3	56Z	19.8	19.8	19.8	
	03-026	165716	Century	Nema 1	3	208-230	3	U56Y	1.5	1.5	1.5	
EP2	03-026	165716	Century	Nema 1	3	460	3	U56Y	5.7	5.7	5.7	
	03-026	P63TYFMJ-1687	US	Nema 1	3	208-230	3	56HZ	1.2	1.2	1.2	
	03-026	P63TYFMJ-1687	US	Nema 1	3	460	3	56HZ	4.4	4.4	4.4	
	03-028	35E92Y26	Baldor	Nema 1	3	575	3	56Z	9.2	9.2	9.2	
	03-110	36H110-2211G1	Baldor	Nema 1	1,2,3	208-230	3	184Z	3.5	3.5	3.5	
WMI	03-110	36H110-2211G1	Baldor	Nema 1	1,2,3	460	3	184Z	13.5	13.5	13.5	
	WMH	03-055	37F932W828G1	Baldor	Nema 1	5	230	3	215YZ	0.7	0.7	0.7
03-055		37F932W828G1	Baldor	Nema 1	5	460	3	215YZ	2.4	2.4	2.4	
03-046		37F909X889G1	Baldor	Nema 1	7	230	3	215YZ	0.6	0.6	0.6	
03-046		37F909X889G1	Baldor	Nema 1	7	460	3	215YZ	1.6	1.6	1.6	
BD	03-033	U639A - 215TFFC6027	Marathon	Nema 1	10	208-230	3	215T	0.4	0.4	0.4	
	03-033	U639A - 215TFFC6027	Marathon	Nema 1	10	460	3	215T	1.2	1.2	1.2	
	03-074	GT1128A 170118.60	Marathon	Nema 1	25	575	3	284TS	0.5	0.5	0.5	

WARRANTY

Mars' warranty coverage, period, extent, and limitations apply to the product only. It does not apply to labor. Mars warrants that the Mars product 1) is free from defects in materials and workmanship, and 2) conforms to Mars' published specifications. The warranty period for Mars products (except for heated models, custom models, or WMI, WMH and BD models) is a five (5) year period commencing on the date of shipment. The warranty for heated models is an eighteen (18) month period, the warranty for custom models and for accessories is a twelve (12) month period, and the warranty for WMI, WMH, and BD models is a twelve (12) month period. The date on the customer's invoice is the date of shipment unless Mars or your reseller informs you and Mars otherwise. Mars will provide free replacement of any part that fails as a result of a defect in material or manufacturer's workmanship. Changes in operational specification parameters that differ from those provided on the original purchase order are not covered. Mars products are inspected and tested before packaging and are shipped in working condition. The warranty for Mars products only covers free-of-charge replacement of failed parts. The warranty does not cover labor and transportation expenses that may be required to deliver and to install replacement parts. Because in many instances it is impossible to determine the cause of failure, the customer may be responsible for transportation charges associated with replacement of failed part. Mars does not warrant uninterrupted or error-free operation of Mars product. Under no circumstance is Mars liable for any of the following: 1) third-party claims against you for damages, 2) special, incidental, or indirect damages, or 3) any economic consequential damages (including lost profits and savings), regardless of whether Mars, its suppliers, or its resellers were informed of the possibility of damages. The warranty does not cover repair or exchange of Mars products resulting from misuse, accidental damage, modification, unsuitable physical or operating environment, improper maintenance or installation by customer, or failure caused by a product for which Mars is not responsible. The warranty does not cover damages caused by mishandling during transportation. The warranty is voided by removal or alteration of Mars product or parts identification labels, and by improper installation of product and resulting non-compliance with federal, state, and local codes and regulations. Additionally, Mars reserves the right to void the warranty for non-payment of invoice.

CONTACT FACTORY FOR COMPLETE PARTS LIST FOR ALL MODELS.

KEEP THIS MANUAL FOR YOUR RECORDS.

Model Number: _____

Serial Number: _____

Date Purchased: _____

Dealer Purchased From: _____



atmosphere is everything

14716 S. Broadway St., Gardena, CA 90248

(310) 532-1555 • (800) 421-1266

Fax: (310) 324-3030

Please go to our website at www.marsair.com for a downloadable version of this document.