

TRION, Inc.

Mist Arrestor 3 Stage Mist Collector MA600 and MA1200

- **INSTALLATION**
- **OPERATION**
- **SERVICE**

Please read these instructions carefully for trouble free operation and to get the most of your purchase. For further information concerning this product, contact your local Trion representative.

**Media Air Cleaning Systems
for Commercial and Industrial Applications**



A **FEDDERS**® ENGINEERED PRODUCTS COMPANY

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SPECIFICATIONS

Air Handling Capacities

- MA600 - 600 CFM @ 6.0" total static pressure
- MA1200 - 1200 CFM @ 6.0" total static pressure

Power Requirements

- MA600 - 208-230/60Hz/3 Ph – 7.2 Amps
- 460V/60Hz/ 3 Ph – 3.6 Amps
- MA1200 - 208-230/60Hz/3 Ph – 10.0 Amps
- 460V/60Hz/ 3 Ph – 5.0 Amps

Controls

Motor Starter is NOT provided by Trion.

Module Dimensions and Weights

See Figure 1 and Figure 2.

Prefilter:

Washable 12-Layer Coalescing Filter – 99% efficient @ 2+ micron size.

- 12" x 12" x 4" (300 x 300 x 100mm)
1 each-MA600 (2 each for MA1200)

Secondary Filter:

Washable 7-layer Coalescing Filter – 99% efficient @10+ micron size.

- 12" x 24" x 5.5" (300 x 600 x 140mm)
1 each-MA600 (2 each for MA1200)

Final Filter:

Mini-Pleat Extended Surface Filter, 98% ASHRAE, 194 sq.ft. media.

- 12" x 24" x 12" (292 x 592 x 292mm)
1 each for MA600
- 24" x 24" x 12" (592 x 592 x 292mm)
1 each for MA1200

PRINCIPLES OF OPERATION

The TRION Mist Arrestor, 3-Stage Mist Collector consists of a combination of the following components to comprise a high efficiency air filtration system:

1. An Inlet Plenum
2. Prefilter agglomerator media to coalesce 2 micron size particles into 10+ micron size particles.
3. Secondary filter agglomerator to coalesce 10 micron size particles and drain off to drain connection

4. Final Extended Surface Filter to provide final polishing of air-98% Ashrae Efficiency.
5. Direct Drive Centrifugal Blower compartment
6. Electrical wiring (to external junction box)

The air in any room or manufacturing facility contains millions of particles of contaminants. The composition of the contaminants will vary depending on the environment. The contaminants may be in the form of smoke, airborne dirt from outside, small particles of grease, mist, or moisture. The size of the particles (or particulate) will range from as little as 0.03 microns to anything large enough to remain airborne in the air. (A micron is one millionth of a meter.)

When the unit is powered, the blower begins moving the air through the filter sections. The pre-filter collects and agglomerates the contaminants that are 2 micron size and larger into particles larger than 10 microns. The air then enters the secondary filter where the contaminants or mist is collected and further agglomerated and drained to the cabinet drain connection, thus extending the life of the primary filter. The final filter is a 98% Ashrae Mini-Pleat filter to perform final filtration. The cleaned air then passes through the blower back into the room.

NEW UNIT INSPECTION

Immediately upon receiving the unit, carefully examine the crate for damage during transit. If unit is damaged, file a claim with the last carrier and contact your local TRION representative.

The following are guidelines for installation. However, alternate methods may be equally adequate.

PREPARATION & INSTALLATION

This manual should be carefully read before starting the preparation and installation of the air cleaner.

CAUTION:

ANY MOUNTING ARRANGEMENT MUST BE ABLE TO SUPPORT THE WEIGHT OF THE COMPLETE SYSTEM. FAILURE TO DETERMINE IF MOUNTING IS SUBSTANTIAL MAY RESULT IN DAMAGE OR INJURY IN THE AREA.

The installation should conform to all local ordinances associated with building codes and electrical codes required for the unit. Authorities having jurisdiction

should be consulted before installation is complete. If there are no local codes, the installation should conform to the National Electrical Code.

For maximum air cleaning efficiency, your air cleaner should be located as specified by your local TRION representative.

The unit can be floor or deck mounted, or suspended by chain or threaded rod and trapeze frame (BY OTHERS).

SUSPENSION MOUNTING

Each Mist Arrestor System includes three horizontal cabinet crossmember rails positioned at load bearing planes and extending from front or back of cabinet.

Refer to Figure 1 and 2 for the location of the cabinet crossmember rails.

CAUTION:
REFER TO THE SPECIFICATIONS DATA TABLE, FIGURE 3, TO ENSURE THAT THE SUPPORTING STRUCTURE IS ADEQUATELY RATED FOR THE WEIGHT OF THE UNIT ASSEMBLY.

1. Remove the filter assemblies from the unit to reduce the weight to be lifted.
2. Lift unit into position and support with appropriate trapeze frame and hardware.
3. Adjust the unit as required so that it is in a near-level position.
4. Secure the hardware.
5. Reinstall the pre-filter and primary filter assemblies.

For alternate installation methods, contact your local TRION representative.

CAUTION:
DO NOT TAKE CHANCES. IF YOU ARE UNSURE ABOUT THE PRECEEDING METHOD OR ANY OTHER METHOD. STOP THE INSTALLATION UNTIL YOU ARE SATISFIED THAT THE METHOD OR PROCEDURE IS CORRECT.

WIRING

The Blower compartment is supplied with an externally mounted junction box and is factory wired for 460/60/3 input power. The motor voltage can be changed to 208 Or 230/60/3 at the motor junction box. The unit data label (supplied in literature package) is to be marked for application voltage and affixed adjacent to the unit junction box. **Switches and motor starters are not supplied with the unit although motor starters are offered as an accessory for field unit or remote mounting.** All wiring must meet local National Electrical Codes.

UNIT OPERATION

After all wiring has been completed, turn the unit on at the motor starter. Note the rotation of the blower wheel. Correct rotation can be confirmed by comparing wheel rotation during coast down with rotation direction label inside the final filter access door. If the rotation is backward, it must be changed to achieve proper airflow.

Three-phase power motor rotation can be changed by switching any two legs of the input voltage.

MAINTENANCE

Precision equipment such as your TRION Air Cleaner will require a minimum amount of maintenance to keep it in good operating condition. You can perform all normal preventative maintenance, or your local TRION representative may offer maintenance and cleaning contract at a nominal charge. Contact Trion for details.

CAUTION:
ALWAYS DISCONNECT THE POWER SOURCE BEFORE WORKING ON OR NEAR THE MOTOR OR ITS WIRING ASSEMBLY. IF THE POWER DISCONNECT POINT IS OUT OF SIGHT, LOCK IT IN THE PROPER POSITION AND TAG TO PREVENT UNEXPECTED APPLICATION OF POWER.

The pre-filters, secondary filters, and final filters are accessible through side access doors allowing simple, fast replacement. The blower compartment also has side access doors and in addition have bolt on panels on the end of the unit to allow full access to the blower and motor.

Filters are changed according to the pressure across the filter. Filter change gauges are supplied with the unit as standard equipment.

The Mist Arrestor pre-filters and secondary filters are washable media and can be reused for many years. The primary filter is NOT washable and must be replaced when it reaches the recommended final static pressure reading. Failure to replace the filter at the specified reading will result in a progressive loss of airflow and reduced efficiency.

**PRESSURE DROP
(INCHES OF WATER COLUMN)**

Filter	Filters Clean	Recommended Final
Pre & Secondary	3.15	5.25
Final	0.5	2.0

NOTE: These readings will vary slightly due to altitude and temperature.

Upon installation of the unit, note the initial pressure reading. Check daily and perform manual cleaning of the pre-filter and secondary filter at the reading shown in the Table. Cleaning can be accomplished using a LOW pressure cleaning device with detergents or soaking in a detergent bath and then rinsing. Re-install the filters and the pressure should return to near the initial pressure reading.

Once a filter cleaning pattern has been established, the pre-filter can be cleaned on a calendar basis with the final filter being replaced when the gauge reads as "Recommended Final" in the Table. For example, if the unit takes six weeks to go from 3.15 to 5.25, the pre-filter & secondary filter would then be cleaned every six weeks. The final filter would then be replaced when it reaches the 2.0" wg reading.

NOTE: The final mini-pleat filter CANNOT be cleaned and must be replaced when dirty. Contact your local Trion representative for replacement filters.

CLEANING & INSPECTION OF CABINET

CAUTION:
TO CHECK INTERNAL COMPONENTS,
TURN UNIT POWER OFF.

After the dirty components have been removed, an inspection of the cabinet should be made. Remove all foreign debris and dirt accumulation inside the cabinet. Check for dirt accumulation on the blower wheel blades and clean if there is a buildup. Inspect all wiring for loose connections and cracked insulation.

Bearings on the blower motor should be checked for sign of unusual wear.

Models having motors with oil cups require periodic inspection. Use SAE-20 non-detergent motor oil every six months. Motors with ball bearings do not require lubrication. Rubber gasketing should be checked twice a year. Aging occurs primarily due to ozone present in ambient air and eventually hardens the rubber and causes cracking and loss of seal. Contact your local TRION representative for replacement.

TROUBLESHOOTING

CAUTION:
TO CHECK INTERNAL COMPONENTS,
TURN UNIT POWER OFF.

All TRION Air Cleaners are manufactured to give the user continued trouble-free service. However, as with all mechanical equipment, breakdowns can occur.

Refer to the Replacement Parts Tables for replacement parts.

Before troubleshooting the unit, refer to the wiring diagram, (located inside motor junction box) check for proper wiring connections, input line voltage and presence of input power.

ORDERING REPLACEMENT PARTS

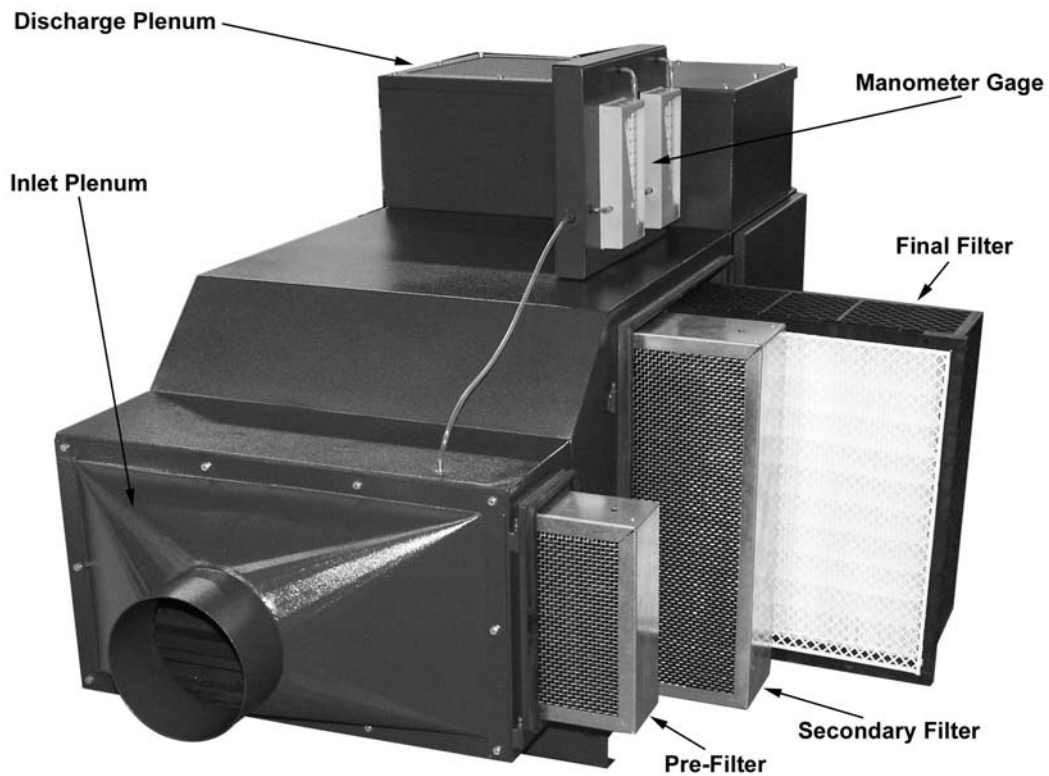
The following pages contain views for the various modules. Use these pages to determine the part numbers of items that are needed.

To order repair parts, contact your local TRION representative, or:

TRION, Inc.
101 McNeill Road
Sanford, NC 27330
800-884-0002

REPLACEMENT PARTS

Part Number	Description
<u>MA600 Unit</u>	
356329-001	Mist Arrestor Filter 12x12x4" – Pre-Filter
356329-003	Mist Arrestor Filter 12x24x5.5" –Secondary Filter
346618-025	Mini-Pleated Extended Final Filter 12x24x12"
<u>MA1200 Unit</u>	
356329-001	Mist Arrestor Filter 12x12x4" – Pre-Filter (2 required)
356329-003	Mist Arrestor Filter 12x24x5.5" – Secondary Filter (2 required)
346618-005	Mini-Pleated Extended Final Filter 24x24x12"



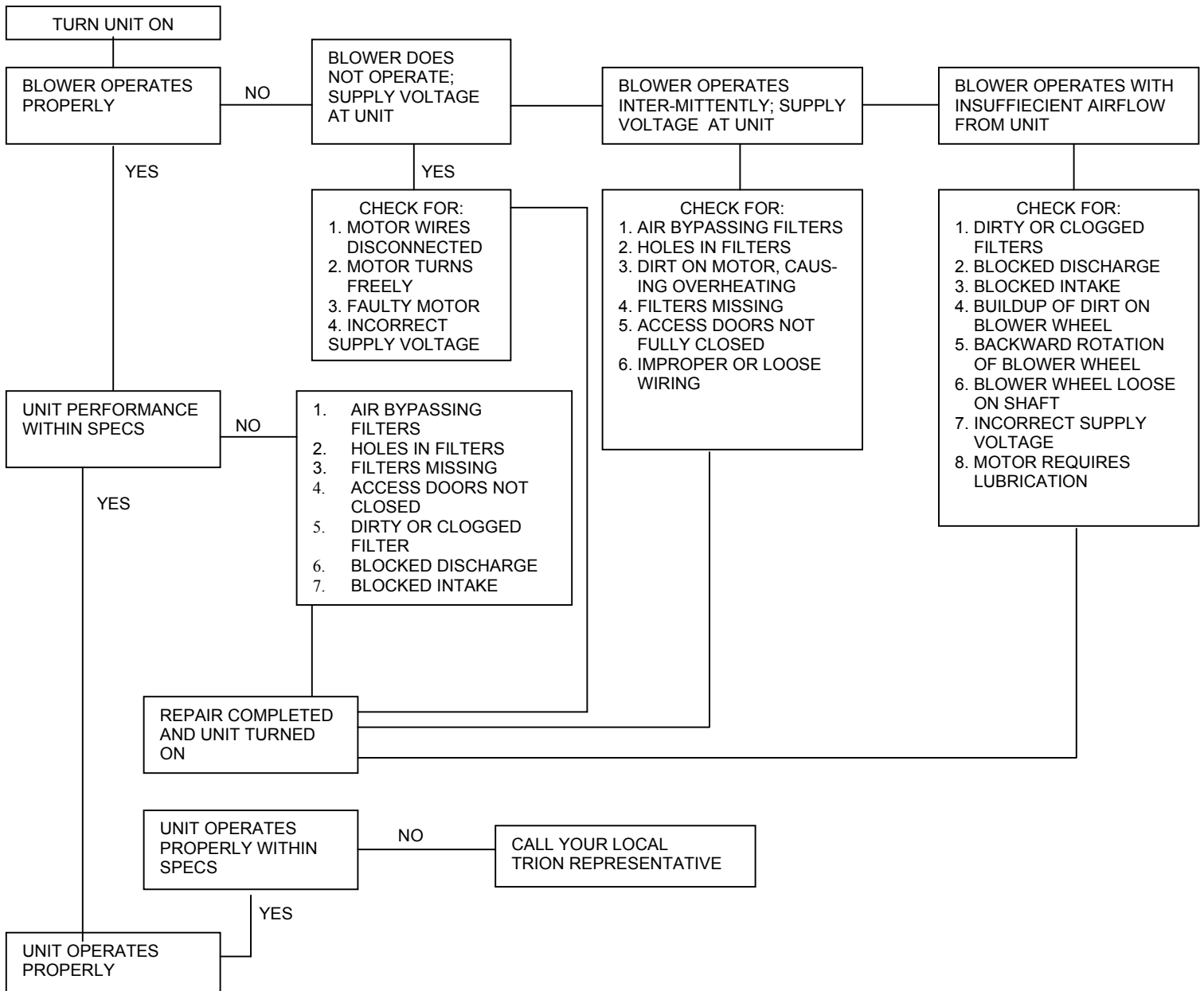
MA 1200 Unit Details

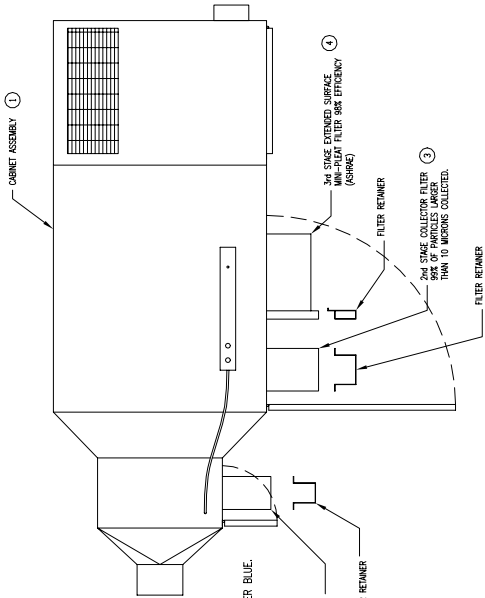
The following information will be required to ensure accuracy in supplying your repair parts:

- Item**
1. Unit Model Number
 2. Part Number & Description

Located
 Data label adjacent to Junction box on Blower Compartment
 Replacement Parts - Page 6
 MA600 Outline - Fig. 1
 MA1200 Outline – Fig. 2

TROUBLESHOOTING PROCEDURE



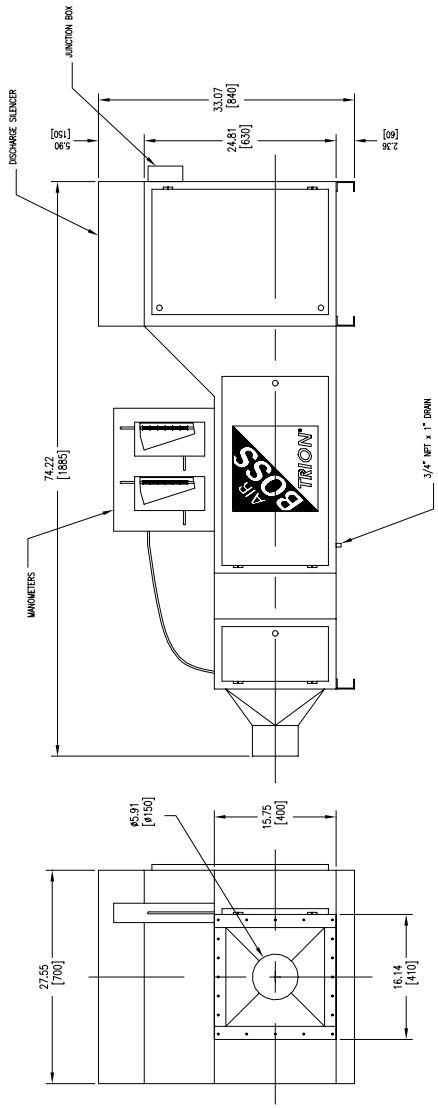


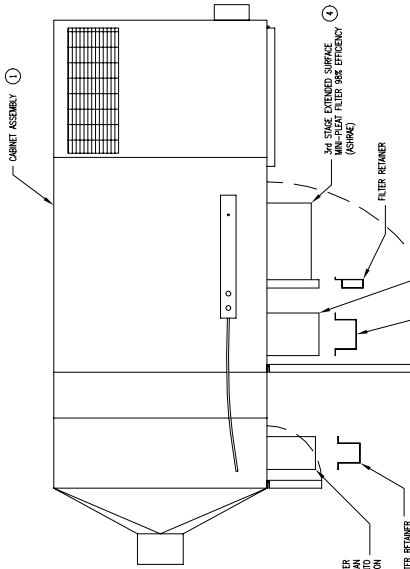
MA 600
 P/N 356211-001
 MOTOR: 3 HP - 208-230/460 VOLT/60 HERTZ/3 PHASE - WIRED 460/60/3
 DISC: 2.5" (63.5)
 MISC. FILTERS (COMPLETE)
 PERFORMANCE (WITH FILTERS): 600 CFM WITH 4.0 IN. W.G. EXTERNAL STATIC PRESSURE
 CABINET CONSTRUCTION: 16 GA. CARBON STEEL PAINTED OIL RESISTANT TEXTURED REVERSE HAMMER BLUE.

① 1st STAGE COLLECTOR FILTER
 99% OF AEROSOLS LARGER THAN
 10 MICRONS ADMITTED AND
 PARTICLES GREATER THAN 10 MICRON
 FILTER RETAINER

② 2nd STAGE EXTENDED SURFACE
 HIGH-EFFICIENCY FILTER 98% EFFICIENCY
 (99.9%)
 FILTER RETAINER

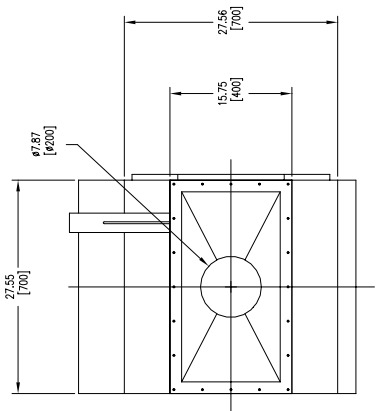
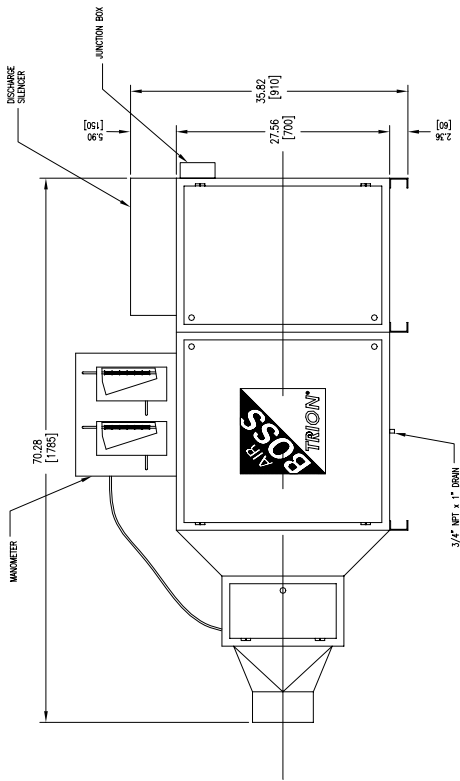
ITEM #	PART NO.	DESCRIPTION	REMARKS
1	356211-001	MA 600 CABINET ASSEMBLY	
2	356219-001	MISC. FILTERS (COMPLETE)	
3	356209-001	MISC. AIRSTOPPER FILTER	12 x 12 x 4
4	346818-001	MISC. FILTER FILTER	12 x 24 x 5.5
4	346818-002	MISC. FILTER FILTER	12 x 24 x 1.2





MA 1200
 P/N 356211-002
 MOTOR: 4 HP - 208-230/460 VOLT/60 HERTZ/3 PHASE - WIRED 460/60/3
 NOISE: 75 dBA
 WEIGHT: 437 LBS. (COMPLETE)
 HEIGHT: 1200 CM WITH 5.2 IN. W.G. EXTERNAL STATIC PRESSURE.
 FILTERS: 15 G4 CARBON STEEL PAINTED OIL RESISTANT TEXTURED HAMMER BLUE.
 CABINET CONSTRUCTION: 16 GA CARBON STEEL PAINTED OIL RESISTANT TEXTURED HAMMER BLUE.

ITEM	PART NO.	DESCRIPTION	QUANTITY	REMARKS
1	356211-001	MA 1200 CABINET ASSEMBLY	1	
2	356039-001	1ST AGGLOMERATOR FILTER	12 X 12 X 4 (2 REQ'D)	
3	356039-003	2ND AGGLOMERATOR FILTER	12 X 24 X 5.5 (2 REQ'D)	
4	346818-005	3RD STAGE FILTER	12 X 24 X 12	



MA1200 OUTLINE
 FIG 2

**TRION AIR BOSS Mist Arrestor 3-Stage Mist Collector
Specifications Data Table**

	<u>MA 600</u>	<u>MA 1200</u>
Dimensions:	74.2" L x 27.6 " W x 333.1" H 1885mm x 700mm x 840mm	70.3" L x 27.6 " W x 35.8" H 1785mm x 700mm 910mm
Weight:	331 lbs/ 150 kg	437 lbs/ 198 kg
Motor:	3 Hp / 2.2kw	4 Hp / 3.0kw
Amp Draw:	208V – 8.8 amps 230V – 7.9 amps 460V – 4.0 amps	208V – 11.9 amps 230V – 10.7 amps 460V - 5.4 amps
Air Inlet	Single 6" Diameter	Single 8" Diameter
Air Volume:	600 CFM @ 6.0" SP	1200 CFM @ 6.0" SP
Sound Rating:	72 dBa	72 dBa
Filters:		
<u>Prefilter</u>	Washable 12 Layer Coalescing Filter-99% @ 2 micron size + Initial Resistance: 2.75" w.g. Final Resistance: 4.0" w.g. 12" x 12" x 4.0" 295 x 295 x 80mm	12" x 24" x 4.0" 295 x 595 x 80mm
<u>Secondary</u>	Washable 7 Layer Coalescing Filter-99% @ 10 micron size + Initial Resistance: 0.4" w.g. Final Resistance: 1.25" w.g. 12" x 24" x 5.5" 295 x 595 x 150mm	24" x 24" x 5.5" 595 x 595 x 150mm
<u>Primary</u>	Mini-Pleat Extended Surface Filter, 98% Ashrae, 194 sq.ft. media Initial Resistance: 0..56" w.g. Final Resistance: 2.0" w.g., Class 2 12" x 24" x 12" 292 x 592 x 292mm	24" x 24" x 12" 592 x 592 x 292mm

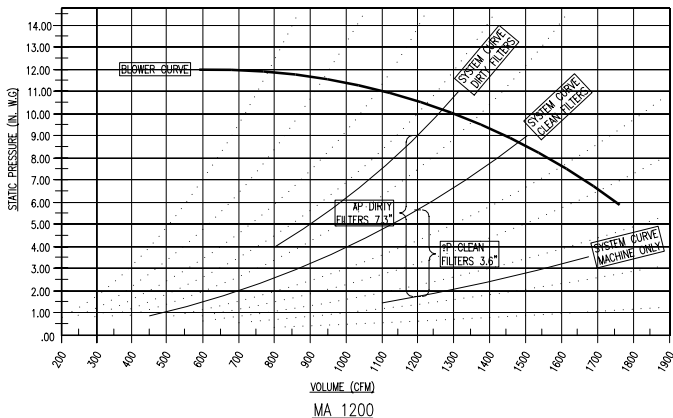
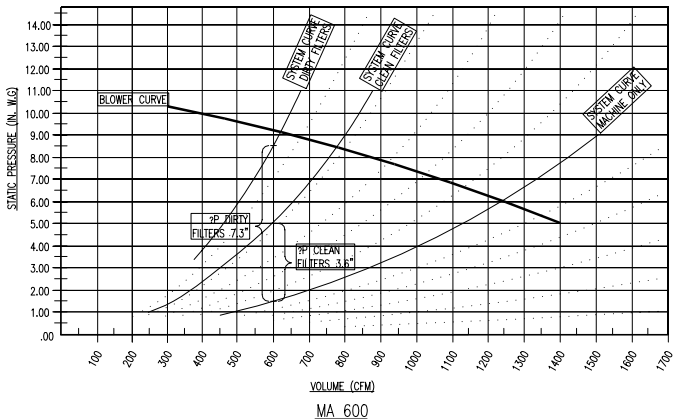
Common Specifications:

Cabinet:	16 gauge Galvanized Steel
Doors:	Gasket sealed, Hinged Access doors on primary, secondary and final filters and blower access compartment.
Drain:	3 / 4" NPT x 2" centered behind secondary filter
Finish:	Textured Reverse Blue, Baked on Oil Resistant Paint
Installation:	Ducted to Platform or Frame Mounted
Manometer Gage:	Installed with 2 each Manometer Pressure Gage Kit, 0-6.4" wg
Electrical:	208-230/460V/60Hz/3 PH, junction box provided
Blower:	Direct Drive centrifugal
Blower Access:	Removable Rear Panel and side access door

Options:

Controls:	Motor Starter provided by Customer
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FIG. 3



PERFORMANCE & BLOWER CURVES

FIG. 4

Warranty

Trion Air Cleaner Limited Three-Year Warranty:

This limited warranty covers Trion Air Cleaners, excluding replacement filters, ductwork, wiring, and installation.

Trion Inc. warrants that all new Trion Air Cleaners are free from defects in material and workmanship under normal use and service. Trion will remedy any such defects if they appear within 36 months from the manufacturing date code, subject to the terms and conditions of this Limited three-year Warranty stated below:

1. This Limited Three-Year Warranty is granted by Trion Inc., 101 McNeill Road, Sanford, North Carolina, 27330.
2. This warranty shall extend only to any owner who has purchased the air cleaner other than for purposes of resale.
3. All components are covered by this limited warranty except expendable items such as prefilters, main filters, HEPA filters, and adsorber (gas/odor) trays.
4. If within the warranty period any Trion air cleaner unit or component requires service, a distributor or Trion service representative must perform the service. Trion Inc. will not pay shipping charges or labor charges to remove or replace such defective parts or components. If the part of component is found by inspection to contain such defective mater and workmanship, it will be either repaired or exchanged free of charge at Trion's option and returned freight collect.
5. In order to obtain the benefits of this limited three-year warranty, the owner must notify the distributor or Trion in writing of any defect within 30 days of its discovery. If after reasonable time you have not received an adequate response from the distributor or Trion, notify Trion, in writing, attention Customer Service Department. Trion will receive, freight prepaid, only removable parts or components of such defective air cleaners.
6. This limited warranty does not apply to any part or component that is damaged in transit; when handling, has been subject to misuse, neglect or accident; has not been installed, operated, and serviced according to Trion's instruction; has been operated beyond the factory rated capacity, or altered in any such way that its performance is affected. There is no warranty due to neglect, alteration, or normal wear and tear. Trion's liability is limited to replacement of defective parts or components and does not include the payment of the cost of labor charges to remove or replace such defective components or parts.
7. Trion will not be responsible for loss of use of any product, loss of time, inconvenience, or any other indirect, incidental or consequential damages with respect to person or property, whether as a result of breach or warranty, neglect, or otherwise. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE LIMITATION OR EXCLUSION IN THE PRECEDING SENTENCE MAY NOT APPLY TO YOU.
8. THIS WARRANTY GIVES YOU SPECIFIC RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.
9. Any warranty work will be performed within a reasonable time, usually within 120 days after notice of defect and delivery to the Trion factory, subject to delay beyond Trion's control.
10. Any warranty by Trion of merchantability, fitness for use of any other warranty (express, implied, or statutory), representation or guarantee other than those set forth herein, shall expire at the expiration date of this express limited warranty. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG IMPLIED WARRANTY LASTS, SO THE LIMITATION IN THE PRECEDING SENTENCE MAY NOT APPLY TO YOU.
11. Trion reserves the right to make changes in the design and material of its products without incurring any obligation to incorporate such changes in units completed on the effective date of such change.