

martin®

Martin® ***Air Cleaner***

[Go to Martin® Air Cleaner web page](#)



Operator's Manual
M3918

Important

MARTIN ENGINEERING HEREBY DISCLAIMS ANY LIABILITY FOR: DAMAGE DUE TO CONTAMINATION OF THE MATERIAL; USER'S FAILURE TO INSPECT, MAINTAIN AND TAKE REASONABLE CARE OF THE EQUIPMENT; INJURIES OR DAMAGE RESULTING FROM USE OR APPLICATION OF THIS PRODUCT CONTRARY TO INSTRUCTIONS AND SPECIFICATIONS CONTAINED HEREIN. MARTIN ENGINEERING'S LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF EQUIPMENT SHOWN TO BE DEFECTIVE.

Observe all safety rules given herein along with owner and Government standards and regulations. Know and understand lockout/tagout procedures as defined by American National Standards Institute (ANSI) z244.1-1982, *American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements* and Occupational Safety and Health Administration (OSHA) Federal Register, Part IV, 29 CFR Part 1910, *Control of Hazardous Energy Source (Lockout/Tagout); Final Rule*.

The following symbols may be used in this manual:



Danger: Immediate hazards that will result in severe personal injury or death.



Warning: Hazards or unsafe practices that could result in personal injury.



Caution: Hazards or unsafe practices that could result in product or property damages.



Important: Instructions that must be followed to ensure proper installation/operation of equipment.



Note: General statements to assist the reader.

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General

The Martin[®] Air Cleaner is an automatic, reverse air dust filter designed to remove dust from the air in conveyor transfer points, silo vents, bucket elevators, and screens. The unit is made up of a group of filter elements mounted on a sealed frame. The elements are fitted side-by-side in an individual sealing arrangement that effectively separates the dirty (inlet) side of the filter from the clean (outlet) side. The elements are always removed for maintenance from the clean side of the filter.

This manual provides instructions for locating and installing the Martin[®] Air Cleaner at a conveyor transfer point or silo. For instructions on installing units on bucket elevators or screens, call Martin Engineering or a representative.

Location requirements for transfer point installations

To ensure the air cleaner's maximum effectiveness, make sure the transfer point is properly sealed and designed with dust control in mind, as follows:

- **Chute length:** For standard materials or belt speeds up to 250 fpm (1.3 m/s), the transfer point chute length should equal 2 ft per 100 fpm (210 mm per 0.5 m/s) of belt speed. For very dusty materials or belt speeds of 300 fpm (1.5 m/s) and higher, the chute length should equal 3 ft per 100 fpm (914 mm per 0.5 m/s) of belt speed. When in doubt, make the chute longer.
- **Chute height:** For standard materials or belt speeds up to 250 fpm (1.3 m/s), the chute wall should be at least 12 in. (305 mm) high. For very dusty materials or belt speeds of 300 fpm (1.5 m/s) and higher, it should be at least 24 in. (610 mm) high.
- **Distance from load zone:** Locate air cleaner as far from actual load zone as possible, and 1/3 of the chute length back from the chute exit point.

For best results, install a dust curtain at the exit of the chute. For information on transfer point wear liners and sealing systems, call Martin Engineering or a representative.

References

The following documents are referenced in this manual:

- American National Standards Institute (ANSI) z244.1-1982, *American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements*, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
- Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910, *Control of Hazardous Energy Source (Lockout/Tagout); Final Rule*, Department of Labor, Occupational Safety and Health Administration (OSHA), 32nd Floor, Room 3244, 230 South Dearborn Street, Chicago, IL 60604.
- Donaldson[®] Torit[®] Preventative Maintenance Schedule for DF, DFT, DFO, TD, HP, PJ, DLMC, Unicell, Maxcell Dust Collectors, Donaldson Company, Inc., June 2003.

Torit[®] PowerCore[®] is a registered trademark of Donaldson Company, Inc.
Ultra-Web[®] is a registered trademark of Donaldson Company, Inc.

Safety

All safety rules defined in the above documents and all owner/employer safety rules must be strictly followed when working on this equipment.

Materials required

In addition to standard hand tools, a hoist is required to install this equipment.

Before Installing Air Cleaner

IMPORTANT

The delivery service is responsible for damage occurring in transit. Martin Engineering CANNOT enter claims for damages. Contact your transportation agent for more information.

1. Inspect shipping container for damage. Report damage to delivery service immediately and fill out delivery service's claim form. Keep any damaged goods subject to examination.
2. Remove air cleaner from shipping container. Equipment in container should include air cleaner and controller.
3. If anything is missing, contact Martin Engineering or representative.

WARNING

Before installing equipment, turn off and lock out/tag out energy source to conveyor and conveyor accessories.

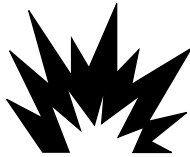
4. Turn off and lock out/tag out energy source according to ANSI standards (see "References").



WARNING

If equipment will be installed in an enclosed area, gas level or dust content must be tested before using a cutting torch or welding. Using a cutting torch or welding in an area with gas or dust may cause an explosion.

5. If using a cutting torch or welding, test atmosphere for gas level or dust content. Cover conveyor belt with fire retardant cover.



Installing Air Cleaner

NOTE

If you are unsure where to locate the air cleaner in relation to your conveyor system, contact Martin Engineering or a representative.

WARNING

The Martin® Air Cleaner is heavy and the use of a hoist or crane is highly recommended when lifting. See Figure 1 for weight specifications. Lift only from supplied lifting lugs to prevent damaging assembly. Lift before attaching blower.

IMPORTANT

Make sure conveyor belt structure and chutework will support air cleaner. See Figure 1 for weight specifications.

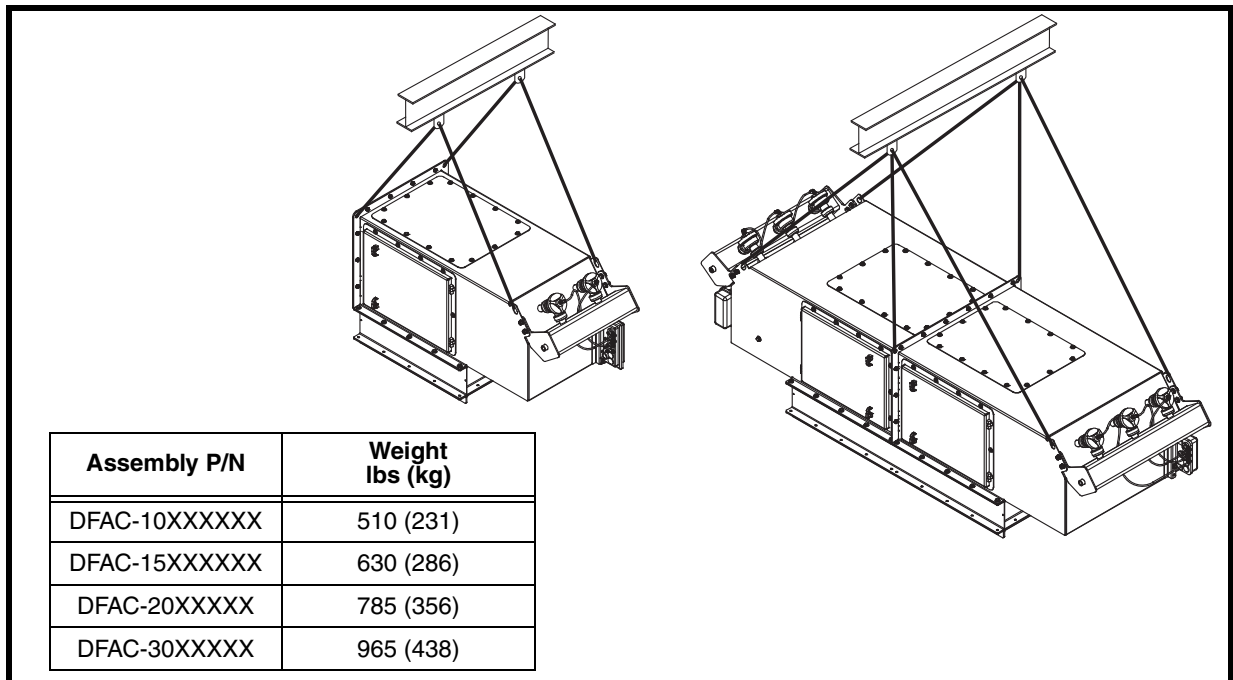
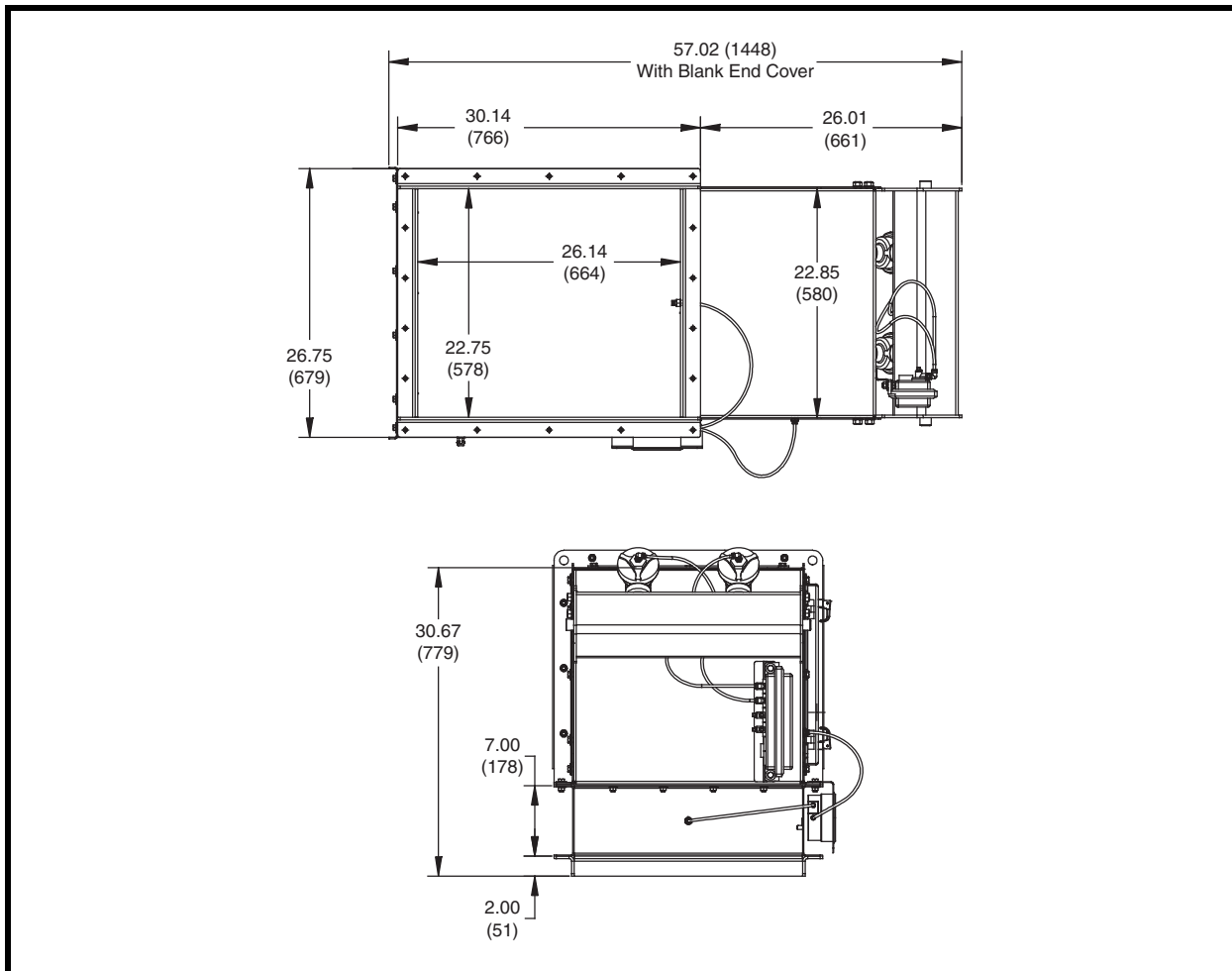


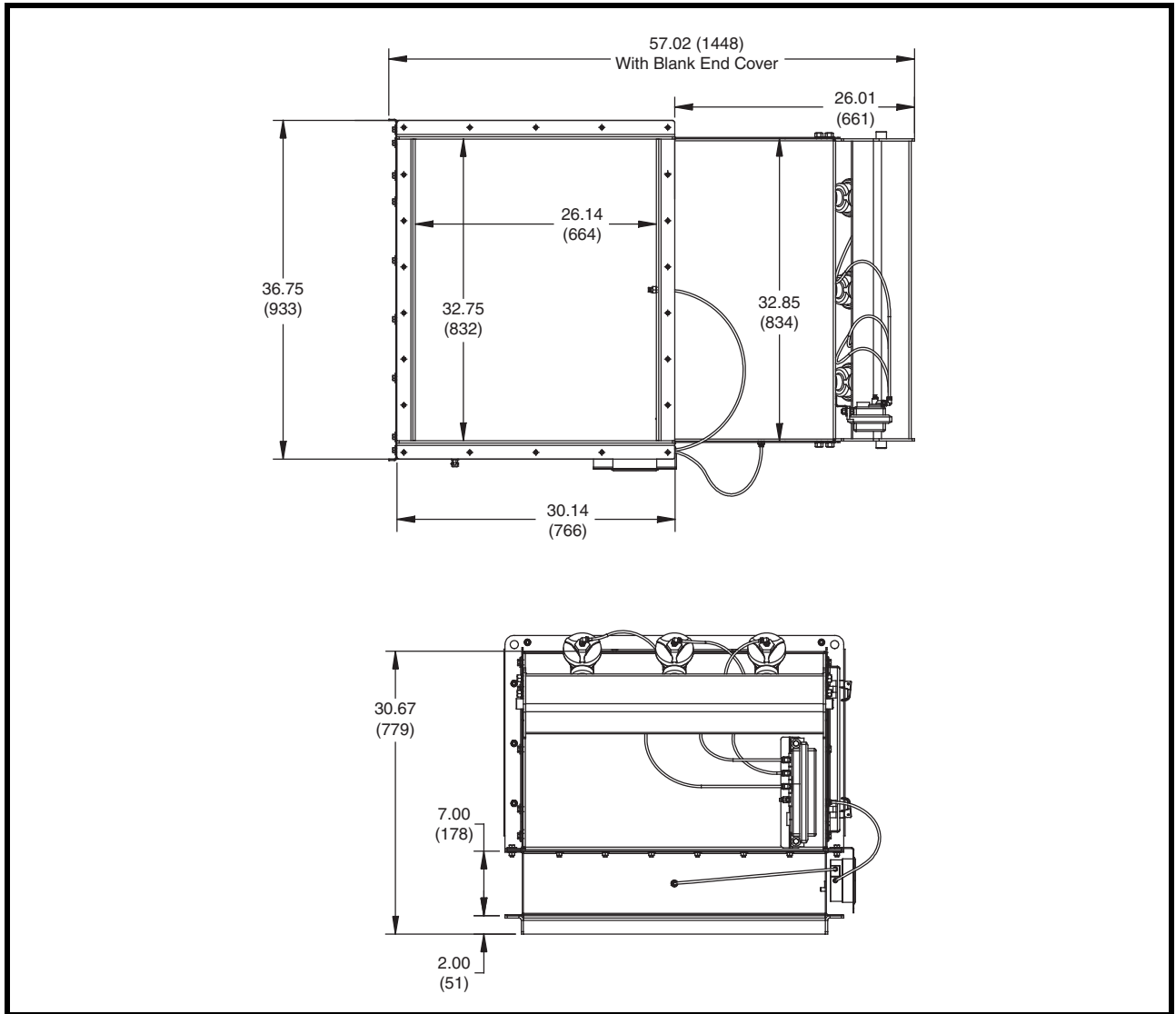
Figure 1. Lifting Air Cleaner

1. Determine how to best mount air cleaner on your application. See Figures 2–5 for dimensions.
2. Cut necessary hole in conveyor stilling zone.
3. Remove adapter flange from air cleaner.
4. Weld adapter flange to conveyor stilling zone.
5. Position and fasten air cleaner onto adapter flange using hardware removed in step 3.
6. Attach blower to air cleaner.



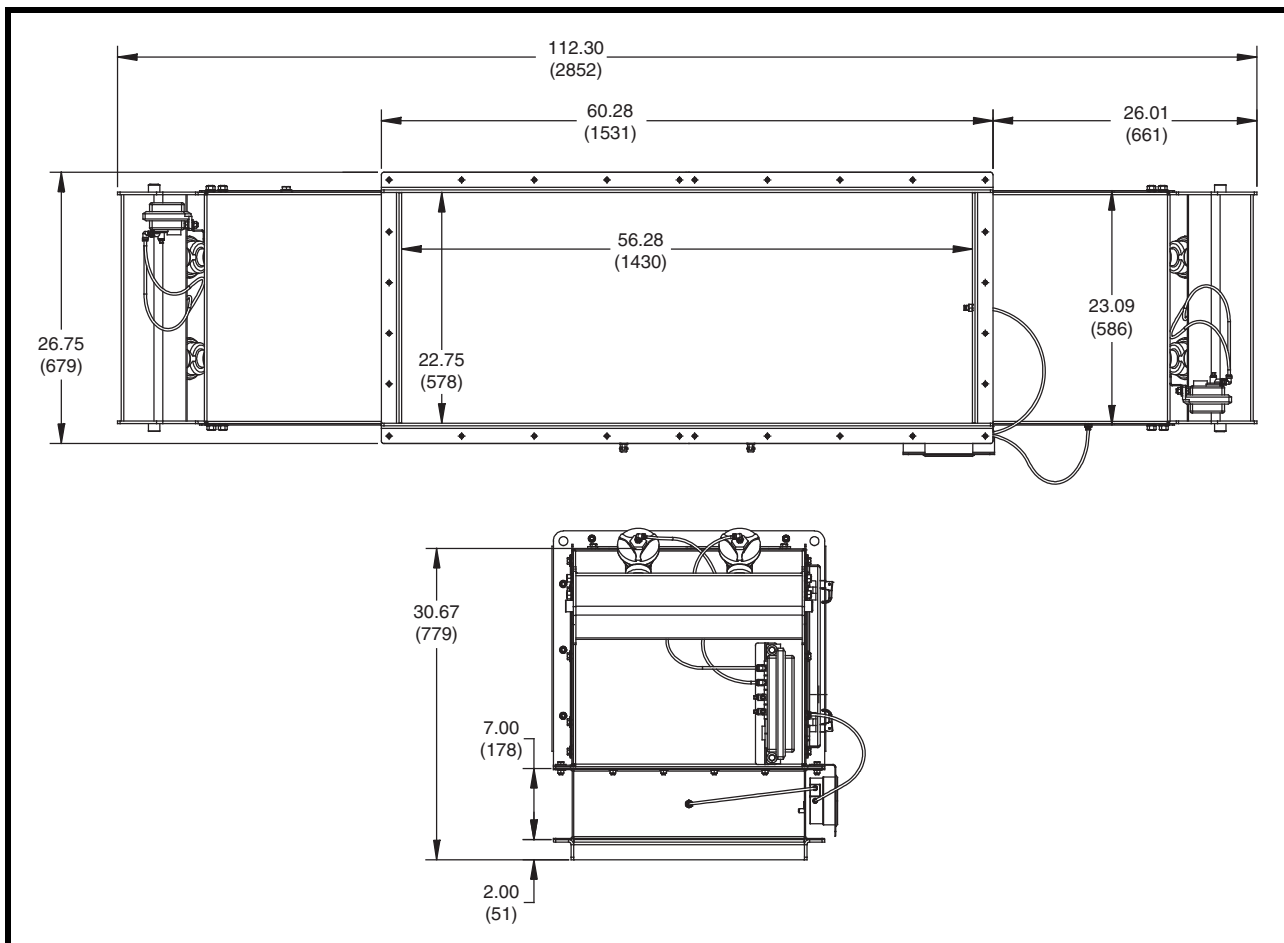
Note: Add 19.38 in. (492 mm) to overall width, height, or length for fan blower assembly.

Figure 2. Dimensions for Martin® Air Cleaner, P/N DFAC-10XXXXX



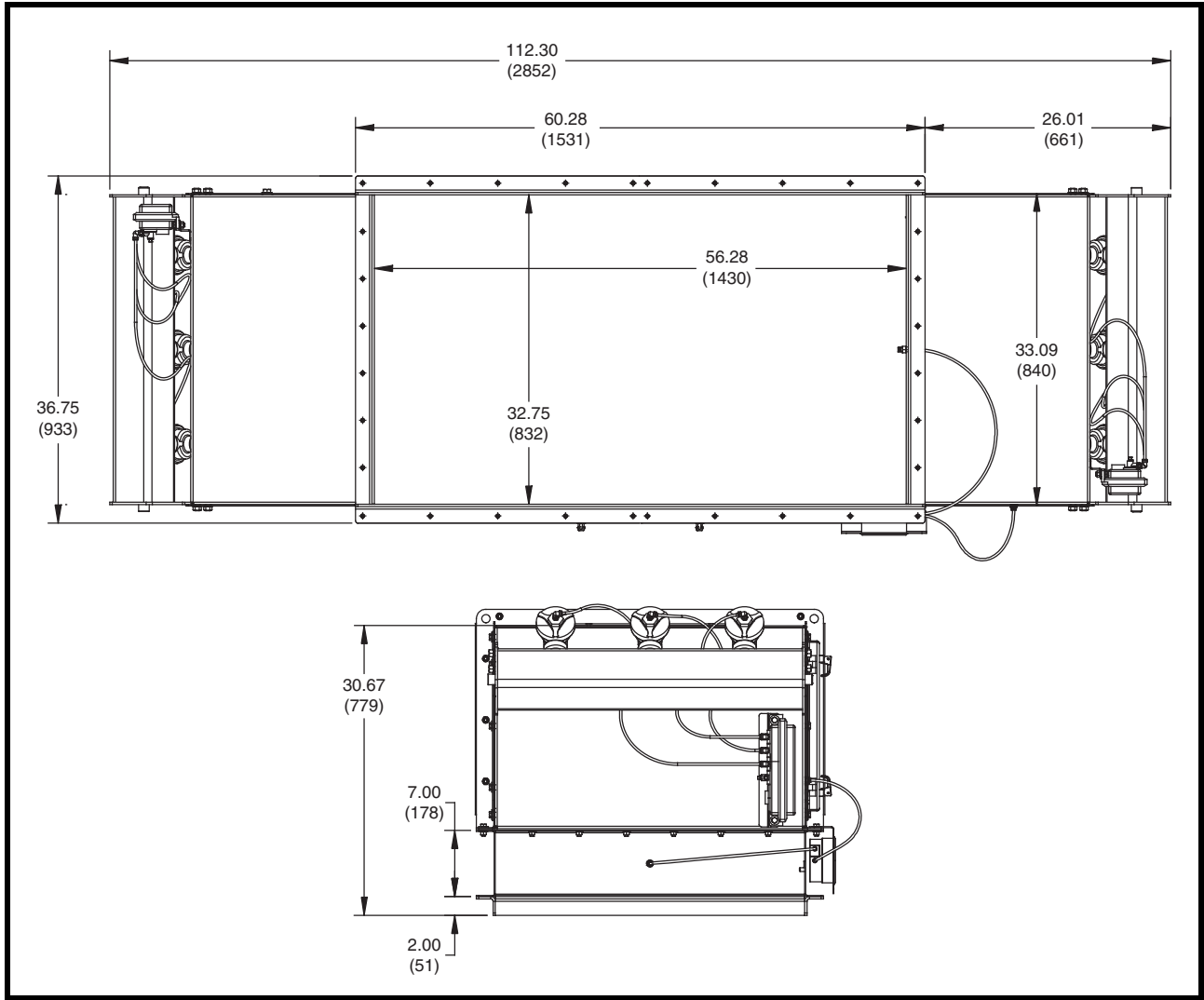
Note: Add 27.25 in. (692 mm) to overall width, height, or length for fan blower assembly.

Figure 3. Dimensions for Martin[®] Air Cleaner, P/N DFAC-15XXXXX



Note: Add 30.86 in. (784 mm) to overall width or height for fan blower assembly.

Figure 4. Dimensions for Martin[®] Air Cleaner, P/N DFAC-20XXXXX



Note: Add 33.16 in. (842 mm) to overall width or height for fan blower assembly.

Figure 5. Dimensions for Martin® Air Cleaner, P/N DFAC-30XXXXX

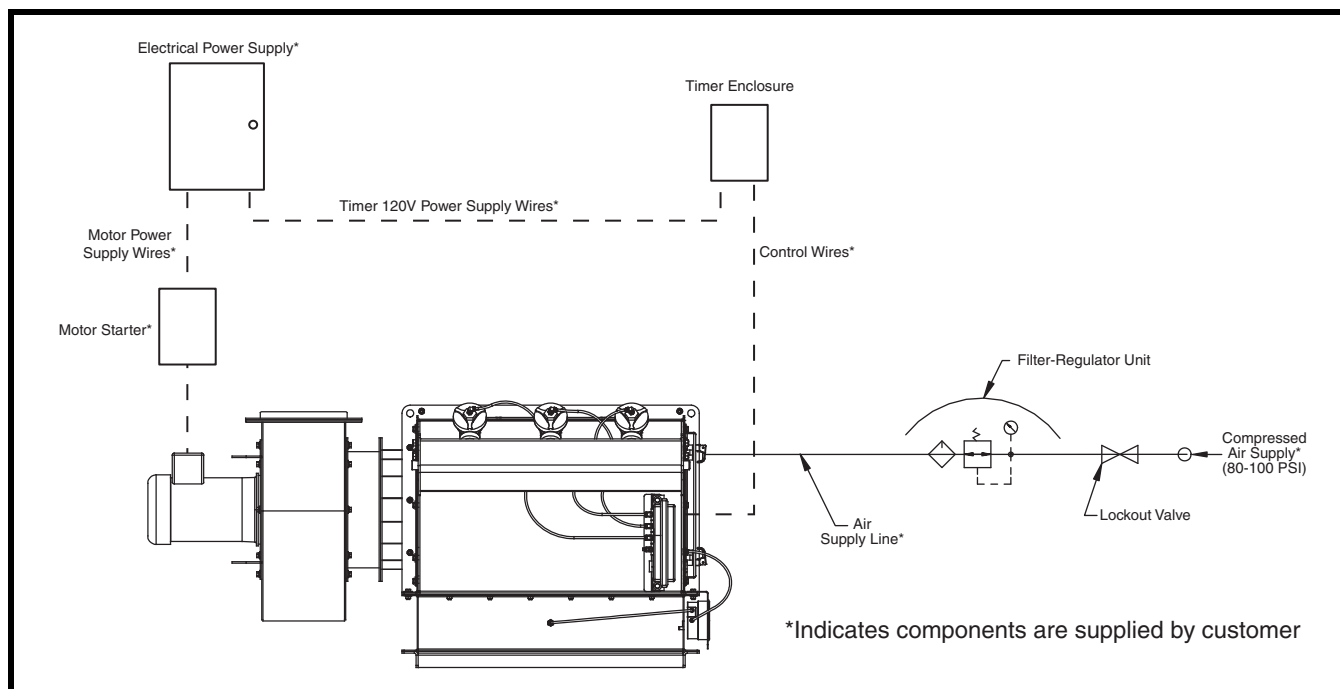


Figure 6. Electrical and Plumbing Detail

Electrical connections

⚠ WARNING

All electrical work must be done to National Electrical Code (NEC) standards. See “References.”

⚠ DANGER

For explosion-proof air cleaner units, properly ground unit to earth by connecting a ground wire to ground lug on unit. Failure to properly ground the unit can result in a static electricity explosion, damage to equipment, and severe injury or death.



1. For explosion-proof units, properly connect a ground wire to the unit’s ground lug (located on the unit next to the symbol shown) to prevent static electricity buildup. Use the brass screw provided to connect the ground wire to the unit.
2. Check the grounding of each filter cartridge with volt/ohm meter:
 - a. Touch one probe to the filter media.
 - b. Touch other probe to grounding lug on base.
 - c. All resistance measurements must be less than 10 ohms. If greater than 10 ohms inspect grounding strap to ensure contact with filter media.
3. Check grounding through motor and solenoid enclosure.



⚠ WARNING

Before making any connections, lock out/tag out electrical supply to control system according to ANSI standards (see “References”).

4. Connect blower motor to power supply:
 - a. Determine power requirements for motor.
 - b. Install a motor starter (not included) per local requirements and codes.
 - c. Interlock motor and timer enclosure and control per plant PLC.

⚠ CAUTION

Do not mount enclosure in area subject to shock, vibration, temperatures exceeding 130°F (55°C), or explosion. Damage to control system circuitry could result.

Installing timer enclosure

1. Determine location for timer enclosure.
2. Mount onto wall with fasteners.
3. Drill conduit holes in enclosure for solenoid and power wires. Use care not to damage internal components. Drill in most weather-proof location available on enclosure.

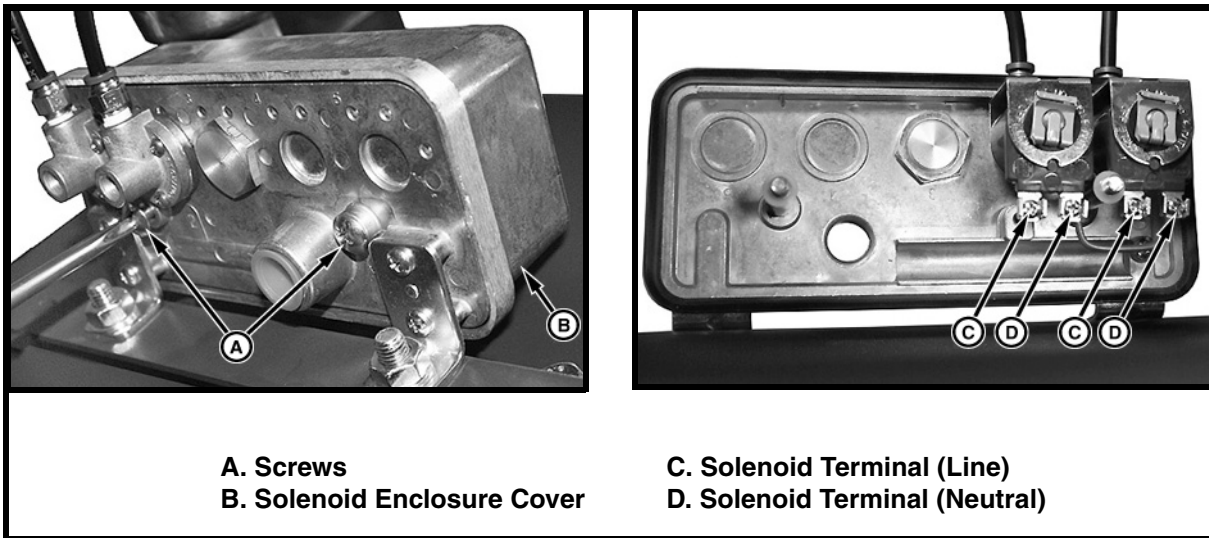


Figure 7. Solenoid Enclosure

4. Loosen screws (A) and remove solenoid enclosure cover (B).

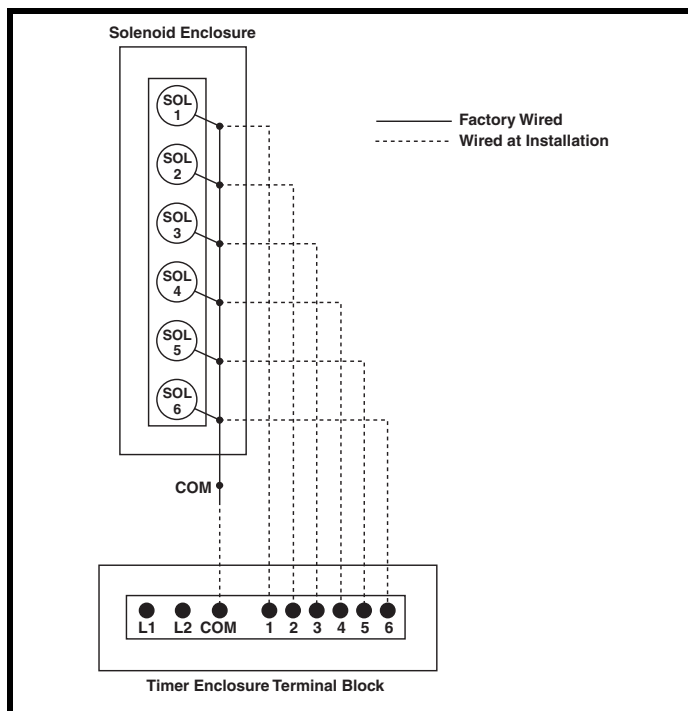


Figure 8. Solenoid Wiring Schematic

5. Using electrical connectors, route required wires from solenoid valves to timer enclosure. Connect wires to solenoid terminals.

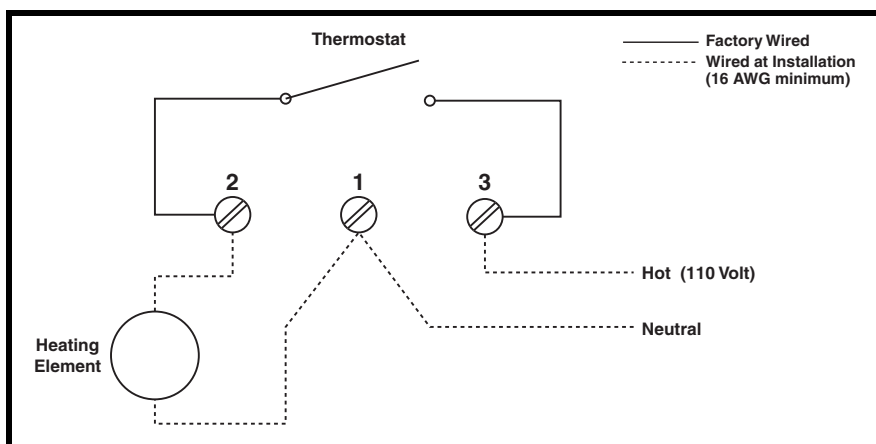


Figure 9. Solenoid Enclosure Heater Option Wiring Schematic

NOTE

Heater requires own power source.

6. If air cleaner includes heater option, wire thermostat and heater as shown in Figure 9.
7. Reinstall solenoid enclosure cover (B, Figure 7).
8. If heater option is not installed, it may be necessary to heat tape and insulate the solenoid enclosure in cold climates.

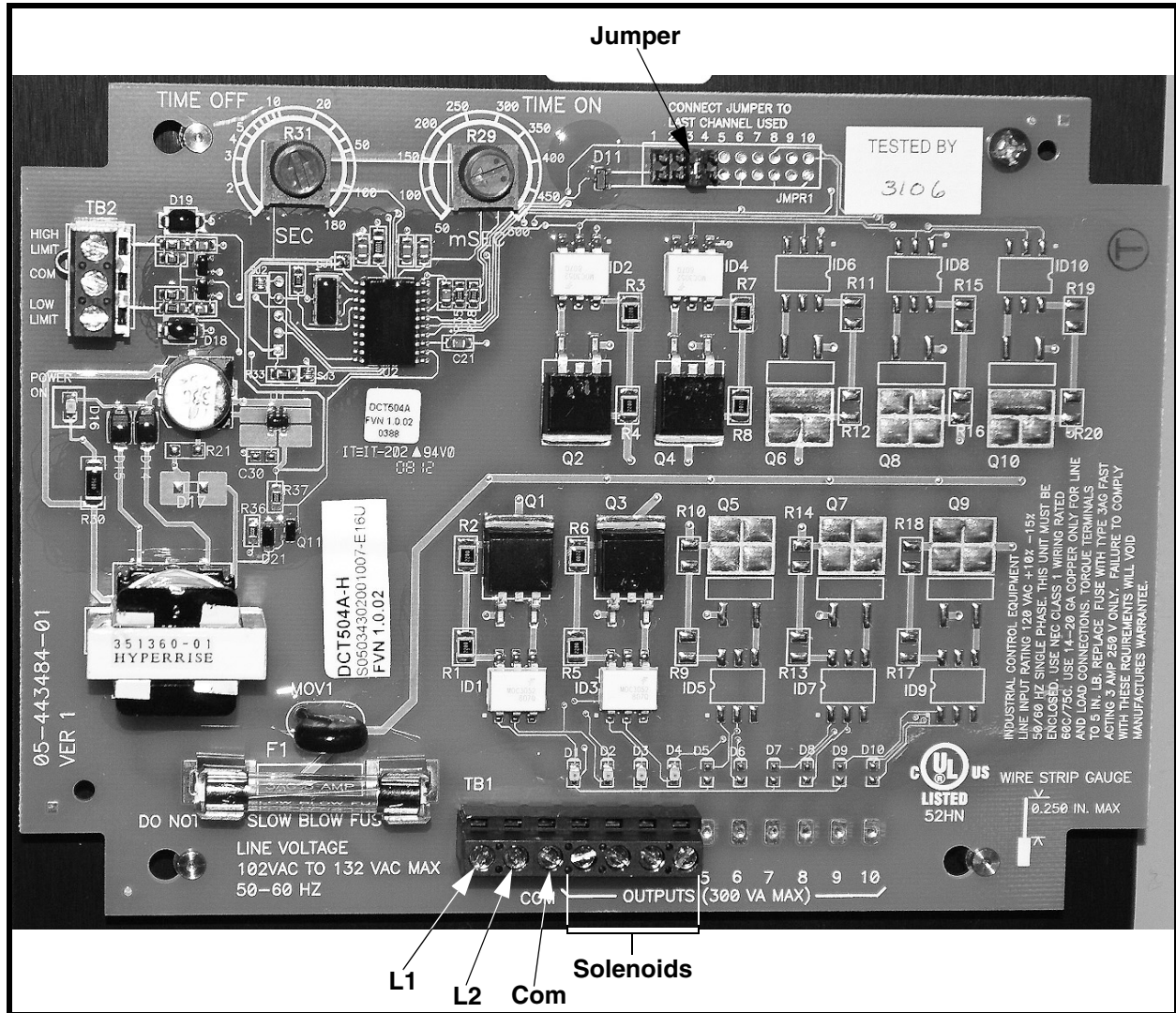


Figure 10. Timer Enclosure Electrical Connections

9. Verify jumper is installed under number that is equal to the number of filters in air cleaner. For example, if the air cleaner has four filters the jumper must be installed directly under the number 4.
10. Verify “TIME OFF” is set to 10 s.

IMPORTANT

DO NOT adjust “TIME ON” setting. It is factory set to 100 ms. Adjusting “TIME ON” setting can shorten filter life.

11. Verify “TIME ON” is set to 100 ms.
12. Route power wire (120VAC 60Hz) into timer enclosure.
13. Connect ground wire to ground terminal. Connect neutral wire to terminal labeled L2. Connect phase wire to terminal labeled L1.
14. Reinstall timer enclosure cover.

Initial Operation of Air Cleaner

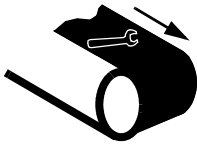
IMPORTANT

Read entire section before beginning work.

WARNING

Air cleaner may produce loud noise when mounted on structure. See OSHA 1910.95 for guidelines. If required, wear ear protection to avoid impairment or loss of hearing.

1. If air cleaner produces loud noise according to OSHA 1910.95, wear ear protection.



WARNING

Failure to remove tools from installation area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

2. Remove all tools and fire retardant cover from installation area and conveyor belt.



DANGER

Do not touch or go near conveyor belt or conveyor accessories when conveyor belt is running. Body or clothing can get caught and pull body into conveyor belt, causing severe injury or death.

3. Make sure filter retention brackets are properly tightened to achieve proper filter seal.
4. Close all access doors.
5. Turn power ON at the source.
6. Start blower fan for one second, then stop.
7. Check motor and fan for the correct rotation by referencing the rotation sticker located on the motor mounting plate. Check for smooth operations of fan wheel and motor. If motor is not rotating in correct direction, lock out/tag out energy source and reverse rotation.
8. Ensure damper is set in completely closed position.
9. Turn the blower fan ON.
10. Open damper until the pressure gauge on the side of the collector matches the pressure readings in Table I.

Table I. Pressure Settings

Material	Pressure " w.g.
Cement	0.45
All other Materials	0.54

11. Ensure fan outlet is guarded.
12. Operate and maintain air cleaner according to instructions in this manual.
13. Ensure collector is reverse pulse cleaning every ten seconds.

Maintenance

Item	Frequency	Procedure
Monitor Exhaust of Fan to ensure filter integrity.	Daily	Monitor exhaust from fan. The exhaust should remain visibly clean. If a leak of dust develops, it will be noticed as a visual puff from the fan exhaust immediately after a cleaning pulse.
Air Cleaner Filter Pressure Drop	Weekly	Visually inspect the operating pressure drop across each air cleaner. It is normal for the pressure drop to fluctuate during operation as the air cleaner passes through cleaning cycles, and as production schedules fluctuate from light to heavy. New filters may have a pressure drop of less than 1" w.g. and slowly build to 8" w.g. over time. An unexpectedly high pressure drop could be an indication of a malfunction in the cleaning mechanism. Check solenoids and diaphragm valves to ensure proper operation. If pressure does not recover, this may be an indication of filter overload or damage. Replace filters and ensure airflow is within design range using procedure outlined in "Initial Operation of Air Cleaner". If pressure drop has gone to 0" w.g. this is an indication of a filter breach. Filter must be replaced per "Replacing Filters".
Filter Pressure Drop Pneumatic Lines	Monthly	To ensure correct pressure drop indication, remove one line at a time from the pressure drop indicating gauge barb fitting. Using a minimum 20 psi compressed air, blow through the line back towards the air cleaner. (<i>Do not use more than 25 psi to blow through clear poly tubing as damage may occur.</i>)
Compressed Air Supply	Monthly	Air dryers and automatic condense valve should be used prior to each air cleaner. Inspect monthly to ensure proper operation, and that moisture is being removed from the compressed air supply. Troubleshoot, repair, or replace per the specific manufactures' instructions.
Air Cleaner Inspection	Monthly	Inspect all connections from air supply to air cleaner for leaks and deterioration. If connections are leaking, seal all fittings with pipe sealant and tighten. Replace any deteriorating connections.
		Make sure all pipes and wires are anchored to prohibit movement. Secure as needed.
		Inspect electrical solenoid valve, lockout ball valve, and air filter/regulator for proper operation. If not operating correctly, replace.
		Inspect magnehelic gauge for correct operation; make sure lens is clean and visible.
		Wipe all warning labels clean. If labels are not readable, contact Martin Engineering or representative for replacements.
Manually Purge Filters	Monthly	Remove one end of hose from pulse valve. Place finger over opening on pulse valve and hold until pressure builds. Remove finger to fire valve. Repeat 5 times for each valve.
Differential Pressure	Monthly	Manually purge filters. Check differential pressure. If differential pressure reading is over 6" w.g., replace filters.
Electrical Solenoids	Every 3 Months	Apply electrical and pneumatic service to the pulse cleaning control. Activate the pulse cleaning sequence by placing the control in continuous cleaning mode. Approximately every ten (10) seconds an audible pulse should be heard. Additionally, each solenoid should be inspected manually by placing a large flat, light-weight surface (<i>cloth</i>) behind each solenoid enclosure. As each solenoid is activated, in that particular enclosure, visually inspect the test surface for movement. (<i>When the solenoid is energized, compressed air is released from the diaphragm valves through the solenoid.</i>)
Verify conditions of Filters	Every 6 Months	If filter element pressure drop exceeds 6" w.g. verify proper system airflow according to original design recommendations. Remember that excessive airflow can increase pressures drop. Change filters if necessary.
Verify operations of Pulse Cleaning System	Every 6 Months	Inspect Diaphragms, Solenoids and Timer to ensure proper filter cleaning.
Check fan and motor	Every 6 Months	Check motor and fan for the correct rotation by referencing the rotation sticker located on the motor mounting plate. Check for smooth operations of fan wheel and motor. Inspect for and tighten belts, nuts, bolts and set screws as needed.

Item	Frequency	Procedure
Adjust exhaust Damper as needed	Every 6 Months	Airflow should be adjusted to match design recommendations. Excessive airflow can shorten filter life and cause fan motor failure.
Install filters correctly	During filter changes	Install new filters correctly and adequately tightened to prevent dust leakage. Improperly installed or inadequately tightened filters can allow dust to pass through the air cleaner.
Adjust exhaust Damper	Immediately after filter changes	Because the pressure drop or restriction to airflow through the filters will decrease when new filters are installed, airflow through the air cleaner will increase. Because of this it is necessary to adjust the fan damper to restrict the airflow through the air cleaner to the recommended level immediately after installation of new filters. As the filters age and the pressure drop or restrictions to air increases, you may need to open the damper to reach design conditions.

Replacing Filters

⚠ DANGER

Before installing, servicing, or adjusting the air cleaner, turn off and lock out/tag out air supply and all energy sources to the air cleaner, conveyor, and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

⚠ WARNING

Do not open air cleaner access door before turning off compressed air source, locking out controls, purging line pressure, and venting air completely from air cleaner.

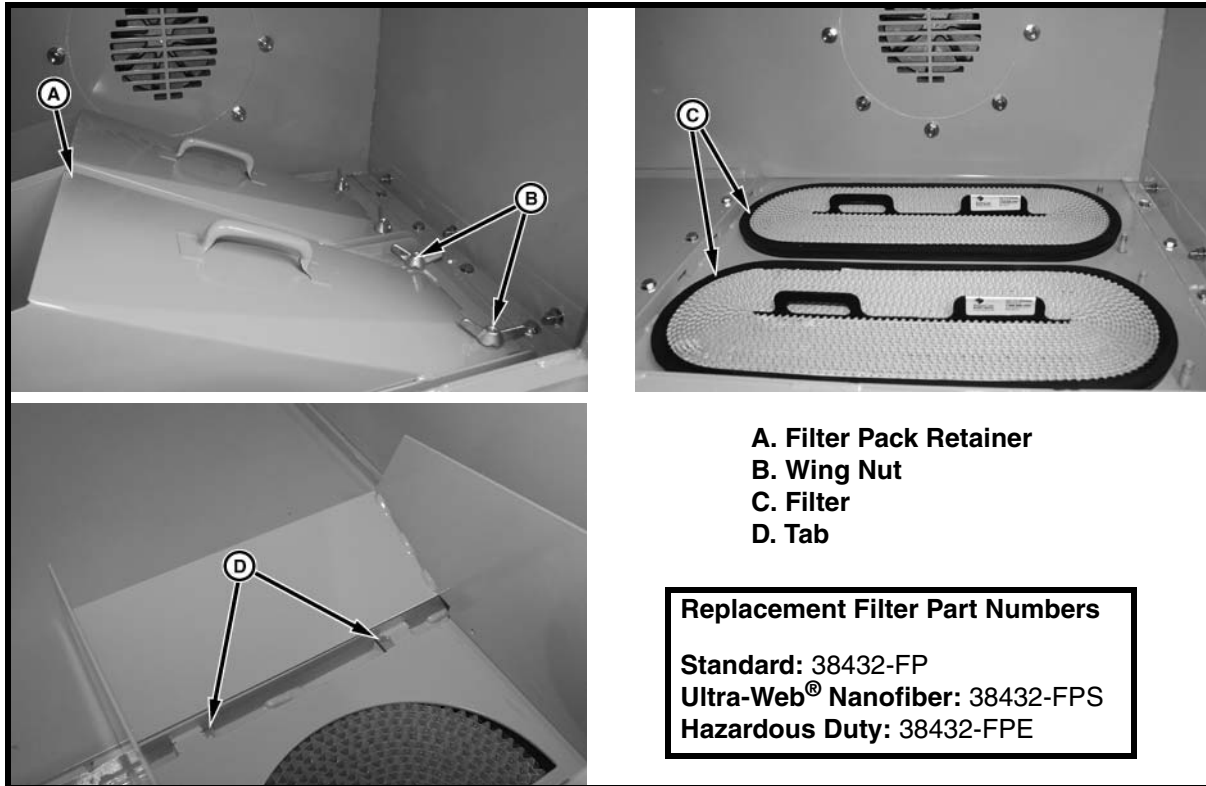


Figure 11. Replacing Filters

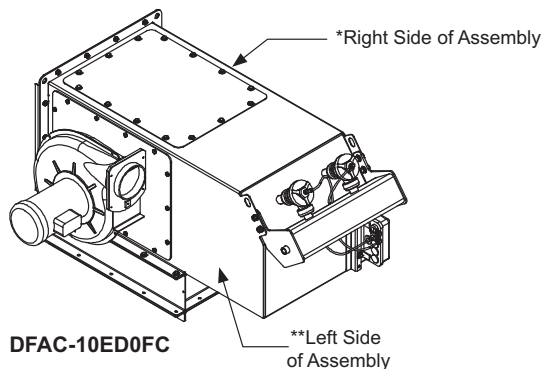
1. Turn off and lock out/tag out energy source according to ANSI standards (see “References”).
2. Open access door.
3. Loosen wing nuts (B) and remove filter pack retainers (A).
4. Remove filters (C).
5. Clean sealing surfaces around filter openings.
6. Insert new filters.
7. Insert filter pack retainers. Make sure rear tabs (D) of retainers engage into slots just behind filter opening.
8. Tighten wing nuts until filter gasket is fully seated.
9. Close access door.
10. Reset exhaust damper to required setting (See *Initial Operation of Air Cleaner*).

Part Numbers

See the following tables for Martin® Air Cleaner unit assembly part numbers. For replacement filter elements, manifold valves, and solenoid valves, call Martin Engineering at 800-544-2947.

NOMENCLATURE — DFAC-XX X X X X X X
1 2 3 4 5 6 7 8

1. Part Number Prefix
2. The first XX indicates high end airflow:
 10 = 1000 CFM
 15 = 1500 CFM
3. The next X indicates solenoid valve type:
 S = Non-explosion proof service duty
 E = Explosion proof service and NEMA 9 solenoid enclosure
 H = Same as "E" with heaters in solenoid enclosure
4. The next X indicates right side item*:
 F = Blower
 D = Door
 Ø = Cover Plate
5. The next X indicates top item:
 F = Blower
 Ø = Cover Plate
6. The next X indicates left side item**:
 F = Blower
 D = Door
 Ø = Cover Plate
7. The next X indicates end item:
 F = Blower
 D = Door
 Ø = Cover Plate
8. The next X indicates blower voltage/fan spool flange:
 A = 380V 50 Hz 3 Phase
 C = 220/480V 60 Hz 3 Phase
 F = 575V 60 Hz 3 Phase
 N07 = No Blower with 7.00 ID Fan Spool Flange
 N08 = No Blower with 8.00 ID Fan Spool Flange
 N13 = No Blower with 13.00 ID Fan Spool Flange
 N14 = No Blower with 14.00 ID Fan Spool Flange
 N16 = No Blower with 16.00 ID Fan Spool Flange
 N18 = No Blower with 18.00 ID Fan Spool Flange



NOMENCLATURE — DFAC-XX X X X X X X
1 2 3 4 5 6 7

1. Part Number Prefix
2. The first XX indicates high end airflow:
 20 = 2000 CFM
 30 = 3000 CFM
3. The next X indicates solenoid valve type:
 S = Non-explosion proof service duty
 E = Explosion proof service and NEMA 9 solenoid enclosure
 H = Same as "E" with heaters in solenoid enclosure
4. The next X indicates right side item*:
 F = Blower
 D = Door
 Ø = Cover Plate
5. The next X indicates top item:
 F = Blower
 Ø = Cover Plate
6. The next X indicates left side item**:
 F = Blower
 D = Door
 Ø = Cover Plate
7. The next X indicates blower voltage/fan spool flange:
 A = 380V 50 Hz 3 Phase
 C = 220/480V 60 Hz 3 Phase
 F = 575V 60 Hz 3 Phase
 N07 = No Blower with 7.00 ID Fan Spool Flange
 N08 = No Blower with 8.00 ID Fan Spool Flange
 N13 = No Blower with 13.00 ID Fan Spool Flange
 N14 = No Blower with 14.00 ID Fan Spool Flange
 N16 = No Blower with 16.00 ID Fan Spool Flange
 N18 = No Blower with 18.00 ID Fan Spool Flange

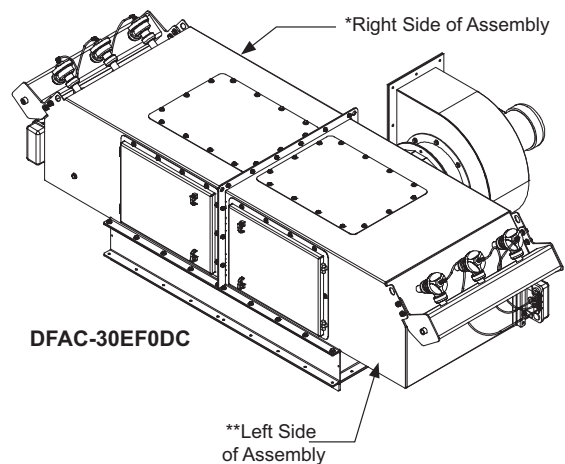


Table II. Replacement Parts List

P/N	Description
38432-FP	Filter Pack
38432-FPS	Ultra-Web® Nanofiber Filter Pack
38432-FPE	Filter Pack for Hazardous Duty
38432SP-01	Diaphragm Repair Kit
38432SP-02	Diaphragm Valve
38432SP-03	Solenoid Repair Kit
38432SP-04	Solenoid Valve
38432SP-05	Magnehelic Gauge Assembly
38432SP-06	Magnehelic Gauge
38432SP-07	Heater
38432SP-08	Thermostat
38432SP-09	Solenoid Coil for Heated Explosion Proof Solenoid Enclosure
38432SP-10	Repair Kit for Solenoid in Heated Explosion Proof Enclosure

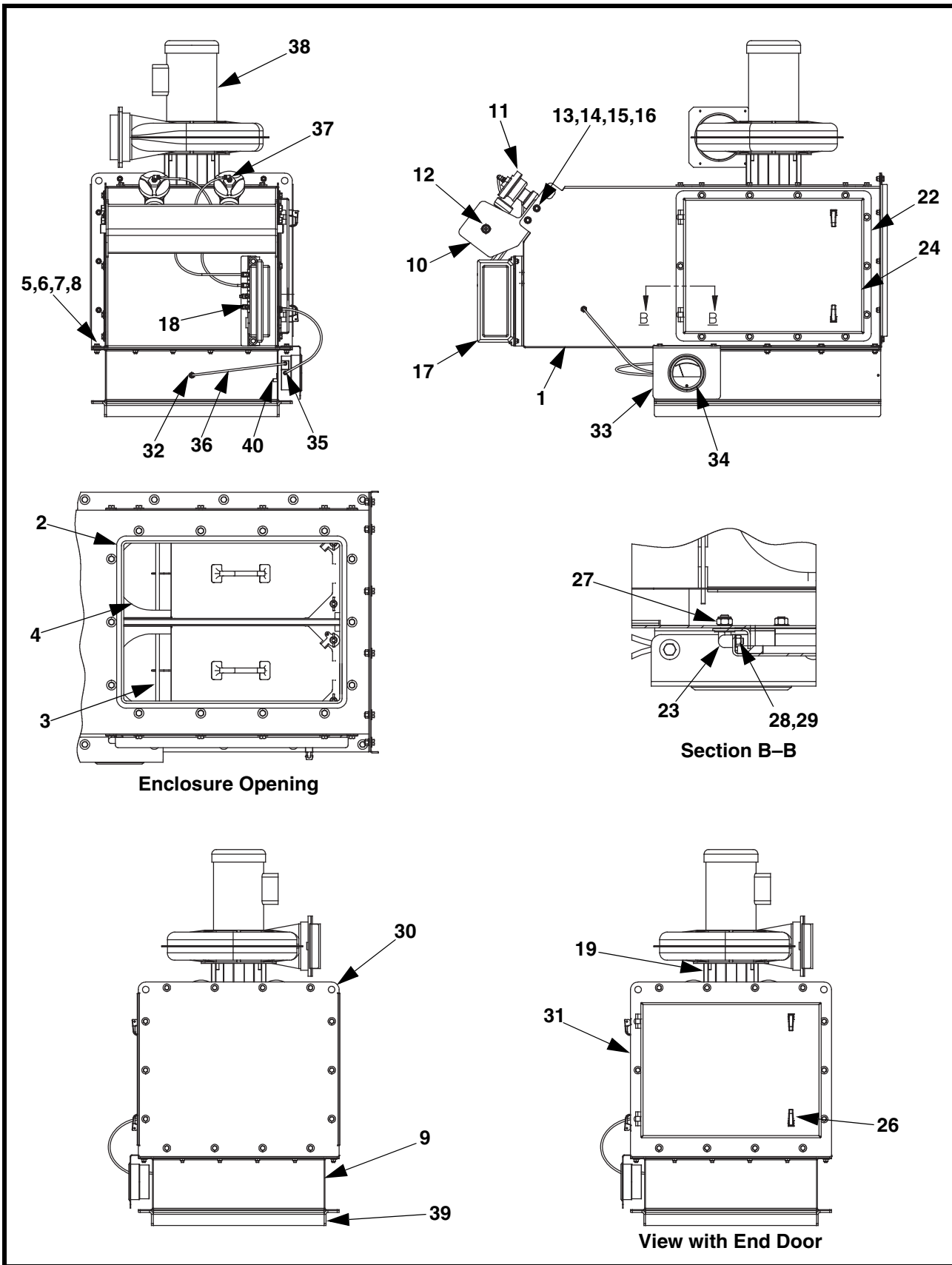


Figure 12. Martin® Air Cleaner, P/N DFAC-10XXXXXX

Part Numbers

Item	Description	Part No.	Qty
1	Enclosure Weldment	39002-01	1
2	Seal Foam Vinyl Adh-Back 1/8 x 1/2	100894	21 ft
3	Smart Part Tubesheet Assembly	Table III	1
4	Filter Cartridge	Table III	2
5	Washer Flat 3/8 Wide ZP	18007	76
6	Screw HHC 3/8-16NC x 1 ZP	11746-02	76
7	Washer Lock Ext Tooth 3/8 ZP	39025	78
8	Nut Hex 3/8-16NC x 1 ZP	11770	76
9	Base Flange Ext Wld	38993-01	1
10	Pulse Plenum Weldment	38998-01	1
11	Pulse Valve	38432SP-02	2
12	Plug Stl 1/2-NPT	12204	1
13	Washer Flat 1/2 Narrow ZP	31010	4
14	Screw HHC 1/2-13NC x 1 ZP	13842	4
15	Washer Lock Ext Tooth 1/2 ZP	21569	4
16	Nut Hex 1/2-13 NC ZP	11771	4
17	Solenoid Enclosure	Table III	1
18	Plug Pipe 1/8-NPT Sq Head Aluminum	39021	Table III
19	Blower Spool Flg Weldment	Table III	Table III
20 (NS)	Blower Spool End Flg Weldment	Table III	Table III
21 (NS)	Blank Cover Plate	39005	Table III
22	Door Mounting Flg Weldment	39009	Table III
23	Door Hinge	39012	Table III
24	Access Door	39006	Table III
25 (NS)	Seal Foam Rubber Adh-Back 1/2 x 1-1/4	100893	Table III
26	Compression Latch Lift/Turn Handle	39013	Table III
27	Nut Elastic Lock M10 x 1.5 ZP	28831	Table III
28	Washer Lock Ext Tooth 5/16 ZP	39026	Table III
29	Nut Hex M8 x 1.25 Style 1 ZP	38518	Table III
30	Blank End Flange Cover	39004-01	Table III
31	Access Door End Flg Weldment	39011-01	Table III
32	Fitting Push-To-Conn Thru-Wall Bulkhead	39023	2
33	Diff Press Gauge Bracket	38999	1
34	Magnehelic Diff Press Gauge 0-8" WC	38432SP-06	1
35	Fitting Push-To-Conn 1/8-NPT Male Connector	39027	2
36	Polyethylene Tubing 1/4 OD Black	104233-01	10 ft
37	Fitting Push-To-Conn 1/8-NPT Male Swvl Elbow	39022	4
38	Blower Pkg	Table III	Table III
39	Adapter Flange Weldment	39047-01	1

Item	Description	Part No.	Qty
40	Ground Lug Terminal with Mounting Hardware	39049	Table III
41 (NS)	Timer Control Cabinet	39035-04	1
42 (NS)	Silicone Sealant RTV Clear	36663	1
43 (NS)	Manual/Label Kit	39043-S	1
44 (NS)	Hardware Kit F/Adpt Flg/Blower	39048-15	1
45 (NS)	Pulse Plenum Piping Kit	39044	1

Table III. Martin® Air Cleaner Part Numbers and Quantities

Assembly P/N	Qty Item 19	Qty Item 20	Qty Item 21	Qty Item 22	Qty Items 23,26,27	Qty Item 24	Qty Item 25	Qty Items 28, 29	Qty Item 30	Qty Item 31
DFAC-10XFODOX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-10XFOODX	1	0	2	0	2	1	6.5 ft	4	0	1
DFAC-10XOFDOX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-10XOFODX	1	0	2	0	2	1	6.5 ft	4	0	1
DFAC-10XDFOOX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-10XDFOFX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-10XOOFDX	1	0	2	0	2	1	6.5 ft	4	0	1
DFAC-10XDFOFX	0	1	2	1	2	1	6.5 ft	4	0	0
DFAC-10XOOFDX	0	1	2	1	2	1	6.5 ft	4	0	0
DFAC-10XFODDX	1	0	1	1	4	1	13 ft	8	0	1
DFAC-10XOFDDX	1	0	1	1	4	2	13 ft	8	0	1
DFAC-10XDFOFX	1	0	0	2	4	2	13 ft	8	1	0
DFAC-10XDFOFX	1	0	1	1	4	2	13 ft	8	0	1
DFAC-10XDODFX	0	1	1	2	4	2	13 ft	8	0	0

Assembly P/N	P/N Item 19	P/N Item 20	Qty Item 38
DFAC-10XXXXXX	39017-07	39020-07-2	1
DFAC-10XXXXXN07	39017-07	39020-07-2	0
DFAC-10XXXXXN08	39017-08	39020-08-2	0
DFAC-10XXXXXN13	39017-13	39020-13-2	0
DFAC-10XXXXXN14	39017-14	39020-14-2	0
DFAC-10XXXXXN16	39017-16	39020-16-2	0
DFAC-10XXXXXN18	39017-18	39020-18-2	0

Assembly P/N	P/N Item 38	Motor HP*
DFAC-10XXXXXA	39031-12-3EA	3
DFAC-10XXXXXC	39031-12-3E	3
DFAC-10XXXXXF	39031-12-3EF	3

*Electric Motors are 230/460V 3-Phase TEFC

Assembly P/N	P/N Item 3	P/N Item 4	P/N Item 17	Qty Item 18	Qty Item 40
DFAC-10SXXXXX	38953-2TS	38432-FP	39030-03	-	-
		38432-FPS			
DFAC-10SXXXXX	38953-2GTS	38432-FPE	39030-04	4	1

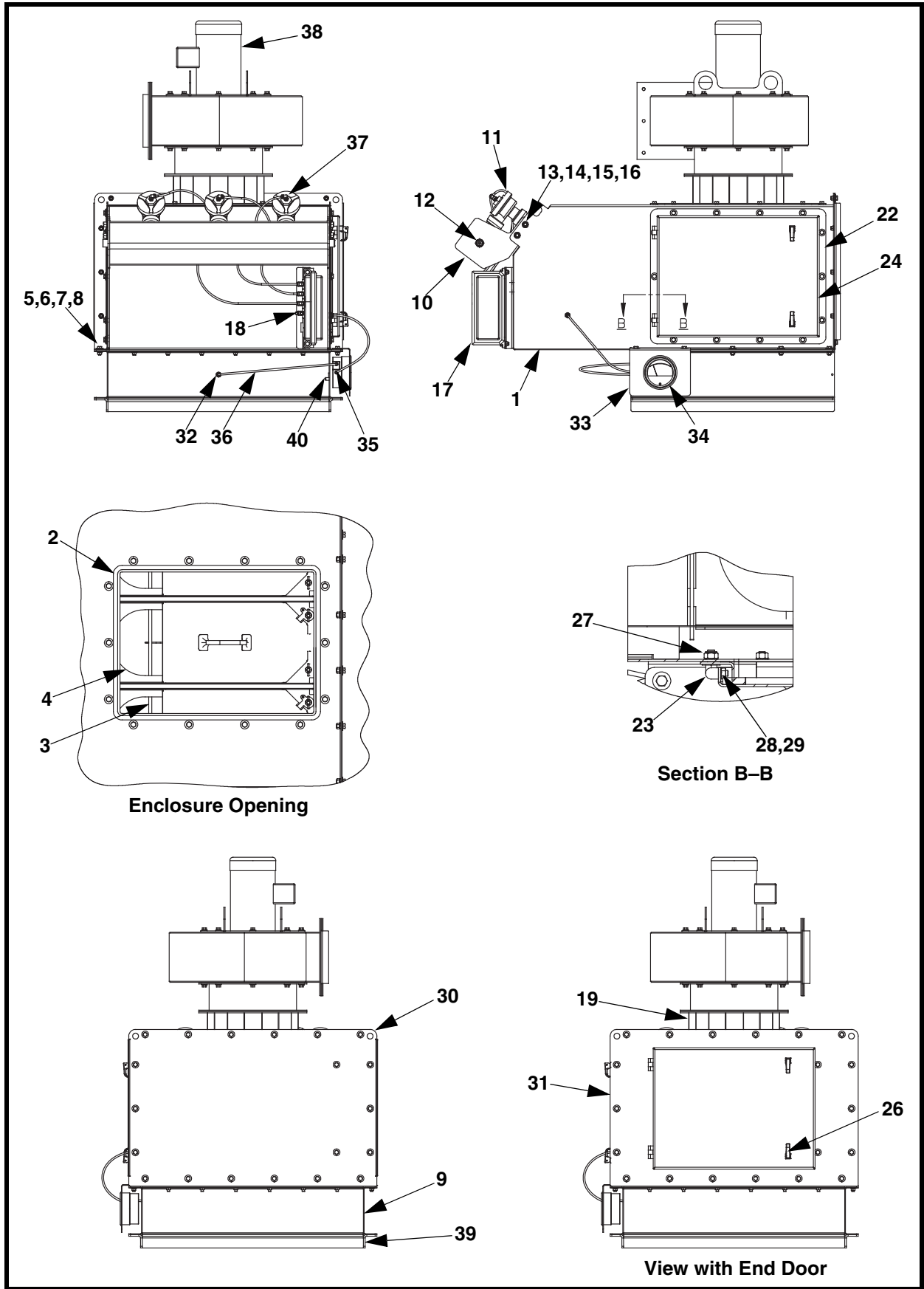


Figure 13. Martin® Air Cleaner, P/N DFAC-15XXXXXX

Item	Description	Part No.	Qty
1	Enclosure Weldment	39002-02	1
2	Seal Foam Vinyl Adh-Back 1/8 x 1/2	100894	21 ft
3	Smart Part Tubesheet Assembly	Table IV	1
4	Filter Cartridge	Table IV	3
5	Washer Flat 3/8 Wide ZP	18007	86
6	Screw HHC 3/8-16NC x 1 ZP	11746-02	86
7	Washer Lock Ext Tooth 3/8 ZP	39025	88
8	Nut Hex 3/8-16NC x 1 ZP	11770	86
9	Base Flange Ext Wid	38993-02	1
10	Pulse Plenum Weldment	38998-02	1
11	Pulse Valve	38432SP-02	3
12	Plug Stl 1/2-NPT	12204	1
13	Washer Flat 1/2 Narrow ZP	31010	4
14	Screw HHC 1/2-13NC x 1 ZP	13842	4
15	Washer Lock Ext Tooth 1/2 ZP	21569	4
16	Nut Hex 1/2-13 NC ZP	11771	4
17	Solenoid Enclosure	Table IV	1
18	Plug Pipe 1/8-NPT Sq Head Aluminum	39021	Table IV
19	Blower Spool Flg Weldment	Table IV	Table IV
20 (NS)	Blower Spool End Flg Weldment	Table IV	Table IV
21 (NS)	Blank Cover Plate	39005	Table IV
22	Door Mounting Flg Weldment	39009	Table IV
23	Door Hinge	39012	Table IV
24	Access Door	39006	Table IV
25 (NS)	Seal Foam Rubber Adh-Back 1/2 x 1-1/4	100893	Table IV
26	Compression Latch Lift/Turn Handle	39013	Table IV
27	Nut Elastic Lock M10 x 1.5 ZP	28831	Table IV
28	Washer Lock Ext Tooth 5/16 ZP	39026	Table IV
29	Nut Hex M8 x 1.25 Style 1 ZP	38518	Table IV
30	Blank End Flange Cover	39004-02	Table IV
31	Access Door End Flg Weldment	39011-02	Table IV
32	Fitting Push-To-Conn Thru-Wall Bulkhead	39023	2
33	Diff Press Gauge Bracket	38999	1
34	Magnehelic Diff Press Gauge 0-8" WC	38432SP-06	1
35	Fitting Push-To-Conn 1/8-NPT Male Connector	39027	2
36	Polyethylene Tubing 1/4 OD Black	104233-01	14 ft
37	Fitting Push-To-Conn 1/8-NPT Male Swvl Elbow	39022	6
38	Blower Pkg	Table IV	Table IV
39	Adapter Flange Weldment	39047-02	1

Item	Description	Part No.	Qty
40	Ground Lug Terminal with Mounting Hardware	39049	Table IV
41 (NS)	Timer Control Cabinet	39035-04	1
42 (NS)	Silicone Sealant RTV Clear	36663	1
43 (NS)	Manual/Label Kit	39043-S	1
44 (NS)	Hardware Kit F/Adpt Flg/Blower	39048-15	1
45 (NS)	Pulse Plenum Piping Kit	39044	1

Table IV. Martin® Air Cleaner Part Numbers and Quantities

Assembly P/N	Qty Item 19	Qty Item 20	Qty Item 21	Qty Item 22	Qty Items 23,26,27	Qty Item 24	Qty Item 25	Qty Items 28, 29	Qty Item 30	Qty Item 31
DFAC-15XFODOX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-15XFOODX	1	0	2	0	2	1	6.5 ft	4	0	1
DFAC-15XOFDOX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-15XOFODX	1	0	2	0	2	1	6.5 ft	4	0	1
DFAC-15XDFOOX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-15XDFOFX	1	0	1	1	2	1	6.5 ft	4	1	0
DFAC-15XOOFDX	1	0	2	0	2	1	6.5 ft	4	0	1
DFAC-15XDOOFX	0	1	2	1	2	1	6.5 ft	4	0	0
DFAC-15XOODFX	0	1	2	1	2	1	6.5 ft	4	0	0
DFAC-15XFODDX	1	0	1	1	4	1	13 ft	8	0	1
DFAC-15XOFDDX	1	0	1	1	4	2	13 ft	8	0	1
DFAC-15XDFOX	1	0	0	2	4	2	13 ft	8	1	0
DFAC-15XDODFX	1	0	1	1	4	2	13 ft	8	0	1
DFAC-15XDODFX	0	1	1	2	4	2	13 ft	8	0	0

Assembly P/N	P/N Item 19	P/N Item 20	Qty Item 38
DFAC-15XXXXXX	39017-13	39020-13-2	1
DFAC-15XXXXXXN07	39017-07	39020-07-2	0
DFAC-15XXXXXXN08	39017-08	39020-08-2	0
DFAC-15XXXXXXN13	39017-13	39020-13-2	0
DFAC-15XXXXXXN14	39017-14	39020-14-2	0
DFAC-15XXXXXXN16	39017-16	39020-16-2	0
DFAC-15XXXXXXN18	39017-18	39020-18-2	0

Assembly P/N	P/N Item 38	Motor HP*
DFAC-15XXXXXA	39032-120-3EA	3
DFAC-15XXXXXC	39032-120-3E	3
DFAC-15XXXXXF	39032-120-3EF	3

*Electric Motors are 230/460V 3-Phase TEFC

Assembly P/N	P/N Item 3	P/N Item 4	P/N Item 17	Qty Item 18	Qty Item 40
DFAC-15SXXXXX	38953-3TS	38432-FP	39030-03	-	-
		38432-FPS			
DFAC-15SXXXXX	38953-3GTS	38432-FPE	39030-04	2	1

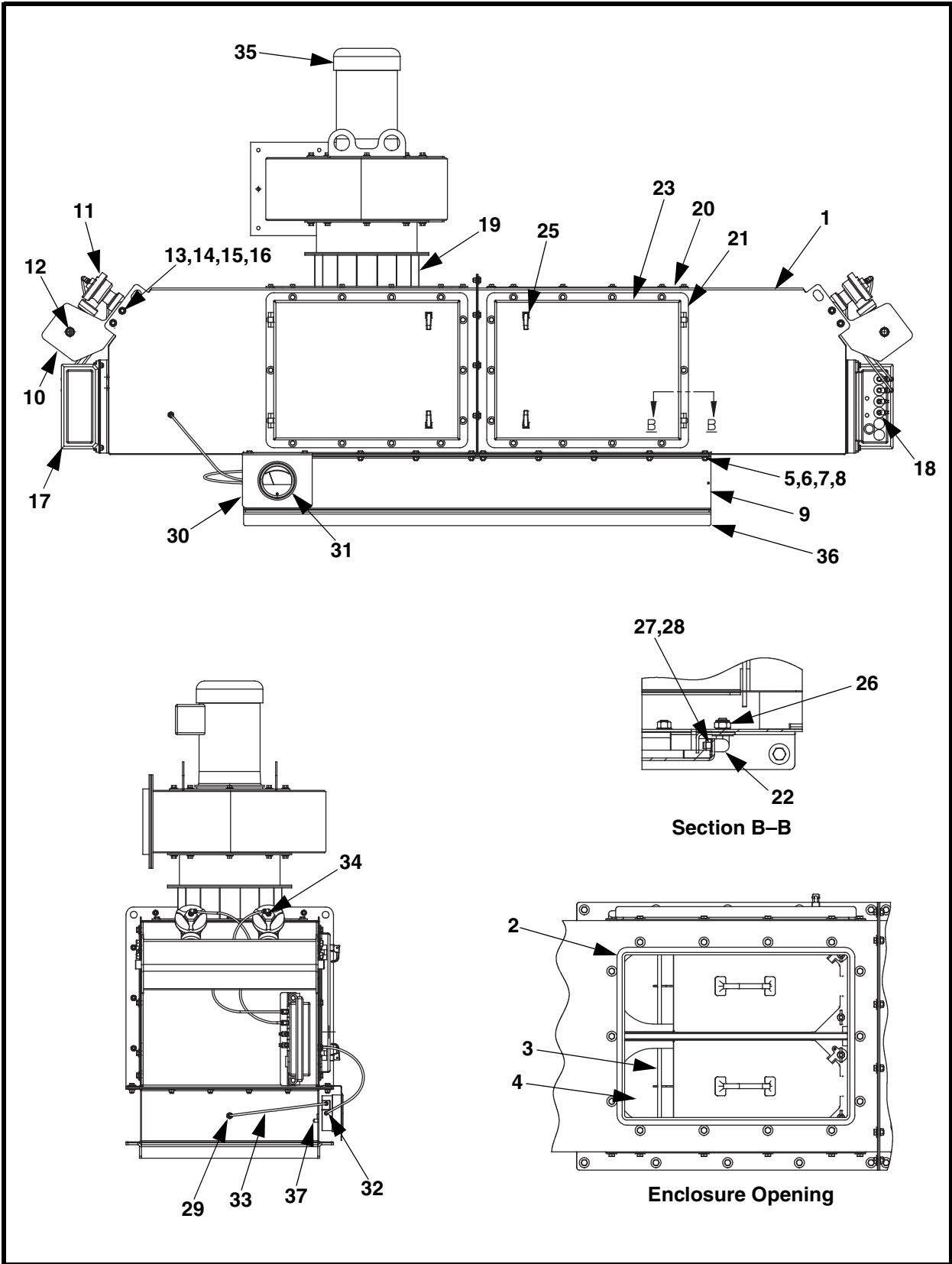


Figure 14. Martin® Air Cleaner, P/N DFAC-20XXXXX

Part Numbers

Item	Description	Part No.	Qty
1	Enclosure Weldment	39002-01	2
2	Seal Foam Vinyl Adh-Back 1/8 x 1/2	100894	41 ft
3	Smart Part Tubesheet Assembly	Table V	2
4	Filter Cartridge	Table V	4
5	Washer Flat 3/8 Wide ZP	18007	138
6	Screw HHC 3/8-16NC x 1 ZP	11746-02	138
7	Washer Lock Ext Tooth 3/8 ZP	39025	142
8	Nut Hex 3/8-16NC x 1 ZP	11770	138
9	Base Flange Ext Wld	38993-03	1
10	Pulse Plenum Weldment	38998-01	2
11	Pulse Valve	38432SP-02	4
12	Plug Stl 1/2-NPT	12204	2
13	Washer Flat 1/2 Narrow ZP	31010	10
14	Screw HHC 1/2-13NC x 1 ZP	13842	9
15	Washer Lock Ext Tooth 1/2 ZP	21569	9
16	Nut Hex 1/2-13 NC ZP	11771	9
17	Solenoid Enclosure	Table V	2
18	Plug Pipe 1/8-NPT Sq Head Aluminum	39021	Table V
19	Blower Spool Flg Weldment	Table V	1
20	Blank Cover Plate	39005	Table V
21	Door Mounting Flg Weldment	39009	Table V
22	Door Hinge	39012	Table V
23	Access Door	39006	Table V
24 (NS)	Seal Foam Rubber Adh-Back 1/2 x 1-1/4	100893	Table V
25	Compression Latch Lift/Turn Handle	39013	Table V
26	Nut Elastic Lock M10 x 1.5 ZP	28831	Table V
27	Washer Lock Ext Tooth 5/16 ZP	39026	Table V
28	Nut Hex M8 x 1.25 Style 1 ZP	38518	Table V
29	Fitting Push-To-Conn Thru-Wall Bulkhead	39023	2
30	Diff Press Gauge Bracket	38999	1
31	Magnehelic Diff Press Gauge 0-8" WC	38432SP-06	1
32	Fitting Push-To-Conn 1/8-NPT Male Connector	39027	2
33	Polyethylene Tubing 1/4 OD Black	104233-01	15 ft
34	Fitting Push-To-Conn 1/8-NPT Male Swvl Elbow	39022	8
35	Blower Pkg	Table V	Table V
36	Adapter Flange Weldment	39047-03	1
37	Ground Lug Terminal with Mounting Hardware	39049	Table V
38 (NS)	Timer Control Cabinet	39035-04	1
39 (NS)	Silicone Sealant RTV Clear	36663	1

Item	Description	Part No.	Qty
40 (NS)	Manual/Label Kit	39043-D	1
41 (NS)	Hardware Kit F/Adpt Flg/Blower	39048-30	1
42 (NS)	Pulse Plenum Piping Kit	39044	1

Table V. Martin® Air Cleaner Part Numbers and Quantities

Assembly P/N	Qty Item 20	Qty Items 21 & 23	Qty Items 22, 25, 26	Qty Item 24	Qty Items 27 & 28
DFAC-20XFODX	3	2	4	13 ft	8
DFAC-20XOFDX	3	2	4	13 ft	8
DFAC-20XDFOX	3	2	4	13 ft	8
DFAC-20XDOFX	3	2	4	13 ft	8
DFAC-20XDFDX	1	4	8	26 ft	16

Assembly P/N	P/N Item 19	Qty Item 35
DFAC-20XXXXXX	39017-13	1
DFAC-20XXXXXN07	39017-07	0
DFAC-20XXXXXN08	39017-08	0
DFAC-20XXXXXN13	39017-13	0
DFAC-20XXXXXN14	39017-14	0
DFAC-20XXXXXN16	39017-16	0
DFAC-20XXXXXN18	39017-18	0

Assembly P/N	P/N Item 35	Motor HP*
DFAC-20XXXXXA	39032-120-5EA	5
DFAC-20XXXXXC	39032-120-5E	5
DFAC-20XXXXXF	39032-120-5EF	5

*Electric Motors are 230/460V 3-Phase TEFC

Assembly P/N	P/N Item 3	P/N Item 4	P/N Item 17	Qty Item 18	Qty Item 37
DFAC-20SXXXXX	38953-2TS	38432-FP	39030-03	-	-
		38432-FPS			
DFAC-20XXXXXX	38953-2GTS	38432-FPE	39030-04	8	1

Item	Description	Part No.	Qty
1	Enclosure Weldment	39002-02	2
2	Seal Foam Vinyl Adh-Back 1/8 x 1/2	100894	41 ft
3	Smart Part Tubesheet Assembly	Table VI	2
4	Filter Cartridge	Table VI	6
5	Washer Flat 3/8 Wide ZP	18007	150
6	Screw HHC 3/8-16NC x 1 ZP	11746-02	150
7	Washer Lock Ext Tooth 3/8 ZP	39025	154
8	Nut Hex 3/8-16NC x 1 ZP	11770	150
9	Base Flange Ext Wld	38993-04	1
10	Pulse Plenum Weldment	38998-02	2
11	Pulse Valve	38432SP-02	6
12	Plug Stl 1/2-NPT	12204	2
13	Washer Flat 1/2 Narrow ZP	31010	10
14	Screw HHC 1/2-13NC x 1 ZP	13842	9
15	Washer Lock Ext Tooth 1/2 ZP	21569	9
16	Nut Hex 1/2-13 NC ZP	11771	9
17	Solenoid Enclosure	Table VI	2
18	Plug Pipe 1/8-NPT Sq Head Aluminum	39021	Table VI
19	Blower Spool Flg Weldment	Table VI	1
20	Blank Cover Plate	39005	Table VI
21	Door Mounting Flg Weldment	39009	Table VI
22	Door Hinge	39012	Table VI
23	Access Door	39006	Table VI
24 (NS)	Seal Foam Rubber Adh-Back 1/2 x 1-1/4	100893	Table VI
25	Compression Latch Lift/Turn Handle	39013	Table VI
26	Nut Elastic Lock M10 x 1.5 ZP	28831	Table VI
27	Washer Lock Ext Tooth 5/16 ZP	39026	Table VI
28	Nut Hex M8 x 1.25 Style 1 ZP	38518	Table VI
29	Fitting Push-To-Conn Thru-Wall Bulkhead	39023	2
30	Diff Press Gauge Bracket	38999	1
31	Magnehelic Diff Press Gauge 0-8" WC	38432SP-06	1
32	Fitting Push-To-Conn 1/8-NPT Male Connector	39027	2
33	Polyethylene Tubing 1/4 OD Black	104233-01	20 ft
34	Fitting Push-To-Conn 1/8-NPT Male Swvl Elbow	39022	12
35	Blower Pkg	Table VI	Table VI
36	Adapter Flange Weldment	39047-04	1
37	Ground Lug Terminal with Mounting Hardware	39049	Table VI
38 (NS)	Timer Control Cabinet	39035-06	1

Item	Description	Part No.	Qty
39 (NS)	Silicone Sealant RTV Clear	36663	1
40 (NS)	Manual/Label Kit	39043-D	1
41 (NS)	Hardware Kit F/Adpt Flg/Blower	39048-30	1
42 (NS)	Pulse Plenum Piping Kit	39044	1

Table VI. Martin® Air Cleaner Part Numbers and Quantities

Assembly P/N	Qty Item 20	Qty Items 21 & 23	Qty Items 24, 25, 26	Qty Item 24	Qty Items 27 & 28
DFAC-30XFODX	3	2	4	13 ft	8
DFAC-30XOFDX	3	2	4	13 ft	8
DFAC-30XDFOX	3	2	4	13 ft	8
DFAC-30XDOFX	3	2	4	13 ft	8
DFAC-30XDFDX	1	4	8	26 ft	16

Assembly P/N	P/N Item 19	Qty Item 35
DFAC-30XXXXXX	39017-14	1
DFAC-30XXXXXN07	39017-07	0
DFAC-30XXXXXN08	39017-08	0
DFAC-30XXXXXN13	39017-13	0
DFAC-30XXXXXN14	39017-14	0
DFAC-30XXXXXN16	39017-16	0
DFAC-30XXXXXN18	39017-18	0

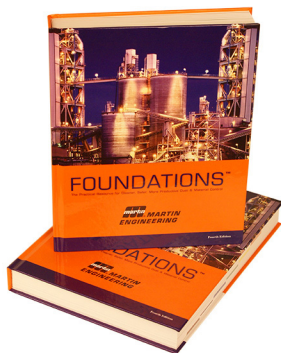
Assembly P/N	P/N Item 35	Motor HP*
DFAC-30XXXXXA	39032-130-5EA	5
DFAC-30XXXXXC	39032-130-5E	5
DFAC-30XXXXXF	39032-130-5EF	5

*Electric Motors are 230/460V 3-Phase TEFC

Assembly P/N	P/N Item 3	P/N Item 4	P/N Item 17	Qty Item 18	Qty Item 37
DFAC-30SXXXXX	38953-3TS	38432-FP	39030-03	-	-
		38432-FPS			
DFAC-30SXXXXX	38953-3GTS	38432-FPE	39030-04	4	1

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