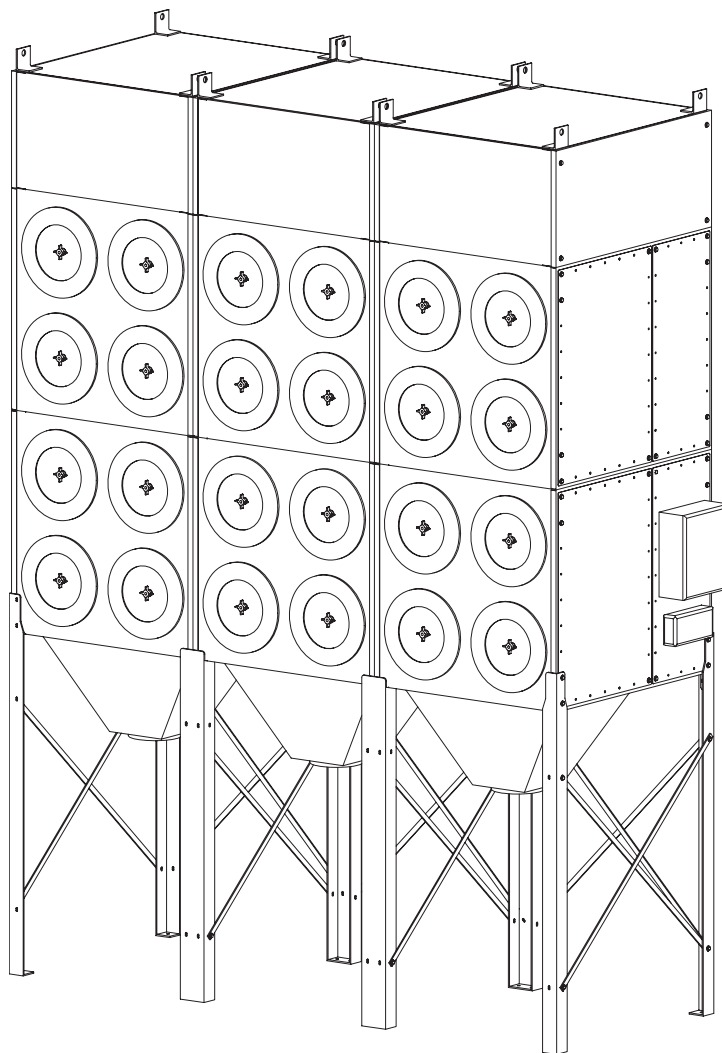


MICRO-AIR DUST COLLECTOR

Installation and Operation Manual

MODEL RP6-2, RP-3, RP8-2 & RP-3



Important:

This manual contains specific cautionary statements relative to worker safety. Read this manual thoroughly and follow as directed. It is impossible to list all the hazards of dust control equipment. It is important that use of the equipment be discussed with a Micro Air Representative. Persons involved with the equipment or systems should be instructed to operate in a safe manner.

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Cautions:

Avoid mixing combustible materials, such as buffing lint, paper, wood, aluminum, and magnesium dust, and with dust generated from grinding ferrous metals due to the potential fire hazard caused by sparks in the dust collector.

Under no conditions should the persons operating the dust collector be allowed to put cigarettes or any burning object into the hood or ducting of any dust collector system.

All users of Micro-Air Dust Collector Equipment should comply with all National and Local Fire Codes and/or other appropriate codes when determining the location and operation of dust control equipment.

Many of the processes outlined in this manual will expose the installer to circuits powered by high voltage. This installation is recommended for professional electricians or MicroAir trained personnel.

When dust collectors are used to collect flammable or explosive dusts, the dust collector should be located outside the building. Also, an installer of fire extinguisher equipment, familiar with this type of fire hazard and local fire codes, should be consulted for recommendations and installation of the proper fire extinguishing equipment. Dust collectors do not contain fire extinguishing equipment.

Explosion relief vents are required on some applications. Consult with an insurance underwriter or a NFPA manual to determine proper vent size ratio. Vents installed on dust control equipment within a building, must be vented to the outside to minimize changes of secondary explosion. Consult the proper authority having jurisdiction to determine proper method of venting.

Dust collectors do not contain Explosion Relief Vents, except on special order.

All wiring must be done in accordance with applicable National, State, and local electrical code. MicroAir does not determine what is acceptable in any local jurisdiction and cannot be held responsible for wiring that does not meet local codes.

Improper installation or operation of this equipment can cause damage to equipment and / or injury to personell. The installation/operation manual must be read and followed in its entirety.

Specifications:

Input Voltage:

120 Volt

Cabinet Dimensions:

RP6-2	151" H x 84" W x 56" D
RP6-3	151" H x 126" W x 56" D
RP8-2	173" H x 84" W x 56" D
RP8-3	173" H x 126" W x 56" D

Weight:

RP6-2	2318 lb.
RP6-3	3477 lb.
RP8-2	3098 lb.
RP8-3	4647 lb.

Filter Area:

RP6-2	3492 square feet
RP6-3	5238 square feet
RP8-2	4656 square feet
RP8-3	6984 square feet

Air Requirements:

- Minimum air line 3/4 inch at 80 psi minimum / 90 psi maximum.
- 3/4" NPT Female fitting is standard for shop air attachment.
- Clean, dry, compressed air at the correct pressure is required for the cleaning system to operate correctly. It is recommended that a pressure regulator and coalescing filter be installed between the compressed air source and the inlet to the dust collector.

Installation:

Inspection:

The Micro-Air Dust Collector is shipped on two skids. Both skids should be inspected for any visible damage that may have occurred during shipment. One skid is the blower motor and collector cabinet. The other skid will have the following:

RP6-2 & RP8-2:

2 ea. Cust Collection Tray/Hopper
6 ea. Mounting Legs

RP6-3 & RP8-3:

3 ea. Cust Collection Tray/Hopper
8 ea. Mounting Legs

Additional equipment that may be shipped separately includes:

55 Gallon Barrel Lid Kit & Explosion Kit.

RP6-2 & RP8-2

10 ea. Cross Leg Braces
2 ea. Mounting Hardware Packages Containing:
12 ea. 5/16 Hex Bolts
12 ea. 5/16 Flat Washers
12 ea. 5/16 Lock Washers
20 ea. Self-Tapping Screws
11 ft. Self Adhesive Foam

RP6-3 & RP8-3

14 ea. Cross Leg Braces
3 ea. Mounting Hardware Packages Containing:
12 ea. 5/16 Hex Bolts
12 ea. 5/16 Flat Washers
12 ea. 5/16 Lock Washers
20 ea. Self-Tapping Screws
11 ft. Self Adhesive Foam

Equipment/Tools Required:

Equipment and tools needed for proper installation will include the following:

Crane or Lift Truck
Lift Straps or Chain
1/2" Socket Wrench
Pipe Wrench

Assembly of Unit:

1. Determine the location where the unit is to be installed. Be sure to allow sufficient room to access the unit for servicing and maintenance on all sides.

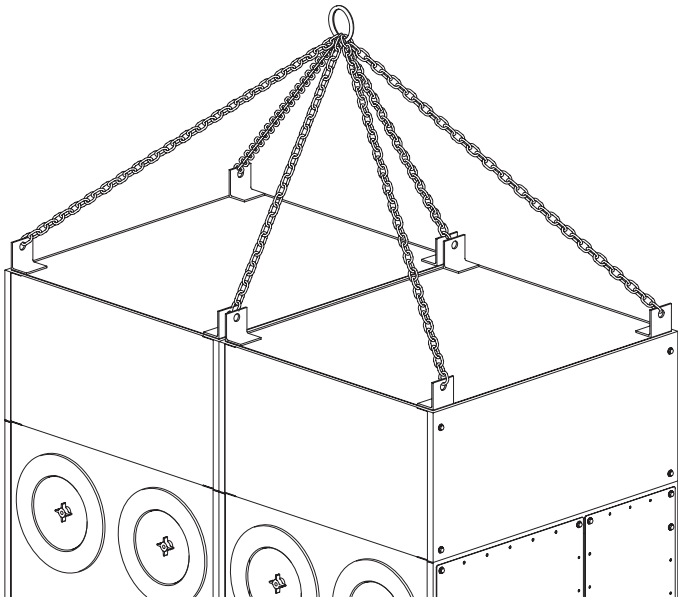


FIGURE 1

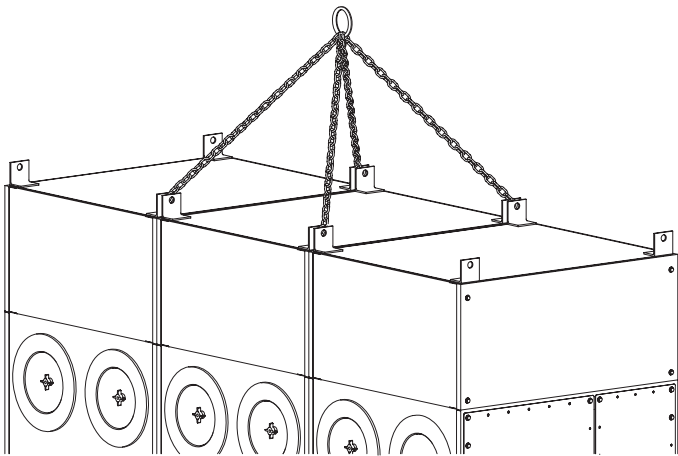


FIGURE 2

CAUTION: THE UNIT SHOULD BE LIFTED OFF THE SKID AND SET INTO POSITION BY UTILIZING THE LIFTING LUGS PROVIDED. SEVERE DAMAGE MAY RESULT FROM ANY OTHER LIFTING METHOD.

2. Lift the unit with a lift truck or overhead crane using the four lifting lugs located at the corners of the unit (see Figure 1 & 2).
3. Bolt on each of the legs. The two lower bolts at each corner will be removed and used to attach each corner leg (see Figure 3). Attach middle legs with provided hardware (see Figure 4).
4. When the legs have been completely installed each leg should be bolted to the ground using the hole provided in the base plate of the leg (see Figure 5).
5. After the legs have been properly anchored, the dust containment system can be installed.

CAUTION: THE UNIT IS NOT DESIGNED TO BE OPERATED WHILE HANGING FROM LIFTING BRACKETS. UNIT MUST BE MOUNTED ON LEGS AND CROSS BRACING INSTALLED.

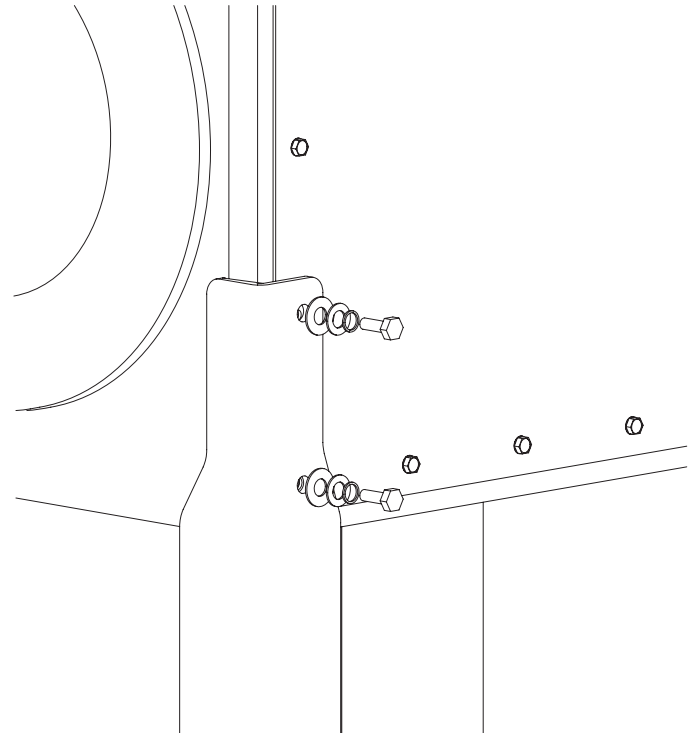


FIGURE 3

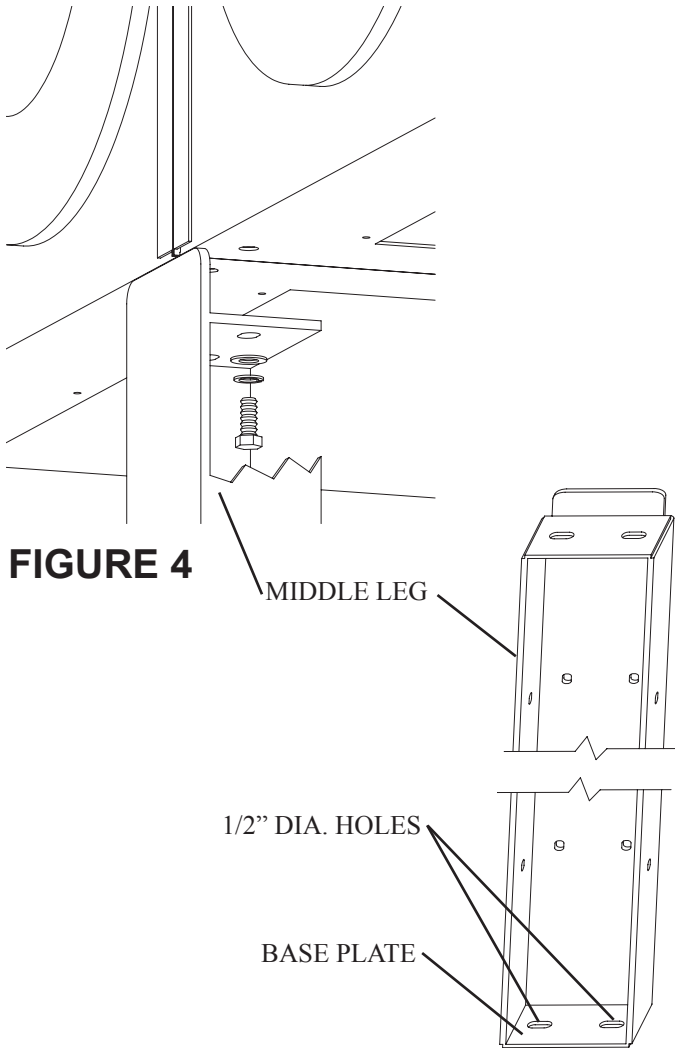


FIGURE 4

MIDDLE LEG

1/2" DIA. HOLES

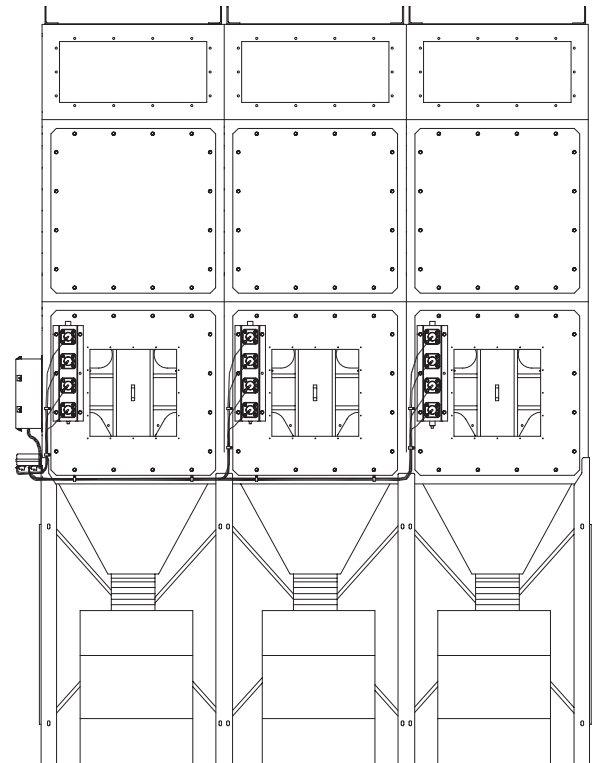
BASE PLATE

FIGURE 5

Compressed Air Installation

The compressed air inlet for the Roto-Pulse cleaning system is at the top of the piping assembly located on the backside of the unit (see Figure 6). A minimum of a 3/4 inch line and plant air at a pressure at 80 psi is required for proper operation of the Roto-Pulse cleaning system. A single 3/4" air line, branched to each manifold, is sufficient to the entire unit.

NOTE: Clean, dry, compressed air at the correct pressure is required for the cleaning system to operate correctly. It is recommended that a pressure regulator and coalescing filter be installed between the compressed air source and the inlet to the dust collector.



COMPRESSED AIR INLET
3/4" FEMALE NPT

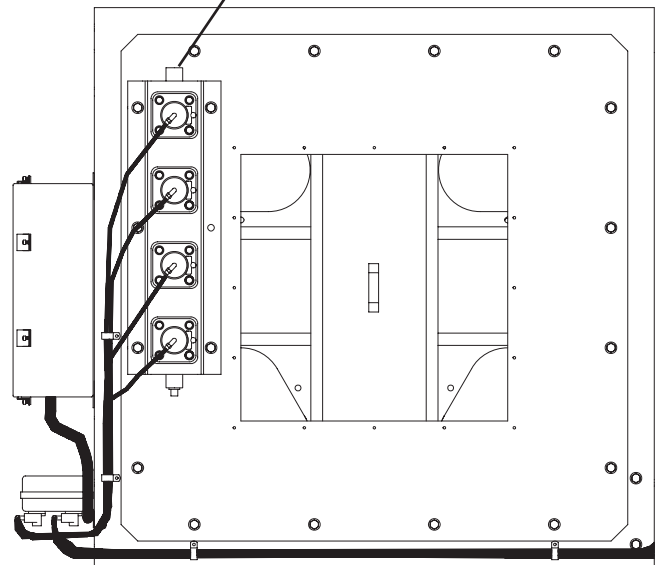


FIGURE 6

Electrical Installation

NOTE: All electrical work must be done by a qualified electrician.

CAUTION: Installation can cause exposure to live components. Disconnect electrical power before proceeding with installation. Proper lock out/tag out procedures should be used.

1. Open the electrical box cover located on the side of the unit. Make connections from your 120V supply power to terminal L, N and G (see figure 7).
2. When supply power has been terminated, reconnect the power. Momentarily turn the remote blower on and adjust pressure switch via set screw until contact is made. Use ohm meter to measure continuity across the pressure switch.

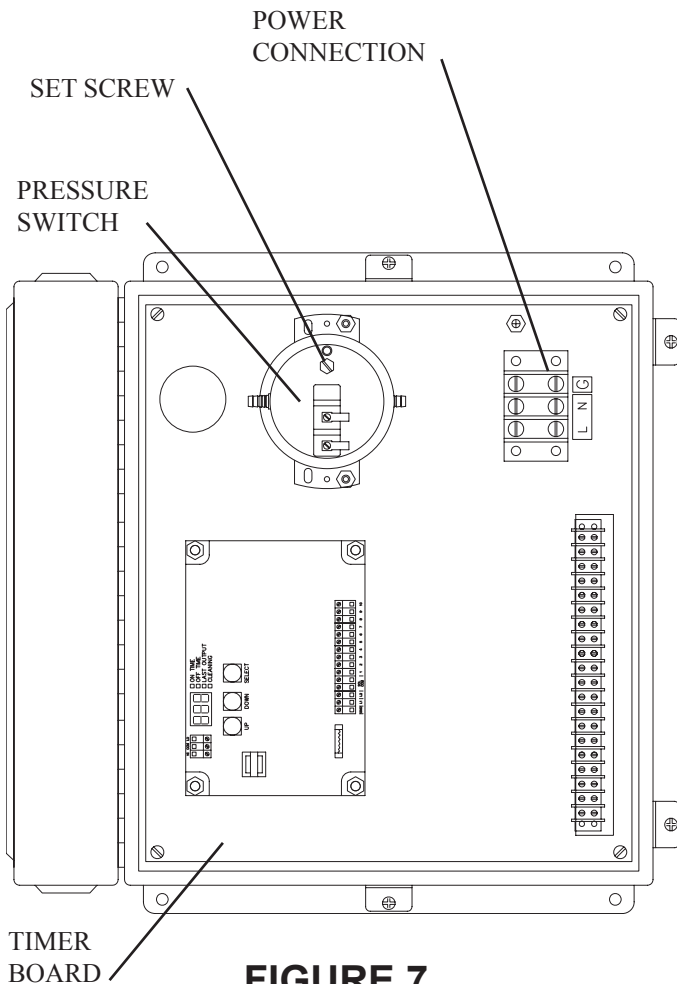


FIGURE 7

Unit Operation

1. Turn the blower on. This action will cause the filter unit to activate and start cleaning filters.

NOTE: Some particulate may pass through the cartridge filters and blower upon initial start-up. This will end once the filters have been seasoned and a power cake has formed on the filter. If this condition continues to occur, refer to the section “Roto-Pulse Cleaning Timer Adjustments” to increase the period of time between pulses.

2. Once the unit is running the Roto-Pulse cleaning system will be operational. Operation is detected by hearing a .07-second air pulse approximately every 5 seconds. If adjustment to timing of pulses is desired refer to the section “Roto-Pulse Cleaning Timer Adjustments”.
3. Check the After-Pulse Cleaning cycle by turning off the unit via the stop switch located on the side of the electrical box. The unit should continue to pulse every 5 seconds for a period of approximately 17 minutes. If adjustment to the after-pulse time is desired, refer to the section labeled “After-Pulse Cleaning”.

Cartridge Cleaning Operation

The Micro Air Dust Collector is designed with the Roto-Pulse Cleaning System to clean the cartridge filters.

This system provides superior cleaning performance using a rotating tube with pre-drilled holes (see Figure 8). As the diaphragm valve opens, the Roto-Pulse tube rotates while air exits the holes, thus providing the cleaning of the cartridge.

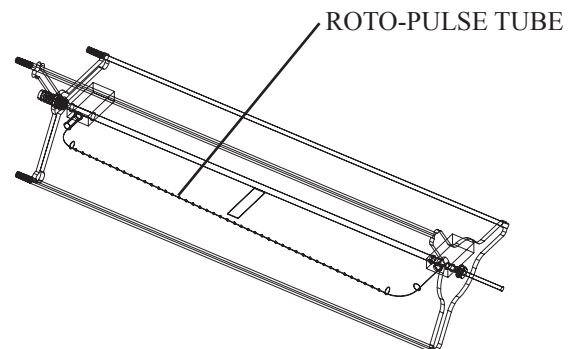


FIGURE 8

1. For proper cleaning, the compressed air pressure should be regulated at 80 psi maximum.
2. During normal operation the Roto-Pulse cleaning system is factory set to clean two (2) cartridge filters for a period of .07 seconds every 5 seconds.
3. Once the unit is turned off, the cleaning cycle will continue for a period of 17 minutes. Do not service the filters until cleaning is completed.

CAUTION: Allow 20 minutes of downtime before opening filter access doors. After-Pulse system is momentarily operational After unit is turned off.

4. The Roto-Pulse cleaning operation dislodges particles from the cartridges. Particles then fall down into the dust hopper and collection hopper.
5. After continued use of the unit, the dust collection barrel will need to be removed and emptied. The frequency of servicing will vary depending on the type and quantity of dust that is collected. The dust collection barrel should be emptied when the barrel reaches half full (Dependent on weight of material being collected.)

NOTE: When servicing the collection system, be sure to turn the unit off.

Roto-Pulse Cleaning Timer Adjustments

1. Turn unit off via the stop switch and disconnect power.
2. Remove the electrical box cover.
3. The timer control board is present at the factory to clean two (2) cartridge filters every 5 seconds. This time can be adjusted from 1 second to 999 seconds. To adjust this time press the select button on the timer board until the off time LED is lit. Press the up/down buttons until the desired value is displayed. Press select to set the new value.

NOTE: Cleaning of the filters too often will decrease your level of performance. A certain level of dust cake on the filters will improve the efficiency of the filter cartridges. You should try to maintain a minimum of 1 in w.c. of pressure

differential across the filters. If you can not maintain this minimum level of differential across the filters the time between cleaning pulses should be increased until this can be achieved.

4. The timer control board is preset at the factory to have a cleaning pulse duration of .07 seconds. This can be adjusted from .05 seconds to 600 seconds. the timer board until the on time LED is lit. Press the up/down buttons until the desired value is displayed. Press select to set the new value.

NOTE: While this time can be adjusted we recommend that you leave the "ON TIME" at the factory setting. If less cleaning is needed you should increase the time between pulses as means of reducing the amount of cleaning. If more cleaning is needed you should decrease the amount of time between pulses. Beware, as the time between pulses is decreased for additional cleaning, this will increase your compressed air consumption and create an additional load on your compressed air system.

5. once adjustments have been made replace the electrical box cover and reconnect the power.
6. Start the unit and observe the new pulse settings and determine if additional adjustments are necessary. If more adjusting is needed, repeat the previous steps.

After-Pulse Cleaning Timer Adjustments

1. The unit is equipped with an After-Pulse Cleaning Cycle. This cycle will continue to clean the cartridge filters for a period of time after the unit is turned off.
2. The length of the After-Pulse operation is preset at the factory for 999 seconds (17 minutes). This time can be adjusted from 0 seconds to 999 seconds. To adjust this time press the select button until the off time LED is lit. Press and hold the select button for 3 seconds. Press the up/down buttons until the desired value is displayed. Press select to set the new value. The after-pulse operation can be disabled by setting the time value to zero (0) seconds.

RP DUST COLLECTOR

DUST COLLECTION TRAY INSTALLATION PROCEDURE

Each Kit Includes:

20 ea.	P3543	Self-Tapping Screws
12 ft.	P3686	3/16" x 1" Self-Adhesive Foam
86 in.	P1367	1" x 3/4" Foam (Placed at inside of Access Door)
1 ea.	38379-01	Dust Tray Weldment
2 ea.	38380-01	Dust Tray
1 ea.	38378-01	Dust Tray Access Door
2 ea.	P1372	Door Latch

NOTE: Dust tray access door must be removed prior to assembly

INSTALLATION:

1. Apply self-adhesive foam to the bolt hole flange on the dust tray.
2. Align the hole pattern on the dust tray flanges with the hole pattern on the underside of the unit.
3. Attach the dust tray (38379-01), using twenty (20) self-tapping screws, to the unit.

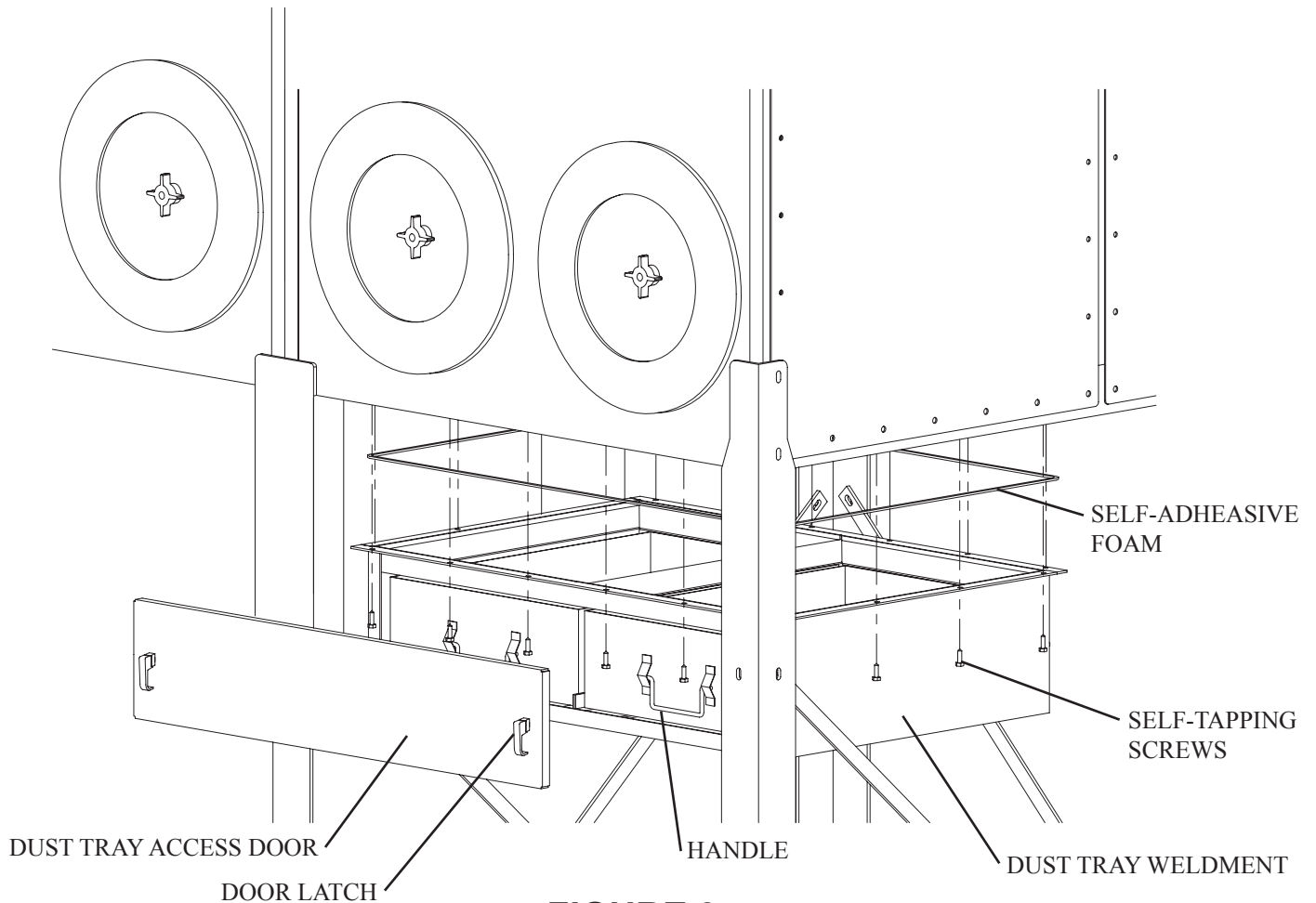


FIGURE 9

RP DUST COLLECTOR

DUST COLLECTION HOPPER INSTALLATION PROCEDURE

Each Kit Includes:

20 ea.	P3543	Self-Tapping Screws
12 ft.	P3686	3/16" x 1" Self-Adhesive Foam
1 ea.	38222-01	Hopper Weldment

INSTALLATION:

1. Apply self-adhesive foam to the bolt hole flange on the hopper.
2. Align the hole pattern on the hopper flanges with the hole pattern on the underside of the unit.
3. Attach the hopper (38222-01), using twenty (20) self-tapping screws, to the unit.

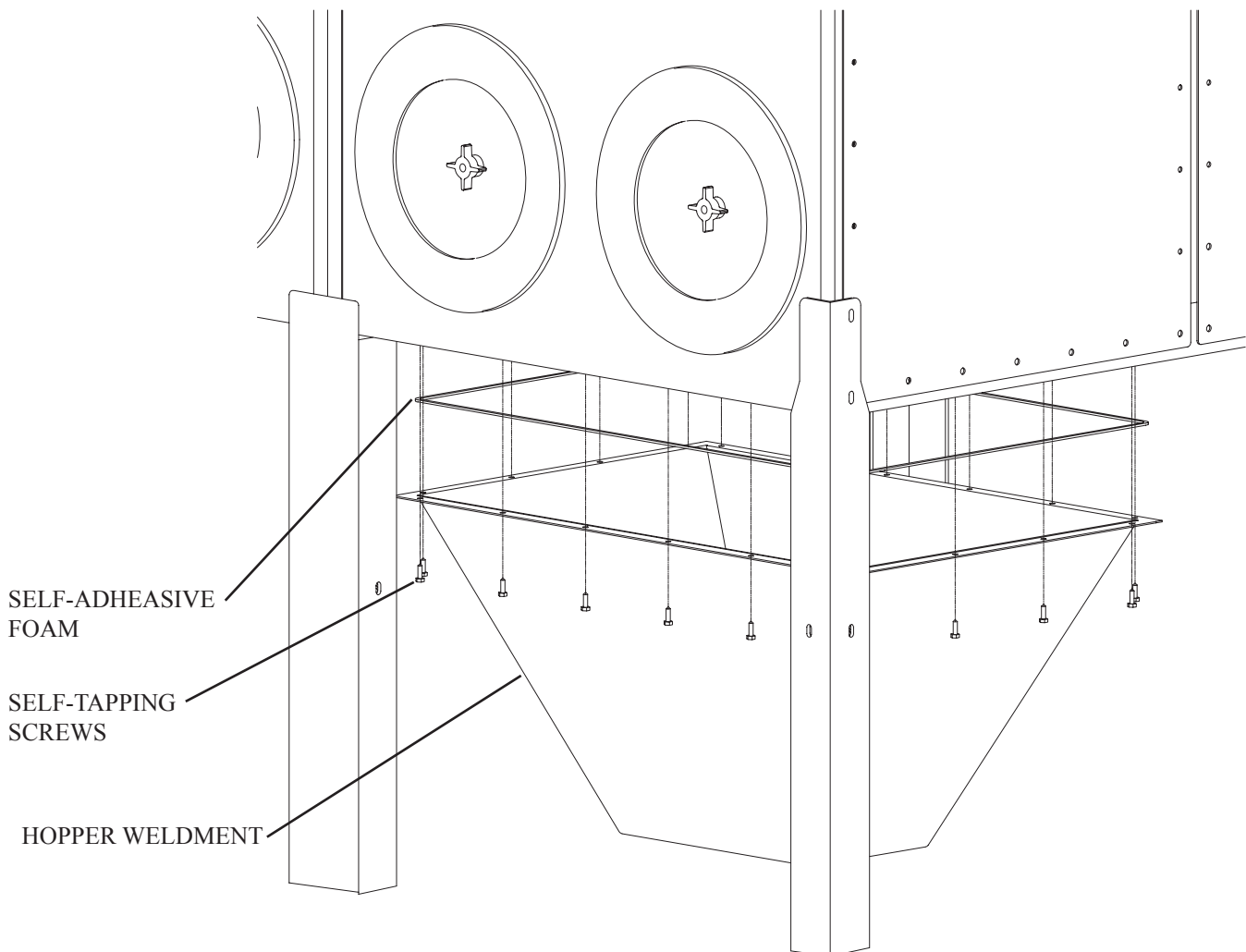


FIGURE 10

RP DUST COLLECTOR

DUST COLLECTOR LEG BRACING INSTALLATION PROCEDURE

Each Kit Includes:

15 ea.	P222	5/16" Hex Nuts
15 ea.	P2614	5/16" Hex Bolts
30 ea.	P3615	5/16" Flat Washers
30 ea.	P249	5/16" Lock Washers
2 ea.	38394-01	Short Leg Cross Brace
4 ea.	38394-02	Long Leg Cross Brace

INSTALLATION:

1. Straighten and plumb each individual leg.
2. Bolt each end of the cross braces to the legs.
3. Tighten all bolts until secure.

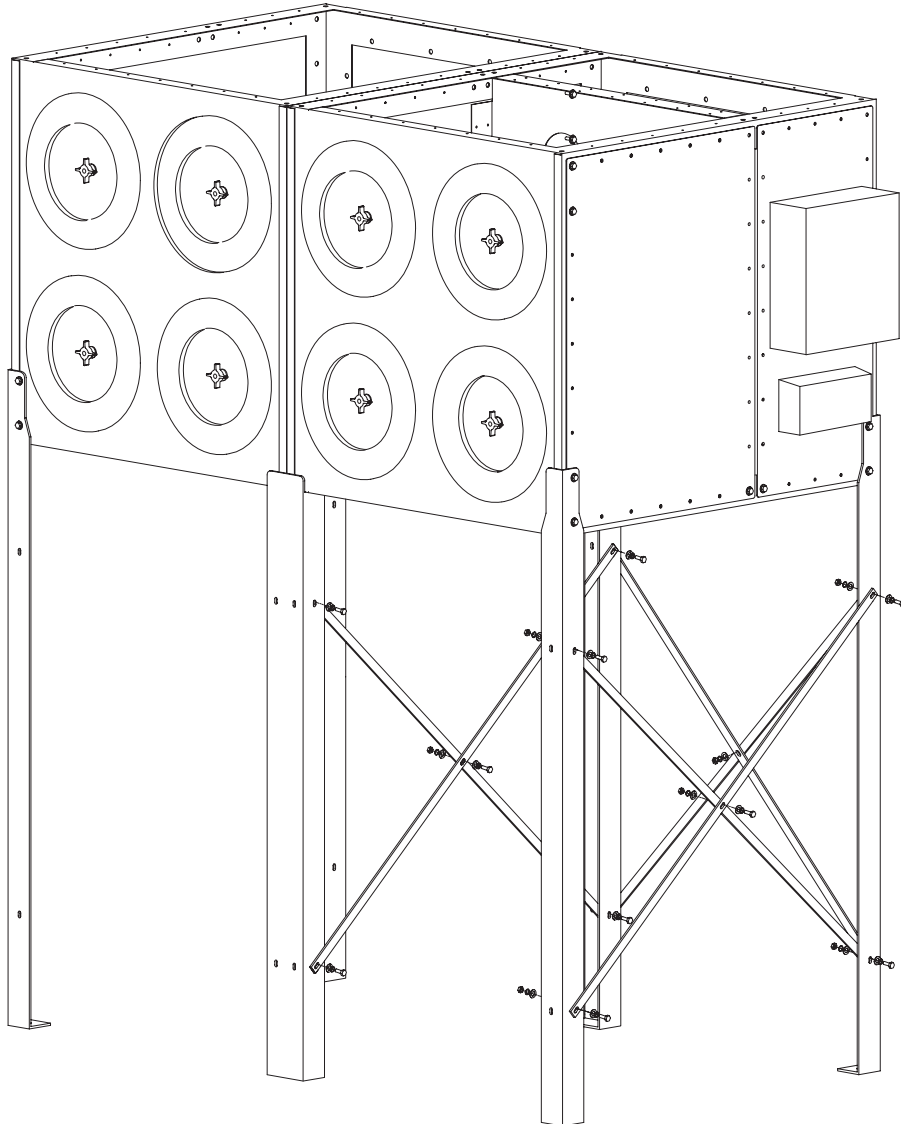


FIGURE 11

RP DUST COLLECTOR

AFTERMARKET MAGNEHELIC KIT INSTALLATION PROCEDURE

This Kit Includes:

1 ea.	38294-01	Magnehelic Mounting Bracket
1 ea.	P3755	0-10" w.c. Magnehelic Gauge
2 ea.	P2098	1/8" Male x 1/4" Barb Fitting
4 ea.	P3543	1/4"-14 x 1 Self-taping Screw
10 ft.	P1848	1/4" Clear Tubing

INSTALLATION:

1. Remove parts from package and inspect for any possible damage incurred during shipping.
2. Turn off dust collector and disconnect power to the unit.
3. Mount the Magnehelic Gauge into the Magnehelic Mounting Bracket and place the (2) male barb fittings in the pressure ports located on the side of the Magnehelic Gauge.
4. Take the two pressure port plugs supplied with the Magnehelic Gauge on the two ports located on the back side of the gauge.
5. Mount the bracket using the (4) 1/4" self-taping screws.
6. Using 1/4" clear tubing (Additional length can be purchased) connect the "LOW" pressure port on the gauge to the clean air plenum and "HIGH" pressure port to the dirty air plenum.
7. Reconnect the power to the unit and start the dust collector.

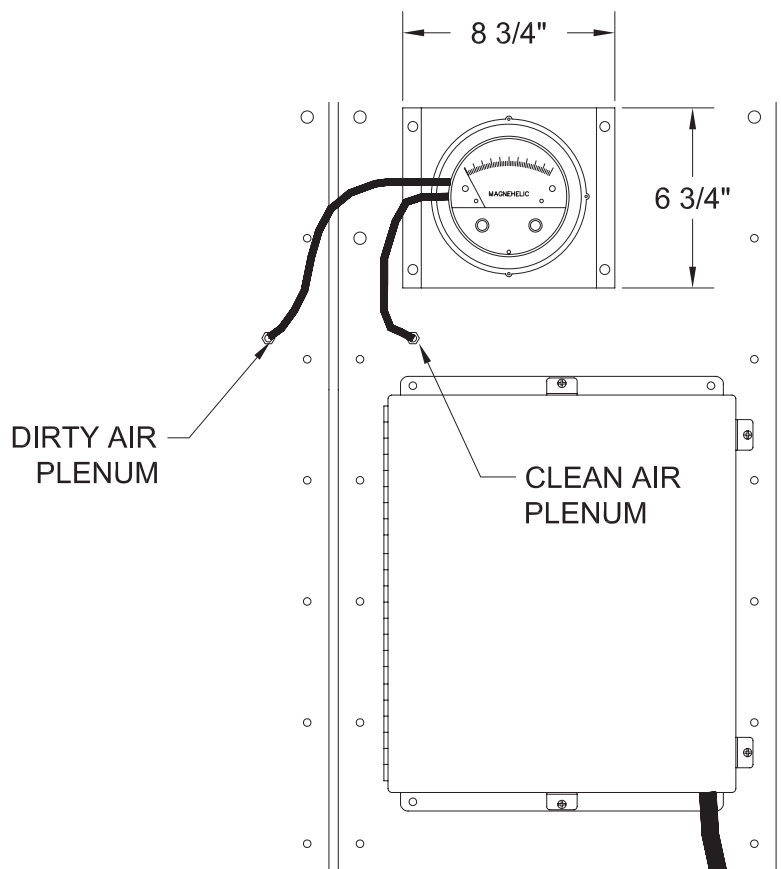


FIGURE 12

RP DUST COLLECTOR

PHOTOHELIC KIT INSTALLATION PROCEDURE

This Kit Includes:

1 ea.	38293-01	Photohelic Mounting Bracket
1 ea.	P3643	0-10" w.c. Photohelic Gauge
2 ea.	P2098	1/8" Male x 1/4" Barb Fitting
4 ea.	P3543	1/4"-14 x 1 Self-taping Screw
10 ft.	P1848	1/4" Clear Tubing

NOTE: When using a Photohelic on a dust collector installed outdoors, the gauge can not be mounted on the unit. It must be mounted indoors. The gauge is not rated for outdoor use.

INSTALLATION:

1. Remove parts from package and inspect for any possible damage incurred during shipping.
2. Turn off dust collector and disconnect power to the unit.
3. Remove the plastic cover on the back of Photohelic Gauge.
4. Mount the Photohelic Gauge into the Photohelic Mounting Bracket and place the (2) male barb fittings in the pressure ports located on the side of the Photohelic Gauge.
5. Remove cover from electrical box so that wiring diagram on back of cover can be used.
6. Remove the two red wires that are connected to the Timer Board Pressure Switch Input and Relay CR1.
7. Wire the Photohelic Gauge as the electrical diagram shows in Detail "A" (see page 10) using the 3/4" conduit opening on the Photohelic and the 3/4" knockout located on the electrical box. (Wire and conduit supplied by others.)
8. Replace the cover back onto the Photohelic Gauge and mount the bracket using the (4) 1/4" self-taping screws.
9. Using 1/4" clear tubing (Additional length can be purchased) connect the "LOW" pressure port on the gauge to the clean air plenum and "HIGH" pressure port to the dirty air plenum.
10. You must place the enable/disable switch located on the timer board to the "DISABLE" position. This will disable the after-pulse mode of the timer board.
11. Replace the cover on the electrical box and reconnect the power to the unit.
12. The right set point dial of the gauge should be positioned at the filter differential set point you want the Roto-pulse system to be enabled. The left should be positioned at the filter differential set point you want the Roto-pulse system disabled.

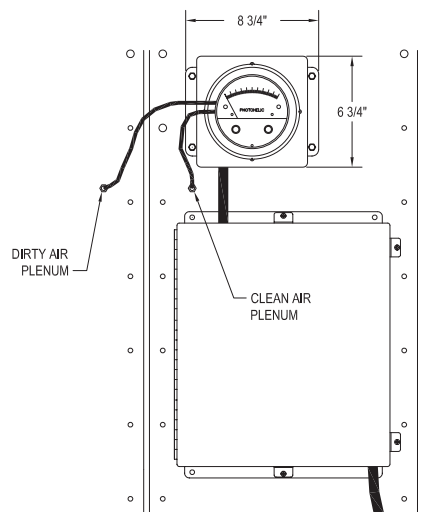


FIGURE 13

RP DUST COLLECTOR

BARREL LID KIT INSTALLATION PROCEDURE

Each Kit Includes:

1 ea.	38198-01	Adapet Plate	8 ea.	P2206	Flat Washer
1 ea.	P3966	Barrel Lid and Duct Kit	4 ea.	P141	3/8-16 Nut
4 ea.	P3119	3/8-16 x 1" Hex Head Bolt	4 ea.	P142	Lock Washer

INSTALLATION:

1. Remove parts from box and inspect for any possible damage incurred during shipping.
2. Bolt Adapter Plate and Hopper Adapter to the Hopper using the 3/8" hardware.
3. Clamp the Pipe Section to the Barrel Lid..
4. Slide the Pipe Section over the Hopper adapter and adjust so that the Barrel lid is resting on the Barrel.
5. Roll the gasket down until it is resting on the flange of the Pipe Section
6. Clamp the Pipe section and gasket together.

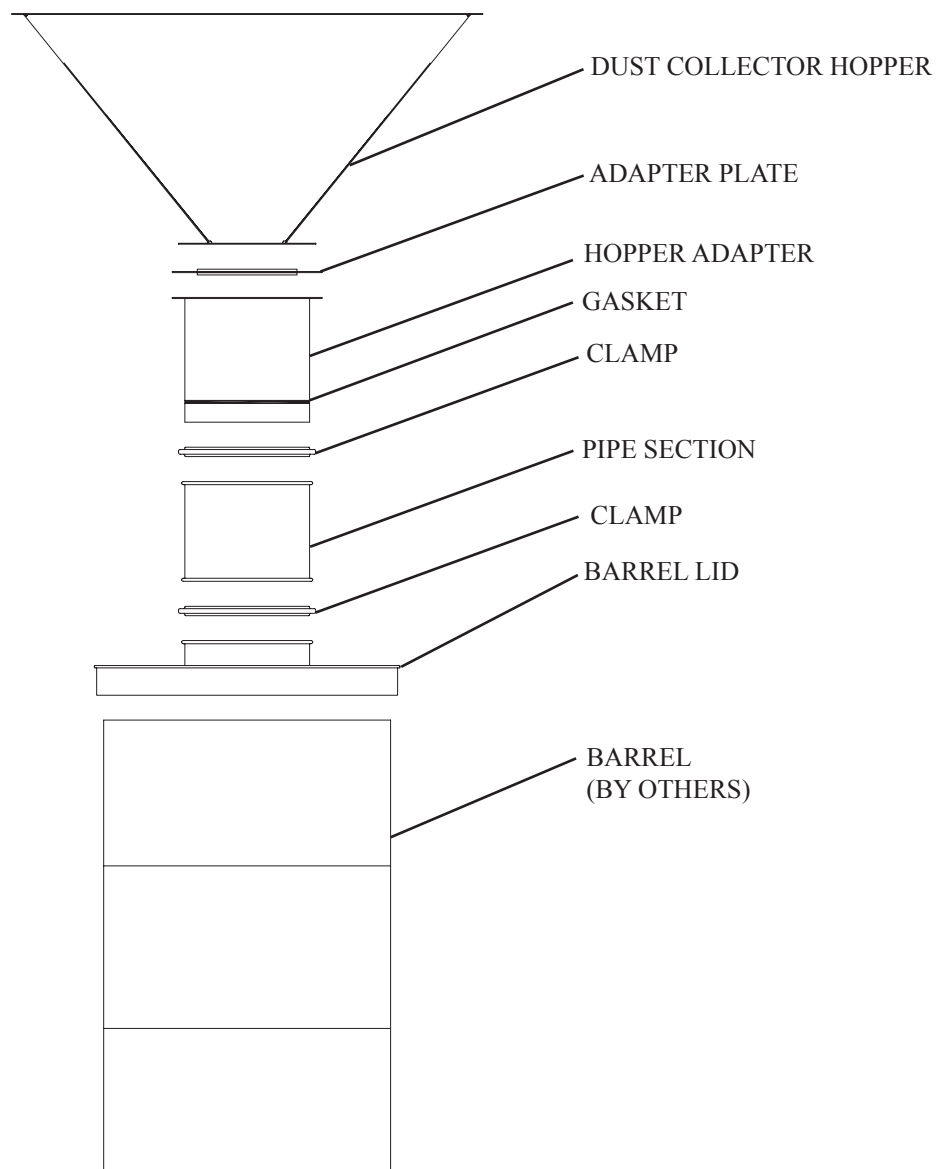


FIGURE 14

RP DUST COLLECTOR

TOP MOUNTED BOLWER INSTALLATION PROCEDURE

This Kit Includes:

12 ea.	P142	3/8" Split-lock Washers
12 ea.	P2206	3/8" Flat Washers
12 ea.	P3119	3/8" - 16 x 1" Hex Head Bolts

Equipment Required:

Chain
Lift Truck or Crane
9/16" Wrench

INSTALLATION:

1. Remove parts from the cloth bag.
2. Turn off dust collector and disconnect power to the unit.
3. Carefully lift the blower and position it over the adapter plate.
4. Align and lower the blower to the top of the adapter plate.
5. Start all 12 bolts through the blower flange into the adapter plate.
6. Tighten the bolts until secured.
7. Attach wiring per blower manufacturer's literature.

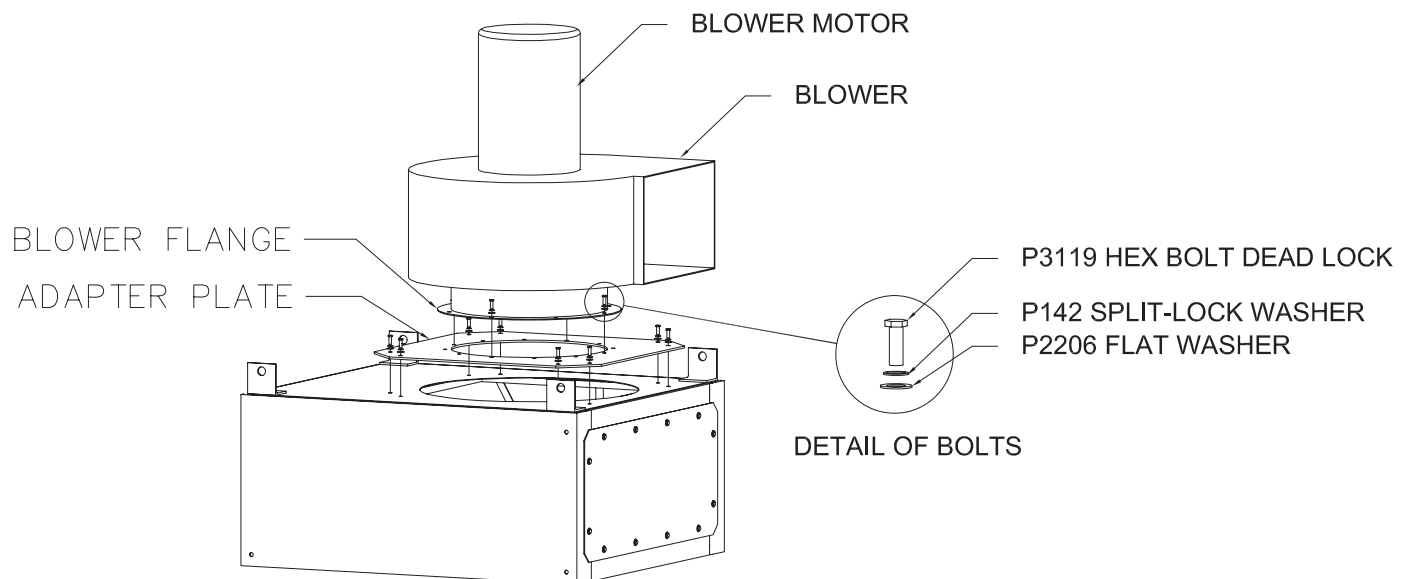


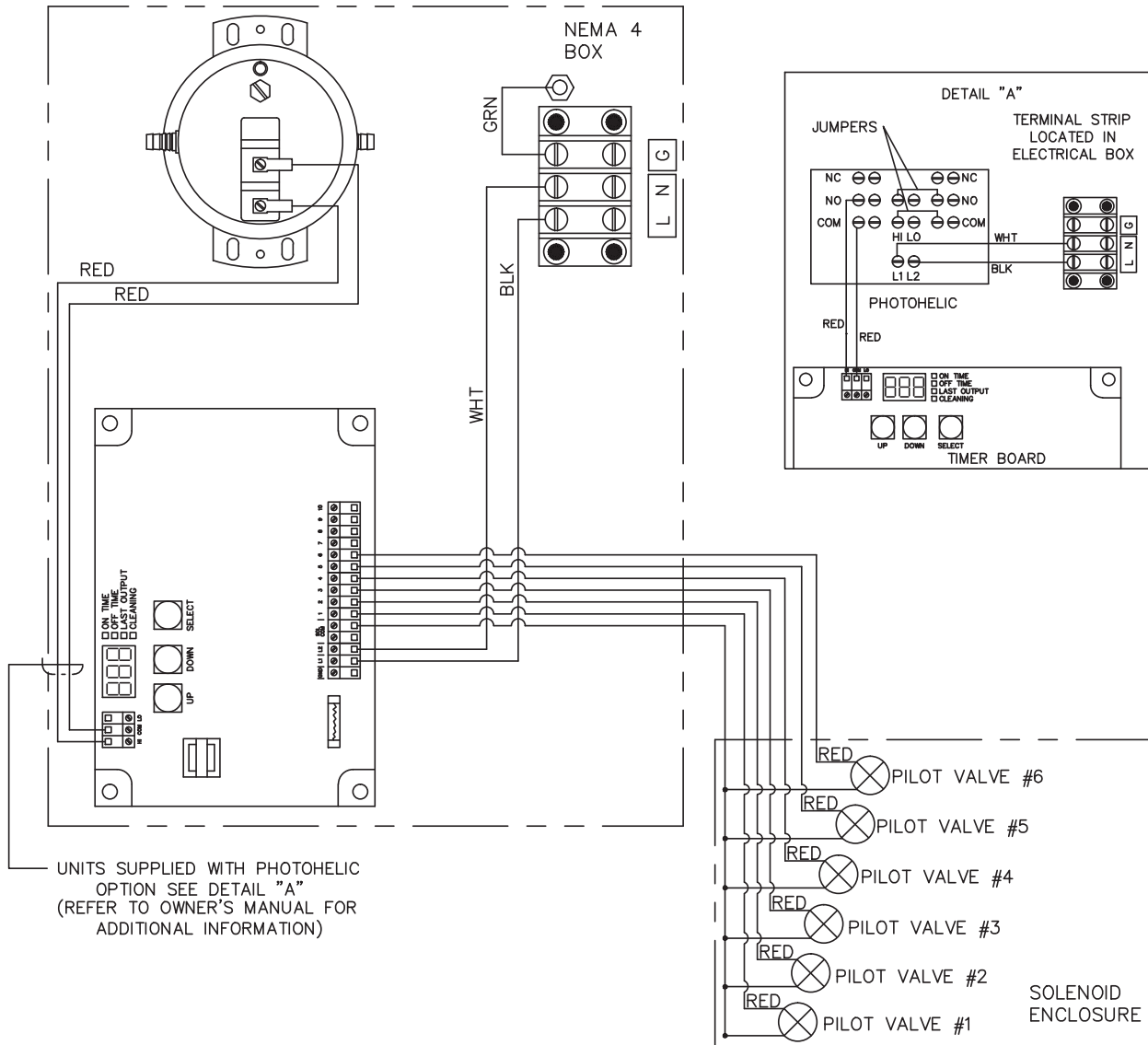
FIGURE 15

RP6-2 WIRING DIAGRAM

RP6-2

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLATION OF PARTS

INPUT VOLTAGE: 120 VAC.



UNITS SUPPLIED WITH PHOTOHELIC OPTION SEE DETAIL "A" (REFER TO OWNER'S MANUAL FOR ADDITIONAL INFORMATION)

METAL-FAB INC., WICHITA KS.

P3791-3

FIGURE 16

RP6-3 WIRING DIAGRAM

RP6-3

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLATION OF PARTS

INPUT VOLTAGE:
120 VAC

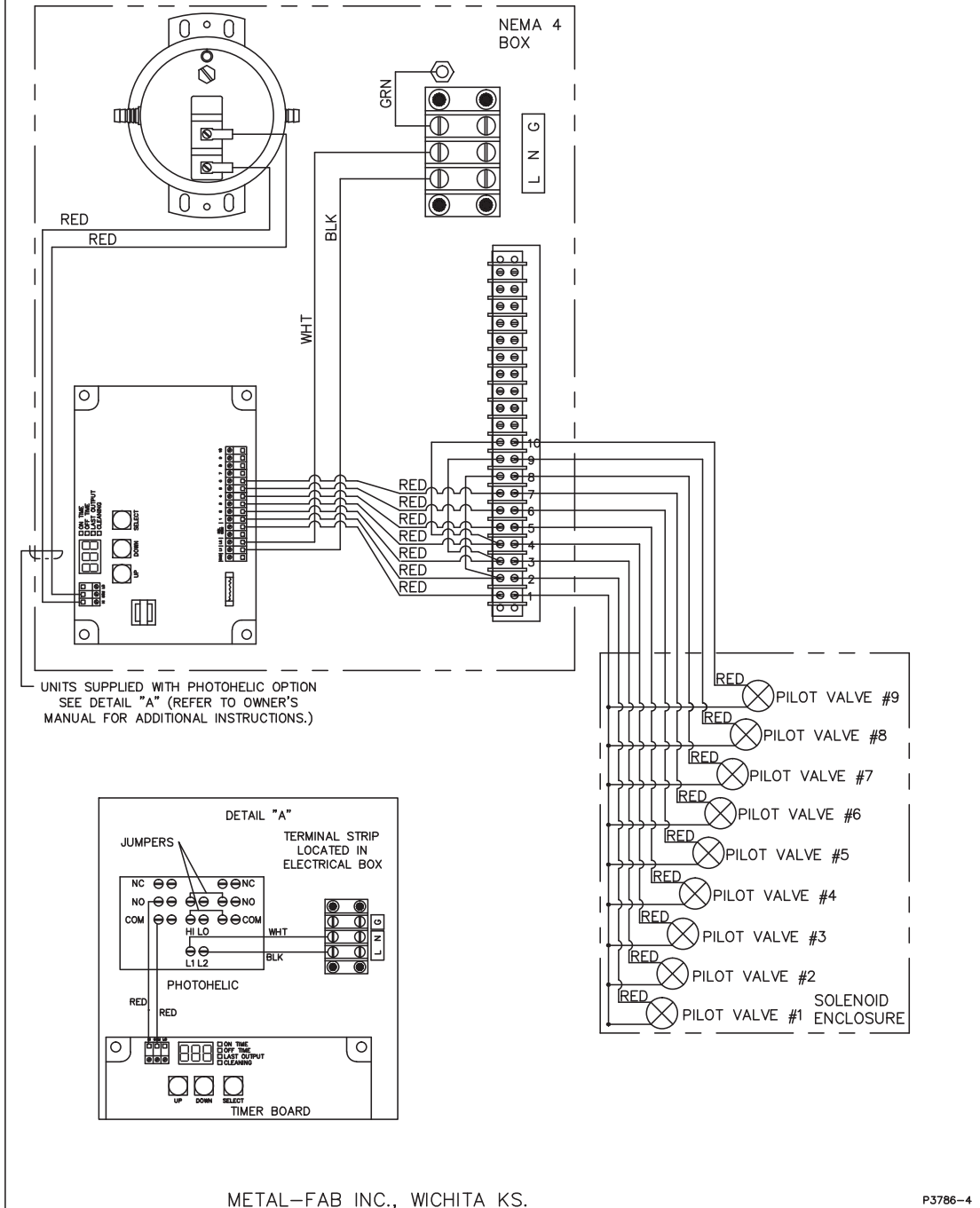


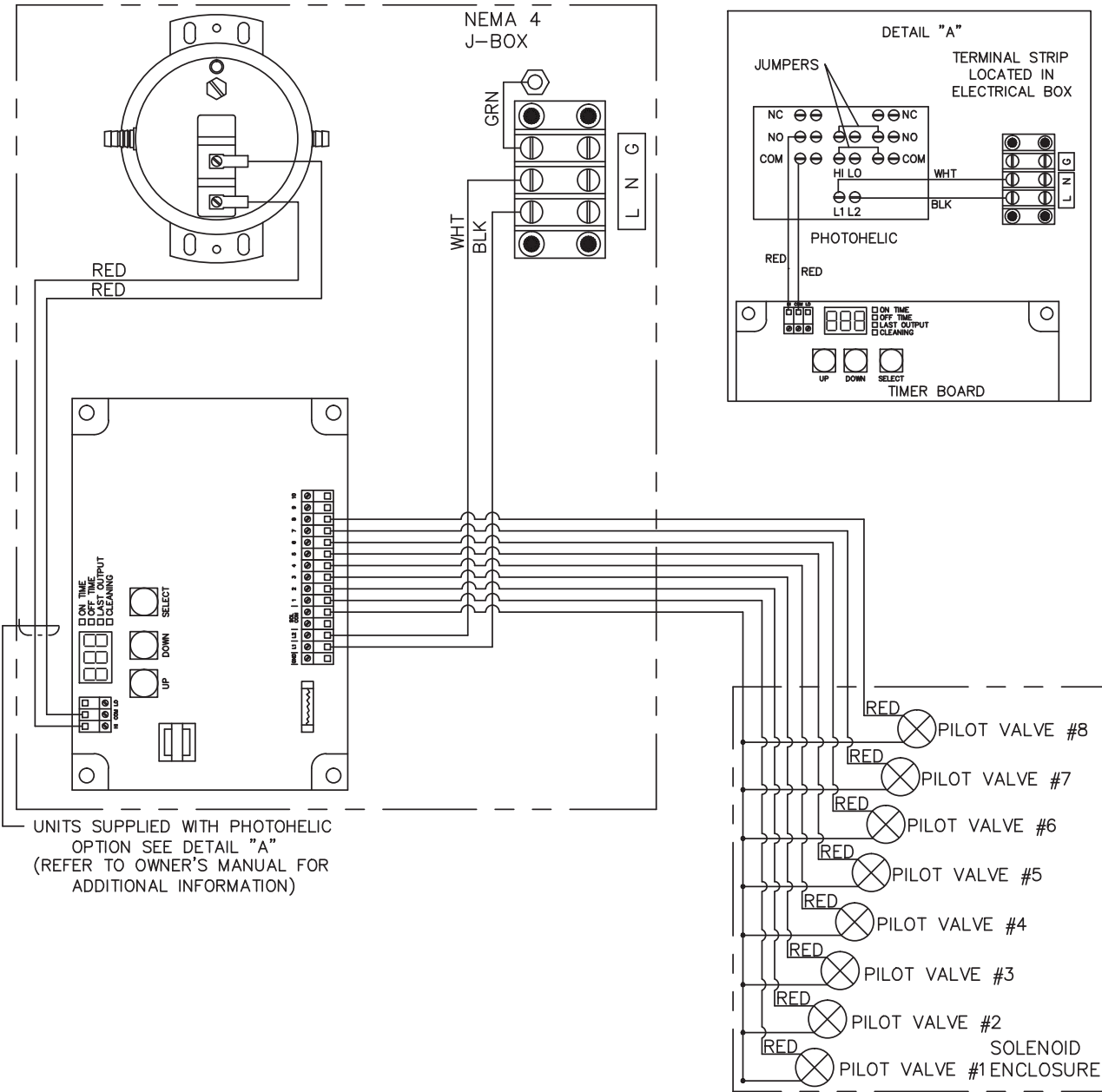
FIGURE 17

RP8-2 WIRING DIAGRAM

RP8-2

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLATION OF PARTS

INPUT VOLTAGE: 120 VAC



METAL-FAB INC., WICHITA KS.

P3759-4

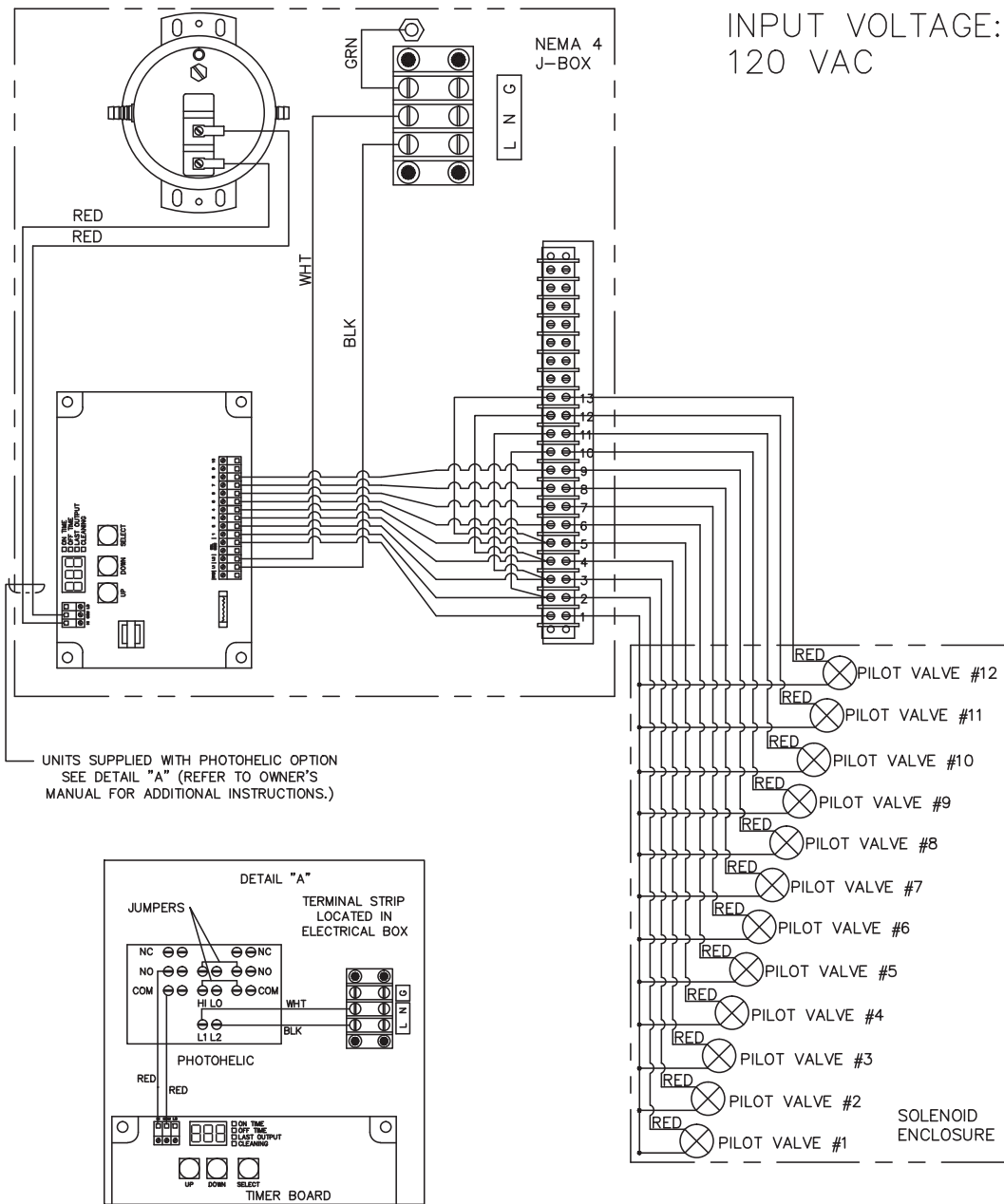
FIGURE 18

RP8-3 WIRING DIAGRAM

RP8-3

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLATION OF PARTS

INPUT VOLTAGE:
120 VAC



METAL-FAB INC., WICHITA KS.

P3748-4

FIGURE 19

RP PARTS LIST - CABINET

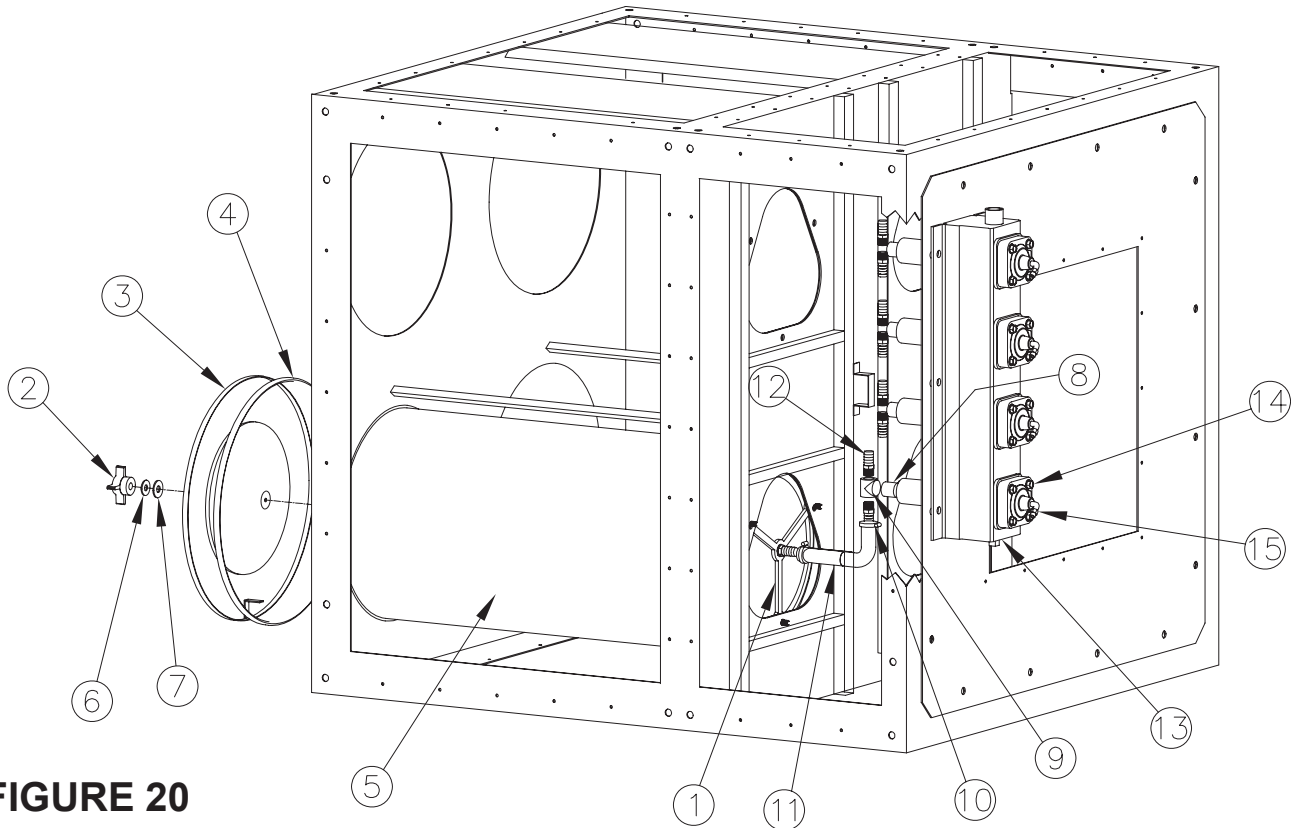


FIGURE 20

ITEM	PART NO.	DESCRIPTION
1	36720-11	Filter Support Assembly (Roto-Pulse)
2	P3649	4-Prong Knob
3	39034-01	End Cap Assy. (Including Door Seal)
4	38342-01	Door Seal
5	P7400RM	80/20 Cellulose Cartridge Filter 250sf
	P7402RM	80/20 Cellulose Cartridge Filter 291sf
	P7404RM	Spun Bound Polyester Cartridge Filter
	P7405HO	Treated Spun Bound Polyester Cartridge
6	P3314	Washer
7	P3559	Rubber Washer
8	P2209	3/4" Close Nipple
9	P3563	3/4" Galvanized Tee
10	P3411	1" Hose Clap
11	P3403	5/8" Air Hose
12	P3585	3/4" NPT x 5/8" Barb
N.S.	38344-01	(2) Valve Manifold
N.S.	38344-02	(3) Valve Manifold
13	38344-03	(4) Valve Manifold
14	38343-01	1" Diaphragm Valve
14A	P3098	Diaphragm Seal
N.S.	P3099	Diaphragm Kit
15	P3735	1/4" 90 deg. Presto Lock

ITEM	PART NO.	DESCRIPTION
16	P3734	1/4" O.D. Air Hose
17	P3744	12 Pilot Valve Enclosure
N.S.	P3657	8 Pilot Valve Enclosure
N.S.	P3656	6 Pilot Valve Enclosure
N.S.	P3784	9 Pilot Valve Enclosure
N.S.	39029-01	Solenoid Repair Kit
18	P3874	Timer Board
19	P3505	Pressure Switch
N.S.	38297-01	MAGNEHELIC Kit
N.S.	38425-01	PHOTOHELIC Kit
N.S.	38284-01	Barrel Lid Kit
20	P3559	Disk Pad (small)
21	P3594	3/8" x 1/2" x 3/8" Bearing
22	P2286	Nylon Shoulder Washer
23	P2285	Compression Spring
24	P2284	Pivot Bolt
25	36713-06	Filter Support Weldment
26	P249	5/16" Lock Washer Pltd.
27	P222	5/16" - 18 Pltd. Hex Nut
28	36730-06	Roto Tube Weldment
29	P3413	1/2" Male x 5/8" Barb
30	P3595	17/32" x 5/8" x 3/4" Bearing

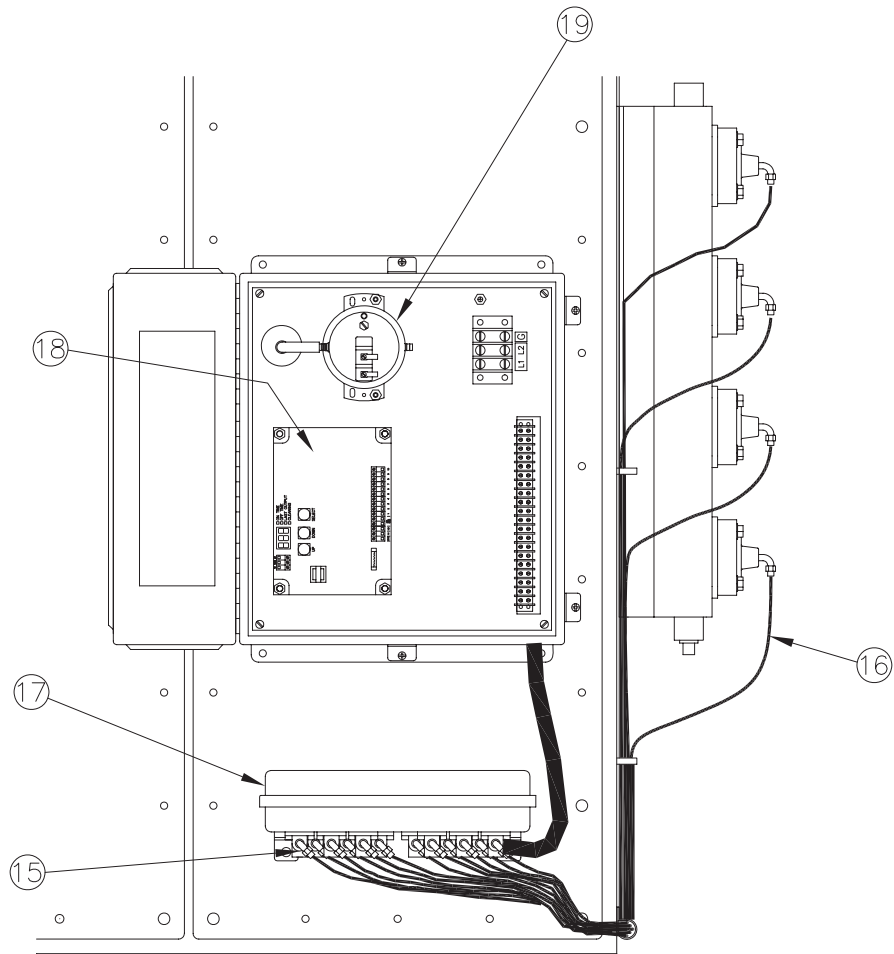


FIGURE 21

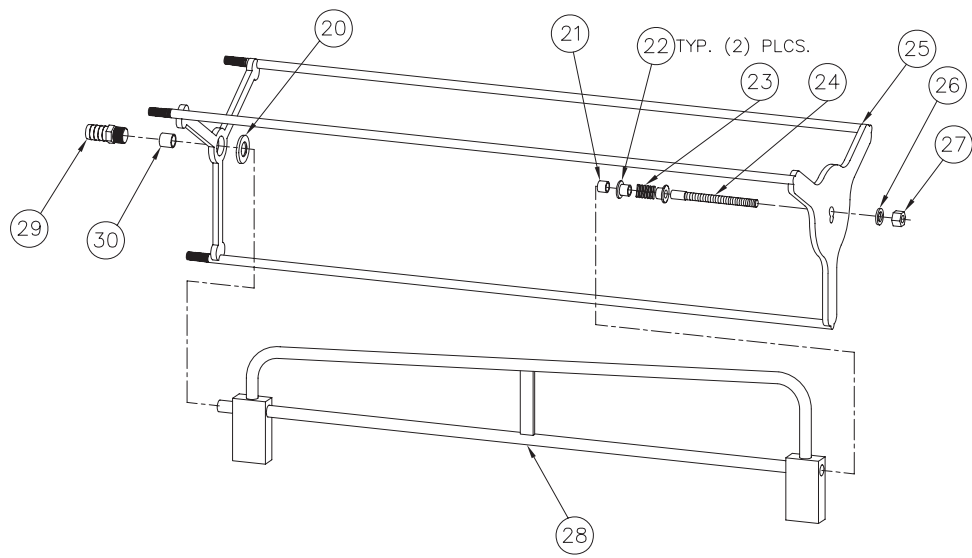


FIGURE 22

