

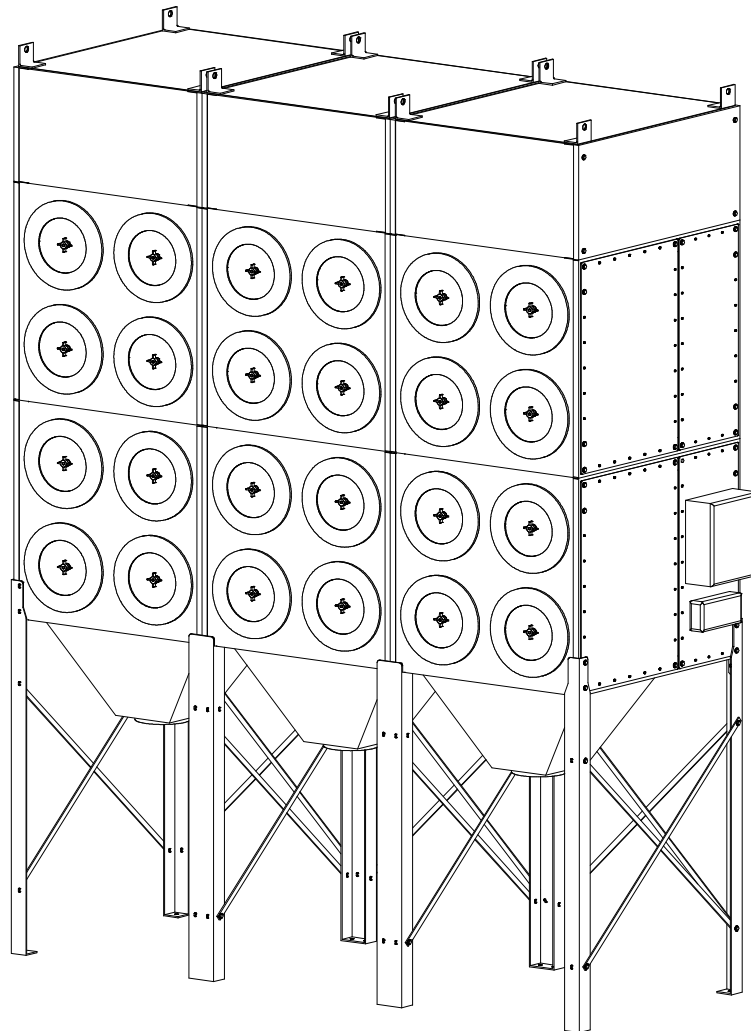
MICROAIR®

MICRO-AIR® DUST COLLECTOR INSTALLATION AND OPERATION MANUAL

MICRO-AIR® CARTRIDGE DUST COLLECTORS

MODELS: RP6-2,-3 & RP8-2,-3.

Includes Installation, Operation, and Service Instructions



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 of 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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MICRO-AIR[®] DUST COLLECTOR INSTALLATION

CAUTION

- 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.
- 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 chances of secondary explosion. Consult the proper authority to determine proper method of venting. **Dust collectors do not contain Explosion Relief Vents, except on special order.**

MICRO-AIR® DUST COLLECTOR SPECIFICATIONS

INPUT VOLTAGE

120V

CABINET DIMENSIONS AND WEIGHTS

RP6-2	151" H x 84" W x 56" D	2318 lb. estimate
RP6-3	151" H x 126" W x 56" D	3477 lb. estimate
RP8-2	173" H x 84" W x 56" D	3098 lb. estimate
RP8-3	173" H x 126" W x 56" D	4647 lb. estimate

FILTER AREA

RP6-2	3492 sq. ft
RP6-3	5238 sq. ft
RP8-2	4656 sq. ft
RP8-3	6984 sq. ft

AIR REQUIREMENTS

- RP6-2, RP8-2 2.7 SCFM at 80 psi. at factory settings.
- RP6-3, RP8-3 5.4 SCFM at 80 psi. at factory settings.
- Minimum air line 3/4 inch at 80 psi maximum.
- 3/4 inch 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.
- A single 3/4" air-line, with branches to each manifold, is sufficient to supply the entire unit.

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 collector cabinet. The other skid will have the following:

RP6-2 & RP8-2

2 ea. Dust Collection Hoppers/Trays
6 ea. Mounting Legs

RP6-3 & RP8-3

3 ea. Dust Collection Hoppers/Trays
8 ea. Mounting Legs

Additional equipment that may be shipped separately include:
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

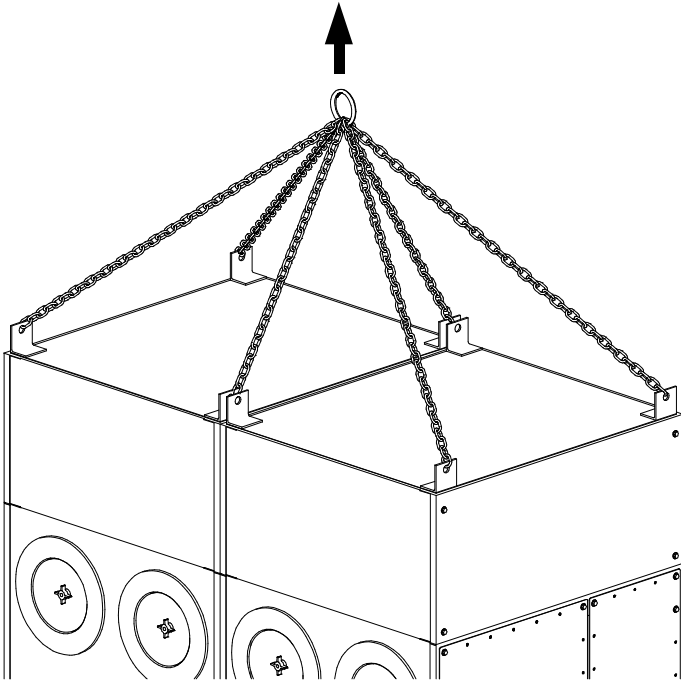


FIGURE 1

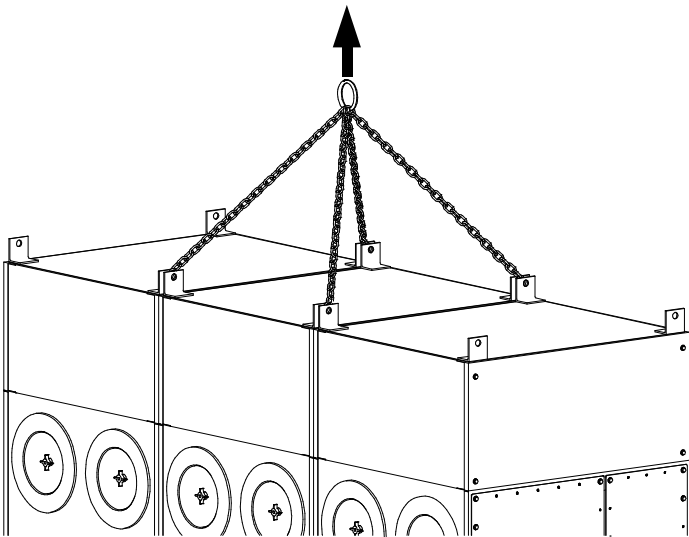


FIGURE 2

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

2. Lift the unit with a lift truck or overhead crane using the lifting brackets. Caution: Use the suggested method as shown or damage may result to 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 as shown in 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**).

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

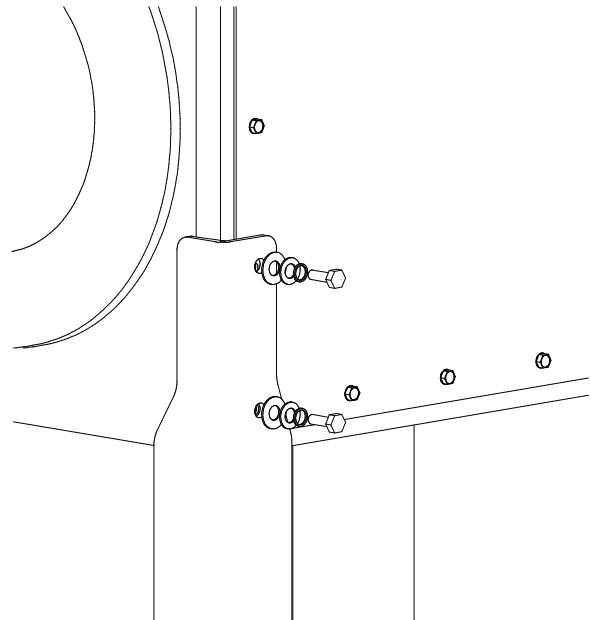
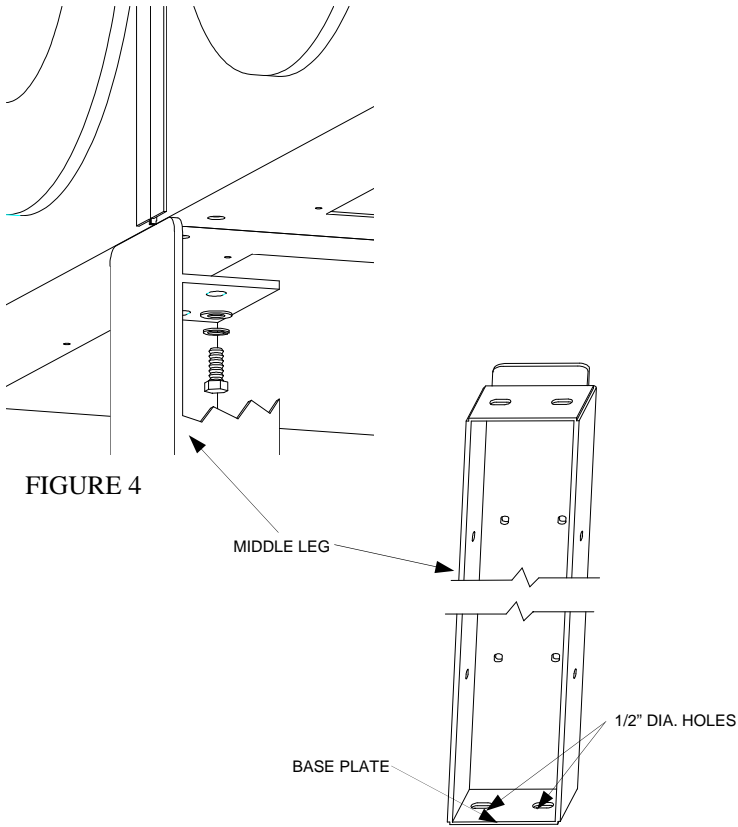


FIGURE 3



5. After the legs have been properly anchored, the dust containment system can be installed. (Refer to pages 9-10)

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" line and plant air at a pressure of 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.

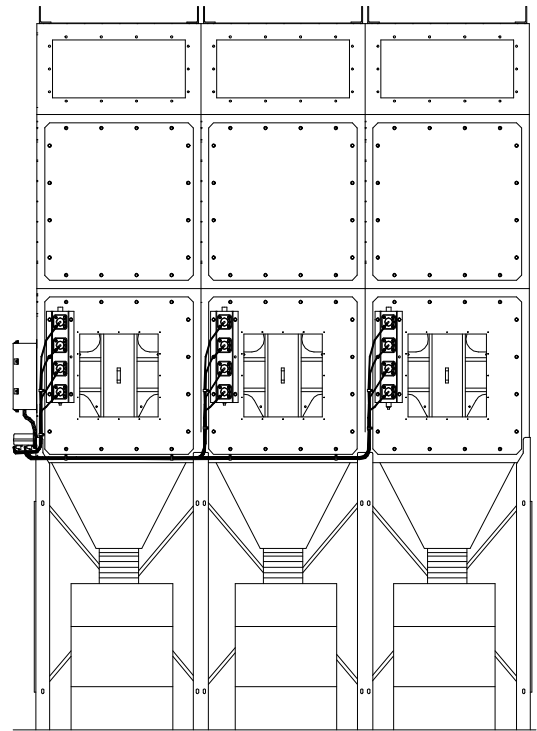


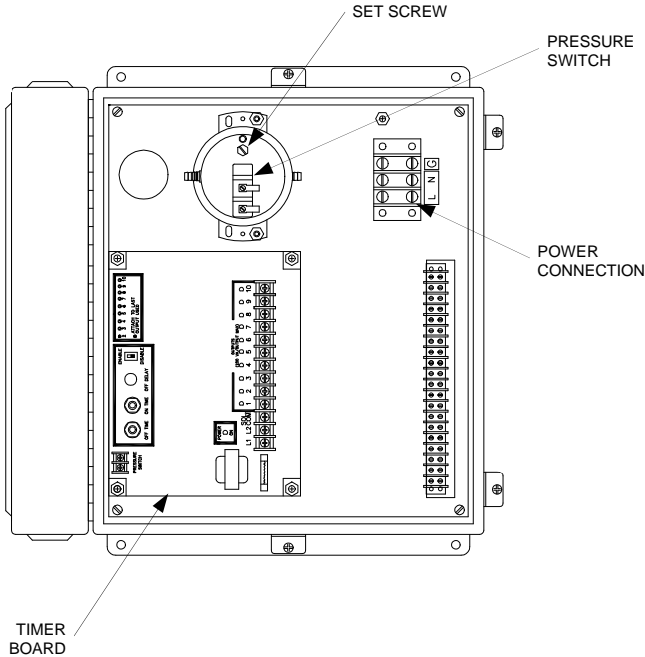
FIGURE 6

ELECTRICAL INSTALLATION

NOTE
ALL ELECTRICAL WORK MUST BE DONE BY A QUALIFIED ELECTRICIAN ACCORDING TO LOCAL CODES.

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 pressure switch.



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 powder 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.

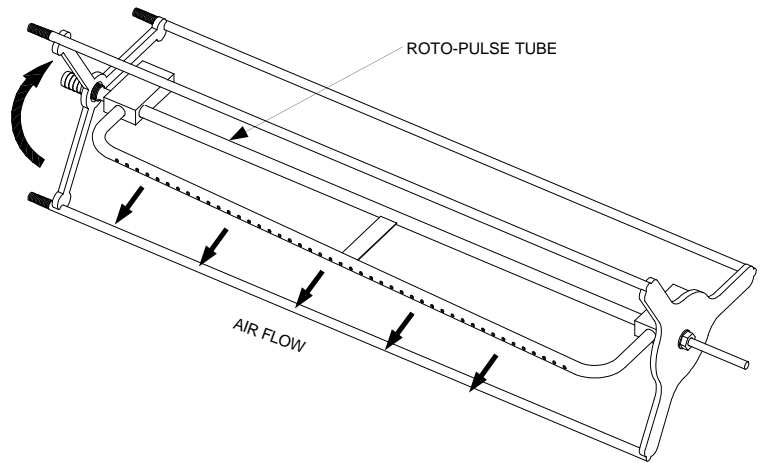


FIGURE 8

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 cartridge filter for a period of .07 seconds every 5 seconds.
3. Once the unit has been 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 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.)

When servicing the collection barrel, be sure to turn the unit off.

ROTO-PULSE CLEANING TIMER ADJUSTMENTS

CAUTION

INSTALLATION CAN CAUSE EXPOSURE TO LIVE COMPONENTS. DISCONNECT ELECTRICAL POWER BEFORE PROCEEDING WITH TIMER ADJUSTMENTS. PROPER LOCK OUT / TAG OUT PROCEDURES SHOULD BE USED.

1. Turn unit off and disconnect power.
2. Open the electrical box cover.
3. The timer control board is preset at the factory to clean two cartridges every 5 seconds. This time can be adjusted from 1.5 seconds to 30 seconds by rotating the dial on the timer marked "OFF TIME".

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 second to .5 seconds by rotating the dial on the timer marked "ON TIME" (see WIRING DIAGRAMS pages 17-20).

NOTE: **CONSULT FACTORY BEFORE CHANGING ANY TIME CYCLES.** 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 close 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 1000 seconds (17 minutes). This time can be adjusted from 100 seconds to 1000 seconds by rotating the dial marked "OFF DELAY" (see WIRING DIAGRAMS pages 17-20). The After-Pulse operation can also be enabled and disabled by placing the switch next to the timer dial marked "OFF DELAY" to the desired position.

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	Tray Weldment
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, using twenty (20) self-tapping screws, to the unit.

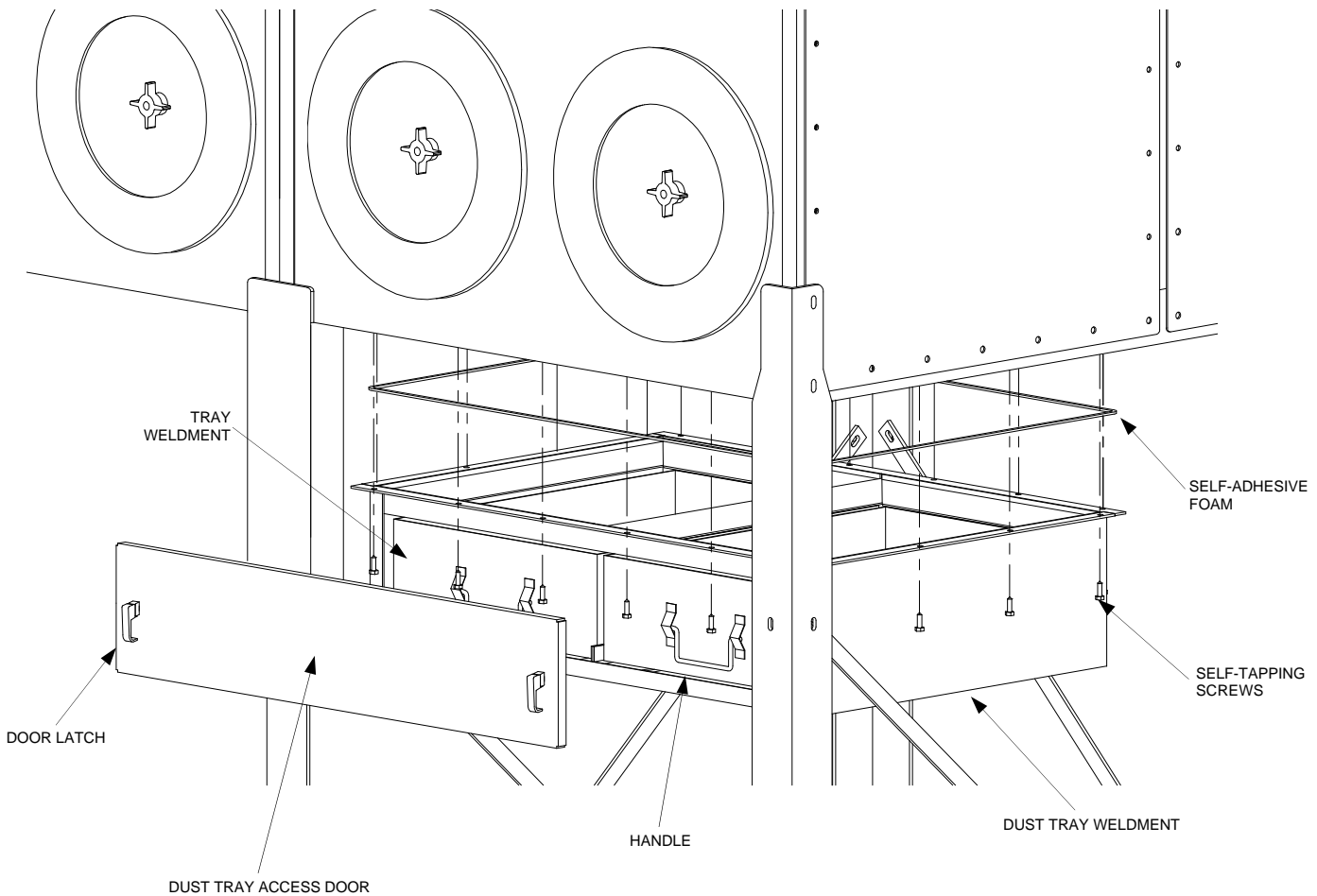


FIGURE 9

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, using twenty (20) self-tapping screws, to the unit.

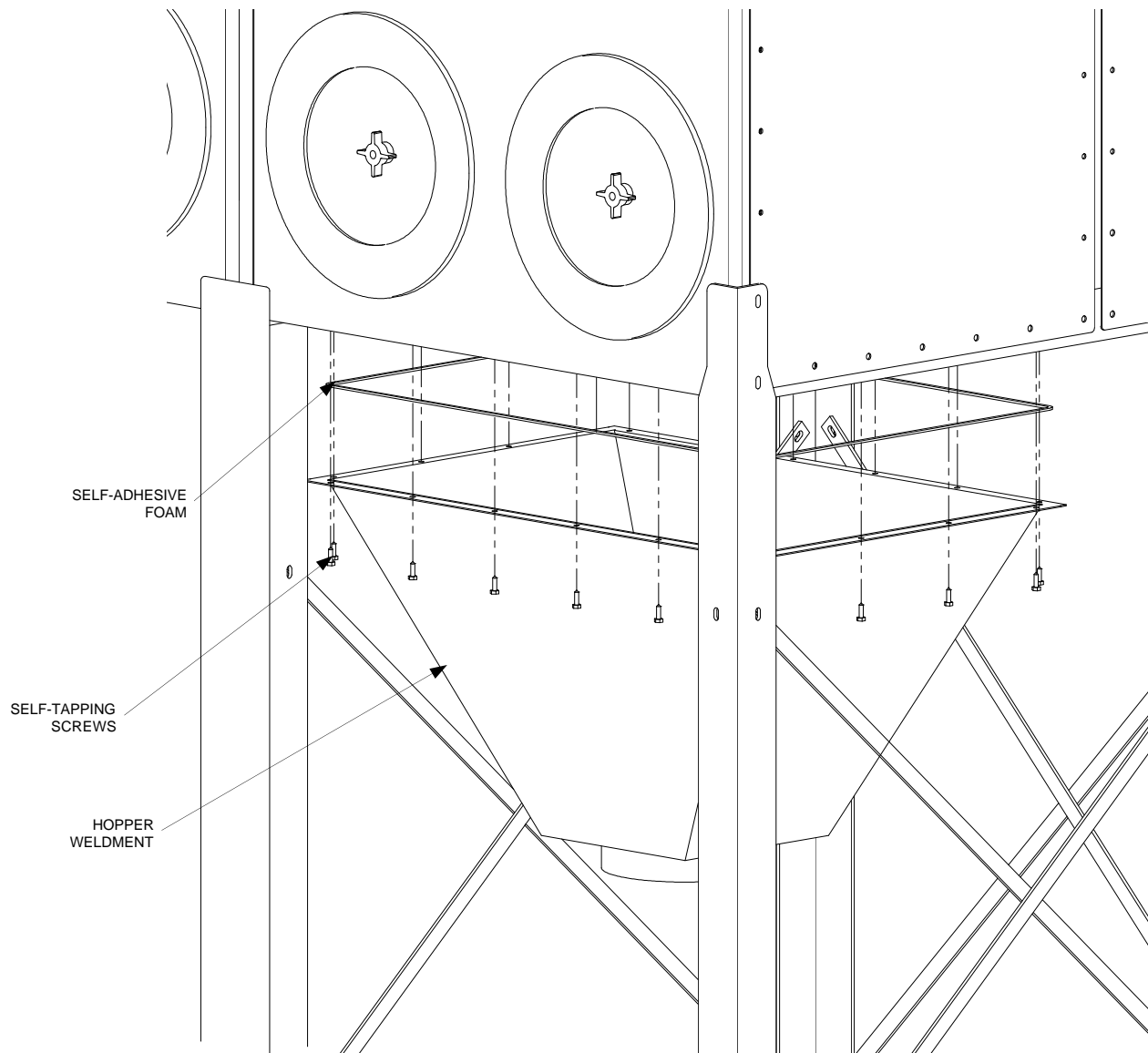


FIGURE 10

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 Braces
4 ea. 38394-02	Long Leg Cross Braces

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.

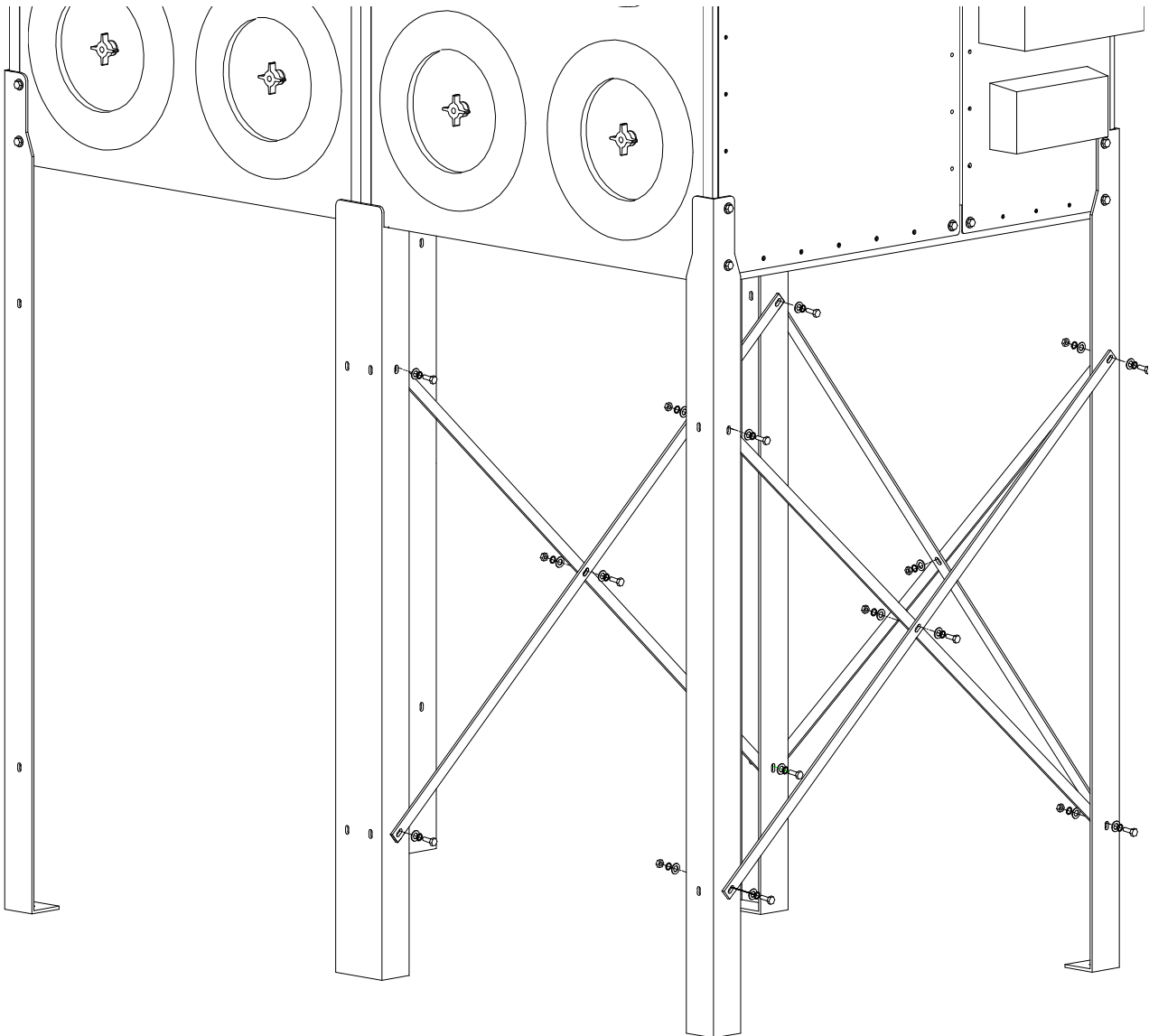


FIGURE 11

RP DUST COLLECTOR MAGNEHELIC KIT INSTALLATION PROCEDURE

This Kit Includes:

1 ea.	38294-01	MAGNEHELIC Mounting Bracket
1 ea.	P3754	0-10 in. w.c. MAGNEHELIC Gauge
2 ea.	P2098	1/8" Male x 1/4" Barb Fitting
4 ea.	P3543	1/4"-14 x 1 Self-Tapping Screw
10'	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 two (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 and screw into the two ports located on the back side of the gauge.
5. Locate the bracket assembly approx. as shown and mount the bracket using the four (4) 1/4" self-tapping 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.

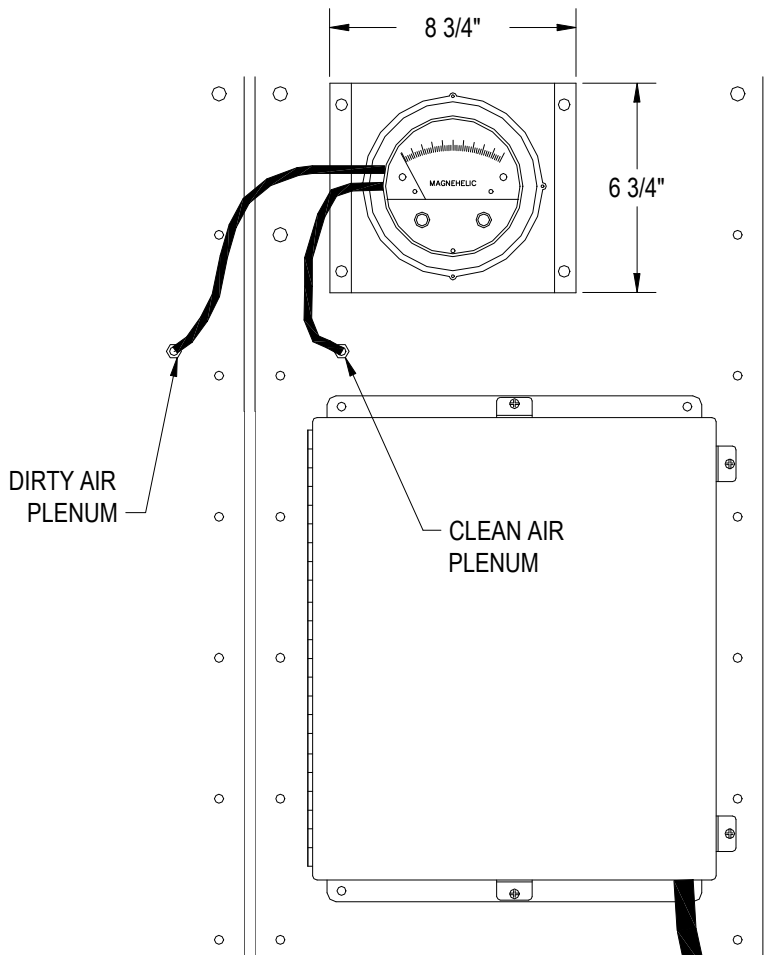


FIGURE 12

RP DUST COLLECTOR PHOTOHELIC KIT INSTALLATION PROCEDURE

This Kit Includes:

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

NOTE: When using Photohelic on dust collectors installed outdoors, the gauge can not be mounted on 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 Bracket and place the two (2) male barb fittings in the pressure ports located on the side of the Photohelic.
5. Open cover of the 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 the pressure switch itself.
7. Wire the PHOTOHELIC Gauge as the electrical diagram shows (see pages 17-20) using the 3/4"-inch conduit opening on the Nema enclosure / PHOTOHELIC assembly. Then drill a 3/4" hole in the top of the electrical box of the dust collector. (Wire and conduit supplied by others.)
8. Replace the cover back onto the Photohelic Gauge and mount the bracket using the four (4) 1/4" self-tapping 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. Close the cover on the electrical box and reconnect the power to the unit.
12. Turn the right set point dial of the gauge into position required for enabling the Roto-pulse System. Turn the left set point dial of the gauge into position required for disabling Roto-Pulse System. Note. unit will not activate unless needle passes right set point. Then will run until needle drops

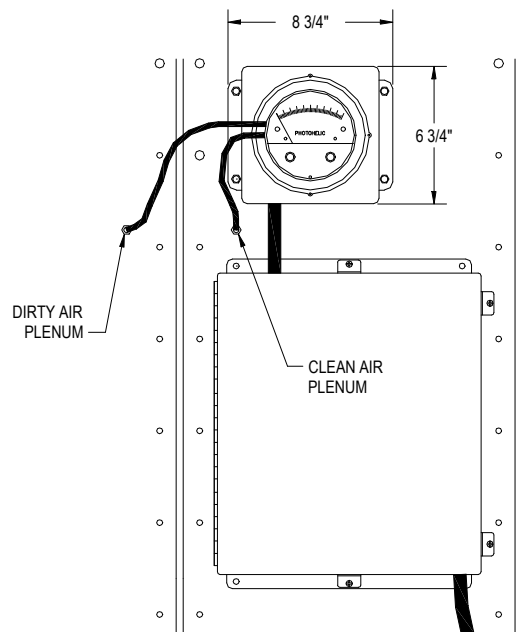


FIGURE 13

RP DUST COLLECTOR BARREL LID KIT INSTALLATION PROCEDURE

This Kit includes:

1 ea.	38229-01	Barrel Lid
2 ea.	P3519	10" Hose Clamp
1 ea.	P3553	10" Flex Hose

INSTALLATION:

1. Remove parts from box and inspect for any possible damage incurred during shipping.
2. Using the 10" hose clamp attach the 10" flex hose to the collar on the barrel lid.
3. With the remaining 10" hose clamp attach the barrel lid flex hose to the collar on the bottom of the dust collector hopper.
4. With barrel lid installed a 55 gallon barrel (not provided) can be placed under the barrel lid for material collection.

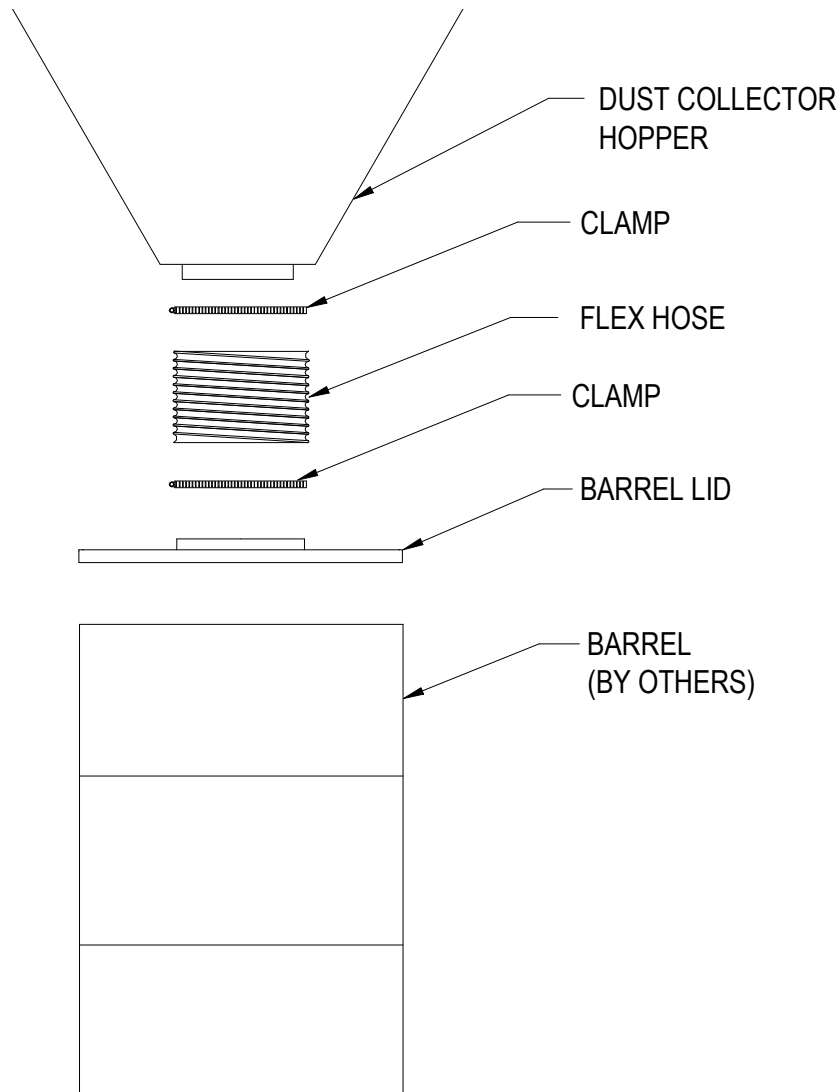


FIGURE 14

RP DUST COLLECTOR BARREL LID KIT INSTALLATION PROCEDURE (EXPLOSION VENT KIT)

This Kit includes:

1 ea.	38229-02	Barrel Lid
2 ea.	P3519	10" Hose Clamp
1 ea.	P3553	10" Flex Hose
4 ea.	38327-01	4 - Prong Knob

INSTALLATION:

1. Remove parts from package and inspect for any possible damage incurred during shipping.
2. Using the 10" hose clamp attach the 10" flex hose to the collar on the barrel lid.
3. With the remaining 10" hose clamp attach the barrel lid flex hose to the collar on the bottom of the dust collector hopper.
4. With barrel lid installed a 55 gallon barrel (not provided) can be placed under the barrel lid for material collection.
5. The lid should be clamped to the barrel by tightening the four knobs.

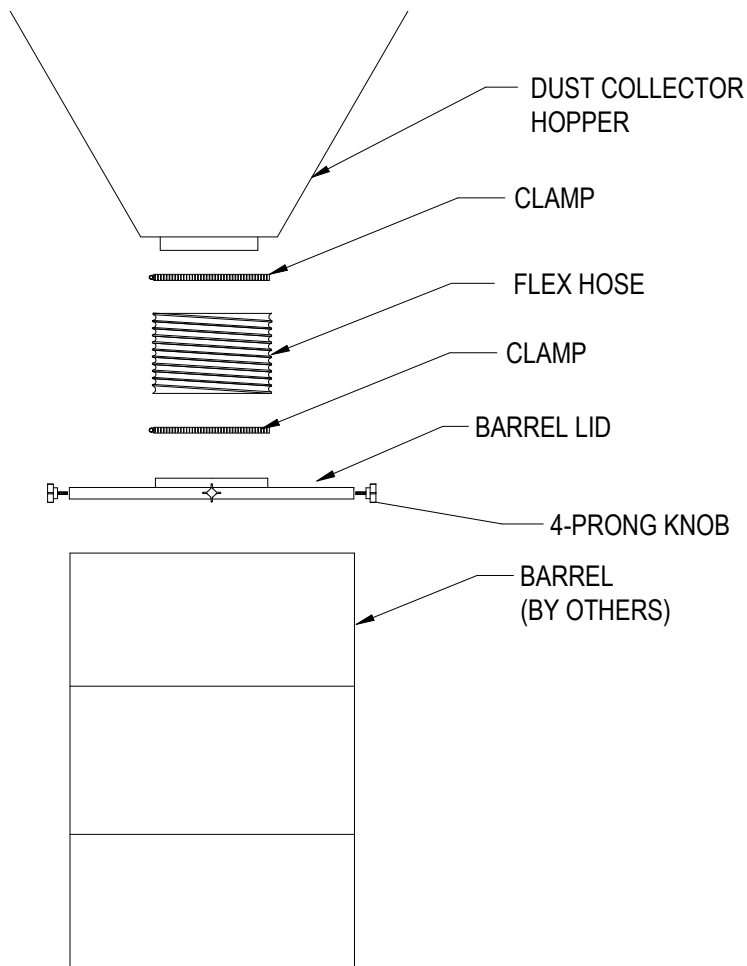


FIGURE 15

RP DUST COLLECTOR TOP MOUNTED BLOWER 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 cloth bag.
2. Turn off dust collector and disconnect power to 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.

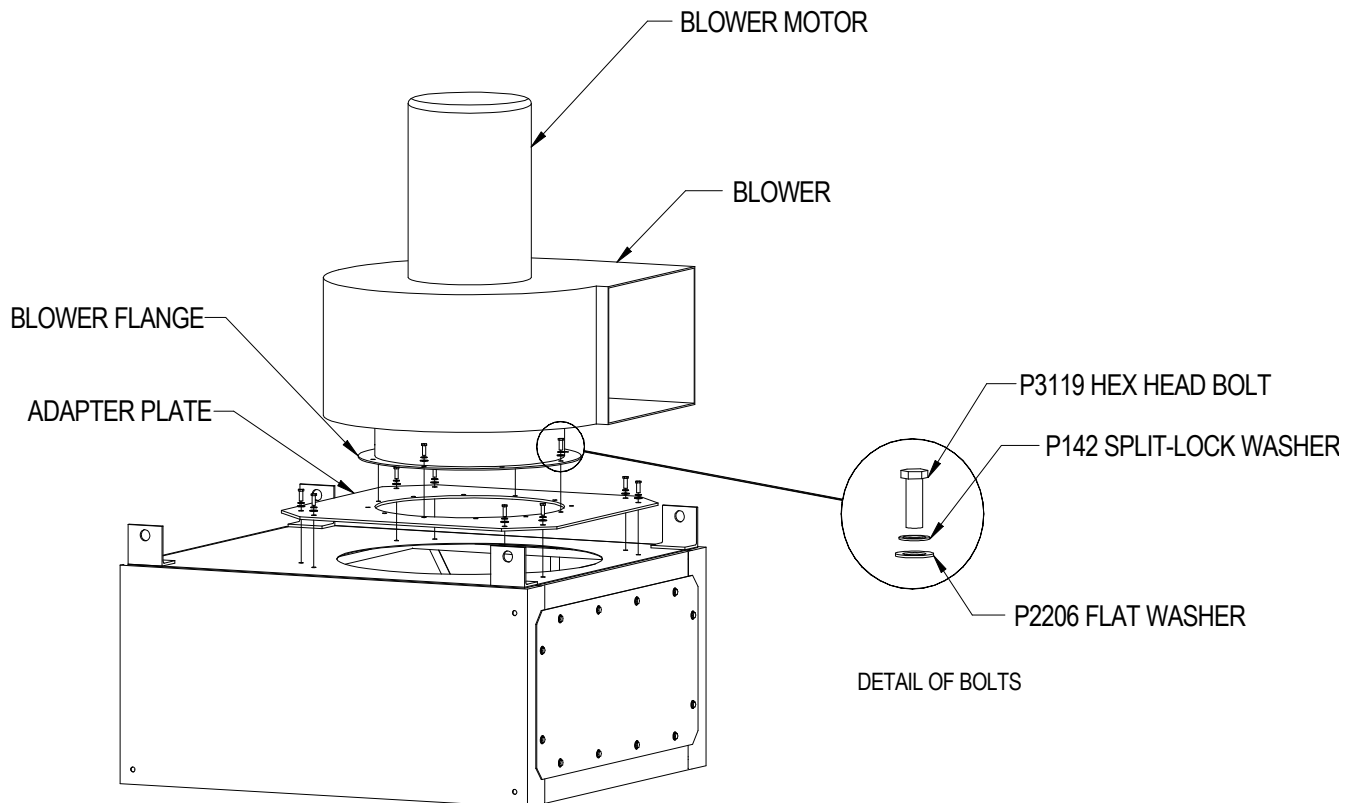


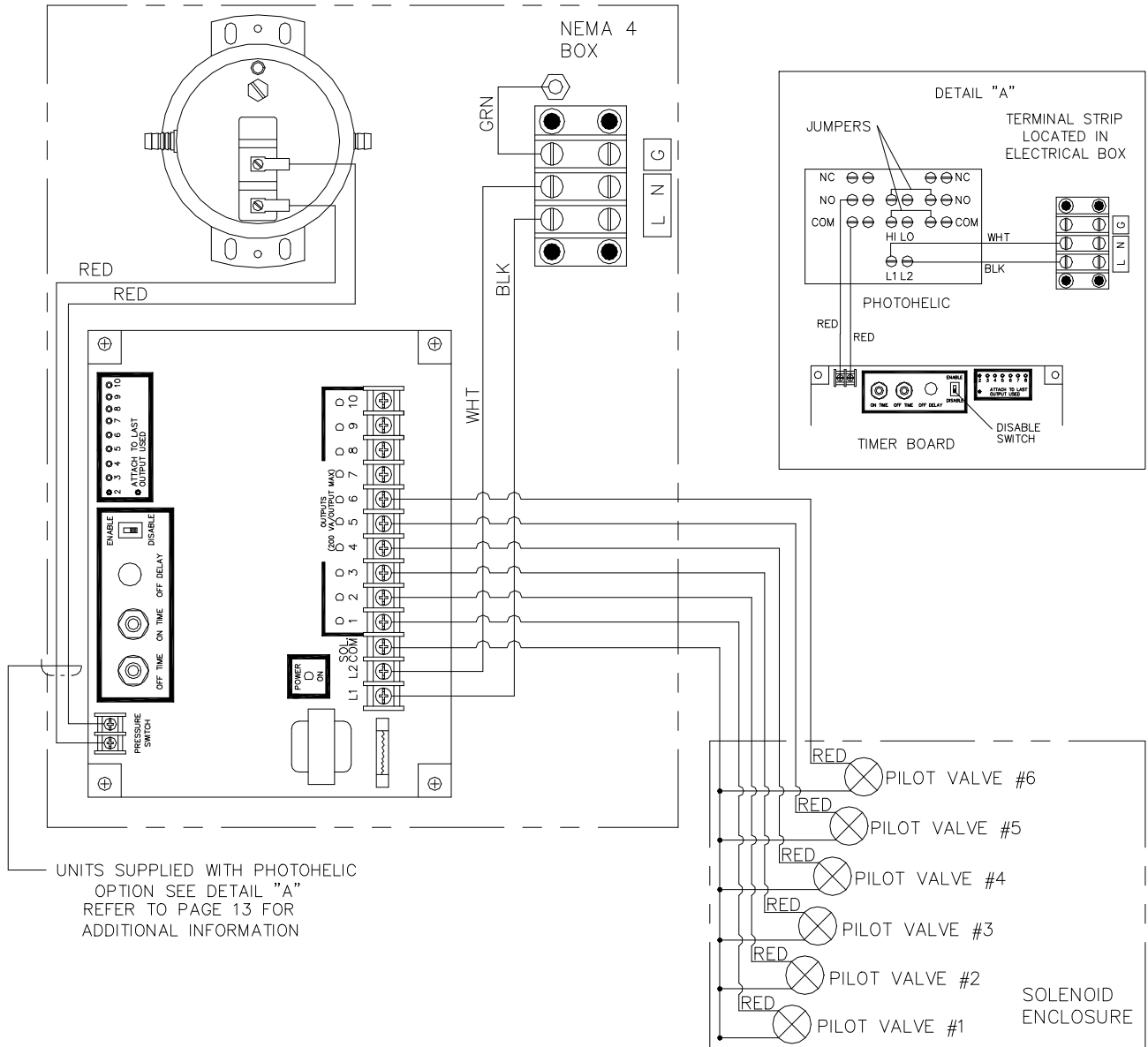
FIGURE 16

RP6-2 WIRING DIAGRAM

RP6-2

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

INPUT VOLTAGE: 120 VAC.



METAL-FAB INC., WICHITA KS.

FIGURE 17

RP6-3 WIRING DIAGRAM

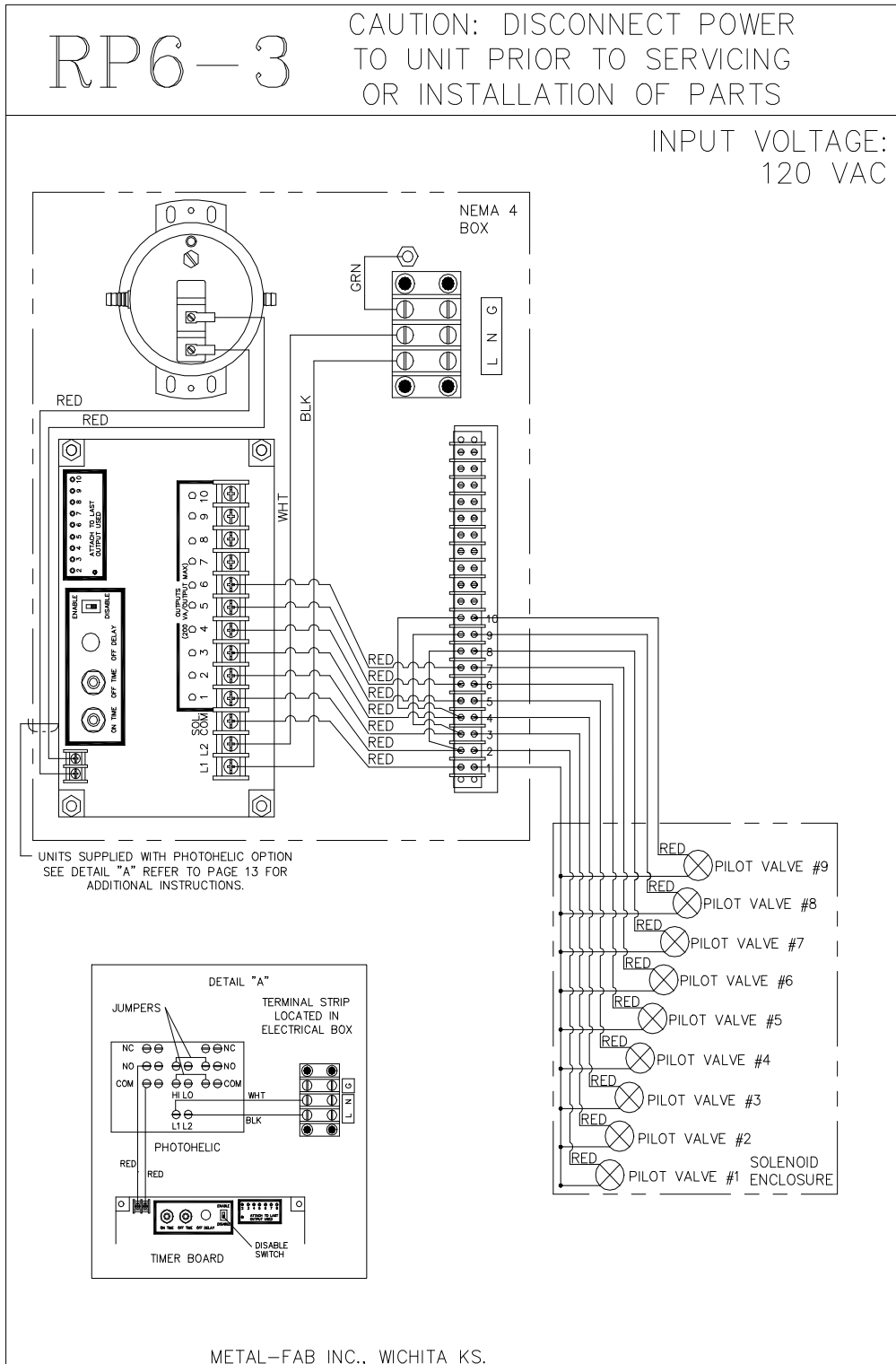


FIGURE 18

RP8-2 WIRING DIAGRAM

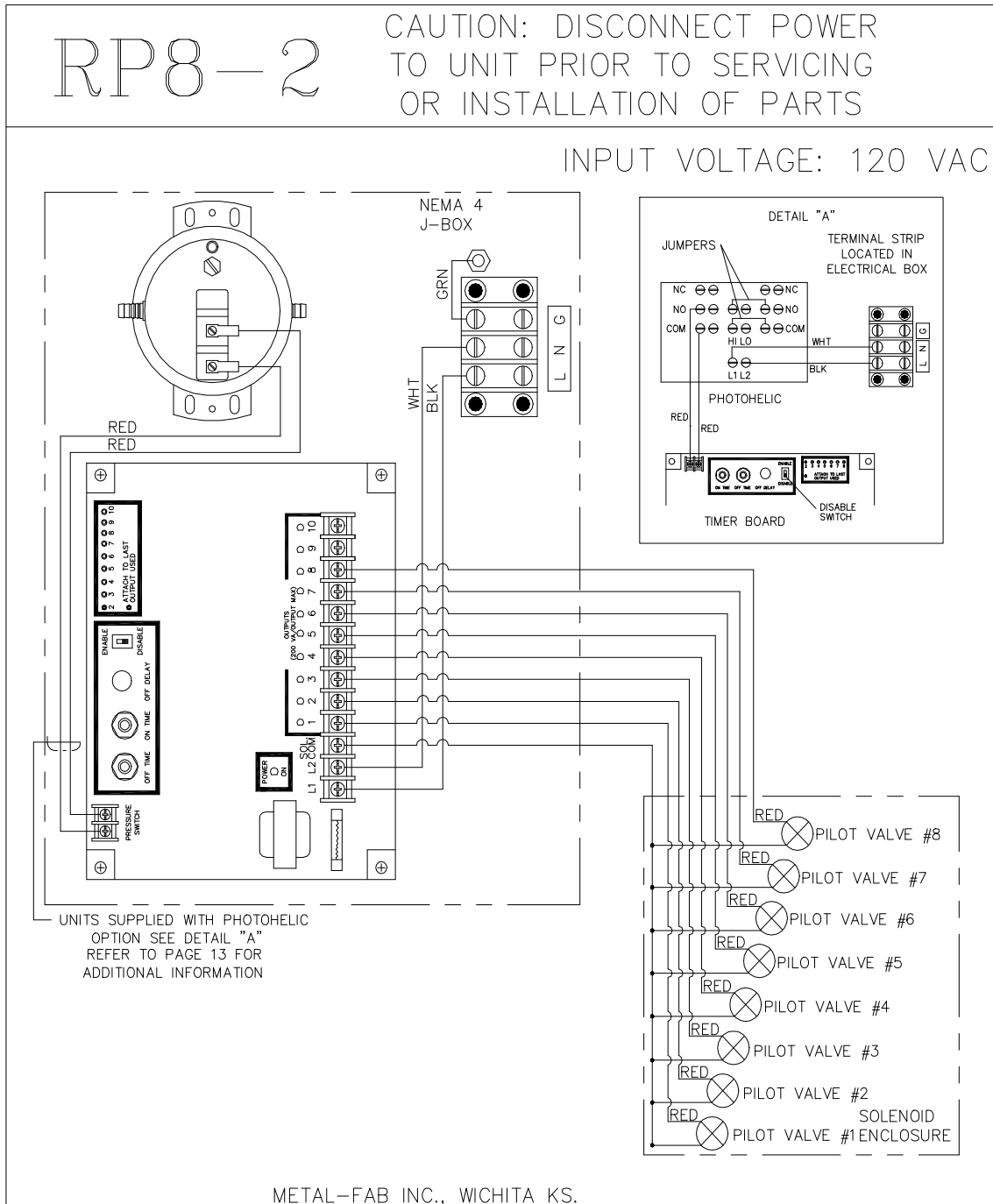


FIGURE 19

RP PARTS LIST - CABINET

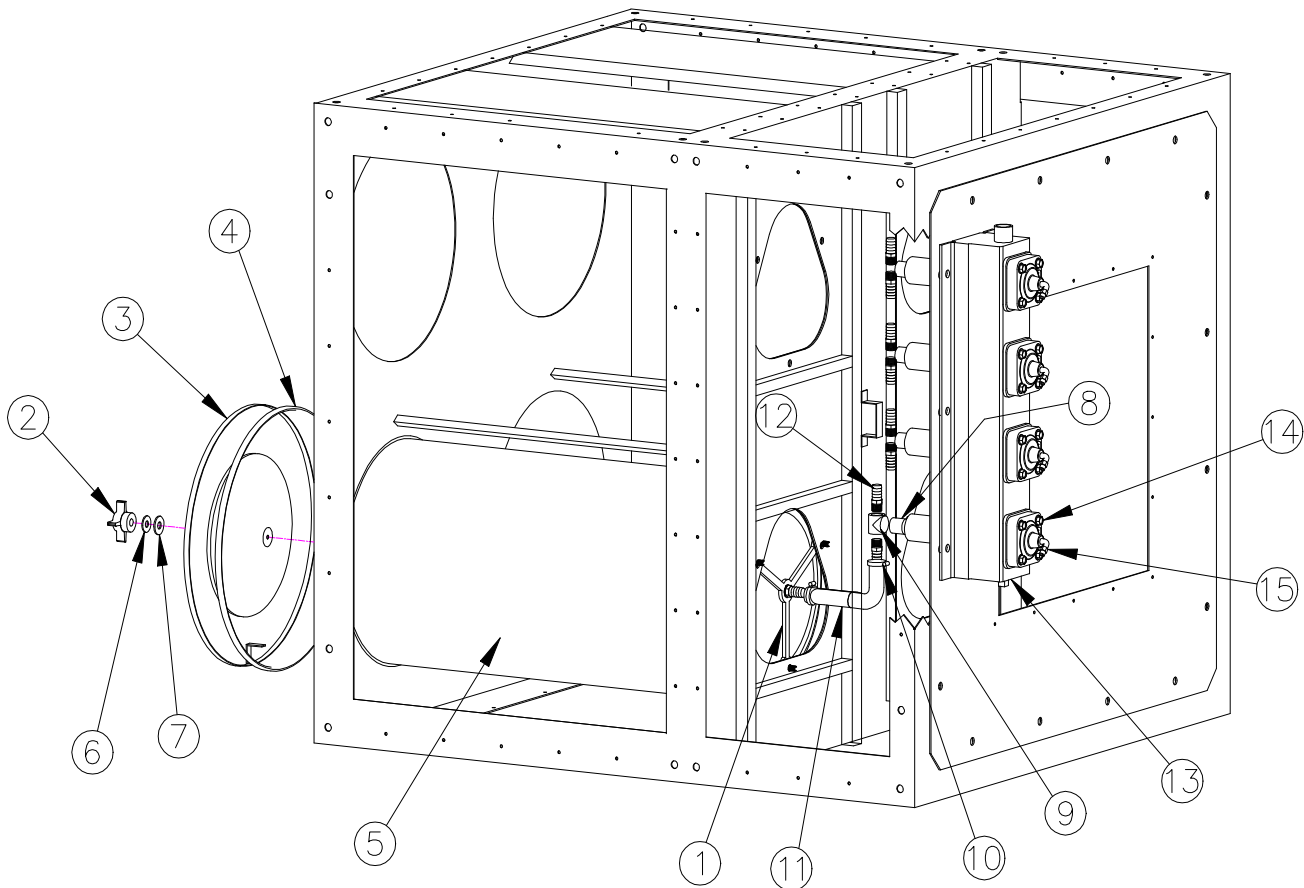


FIGURE 21

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	36720-11	Filter Support Assembly (Roto-Pulse)	NOT SHOWN	P3657	8 Pilot Valve Enclosure
2	P3649	4 - Prong Knob (8 required)	NOT SHOWN	P3656	6 Pilot Valve Enclosure
3	38204-01	Cartridge End Caps	NOT SHOWN	P3784	9 Pilot Valve Enclosure
4	38342-01	Door Seal	NOT SHOWN	39029-01	Solenoid Repair Kit
5	P3752	Cellulose Cartridge Filter	18	P3874	Timer Board
	P3486	Spun - Bound Polyester Cartridge Filter	19	P3505	Pressure Switch
6	P3314	Washer	NOT SHOWN	38297-01	MAGNEHELIC Kit
7	P3559	Rubber Washer	NOT SHOWN	38425-01	PHOTOHELIC Kit
8	P2209	3/4" Close Nipple	NOT SHOWN	38284-01	Barrel Lid Kit
9	P3563	3/4" Galv. Tee	20	P3559	Disk Pad (small)
10	P3411	1" Hose Clamp	21	P3594	3/8" X 1/2" X 3/8" Bearing
11	P3403	5/8" Air Hose	22	P2286	Nylon Shoulder Washer
12	P3585	3/4" NPT X 5/8" Barb	23	P2285	Compression Spring
NOT SHOWN	38344-01	(2) Valve Manifold	24	P2284	Pivot Bolt
NOT SHOWN	38344-02	(3) Valve Manifold	25	36713-06	Filter Support Weldment
13	38344-03	(4) Valve Manifold	26	P249	5/16" Lock Washer Pltd.
14	38343-01	1" Diaphragm Valve	27	P222	5/16"-18 Pltd. Hex Nut
14A	P3098	Diaphragm Seal	28	36730-06	Roto Tube Weldment
NOT SHOWN	P3099	Diaphragm Kit	29	P3413	1/2" Male X 5/8" Barb
15	P3735	1/4" 90° Presto Lock	30	P3595	17/32" X 5/8" X 3/4" Bearing
16	P3734	1/4" O.D. Air Hose			
17	P3744	12 Pilot Valve Enclosure			

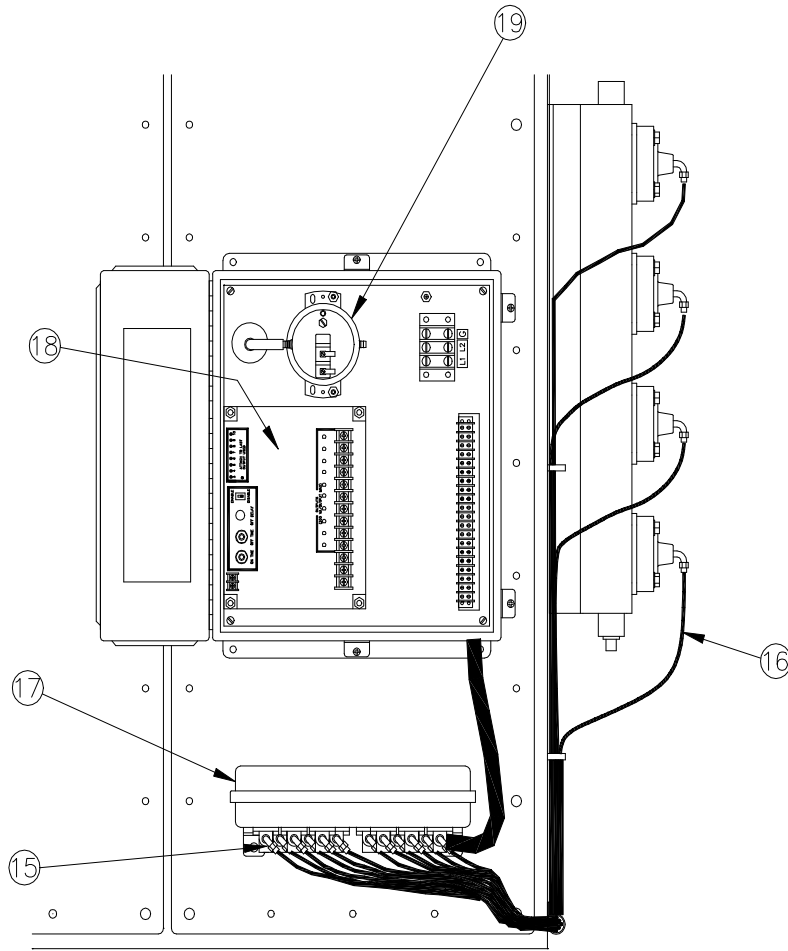


FIGURE 22

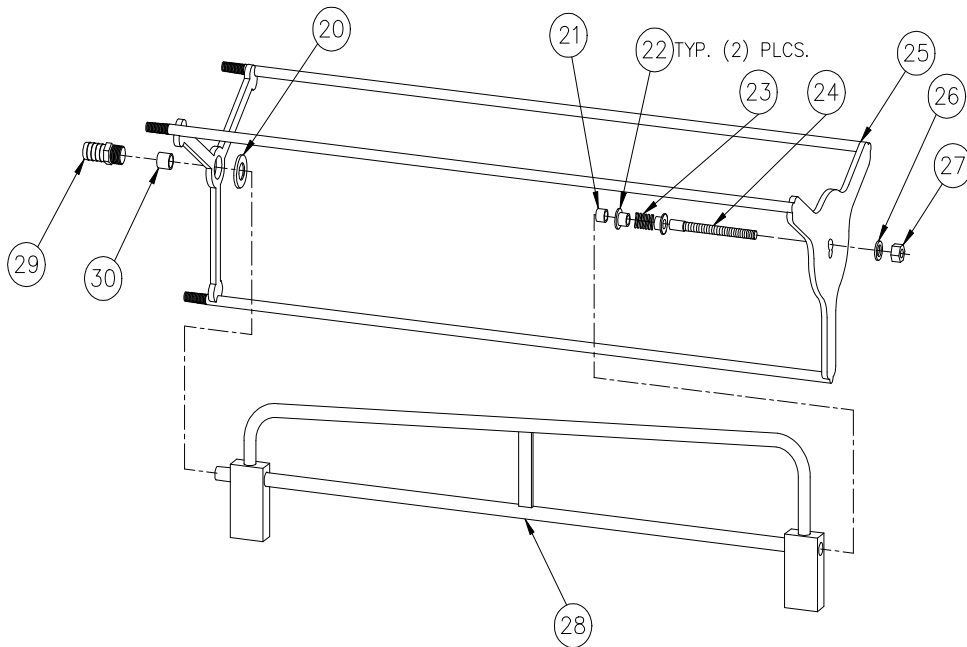


FIGURE 23

