



RP1 TWISTER

Installation and Operation Manual



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 how to operate in a safe manner.

WARNINGS:



Installation can cause exposure to live components. Disconnect electrical power before proceeding with installation. Proper Lock Out / Tag Out procedures should be used. All electrical work must be done by a qualified electrician according to Local, State and National codes.



Avoid mixing combustible materials, such as buffing lint, paper, wood, aluminum, and magnesium dust 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 inlet grille, hood, or ducting of any dust collector system.



All users of Micro-Air 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.



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

RP1 SPECIFICATIONS:

Motor:	1-1/2 HP, 3450 RPM, 1 Phase, TEFC
Input Voltage:	1 Phase - 115V, 60 Hz 1 Phase - 230V, 60 Hz
Max Current:	115V – 12.4 Amps 230V – 6.2 Amps
Dimensions:	76"H x 25"W x 20"D
Shipping Weight:	300 lbs
Filter Area	80/20 Media: 174 ft ² Poly Media: 150 ft ² Nano-Fiber Media: 174 ft ²

EQUIPMENT / TOOLS REQUIRED:

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

- | | |
|----------------------|--------------|
| Crane or Lift Truck | Screw Driver |
| Lift Straps or Chain | Sockets |
| Pipe Wrench | |

PRE-OPERATING INSTRUCTIONS:

1. Inspect every skid for any visible damage that may have occurred during shipment. Report any damage to the delivery carrier.
2. Remove the shipping crate, shipping straps and plastic wrap from unit. Discard skid and hardware.

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.
2. Install wall mount bracket or adjustable floor stand bracket to the side of the unit. See FIGS. 1 & 2 for wall mount bracket and floor stand detail.
3. Carefully install the unit in place.

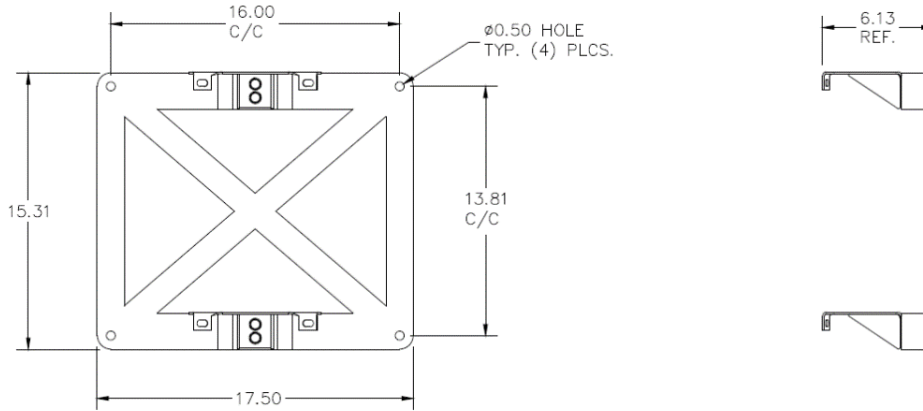


FIG. 1 – Wall Mount Bracket

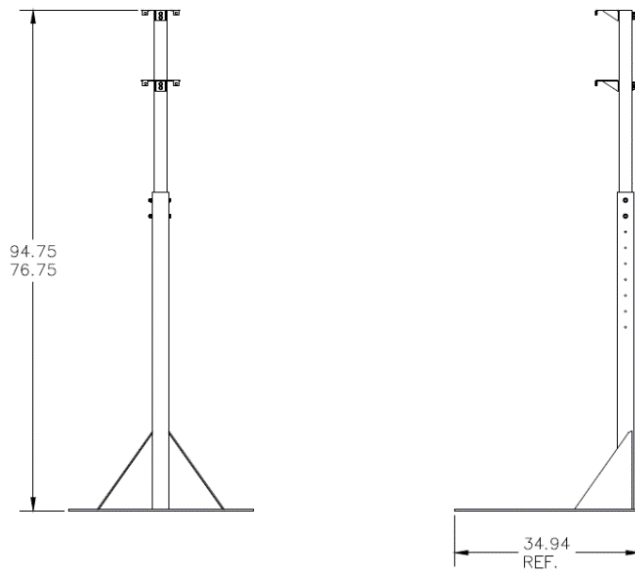
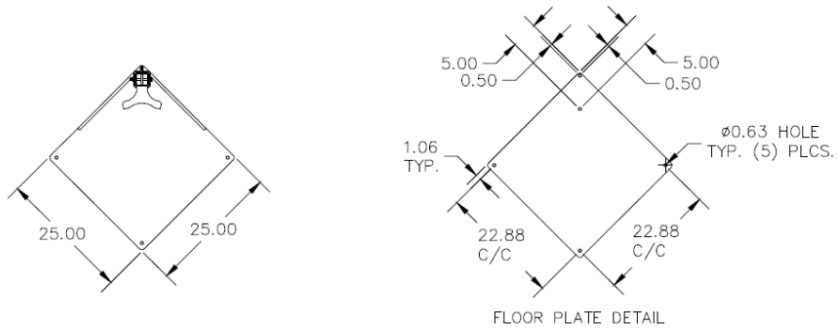


FIG. 2 – Floor Stand

NOTE: Floor stand height can be adjusted in 1-1/2" increments. Stand MUST be anchored to the floor.

COMPRESSED AIR REQUIREMENTS / INSTALLATION:

NOTE: Clean, dry, compressed air at the specified air 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.

The compressed air inlet for the Roto-Pulse Cleaning System is at the top of the piping assembly located on the side of the unit (See FIG. 3). A minimum of a $\frac{3}{4}$ " line and plant air at a pressure of 80 psi is required for proper operation of the Roto-Pulse Cleaning System. DO NOT exceed 90 psi of air. Exceeding 90 psi will result in filter damage.

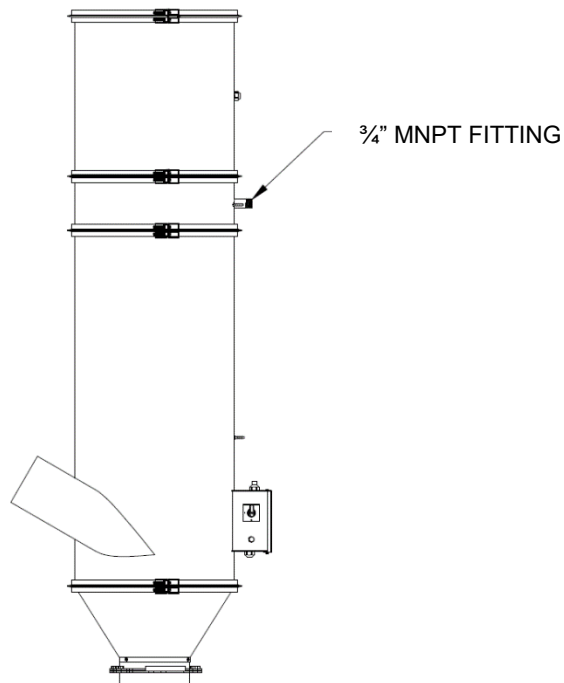


FIG. 3

ELECTRICAL INSTALLATION:

IMPORTANT: The following installation instructions should be performed by a qualified electrician. The following installation steps are for general use. Refer to Local and National electrical codes for installations in your area.



WARNING: Installation can result in exposure to high voltage. Disconnect power source before performing this installation. Proper lock out / tag out procedures should be used.

The electrical box is completely wired from the factory. Prior to making any electrical connections, VERIFY PROPER INPUT VOLTAGE has been used for wiring the electrical circuit. IMPROPER VOLTAGE MAY RESULT IN PERMANENT DAMAGE TO ELECTRICAL COMPONENTS.

If the unit is ordered with 120V electrical wiring there is no additional wiring required. Simply plug the unit into any 110/120V electrical plug rated for 15 Amps (See PAGES 7 – 9 for wiring diagrams).

To start the unit, turn the switch to the 'ON' position. To stop the unit, turn the switch to the 'OFF' position (FIG. 5).

CARTRIDGE CLEANING OPERATION:



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

The Micro-Air Dust Collector is designed with the Roto-Pulse Cleaning System to clean the cartridge filters. The Roto-Pulse cleaning operation dislodges particles from the cartridges. Particles then fall down into the collection tray. This system provides superior cleaning performance using a rotating tube with pre-drilled holes (See FIG. 4). As the diaphragm valve opens, the Roto-Pulse tube rotates while air exits the holes, thus providing the cleaning of the cartridge.

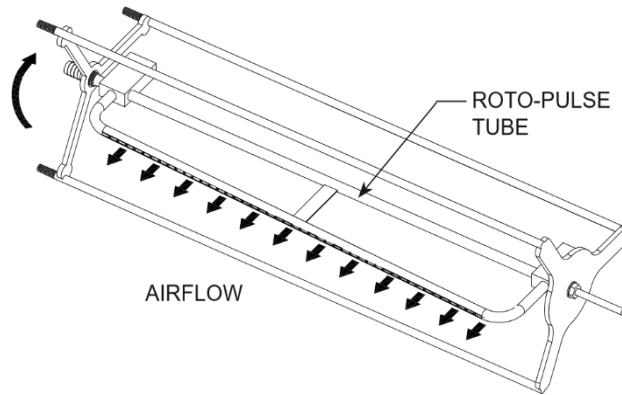


FIG. 4

The RP1 is equipped with either Manual Pulse or Auto Pulse.

- For units equipped with Manual Pulse:

Push the pulse button (FIG. 5) and hold it down for approximately 2 seconds. The filters should be pulse cleaned regularly throughout the day. In addition they should be pulsed several times after the unit has been shut off.

- For units equipped with Auto Pulse:

These units do not require manual activation of the pulse system. The system will automatically clean for 2 seconds, every 45 seconds that the unit is running. It is not necessary to manually pulse the unit after it has been shut off.

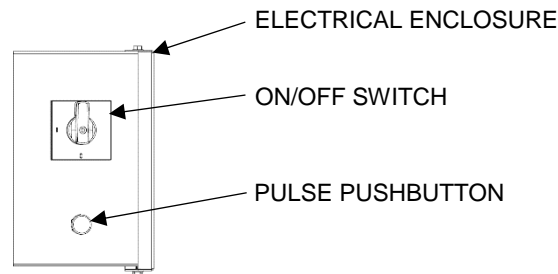


FIG. 5

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 1" W.C. of pressure differential across the filters the time between cleaning pulses should be increased until this can be achieved.

MAGNEHELIC INSTALLATION:



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

1. Mount the Magnehelic Gauge into the Mounting Bracket and place the (2) male barb fittings in the pressure ports located on the side of the Magnehelic Gauge.
2. Also use the two pressure port plugs supplied with the Magnehelic Gauge on the two ports located on the backside of the gauge.
3. Mount the bracket. Do not mount the bracket on the unit. Mounting screws may damage internal components.
4. 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.
5. Reconnect the power to the unit and start the dust collector.

BARREL LID INSTALLATION:



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

1. Remove parts from box and inspect for any possible damage incurred during shipping.
2. Using the 10" hose clamp, attach the 8" flex hose to the collar on the slide gate.
3. With the remaining 10" hose clamp, attach to the barrel lid.
4. With the barrel lid installed, a 55 gallon barrel (not provided) can be placed under the barrel lid for material collection.

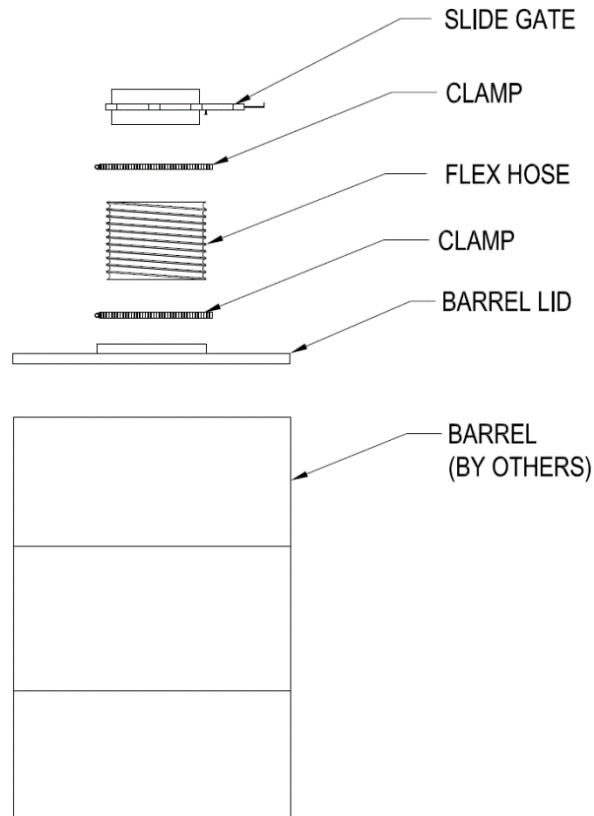


FIG. 6

FILTER CHANGE:



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

1. Turn unit off. Manually pulse the unit several times to remove excess material from the filter.
2. Disconnect power to the unit.
3. Open the slide gate to empty any remaining material from the hopper.
4. Remove the barrel, barrel lid kit, and hopper by loosening the lowest joint band. The drop out plate will come off with the hopper.
5. Remove the 4-Prong knob and seal washer from below the filter. Save the knob.
6. Slide the filter down out of the unit.
7. Reverse steps 4-6 to install new filter.

See Parts List Diagram (FIG. 10) for additional assistance.

120/230V MANUAL PULSE WIRING DIAGRAM

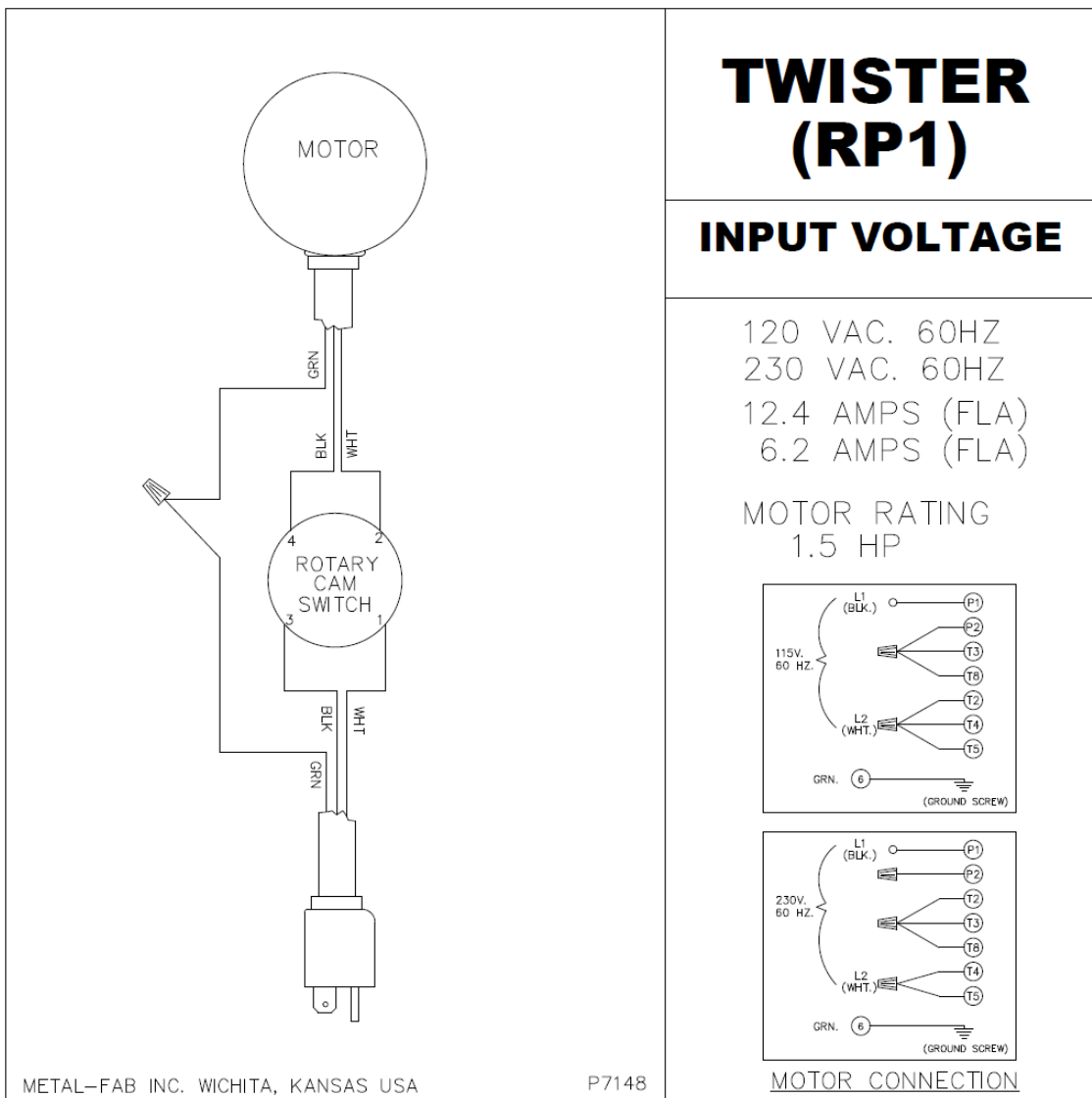
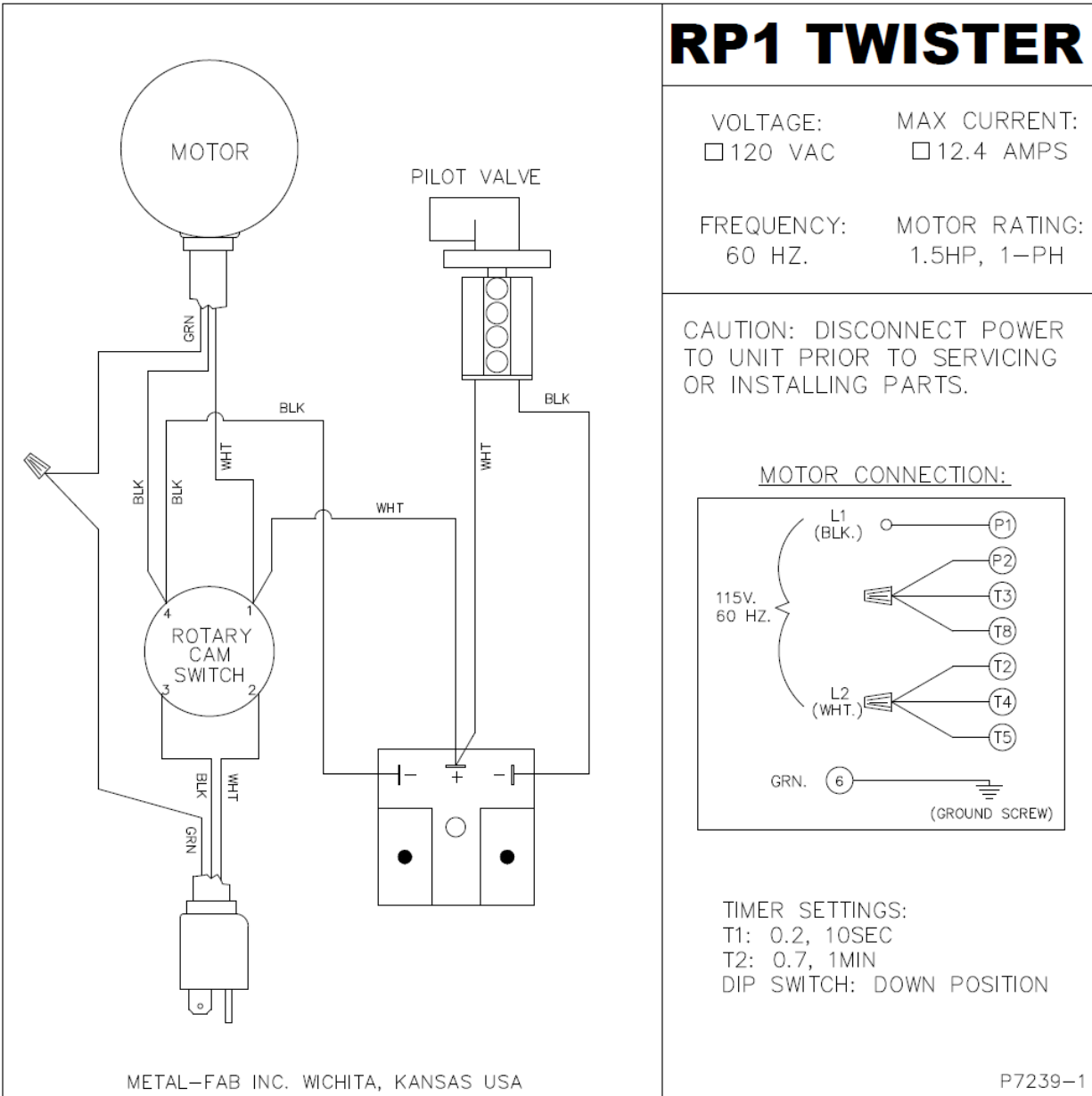


FIG. 7

120V AUTO PULSE WIRING DIAGRAM



METAL-FAB INC. WICHITA, KANSAS USA

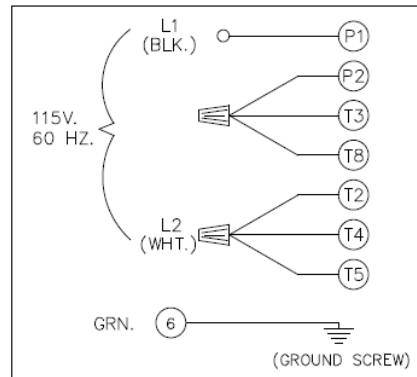
RP1 TWISTER

VOLTAGE: MAX CURRENT:
 120 VAC 12.4 AMPS

FREQUENCY: MOTOR RATING:
 60 HZ. 1.5HP, 1-PH

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLING PARTS.

MOTOR CONNECTION:



TIMER SETTINGS:
 T1: 0.2, 10SEC
 T2: 0.7, 1MIN
 DIP SWITCH: DOWN POSITION

P7239-1

FIG. 8

230V AUTO PULSE WIRING DIAGRAM

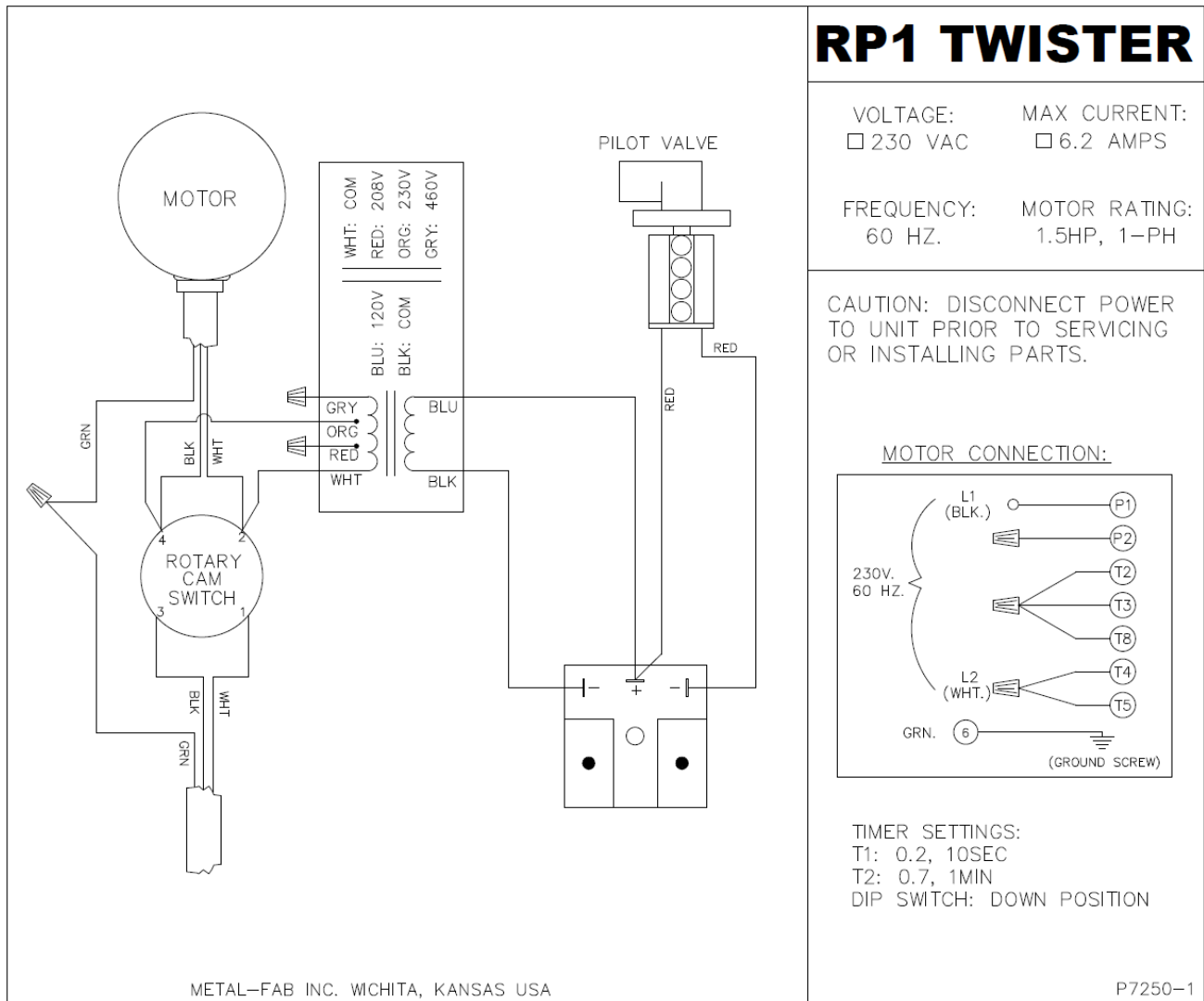


FIG. 9

TROUBLESHOOTING:



CAUTION: Before disassembling the unit or doing any inspecting of the parts, make certain that the power has been cut off and the blower has come to a complete stop. **NEVER** run the unit with the access door opened or the panels removed.

PROBLEM	POSSIBLE CAUSE	REMEDY
Unit fails to start	No incoming power	Check the circuit and switch
	Blown breaker or fuse	Replace fuse or throw breaker
	Loose wire in terminal box	Reconnect wire
	Burned out motor	Replace motor
	Motor thermal trip	Reset at motor
Unit runs slowly, Inadequate capture	Wired for wrong voltage	Check input voltage Check wiring diagram
	Improper rotation	Check wiring diagram
	Internal obstruction	Remove obstruction
	Dirty filters	Service/Replace filters
Vibration	Loose motor mounting bolts	Tighten bolts
	Foreign objects in blower/ Build-up on blower wheel	Remove debris from blower
	Dirty filters	Service/Replace filters

RP1 PARTS LIST:

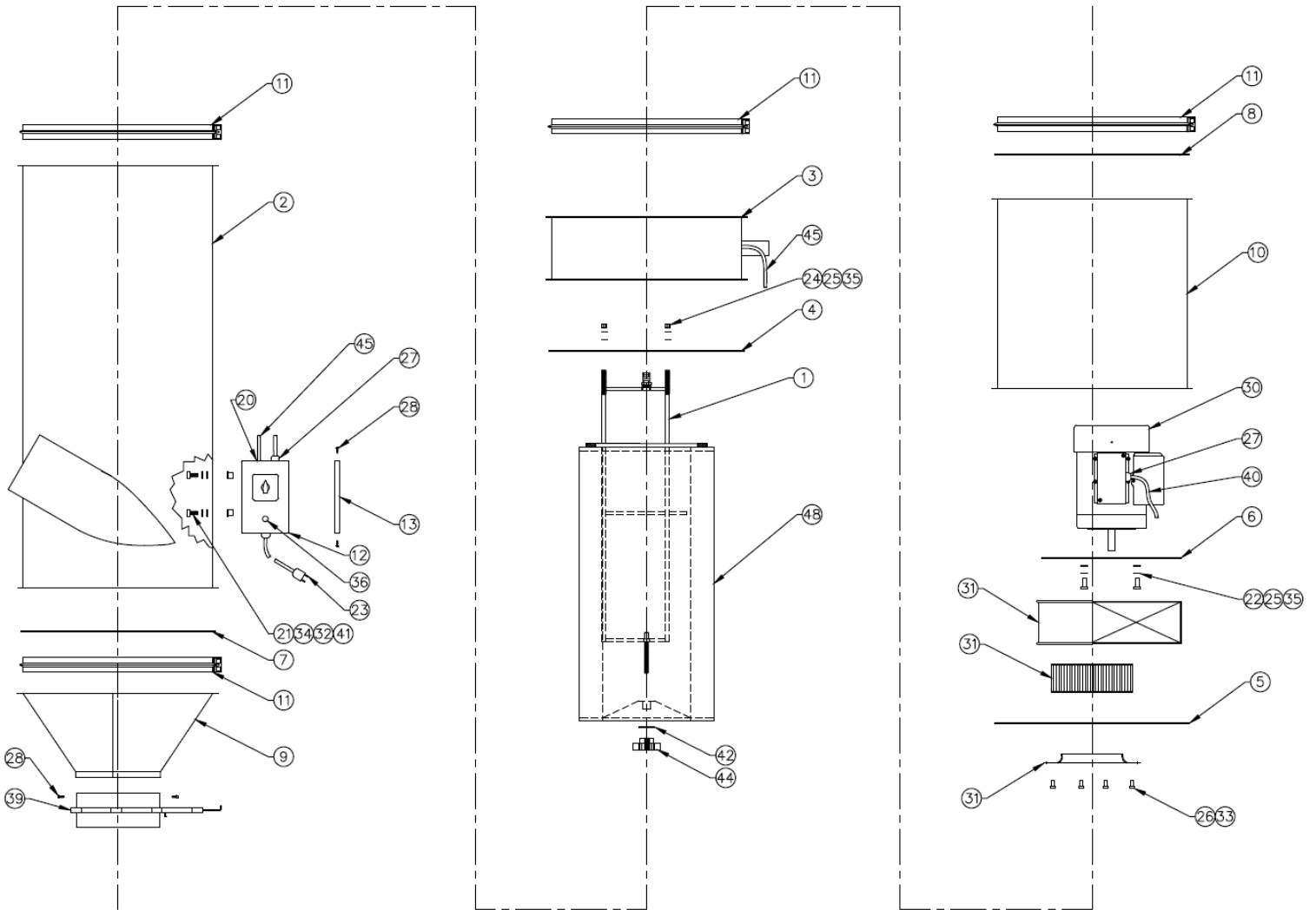


FIG. 10

RP1 PARTS LIST:

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	36720-10	Roto-Pulse Assembly	31	P2302	Blower Assembly
2	38151-01	Body Weldment	32	P233	5/16" Washer
3	38154-01	Clean Air Plenum	33	P242	1/4" Lock Washer
4	38155-01	Roto-Pulse Seal Plate	34	P249	5/16" Lock Washer
5	38155-02	Blower Seal Plate	35	P2704	3/8" Washer
6	38155-03	Motor/Fan Plate	36	P2766	2-Way Pulse Valve
7	38155-04	Drop-Out Plate		P7099	Pulse Push Button
8	38155-05	Exhaust Grille	37	P3403	5/8" ID Air Hose
9	38158-01	Hopper	38	P3411	1" Hose Clamp
10	38160-01	Silencer Assembly	39	P3158	8" Slide Gate
11	38162-01	Joint Band	40	P345	14 AWG Cord
12	38165-01	Manual Pulse Electric Box	41	P3508	5/16-18 Rivnut
	38165-02	Auto Pulse Electric Box	42	P3559	1/2" Rubber Washer
13	38168-01	Electric Box Cover	43	P3585	5/8" x 3/4 MNPT Fitting
			44	P3649	4-Prong Knob
20	P1050	Edge Protector	45	P3734	1/4" OD Air Hose
21	P119	5/16-18 x 1/2" Hex Head Bolt	46	P3735	1/4" 90° Push-to-Connect Fitting
22	P124	3/8-16 X 2" Hex Head Bolt	48	P7401RM	80/20 Cartridge Filter
23	P1363	14 AWG Power Cord 8 ft		P7410RM	Poly Cartridge Filter
24	P141	3/8-16 Hex Nut		P7416NM	Nano-Max Cartridge Filter
25	P142	3/8" Lock Washer			
26	P164	1/4-20 X 3/4" Hex Head Bolt			
27	P1954	Strain Relief			
28	P2059	#8 x 1/2" Sheet Metal Screw			
29	P2075	Diaphragm Valve			
30	P2301	1-1/2HP, 115/230V, 1-Ph, Motor			

