

AVANI Welding Fume Extractor

General Safety Information

MACHINE WARNING SIGNS



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Used without the safety alert symbol (▲) indicates potentially hazardous situation which, if not avoided, may result in property damage.



Warning of electric shock



Do not expose the equipment to rain or use in damp locations.

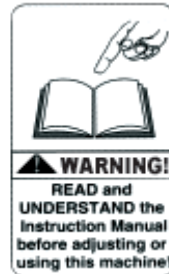


Figure 1



Do not use the equipment around flammable products, if not avoided, sparks can ignite vapors from flammable products.

Read and understand all warnings and operating instructions before using this equipment. Failure to follow all instructions may result in electric shock, fire, and/or serious personal injury or property damage.



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AVANI Welding Fume Extractor

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Specifications

Motor	1HP x 2PCS (800W x 2PCS)
Air Volume (C.F.M.) – <i>variable speed control</i>	
Low Speed	100 Ft ³ /Min (3 M ³ /Min)
High Speed	230 Ft ³ /Min (7 M ³ /Min)
Inlet Size	Ø 2-1/2" (6.35 cm)
Packing Size (L x W x H)	18.9" x 20.5" x 31.1" (48 x 52 x 79 cm)
Net Weight	64 lbs (29 kgs)
Gross Weight	68.3 lbs (31 kgs)

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General Safety Information

(Continued)

▲WARNING

Use this product carefully to

effectively avoid any possible danger. Observe the following safety regulations to avoid bodily injury due to electrocution during use.

Read this Manual carefully before operating the product and preserve the Operation Manual properly.

1. Keep work area clean and organized.
 - A disorderly working environment will cause inconvenience and danger during operation.
2. Check if the working environment is suitable for using the product.
 - Do not use the product in a humid environment.
 - Use the product in a good working environment to reduce risks.
 - Do not use the product in a flammable gas or liquid environment to avoid danger.
3. Keep other persons away from the

product, except for the operator, to avoid danger.

- Do not let children get close to the product. All wires used by the product shall be in a safe location to prevent children from touching them.
4. All tools shall be safely stored.
 - When the tools are not used, please store them in a dry place safely beyond the reach and access of children.
 5. If the machine breaks down, contact a service technician. Do not attempt to repair and possibly damage the machine.
 6. When using the product, be sure to put on a welding suit and mask.
 7. Use the electrical wires correctly.
 - During use, do not drag the electrical wires forcefully. Do not use these wires if fraying or current leakage occurs to avoid injury to the operator.
 8. Before replacing parts, shut off power to the machine.
 - Check that the switch is in "on" or "off" position. Do not attempt the replacement when the machine is

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running. To replace parts or filter material, make certain that the switch is "off".

9. Use the power cord correctly. The total length of power cord shall not exceed 10 feet to avoid low power due to a drop in voltage and to prevent a possible hazard.

▲WARNING

When connecting the product, always follow the instructions in the Operation Manual to avoid injuries.

10. Care and Maintenance:

- Confirm that the parts/accessories have been fully assembled and will not adversely affect the machine operation.
- Check if the machine is operated properly.
- Replace damaged parts or accessories according to the instructions of the Manual. If the said instructions are not specified in the Manual, have a professional technician carry out the maintenance or replacement.
- Check that the electrical specifications of this machine meet safety requirements, and that the maintenance is carried out by a

professional technician. Use original manufacturer's parts and accessories to avoid injury.

- If a problem occurs, contact your dealer immediately.

ADDITIONAL WELDING FUME EXTRACTOR SAFETY RULES

The Welding Fume Extractor can be dangerous if it is operated incorrectly. Therefore, the product must be used cautiously to avoid causing a hazard or damage. Unnecessary injuries may occur by failing to follow the instructions of the Safety Rules Manual. Be sure to put on protection equipment or suit that can protect your body, such as helmet and eye mask to avoid injuries from occurring. If any doubts or any unfitness occurs during use, be sure to stop the operation immediately. Keep in mind that the user shall be liable for using according to the specified safety rules and for operating the machine correctly.

1. Read this Manual carefully before operating the product.
2. Be sure to follow local electrical and safety regulations and observe the electrical safety standards practiced in the relevant area. All electrical wire

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connections and installation shall be carried out by a professional technician.

3. Do not operate the product near flammable materials, as sparks may ignite these materials and cause an explosion. Please confirm there aren't any flammables near the working site to avoid hazard.
4. This product is suitable for collecting smoke and welding oil gas. Do not use it in collecting iron chips and dust at the same time to avoid producing sparks.
5. Before replacement of parts or filter materials, be certain that the switch is disconnected.
6. Do not kink the power cord and keep it away from oil, chemicals or flammables.
7. Check that the voltage, phase count and grounding wire match the machine requirements.
8. When the fan blades are operated at high speed, do not reach hand near these blades to prevent finger from breaking or clothes/necktie from getting caught. Do not put the hand or foreign matter into the air inlet to avoid getting caught in the high-speed rotation of fan blades.

9. When not in use, all air inlets of Welding Smoke Treatment Machine shall be covered.

Assembly



WARNING

Do not connect the Welding Smoke

Treatment Machine before the assembly is finished and you have read and understood all of the precautions stated in the Manual.

NOTE: For correct assembly, refer to the Illustrations and Parts List on pages 11-15.

Installation

MOVING AND TRANSPORTATION

The net weight of this machine is about 64 lbs. It CAN be handled and transported without the help of lifting tools. For your safety, read all instructions carefully.



WARNING

Do not move without the help of others to avoid causing danger.

ELECTRICAL INSTALLATION

POWER CONNECTION

1. Confirm that the power is properly connected under normal power supply condition. It is recommended to provide manual shutdown device before

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connecting power.

2. It is recommended to protect the control equipment with suitable grade of fuse, and the length of fuse and power cord shall not be over 10 feet.

SHUTDOWN

1. Disconnect power by manual method.
2. When stopping operation, check if the switch is under off status.

EARTHING WIRE

Connect yellow/green wires to the earthing wire power jack. Confirm that the earthing wire has been properly connected before connecting main power cord to the machine at all times.

▲WARNING

*Do not disconnect
the wiring jack*

before cutting off power!

POWER INSTALLATION AND STORAGE

The electrical power is configured as following. If conditions are beyond the scope stated below, then it is required to ensure that the power is well arranged and safe.

- Ambient temperature: Between 41°F and 131°F. If the time is over 24 hours, then the ambient average temperature shall not be over 122°F.
- Humidity: Between 30% and 95%

- Altitude: 3,280 feet
- Moving and Storing: -13°F to 131°F. For short-time storage (less than 24 hours), the storage temperature can be up to 158°F.

Operation

PRIOR TO START UP

Purpose: The Welding Fume Extractor is specially suitable for treating the smoke generated during ordinary welding processing work, which can effectively collect and screen the smoke resulting from the welding work in maintaining the air quality of the working environment.

- Before starting the machine, be sure to read this Manual carefully.
- Before starting the machine, check if relevant safety protection measures have been taken according to the Manual.
- Before starting the machine, watch the motor turning direction according to the instruction of arrow direction.

START UP

1. To ensure satisfactory performance for the Welding Smoke Treatment Machine, please confirm the air volume, power

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and the matching table of the Welding Smoke Treatment Machine.

2. Connect power according to electrical installation procedure after installing the Welding Smoke Treatment Machine and the table. Disconnect power according to electrical installation procedure when the machine is not used.
3. The Welding Smoke Treatment Machine shall be turned on and off by pushing I/O button. Under normal operation status, use such I/O button.

Unpacking

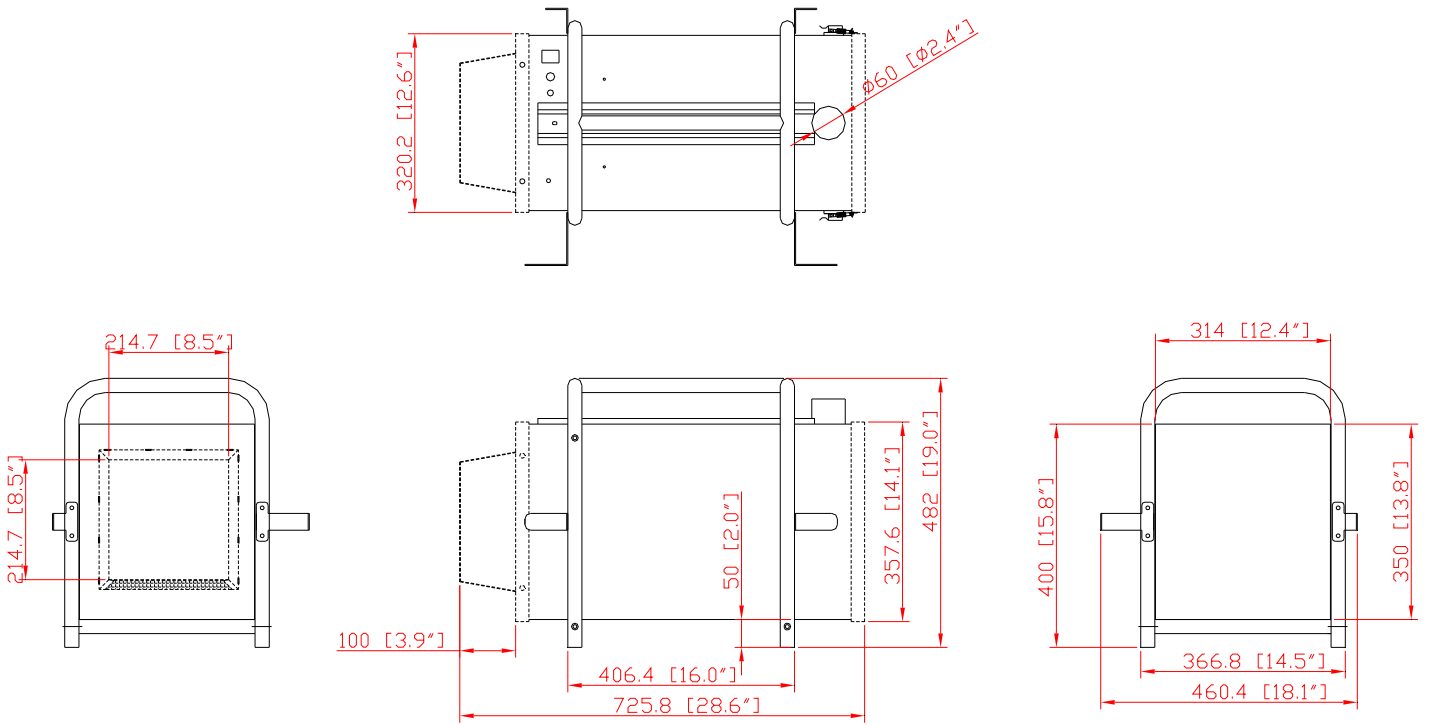
The machine should be unpacked carefully. Check if the machine and components are consistent with those indicated in the Parts List. If any doubt arises or when the components are incomplete, contact your dealer.

OPERATION – Filter Cleaning

1. Refer to control panel (above) for initiating power to the motor and subsequent vacuum from the unit.
2. The vacuum hood should be placed an approximate distance of 12" from the smoke source for efficient operation.
3. If a decrease in vacuum is noted during operation, power down the machine, remove the metal filter, clean with water and then re-install.
4. If vacuum continues to be too weak for proper fume extraction, after cleaning the metal filter, contact AVANI for filter replacement. (see contact list in this manual)

AVANI Welding Fume Extractor

Dimensions (in mm/inches)



AVANI Welding Fume Extractor

Filters

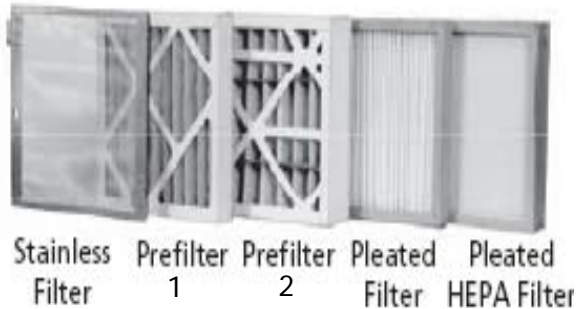
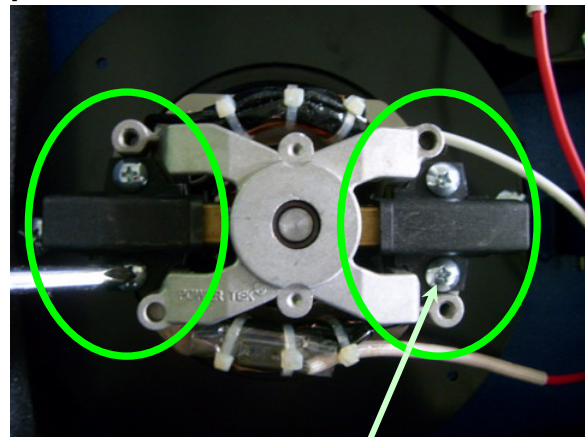


Figure 2 - Filters

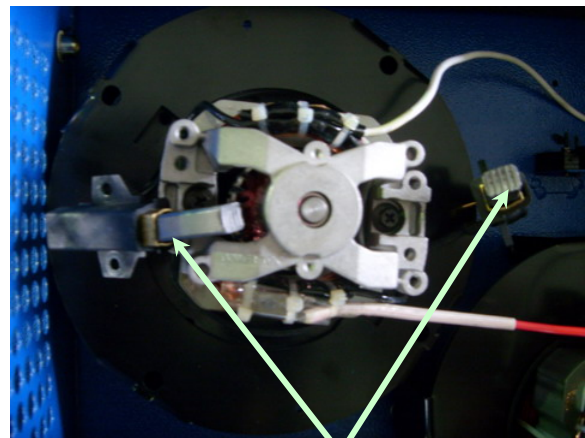
1. **STAINLESS FILTER** captures up to 95% of the sparks and steel chips down to 1 – 2 micron.
2. **PREFILTER 1** captures 35% of the 2 – 10 micron small particles and it absorbs oil which extends the lives of the PLEATED FILTER & HEPA FILTER.
3. **PREFILTER 2** captures 85% of the 1 – 2 micron small particles and it absorbs oil which extends the lives of the PLEATED FILTER & HEPA FILTER.
4. **PLEATED FILTER** filters the fine dusts.
5. **PLEATED HEPA FILTER** captures up to 99.97% of the 0.3 micron noxious fumes and provides better working environment.

NOTE: PLEATED FILTER & HEPA FILTER can be reused after cleaning with compressed air.

Carbon brush replacement procedure

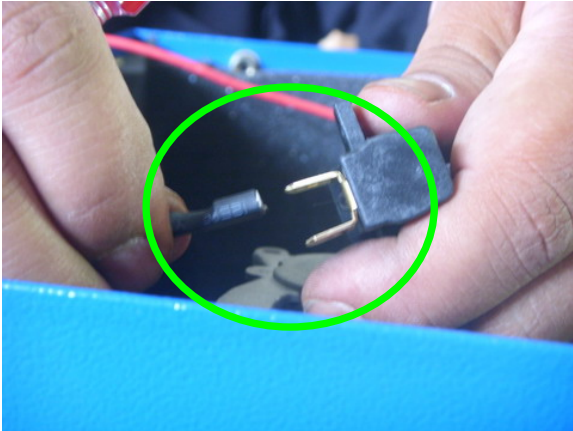


1. Loosen four pieces of round phillips head screw with screwdriver.

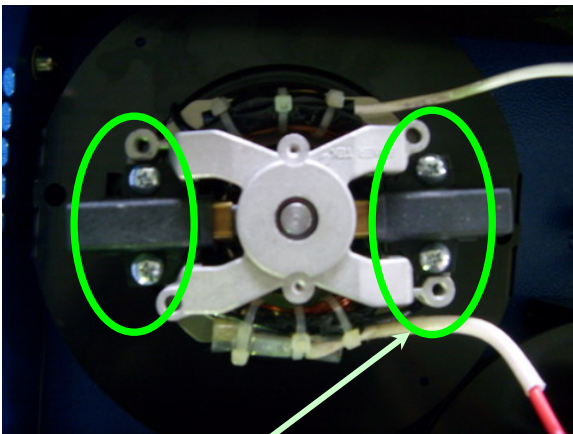


2. Take out the carbon brush along with the base.

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3. Pull out the T plug at the bottom back of the carbon brush. Then, replace the carbon brush.



4. Connect the line cord back to the original place and tighten the four pieces of round phillips head screw.

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Repair Parts Illustration

For Repair Parts, call +1-919-570-2862

24 hours a day – 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

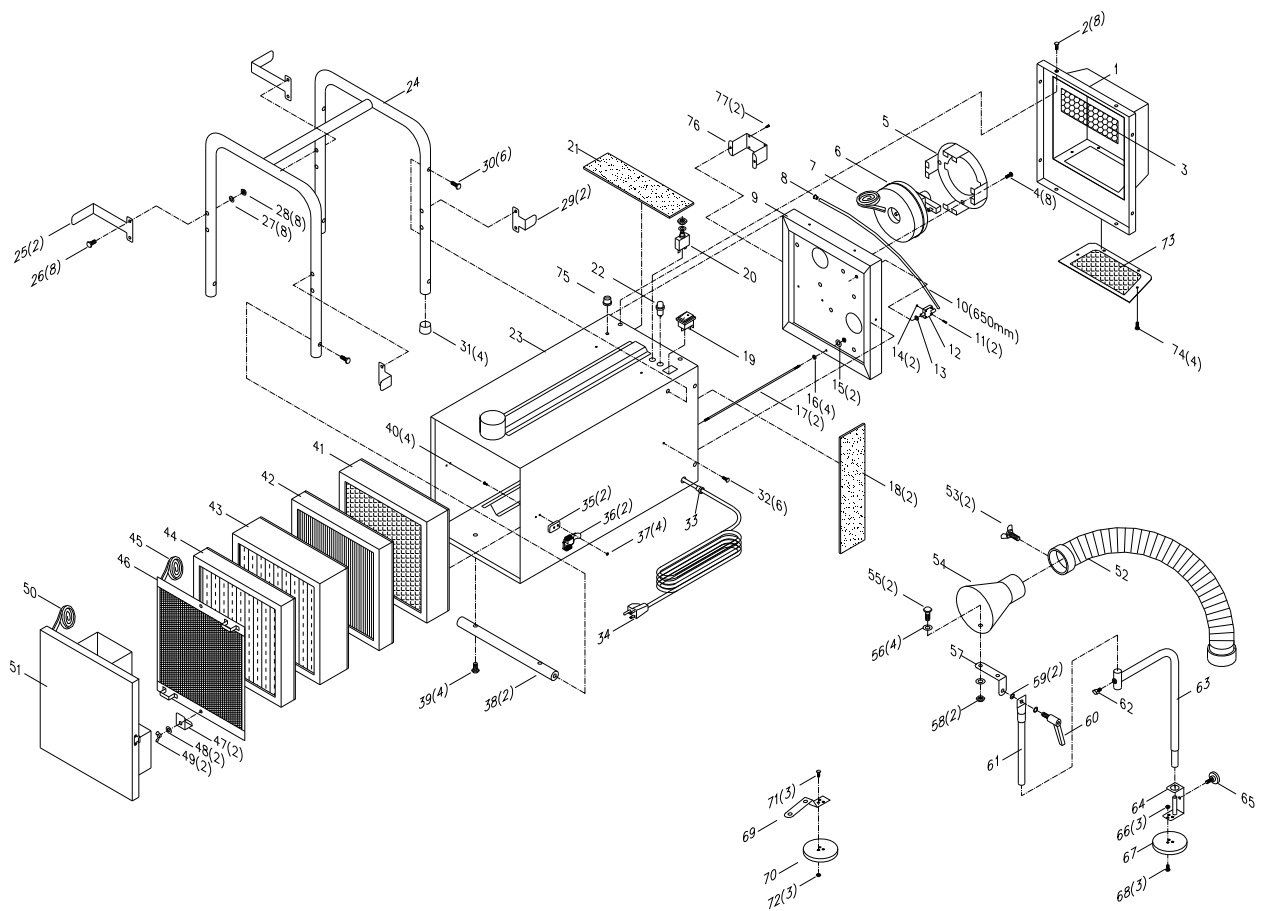


Figure 3

AVANI Welding Fume Extractor

Repair Parts List

Repair Parts List for Welding Fume Extractor

Reference Number	Description	Part Number	Quantity
1	Back Cover	AVANI-2010H-S-1	1
2	Phillips Head Screw (1/4"*3/4")	AVANI-2010H-S-2	8
3	Noise Reducer	AVANI-2010H-S-3	1
4	Phillips Head Screw (1/4"*2-1/2")	AVANI-2010H-S-4	8
5	Motor Fixing Base	AVANI-2010H-S-5	2
6	Motor	AVANI-2010H-S-6	2
7	Foam Tape	AVANI-2010H-S-7	2
8	Ventilation Fixing Cover	AVANI-2010H-S-8	1
9	Motor Base	AVANI-2010H-S-9	1
10	Hose	AVANI-2010H-S-10	1
11	Inner Hex Screw (M2*20mm)	AVANI-2010H-S-11	2
12	Pressure Gauge	AVANI-2010H-S-12	1
13	Pressure Gauge Ring	AVANI-2010H-S-13	1
14	Hex Nut (M2)	AVANI-2010H-S-14	2
15	Flat Washer (1/4"*OD19*2t)	AVANI-2010H-S-15	2
16	Hex Nut (1/4")	AVANI-2010H-S-16	4
17	Filter Fixing Shaft	AVANI-2010H-S-17	2
18	Noise Reducer	AVANI-2010H-S-18	2
19	Switch	AVANI-2010H-S-19	1
20	Overload Protector	AVANI-2010H-S-20	1
21	Noise Reducer	AVANI-2010H-S-21	1
22	Indicator (Red)	AVANI-2010H-S-22	1
23	Machine Body	AVANI-2010H-S-23	1
24	Handle (Frame)	AVANI-2010H-S-24	1

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Reference Number	Description	Part Number	Quantity
25	Hose Rolling Rack	AVANI-2010H-S-25	2
26	Countersunk Phillips Head Screw (1/4"*1-1/2")	AVANI-2010H-S-26	8
27	Flat Washer (1/4"*OD19*2t)	AVANI-2010H-S-27	8
28	Hex Nut (1/4")	AVANI-2010H-S-28	8
29	Cable Rolling Rack	AVANI-2010H-S-29	2
30	Countersunk Phillips Head Screw (1/4"*1-1/2")	AVANI-2010H-S-30	6
31	Cushion	AVANI-2010H-S-31	4
32	Phillips Head Screw	AVANI-2010H-S-32	6
33	Cord Buckle	AVANI-2010H-S-33	1
34	Cord	AVANI-2010H-S-34	1
35	Door Buckle Base	AVANI-2010H-S-35	2
36	Dual Spring Buckle	AVANI-2010H-S-36	2
37	Hex Nut	AVANI-2010H-S-37	4
38	Frame Connecting Shaft	AVANI-2010H-S-38	2
39	Countersunk Phillips Head Screw (1/4"*1-1/2")	AVANI-2010H-S-39	4
40	Countersunk Phillips Head Screw (M3*15mm)	AVANI-2010H-S-40	4
41	HEPA	AVANI-2010H-S-41	1
42	Pleated Filter (45%)	AVANI-2010H-S-42	1
43	Prefilter (85%)	AVANI-2010H-S-43	1
44	Prefilter (35%)	AVANI-2010H-S-44	1
45	Foam Tape	AVANI-2010H-S-45	1

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Reference Number	Description	Part Number	Quantity
46	Stainless Net	AVANI-2010H-S-46	1
47	Filter Fixing Base	AVANI-2010H-S-47	2
48	Flat Washer (1/4"*OD19*2t)	AVANI-2010H-S-48	2
49	Wing Nut (1/4")	AVANI-2010H-S-49	2
50	Foam Tape	AVANI-2010H-S-50	1
51	Front Cover	AVANI-2010H-S-51	1
52	PVC Hose	AVANI-2010H-S-52	1
53	PVC Hose Fixing Screw	AVANI-2010H-S-53	2
54	Suction Hood	AVANI-2010H-S-54	1
55	Hex Screw (5/16"*3/4")	AVANI-2010H-S-55	2
56	Flat Washer (5/16"OD18*2t)	AVANI-2010H-S-56	4
57	Hood Fixing Hinge	AVANI-2010H-S-57	1
58	Hex Nut (5/16")	AVANI-2010H-S-58	2
59	Spring Washer (5/16")	AVANI-2010H-S-59	2
60	Handle	AVANI-2010H-S-60	1
61	Hood Fixing Tube	AVANI-2010H-S-61	1
62	Special Screw (5/16"*5/8")	AVANI-2010H-S-62	1
63	L-Shape Tube	AVANI-2010H-S-63	1
64	Fixing Base	AVANI-2010H-S-64	1
65	Fixing Hinge	AVANI-2010H-S-65	1
66	Hex Nut (3/16")	AVANI-2010H-S-66	3
67	Magnetic Base	AVANI-2010H-S-67	1
68	Round Phillips Head Screw	AVANI-2010H-S-68	3
69	Hood Holder	AVANI-2010H-S-69	1
70	Magnetic Base	AVANI-2010H-S-70	1

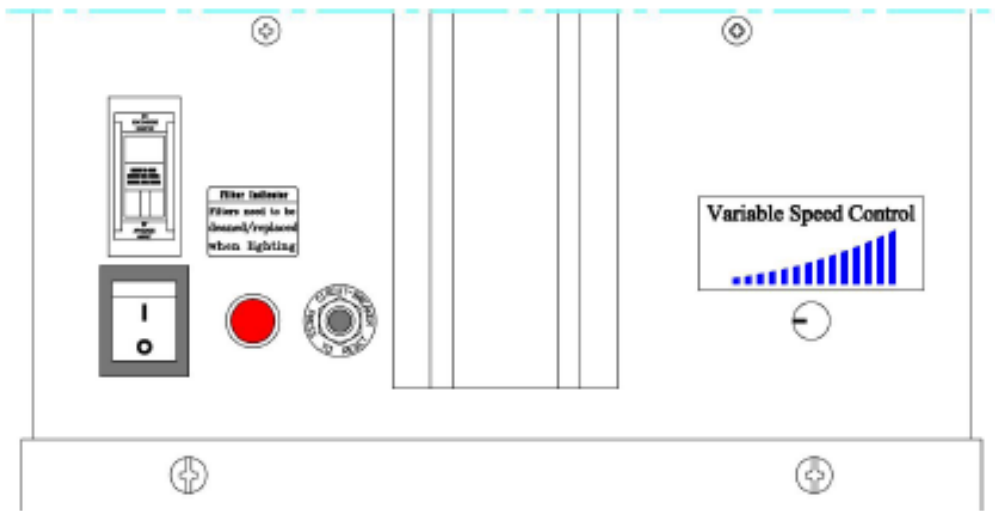
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Reference Number	Description	Part Number	Quantity
71	Round Phillips Head Screw	AVANI-2010H-S-71	3
72	Hex Nut (3/16")	AVANI-2010H-S-72	3
73	Screen	AVANI-2010H-S-73	1
74	Sheet Metal Screw	AVANI-2010H-S-74	4
75	Variable Speed Control Knob	AVANI-2010H-S-75	1
76	IC Panel Base	AVANI-2010H-S-76	1
77	Sheet Metal Screw	AVANI-2010H-S-77	2

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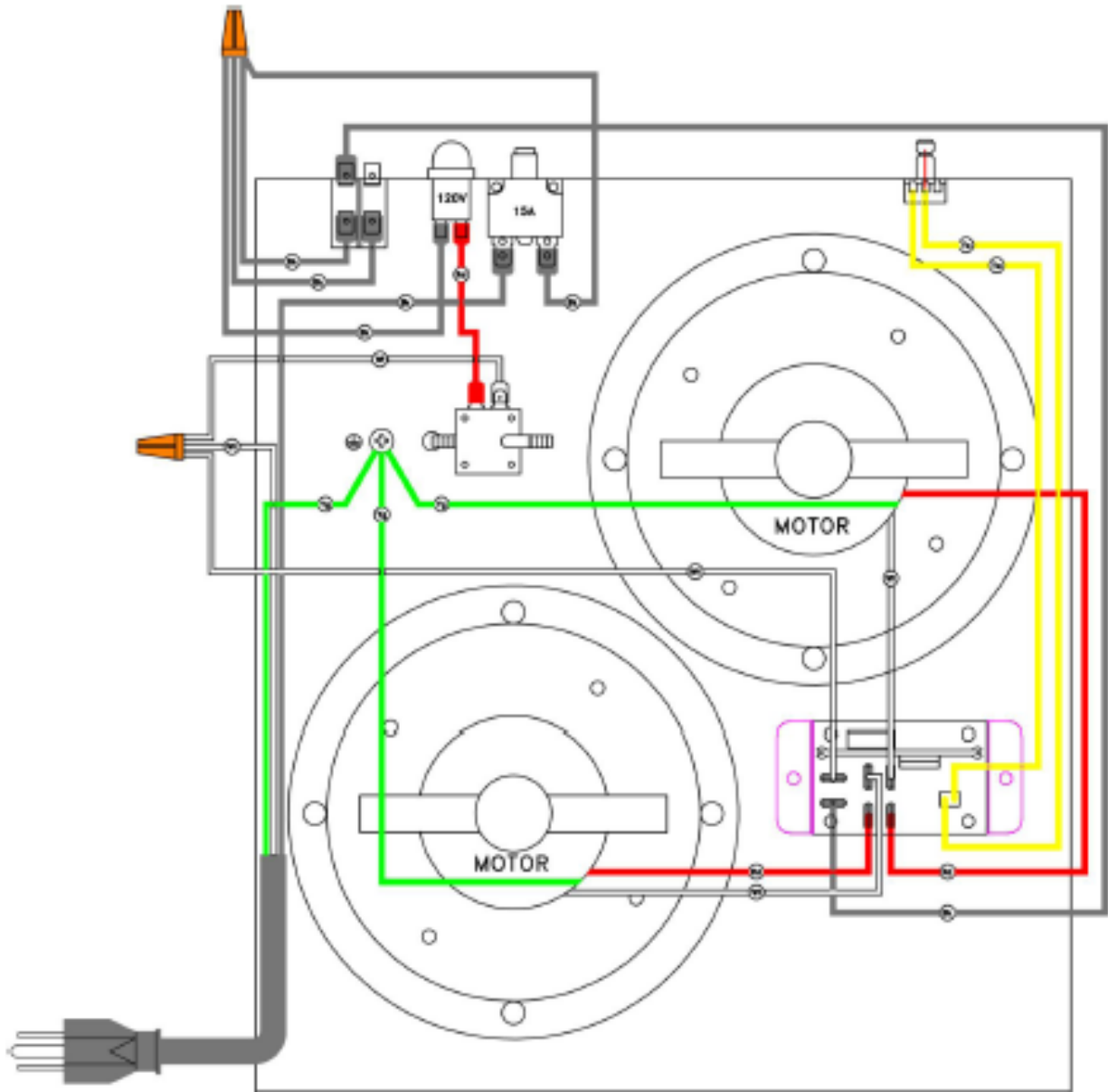
Appendix 1 - Electrical Circuit Diagram

Main Electrical Box Components for SPC-230



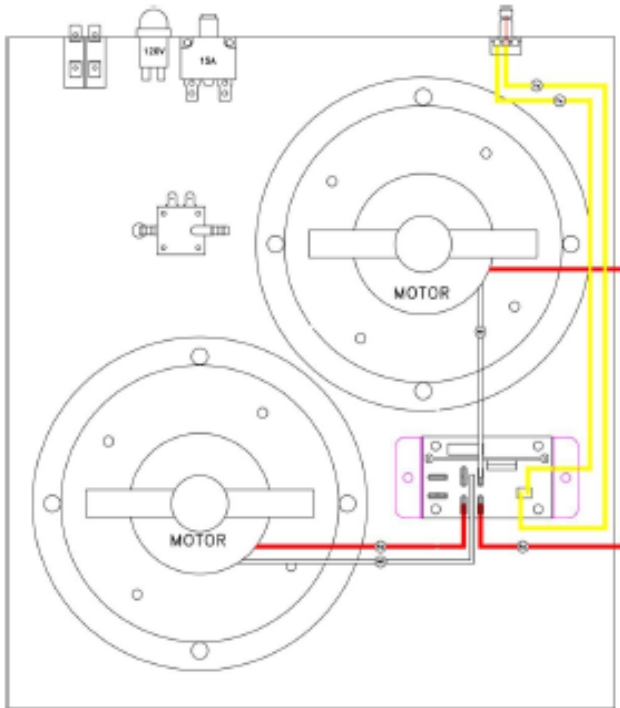
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Main Electrical Box Components for SPC-230

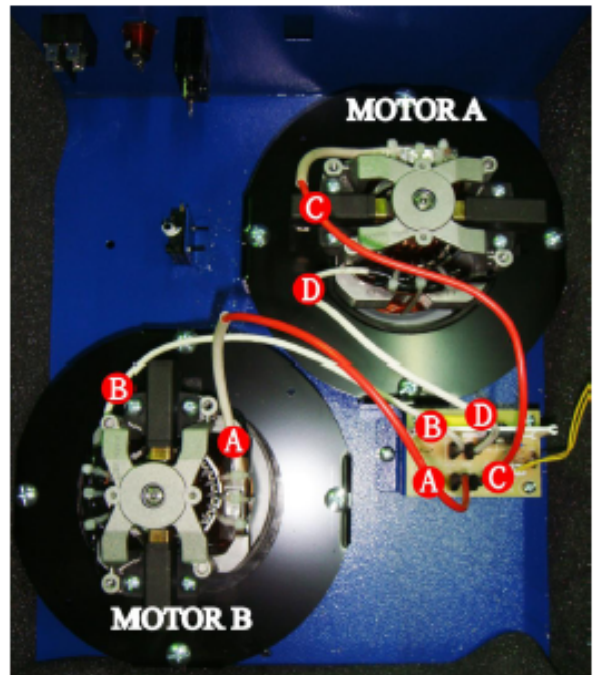


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Main Electrical Box Components for SPC-230



◆ A & B : The power of motor B.

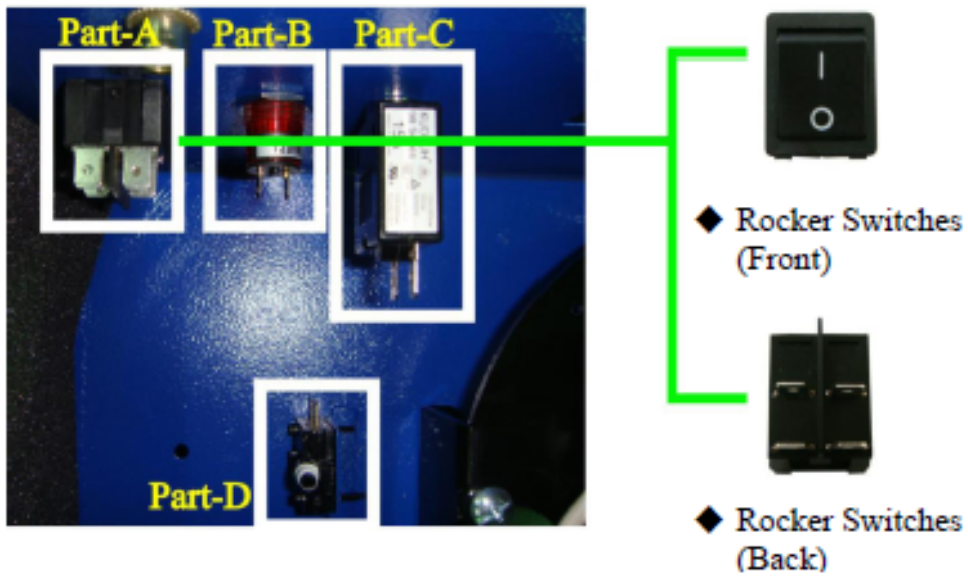


◆ C & D : The power of motor A.

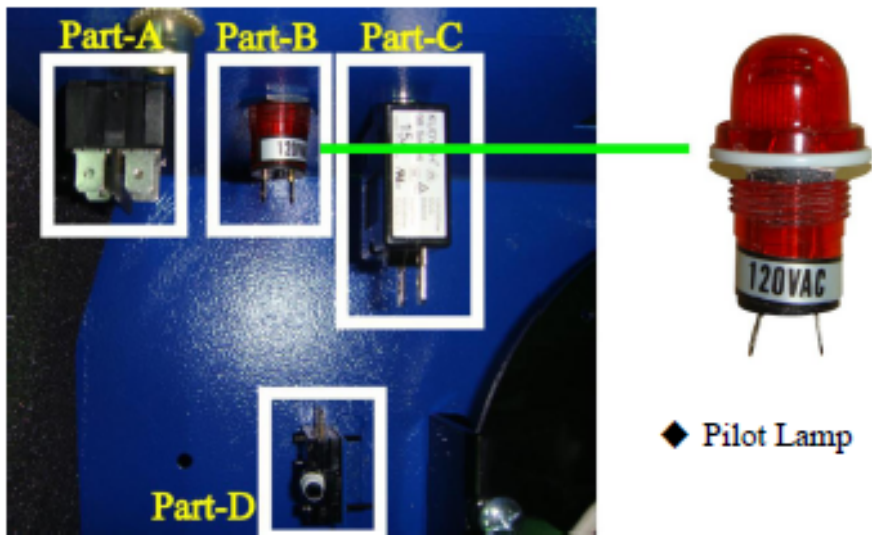
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Main Electrical Box Components for SPC-230

Part-A



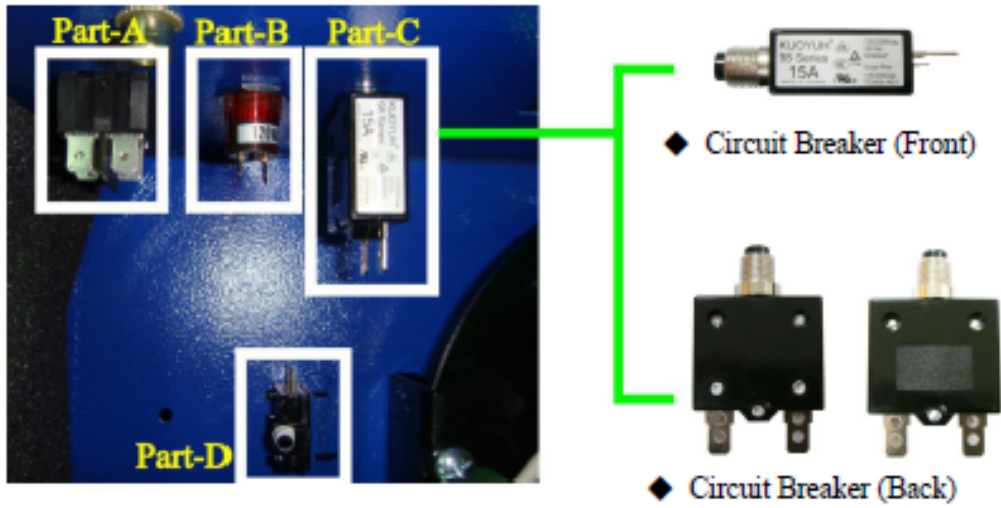
Part-B



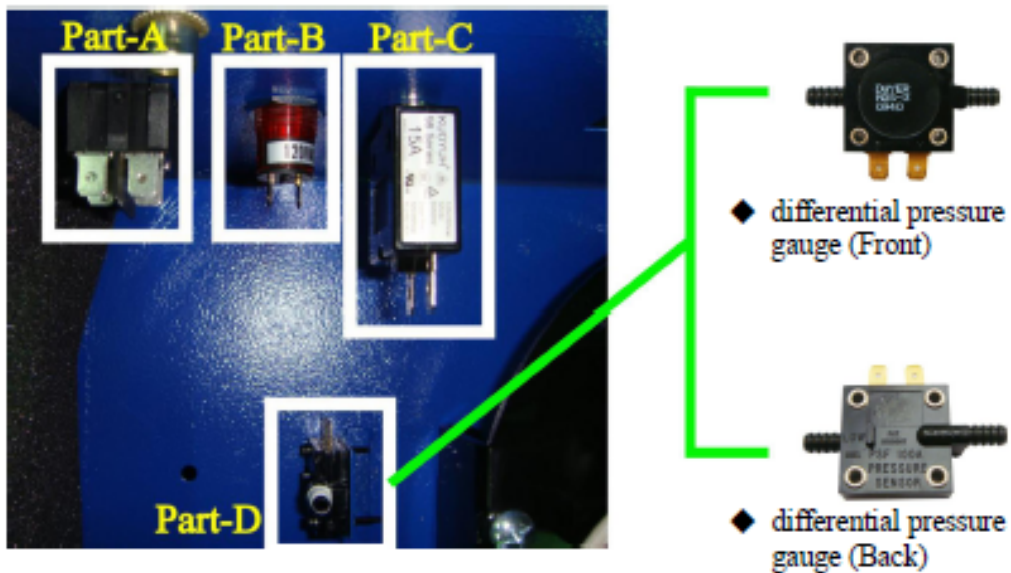
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Main Electrical Box Components for SPC-230

Part-C

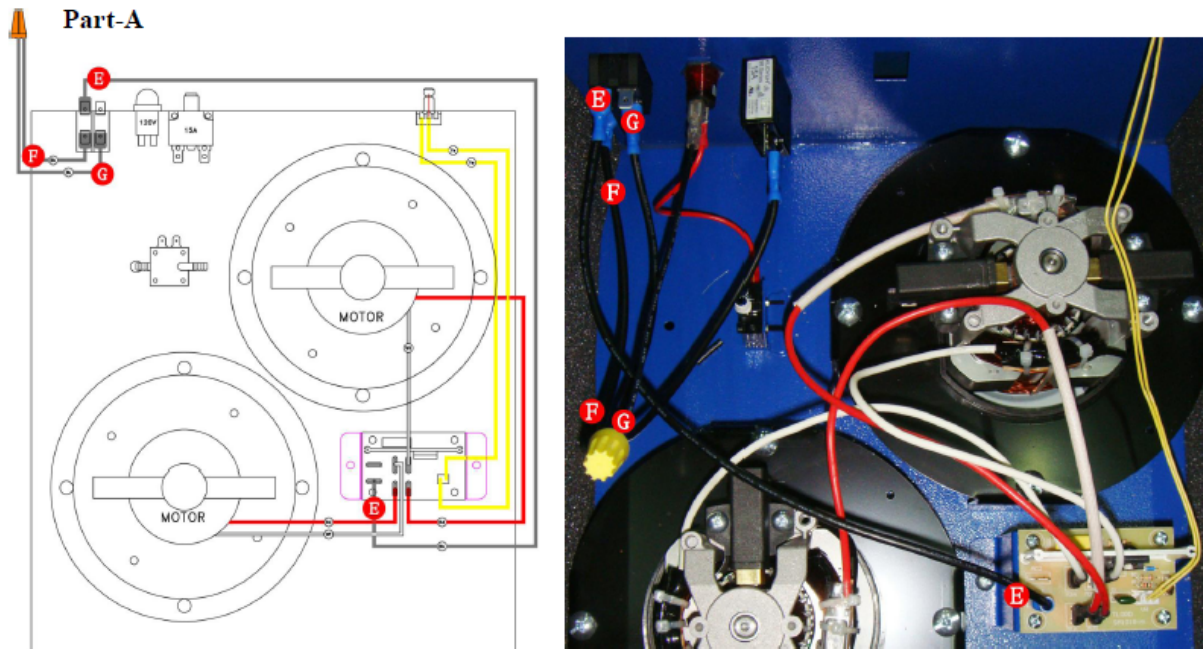


Part-D



AVANI Welding Fume Extractor

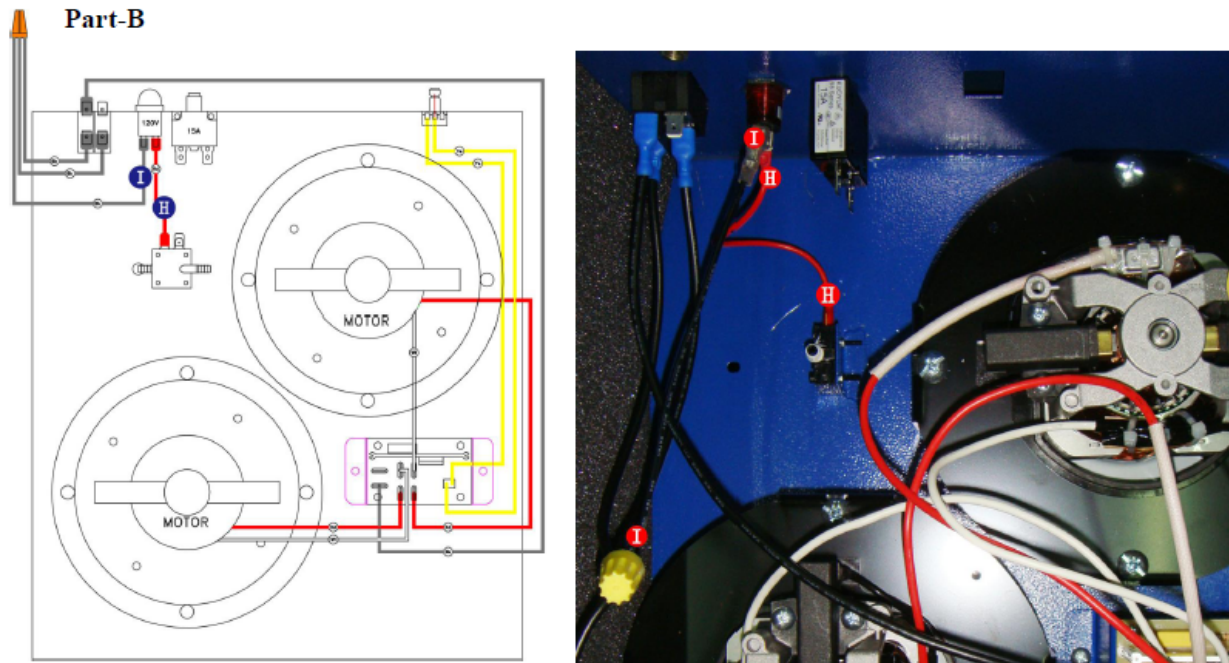
Main Electrical Box Components for SPC-230



- ◆ E : The circuit connecting the IC board and Rocker Switches.
- ◆ F : The control line of Rocker Switches.
- ◆ G : The control line of Rocker Switches.

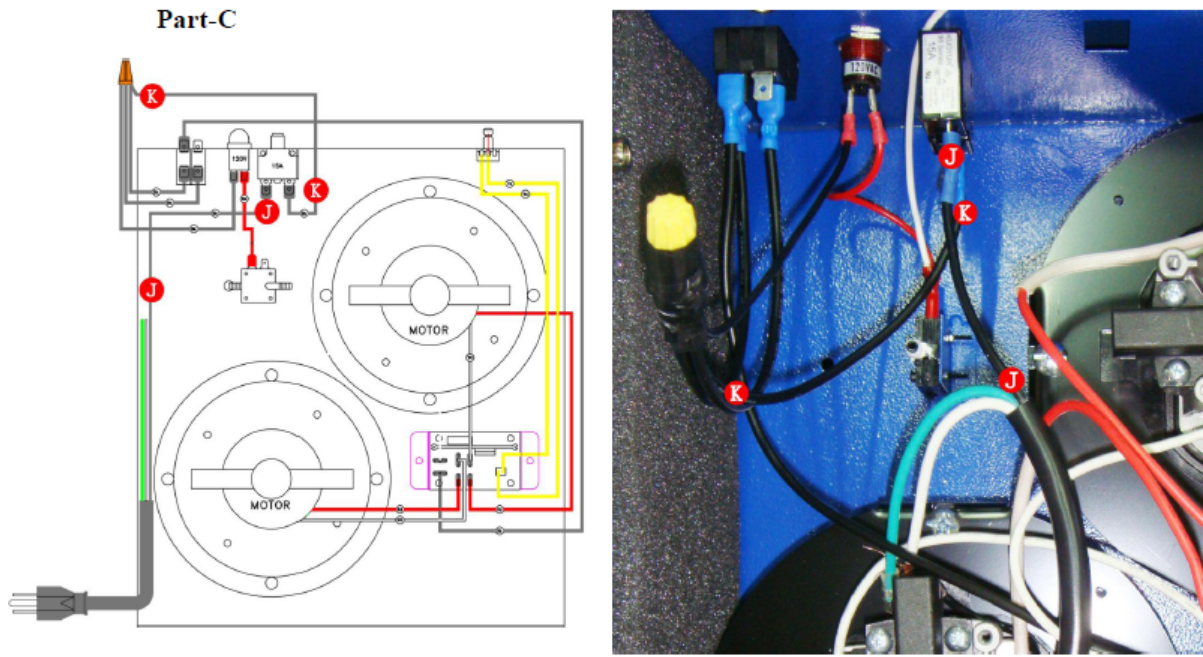
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Main Electrical Box Components for SPC-230



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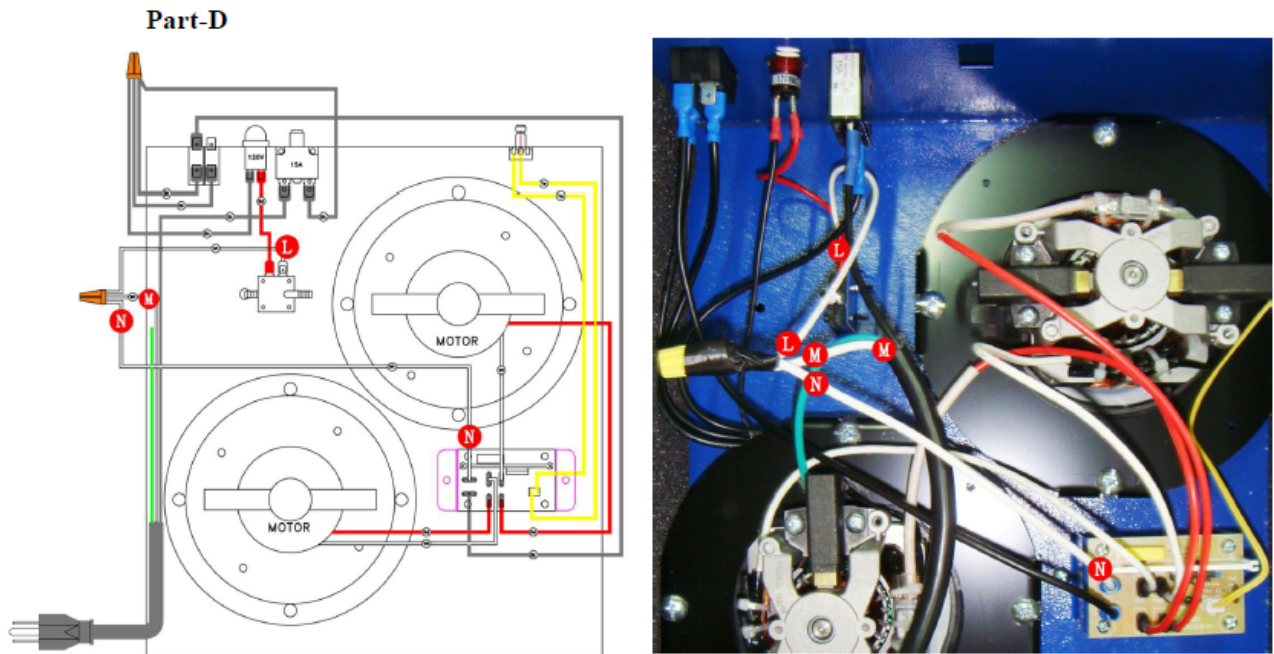
Main Electrical Box Components for SPC-230



- ◆ J : The circuit connecting the main power of outer cable and the circuit breaker.
- ◆ K : The control line of circuit breaker.

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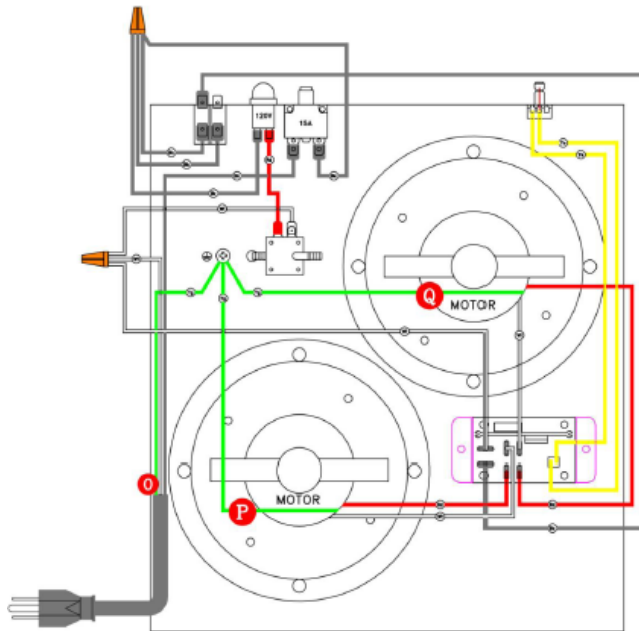
Main Electrical Box Components for SPC-230



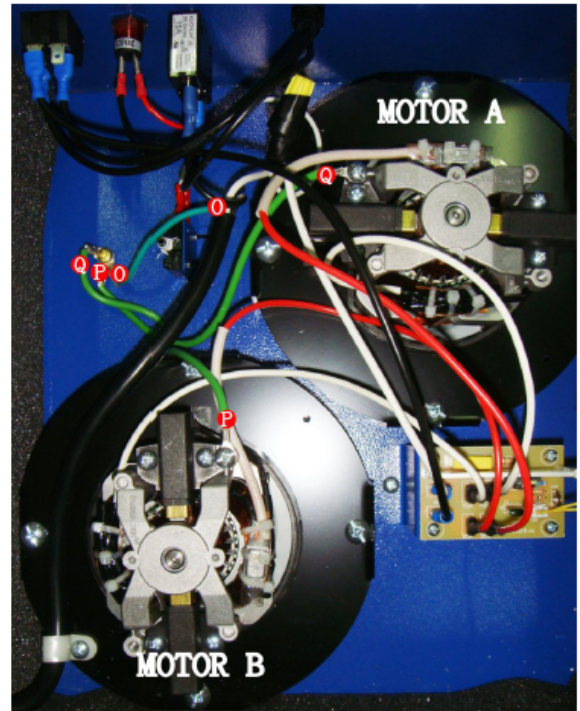
- ◆ L : The control line of the differential pressure gauge.
- ◆ M : The control line of the main power.
- ◆ N : The control line of IC Board.

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Main Electrical Box Components for SPC-230



- ◆ O : Grounding of main power.
- ◆ P : Grounding of motor A.
- ◆ Q : Grounding of motor B.



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Contact Information

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