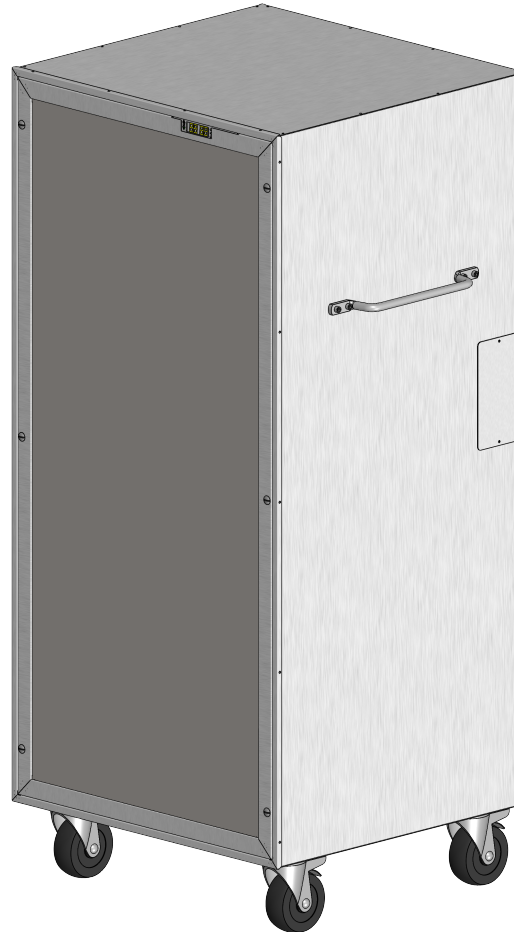


# STAINLESS STEEL

## CRITI-CLEAN ULTRA

### PORTABLE FAN FILTER UNIT

READ COMPLETELY AND SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE



#### AJ Manufacturing

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DRAWN BRS/SLG	CATEGORY CRITI-CLEAN ULTRA INSTALLATION MANUAL	TAG	QTY	REV # C
CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 1/16
APRVD	SIZE			SCL 1:12
				DO NOT SCALE

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT

### Critical operation conditions of the Fan Filter Unit

- DO NOT TOUCH the HEPA filter media. Damage to filter media may void the filter warranty. The screen is to protect against accidental contact with the filter. Never place objects on the filter. Always transport or lift the filter by its frame.
- Prior to powering the unit, verify that it is wired to the correct power supply. The rating plate label located on the electrical box shows the electrical data.
- For replacement parts refer to the model number and serial number on the rating plate label located on the electrical box.

### Replacement Part numbers

FFU-RP11 - 48 x 24 x 2.875" HEPA filter

FFU-RP21 - Variable speed motorized impellor (120 VAC)

FFU-RP31 - Main control board

FFU-RP32 - Airflow measure and display system

FFU-RP33 - Face control/display board (board only)

FFU-RP34 - 120 -- 24 VAC transformer

FFU-RP39 - Safety shut-off switch

FPH-RP40 - Resetable fuse (8A up to 240 VAC)

WHEN ORDERING REPLACEMENT PARTS, PLEASE INCLUDE UNIT MODEL & SERIAL NUMBER AND PO # IF AVAILABLE.



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 2/16
APRVD	SIZE			SCL 1:10
				DO NOT SCALE

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT

READ COMPLETELY AND SAVE THESE INSTRUCTIONS

**WARNING** - TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS,  
ALLOW ONLY QUALIFIED TECHNICIANS TO INSTALL AND SERVICE THE UNIT. ALL  
PERSONS SHOULD OBSERVE THE FOLLOWING:

- a) Use this unit only in a manner intended by the manufacturer. If you have questions, contact the manufacturer.
- b) Before servicing or cleaning unit, unplug the unit power and secure the plug in accordance with OSHA (LOTO) practices and procedures to prevent power from being accidentally switched on avoiding accidental electric shock and injury.
- If this unit is to be installed within close proximity to water, mark the unit in accordance with applicable codes and standards.
- This unit is to be used only as intended by the manufacturer. If you have any questions regarding the use, installation, or operation of this unit, contact the manufacturer:

**AJ Manufacturing Co., Inc.**  
8701 Elmwood Avenue; Suite 400  
Kansas City, MO 64132  
Tel: 816-231-5522



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 3/16
APRVD	SIZE			SCL 1:10
				DO NOT SCALE

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT

### INSTALLATION CHECKLIST

This is to provide a general overview of what steps should be taken to achieve a successful installation of the fan filter unit. These steps should be performed in the order listed. For more detail see applicable section in this instruction manual. Read the entire manual before beginning installation.

- ☐ Unbox and inspect the fan filter unit.
- ☐ Install casters, maneuvering handle, and cord storage hook.
- ☐ Connect ductwork to fan unit (if applicable).
- ☐ Connect main power cord and plug into an appropriate receptacle.
- ☐ Run the unit and/or upstream air device to flush out construction debris.
- ☐ Install the pre-filter (if applicable).
- ☐ Install the HEPA/ULPA filter.
- ☐ Turn unit on and adjust airflow to design CFM.
- ☐ Install the perforated face screen.
- ☐ Verify airflow with a flow hood.



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 4/16
APRVD	SIZE			SCL 1:10
				DO NOT SCALE

## Installation

The terminal unit is fully assembled from the factory with the exception of the HEPA filter and outer accessories. Filter is shipped in a separate box.

Step 1 -- Carefully remove the unit from the shipping carton and inspect for damage that may have occurred during shipping. If shipping damage is found, do not install. Call the supplier to report damage.

Step 2 -- Wipe down unit to remove shipping dust and debris.

Step 3 -- Install casters, maneuvering handle, and cord storage hook using the provided fasteners. (See Page 6 for Details)

Step 4 -- Position the unit in the operating location.

Step 5 -- Connect the power cord to the unit and an appropriately rated outlet.

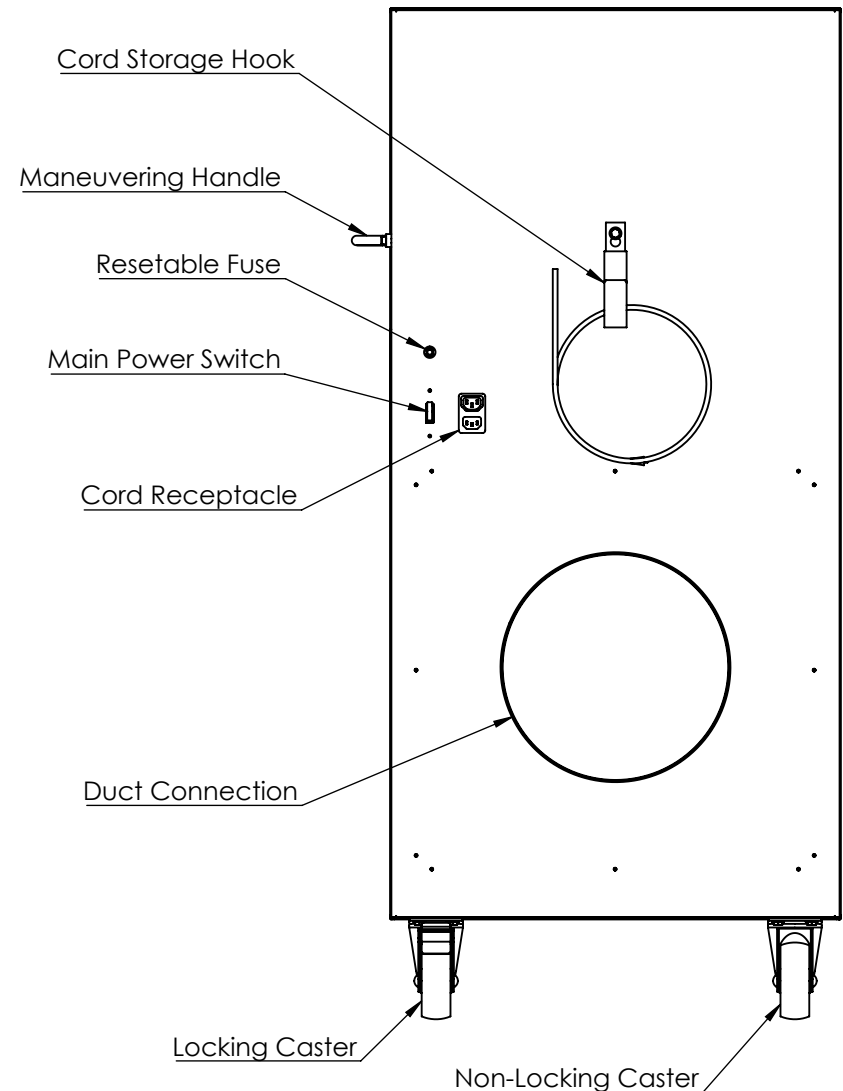
SSPFFU-RF-120 --- 120 VAC SUPPLY, 2.8 FLA

Step 6 -- If applicable, connect duct to unit using an adequate method to minimize leakage.

Step 7 -- Install the HEPA filter per the "Removal and Replacement of the HEPA Filter with Gel Seal" section on page 8.

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT



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APRVD	SIZE			SCL 1:10
				DO NOT SCALE

# STAINLESS STEEL

## CRITI-CLEAN ULTRA

### PORTABLE FAN FILTER UNIT

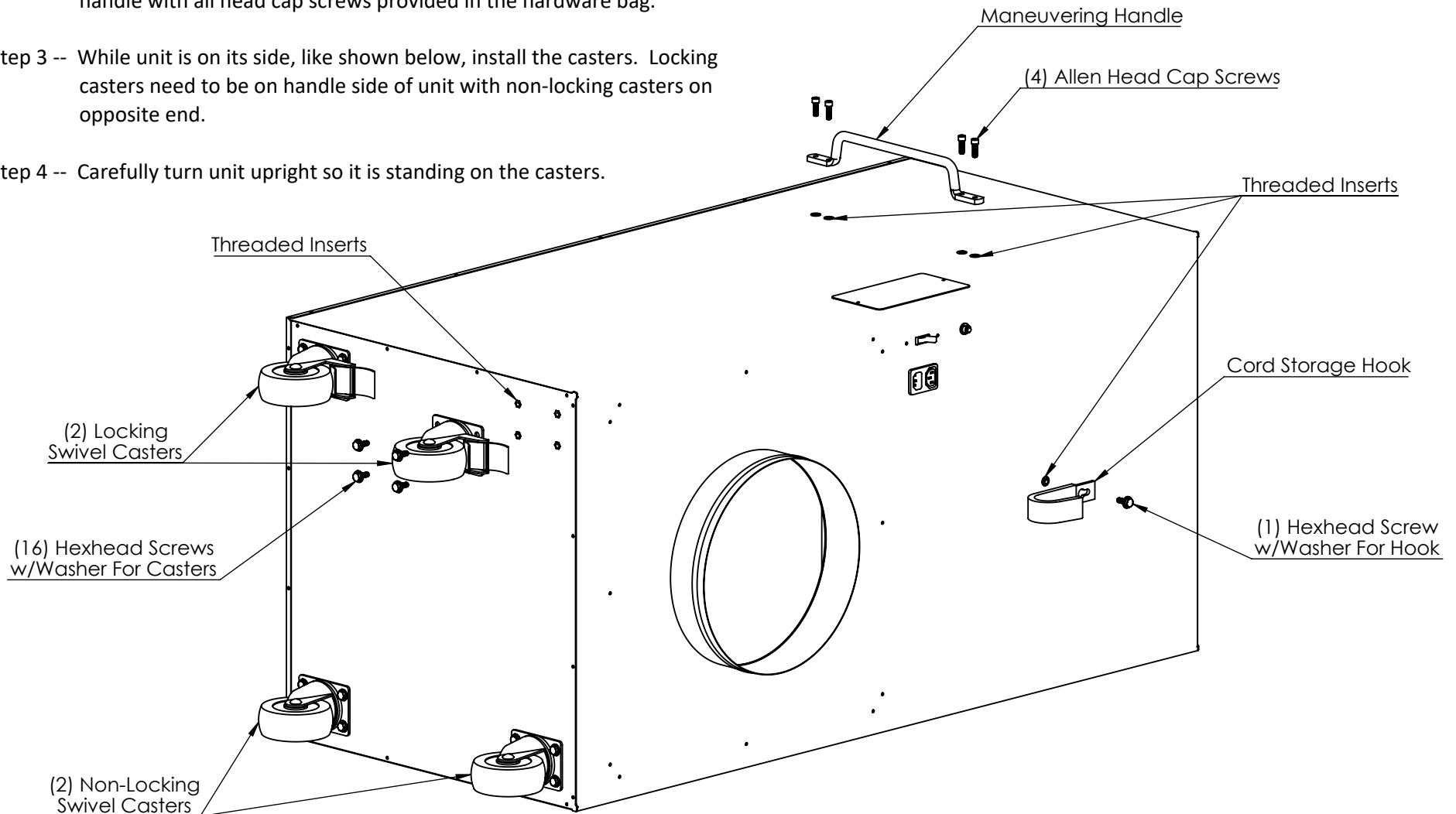
#### Accessories Installation

Step 1 -- Start all screws by hand to prevent cross threading.

Step 2 -- While unit is on its side, like shown below, install the maneuvering handle with all head cap screws provided in the hardware bag.

Step 3 -- While unit is on its side, like shown below, install the casters. Locking casters need to be on handle side of unit with non-locking casters on opposite end.

Step 4 -- Carefully turn unit upright so it is standing on the casters.



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DRAWN  
BRS/SLG

CHKD

APRVD

CATEGORY  
CRITI-CLEAN ULTRA INSTALLATION MANUAL

PRODUCT  
SSPFFU-RF

SIZE

TAG

QTY

REV # C

SHT 6/16

SCL 1:8

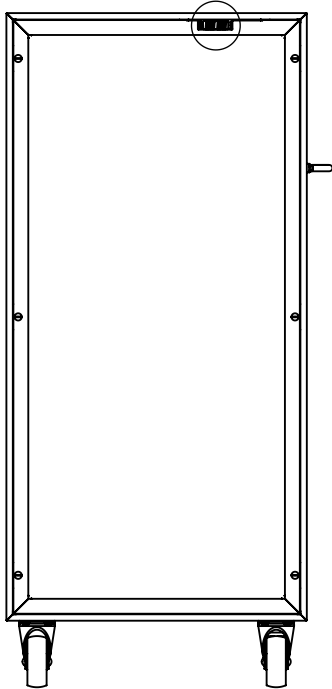
DO NOT  
SCALE

# STAINLESS STEEL

## CRITI-CLEAN ULTRA

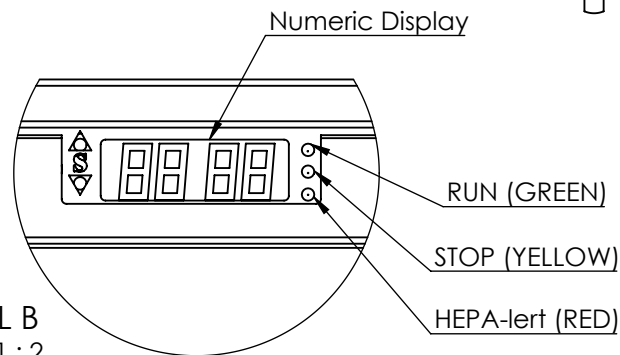
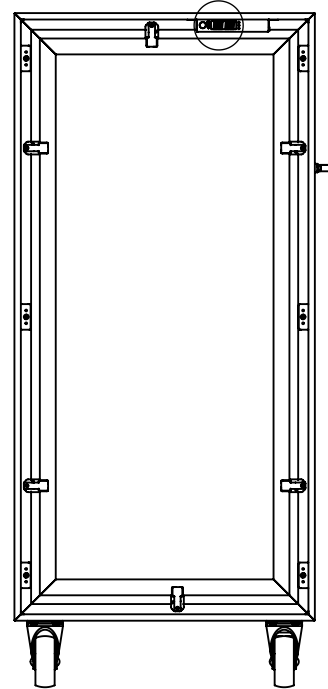
### PORTABLE FAN FILTER UNIT

B

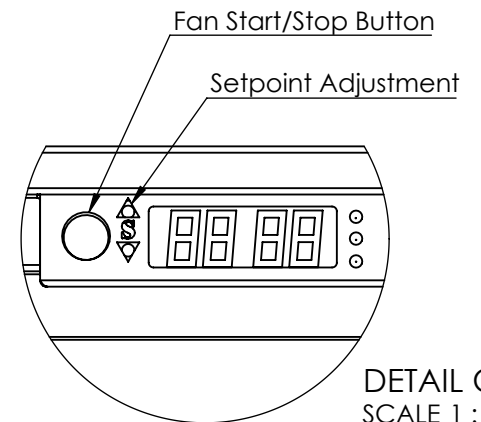


NOTE: ON/OFF Switch and Digital control are hidden when face frame is in place.

C



DETAIL B  
SCALE 1 : 2



DETAIL C  
SCALE 1 : 2



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 7/16
APRVD	SIZE			SCL 1:15
				DO NOT SCALE

## Removal and Replacement of the HEPA Filter with Gel Seal

### WARNING!

Unplug the unit from the electrical power source before attempting to service the unit.

### WARNING!

The HEPA filter may be protected by an expanded metal screen. The screen prevents accidental contact with the filter media. It is not meant to allow handling of the filter by the media. Handle the filter **ONLY** by the frame.

NOTE: The manufacturer recommends two people to remove and install the HEPA filter in the unit.  
Lock the castors or otherwise secure the unit from moving while changing filters.

Step 1 -- Using a flat screwdriver, release the face frame by rotating the six (6) fasteners a 1/4-turn counter clock-wise.  
Unhook the safety cables from the filter clips. Set the frame aside.

Step 2 -- Turn the unit off with the switch located on the face of the unit (round, black button).

Step 3 -- Unplug the unit and secure the plug in accordance with OSHA (LOTO) practices and procedures.

Step 4 -- USE TWO PEOPLE TO SUPPORT THE FILTER and rotate the swingarm filter clips off of the filter until clip is clear of the filter.

Step 5 -- Gently pull the filter away from the unit. It should take 5-10 seconds for the gel to release. If installing a new filter discard the filter in an appropriate manor.

Step 6 -- Unpack the new filter and inspect for shipping damage. If damage is found, do not install in unit; call the vendor for replacement arrangements.

Step 7 -- Using two people, raise the filter into place assuring the seal edge is approximately in the center of the gel channel. The spacers beneath the filter clips will help align the filter.

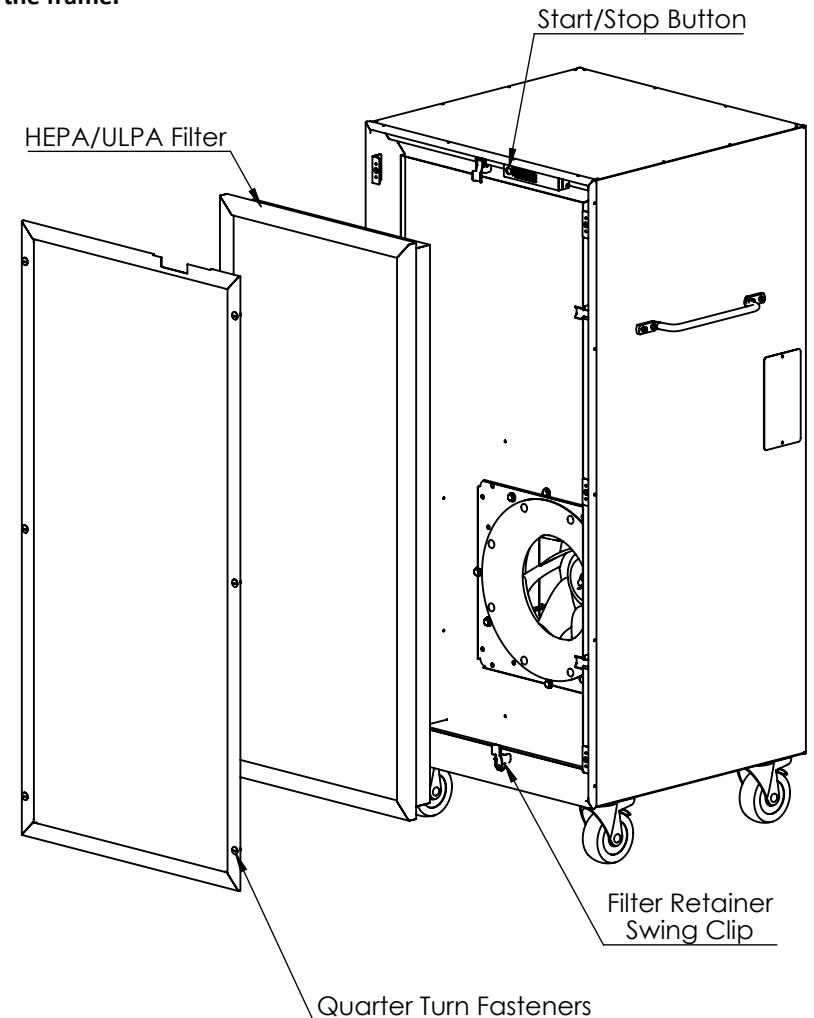
Step 8 -- While supporting the filter by its frame, rotate the filter clips so that the clips are supporting the frame and are at 90° to the frame. Wait at least 30 minutes before performing any challenge testing to allow the gel to fully adhere to the unit.

Step 9 -- Inspect all gaskets and seals for integrity. Reconnect power and turn unit power on.

Step 10 -- Put the face frame back into place, reattach the safety chains, and secure 1/4-turn fasteners.

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 8/16
APRVD	SIZE			SCL 1:14
				DO NOT SCALE

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT

### Testing

Each fan filter unit is thoroughly tested at the factory before shipment. However, many codes and standards require testing for bypass leakage after installation. The manufacturer encourages that the customer contact an independent, certified testing organization with technicians that are trained and experienced in performance, evaluation, and maintenance of clean air equipment.

The manufacturer recommends at least 30 minutes elapse after HEPA/ULPA filter installation before performing any type of challenge leak testing. The unit should be sealed to the ceiling and the room should have a negative pressure held during testing and normal operation.

### Trouble Shooting

#### **Low Airflow**

- If red HEPA-lert LED light is on, replace the HEPA filter.
- Inspect the pre-filter. Clean or replace as necessary.
- Adjust the digital speed control for higher airflow output.
- Check the power supply for proper voltage, amperage, and distribution frequency.
- Replace HEPA filter if airflow remains low.

#### **High Airflow**

- Adjust digital speed control for lower output.

#### **Excessive Contamination**

- Ensure that downstream connection is clear of large obstructions.
- Check airflow and if not desired airflow see above.
- Conduct smoke or photometer test on HEPA filter and gel seal. Seal or replace the HEPA filter as necessary.



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 9/16
APRVD	SIZE			SCL 1:10
				DO NOT SCALE

## Removal and Installation of the Variable Speed Motor (SSPFFU-RF)

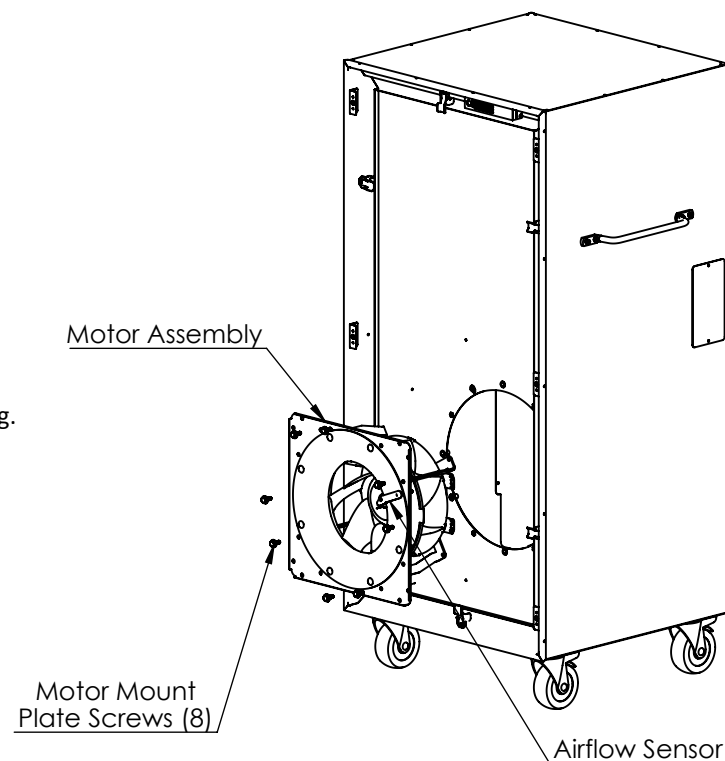
# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT

### WARNING!

Unplug the unit from the electrical power source before attempting to service the unit.

- Step 1 -- Using a flat screwdriver, release the face frame by rotating the six (6) fasteners a 1/4-turn counter clock-wise. Unhook the safety cables from the filter clips. Set the frame aside.
- Step 2 -- Turn the unit off with the black button located on the frame of the unit next to the display.
- Step 3 -- Unplug the unit and secure the plug in accordance with OSHA (LOTO) practices and procedures.
- Step 4 -- Remove the HEPA filter and set aside. See HEPA filter Installation instructions for more details.
- Step 5 -- If equipped with an Airflow Sensor make note of the plug into the sensor. Cut any zip-ties holding the wire to the sensor bracket. Unplug the wire and move out of the way.
- Step 6 -- Support the weight of the fan assembly and use a 7/16" driver to remove the eight (8) motor mount plate screws.
- Step 7 -- Carefully remove the motor assembly and disconnect the 3-pin power plug and the 4-pin data plug.
- Step 8 -- Remove the assembly from the unit. Remove the 7/16" nuts holding the motor brackets to the motor plate.
- Step 9 -- Use a 4 mm hex driver to remove the four (4) screws holding the motor brackets to the motor.
- Step 10 -- Reverse above steps to reassemble the motor/fan/ring assembly into the unit.



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 10/16
APRVD	SIZE			SCL 1:16
				DO NOT SCALE

## Access to Electrical Components

(SSPFFU-RF)

### WARNING!

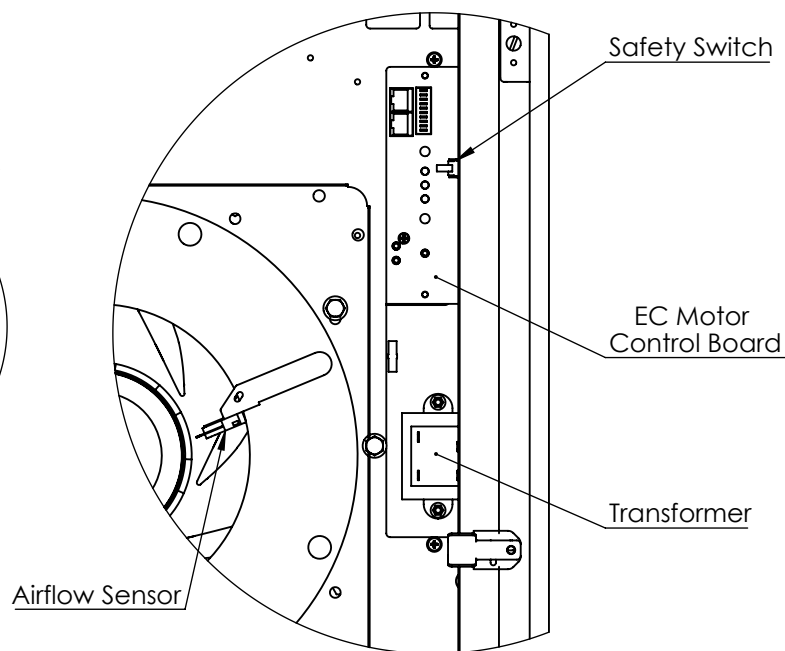
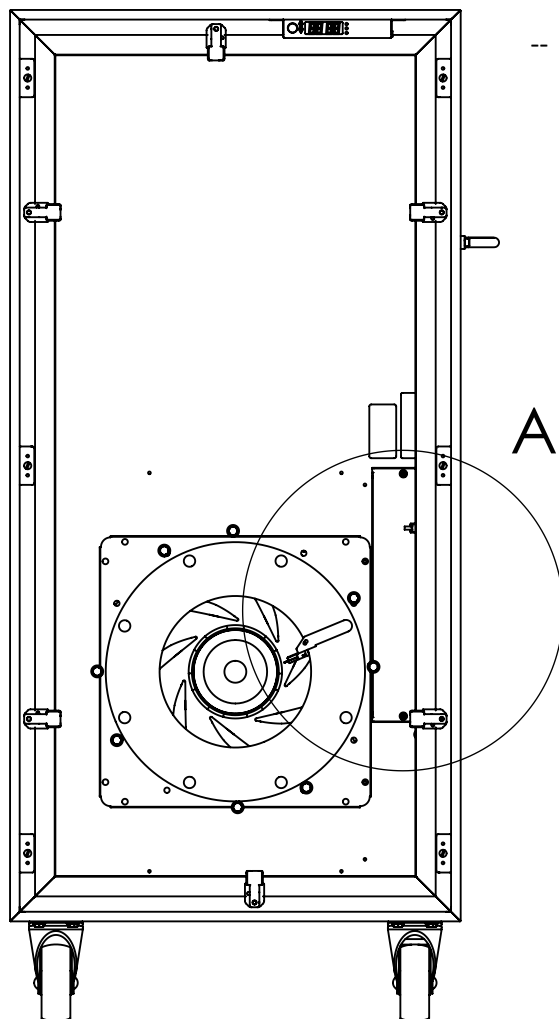
Unplug the unit from the electrical power source before attempting to service the unit.

# CRITI-CLEAN ULTRA

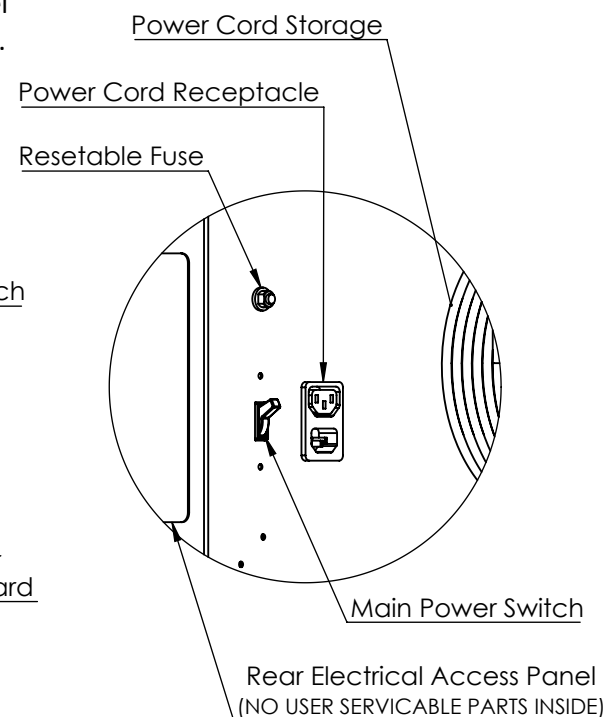
## PORTABLE FAN FILTER UNIT

-- Turn the unit off with the switch located on the electrical box.

-- Disconnect the unit at the power source or at the service panel in accordance with OSHA (LOTO) practices and procedures.



DETAIL A  
SCALE 1 : 5



### REAR ELECTRICAL



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 11/16
APRVD	SIZE			SCL 1:10
				DO NOT SCALE

# CRITI-CLEAN ULTRA

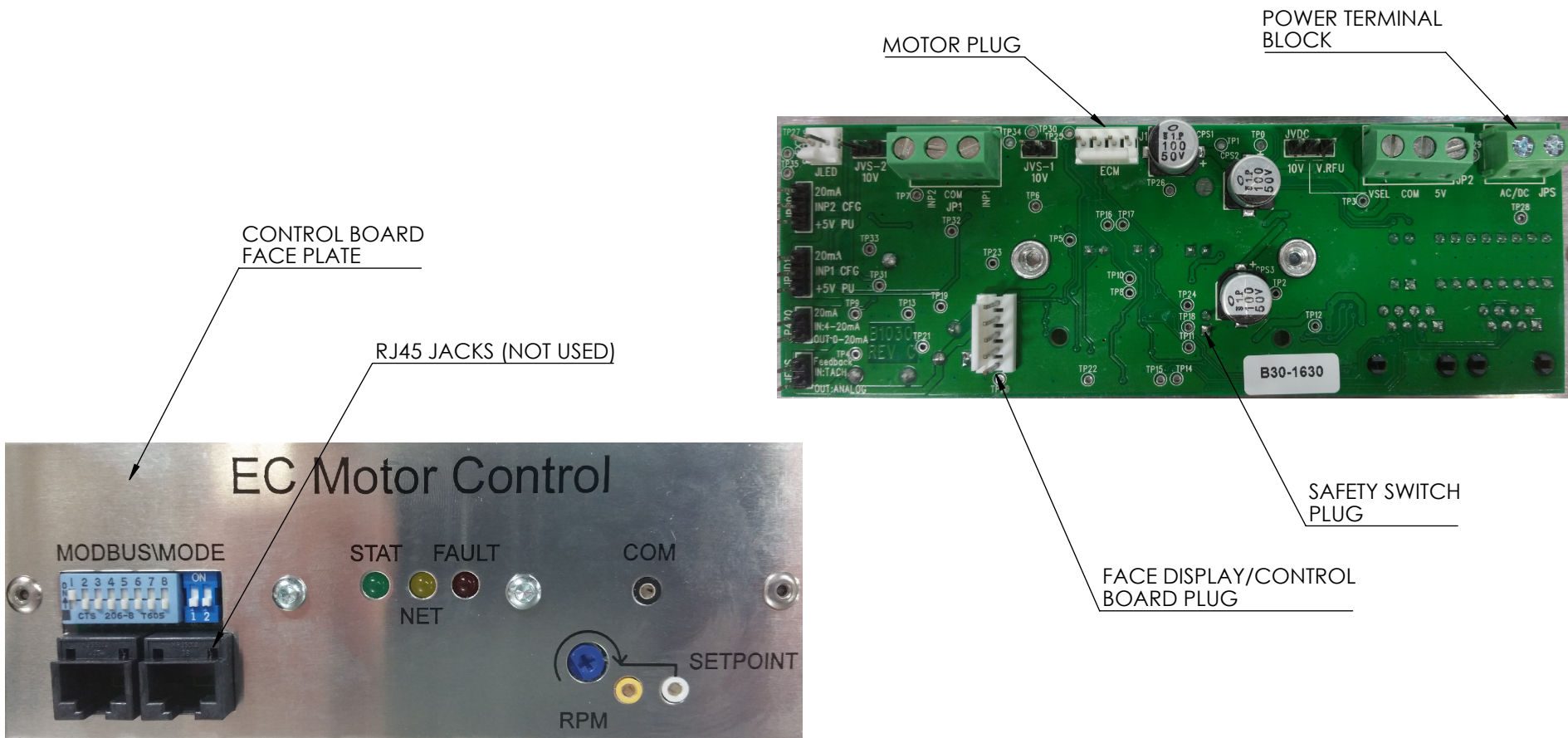
## PORTABLE FAN FILTER UNIT

### Removal of Main Control Board

#### WARNING!

Unplug the unit from the electrical power source before attempting to service the unit.

- Step 1 -- Access the unit's electrical box per instructions based on the model you have. (See page 11)
- Step 2 -- Remove the two screws holding the control board face plate to the bracket.
- Step 3 -- Disconnect the motor (red 4-pin plug), the face control board (red 5-pin plug), and the safety switch (red 2-pin plug) from the main control board by pulling the plug straight out from the board.
- Step 4 -- Using a small blade screwdriver, disconnect power supply wires from the control board terminal block.
- Step 5 -- To install a new board, repeat above steps in reverse order.



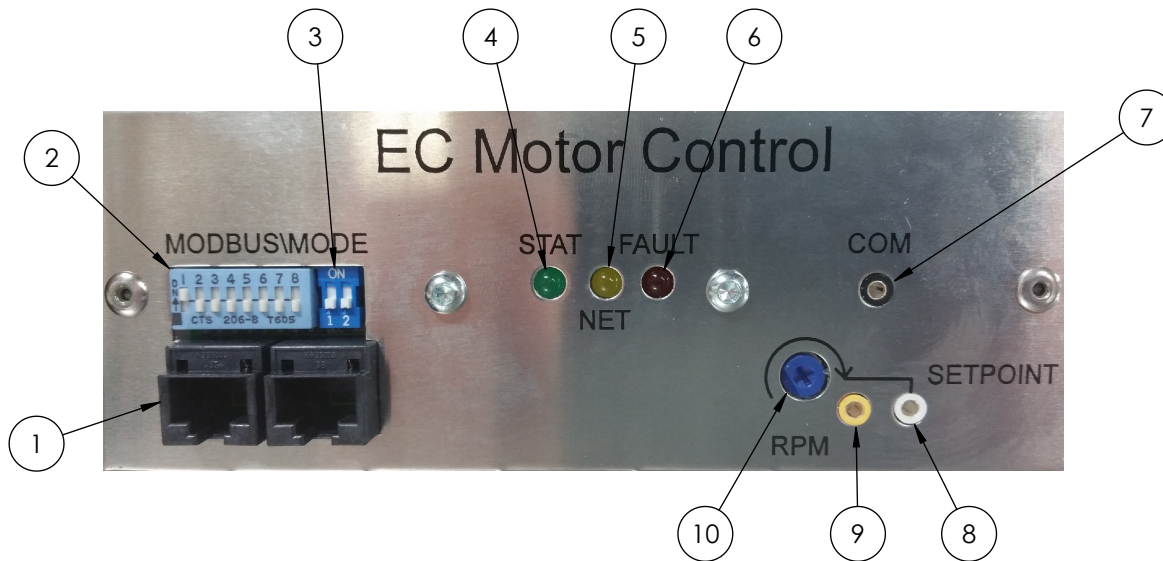
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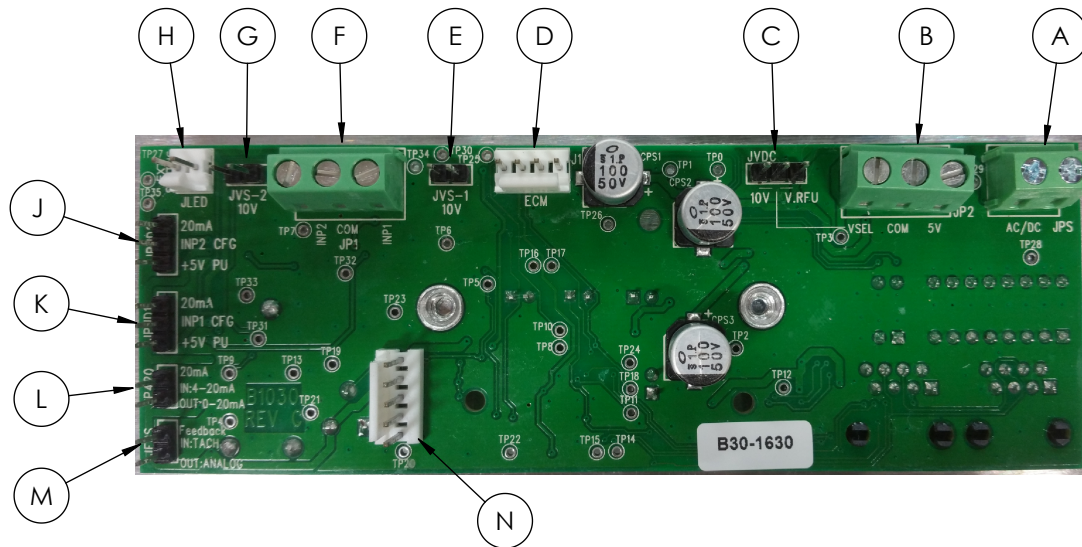
DRAWN BRS/SLG	CATEGORY CRITI-CLEAN ULTRA INSTALLATION MANUAL	TAG	QTY	REV # C
CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 12/16
APRVD	SIZE			SCL 1:10
				DO NOT SCALE

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT



1. RJ45 Dual Jacks (not used)
2. Modbus Address DIP Switches (not used)
3. S1-1 and S1-2 Configuration DIP Switches
4. STATUS LED
5. NET LED (network activity)
6. FAULT LED
7. Multimeter Common
8. Multimeter Setpoint as mVDC
9. Multimeter CFM as mVDC
10. Onboard Setpoint Potentiometer



- A. JPS: Bias input power, isolated
- B. JP2: Accessory output voltages
- C. JVDC: Selector for 10V regulated or unregulated rectified and filtered bus voltage
- D. J1: EC Motor Port
- E. JVS-1: INP1 10V signal range selector
- F. JP1: INP1 and INP2 analog/digital inputs
- G. JVS-2: INP2 10V signal range selector
- H. JLED: External FAULT output
- J. JPUD2: INP2 digital input pull-up or 20mA signal format selector
- K. JPUD1: INP1 digital input pull-up or 20mA signal format selector
- L. JP420: 0-20mA or 4-20mA signal format selector
- M. JFBS: TACH or Analog 2 feedback signal selector
- N. Aux Board Port



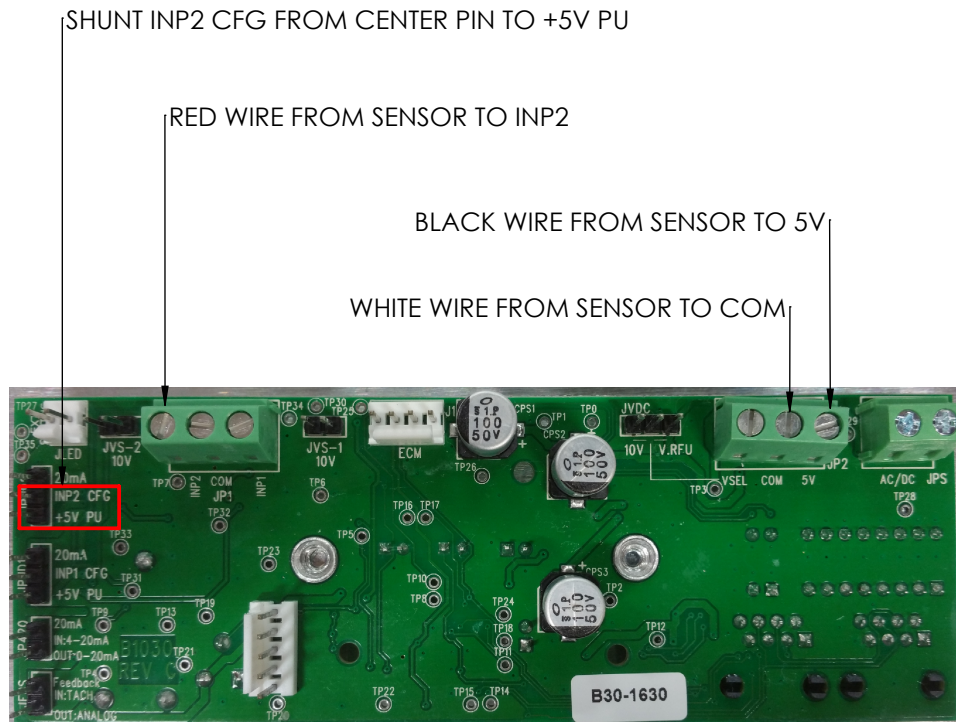
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APRVD	SIZE			SCL 1:10
				DO NOT SCALE

# AIRFLOW SENSOR WIRING

## CRITI-CLEAN ULTRA PORTABLE FAN FILTER UNIT



Switch	S1-1	S1-2
	Control Loop Mode	Setpoint Source
OFF	Open-Loop Control	Analog Setpoint
ON	Closed-Loop Control	Network Setpoint



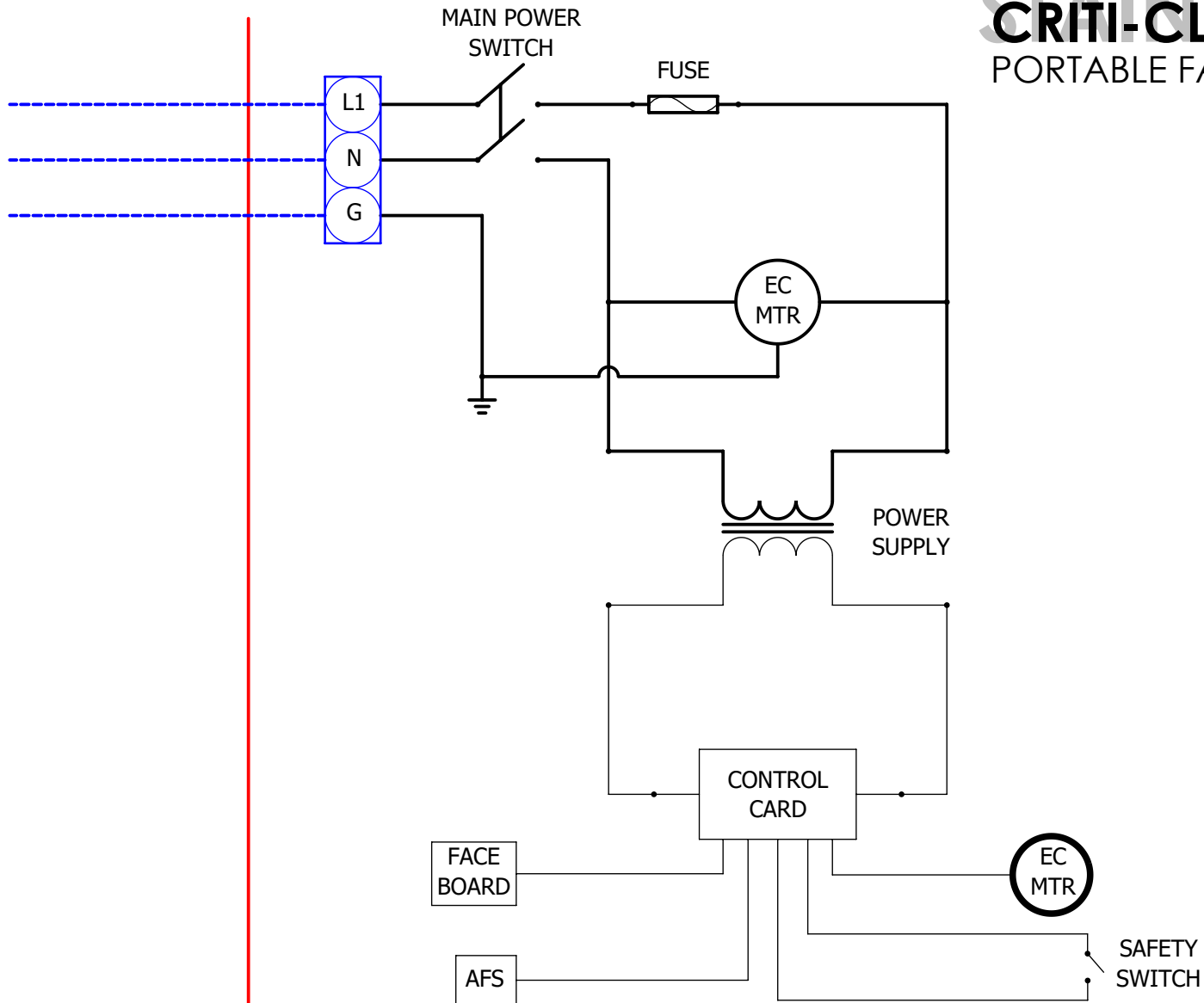
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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 14/16
APRVD	SIZE			SCL 1:10
				DO NOT SCALE

CHASSIS

# CRITI-CLEAN ULTRA

## PORTABLE FAN FILTER UNIT



- HV WIRING BY OTHERS
- HV WIRING BY AJ MFG
- LV WIRING BY AJ MFG



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CHKD	PRODUCT SSPFFU-RF	DRAWING NAME		SHT 15/16
APRVD	SIZE			SCL 1:1
				DO NOT SCALE

# STAINLESS STEEL

## CRITI-CLEAN ULTRA

### PORTABLE FAN FILTER UNIT

## WARRANTY

### LIMITED WARRANTY

AJ Manufacturing Co. Inc. warrants to Buyer, or any person receiving products originating from our factory, that the goods at time of shipment will be free from defects of material and workmanship for normal use and service. This warranty does not extend to goods subjected to misuse, neglect, accident, or improper installation, or to maintenance of products which have been altered or repaired by anyone except Seller, Buyer, or any persons receiving such a product during the duration of the warranty and shall contact AJ Manufacturing as soon as any defect becomes known. AJ's sole obligation under the foregoing warranty shall be limited to; at its option: Repair or replace defective goods provided, however that if AJ is unable to correct a defective component part or product after a reasonable number of attempts, the Buyer shall be entitled to elect a refund at original Buyer's purchase. CHARGES ACCRUED AGAINST SELLER'S ACCOUNT WITHOUT PRIOR APPROVAL OF SELLER WILL NOT BE PAID BY SELLER. If after notifying AJ of defect, Buyer returns goods to AJ for repair and AJ determines that it has not breached the foregoing warranty, the Buyer will be assessed AJ regular reconditioning charges.

AJ SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES ARISING FROM DEFECTIVE EQUIPMENT. THIS EXPRESS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, GUARANTEES, OR REPRESENTATIONS, EXPRESSED OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE.



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APRVD	SIZE			SCL 1:10
				DO NOT SCALE