HEPA FILTER
INSTALLATION and OPERATION
Pulsar™ Plus Blast Cabinets
O. M. 30481

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REVISION:

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One Cable Car Dr.
Washington, MO 63090
Phone (636) 239-4300
Fax (800) 726-7559
Email: info@clemcoindustries.com
www.clemcoindustries.com

ZERO Blast Cabinets®

1.0 INTRODUCTION

1.1 These instructions cover field installation of HEPA afterfilters onto Pulsar ™ Plus blast cabinets. It also contains instructions to use an optional U-tube manometer to check differential pressure across the filter. Read the complete instructions before operating the cabinet with the HEPA filter. Illustrations show the filter installation onto a Pulsar VI power module, a Pulsar III power module may look somewhat different, but the installation is the same. If the HEPA Filter was factory installed, proceed to Section 3.0 to prepare the HEPA for checking differential pressure.

2.0 REPLACE EXISTING EXHAUST DAMPER WITH a HEPA FILTER BASE WITH DAMPER

2.1 Make a note of the degree in which the exhaust-damper handle is pointing, and then remove the damper from the top of the power module, as shown in Figure 1. NOTE: After the HEPA filter is installed the HEPA damper will be adjusted to the same position, as noted in Paragraph 2.6.

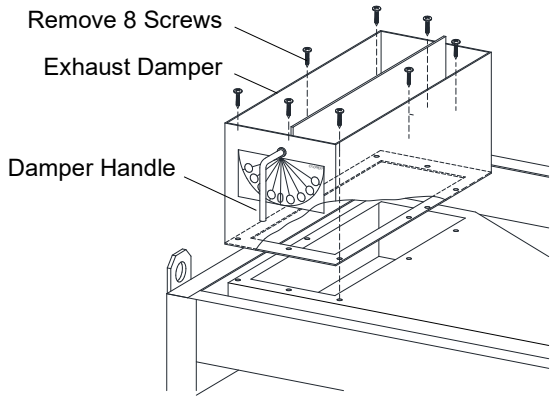


Figure 1

2.2 Remove any gasket material left on the top of the power module.

2.3 Place the new gasket on the damper opening and align the screw holes to those on the power module. NOTE: The gasket is a universal gasket, some of the holes will not be used.

2.4 Orientate the HEPA filter base so that the damper handle faces toward the end of the power module (as did the exhaust damper), as shown in Figure 2. Place the base on the gasket, and secure with the screws provided.

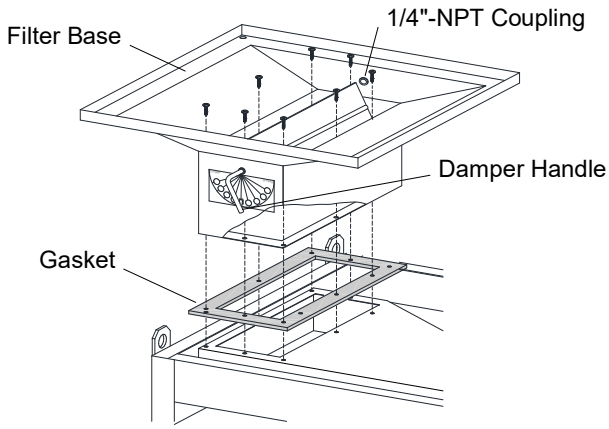


Figure 2

2.5 Place the filter element onto the base. The gasket end of the filter must face down. Use the hold-down bolts and wing nuts to attach the HEPA filter element and top frame to the base, as shown in Figure 3. NOTE: The filter element is non-directional; airflow in Pulsar applications is in reverse of the airflow label.

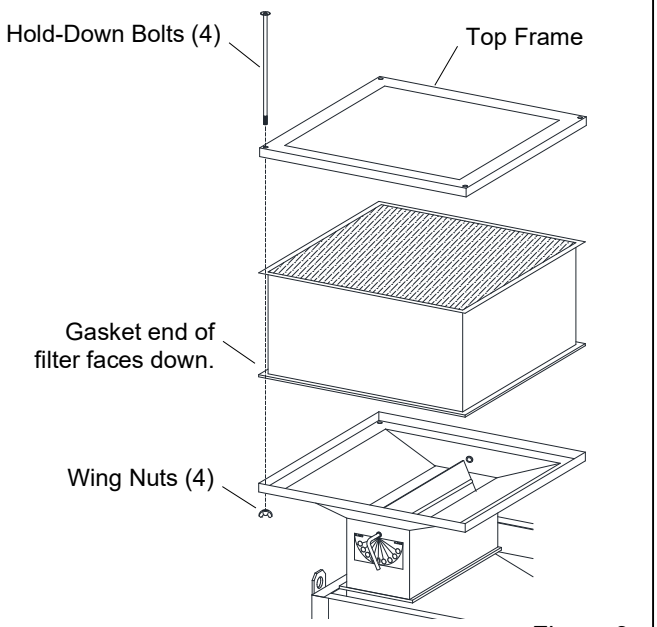


Figure 3

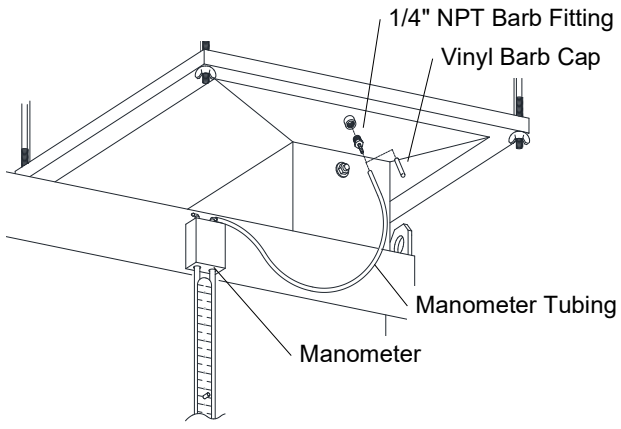
2.6 Adjust the damper to point in the same degree position as the original damper, as noted in Paragraph 2.1.

2.7 Before operating the cabinet check the differential pressure, per Section 4.0. and make a note of the initial pressure drop, refer to Paragraph 4.8.

2.8 The only maintenance required is the occasional check of differential pressure as noted in Section 4.0 and filter replacement when the differential pressure reaches 3" above the initial drop.

3.0 PREPARE the HEPA FILTER for CHECKING DIFFERENTIAL PRESSURE – Figure 4

3.1 Remove the pipe plug from the 1/4" NPT coupling located on the underside of the filter base. Apply thread sealant to the male threads of the 1/4" NPT barb fitting, provided with the manometer, and install the fitting into the coupling, as shown in Figure 4. Place the vinyl barb cap, also provided with the manometer, over only the first tapered barb; pushing the cap all the way onto the barb may make it difficult to remove when taking later readings.



Bottom view of HEPA base.
Some items rotated or moved for clarity.

Figure 4

3.2 Refer to the instructions packed with the manometer for preparing and operating the manometer.

3.3 Refer to the instructions in Section 4.0 for taking manometer readings.

4.0 USING the MANOMETER to CHECK DIFFERENTIAL PRESSURE ON HEPA FILTERS

4.1 Open both manometer valves (elbows), as shown in Figure 5, per the instructions with the manometer.

4.2 Push one end of the 3/16" ID tubing provided with the manometer, onto either one of the two manometer valves.

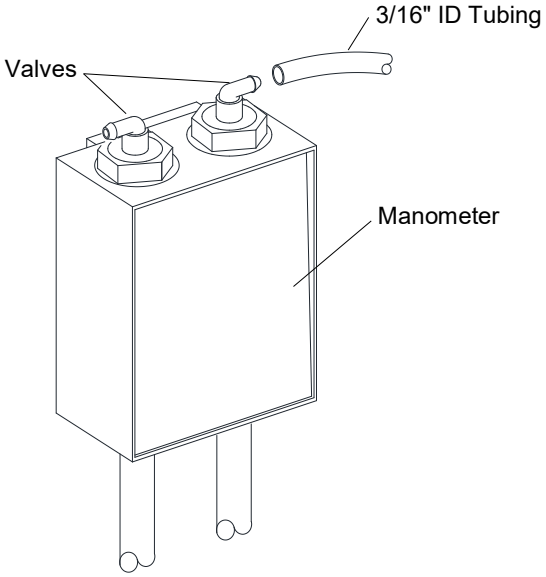


Figure 5

4.3 Attach the manometer at a convenient location on the power module, as shown in the example in Figure 4. Magnets on the manometer hold it onto any metal surface on the power module. The manometer must be vertical, so the fluid is level on both sides.

4.4 Remove the barb cap from the 1/4" NPT barb fitting on the filter base and push the unused end of the manometer tubing over only the first tapered barb on the barb fitting. Pushing the tubing all the way onto the barb may make it difficult to remove.

4.5 Adjust the slide rule to align the zero with the fluid level. Refer to Figure 6.

4.6 Turn the exhauster ON. The pressure moves fluid within the tubing.

4.7 To find the differential pressure, add the number of inches the fluid travels up one column to the inches the fluid travels down the other column. Refer to the example in Figure 6.

NOTICE

Before operating the cabinet with a new HEPA Filter, check the differential pressure and make a note of the initial pressure drop, refer to Paragraphs 2.7 and 4.8.

4.8 Replace the HEPA filter element when differential pressure is 3" above the initial drop, as noted in Paragraph 2.7.

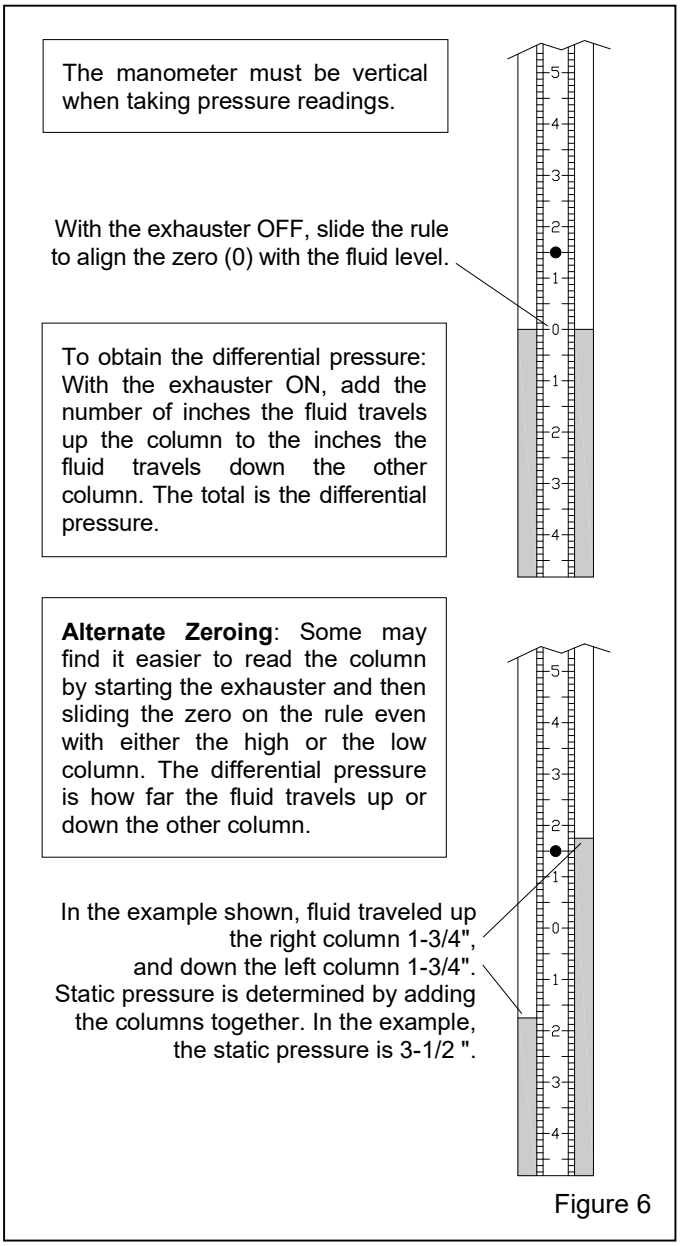


Figure 6

4.9 After taking the readings, turn the exhauster OFF, remove the tubing from the HEPA's barb fitting, and replace the vinyl barb cap over only the first tapered barb.

4.10 Close the manometer valves and store the manometer in the original container in a clean area. NOTE: If the manometer installation is permanent, the manometer may remain on the power module after the valves are closed.

5.0 ACCESSORIES and REPLACEMENT PARTS Figure 7

Item	Description	Stock No.
(-)	HEPA filter assembly, field installed, for	
	Pulsar Plus III 300 cfm power module ...	30485
	Pulsar Plus VI 600 cfm power module ..	30475
1.	Filter element, HEPA	22502
2.	Gasket HEPA damper base	
	for 300 cfm power module	30198
	for 600 cfm power module	30240
3.	Fitting, 1/4" x 3/16" barb	30178
4.	Cap, 3/16" barb	30876
5.	Tubing, 3/16" ID, per foot, 4 ft standard	13074
6.	Manometer kit, flexible U-tube	
	Includes items 3, 4, and 5)	12528

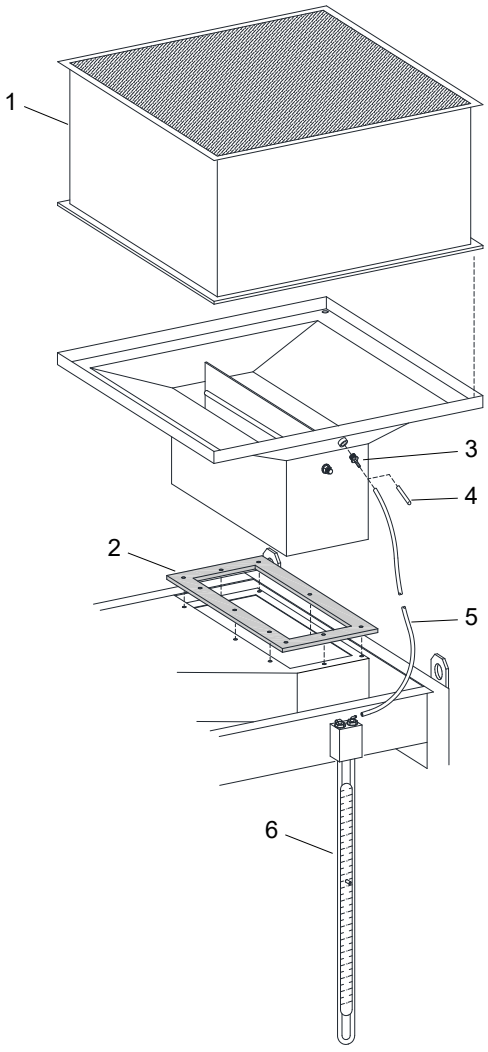


Figure 7