



SASE Bull 300 EBS Industrial Vacuum MANUAL



SASE Company, LLC
800.522.2606 | SASECompany.com

SASE Bull 300EBS Industrial Vacuum Operating Instructions

Instructions for Installation, Repair, and Maintenance

CONTENTS

SECTIONS

Forward	Page 2
Warranty	Page 3
Section 1: Health & Safety Recommendations	
Section 2: Bull 300 <i>EBS</i> DRAWINGS	
Section 3: Maintenance Instructions	
Section 4: Accessory Item Data Sheets	
Section 5: Blower Operating and Service Instructions	

For **Filter Installation** and **Filter Re-Order** instructions, see **Section 3**

SASE Company, LLC

Please call 800.522.2606 with any questions!

FOREWORD

To achieve the safe installation and operation of your new SASE Bull 300 *EBS* vacuum system, we urge you to become familiar with the information in this manual.

The *SASE Bull 300 EBS* industrial vacuum cleaning system is designed for heavy duty operation. The mechanical and electrical components are of a robust nature and will provide long life with minimal maintenance even under severe conditions.

This manual describes the installation and preventative care requirements to ensure their maximum life and to provide virtually trouble-free operation for years ahead.

This manual is prepared in six (6) general Sections:

Section 1: Health and Safety Recommendations

Section 2: SASE Bull 300 *EBS* DRAWINGS

Section 3: Maintenance Instructions

Section 4: Accessory Data Sheets

Section 5: Service and Maintenance Instructions for the blower

Replacement Parts Lists, if applicable, can be found within the individual sections pertaining to that item.

Past experience indicates that **the majority of part replacements and repairs occur due to misuse or carelessness by personnel not qualified to operate and service this equipment.** Observance of the instructions in this manual will minimize references to those Sections pertaining to Repair and Replacement.

WARRANTY

SASE warrants this equipment to operate within the limits of our specification when properly used, properly operated, and properly maintained. Various subsystems are warranted as follows:

Vacuum Producer:	6 months Limited to premature failure due to poor workmanship by manufacturer.
Filters:	1 years (2000 hours) Limited to premature failure due to poor workmanship.

Any part proven defective in material and workmanship shall be duplicated without charge **F.O.B. your jobsite**. **This warranty excludes normal wear and tear of parts** or equipment, and especially excludes degradation from normal abrasion of corrosion.

Please note! The vacuum producer requires unrestricted air flow! Running the Bull EBS 300 “deadheaded” for more than a few minutes will overheat the vacuum producer and void the warranty.

This **warranty shall be void if the equipment has been altered** or if any attempt to repair this equipment has been made by persons, institutions or firms not authorized by SASE to make repairs.

SASE will not be responsible for any costs of LABOR to remove or re-install equipment, TOOLS, MATERIALS, INSURANCE, OVERHEAD or any INCIDENTAL, SPECIAL, CONSEQUENTIAL or other expenses which may be incurred by the purchaser in the execution of this warranty.

SASE will NOT assume any responsibility under terms of this warranty in parts or equipment which have not been paid for in full, or where an account is outstanding for 60 days or more.

Please call 80.522.2606 with any questions!

Section

1

Health and Safety Recommendations

Bull 300 EBS

*The Information Contained In This Section
Can Help Prevent Serious Personal Injury.*

**PLEASE READ THIS SECTION CAREFULLY
BEFORE OPERATING OR SERVICING THIS
EQUIPMENT.**

This section outlines some of the health and safety issues that must be acknowledged when operating or servicing your *SASE* industrial vacuum cleaning system.

It is important that plant operators are made aware of the responsibility incumbent on them to take all necessary precautions to ensure their health and safety, and that plant authorities implement the procedures necessary toward this end.

We strongly advise that you, the customer, add to, and tailor, these safety recommendations to suit your own particular working and operating environment.

Explosive Dust

The operators of this equipment must always be aware of the physical and chemical properties of the dust particles being collected. A surprising number of dusts are flammable or prone to explosion when mixed with air as we find with a filter receiver application.

Materials or processes presenting such hazards **MUST** be identified by the customer.

The customer must also be alert to any changes in the dust material or process. If a new process is introduced after the installation of the vacuum system which changes the composition, quantity, or most especially the chemical type of material being introduced into the vacuum system, this may greatly increase the chance of explosion and fire.

If your process is to be changed, or if you have any concerns, we suggest you contact us to see how we can assist you to ensure that the operation of your *SASE* industrial vacuum cleaning system is as safe as possible.

Isolate Electrical Before Maintenance

DO NOT ATTEMPT ANY MAINTENANCE WORK UNTIL ALL ELECTRICAL POWER HAS BEEN DISCONNECTED.

Isolate all electrical before removing any guards, covers or accessories before beginning any maintenance or repair work.

Always lock out the main system blower disconnect before opening any inspection door on any separator or filter receiver.

Before re-connecting the electrical supply, ensure that all guards, covers and accessories are correctly replaced.

Implement Measures to Handle Respirable Dust

Operators must be fitted with appropriate respirators and must wear protective clothing if handling dust that may be irritating or even toxic.

We recommend that the MSDS's for each of the dusts to be handled by the vacuum system be included in this manual, and that specific measures to handle problem materials be clearly identified in those sections of this manual where the operator is exposed to these dusts; i.e. elongated bag replacement, etc.

Use Suitable Electrical Warning Notices

Do NOT leave electrical gear live and unattended without a suitable warning notice.

Distinctive warning notices must be provided for posting in a conspicuous position to any piece of electrical equipment or machinery on which maintenance is being carried out, and which, for any reason whatsoever, is liable to be left unattended while in a live condition.

Use CAUTION When Using the Hoses

SASE vacuum systems use blowers that develop very high vacuum conditions which can be dangerous if caution is not observed.

DO NOT PUT THE END OF THE HOSE AGAINST YOUR SKIN OR CLOTHES OR THOSE OF OTHERS!

Remove the hose from the inlet valve to dislodge materials that plug the end of tools.

SASE Parts List - BULL 300 EBS

Replacement Parts	Part #	Recommended
1. SASE ELONGATED VACUUM BAGS 4" X23.5"	SAS.0009510	Box of 4
2. HEPA FILTER	NWA.300EBS	1
3. MOTOR, VACUUM FLO-TEK 110V	NWA.00065	(FOR 110V SYSTEM)
4. MOTOR, VACUUM FLO-TEK 220V	NWA.00070	(FOR 220V SYSTEM)
5. ON/OFF Selector Switch	NWA.00089	
6. GASKET, MOTOR/INLINE HOUSING	NWA.00097	Ask for length
7. CASTER WHEEL, SWIVEL	NWA.00084	2
8. CASTER WHEEL, RIGID	NWA.00085	2
9. BOOT, SHAKER HANDLE	NWA.00083	1

Section

3

Maintenance Instructions

Bull 300
EBS

This Section Contains Information about the Upkeep and Maintenance of the SASE Bull 300 EBS Industrial Vacuum System

This section contains information of the following topics:

1. The Filtration System	Page 1
2. Elongated Bag Maintenance	Page 2
3. Removing Elongated Bags	Page 3
4. Installing New Elongated Bags	Page 3
5. Bag Specification and Re-Order Info	Page 3
6. The Inline Filter and Re-Order Info	Page 4
7. The Vacuum Producer	Page 4
8. The Electric Motor	Page 4
9. The Special hopper with discharge flap	Page 5
10. Vacuum Seal Troubleshooting	Page 6

This equipment is designed for full time operation under the most severe conditions; however, proper maintenance procedures must be observed.

Please read and follow the instructions on the following pages to ensure proper operation of each of the components of your system.

The Filtration System

The *SASE Bull 300 EBS* is designed to handle super-fine powders, so the filtration sub-system is its “heart” and must be maintained properly. The unit is equipped with twelve (12) inverted bag type tubular filters which collect the fine dust particles on the filter’s **inside surfaces** during operation.

Before commissioning, remove top filter housing cover and check to ensure all bags are firmly secured to the lower filter bag plate. The top of the bags are attached to the shaker rack using 5/16” nuts at the top of the filter housing. The shaker rack is secured in place by use of bungee cords and the bags must not be loose or out of place.

NOTE: A loose or unsecured bag will allow product to pass through the filter separator and will plug the bag house outlet.

The elongated bags should be shaken at least daily, preferably after each use. To shake bags, simply shut off the vacuum and shake the filter assembly arm swiftly back and forth. This rapid movement will dislodge particles on the inside of the elongated bag surfaces and drop them into the dust can.

NOTE: The unit must be OFF in order to shake the filters.

If the filters are to be replaced, please replace them ALL at once, or they will be a constant source of frustration.

Elongated Bag Maintenance

The following is a recommended program of preventative maintenance:

- 1.** Check that the filters are seated properly and that they do not appear to be leaking WEEKLY. **There should be NO appreciable or visible dust inside the filter housing.**
- 2.** Replace ALL the filters if wear points or holes are noticed.
- 3.** If the secondary filter cartridge becomes plugged, check for holes or leakage in the primary filter bags, or upgrade the primary filter material to a more efficient type.
- 4.** Replace the secondary filter cartridge when it becomes dirty.

Operators must be outfitted with appropriate respirators and must wear protective clothing if handling dust that may be irritating or toxic.

The most common installation mistake is to release the cuff lower than it should be. The groove in the bag cuff matches the hole size exactly.

Removing Elongated Bags

Access the filters by removing the vacuum producer section. To change the elongated bags, clip the plastic wrap on each bag tied on the filter shaker assembly inside the tank at the top.

Squeeze the spring cuff at the bottom of the bag compressing the snap ring into a “U” shape, and remove from the bag plate hole.

Installing New Elongated Bags

Grasp the spring cuff at the bottom of the bag and compress into a “U” shape. Insert into the proper hole in the bag plate, and release the bag bottom, **assuring the “groove” in the bag cuff is centered in the bag plate hole.** The Bag cuff snaps in to the filter hole and the “snap” can be heard by a low audible pop sound. Ensure the bags are seated from underside of the filter plate by patting inside of the cuff using a rubber mallet around filter plate. This will ensure the seating of filter bag cuff evenly around the filter plate hole.

Use 5/16-18 hex nut to fasten the filters onto the filter shaker assembly.

After installing all the filters, check the installation from below; all the filters should be neatly and evenly seated.

WARNING: Failure to assure proper seating of the bag in the bag plate will allow material leakage.

Elongated Bag Specification

The elongated bags supplied with this system are:

Material:	12 oz. PTFE polyester felt with snap band
Quantity:	12
Length:	23.5”
Bag Plate Hole Size	4”

Elongated Bag Re-order Instructions

When re-ordering replacement elongated bags use Part Number from enclosed parts list

The Inline Filter

The inline filter supplied with this unit will help prevent damage to the exhauster in case of failure of a primary elongated bags.

Should the air flow of the *SASE Bull 300 EBS* become reduced, check that the inline filter has not become blinded by dust by removing the inline filter housing cover.

In this situation, inspect the bags for damage, or to see if they have become loose. Properly clean the bags if no damage is seen.

Remove the inline filter, and clean by back flushing with compressed air (NOT recommended), or replace the filter.

Restart the unit. If after a short period of time, the inline filter becomes plugged or blinded, replace the elongated bags *and* the inline filter element.

Inline cartridge element re-order instructions.

The standard replacement inline filter element re-order – refer to parts list enclosed

The Other Mechanical Sub-Systems

VACUUM PRODUCER & ELECTRIC MOTOR

The *SASE Bull 300 EBS* features an AMETEK interrupter brush vacuum producer which is designed to run for approximately 800 hrs to 900 hrs with one set of interrupter brush that comes with the motor.. The integral motors have permanently sealed bearings and do not require periodic lubrication.

Please note! The vacuum producer requires unrestricted air flow! Running the Bull 300 EBS “deadheaded” for more than a few minutes will overheat the vacuum producer and void the warranty. **THIS UNIT IS NOT RECOMMENDED FOR CONNECTION TO A CENTRAL VACUUM PIPING NETWORK.**

Section 4 & 5 of this manual features the vacuum producer data sheets, wiring the motor and brush replacement procedure respectively. Please refer to that section for vacuum producer troubleshooting and maintenance instructions.

The following sub-sections describe typical maintenance requirements and the problems that can occur.

The Special Hopper with discharge flap & torsion spring

Bull 300 EBS comes with a specially designed discharge hopper with a perforated baffle located efficiently slow down the dust and collect above the discharge chute. The discharge chute is equipped with a discharge flap and torsional spring to retain the flap in position and partially crack open when the unit is not in operation.

Two tabs are riveted to the discharge chute to enable the operator to install the elongated vacuum bag dispenser for continuous bagging system.

When the unit is turned on the suction with continuous bagging system installed in place the discharge flap closed due to vacuum inside the hopper thus sealing the system.

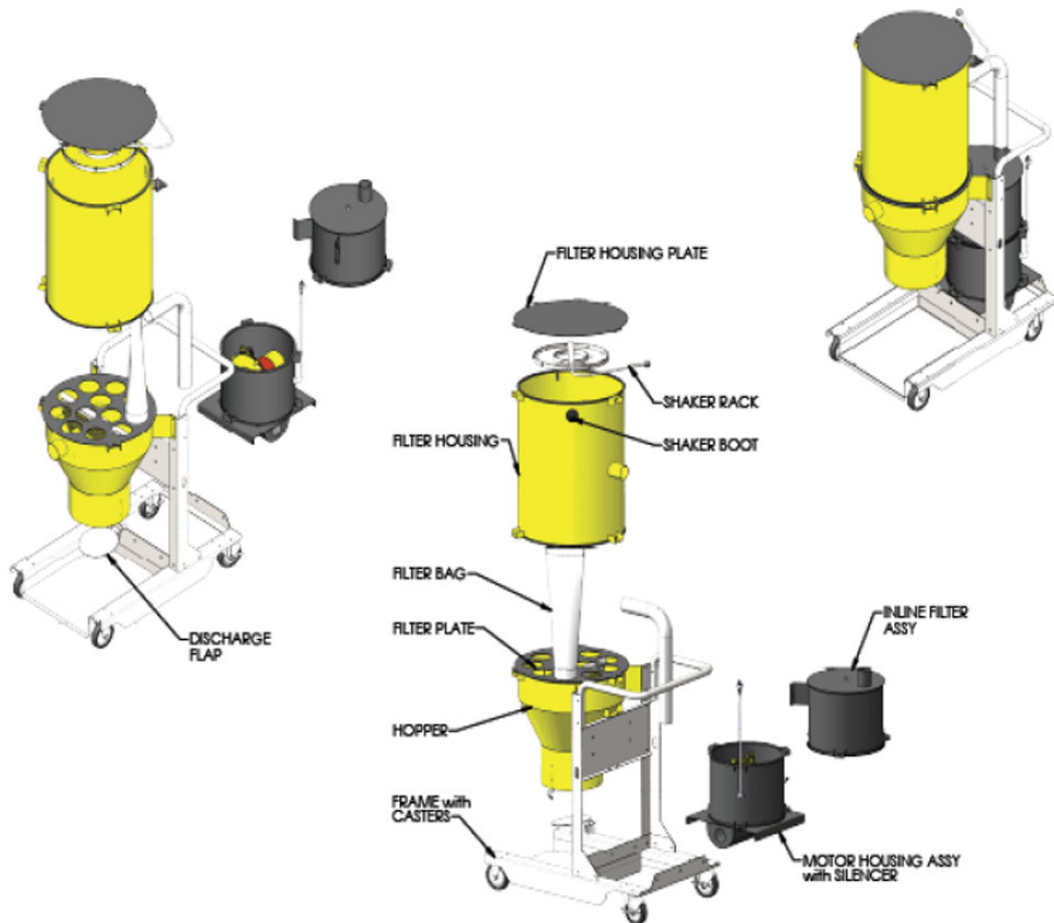
Discharge flap has a urethane gasket secured on to its face with pressure sensitive adhesive and provides the sealing against the hopper discharge. A torsional spring is provided to adjust the opening of the flap when the unit is not in use and to discharge the material.

NOTE: Dispose of waste material in accordance with local environmental codes.

Vacuum Seals

If you experience a “lack of suction”, almost certainly there is a leak in a seal somewhere in the system. The following is a short list of common fail points:

- 1. Check all gasket seals.** If air is leaking in through these seals, dust will normally collect on the inside surface of the housing showing the exact location of the leak. Sometimes, running your hands around the door frame will allow you to locate the leak. Either way, replace the seals as required.
- 2.** Ensure the outlet / discharge from the vacuum producer is not obstructed / discharge silencer is not plugged. When installing new vacuum producer & motor ensure to maintain caulking around the outlet of the blower that is inserted in to plate opening leading to the silencer.
- 3.** Check the hoses for cracks and leaks. **A hose covered in duct tape is a sure indicator that the hoses should be replaced.**



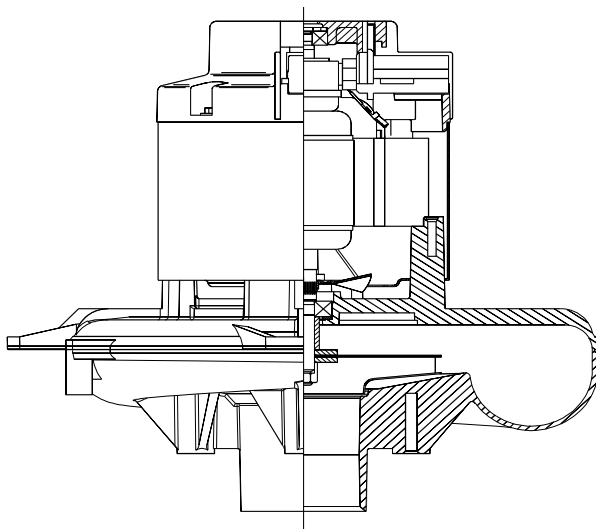


DESCRIPTION

- One stage
- 120 volts
- 9.0" / 229 mm diameter
- Dual ball bearings
- Tangential discharge
- All aluminum die cast housings used in motor construction

DESIGN APPLICATION

- Equipment operating in environments requiring separation of working air from motor ventilating air
- Designed to handle clean, dry, filtered air only



SPECIAL FEATURES

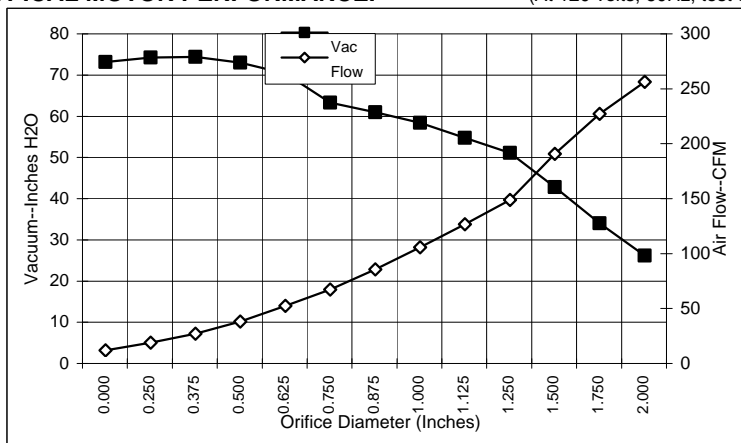
- Suitable for 120v AC operation, 50/60 Hz
- UL component recognized
- Provision for grounding
- 10 mm shaft and bearing system
- Flat fan system
- Aluminum fan end bracket designed to dampen vibration and improve durability

The FLO-TEK 700 Series is also available in a brushless (Switched Reluctance) version, designed for 5,000 life and available in either "high-flow" or "high seal" performance designs.

TYPICAL MOTOR PERFORMANCE.*

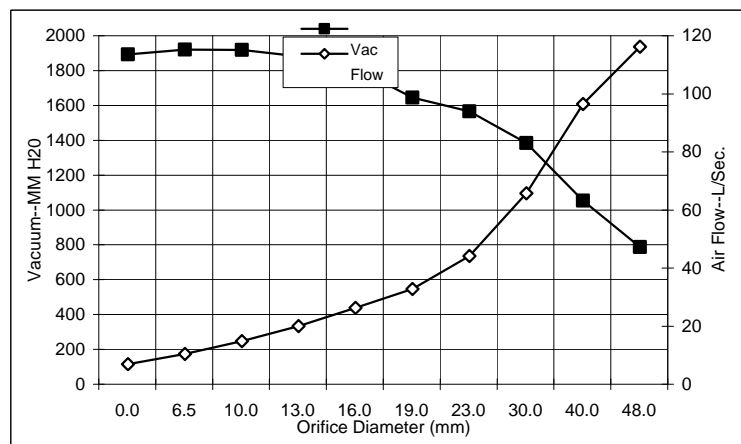
(At 120 volts, 60Hz, test data is corrected to standard conditions of 29.92 Hg, 68° F.)

ASTM DATA



Orifice (Inches)	Amps	Watts (In)	RPM	Vac (In.H ₂ O)	Flow (CFM)	Air Watts
2.000	15.5	1753	21740	23.0	244.5	661
1.750	15.4	1752	21720	30.8	215.2	778
1.500	15.1	1710	22080	39.6	178.8	833
1.250	14.1	1606	22620	47.9	136.9	771
1.125	13.5	1542	23080	51.6	114.8	696
1.000	12.8	1463	23560	55.2	93.8	609
0.875	12.1	1392	24020	57.8	73.8	501
0.750	11.4	1317	24770	60.1	55.2	390
0.625	10.7	1233	25730	67.2	40.4	319
0.500	10.1	1168	26120	69.8	26.3	216
0.375	9.5	1107	26860	71.2	15.1	126
0.250	9.1	1060	27320	71.1	7.0	59
0.000	8.8	1024	27680	70.0	0.0	0

METRIC DATA



Orifice (mm)	Amps	Watts (In)	RPM	Vac (mm H ₂ O)	Flow (L/Sec)	Air Watts
48.0	15.4	1753	21731	671	109.3	712
40.0	15.2	1723	21972	939	89.5	817
30.0	13.8	1571	22873	1268	58.9	730
23.0	12.3	1410	23905	1452	37.2	528
19.0	11.4	1315	24789	1530	25.9	389
16.0	10.7	1236	25692	1700	19.3	322
13.0	10.1	1175	26081	1766	13.1	226
10.0	9.6	1116	26749	1803	7.9	140
6.5	9.1	1062	27297	1806	3.5	62
0.0	8.8	1024	27680	1778	0.0	0

Note: Metric performance data is calculated from the ASTM data above.

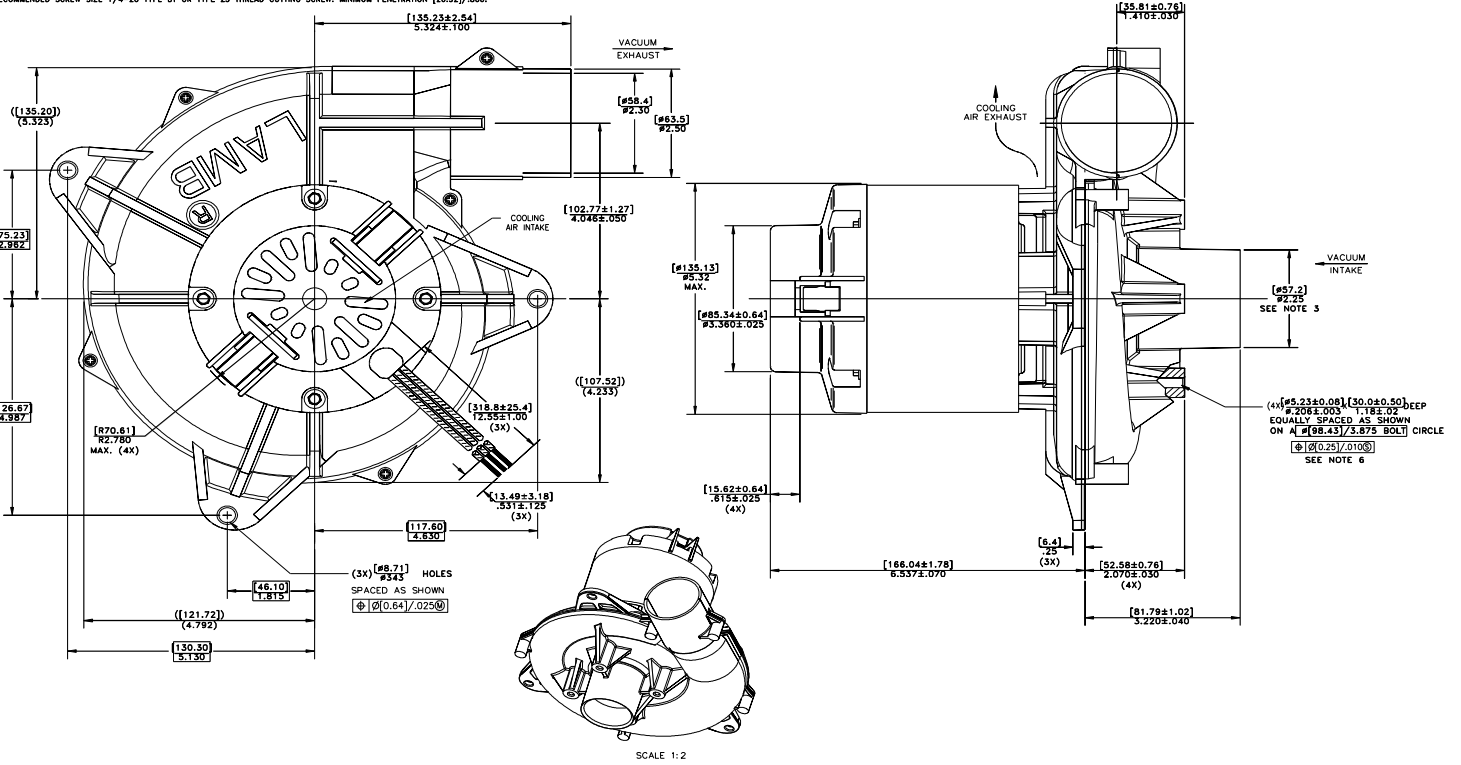
* Data represents performance of a typical motor sampled from a large production quantity. Individual motor data may vary due to normal manufacturing variances.

Test Specs: TBD	Minimum Sealed Vacuum: TBD	ORIFICE: 7/8"	Minimum Vacuum: TBD	Maximum Watts: TBD
-----------------	----------------------------	---------------	---------------------	--------------------



DIMENSIONS

- NOTES:
 1. LEADS: 18 GA. STRANDED, POWER LEADS ONE BLACK AND ONE WHITE, GROUND LEAD GREEN WITH YELLOW STRIPE.
 2. MOTOR IDENTIFICATION: MANUFACTURER'S NAME, MODEL NUMBER, VOLTAGE, FREQUENCY, INSPECTORS CODE, DATE OF MANUFACTURE, AGENCY RECOGNITION CODE, PLANT LOCATION CODE AND COUNTRY OF ORIGIN.
 3. MOUNTING HOLES NOT RESTRICT THIS DIMENSION.
 4. COOLING AIR INTAKE MUST BE SEPARATED FROM COOLING AIR EXHAUST.
 5. COOLING AIR EXHAUST MUST BE SEPARATED FROM VACUUM EXHAUST.
 6. RECOMMENDED SCREW SIZE 1/4"-20 TYPE BT OR TYPE 25 THREAD CUTTING SCREW, MINIMUM PENETRATION [20.32]/.800.



Manufactured under Patent nos. US5789893, TW81993, SG38957, ZA96/2766, US5760519, EP0702448B1, ZA95/7123 under license from Switched Reluctance Drives Ltd. Other US and foreign patents pending. Copyright code 1998. All rights reserved.

IMPORTANT NOTES: Pictorial and dimensional data are subject to change without notice. Contact factory for current revision levels.

WARNING - When using AMETEK/Lamb Electric bypass motors in machines that come in contact with foam, liquid (including water) of other foreign substances, the machine must be designed and constructed to prevent those substances from reaching the fan system, motor housing and electrical components. Lamb vacuum motors other than hazardous duty models should not be applied in machines that come in contact with dry chemicals or other volatile materials. Failure to observe these precautions could cause flashing (depending on volatility) or electrical shock which could result in property damage and severe bodily injury, including death in extreme cases. All applications incorporating Lamb motors should be submitted to appropriate organizations or agencies for testing specifically related to the safety of your equipment.

AMETEK/Lamb Electric Division
 627 Lake Street
 Kent, Ohio 44240 (U.S.A.)
 Tel: (330) 673-3451 Fax: (330) 677-3812
 Issued: December, 2004

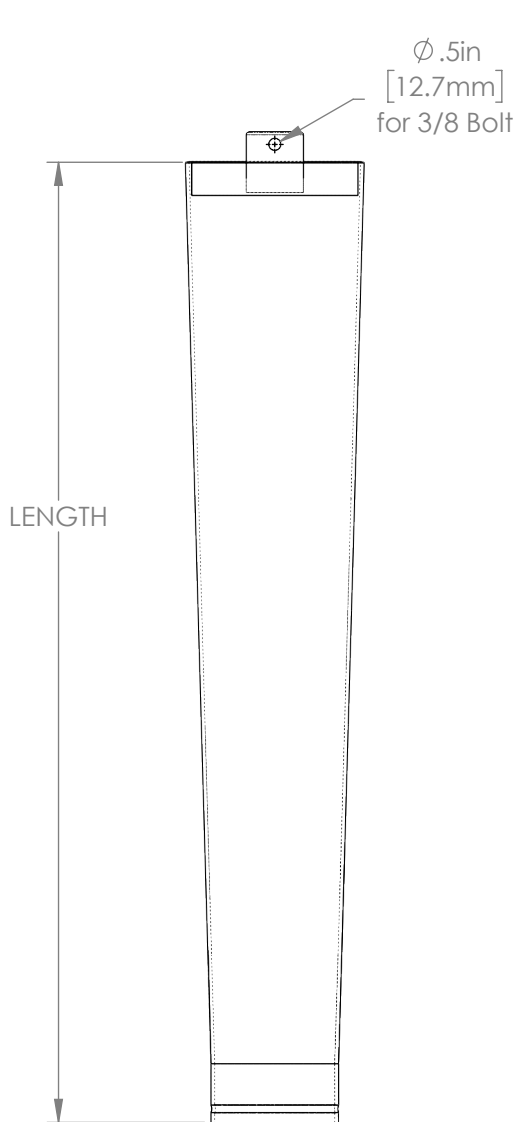
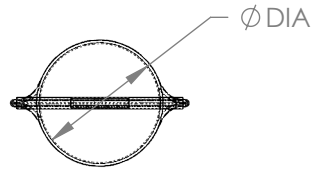
EPITROPIC FILTER MEDIA - BAG FILTER

FOR APPROVAL

CERTIFIED

NOTE:

1. EPITROPIC MEDIA FELT (ANTI-STATIC) - FOR MORE PHYSICAL PROPERTIES REFER TO EPITROPIC FELT FILTER MEDIA PAGE (S)
2. ALL DIMENSIONS ARE IN INCHES (mm)



QTY = 12

PART #	DIA. In (mm)	LENGTH In (M)	FILTER AREA SQFT / (M2)
200-9423	4" (101)	23.5'(0.60)	2.1 (0.19)
200-9532	5" (125)	32'(0.81)	3.6 (0.33)
200-9540	5" (125)	40'(1.01)	4.5 (0.42)

01/31/2011	FOR ISSUE	RAVI
DATE	COMMENTS	BY

Epitropic Filter Media Bag,
Shaker Type

DATE: 01/31/2011	DRAWING No.
CHECKED BY: DWM	200-9NWPC-S
SCALE: 1:8	Sheet. A REV. A

VACUUM PRODUCER ACCESSORY - INLINE FILTER
REPLACEMENT FILTER ELEMENT
 PAPER/HEPA MEDIA

PAPER ELEMENTS

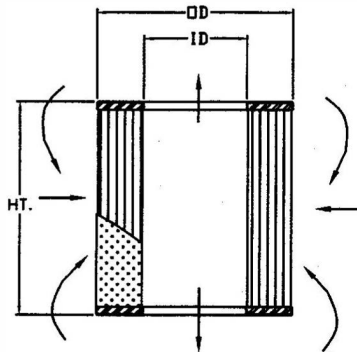
- ~~Nominally 99.9% efficient at 10 micron~~
- Heavy duty industrial strength paper surrounded by heavy gauge galvanized expanded metal
- Dust loading capacity is increased 40 - 50% with polyurethane prefilter
- Temperatures (continuous): -15°F minimum (-26°C)
220°F maximum (104°C)
- Filter change out differential:
40 - 60% above initial Delta P
- Optimal sealing surface & design

ADVANTAGES

- Less expensive
- Optimal surface area per given size
- Higher efficiency than many alternative medias

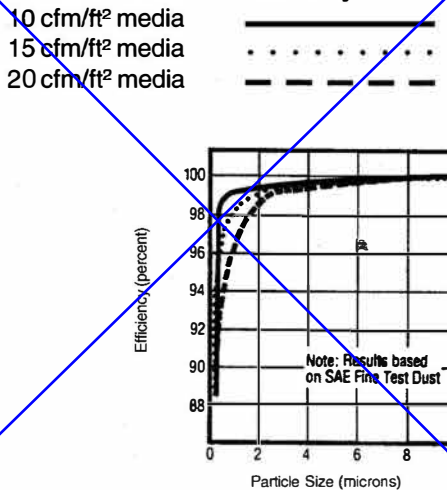
OTHER AVAILABLE MEDIAS

- Polyester - 1, 4, 10, 25, & 100 micron
- **HEPA - 99.97% D.O.P. efficiency at 0.3 micron**
- Stainless steel wire mesh
- High Temperature Nomex cloth -99+% efficient
- Stainless Steel Nomex
High temperature Nomex cloth - 99+% efficient
Reinforced by stainless steel wire mesh & expanded metal
- Polypropylene
Food Grade available
- Activated carbon
- Inquires Encouraged

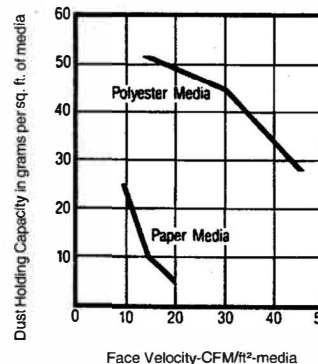


Dimension tolerance $\pm 1/8''$

Particle Size vs. Filter Efficiency on paper media at indicated face velocity:



Face Velocity vs. Dust Holding Capacity



PAPER ELEMENT	DIMENSIONS - inch			SURFACE AREA ft ²	RATED FLOW CFM
	I.D.	O.D.	HT		
200-3515W	4 3/4	7 7/8	9 5/8	23.8	570
200-3529W	4 3/4	7 7/8	14 1/2	33.3	800
200-3516W	6	9 3/4	9 5/8	36.0	880
200-3530W	6	9 3/4	14 1/2	54.4	1100
200-3517W	8	11 3/4	9 5/8	45.0	1100
200-3526W	8	11 3/4	14 1/2	70.0	1500
200-3519W	9	13 1/4	14 1/2	126.0	1825
200-3520W	14	18	14 1/2	140.0	3300
200-3521W	14	18	21 1/2	200.0	4705

*HEPA filter version of the elements above are numbered as 200-4xxxHEW.



SUBJECT: BULL 300 INTERRUPTER BRUSH REPLACEMENT

SUMMARY:

The new SASE Bull 300 vacuum motor features an **Interrupter Brush Type Vacuum Producer**. Under normal use the brushes are designed to run for approximately 1,000 hours. Located inside the brush is a nylon dowel that lifts the brush off the contact surface, breaking the electrical contact and stopping the motor before commutator wear and damage occurs. At this stage brushes can be replaced with a new set of interrupter brushes.

REMEDY:

Replace both the brushes to avoid motor stoppage issues.

SASE Brush Kit #NWA.217120

NOTES: Make sure the motor is unplugged before replacing the brushes!

Step 1: Remove brush clip

Step 2: Disconnect brush from lead terminal

Step 3: Connect new brush to lead

Step 4: Insert new brush on holder and replace clip

Step 5: Then, assemble the motor housing to the unit, check for electrical connections before starting



Step 1



Step 2



Step 3



Step 4