



OPERATION AND MAINTENANCE MANUAL

STATIC DISSIPATIVE / GROUNDED

INDUSTRIAL VACUUM CLEANER SYSTEM

ELECTRICALLY OPERATED FOR DRY RECOVERY

DUST IGNITION PROTECTED, DESIGNED AND CERTIFIED FOR USE IN

CLASS II - DIVISION 2 - GROUPS F & G HAZARDOUS LOCATIONS

as defined in the National Electric Code (NFPA 70)

MODEL: VAC-EX-120-9-SS

**READ ALL INSTRUCTIONS BEFORE OPERATING,
CLEANING OR SERVICING**

IMPORTANT - SAVE THESE INSTRUCTIONS

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June 21, 2018

1.0 INSPECTION

Carefully unpack and inspect your Vacuum Cleaner for shipping damage. Each vacuum cleaner is tested and thoroughly inspected before being shipped; therefore, any damage is the responsibility of the delivering carrier, who should be notified.

2.0 APPLICATIONS

WARNING: A full Process Hazard Analysis has to be conducted by the user for the recovery of dusts in hazardous areas. The recommendations in this manual cannot, in any case, supplant the conclusions of a full Process Hazard Analysis.

VAC-EX-120-9-SS is an electrically operated, dust ignition protected industrial vacuum cleaner system designed and certified for use in **CLASS II - DIVISION 2 - GROUPS F & G HAZARDOUS LOCATIONS**, as defined in the National Electric Code (NFPA 70)

WARNING: THIS VACUUM CLEANER IS NOT DESIGNED TO BE USED IN DIVISION 1 HAZARDOUS LOCATIONS. DO NOT USE THIS VACUUM CLEANER IN DIVISION 1 HAZARDOUS LOCATIONS.

WARNING: THIS VACUUM CLEANER IS NOT CERTIFIED FOR USE IN GROUP E HAZARDOUS LOCATIONS CONTAINING METAL DUSTS. DO NOT USE THIS VACUUM CLEANER IN GROUP E HAZARDOUS LOCATIONS CONTAINING METAL DUSTS.

WARNING: THIS VACUUM CLEANER IS NOT DESIGNED TO BE USED IN CLASS I HAZARDOUS LOCATIONS CONTAINING FLAMMABLE GASES, VAPORS OR LIQUIDS. DO NOT USE THIS VACUUM CLEANER IN CLASS I HAZARDOUS LOCATIONS CONTAINING FLAMMABLE GASES, VAPORS OR LIQUIDS.

WARNING: This vacuum cleaner is designed for the recovery of dry materials only. Do not recover liquids.

WARNING: Only tools and accessories provided by the manufacturer shall be used with this vacuum cleaner. The use of other tools and accessories may impair safety.

2.1. APPLICATIONS IN HAZARDOUS LOCATIONS IN PRESENCE OF FLAMMABLE GASES, VAPORS OR LIQUIDS

WARNING: THIS VACUUM CLEANER IS NOT DESIGNED TO BE USED IN CLASS I HAZARDOUS LOCATIONS CONTAINING FLAMMABLE GASES, VAPORS OR LIQUIDS. DO NOT USE THIS VACUUM CLEANER IN CLASS I HAZARDOUS LOCATIONS CONTAINING FLAMMABLE GASES, VAPORS OR LIQUIDS.

2.2. APPLICATIONS IN HAZARDOUS LOCATIONS IN PRESENCE OF COMBUSTIBLE DUST

VAC-EX-120-9-SS is an electrically operated, dust ignition protected industrial vacuum cleaner system designed and certified for use in **CLASS II - DIVISION 2 - GROUPS F & G HAZARDOUS LOCATIONS**, as defined in the National Electric Code (NFPA 70)

Model VAC-EX-125-9-SS can be used to recover combustible dusts such as:

- Combustible flyings
- Combustible carbonaceous dusts (Carbon black, charcoal, coal or coke dusts)
- Flour, grain, wood, plastic and chemicals

WARNING: DO NOT RECOVER ANY HOT EMBERS OR IGNITED DUSTS.

3.0 IMPORTANT SAFETY PRECAUTIONS

3.1. MOTOR COOLING AIR INTAKE

WARNING: DO NOT WRAP THE ELECTRIC CABLE AROUND THE MOTOR COOLING AIR INTAKE OR OBSTRUCT THE MOTOR COOLING AIR INTAKE IN ANY WAY DURING OPERATION. THIS WOULD PREVENT AIR TO COOL DOWN THE MOTOR, THE TEMPERATURE OF THE MOTOR WOULD RISE, AND THIS WOULD STOP THE VACUUM CLEANER.



Motor cooling air intake must remain unobstructed at all times during operation



3.2. FILTER BLOCKAGE WARNING LIGHT

A filter blockage warning light is installed on the vacuum cleaner. The light turns on to indicate a loss of suction. In such case the collection bag may be full, cloth filters (main filters and safety filters) may need to be washed or HEPA filters may need to be replaced.

WARNING: When the filter blockage warning light turns on, turn the vacuum cleaner off as soon as possible as filter blockage cause the temperature inside the vacuum cleaner to rise and can also lead to motor damage.

For maintenance refer to “Cleaning and maintenance” and to “Assembling and replacing the HEPA filters” sections.

3.3. LAYERS OF DUST

WARNING: Clean regularly the vacuum cleaner surfaces with a water damped cloth to avoid dust accumulation which could create a potential source of ignition.

3.4. BURNING MATERIAL

WARNING: DO NOT PICK-UP ANYTHING THAT IS BURNING OR SMOKING, SUCH AS HOT ASHES, CIGARETTES, MATCHES OR LIVE EMBERS.

3.5. FLAMMABLE LIQUIDS

WARNING: THIS VACUUM CLEANER IS NOT DESIGNED TO RECOVER FLAMMABLE LIQUIDS. DO NOT USE THIS VACUUM CLEANER TO RECOVER FLAMMABLE LIQUIDS.

3.6. SELF-IGNITION OF DUST

WARNING: **DO NOT USE THIS VACUUM CLEANER TO RECOVER DUST OR MIXTURE OF DUSTS THAT CAN SELF-IGNITE.**

3.7. MECHANICALLY GENERATED SPARKS

WARNING: To prevent mechanically generated sparks (thermite reaction) avoid impact of the wand and tools supplied with the vacuum cleaner with any rusted parts present in the working area.

3.8. IMPORTANT SAFETY PRECAUTIONS IN REGARD TO ELECTROSTATIC CHARGES GENERATION

When the vacuum cleaner is used as recommended in this manual it has been determined that no significant or continuous electrostatic charge accumulation, which could act as a potential ignition source, can occur.

Nevertheless, it is recommended for safe use not to perform any specific action on the insulating items assembled on the vacuum cleaner, such as a continuous and intense manual rubbing, which could lead to a significant electrostatic charge accumulation.

The above instructions are to be observed particularly in regard to the plastic wheel covers on the vacuum cleaner.

4.0 PRE-USAGE INSTRUCTIONS

WARNING: This vacuum cleaner must be properly grounded. DO NOT OPERATE UNIT WITHOUT A PROPER GROUND SOURCE.

WARNING: The vacuum cleaner unit and detachable tools and accessories are completely grounded and use special static-free materials. Use only original replacement parts from the manufacturer or from one of its authorized distributors.

WARNING: This equipment is certified only if used with supplied or recommended hose and tools. The use of other hose and tools may impair safety. Any alteration to this equipment by a third party nullifies its certification.

WARNING: The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING: This appliance is for dry use only and is not to be used or stored outdoors in wet conditions.

WARNING: Before use, operators should be provided with information, instruction and training for the use of the appliance and the substances for which it is to be used, including the safe method of removal and disposal of the material collected

WARNING: This appliance is not suitable to pick up dusts or liquids of high explosion risk, nor mixtures of combustible dust with liquids.

WARNING: Improper use of this vacuum cleaner will result in the voiding of the warranty.

- a. Consult local electric code and authority having jurisdiction before using. Make sure that the electrical installation is compatible with the voltage stated on the nameplate.
- b. Examine the vacuum cleaner's power cable for damage (cracking or ageing) before use. Return to manufacturer for servicing if damaged. Use only the power cable supplied with the unit or one purchased from the manufacturer.
- c. Do not pull vacuum cleaner by the power cable.
- d. Turn off the vacuum cleaner and unplugged the power cable before servicing or storing the vacuum cleaner. Clean and service this vacuum cleaner **only in a NON-HAZARDOUS AREA.**
- e. This vacuum cleaner is designed for indoor use only.
- f. The tank should be clean and dry before using the vacuum cleaner.
- g. The appliance shall only be operated when all filters are in position and undamaged. (See paragraph regarding the filtration system)
- h. Connect to a properly grounded outlet only. See Grounding Instructions.
- i. Do not use extension cords
- j. For dusts with ignition energy less than 1mJ additional restrictions of the labour authorities may apply.

5.0 PRE-CAUTIONS FOR THE RECOVERY OF HAZARDOUS MATERIALS

WARNING: Model VAC-EX-120-9-SS not equipped with a HEPA filter is not suitable for the recovery of hazardous materials.

DANGER: If the vacuum cleaner is used to recover toxic or nuisance materials, the following safety precautions must be taken:

- a. The vacuum cleaner must be equipped with a HEPA filter.
- b. Service and operation should only be carried out by trained personnel.
- c. Appropriate clothing and personal protective equipment should be worn when operating or servicing the vacuum cleaner.
- d. Dispose of collected materials responsibly. Follow applicable government regulations for the disposal of hazardous materials.

WARNING: This appliance contains dust hazardous to health. Emptying and maintenance operations, including removal of the dust collection means, must only be carried out by authorized personnel wearing suitable personal protection. Do not operate without the full filtration system fitted.

NOTE: Any health hazard associated with the use of this vacuum cleaner in conjunction with the recovery of asbestos and other hazardous substances has not been investigated.

6.0 GROUNDING INSTRUCTIONS

This vacuum cleaner must be properly grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This vacuum cleaner is equipped with a cord having an equipment-grounding conductor. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. Ensure that the fuse/breaker on the electrical panel is of the correct rating and exceeds the maximum current rating shown on the technical data sticker of the vacuum unit. Test the electrical continuity of the vacuum cleaner prior use. (See section “testing for ground continuity”).

WARNING: This vacuum cleaner for hazardous locations is equipped with conductive wheels, which allow for the vacuum cleaner to be grounded with the floor. Do not substitute the conductive wheels and use only replacement conductive wheels supplied by the manufacturer.

WARNING: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether an outlet is properly grounded. If the plug will not fit the outlet, have a proper plug or outlet installed by a qualified electrician. No adaptor should be used with this vacuum cleaner

WARNING: To effectively dissipate static electricity and to ensure spark-free operation, this vacuum cleaner must be grounded during use.

DANGER: Do not operate vacuum cleaner if the electrical outlet is not properly grounded or if the grounding is questionable.

7.0 TESTING FOR GROUND CONTINUITY

WARNING: Test the electrical continuity of the vacuum cleaner before use. This will ensure that any static electricity that is produced while vacuuming will be discharged to ground.

WARNING: Use only original replacement parts from the manufacturer or from one of its authorized distributors.

An ohm-meter is required to perform the following electrical continuity test.

- a. Disconnect the static dissipating power cable from the outlet.
- b. Make sure that all the latches on the vacuum cleaner are fastened and that the detachable recovery tank is properly installed on the vacuum cleaner.
- c. Disconnect the suction hose from the vacuum cleaner.
- d. Using an ohm-meter, test the electrical continuity of the vacuum cleaner from the ground pin at the end of the power cable to the suction intake of the vacuum cleaner. A reading between 10^6 ohms and 10^9 ohms or less is satisfactory to ensure proper grounding and static dissipation.
- e. Using the ohm-meter test for the electrical continuity of the suction hose from one end to the other. A reading between 10^6 ohms and 10^9 ohms or less is satisfactory to ensure proper grounding and static dissipation.

8.0 FILTRATION SYSTEM

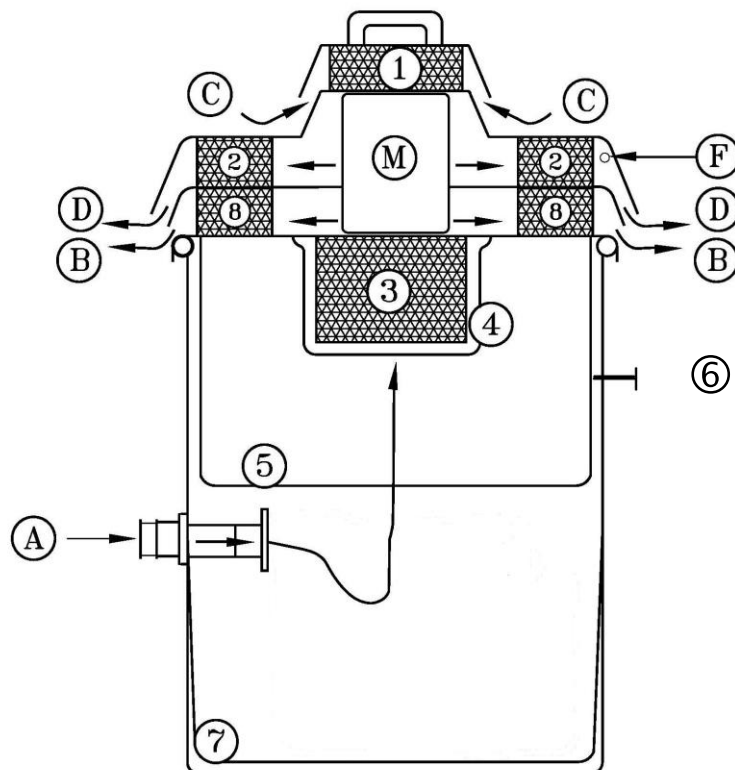


Figure 1

1. ABSOLUTE HEPA FILTER FOR MOTOR COOLING AIR INTAKE (*Efficiency > of 99.995% on 0.3 micron.*)
 2. ABSOLUTE HEPA FILTER FOR MOTOR COOLING AIR EXHAUST (*Efficiency > of 99.995% on 0.3 micron.*)
 3. ABSOLUTE HEPA FILTER FOR WORKING AIR INTAKE (*Efficiency > of 99.995% on 0.3 micron.*)
 4. SAFETY FILTER (STATIC DISSIPATIVE)
 5. MAIN CLOTH FILTER (STATIC DISSIPATIVE)
 6. MANUAL FILTER SHAKER
 7. POLY LINER RECOVERY BAG (STATIC DISSIPATIVE)
 8. ABSOLUTE HEPA FILTER FOR WORKING AIR EXHAUST (*Efficiency > of 99.995% on 0.3 micron.*)
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- A. SUCTION INLET
 - B. WORKING AIR EXHAUST
 - C. MOTOR COOLING AIR INTAKE
 - D. MOTOR COOLING AIR EXHAUST
 - F. FILTER BLOCKAGE WARNING LIGHT
 - M. MOTOR

9.0 OPERATING INSTRUCTIONS - FOR DRY RECOVERY

WARNING: This vacuum cleaner is designed for the recovery of dry materials only. Do not recover liquids.

1. Disengage the latches and remove the power head from the recovery tank.
2. Place the poly liner (item # 7 on Fig. 1) at the bottom of the tank

NOTE In order to prevent the poly liner from being vacuumed up during use; press the bag along the interior walls and bottom of the recovery tank in order to remove any trapped air.

3. Place the main cloth filter (item # 5 on Fig. 1) on the recovery tank. Make sure that the filter's gasket covers the circumference of the recovery tank lip.

IMPORTANT: Do not use this vacuum cleaner for dry recovery if the cloth filters are not installed

4. Place the power head on the recovery tank and fasten the latches.
5. Fasten hose to suction intake on side of recovery drum and attach desired tools to hose.

NOTE: The floor tool is designed to be attached to the wand. Other tools can be attached directly to the hose.



Floor tool



Crevice tool

6. To turn on the vacuum cleaner, turn switch to the ON position
7. To shut off unit, turn switch to the OFF position. Disconnect the power cable when not in use.

10.0 CLEANING AND MAINTENANCE

FILTER BLOCKAGE WARNING LIGHT:

A filter blockage warning light is installed on the vacuum cleaner. The light turns on to indicate a loss of suction. In such case the collection bag may be full, cloth filters (main filters and safety filters) may need to be washed or HEPA filters may need to be replaced.

WARNING: When the filter blockage warning light turns on, turn the vacuum cleaner off as soon as possible as filter blockage cause the temperature inside the vacuum cleaner to rise and can also lead to motor damage.

IMPORTANT: We recommend proceeding with the following maintenance after each use and after a maximum of 8 hours of consecutive use

WARNING: Turn off the vacuum cleaner and disconnect the power cable before performing any servicing or maintenance of the vacuum cleaner.

- a. Shake the cloth filters regularly using the manual filter shaker handle to dislodge caked-on dust
- b. Dispose of collection bag when full and replace by a new collection bag
- c. Empty and clean the recovery tank.

WARNING: Empty the recovery tank when necessary but also after every use (8 hours shift). Do not allow recovered materials to sit for extended periods of time. An excessive accumulation of recovered materials can create a dust ignition hazard.

- d. It is recommended that the cloth filters be cleaned regularly. Dirty cloth filters will reduce the airflow through and reduce the performance of the vacuum cleaner. The cloth filters (main filters and safety filters) can be washed with warm water (no detergents required).

IMPORTANT: After washing the filters, make sure that they are completely dry before reinstalling them in the vacuum. Do not reinstall the cloth filters if they are still wet.

- e. The cloth filters should be replaced every two or three years depending on use.
- f. Inspect the cloth filters regularly. If the cloth filters are torn, replace immediately. A torn filter will allow dust and other materials to enter the motor and may cause pre-mature wear of the motor
- g. Clean hose to remove any accumulated dust, debris or material recovered.
- h. The HEPA filter should be replaced yearly, or every two years, depending on the use.

WARNING: Do not use the HEPA filter after removal out of the appliance.

WARNING: Keep the power supply cable clean and inspect it regularly for cuts or cracks

WARNING: When carrying out service or repair operations, all contaminated items which cannot be satisfactorily cleaned, are to be disposed of; such items shall be disposed of in impervious bags in accordance with any current regulation for the disposal of such waste;

WARNING: Clean regularly the vacuum cleaner surfaces with a water damped cloth to avoid dust accumulation which could create a potential source of ignition.

11.0 ASSEMBLING AND REPLACING THE HEPA FILTERS

A HEPA filter is designed for filtration of ultra fine particles. A clogged HEPA filter will reduce the air flow thereby reducing the vacuum's performance thus requiring replacement.

The life of the HEPA filters depends greatly on the use of the vacuum cleaner. It is recommended that the HEPA filters be replaced once a year if the vacuum is used intensively (daily). The filters can be replaced every two years if the vacuum cleaner is used less frequently (two or three times per week)

WARNING: If the vacuum cleaner is used for the recovery of toxic materials proper clothing and the use of an appropriate breathing apparatus is necessary when servicing the HEPA filter housing or any other contaminated part of the unit.

11.1 REPLACEMENT OF THE HEPA FILTER FOR MOTOR COOLING AIR INTAKE (ITEM #1 ON FIG. 1 SEE SECTION 8 FOR ILLUSTRATION)

1. Disconnect the power cable from the outlet.
2. Unscrew the three hex nuts securing the top section of the power head to the lid
3. Remove and discard the old HEPA filter
4. Carefully inspect the seal gaskets for wear and breaks. Replace gaskets if defective.
5. Place the new filter on the lid.
6. Securely fasten the top section of the power head to the lid using the three hex nuts.
7. Dispose of the contaminated filter according to government regulations. (If applicable)

11.2 REPLACEMENT OF THE HEPA FILTER FOR MOTOR COOLING AIR EXHAUST (ITEM #2 ON FIG. 1 SEE SECTION 8 FOR ILLUSTRATION)

1. Disconnect the power cable from the outlet.
2. Unscrew the six hex nuts securing the middle section of the power head to the lid
3. Remove and discard the old HEPA filter.
4. Carefully inspect the seal gasket on the HEPA filter. Replace gasket if defective.
5. Place the new filter on the lid.
6. Securely fasten the middle section of the power head to the lid using the six hex nuts.
7. Dispose of the contaminated filter according to government regulations. (If applicable)

11.3 HEPA FILTER FOR WORKING AIR EXHAUST (ITEM #8 ON FIG. 1 SEE SECTION 8 FOR ILLUSTRATION)

1. Disconnect the power cable from the outlet.
2. Unscrew the six hex nuts securing the lower section of the power head to the lid
3. Remove and discard the old HEPA filter.
4. Carefully inspect the seal gasket on the HEPA filter. Replace gasket if defective.
5. Place the new filter on the lid.
6. Securely fasten the lower section of the power head to the lid using the six hex nuts.
7. Dispose of the contaminated filter according to government regulations. (If applicable)

11.4 HEPA FILTER FOR WORKING AIR INTAKE (ITEM #3 ON FIG. 1 SEE SECTION 7 FOR ILLUSTRATION)

1. Disconnect the power cable from the outlet.
2. Disengage the latches and remove the power head from the recovery tank.
3. Remove the safety filter
4. Unscrew the hex nut securing the HEPA filter to the underside of the lid.
5. Discard the old HEPA filter.
6. Carefully inspect the seal gaskets for wear and breaks. Replace gaskets if defective.
7. Insert the new HEPA filter
8. Securely fasten the HEPA filter using the hex nut.
9. Place back the safety filter
10. Dispose of the contaminated filter according to government regulations. (If applicable)

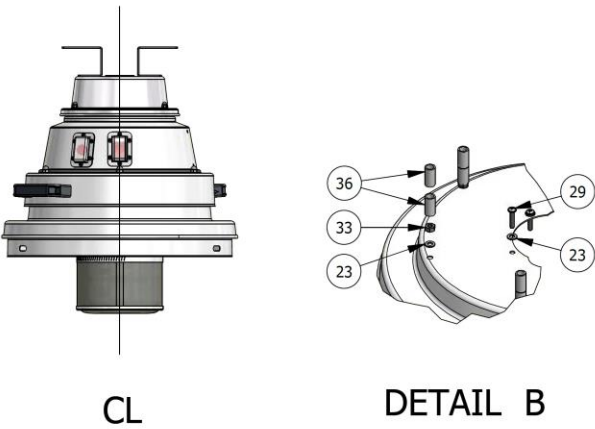
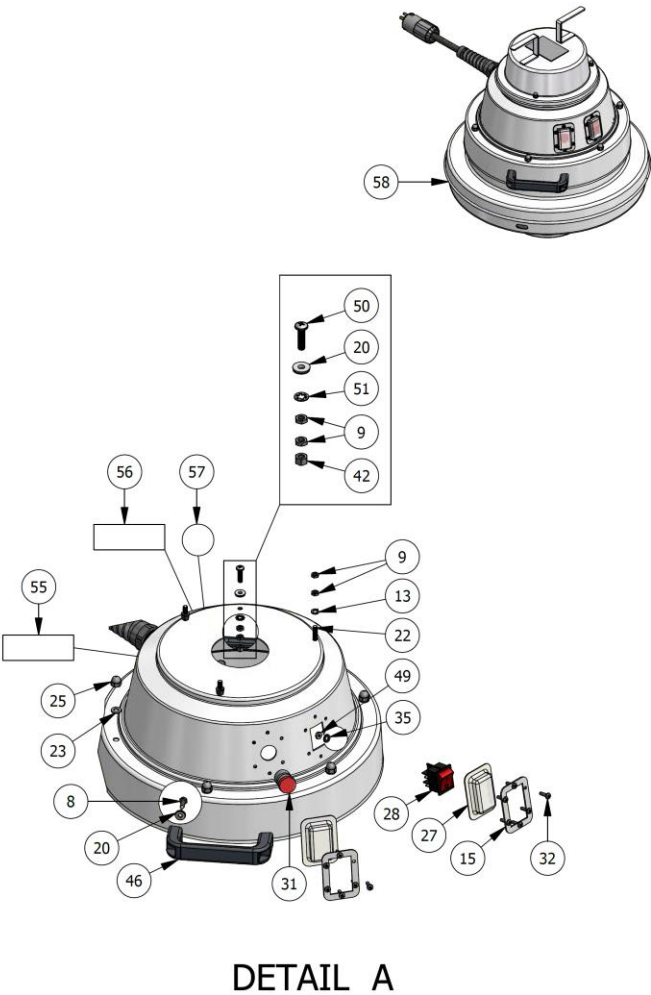
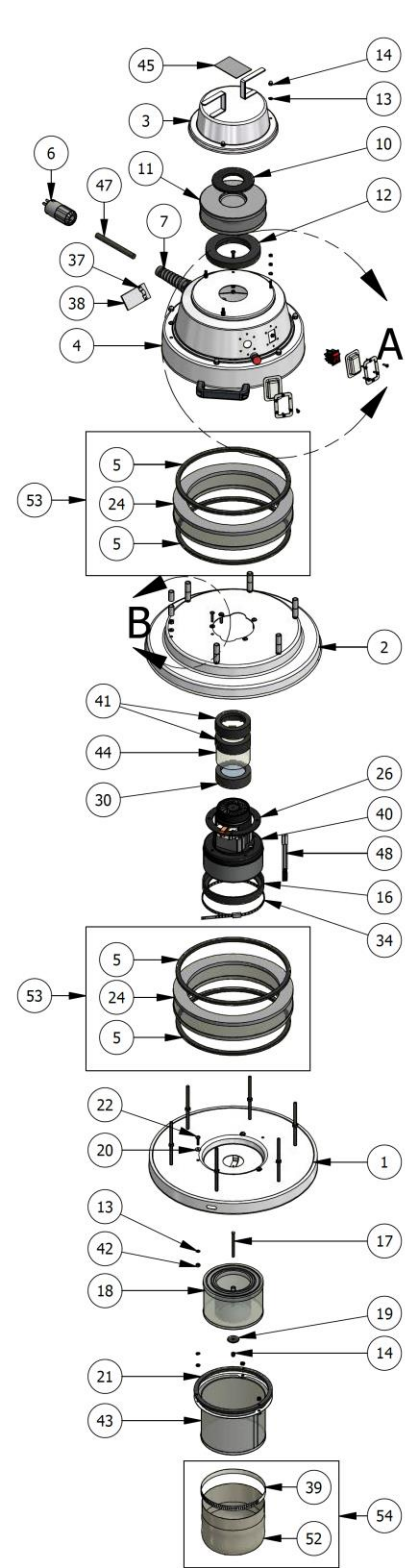
12.0 STORAGE

It is recommended that the inside of the recovery tank be clean and dry when storing the vacuum cleaner.

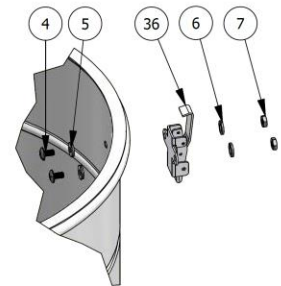
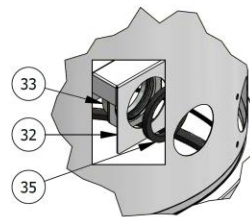
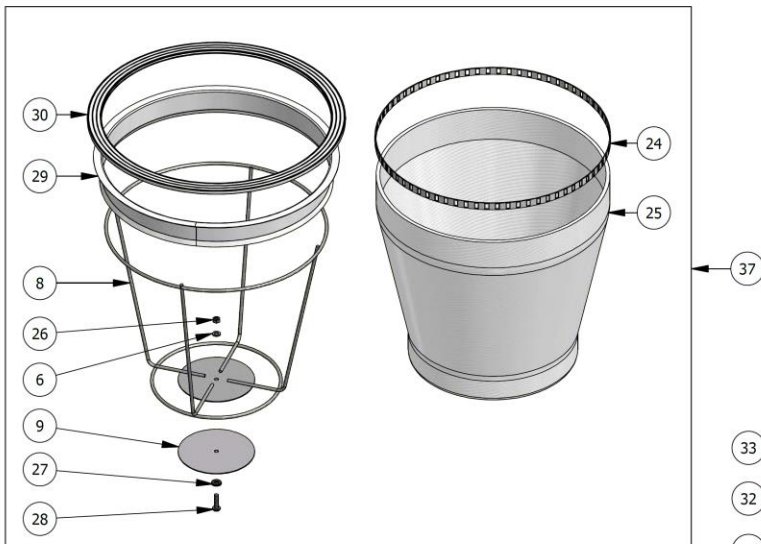
13.0 TROUBLESHOOTING:

PROBLEM	PROBABLE CAUSE	SOLUTION
Drop in suction power	Cloth filter(s) may be excessively dirty or covered with dust.	Wash or replace the cloth filter(s)
	Recovery tank may be full	Empty the recovery tank
	Suction hose or vacuum tools may be blocked	Clear blockage using a broom handle or other appropriate device
	HEPA filters may be clogged	Change HEPA filters

14.0 EXPLODED VIEW:

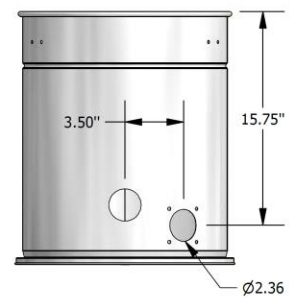
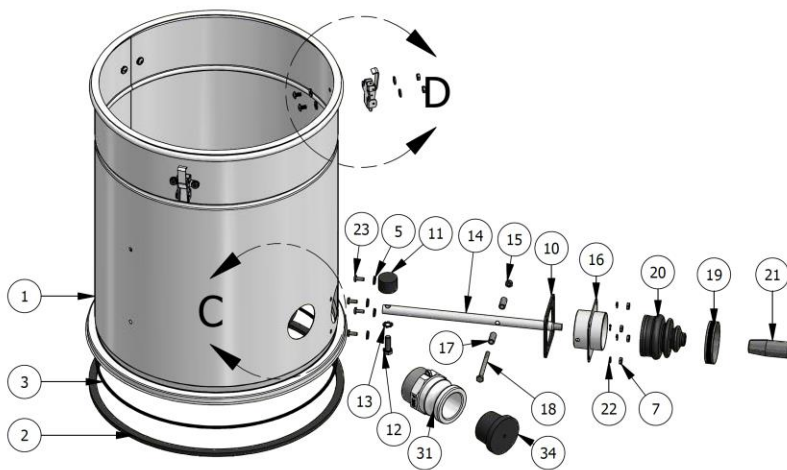


ITEM	PART NUMBER	DESCRIPTION	QTY
1	88-215375-T3B	SPECIAL LID W/ 3 HOLES FOR HEAP CAGE PROTECTION FOR BL-SD-IP6X, POWDER COATED	1
2	88-215376B	LOWER MOTOR HOUSING FOR ATEX-XXE, CRS, POWDER COATED	1
3	88-215378-01B	HEPA HOUSING WITH CABLE HOLDER FOR BL-SD-IP6X, POWDER COATED HAMMERTONE GRAY A-9	1
4	88-215377-01B	SPECIAL UPPER MOTOR HOUSING FOR BL-SD-IP6X, POWDER COATED HAMMERTONE GRAY A-9	1
5	88-SUP022-34	1/4" x 3/4" CELLULAR URETHANE STRIP GASKET WITH ADHESIVE BACKING /FT (34" LONG)	4
6	88-211912	PLUG, EXPLOSION PROOF, 120V 15AMPS, MODEL ENP5151 OR UGP-15231QW, NEMA CONFIGURATION	1
7A	88-211791C	STRAIN RELIEF PIGTAIL FITTING+LOCK NUT, LIQUID TIGHT, BLACK NYLON (PG 13.5), DIA .270-.480	1
7B	88-211791B	STRAIN RELIEF PIGTAIL CORD FITTING+LOCK NUT, GRAY NYLON (PG 11), LIQUID TIGHT, DIA. 0.118-.275	OPT
8	88-211763A	SHEET METAL SCREW, PAN HEAD PHILLIP, #10 x 3/4, ZINC PLATED	4
9	88-211473	HEX JAM NUT, M5, SS	11
10	88-211281N	GASKET, WHITE NITRILE, 1/4" X 4.25" OD X 2-5/8" ID, MOTOR COOLING AIR	1
11	88-211854	HEPA FILTER, 2" HIGH, 99.99% EFFICIENCY ON 0.3 MICRON, WITH GASKET	1
12	88-211027G	GASKET FOR HEPA/ULPA FILTER, 3/4" NEOPRENE SPONGE SC41, 5-1/4 OD X 3-3/8 ID	1
13	88-211093	SPRING WASHER, M5, SS	12
14	88-211131	ACORN HEX NUT, M5 SS	4
15	88-211698	FRAME FOR SWITCH BOOT,S/S	2
16	88-211194D	LOWER MOTOR GASKET, 13mm THICK	1
17	88-217512	HEX BOLT M5 x 70	1
18	88-212304B-HD	HEPA FILTER, 99.99% EFFICIENCY ON 0.3 MICRON, HEAVY DUTY CONSTRUCTION	1
19	88-214554	BONDED SEALING WASHER, SCREW SIZE; #10, 1-1/8" OD, GALVANISED STEEL	1
20	88-211545	SEAL WASHER, #10 (BARTITE)	8
21	88-SUP022	1/4" x 3/4" CELLULAR URETHANE STRIP GASKET WITH ADHESIVE BACKING /FT	2'
22	88-211158	BOLT, PAN PHILLIPS, M5 X 20, S/S	6
23	88-211074	FLAT WASHER, M6, SS	16
24	88-215372M	HEPA FILTER NO GASKETS 99.99% ON 0.3 MICRON, 11.522"OD x 9.066"ID x 2"HIGH (AS RECEIVED FROM CF)	2
25	88-213842	ACORN NUT 1/4"-20 S/S	6
26	88-211196C	UPPER MOTOR GASKET 1/8" BLACK RUBBER	1
27	88-211573	SEAL EXTERNAL (SWITCH BOOT)	2
28	88-211352	SWITCH, 2 POLE, 1 THROW	1
29	88-211129	BOLT, M5 x 25, S/S	4
30	88-213618	GASKET, 5/16" (8 MM) THICK, HARD RUBBER, FOR COOLING AIR INTAKE, FOR MOTOR F (240V BY-PASS)	1
31	88-216910A	FILTER BLOCKAGE MONITORING DEVICE FOR 120V MODELS	1
32	88-211699A	BOLT 6-32 x 1/2" VIS A MACHINE-TETE ROND PHILIPS S/S	12
33	88-211172	HEX NUT, 1/4"-20 S/S	6
34	88-211778	TIE WRAP, 14" LG	1
35	88-211587	SEAL WASHER # 8 (BARTITE)	12
36	88-211830	PLASTIC SPACER 1/2"OD x 3/8"ID x 1"LG	12
37	88-SUP116	CABLE HOLDER (SANGLES POUR CABLE) FOR 3/16" DIA CABLE	1
38	88-211767	ELECTRICAL KIT NO.4	1
39	88-214313	TRIDON CLAMP STAINLESS STEEL #096; 114/165MM	1
40	88-211395	MOTOR A BYPASS 120V 1200 WATTS	1
41	88-213618C	GASKET, 3/32" (2.5 MM) THICK, HARD RUBBER, FOR COOLING AIR INTAKE	2
42	88-211092	HEX NUT, M5, SS	6
43	88-217859B	PROTECTION HOUSING (INTERNAL) FOR HEPA FILTER #212304B, CRS, POWDER COATED	1
44	88-215384M	GUIDE TUBE 3.25" OD X 3" ID X 1.75" LENGHT, FOR COOLING AIR INTAKE, FOR MODEL ATEX 22E	1
45	NAMEPLATE	NAMEPLATE	1
46	88-211203T-SD	HANDLE FOR CURVED SURFACE, STATIC DISSIPATIVE PLASTIC (BLACK)	2
47	88-218585	POWER CABLE 16/3C SOW (13 AMPS MAX) /METER	10M
48	88-211210	THERMO PROTECTOR (KLIXON)	1
49	88-211699B	HEX NUT 6-32 STAINLESS STEEL	12
50	88-213948	TRUSS HEAD PHILLIPS MACHINE SCREW, 10-32 THREAD, 3/4" LENGTH, 18-8 SS	1
51	88-211093B	LOCK WASHER, INTERNAL TOOTH, M5, SS	1
52	88-212245	SD* MICRO SAFETY FILTER (EPITROPIC POLYESTER) FITS HEPA FILTER CAGE #88-217859B (CLAMP NOT INCLUDED)	1
53	88-215372	HEPA FILTER WITH GASKETS ON BOTH SIDES, 99.99% ON 0.3 MICRON, 11.522" OD x 9.066" ID x 2" HIGH	2
54	88-212245A	SD* MICRO SAFETY FILTER (EPITROPIC POLYESTER) ASSEMBLY WITH CLAMP, FITS HEPA FILTER CAGE #88-217859B	1
55	88-215039	DIVISION 2 WARNING STICKER FOR POWERHEAD	1
56	88-211660	WARNING STICKER "USE INDOORS ONLY" REFLECTIVE MATERIAL	1
58	88-215382A	POWERHEAD ASSEMBLY	1

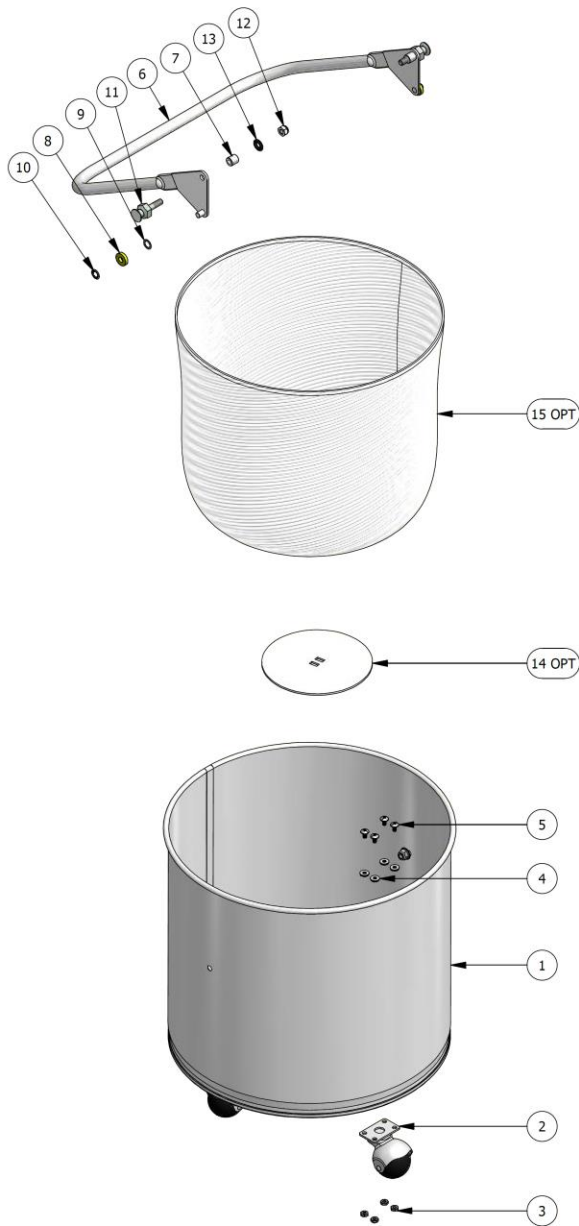


DETAIL C

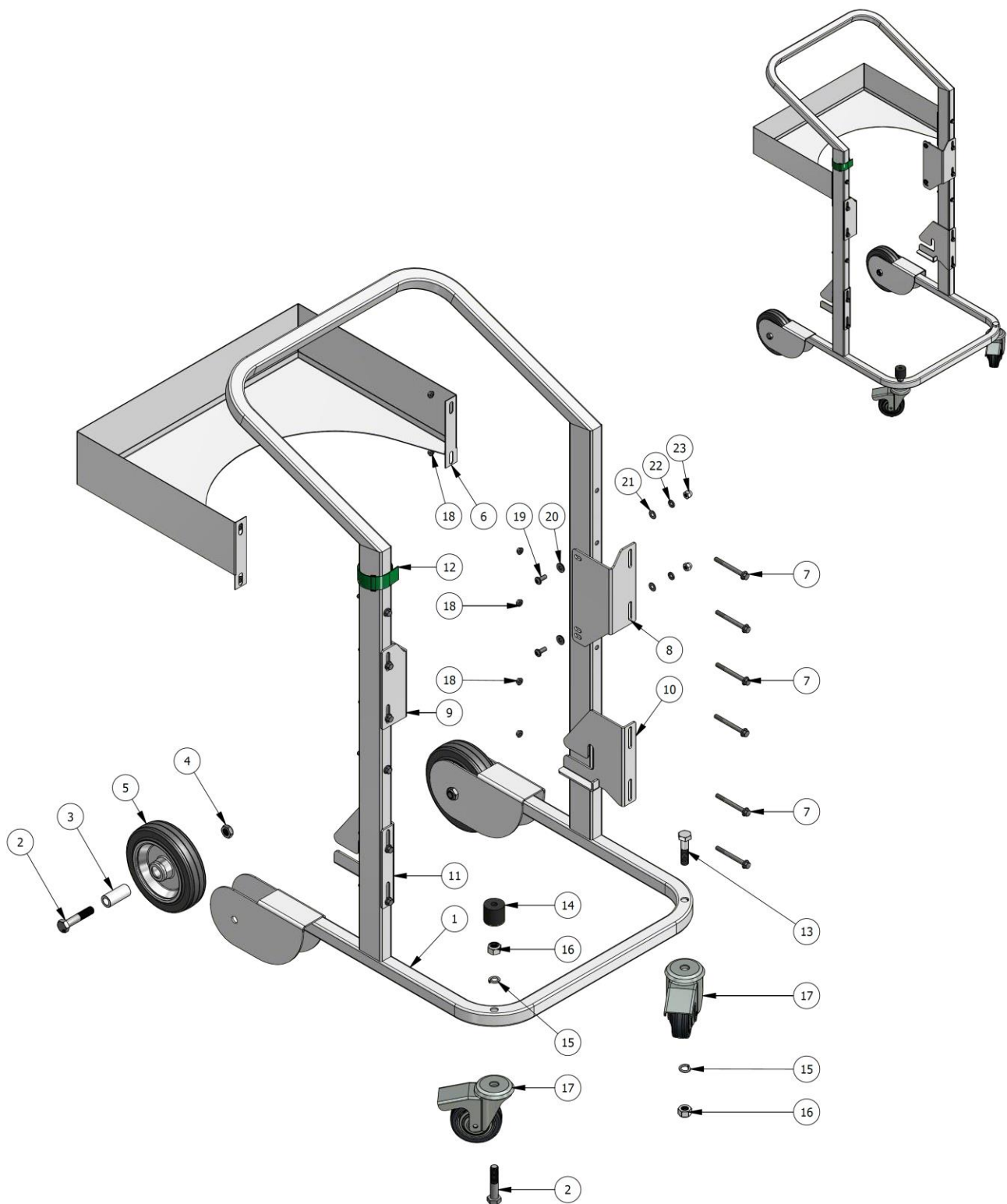
DETAIL D



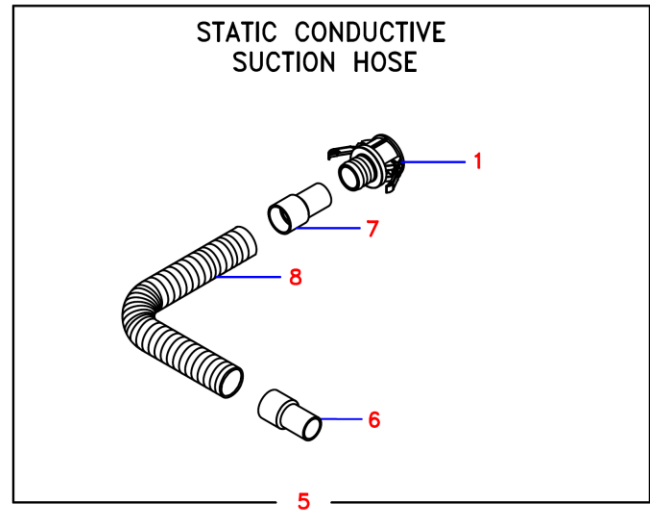
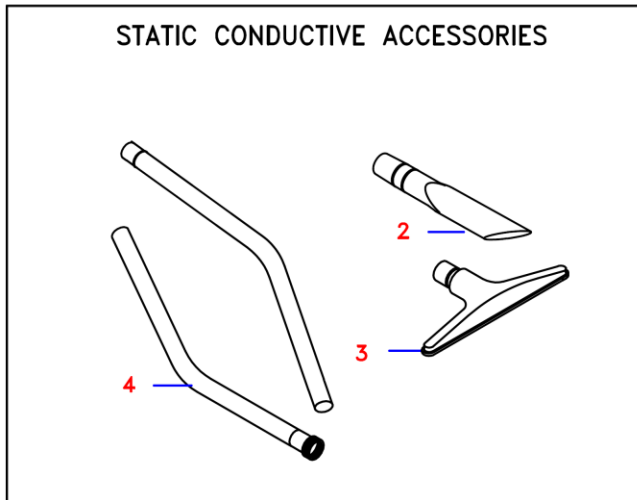
ITEM	PART NUMBER	DESCRIPTION	QTY
1	88-214870A	FILTER CHAMBER FOR XX-20/25 (DT) MODELS, STAINLESS STEEL AISI 304 MIRROR FINISH	1
2	88-SUP030	GASKET L1 3/8 X 3/4 X 25 FT WITHOUT GLUE	48"
3	88-213516-1	U-CHANNEL GASKET /FT	48"
4	88-214375	TRUSS HEAD PHILLIPS MACHINE SCREW, 10-32 THREAD, 3/8" LENGTH, 18-8 SS	6
5	88-211545	SEAL WASHER, #10 (BARTITE)	10
6	88-211113	SPRING WASHER, M6 OR 1/4", SS	7
7	88-213792	HEX NUT, 10-32, S/S	10
8	88-218612	3/16" WIRE FILTER CAGE , SS304	1
9	88-218616-02	PLATE 4.75" FOR WIRE CAGE FOR STAR SHAPED FILTER, STAINLESS STEEL	1
10	88-217210-01	GASKET FOR FILTER SHAKER WITH LEVER	1
11	88-217210-02	RUBBER BUMPER FOR FILTER SHAKER WITH LEVER	1
12	88-217210-03	BOLT M8 X 25 UNI 5739 FOR FILTER SHAKER WITH LEVER	1
13	88-217210-04	LOCK WASHER M8 UNI8842 FOR FILTER SHAKER WITH LEVER	1
14	88-217210-05	LEVER FOR FILTER SHAKER	1
15	88-217210-06	LOCK NUT M6 UNI 7474 FOR FILTER SHAKER WITH LEVER	1
16	88-217210-07	FLANGE FOR FILTER SHAKER WITH LEVER	1
17	88-217210-08	PLASTIC SPACER FOR FILTER SHAKER WITH LEVER	2
18	88-217210-09	BOLT M6 X 70 UNI 5737 FOR FILTER SHAKER WITH LEVER	1
19	88-217210-10	CLAMP FOR FILTER SHAKER WITH LEVER	1
20	88-217210-11	BOOT FOR FILTER SHAKER WITH LEVER	1
21	88-217210-12	HANDLE FOR FILTER SHAKER WITH LEVER	1
22	88-211093	SPRING WASHER, M5, SS	4
23	88-215341	TRUSS HEAD PHILLIPS MACHINE SCREW, 10-32 THREAD, 1/2" LENGTH, 18-8 SS	4
24	88-218842	LOW PROFILE BANDING CLAMP 1/4" WIDE, 0.020" THICK, TYPE 316 STAINLESS STEEL, 4-FT	1
25	88-218626	MAIN FILTER ONLY, *SD* PTFE FILTER (PLEATED)	1
26	88-211134	HEX NUT, M6,SS	1
27	88-211130	SEAL WASHER, 1/4" (BARTITE 1/4)	1
28	88-211075	BOLT PAN PHIL., M6 X 25, SS	1
29	88-214692-ASS	FILTER SUPPORT RING ASSEMBLY FOR CD-3 EX (MFS)/ CD-2600 AND CD-120, STAINLESS STEEL	1
30	88-219039	U-CHANNEL GASKET, 40 DURO, BLACK NITRILE	1
31	88-211452A	CAMLOCK MALE PART F 2" ALUMINUM (w/SPECIAL THREAD TO FIT ELBOW)	1
32	88-213168	DEFLECTOR, STAINLESS STEEL, FOR 2" CAMLOCK INTAKE	1
33	88-211756	2" FLANGE SS316 TITE SEAL	1
34	88-213046B	PLUG, FOR 2" (50mm) CAMLOCK INTAKE, BLACK RUBBER, WITH LANYARD	1
35	88-211123	GASKET, 1/4" FOR 2" CAMLOCK INTAKE, NITRILE	1
36	88-211515	LATCH, STAINLESS STEEL	3
37	88-218627	MAIN FILTER ASSEMBLY, PTFE FILTER *SD*	1



ITEM	PART NUMBER	DESCRIPTION	QTY
1	88-214873AM	TANK FOR VAC-EX-120-9-SS, AISI 430, WITH HOLES FOR LEVER AND 4 SETS OF HOLES FOR WHEELS	1
2	88-211255	BALL CASTER, BLACK URETHANE	4
3	88-213792	HEX NUT, 10-32, S/S	16
4	88-211545	SEAL WASHER, #10 (BARTITE)	16
5	88-214375	TRUSS HEAD PHILLIPS MACHINE SCREW, 10-32 THREAD, 3/8" LENGTH, 18-8 SS	16
6	88-216800-02B	LIFTING HANDLE FOR CARRIAGE FOR -20/25/50 DT, POWDER COATED	1
7	88-214875-06	SPACER 1/2" FOR BUSHING FOR HANDLE FOR TANK FOR 20-DT, NYLON	2
8	88-216808C	SPECIAL SPACER, 0.750" OD X 0.313" ID X 0.175" THICK, BRASS	2
9	88-216808W	NYLON 6/6 GENERAL PURPOSE FLAT WASHER BLACK, 5/16" SCREW SIZE, .57" OD, .02"-.04" THICK	2
10	88-216806	EXTERNAL SELF-LOCKING RETAINING RING SPRING STEEL, FOR 5/16" SHAFT DIAMETER	2
11	88-214875-05	PIVOT FOR TANK FOR 20-DT, SS	2
12	88-215565	NYLON LOCK HEX NUT 5/16"-18, S/S	2
13	88-214334	BARTITE SEAL WASHER FOR A 5/16" BOLT	2
14	88-213780	POLY LINER RETAINER PLATE (FOR USE WITH MOTORS UP TO 5HP)	OPT
15	88-212100CS	CONDUCTIVE POLY LINER WITH DRAW STRING, 9 GALLONS	OPT



ITEM	PART NUMBER	DESCRIPTION	QTY
1	88-216800-20B	NEW FRAME CARRIAGE FOR -20/25/50 DT, POWDER COATED	1
2	88-216884	HEX BOLT, M12 X 60, ZINC PLATED	3
3	88-216800-04	BUSHING FOR WHEEL SHAFT FOR CARRIAGE FOR VAC-EX-120-9-SS	2
4	88-214289A	NYLON LOCK HEX NUT 1/2"-13, 5/16" Ht. , ZINC PLATED	2
5	88-214993	WHEEL 150mm CONDUCTIVE, BLACK w/YELLOW TAG	2
6	88-216943B	TOOL BASKET FOR 20-DT CARRIAGE, POWDER COATED	1
7	88-216802	SCREW W/SERRATED FLANGE, 1/4"-20 X 2.5" LG, ZINC PLATED FOR CARRIAGE FRAME FOR VAC-EX-120-9-SS	12
8	88-216800-06B	RIGHT BRACKET FOR CARRIAGE FOR VAC-EX-120-9-SS, POWDER COATED	1
9	88-216800-07B	LEFT BRACKET FOR CARRIAGE FOR VAC-EX-120-9-SS, POWDER COATED	1
10	88-216800-08B	RIGHT CAM BRACKET FOR FRAME FOR CARRIAGE FOR VAC-EX-120-9-SS, POWDER COATED	1
11	88-216800-09B	LEFT CAM BRACKET FOR FRAME FOR CARRIAGE FOR VAC-EX-120-9-SS, POWDER COATED	1
12	88-216990G	VELCRO STRAP, 1" x 12", GREEN	1
13	88-216804	HEX BOLT, M12 X 50, ZINC PLATED	1
14	88-218580	RECESSED RUBBER BUMPER	1
15	88-211689	LOCKWASHER M12, S/S	2
16	88-216508	HEX NYLON-INSERT LOCKNUT, M12, ZINC PLATED	2
17	88-214995	WHEEL 80mm CONDUCTIVE, BLACK w/YELLOW TAG, WITH BOLT M12 x 30, WITH BRAKE	2
18	88-214393	FLANGE NUT, 1/4"-20, ZINC PLATED	12
19	88-213710	TRUSS HEAD PHILLIP MACHINE SCREW 1/4"-20 X 5/8" LG S/S	4
20	88-211130	SEAL WASHER, 1/4" (BARTITE 1/4)	4
21	88-216810	FLAT WASHER, 1/4" SCREW SIZE , 5/8" OD, .040"-.060" THICK, 18-8 SS	4
22	88-211113	SPRING WASHER, M6 OR 1/4", SS	4
23	88-213842	ACORN NUT 1/4"-20 S/S	4



ITEM	PART NUMBER	DESCRIPTION	QTY
1	88-500163	CAMLOCK PART C, Ø2" (Ø50mm) FEMALE WITH Ø2" (Ø50mm) HOSE SHANK, ALUMINUM	1
2	88-381188	CREVICE TOOL SD*, 11" (279mm), ALUMINUM	1
3	88-381377A	FLOOR TOOL ALUMINUM 14" WITH CONDUCTIVE BRISTLES	1
4	88-381163	WAND ASSEMBLY, WITH AMERICAN ATTACHMENT, (2 PCS), Ø1.5" (Ø38mm), CHROME	1
5	88-383440B	STATIC CONDUCTIVE CRUSHPROOF SUCTION HOSE ASSEMBLY (NO WIRE) 1.5" x 10' FOR 2" CAMLOCK INTAKE	1
6	88-383437	SWIVEL HOSE CUFF, Ø1.5" (Ø38mm), STATIC CONDUCTIVE, BLACK	1
7	88-383435	EXPANDER HOSE CUFF, Ø1.5" TO Ø2" (Ø38mm TO Ø50mm), STATIC CONDUCTIVE, BLACK	1
8	88-383438	CRUSHPROOF SUCTION HOSE, STATIC CONDUCTIVE (NO WIRE), Ø1.5" (Ø38mm), SOLD PER FOOT	10'