VAC-EX-AV-25SS

Pneumatic (Air-Operated)
Explosion-proof / Dust Ignition
Proof Industrial Vacuum Cleaner

Operating and Maintenance Instructions

Designed for Use in Class I, Division 1, Groups A, B, C and D, T6; and Class II, Division 1, Groups E, F, G Hazardous Locations as defined in the National Electric Code (NFPA 70)

Read before operating.

II 2 G/D c IIC T6 (85oC) LCIE 03 ATEX 6310

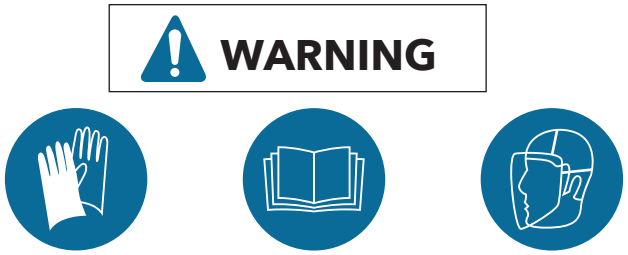
CONTENTS:

Thank you for purchasing this Goodway VAC-EX-AV-25SS. We appreciate your business and look forward to serving you in the future. As with all Goodway products, you can be assured that the finest quality components and workmanship have gone into this machine.

Please take a few minutes to read the following Operating and Maintenance Instructions. By carefully following the instructions, you will obtain years of trouble free service from this product. Please pay particular attention to the safety instructions and exercise caution when using this machine.

GOODWAY® TECHNOLOGIES CORPORATION
HVAC & FACILITY MAINTENANCE SOLUTIONS

For Sales Call: 1-800-333-7467
For Service Call: 1-800-370-2855



INSPECTION

Carefully unpack and inspect your Explosion-proof/Dust Ignition Proof vacuum cleaner for shipping damage. Each vacuum cleaner is tested and thoroughly inspected before being shipped; therefore, any damage is the responsibility of the delivery carrier, who should be notified.

APPLICATIONS

⚠ **Warning:** A risk assessment has to be conducted by the user for the recovery of dusts and liquids in hazardous areas. The following recommendations cannot, in any case, supplant the conclusions of a risk assessment.

VAC-EX-AV-25SS pneumatic (air-operated) explosion-proof/dust ignition proof industrial vacuum cleaner is also designed for use in Class I, Division 1, Groups A, B, C & D, T6 and Class II, Division 1, Groups E, F & G hazardous locations as defined in NFPA 70 (U.S National Electrical Code and Canadian Electrical Code)

VAC-EX-AV-25SS is certified in conformance with Directive 94/9/EC for Group II and Category 2 and bears the following marking

CE Ex II 2 G/D c IIC T6 (85oC)

For this equipment a Voluntary Type Examination certificate No. LCIE 03 ATEX 6310, according to Directive 94/9/EC, has been obtained. The examination and tests results are recorded in confidential report No. 60010688-504549.

VAC-EX-AV-25SS is designed for Wet & Dry recovery.

APPLICATIONS IN POTENTIALLY EXPLOSIVE ATMOSPHERES IN PRESENCE OF SOLVENTS AND FLAMMABLE LIQUIDS

VAC-EX-AV-25SS pneumatic (air-operated) explosion-proof/dust ignition proof industrial vacuum cleaner is designed for use in Class I, Division 1, Groups A, B, C & D, T6 hazardous locations as defined in NFPA 70 (U.S National Electric Code and Canadian Electrical Code)

VAC-EX-AV-25SS is certified for Gas Group II C which representative gases are Hydrogen and Acetylene and their maximum surface temperature is T6 – 85°C.

⚠ **Warning:** The maximum surface temperature of the VAC-EX-AV-25SS vacuum cleaner must always be lower than the ignition temperature of the gas present in the hazardous area.

VAC-EX-AV-25SS can be used in areas where flammable liquids and solvents are present.

APPLICATIONS IN POTENTIALLY EXPLOSIVE ATMOSPHERES IN PRESENCE OF COMBUSTIBLE DUST

VAC-EX-AV-25SS pneumatic (air-operated) explosion-proof / dust ignition proof industrial vacuum cleaner is also designed for use in Class II, Division 1, Groups E, F & G hazardous locations as defined in NFPA 70 (U.S National Electric Code and Canadian Electrical Code)

VAC-EX-AV-25SS can be used to recover:

- carbon black, charcoal, coal or coke dusts
- flour, grain, wood, plastic, and chemicals

And, based on the application, (See note below):

- Explosive dusts (ex.: gun powder), combustible metal dusts, including aluminum, magnesium, and their commercial alloys, or other combustible dusts whose particle size, abrasiveness, and conductivity present an equivalent hazard

NOTE CONCERNING THE RECOVERY OF EXPLOSIVE DUSTS AND OF METAL DUSTS:

The applicable standards do not specifically regulate the recovery of combustible dusts and flammable liquids in hazardous areas.

For the recovery of explosive dusts and of metal dusts, in particular, a risk assessment shall be conducted by the user. The following recommendations cannot, in any case, supplant the conclusions of a risk assessment.

For the recovery of explosive dusts and of metal dusts:

- In the case explosive dusts or metal dusts are mixed with other kinds of dusts and the quantity of explosive dusts or metal dusts to recover is not significant (ex.: sanding of painted surfaces) the recovered dusts do not need to be rendered inert in a liquid bath.
- For the specific recovery of a significant quantity of explosive dusts or metal dusts or when these dusts are not mixed with other kind of dusts we recommend the use of an optional interceptor (model "IT EX") for the dusts to be rendered inert in a liquid bath.

WARNING CONCERNING THE INTERCEPTOR:

It is the user's responsibility to determine the appropriate liquid (water, oil, etc) to use to neutralize the metal dust in the interceptor.

⚠ **Warning:** DO NOT RECOVER ANY HOT EMBERS OR IGNITED DUSTS.

COMPRESSED AIR REQUIREMENTS

IMPORTANT: The compressed air has to be clean, dry and oil free to prevent blockage of the pneumatic system.

	Single Venturi	Twin Venturi
Minimum diameter of air supply hose and fittings	0.5" (12.7mm)	1" (25.4mm)
Input air pressure for ideal performance	80 psi (5.5 bars)	100 psi (6.9 bars)
Input air volume for ideal performance	45 cfm (76.5 cu. meters / hour)	100 cfm (170 cu. meters / hour)
Minimum compressor size	15 hp	25 hp

IMPORTANT: Do not downsize the compressed air fittings or air supply line. Downsizing the fittings will result in a reduction of the vacuum cleaner's performance.

IMPORTANT: Brass (or stainless steel) fittings are required to ensure spark free operation and to ensure ground continuity between vacuum cleaner and the compressed air supply.

PRE-USAGE INSTRUCTIONS AND IMPORTANT SAFETY PRECAUTIONS

⚠ **Warning:** The pneumatic explosion-proof vacuum cleaner must be grounded during use. (See Section "GROUNDING INSTRUCTIONS)

⚠ **Warning:** DO NOT OPERATE UNIT WITHOUT A PROPER GROUND SOURCE. This unit is designed to operate on a grounded air supply outlet. It is the responsibility of the user to ensure that the air supply outlet is grounded. A secondary grounding reel is available as an option for this Pneumatic Explosion-proof vacuum cleaner. This grounding reel may be used where a grounded air supply outlet is not available or is not reliable.

⚠ **Warning:** Vacuum cleaners can generate static electricity during use. To ensure that there is no static build up during operation, the vacuum cleaner unit and detachable tools and accessories are completely grounded and use special static-free materials. Any static charge developed is dissipated to ground through the static dissipating grounded air supply hose included with the vacuum cleaner unit.

⚠ **Warning:** Improper use of this vacuum cleaner will result in the voiding of the warranty.

⚠ **Warning:** Operation and service of this vacuum cleaner must only be carried out by trained personnel.

⚠ **Warning:** Use only original replacement parts from the manufacturer or from one of its authorized distributors. This equipment is certified for explosion-proof operation, only if used with supplied or recommended hose and tools. Any alteration to this equipment by a third party nullifies its certification.

a. Inspect the vacuum cleaner's static dissipating air supply hose before every use. Return to manufacturer for servicing if damaged. Use only static dissipating air supply hose supplied with the unit or purchased from the manufacturer.

b. Do not pull vacuum cleaner by the static dissipating air supply hose.

c. Turn off the vacuum cleaner and disconnect the static dissipating air supply hose before servicing or storing the pneumatic explosion-proof vacuum cleaner. Clean and service this vacuum cleaner **only in a NON-HAZARDOUS AREA**.

d. Always shut off main air supply and open ball valve on the vacuum to relieve the line pressure before disconnecting the static dissipating air supply hose.

e. The tank should be clean and dry before using the vacuum.

f. Do not pick-up anything that is burning or smoking, such as hot ashes, cigarettes or matches.

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

g. Do not use without appropriate filters in place.

h. Brass (or stainless steel) fittings are required to ensure spark free operation and to ensure ground continuity between vacuum cleaner and the compressed air supply

PRECAUTIONS FOR THE RECOVERY OF TOXIC / NUISANCE DUST

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

a. The vacuum cleaner must be equipped with a HEPA or ULPA 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.

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 prevent the build-up static electrical charge and to ensure that static electricity is discharged to ground. The build-up of static electricity could create a sparking hazard and an
ignition hazard.

This vacuum cleaner is equipped with a static dissipating air supply hose with brass fittings. It is the responsibility of the user to ensure that the compressed air supply outlet is grounded. If the grounding of the air supply outlet is questionable, or if a portable compressed is being used to power the pneumatic explosion-proof vacuum, a secondary grounding reel is available as an option for this pneumatic explosion-proof vacuum cleaner. The grounding reel may be used to connect the pneumatic explosion-proof vacuum cleaner to a secondary grounding source, such as a grounding pole, in the event that grounded air supply outlet is not available or if the pneumatic explosion-proof vacuum is being powered by portable compressor.

⚠ **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** 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 air supply outlet is not properly grounded or if the grounding is questionable.

TESTING FOR GROUND CONTINUITY

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

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

An ohm-meter is required to perform the following electrical continuity test. A reading of 10 ohms or less is satisfactory to ensure proper grounding and static dissipation.

a. Disconnect the static dissipating air supply hose from the compressed air supply.

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. Connect the static dissipating air supply hose, 25' (7.5 m) long or 50' (15 m) long, to the compressed air inlet on the vacuum cleaner.

e. Using the ohm-meter test for the electrical continuity of the vacuum cleaner from the end of the static dissipating air supply hose to the suction intake of the vacuum cleaner. A reading of 10 ohms or less is satisfactory to ensure proper grounding and static dissipation.

f. Using the ohm-meter test for the electrical continuity of the suction hose from one metallic end to the other. For 1.5" X 10' (3.8 mm X 3 m) or 1.5" X 15' (38 mm X 4.5 m) Kanaflex, EPDM or nitrile suction hoses, a reading of 10 ohms or less is satisfactory to ensure proper grounding and static dissipation.

PRECAUTIONS FOR THE RECOVERY OF LIQUIDS

IMPORTANT: This pneumatic explosion-proof vacuum cleaner is equipped with a floater mechanism which automatically cuts-off the suction when liquids in the recovery tank reach capacity levels. It is important to note that there may still be some liquids present in the suction hose after the suction is cut-off. Both extremities of the suction hose should be elevated in order to prevent liquids from spilling out. The suction hose should then be emptied by letting the liquids drip out into an appropriate receptacle.

IMPORTANT: Do not completely submerge the end of the suction hose (or attachment) in liquid. The explosion-proof vacuum cleaner requires a mixture of air and liquid in order to function properly. Completely submerging the suction hose in liquid will create a siphoning effect which will cause the vacuum cleaner to continue taking in liquid even after the floater has activated. This will cause the vacuum to over-fill and will cause fluid to flow out through the suction hose.

NOTE: If recovering liquid solutions that foam upon agitation, use a defoaming agent. Add the prescribed amount of de-foaming agent into the recovery tank in order to prevent foam from entering the powerhead.

OPERATING INSTRUCTIONS FOR LIQUID RECOVERY

Carefully read Section "PRECAUTIONS FOR THE RECOVERY OF LIQUIDS" before using this vacuum cleaner to recover liquids.

a. Disengage the latches and remove the powerhead from the recovery tank.

b. Remove the static dissipating cloth filters and the conductive poly liner from the recovery tank.

c. Install the stainless steel mesh filter on recovery tank. Make certain that the filter's gasket covers the entire circumference of the recovery tank.

d. Place the powerhead on the recovery tank and fasten the latches.

e. Connect the static dissipating air supply hose to the powerhead.

f. Remove the storage cap and connect the static dissipating suction hose to the recovery tank.

g. To turn on the vacuum cleaner, open the ball valve.

OPERATING INSTRUCTIONS FOR DRY RECOVERY

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

a. Disengage the latches and remove the powerhead from the recovery tank.

b. Remove the stainless steel mesh filter from the recovery tank.

c. Install the static dissipating pre-filter with elastic in recovery tank by overlapping the filter's elastic over the lip of the recovery tank. Make certain that the elastic covers the entire circumference of the recovery tank.

d. Install the static dissipating main filter in the recovery tank. Make certain that the filter's gasket covers the entire circumference of the recovery tank.

e. Place the powerhead on the recovery tank and fasten the latches.

f. Connect the static dissipating air supply hose to the powerhead.

g. Remove the storage cap and connect the static dissipating suction hose to the recovery tank.

h. To turn on the vacuum cleaner, open the ball valve.

MAINTENANCE AND CLEAN-UP PROCEDURE

a. Shut off main air supply and open the ball valve on the vacuum's powerhead to relieve the pressure in the static dissipating air supply hose.

b. Close the ball valve and disconnect the static dissipating air supply hose.

c. Release the three latches and remove the power head from recovery tank.

d. Remove filters from recovery tank.

e. Use the drain valve to empty collected liquids.

f. Empty collected materials into suitable container.

g. Empty and clean the inside of the recovery tank after every use.

⚠ **WARNING:** Flush the suction hose with water to remove built up dirt

h. Clean or rinse the static dissipating cloth filter regularly. A clogged filter restricts the airflow and reduces the vacuum's performance. If the static dissipating cloth filters are rinsed, make sure that they completely dry before reinstalling them in the vacuum cleaner.

i. Keep the static dissipating air supply hose clean and dry. This will help prevent blockage of the venturi jet which could reduce the vacuum cleaner's performance.

j. If the vacuum is used for liquid recovery, suspend the suction hose and let the remaining liquid drip out prior to storage.

STORAGE

a. It is recommended that the inside of the recovery tank be clean and dry when storing the pneumatic explosion-proof vacuum cleaner.

b. The suction intake must be closed using the storage cap provided with the vacuum cleaner

HOW TO PROPERLY CHANGE A HEPA/ULPA FILTER

NOTE: A second vacuum cleaner, sprays or other power sources are not required for this type of operation in our industry. Proper clothing is, however, required by OSHA for the health and safety of the operator.

In the Controlled Environment Industry for the recovery of designated substances, changing a filter is considered a low to moderate risk. However, a protective mask and gloves should be worn. The following procedure is valid for both electrically and pneumatically (air) operated vacuum cleaners.

Remove the 3 screws on the HEPA/ULPA housing using a Philips Screw Driver.

Gently remove the housing and place it on the floor.

Place a conductive poly liner around the now exposed HEPA/ULPA filter. Carefully remove the HEPA/ULPA filter from the back plate. Gently place the HEPA/ULPA filter into the poly liner. Gently twist the poly liner and then seal it with a tie wrap.

The HEPA/ULPA filter is now sealed inside of the poly liner and can be disposed of according to local governmental laws. (Be sure to only use conductive poly liners when removing the HEPA filter.)

HEPA FILTER REPLACEMENT

The best indication of a saturated HEPA filter is a noticeable drop in the performance of the vacuum cleaner. For users who wish to implement a conservative protocol for replacing the HEPA filter, it is recommended that the HEPA filter be replaced once a year.

⚠ **WARNING:** Proper clothing and respiratory equipment are required when replacing the HEPA filter.

IMPORTANT: Use only original brand replacement HEPA filters.

a. Turn off the vacuum cleaner and disconnect the static dissipating air supply hose.

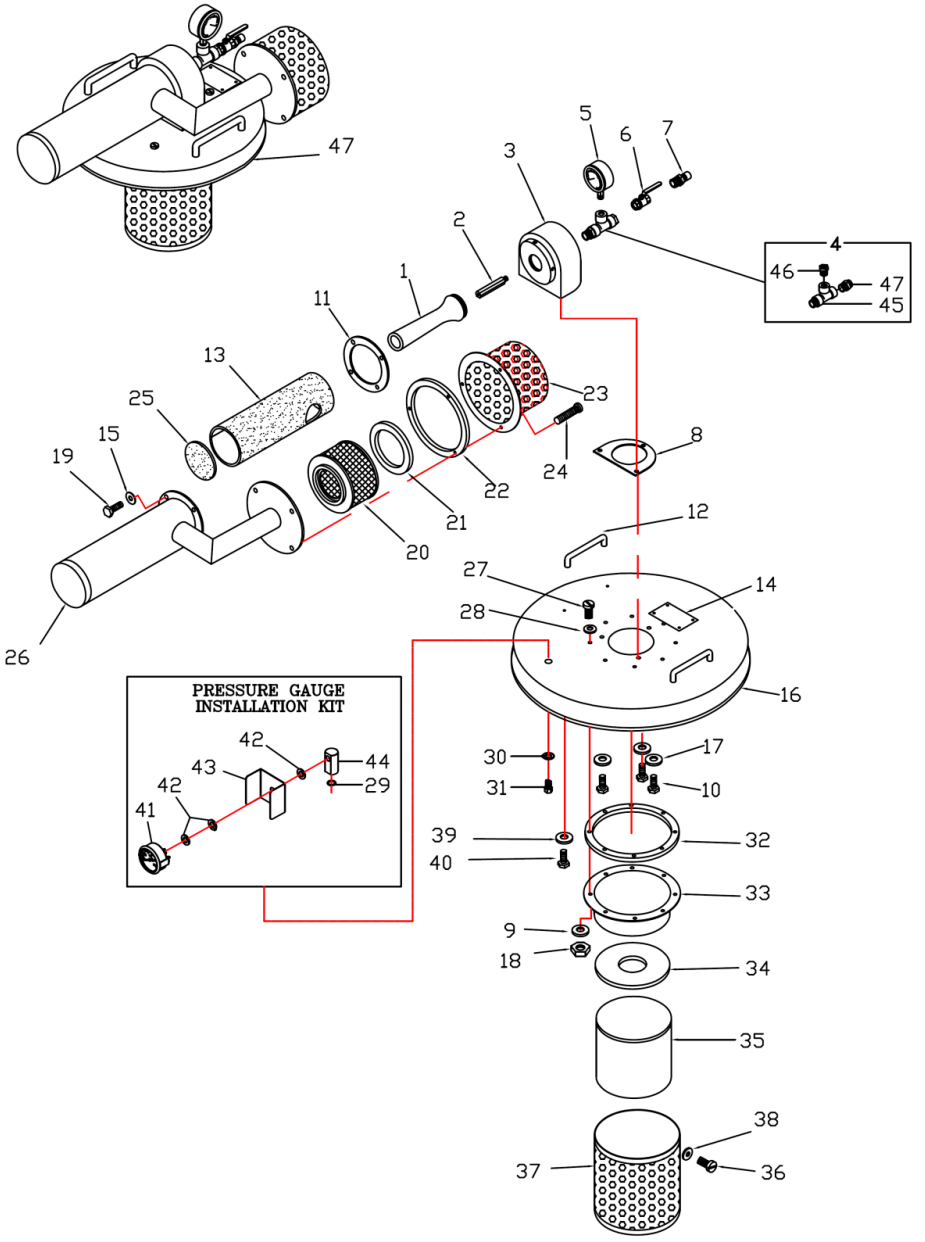
b. Remove the three bolts that hold the HEPA filter housing and remove the HEPA filter housing.

c. Remove the used HEPA filter and install a new HEPA filter.

d. Re-install the HEPA filter housing by securely fastening the three bolts that hold the HEPA filter housing in place.

e. Dispose of the contaminated filter according to applicable government or state regulations.

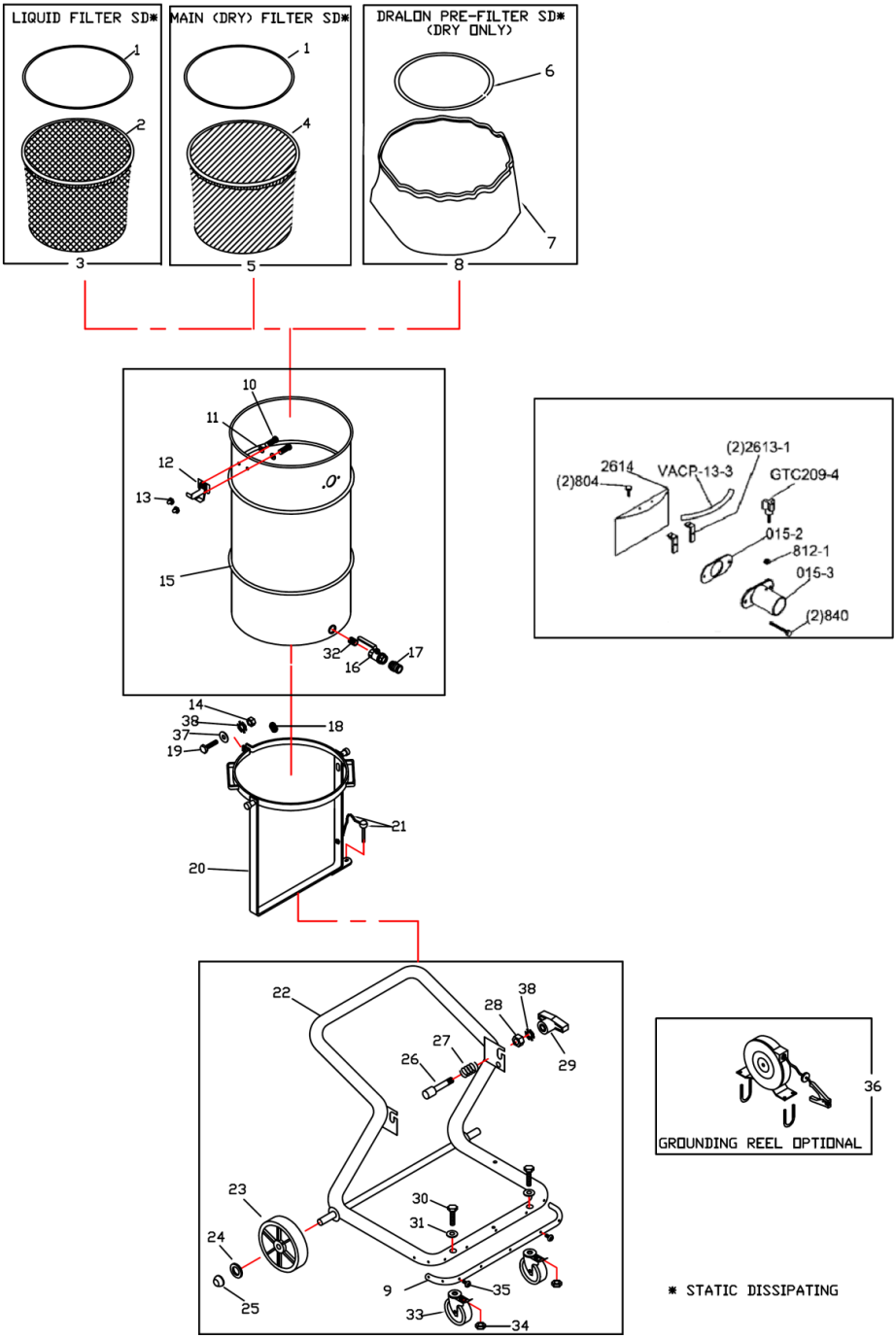
PARTS BREAKDOWN



PARTS LIST: Motor Head

Item#	Part#	Description	QTY
1	88-211081B	Blower Chamber Short 7" (17,7 cm) Lg For Cs-8, Casted Aluminium	1
2	88-211080A	Air Jet, S/S, 6mm	1
3	88-211076B	Dome Venturi, Cast Aluminum, Buffed (Standard)	1
4	88-211095	Connector Assembly 3 Way, 0.5" (1,27 cm) , Brass, For Single Venturi	1
5	88-211089	Pressure Gauge, Ss Housing, 0-160 Psi/Kpa, 2"-1/2" (5cm-1,27 cm) Dial, 1/4" (0,6 cm) Npt Bottom Connection	1
6	88-211094	Ball Valve Brass, 0.5" (1,27 cm) Full Bore, 1/2" (1,27 cm) Npt Female Thread For Single Venturi	1
7	88-211033	Male Adapt 0.5" (1,27 cm) Male Thread	1
8	88-211077	Gasket For Dome Venturi, Nitrile	1
9	88-211085	Flat Washer, M5, Ss	8
10	88-211078	Hex Screw, M6 X 16, Ss	3
11	88-211475	Gasket, For Silencer Housing	1
12	88-211055	Handle 4"-1/4" (10,1 cm-0,6 cm) Lg (Holes 5" Apart) (12,7 cm), Stainless Steel For Vac-Ex-Av-25ss & Vac-Ex-120-25ss	2
13	88-219380M	Gasket 9.81" X 12.875" X 1/4" (24,9 cm x 32,7 cm x 0,6 cm), Die-056, Black Nitrile	1
14	88-211096G	Name Plate Vac-Ex-Av-25ss Atex W/ Pneumatic Info Single Venturi, Aluminum	1
15	88-211587	Seal Washer # 8	3
16	88-211137	Lid For Vac-Ex-Av-25ss , Stainless Steel	1
17	88-211130	Seal Washer, 1/4" (0,6 cm) (Bartite 1/4)	3
18	88-211092	Hex Nut, M5, Ss	8
19	88-211050	Bolt,Pan Phillips, M5 X 16,S/S	3
20	88-211027B	Hepa Filter 99.99% Efficiency On 0.3 Micron	1
21	88-213068	Gasket 4"-1/4" (10,1 cm x 0,6 cm) Od X 2-3/4" Id X 1/4" Thick White Nitrile For 2-1/2" Part F Camlock Intake	1
22	88-211201	Gasket For External Hepa Housing	1
23	88-211512C	Hepa Housing External (No Deflector Plate), Stainless Steel	1
24	88-211050	Bolt, Pan Phillips, M5 X 16, S/S	3
25	88-219381	Round Gasket 4.25" Od X 1/4", Die-057, Black Nitrile	1
26	88-214885	Silencer Housing With Plate, S/S	1
27	88-211050	Bolt,Pan Phillips, M5 X 16,S/S	8
28	88-211545	Seal Washer, #10 (Bartite)	8
29	88-218214	O-Ring, 1/2 X 7/8 X 3/16, Buna-N 70	1
30	88-214574	Bonded Sealing Washer, Screw Size; 1/2" (1,27 cm), 18-8 S/S	1
31	88-219171	Support Fitting, Brass 360	1
32	88-211532	Gasket, Lower Housing Vac-Ex-Av-25ss	1
33	88-211533	Lower Housing For Vac-Ex-Av-25ss	1
34	88-211100	Floater Gasket, Nitrile Foam	1
35	88-211463A	Floater Aluminum 8" (20,3)	1
36	88-211051	Bolt Pan Philips M5 X 8 Ss	3
37	88-211536	Floater Cage, S/S, 8" (20,3 cm) Dia. X 10" (25,4 cm) For Vac-Ex-120-25ss /Vac-Ex-Av-25ss	1
38	88-211085	Flat Washer, M5, Ss	3
39	88-211587	Seal Washer # 8 (Bartite)	4
40	88-215867	Truss Head Phillips Machine Screw, 8-32 Thread, 1/2" (1,27 cm) Length, 18-8 Ss	4
41	88-212987	Vacuum Gage, 0 - 500 Mbar (0 - 200" H2o) (0-508 cm), 1/4" (0,6 cm) M-Npt Connection	1
42	88-213966	Flat Washer White Nylon .514" (1,3 cm) Id , .935" (2,3 cm) Od, .097" (0,24) Thk	3
43	88-214325	Protector Plate For Pressure Gauge S/S	1
44	88-219170	Gauge Support, Aisi-303	1
45	88-211095A	3-Way Connector (Tee) 0.5" (1,27 cm)	1
46	88-211095B	Reducer Bushing 1/2" To 1/4" (1,27 cm - 0,6 cm)	1
47	88-211095C	Hex Nipple 0.5" (1,27 cm) Npt Brass	1

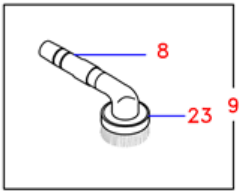
PARTS BREAKDOWN: FILTER AND COLLECTION TANK



PART LIST FOR : Filter and Collection Tank

Item#	Part#	Description	QTY
1	88-211146	Ring For Filter, 15", (38,1 cm) Galvanized	2
2	88-211147	Liquid Filter Only, Sd*, For 10/15/25 Gallon (37,8/56,7/75.7 L) Exp Proof	1
3	88-211010	Liquid Filter Assembly Sd* For 10/15/25 Gal (37,8/56,7/75.7 L) Exp Proof Vac	1
4	88-211148	Main Filter Only Static Dissipating For 10/15/25 Gallon (37,8/56,7/75.7 L) Explosion-proof Vacs	1
5	88-211013	Main Filter Assembly Static Dissipating For 10/15/25 Gallon (37,8/56,7/75.7 L) Explosion-proof Vacs	1
6	88-211224B	Ring For Filter, 6", (15,2 cm) Galvanized	1
7	88-212007	Pre-Filter Only Sd* For 10,15,25 Gallon (37,8/56,7/75.7 L) Exp Proof Vacuums	1
8	88-212008	Pre-Filter Assembly Sd* For 10,15,25 Gallon (37,8/56,7/75.7 L) Exp Proof Vacuums	1
9	88-211054	Rubber Bumper, 30" Long, For 15/25 Gallon (37,8/56,7/75.7 L) Tc Frame	Opt
10	88-214375	Truss Head Phillips Machine Screw, 10-32 Thread, 3/8" (0,95 cm) Length, 18-8 Ss	6
11	88-211545	Seal Washer, #10 (Bartite)	6
12	88-211515	Latch S/S	3
13	88-213792	Hex Nut, 10-32, S/S	6
14	88-211134	Hex Nut, M6,Ss	1
15	88-211162	Drum Ss304 25gal	1
16	88-211157	Drain Valve, S/S 316, 3/4" (1,9 cm) 2 Pcs Full Port Ball 1000 #Wog W/ Lockable Handle	1
17	88-381098	Intake Coupler, Alum., 3/4" (1,9 cm) Dia.	1
18	88-213977B	Socket Set Screw Cup Point M6 X 16 S/S	1
19	88-211075	Bolt Pan Phil., M6 X 25, Ss	1
20	88-211143B	Tc Drum Support 25 Gal (75,7 L)	1
21	88-211498A	Pin (S/S 3-1/4 X 1/4 Dia) And Ball Knob Assembly For Tc Drum Support	1
22	88-211144B	Tilt Cart Frame Only For 15/25 Gallon (56,7/75.7 L) Models,	1
23	88-211145B	Wheel 8" (20,3 cm) Aluminum Anti-Static, Blue	2
24	88-211109	Flat Washer, 5/8" (0,625 cm)	2
25	88-211403	Push Nut Cap For 5/8" (0,625 cm) Diameter Shaft	2
26	88-211115A	Lock Pin 9/16" X 3" (1,4 cm x 7,6 cm) Zinc	1
27	88-211116	Spring, #22 X 1" (2,5 cm)	1
28	88-211117	Hex Nut, 1/4"-20" (0,6-50,8 cm)	1
29	88-211696M	T-Knob W/Insert 1/4" - 20" (0,6-50,8 cm)	1
30	88-216804	Hex Bolt, M12" X 50" (30,46 cm x 127 cm), Zinc Plated	2
31	88-213438	Washer, 5/64 X 1" Od X 7/16" (0,17 cm x 1 cm) Id, Zinc Plated	2
32	88-211156	Nipple, Ss, 3/4" X 1.5" (1,9 cm x 3,8 cm)	1
33	88-214995	Wheel 80mm Conductive, Black W/Yellow Tag, With Bolt M12" X 30" (30,4 x 76,2 cm), With Brake	2
34	88-216508	Hex Nylon-Insert Locknut, M12" (30,4 cm), Zinc Plated	2
35	88-211353	Screw, #8x3/4" (1,9 cm), Self-Tapping S/S	9
36	88-211191	Grounding Reel, 50' (15,2 m), With Stainless Steel Cable	Opt
37	88-211113	Spring Washer, M6" (15,2 cm) Or 1/4" (0,6 cm), Ss	1
38	88-211074	Flat Washer, M6" (15,2 cm), Ss	2

PARTS LIST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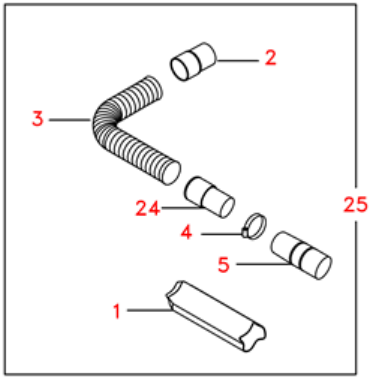
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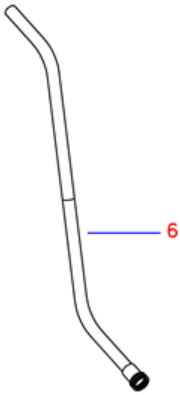
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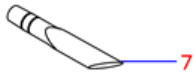
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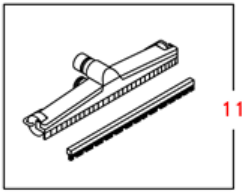
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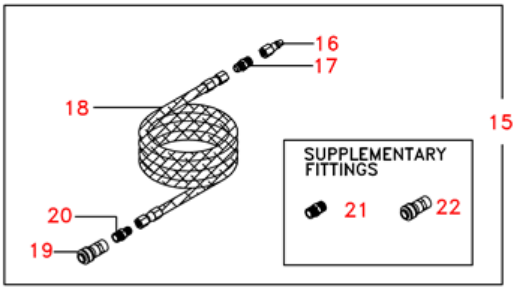
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SUPPLEMENTARY FITTINGS
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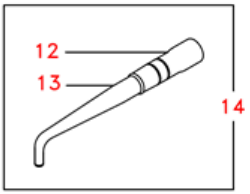
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PARTS BREAKDOWN

Item#	Part#	Description	QTY
1	88-Sup226	2" Black Shrink Tubing, Tbg, Hs 105, Pvc, 2" (5 cm), Blk, Ul /Ft	1
2	88-381395	Hose Cuff, Static Conductive With S/S Ring, For 1.5" (38mm) Wire Supported Hose (Kanaflex)	1
3	88-381398	Kanaflex Suction Hose, Sd*, Ø1.5" (Ø38mm), Conductive, Abrasion Resistant, /Ft	10'
4	88-Sup150A	Center Punch Clamp #10 Stainless Steel (For 2" Hose) (5 cm Hose)	1
5	88-Gtc-SLVS	Metal Sleeve	1
6	88-381364A	Wand Assembly, (2pcs), Stainless Steelw/Aluminum Attachment, W/ Taper For Use W/Hose Cuff W/Ri	1
7	88-381372D	Crevice Tool, Ø1.5" X 11" (Ø38mm X28cm), Stainless Steel, For Use With Hose Cuff With Ring	1
8	88-381147D	Connector, Male, Expander, Stainless Steel, For Use With Pressure Fit Hose Cuff W/Ring	1
9	88-381185DA	Dusting Brush, Aluminum Sd*, 5" (125mm), With Conductive Bristles, For Use W/Hose Cuff	1
11	88-381236	Universal Tool, Sd* W/Conductive Brush Strips, Rubber Blades, Brass Axle & Wheels, Ø1.5" X18" (3,8 cm x 45,7 cm) , Al	1
12	88-381147D	Connector, Male, Expander, Stainless Steel, For Use With Pressure Fit Hose Cuff W/Ring	1
13	88-383462M	Conical Nozzle Only With Curved Tip, Ø40mm X 25cm, Conductive Rubber	1
14	88-383462D	Conical Nozzle Asmbly W/Curved Tip 10"(25cm) Conductve Rubber For Hose Cuff W/Ring	1
15	88-211030	Air Supply Hose Assembly Sd*, Ø0.5" X50' (Ø12,7mm X15m), W/1 Male Quick Disc. & 1 Female Quick Disc.	1
16	88-211033A	Quick Disconnect, Male, Ø0.5" (Ø12,7mm) With Ø0.5" (12,7mm) Female Thread, Brass	1
17	88-211030A	Male Adaptor 0.5" (12,7 cm) Brass For Air Line Hose With Male Thread	1
18	88-211030B	Air Supply Hose Only Sd*, Ø0.5" X 50' (Ø12,7mm X 15m), With Male Npt (Brass) On Both Ends	1
19	88-211033B	Quick Disconnect, Female, Ø0.5" (Ø12,7mm) With Ø0.5" (12,7mm) Female Thread, Brass	1
20	88-211030A	Male Adaptor 0.5" (12,7 cm) Brass For Air Line Hose With Male Thread	1
21	88-211095C	Hex Nipple 0.5" (12,7 cm) Npt Brass	1
22	88-211033B	Quick Disconnect, Female, Ø0.5" (Ø12,7mm) With Ø0.5" (12,7mm) Female Thread, Brass	1
23	88-381185C	Dusting Brush Aluminum 5" (12,7 cm), No Bristle	1
24	88-381394	Hose Cuff Expander For 1.5"(38mm) Kanaflex Suction Hose To 2"(50mm) Tool Coupling, Conductive	1
25	88-381400GW	Kanaflex Suction Hose Asmbly, 1.5" X 10' (3,8 cm x 3 m) W/ Cuffw/ Ring On One End &Gtc-Slvs On Other	1

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