

OPERATION AND MAINTENANCE MANUAL

EXPLOSION PROOF / DUST IGNITION PROOF INDUSTRIAL VACUUM CLEANER

MODELS: EXP1-XX (YY) "DT"

DETACHABLE TANK SERIES FOR DRY RECOVERY ONLY



File number: 090716

Designed and Certified for use in
Class I - Group D, T3C and
Class II - Groups E, F & G Hazardous Locations
as defined in the National Electrical Code (NFPA 70)

READ ALL INSTRUCTIONS BEFORE OPERATING, CLEANING OR SERVICING IMPORTANT - SAVE THESE INSTRUCTIONS

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JANUARY 13, 2015

1.0 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 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.

EXP1-xx (yy) explosion proof vacuum / dust ignition proof vacuum cleaners are certified for use in Class I - Group D, T3C and Class II - Groups E, F & G Hazardous Locations as defined in the NFPA 70 (National Electrical Code and Canadian Electrical code).

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

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

The complete EXP1-xx (yy) vacuum cleaners series can be used in areas where solvents are present.

WARNING: EXP1-xx (yy) DT vacuum cleaners series cannot be used to recover flammable liquids and solvents:

2.2. APPLICATIONS IN POTENTIALLY EXPLOSIVE ATMOSPHERES IN PRESENCE OF COMBUSTIBLE DUST

EXP1-xx (yy) vacuum cleaners 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

IMPORTANT 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 kind 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 EXP1-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.

3.0 PRE-USAGE INSTRUCTIONS AND IMPORTANT SAFETY PRECAUTIONS

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. 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. The explosion proof vacuum cleaner is supplied without an electrical plug. It is the user's responsibility to install a suitable explosion proof plug certified for the hazardous locations area classification. The explosion proof plug should be installed by a qualified electrician only.

- c. Inspect the vacuum cleaner's electrical cable before each use. Return to manufacturer for servicing if cable is damaged.
- d. Do not pull vacuum cleaner by the power supply cable.
- e. Turn off the vacuum cleaner and disconnect the power supply before cleaning or servicing this vacuum cleaner. Clean and service this vacuum cleaner only in a NON-HAZARDOUS AREA.

WARNING: To reduce the risk of electric shock - use indoors only.

- f. The tank should be clean and dry before using the vacuum.
- g. 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.

- h. Connect to a properly grounded outlet only. See Grounding Instructions.
- i. Do not use without appropriate filters in place.

4.0 PRECAUTIONS FOR THE RECOVERY OF TOXIC / NUISANCE DUST

DANGER: If the explosion proof 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 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.

5.0 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 explosion proof vacuum cleaner is supplied without an electrical plug. It is the user's responsibility to install a suitable plug certified for the hazardous locations area classification.

The explosion proof plug should be installed by a qualified electrician only. 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 to each use (see section 6: 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 sparkfree 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.

6.0 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 from the manufacturer or

from one of its authorized distributors.

a. 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.

- b. Disconnect the vacuum cleaner from the electrical outlet.
- c. 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.
- d. Disconnect the suction hose from the vacuum cleaner.
- e. Using the ohm-meter test for the electrical continuity of the vacuum cleaner from the ground pin on the electrical plug to the suction intake of the vacuum cleaner. A reading of 10 ohms or less is satisfactory to ensure proper grounding and static dissipation.

7.0 OPERATING INSTRUCTIONS

WARNING: Always wear eye protection when sanding or grinding even if

using vacuum assisted tools.

WARNING: It is the users responsibility to determine the type of protective

clothing and respiratory equipment required.

IMPORTANT: Carefully read and follow the instructions provided with the

vacuum assisted sander or grinder to ensure proper operation.

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

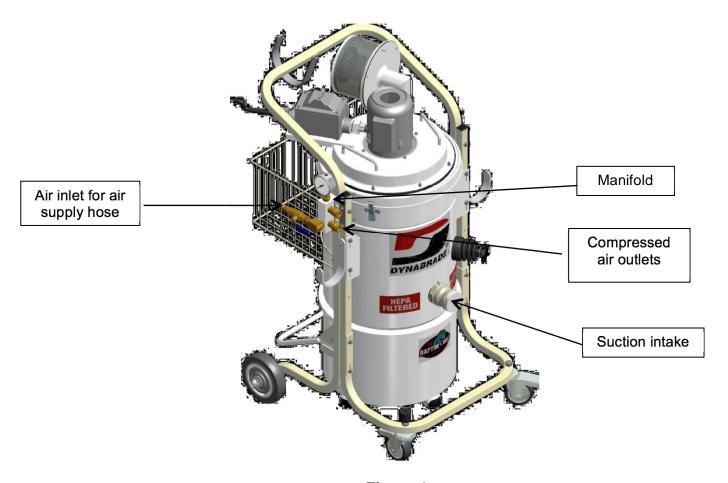


Figure 1

- a. Remove the detachable recovery tank from the vacuum cleaner
- b. Place the poly liner at the bottom of the detachable recovery tank and pull the top of the poly liner over the lip of the recovery tank. Please note that a poly liner retainer plate with clip is available to hold down the poly liner.
- c. Place back the detachable recovery tank on the vacuum cleaner
- d. Disengage the latches and remove the powerhead from the middle ring.
- e. If using an optional pre-filter place it in the middle ring by overlapping the filter's elastic over the lip of the middle ring. Make certain the elastic covers the entire circumference of the middle ring.
- f. Install the static dissipating main filter in the middle ring. Make certain that the filter's gasket covers the entire circumference of the middle ring.
- g. Place the powerhead on the middle ring and fasten the latches.
- h. Connect a static dissipating air supply hose to the air inlet on the manifold (see Fig. 1) placed on the side of the vacuum cleaner
- Connect one or two suction / air supply hose(s) to the suction intake(s) (see Fig.

 on the vacuum cleaner. If using only one suction hose with the vacuum cleaner, close the unused suction intake with the storage plug to prevent loss of suction.
- j. Connect the static dissipating suction / air supply hoses to the compressed air outlet on the manifold (see Fig. 1).
- k. Connect the vacuum assisted sander or grinder to the static dissipating suction / air supply hose. Follow the instructions provided with the vacuum assisted sander or grinder to ensure proper operation.
- I. Connect the vacuum to a grounded electrical outlet.
- m. To turn on the vacuum cleaner, turn switch to the ON position.

8.0 MAINTENANCE AND CLEAN-UP PROCEDURE

- a. Turn off the vacuum cleaner and disconnect the power supply cable from the electrical power supply.
- b. Release the three latches and remove the power head from recovery tank.
- c. Remove filters from recovery tank.
- d. Empty collected materials into suitable container.
- e. Empty and clean the inside of the recovery tank after every use.

WARNING: Flush the suction hose with water to remove build up dirt

- f. Clean or rinse the static dissipating cloth filters 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.
- g. Inspect the vacuum cleaner's electrical cable before each use. Return to manufacturer for servicing if cable is damaged.

9.0 TRANSPORT AND HANDLING

EXP1-xx (yy) series vacuum cleaners are packaged on wood pallets and can be transported and handled with a power lift truck.

EXP1-xx (yy) series vacuum cleaners are portable vacuum cleaners on wheel carts that can be easily transported when necessary.

10.0 STORAGE

- a. It is recommended that the inside of the recovery tank be clean and dry when storing the explosion proof vacuum cleaner.
- b. The suction intake must be closed using the storage cap provided with the vacuum cleaner.

11.0 HOW TO PROPERLY CHANGE A HEPA/ULPA FILTER (RE SERIES)

NOTE: A second vacuum cleaner, sprays or other power sources <u>are not</u>

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 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. (Conductive poly liners are available.)

12.0 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.

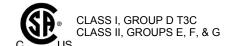
WARNING: Proper clothing and respiratory equipment are required when replacing the HEPA filter.

IMPORTANT: Use only original brand replacement HEPA filters.

- a. Turn off the vacuum cleaner and disconnect the power supply cable from the electrical power supply.
- 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.

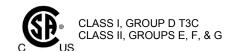
13.0 VACUUM CLEANER DISPOSAL

The vacuum cleaner is made of recyclable material. Please refer to the parts list and contact your local authorities for more information.

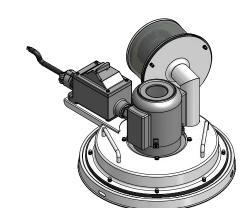


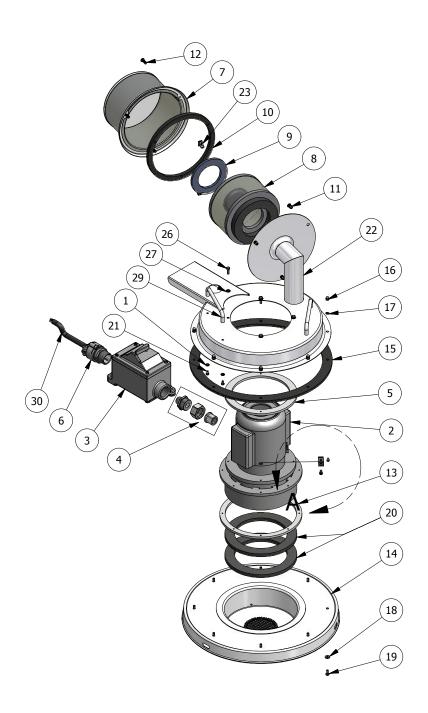
DYNABRADE EXP1-20 DT MFS CSA

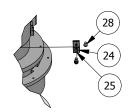




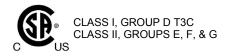
DYNABRADE EXP1-20 DT MFS CSA POWER HEAD





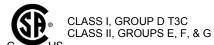


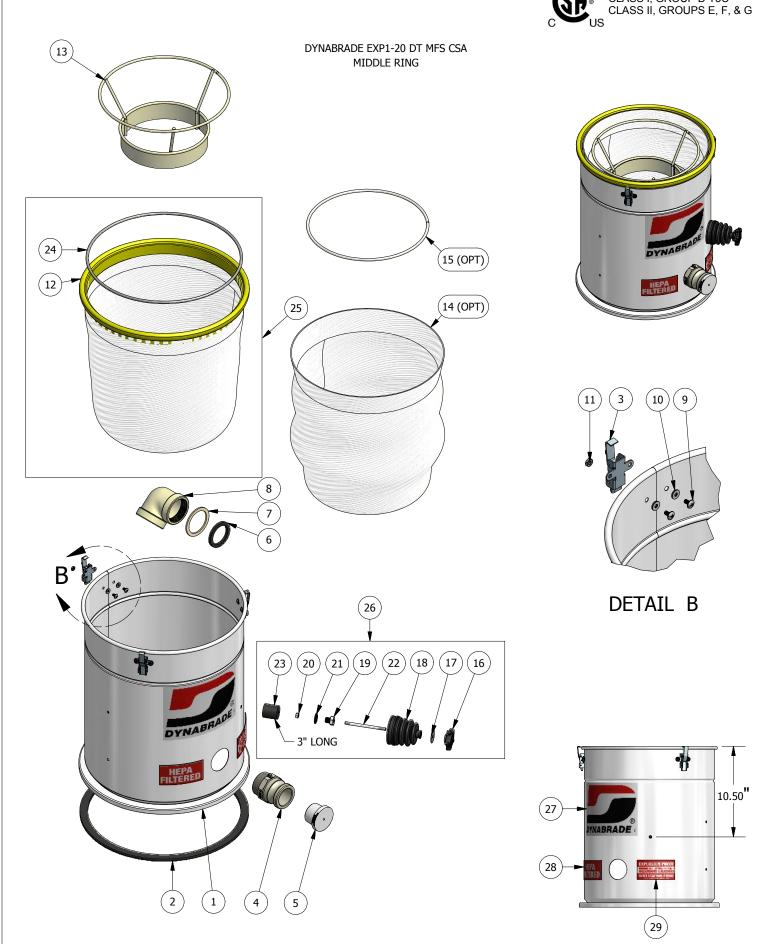
DETAIL A

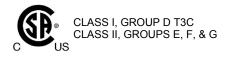


DYNABRADE EXP1-20 DT MFS CSA POWER HEAD

		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62620	SEAL WASHER	4
2	62379	MOTOR	1
3	62384	SWITCH	1
4	62383	CONNECTOR	1
5	62381	GASKET	1
6	62385	CORD CONNECTOR	1
7	62616	HEPA HOUSING EXTERNAL	1
8	62585	HEPA FILTER	1
9	62428	GASKET	1
10	62386	GASKET	1
11	62442	RIVET NUT	3
12	62352	BOLT	3
13	62380	GASKET	1
14	62378	LID	1
15	62382	GASKET	1
16	62372	ACORN HEX NUT	8
17	62364	SPRING WASHER	8
18	62399	SEAL WASHER	8
19	62360	BOLT	8
20	62366	FLOATER GASKET	2
21	62506	SCREW	4
22	62405	EXHAUST HOUSING	1
23	62437	CLIP	2
24	62422	BOLT COVER BRACKET	4
25	62472	SCREW	4
26	62590	BOLT	4
27	62355	SEAL WASHER	4
28	62747	RIVET	4
29	62354	HANDLE	2
30	62608	POWER CABLE	15M

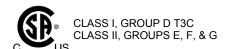






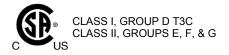
DYNABRADE EXP1-20 DT MFS CSA MIDDLE RING

	PARTS LIST		
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62470	FILTER CHAMBER	1
2	62746	GASKET	1
3	62397	LATCH	3
4	62615	CAMLOCK	1
5	62649	PLUG	1
6	62369	GASKET	1
7	62398	SHIM WASHER	1
8	62603	ELBOW	1
9	62457	SCREW	6
10	62399	SEAL WASHER	6
11	62441	HEX NUT	6
12	62669	MAIN FILTER	1
13	62664	WIRE CAGE	1
14	62482	PREFILTER	OPT
15	62392	RING	OPT
16	62459	STAR SHAPE KNOB	1
17	62628	WASHER	1
18	62485	BOOT ONLY	1
19	62648	NUT	1
20	62648	NUT	1
21	62463	SEALING WASHER	1
22	62429	THREADED SHAKER ROD	1
23	62748	RUBBER TUBE	1
24	62374	RING FOR FILTER	1
25	62668	MAIN FILTER ASSEMBLY	1
26	62427	SHAKER PLUNGER ASSEMBLY	1
27	12412	LARGE DYNABRADE LABEL	1
28	96618	HEPA FILTERED LABEL	1
29	96619	EXPLOSION PROOF LABEL	1



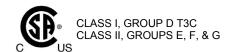
DYNABRADE EXP1-20 DT MFS CSA TANK



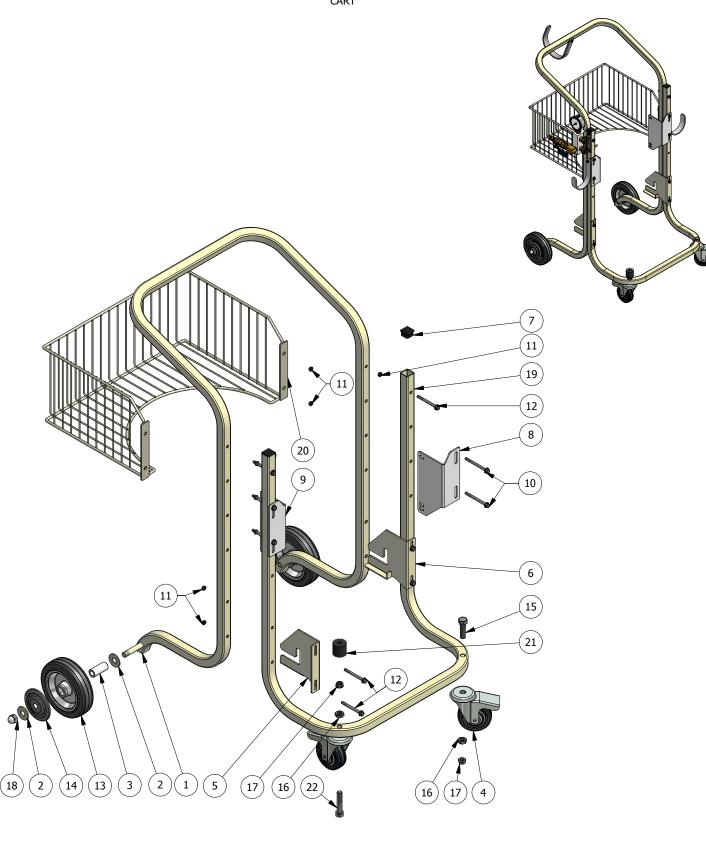


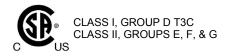
DYNABRADE EXP1-20 DT MFS CSA TANK

		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62528	TANK	1
1B	62529	TANK	OPT
2	62514	RETAINING RING	2
3	62700	SPACER	2
4	62694	LIFTING HANDLE	1
5	62702	FLAT WASHER	2
6	62515	SPACER	2
7	62663	PIVOT	2
8	62389	BALL CASTER	4
9	62399	SEAL WASHER	16
10	62457	SCREW	16
11	62441	HEX NUT	16
12	62454	SEAL WASHER	2
13	62480	LOCKNUT	2
14	62440	POLY LINER RETAINER PLATE	OPT
15	62636	CONDUCTIVE POLY LINER	OPT
15B	62635	CONDUCTIVE POLY LINER	OPT
16	96616	RAPTOR VAC SYSTEMS LABEL	1



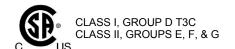
DYNABRADE EXP1-20 DT MFS CSA CART





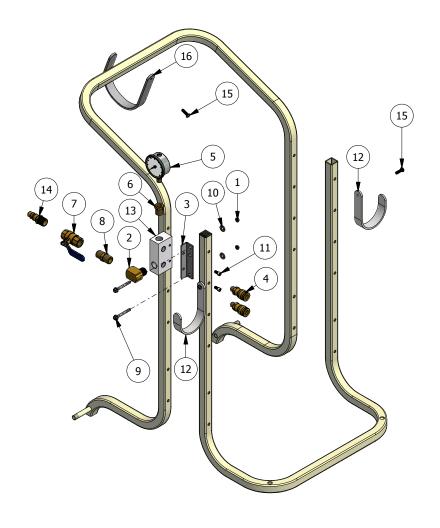
DYNABRADE EXP1-20 DT MFS CSA CART

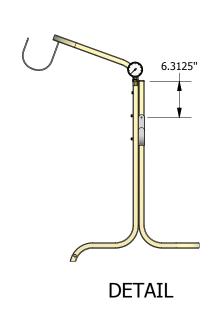
		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62691	FRAME	1
2	62660	FLAT WASHER	4
3	62693	BUSHING	2
4	62476	WHEEL	2
5	62698	LEFT CAM BRACKET	1
6	62697	RIGHT CAM BRACKET	1
7	62509	PLUG	2
8	62695	RIGHT BRACKET	1
9	62696	LEFT BRACKET	1
10	62511	SCREW	4
11	62458	FLANGE NUT	13
12	62510	SCREW	6
13	62474	WHEEL	2
14	62666	THREAD GUARD	2
15	62512	HEX BOLT	1
16	62406	LOCKWASHER	2
17	62504	LOCKNUT	2
18	62513	ACORN CAP NUT	2
19	62692	FRAME	1
20	62665	TOOL BASKET	1
21	62540	RUBBER BUMPER	1
22	62518	HEX BOLT	1

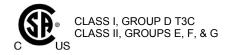


DYNABRADE EXP1-20 DT MFS CSA CART CONNECTION



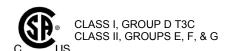




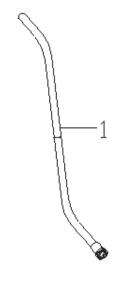


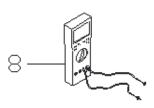
DYNABRADE EXP1-20 DT MFS CSA CART CONNECTION

		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62458	FLANGE NUT	2
2	62596	90 DEGREE ELBOW	1
3	62723	BRACKET	1
4	62548	QUICK DISCONNECT, FEMALE	2
5	62362	PRESSURE GAUGE	1
6	62598	REDUCER BUSHING	1
7	62365	BALL VALVE BRASS	1
8	62599	HEX NIPPLE	1
9	62699	SCREW	2
10	62481	FLAT WASHER	2
11	62419	SCREW	2
12	62705	CABLE HOOK	2
13	62556	MANIFOLD	1
14	62351	MALE QUICK DISCONNECT	1
15	62754	HEX BOLT	3
16	62755	HOSE HOOK	1

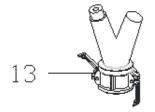


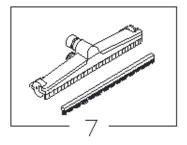
DYNABRDE EXP1-20 DT MFS CSA ACCESSORIES

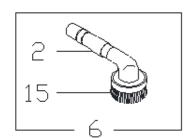


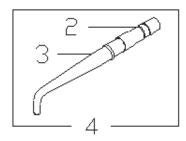


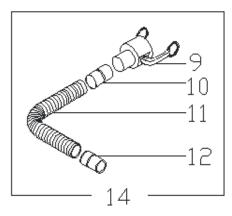


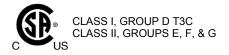












DYNABRDE EXP1-20 DT MFS CSA ACCESSORIES

	PARTS LIST		
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62732	WAND ASSEMBLY	1
2	62728	CONNECTOR	1
3	62737	CONICAL NOZZLE	1
4	62736	CONICAL NOZZLE ASMBLY	1
5	62733	CREVICE TOOL	1
6	62730	BRUSH	1
7	62573	UNIVERSAL TOOL	1
8	62591	MULTIMETER	1
9	62581	CAMLOCK	1
10	62577	HOSE CUFF EXPANDER	1
11	62579	KANAFLEX SUCTION HOSE	10'
12	62578	HOSE CUFF	1
13	62583	WYE CONNECTOR	1
14	62734	SUCTION HOSE ASSEMBLY	1
15	62729	BRUSH	1



OPERATION AND MAINTENANCE MANUAL

Explosion Proof / Dust Ignition Proof Vacuum Cleaner System Pneumatically (Air) Operated

MODEL SS-IT EX CFE

FOR THE RECOVERY OF EXPLOSIVE DUSTS AND COMBUSTIBLE METAL DUSTS

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

READ ALL INSTRUCTIONS BEFORE OPERATING, CLEANING OR SERVICING IMPORTANT - SAVE THESE INSTRUCTIONS

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January 13, 2015

1.0 INSPECTION

Carefully unpack and inspect your Explosion Proof/Dust Ignition Proof vacuum cleaner for shipping damage. This equipment has been 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.

Europe

Model SS-IT EX CFE is an explosion proof / dust ignition proof vacuum cleaner system, pneumatically (air) operated for use in potentially explosive atmospheres classified ATEX Zones 1 and 2 for Gas and ATEX zones 21 and 22 for Dust.

SS-IT EX CFE vacuum cleaner is certified in conformance with Directive 94/9/EC for Group II and Category 2 and bear the following marking

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

North-America

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

SS-IT EX CFE explosion proof / dust ignition proof vacuum cleaner system, pneumatically (air) operated is designed to recover conductive and explosive dust. Dust is recovered into a liquid bath that renders dust inert in the interceptor.

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.

In Particular, it is the user's responsibility to conduct a risk assessment in regard to the compatibility of the dusts recovered and the flammable gases, vapors or liquids and other combustible dusts present in the hazardous location.

WARNING: It is the user's responsibility to determine the appropriate

liquid (water, oil, etc) to be used to neutralize the recovered

dust.

WARNING: This equipment is designed for the recovery of dry materials

only. Do not recover liquids.

2.1. APPLICATIONS IN POTENTIALLY EXPLOSIVE ATMOSPHERES IN PRESENCE OF GAS

Europe

SS-IT EX CFE vacuum cleaner can be used in **Zone 1** classified areas in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

SS-IT EX CFE vacuum cleaner can be used in **Zone 2** classified areas in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

SS-IT EX CFE vacuum cleaner is certified for Gas Group II C which representative gases are Hydrogen and Acetylene and their maximum surface temperature is T6 – 85°C.

North-America

SS-IT EX CFE vacuum cleaner is designed for use in Class I, Division 1 - Groups A, B, C and D, T6 which representative gases are Acetylene and Hydrogen, Hazardous Locations, where ignitable concentrations of flammable gases, vapors or liquids can exist all of the time or some of the time under normal operating conditions.

WARNING: The maximum surface temperature of SS-IT EX CFE vacuum cleaner (85°C/185°F) must always be lower than the ignition

temperature of the gas present in the hazardous area.

WARNING: It is the user's responsibility to conduct a risk assessment in

regard to the compatibility of the dusts recovered and the flammable gases, vapors or liquids and other combustible

dusts present in the hazardous location.

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

SS-IT EX CFE vacuum cleaner can be used in areas where solvents and flammable liquids are present.

WARNING: SS-IT EX CFE vacuum cleaner cannot be used to recover

flammable liquids and solvents.

2.3. APPLICATIONS IN POTENTIALLY EXPLOSIVE ATMOSPHERES IN PRESENCE OF COMBUSTIBLE DUST

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 full Process Hazard Analysis has to be conducted by the user. The following recommendations cannot, in any case, supplant the conclusions of a risk assessment.

Europe

SS-IT EX CFE vacuum cleaner can be used in **Zone 21** classified areas in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.

SS-IT EX CFE vacuum cleaner can be used in **Zone 22** classified areas in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but – if it does occur – will persist for a short period only.

North-America

SS-IT EX CFE vacuum cleaner is designed for use in Class II, Division 1 - Groups E, F, G, which representative dusts are metals, coal and grain, Hazardous Locations, where ignitable concentrations of combustible dust can exist all of the time or some of the time under normal operating conditions.

SS-IT EX CFE can be used to recover into an immersion bath:

- combustible metal dusts especially when two or more types of dust are combined together, including aluminum, magnesium, zirconium, and their commercial alloys, perchlorate powder or other combustible dusts whose particle size, abrasiveness, and conductivity present an equivalent hazard
- unspent gun powder, sulphur, heat powder, anode powders or any other explosive dust.

WARNING: It is the user's responsibility to determine the appropriate

liquid (water, oil, etc) to be used to neutralize the recovered

dust.

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

WARNING: It is the user's responsibility to conduct a risk assessment in

regard to the compatibility of the dusts recovered and the flammable gases, vapors or liquids and other combustible

dusts present in the hazardous location.

3.0 COMPRESSED AIR REQUIREMENTS

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

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

4.0 SPECIAL CONDITION FOR SAFE USE IN REGARD TO THE HYDROGEN RELIEF VALVE (OPTIONAL)

A hydrogen relief valve can be installed as an optional safety feature to prevent hydrogen from building up in the interceptor.

Any gas which may develop escapes through the degasification valve. The valve is "forced" open (spring return) when the vacuum cleaner stops and close again automatically during suctioning.

IMPORTANT: Check that the hydrogen relief valve is working properly

before use. Do not perform this check when the vacuum cleaner is on. The valve disc should slot into place with gentle pressure and automatically return to its original position with

the help of the pressure spring.

IMPORTANT: The hydrogen relief valve must be open when the vacuum is

not in use.

WARNING: Flammable gas caused by chemical reactions between the liquid

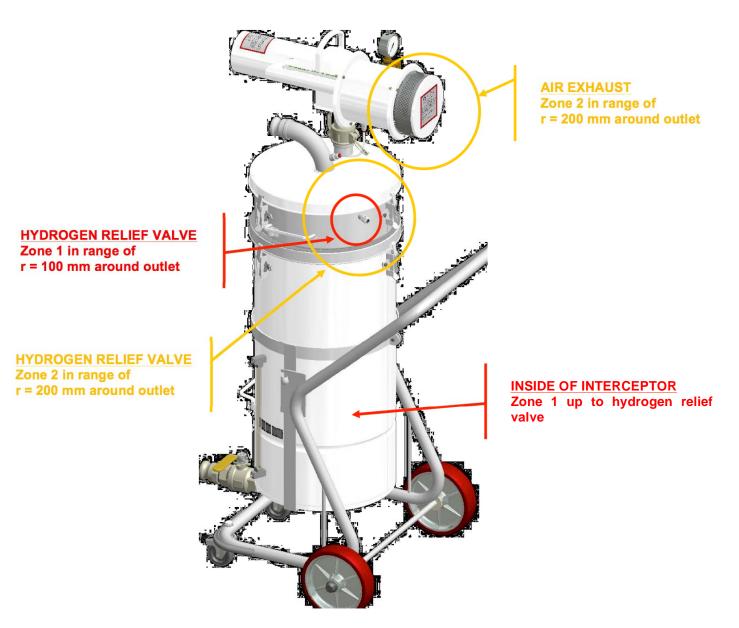
present in the interceptor and the dusts recovered may develop in the interceptor both during operation and idle time. Look at the below drawing to identify where potentially explosive gas

atmospheres can be formed.

SPECIAL WARNING:

Hydrogen is extremely flammable and very easy to ignite. Hydrogen shall not be trapped. Make sure to use the vacuum cleaner in a well ventilated area where hydrogen gas can dissipate and free of potential ignition sources. Lower Flammable Limit of hydrogen is 4%. It is recommended to use ventilation in order to KEEP THE CONCENTRATION OF HYDROGEN GAS WELL BELOW ITS LOWER FLAMMABLE LIMIT AT/OR BELOW 1% CONCENTRATION IN AIR.

GAZ ZONE CLASSIFICATION



Definition of zones

Zone 1: area in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

Zone 2 area in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

5.0 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: Air-operated 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: It is the user's responsibility to determine the appropriate

liquid (water, oil, etc) to be used to neutralize the recovered

dust.

WARNING: It is the user's responsibility to conduct a risk assessment in

regard to the compatibility of the dusts recovered and the flammable gases, vapors or liquids and other combustible

dusts present in the hazardous location.

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

of the warranty.

WARNING: Operation and service of this interceptor 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 interceptor should be clean and dry before using the vacuum.
- f. Warning: Do not pick-up anything that is burning or smoking, such as hot ashes, cigarettes, matches or live embers.
- g. Do not use without appropriate filters in place inside the vacuum cleaner.
- 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

6.0 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 an absolute filter HEPA or ULPA type.
- 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.

7.0 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 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 compressor 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 use in potentially explosive

atmospheres 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.

8.0 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 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.
- c. Disconnect the suction hose from the vacuum cleaner.
- d. Connect the static dissipating air supply hose, 25' (7.5 m) or 50' (15 m) long, to the compressed air inlet on the vacuum cleaner.
- e. Using an ohm-meter test for the electrical continuity of the air supply hose from one metallic end to the other. A reading of 10 ohms or less is satisfactory to ensure proper grounding and static dissipation.
- f. Using an 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.
- g. Using an 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.

9.0 OPERATING INSTRUCTIONS

WARNING: Use caution when connecting and disconnecting compressed air lines. When static air pressure is suddenly released, it can cause the airline to whip.

a. <u>Shut off main</u> air supply and <u>open the ball valve</u> on the vacuum cleaner to relieve the pressure in the static dissipating air supply hose.









c. Detach the recovery tank









d. Remove the baffle system



WARNING:

le of the interceptor, the baffle system, noses and accessories should be clean and dry

e. Fill the interceptor with liquid. The appropriate level is just below the inward bead on the interceptor



WARNING: It is the user's responsibility to determine the appropriate liquid (water, oil, etc) to be used to neutralize the dust.

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

WARNING: Do not add any foaming agent to liquid. Foam could damage parts located in the powerhead of the vacuum cleaner.

f. Put back the baffle system in place.



g. Put back the recovery tank in place:





h. Connect the suction hose to the air intake and close camlock's levers





i. Connect the accessory to the hose. Respect instructions written on the accessory.



- j. Test the ground continuity:
 - between main air supply and end of air supply hose

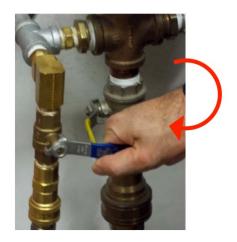


• between air supply hose and accessory



A reading of 10 ohms or less is satisfactory to ensure proper grounding and static dissipation.

k. Open the main air supply and the ball valve on the vacuum cleaner. The gage must show a minimum of 80 PSI.





10.0 MAINTENANCE AND CLEAN-UP PROCEDURE

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









c. Use the drain valve to empty collected material.

WARNING: Empty collected material as soon as the liquid reach the

maximum indicated level.

IMPORTANT: In order to check the level of liquid the vacuum cleaner

needs to be shut down.



d. To operate drain valve lift the safety ring and turn the handle. Optional drain hoses are available for use with the drain valve.



Tilt cart (TC) model illustrated

WARNING: Empty collected materials into suitable container.

WARNING: After use, be sure to remove any remaining materials by

rinsing and cleaning the interceptor, the baffle system, hoses

and accessories.

WARNING: Flush the suction hose with water to remove build up dirt

WARNING: Empty the interceptor regularly. Do not allow recovered

materials to sit for extended periods of time. An excessive accumulation of recovered materials can create a dust ignition

hazard.

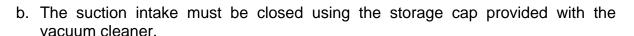
WARNING: Keep the static dissipating air supply hose clean and dry. This

will help prevent blockage of the venturi jet which could

reduce the vacuum cleaner's performance.

11.0 STORAGE

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





12.0 REPLACING THE COALESCING FILTER ELEMENT (CFE)

For users who wish to implement a conservative protocol for replacing the coalescing filter element (CFE), it is recommended that it be replaced once a year.

WARNING: Proper clothing and respiratory equipment are required when replacing the coalescing filter element.

<u>IMPORTANT:</u> Use only original brand replacement coalescing filter elements (CFE).

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



b. Close the ball valve





c. Unscrew the four screws and remove the housing of the coalescing filter element (CFE).





d. Remove the used coalescing filter element (CFE) and install a new coalescing filter element (CFE).





- e. Re-install the housing of the coalescing filter element (CFE) and secure the four screws.
- f. Dispose of the used coalescing filter element (CFE) in accordance with applicable government or state regulations.

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









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





- d. Remove the used HEPA filter and install a new HEPA filter.
- e. Re-install the HEPA filter housing by securely fastening the three bolts that hold the HEPA filter housing in place.
- f. Dispose of the contaminated filter according to applicable government or state regulations.

- This unit must be filled at all times with either mineral oil, water or any other neutralizing liquid required for the product being recovered.
- This unit must be filled up to the liquid level indicator line shown on the recovery drum.
- Do not exceed the recommended maximum dust recovery capacity.

Model	Max. dust recovery capacity	Neutralizing liquid required
SS-IT EX TC	15 lbs / 7 kg	5.3 gallons / 20 liters
CD/SS-IT (85L)	22 lbs / 10 kg	7.9 gallons / 30 liters
CD/SS-IT (114L)	33 lbs / 15 kg	11.9 gallons / 45 liters
CD/SS-IT (160L)	44 lbs / 20 kg	15.8 gallons / 60 liters

- When maximum capacity is reached the first step is to drain the neutralizing liquid by opening up the manifold drain valve.
- Once drained the unit must be disconnected from its power source either from the electrical outlet or from the air compressor.
- Disconnect the power head (if applicable) and all hoses from the top lid.
- Open all latches.
- Remove all parts off of the recovery drum.
- Remove the sieve basket from inside of the recovery drum. Discard all recovered material from inside of the sieve basket.
- Thoroughly clean all parts of the unit, including the sieve basket and suction hoses.
- Once unit is clean reinstall sieve basket inside the recovery drum and fill it of clean neutralizing liquid. COALESCING FILTER ELEMENT (CFE)

The Coalescing Filter Element (CFE) is located downstream of the recovery drum at the air exhaust. Verify if the CFE needs to be drained or replaced as part of routine maintenance. The CFE can be removed from the unit and washed from the inside and then dried and reused several times.

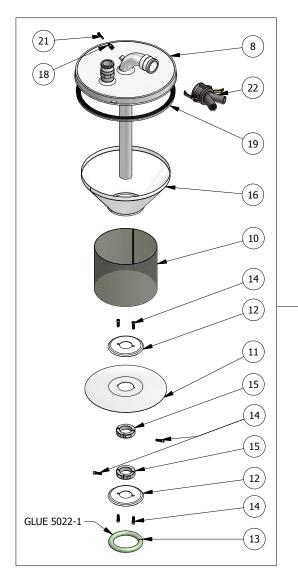
PLEASE CONSULT THE INSTRUCTION MANUAL AT ALL TIMES

DYNABRADE IT-85L EX IMMERSION SEPARATOR NORTH AMERICA

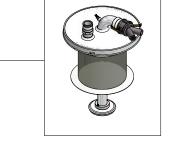


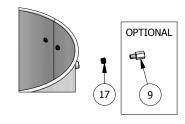
PARTS LIST			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	61457	IMMERSION SEPARATOR	1

DYNABRADE IT-85L EX IMMERSION SEPARATOR MIDDLE RING

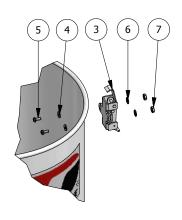




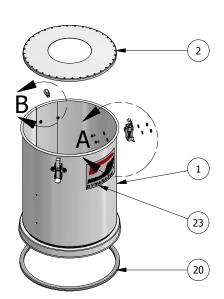






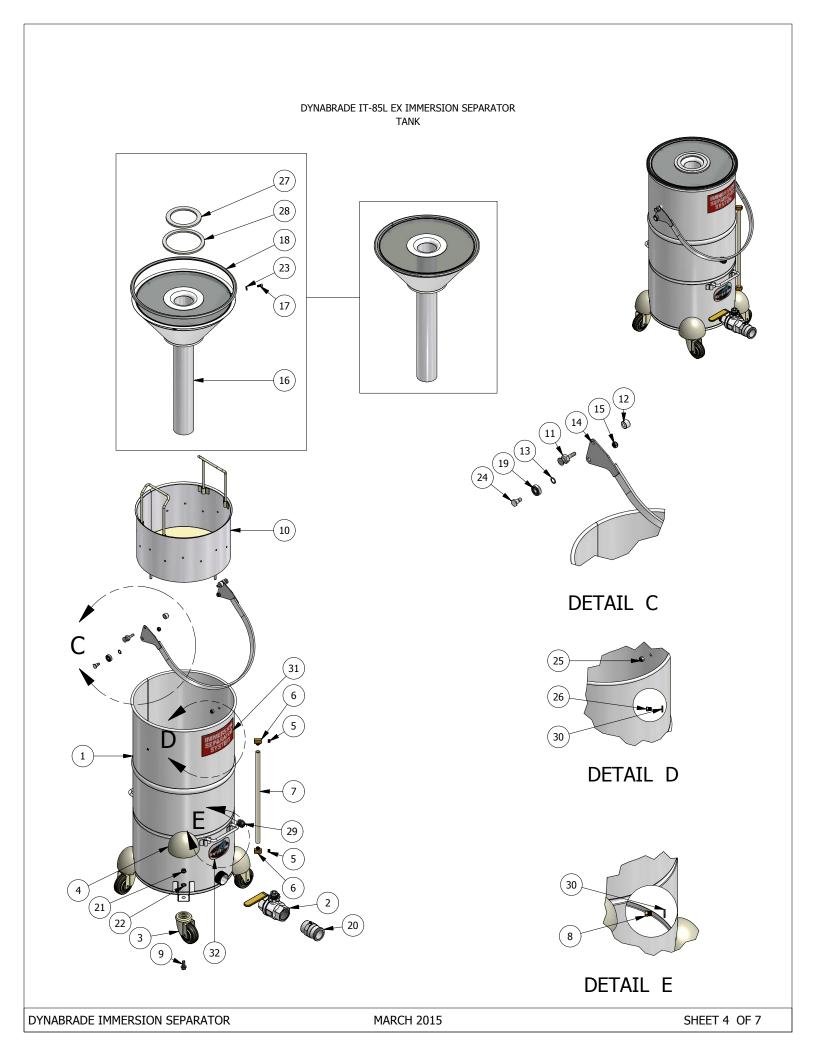


DETAIL A



DYNABRADE IT-85L EX IMMERSION SEPARATOR MIDDLE RING

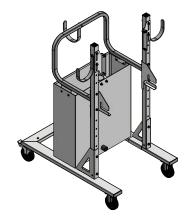
		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62421	MIDDLE RING	1
2	62757	CONE	1
3	62604	LATCH	3
4	62399	SEAL WASHER	6
5	62360	BOLT	6
6	62602	LOCK WASHER	6
7	62487	LOCKNUT	6
8	62555	LID ASSEMBLY	1
9	62758	HYDROGEN RELIEF VALVE	OPT
10	62507	CYLINDER	1
11	62535	SPLASHGUARD	1
12	62721	GASKET HOLDER	2
13	62537	TUBE SEAL	1
14	62418	SCREW	6
15	62720	TUBE COLLAR	2
16	62533	UPPER CONE	1
17	62759	HEX SOCKET PLUG	1
18	62656	FITTING	1
19	62520	GASKET	1
20	62753	NEOPRENE GASKET	48"
21	62467	RAPID FITTING	1
22	62583	WYE CONNECTOR	1
23	12412	LARGE DYNABRADE LABEL	1

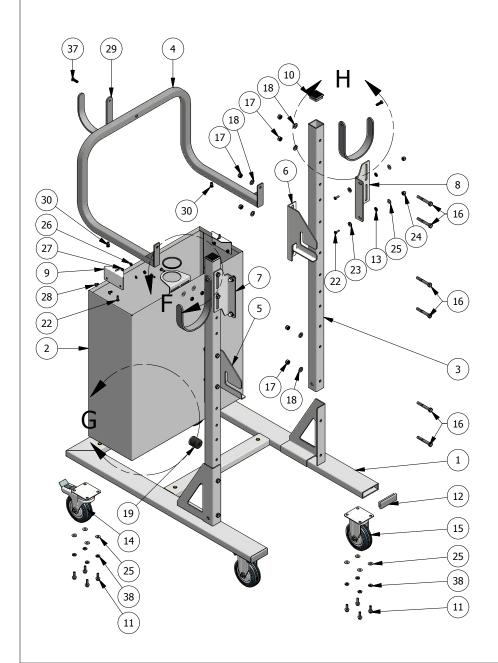


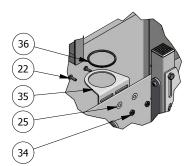
DYNABRADE IT-85L EX IMMERSION SEPARATOR TANK

		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62642	DRUM WITH WHEEL BRACKETS	1
2	62431	DRAIN VALVE	1
3	62475	WHEEL	4
4	62464	WHEEL COVER	4
5	62553	HEX-SOCKET PLUG	2
6	62552	PIPE FITTING	2
7	62716	TUBE	1
8	62554	HEX REDUCING BUSHING	1
9	62505	HEX BOLT	4
10	62545	SIEVE BASKET	1
11	62663	PIVOT	2
12	62722	SPACER	2
13	62760	FIBER FLAT WASHER	2
14	62710	LIFTING HANDLE	1
15	62465	LOCKNUT	2
16	62532	LOWER TUBE ASSEMBLY	1
17	62419	SCREW	3
18	62689	EDGE TRIM	1
19	62761	BALL BEARING	2
20	62754	INTAKE COUPLER	1
21	62504	LOCKNUT	4
22	62644	LOCKWASHER	4
23	62468	SEALING WASHER	3
24	62762	BEARING SHAFT	2
25	62488	HEX NUT	2
26	62544	PIPE FITTING	1
27	62763	GASKET WHITE NITRILE	1
28	62764	GASKET WHITE NITRILE	1
29	62411	RECESSED RUBBER BUMPER	1
30	62765	SEALING WASHER	2
31	96617	IMMERSION SEPARATOR SYSTEM LABEL	1
32	96616	RAPTOR VAC SYSTEMS LABEL	1

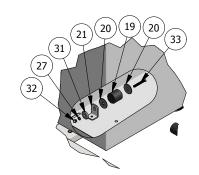
DYNABRADE IT-85L EX IMMERSION SEPARATOR CART







DETAIL F



DETAIL G



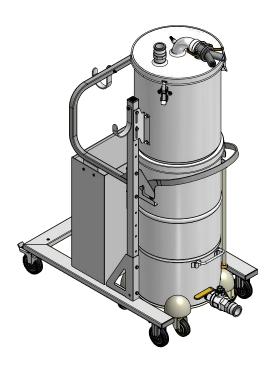
DETAIL H

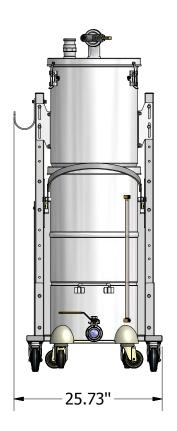
DYNABRADE IT-85L EX IMMERSION SEPARATOR CART

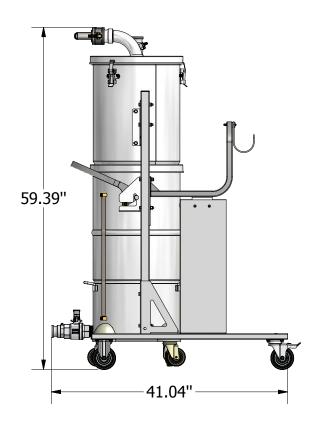
		PARTS LIST	.
TEM	PART NUMBER	DESCRIPTION	Q
1	62711	CART ASSEMBLY	
2	62709	BASKET	
3	62682	STEM	
4	62707	HANDLE	
5	62712	BRACKET	
6	62713	BRACKET	
7	62714	BRACKET	
8	62715	BRACKET	
9	62708	HANDLE SUPPORT	
LO	62650	PLUG	
l1	62657	HEX BOLT	
12	62706	FINISHING PLUG	
L3	62602	LOCK WASHER	
.4	62477	WHEEL	
.5	62478	WHEEL	
.6	62531	HEX BOLT	
.7	62447	HEX NUT	
8	62481	FLAT WASHER	
9	62540	RUBBER BUMPER	
20	62627	GASKET	
21	62667	WAND SUPPORT	
22	62439	SCREW	
:3	62371	SEAL WASHER	
4	62443	ACORN NUT	
5	62516	FLAT WASHER	
6	62441	HEX NUT	
7	62364	SPRING WASHER	
.8	62457	SCREW	
9	62754	CABLE HOOK	
0	62744	NUT	
31	62766	FLAT WASHER	
2	62372	ACORN HEX NUT	
3	62400	BOLT BOLT	
4	62486	HEX JAM HUT	
	62767	WAND SUPPORT BRACKET	
5	62768		
36	62768	GASKET WAND SUPPORT HEX BOLT	
37			
38	62367	SPRING WASHER	

DYNABRADE

IT-85L EX IMMERSION SEPARATOR





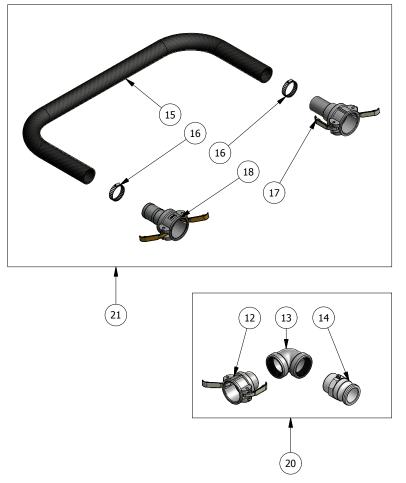


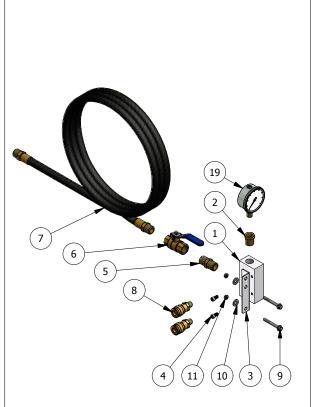
DYNABRADE CONNECTING KIT UNIVERSAL



		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION C	QΤΥ
1	61459	ELECTRIC IMMERSION SEPARATOR KIT/MANIFOLD	1

DYNABRADE CONNECTING KIT UNIVERSAL





DYNABRADE CONNECTING KIT

		PARTS LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	62556	MANIFOLD	1
2	62598	REDUCER BUSHING	1
3	62560	BRACKET	1
4	62419	SCREW	2
5	62599	HEX NIPPLE	1
6	62365	BALL VALVE BRASS	1
7	62587	AIR SUPPLY HOSE	1
8	62548	QUICK DISCONNECT, FEMALE	2
9	62699	SCREW	2
10	62481	FLAT WASHER	2
11	62458	FLANGE NUT	2
12	62576	CAMLOCK PART	1
13	62731	ELBOW	1
14	62574	INTAKE COUPLER	1
15	62579	KANAFLEX SUCTION HOSE	1
16	62571	CLAMP	2
17	62582	CAMLOCK	1
18	62572	CAMLOCK	1
19	62362	PRESSURE GAUGE	1
20	62580	90° ELBOW ASSEMBLY	1
21	62735	HOSE ASSEMBLY	1