

VRS Assembly & Operating Instructions



Models

VRS-18 Pn #270003

VRS-24 Pn #270006

VRS-30 Pn #270010

Not for use on pressure vessels equipped with Automatic exhaust valve (680 controls)



EMPIRE ABRASIVE EQUIPMENT COMPANY

2101 West Cabot Blvd.
Langhorne, Pa 19047
215-752-8800, FAX 215-752-9373
Web Site: www.empire-airblast.com

ASSEMBLY DETAIL

Your Vacuum Recovery Unit has been shipped containing the following items.

1	1 ea.	Media Storage Hopper	350 size #800271 650 size #800251 1050 size #800260
2	1 ea.	Vacutrans with mounting leg	800020-03711
3	1 ea.	2" long Carburetor Tool	800107
4	1 ea.	Floor Load Hopper & trash screen	03711-HOPPER1
5	1 ea.	Hose 2" x 15 Ft. Cam-Lock set one end	850208
6	1 ea.	Hose 2" x 5 Ft. Cam-Lock set both ends	850208
7	2 ea.	J-hook & Hardware 3/8"	

Please unpack all items and check for shipping damage. With all items the items unpack familiarize yourself with them and the Vacutrans® instructions **prior** to installation. Review your site and determine a good location for all the components. The floor load hopper can be placed in any area where you will load media for recycling, within the limits of the 15 ft. hose. Placement of remaining components must be determined at this time.

Once the vessel location is determined or if it is part of an existing installation, ensure the pressure vessel is properly attached to the floor prior to proceeding with the installation.

MEDIA STORAGE HOPPER INSTALLATION:

Not for use with 680 Automatic Exhaust valve equipped pressure vessels!

Improper attachment of the Storage Hopper to the vessel will result in injury to the operator or surrounding co-workers!



The media storage hopper **must be properly installed** to an existing pressure vessel utilizing the "J Hook" mounting hardware provided. When installing storage hopper to a non-Empire pressure vessel, without lifting ears, a clamp type ring, (***not provided***), can be used to safely attach the media storage hopper to the top of the vessel.

Position the storage hopper to allow easy access to the media-hopper's view window. This window provides visual access to the media level inside the hopper and for monitoring the system function during operation.

WARNING: NO WELDING IS PERMITTED TO PRESSURE VESSEL

VACUTRANS® INSTALLATION:

The high velocity Venturi Vacutrans with mounting leg, can be installed on top of the media hopper or in any remote location, within reach of the 2" x 5 ft hose. (Mounting holes are NOT provided in the hopper due to many alternative locations) Match mark and drill as needed for 3/8" hardware (not provided)

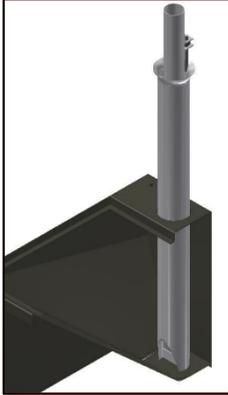
Ensure the Vacutrans is securely mounted and valve is easily accessible for operation.

The system includes a 2" x 5' hose, which connects the Vacutrans and the outer most Camlock connector located on the top of the Media Storage Hopper. Properly secure the Camlock connectors

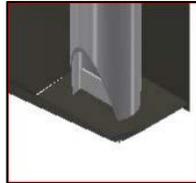
Sizing the compressed air supply line is very important to take full advantage of the Vacutrans capability. We recommend a minimum 1¼" air supply line @100 Psi. for maximum performance. As with any air driven tool, hose bends and total length should be kept to a minimum.

WARNING: The exhaust of the Vacutrans® must be pointed or directed away from occupied areas. The exhaust will contain solid materials if the system becomes over full or is not adjusted properly. To eliminate this personal injury, options are available to control the discharge and direct it to a safe location.

MEDIA FLOOR LOAD HOPPER INSTALLATION:



The media load hopper can be adjacent to the blast site, in a pit or inside an existing blast room. After locating the position of the Media Floor Load Hopper, fully insert the Carburetor tool into the hopper until it makes contact with the bottom of the hopper. Firmly secure the Carburetor tool with pipe clamp bolts and install the trash screen.



open end position

Attach the 2" x 15" media hose plain end to the carburetor outlet end, as shown, and secure the hose with the worm clamp provided.

Note the location of the carburetor-adjusting washer used for fine-tuning media recovery. Washer should be in the middle position for an initial setting for most general media conveying application

Hose attachment



The other end of the 2" x 15' media hose with CAMLOCK FITTING will be attached to the center inlet located at the top of the hopper. When connecting Camlock fitting, make sure ID and OD areas are clean and seals are in place. Once properly seated, securely rotate the locking levers down until they fit tightly against the Camlock body



Failure to properly secure the Camlock fittings will effect over all operation and void the warranty. Earth Grounding of the system and hoses will aid in the reduction of transmitted static electricity

INSTALLATION SUMMARY:

After all components have been installed, check that all hose connections are secure and locked

SAFETY:

WARNING: USE PROPER PPE when operating this system.

Warning; Stay **clear** of the exhaust port when recovering material. Under certain conditions, static electricity will build up and discharge from conveying hoses. This can be more of a nuisance than anything, but at times could pose a danger to the worker.

OPERATING INSTRUCTIONS:

CAUTION:

To ensure proper operation make sure the blast pot exhaust valve is closed. Failure to be closed will cause pre-mature wear on the Vacutrans, and cause a loss of performance.

1. Connect and safety pin all air line connections as required. Close exhaust valve on the blast vessel. Open compressed air ball valve on the Vacutrans. Adjust pressure to read 100 PSI on the gauge.
2. Adjust Carburetor tool at the loading hopper to have the adjusting nut mid point on the threaded rod. Add media into the hopper. While media is being moved watch and listen to the flow of media adjust the carburetor tube down to increase media movement. Adjust upward to lessen the media flow. If too much media is moved the hose will load up and “choke”. By adjusting the media flow tube up, you will reach the best media flow. Once set, it does not need further adjustment unless a different media is used or the pressure is changed.
3. Periodically clean the debris screen out, allowing new media to pass through freely.
4. Maintenance of a couple of key internal parts will insure the long life of your *Vacutrans*[®]. A routine visual check on only two parts is all that is required. The first is inspection of the air nozzle by looking into the vacuum inlet port. When the black rubber boot over the nozzle begins to show excessive wear, either rotate the boot or replace the boot. The second item to check is the ceramic wear liner. The liner sits on a ledge inside the *Vacutrans*[®] and the edge of the liner’s inlet slot is visible through the same vacuum inlet port. When the liner wears down to the edge of the casting port, it is time for replacement. When replacing, be sure the slot in the liner is aligned with the casting vacuum port. When reassembling the *Vacutrans*[®], make sure the rubber washer is positioned between the ceramic wear liner and the air nozzle casting.

SHOULD EITHER THE NOZZLE OR LINER WEAR THROUGH AND REMAIN UNCHECKED, THE CASTING BODY WILL DESTRUCT IN A MATTER OF HOURS, DEPENDING ON THE MATERIAL BEING CONVEYED.

5. SAFETY CONSIDERATIONS include staying clear of the exhaust port when operating the *Vacutrans*[®]. Also, under certain conditions, static electricity will build up and discharge from conveying hoses. This can be more of a nuisance than anything, but at times could pose a danger to the worker. Grounding of the hoses and tools will solve the problem.
6. Materials larger than ½” in diameter cannot flow directly through the *Vacutrans*[®].

MALFUNCTIONS

IN THE EVENT THAT YOUR *Vacutrans*[®] DOES NOT PERFORM AS YOU EXPECT OR CEASES TO PERFORM PROPERLY DURING OPERATION, PLEASE CHECK THE FOLLOWING:

1. Compressor too small (inadequate cfm and or psi)
2. Compressed air supply line too small (inadequate cfm and or psi)
3. Exhaust valve is open (cannot be used with automatic exhaust valve)
4. Leak in air supply line
5. Airline too long (line pressure loss due to friction)
6. Obstructed air supply line
7. Obstruction in *Vacutrans*[®] nozzle or body
8. Leak in vacuum pickup hose
9. Carburetor tool not tuned properly for media being recovered.
10. Too many bends in vacuum hose
11. Obstruction in vacuum tool
12. Wear liner in place but off-center
13. Material too damp to flow
14. Obstruction in exhaust hose
15. Material too heavy
16. Using vacuum without use of pickup tools

PSI/CFM CHART

Vacutrans[®] is an air driven tool and it is important to understand that the vacuum power as well as the rate of material movement through the vacuum system is affected by the amount in quantity (or volume) and the pressure of the compressed air supplied. To help in understanding, below is a chart relating the pressure reading on the air gauge to the quantity (cfm) going through the air nozzle at that pressure (i.e. at 100 psi, the *Vacutrans*[®] will consume 200 cfm of air; at 50 psi, it will consume 140 cfm of air).

PSI READING	CFM CONSUMED *
1	20
5	45
10	63
20	89
30	109
40	126
50	140
60	155
70	167
80	180
90	190
100	200

*Standard 800021 Model. The 800020 Model requires less compressed air and has less suction pressure but the gauge will read about the same positive pressure.

Another way to interpret the above figures for instance, if you only have a 155 cfm compressor available to drive the *Vacutrans*[®], you will only be able to maintain 60 psi against the tool which may or may not generate enough vacuum to pick-up the particular material you are trying to move.

The lighter the material, the less vacuum power is required. At 100 lbs. per cubic foot material, all of the vacuum power possible is required for satisfactory movement rates.

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