

# Static Controls

## WebVac

### Narrow Web Cleaning System

#### Purpose

The WebVac Narrow Web Cleaning System is an in-line cleaning device designed to rapidly and continuously remove dry contaminants from moving webs. It can operate in either a contact or non-contact cleaning mode and, if properly installed, not only cleans the web but also leaves it electrostatically neutral to reduce the chances of subsequent re-contamination.

#### Operating Principle

The typical WebVac configuration first employs a static neutralizing bar to neutralize static electrical charges on the web that electrostatically bind contaminants to the surface. A gentle blast of compressed air supplied by the air tube lifts the contaminants from the web surface into the air. Vacuum from the WebVac collector then draws the airborne contaminants into the hood, carries them to the collector and traps them in the collector's filter bag module for safe disposal. In the contact cleaning mode a soft brush is mounted in front of the static bar to loosen the contaminants just prior to static neutralization and removal. In some special cases the position and sequence of the static bar, air tube and brush may vary but the WebVac system will continue to follow the fundamental operating principle of static neutralization, compressed air blow-off and vacuum removal of dislodged and suspended contaminants.

#### Location

Locate the collector as close to the WebVac hood as possible. Avoid collapsing the hose when connecting it to the WebVac hood. If necessary, cut excess hose to allow connection to the WebVac hood without kinks or coils.

#### Installation

- Electrical wiring and connection should be done by a qualified electrician, following the wiring diagram on the motor. Make sure that the actual incoming voltage corresponds to the voltage indicated on the motor label. A maximum variation of 10% is allowable.
- Model VQM5005 & VQM5012 have a 3-phase motor: be sure to include a starter with the proper size overload heaters to thermally protect the motor.
- **Important** - Check the blower rotation. A decal with an arrow pointing to the fan discharge is affixed to every fan. However, should the decal become lost, remember that the fan blades should move towards the fan outlet (or, clockwise, as seen when viewing from above). Reverse any two input power leads to reverse fan rotation.



#### System Set-up

The WebVac Narrow Web Cleaning System consists of two major components – the WebVac Hood and the WebVac Collector. The hood should be securely mounted over or under the web. The Collector should be placed as close as possible to the hood, trimming the excess hose as needed.

#### The WebVac Hood

The WebVac hood consists of five elements - the WebVac hood, a static bar and power supply, a contact cleaning brush and a stainless steel compressed air tube. WebVac hoods mount directly over the web to be cleaned and are available in various sizes. In most cases the width of the hood should match the width of the web to be cleaned. Once installed, the hood will require minimal maintenance while providing excellent performance.

The standard configuration provides:

- One or more WebVac hood(s) with two mounting brackets each
- A static neutralizing bar (mounted on each hood)
- Power supply for static bar
- Stainless steel compressed air tube (mounted on each hood)
- Contact cleaning brush (mounted on each hood)
- Ten or more feet of WebVac hose, 3" or 4" diameter as needed.
- Air Pressure Valve (Regulator) with filter and gage



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### The WebVac Collector...

Depending on the size of the WebVac system you have purchased, it will use either a Model VQM5005 or VQM5012 WebVac Collector. The operating principle is the same for both units. The collector uses a powerful electric motor to move large quantities of air through a bag filter vented to atmosphere to create a strong, even vacuum along the length of the WebVac hood slot. The collector generates approximately 5 inches of water lift (static pressure) and when properly installed and maintained this system will provide years of excellent performance.

The standard configuration provides:

- 4" or 6" vacuum inlet, with an optional additional inlet for double hood systems
- Manual bag shaker system
- Replaceable filter bags
- Dust collection drawer for easy disposal of collected contaminants
- 1.5 HP or 3 HP motor, depending on collector model
- Flush-mounted magnahelic gage

### Routine Maintenance.

**Always disconnect the collector when performing service or maintenance!**

- Filter Cleaning. The flush mounted magnahelic gage, located on the upper right side of the collector cabinet, measures pressure differential between the clean and dirty side of the filter bag module. The gage will diagnose the filter condition. You should take the following action for the value shown.
  - .50" to .75" = filter new
  - 2" to 3" = filter seasoned and in good shape
  - 3" to 4" = filter clogged and in need of shaking down
  - 4.5" to 8" filter clogged and in need of replacement if it won't recover after shaking down
  - 0" + dust everywhere = hole in filter and in need of replacement

The manual shaker pedal is found on the right side of the collector (as seen from the front). Shut the collector off during the shaking operation. Stomp on the pedal 8-10 times. Allow the dust from the filter shakedown to settle for a minute. Open the lower front access door to remove the dust drawer and empty.

- Periodic Inspection - Over time, some contaminants may stick to the surface of the bag and not fall off during regular shaking. Inspect the bags periodically to check for excessive build-up of contamination. Brush contaminants not removed by shaking from the surface of the bag into the dust collector tray (located directly beneath the bag module).



- Replacement of Filter Bag Module. The part of the VQM5005 or VQM5012 most likely to need replacement at some point is the filter bag module. Small holes or fraying observed during periodic inspections, although rare, is a telltale sign requiring bag module replacement. If replacement is needed, follow instructions provided with the replacement filter bag module.

### Troubleshooting

- *Motor will not start.*

Make certain collector is connected to power. Confirm that overload heaters are installed in the starter. If all switches are "ON", push the reset button on the starter.

- *Motor starts with a whine, but does not reach full speed.*

**Stop motor immediately!** This condition is a result of single phasing (if using a 3-phase motor) and will quickly damage the motor. Connect proper input power to the motor (see the wiring diagram attached to the motor).

- *Motor makes a scraping or knocking noise.*

Check motor cooling fan and cover. Confirm that the cover has not been somehow damaged or shifted. Adjust or replace as necessary.

- *Little or no suction.*

Check fan rotation. Insure that the exhaust is not blocked or restricted. If observed at the hood, check hose for kinks or other restrictions. If observed after long period of use, check filter bag for clogging. Clean as necessary.

**Spare Parts and Accessories for  
Models VQM5005 and VQM5012.**

Description	Part # for	VQM500	VQM5012
Filter Bag Replacement		3692	3693
HEPA Option (HEPA filter with housing)		3510	3511
Replacement HEPA Filter only		3857	3858

**Locating the WebVac Hood.**

- Locate the WebVac hood just prior to where web contamination is causing a problem.
- The base of the hood should be positioned so that the vacuum slot (the opening extending from the bottom of the hood) faces the web surface to be cleaned and is 1/4 to 1/2 inch above the surface of the web. The hood should be perpendicular to the web, so that the web is traveling across the static bar and air tube mounted on the hood. To insure proper static neutralization it is important to provide free air space under the web at the point where it passes under the static bar. Do not position the WebVac hood where the web travels over a roller, platen or anything else that contacts the web opposite the static bar.
- Locate the hood as close to the collector as possible. The collector ships with 10' to 20' of hose, standard. If extra hose remains after you have positioned the hood and the collector cut the hose to provide as short and as straight a run as possible. Coils or kinks in the hose will reduce efficiency.
- Locate the hood where it will be easily accessible for routine maintenance, what little is required.
- Do not locate the hood where it will be subjected to continuous exposure to harsh solvents, including splashing of such chemicals. Damage to the plastic elements of the static bar and contact brush may result.

**Locating the Power Supply**

- Locate the high voltage power supply as close to the static bar as possible to minimize the length of high voltage cable required. (see Installing the Power Supply)
- Locate the power supply where it will be protected from excessive oil or moisture. To minimize contamination keep all dust covers in place until the cable connector is inserted and position the power supply so that the output ports face downward.

**Locating the Compressed Air Supply**

- Consider where compressed air lines can be positioned. Locate the hood as close as possible to a compressed air connection. If desired, install a shutoff or solenoid valve before the connection to the WebVac's air tube.

**Installing the WebVac Hood**

- The WebVac hood ships with two heavy duty adjustable brackets for mounting. The exact mounting position and

bracket placement depends on the specifics of your application. The brackets have four mounting holes that enable the bracket to be fastened to the hood at 90° increments for improved installation flexibility. Each bracket provides a vertical slot, 1/4 inch wide, to allow you to easily adjust the distance of the hood from the web.

- The hood should be mounted securely so that it maintains its position relative to the web despite vibration and occasional physical impact. The brackets allow the use of 1/4-20 bolts for durable mounting.
- Where possible, use both brackets for a secure installation. If only one bracket can be used position the hood so that the bracket nearest the vacuum inlet supports the hood.
- Install the hose to the inlet of the hood and collector. Use the clamps provided to hold the hose in place securely.

**Installing the Power Supply**

- Locate the power supply as close as possible to the static bar mounted on the hood, however, there is no need to get closer than 18 inches from the bar. Choose a place that will protect the power supply from excessive dirt, oil and heat. Screw the static bar spring-loaded Cable Connector Kit into the TSN75 power supply. Secure the ring terminal from the small green ground lead at the connector kit end of the static bar (HV) high voltage cable to the 8-32 threaded ground stud, found between and just below the HV output ports of the TSN75, with the hex nuts provided
- To locate mounting holes simply place the power supply on the surface on which it will be mounted and mark the appropriate mounting holes. We suggest using four bolts to hold the power supply in place securely.
- **The power supply must be properly grounded!** Make certain that the electrical outlet to be used is grounded properly. In addition, you may connect a wire from the power supply's ground stud to a reliable ground such as a cold water pipe or machine frame. Do not connect the ground to compressed air lines, gas lines or hot water or steam lines!

**Positioning the Contact Cleaning Brush**

- If contact cleaning is desired, position the contact brush so that the bristles face the web. Lower the brush in its mounting bracket until the bristles just touch the web. When positioned correctly the bristles should not be bent and the web should contact the tips of the bristles just enough to move them slightly.

**Installing the Compressed Air Supply**

- The compressed air used by the WebVac must be clean and dry and free of oil. This may require the installation of air filters, moisture separator or dryers. Do not supply air that contains a lubricant.
- Install the filter / regulator with gage, provided with your WebVac system, as near as possible to the hood(s). Plumb

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clean, dry compressed air into the filter / regulator with gage input using a 3/8" I.D. line. Plumb from the filter / regulator with gage output port to the air tube(s) using 1/4" I.D. lines.

- Recommended air supply pressure is 5 - 10 psi. Maintaining this relatively low air pressure may require the use of a compressed air regulator with a low pressure spring. Turn air up if needed to achieve optional cleaning results.
- The WebVac's air tube is supplied with a 1/4 NPT male thread. The air connector used to connect your compressed air system to the air tube will depend on your preference and the specific needs of your application. We suggest using teflon tape on the threads to prevent galling and to provide a leak tight seal.

### Routine Maintenance.

The WebVac hood requires little maintenance. An occasional cleaning will usually suffice.

- Always disconnect the high voltage power supply before performing any service or maintenance! This is best done by disconnecting the AC plug from the wall outlet.
- The emitter points of the static bar mounted on the hood will, over time, collect dirt on the tips of the emitters. Excessive contamination will reduce the efficiency of the static bar. Clean the points with a soft brush (such as a tooth brush or mechanic's parts cleaning brush) approximately once a month. More frequent cleaning may be required in very dusty environments.
- As a precaution, examine the high voltage cable for any signs of damage. The cable is very rugged and should perform well for many years without maintenance.
- Should the bar become contaminated with oil carefully clean the bar with a rag and a mild solvent, such as isopropyl alcohol. Be careful, the points are sharp! Remove any bits of cloth that stick to the emitter pins. Do not touch the bar until you are certain the power supply has been disconnected.

### Troubleshooting

- *No suction, or reduced suction, at the vacuum slot.*  
Make sure the WebVac hose is free of coils, kinks and other restrictions. Insure that the collector is plugged in and turned on. (also see troubleshooting procedures for the collector)
- *No compressed air from the air tube.*  
Make certain that all valves, regulators and filters are clean and working properly. Check the openings of the tube for blockages. Use a small pin to clear the holes, if necessary.
- *Static bar does not operate.*  
Make sure the power supply is connected to an AC outlet and that power is supplied to the outlet. Check all circuit breakers and fuses. Make sure the power supply input voltage matches the power supply label/spec.



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