VORTEC

ITW Air Management

OPERATION AND SAFETY INSTRUCTIONS

Ionizing Curtain Transvector ™

MODELS: 981-6, 981-12, 981-18, 981-24
981-6BSP, 981-12BSP, 981-18BSP, 981-24BSP

IMPORTANT

READ ALL INSTRUCTIONS BEFORE ATTEMPTING TO OPERATE THIS PRODUCT.

GENERAL SAFETY CONSIDERATIONS

WARNING
COMPRESSED AIR COULD CAUSE DEATH, BLINDNESS OR INJURY

1. **Do not operate Curtain Transvectors at air pressures above 150 PSIG (10.3 Bar).**
2. **Avoid direct contact with compressed air.**
3. **Do not direct compressed air at any person.**
4. **When using compressed air, wear safety glasses with side shields.**

NOTE
WHEN USING CURTAIN TRANSVECTORS, THERE IS NO NEED TO LIMIT COMPRESSED AIR PRESSURE TO A MAXIMUM OF 30 PSIG (2 BAR). IT IS NOT POSSIBLE TO BLOCK THE FLOW OF AIR FROM A CURTAIN TRANSVECTOR TO REGISTER 30 PSIG (2 BAR) ON A TEST GAUGE.

INTRODUCTION
Curtain Transvectors are airflow amplifiers that can reduce compressed air consumption by up to 50% while helping to meet OSHA dead-end pressure and noise specifications. Ionizing Curtain Transvectors produce a high speed, highly uniform, ionized airflow for static neutralization and blowoff on moving webs, sheets, films, strips, and small or large objects and wide surfaces.

AIR SUPPLY
Curtain Transvectors must be connected to a compressed air source that is filtered (5 micron maximum) to remove water, particulate and oil. Failure to use a filter will cause clogging of the compressed air path inside the Curtain. Filter elements must be changed on a regular basis (at least once a year or when the filter exhibits a 15 PSIG pressure drop across the inlet and outlet). Filters should be placed as close to the Curtain Transvector as possible.

INSTALLATION
Multiple Curtain Transvectors can be supplied with compressed air by using a manifold or by directly plumbing to the appropriately sized compressed air source that does not exceed 150 PSIG (10.3 Bar). It is usually best to locate the Ionizing Curtain Transvector just ahead of the place where static causes trouble. The unit should be located close enough to the material to be ionized so that any charged dust or particles can be easily neutralized and blown free (typically 6 to 18 inches). When the best position and orientation has been determined, the unit must be securely mounted.

Two insulated cable supports are provided to guide the ten foot long, black, high voltage cable. The cable should always be kept at least ¼" away from any surface. To install the cable supports, push the split plastic bushing out of the metal support eyelet and apply bushing to cable at desired location. Mount the metal support eyelet then press the bushing and cable back into the support.

The Ionizing Curtain Transvector must be connected to a suitable power supply, such as Vortec's models F167 or D167RY. These high voltage power supplies are capable of operating up to 2 or 4 separate Ionizing Curtain Transvectors. The total effective length of all Ionizing Curtain Transvectors connected to one power supply should not exceed 200 inches.

Run the green ground wire along the black high voltage cable from the unit. Attach the ring terminal on the end of the ground wire to the ground plug on the power supply. Secure terminal with nut.

Insert the spring-loaded connector (at the end of the high voltage cable) into one of the high voltage receptacles on the power supply. Finger tighten the knurled knob on the connector into the receptacle.

Connect the polarized three prong plug from the power supply to a suitable 115vAC receptacle. The receptacle should have a good electrical ground connection for the ground pin on the plug. If it does not, then bolt the power supply to a well grounded metal machine frame. The Ionizing Curtain Transvector will not operate unless properly grounded.

OPERATION
Curtain Transvectors can be cycled on and off to match machine cycle time. In order to vary the volume of airflow from any Curtain Transvector, an appropriately sized pressure regulator can be used to control the compressed air pressure, (less pressure = less airflow).

To determine if the Ionizing Curtain Transvector is functioning, place the metal shaft of a screwdriver against the metal body of the unit. Bring the sharp corner of the screwdriver blade toward one of the needle-like emitter points until a faint spark is seen or heard. The spark should jump a 1/16 to 1/8 inch gap between the screwdriver and the emitter point. Each emitter point can be tested separately in this manner.

MAINTENANCE
Curtain Transvectors have no moving parts, and require only filtered compressed air for proper operation. Uneven airflow is caused by clogging of the internal air path. If the unit is operated in a dirty environment, it will eventually need cleaning. Use of a soft brush to remove dirt from the emitter points will extend the efficiency of the unit. Use pure isopropyl alcohol applied to a clean cloth to remove stubborn deposits.

TROUBLESHOOTING

Insufficient airflow can be caused by the following:

1. Undersized compressed air supply line (see Appendix 1).
2. Compressed air pressure too low.
3. Insufficient compressed air volume (SCFM, SLPM).
4. Partial or complete blockage of internal compressed air path due to dirt.

LIMITED WARRANTY

Vortec compressed air products manufactured by ITW Air Management will be replaced or repaired if found to be defective due to manufacture within ten years from the date of invoice. This 10-year warranty covers the Curtain Transvector only, and does not include the Ionizing Bar and Power Supply, which carries its own warranty. Refer to our website ***itwvortec.com*** for full warranty details and limitations, or contact ITW Air Management. ITW Air Management makes no specific warranty of merchantability or warrant of fitness for a particular purpose.

For information contact your local authorized distributor or:

Vortec
ITW Air Management
10125 Carver Road
Cincinnati, Ohio 45242-4798
TEL: 513-891-7474, TOLL FREE: 800-441-7475
FAX: 513-891-4092
website: www.itwvortec.com e-mail: techsupport@vortec.com

APPENDIX 1
Determining Pipe Size Requirements

1. Estimate length of pipe required.
2. Determine compressed air consumption of product(s) being installed.
3. Follow column up on chart to find pipe size required.

Maximum Airflow - SCFM / SLPM Through Pipe For a 5 PSIG (0.3 Bar) Pressure Drop [For Air at 100 PSIG (6.9 Bar) and 70EF (21EC)]

Pipe Length Feet (Meters)	Pipe Size - Schedule 40					
	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"
10 (3.05)	29 / 822	65 / 1841	120 / 3400	254 / 7196	480 / 13598	978 / 27707
20 (6.10)	21 / 595	46 / 1303	85 / 2408	180 / 5099	340 / 9632	692 / 19604
30 (9.14)	17 / 482	37 / 1048	70 / 1983	147 / 4164	277 / 7847	565 / 16006
40 (12.2)	15 / 425	32 / 906	60 / 1700	127 / 3598	240 / 6800	489 / 13853
50 (15.2)	13 / 368	29 / 822	54 / 1530	114 / 3230	215 / 6091	437 / 12380
60 (18.3)	12 / 340	26 / 736	49 / 1388	104 / 2946	196 / 5553	399 / 11304
70 (21.34)	11 / 312	25 / 708	46 / 1303	96 / 2720	181 / 5128	370 / 10482
80 (24.38)	10 / 283	23 / 651	43 / 1218	90 / 2550	170 / 4816	346 / 9802
90 (27.43)	10 / 283	22 / 623	40 / 1133	85 / 2408	160 / 4533	326 / 9236
100 (30.48)	9 / 255	21 / 595	38 / 1077	80 / 2266	152 / 4306	309 / 8754