



# Curtain Transvector

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## INSTALLATION AND OPERATING INSTRUCTIONS

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# 1. SAFETY WARNINGS

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**PLEASE READ INSTRUCTIONS COMPLETELY BEFORE STARTING INSTALLATION.**

**ALL INSTALLATION AND MAINTENANCE OPERATIONS MUST BE PERFORMED BY QUALIFIED TECHNICAL PERSONNEL.**



**NOTE** – Statements identified with a NOTE indicate precautions necessary to avoid potential equipment failure.



**CAUTION** – Statements identified with a CAUTION indicate potential safety hazards.



**WARNING** – Statements identified with WARNING indicate potential serious injury hazards.



**NOTE** – This equipment must be correctly installed and properly maintained. Adhere to the following cautions for safe installation and operation:



**CAUTION – Electrical Shock Hazard**

Always disconnect power supply before connecting or disconnecting static neutralizing equipment. Avoid touching the static neutralizing bar when power supply is energized.



**WARNING – Fire Hazard**

Do not install or operate equipment in close proximity to any flammable solvents.

## **2. INTRODUCTION**

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Simco-Ion's Static Neutralizing Curtain Transvectors combine the proven static neutralizing abilities of static bars with the unrivaled air handling predomance of air knife technology to deliver high efficiency cleaning and static neutralizing unachievable by ordinary compressed air devices.

Simco-Ion static bars help to neutralize static charges by breaking the air in the vicinity of the bar into positive and negative air ions which are attracted to and neutralize charged surfaces and objects. Utilizing the highly concentrated airstream of a Curtain Transvector aids in delivering the air ions into the work area more efficiently than non-assisted static bars or bars with conventional air tubes. Additionally, the Curtain Transvector provides the benefit of greatly improved cleaning abilities with substantially reduced air consumption.

Using a Static Neutralizing Curtain Transvector increases productivity and yield in many industrial processes by eliminating the static charges that cause machine jams, material defects and attract dust and dirt.

### **Features**

- Cleans while neutralizing static charges
- Reduces machinery jams
- Prevents attraction of dirt and contamination
- Low air requirements

### **Receipt of Equipment**

1. Carefully remove the equipment from the carton.
2. Inspect contents for damage that may have occurred during shipment. If any damage has occurred during shipment, the local carrier should be notified at once. A report should be forwarded to Simco-Ion, 2257 North Penn Road, Hatfield PA 19440, and (215) 822-6401.
3. Empty the carton to insure that small parts are not discarded.

### **Return Shipments**

Prior to returning goods, contact a Simco-Ion Customer Service representative for a Return Authorization Number. This number should be included on the packing list. All correspondence should also reference the Return Authorization Number. Any item being returned should be shipped prepaid and packed to provide adequate protection.

### 3. SPECIFICATIONS



**CAUTION** – Do not operate in excess of specifications listed below or serious personal injury and/or equipment damage may result.

Standard Single Unit Lengths	6", 12", 24"
Standard Multi Unit Lengths	30", 36", 42", 48", 54", 60"
Dimensions	Standard length x 1.4" x 1.09"
Air Inlet	¼" NPT
Inlet Location	Rear of Transvector
Mounting	Transvector may be mounted directly to air line, or if desired, static bar mounting studs may be used to attach additional mounting brackets
Air Input	10 PSIG (min) clean, dry, oil free (kit supplied standard with ionizing Transvector, power supply HV cable and ground wire)
Air Consumption	4.3 SCFM per inch @ 80 PSI
Amplification Ratio	25:1
Piping Diameters	Up to 10' run – ¼" ID Up to 50' run – 3/8" ID Greater than 50' run – ½" ID
Rubber hose of suitable Pressure rating may be substituted	3/8" ID hose = ¼" ID pipe 13/64" ID hose = 3/8" pipe
<b>Electrical</b>	
Grounding	Power supply and Curtain Transvector/Static Bar must be electrically grounded for safe and efficient operation (to ensure ground quality, have installation performed by a qualified electrician)

## 4. INSTALLATION

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**NOTE** – Only qualified service personnel are to perform installation.



### **CAUTION – Electrical Shock Hazard**

De-energize all power supplies before performing any installation tasks.

### **Air Supply Installation**

1. Estimate the total length of pipe required from the compressed air source to the Curtain Transvector
2. Estimate compressed air consumption 4.3 SCFM per inch of Curtain Transvector
3. Use the following chart to determine recommended pipe diameter
4. It is essential that the compressed air line contains a filter/separator (5 micron filter recommended) and a pressure regulator is also recommended. Each component must be sized large enough to assure no restriction to the airflow calculated above.
5. Oil in the airline, from the air compressor or lubrication system, is usually not a problem. Occasionally however, older compressors produce extremely oily air. In such cases, use an oil removal filter downstream of the filter/separator/regulator.



**NOTE** – Failure to adequately filter the compressed air will likely result in clogging the very fine slot of the ionizing transvector (sometimes within minutes of operation).

Identify the pipe length required in the far-left column. Follow that row across to the right until you find the first number that exceeds your calculated consumption. Follow that column up to specify the recommended pipe diameter.

Pipe Diameter (Schedule 40 - Nominal)									
Pipe Length		1/4"*	3/8"*	1/2"*	3/4"*	1"*	1-1/4"*	1-1/2"*	2"*
	<b>10 ft</b>	12	26	46	93	169	336	494	922
	<b>25 ft</b>	8	16	29	59	107	212	312	583
	<b>50 ft</b>	5	12	21	41	76	150	221	412
	<b>75 ft</b>	4	9	17	35	62	123	180	337
	<b>100 ft</b>	4	7	15	29	54	106	156	292

\* Compressed Air consumption (SCFM) (Based on 5 psi pressure drop across pipe length).

## Mounting

1. Mount the Curtain Transvector just ahead of static buildup, close enough to the target material so that charged dust and particles can be easily neutralized and blown free (typically 6" to 18" from the target material).
2. Securely mount the unit by the rigid compressed airline installed to supply the unit. Alternatively, a mounting bracket can be fabricated by the installer and mounted to the studs attaching the static bar to the Curtain Transvector.
3. It is essential that the Curtain Transvector be grounded either through well-grounded electrical conduit or by heavy copper wire connecting it to a water pipe.
4. Refer to the static bar and/or power supply specific manuals for additional mounting instructions.

## **5. OPERATION**

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1. Determine if the Static Bar is functioning properly using Simco-Ion's TensION (P/N 4050556) or On Indicator (P/N 4008907).
2. If bar is not operating properly, perform static bar cleaning procedure (see Section 6, Maintenance). If bar is still not operational after performing this procedure, call your Simco-Ion representative or Customer Service.



## 6. MAINTENANCE

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**CAUTION** – Disconnect power from power supply before cleaning, removing static bar from machine or breaking any ground connection. Failure to do so could cause electrical shock or arcing.

The static bar must be cleaned on a monthly basis. An operational test must be performed as needed or no less than annually.

To clean static bar, use a stiff nylon brush and scrub area around each pin, removing as much debris as possible. The casing can be cleaned out with compressed air.

If static bars are extremely dirty when cleaning, increase frequency to weekly. In very dirty environments, it may be necessary to clean daily or at the end of each shift.



**CAUTION** – Care must be taken to avoid bending the ionizing points of the static bar. **DO NOT** hang rags or other objects on static bar. This may cause damage to the equipment or a possible hazard.

Verify that the bar's ON Indicator (sold separately) is displaying "ON". Then test a random number of points across the bar using Simco-Ion's TensION (P/N 4050556). Contact your Simco-Ion representative if a problem is evident.

## **7. WARRANTY**

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This product has been carefully tested at the factory and is warranted to be free from any defects in materials or workmanship. Simco-Ion will, under this warranty, repair or replace any equipment that proves, upon our examination, to have become defective within one year from the date of purchase.

The equipment being returned under warranty should be shipped by the purchaser to Simco-Ion, 2257 North Penn Road, Hatfield PA 19440, transportation prepaid and insured for its replacement cost. Prior to returning any goods for any reason, contact Simco-Ion Customer Service at (215) 822-6401 for a Return Authorization Number. This number must accompany all returned items.

This warranty does not apply when the equipment has been tampered with, misused, improperly installed, altered, has received damage through abuse, carelessness, accident, connected to improper line voltage, or has been serviced anyone other than an authorized factory representative.

The warranty does not apply when Simco-Ion parts and equipment have been energized by other than the appropriate Simco-Ion power supply or generator, or when a Simco-Ion power supply or generator has been used to energize other than Simco-Ion parts and equipment. Simco-Ion makes no warranty, expressed or implied, nor accepts any obligation, liabilities, or responsibility in connection with the use of this product other than the repair or replacement of parts stated herein.



**Simco-Ion**

2257 North Penn Road  
Hatfield, PA 19440

(215) 822-6401

(800) 203-3419

[www.simco-ion.com](http://www.simco-ion.com)

[customerservice@simco-ion.com](mailto:customerservice@simco-ion.com)

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