

Sprayvectors

Provides Ultra-Fine, Controlled Spray

ITW Vortec's Sprayvectors provide ultra-fine droplet sized sprays for evaporative cooling, moisturization, atomization and humidification. Superior to conventional hydraulic and piezoelectric nozzles, they produce defined spray patterns that can be widely diffused or directed. By use of compressed air, these liquid atomizing devices create micron and sub-micron sized spray droplets. This ultra-fine spray produces greater surface coverage than conventional nozzles. With more efficient use of liquid, Sprayvectors accelerate air-liquid interaction providing effective cooling, humidifying and dust control.



Sprayvectors introduce 2-20 PSIG (0.14-1.4 Bar) filtered liquids through a 1/4" NPT port. They can spray liquids with viscosities up to 1100 CPS for fogging and atomizing applications. Liquids with viscosities up to 100 CSP are suitable for humidifying. Large internal passages eliminate

APPLICATION

notes

An East Coast food processor utilizes #1713 Atomizing Sprayvectors to apply a liquid based preservative to frozen pizzas and other food products.

Model #1713 Atomizing Sprayvectors apply rust inhibitors to recently machined engine parts at a high volume engine rebuilding facility.

A fine woods furniture manufacturer installed #1707 Humidifying Sprayvectors in a storage room filled with valuable fine oak and walnut veneers. During winter months, the humidification saved thousands of dollars in lost materials by preventing the veneers from becoming brittle and cracked due to dry ambient air.

Manufacturers of air conditioners test the performance of their products at varying humidity levels by using #1707 Humidifying Sprayvectors mounted on a test stand.

A facility producing automobile bumpers found that a water mist from #1713 Atomizing Sprayvectors provided effective cooling to stop heat distortion of sheet steel as it emerged from a polishing operation.

Fogging Sprayvectors are used by a sheet rubber producer to apply a water-based release agent that allows the rubber to be rolled up without sticking to itself.

clogging. Precise adjustable flow rates of 6-30 GPH (22.7-113.6 LPH) can be controlled with a knob. External mixing of fluids and compressed air permits delivery of a dense, directable, high velocity spray by using Atomizing and Fogging Sprayvectors or a diffused low velocity spray using Humidifying Sprayvectors. Dry compressed air up to 100 PSIG (6.9 Bar) and airflows of only 12 SCFM (339.6 SLPM) atomize fluids to produce droplet sizes of 20-200 microns.

Sprayvectors can be used for:

- ◆ Sanitizing or Deodorizing
- ◆ Atomizing
- ◆ Moisturization
- ◆ Pressure Spray Cleaning
- ◆ Wetting
- ◆ Spray Application
- ◆ Dust Suppression
- ◆ Humidification
- ◆ Lubrication
- ◆ Mist Coating

Controlled, ultra-fine droplet size

Removable and interchangeable nozzle tips for easy cleaning or replacement

Wide viscosity range
1 to 1100 CPS

Delivers wide range of liquid flows

Precise adjustability and delivery

No clogging problems

No electricity

Quiet — inexpensive

Allows low pressure liquid supply (2-20 PSIG)

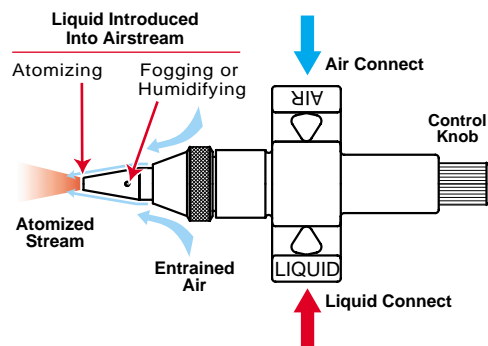
Sprayvectors



MODEL	PATTERN DIA.	WATER FLOW RATE (GPM)				
		.1	.2	.3	.4	.5
Fogging and Atomizing	A in. mm	5 127	5 127	5 127	5 127	5 127
	B in. mm	30 762	30 762	30 762	30 762	30 762
Humidifying	C in. mm	.10	.15	.20	.25	
		80 2030	48 1218	44 1117	30 761	

MODEL NO.	SPRAY PATTERN	DROPLET SIZE	SUGGESTED APPLICATIONS
1703	Fogging	20-60 microns	Moisturizing, coating, evaporative cooling, dust suppression
1713	Atomizing	60-200 microns	Washing, applying lubrication
1707	Humidifying	20-200 microns	Mist coating, moisturizing, evaporative cooling, spray drying

TECH notes



The Transvector® amplification principle of our nozzle design is the basis for the Sprayvector's effective atomizing capability. Sprayvectors atomize liquids externally when a small amount of liquid is discharged into a stream of amplified compressed air moving at sonic velocity. Liquid is sheared by this high speed airstream into fine droplets as entrainment of large volumes of additional surrounding air occurs. The precise and powerful airflow results in a dense and very controllable spray of micron and sub-micron sized droplets.

