

PowerSno™

All-in-One Universal CO₂ Spray Treatment System



PowerSno™
Vector Pro USTS
Universal CO₂ Spray Treatment System

- 💡 **All-In-One CO₂ Spray Treatment for Precision Cleaning and Machining Applications**
- 💡 **Use Anywhere – On-the-Bench, On-the-Line, On-the-Robot, or In-the-Tool**
- 💡 **Simple Adjustment and Instant On/Off Operation, Adaptable and Customizable, and 100% Dry**
- 💡 **Quickly and Consistently Remove Surface Particles, Ionics, Thin Films, Nonvolatile Residues (NVR), and Cutting Tool Heat**
- 💡 **Superior Cost-of-Operation (CoO) and Performance as Compared to Conventional CO₂ Spray Systems**
- 💡 **Footswitch (Standard), Spray Trigger, and Remote Machine-Robot Actuation**
- 💡 **Solo (Standard), Cluster, and Wide Spray Applicators**
- 💡 **Expandable – Supports Multiple Plug-and Spray MicroSno™ Cleaning Modules**

FEATURES

The **PowerSno™** All-in-One Universal CO₂ Spray Treatment System is an economical yet extremely versatile and powerful precision cleaning or machining fluid tool. Using the latest CO₂ Composite Spray™ technology, the **PowerSno™** generates an energetic cleaning spray or cooling-lubricating vapor comprising pressure-regulated compressed air or nitrogen gas, containing micronized CO₂ particles to efficiently remove contaminants from any manufactured surface or cutting tool. The **PowerSno™** provides a 100% dry spray or vapor treatment - *On-the-Bench, On-the-Line, On-the-Robot, or In-the-Tool*.

The **PowerSno™** provides CO₂ spray treatment for a variety of manufacturing processes such as mechanical assembly, machining, grinding, sanding, polishing, adhesive bonding, welding, coating, and inspection, among many others. Manufacturing contamination such as hydrocarbon films, fine particles, ionic residues, nonvolatile residue (NVR), and machining heat are efficiently removed from surfaces.

The **PowerSno™** system comprises a high-performance spray generator with an option for a single coaxial spray (standard) or high-productivity CO₂ composite spray applicator. The **PowerSno™** system is fully expandable with several equipment options and accessories including CO₂ purification, cartesian or collaborative benchtop robots, treatment cabinet, atmospheric plasma surface treatment system, and **LightSPEC™** Spray Quality Monitoring (SQM) system. The **PowerSno™** spray is simply actuated using a footswitch (standard), spray trigger, or by remote machine (or robot) relay closure.

SPECIFICATIONS

PowerSno™
 All-in-One Universal CO₂ Spray Treatment System
 Model PSVP USTS

Plug-and-Spray System Includes:

- 1. CO₂ Composite Spray Generator:** All-in-one chassis equipped with main power on/off switch, adjustable ambient-temperature propellant gas thrust regulator and gauge (0-120 psi), and adjustable liquid CO₂ injection pressure regulator and gauge (0-1500 psi).
- 2. Spray Applicator:** Split coaxial single spray applicator (Micronizer™ SOLO).
- 3. Liquid CO₂ Supply Connection Kit:** CGA320-cylinder adaptor, hose, and 5-micron pre-filter for a high-pressure CO₂ cylinder (w/siphon tube), and supply hose(s) for one or more PowerSno spray systems.
- 4. Local or Remote Actuation:** 3-pin I/O connector and cable for footswitch (standard), spray trigger, or remote machine-robot actuation (24VDC contact closure).
- 5. Process Fluids Filtration:** Propellant and CO₂ (0.7/0.5-micron standard).



Micronizer™ Spray Applicators
 Shown Above: TRIAD



Footswitch Actuator

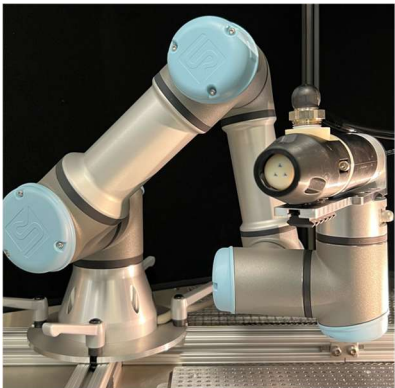
REQUIREMENTS

System Power (Electric and Pneumatic)	110VAC - 50/60 Hz (24VDC PS), Air – 75-120 psi
CO ₂ Supply and Usage	Liquid CO ₂ , 830-950 psi, 10-25°C, 2-5 lbs/hr/nozzle
Propellant Gas Supply and Usage	CA, CDA or GN ₂ , 70-120 psi, 3-6 scfm/nozzle
Spray Actuation (Contact Closure)	Footswitch, Spray Trigger, or Remote Cable Control
Maximum Operating Temperature	25°C (Liquid CO ₂ Changes to scCO ₂ above 31°C)

PERFORMANCE OPTIONS AND ACCESSORIES

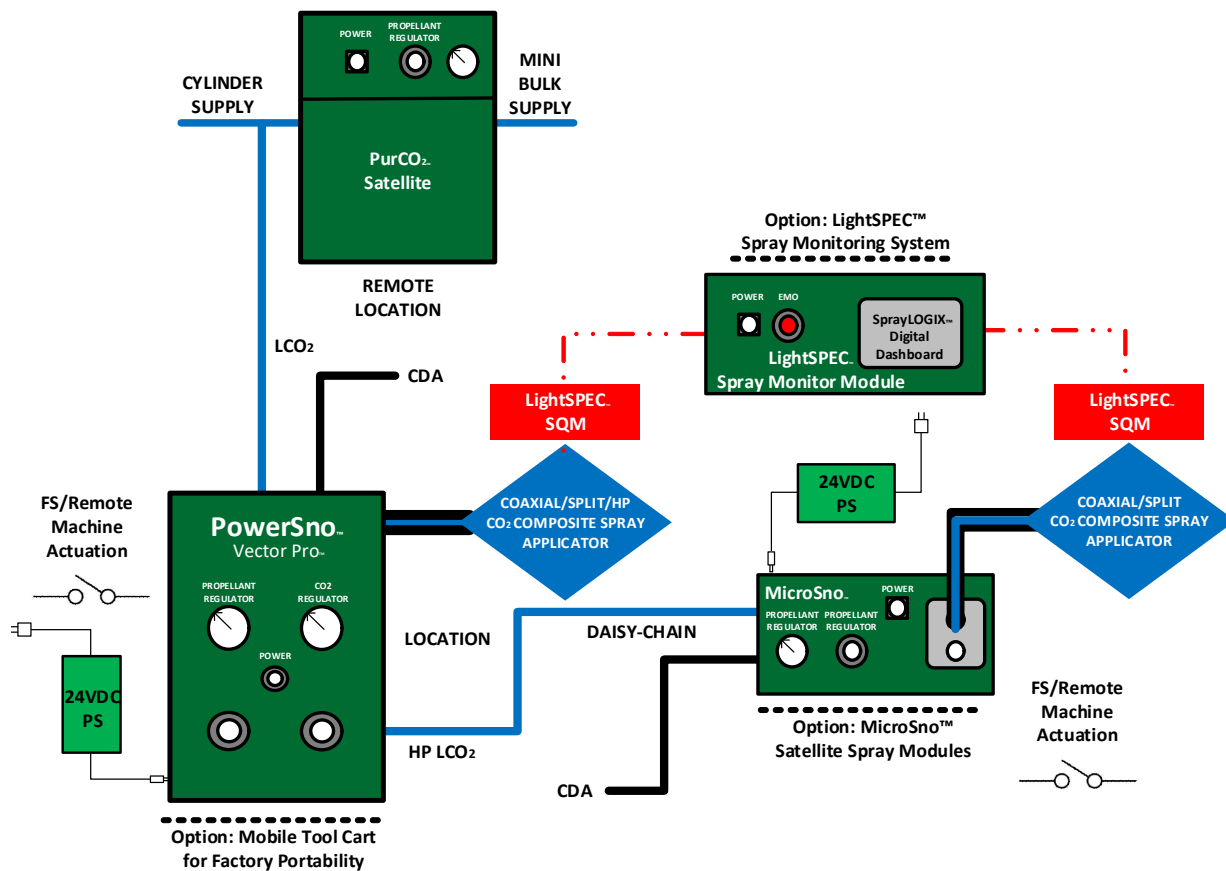
Precision Cleaning:

- 💡 **Particle-Plasma:** Tantec Atmospheric Plasma System
- 💡 **Spray Quality Monitor:** LightSPEC™ Spray Quality Monitoring (SQM) System
- 💡 **Surface Quality Monitor:** Photoemission Tech Surface Quality Monitoring - *Clean-by-the-Number™* - System
- 💡 **Benchtop Robot:** Janome Cartesian or Universal Collaborative Robot
- 💡 **Ultrafiltration Filter:** 0.003 micron Stainless Steel Filters
- 💡 **Spray Applicators:** Cluster and Wide Spray Applicators, and Custom Spray Applicators
- 💡 **Treatment Cabinet:** HEPA-Exhausted Ionized Air Treatment System
- 💡 **MicroSno™ Module:** CO₂ Spray Module for Cleaning
- 💡 **Process Air Heater:** Wall mounted 500 watt propellant heater



PowerSno®

PRECISION CLEANING SCHEME





Clean Manufacturing, *Reimagined.*

clean
imagineering™

CLEANLOGIX™
a division of Clean Imagineering LLC

767 Hawthorne Avenue Unit B
Ponderay, ID 83852 U.S.A.
<https://www.cleanimagineering.com>
<https://www.cleanlogix.com>
+1 (661) 430-6767

Regional Sales Representative

EnviroBlast_{CO₂}

Tom McClanaghan
(810) 814-6586
Enviro-Blast Services, LLC
7065 E 8 Mile Rd.
Warren, MI 48091
www.enviro-blast.com

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