

PowerSno™ VP Standard

Precision CO₂ Spray Cleaning Systems



Standard Features

- CO₂ Composite Spray™ Cleaning Technology
- Vector Pro™ High-Performance Micronized Spray
- LightSPEC™ Spray Quality Monitoring Technology
- SprayLOGIX™ Digital Dashboard
- Single Channel - Four (4) Spray Applicators

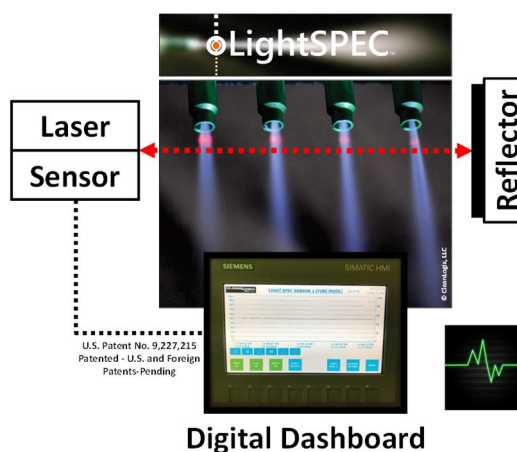
Simple

Standard Integrated System

PowerSno™ VP is simple. A single remote control effort turns the CO₂ cleaning spray on (and off) when so commanded. A panel mounted propellant regulator is used to optimize spray cleaning power for a particular application. A full color display panel with a Digital Dashboard and factory-tool-line communications capability provide important information regarding the status of internal system and external system environmental operating conditions.

Smart

PowerSno™ VP is smart. The system utilizes exclusive LightSPEC™ spray quality monitoring technology to continuously (or intermittently) determine that the CO₂ Composite Sprays (and System) are operating and under control. LightSPEC™ literally monitors the “heartbeat” of the system. Any out-of-spec operating conditions – fluid pressures, temperatures, and injection and flow rates – are reflected in the LightSPEC™ absorption spectrum displayed on the SprayLOGIX™ Digital Dashboard.



Monitoring the “Heartbeat” of the System

Stable

PowerSno™ VP is highly stable and reliable. The standard system ships with factory-optimized internal operating presets for propellant gas temperature, CO₂ particle injection rate, and health condition alarms. During operation, a pneumatic injector (only moving part requiring periodic PM) precisely and continuously injects and disperses micronized CO₂ particles into the heated propellant gas to insure that the cleaning spray is a constant quality. Within a stable system operating environment – for example facility compressed air and CO₂ supply quality and capacity are operating within recommended limits – the near maintenance free PowerSno™ VP reliably delivers a consistent cleaning spray 24 hours a day, 7 days a week. However,

unforeseen factory fluids supply issues can and do arise from time to time. If internal system or system environment conditions become unstable, PowerSno™ VP alerts the operator on the Digital Dashboard and communicates this information to the factory-tool-line using the system's built-in I/O connector or Profinet port.

Flexible

PowerSno™ VP is highly flexible. PowerSno™ VP is available as an *integrated system* (as shown on the front page) for single or close-proximity machine tool-line adaptations and as a *distributed system* for high capacity, remote, and multiple machine tool-line adaptations. A standard integrated system supports four concurrent spray applicators – arranged as desired. Standard and custom spray applicators can be provided to meet your specific spray-cleaning application and tool-line integration requirements. Finally, we offer several different PurCO₂™ CO₂ process fluids supply systems that insure consistent quality and capacities of pure gas or liquid CO₂, or clean dry air for your cleaning system. Please review the company's **PowerSno™ VP Tech Brief** for more detailed information.

Specification

PowerSno™ VP systems are offered with many options and configurations for any stand-alone, tool-integrated, or production line-integrated cleaning application. All systems employ our proprietary and modular CO₂ Processing Unit (CPU®) architecture and patented spray technology. Two operation and control configurations are available: 1) **Standard**: manually-adjusted propellant regulator with internal factory-presets (and controllers) for propellant temperature, CO₂ injection pressure, and system alarm conditions (**PowerSno™ VP**) with single-channel four (4) spray application points and 2) **Pro**: fully-automated spray control and adjustment (**PowerSno™ VP Pro**) with dual-channel eight (8) spray application points. Systems are factory-configured to produce coarse, fine or ultra-fine particle sprays with optimum cleaning power as needed for a particular application.

PowerSno™ VP systems incorporate patented Vector Pro™ CO₂ Composite Spray™ technology which provides unsurpassed spray stability, economy, and performance. These systems can provide precision cleaning capability at multiple points in the factory, in one or more manufacturing processes and tools, or directly on the production line.

Modular Configuration: PowerSno™ VP systems feature rack-mount style modules mounted in a powder-coated



aluminum chassis. Each module features a rear panel for main power, fluids supply (CO₂/CDA), factory-tool-line communications, and remote control. Modules are easily accessed from the front and sides and can be quickly removed for preventive maintenance and component replacement operations.

SprayLOGIX™ Digital Dashboard: The SprayLOGIX™ Digital Dashboard features a full-color touch-screen display panel with five (5) easy-to-understand screens for *Main Operation*, *LightSPEC™ Monitor*, *Internal and Environmental Operating Alarms*, *System Inputs*, and *System Outputs*. The front panel features a lighted on/off power switch, EMO switch, USB port, Profinet communication port, and manual propellant regulator (with digital pressure displayed).

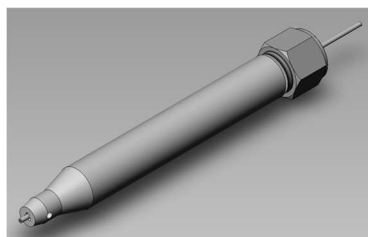


Vector Pro™ CO₂ Composite Spray™ Generator (Propellant and CO₂ Particles): Precision propellant gas pressure regulator (40-125 psi), internal propellant temperature controller (70-250°F), and preset CO₂ injection pressure (1200 psi). PowerSno™ VP systems use either a high pressure liquid or gas CO₂ supply (750-850 psi/50-70 deg. F optimal).

Spray Configurations: Standard PowerSno™ VP is offered with the following spray applicators:

Model Number	Application Points	CO ₂ Usage
CPU® 4500 (Standard)	Four (4) (Customizable)	4 lbs CO ₂ /nozzle/hour

The standard PowerSno™ VP system can accommodate up to four (4) spray application points using a single spray channel (i.e., all sprays are on, or all sprays are off). Available CO₂ composite spray applicators include a single spray pen, three-, five- and ten-spray clustered spray guns, and ten- and twenty-spray linear applicators. Multi-channel and complex CO₂ composite spray geometries are available as an option.



Micronizer SOLO
Vector Pro Single and Custom Spray Applicators
Model MICRONIZER-SOLO-(Options)



Micronizer TRIAD
Vector Pro Cluster Spray Applicator
Model MICRONIZER-TRIAD-(Options)



Micronizer Penta and Deca
Vector Pro Cluster Spray Applicators
Model MICRONIZER-PENTA/DECA-(Options)



MICRONIZER Hammerhead
Vector Pro Wide Spray Applicators
Model MICRONIZER-HAMMERHEAD-(Options)

System Requirements:	PowerSno™ VP Model CPU® 4500 (LCO ₂ Feed)
Electrical Power	120 VAC, 1 Phase, 50/60 Hz, 10 Amps (other power options available)
Clean Dry Air (CDA)	20 scfm CDA (max), 85 °F maximum, 90-125 psi
Carbon Dioxide (CO ₂)	16 lbs./hour Liquid CO ₂ (max), 80 °F maximum, 750-850 psi
Communications	Profinet and contact closure control/alarm condition
Footprint	24" (W) X 18" (D) X 29" (H) Console, with Caster Wheels

Specifications are subject to change without notice.

OPTIONS AND ACCESSORIES

- Built-in CO₂ Condenser Purifier and Recirculating Chiller
- Mobile Tool Cart
- Custom 3D Designed/Printed Applicators and Fixtures
- Point Source Spray Ionizer
- PurCO₂™ CO₂ Purification and Delivery Systems
- Particle-Plasma™ Module
- COBOT Automation Integration
- Vulcon™ Robotic Spray Cleaning Systems
- CleanCell™ Custom HEPA-filtered Cleaning Cells
- Stainless Steel Chassis
- Class 100 Clean Build/Design
- Ultrafiltration (0.003 Micron)
- CO₂ Safety Monitor for Confined Spaces
- Process Status Light Tower
- OSEE Surface Quality Inspection System
- Ethernet Communications Module



Particle-Plasma™



Clean Manufacturing, *Reimagined.*

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