



SHN



SGN

# Electrostatic Precipitator Mist Collectors (SHN/SGN)



ENGINEERING YOUR SUCCESS.



## THE TIME-PROVEN ANSWER TO INDUSTRIAL FUME PROBLEMS

The most effective electrostatic precipitator (ESP) on the market today is the genuine Smog-Hog® SHN/SGN Series, manufactured exclusively by Parker Hannifin. No other ESP unit can match this system's efficiency, effectiveness and long-term cost savings for the collection of oil smoke and coolant mist.



For more than 50 years, Parker has invested in constant improvement of electrostatic precipitator technology. And, the Smog-Hog SHN/SGN Series is made up of the most advanced ESP units available—better than electrostatic units of the past and superior to every alternative mist collection system.

## APPLICATIONS

Engineered to perform long-term, heavy-duty industrial air cleaning, SHN/SGN units eliminate smoke, mist and dust generated by a variety of applications—brazing, casting, flame cutting, drilling, grinding, milling, screw machining and more. Also, these systems are available in a variety of sizes and versatile configurations to fit your company's needs. SHN/SGN units are equipped with airflow capacities ranging from 400 to 9,000 CFM. Systems can be ducted, unducted, free hanging and machine-mounted, depending on your specific application — eliminating the need to give up valuable floor space in your facility!



## COMMON APPLICATIONS

- Brazing
- Casting
- Cold forming
- Flame cutting
- Forging
- Gear cutting
- Heat treating
- Induction heating
- Lathes
- Plastic and rubber forming
- Quenching
- Screw machining
- Soldering
- Threading
- Vacuum pumps
- Welding
- Wet grinding
- Wire drawing

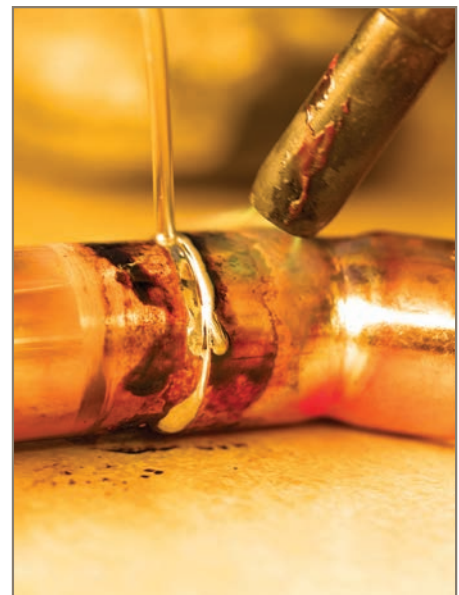
## ENSURE EMPLOYEE SAFETY WHILE MINIMIZING COSTS

SHN/SGN mist collectors keep employees healthy and on the job by removing dangerous airborne contaminants that can cause respiratory problems. These powerful units eliminate dirty airborne particles before they settle on floors, land on expensive machinery or are inhaled—situations that can lead to accidents, workers’ compensation claims, OSHA compliance violations and expensive machine repairs.

Investing in the SHN/SGN Series can also improve your company’s profitability by reducing energy and housekeeping costs. These systems recirculate air into your plant and reduce exhaust air make-up requirements with efficiencies up to 99%. Thousands of gallons of valuable resources such as cutting oils, lubricants, coolants and plasticizers are recycled each year by Parker SHN/SGN Series customers.

## Continuous Cleaning

SHN/SGN units can be programmed to run continuously during and between shifts. This feature reduces the energy resources needed to power the system every day, as well as decreases the potential for contaminants to accumulate while the SHN/SGN system is in the “off” mode.





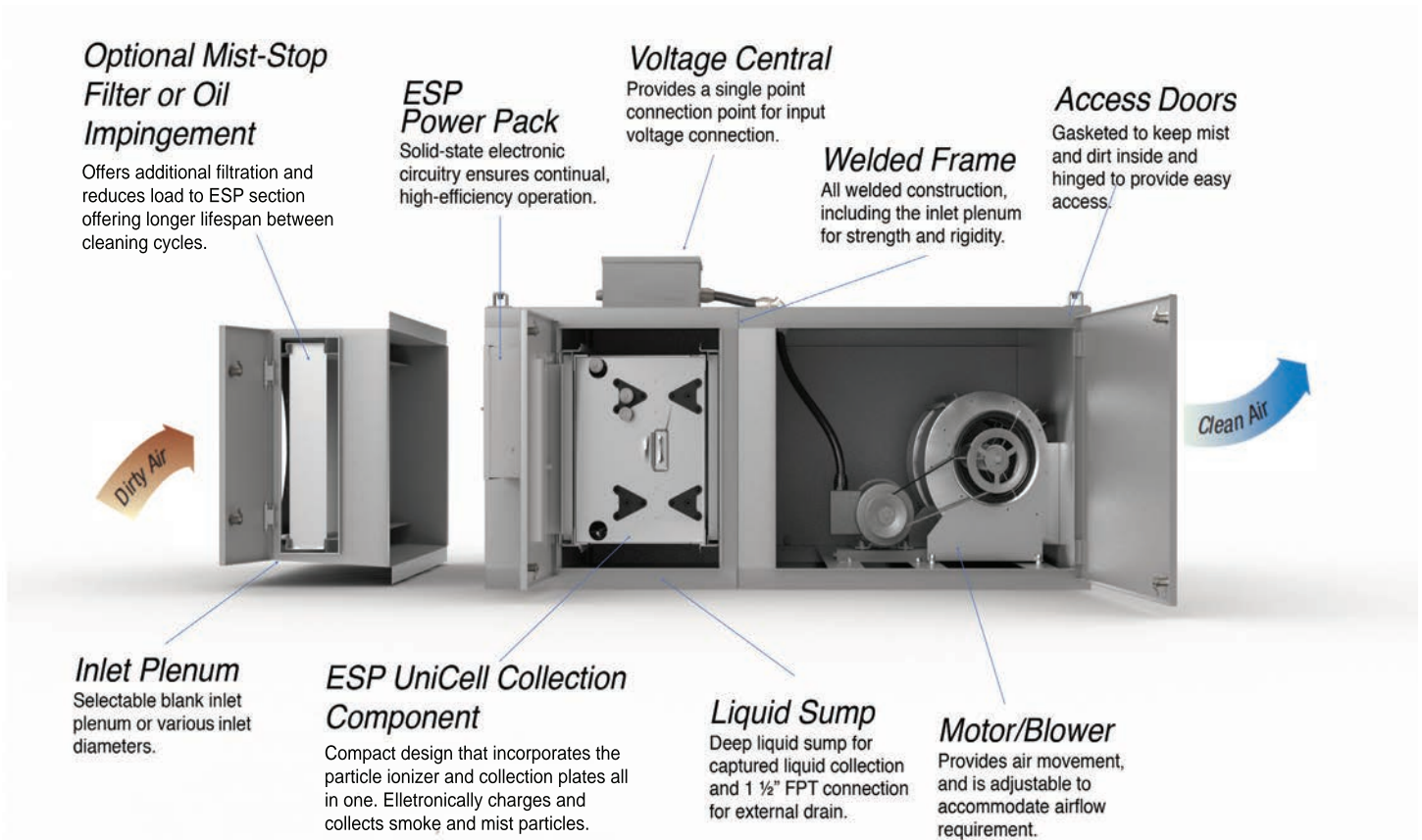
## PRODUCT ENHANCEMENTS REDUCE COSTS

Parker Mist-Stop filter dramatically reduces the amount of mist and smoke particles that pass through the Ionizer and ESP Collection Component. So, less time and money is spent servicing and cleaning a unit, because intervals between cleanings increase up to two to three times longer! The Mist-Stop filter is composed of heavy-duty aluminum mesh and a high-efficiency coalescing pad.

Another product enhancement is the expanded SHN cabinet design (pictured below). Now standard on all SHN units, the larger cabinet allows room for the 1" aluminum mesh filter and optional 2" Mist-Stop filter— eliminating the need to add an inlet plenum. Mist-Stop filters are available for use on all SHN and SGN units that use an impingement plenum, as well as expanded SHN systems.

## How ESP Works

SHN/SGN mist collectors are configured using ESP technology—a proven concept and technology in use for over 50 years. By electronically charging both large and microscopic contaminants, these systems capture impurities like a magnet in collection cells. At the same time, recyclable coolants and oil are collected for reuse, and safe, breathable air is discharged back into the workplace.



# WHAT MAKES THE SGN/SHN BEST IN CLASS

- 1 Reusable ESP collection components eliminate costly filter replacements and disposal.
- 2 Flexible installation options accommodate many application requirements including lack of floor space.
- 3 Low energy consumptions can help increase company profitability.
- 4 Contaminants drain off ESP collection component, reducing the frequency of unit maintenance and cleaning.
- 5 Units maintain consistent airflow at all times for continuous clean air circulation.
- 6 Low sound levels eliminate the need for expensive silencers.



## COMPETITIVE UNITS

### CARTRIDGE COLLECTORS

- Low-efficiency cartridges clog with contaminants, reducing airflow.
- Smoke applications require frequent and expensive replacement of HEPA filters.
- Large unit size takes up valuable floor space.
- Expensive, non-standard size filter replacement.
- High energy consumption

### CENTRIFUGAL MIST COLLECTORS

- Large droplets cause unit imbalance and frequent maintenance.
- Smoke particles too small for centrifuge are returned to work environment.
- Vibration transmitted to machine tool can cause loss of precision and quality problems.

### BAG FILTER UNITS

- Standard HVAC-grade ASHRAE-rate pocket bag filters have low efficiency on mist and smoke particles.
- Bags load with oil, clog and drain poorly.
- Frequent and expensive filter replacement.
- Potential for solid hazardous waste disposal costs.

### MEDIA MIST COLLECTORS

- Low-efficiency cartridges quickly fill up and minimize airflow.
- High energy consumption.
- Expensive filter replacement.
- Possible expenses needed for solid waste disposal.

## SHN OR SGN?

All SHN and SGN units use the same electrostatic precipitator technology to clean industrial mist and oil smoke. Both systems are available in a variety of sizes and configurations depending upon your company's application. However, there are a few differences to consider when choosing the right ESP mist collector.

### SHN

- 1** SHN systems collect oil smoke and mist particles, and handle airflows from 1,000 to 5,200 CFM.
- 2** Comprised of an ionizer section and an ESP collection cell, SHN units can accommodate additional filtration options for heavy-duty applications.
- 3** The SHN filters, as well as the ESP components, conveniently slide in and out of the system for easy manual cleaning.
- 4** SHN units can be ducted, unducted, wall and ceiling mounted.

#### Options and Accessories

- 95% DOP or HEPA After-filters
- Application-specific power packs
- Custom paint colors
- Drain bottle
- Drain loop trap
- Dual polarity
- High or low-static pressure blowers
- Inlet plenums
- Machine-mount kit (SHN only)
- Mist-Stop filter
- Motor starter
- Odor control modules
- Oil impingement filter
- Outlet plenums
- Remote status indicator panels
- Side discharge plenums
- Source capture parts and accessories
- Tandem-pass configuration

### SGN

- 1** SGN units collect high-volume oil smoke and coolant emissions, and are equipped for airflow capacities ranging from 2,200 to 9,000 CFM.
- 2** SGN units powerful systems employ a single ESP unicell, which combines the ionizer and collection cell.
- 3** SGN units have supplemental filtration accessories available.
- 4** SGN units are made of a fully welded construction.
- 5** SGN units have toolless door latches and quick access to motor/blower section.
- 6** SGN units offer selectable blank inlet collar or various inlet diameters.
- 7** SGN units can be ducted, unducted, machine, wall and ceiling mounted.



Depending on your specific application, airflow requirements and size restrictions, a Parker representative can help you select the unit that matches your company's industrial air quality need.

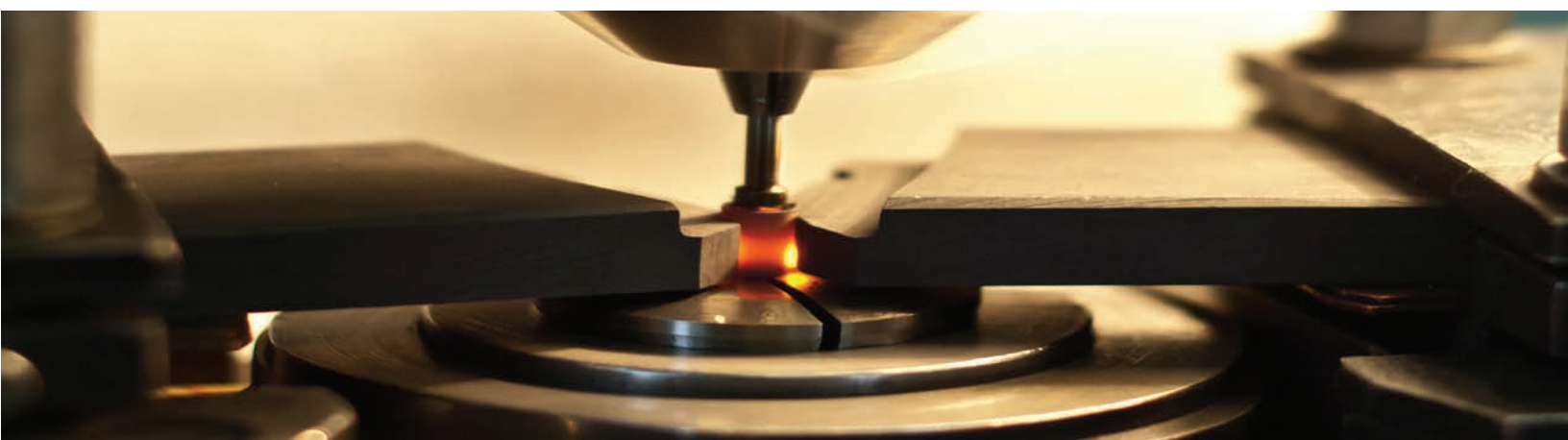
**H:** High Static  
**HH:** Higher Static  
**HM:** High Static Multiple-Pass

**XB:** No Motor/Blower  
**M:** Multiple-Pass or Tandem  
**T:** T-Shape Configuration



Model	Horsepower	Unit Weight	CFM Capacity
SHN-10-XB	-	120 lbs.	1,000 - 1,250
SHN-10	.5	215 lbs.	1,000 - 1,250
SHN-10-H	1	225 lbs.	1,000 - 1,250
SHN-10-M	.5	335 lbs.	1,000 - 1,250
SHN-10-HM	1	345 lbs.	1,000 - 1,250
SHN-20-XB	-	200 lbs.	2,000 - 2,500
SHN-20	1	324 lbs.	2,000 - 2,500
SHN-20-H	2	340 lbs.	2,000 - 2,500
SHN-20-M	1	524 lbs.	2,000 - 2,500
SHN-20-HM	2	540 lbs.	2,000 - 2,500
SHN-40-XB	-	344 lbs.	4,000 - 5,000
SHN-40	3	680 lbs.	4,000 - 5,000
SHN-40-H	5	691 lbs.	4,000 - 5,000
SHN-40-M	3	1,024 lbs.	4,000 - 5,000
SHN-40-HM	5	1,035 lbs.	4,000 - 5,000
SHN-40-HH	7.5	710 lbs.	2,500 - 5,500
SHN-50-T	3	660 lbs.	4,000 - 5,200

- Not all SHN configurations are shown above.
- Please consult Parker eQUIP or your Parker Territory Sales Manager for standard and custom configurations.





**FB:** Mist Stop, Blower  
**NB:** No Inlet, Blower  
**PB:** Perforated Inlet, Blower

**FX:** Mist Stop, No Blower  
**NX:** No Inlet, No Blower  
**PX:** Perforated Inlet, No Blower

Model	Horsepower	Unit Weight	CFM Capacity
SGN121-FB	2 - 3	550 lbs	2,200 - 3,000
SGN121-NB	2 - 3	550 lbs.	2,200 - 3,000
SGN121-PB	2 - 3	550 lbs	2,200 - 3,000
SGN122-FB	3	800 lbs	2,200 - 3,000
SGN122-NB	2 - 3	800 lbs.	2,200 - 3,000
SGN122-PB	2 - 3	800 lbs.	4,000 - 6,000
SGN221-FB	3 - 5	875 lbs.	4,000 - 6,000
SGN221-NB	7.5	875 lbs.	4,000 - 6,000
SGN221-PB	3 - 5	875 lbs.	4,000 - 6,000
SGN222-FB	5 - 7.5	1,300 lbs.	4,000 - 6,000
SGN222-NB	7.5	1,300 lbs.	4,000 - 6,000
SGN222-PB	5 - 7.5	1,300 lbs.	4,000 - 6,000
SGN321-FB	7.5	1,275 lbs.	6,600 - 9,000
SGN321-NB	10	1,275 lbs.	6,600 - 9,000
SGN-321-PB	7.5	1,275 lbs.	6,600 - 9,000
SGN322-FB	10	1,900 lbs.	6,600 - 9,000
SGN322-NB	10	1,900 lbs.	6,600 - 9,000
SGN322-PB	10	1,900 lbs.	6,600 - 9,000
SGN322-NB	10	1,900 lbs.	6,600 - 9,000

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# Ambient Solutions

Cleaning ambient factory air is a viable solution when capturing contaminants at the source or via a machine mount method is impractical. Parker Hannifin ambient systems offer a flexible industrial filtration solution for complex manufacturing processes. Common applications for ambient mist collector solutions include facilities with overhead cranes, process configurations which prohibit direct source capture and instances where facilities and/or processes have variable contaminant generation points.

Ambient systems work by achieving a targeted number of air changes in the containment area. The number of air changes required is based on contaminant properties, generation rates, and acceptable concentration levels.

Airflow patterns are developed by strategically locating hoods or SmogHog mist collection units throughout the containment area to entrain the airborne contaminants and mix the air. The clean air exhausted from the system can be used to further develop circulation patterns to enhance contaminant capture. Both the inlet and outlet airflow directions are configurable and systems are available for wall, ceiling or rooftop installation to provide a customized solution to meet a variety of facility and process needs.

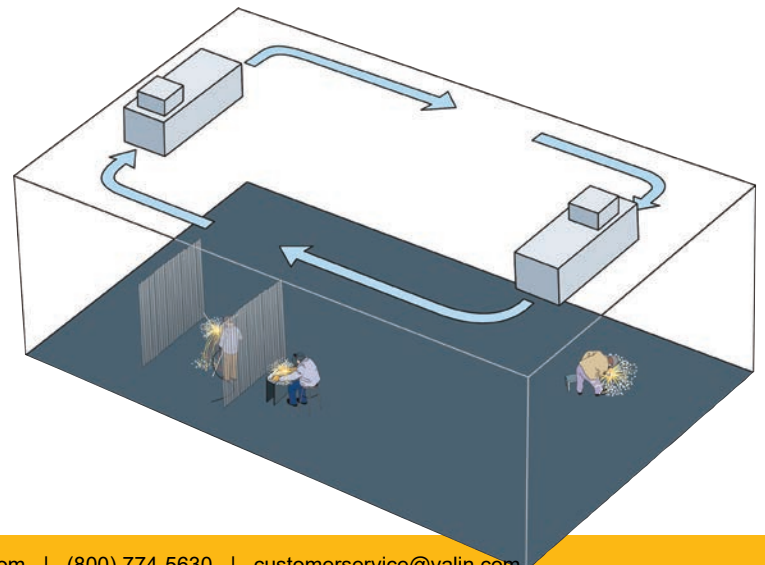
Ambient systems offer operational cost savings by recirculating clean air, avoiding exhausting conditioned air and minimizing make-up air needs.

**SmogHog systems available in an ambient configuration include the SHN Series and SGN Series.**



## SmogHog systems are arranged in a racetrack configuration.

Multiple mist collection units are used to circulate the air inside the facility from unit to unit in a circular racetrack configuration. Airborne contaminants are drawn into the units and safely contained. Clean air is recirculated back into the building for energy savings.





## Providing Clean Air Solutions

Parker Hannifin is committed to providing clean air solutions that protect your employees, improve plant performance and enable you to realize your operating goals.

**State-of-the-Art Labs and Advanced Filtration Research for Optimized Performance.** Purpose-built labs and test facilities with the latest equipment allow our engineers and technicians to quickly and accurately assess filter capabilities and develop innovative new medias.

**High Performance Filters & Specialized Equipment Solutions.** With decades of experience manufacturing high performance original equipment and aftermarket filters to meet a variety of system types and configurations, we can satisfy whatever requirement is needed including customized solutions.

### Industrial Applications

- Abrasive Blasting
- Carbon Black
- Cement
- Chemicals
- CNC Machining
- Coal-Fired Boilers
- Cold Heading
- Die Casting
- Food Processing
- Lime
- Metals
- Metalworking
- Pharmaceutical
- Plasma & Laser Cutting
- Plastics Processing
- Powder Paint
- Thermal Metal Spraying
- Utility
- Waste-to-Energy
- Welding
- Woodworking
- Other Applications
- Custom or OEM Applications

**World-class Manufacturing Processes with a Global Footprint.** We produce top quality filtration solutions through stringent manufacturing processes.

**Application Expertise for Any Filtration Challenge.** Our ability to design a solution to fit your application begins with engineering expertise proven by hundreds of global installations.

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