

# MULTILAYERED APPLICATIONS *for* CLEANER *Indoor Air*



# The IMPORTANCE of IAQ

According to the Environmental Protection Agency, Americans spend approximately 90% of their time indoors, where the concentrations of common pollutants can be two to five times higher than outdoor levels.

The relationship between poor indoor air quality (IAQ) and both short- and long-term adverse health effects has long been established. World Health Organization (WHO) data shows that almost everyone (99% of the global population) is breathing air that exceeds WHO guideline limits for levels of the most common pollutants, contributing to more than 7 million premature deaths worldwide annually while also harming the health of billions more. The elderly and the young are particularly susceptible as well as those with underlying medical conditions, including asthma and heart-related issues. Also, poor IAQ affects how we feel and perform, contributing to missed days at work and absenteeism in schools.

Despite the importance of breathing clean indoor air, many of us are often unknowingly exposed to poor IAQ regularly, underscoring the importance of taking proactive steps to improve IAQ and minimize our exposure to indoor air pollutants.

A first line of defense of any comprehensive strategy to address IAQ includes air filters in a

building's HVAC system. Filters are rated according to "Minimum Efficiency Reporting Value" (MERV). The higher the MERV rating, the better the filter is in removing contaminants from indoor air. IAQ experts recommend using at least MERV-13-rated filters for better filtration of particulate matter (PM).

But higher-rated filters present several challenges.

First, they are often much more expensive, and the costs of replacing and maintaining them can add up quickly, as filters must be regularly replaced (up to four times a year). This is particularly salient for larger spaces with specialized or multiple HVAC systems, such as businesses, schools, universities, and health care facilities, where the cost to replace filters may be unfeasible. Also, many buildings are old and can't readily incorporate higher-rated filters. Additionally, all filters — regardless of their efficiency rating — often struggle to capture microscopic and submicroscopic particles, including many common viruses and bacteria.

One way to improve filter performance and reduce airborne PM is by adding a complementary air-cleaning technology as part of a multilayered approach. Ionization provides a cost-effective solution that doesn't compromise filter performance or IAQ; in fact, it is shown to improve both.

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-Environmental Protection Agency



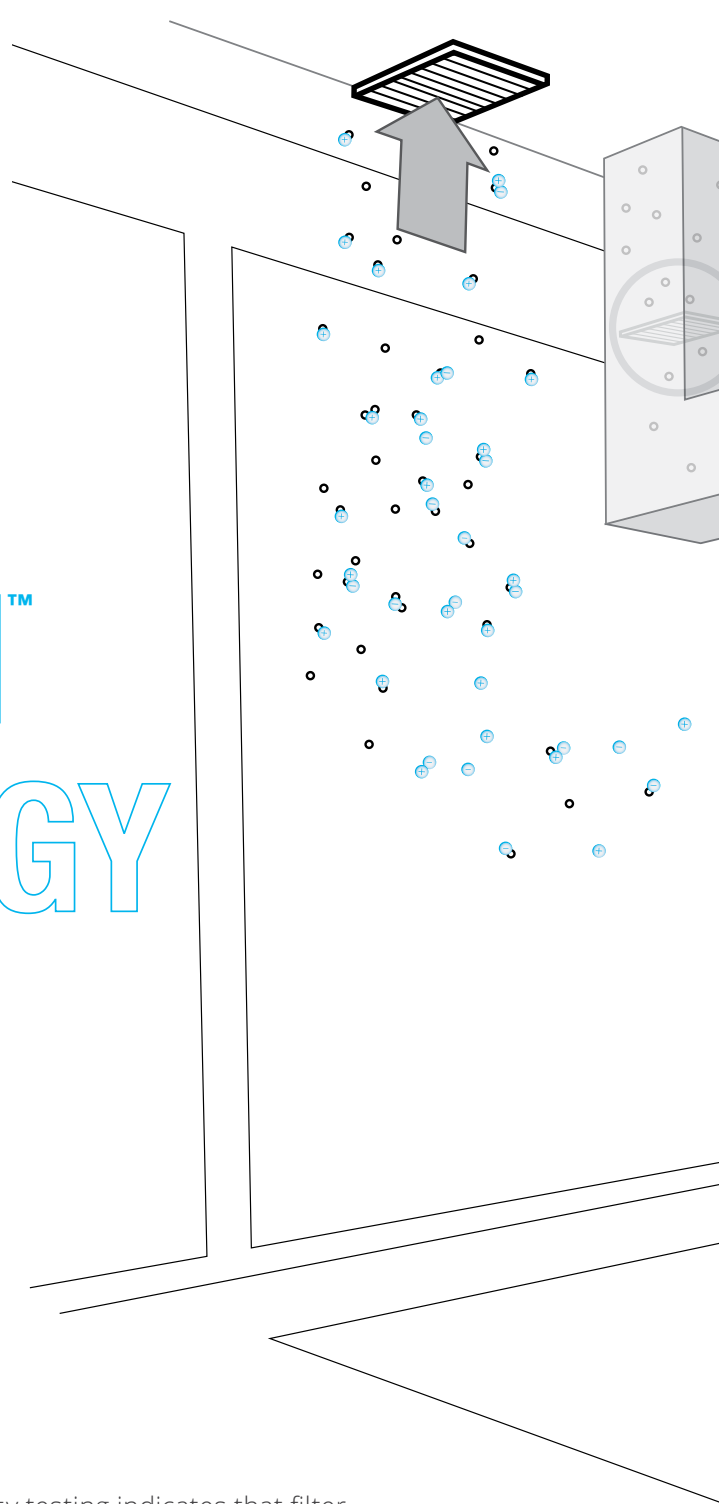
Improve  
Your IAQ With **NPBI™**  
**TECHNOLOGY**

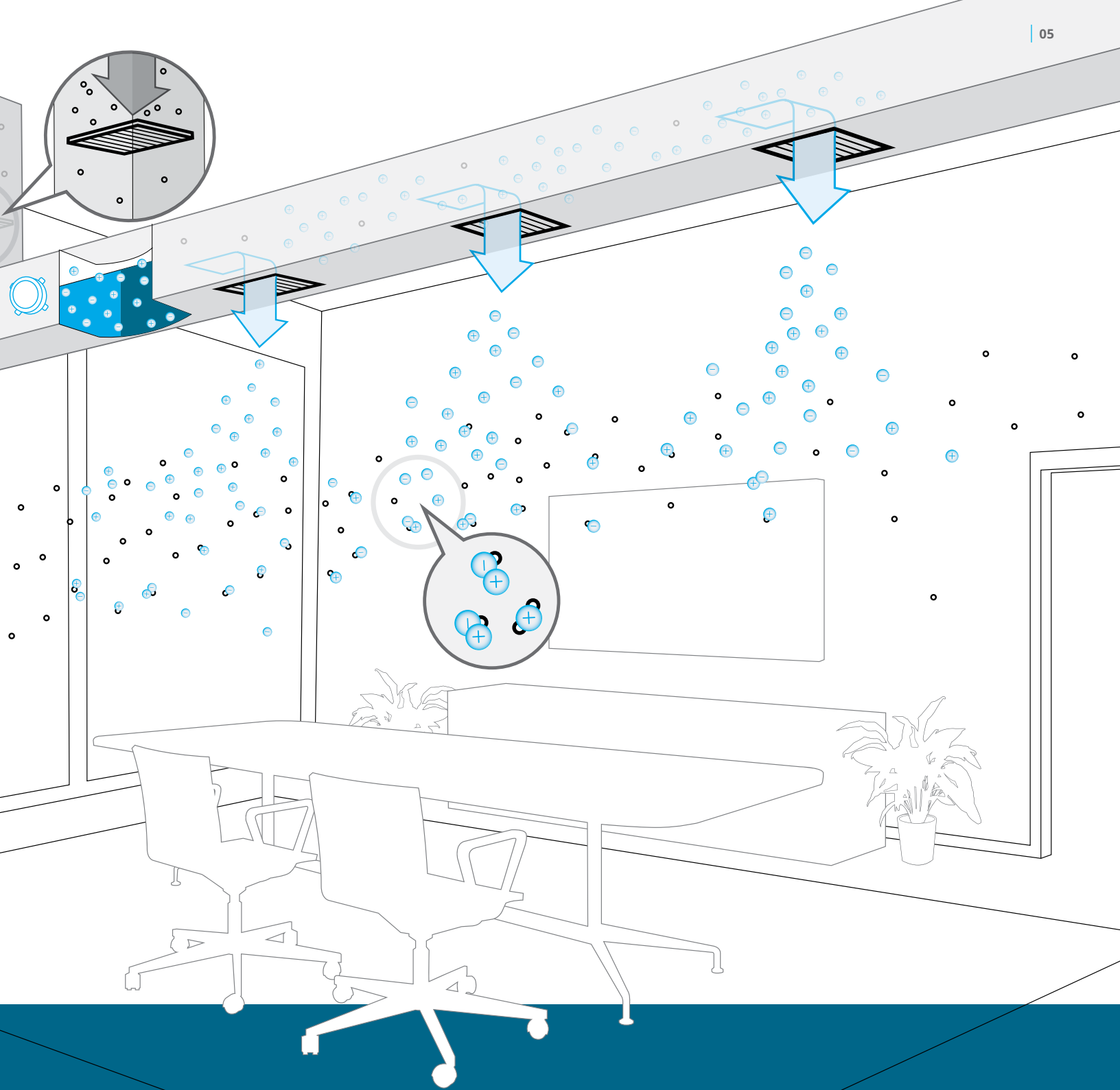
GPS® patented NPBI technology works to improve IAQ by targeting airborne particles, including certain odors, viruses and bacteria.

NPBI technology introduces ions into a space via the existing HVAC system. When these ions disperse throughout a space, they seek out and form bonds with particles in the air through a process called “agglomeration.” This creates a snowball effect in which particles begin to cluster together. The larger a cluster of particles becomes, the easier it is for an HVAC system to filter it out of the air. In addition to this clustering effect, contact with ions also inactivates certain viruses and bacteria.

Third-party testing indicates that filter performance improves when ionization is added to HVAC systems, particularly with respect to removing fine and ultrafine particles that most significantly affect human health. For instance:

- NPBI + MERV-8 filtration removes PM twice as fast as filtration alone.
- NPBI + MERV-10 filtration removes PM 1.5 times faster than filtration alone.





**There is no single solution to achieve optimal IAQ. Rather, a number of strategies are typically needed for a long-term, effective clean air solution.**

In this product catalog, we describe the various NPBI ionization products that work across multiple applications to help clean indoor air. Specifications are included for each product, including duct-mounting capabilities, voltages required and ion output.

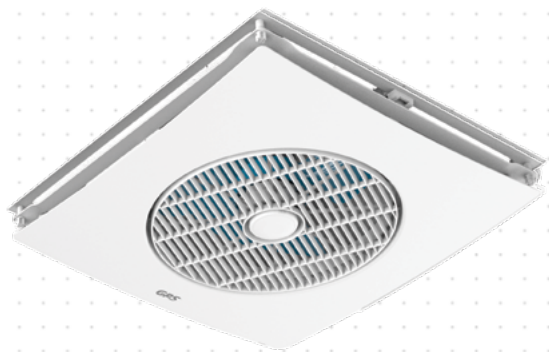
Along with a wide range of coil-cleaning and HVAC solutions, GPS® offers in-space solutions for properties with long or complex duct runs or without a direct airflow path to help reduce COVID-19 and influenza virus levels.



## IDF-2™

The IDF-2 is a low-profile, auto-cleaning NPBI™ ion distribution fan that handles up to 225 CFM. Designed for easy installation in drop ceilings in classrooms, conference rooms and open offices, it provides immediate visual confirmation of proactive air-cleaning measures.\*

- High-efficiency brushless motor and revolving diffuser for optimal ion output
- 39 dB standard mode for optimal ion levels and quiet operation
- 120–240 VAC voltage input
- UL 867 compliant
- UL 2998 compliant
- CARB compliant
- FCC compliant (part 18)



**SYSTEM TYPE** In-space solution

**MOUNTING LOCATION** Drop ceiling

*\*Based on a 10-foot ceiling.*



## DM-2™

The DM-2 is the auto-cleaning NPBI™ system designed for indoor duct mounting. Its low-profile design allows for mounting in proximity to the occupied space, especially when combined with the DM-S™ round-duct mounting accessory.

- Multi-voltage input
- Integral building automation system (BAS) alarm contacts
- Quick-turn duct adapter
- Carbon fiber brush emitters
- UL 2998 zero ozone emissions
- UL 2043 compliant
- FCC compliant (part 18)
- CARB compliant



<b>SYSTEM TYPE</b>	HVAC solution
<b>MOUNTING LOCATION</b>	Duct Supply airstream Zone diffuser

## CI-2™

The CI-2 is an auto-cleaning NPBI system designed to fit where traditional air ionizers don't, including fan coils, PTACs, ductless mini splits, ceiling cassettes and ducted modules, as well as traditional split systems and air handlers up to 2,400 CFM.

Made in the USA with American and global parts.

- 24 VAC, 12–36 VDC voltage input
- Auto-cleaning
- Integral BAS alarm contacts
- Internal mounting magnet
- UL 2998 compliant
- UL 2043 compliant
- FCC compliant (part 18)
- CARB compliant



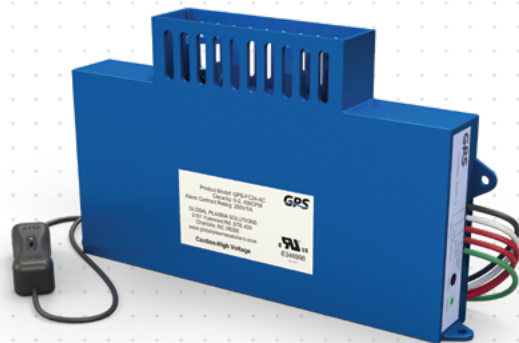
<b>SYSTEM TYPE</b>	HVAC solution
<b>MOUNTING LOCATION</b>	Duct Fan inlet Zone diffuser



## GPS-FC24™-AC

The GPS-FC24-AC is an auto-cleaning, lightweight NPBI system that handles up to 2,400 CFM or 6 tons. It's designed for multiple mounting options, including fan inlets, interior duct walls or floors.

- Multi-voltage input
- Programmable auto-cleaning cycle
- Carbon fiber brush emitters
- Integral BAS alarm contacts
- UL 2998 zero ozone emissions
- UL 2043 compliant
- FCC compliant (part 18)
- CARB compliant



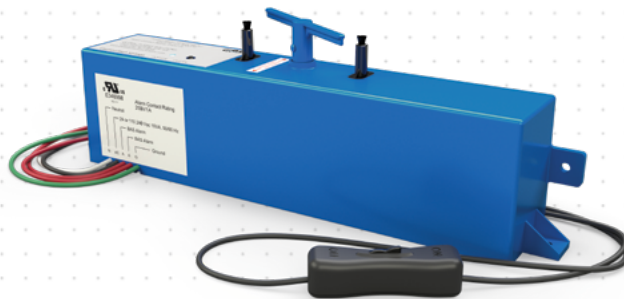
**SYSTEM TYPE** HVAC solution

**MOUNTING LOCATION** Fan inlet  
Supply airstream  
Zone diffuser

## GPS-FC48™-AC

The GPS-FC48-AC is an auto-cleaning, lightweight NPBI system that handles up to 4,800 CFM or 12 tons. It's designed for multiple mounting options, including fan inlets, interior duct walls or floors.

- Multi-voltage input
- Programmable auto-cleaning cycle
- Carbon fiber brush emitters
- Integral BAS alarm contacts
- UL 2998 zero ozone emissions
- UL 2043 compliant
- FCC compliant (part 18)
- CARB compliant



**SYSTEM TYPE** HVAC solution

**MOUNTING LOCATION** Fan inlet  
Supply airstream  
Zone diffuser

## GPS-DM48™ -AC

The GPS-DM48-AC is an auto-cleaning, lightweight NPBI™ system that handles up to 4,800 CFM or 12 tons. The design is optimized for mounting into interior duct walls or floors.

- Multi-voltage input
- Programmable auto-cleaning cycle
- Carbon fiber brush emitters
- Integral BAS alarm contacts
- Three-quarter quick-turn duct adapter
- UL 2998 zero ozone emissions
- UL 2043 compliant
- FCC compliant (part 18)
- CARB compliant



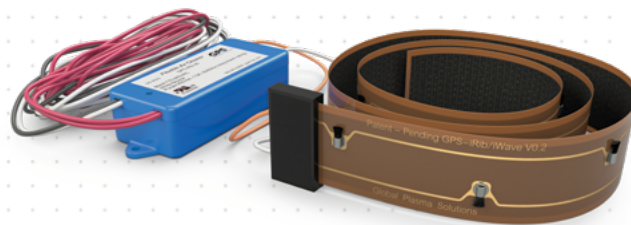
**SYSTEM TYPE** HVAC solution

**MOUNTING LOCATION** Duct  
Supply airstream

## GPS-iRIB® -18/36

The GPS-iRIB is available in 18- and 36-inch lengths. This mechanism is engineered to deliver the highest level of ionization with the least amount of energy in the most compact size.

- Integral BAS alarm contacts
- Hook-and-loop integration for easy installation
- Voltage input (110–240 VAC)
- UL 2998 zero ozone emissions
- UL 2043 compliant
- FCC compliant (part 18)
- CARB compliant



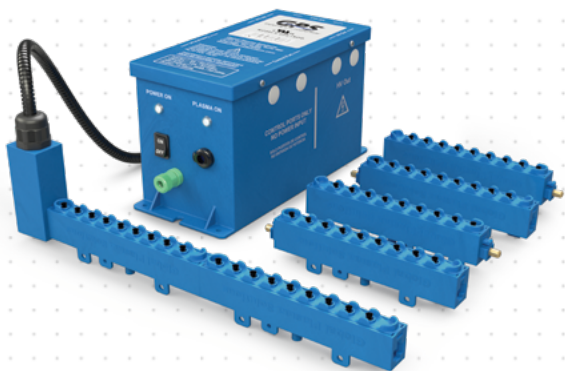
**SYSTEM TYPE** HVAC solution

**MOUNTING LOCATION** Duct  
Supply airstream

## GPS-iMOD®

The GPS-iMOD is a modular NPBI system that is field-assembled to any length up to 240 inches in 6-inch increments. Designed for mounting in air handling units, the iMOD is ideal for preventing buildup on evaporator coils.

- Multi-voltage selector switch
- Six high-voltage output ports
- Integral BAS alarm contacts
- Indication light
- UL 2998 zero ozone emissions
- UL 2043 compliant
- FCC compliant (part 18)
- CARB compliant



**SYSTEM TYPE**

HVAC solution

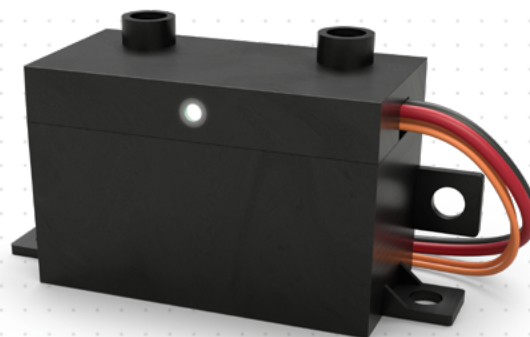
**MOUNTING LOCATION**

Supply airstream  
Between filter and  
evaporator coil

## GPS-FC-3-BAS

The GPS-FC-3-BAS unit is designed to be mounted inside of fan coils, heat pumps, PTACs, ductless mini splits and air handlers up to 3,200 CFM or 8 tons. Its compact size and simple mounting requirement allow it to be mounted almost anywhere in just a few minutes.

- Carbon fiber brush emitters
- > 350 million + and - ions/cc
- LED operation status
- Integral BAS alarm contacts
- UL 2998 compliant
- CARB compliant



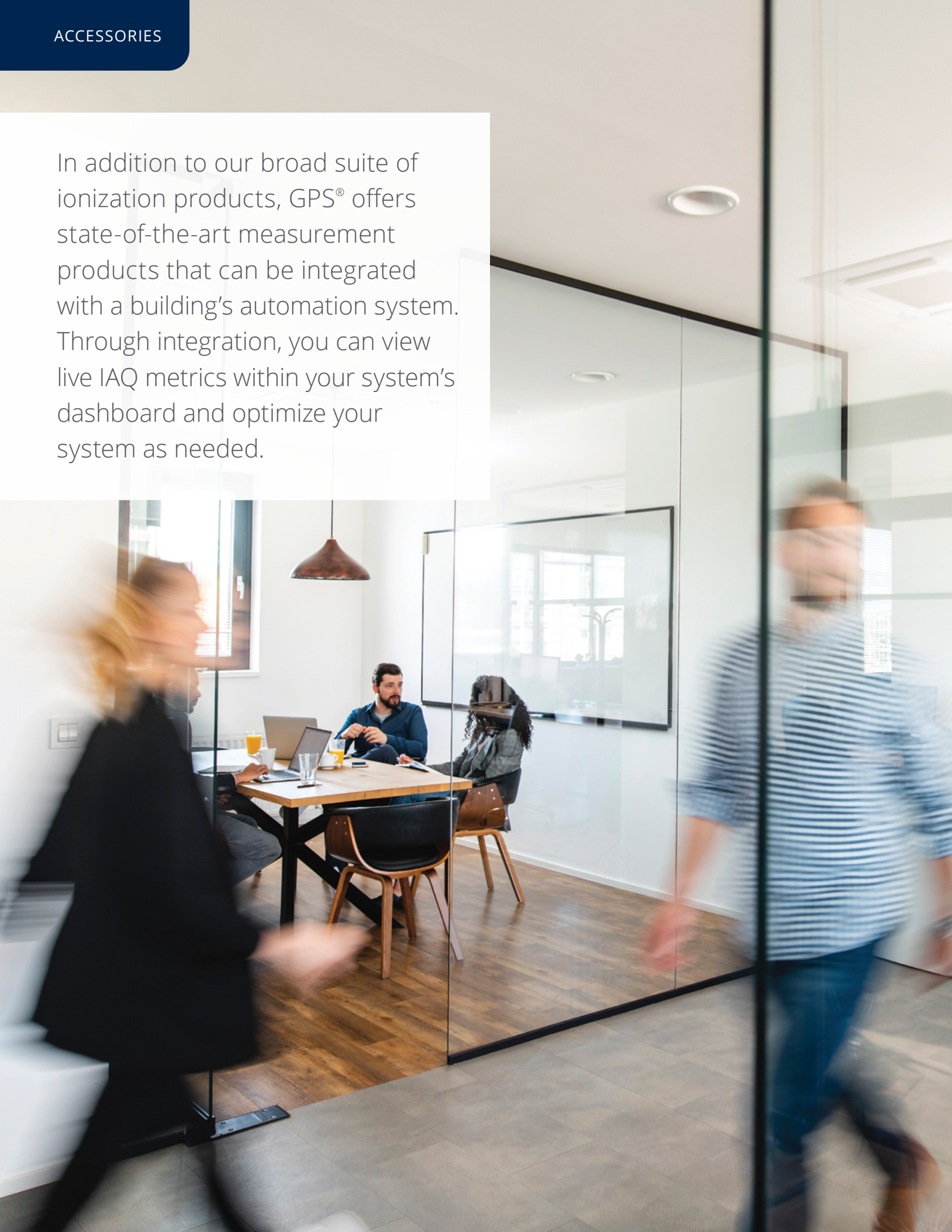
**SYSTEM TYPE**

HVAC solution

**MOUNTING LOCATION**

Fan inlet  
In the airflow

In addition to our broad suite of ionization products, GPS<sup>®</sup> offers state-of-the-art measurement products that can be integrated with a building's automation system. Through integration, you can view live IAQ metrics within your system's dashboard and optimize your system as needed.

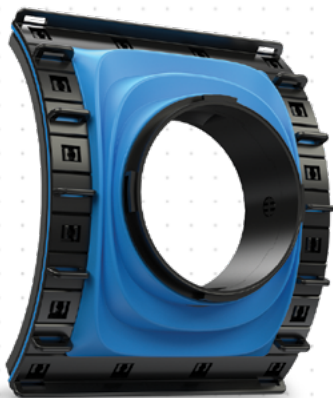


## DM-S™

The DM-S is a single, adaptable saddle solution for installing the DM-2™ onto varying round-duct diameters of 6 inches and up.

The DM-S saddle installation accessory is sold separately from NPBI™ systems.

- Quick-turn adapter connection for ionizer
- Adaptable skeleton that can be set to multiple round-surface duct profiles
- Multipoint fastener collar with foam gasket for sealing against duct
- Provision to secure with band clamps or cable ties
- Flexible membrane that seals saddle body
- UL 2043 compliant



### INSTALL LOCATIONS

Solid metal ducts 6-inch diameters and larger

## PS-2™

The PS-2 is a single-power transformation solution for compatible GPS ionizer products.

Made in the USA with American and global parts.

- Multi-voltage input (110–277 VAC)
- 24 VDC output
- Integral BAS alarm contacts
- 7/8-inch hole sized for 1/2-inch trade-size conduit fittings on power-entry side
- 5/8-inch hole sized for 3/8-inch trade-size conduit fittings on power-exit side
- UL 2043 compliant



### COMPATIBLE IONIZATION SYSTEMS

CI-2™  
DM-2

## GPS-iMEASURE

The GPS-iMEASURE is the first commercially available ion detector that can be permanently mounted in the space to measure ion levels in real time and report back to a building management system.

- Ability to monitor ionization levels remotely
- Auto-calibration/auto-zero
- 0–1 million ions/cc
- Input voltage: 12–24 VDC
- Output voltage: 0–10 VDC
- Compatibility with any GPS® device



## GPS-iMEASURE-D

The GPS-iMEASURE-D ion detector is permanently mounted in the duct downstream of any GPS® ionization device. It measures ion levels in real time and reports back to a BAS. It includes three sensitivity levels — 20,000, 200,000 or 2,000,000 ions/cc — that can be set based on the application and in-duct location.

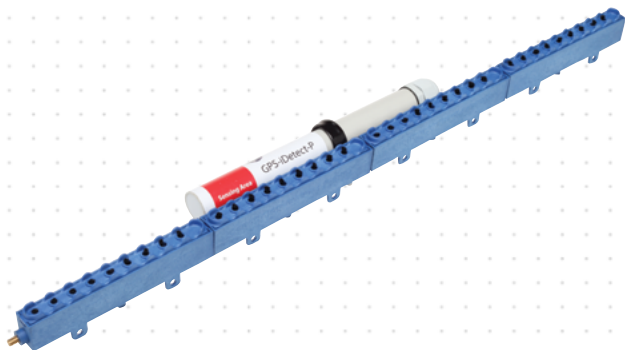
- Ability to monitor in-duct ionization levels
- 20,000–2 million ions/cc
- Input voltage: 20–40 VAC/VDC
- Output voltage: 0–10 VDC
- Compatibility with any GPS device



## GPS-iDETECT-P

The GPS-iDETECT-P is a plenum-mounted ionization detector that confirms the output from the GPS-iMOD® system. The GPS-iDETECT-P provides the ability to monitor ionization status in a plenum to confirm that the ionization equipment is working properly.

- Multi-voltage input
- 1,000–200 million ions/cc
- Input voltage: 20–240 VAC
- 0%–100% RH
- Compatible with iMOD



*Paired with GPS-iMOD, the GPS-iDETECT-P provides the real-time ionization status in a plenum to confirm that ionization equipment is working properly.*

## GPS-NEMA4-OE

The GPS-NEMA4-OE is a NEMA 4X-rated fiberglass enclosure designed to house one GPS-iMOD power supply. The panel adds a superior finished look to any project while providing the required protection against foreign substances, such as water and dust, when power supplies are mounted in a non-NEMA 1-rated environment.

- Input voltage: 24/120/208–240 VAC
- Output voltage: 5.0 kV RMS
- Compatible with iMOD



*The GPS-NEMA4-OE pairs with GPS-iMOD to house the power supply and create a superior finished look.*



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GPS Air uses multiple data points to formulate performance validation statements. GPS Air technology is used in a wide range of applications across diverse environmental conditions. Since locations will vary, clients should evaluate their individual application and environmental conditions when making an assessment regarding the technology's potential benefits. The GPS Air products have not been evaluated by the FDA as medical devices and, therefore, are not intended to treat, cure, or prevent infections or diseases caused by certain viruses or bacteria.

The use of this technology is not intended to take the place of reasonable precautions to prevent the transmission of disease. It is important to comply with all applicable public health laws and guidelines issued by federal, state, and local governments and health authorities as well as official guidance published by the Centers for Disease Control and Prevention (CDC), including but not limited to social distancing, hand hygiene, cough etiquette, and the use of face masks.