



WHERE THERE'S SMOKE,  
THERE'S FIRE & VICE VERSA

HVAC EXPERT SERIES

 BEYOND  
CLEAN



David N. Schurk DES., CEM., LEED-AP.,  
CDSM., CWEP., SFP., CIAQM., HCC..

*Beyond Clean HVAC Expert Series:*

## WHERE THERE'S SMOKE, THERE'S FIRE & VICE VERSA

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*Director of Business Development | Global Plasma Solutions*

As I sat on my patio in Denver thinking of what to write for this month's post I found myself coughing as a result of the smoke which has been blown in from distant forest fires over the past few weeks...instantly a topic came to mind. The smoke released by most fires is a mixture of particles and chemicals produced by the incomplete burning of carbon-containing materials. This smoke contains carbon monoxide, carbon dioxide, chemicals, and particulate matter. Exposure to smoke should be avoided as inhaling it for even a short time can cause acute effects including irritation to the eyes, nose and throat, nausea, and temporary changes in lung function which makes breathing more difficult. Two of the major agents in smoke that can cause adverse health effects are carbon monoxide gas and very small particles. Your buildings HVAC system can be effective at helping get rid of these by extracting gasses and particles from the air, making it cleaner and safer to breath. Traditional air filters can be somewhat effective depending on the efficiency of filter installed. Combining filtration with air-ionization, a technology which imparts a small electrical charge to the particles in the air, makes their removal even easier. By polarizing particles (both positively and negatively) it converts them into tiny magnets which then "stick" to one another through electrostatic attraction...remember opposites attract. The small smoke particles become larger through what is called agglomeration and made easier for HVAC system filters of any efficiency to remove from the air.

Questions? Contact David at: [david.schurk@globalplasmasolutions.com](mailto:david.schurk@globalplasmasolutions.com)

*Beyond Clean HVAC Expert Biography:*

**DAVID SCHURK DES., CEM., LEED-AP.,  
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David serves as Director of Business Development for Global Plasma Solutions, headquartered in Charlotte NC (USA). In previous positions he worked for three of the world's largest HVAC manufactures, including Carrier, Daikin, and Trane. David is a Licensed Designer of Engineering Systems with over 38-years of experience in the design and analysis of heating, ventilating, and air-conditioning systems for a variety of market sectors, with a special focus on hospital/healthcare environmental control and indoor air quality.

He is also an ASHRAE Distinguished Lecturer, a Certified Energy Manager (CEM), a Certified Demand Side Manager (CDSM), a Certified Water Efficiency Professional (CWEP), a Certified Sustainable Facilities Professional (SFP), a Board Certified Indoor Air Quality Manager (CIAQM), and is Health Care Constructor Certified (HCCC). He is active in the American Society for Health Care Engineering (ASHE) as Member and serving on the ASHE Editorial Advisory Board, the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) as Member and past Chapter President, the American College of Healthcare Executives (ACHE), the Association of Energy Engineers (AEE), and many other national and regional industry associations.

David has authored numerous technical articles for industry magazines and journals including ASHRAE, Medical Construction & Design, Healthcare Design, Engineered Systems, Heating-Piping & Air-Conditioning, and others. He is a featured presenter at national, international, and regional industry associations and events.

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