

# Combatting the

# SPREAD

# of COVID-19

Cold plasma technology can help improve indoor air quality

The demand for indoor air quality (IAQ) air conditioners and purifiers has come to the forefront this year, in large part due to the coronavirus (COVID-19) pandemic. Different methods, including UV-C light, have been used and now ClimaTemp Portables, Miami, has recently released its cold plasma technology portables to assist users in the battle against COVID-19.

Cold plasma technology, also known as needlepoint bipolar ionization (NPBI), kills viruses, including COVID-19. In addition, the portables kill bacteria, remove odors, reduce volatile organic compounds (VOCs) and more. ClimaTemp rolled out its cold plasma NPBI unit in August, with several different models. The products combine high efficiency particulate air (HEPA) filtration and NPBI technology.

ClimaTemp Portables was formed and incorporated in 2017 by co-founders Luis Cheas and Matt Davidson. Davidson, the company's president, says the vision was to develop, design and manufacture portable cooling and heating products with an emphasis on incorporating new IAQ technologies and innovations into its products.

According to Davidson and Greg Melton, national sales manager, cold plasma technology has been around for years. NPBI works by emitting charged positive and negative ions that target harmful airborne contaminants, including the virus that causes COVID-19.

Initially the technology consisted of tubes that were fragile and expensive. They had to be changed often, disposed of properly and produced dangerous ozone, Davidson says.

"Once the needlepoint brushes were used, it solved a lot of these issues," Davidson says. "It brought the cost down and eliminated the harmful ozone as well. These ions bind to the particles and break down their molecular structure. A recent study by an independent laboratory reported that this system can neutralize the coronavirus with an efficacy of 99.4 percent airborne in 10 minutes and on 80 percent of surfaces in less than 20 minutes."

Melton says the adoption of NPBI has exploded and hundreds of companies have adopted the technology including hospitals, universities, airports and government offices.

"When it comes to advancing technologies, we do not know what is next, but most likely it will be something we never thought about," Melton says. "As the science improves, so do products. If you told us

two years ago that we would be able to fundamentally change the way portable air conditioning is looked at, other than just solving cooling issues, I would have disagreed strongly. Now, people are concerned about IAQ and how you clean and take care of equipment that you are bringing into their businesses. They have to be concerned about their customers and employee health for the long term."

Melton says companies that come up with a unique strategy are the ones that will survive. He says there are many sources for portable air conditioning, some better than others.

"The features and benefits that one has access to make the difference in the long run as everyone is competing for the 'better box' to differentiate themselves," he says.

Davidson says a few years ago, ClimaTemp wanted to develop a better portable cooling product for customers. The company introduced a commercial portable air conditioner with HEPA filtration, which he says solved many issues by filtering particulates down to 0.3 microns, including bacteria and viruses, and increasing IAQ while cooling the space.

While the HEPA spot cooler was and is successful, he says in 2019, the company investigated new technologies to complement the HEPA spot cooler and started to explore NPBI.

"In early 2020, we engineered, tested and included NPBI into our CT-12 spot cooler and applied for a provisional patent application (PPA) for 'patent pending' status," Davidson says. "Although cold plasma technology is revolutionary on its own, we didn't stop there and went one step further by combining the two leading purification technologies of NPBI and HEPA filtration into a single portable unit. What's great about this unit is it can be used as a purifying portable air conditioner or it can be operated as an in-room purifier in fan-only mode, making it one of the most versatile units available."

Both agree that future trends for portable air conditioning and heating will include customers demanding better and healthier products to replace older products and technologies with limited to no benefits for treating air quality.

"Some companies will be proactive and adapt quickly, while others will be hesitant to change or adapt to the customers' changing needs," Davidson says. "This leaves incredible opportunities in the marketplace for those companies who adopt these new products and technologies, which will lead us into a cleaner and healthier future." ♦

