https://iaq.works/source-control/the-difference-between-countertop-and-central-indoor-air-quality-monitors/

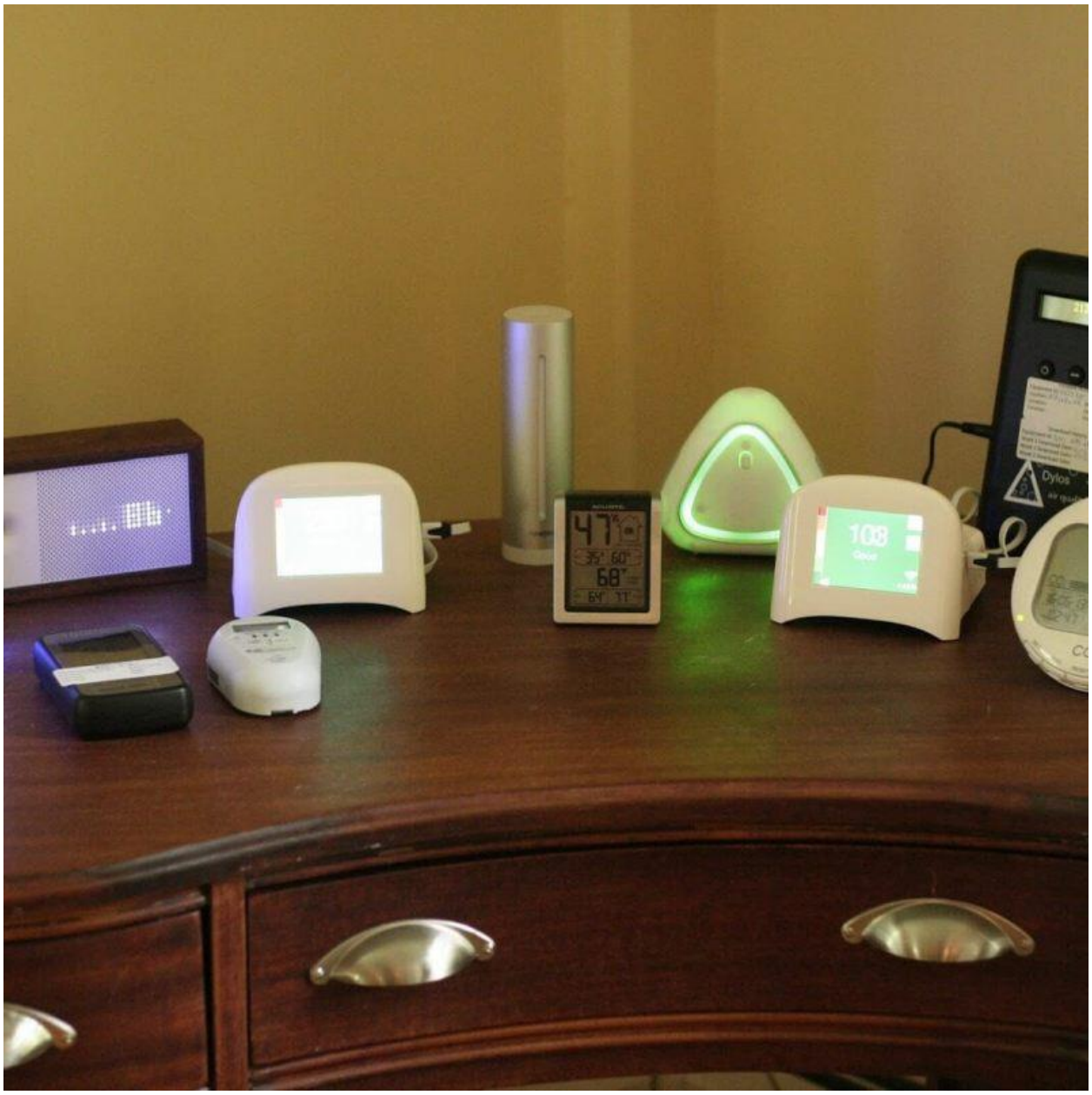
The Difference Between Countertop and Central Indoor Air Quality Monitors

Monitoring indoor air quality is important for every space. Doing so creates a healthier and cleaner living environment. There are a few different approaches to monitoring your air quality, such as room by room monitoring to investigate and manage a specific issue within a zone, or there's whole home monitoring which provides a holistic representation of the air quality in your entire living space. Both approaches mean investing in an air quality monitor. But which is the best option for your home?

Homeowners interested in monitoring indoor air quality now have a whole-home professional-grade option. Instead of buying multiple air monitors, or moving one monitor around the house, you can now monitor air in the entire home. This is all thanks to TZOA®, the manufacturer behind the innovative HAVEN central air monitor (CAM).

Before we dive into the benefits of the CAM, it's important to understand what most consumer-grade air quality monitors are capable of. After that, we can focus on why the HAVEN CAM is so unique and how it can effectively help you monitor your home's air quality.

Countertop Indoor Air Quality Monitors



Most consumer-grade air monitor options on the market.

“Most [countertop] air quality monitors measure air only in the room where they are currently placed, providing limited insights into the home’s environment,” said Ben Reed, VP of Product at HAVEN TZOA.

What Are Air Quality Monitors?

Traditional air quality monitoring systems are either placed on a surface in the room or mounted to the wall. They are portable units and can move from room to room. Depending on the specific model, they can track all sorts of indoor air pollutants. Some might focus on PM 2.5 readings, while others detect gases like radon. It's all over the board.

How Do They Work?

Countertop monitors contain a tiny mechanical fan or pump that moves air in the room through the monitor. "It's these moving parts that can fail after months, or a few years of [use]," said Reed.

Are Countertop Monitors Useful?

Absolutely–for specific settings. For example, in a small studio apartment or a personal office, a countertop monitor might be the only option to monitor indoor air. They are also great for homeowners who don't have a central HVAC system. (The HAVEN CAM is installed directly into the return duct of the home's HVAC system to effectively monitor air throughout the home.)

Limitations

Each IAQ monitor comes with its respective list of pollutants it tracks, but monitoring is limited to the air in the specific room. It can never measure all rooms at once.

HAVEN's Central Air Monitor

What is Whole-Home Air Quality Monitoring?

To better understand what whole-home monitoring looks like, we first have to understand how a central HVAC system works. An HVAC system contains a return side and supply side. The return pulls air in from the home to the HVAC system. The supply sends air out through the ducts and into the home. The CAM is installed on the return side of your HVAC system ductwork. This is how it monitors the air throughout the entire home. "The HAVEN Central Air Monitor is installed within the home's HVAC system, giving a comprehensive view of your home's air quality," explained Reed.

What Does the CAM Do?

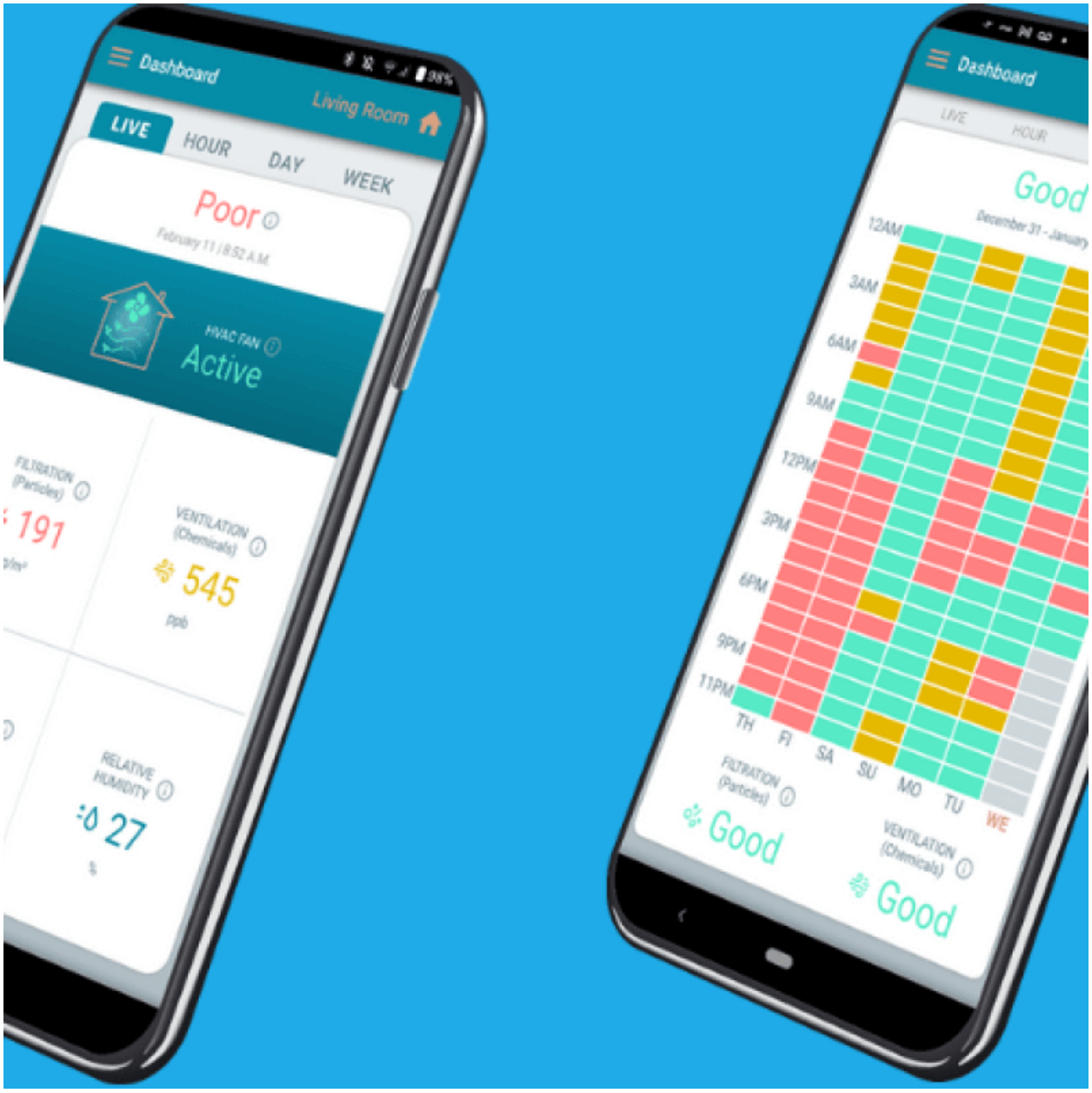
The CAM model monitors and measures everything that affects indoor air quality. This includes temperature, relative humidity, particulate matter (PM 2.5), volatile organic compounds (VOC), airflow velocity and HVAC run time. It also succinctly tracks and reports all of the figures and data directly to a smartphone or tablet.

Why Monitor Indoor Air Quality, for the Entire Space?

But, why bother? It's important and helpful to understand the sources of indoor air pollutants in your home. Doing so allows you to address and improve problems with IAQ solutions. These include filtration, purification, humidity control and mechanical ventilation that you and an HVAC or IAQ expert can work on.

It also provides a peace of mind. Having a comprehensive view of your home's environment is better than solely monitoring one room. With a whole-home monitor, you can see exactly how clean or polluted your indoor air is. The system helps keep track of your home's:

- Temperature and Relative Humidity Levels – Together, these figures can help determine if your home is more susceptible to germs or mold growth.
- Particulate Matter (PM2.5) – One of the most important pollutants to monitor! Particle pollution is capable of getting deep into your lungs and bloodstream, affecting your lung and heart health. They are especially harmful with long-term exposure.
- VOC Levels – The EPA says Volatile Organic Compounds are gases that affect your health, causing symptoms like headaches and fatigue in the short term, and organ damage in the long term.



Which is the Best Air Quality Monitor?

The key differences between a countertop and in-duct air quality monitor boil down to a few elements.

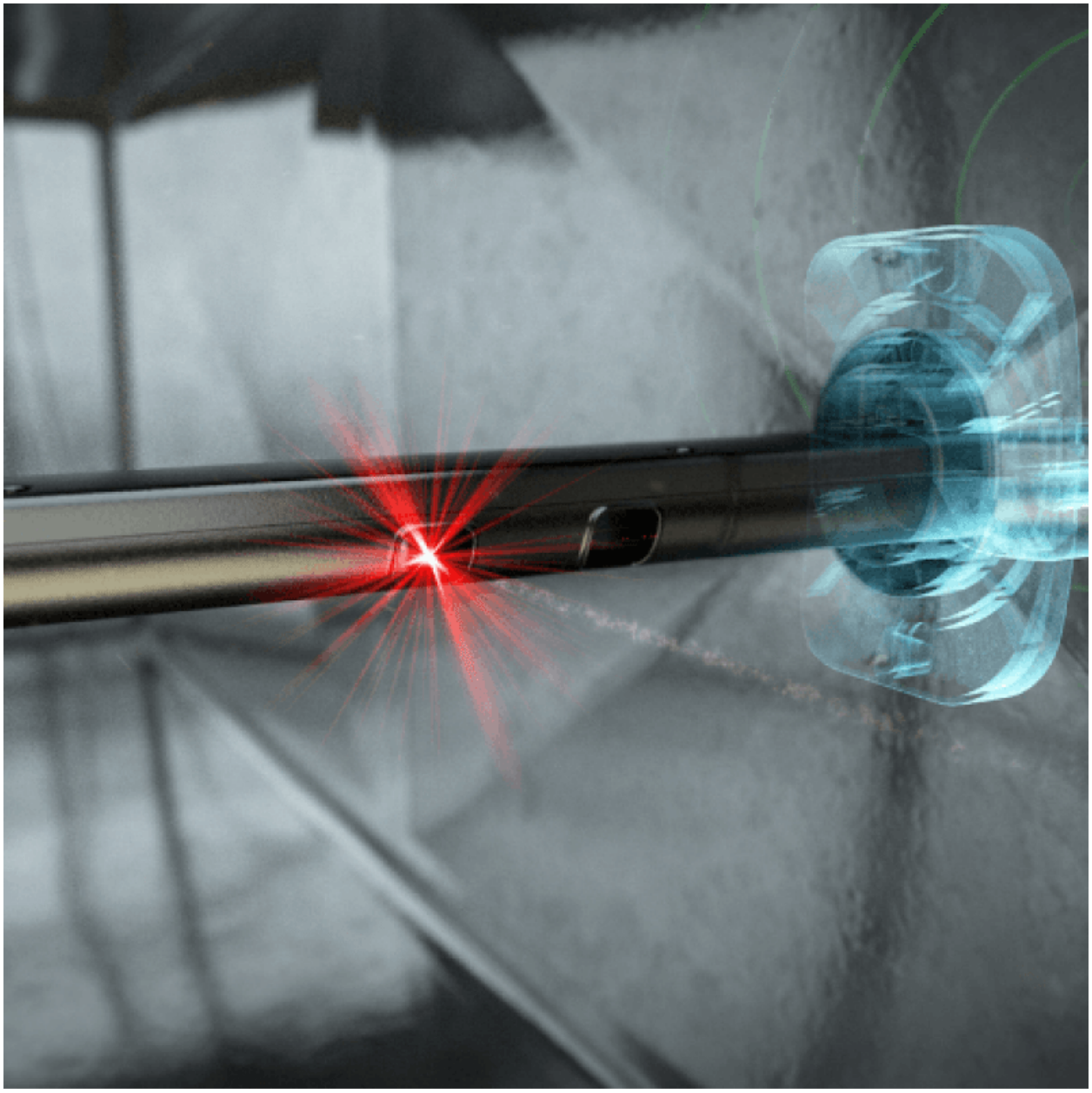
Installation and Placement

A portable countertop monitor can be placed anywhere in the room–on a coffee tables, counter or mounted on the wall. It really depends on which kind

of monitor you purchase. It is more of a room air quality sensor than an indoor air quality monitor.

Because the CAM is installed into the home's ductwork, it must be professionally installed by a trained HVAC or IAQ professional. This is a professional-grade monitor that takes data from within the HVAC system and feeds it to your smartphone and your HVAC professional's dashboard: allowing them to keep an eye on emerging IAQ issues and offer you the right solutions.

HAVEN understands that day-to-day occupant activities and seasonal changes can contribute to fluctuations in IAQ, which is why they've taken the continuous monitoring approach.



HAVEN's Central Air Monitor is an in-duct home air quality monitor.

Moving Parts vs. Solid State

Countertop monitors feature varying moving parts that are susceptible to failure. There are fans, bearings and motors that can stop working for any number of reasons. Large particles can get stuck in it, they can fall and break, etc.

The Central Air Monitor is a solid-state device, meaning it has no moving parts. Because it's installed straight into the return duct, it takes advantage of the HVAC system's fan to monitor and detect air quality.

Calibration

Many consumer-grade countertop air quality monitors aren't properly calibrated. What this means is that minor IAQ pollutant events and even breathing into it will actually report bad air quality issues. These aren't long-lasting issues, just a moment in time.

Each HAVEN CAM is individually calibrated to real particles to reduce variability. As a result, you get the most reliable read on your home's overall IAQ events and trends.

Should I Get An Air Quality Monitor?

As indoor air quality specialists, we of course say yes. We're biased, we admit it. But monitoring indoor air quality and having an awareness of your own living space is one of the best ways to take health and air quality into your own hands.