Combat Germs with Cleaner Air

Most people spend about 90 percent of their time indoors. The Environmental Protection Agency has found indoor air may be two to five times more polluted than the worst outdoor air. Indoor Air Quality (IAQ) solutions like ventilation systems, air purification devices and Ultraviolet Germicidal Irradiation (UVGI) products can help clean the air and neutralize germs.

With COVID-19 and cold and flu season right around the corner, a growing number of governing bodies, such as the CDC, EPA and WHO have been publicly supporting the benefits of IAQ; making them in higher demand than ever before. Universities and hospitals are especially using these solutions as another line of defense to help prevent the spread of COVID-19.

Air purifiers such as iWave-C from NuCalgon and the Field Controls Trio Portable device greatly reduce particles, VOCs and germs in the environment. An independent analysis has even shown that iWave-C can help clear the air of COVID-19. A self-cleaning, bi-polar ionization generator, iWave-C works by emitting positive and negative ions as the air flows past it and creates a plasma region that actively purifies the air.

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Combat Germs with Cleaner Air (cont.)

Alternatively, the Trio Portable Air Purifier Combines HEPA, carbon and UV to maximize air purification through a four-stage filtration system. It features a VOC sensor that automatically increases the fan speed when harmful gases and other contaminants are present. PremierOne is also a trusted IAQ brand name when it comes to germicidal UV light options. Germicidal UV produces short wavelength light (or radiation) that can damage the genetic material in the nucleus of cells of microorganisms such as bacteria, viruses and molds. It has long been the trusted method used in hospitals to help reduce the spread of colds and flu.

For more information on these products and other IAQ solutions, contact your local F.W. Webb representative.

1 https://www.epa.gov/iaq-schools/why-indoor-air-quality-important-schools#:~:text=The%20U.S.%20Environmental%20Protection%20Agency%2C%20times%2020 %E2%80%94%20higher%20than%20outdoor%20levels.
2 https://www.iwaveair.com/coronavirus-update

Municipality Taps F.W. Webb for Water Treatment Services

A Massachusetts Water Department was happily surprised when they could use F.W. Webb cross-functional teams for all their project needs. It started with the F.W. Webb Thermoplastic Piping division. The water department spoke to the team about supplying equipment to facilitate the storage and treatment of the town’s water supply. Following the meeting, F.W. Webb was contracted to support the project with a complete system from concept and design through permitting, installation and final approval.

The Thermoplastic Piping team designed a customized chemical feed skid-mounted system and an analyzer panel. The skid features a chemical metering pump [not shown in picture] that is proportionally flow paced by a water flow meter, corporation stop injectors to blend the necessary treatment water supply and controllers to display and record the treatment as well as pH and chlorine levels. It also includes alarms for well shut down and notification. The team also customized a chemical day tank to assist with chemical storage in the treatment process.

They utilized instrumentation know-how from our Process Controls division to assist with the analyzer panel. Our Alliance Environmental Group was also pulled in to get the system designs approved by the Massachusetts Department of Environmental Protection. Once approved by the state, a fully-tested, turnkey solution was installed.
The Brain – A Simple Safe Solution to Hot Water Distribution

Legionella is a leading concern among hospitals today. It is a potentially harmful bacteria that can grow in warm water systems like hot water tanks and heaters. When it grows and multiplies in a building water system it can become a health problem when small droplets of water that contain the bacteria get into the air and people breathe them in.

Following an assessment by a water treatment company, a small regional hospital learned that their hot water heater was at risk for Legionella due to its temperature settings. The treatment company recommended a mixing valve to help reduce the threat of bacteria growth, while also increasing the hot water supply by mixing hot water with cold. Intrigued by the Brain mixing valve from Armstrong and knowing that F.W. Webb is a manufacturer’s representative for the line, the site’s plant manager reached out to us for a flow study to analyze the water use. To ensure an accurate picture of flow profiles, our team of thermal solution experts collected data every 10 seconds for a week period.

Based on the highest water use in gpm during the study, we recommended the facility add the Brain DRV 40 Digital Mixing Valve for a higher level of temperature control accuracy and safety, to which the hospital agreed. The device delivers hot water at the preset temperature within plus or minus 2 degrees F. It features programmable temperature alerts, a program to promote compliance with recommended Legionella guidelines and includes technology-advanced software for 24/7 monitoring and reporting through a smartphone, computer or tablet.

“This is the only true plug and play device in the industry that doesn’t require any external devices such as temperature sensors, valves or actuators, which also helps save costs and installation time,” our Account Manager and thermal solutions expert on the project, Gordon Bailey, added.

After installation, one of our technicians verified that the valve was installed to the manufacturers’ specifications. The facility’s plant manager was impressed that irrespective of the load, it would always deliver water at or very close to the set point. Since the system is so important to the hospital’s operations, they are looking into buying a second Brain as a backup.

To learn more about these services reach out to your local F.W. Webb rep or contact our Process Controls group at 800-452-1928.

Hot water heater system with a Brain DRV 40 Digital Mixing Valve for a higher level of temperature control accuracy.
AFG Holdings, Inc. Secures Agreement with Custom Alloy Corporation

AFG Holdings, Inc. announced recently that its AFG Aero & Industrial business reached an agreement with Custom Alloy Corporation, a leading manufacturer of seamless and welded pipe fittings and forgings, to exclusively manufacture and market their commodity based-product.

With this agreement, AFG Aero & Industrial significantly expands its overall product offering and will now be able to provide seamless and welded butt weld fittings, material grades, including stainless ½ inch to 24 inches, nickel alloys, duplex and super duplex sizes from ½ inch to 12 inches with sch 10s, 40s, 80s, and T40.

Power and energy professionals across the Northeast can continue to rely on F.W. Webb for products like these as well as a variety of services and engineered solutions. Our multi-discipline team members are experts in fluid handling, steam systems, high pressure/high temperature applications, over-pressure protection, troubleshooting, and maintenance and repair. We support Power and Energy providers, engineers, procurement specialists, and construction managers with daily operations, planned outage requirements, emergencies, new construction, and retrofit projects.

Thermoplastic Fabrication Shop Expands Capabilities

Our Thermoplastics Fabrication shop in Lowell, MA has extended their offerings to include prefabricated piping components. Our experienced team custom fabricates pipe headers, valves and balancing systems to project specifications, and we also have the ability to glue fittings and pipe. This allows contractors to save time by reducing labor in the field and costs associated with renting welding tools. In addition, the shop fabricates industrial tanks and provides fully tested and ready-to-install custom skid systems for industrial processes, wastewater and municipal water treatment applications. To learn more, contact the team at 800-343-7555 or plasticfab@fwwebb.com.

Buttweld fittings

RODI Balancing System
Repeatable welds done in a controlled environment to the customer’s specifications and manufacture’s recommendations.
Steam Trap Testing in Industrial Plants

By: Daryl Schoellkopf, Energy Systems Sales Manager, F.W. Webb

Do you know how many steam traps are in your facility? Do you know the disposition of each and every one, including location(s), condition, maintenance schedule, and age?

If the answer is yes, skip this story. If the answer is no, read on. If you run an industrial, commercial or institutional facility that runs on steam, a properly installed, maintained and regularly tested steam infrastructure is a must.

Steam traps are integral to plant systems, yet they are often one of the least maintained and inspected portions of the system. Just one failed steam trap stuck in the open position can cost thousands of dollars in lost steam, energy and opportunity costs over the course of months or years. Imagine what several would do to your bottom line? With utility costs forever on the rise, facility managers and owners are driven to reduce emissions, consumption and overall operating costs for their plants. Getting a steam trap survey done now to get a handle on the performance and infrastructure of your overall system will pay dividends in the future. While reducing energy loss and costs are probably the number one drivers, there are many more benefits to having an efficiently operating steam system. These include reduced overall emissions, decreased downtime, improved steam quality, improved overall system reliability and a decreased carbon footprint for your facility. What is more, depending upon your local utility, they may pay a sizable portion not only of the survey cost, but for the actual installation of suggested equipment. This can greatly improve your ROI and make these surveys an important and attainable part of your operating plan.

A good place to start is making sure all stakeholders are committed and unified to the common goal and purpose driving the survey effort. From the top down, or bottom up, all your stakeholders, whether they be maintenance, facilities, operations, safety, management or ownership have to be on board. Otherwise, more often than not, it will be a waste of
time and money. Once consensus is achieved and the plan is in place, it’s time to have a survey done. The survey will cover the identification and documentation of the location of all of your traps as well as test the performance of your traps. Using state-of-the-art equipment, the operating condition of the traps will be recorded as well as piping infrastructure, other relevant data, and deficiencies (if any). Today’s advanced testing equipment provides more objective overall data than ever before. Not much is left for subjective interpretation. All relevant data is logged through a mobile app to a secure online database. Once all of the data is entered, a report is generated giving you an overall summary of your steam trap system, operating efficiency, costs, and more. If there are any deficiencies, they will be noted as well.

The data provided by the report is valuable to the future maintenance and operations of your facility. It provides an unvarnished view of your overall steam system and its condition. It also gives you a baseline to improve from should you decide to implement enhancements to your system. Another valuable tool available from the department of energy is a questionnaire that allows you to benchmark your facility compared to some of the best in class. Today’s surveys usually require minimal downtime for your facility and typically your local utility will pay for all or a portion of the survey cost and any new equipment costs. This point can’t be stated enough. The money is often there, you just need to ask the right questions. This is all the more reason to get a steam trap survey done for your facility today!

Once the survey results are in and any deficiencies and respective corrections are noted, it’s time to digest the data and implement a plan. Typically, a steam trap lasts five to seven years. If your steam trap(s) need to be replaced because of age or normal wear and tear, that’s one thing. If they are failing prematurely and/or frequently the question you should be asking is why? Is it improper piping, improper sizing or installation, water hammer or something else? If you don’t address the cause of premature failure, it will happen again. Once you address these issues and upgrade your system, you will need to test it again and compare your new data against the baseline data you got from the first test. This will allow continuous improvement for your steam system, your product quality, environmental concerns and for your bottom line.

Once you have established the new baseline for your improved steam system, any increases or decreases in energy usage will be easy to trace. Any problems in the system will be easier to troubleshoot because all locations are now identified and locatable. Depending on the size of your facility, your annual steam costs, system upgrade costs and expected utility rebates will all contribute to a relatively quick ROI. Keep up with regular testing and system improvements and you will have clean, reliable and energy-efficient steam in your facility for years to come.

For more information, contact Daryl Schoellkopf
800-452-1928 (office) • 508-561-9547 (cell) • wds@fwwebb.com
SAGE UMT™ IS A SIMPLER, FASTER, MORE ACCURATE WAY TO SURVEY YOUR STEAM TRAPS

BEST-IN-CLASS TRAP MANAGEMENT BEGINS WITH BEST-IN-CLASS STEAM TRAP TESTING

Armstrong’s groundbreaking wireless, handheld steam trap testing device eliminates user error and raises the quality of trap surveys to a new level. With SAGE UMT™, anyone can test your steam trap population quickly, easily and accurately - with the simple touch of a button.
This is becoming a very common question when it comes to choosing what kind of piping to use in plants and facilities. For years, the only options have been steel, iron or copper. Whatever the material, they have been expensive to purchase, install, and maintain. With a short life span of about 10 years, these piping materials need to be replaced frequently depending on their location and application. No matter what the material, metal or copper, ultimately it builds up scale, corrodes, leaks and leads to more than one unscheduled and often costly shutdown. There is a potential solution to this piping issue, however, and it is commonly known as plastic pipe.

**PP-RCT - Composition and Installation Benefits**

Technically speaking, it is known as polypropylene pipe (PP-RCT) and it has been around for a while. It is a very versatile and capable replacement alternative for metal piping systems. It is lighter in weight, easier to install, easier to maintain and less expensive. The inner walls are smoother than their metal counterparts which greatly reduces and even eliminates buildup inside the piping. This provides the additional benefit of avoiding costly chemical treatments to reduce scale and buildup. PP-RCT also has very good insulative properties and is hydrophobic so it naturally repels water. PP-RCT piping is designed and engineered to reduce expansion and contraction. In fact, its expansion and contraction properties are reduced by 75% over typical plastic alternatives such as PVC/CPVC and Sch 80. In the installation phase, this translates to direct cost savings on time and materials as the number of hangers and accessories needed is significantly reduced.

The pipe, valves and fittings for PP-RCT are joined using one of three methods of heat fusion: socket fusion, electro fusion or butt fusion. While this joining technology may be a new process to some, the training period/learning curve is fairly quick and easy.
PP-RCT - Application and Use

PP-RCT is versatile and a great option when your plant or facility faces space constraints or tight confines. This can happen in both new and retrofit applications and PP-RCT piping is ideally suited for either situation.

This type of piping has a broad range of applications. They include, but are not limited to: chilled water, cooling tower piping systems, glycol distribution, hot and cold water applications, condenser piping, food and beverage, compressed air, chemical transfer, DI and RO water systems and much more. PP-RCT is used just about everywhere including hospitals, universities, office buildings, industrial plants, power plants, and public utilities. The advantages of a PP-RCT piping system are numerous and documentable. It is less expensive to purchase, install and maintain than metal systems. It will allow your systems to be more reliable and efficient while mitigating and even eliminating unscheduled downtime.

How do you know if a PP-RCT piping system is right for your particular application? The experts at F.W. Webb can help you develop a solution tailored to your facility’s needs.

For more information, contact Eric Reilly 732-609-0929 • eric.reilly@fwwebb.com
SIMONA® PP-H
- Homopolymer PP with temperature range 32 °F - 212 °F
- Excellent chemical and corrosion resistance
- Easy to fabricate, weld and machine
- USP Class VI PP-H approved
- Available in both sheet and rod forms

Sheet sizes available
- 48 x 96, 48 x 120, and 60 x 120 in.

Masking
- 1 or 2 sides available

SIMONA® PP-C
- Copolymer PP with temperature range of 0 °F - 180 °F
- Higher impact resistance vs. PP-H
- Excellent resistance to fractures at low temperatures
- Easy to weld, machine and thermoform

Available as a dual-laminate material

Sheet sizes available
- 48 x 96, 48 x 120, and 60 x 120 in.

Masking
- 1 or 2 sides available

www.simona-america.com

Smoke sensing technology meets new UL standards and reduces nuisance alarms.
Pipe and Fitting Handling

To Avoid Pipe Damage and Ovaling

• Always store material in a safe, stable environment away from direct sunlight
• Avoid dropping or scratching pipe when handling
• High purity products should remain in protective bags until the material is in a clean environment
• Pipe should not be stacked higher than 3 feet / 1 meter

Storage of Fittings

General

• Products should be stored indoors wherever possible, protected from:
  − Rain/moisture, dust
  − Direct sunlight
  − Extremes of temperature
  − Sources of ignition, esp. metal activities producing sparks
• If a product is delivered in a sealed plastic bag, do not remove the product from the bag until it is to be installed/used.
• Ensure goods are stored, stacked and handled in a SAFE and CAREFUL manner.

Cartons

• Open cartons only when necessary. If a carton is opened but unused, re-seal it with tape.
• Do not remove or cover identification labels or tag numbers on cartons.
• Cartons may be stacked, up to a reasonable height, wherein there is no visible crushing effect on the cartons below.
• Stack cartons to minimize the risk of collapse or toppling over.

Pallets

• Pallets shall only be moved by hand or motorized forklift, do not attempt to push pallets by hand.
• Stacking of pallets is not recommended. However if items on the pallet are very light stacking may be possible, so long as the cartons on the pallet below are not crushed.
• Protect the top of the lower pallet with cardboard sheets.
Steam Loss Calculator

In steam systems that have not been maintained for three to five years, between 10-20 percent of the installed steam traps may have failed, allowing live steam to escape into the condensate return system. Failed traps waste fuel, reduce energy efficiency and increase production costs.

The chart on the following page provides an estimate of how much steam you could be losing each year if you don't properly maintain your steam traps.

- Begin by finding the size of the orifice (opening where steam loss can occur) on the steam trap. Refer to the steam trap manufacturers’ table for this information. The number will be in either decimal or fraction.
- Identify the steam system operating pressure the trap is working in.
- Find the number at the intersection of these two columns and identify the theoretical steam loss through the orifice.
- To determine your annual steam loss, multiply this number by the number of hours the system is in operation.
  - Use 12 months (8760 hours) for main steam supply and process steam
  - Use 6 months (4380 hours) for low pressure heating and HVAC
  - Multiply by day/time/year to calculate the theoretical steam loss
- Refer to the below example to calculate estimated dollar savings after the failed trap is repaired.

**Example**

In a plant where the value of steam is $10 per thousand pounds ($10/1,000 lb), an inspection program indicates that a trap on a 150-pound-per-square-inch gauge (psig) steam line has failed open and is blowing through. The trap is identified as a main steam drip trap and operates all year long. The trap orifice is 1/8th inch in diameter. The table shows the estimated steam loss as 75.8 pounds per hour (lb/hr). After the failed trap is repaired, annual savings are:

Per the chart, annual savings:

\[
75.8 \text{ lb/hr} \times 8,760 \text{ hr/yr} \times \frac{10.00}{1,000 \text{ lb}} = \$6,640 \text{ of potential dollar loss}
\]

F.W. Webb offers a steam trap and steam energy program to help you lower your system’s inefficiencies. Partnering with our priority manufacturers, we use the latest technology within our four-phased approach to identify steam loss trends and potential savings. Contact your F.W. Webb sales representative for more information or call 800-452-1928.
Steam Loss Calculator

Steam Flow Through Orifices Discharging to Atmosphere

STEAM LOSS, LB/HR, WHEN GAUGE PRESSURE IS:

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  - P.O. Box 5008
  - 207-623-2521
- **Bangor, ME 04401**
  - 67 Target Industrial Cir.
  - 207-947-6905
- **South Portland, ME 04106**
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  - 207-772-8364
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  - 603-223-6580
- **Dover, NH 03820**
  - 218 Knox Marsh Rd.
  - 603-749-3100
- **Lebanon, NH 03766**
  - 68 Etna Rd.
  - 603-448-1980
- **Nashua, NH 03062**
  - 7 Redmond St.
  - 603-883-3355
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  - 201-796-2600
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  - 732-545-1018
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  - 518-472-9322
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  - 518-490-7500
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  - 607-724-3170
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  - 315-476-9322
- **Queensbury, NY 12804**
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