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Scan the QR Code below to submit your questions

MEETING FORMAT

6:00 – 6:30	Social
6:30 – 6:45	Announcements & Table Tops
6:45	Dinner Served
7:00 – 8:00	Presentation

DATE:	February 28, 2024
TIME:	6:00pm to 8:00pm
PLACE:	Olive Grove Restaurant
TOPIC	Fire Protection Q&A
SPEAKER:	Professor Ken Isman

[Register Today](#)



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Mueller Associates
KSchulte@muellerassoc.com



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Chuck Swope, PE, CPD, LEED AP BD+C
Chapter President

Welcome to another Fire Protection February at your friendly neighborhood Baltimore ASPE! As we all know, plumbing is so much more than pipe slopes and water heating. By offering a diverse schedule we hope to educate as well as entertain. Professor Ken Isman from Department of Fire Protection Engineering at the University of Maryland joins us for another year to discuss one of my favorite topics! This time we have a little surprise in store. Julian sent out an email earlier last week asking for questions about fire protection, because we want to hear from you! This goes for all topics, but especially this one. Ask Ken anything (fire protection related). It can be anything as easy as, "When do you need a standpipe?" to as nuanced as, "Does fire separation mean that the building doesn't need sprinklers?" Click or scan the QR code below to submit your questions!

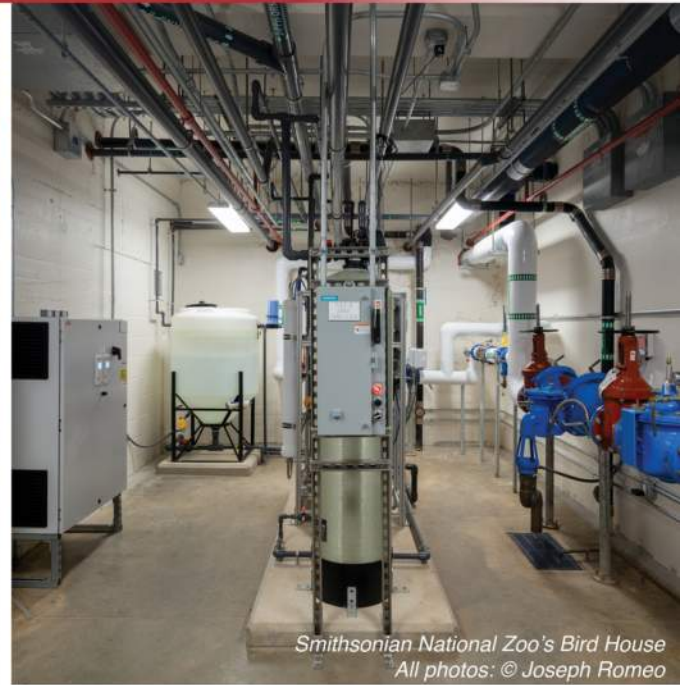


In other news, February is also home to Baltimore's Engineer's Week. We've proudly partnered with DiscoverE and the other participants to present our program titled "Plumbing System Design and Public Health" on February 16th. Our intent is to host local high school students who are looking at their future careers and to tell them about our little part of the world. It's easy to overlook, but plumbing systems are one of the first lines of defense for public health. Simple things like "don't mix sewer water with drinking water" sound easy, until you consider that there are millions of people all vying for the same resources. Sewage and water treatment facilities are one of the key elements of supporting of a large metropolis like Baltimore and it's surrounding areas. I'll tell you all about it at our next meeting!

In future news, we have the next ASPE convention coming up in October in sunny Columbus, OH! Presentations have been submitted for review and everything is shaping up well. You may have received some save-the-date emails from The Society, but it's closer than ever. I hope to make a good showing this year, you may have heard it's Baltimore ASPE's 50th anniversary next season starting in September. Watch this space for more information. In the near future though, we still have much to cover. I haven't even gotten to our ASPE Young Professionals event in April, our Women of ASPE event, or the Annual Plumbers and Steamfitters Local UA 486 event! There's much more to come, so get excited!



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Smithsonian National Zoo's Bird House
All photos: © Joseph Romeo



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Julian Chival, LEED AP BD+C
Vice President- Technical

Greetings, ASPE members and plumbing engineering enthusiasts!

February has arrived, bringing with it the unpredictable weather dance between winter's chill and the occasional soupçon of spring. But let's not dwell too long on the whims of the weather; instead, let's bask in the warmth of camaraderie that fills the air after our recent monthly meeting.

I want to extend my heartfelt thanks to all the attendees who made it to our January meeting, and a special nod to our fantastic presenter, Paul Cavalluzzi. Paul, hailing from Schier Products, gave us an enlightening exploration into the world of grease interceptors, exploring their history as well as recent updates to the plumbing codes. If you missed the presentation or find yourself in need of more details, don't hesitate to reach out to Matt Morris (MMorris@thejoyceagency.com) or Paul (paul.cavalluzzi@schierproducts.com). They are both a wealth of knowledge and always ready to lend a helping hand.

Now, let's turn our attention to our upcoming meeting on February 28th, where we're honored to have Professor Ken Isman take center stage. Professor Isman, a powerhouse in the field of fire protection engineering at the University of Maryland, promises an engaging and informative session. The spotlight will be on you, the audience, as Professor Isman has generously offered to host a Q&A-style session. Professor Isman has promised to quench all your burning questions related to sprinklers, standpipes, foam systems, and fire pumps. Got a question that's been keeping you up at night? Wondering about the latest innovations in fire protection? Now's your chance! Professor Isman is eager to share his knowledge but needs your questions by February 23rd so that he has time to do his research. So, seize the opportunity, submit your questions by clicking or scanning the QR code below, and let's make this presentation one for the ASPE history books.



I can think of no better way to celebrate Leap Day's Eve this year than with each of you, as we come together, share our knowledge, and strengthen the bonds that make our ASPE chapter a community like no other.

Wishing you warmth, wealth, and wisdom!
Julian Chival
Vice President- Technical

Plumbing for the Birds

Engineering a new habitat for the Smithsonian National Zoo's Bird House with efficient water systems and an innovative HVAC design.

January 8, 2024

The Smithsonian Institution's Bird House at the National Zoo and Conservation Biology Institute (NZCBI) in Washington, D.C., reopened to the public in spring 2023 after a significant building renewal. The popular facility serves as the first zoo exhibition of its size to highlight the annual journeys of migratory songbirds, waterfowl and shorebirds integral to the North, Central and South American ecosystems.

Designed to LEED Gold certification standards, the six-year, \$69 million project occurred within the walls of the zoo's existing circa-1928 Bird House. The Bird House underwent renovations in the 1960s but, by 2017, required expansive upgrades.



The new facility increases exhibit and education space and animal holding areas while following the U.S. Secretary of the Interior's Standards for Rehabilitation to maintain the historic exterior appearance. More than 80% of the existing masonry walls were retained to reduce the building's carbon footprint, diverting potential waste from landfills.

The 30,405-square-foot building and its surrounding plateau feature three walk-through aviaries that educate visitors on declining bird populations and highlight how visitors can make lifestyle choices that are best for birds, humans and the planet. More than 170 individual birds representing 70-plus species are on view in the house and adjacent outdoor exhibits.

In addition to serving as a centerpiece exhibition at the National Zoo, which receives nearly 2 million visitors annually, the Bird House supports NZCBI's field and husbandry research, which studies what influences songbird and shorebird survival and the sustainability of wild species. Toward that end, the facility reflects the highest standards in creating a bird-friendly environment to protect the birds and promote their care, including aviculture breeding.

The Marvelous Migration Exhibition

An elegant blue, yellow and green mosaic arch, designed by D.C. artisan John Joseph Earley and part of the historic building's original design, greets visitors as they enter the lobby. Visitors can then visit the Bird Observatory room, where scientists demonstrate bird banding for the Smithsonian Migratory Bird Center and gather groups for guided walks.

Visitors then "migrate" through the Flyway, an immersive experience with various bird images, to enter three multi-sensory aviaries mimicking natural ecosystems and explaining the life cycles of migratory birds and the importance of protecting native species.

Plumbing for the Birds

Apart from the enclosed outdoor display area, the facility replicates three aquatic habitats that migratory birds often visit during their extensive journeys between Canada, the United States, and Central and South America. This approach marks a departure from the traditional display methods used in the past.

Upon entering the Delaware Bay aviary, visitors embark on an educational journey about shorebird migration. Here, the sandy terrain recreates the ambiance of a Delaware Bay beach, complete with the presence of plovers, sandpipers and sanderlings. The exhibit further enhances the experience with features such as tide pools, driftwood, seagrass, and dynamic indoor lighting that changes to mirror the seasons and the transitions between sunrise and sunset.

The second aviary represents the Prairie Pothole region of the northern Great Plains, where visitors view species of waterfowl and shorebirds while learning the importance of wetlands. Here, two large pools allow underwater views of logs and reeds while ducks of various shades of brown, white and green can dive, dabble or waddle out of the pools and onto a visitor's path.

Lastly, in the third aviary, the tropical Bird-Friendly Coffee Farm, visitors enter the songbird aviary to the sound of rain and a lush, tropical climate to learn how shade-grown coffee farms can provide critical habitats for birds and other animals.

The Bird House aviaries are equipped with a total of 10 pools, among which two are saltwater pools, carefully designed to replicate the natural habitats of the resident birds. Together, these pools contain 6,400 gallons of water, roughly matching the weight of four elephants. This comparison is based on Spike, the male Asian elephant residing downhill from the Bird House at the National Zoo.



An Array of Sophisticated Water Systems

Mueller Associates, tasked with engineering the Bird House's mechanical, electrical and plumbing systems, worked closely with the architecture firm Quinn Evans and exhibit designer/landscape architect MIG to complete the rehabilitation and meet NZCBI's precise requirements for the exhibition and animal care areas. The team met frequently with NZCBI curators during the pre-design phase to establish parameters for the water systems, including pressure and temperature requirements, as well as the design of the pools, drains and other features.

In all, the building provides ten water piping subsystems – significantly more than an average building. Most importantly, all water accessible to the birds is carbon-filtered to remove inorganic impurities and tempered to 65 F. This water source is sent through a double-wall, plate-and-frame, water-to-water heat exchanger, then through a booster pump to increase the pressure to 90 pounds/square inch (psi) to serve the hoses that wash down the bird areas daily.

Plumbing for the Birds

Another carbon-filtered, tempered distribution subsystem serves the animal-holding areas. Here, the pressure has been lowered to 60 psi for the sinks in the bird care areas and misting sprays within the bird-holding cages, well under D.C. Plumbing Code Section 604.8 (Water Pressure-Reducing Valve or Regulator) standards. A dedicated water heater serves the hot, carbon-filtered water to these sinks.

A third system, also carbon-filtered and tempered, serves the fog production and rain bar system in the Bird Friendly Coffee Farm aviary. This water also requires treatment by a water softener. Mueller's team specified potassium chloride for the salt brine in the water softener versus sodium chloride, which is more typical. The potassium-based salt was specified as more suitable for the plants in the aviaries, as the more common salt can build up in the soil and harm plant life.

After being treated by the water softener, the fog production system water is routed through a reverse osmosis filtration and UV sterilizer, then to a high-pressure, fog-pumping package.

Filtered water is provided for all the exhibit pools. The Delaware Bay aviary has two saltwater and two freshwater pools. Pools also line both sides of the curved walkway in the Prairie Pothole aviary, where ducks and songbirds are abundant. The Bird Friendly Coffee Farm aviary features small pools as visitors learn about migratory birds' overwintering habitat.

Mueller's engineers coordinated closely with Ardurra, the life support systems engineer, regarding the design of the pools and water features in the aviaries. The pool water is recirculated and filtered through bead or sand filters. A UV sterilizer is used on two pools, and a wave machine is featured in one of the aviaries. The volumes in the largest pools range from 830 gallons to 2,864 gallons.

Other plumbing subsystems include:

- Potable cold water for all public fixtures;
- Potable domestic hot water for public fixtures;
- Nonpotable water for HVAC heating water and chilled water;
- A dedicated nonpotable make-up water line for backwash to serve the filters for the life support system;
- Nonpotable water for exterior irrigation.

The project's water-saving design reduces the building's water use by 65% outdoors and 43% indoors through an intelligent irrigation system outside and water-saving fixtures.



Facilitating Maintenance while Protecting Birds

The architecture and engineering team worked intimately with the curators and caretakers to ensure that hose bibbs and drains were appropriately located to facilitate cleaning. Special attention was directed toward the size of the openings in the floor drains, with the strainer openings specified not to exceed 1/4 inch. This detail was necessary to avoid injuring the birds' fragile legs.

Plumbing for the Birds

Generally, the fire protection system was replaced as part of the renovation project. The incoming 6-inch fire service line, backflow preventer and three-zone control valve assemblies could be retained and reused as they had been recently replaced before the whole building renovation.

Three new zone control valve assemblies create six control zones in the building, allowing each aviary to be a dedicated sprinkler zone separate from the public-only spaces.

Efficient HVAC Systems for Unique Aviary Comfort

Engineering the HVAC solutions for the Bird House presented a captivating challenge, much like its plumbing systems. This endeavor involved addressing the diverse and sometimes conflicting requirements of the exhibit's different bird species, the Smithsonian's personnel and the visiting public.

At the core of the HVAC design is a high efficiency chiller strategically situated on a specifically designed steel dunnage with spring-type vibration isolators. Additionally, a mechanical vibration isolation pad was placed on the roof below the dunnage, providing a high-mass element in the roof construction to mitigate chiller-radiated noise.

All this is within a specialized acoustic enclosure on the Bird House roof. This design is crucial for minimizing sound transmission through the nearby ethylene tetrafluoroethylene (ETFE) skylight (lightweight fluorine-based plastic), only a few feet from the chiller. Thus, the acoustic treatment of the chiller becomes both critical and intricate due to its direct impact on sound propagation into the aviaries.

Two custom rooftop air-handling units (AHUs) provide the Bird House's air supply. AHU-1 caters to nonhabitat sections of the building and is designed for a dew point of 55 F.

Meanwhile, AHU-2 is dedicated to the habitat areas and is designed for a higher dew point (61 F), ensuring that the aviaries' atmospheres authentically mimic their showcased climates.

The aviaries offer varying climate conditions to mimic diverse natural environments. Entering Aviary 1 from the Flyway, the dew point is higher, allowing for a higher temperature and relative humidity than the nonhabitat areas, simulating the Delaware shore coastal areas. Aviary 2, the Prairie Pothole area, is slightly warmer than Aviary 1. However, when entering Aviary 3, the Coffee Farm, the temperature is the highest, reflecting the conditions typical in a tropical environment.

By engineering AHU-2 for a higher dew point, a warmer and more humid environment was created in the habitat areas, yielding energy savings compared to the alternative of using a single AHU for the entire building. Using a single AHU for the entire building would have required dehumidifying the air for the habitat areas farther than it needs to be, then having to reheat it since all the building supply air would come from one AHU, and the nonhabitat areas require a lower dew point.

This design approach (two separate AHUs) reduced chiller energy usage by avoiding dehumidifying the habitat areas to typical human-occupancy building conditions and conserved boiler energy by not requiring as much reheat to attain shore and tropical climate temperatures.

The AHUs feature 2-inch pre-filters and employ electrostatic air cleaning systems, specifically the Dynamic V8 system. UV lights are downstream of the cooling coils to maintain cleanliness and efficiency, effectively minimizing organic growth, reducing maintenance requirements, and lowering fan energy consumption by preventing excessive air pressure drops caused by organic growth buildup. Furthermore, it preserves chiller energy by preventing fouling that can impede heat transfer between the air and water within the coil.

Plumbing for the Birds

Key specialized zones comprise the incubation room, sick bird room, bird holding areas and Bird Observatory. The sick bird room serves the primary purpose of containing and limiting the spread of illnesses among the avian population. It operates under negative pressure compared to neighboring spaces, with air exhaust directly to the building's exterior. Furthermore, the air supplied to the sick bird room is equipped with HEPA filters mounted in the ducts for enhanced filtration.

A Sustainable Avian Sanctuary

The Smithsonian's National Zoo and Conservation Biology Institute's Bird House has undergone a remarkable transformation, the most significant since it opened 95 years ago. The renovated facility serves as a captivating exhibition space at the National Zoo, playing a critical role in supporting field and husbandry research, focusing on songbird and shorebird survival and the sustainability of wild species.

The Bird House now showcases the annual migrations of birds, providing visitors with an immersive experience that educates them on the importance of protecting native species. The exhibit features three walk-through aviaries, replicating different ecosystems and climates to accurately reflect the migratory birds' environments. The Bird House is also a model of environmental sustainability, with efficient water systems, reduced water usage and an innovative HVAC design, ensuring the birds' comfort while conserving energy.

Moreover, this project is a testament to the commitment of the Smithsonian and its partners to conservation, education and wildlife protection. The Bird House provides visitors with a unique and enriching experience and contributes to vital research efforts to preserve the natural world. With its dedication to the welfare of the birds and the planet, the Bird House is a remarkable achievement in sustainable architecture and avian conservation.

Karen Schulte, PE, CPD, LEED AP BD+C, has 17 years of experience as a mechanical and plumbing engineer and is a project manager at Mueller Associates. She is an active American Society of Plumbing Engineers (ASPE) leader and volunteers with the Baltimore Chapter's Women of ASPE.

Paul P. Czajkowski, PE, has 43 years of experience at Mueller Associates as a mechanical engineer and serves as Mueller's chief mechanical engineer, designing HVAC systems for many of the firm's major institutional projects and overseeing its quality assurance and training programs.



*Great
work,
Karen!*



Nikita Patel, PE
Education Chair



ASPE Enthusiasts! Please scan or click the QR code to submit your questions for Professor Isman today!

I'm looking forward to our upcoming event at the Engineers' Club of Baltimore where we'll have some fun sharing our insights on all of the best parts of Plumbing Engineering and plumbing in general. This year, we will have several tabletops for students to engage with our ASPE members, special thanks to Mueller Associates, CMTA, EJ Dwyer Co, Bay Associates, The Joyce Agency, UA486, McWane Plumbing and WSSC!

We are already in the planning stage for our annual Joint UA/ASPE Event, and hope to settle our date for later in April. Stay tuned for more details.

The ASPE Convention is coming to Columbus, OH! This year, attendees will get to enjoy all the city has to offer AND MORE! The trade show/expo floor will be hopping as usual, and there will be over 20 classes offered for credit. The ASPE Education Committee is hard at work selecting the best topics and speakers for your enjoyment and education.

Have you used ASPE's Read, Learn, Earn benefit?

The Education Committee has prepared thirteen articles that can be read on your own time, and qualify for CEUs once you take the associated quiz. Current topics include: Rainwater & Stormwater Harvesting, Cross Connection Control, Fixtures, Healthcare Code, and much more! We really enjoy seeing you in our regular monthly meetings, but if you can't attend, please consider this (FREE FOR MEMBERS) resource to collect your CEUs. We look forward to seeing you soon!

ReadLearnEarn

Nikita Patel, PE

Education Chair

AYP Liaison to the Board

npatel@shermanengineering.com

In Person & Virtual CPD Review Session 2024

The Washington DC and Baltimore ASPE Chapters are proud to sponsor a free, simultaneous in-person and virtual log-in CPD review session at the E.J. Dwyer Co. Conference & Training Center (10910 Pump House Rd, Annapolis Junction, MD 20701). A TEAMS meeting link will be provided by the Friday before the event for the virtual log-in participants.

The review session will be on three consecutive Saturdays in March: March 2nd, March 9th, and March 16th. Each of the sessions will commence at 9:30 AM thru 3:30 PM (EST) with a 45-minute lunch break during the noon hour.

If you are interested in participating whether in-person or by virtual means, then please register via e-mail no later than the afternoon of Wednesday, February 28th to either Kathy Dwyer or Ned Dwyer at the following respective addresses: kdwyer@ejdwyer.com and ndwyer@ejdwyer.com; and Cc yours truly at David.Bailey@wssewater.com. Also, please indicate whether you will be attending in-person or by virtual means.

Please have on hand the latest edition of the CPD Study Guide, a highlighter, a calculator, pencil and paper. A limited number of study guides and seating will be made available at E.J. Dwyer Co. for in-person attendees. The CPD Study Guide may also be purchased on-line from the ASPE Bookstore website: <https://www.aspe.org/product/cpd-study-guide-2020/>.

ASPE alert: Deadline to register is April 1, 2024; 2024 CPD Exam Dates: April 15–26.

Respectfully,

David Bailey

David M. Bailey, CPD, GPD, FASPE

DATE: March 2nd, March 9th, and March 16th from 9:30 AM to 3:30 PM (EST)
LOCATION: E.J. Dwyer Co. 10910 Pump House Road, Annapolis Junction, MD 20701
CONTACT: Kathy Dwyer – kdwyer@ejdwyer.com – Mobile: 443-250-0285
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Nikita Patel, PE
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01

Growing Healthcare Industry

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02

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03

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04

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05

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STAY-TITE Seat Fastening System™ anchors the toilet seat to the bowl by using a patented bolt design with a finned bushing and glass-filled nylon nut, eliminating the need to retighten the seat to the bowl after installation.

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ADDITIONAL INFORMATION**

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HEALTHCARE



EVERY SYSTEM



- Wet Flow Tested to Design Conditions—Guaranteed Performance
- ASPE Recognized 70% Redundancy for Energy Savings
- No-Flow shut down without the use of Hydropneumatic Tanks
- Standard with surge suppressor and 100k AIC SCCR disconnect



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Kemper Multi-Therm® thermostatic balancing valves have been trusted for over 25 years. Packed with unique and innovative features, these compact thermostatic balancing valves offer unparalleled ingenuity, dependability, and trustworthiness.

Thermal Disinfection

Ability to manage high temperature disinfection practice is included.

Thermal balancing cartridge

Replaceable or serviceable while valve body remains connected to piping.

Bronze valve body

Dezincified, lead free

Insulation clam shell

Option for quick & tidy installation.



Available port

This port can be used for a BMS temperature sensor probe.

Locking dial

Set screw locks in the temperature setting hidden under a protective cap.

Built in isolation valve

This feature stops the flow of water through the valve.

Adjustable temperature dial

This feature provides flexibility and allows for real-time adjustments to the HW return temperature setting.

Integrated port

This port allows for the use of an optional temperature gage (display range 0 -176°F).

Contact for more information:

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WATER CONTROL SYSTEMS





WATER TEMPERATURE SOLUTIONS START WITH LEONARD

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 - Programmable temperature setpoint
 - Easy setup/easy error coding
 - Upon power failure, holds last set temperature to avoid thermal shock

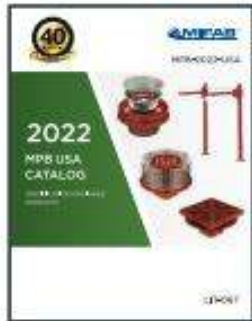
PROTON SERIES: MODEL FEATURES GUIDE				
	Proton 1.0	Proton 2.0	Proton 2.5	Proton 3.0
Simple and intuitive user commissioning and setup	•	•	•	•
Alarms for when unit maintenance is required	•	•	•	•
User programmable set point range between 65 °F and 180 °F	•	•	•	•
Automatic hot/cold water shutoff upon cold/hot water inlet supply failure	•	•	•	•
Valve controls at time of no use: 0.0 GPM*	•	•	•	•
Single valves available in 1" to 3" valve outlet sizes	•	•	•	•
Manifold assemblies available in up to 6" valve outlet sizes	•	•	•	•
Enhanced controller with programmable disinfection mode		•	•	•
Three additional temperature probes (inlet hot, inlet cold, return temp.)		+	+	•
Five relay contacts that switch on during alarm states		+	+	+
Remote alerts to assist Maintenance and Service Personnel		+	+	+
Loss of power alert		+	+	+
Broken temperature probe alert		+	+	+
"Out of range" temperature alert (± 10 °F)		+	+	+
Motor connectivity and operation alert		+	+	+
Service required @90% full shuttle movement alert		+	+	+
Enhanced controller with BACnet MS/TP connection			•	•
Enhanced controller with Wi-Fi				•

*When properly installed near the hot water source with a continuously operating recirculation pump

• Standard
+ Optional

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POLYMER CONCRETE
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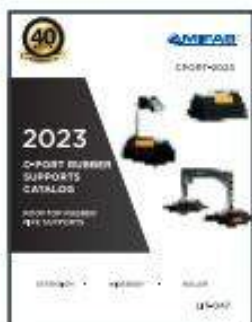
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SHOWER DRAINS
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TDSS-2023
STAINLESS STEEL
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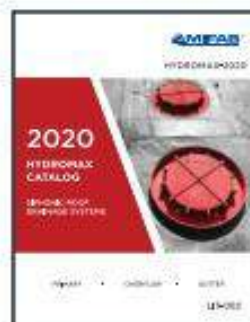
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The IntelliStation®, with its large-capacity valves, is designed for use in hospitals, universities, and large hotels. The digital water mixing and recirculation solution can be integrated into a building automation system (BAS) to allow facilities managers to remotely monitor and control water temperatures. Help mitigate Legionella and other waterborne pathogens with the high-temperature sanitization mode. Key capabilities include a digital temperature regulation within $\pm 2^{\circ}\text{F}$ to ASSE 1017, even during low and zero demand periods, and is field configurable without the need for a laptop or special software.

INTELLISTATION® JR

IntelliStation® Jr. provides safe hot water consistently and on-demand for smaller applications than IntelliStation. It is also ASSE 1017 compliant, available in 3/4" through 2" sizes, and has a programmable temperature set-back/scheduling program that lowers water temperature when the building is unoccupied. Register the Jr. with the Watts OnSite mobile or web app for remote temperature control, monitoring, and visibility across locations and sublocations.

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FOR OVER 10 YEARS

Hot Water Recirculation 



In 2012, CircuitSolver® was developed to conquer the challenges inherent to conventional manual balancing valves. As the market's first **thermostatic balancing valves** used for domestic hot water recirculation, CircuitSolver® balances a system based solely on temperature as opposed to pressure or flow to guarantee hot water at **every fixture**. Dynamically balancing a system, CircuitSolver® ultimately **ended complaints** about the lack of hot water, and eliminated balancing processes and callbacks.

Cold Water Recirculation 



Last year, we implemented our thermal actuator technology into the CircuitSolver® Union Cold Water balancing valves. These valves are installed in domestic Cold Water recirculation systems to mitigate the risk of Legionella and other bacterial growth. Cold water recirculation is becoming more prominent in hospitals to reduce water stagnation and ensure residual chlorine is distributed but can be beneficial to any commercial building that could experience periods of low flow or non-use.



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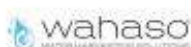
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on product and training!



Schedule of Events

SEPT 27	Communication Skills for Construction & Consulting	BJ Allen Warfel Construction
OCT 25	Vacuum System Design	Nikita Patel Sherman Engineering
NOV 16	Generator Basics	Jim Webster Kelly Generator & Equip.
DEC 13	Air Compressors	Will Dargan Cummins Wagner
JAN 24	Grease Interceptors	Schier Products
FEB 28	Fire Protection Specialties	Ken Isman University of Maryland
MAR 27	Fire Protection- Pre-Action Systems and Clean Agents	Josh Shapiro Reliable Sprinkler Co
APR 24	Siphonic Roof Drains	UV Systems
APR 2024	Annual Golf Tournament	Details to Follow
MAY 22	Natural Gas Sizing	Chuck Swope Mueller Associates ASPE Baltimore President
JUN TBD	Annual Summer Party	Details to Follow

MONTHLY
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OPPORTUNITIES

Tabletop Presentations: \$100 to provide a tabletop presentation of equipment or material relative to the plumbing profession. The tabletops will be set up from the beginning to the end of the monthly meeting and provides the opportunity to provide a brief (under 5 minutes) presentation.

Please make checks payable to the Baltimore Chapter of ASPE. Contact Kathy Dwyer or Chuck Swope if interested