DAWSON CO.
YOUR FLUID TECHNOLOGY RESOURCE

Hydronic News
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Dawson Company Joins Xylem at the NYSE Closing Bell
Celebrating World Water Day 2025

On Friday, March 21, 2025, industry leaders gathered at the New York Stock Exchange (NYSE) to mark World Water Day with a significant moment - the ringing of the Closing Bell. Matthew Pine, President & Chief Executive Officer of Xylem, led the ceremony alongside customers, investors, and key partners, including Meredith Emmerich, Senior Vice President and President, Applied Water, Jamie Edmondson, President of James M. Pleasants Company, Andrew Pratt, President of Fluid Industrial Associate Inc. and our own, Ric Serafin, President & CEO of Dawson Company.

This annual event serves as a powerful reminder of the essential role water plays in our world—not just as a resource, but as the foundation of public health, thriving businesses, and strong economies. "Water security is economicsecurity," Pine emphasized, highlighting the importance of investment and innovation in ensuring a sustainable water future.

NYSE

The bell ringing symbolizes the collective effort of utilities, engineers, manufacturers, and advocates who work tirelessly to make clean, reliable water access a reality for communities everywhere. Dawson Company, a long-time leader in hydronic and plumbing solutions, is proud to be part of this global mission, partnering with industry pioneers like Xylem to drive innovation, efficiency, and sustainability in water management.

As we reflect on World Water Day 2025, we recognize the power of collaboration in addressing the world's most pressing water challenges. Through partnerships, advanced technologies, and a shared commitment, we can build a more resilient and water-secure future for generations to come.

Project Highlights

San Bernardino Unified School District Upgrades to High-Efficiency Boilers at San Gorgonio High School

By: Scott Taber, Outside Sales

San Bernardino Unified School District recently took major steps toward energy efficiency by replacing two aging Ajax boilers at San Gorgonio High School. The old boilers were consuming excessive amounts of natural gas, leading to unnecessary energy waste (see attached photo of the original setup).

To modernize the system, the district brought in Porter Boiler to install two highly efficient Lochinvar Power-Finn PBN2001 boilers, along with two E90 2AAB models.

BEFORE

The project included additional upgrades:

•A new Building Management System (BMS) control,

•Variable Frequency Drives (VFDs) on the hot water system pumps,

•Replacement of the system expansion tank with a NLA1000,

•Improved piping featuring a reverse return design and primary/secondary piping for the boilers.

Notably, the new Lochinvar boilers have a much smaller footprint, creating a cleaner, more efficient mechanical room while significantly reducing energy consumption.

For more information please reach out to Scott Taber at: **staber@dawsonco.com**

AFTER

Project Highlights

Santa Monica Shelter Upgrades to High-Efficiency Water Heaters

By: Steve McCool, Facilities Support Manager

Contractor: TRM Services Santa Monica

The City of Santa Monica has taken a step toward improved energy efficiency by upgrading one of its shelters with high-efficiency condensing water heaters.

The project features two Lochinvar Armor AWH0400-PM condensing water heaters equipped with hard water pumps, ensuring reliable hot water supply while maximizing energy savings.

TRM Services Santa Monica handled the installation, reinforcing the city's commitment to sustainability and efficiency. This upgrade will provide long-term benefits in performance, cost savings, and environmental impact.

City of Santa Monica

Project equipment includes:

(2) - Lochinvar Armor AWH0400-PM with hard water pumps

For more information please reach out to Steve McCool at: **smccool@dawsonco.com**

Dawson Company Represents at the Hawaii Buildings, Facilities & Property Management Expo in March

Dawson Company was excited to participate as an exhibitor at the Hawaii Buildings, Facilities & Property Management Expo, held March 5–6 at the Neal Blaisdell Center Exhibition Hall in Honolulu. This premier business-to-business event continues to be a cornerstone for Hawaii's building and facilities professionals, and we were honored to be part of the action.

Since its inception in 2008, the Expo has grown to become a vital resource for industry professionals seeking the latest in products, services, and technologies related to building operations, maintenance, renovations, and retrofits. With a diverse range of exhibitors and a strong focus on innovation and sustainability, the event provided an ideal platform for networking and knowledge-sharing.

Manning the Dawson Company booth were Manny Masso and Brandon Piriyakarnjanakul from our Hawaii office. Both were enthusiastic to engage with attendees, answer questions, and offer tailored solutions for the unique challenges faced by facilities across the islands. From energy-efficient pump systems to advanced hydronic solutions, our team was ready to showcase how Dawson Company can support Hawaii's evolving infrastructure needs.

We'd like to extend a warm mahalo to everyone who stopped by the booth—we truly enjoyed connecting with familiar faces and making new industry friends. Events like this not only highlight the strength of our partnerships in Hawaii but also reinforce our ongoing commitment to providing exceptional service and support across the region.

To get in contact with Manny or Brandon about your needs in Hawaii reach out to:
mmasso@dawsonco.com
bpiriyakarnjanakul@dawsonco.com

Pipe Movement Design Seminar

Taught By: Metraflex's Dan Kish, Austin Radous & Fernando Soto

Metraflex's own Regional Sales Manager, Dan Kish came here from Chicago with Austin Radous and Fernando Soto to teach an informative session here in Pomona on Pipe Movement Design. They covered some key topics like expansion joint selection & installation, anchor design & guide layout, failure analysis, and expansion joint layout and stress analysis.

Dan Kish, Austin Radous & Fernando Soto from Metraflex

For a list of more classes please check our website or scan QR code:

Centrifugal Pump Class offered for ACCO

Taught By: David Hernandez, P.E. Executive Vice President

Dawson Company was proud to host a dedicated training session for a team from ACCO Engineered Systems at our Pomona training facility. This customized Centrifugal Pumps Service Training Course was offered by special request and led by Executive Vice President David Hernandez, P.E., with valuable support from Jorge Choy, Outside Salesman.

The session provided in-depth instruction on key topics including pump operation, interpreting system curves, calculating head and flow, understanding NPSH, as well as best practices for installation, troubleshooting, and ongoing maintenance.

We extend our sincere thanks to the ACCO team for their participation and engagement, and to everyone who contributed to making this specialized training both informative and successful. We look forward to more collaborative training opportunities in the future!

Dawson Volunteers Support Eaton Fire Recovery Efforts

On April 7, 18 Dawson Company employees and their families volunteered with Samaritan's Purse to help homeowners affected by the Eaton Fire in Altadena.

With Dawson's deep roots in the community—having operated in Altadena for 25 years—the effort held special meaning. Volunteers were given paid time off to participate, spending the day recovering personal items from fire-damaged homes.

Teams carefully searched through debris to find items of sentimental value. Among the discoveries were a class ring, musician's drum cymbals, a cherished coin collection, an intact ceramic cross, and an engagement ring found after extensive searching.

"These small finds meant so much to the homeowners and brought a sense of hope," said one volunteer. "It was deeply fulfilling to give back."

Dawson thanks all volunteers and Samaritan's Purse for their vital support in this meaningful recovery effort.

Samaritan's Purse
INTERNATIONAL RELIEF

For more information visit:
https://www.samaritanspurse.org/

Dawson's First Golf Tournament Fundraiser for Water

Sept. 26, 2025

Gold Sponsor – $3,000

- One team of 4 players
- Company named at Banquet
- Company Tee Sign on course
- 35 Raffle Tickets
- Featured in Hydronic Newsletter
- Special gift presented at Banquet

Silver Sponsor – $1,600

- One team of 4 players
- Company named at Banquet
- Company Tee Sign on course

Team Entry – $1,200

- One team of 4 players

Individual Entry – $300

- One player

Beverage Sponsor – $4,000

- One team of 4 players
- Company named at Banquet
- Company Tee Signs on course
- Company signage at Beverage Station
- Special gift presented at Banquet

Lunch Sponsor – $1,800

- Company Tee Sign on course
- Company signage at Lunch Station
- Special gift presented at Banquet

Breakfast Sponsor – $500

- Company Tee Sign on course
- Special gift presented at Banquet

Tee sponsor – $500

- Company Tee Sign on course

50/50 tickets - $10

•Proceeds split between one winner and The Chris Long Foundation

Raffle tickets -

•$20 for 5 tickets or $100 for 35 tickets

Putting Contest

•$10 per try

Additional Contests with Prizes:

•Longest Drive •Closest to the Pin •Hole-in-One Challenge

For hotel reservations:
pacificpalmsresort.com

Register by Aug. 25, 2025

Scan QR code to sign up online:
Or send check with participants names & shirt sizes to:
PO Box 6011 Pomona, CA 91769
626-797-9710

Project Highlights

Fujitsu AIRSTAGE VRF System VU-V Series

By: Matthew Warner, Business Development Group

Founded in 1935, Fujitsu started as a manufacturer of radios, phonographs, and other home appliances, including air conditioners. Fujitsu broke into the American market in 1976 as Fujitsu General America, and for over 40 years in America, Fujitsu General has been working hard to make the world a more comfortable place. In 2023, Fujitsu released the AIRSTAGE VU-V multi-split air conditioner for large commercial buildings in the U.S. market.

AIRSTAGE VU-V VRF System:

AIRSTAGE VU-V VRF outdoor units offer greater flexibility, efficiency, and capacity for commercial applications, and can serve either as a heat pump or heat recovery system with a simple setting change and the addition of refrigerant branch units (RBU's). AIRSTAGE VU-V offers a wide range of single module outdoor units in their lineup (6-16 Tons) with combination capacity range up to 36 tons. With cooling range of 126 F to 14 F ambient and a heating range of 68 F to -15 F ambient, AIRSTAGE's extended temperature range increases application flexibility and enables the use of the system in more regions. Equipped with a scroll compressor with a wide range of rotational frequency partnered with Fujitsu's unique sensor-less sine wave control method, smoothly controls the input power run into the motor, improving the energy efficient and low sound operation.

AIRSTAGE Cloud

AIRSTAGE Cloud is a modern Cloud-Edge computing network operating on AWS. It provides managed software services that deliver genuine plug & play connectivity for an ever-growing list of automatically recognized building equipment. Together with AIRSTAGE VU-V VRF System, AIRSTAGE Cloud delivers a Virtual Private Building Management System to every account holder at a fraction of the cost of a traditional BMS.

By: Matthew Warner, Business Development Group
Contact: **mwarner@dawsonco.com**

Project Highlights

A Deep Dive into the History of "Wet Hydronics"

By: Nick Ekdahl, CPD, GPD, Director of Training & Education at Dawson Co.

Ancient Foundations: The Birth of Hydronic Heating

1. Roman Hypocaust Systems (1st-5th Century BCE)

•The **hypocaust** was one of the earliest known radiant heating systems.
•Romans built a network of **brick or stone pillars** supporting raised floors, allowing hot air to circulate underneath.
•**Water-filled basins** in Roman bathhouses were often indirectly heated by these channels.
•**Fuel source:** Wood-fired furnaces (praefurnium).
•**Materials used:** Stone, clay bricks, lead piping (later found to be toxic).
•**Downside:** Required massive amounts of fuel and constant maintenance.

2. Medieval and Renaissance Period (5th–18th Century)

•**Decline of hydronic heating** after the fall of the Roman Empire; most of Europe returned to open fireplaces.
•**Korean Ondol System** (from 7th century CE): Similar to the hypocaust but using heated water from wood-burning stoves beneath floors.
•**17th-century Russia and Scandinavia**: Large masonry stoves were used with embedded pipes to warm water and distribute heat.

The 19th Century: The Birth of Modern Wet Hydronics

1. Early Steam and Hot Water Heating Systems

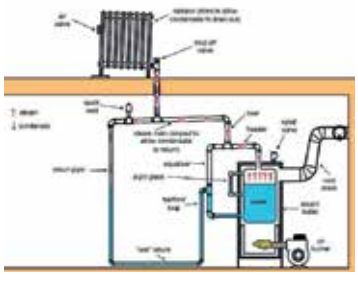
•Steam heating was dominant in large buildings, but early **hot water systems** emerged.
•**Angier March Perkins (1818)**: Designed a high-pressure hot water heating system using small-bore pipes in a closed-loop system.
  oOriginally used in **greenhouses** to regulate plant-growing temperatures.
  oThis led to the first **closed-loop circulation system** — the basis of modern hydronic heating.

2. The Invention of the Radiator (Mid-19th Century)

•**Franz San Galli (1855)**, a Russian-German inventor, created the first practical cast-iron radiator.
  oAllowed for **zoned heating**, individual room control, and lower fuel consumption.
•**Gravity-fed hot water systems** became popular in Europe and North America.

3. Steam vs. Hot Water Heating Debate (Late 19th Century)

•**Steam systems** were widespread due to industrial applications but were inefficient for homes.
•**Hydronic heating advantages:**
  oLower pressure = **safer.**
  oEven heat distribution, **less fluctuation** in temperature.
  oMore **fuel-efficient** than steam.
•By the **1890s**, engineers developed l**ow-pressure hydronic systems** for homes, paving the way for widespread adoption.



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Ekdahl Explains

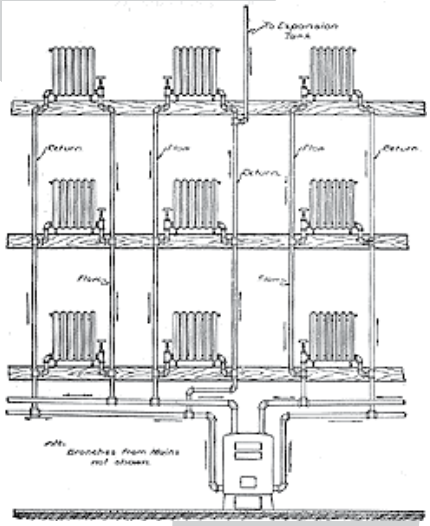
A Deep Dive into the History of "Wet Hydronics" (continued...)

By: Nick Ekdahl, CPD, GPD, Director of Training & Education at Dawson Co.

The Early 20th Century: The Expansion of Hydronic Heating

1. Introduction of Gravity Hot Water Heating

•**1900s–1920s**: Early systems relied on **gravity circulation**:
- oHot water naturally rises, cold water sinks (thermosiphon effect).
- oRequired **large-diameter pipes** and precise sloping to maintain flow.
- oHeat distribution was slow and inefficient.



2. The Rise of Circulator Pumps (1920s–1930s)

•**Major breakthrough:** The **electric circulator pump** enabled **forced circulation**, reducing pipe sizes and improving efficiency.

•**Impact:**
- oMore compact **piping networks.**
- oFaster heat distribution.
- oAllowed multi-zone systems.

3. Cast-Iron Boilers and Early Piping Innovations

•**Boilers became smaller, more efficient,** and capable of handling low-pressure systems.
•**Radiators became sleeker**, transitioning from ornate cast iron to simpler steel panel designs.
•**Copper piping introduced** (replacing iron pipes), reducing corrosion and installation costs.

4. Radiant Floor Heating in Early Modern Homes (1930s–1940s)

•**Frank Lloyd Wright** experimented with **hydronic radiant floors** in his architectural designs.
•Early radiant heating systems used **metal piping embedded in concrete slabs**, but **pipe corrosion** was a major issue.

Post-War Boom (1950s–1970s): Hydronics in Homes

1. The Shift from Radiators to Baseboard Heating

•**Hot water baseboard heaters** became popular, replacing bulky radiators.

•**Advantages:**
- oLower operating temperature (better efficiency).
- oQuieter operation.
- oBetter room aesthetics.

2. Zoning and Temperature Control Innovations

•**Introduction of zone valves and thermostats**: Allowed individual room control.
•**Thermostatic Radiator Valves (TRVs)**: Provided **automatic temperature regulation** per radiator.

3. Energy Crisis and Efficiency Push (1970s)

•The 1973 **oil crisis** led to a major focus on **efficiency**.
•**Boiler advancements:**
- oMore **compact** heat exchangers.
- o**Better insulation** to reduce standby losses.
- o**Lower-temperature water circulation** for energy savings.

(Continued on page 11...)

Ekdahl Explains

A Deep Dive into the History of "Wet Hydronics" (continued...)

By: Nick Ekdahl, CPD, GPD, Director of Training & Education at Dawson Co.

The Late 20th Century: The Revolution of Hydronic Technology (1980s–1990s)

1. The Condensing Boiler Breakthrough

•**Condensing boilers** revolutionized efficiency:
- oCaptured and reused **latent heat** from exhaust gases.
- oImproved efficiency from **70–80% to 90–98%**.
- oUsed **modulating burners** to adjust flame output dynamically.

2. The Introduction of PEX Tubing (1990s)

•**Cross-linked polyethylene (PEX) tubing** solved earlier corrosion issues:
- o**Flexible**, reducing installation time.
- oMore **durable** than copper or steel.
- oBetter **resistance to freezing and expansion**.

3. Radiant Floor Heating Goes Mainstream

•PEX tubing enabled **easy radiant heating installations**, making it popular for new **homes** and **retrofits**.

21st Century: Smart, Ultra-Efficient Hydronics (2000s–Present)

1. Smart Hydronic Controls

•**IoT-enabled thermostats** and **AI-driven systems**:
- oLearning **algorithms** optimize heating schedules.
- oIntegration with **weather forecasts** for dynamic control.

2. Ultra-Low Temperature Heating

•Modern radiant floor heating now operates at **90–110°F**, significantly reducing energy consumption.

•Works efficiently with **heat pumps, solar, and geothermal systems**.

3. Renewable Integration and Future Innovations

•**Hydronic systems are integrating** with:
- o**Solar thermal panels** (preheat water).
- o**Geothermal heat pumps** (earth-stabilized temperatures).
- o**Hybrid gas-electric solutions**.

•**Hydrogen-ready boilers:** Emerging technology preparing for a **carbon-neutral** future.

The Future of Hydronics: Where Are We Heading?

1.District Heating Networks:
- oMore cities are adopting **centralized hydronic heating grids**.
- oReduces individual boiler reliance.

2.AI and Machine Learning for Optimization:
- oPredictive algorithms will automatically adjust **flow rates, temps, & energy use.**

3.Hydrogen-Ready Boilers:
- o**Zero-emission heating** technology under development.

4.Thermal Battery Storage:
- oHeat stored in **phase-change materials (PCMs)** for later use.
- oReduces peak energy demand.

Conclusion

Wet hydronics has evolved from Roman bathhouses to **high-tech smart heating**. With **ultra-efficient designs, renewable integration, and future-ready innovations**, hydronic heating will remain a **key player** in **sustainable energy solutions**.

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