DAWSON CO.
YOUR FLUID TECHNOLOGY RESOURCE

Hydronic News

of Southern California & the State of Hawaii

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Accouncing Lochinvar's New Regent Tankless Water Heaters

Article by Steve McCool

Next time, just say "No Tanks!" Lochinvar introduces the Regent; a premium commercial tank-less water heater for indoor, or outdoor installations. Available in 500,000, 750,000 and 1,000,000 btu/hr. input sizes, with up to 97% thermal efficiency. All models are U.S. D.O.E 2026 compliant. It features a Lochinvar exclusive; solid stainless-steel heat exchanger design, with a real-time oxygen trimming combustion system that maintains the highest combustion efficiency through the entire firing range.





The SMART TOUCH™ Control offers a user-friendly control platform, with a capacitive 10" touchscreen display that can cascade control up to 8 units. Regent comes standard with Ultra-Sonic flow protection, that adjusts the fuel input recovery, based on demand. The Ultra-Sonic sensor replaces the need for mechanical flow switches. Modulation rates of 12.5/1 - 25:1 depending on size. Approved for Category IV venting lengths up to an industry leading 200'.



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Project Highlights

C.E. Mechanical Delivers Boiler Upgrade for Medical Office Building

By: B. Allen Schneider, Outside Sales Representative



Dawson Company has worked alongside C.E. Mechanical Inc. for more than 24 years, and that long-standing partnership recently led to another successful boiler replacement project.

This installation was especially meaningful because it marked the **second boiler job C.E. Mechanical** completed for this client at the same property. A few years ago, the team installed two **Lochinvar** boilers in the neighboring building, a project that was previously featured in Hydronic News. Thanks to the confidence the customer placed in C.E. Mechanical, Dawson Company, Lochinvar, and the other trusted brands supplied for the work, that success opened the door for this phase-two installation in the lower-level building next door.

The client needed a dependable heating solution after the existing boiler system began experiencing ongoing breakdowns and offered no redundancy due to age. Because the building serves medical office tenants, reliable comfort and operating efficiency were essential for both tenant satisfaction and patient well-being.

Working with the C.E. Mechanical team, I helped develop a practical, efficient solution that would improve reliability while also helping the client control operating costs. The new system included **Lochinvar Copper-Fin II boilers**, along with a new **expansion tank**, **chemical pot feeder**, **primary and secondary pumps**, and related system components. Additional equipment supplied for the project included a **Bell & Gossett B-200 bladder expansion tank, #87 air vent, and a Bell & Gossett inline Series e80 pump** built from Dawson Company's extensive inventory.



To complete the installation, the old equipment was removed from the roof and the new equipment was lifted into place early in the morning to minimize disruption to public traffic and building egress. A new pad cover was installed to protect the existing curb, and the equipment was then anchored securely in place.

Above the roofline, the piping was completely reworked to fit the new configuration. The scope included **new fittings, insulation, jacketing, and venting, along with the necessary seismic bracing**. The team also installed an **outside air sensor for outdoor reset**, giving the system the ability to improve efficiency and save the client money over time.

Project Highlights

C.E. Mechanical Delivers Phase-Two Boiler Upgrade for Medical Office Building (continued...)

Electrical service and controls were updated to support the new design, with some utilities relocated to maintain proper clearances and serviceability. Once startup was completed, the boilers were sequenced to operate as an integrated system while still providing the redundancy needed to keep the building heated in the event one unit requires maintenance or service.

The end result was a clean, well-executed project **delivered on time and on budget**. Most importantly, it provided the customer with the comfort, efficiency, and reliability needed for a medical office environment. Projects like this highlight the value of strong manufacturer, supplier, and contractor relationships. Dawson Company is proud to support C.E. Mechanical with the products, knowledge, and service needed to deliver dependable hydronic solutions for their customers.



Project Team

- **Design, Sales and Project Management:** Michael Martin
- **Piping Foreman / Startup / Field Supervisor:** Brian Sedoris
- **Piping:** Brian Allen Sedoris
- **Electrical / Controls:** Alex Villa
- **Warehouse and Delivery:** Richard Montijo
- **Project Coordinator:** Griselda Martinez
- **Insulation and Jacketing:** Eddy Hall, P&E Insulation
- **Crane:** Champion Crane, Ramon Rivera

Dawson Company Sales Representative: B. Allen Schneider



For more information please reach out to B. Allen at: **baschneider@dawsonco.com**

Dawson Company Supports Eaton Canyon Fire Victims at Luncheon

On February 11, 2026, Dawson Company welcomed families impacted by the Eaton Canyon fire in Altadena (January 2025) to our Pomona location for a luncheon and an opportunity to provide direct support. While more than a year has passed, many families continue facing ongoing challenges—and this gathering was a reminder that they have not been forgotten.

Altadena is a community with deep ties to Dawson Company. We operated there for more than 25 years on Lincoln Avenue before moving to Pomona in 2009, making this effort especially meaningful.

Dawson Company invited six families and was honored to host five in person: the Bugarin, Torres, Duran, Bridges, and Velador families. During the luncheon, families shared heartfelt stories about the past year and expressed how much it meant to know support continues. Two of the families are also welcoming new babies and navigating first-time parenthood while rebuilding.



The program was led by David Hernandez, Executive VP, and made possible through collaboration with community partners including Bruce Gumbiner (American Business Bank), Mark Hagander (Lucas Horsfall), and Erika Toriz (Haven Services), a nonprofit partner that was able to write the checks directly to families.

As Ric Serafin, President & CEO, shared, giving back is at the heart of Dawson Company. With compassion and care for those in need, we can lift others up—and strengthen our community in the process.





Inside Dawson

Large Chilled Water & Steam Seminar taught by Said Abuzeineh

Taught By: Said Abuzeineh, Bell & Gossett's Little Red Schoolhouse

In August, Dawson hosted the Large Chilled Water and Steam Systems Design & Application Seminar at the Dawson Company Learning Center in Pomona, and also another Large Chilled Water class in San Diego, all taught by Said Abuzeineh from Bell & Gossett.





Students explored key topics including hydronic system design, pump fundamentals, flow control, air management and variable speed pump control and also earned CEU credits. These on-going classes reflect Dawson's continued commitment to practical, industry-focused training and educating the industry on the latest advancements in water and steam.

Dawson Hosts Technical Training Seminars in Hawaii

In May, Dawson Company hosted two technical training seminars in Honolulu, Hawaii, focused on **Mechanical Hydronic System Design** and **Potable Domestic Water System Design**.

Led by **David Hernandez**, PE, Executive Vice President and **Eric Decker**, PE, CPD, Vice President, the seminars provided valuable technical education and practical design insight for industry professionals in Hawaii.



Day 1 covered key hydronic system topics, including centrifugal pump design and application, expansion tanks and air management, thermal and seismic expansion joints, and heat transfer and heat exchanger basics.



Day 2 focused on potable domestic water systems, including centralized heat pump water heater design, mixing valve types and sizing, domestic water booster pumps, hydropneumatic tanks, and domestic hot water recirculation pumps.

For future classes please visit:
https://dawson-company.coursestorm.com/

Inside Dawson

Dawson Company Welcomes New Members to the Team



Bob Ellis, Outside Sales
(Los Angeles, CA)

Bob Ellis joins Dawson Co. as part of the Outside Sales Team, bringing a strong background in the plumbing and mechanical trades. His experience includes more than a dozen years as a boiler service technician, a California State C-36 Plumbing Contractor's license, and 25 years of sales and sales management experience with Raypak.

Throughout his career, he has developed a deep appreciation for the trade and the people who work in it. He is passionate about supporting contractors, engineers, service technicians, and customers with integrity, responsiveness, and practical solutions.

Bob lives in the Inland Empire with his wife, their two White English Labs, and two kitties. Outside of work, he enjoys being around the water, surfing, and working on handyman projects. Bob looks forward to contributing to the Dawson team, supporting customers, and building strong relationships with partners throughout the industry.



Joshua Jamrog
Outside Sales (Hawaii)

Joshua Jamrog joins Dawson Company with 25 years of sales experience within the chemical treatment industry. Joshua has worked for Nalco Water and GE Water selling water and process treatment solutions to the Refining, Power, Institutional and Commercial markets.

He graduated from North Carolina State University with a bachelor's degree in chemical engineering and currently lives in Kailua, Hawaii with his wife and 4 children.

In his free time, Joshua enjoys beach volleyball, cooking and spending time with his family on the beach. Josh will be a part of our Outside Sales division in Hawaii.



Anthony Sun
Outside Sales (CA)

Anthony Sun is a proud Pacific Islander residing in Southern California's Inland Empire. He brings 15 years of experience in the plumbing, HVAC, and mechanical industries. His qualifications include Journeyman Plumber, Master HVAC Technician, licensing in high-pressure and steam systems, and experience as a turbine technician. He takes pride in his technical expertise, strong work ethic, and commitment to quality workmanship.

Outside of work, Anthony enjoys spending time with his wife, Marisa, and their three children, Kai, Isla, and Zen. His hobbies include golfing, fishing, and cheering on his favorite sports teams: the Las Vegas Raiders, USC football, New York Yankees, and San Diego Padres. Above all, Anthony values family, hard work, and making the most of life's moments.

Dawson Company Steps Up for Clean Water

This June, Dawson Company proudly participated in the **2026 Walk for Water Team Challenge**, hosted by **Xylem** in support of the **Chris Long Foundation's Waterboys initiative**. Throughout the challenge, participants from across the industry joined together to raise awareness and funds for the **Built by Water campaign**, which supports expanded access to clean drinking water for youth in East Africa and the US. Together, challenge participants logged an incredible **213,175,533 steps and raised more than $54,000**, making 2026 a record-breaking year!

Dawson Company had even more reason to celebrate when the **Dawson Hardcore Hustlers** finished in a tie for **1st place** reaching a **perfect score of 6,000,000 steps**. In recognition of their achievement, an additional **$500 donation** was made to the Built by Water campaign.

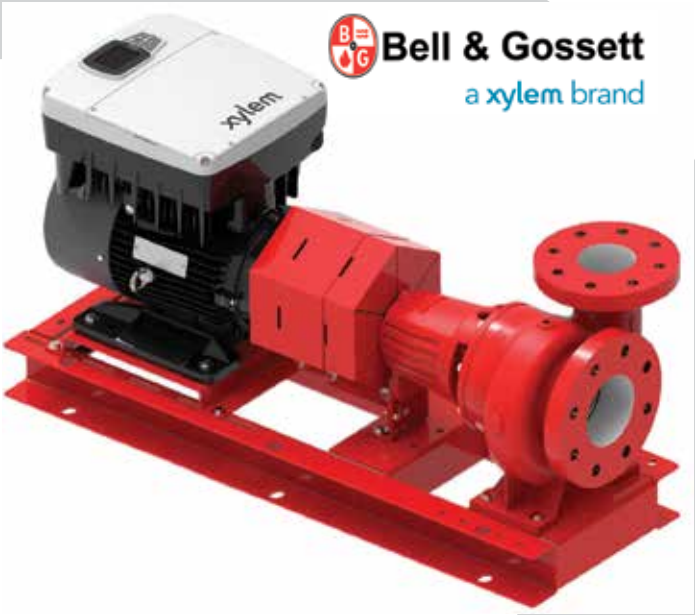


Dawson Company is proud of everyone who participated and helped turn teamwork, friendly competition and a lot of steps into meaningful support for communities in need.

For more information visit: **waterboys.org**

Technical Matters

Bell & Gossett's e1510/e1510X



The Bell & Gossett e-1510 /e-1510X series are base-mounted, end-suction centrifugal pumps. From an engineering standpoint, their design reflects **best practices in pump selection**, particularly when lifecycle performance and system integration are prioritized.

The e-1510 utilizes a radially split volute casing and a fully enclosed stainless-steel impeller optimized through computational fluid dynamics (CFD) to achieve high hydraulic efficiency over a broad operating range. The pump's performance curves exhibit a relatively flat efficiency profile ("wide efficiency island"), allowing acceptable operation away from the best efficiency point (BEP) with reduced penalties in energy consumption and radial thrust. This is critical in variable-flow hydronic systems where system curves shift dynamically. The shaft is sized to limit deflection at the seal chamber minimizing mechanical seal wear.

Standard configurations include flexible couplings and NEMA frame motors, enabling compatibility with a wide range of driver options.

The e-1510X extends this platform by **integrating a variable frequency drive** (VFD) and permanent magnet or premium-efficiency induction motor into a single package. Its onboard controller continuously modulates speed based on differential pressure, flow, or temperature feedback, directly applying the Affinity Laws to reduce power consumption. Under part-load conditions this results in substantial energy savings compared to constant-speed operation with throttling. Additionally, embedded sensors provide condition monitoring (vibration, temperature, power draw), supporting predictive maintenance strategies aligned with reliability-centered maintenance principles.

Base-mounted pump configurations offer several technical **advantages over inline alternatives**. Structurally, the baseplate provides a rigid mounting platform that ensures precise shaft alignment between pump and motor. This reduces dynamic misalignment, which is a primary contributor to bearing and seal failure. The increased mass also improves vibration damping, lowering transmissibility to connected piping systems and reducing the likelihood of resonance at operating speeds.

From a **maintenance perspective**, the e-1510/e-1510X employ a true back pull-out design. This allows removal of the rotating assembly (impeller, shaft, bearings, seal) without disturbing the volute casing or suction/discharge piping. For engineers, this translates into reduced mean time to repair (MTTR) and lower operational disruption—an important consideration in mission-critical facilities such as hospitals or data centers.

Finally, base-mounted pumps offer superior flexibility in system design and retrofitting. The ability to select independent motors, couplings, and control strategies enables engineers to tailor solutions for specific duty points, redundancy schemes (e.g., parallel pumping), and future expansion. When combined with the high efficiency and smart control capabilities of the e-1510X, these systems align with modern energy codes and sustainability goals, including those outlined by ASHRAE standards.

In conclusion, the Bell & Gossett e-1510 and e-1510X pumps exemplify advanced centrifugal pump design, integrating optimized hydraulics, robust mechanical construction, and intelligent controls. Their base-mounted configuration provides clear advantages in alignment, vibration control, serviceability, and hydraulic performance. For engineers tasked with designing efficient, reliable hydronic systems, base-mounted pumps remain the technically superior choice in demanding applications.



By: **Kendal Smith, Business Development Group**

Ekdahl Explains: Air Management in Hydronic Systems

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

Air Management in Hydronic Systems: Why It Matters and the Two Main Design Approaches

In hydronic heating and cooling systems, water is the primary medium used to transfer heat. Because water is incompressible and efficient at carrying heat, these systems depend on smooth, continuous flow through boilers, pumps, piping, and heat exchangers. However, one of the most persistent challenges in these systems is **air**.

Air enters a closed loop system during filling, maintenance, leaks, or through dissolved gases in makeup water. Once inside, it creates a wide range of operational problems. That's why air management is a foundational concept in hydronic design.

Why air separation is important

Air is problematic in hydronic systems for several reasons:

1. Reduced heat transfer

Air is a poor conductor of heat compared to water. When air collects in pipes or heat exchangers, it creates insulating barriers that reduce system efficiency. This leads to uneven heating or cooling and longer run times.

2. Flow disruption and noise

Air pockets can block or restrict flow, causing:

- Gurgling or banging noises
- "Air-bound" radiators or coils
- Pump cavitation, which can damage equipment

3. Corrosion

Air introduces oxygen into the system, accelerating oxidation:

- Rust formation inside steel components
- Sludge buildup
- Shortened equipment lifespan

4. System instability

Air naturally rises and collects at high points, creating inconsistent circulation and unpredictable performance across zones.

Because of these issues, effective air removal and control is essential for efficiency, reliability, and longevity.

The two fundamental air management approaches

Hydronic systems manage air and pressure using two main design philosophies: Air Control using **compression tank systems** and Air Elimination using **pressurized (diaphragm/bladder) tank systems**.

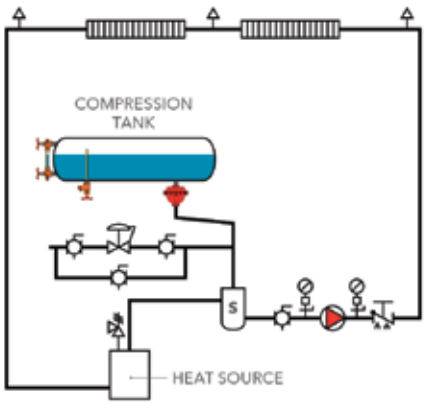
1. Compression tank systems (Air Control Systems)

A compression tank system uses a volume of air that is in direct contact with system water.

How it works

- A steel tank contains both water and an air pocket
- As water expands when heated, it compresses the air
- The air acts as a cushion to absorb pressure changes

Figure A: Typical Air Control System



Characteristics

- Air is directly exposed to water
- Air gradually dissolves into the water over time
- Requires periodic "air charging" or maintenance
- Paired with air separators to help manage free air

Historically, systems using equipment from manufacturers like Bell & Gossett commonly relied on this approach.

Advantages

- Simple construction
- No internal membranes or moving parts

Disadvantages

- High maintenance due to air loss
- Increased oxygen leads to corrosion
- Less stable pressure control over time
- Must be mounted above the rest of the equipment, usually the high point in the piping system
- Largely outdated in modern installations

Ekdahl Explains: Air Management in Hydronic Systems

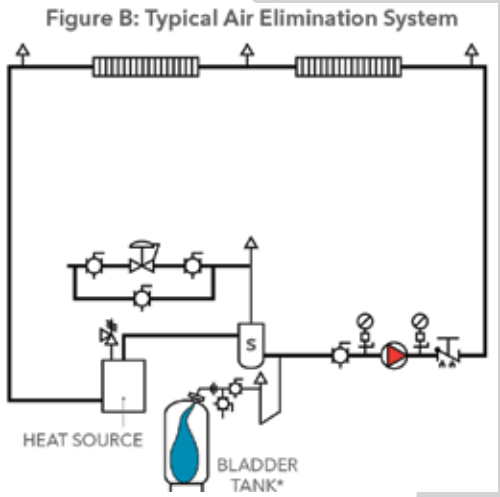
By: Nick Ekdahl, CPD, GPD, Director of Training & Education at Dawson Co.

2. Pressurized tank systems (Air Elimination Systems)

Modern systems use a sealed expansion tank with a flexible barrier separating air and water.

How it works

- Water enters one side of a rubber diaphragm or bladder
- Pre-charged air remains on the other side
- As water expands, it compresses the air without mixing



Characteristics

- Air and water are completely separated
- Factory-set air charge (adjustable if needed)
- Closed system with no intentional air introduction

Advantages

- Minimal maintenance
- Stable, predictable system pressure
- Reduced corrosion risk (no oxygen exposure to system water)
- Can be mounted at floor level in mechanical room
- Standard in modern HVAC design

Disadvantages

- If the Diaphragm ruptures or wears out the whole tank must be replaced; Bladder style is therefore recommended as you can replace just the Bladder.
- Requires proper installation and pre-charge settings; this must be done before introducing water to the tank

How air separation ties everything together

Regardless of which tank system is used, **air separation devices** remain essential. These devices remove unwanted air introduced during operation.

Modern air separators:

- Use tangential connections to create a low velocity vortex; centrifugal force moves heavier bubble free water to the outside of the tank while lighter air entrained water moves into the low velocity area in the center.
- Slow water velocity to ½ ft/sec so entrained air can come out of solution and naturally rise

OR:

- Use Coalescing Air Separators with internal coalescing medium to break air out of the system fluid
- Coalesce microbubbles into larger bubbles which naturally rise
- Direct air to automatic vents for removal

In older systems, air was constantly present and managed manually. In modern systems, the goal is to **minimize air in the system entirely**, making separation devices and pressurized expansion tanks work together as a unified strategy.

Summary

Hydronic air management is about controlling a simple but destructive element: trapped air.

- Air causes inefficiency, noise, corrosion, and flow instability
- **Compression tank systems** rely on exposed air cushions and require ongoing maintenance
- **Pressurized tank systems** isolate air behind a Bladder or Diaphragm for stable, low-maintenance operation
- Air separators (like those used in systems from Bell & Gossett) ensure that unwanted air is continuously removed

Modern hydronic design overwhelmingly favors pressurized expansion tanks combined with effective air separation because it delivers the most stable, efficient, and low-maintenance performance.

Questions or concerns please reach out to:
Nick Ekdahl at **nekdahl@dawsonco.com**



Technical Matters

Installation Issues with Horizontal Inline Pumps

By: B. Allen Schneider, Outside Sales Representative

In 1930, Bell & Gossett introduced a booster pump—it's most important development—as well as flow-control and motorized valves, which remain core products of the B&G brand.

The Bell & Gossett Series 100 **horizontal inline** booster pump was introduced in **1949** as part of a new design of forced hydronic heat pumps that incorporated motors from the company's own motor department. The company, which is a Xylem brand, had introduced its first "better booster pump" in 1930.
Known for being a horizontal inline "3-piece" oil-lubricated design." This is a resilient mounted motor design meaning the motor rests in a cradle with essentially between 2 rubber donuts for smooth quiet operation and long pump life.

Series PL was introduced later, with marketing material around 2015/2016 referring to it as a "contemporary product" designed to compete with or replace the older 3 piece oil lubricated technology.

Key features of the PL series, such as the **XL-11 Permanently Lubricated bearing system** and the **Maintenance-free design**, align with the company's focus on innovation in the early 21st century to improve on wet-rotor technology. It is a close coupled horizontal inline pump design.

Regardless of the old or new design of the pumps, which are still being marketed and installed, going on 77 year now, failure to pay attention to the manufactures installation and operation manual to properly install these pumps causes pump failures regularly. This is common across the board regardless of the brand. In the early 1960's a small manufacturer in San Diego marketed what is known as a "Spring Hanger Kit", since this was such a common problem. It is a simple device consisting of piano wire and a little spring only designed to support the bearing assembly. We use the diagrams as examples of how not to support pumps.

Common causes are:

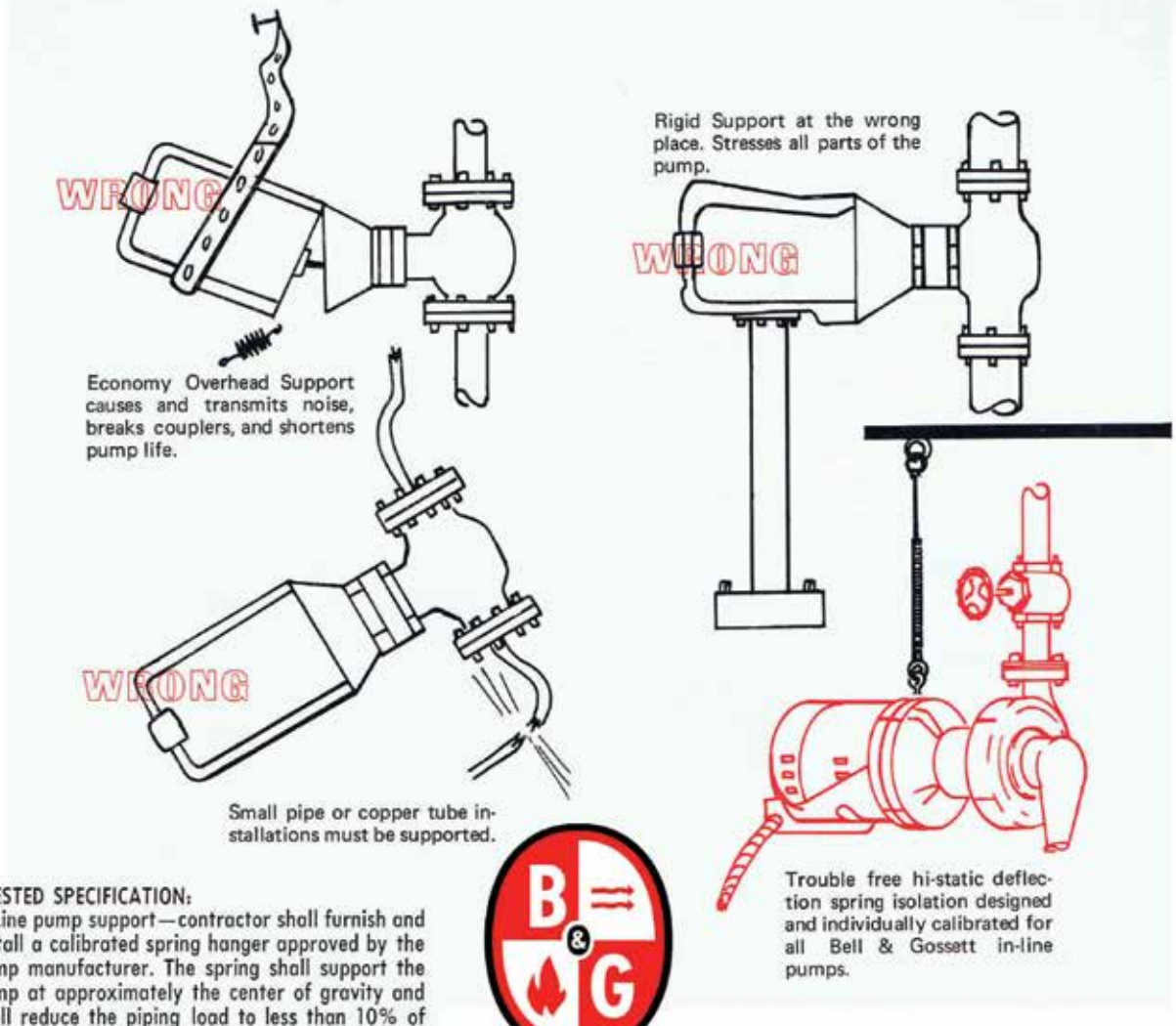
- Not reading the installation and operation manual and installing the pump incorrectly out of convenience. Many times the O&M is thrown away with the box and the pump is installed however the installer thinks it should be installed. More times than not, incorrectly causing premature pump life and continual failures.
- Installing a cast iron pump in a domestic water application.
- Pump orientation – The pump must not be installed vertically, or have its motor laying on its side. The cradle must be on the bottom so the bearing assembly can lubricate itself.
- The back of the motor shall not be supported by an overhead strap, uni-strut and rigid stands or the motor will be pushed out of center causing pump seal, bearings and coupling failures.
- Small pipe installations, the pipe needs to be supported, not the pump.
- Only install the pump with the motor shaft horizontal. The bearing assembly vent slots or coupler access window must always face up.
- Do not reposition the motor on the bearing assembly.
- The arrow on the pump body must point in the direction of the flow.
- You can install this pump to discharge up, down, left, or right. However, make sure that the pump is installed according to these pump orientation guidelines.
- Reposition the pump body by removing the body bolts and rotating the body around the bearing assembly.

The Series PL™ pump can be installed to discharge up or down, horizontally, left or right, but the motor shaft must remain in the horizontal position, the arrow on the body must point in the direction of flow and the conduit box must be positioned on the top of the motor housing.



By - B. Allen Schneider – Dawson Company Sales Representative
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Each kit includes all the hardware to secure support from wood joist, steel, or concrete ceilings.


WRONG
Economy Overhead Support causes and transmits noise, breaks couplers, and shortens pump life.
Rigid Support at the wrong place. Stresses all parts of the pump.
WRONG
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Small pipe or copper tube installations must be supported.
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SUGGESTED SPECIFICATION:
In-Line pump support—contractor shall furnish and install a calibrated spring hanger approved by the pump manufacturer. The spring shall support the pump at approximately the center of gravity and shall reduce the piping load to less than 10% of the weight of the pump at room temperature.
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