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**Taco:
Powerhouse
Manufacturer
Builds Success
through
Partnership
with Trade Pros**

**Product Focus:
Pumps**

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Powerhouse Manufacturer Builds Success through Partnership with Trade Pros

One of the greatest forms of recognition for fine mechanical craftsmanship is peer review. So when Taco asks its 21,000+ online FloPro Team community to submit photos of their best plumbing, mechanical and hydronic work, entries typically come in giant waves.

"It's so exciting to see these entries. We write stories and post photos and information about these entries online, and recognize the installers who submit them," said Mark Chaffee, director of brand marketing for Cranston, RI based Taco, Inc. "We're so encouraged and inspired when we see trade pros doing their best work with our products and technology."

"Trade professionals are the sole reason for our existence," said John White Jr., Taco's president and CEO. "They're why we're here. We live home and building comfort through plumbing, mechanical and hydronic systems as though it were programmed into our brains."

"Since Taco is a 3rd generation, family owned business, I've been in this industry pretty much since birth. I've marveled at our growth and diversification," added White. "The genesis of every good thing to bear the Taco name starts right here in Cranston. Our 500+ employees are the greatest treasure of all because of the pride they take in the work they do, and in the way they work so well together. In the grand scheme

of things, we're a small company, but we've learned how best to make a big impact in a global market."

At the core: system innovation

Today, Taco is a leading developer and manufacturer of plumbing and hydronic-based heating and cooling equipment and accessories for use in residential, commercial and institutional systems worldwide.

Clearly, Taco's focus is the installer, meeting their many varied needs with products and technology designed and

built for the long haul. The company has gained a leadership position through decades of innovation and hard work, always attentive to customer needs and the opportunity for improvement.

Today, more than ever, Taco's emphasis is on total systems performance. "Though we may have started with a concentration on components, the company shifted to an emphasis on the system about 10 or 15 years ago," said Chaffee. "It was a gradual shift, but one that turned into an all-encompassing focus more recently as technology and



Taco President and CEO John White Jr. takes a moment with some of the firm's employees.

Cover Story

installation techniques combined with Taco's product breadth has permitted the integration of building systems.

"Hydronic systems now can source heat from the ground, or the sun," added Chaffee. "We can mix heat sources, types of fuel, delivery temperatures and even do cooling. Of course, domestic water can be married to this, and there's even the integration of hydronics with forced air — visible on the residential radar, but much more prominent in the commercial market. It's all in an effort to deliver maximum comfort."

And, there's green. It's not just the trademark color of Taco products but it's the company's commitment to efficiency. It's an emphasis that's become an overlay to Taco's system focus and has produced many innovations in the green realm, including:

- Variable speed delta-T hydronic circulators
- SelfSensing ProBalance™ pumps
- SmartPlus and On Command hot water recirculation systems
- iSeries valves and Radiant Mixing Blocks for ultimate radiant control
- Solar X-Pumps for an all-in-one control and pump solution
- Building management controls (iWorx – combining HVAC and hydronics)
- LoadMatch for commercial systems
- LOFlo for chilled beams

Each of these products, plus many others, is part of Taco's e-smart offering. It's a tag which gives installers a way to quickly find Taco's most resource-saving technology.

Out in front with education

Known for its innovative technology, Taco has recently shored-up its investment in training for trade professionals with completion last year of its Innovation and Development Center.

Taco's "IDC," consisting of a two-story 24,000 square foot addition to the current building, is a state-of-the-art learning and training environment, complete with new classroom spaces, conference rooms, a business center, and functional



labs for testing and teaching.

The Center displays and provides a hands-on learning environment for the best equipment and systems that today's plumbing and HVAC industry offers for comfort, reliability, efficiency and sustainability. The products and technology are visible throughout the entire facility forming "living laboratories" that allow for close-up viewing, hands-on learning and teaching.

The LEED Gold Innovation Center project, along with sweeping office area renovations completed within the existing building, provide the space the company needs to grow and to remain competitive while remaining in RI, Taco's headquarters since 1942.

So it's now from a position of strength that Taco pushes forward with product development and system innovation at warp speed, illustrated by this impressive line-up:

Domestic Hot Water Recirculation with SmartPlus & On Command

It's a common problem: turn on the faucet or shower and then wait for hot water to arrive. Taco recently introduced the SmartPlus circulator for use with domestic water systems that have a dedicated hot water return line.



Above top: Taco's Director of Training, John Barba, conducts a class at Taco's IDC.

Above bottom: Taco's Innovation & Development Center

Builders and remodelers with a focus on sustainability will find this technology to be a big asset when making "green" recommendations to homeowners.

The technology self-adjusts. When set to "smart" mode, the SmartPlus circulator records each time hot water is called for during a seven day period and then duplicates the pattern for the following week. This energy saving process happens continuously, so hot water is ready when it's needed. With SmartPlus, the average household can save up to 12,000 gallons of water in a year.

The SmartPlus can also be set to "pulse" mode. It will operate for 150 seconds every ten minutes, maintaining hot water at all fixtures.

Whether in "smart" or "pulse" mode, the circulator will automatically enter

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SmartPlus Hot Water Recirculation

“vacation” mode if hot water is not used for 36 hours. In this mode, water will be circulated once a week to prevent corrosion and scale buildup. When hot water is again called for, the unit will go back to normal operation.

On Command: For the homeowner that wants it all (without the need for a dedicated hot water return line), the On Command speeds water to fixtures with the push of a button, or activation of a motion sensor.

The system is based around a small pump that’s attached to the hot and cold water lines within the cabinet under the most remote kitchen or bath fixture in the house. When activated, the cool water that most often goes down the drain and is wasted is instead recirculated back to the water heater through the cold water line.

On command, the pump circulates the hot water from the water heater. When the hot water arrives at the fixture, a heat sensor and control board shuts off the pump to prevent pumping excess hot water into the cold water line.

High Efficiency Pumping

Viridian: The light commercial high-efficiency ECM pump is one of Taco’s newest commercial pumps. The wet rotor Viridian pump offers up to 80 percent savings in energy consumption compared to a standard commercial pump of the same size.

With fully automated, self-sensing variable speed operation, simple web style controls and capacities up to 375 GPM, the Viridian line serves a broad range of closed-loop heating and cooling HVAC applications.

An Ethernet connection to the pump

allows for remote control, monitoring and adjustment without requiring the involvement of IT or commissioning personnel. Any Viridian pump can be instantly accessed via a laptop using standard internet browsers, Wi-Fi enabled device or smart phone.

Taco’s SelfSensing Series with ProBalance™ integrates Taco KV or KS pumps with a variable frequency drive. These pumps allow installers to accomplish do-it-yourself system balancing for both



SelfSensing Series Pumps

performance curves are embedded in the memory of the speed controller. The pump continuously identifies required head and flow at any point, providing accurate pressure control without the need for external sensor feedback.

These pumps can be run in constant flow mode for chiller/boiler pumps (primary), system curve mode for variable flow pumps (secondary), and constant pressure mode for booster pumps. All three modes reduce energy consumption. By slowing pump RPMs, pump life is increased.

SelfSensing SKV pumps are available in sizes from 1.5 hp to 10 hp. The SKS line is available from 1.5 hp to 60 hp. Models up to 600 hp will be available next year.

LoadMatch: It’s an advanced infrastructure that enables super-efficient hydronic heating and cooling while delivering better comfort, lower first costs and maintenance,

and reduced energy consumption. A LoadMatch system also reduces design, start-up, and commissioning time.

LoadMatch enables single pipe distribution and primary-secondary pumping using maintenance-free, wet rotor circulators. The primary distribution system is a single pipe loop; the secondary distribution system is a decoupled secondary piping loop for each terminal unit in the system with flow delivered by a dedicated circulator.

A LoadMatch single pipe system replaces all the expensive and energy-consuming control valves and most balancing valves with small, low kW circulators that deliver water, on demand, to terminal units. The savings in raw material, installation costs, and energy consumption are substantial.

The simplicity of LoadMatch permits the use of one size of pipe for large portions of the system. In single loop installations, there is no limit to the number of terminal units that can be installed.

LOFlo: Typically used in radiant panel (ceiling, wall or floor) and chilled beam (passive and active) applications, the LOFlo technology significantly reduces pump flows and pipe sizes for reduced energy consumption and lower first costs.

Taco’s LOFlo injection mixing system uses only one-third of the energy and materials to move heating and cooling energy within a building’s interior when compared to air systems.



Mechanical excellence – A way of life at Taco

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Low flow radiant convective cooling eliminates condensation problems by decoupling latent and sensible cooling plus delivering precise room temperatures.

Software that brings it all together

FloPro Designer: It's everything an installer needs to design residential hydronic systems, and it's free to Taco FloPro members.

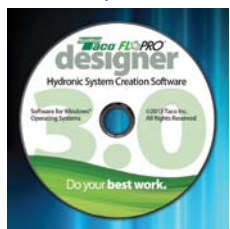
One of Taco's most powerful FloPro Team services is the design software package that's almost as intuitive as a sketchpad, but significantly more capable.

The layout and heat loss design suite enables contractors or designers to define building exterior and interior spaces, external influences, and to build and specify components for a host of hydronic, radiant heat, water heating and HVAC applications. With every change, the program dynamically changes calculations and their impact on other components within the system.

With FloPro Designer, you simply draw the floor plan, drop in windows and doors and, in an instant, installers or designers have accurate heating and cooling loads.

The Design Suite is a free collection of tools that takes the "time-consuming" out of commercial hydronic system design. At the heart of the Design Suite is Taco Hydronic System Solutions®. With HS2 you can:

- Design and compare HVAC systems
- Eliminate recalculation time for changes
- Calculate plant total loads, flows
- Size pipe and equipment
- Select and schedule equipment
- Reduce errors
- Make design changes quickly and easily
- LoadMatch® Wizard allows modeling of systems in minutes



FloPro Designer



Some installing contractors just can't hide their enthusiasm for Taco.

And, finally, Taco's **Load Tool** – What used to be a pencil-breaking task is now mouse-click easy:

- Interactive tools eliminate recalculation time for changes
- Default values for design parameters reduce input time
- Drag and drop capability allows grouping of room loads to higher level terminal and systems quickly and easily

Engaging the industry with the FloPro Team

At Taco, it's not all about product and system innovation. One of the company's newest developments is a neighborhood for social networking: www.floproteam.com.

Taco's FloPro Team concept is a successful, multi-level program that builds affinity between contractors nationwide.

Simply log on, join the FloPro Team and reap the benefits. The moment you check in, you'll join a quickly-growing "neighborhood" of experts looking for industry news and insights, gained through online and call-in technical support, videos and podcasts, and even Twitter and Facebook networking communications.

"The whole concept of Taco-specific

social and professional networking began several years ago during a Trade Council meeting," says John Barba, Taco's director of training. "What was unexpected, but totally welcome, were the friendships and connections that developed."

"When you put a group of people in the plumbing and heating business together for several days, some amazing ideas materialize and strong relationships are formed," continued Barba. "The energy and spirit created during that meeting is something we wanted to capture and share with others... now it's taken form online in the FloPro Team. Members can easily discover new product applications, solutions for jobsite challenges, or to seek advice from – or to help – another professional.

"We wanted to create a community of installers, then supply them with the training, tools and the way for them to interact with each other in a personal, private and professional manner," he added.

As you can see, Taco's on the move – striving continually to exceed expectations at all levels. Their goal is to help build a foundation for your success.

The company can be found online at www.taco-hvac.com. ■