Pressure Independent Control Technology:

The PROOF is in the Plug-in

Pressure Independent Control Technology
What's in it for YOU?

At Belimo, we know building owners don't care about what Pressure Independent (PI) Control Valve technology does. They only care about what it *saves*. Now that information is available—for FREE!

With the new Belimo PIV Energy Modeling Plug-in, mechanical designers can accurately determine the energy savings associated with PI control valves. And they can share this valuable information with building owners in a way that is valuable and real to them!

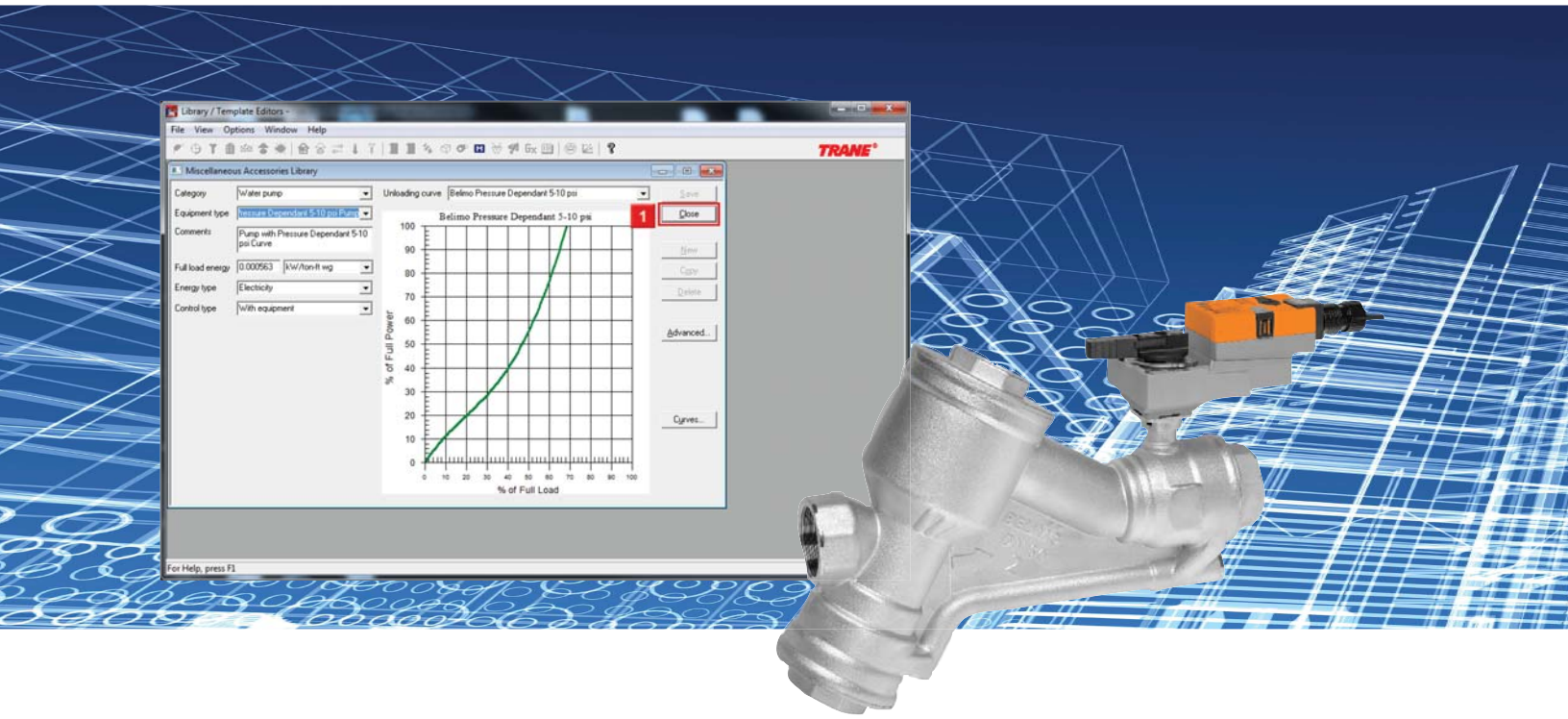
Real world answers to the questions that building owners have.

The PIV Plug-in was developed for use with two of the most popular building energy simulation tools on the market, **Trane Trace™ 700** and **DOE eQuest** to answer these important questions:

- **What's the payback** for using PI control valves in a given building?
- **How do I quantify the benefits** of PI technology so I can justify the cost to an owner?
- **How many LEED points** can I get for using PI control valves?

BELIMO®

You've suspected all along that the payoff was there.



"Best Case" Versus "Base Case"

How much energy does a poorly controlled hydronic system waste? Until now, we never really knew. That's because most modeling tools assumed the impossible – that all pressure dependent control systems controlled flow perfectly!

We know that's not the case. The fact is, without pressure independent technology, hydronic systems suffer from inaccurate control all the time. Chronic over-flow through coils, poor waterside ΔT, and inefficient operation problems are the rule, not the exception. This is evidenced in the epidemic numbers of "Low Delta T Syndrome" in HVAC systems.

Engineers could never really accurately model energy efficiency with these "best case" assumptions. Nor could they demonstrate the benefits of pressure independent control without a "base case" comparison. Not until now.

Modeling that Reflects Real World Scenarios

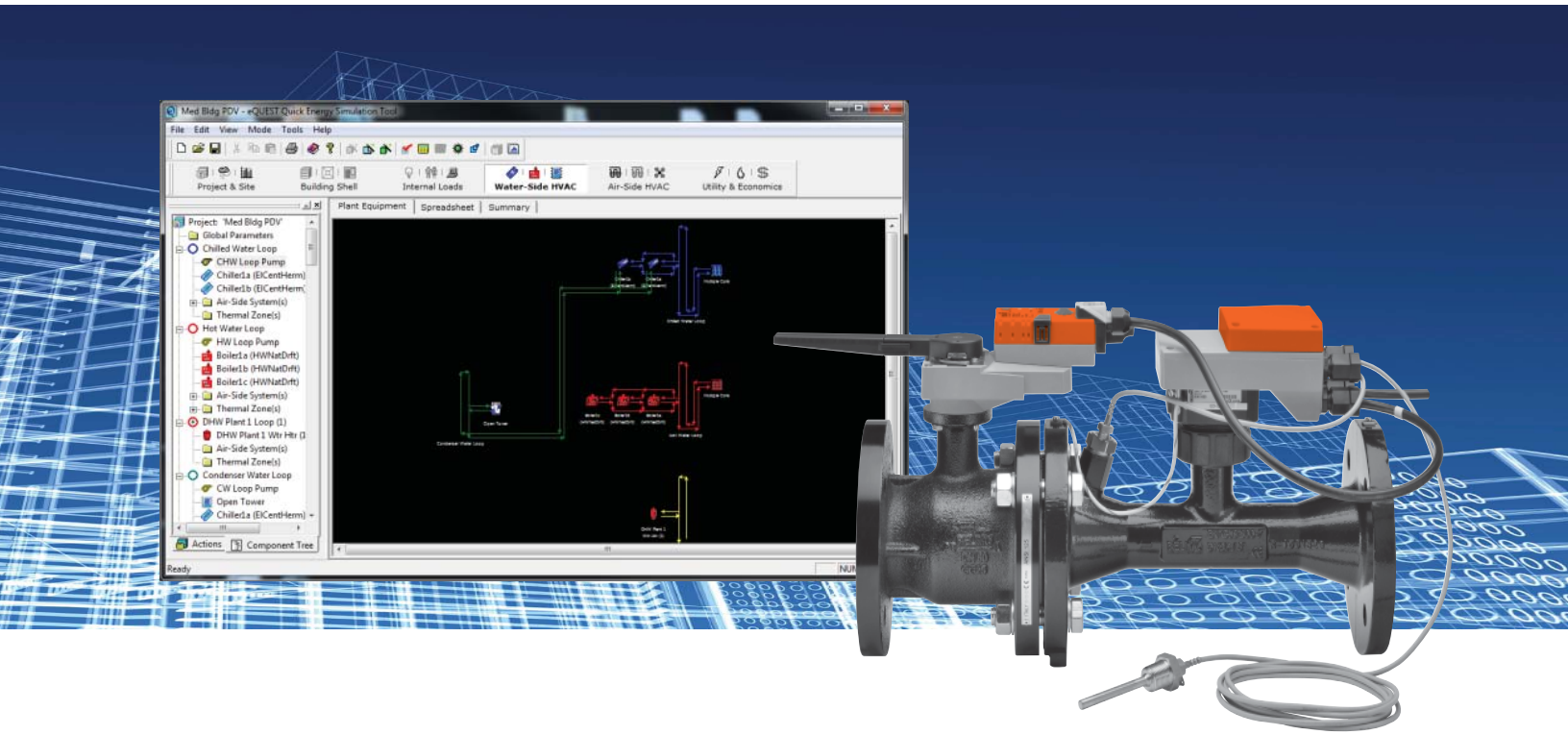
With the help of Belimo's PIV Energy Modeling Plug-in, engineers can finally model a building *with* and *without* pressure independent control valves!

This executable file installs new pump performance curves that allows owners to compare a system design with and without pressure independent control valves.

With this new modeling capability, engineers can:

- Compare the annual energy consumption of two models to estimate the savings achieved through pressure independent control valves.
- Calculate a reliable ROI for Pressure Independent Control Valves.
- Generate necessary documentation for LEED points achieved under Energy and Atmosphere Credit 1: Optimize Energy Performance.

Now you have proof.



Credible Curves – the Key to a "Base Case" Comparison

Belimo pressure dependent pump performance curves are installed in the standard Trane Trace™ 700 and eQuest performance curve libraries, so their operation is fully transparent and compatible with existing models.

Belimo developed these curves through intense study and collaboration with leading experts in energy modeling and software engineering. They are based on actual, newly installed hydronic systems with conventional pressure dependent control valves. They are the key to the base comparison that engineers need to quantify and demonstrate the savings of pressure independent control valves.

Full documentation of the development of the Belimo pressure dependent pump performance curves is included along with the plug-in to make your models easily defensible to the most demanding audience.

Installs in Seconds!

The Belimo PIV Energy Modeling Plug-in for Trane Trace™ 700 and eQuest installs on your computer in seconds. Software management utilities are included to allow you to remove the software should you ever desire to.

Pressure Independent Control Technology:

You've suspected all along that the payoff was there. Now you have proof.

Free PIV Energy Modeling Plug-in available at www.belimo.us.

Computer Requirements:

- Microsoft Windows XP, Windows XP Professional, or Windows 7
- Trane Trace 700, Version 6.2.X and/or eQuest, Version 3.6X

ORANGE is the color of reliable performance. And nothing could be GREENER than that.

Each year owners invest millions of dollars in high efficiency heating and cooling equipment all for the sake of being green. All too often these investments fall short of expectations.

With product innovations like the Energy Valve, ePIV and PICCV owners make the most of those investments with technology that has proven itself over and over again.

The Massachusetts Institute of Technology (MIT), Massachusetts

"One thing that impressed us was having such intelligence right on the valve actuator," said Peter Cooper, Manager of Sustainable Engineering and Utility Planning at MIT. "You can characterize a coil's performance with just a couple of pieces of data and with that information you can observe the degradation of coils and refocus your maintenance efforts accordingly."

The Phoenix Companies, Inc. Hartford, Connecticut

"The feedback is phenomenal. We simply plug a laptop into the valve actuator and we can see what our control system is calling for and watch the valve correct the signal for the correct amount of flow," said Robert Marquis, HVAC Project Manager at the Phoenix building for over 20 years. "With other control valves, we could never verify what the valve was doing. Now we can."

Department of Transportation (DOT), headquarters in Washington D.C.

"This was a great fit for the DOT project," remarked the US Government Accounts Manager for Belimo. "The PICCV is a must-have for complex variable primary systems like this. Accuracy, efficiency, and low maintenance were critical for this large facility."

Eglin Air Force Base, Florida

"You can do variable flow with standard 2-way valves, but it is tricky. With Belimo PICCV valves, you just need to maintain a minimum 5 psi drop across the valve and it automatically maintains proper flow to your circuits," said Spencer O'Quinn, Project Manager for the Federal Business Unit of Chevron. "Standard 2-way valves, which have many different pressure requirements, will hunt all over the place in a variable flow system."

Belimo Americas

USA, Latin America, and the Caribbean: www.belimo.us
Canada: www.belimo.ca
Brazil: www.belimo.com.br

Belimo Worldwide: www.belimo.com

BELIMO®