

ASIA PACIFIC SUCCESS STORY
1,000 TREES

Balancing the flow with electronic pressure independent valves

Pressure-independent control at the core of the 1,000 Trees development in Shanghai

The 1,000 Trees project is breaking ground near Shanghai's vibrant city center, showcasing a building complex that blends cutting-edge technology with sustainable design. The goal for the 1,000 Trees project was to create a building that would relate to the surrounding park and the arts district, and its name stems from the 1,000 trees planted in the 400 terraces throughout. This multipurpose development aims to create a green, environmentally friendly urban area combining boutique shopping, catering, leisure, tourism and entertainment. Phase One of the project – consisting of a shopping mall spanning around 100,000 square metres with three underground levels and nine floors above ground – has already been completed and includes over 20,000 plants from 70 species. The second phase, which is expected to open in 2022 will feature additional commercial units and offices, as well as a hotel and a cruise ship terminal. The inspiration for these two 'tree-covered mountains' came from the Yellow Mountains of the Anhui province, and aims to merge smoothly into the surrounding arts district with a contrasting southern façade lined with billboards and street art by local and international graffiti artists.

PROJECT
1,000 Trees

LOCATION
Suzhou Creek, Shanghai, China

PROJECT TYPE MIXED-USE
Commercial, leisure & office complex

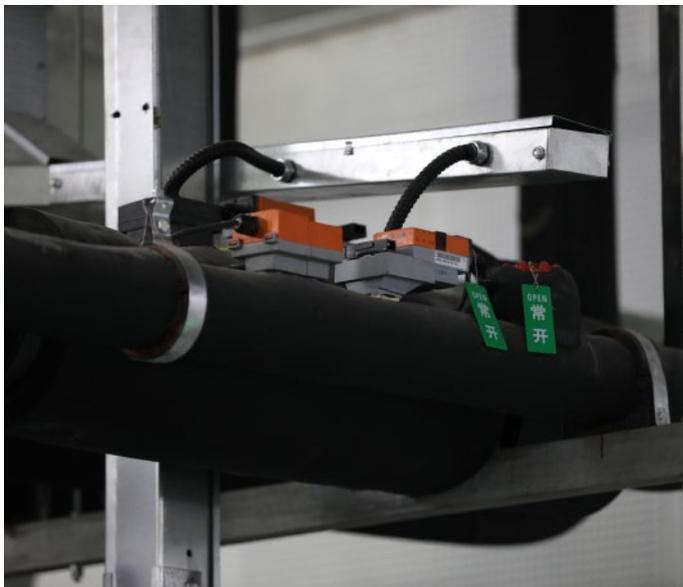
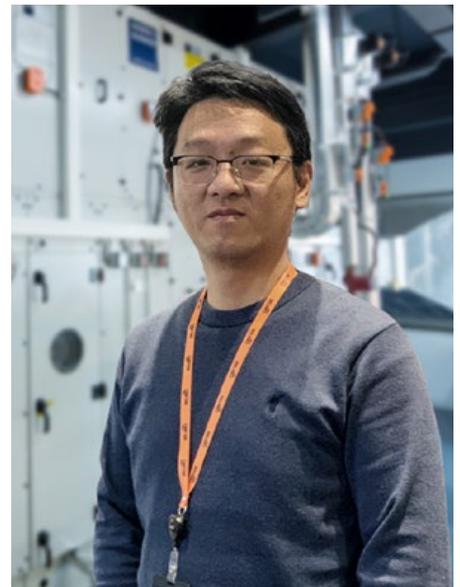
SECTOR
HVAC

PRODUCT
300+ units of Belimo Electronic Pressure Independent Valves (ePIV)

BELIMO[®]

Precision meets modern design

Research and development into innovative technologies is one of Belimo's proudest attributes. As a global market leader in control valves for HVAC applications, we strive to supply our customers with best-in-class solutions to improve energy efficiency in their buildings. A recent example of this is property developer Tian An's bold '1,000 Trees' project in Shanghai's famous M50 arts district, where our electronic pressure-independent valves (ePIVs) are ensuring optimal hot water distribution. Designed by the world-renowned British architects at Heatherwick Studio, this enterprising endeavor is a great example of a seamless blend between Swiss quality and reliability, and sustainable, contemporary design.



Electronic pressure independent valves (ePIVs) were installed for branch applications in the plant room.

“I am proud to have been part of this project, providing quality and value for the 1,000 Trees building and introducing this pressure-independent approach of hydronic balancing to the China market.”

Mark Xu, Contractor Sales Account Manager, Belimo, East China

ePIVs for reliability and sustainability

Hydronic balancing uses a series of valves to optimise hot water distribution through a building, with the goal of providing the ideal indoor climate, in an energy efficient way. This process can be hard to achieve without the correct valves, so the ePIV was developed to provide a precise water flow rate through electronic monitoring and automatic adjustments. This solution effectively replaces the control, balancing and isolation valves, offering measuring, controlling, hydronic balancing and shut off functions in a single unit. It reduces the number of valves needed by around two thirds compared to conventional set-ups, lowering the back pressure in the pipework to improve the operating energy consumption of the water system, as well as limiting the number of potential ‘trouble spots’.

Bringing clever hydronic solutions to the Chinese market

Tian An required a cost-effective and reliable solution that could ensure efficient distribution of hot water between 21 and 24 °C all year around. The company partnered with Belimo to create the initial proposal in 2015, and construction of this ambitious project began in 2016. Phase One of the construction, revealed in 2020, used over 300 Belimo ePIV units, which reduced the number of units needed by two thirds compared to conventional valves. Using the ePIV for hydronic balancing helped to reduce the installation and materials costs, while ensuring a leak-free system and decreasing the amount of energy required. Although this approach is used commonly in Europe, this project was one of the first in China to use electronically monitored and operated valves. Belimo was chosen for this project thanks to its reputation for ‘Swiss quality’ products, value for money, and reliable service and support. Mark Xu, Contractor Sales Account Manager, Belimo, East China, commented: “I am proud to have been part of this project, providing quality and value for the 1, 000 Trees building and introducing this pressure-independent approach of hydronic balancing to the China market.”



Electronic Pressure Independent Valve (ePIV)

The ePIV combines four functions – measuring, controlling, balancing, and shutting – into one ready-to-install unit to increase planning, implementation, and operational efficiency.

- Energy-efficiency: zero leakage with the air bubble-tight valve (leakage rate A in accordance with EN12266-1)
- Reliability: Continuously monitor the flow through each control valve
- Flexibility: easy-to-adjust maximum flow rates
- Effortless installation: all components combined in a single unit
- Time saving: automated hydronic balancing

All inclusive.

Belimo as a global market leader develops innovative solutions for the controlling of heating, ventilation and air-conditioning systems. Actuators, valves and sensors represent our core business.

Always focusing on customer added value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries guarantee short delivery times and comprehensive support through the entire product life. Belimo does indeed include everything.

The "small" Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance. In short: Small devices, big impact.



5-year warranty



On site around the globe



Complete product range



Tested quality



Short delivery times



Comprehensive support



BELIMO Actuators Ltd.
info.asiapacific@belimo.ch



Visit us at
belimo.com

BELIMO[®]