

TA-Smart valve by IMI TA

Bringing DATA to life

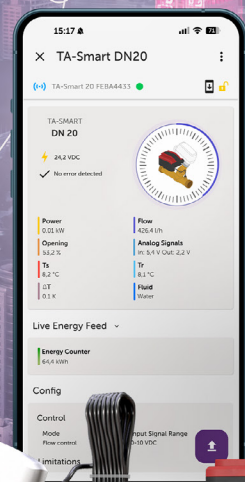


$P = 291.3 \text{ kW}$
 $\Delta t = 6.2 \text{ K}$

$q = 27450 \text{ l/h}$
 $P = 203.7 \text{ kW}$
 $\Delta T = 6.4 \text{ K}$

$q = 6298 \text{ l/h}$
 $P = 43.8 \text{ kW}$
 $\Delta T = 6.0 \text{ K}$

$q = 6298 \text{ l/h}$
 $P = 43.8 \text{ kW}$
 $\Delta T = 6.0 \text{ K}$



Breakthrough
engineering for
a better world

TA-Smart



→ Find out more
climatecontrol.imiplc.com

TA-Smart is a balancing and control valve designed for heating and cooling applications **constructed around 3 key principles:**



Control

Versatility of valve control modes operating according to flow, power and valve position with outstanding controllability. A ΔT limitation function can be added to any of the control type, even in part-load system conditions.



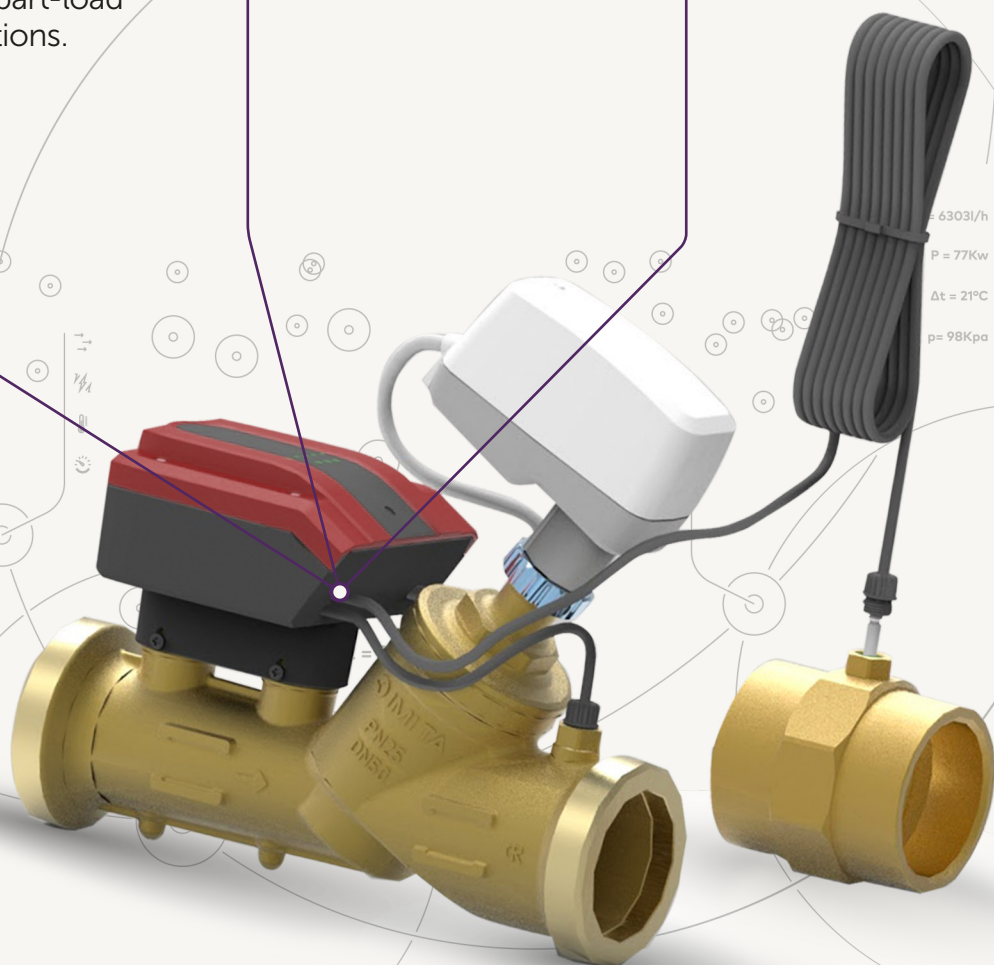
Measurement

Continuous measurement of flow, valve position, return/supply temperatures, temperature difference, power and energy.



Communication

Communicates and stores: BLE, bus, Analog, Cloud.
Fully digitally configurable: HyTune mobile app, web app.



Why use TA-Smart?

To comply with European Regulations

The EU has set binding energy efficiency targets for 2030, aiming to significantly reduce energy consumption in buildings. The Energy Performance of Building Directives (EPBD) holds the new rules agreed by the EU to help address the burden of buildings in energy consumption and has as key objectives to decarbonize buildings, encourage more automation and smart control systems to improve building efficiency and measure the buildings' ability to adapt to real system conditions.

The most notable provisions of the new EPBD include:

1. By mid-decade, non-residential buildings with an output greater than 290kW require **mandatory installation** (or retrofit) **capable of:**
 - Monitoring, logging, analysis and allowing for adjustment of energy usage
 - **Detecting losses in efficiency** and informing opportunities for energetic improvements
 - Allowing for **communication** with connected building systems
2. The EPBD places strong emphasis on the installation of Building Automation and Control Systems (BACS) and **electronic monitoring** as key enablers of compliance..

TA-Smart supports EPBD measurement requirements without the need to install support components. It seamlessly integrates circuit data for transparent monitoring and optimization of performance.

For Green Certification Labels

The number of new buildings certified is rising rapidly. Over the past decades, hundreds of thousands of buildings have been certified, with millions more currently in the global certification pipeline.

This growth means certification is increasingly expected for high-end and premium commercial buildings. Many fortune 500 companies, tech giants and financial institutions strongly favour certified buildings when selecting office space.

The growing demands from tenants have an impact on real estate. In fact, holding a building certification label has been shown to allow building owners to achieve **rental premiums of up to ~18%** and seize better loan and investment opportunities from banks. In addition, certified buildings can achieve **sales premiums in the range of ~20%**.

Three of the most known certification bodies, LEED, BREAM, HQE, request the installation of energy and power measurement points in the HVAC system as part of the certification criteria. These bodies claim that following such criteria help decrease by 10-20% energy consumption while improving indoor comfort.

TA-Smart fulfills measurement and energy monitoring requirements from certification labels without the need to install additional components.

For HVAC monitoring

Buildings account for around 40% of total final energy consumption in the EU and approximately 36% of its energy-related CO₂ emissions while around 75 % of Union buildings are still energy-inefficient¹.

Therefore, optimising hydronic distribution is a highly cost-efficient measure, enabling savings of up to 30% by improving system balance, control accuracy and overall performance.

Managing active system pressures and flow **control is critical** in achieving high quality indoor temperature, comfort and energy efficiencies in the system.

However, to apply such actions and ensure the optimal flow and power is being delivered to where it is needed, **one must measure how the system behaves** to reach conclusions that can provide tangible optimizations.

¹Source: European Commission, Revised Energy Performance of Buildings Directive (EU) 2024/1275

For precise indoor temperature that autonomously adapts

System control is critical for delivering **indoor comfort** and **energy efficiency** of the system. By correctly controlling the flow to a terminal unit, we can control the right amount of power delivered to ensure **the right amount of heat/cooling transfer** without wastage to ensure energy efficiency.

One of the challenges of good system control is ensuring the valve can control at low flows and when the system pressures vary. Today's heating and cooling systems rarely operate under design conditions. In fact, in most **European countries, systems operate under 20% of flow (50% of power) approximately 80%** of the time.

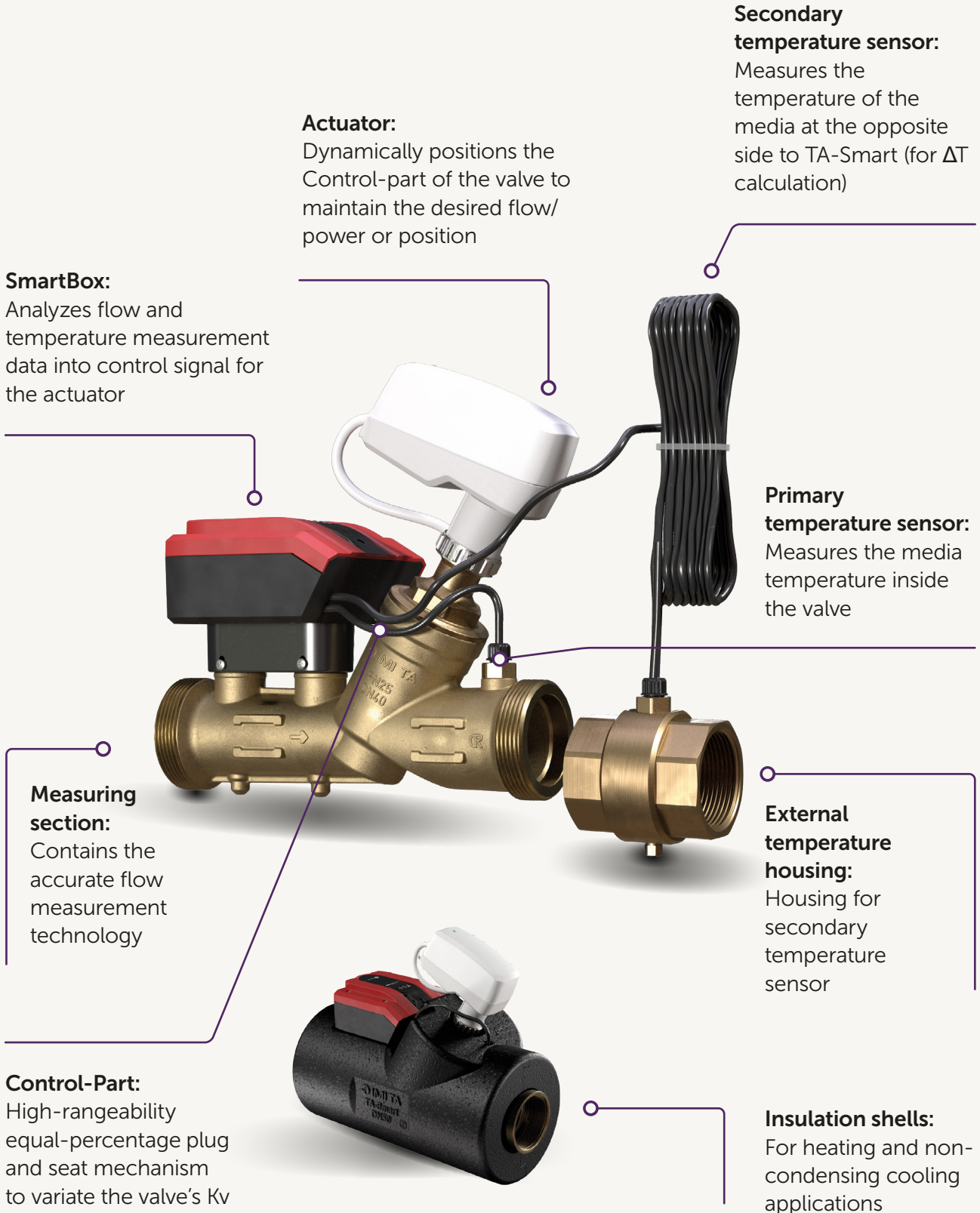
In addition, even minor deviations from the set-point, as low as +/- 1°C, can affect the operation of critical applications. Therefore, precise temperature control is not a "nice to have", it is a must-have.

TA-Smart provides continuous and highly accurate measurements of flow, temperature difference, and power. View data on your smartphone via Bluetooth or remotely through HyCloud. Compare performance to design conditions and fine-tune as needed.

TA-Smart has an internal control feedback. It measures the flow and the ΔT to understand what power it is actually delivering, and communicates it to its own actuator, so it can adapt the power delivered to the room according to the input signal in a short time – full smart autonomous control! In addition, TA-Smart can control down to low flow to enable superior control of the system year round.

Valve Construction

TA-Smart DN 15-50



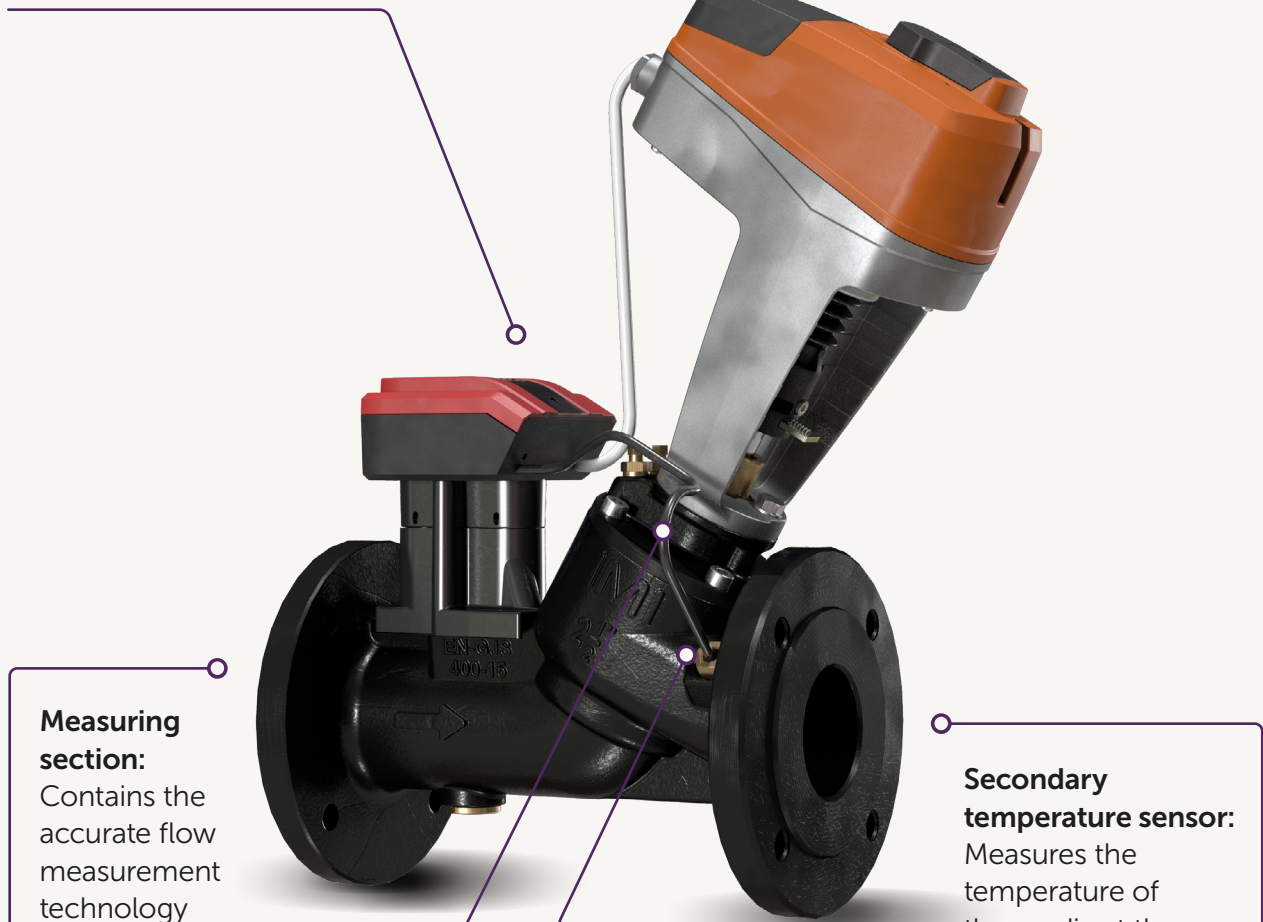
TA-Smart DN 65-150

SmartBox:

Analyzes the flow and temperature measurement data into control signal for the actuator

Actuator:

Dynamically positions the Control-part of the valve to maintain the desired flow/power or position



Measuring section:

Contains the accurate flow measurement technology

Secondary temperature sensor:

Measures the temperature of the media at the opposite side to TA-Smart (for ΔT calculation)

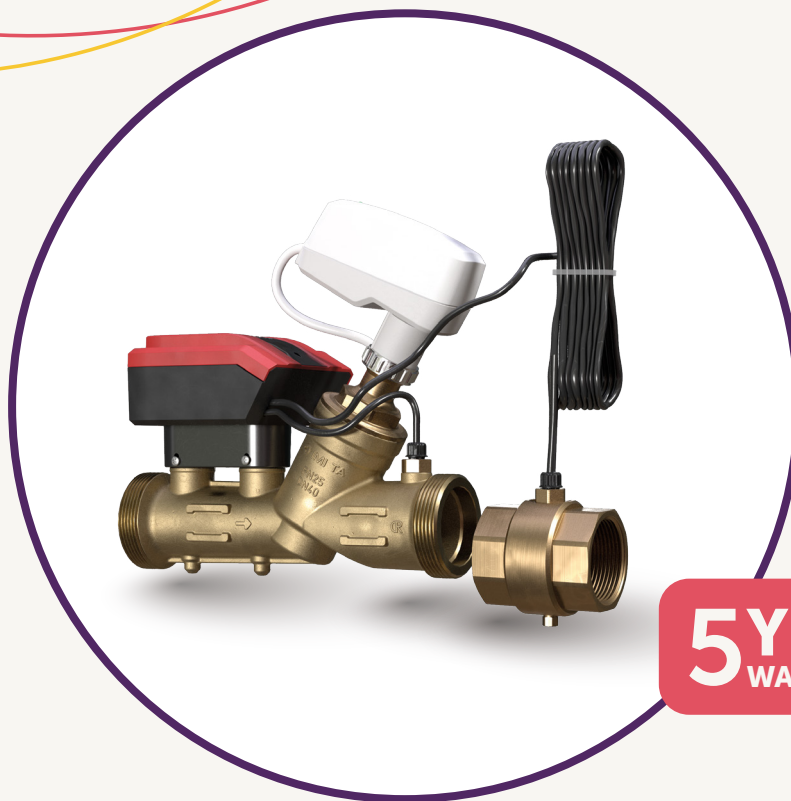
Control-Part:

High-rangeability equal-percentage plug and seat mechanism to variate the valve's Kv

Primary temperature sensor:

Measures the media temperature inside the valve

Key features



5 YEAR
WARRANTY*

- ✓ **Versatility of Control Modes**
Operating according to flow, power and valve position. A ΔT limitation can be added to any of the control modes
- ✓ **Flow, Power, Energy and temperature measurement**
Highly accurate measurement of key circuit data
- ✓ **Wireless commissioning**
Valve configuration done via Smartphone app without cables or adaptors
- ✓ **High Controllability & Rangeability**
Best in class flow control and rangeability
- ✓ **Fast response time**
Accurate and fast response to input changes to achieve the desired set point
- ✓ **Reduced size & weight**
Compact size allows for seamless mounting capabilities, even in retrofit applications
- ✓ **Great installation flexibility & IP54**
Only 2 components required to be installed with minimal diameters required before the valve

* Conditions apply. For more information please contact your local IMI representative.

4 Control Modes



WATCH THE VIDEO

When Controllability in Low Flow matters

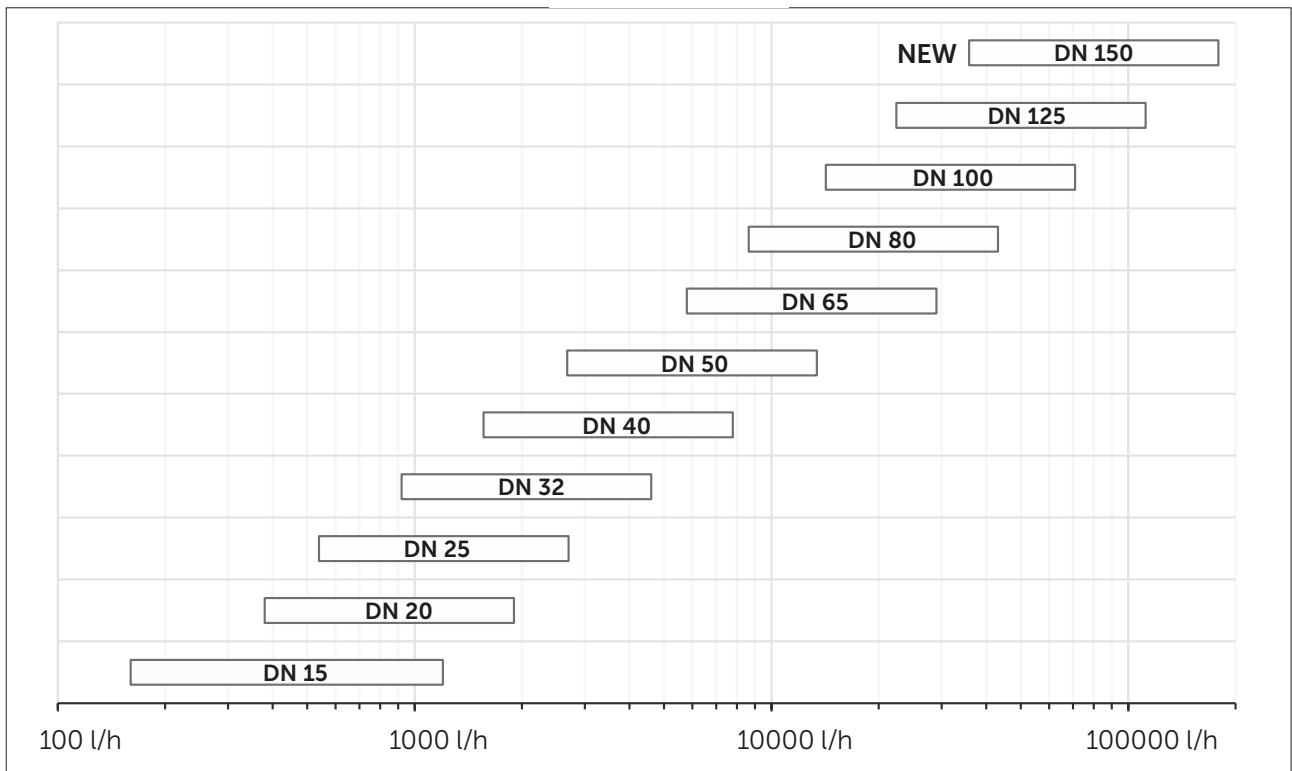
Bus or 0(2)-10VDC/0(4)-20mA

- 1** | Flow control*
- 2** | Power control*
- 3** | Position control*
- 4** | Dp control**

*A ΔT limitation function can be added to any of the 3 control modes.

**Available with TA-Smart-Dp and Dp sensor.

TA-Smart



Max. Flows

The maximum flows can be settable through lift limitation of the control valve. This corresponds to 20% of q_{nom} .

Flow bar diagram



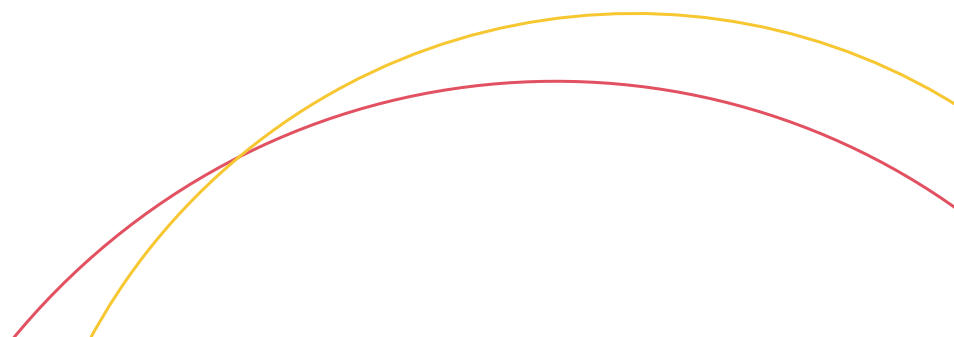
$q_{set.min}$

q_{nom}



Did you know?

HVAC systems operate **80% of the time at less than 50% of their design load, representing less than 20% of flow.** TA-Smart's great control and measurement capabilities at low flow regimes allow you to achieve optimal indoor comfort all year round!



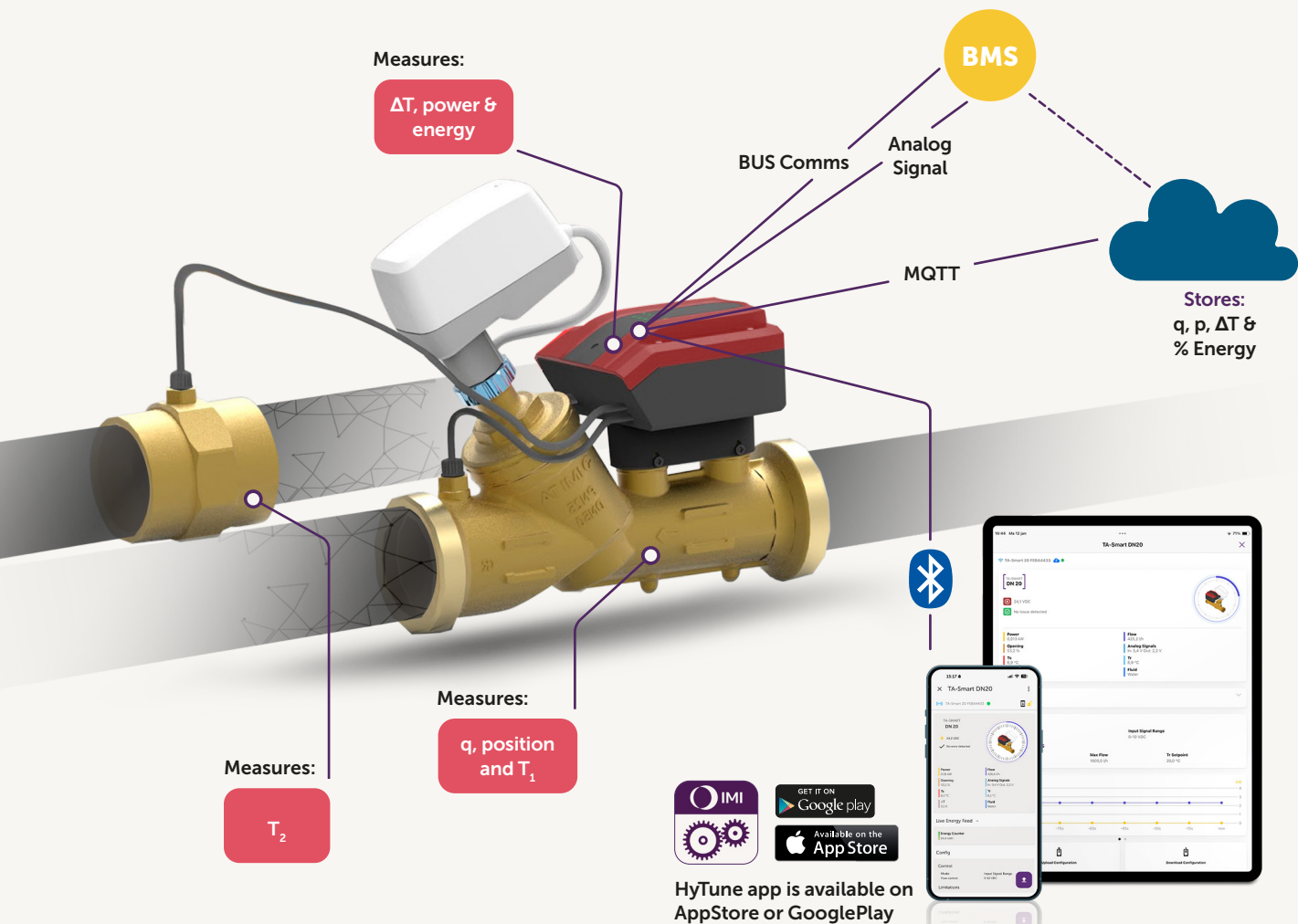
Measuring & Logging

Functions:

- **Control**
(flow, power, position, ΔT and temperature return limitation)
- **Pre-setting**
(max/min flow, max power, max/min position)
- **Reading**
(flow, power, energy, return/supply temperature, ΔT , position)

Logging time-frame options:

- **Xtra Long Logging**
(13 months, every 1 hour)
- **Long Logging**
(31 days, every 1 minute)
- **Fast Logging**
(7 days, every 15 seconds)
- **Xtra Fast Logging**
(12 hours, every 5 seconds)



Communication & Configuration Modes



BLE 5.0 (BLE 4)

to smartphones and tablets (Android and iOS). No laptop, no cable, no dongle needed



Analog

0(2)-10VDC/0(4)-20mA



Bus comms



BACnet MS/TP
Modbus RTU
BACnet IP
Modbus TCP
from/to BMS



MQTT

to and from Cloud



Secured data

with user access control

- ✓ **No requirements of additional hardware** (cables or adaptors) for valve configuration increases flexibility and reduces commissioning & troubleshooting time.
- ✓ Over the air upgrades for firmware, no cables necessary.
- ✓ TA-Smart can be **integrated in all types of system**, and the thread wireless communication enables TA-Smart valves to interact with each other to improve the system.

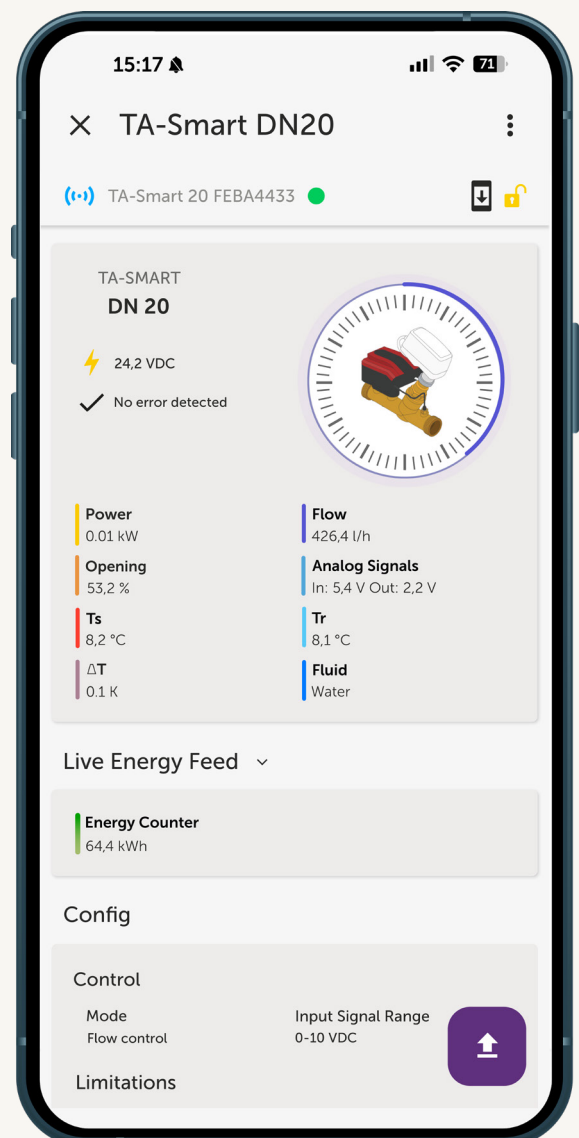


WATCH THE VIDEO

When Connectivity matters



HyTune app is available on AppStore or GooglePlay



Measurement Accuracy

$$P = k * q * \Delta T$$

Flow measurement

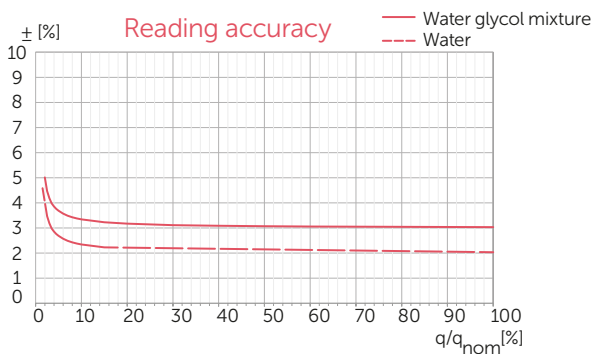
TA-Smart uses Ultrasonic Flow measurement technology to guarantee **high accuracy of flow measurement** for all regimes at any temperature covering water-glycol mixtures up to 57%.

Temperature measurement

TA-Smart uses **2 Pt1000** EN 60751 class AA temperature sensors which are pair-calibrated to provide improved accuracy even at low ΔT .

Power measurement

Leveraging accurate flow and temperature measurement, TA-Smart provides accurate power measurement in both heating and cooling applications.



Accuracy measurement operates under the following flow conditions:

Water: From 2% accuracy at 100% of q_{nom} to 2.4% accuracy at 5% of q_{nom} (according MID-Class 2 EN1434).

Water+glycol: From 3% accuracy at 100% of q_{nom} to 4% accuracy at 5% of q_{nom} (according to MID-Class 3 EN1434).

These accuracies are subject to the respect of required upstream straight pipe lengths (OD for TA-Smart DN 15-50 and 5D for TA-Smart DN 65-125).

Temp. regime

Supply Temp. [°C]	Return Temp. [°C]	ΔT [K]
6	12	6
15	18	3
40	30	10
70	50	20

TA-Smart

Accuracy [K]	Accuracy [%]
± 0.06	1.1%
± 0.03	1.2%
± 0.08	0.8%
± 0.17	0.9%

Temp. regime

Supply Temp. [°C]	Return Temp. [°C]	ΔT [K]
6	12	6
15	18	3
40	30	10
70	50	20

TA-Smart

Flow accuracy [%]	ΔT accuracy [%]	Power accuracy [%]
± 3.0	± 1.1	± 4.1
± 3.0	± 1.2	± 4.2
± 3.0	± 0.8	± 3.8
± 3.0	± 0.9	± 3.9

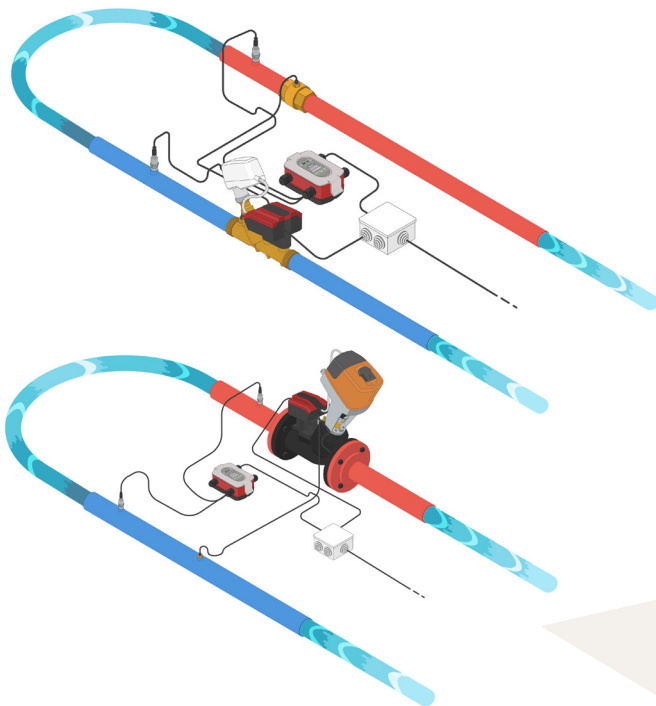
Product variants

In addition to the standard TA-Smart valve, we have developed specific product variations to meet all system-specific needs.

TA-Smart-Dp

Designed to provide the dual advantages of maintaining stable differential pressure in a circuit and delivering essential data insights about energy and operation.

The TA-Smart's DN 65-DN 150 installation length (flange to flange) are the same as STAP and TA-PILOT-R mechanical differential pressure controllers, ensuring easy replacement.



TA-Smart Fail-safe

Powered by supercapacitors, this TA-Smart ensures fail-safe positioning of the valve in the event of power loss. With the delay option, the actuator patiently waits for the specified number of seconds configured by you before smoothly transitioning to its fail-safe position.

No more operational uncertainties during power fluctuations, as the TA-Smart Fail-safe guarantees optimal performance and reliability in critical valve applications.

Fail-Safe
Good - Ready



Two different pressure modules depending on the circuit differential pressure:

Static pressure range:

TA-Sense-Dp-6: 0-6 bar
TA-Sense-Dp-10: 0-10 bar
TA-Sense-Dp-16: 0-16 bar
TA-Sense-Dp-25: 0-25 bar

Differential pressure range mapping:

Range can be adjusted continuously (depending on the static pressure range) using the buttons or the HyTune app.

Key Technical parameters in Differential pressure control mode

TA-Smart-Dp range	Input signal	Output signal
DN 15-150	BACnet/Modbus	BACnet/Modbus 0(2)-10 VDC

TA-Smart HyCloud



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Revolutionize connectivity with TA-Smart valves via HyCloud

Get connected to your TA-Smart valves

- ✓ Create projects where you can share data with your colleagues and stakeholders
- ✓ Add colleagues and stakeholders to the project, either as read only or admin rights
- ✓ Get full overview of the performance of TA-Smart

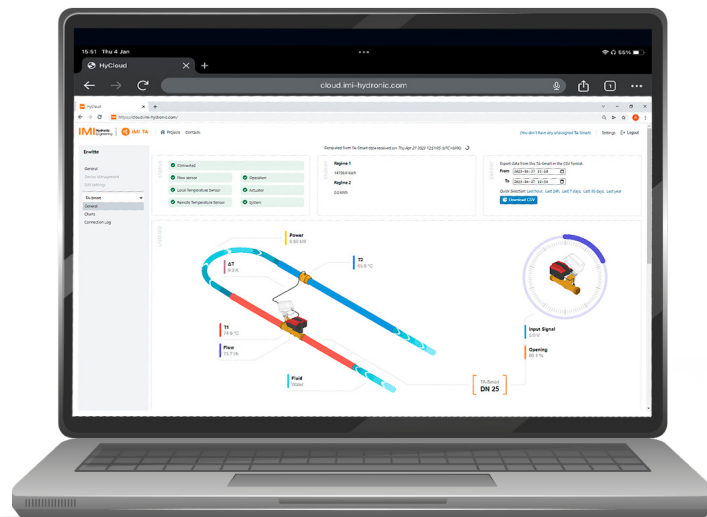
Use HyCloud to get an overview of how your system is performing.

- Status of your valves
- Current and historical data reading of the valves

-  Flow
-  Position
-  Power
-  Supply, return and delta temperatures
-  Input signal

Easy access to data

- View charts and dashboards on HyCloud
- Export data as csv
- Access data via API



Connect to HyCloud



→ Create your HyCloud account

Available in English

Easy steps to connect TA-Smart valves

Step
1

Create HyCloud account

Step
2

Connect TA-Smart valve to internet

With the built in HyCloud diagnostics you can easily see the status of your connection.

Step
3

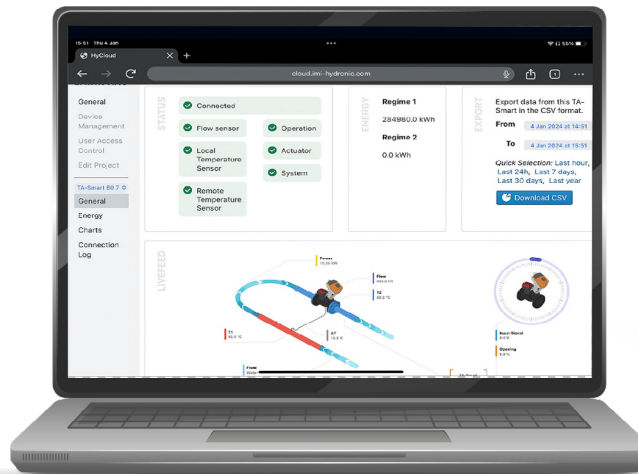
Connect TA-Smart valve to HyTune

- Enter your account email to connect the TA-Smart to your HyCloud.
- Enable cloud connection on the TA-Smart valve using HyTune.

Step
4

Assign your TA-Smart valve to your project in HyCloud

Create projects in HyCloud and add valves to get an easy overview.



Highest level of data security



Data transmission:

The communication to the Cloud infrastructure is protected and encrypted using MQTT over TLS (Transport Layer Security). Authentication mechanisms have been put in place ensuring both server and TA-Smart are identified through their certificates.



Data storage:

Secured by the choice of Amazon Web Services (AWS) as the hosting provider for HyCloud. AWS supports more security standards and compliance certifications than any other offering, in full accordance with data privacy like GDPR and also with data security like FIPS 140-2 and NIST 800-171.

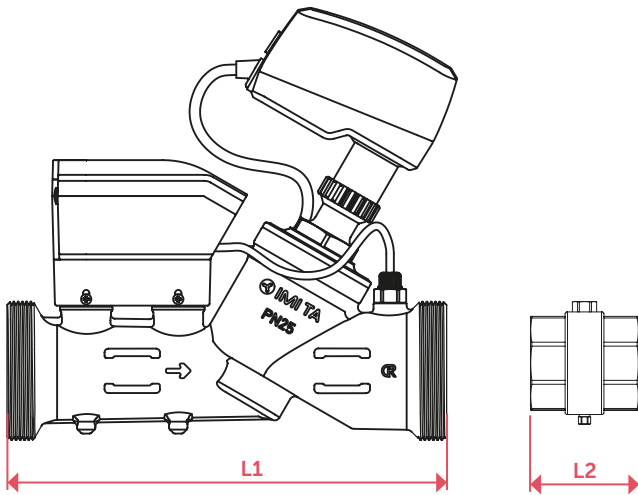
Reduced Size & Weight



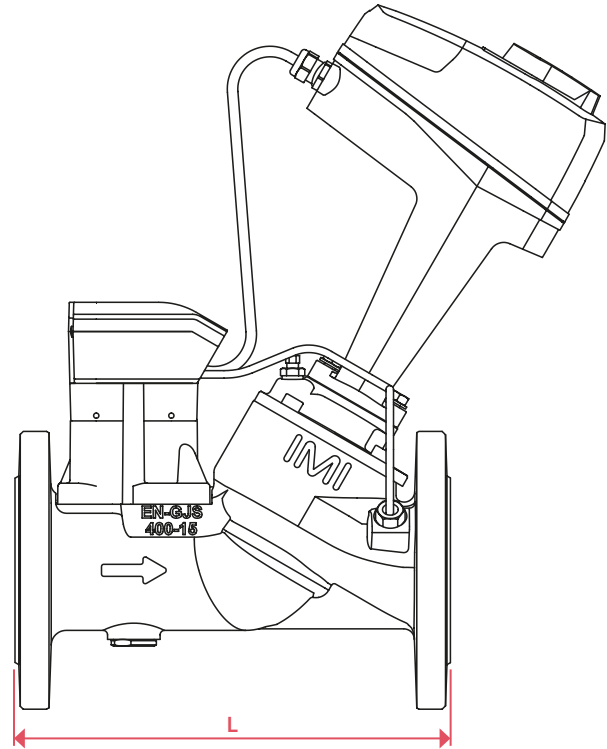
WATCH THE VIDEO

When Compactness matters

DN 15-50



DN 65-150



- Super compact size, the smallest of its kind
- Two bodies (only 4 fittings to mount)
- OD requirement upstream

- Ultra compact F1 length (Face-to-face length EN-558-1)
- Remote temperature sensor to be fitted separately

DN	D	L1 [mm]	H [mm]	W [mm]
15	G3/4	167	165	97
20	G1	180	166	97
25	G1 1/4	187	166	97
32	G1 1/2	200	191	97
40	G2	218	190	97
50	G2 1/2	239	190	97

Very compact (up to 80% smaller than competitors' product)

DN	D [mm]		No of bolts		L [mm]	H [mm]
	PN16	PN25	PN16	PN25		
65	185		4	8	290	377
80	200		8		310	380
100	220	235	8		350	438
125	250	270	8		400	444
150	285	300	8		480	462

Compact F1 length (up to 30% smaller than competitor's product)

TA-Smart Applications

Types of Buildings

Where Certifications are requested

"I want a BREEAM/LEED certified building"

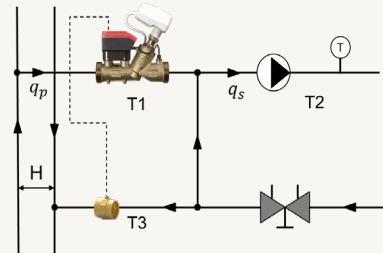
Where Energy Cost is paramount

"I want to know where the energy is going"

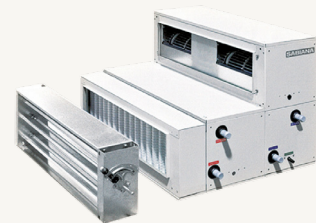
Where reliability is paramount

"Failure is not an option. I need to solve any problems quickly and effectively"

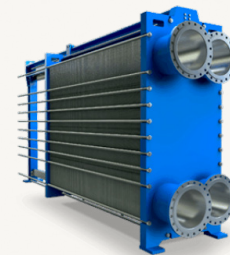
Application Types



Secondary / Tertiary Circuit Control



Air Handling units



Heat Exchangers

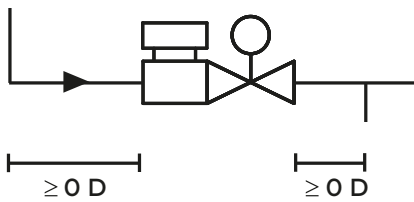


CRAH Units

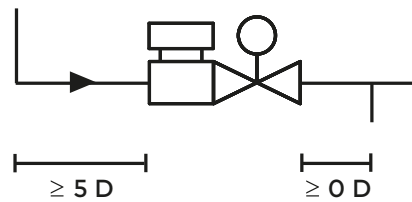
TA-Smart Applications

Installation Requirements

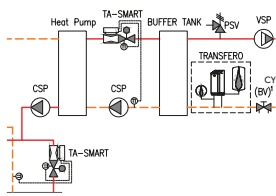
TA-Smart DN15-50



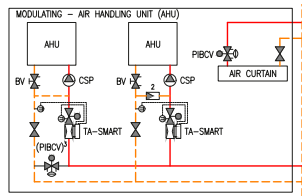
TA-Smart DN65-150



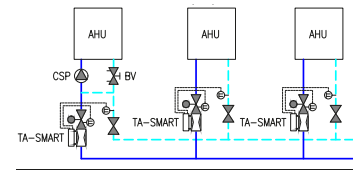
Application Types



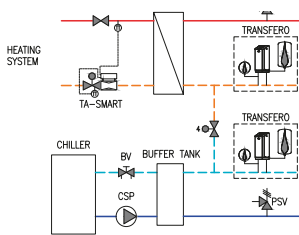
Heat Pumps



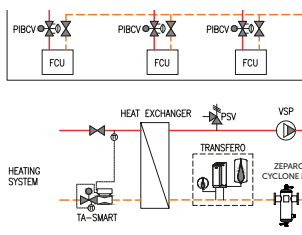
Heating system - variable flow



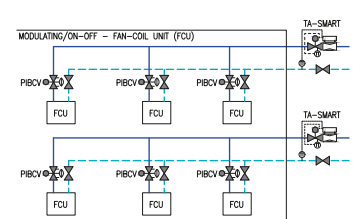
Cooling system - variable flow



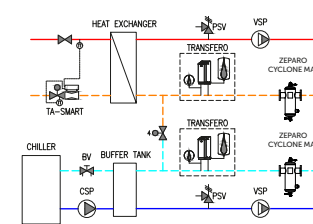
4-pipe system - variable flow



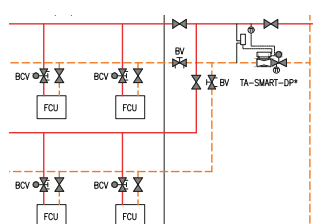
Heating system - zone valve



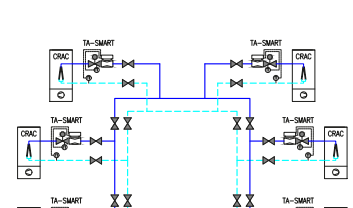
Cooling system - zone valve



4-pipe system - zone valve

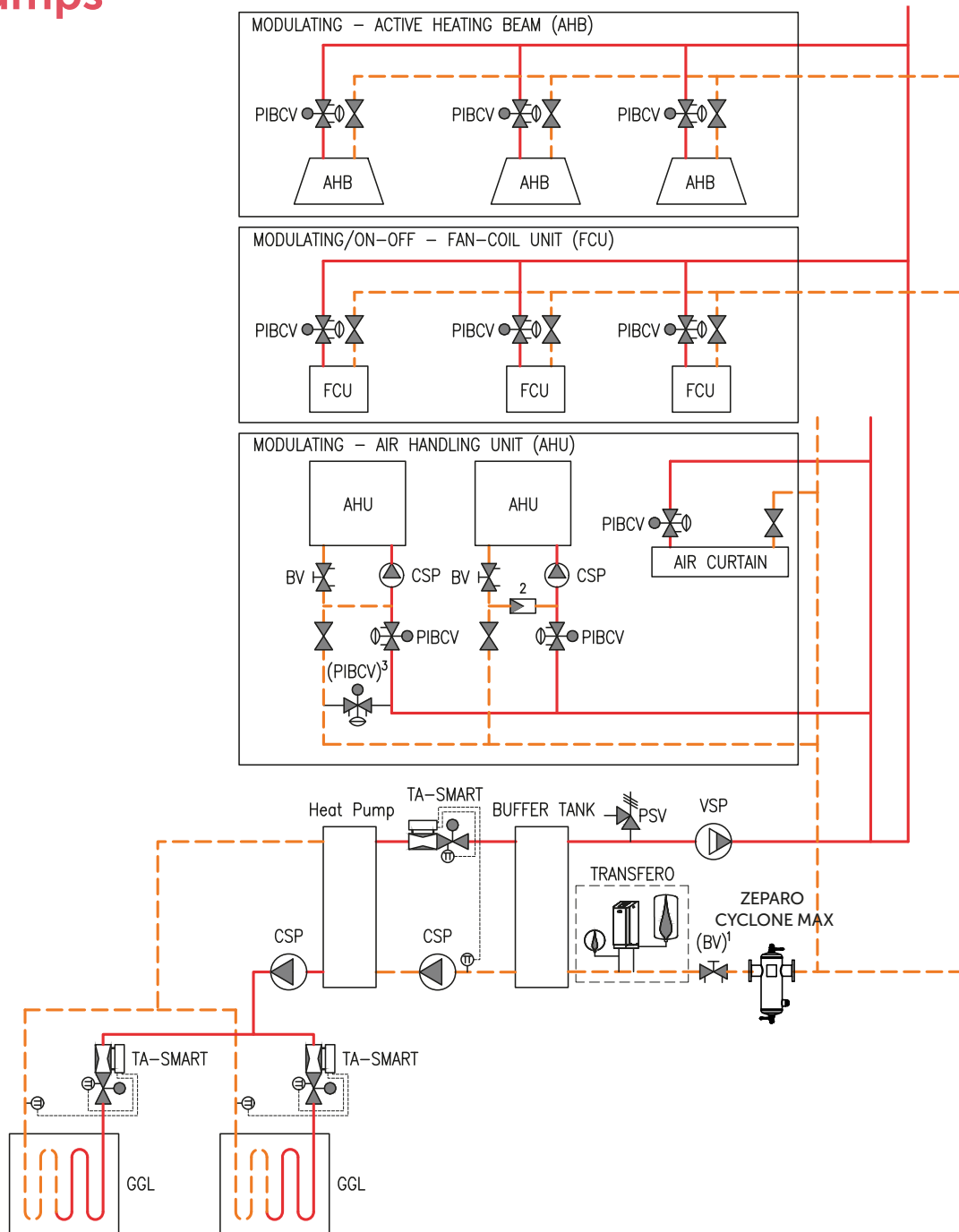


Heating system - pressure control



CRAC unit - variable flow control

Heat Pumps



Legend:

BV – Balancing valve

Zeparo Cyclone Max (ZCX)– Second-generation dirt separator with cyclonic technology

CSP – Constant speed pump

GGL – Geothermal ground loop

PIBCVC – Pressure independent balancing and control valve

PSV – Safety valve

VSP – Variable speed pump

TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

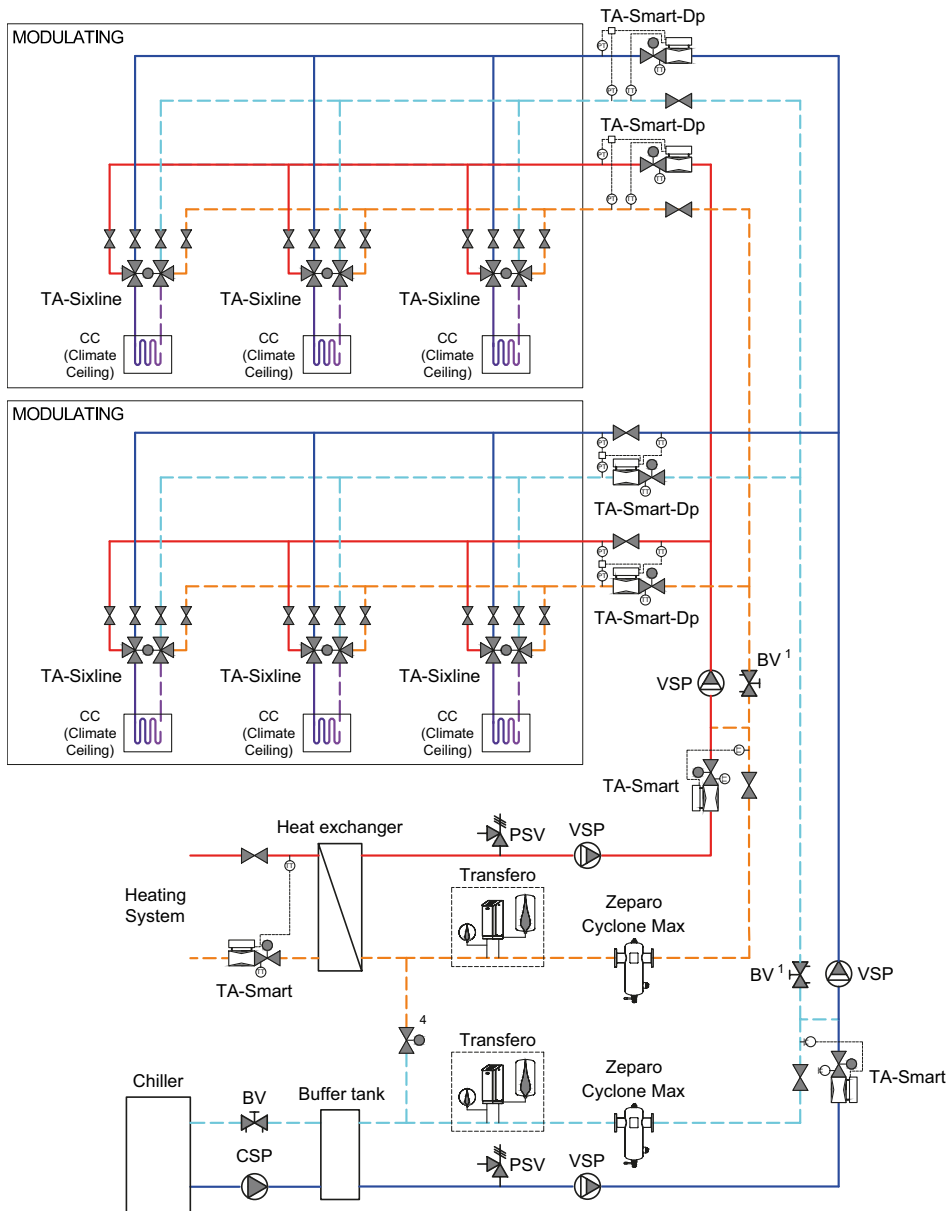
TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

1 Optional/recommended for flow measuring and system diagnostics.

2 Check valve is recommended to protect AHU against freezing up if secondary pump fails.

3 Optional/recommended for maintaining hot water in the supply pipe (without or with actuator that is opening when AHU control valve is fully closed).

4-pipe system – variable flow



Legend:

BV – Balancing valve

Zeparo Cyclone Max (ZCX) – Second-generation dirt separator with cyclonic technology

CSP – Constant speed pump

PIBC – Pressure independent balancing and control valve

PSV – Safety valve

6-WAY VALVE – Special valve to switch between heating and cooling

VSP – Variable speed pump

TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

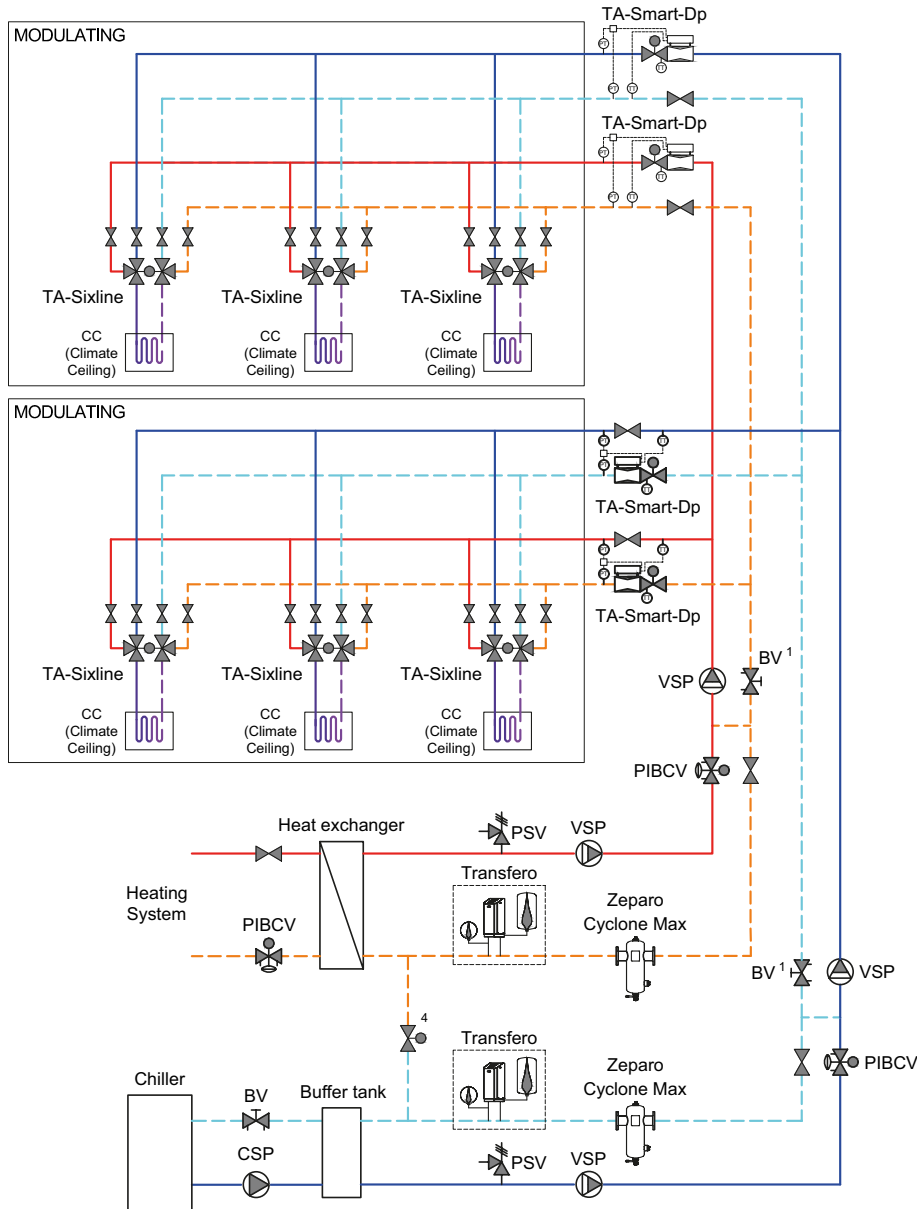
TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

1 Optional/recommended for flow measuring and system diagnostics.

4 System connection valve to compensate for volume. This ensures System connection valve to compensate for volume. This

ensures automatic and economic volume compensation because of the naturally and inevitably volume transfer during the operation of changeover systems. Transfero Connect in heating and cooling system is recommended to operate the pressurisation units in Master Slave IO (isolated operation).

4-pipe system – variable flow



Legend:

BV – Balancing valve

Zeparo Cyclone Max (ZCX) – Second-generation dirt separator with cyclonic technology

CSP – Constant speed pump

PIBCV – Pressure independent balancing and control valve

PSV – Safety valve

6-WAY VALVE – Special valve to switch between heating and cooling

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TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

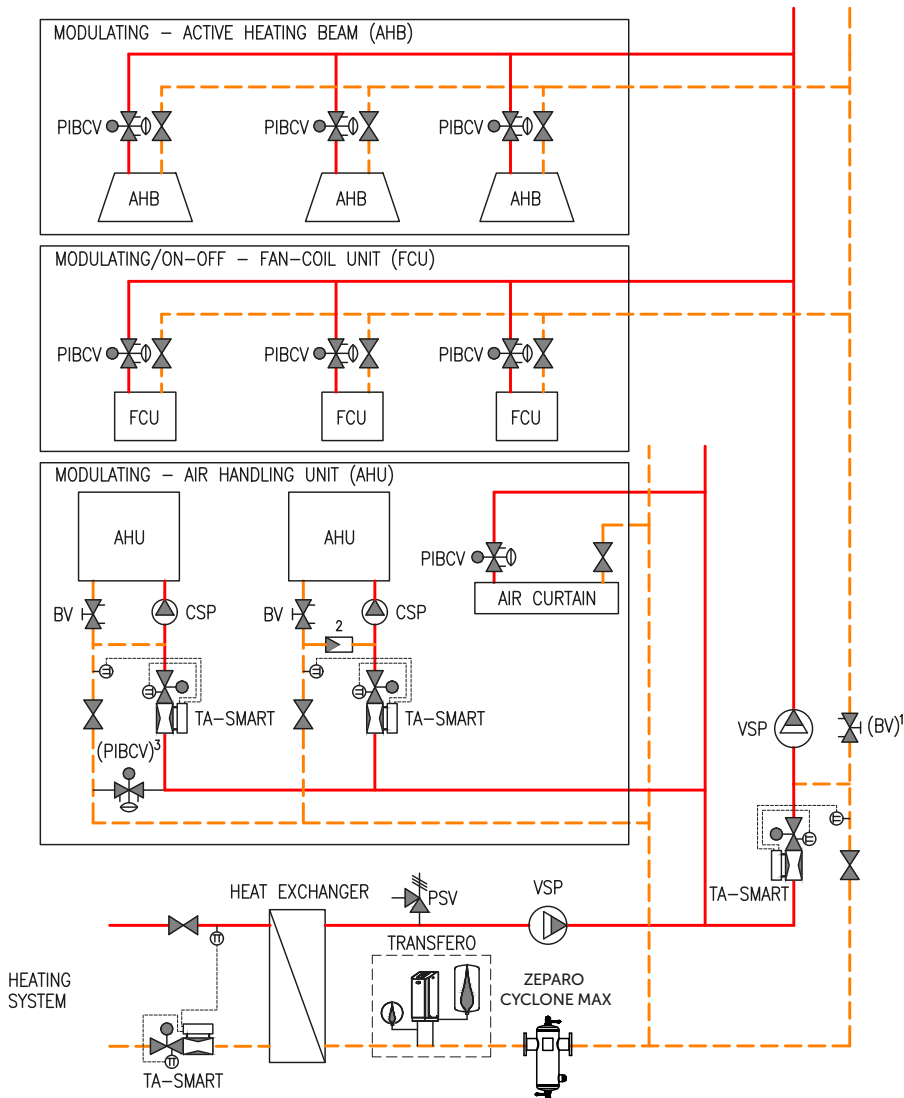
* Optional use of TA-SMART providing additional isolation of a zone and providing metering opportunities for power and flow.

4 System connection valve to compensate for volume. This ensures System connection valve to compensate for volume. This

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Heating system – variable flow

Pressure independent balancing and control valves



Legend:

BV – Balancing valve

Zeparo Cyclone Max (ZCX) – Second-generation dirt separator with cyclonic technology

PIBCV – Pressure independent balancing and control valve

PSV – Safety valve

VSP – Variable speed pump

TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

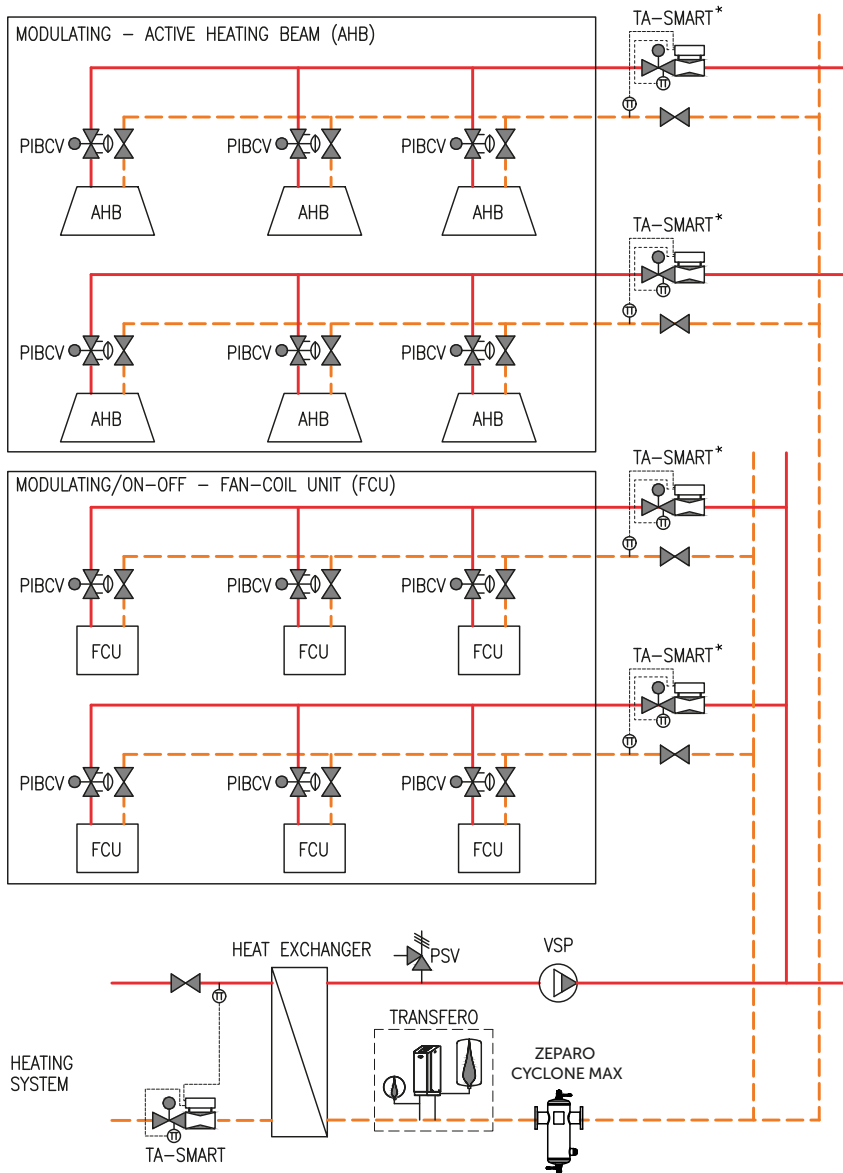
1 Optional/recommended for flow measuring and system diagnostics.

2 Check valve is recommended to protect AHU against freezing up if secondary pump fails.

3 Optional/recommended for maintaining hot water in the supply pipe. (without or with actuator that opens when AHU control valve is fully closed)

Heating system – with zone measuring

Pressure independent balancing and control valves with optional zone valve installation per circuit



Legend:

Zeparo Cyclone Max (ZCX) – Second-generation dirt separator with cyclonic technology

PIBC – Pressure independent balancing and control valve

PSV – Safety valve

VSP – Variable speed pump

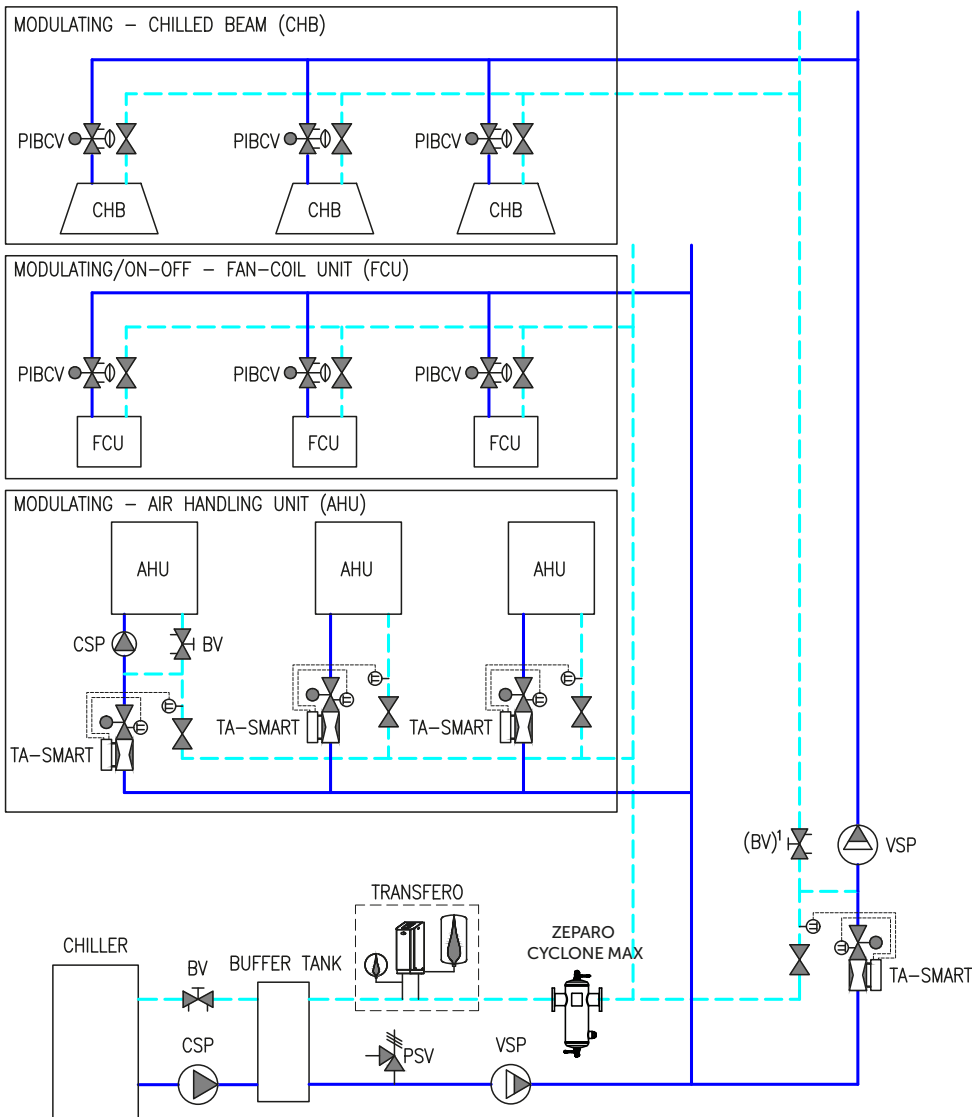
TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

* Optional use of TA-SMART providing additional isolation of a zone and providing metering opportunities for power and flow.

Cooling system – variable flow

Pressure independent balancing and control valves



Legend:

BV – Balancing valve

Zeparo Cyclone Max (ZCX) – Second-generation dirt separator with cyclonic technology

CSP – Constant speed pump

PIBCV – Pressure independent balancing and control valve

PSV – Safety valve

VSP – Variable speed pump

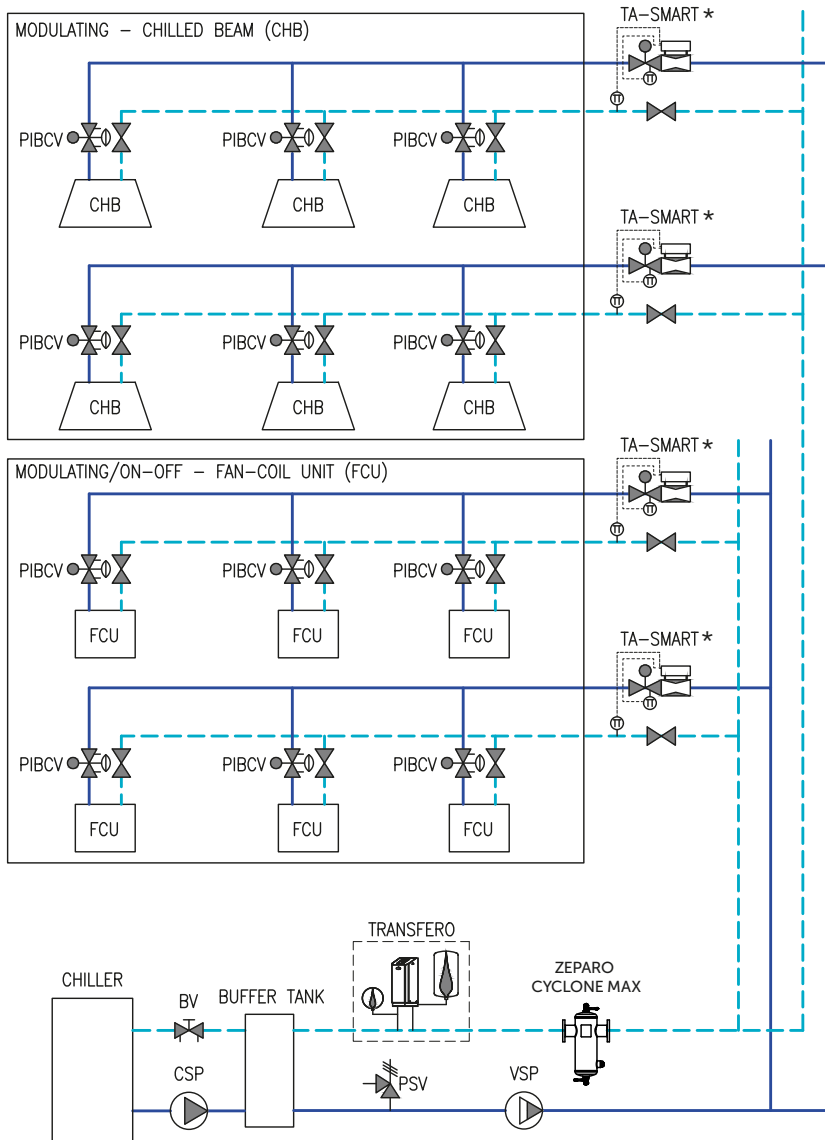
TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

1 Optional/recommended for flow measuring and system diagnostics.

Cooling system – with zone measuring

Pressure independent balancing and control valves with optional zone valve installation per circuit



Legend:

BV – Balancing valve

CSP – Constant speed pump

Zeparo Cyclone Max (ZCX) – Second-generation dirt separator with cyclonic technology

PIBCV – Pressure independent balancing and control valve

PSV – Safety valve

VSP – Variable speed pump

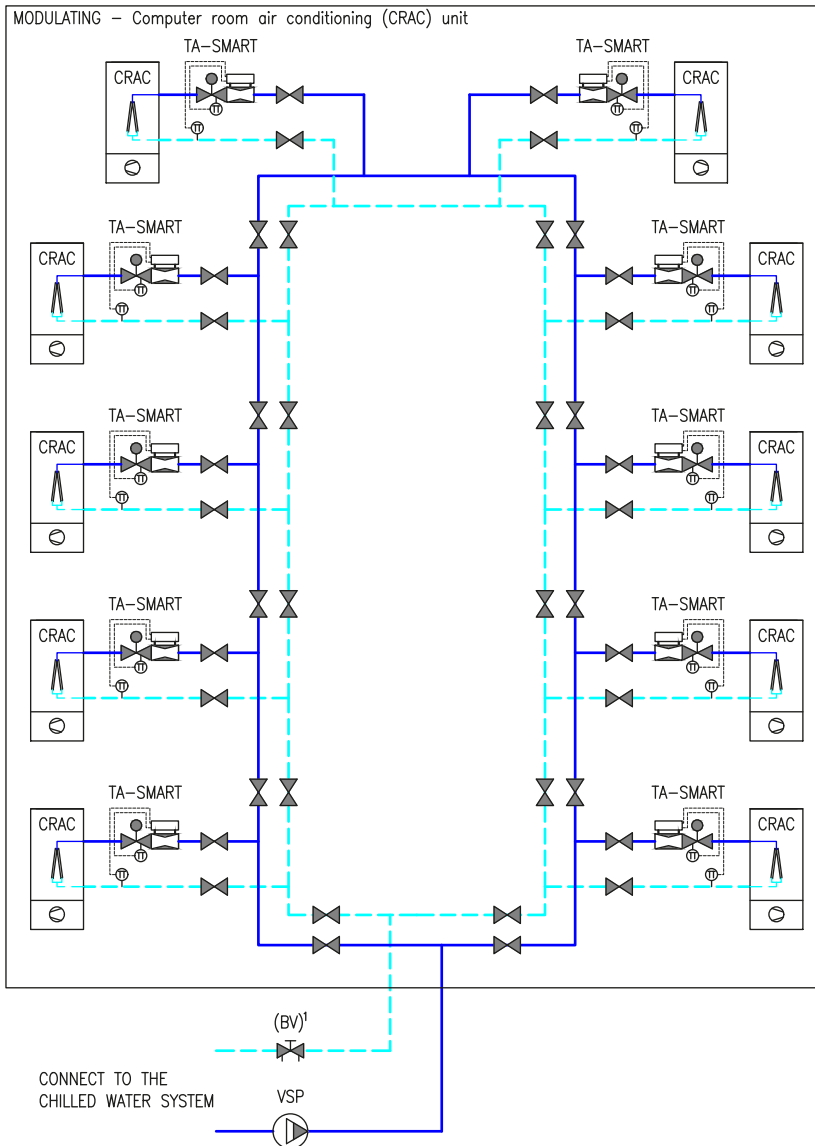
TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

* Optional use of TA-SMART providing additional isolation of a zone and providing metering opportunities for power and flow.

CRAH unit – variable flow

Balancing and control valves with flow measuring capabilities



Legend:

BV – Balancing valve

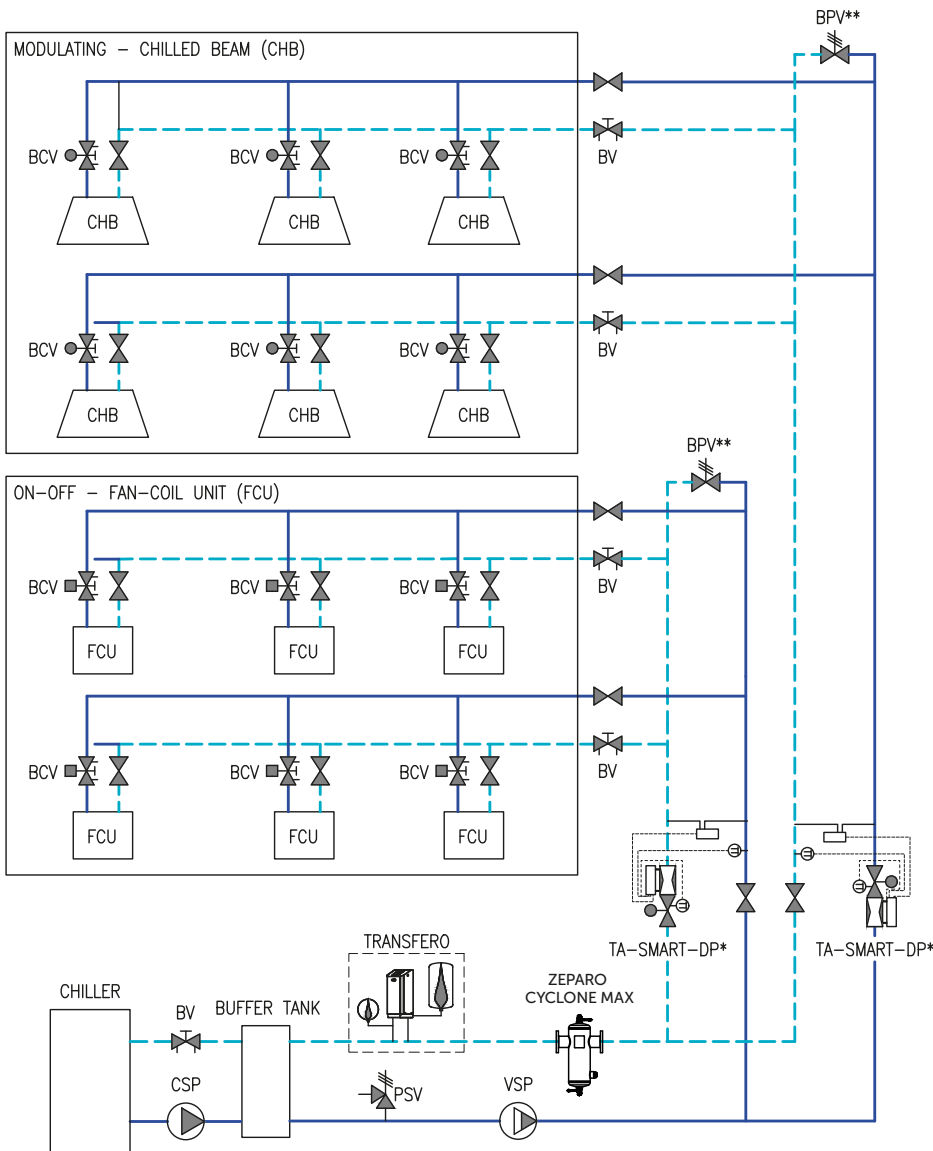
VSP – Variable speed pump

TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

¹ Optional/recommended for flow measuring and system diagnostics.

Cooling system – pressure control for small terminal units

Terminal units with standard balancing and control valves having the pressure stabilized with TA-Smart-Dp



Legend:

- BCV** – Balancing and control valve
- BPV** – Differential pressure relief valve
- BV** – Balancing valve
- CSP** – Constant speed pump
- Zeparo Cyclone Max (ZCX)** – Second-generation dirt separator with cyclonic technology
- PIBC** – Pressure independent balancing and control valve
- PSV** – Safety valve

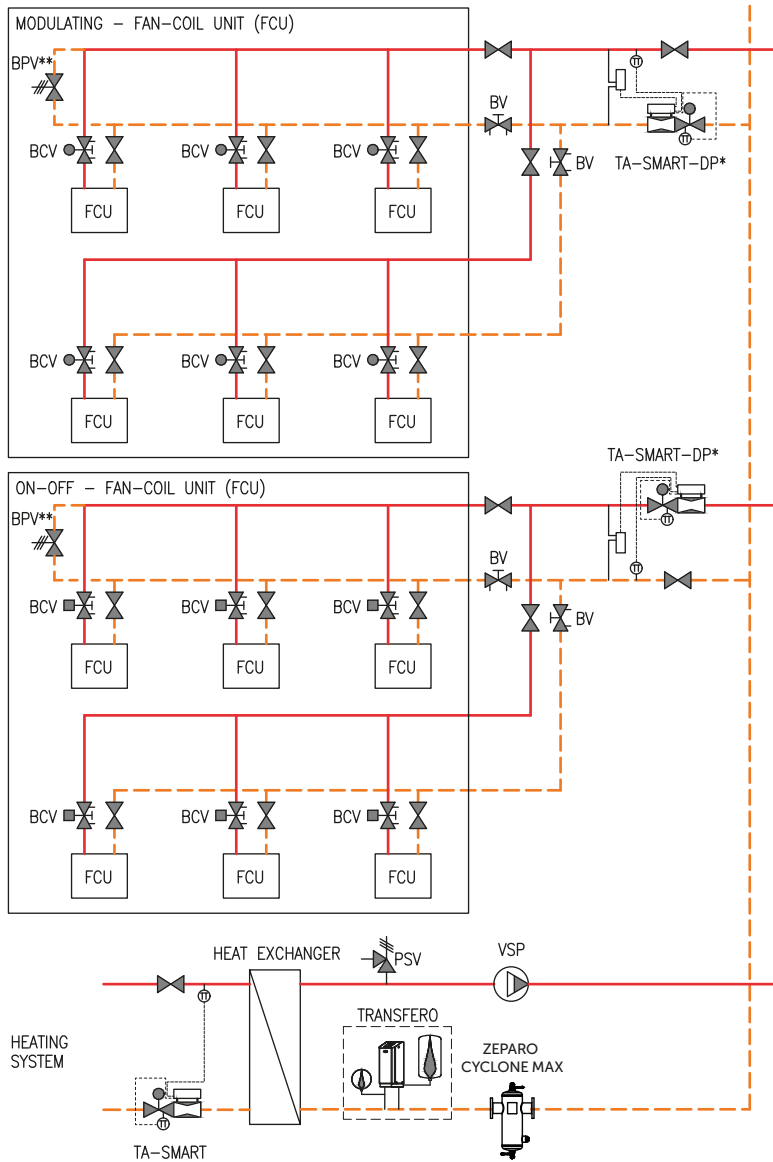
- VSP** – Variable speed pump
- TA-SMART** – 2-way balancing & control valve with flow, temperature and power measurement capabilities
- TA-SMART-DP** – 2-way balancing & control valve with flow, temperature and power measurement capabilities and DP control
- TRANSFERO** – Pump based pressurization unit with water make-up and vacuum degassing

* The valve can be installed in both the supply and return pipes.

** Valve to ensure minimum flow rate of pump and ensuring flow through TA-Smart to avoid pressure spike at terminal unit.

Heating system – pressure control for small terminal units

Small terminal units with standard balancing and control valves having the pressure stabilized with TA-Smart-Dp



Legend:

- BCV** – Balancing and control valve
- BPV** – Differential pressure relief valve
- BV** – Balancing valve
- Zeparo Cyclone Max (ZCX)** – Second-generation dirt separator with cyclonic technology
- PSV** – Safety valve
- VSP** – Variable speed pump

* The valve can be installed in both the supply and return pipes.

TA-SMART – 2-way balancing & control valve with flow, temperature and power measurement capabilities

TA-SMART-DP – 2-way balancing & control valve with flow, temperature and power measurement capabilities and DP control

TRANSFERO – Pump based pressurization unit with water make-up and vacuum degassing

** Valve to ensure minimum flow rate of pump and ensuring flow through TA-Smart to avoid pressure spike at terminal unit.

Benefits at every stage



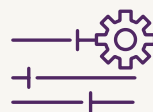
Time savings



Energy efficiency



Certifications



Flexibility of use







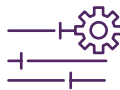






Peace of mind







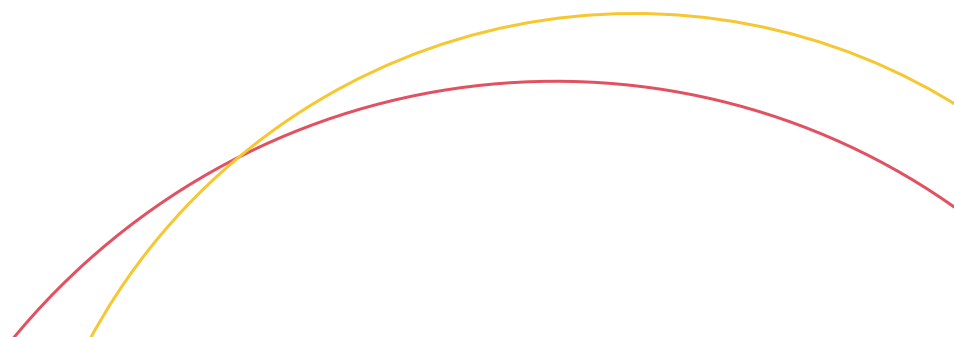
Comfort

Design




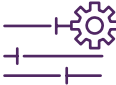






Feature	Benefit	
Compact Size	<ul style="list-style-type: none"> Fits into space restrictive spaces 	 <p>Time savings</p>
High Controllability & Rangeability	<ul style="list-style-type: none"> Great control function no matter the existing flow regime delivering comfort under all circumstances Energy savings (terminal units' efficiency, boilers' efficiencies, pump head optimization) 	 <p>Comfort</p>  <p>Energy efficiency</p>
Smart Control	<ul style="list-style-type: none"> Versatility of control modes, operating according to q, P and ΔT TA-Smart continuously measures the flow rate electronically and balances fluctuations in available differential pressure, with no need for time-consuming calculations The Dynamic balancing system is very energy efficient and ensures great indoor comfort, even under part-load conditions. 	 <p>Peace of mind</p>  <p>Energy efficiency</p>  <p>Comfort</p>  <p>Flexibility of use</p>
Integrated Control & Measuring function in 1 valve	<ul style="list-style-type: none"> No need to install additional components than a valve to meet both functions Helps meet green certification / regulation requirements for monitoring 	 <p>Time savings</p>  <p>Certifications</p>
Digital access to valve data	<ul style="list-style-type: none"> Full transparency of the valve settings and easy adjustments can be done at any time via remote access Fact-based analysis with verifiable hydronic performance at the end of the project, including energy-efficient operation Easy to identify and to correct potential system problems 	 <p>Peace of mind</p>  <p>Energy efficiency</p>

Installation




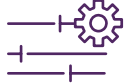




Feature	Benefit	
Compact Size	<ul style="list-style-type: none"> Fits into space restrictive spaces 	 <p>Time savings</p>
Integrated Control & Measuring function in 1 valve	<ul style="list-style-type: none"> No need to install additional components to a control valve to meet both functions 	 <p>Time savings Flexibility of use</p>
Smart Control	<ul style="list-style-type: none"> Rely on automatic hydronic balancing as you would with a PIBCV. This self-optimizing dynamic valve balances fluctuations in available differential pressure and automatically balances the system without the need for complex calculation and or flow regulating valves 	 <p>Peace of mind Energy efficiency</p> <p>Comfort</p>
Valve construction	<ul style="list-style-type: none"> Only 2 components needed for installation. Valve and actuator comes pre-assembled. TA-Smart has been specially designed to be the easiest in the installation in the market Limited space needed before and after the valve No need to install union components to connect to the pipe 	 <p>Time savings Flexibility of use</p>






Commissioning

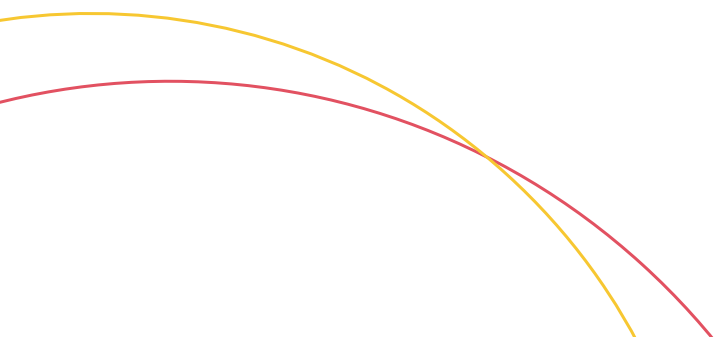
Feature	Benefit	
Smart Control	<ul style="list-style-type: none"> • Rely on automatic hydronic balancing as you would with a PIBCV. This self-optimizing dynamic valve balances fluctuations in available differential pressure and automatically balances the system without the need for complex calculation and or flow regulating valves 	 <p>Peace of mind</p>  <p>Energy efficiency</p>  <p>Comfort</p>  <p>Flexibility of use</p>
Digital Configuration	<ul style="list-style-type: none"> • No need of any additional device (laptop, dongle), cables or adaptors for commissioning, only your smartphone • Ease & speed of commissioning, automatic mesh in between TA-Smarts 	 <p>Peace of mind</p>  <p>Time savings</p>
Versatility of communication	<ul style="list-style-type: none"> • Flexibility and variability of communication protocols and free choice of control (BACnet, Modbus, Analog signal) 	 <p>Time savings</p>  <p>Flexibility of use</p>
System Insights on the cloud	<ul style="list-style-type: none"> • All circuit data is available directly on your Smartphone app or seamlessly forwarded to the cloud to allow for full system transparency and data-based analysis. This lets you check and verify values at any time even remotely 	 <p>Peace of mind</p>  <p>Energy efficiency</p>

Operation

Feature	Benefit	
Dynamic Operation	<ul style="list-style-type: none"> The valve dynamically compensates for available differential pressure fluctuations –for optimum room comfort as well as high energy and cost efficiency. Static valves cannot compensate for pressure fluctuations resulting inconstant room temperatures. TA-Smart is a dynamic valve it balances differential pressure fluctuations and stabilizes the indoor climate. This is highly efficient and leads to significant reduction in energy use 	 Peace of mind  Energy efficiency  Comfort  Flexibility of use
Integrated Control & Measuring function in 1 valve	<ul style="list-style-type: none"> No need to install additional components than a valve to meet both functions 	 Time savings  Certifications
Transparent system insights	<ul style="list-style-type: none"> Digital access to valve data allows for full transparency on hydronic performance and fact-based analysis to easily verify hydronic performance, including energy-efficient operation and identify potential system problems Solve problems before they occur. TA-Smart continuously monitors values and records data. In case of irregularities, you can simply check where the problem is and correct it immediately. Even changes in building use or plant expansions are not a problem. This is how you can guarantee smooth operation – consistently and in the long term 	 Peace of mind  Energy efficiency

Renovation

Feature	Benefit	
Compact Size & valve construction	<ul style="list-style-type: none"> • Ability to retrofit without requiring additional piping work • Fits into space restrictive spaces • No need to install union components to connect to the pipe 	 <p>Time savings</p>
Great controllability	<ul style="list-style-type: none"> • Great control function no matter the existing flow regime, even in low flow conditions • Fast response time and best in class adaptability to the existing system conditions to deliver precise indoor comfort 	 <p>Energy efficiency</p>
Integrated Control & Measuring function in 1 valve	<ul style="list-style-type: none"> • No need to install additional components to a control valve to meet both functions • Helps meet green certification / regulation requirements for energy monitoring 	 <p>Flexibility of use Certifications</p>

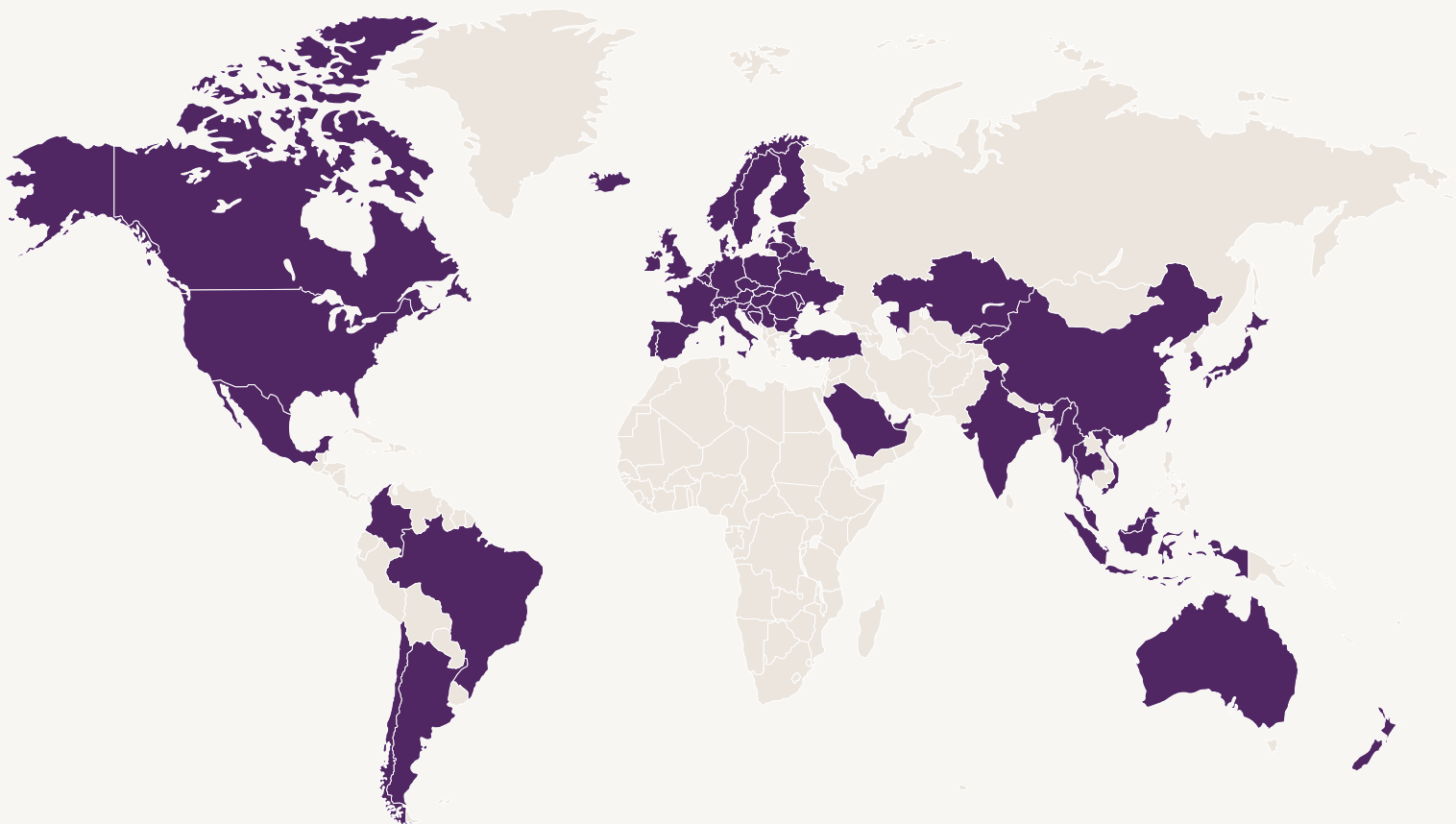


How can we help you?

We are operating in more than 33 countries, please get in touch with one of our local offices and our expert team will be happy to help you.



If you want to know more, please scan the QR code and fill in the online form and our expert team will answer all your questions.



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