SIEMENS

Hydronics made easy

Acvatix combi valves for simple and flexible planning and implementation of energy-efficient HVAC plants

Combi Valve Sizer app to design energy-efficient plants

www.siemens.com/acvatix

Less effort, high efficiency

The pressure independent Acvatix™ combi valves (PICV) and actuators reduce energy consumption in buildings, resulting in lower energy costs. They promote efficiency by preventing an oversupply to consumers as well as mutual hydronic interaction. In addition, the resulting accurate temperature control provides enhanced comfort for building occupants.

Acvatix combi valves are especially straightforward to plan, install and commission. Their consistent volumetric flow range and wide differential pressure range allow highly flexible planning. The combination of control valve and differential pressure controller in one combi valve facilitates installation and hydronic balancing. This makes commissioning fast and easy.

Master hydronics with Acvatix

Innovative technology for maximum efficiency

Acvatix combi valves are innovative products with state-of-the-art technology for variable-volume, energy-efficient HVAC applications. They are available with volume flows ranging from 0.025 to 200 m^3/h and are thus suitable for all room and zone applications as well as for heating, ventilation and air conditioning systems. Their easy integration into existing systems makes them especially ideal for renovations and system expansions.

Combi valves combine the following into a valve body:
- A control valve
- A differential pressure controller that shields against pressure fluctuations in the hydronic network
- A presetting scale to set the desired maximum volumetric flow
- Pressure measuring points for differential pressure measurement

Products with long-term investment protection

Acvatix combi valves and actuators are extensively tested by Siemens in the company's in-house HVAC laboratory. This ensures the best quality, maximum reliability and a long service life. Reliable and fail-safe, these products provide for optimal plant operation. Combi valves additionally create cost efficiency: Straightforward hydronic planning and sizing speed up the planning phase.

Commissioning is faster thanks to the automatic hydronic balancing and the volumetric flow preset ability. The integrated differential pressure controller maintains a constant pressure via the internal control valve – and thus also the set volumetric flow, regardless of pressure fluctuations in the hydronic network. Because the control is independent of differential pressure, the combi valves ensure steady temperature control. As a result, they provide for a high level of room comfort. This also makes it possible to optimally maintain return temperatures for all operating conditions, which ensures a high level of efficiency in heating and cooling. All these factors significantly reduce heating and cooling costs.

Full support in every respect

We provide practical tools to make your daily work easier. For example, the Combi Valve Sizer app helps you to select the right products and correctly preset the combi valve. With the HIT, you can plan the complete HVAC application step by step and the VDI3805/ISO16757 Selector offers you specifier texts and CAD data. In addition to these tools, with Acvatix you also get the global service network from Siemens along with benefits that include short delivery times and expert support if you have questions.

Highlights

- Straightforward planning and implementation of energy-efficient HVAC plants
- Energy efficiency without loss of comfort
- Cost-efficient thanks to straightforward sizing, presetting and simplified hydronic balancing
- Full support in planning, engineering and service

With the Combi Valve Sizer app for smartphones you can easily select the ideal Acvatix combi valve and the right actuator. This makes planning energy-efficient HVAC plants very straightforward.

Acvatix combi valves – straightforward, convenient and comprehensive

1 Maximum volumetric flow presetting

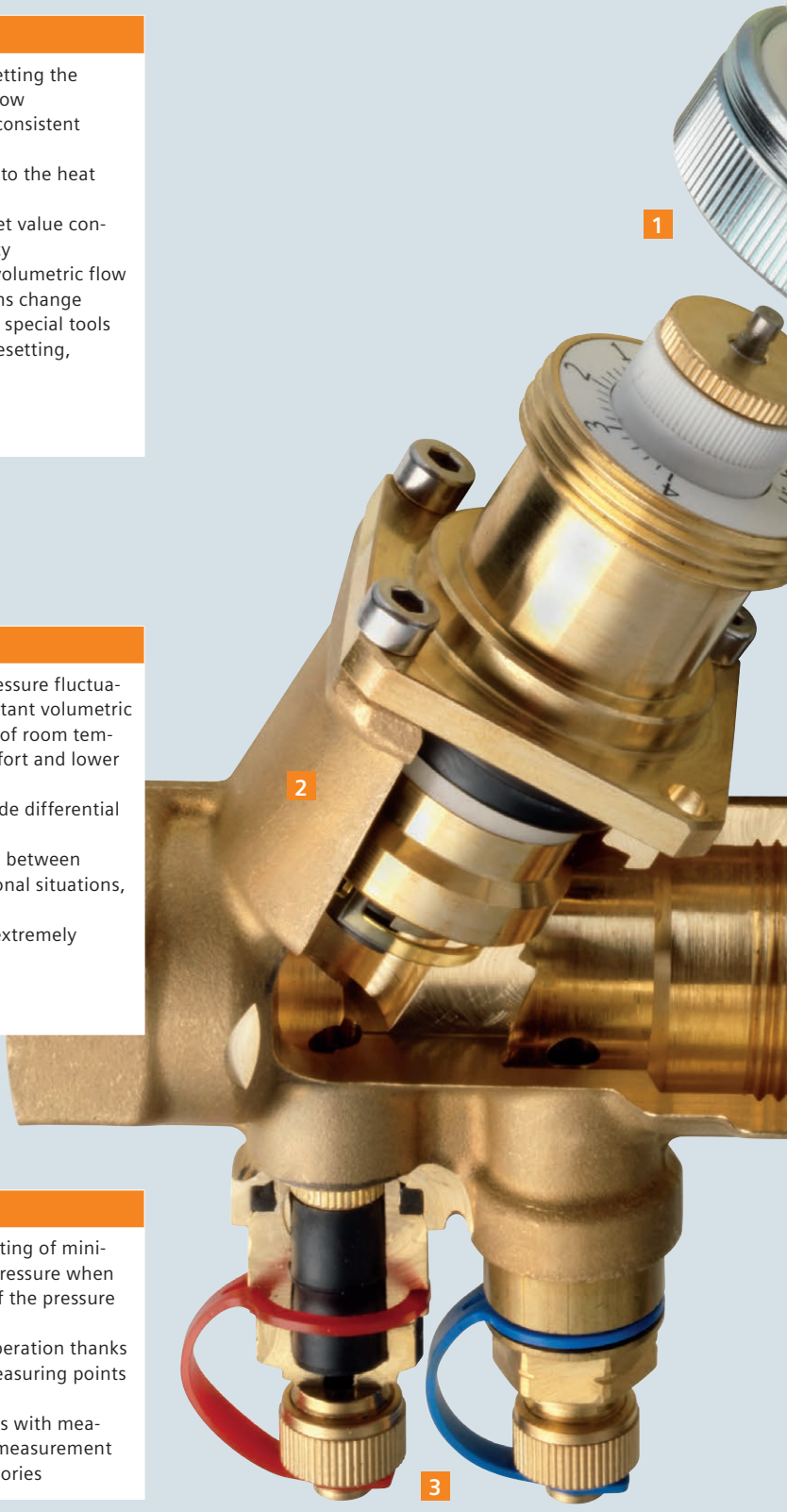
– Stepless presetting simplifies setting the desired maximum volumetric flow
– Flexible planning thanks to the consistent volumetric flow range
– Presetting prevents oversupply to the heat exchanger
– Full stroke range with any preset value contributes to high control accuracy
– Easy adjustment of maximum volumetric flow at any time when usage patterns change
– Straightforward operation – no special tools necessary for mounting and presetting, easy-to-read scale values

2 Integrated differential pressure controller

– Automatic shielding against pressure fluctuations in the network, for a constant volumetric flow and thereby exact control of room temperature, a higher level of comfort and lower energy consumption
– Flexible planning due to the wide differential pressure range
– No mutual hydronic interaction between consumers in different operational situations, thus no over- or undersupply
– Fast commissioning thanks to extremely simplified hydronic balancing

3 Pressure measuring points

– Straightforward testing and setting of minimum or optimum differential pressure when commissioning with the help of the pressure measuring points
– Simplified testing of plant in operation thanks to easily accessible pressure measuring points as service points
– Pressure gauge, measuring lines with measuring tips and other pressure measurement connections available as accessories



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4 Actuators for combi valves

- The ideal actuator for any control requirement
- Straightforward planning due to broad actuator range
- Additional functions for efficient plant control and quick troubleshooting
- High quality and long lifetime thanks to valve actuator combinations tested in our own HVAC laboratory

Comprehensive range of combi valves

PN class	Connection	DN	Volumetric flow
PN 25	Flange	50...150	VPF53..
PN 16	Flange	50...150	VPF43..
PN 25	Internally threaded	15...50	VPI46..
PN 25	Externally threaded	10...32	VPP46..
PN 10	Externally/internally threaded	10/15	VPD../VPE..

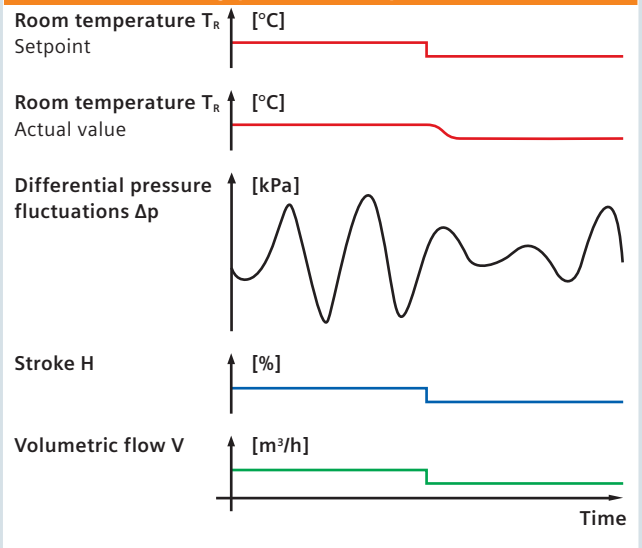
l/h	10	20	30	50	100	200	500	1000	2000	5000	10000	50000	100000	200000					
m³/h								1	2	3	4	6	10	20	30	50	100	200	

Ideal for many applications

Application areas

Acvatix combi valves are suitable for use in:
– Floor heating
– Radiators
– Chilled ceilings
– VAV (variable air volume systems)
– Fan coil units
– Zone control
– Heating groups
– Air handling units
– Boiler plants
– Chiller plants

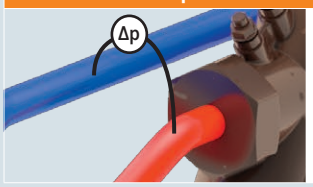
Room controlled by pressure independent combi valve



1 Demand-controlled pump

- Reduced energy consumption thanks to variable-volume HVAC plants with demand- or speed-controlled pumps
- Continuous speed control with differential pressure measurement for optimal adjustment of volumetric flow
- Correctly sized and selected pump to avoid undersupply in part load operation

2 Differential pressure measurement

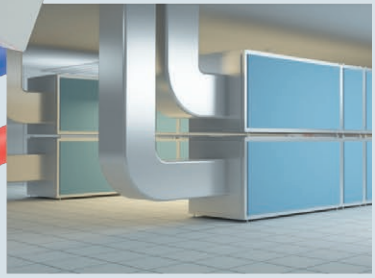


- No undersupply thanks to differential pressure measurement at the hydronically most significant consumer of a plant – usually the remotest consumer

3 Pressure independent combi valves (PICV)

- Straightforward implementation of energy-efficient, variable-volume HVAC plants
- No mutual hydronic interaction in a branch, thanks to the integrated differential pressure controller
- Straightforward and stepless presetting of the desired maximum volumetric flow to avoid oversupply
- The desired volumetric flow is always ensured
- Straightforward sizing and selection of combi valves via volumetric flow calculation
- Support with convenient tools from Siemens, including app, valve slide rule or HIT [1]

[1] www.siemens.com/hit



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Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

"We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure."

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