

**SIEMENS**



# Acvatix – well-designed combi valves for high energy efficiency

Increased flexibility and simplicity for planning, installing, and commissioning HVAC plants

Answers for infrastructure.



# Acvatix – combi valves and actuators for energy-efficient HVAC plants

Regardless of the application, Acvatix™ combi valves and actuators make an important contribution to energy efficiency in buildings. For example, they prevent an oversupply to consumers as well as mutual hydraulic interaction. This reduces energy consumption and thus energy costs. Additionally, 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 ranges allow highly flexible planning. The combination of control valve and differential pressure controller in one combi valve facilitates installation and hydraulic balancing. This makes commissioning fast and easy. Of course, suitable actuators are available for all of our combi valves to meet any control requirement.

# The right combination for any requirement

## Innovative addition to the comprehensive Acvatix valve range

The new combi valves extend the Acvatix combi valve range up to 45 m<sup>3</sup>/h volumetric flow. The range now also includes cost-efficient, electrothermal actuators. Acvatix thus offers the right products for many HVAC applications, for all room and zone applications as well as heating, ventilation, and air conditioning systems. They are also ideal for renovations and expansions.

The combi valves combine a control valve, a differential pressure controller that shields against pressure fluctuations in the hydraulic network, a presetting scale to set the desired maximum volumetric flow, and pressure measuring points for differential pressure measurement.

The integrated differential pressure controller keeps the pressure across the internal control valve constant, and thus also the set volumetric flow, regardless of pressure fluctuations in the hydraulic network. Since their control is independent of differential pressure, and thanks to their presetting facility, combi valves ensure safe temperature control – for new plants, expansions as well as renovations. They thus ensure a higher level of comfort under all operating conditions. Thanks to the combi valves, return temperatures can be kept at the right level under all operating conditions, ensuring high efficiency in the generation of heating and cooling energy. This significantly reduces heating and cooling costs.

## Products with long-term investment protection

Acvatix combi valves and actuators excel in high quality and long life. They reliably and safely ensure optimal plant availability. Our combi valves also assure cost efficiency, with straightforward hydraulic planning and sizing that speeds the planning phase. Commissioning is also faster due to greatly simplified hydraulic balancing and volumetric flow preset ability.

## Best quality based on long-term experience

Acvatix combi valves are innovative products with the latest technology for variable, energy-efficient HVAC applications. They are intensively tested in Siemens' own HVAC laboratories, for proven quality and the highest reliability in operation.

## Full support in every aspect

We offer useful tools that facilitate planning, commissioning, and service, from planning software and valve slide rules to highly practical training. With Acvatix, you also get the worldwide sales and service network of Siemens, for benefits including short delivery times and expert support for questions on planning and engineering or about the products themselves.

## Highlights

- Straightforward planning and implementation of energy-efficient HVAC plants
- Energy efficiency without loss of comfort
- The suitable valve for any application
- Cost-efficient thanks to straightforward sizing, presetting, and simplified hydraulic balancing
- Tested product quality and applications
- Full support in planning, engineering, and service



# 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 hydraulic interaction between consumers in different operational situations, thus no over- or undersupply
- Fast commissioning thanks to extremely simplified hydraulic 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 Actuator for combi valve



- 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...80	in preparation
PN 16	Flange	50...80	in preparation
PN 25	Internally threaded	15...50	VPI45..
PN 25	Internally threaded	10...20	VPI46..
PN 25	Externally threaded	10...20	VPP46..
PN 10	Externally/internally threaded	10/15	VPD../VPE..

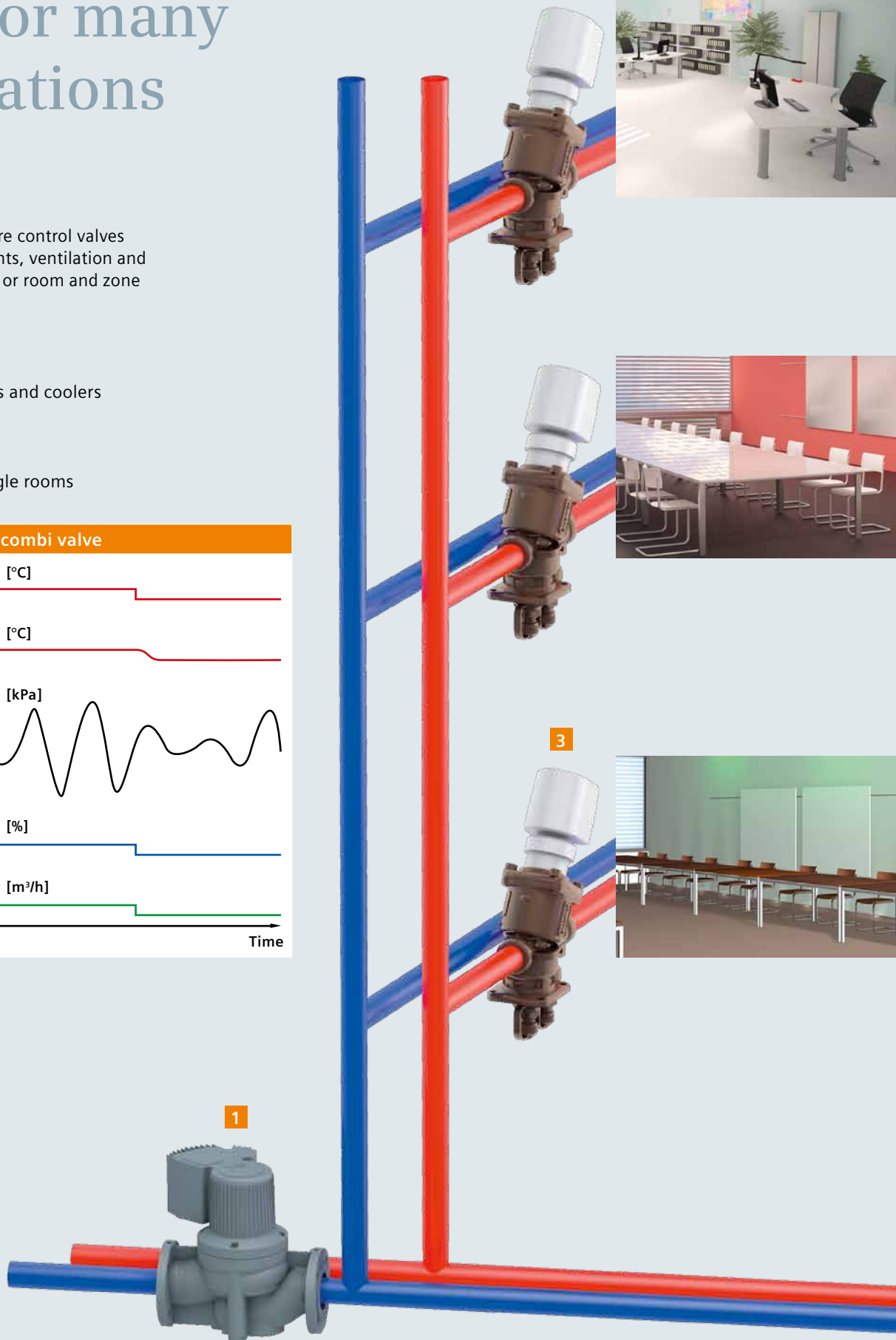
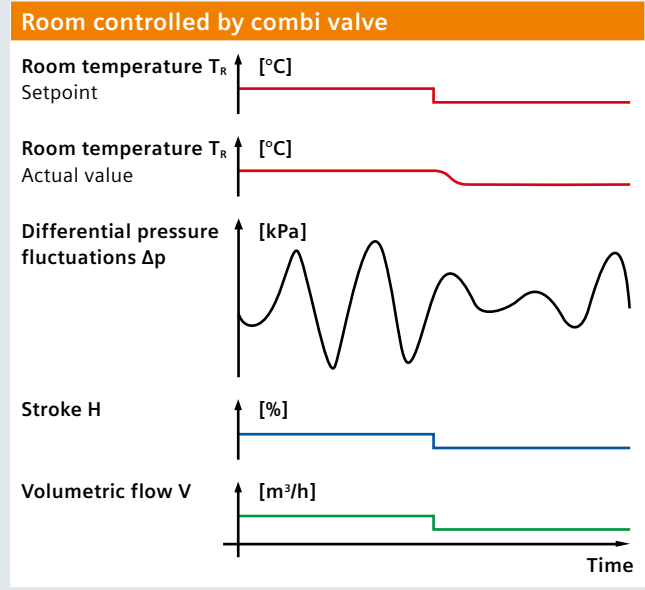
	I/h	10	20	30	50	70	100	200	300	500	1000	2000	5000	10000	20000	50000	100000							
	m³/h										1	2	3	4	5	6	7	8	10	20	30	50	70	100

# Ideal for many applications

## Application areas

Acvatix combi valves are control valves for central heating plants, ventilation and air conditioning plants or room and zone applications such as:

- Induction units
- Fan coil units
- Small reheating coils and coolers
- Chilled ceilings
- Air handling units
- Floor heating
- Apartments and single rooms



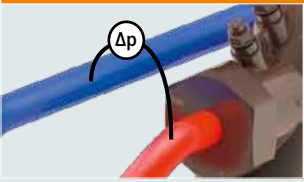


### 1 Demand-controlled pump



- 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 under-supply in part load operation

### 2 Differential pressure measurement



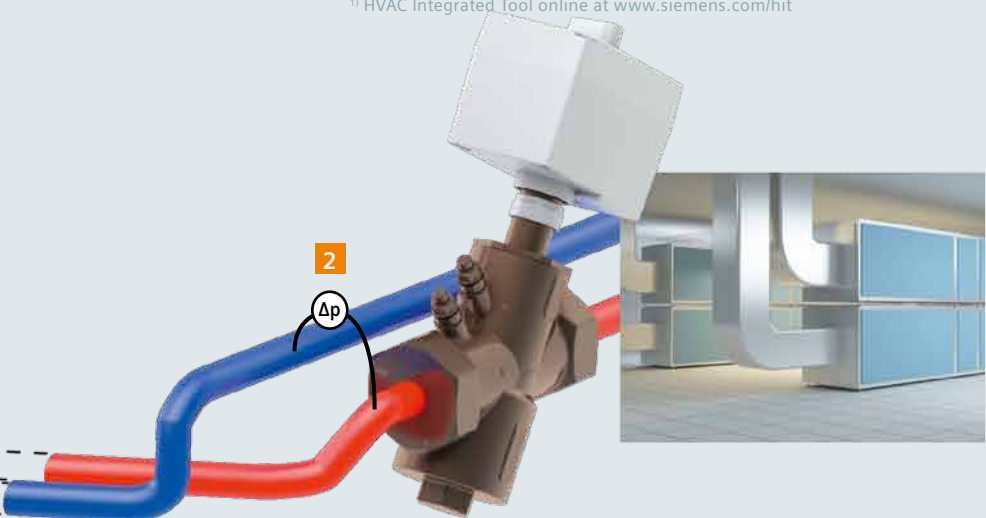
- No undersupply thanks to differential pressure measurement at the hydraulically most significant consumer of a plant – usually the remotest

### 3 Combi valves



- Straightforward implementation of energy-efficient, variable-volume HVAC plants
- No mutual hydraulic 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 valve slide rule or HIT<sup>1)</sup>

<sup>1)</sup> HVAC Integrated Tool online at [www.siemens.com/hit](http://www.siemens.com/hit)



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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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#### **Answers for infrastructure.**

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 preferred partner for energy-efficient, safe, and secure buildings and infrastructure.”**