



**SIEMENS**

*Ingenuity for life*

# Siemens solution for fan coil units

Precision and efficiency  
for every unit.

[siemens.com/HVAC](https://www.siemens.com/HVAC)

# Easy installation. Efficient operation.

**Make a difference for your customers with Siemens thermostats, valves and actuators.**

Siemens offers an extensive selection of high-quality thermostats, valves and actuators that are designed to work seamlessly together, making FCUs easier to install and commission. With Siemens, you get the job done efficiently, become known for delivering high-quality work, and help your customers save energy while reducing overall costs.

When it comes to maintaining room temperatures, whether it's in single rooms or multiple spaces, fan coil systems continue to be a popular choice. Compared to duct-based systems, fan coil units (FCUs) are more flexible, economical and easier to install. And, they are well suited for a wide variety of buildings, including hotels, offices, classrooms and apartments.

Yet, a fan coil system can drastically underperform when it isn't controlled precisely. If the FCU operates at only one degree too high or one degree too low, it can raise annual energy costs by 5 to 15%. To operate optimally, the FCU needs the right thermostat, valve and actuator. That's when choosing Siemens products makes all the difference.



**Premium bundle:**  
PICV VPI46..Q, actuator SSA161.05HF,  
and thermostat RDG160..



### Select the best combination

It takes the right combination of HVAC products to increase occupant comfort and customer satisfaction. When you combine Siemens devices, you ensure your FCU is operating at the highest levels of efficiency and comfort. And when Siemens is your single source of HVAC products, installation is a breeze.

### State-of-the art thermostats

Siemens offers a variety of ideal thermostats for switching and controlling FCUs. While incredibly easy to operate, they are also very precise, and their patented control technology maintains a perfect, constant temperature throughout the room. Users can set exact temperatures for comfort and energy efficiency. Siemens thermostats are also quick to install and straightforward to commission with easy mechanical fixings and settings that streamline your work.

You can select features via DIP switch and easily customize the language.

### Precise PICVs

Taking precision one step further, Siemens offers a full range of pressure-independent control valves (PICVs). The right PICV dynamically balances the fan coil system to provide better FCU control. With Siemens PICVs at work, the FCU's system pressure is correct for all loads – pressure fluctuations in the hydronic system have no effect. Optimal return temperatures for all operating conditions guarantee a high level of efficiency in heating and cooling. Siemens PICVs also allow you to work more quickly. They eliminate complex hydronic calculations and the need for additional flow regulating or balancing valves.

### Quality actuators

Siemens also designs specific actuators to work seamlessly with PICVs and can be installed in two clicks. They are efficiently commissioned and come with smart accessories, such as the LED for function check. This makes your job easier and your FCU more efficient. When you match Siemens actuators, thermostats and PICVs, you have even more assurance of high-quality outcomes.

### Increasing demand

Recent research indicates that the global market for fan coil units will increase to \$3.12 billion (USD) by 2025<sup>1</sup>, resulting in a CAGR of 4.2% between 2019 and 2025. Well suited for a wide variety of buildings, fan coil units are expected to see increasing demand among hotels, office buildings, schools and housing complexes.

1.Global Fan Coils Market Report, History and Forecast 2014-2025, Breakdown Data by Manufacturers, Key Regions, Types and Application, by QY Research.

## Choose high-quality devices for the perfect fit

Siemens extensive selection of thermostats, valves and actuators gives you an unlimited number of choices and combinations. You can use Siemens HIT Portal ([siemens.com/hit](https://siemens.com/hit)) to quickly and conveniently select the best combination of devices that will meet your unique requirements and precisely control your FCU. Or, you can choose one of our suggested bundles.

### Basic bundle for simplicity and power

Deliver a high-quality FCU system while staying on budget with this simple and cost-effective fan coil bundle. The simplest way to control an FCU is to use an on/off solution. It greatly reduces the system's complexity and costs while allowing it to remain very powerful.



RAB..1..

#### Thermostats RAB..1..

- Basic electromechanical room temperature controllers for fan coil heating and/or cooling applications
- 2-pipe or 4-pipe fan coil unit
- Manual three-speed fan control
- Gas-filled diaphragm

#### PICVs VQ.46..

- PICVs with on/off characteristics
- No oversupply thanks to automatic presetting
- Straightforward sizing and selection via volumetric flow calculation
- With or without differential pressure test points
- Optimized leakage rate: Class IV



VQP46..Q and STA..

#### Actuators STA23/STA73

- Electrothermal actuators
- Perfectly compatible with PICVs with on/off characteristics
- No-load stroke for energy efficient and comfortable room climate
- Easy mounting in any position
- Two-position signal



## Premium bundle for highest level of performance

Our premium bundle of HVAC devices provides the finest FCU control for an ultimate level of comfort and unequalled energy efficiency. Our premium solution delivers modulating control, ensuring a precise and stable room temperature, optimal return temperature and high energy efficiency.



RDG160..

### Thermostats RDG160..

- Siemens premium thermostats for highest level of comfort and energy efficiency
- Integrated features such as time programs, presence detectors and supply-air temperature limitation
- Operating modes: Comfort, Energy Saving and Protection
- Two-position, three-position or PWM control outputs
- Automatic or manual fan speed



VPI46..Q and SSA..

### PICVs VP.46..

- Modulating range of PICVs for proportional room temperature control
- Highest temperature precision and high control accuracy for enhanced comfort
- No oversupply thanks to automatic presetting
- Straightforward sizing and selection via volumetric flow calculation
- With or without differential pressure test points
- Optimized leakage rate: Class IV

### Actuators SSA161../118..

- Electromotoric actuators for modulating control
- Pre-configured and ready to use out of the box
- Position feedback for early fault detection, less plant down time and less time in fault analysis
- Easy mounting in all directions
- Manual operation for flexible testing

## Select the best PICV



VQP46..



VQP46..Q



VQI46..



VQI46..Q

### VQ.46.. (on/off)

Without Pressure Testing Points	With Pressure Testing Points	DN	G (inch)	Vmin (l/h)	V100 (l/h)
VQP46.10L0.5	VQP46.10L0.5Q	10	½	30	520
VQP46.15L0.5	VQP46.15L0.5Q	15	¾	30	520
VQP46.15L1.3	VQP46.15L1.3Q	15	¾	300	1300
VQP46.20L1.5	VQP46.20L1.5Q	20	1	320	1500
VQP46.25L1.8	VQP46.25L1.8Q	25	1¼	620	1800
VQI46.15L0.5	VQI46.15L0.5Q	15	½	30	520
VQI46.15L1.3	VQI46.15L1.3Q	15	¾	300	1300
VQI46.20L1.5	VQI46.20L1.5Q	20	¾	320	1500
VQI46.25L1.8	VQI46.25L1.8Q	25	1	620	1800



VPP46..



VPP46..Q



VPI46..



VPI46..Q

### VP.46.. (modulating)

Without Pressure Testing Points	With Pressure Testing Points	DN	Rp (inch)	Vmin (l/h)	V100 (l/h)
VPP46.10L0.2	VPP46.10L0.2Q	10	½	30	200
VPP46.10L0.4	VPP46.10L0.4Q	10	½	65	333
		10	½	65	370
VPP46.15L0.2	VPP46.15L0.2Q	15	¾	30	200
VPP46.15L0.6	VPP46.15L0.6Q	15	¾	100	575
VPP46.20F1.4	VPP46.20F1.4Q	20	1	200	1190
		20	1	220	1330
VPP46.25F1.8	VPP46.25F1.8Q	25	1¼	204	1470
		25	1¼	250	1800
VPP46.32F4	VPP46.32F4Q	32	1½	450	3270
		32	1½	550	4001
VPI46.15L0.2	VPI46.15L0.2Q	15	½	30	200
VPI46.15L0.6	VPI46.15L0.6Q	15	¾	100	575
VPI46.20F1.4	VPI46.20F1.4Q	20	¾	200	1190
		20	¾	220	1330
VPI46.25F1.8	VPI46.25F1.8Q	25	1¼	204	1470
		25	1¼	250	1800
VPI46.32F4	VPI46.32F4Q	32	1	450	3270
		32	1½	550	4001

## Match an efficient actuator



### STA.. (on/off)

Type of Actuator	Operating Voltage	Positioning Signal				Positioning Time	Audible Noise	House Type
STA73	AC 24 V	2-points				270	Noise-free	IP54
STA23	AC 230 V	2-points				210	Noise-free	IP54



### SSA.. (modulating)

Type of Actuator	Operating Voltage	Positioning Signal	Manual Operation	Feedback Signal	Operating Modes	Speed	Audible Noise	House Type
SSA161.05	24V AC/DC	0-10V				10sec/mm	<30dB	IP54
SSA161.05HF	24V AC/DC	0-10V	✓	0-10V		10sec/mm	<30dB	IP54
SSA161E.05HF	24V AC/DC	0-10V	✓	0-10V		10sec/mm	<30dB	IP54
SSA118.09HKN	+ - KNX	KNX (S-Mode and PL-Link)	✓	KNX	7	20sec/mm	<28dB	IP54

\*please check product availability with your local Siemens contact

## Pick the perfect thermostat



Product Title	Application	Functionalities									Output		Inputs				Power Supply
		Manual heating/cooling changeover	Automatic heating/cooling changeover	Floor heating limitation	Manual fan speed off/1/2/3	Automatic fan control	3 or 1stage fan	7day time program	Fan function enable/disable	Communication interface	On/off	DC0..10V	Multifunctional inputs	Operating mode changeover contact	Return air temperature sensor	Heating/cooling changeover sensor	
RAB..1.. Electromechanical room thermostats for fan coils	<ul style="list-style-type: none"><li>• 2-pipe system, selector heating/cooling</li><li>• 2-pipe system, selector heating/cooling/fan only</li><li>• 4-pipe system, selector heating/cooling</li><li>• 4-pipe system selector heating/cooling/fan only</li></ul>	✓			✓		✓				(1)						AC 24.. 250V
RDG160.. Room thermostat with timer and DC (or on/off) output for and valve and fan (AC 24V) (with or without KNX)	<ul style="list-style-type: none"><li>• 2-pipe system</li><li>• 2-pipe system with electric heater</li><li>• 2-pipe system and radiator/floor heating</li><li>• 4-pipe system</li><li>• 4-pipe system with electric heater</li></ul>	✓	✓	✓	✓	✓	✓	✓	✓	(KNX) <sup>1</sup>	(2) <sup>2</sup>	(2) <sup>2</sup>	✓	✓	✓	✓	AC 24V

1 RDG160KN for KNX communication

2 Either On/Off, 3-position, PWM or DC signal (optional between given output signals)

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