The right product for every application

Siemens specializes in the development, production and global marketing of high-quality and innovative products and systems for use on forced draft burners, heating boilers, alternative heating systems, and industrial plants. Our comprehensive product portfolio includes complete system solutions, burner controls, actuators, flame detectors, sensors, control systems, valves, and related test equipment.

Thanks to specialization and decades of experience in these fields, our products and systems offer optimum solutions for all market segments ranging from single- and multi-family houses (residential buildings) to commercial buildings and a host of industrial applications.
Tailored solutions in cooperation with our customers

Teamwork, optimized processes and quality
Efficient teamwork has a major impact on our way of thinking, in our actions and innovation processes. In the OEM team of Siemens, the joint efforts of qualified and motivated personnel and the exchange of experience have been decisive for success.

We continually rely on teamwork, both within the company and in close cooperation with our customers and suppliers.

In the fields of heating, combustion and alternative heating systems, Siemens is a preferred controls supplier to leading OEMs throughout the world – thanks to our working methods, the quality and reliability of the products, our customer approach and business processes which have been matched to the specific needs of the OEM market.

Experience and know-how
For more than 70 years, Siemens has developed and produced high-performance control systems and products for the heating market and the industrial sector.

To satisfy the increasingly demanding requirements of today’s production processes, our development department performs extensive project work, aimed at optimizing and further developing industrial firing systems.

Success through partnership
When creating a system solution tailored to your specific needs, Siemens as your partner will be pleased to assist at any time.

We attach great importance to teamwork, both within our company and in close cooperation with customers.

<table>
<thead>
<tr>
<th>Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 70 years experience and know-how</td>
</tr>
<tr>
<td>Innovation thanks to concentrated development</td>
</tr>
<tr>
<td>Consistent consultancy and close cooperation</td>
</tr>
<tr>
<td>Heating based on energy-saving technologies</td>
</tr>
<tr>
<td>Optimum systems for demand-related solutions</td>
</tr>
<tr>
<td>Global approvals</td>
</tr>
</tbody>
</table>

Siemens CPS OEM offers the complete product range from burner controls, actuators, sensors and control systems to valves for boilers, alternative forms of energy, and air conditioning.

<table>
<thead>
<tr>
<th></th>
<th>Residential buildings</th>
<th>Commercial buildings</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative heating systems</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>Boilers</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
</tr>
<tr>
<td>District heating and cooling</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
</tr>
<tr>
<td>Air handling units</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐</td>
</tr>
<tr>
<td>Chillers</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
</tr>
<tr>
<td>Forced draft burners</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
</tr>
<tr>
<td>Industrial burners</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
</tr>
</tbody>
</table>

Residential buildings | Commercial buildings | Industry
AHS – the alternative solution

Siemens and the environment
The customized products and systems made by Siemens help reach compliance with the Kyoto protocol. Our declared objective: Increased usage of environment-friendly and inexhaustible energy in place of fossil fuels. This is made possible by optimized products and efficient solutions in connection with renewable forms of energy. Siemens markets a consistent range of products and systems for use with heat pumps, micro combined heat and power, solar plants, and much more.

Solutions for heat pumps
Heat pumps excel in high efficiency and thus in environment-compatible use of resources. To ensure efficient heat pump control, Siemens markets a comprehensive range of innovative products. Electronic controllers and valves, matching sensors, and a wide choice of operating and display units can be easily combined to create basic systems, be it for single-family houses or larger, more complex buildings – with no extra effort for engineering.

Solutions for micro combined heat and power
Micro combined heat and power (mCHP) embodies the next generation of heating systems. Today, our heat is produced by conventional heat sources, such as boilers and heat pumps, and electric power comes from the outlet in the wall. In Europe, electric power is produced primarily by thermal power stations. For every kWh delivered, 1.3 kWh are lost due to waste heat and transportation losses. It makes sense if, at the same time, the heat source also generates electric power – in the house, for the house. For the consumer, this means: Own mCHP station in the house, which supplies not only heat but also two thirds of the electric power required by an average household with 4 persons.

Solutions for solar
Heat production based on solar energy has proven its worth for decades. It is technically mature, environment-friendly, and protects our climate. Solar energy is capable of covering 60 to 90 percent of the annual energy required for DHW heating and 25 to 50 percent for space heating.

Highlights
- Optimized products and efficient solutions
- Solutions for heat pumps
- Solutions for mCHP
- Solutions for solar
Heat pump – competence and sustainability

Albatros² – all in one
Our flexible solution for heat pumps meets all requirements of residential and commercial buildings, independent of the type of primary energy source. On the secondary side, heating, DHW, cooling, storage, integration of solar, and cascading are just a few examples showing the versatility of our product range. Optional integration of residential ventilation, complementary energy sources and hybrid solutions complete Siemens’ offering.

Hybrid solution consisting of heat pump and gas boiler
A modern controller meets the increasing demand for efficient and cost-optimized combinations of heat pump and condensing gas boiler. Depending on the current performance of the heat pump, the electricity tariff and the heat demand, the controller decides which of the generators is the most suited.

Efficiency and new directives
New directives call for even more efficient and sustainable solutions when it comes to heat recovery, controlled room ventilation and energy monitoring.

A higher coefficient of performance is the main objective of our strategies. New functions, such as intelligent DHW charging, dedicated defrosting strategies, and control of electronic expansion valves and vapor injection, help increase the performance.

The whole solution is smart grid-ready, which means that it is capable of responding to different electricity tariffs or is suited for use with other heat sources.

Intuitive operation and commissioning
Since applications become increasingly versatile, ease of operation is the key factor for fast and correct installation and commissioning. The graphical display shows all the required information which can be retrieved – easily and quickly.

Remote management and system integration
Remote management and monitoring including alarming and trending are made possible via web server or modbus. Modbus also facilitates integration into BACS and the connection to other devices.

Highlights
- Versatile primary and secondary applications – all in one hybrid solution consisting of heat pump and gas boiler for optimized results
- Efficiency requirements of new directives are met
- Ease of installation and commissioning
- Modbus and Internet for remote access
Boiler controls for enhanced room comfort

Perfectly matched components
Using decades of experience in the field of boiler components and in close cooperation with key customers, Siemens has become a leading supplier of heating control systems.

On the basis of this expertise, we developed a mature and consistent product portfolio ranging from basic boiler control systems – including flame supervision – to high-end solutions with integrated combustion optimization. So you will find proven systems of modular design to satisfy almost any need.

The product range, designed for the control and supervision of boilers, for the control of heat production and heat distribution, including peripheral devices, is consistent, compatible and complete. Bus communication covers cascaded and networked systems, remote supervision, and connection to BACS.

Innovative boiler management
Siemens also offers Boiler Management Units for the control of boilers, including matching accessories. In addition to the connection of digital room temperature control, BACS and remote supervision equipment, integrated bus communication facilitates implementation of comfort zones, solar energy systems, and cascades.

Environmental protection
Our responsibility for the environment, conservation and efficient use of scarce energy resources demand matching and energy-saving systems.

The innovative solutions developed by Siemens help meet these requirements. Therefore, we offer a consistent and optimized product range for heating boilers.

Highlights
- Harmonized, consistent and matching product platforms
- Product range of modular design
- Room/operating units with clear-text display in several languages
- Gas valves for all types of application
District heating and cooling

Easy-to-use clear-text display and remote control over the web
Access to the application is easy and matched to the user needs. Menu texts can be selected in the local language. New languages can be added to the standard menu languages. Special characters, such as Cyrillic or Chinese, are also supported. A full range of touch panels can be connected to the controllers.

Advantage for the OEM
Programmed and tested applications on the controller can be expanded as required. The district heating applications are based on general applications, such as primary controller, space heating, DHW and solar plant, which can be combined as required. The OEM can benefit from free programmability of the Climatix controllers to create own applications, or to make use of specific in-house know-how.

Easy integration into centralized management systems
Thanks to Climatix’s communication capability like BACnet, Modbus, M-bus, modems and web, integration into BACS or centralized management systems of utilities is easy. Communication modules can be added whenever there is a need.

Energy efficiency
With the help of energy monitoring and/or load control, the energy efficiency of district heating plants can be optimized from production to consumption.

Data archive
A data archive is available for energy, temperature values, and errors. Using the archived data, a central analysis program can evaluate the situation in a plant and supply adequate information, enabling optimization of district heating plant.

Highlights
- Clear-text display
- Programmed or freely programmable
- Easy integration into centralized management systems
- Optimized for energy efficiency
- Data archive
Air handling units

Ready-to-use applications
Climatix controllers can be loaded with a ready-to-use air handling unit application. The OEM can select via HMI or the web any required functionality. The communication interfaces for BACnet, LON, Modbus or OPC are prepared and fully documented to ensure easy integration into standard BACS.

Proven HVAC libraries
Today, the market often asks for free programmability to develop OEM-specific applications and programs. Climatix provides a large number of proven HVAC libraries as a basis for the straightforward creation of OEM-specific applications.

Remote servicing and maintenance
Remote service via TCP/IP ports and direct service via HMI and SD card offer cost savings for servicing and maintenance.

Comprehensive product range
In addition to the Climatix controllers, Siemens markets a full range of products to manage the entire air handling unit.

This includes damper actuators, sensors (for temperature, pressure, humidity, and indoor air quality), variable speed drives for fans and pumps, plus an extensive range of valves and actuators. The OEM benefits from a single source, thus simplifying purchasing and logistics, but also the responsibility for the full functionality of the air handling unit.

Flexibility
The Climatix range offers a high level of flexibility ensuring the support of central or distributed control strategies. Depending on the requirements, I/O modules can be installed directly by the main controller or near some other node. This approach affords comprehensive, function- and cost-optimized solutions.

Highlights
- Ready-to-use applications
- Proven HVAC function blocks for quick programming by the OEM
- Scalable hardware and software in all sizes
- Comprehensive product range
- Support of central and decentralized control strategies for air handling units
Chillers and heat pumps

Chiller and heat pump solutions
Climatix controllers are designed for a wide range of chiller and heat pump applications. Proven standard applications and complete HVAC function libraries minimize the OEM’s effort in providing tailored chiller and heat pump solutions.

Total chiller control
Chiller plant sequences or complete hydronic plants with fan coil units can be easily programmed. This enables OEMs to combine plant elements aimed at optimizing comfort while minimizing energy usage. A wide range of valves, actuators and sensors enhance the offering.

Open communication protocols
Climatix supports all standard protocols for straightforward integration into BACS and is suited for connection via the Internet even on residential applications.

Energy efficiency
Climatix focuses on the optimization of performance and energy savings based on intelligent product harmonization and leading edge HVAC control technology. Evaporation and superheat can be controlled in the calculated and designed operating range using optimum algorithms and an electronic expansion valve driver. The products make optimum use of all plant components; this results in extremely energy-efficient operation of the compressor and of the entire chiller or heat pump.

Service and maintenance
Climatix provides a choice of scalable features for commissioning, service, maintenance, and troubleshooting, even from remote locations.

Highly accurate air conditioning
Climatix is also suited for use with chillers in the field of close control air conditioning or for telecom shelters. For both fields of use, the controller platform has specific functionalities implemented.

Highlights
- Comprehensive range of controls
- Wide choice of user interfaces
- Close control and energy-saving operation
- Comprehensive control of chillers
- Highly accurate air conditioning and telecom network shelter applications
- Remote service and maintenance
For forced draft burners of any capacity

Products for all needs
To ensure safe and reliable control and supervision of forced draft burners, Siemens offers a broad range of matching components: Burner controls and flame detectors for intermittent or continuous operation, actuators, valves, and controllers.

Bases and consoles are available with universal or customized electrical connections – favorably priced and service-friendly. Siemens actuators for fuel dampers operate very accurately and excel in security, longevity and straightforward operation. Gas, oil and air valves with matching electrohydraulic actuators and controllers guarantee efficient and reliable operation. The product range is complemented by universal load controllers and sensors.

Capacity range
Siemens products can be found in almost any burner capacity category. Use of our components starts at 20 kW for small-capacity burners, up to about 2 MW for large-capacity burners, and up to about 30 MW for large industrial installations.

Safe operation
Burner controls from Siemens feature a redundant, 2-channel microprocessor-based system and 2 independent shutdown paths for safety-related functions.

Efficiency and low emissions
Burner management systems from Siemens with flue gas sensors used to optimize the combustion process and integrated control of variable speed drives improve the burner’s efficiency, thus ensuring extremely low emission levels.

Global and communicating
Siemens markets components with worldwide approvals. OEMs can optimize the design of their burners and reduce the number of versions they produce. The communication interface facilitates the connection to higher level BACS or process management systems.

Highlights
- Burner controls for almost any type of forced draft burner
- Safety-related functions
- Global approvals
- Matching accessories
- Comprehensive product range
- Customized versions
Powerful products for industry

Reliable burners for production
Industrial burners are the heart of every thermal process-based production line, and the quality of the final product depends primarily on the burner’s reliability and performance. Low maintenance effort and maximum availability, high levels of energy efficiency and seamless integration into existing automation systems are the key requirements placed on advanced firing systems. Using decades of experience, know-how and commitment in the field of industrial firing systems, Siemens has become a key partner for manufacturers of high-quality thermoprocessing equipment.

Complete solution from a single source
When it comes to the supply of energy and media to large building complexes and when producing process heat in the industrial sector, economy and environmental protection are important criteria, because the efficiency of large-capacity boilers is a significant cost factor. Also, emissions can reach very high levels. Burners equipped with mechanical fuel-air ratio control (cam with linkage between air and gas damper or oil controller) have drawbacks: Complicated burner design, low repetition accuracy, and bothersome settings. This means: Poor efficiency, higher environmental strain, and a smaller modulation range.

Here, electronic fuel-air ratio control makes full use of its strengths. Simpler burner design and greater accuracy ensure higher efficiency while lowering emissions, resulting in more economical and environment-friendly solutions.

Siemens Solution Partner program
Our Solution Partners deliver all elements and services required for operating closed thermal process plants – from engineering and measures required for plant optimization to gas control systems and switchboard construction including comprehensive services.

The Solution Partners for industrial combustion are well trained and have the latest information about Siemens products. We maintain a continuous dialog with these partners, aimed at meeting current market needs.

Highlights
- Optimum systems for demand-related solutions
- Complete gas trains in cooperation with our partners
- Solution Partner Program
- Robust and reliable products
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 trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”