

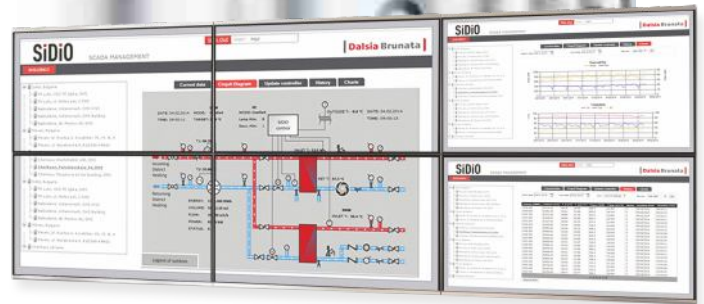
SiDiO - complete SCADA solution for district heating networks



SiDiO complete SCADA solution

SiDiO is an implementation of supervisory control and data acquisition (SCADA) system for remote monitoring and control of district heating substations controllers, repeaters and metering devices. Remote access is based on data transfer by GSM/GPRS, Internet or PSTN.

The system provides complete visibility and management tools to improve the energy efficiency and network performance. Powerful features enable complete control over each district heating substation unit, ensure lower operation times and effective multi level analysis.



Characteristics & Benefits

Scalable solution to maintain different size district heating networks - from single district heating substations to large district heating networks

SiDiO is a multi usage scalable solution - it can operate within a single building, a quarter or a whole city. Any part of information obtained from a single meter or from the entire network can be readout remotely.

Easy-to-use SCADA solution for monitoring & control of district heating substations within the district heating network

The authorized staff is able to readout and manage the network data via Internet using a friendly web application interface. SiDiO is able to be operated by different users with various access privileges like administrators, operators and end-users.

Easy-to-combine with measuring devices to provide detailed energy reports for individual apartments, buildings or entire networks

The detailed energy reports are a helpful tool for monitoring of the energy consumption of the different network levels resulting to energy savings and better maintained network performance. The generated report documents are very helpful to provide the needed energy consumption information to the public authorities.

Fast detection of district heating substation problems

The real time monitoring of each district heating substation allows quick and easy detection of potential problems. The remote control contributes to a better performance of the district heating substation. All important parameters are monitored in real time and any deviation signal leads to a faster and easier diagnosis.

High operating security

The database is maintained and saved on a server which ensures complete security and eliminates the risk of any loss of data. Upon request the information can be stored on a clients server.

Flexible technologies

SiDiO allows real-time communication with controllers, repeaters and metering devices like heatmeters, water meters and electricity meters. The remote access is based on data transfer by GSM/GPRS, Internet or PSTN.

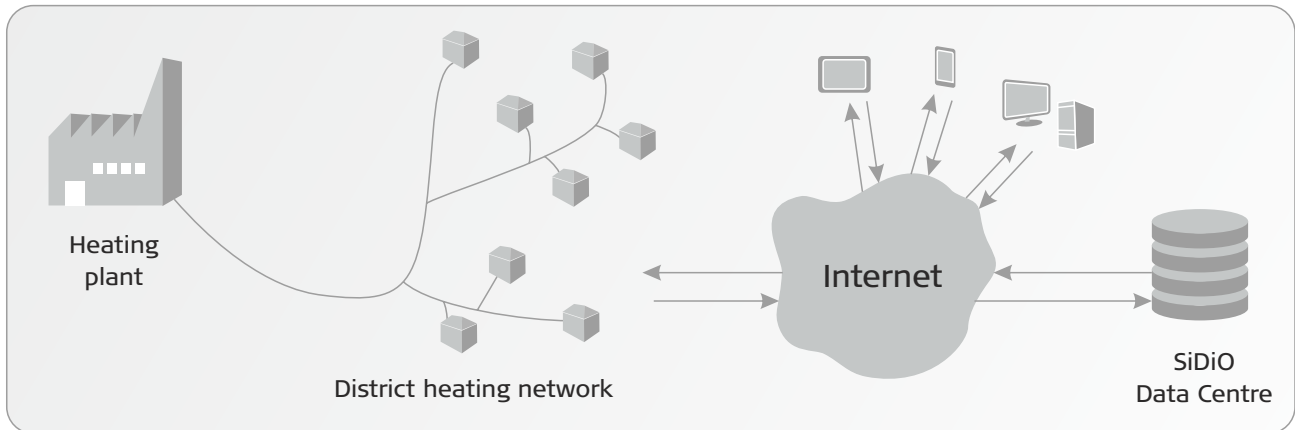
Multiple extensions

Any kind of controlling devices with integrated M-Bus, Modbus, RS 485, RS 232 interface or with external M-bus slave adapter would be attached. For example, heat contriollers, pumps, valves, thermometers, pressure sensors.

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Multi usage scalable solution designed to satisfy different user needs

SiDiO operates within different network levels. It is able to generate energy reports based on its multiple readouts from the entire network or from a single metering device.



At DH network level

Based on its powerful monitoring and control tools SiDiO is able to improve the district heating network efficiency and to point the right way to reduce the general annual energy consumption. The state of the network is shown in a real-time mode to detect every change immediately. Data supplied by SiDiO database provides the information required to meet the environmental emission controls and to maintain a careful eye on the efficiency of the network.

At building level

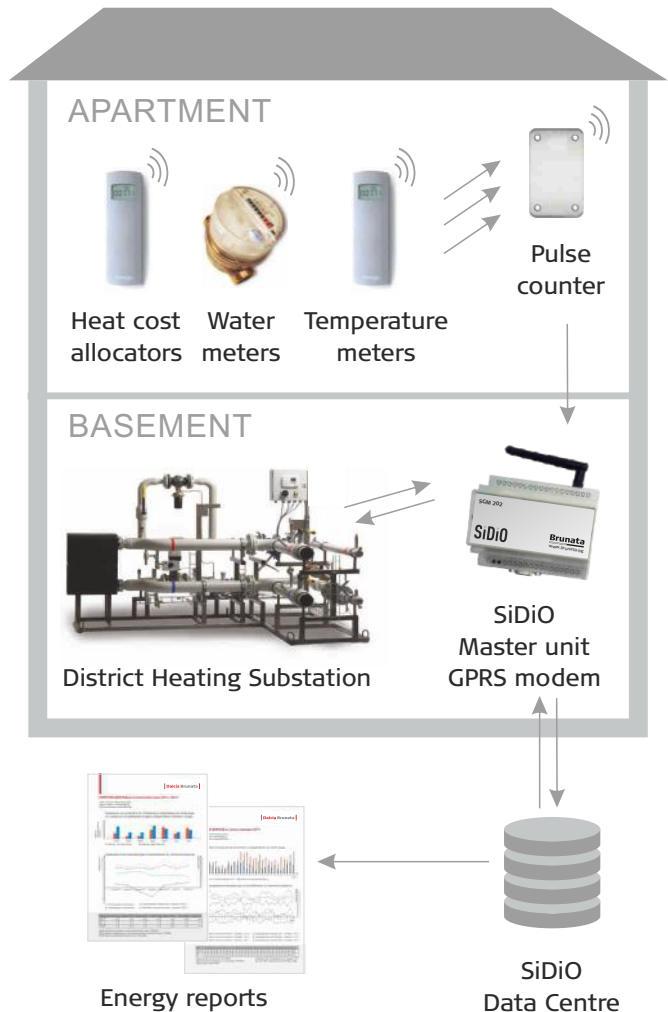
SiDiO performs remote readings of different devices installed to the district heating substation. Based on this information, the system generates monthly and annual energy reports for each building connected to the district heating network. The system operator is able to improve the performance of the district heating substation in order to achieve better energy savings and to improve the comfort of the building residents.

At apartment level

SiDiO generates real reports based on real data not on calculated values. The remote readings from different individual meters in residential buildings like heat meters, heat cost allocators, water meters, electricity meters, temperature meters are gathering complete energy consumption data of each apartment. The system ensures monthly and annual energy reports based on real room temperatures inside the building, not on calculated values.

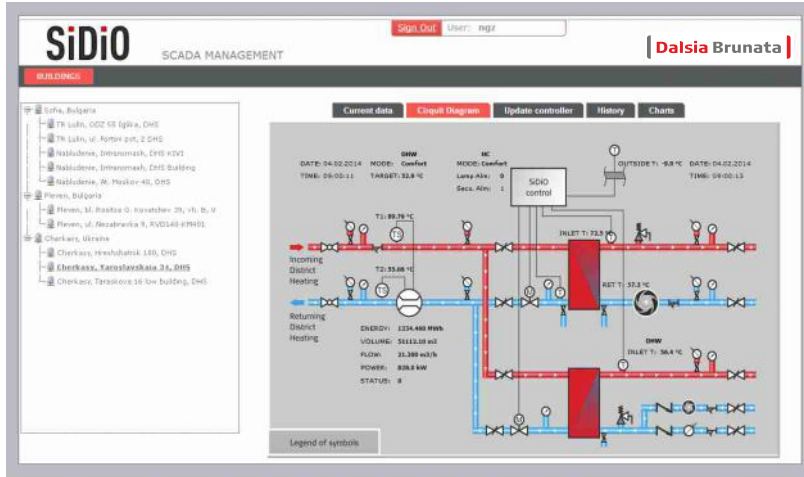
As a result customers are more informed and their confidence in a service company increase.

Scheme of apartment-level solution:



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Real time management of district heating substations



Real time monitoring of each substation unit

Menu items:

Current data

The current data from each metering device can be readout at any time. The last readings from the district heating substation metering devices are displayed on the screen.

Circuit diagram

Displays the last readings from the metering devices combined with the circuit diagram of the district heating substation

Update controller

The setting of the district heating controller can be modified by an authorized person to satisfy customer needs.

History

The collected data for each metering device can be shown and exported to .xls format for a given period of time.

The readings are displayed in a "day-by-day readings" view or in "all readings view".

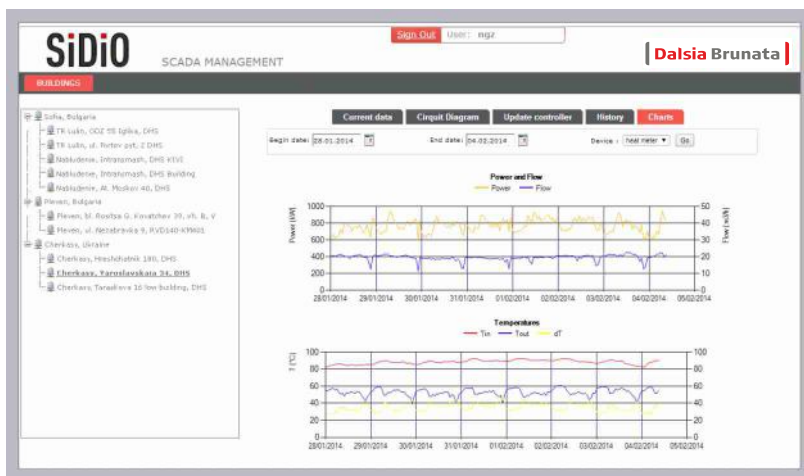
Charts

The history data is displayed in a graphical view for a chosen period of time.

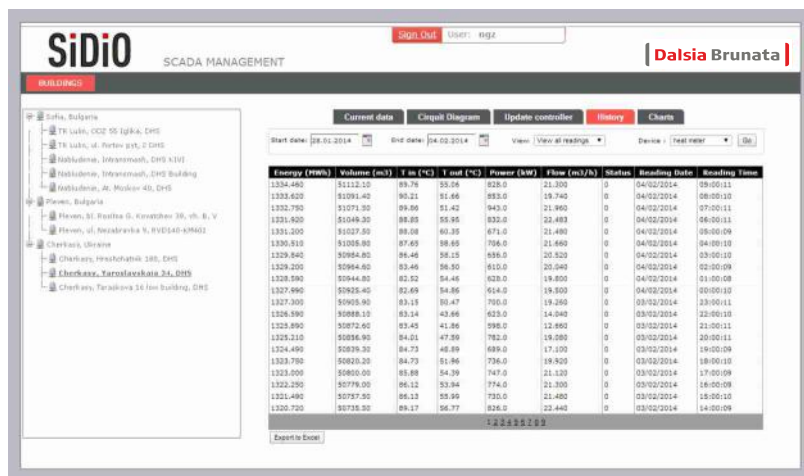
This option is very helpful for analysis of the district heating substation performance in order to improve the controller settings or to locate potential problems.

Analysis

This menu displays different energy reports combining the most important data collected during the working periods.



Charts showing data for different devices and periods



History data for different time periods

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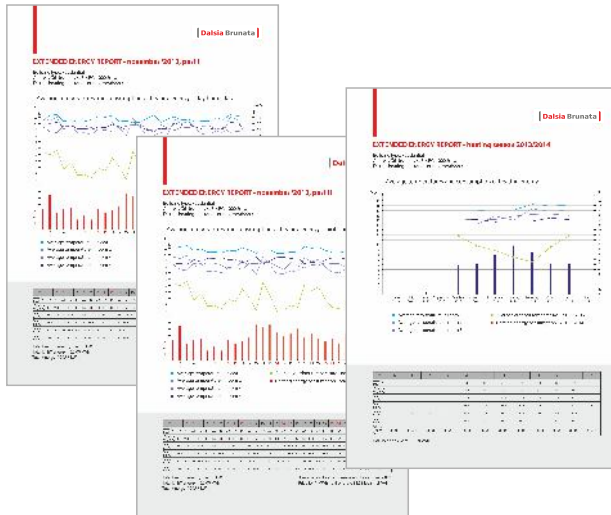
Detailed annual and monthly energy reports

Depending on the level of equipment installed on a building and apartment level, SiDiO generates basic or extended annual and monthly energy reports in .PDF and .XLS formats.



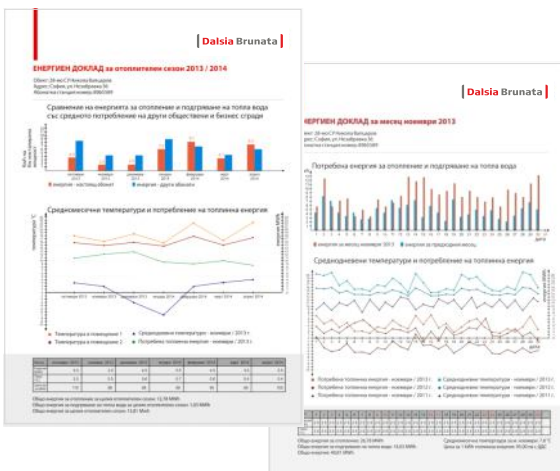
Basic report

The basic report gives day-by-day information about each building energy consumption and the ambient temperature conditions during the given month or year based on the readings from the district heating substation devices.



Extended report

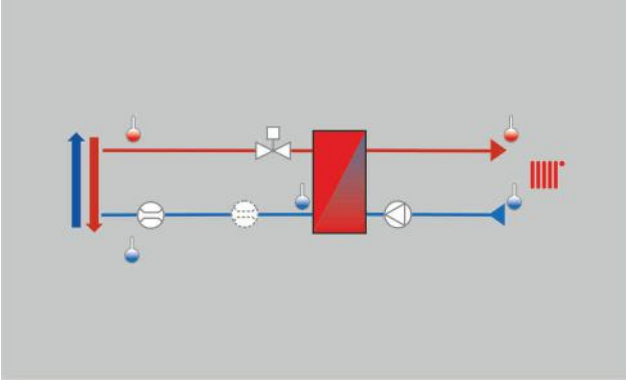
The extended report is based on the data collected not only from the metering devices installed to the district heating substation, but also from the energy, water and temperature metering devices installed in each apartment. The report gives a full day-by-day picture of the individual energy and water consumption in addition to the data showing the temperature regimes maintained in the rooms during the different periods of the day.



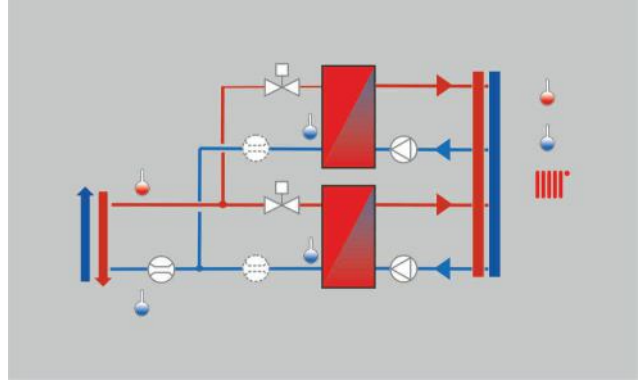
Custom reports

Custom reports can be easily created according to various data for a given period of time upon customer requests.

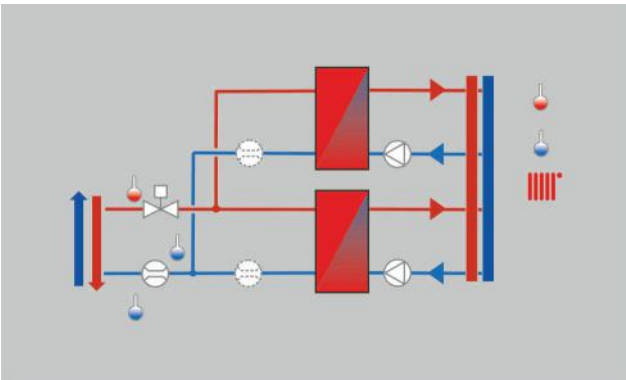
Sample district heating substation (DHS)circuit diagrams with SCADA control



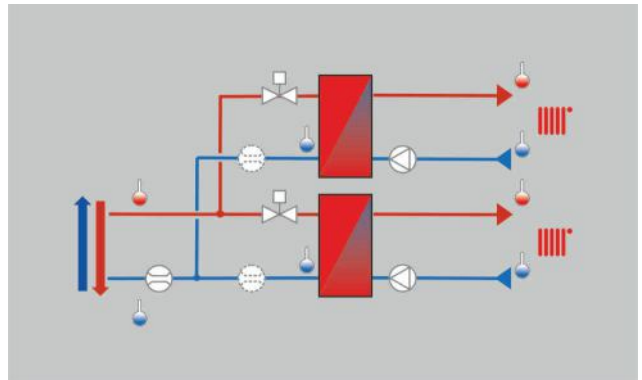
DHS with one pump and one regulating valve



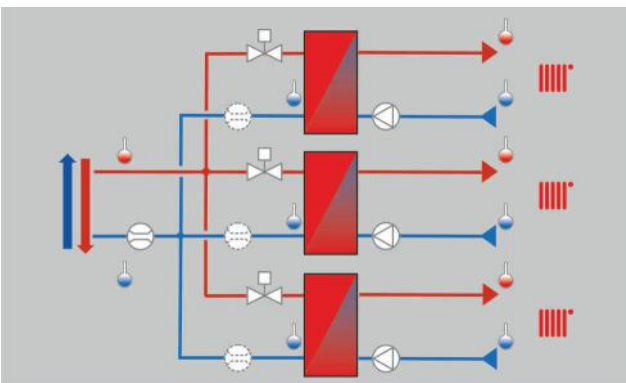
DHS with two parallel heating circuits with two pumps and two regulating valves combined in common collector/line



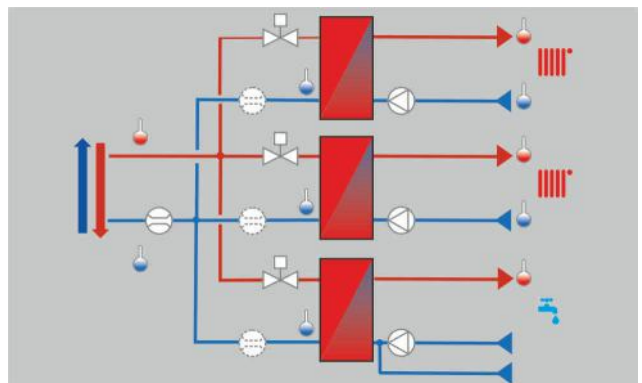
DHS with two parallel heating circuits with two pumps and one common regulating valve combined in common collector/line



DHS with two parallel heating circuits with two pumps

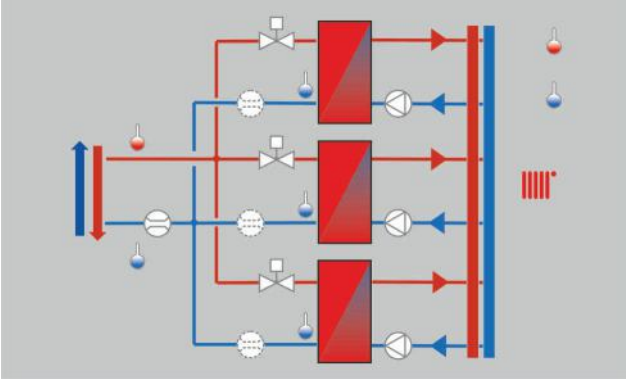


DHS with three parallel heating circuits

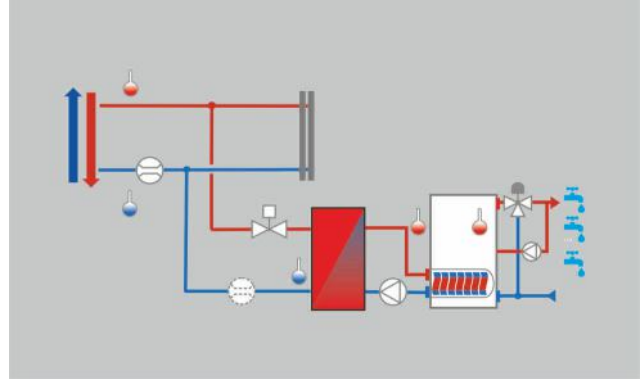


DHS with two parallel heating circuits and one tap water circuit

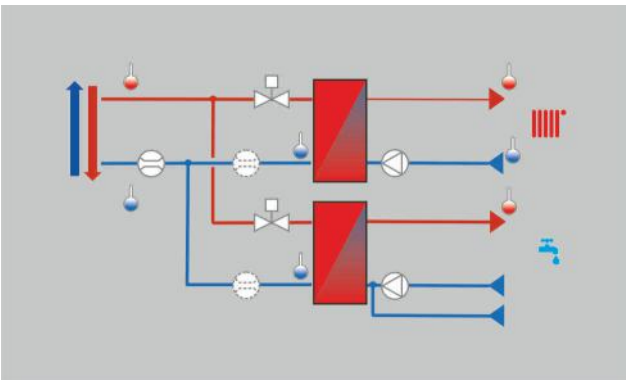
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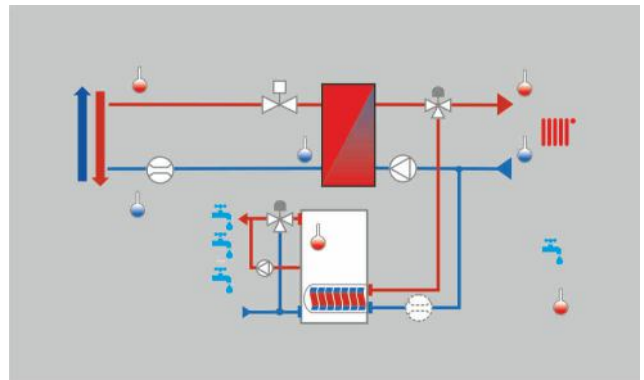
DHS with three parallel heating circuits combined in common collector/line



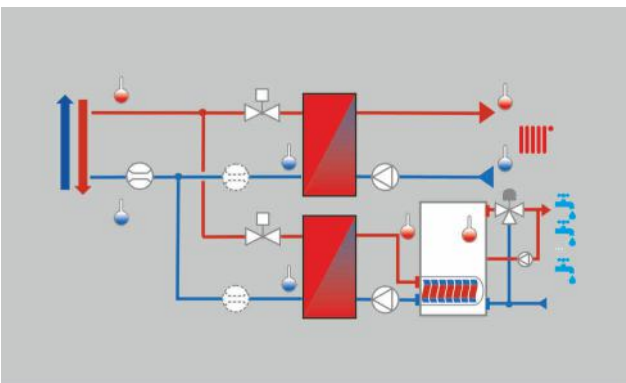
DHS for tap water with accumulator tank / heat exchanger



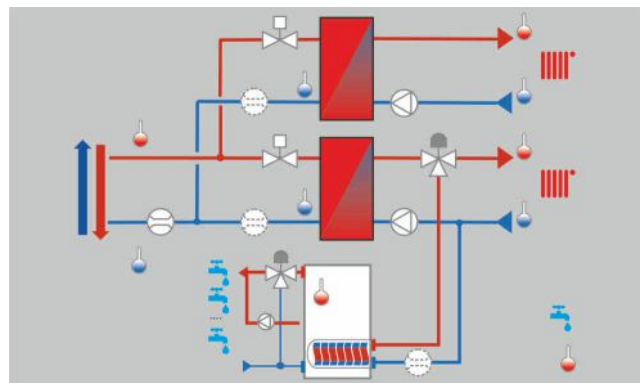
DHS classical scheme RAD and Tap water, parallel connected



DHS for heating and tap water with accumulator tank connected to the secondary side of the heating circuit



DHS for heating and Tap water with accumulator tank connected to the secondary side of the tap water circuit



DHS for heating and tap water with accumulator tank connected in parallel to the secondary side of the tap water circuit

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About Brunata OOD

Brunata OOD works in the district heating sector since 1993. Over the years we have become a leading company in many European countries. Today, Brunata is presented in seven European countries with over 150 highly qualified employees.



Our main activities are:

PRODUCTION OF DISTRICT HEATING SUBSTATIONS

Over the last decade we produced over 20 000 district heating substations for our customers around the world - in Denmark, France, Italy, Serbia, Greece, Bulgaria and Ukraine. Our factories production capacity is over 2 000 district heating substations per year.

SCADA MANAGEMENT SiDiO

As an experienced specialist in the field of district heating, we develop professional SCADA software SiDiO. Our product is preferred mainly from district heating companies, operators of district heating networks and individual owners of district heating substations.

HEAT COST ALLOCATION SERVICES

Integral part of the whole range of services and products offered by the company is the heat cost allocation service. Today the number of our subscribers in Bulgaria and Greece is over 90,000.

Questions or enquiries concerning SiDiO?

Feel free to contact us at

E-mail sales@dalsiabrunata.com

Tel. +359 2 9155 749

www.dalsiabrunata.com

Projects references



In Racconigi, Italy - SCADA management of 105 district heating substations. SiDiO local control center.



In Ptholemada, Greece SCADA management of 1 185 district heating substations. SiDiO local control center.



In Kolzoduy, Bulgaria - 207 district heating substations are monitored and controlled by SiDiO local control center.



In Bansko, Bulgaria remote reading of more than 1 600 meters (heat and cooling meters, water and electricity meters) in 15 buildings complex. Local control center.

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