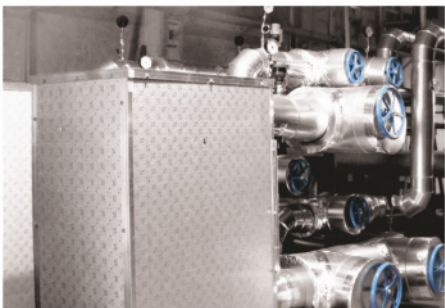
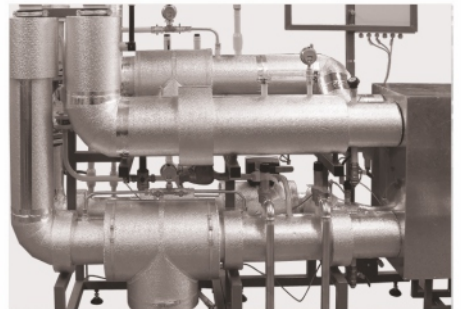
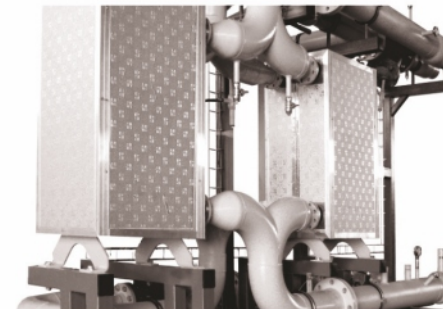


Dalsia OOD

District heating solutions



Company overview

Today, district heating is recognised as the most flexible and environmentally safe way of distributing energy for heating and domestic hot water. Many countries already have comprehensive district heating networks, and expansion is ongoing.

With more than 30 years of experience in the district heating market, Dalsia OOD has become a well-known brand for design and supply of district heating solutions throughout Europe.

Starting back in 1993 as a subsidiary of the Danish company Brunata our company has continuously developed, which ultimately led to the establishment of an independent company – Dalsia OOD with its production of district heating substations Dalsia and energy transfer stations Dalsia maxCool.



Our solutions cover:

- District Heating Substations Dalsia:
 - Dalsia floXY - floor-mounted heating substations
 - Dalsia fleXY - wall-mounted heating substations
 - Dalsia flexCool - cooling energy transfer stations
- SCADA management SiDiO
- Heat cost allocation services
- Energy efficiency services
- Engineering services:
 - design and building of heat transfer networks
 - production, supply and installation of substations
 - supply and installation of heat meters

Customer relationships

At Dalsia, we strive to make our customers satisfied with our solutions. We have a strong tradition of stable, long-term customer relationships and cover a broad range of customer groups such as:

- Home owners
- Housing associations and cooperatives
- Commercial and industrial properties
- Public buildings and institutions
- Administrators
- Consultants (engineers, architects)
- Individual purchasers



Certificate ISO 9001:2015
Quality management

Approval of quality system
acc. to PED 2014/68/EC

Certificate ISO 45000:2018
Occupational health
and safety

Certificate ISO 14001
Environmental
management

DISTRICT HEATING SUBSTATIONS Dalsia

A substation functions as the link between the district heating plant and your local heating circuit. It separates the water circuits physically and transfers the exact amount of heat / energy needed in the building under all conditions.

The Dalsia substation is the optimal solution for connecting your building to the district heating network and we can provide you with a highly customized substation based on your specific wishes and unique system parameters.

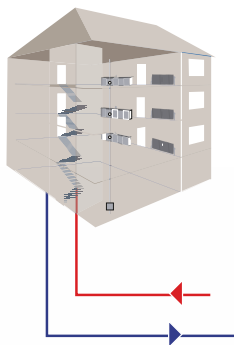
Dalsia is available in various sizes and custom configurations, ranging from ~20KW to up to 100MW+.

The substations are provided complete, function tested and with all electrical connections for minimal installation costs.

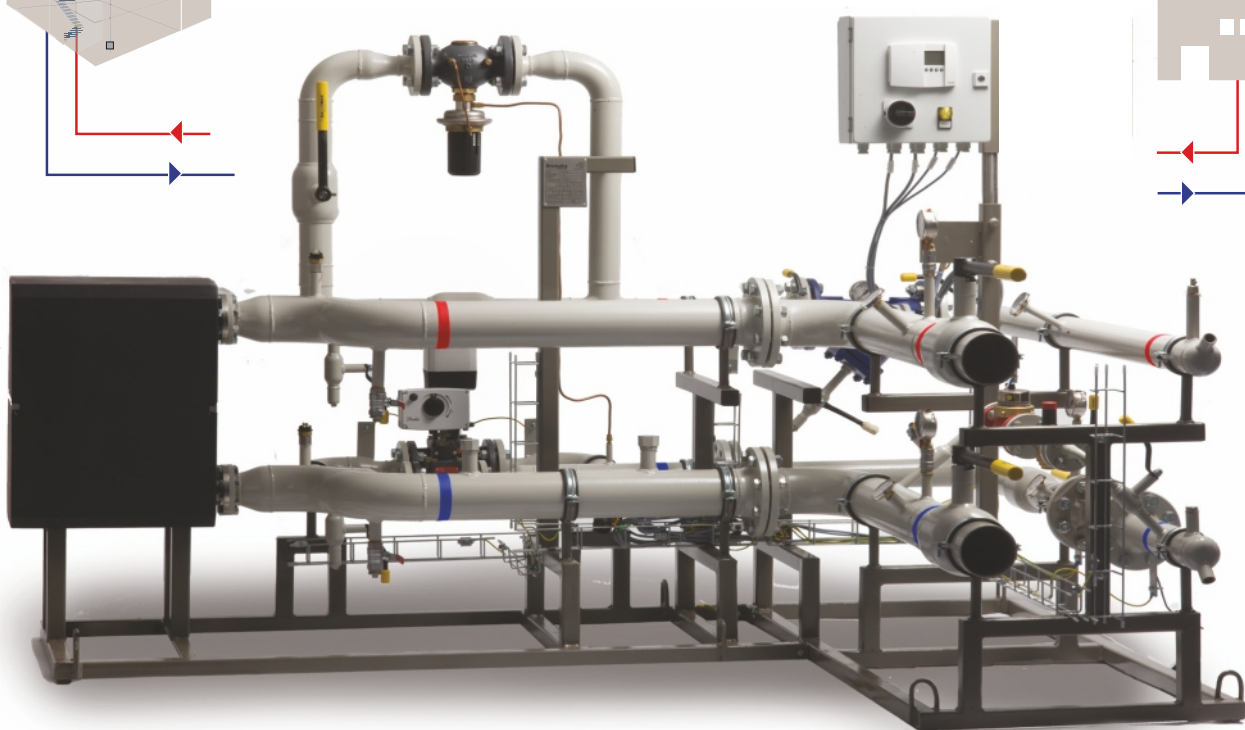
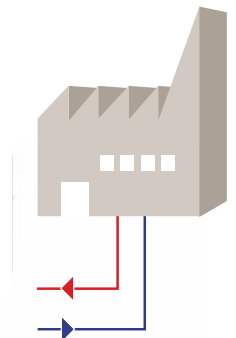
Dalsia is, in short our "plug & heat" solution made with components exclusively from leading manufacturers, ensuring the highest reliability, CE marked and certified.

Furthermore Dalsia substations are equipped with the following high standard components:

- Kamstrup, Denmark – heat meters and heat and cooling meters;
- Kelvion, Germany – plate heat exchangers;
- Danfoss, Denmark – components and systems for thermal processes;
- Siemens, Germany – products and systems for automation and control of thermal processes;
- Wilo, Germany – circulation and recirculation pumps;
- Grundfos, Denmark – circulation and recirculation pumps;
- Broen Valve Group, Denmark – ball valves for water and gas.



Dalsia lets you control the power of your district heating connection with ease. It is a solution for all heating purposes from single heating circuits to advanced, energy efficient multiple heat exchanger constructions including DHW.



Dalsia – easy and efficient

Dalsia solutions have served international markets since 1993 with a continuous improvement in design and production capability. What started as a basic production unit is now a fully fledged and modern substation factory with the capacity of making thousands of substations per year. Today, Dalsia provides need based modular substation solutions including:

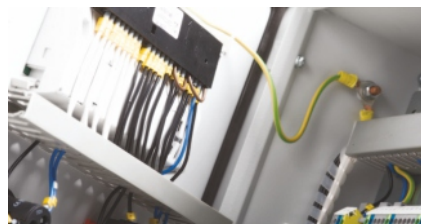
- compact design with a logical system layout that makes it easy to transport, install, service and operate
- complete “plug & heat” solution that makes the installation phase easy for installers, consultants and building supervisors increasing overall productivity and profitability
- IQ possibilities - Dalsia’s own developed software SiDiO is an implementation of data acquisition SCADA system and supervisory control. Heating network and building connection station are easily monitored and controlled. The visualization of all relevant data is arranged in a graphical software interface.
- on-line support everywhere - the client is able to contact our support team. The response is sent within 48 hours in client’s own language.



An example of district heating substation Dalsia floXY installed in Pristina, Kosovo

Examples of Dalsia substations

DHW kW	Central heating kW	Overall dimensions, mm LxDxH	Weight, kg	Connections Prim - Sec - DHW
50	100	120 0x600x1200	68	DN20 - 1 1/4" - 3/4"
75	150	120 0x600x1.300	72	DN25 - 1 1/4" - 1"
100	200	120 0x600x1.300	81	DN32 - 2" - 1"
125	250	130 0x700x1500	90	DN32 - 2" - 1"
150	300	140 0x700x1500	93	DN40 - 2" - 1 1/4"
175	350	150 0x700x1500	102	DN40 - 2 1/2" - 1 1/4"
200	400	1800x70 0x1600	110	DN40 - 2 1/2" - 1 1/4"
250	450	1800x70 0x1600	125	DN50 - 2 1/2" - 1 1/4"
∞	∞	∞	∞	∞



District heating substation

Dalsia fleXY

Dalsia fleXY is a family of wall-mounted units with application in district heating. They are fully insulated according to Ds452. They use weather compensation electronic controller and could be connected to various SCADA systems.

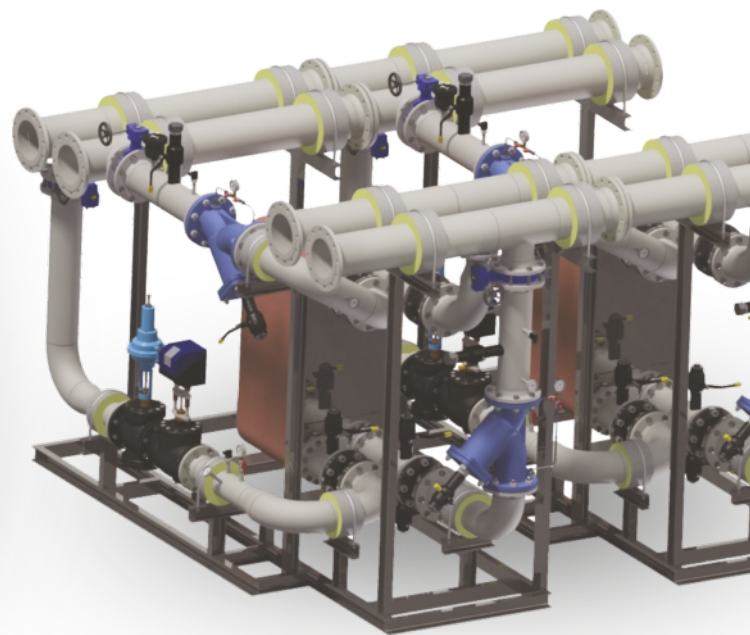


- Dalsia fleXY 100 could be used with heat flow equal or up to 2m³/h and is provided with integrated pump.
- Dalsia fleXY 200 could be used with heat flow equal or up to 4m³/h and is offered without a pump and expansion vessel.
- Options with 50 kW DHW heat exchanger or only connections for DHW tank are available.
- Options also include connection valves, balancing group, recirculation line, etc.

Modular energy transfer station

Dalsia flexCool

Dalsia flexCool is a modular energy transfer station that provides cold water to your building for the air-conditioning and tap water installations. Dalsia flexCool can be easily adjusted according to the required cooling load because up to four modules can be added sequentially to the main unit, which ensures that the efficiency of heat transfer is kept high. This feature also reduces the risk of fouling and maximizes the temperature differences at low loads.



- Compact & flexible design – Minimum space required; module dimensions 1 705 x 3 320 x 2 335 mm. Dalsia FlexCool could be connected from different directions, which minimizes the ETS room piping.
- Plug & Play solution – One has just to deliver the units to the room and connect them. All automation is pre-installed and tested.
- High efficiency heat exchangers – Compact brazed SSWEP heat exchangers have heat transfer coefficient of 6 000 W/m² °C. No gaskets and need of disassembling. They come with 5 years warranty.
- High rangeability – from 300 TR to 2 400 TR.
- Pressure independent differential valves – minimizing pumping costs.



PROJECTS FOR DISTRICT HEATING SUBSTATIONS Dalsia



2019 / 2024
Production and supply of district heating substations, preinsulated pipes and SCADA solutions for Termokos, Pristina, Kosovo



2017
Production and supply of district heating substations to Myrgorod, Ukraine



2019 / 2020
Production and supply of 76 district heating substations and preinsulated pipes for ZhytomyrTeploKomunEnergo, Zhytomir, Ukraine



2015
Production and supply of district heating substations to Poltava, Ukraine



2020
Delivery of 4 pcs. 3000 kW district heating substations for KELLAG Energie & Warme GmbH, Villach, Austria



2013
Production and delivery of 109 district heating substations to Cherkasy Municipal District Heating Company CherkasyTeploKomunEnergo, Ukraine



2019 / 2020
Production and supply of district heating substations for Koge, Copenhagen, Denmark



2012 / 2013
Production and delivery of 1330 district heating substations to Ptholemada Municipal District Heating Company, Greece



2012 / 2020
Production and supply of district heating substations for Vestforbraending, Copenhagen, Denmark



2011
Production and delivery of 102 district heating substations to Racconigi & Segrate, Italy



2018, 2002 / 2012
Production and supply of 9 362 district heating substations to Sofia district heating company, Bulgaria



2011
Production and delivery of 107 district heating substations to Anger District Heatng Company, France



2013 / 2019
Production and delivery of district heating substations to VinnitsaMisk-TeploEnergo, Vinnitsa, Ukraine



2008 / 2009
Production, supply and installation of 505 district heating substations to TO Cerak and TO Miljakovac - Belgrade, Serbia

Dalsia OOD

SCADA MANAGEMENT **SiDiO** wise energy

SiDiO wise energy 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.

- Scalable solution to maintain different size district heating networks – from single district heating substations to large district heating networks
- Easy-to-use SCADA solution for monitoring & control of district heating substations within the district heating network
- Easy-to-combine with measuring devices to provide detailed energy reports for individual apartments, buildings or entire networks
- Fast detection of substation problems
- High operating security
- Flexible technologies
- Multiple extensions



PROJECTS WITH **SiDiO** wise energy

Pristine, Kosovo – SCADA management of 200 district heating substations.

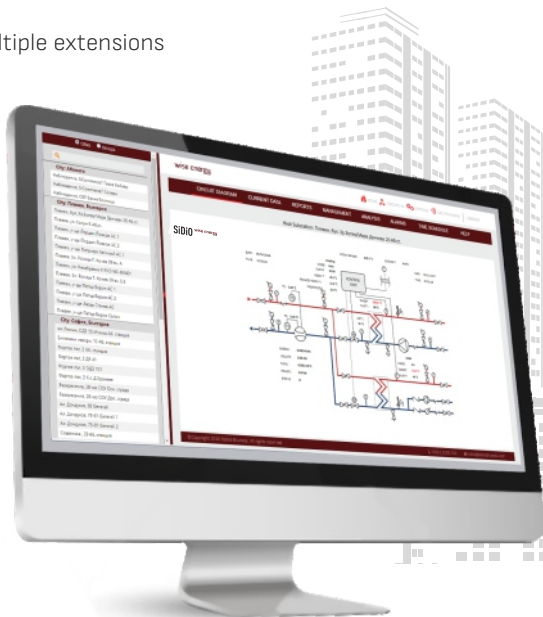
Racconigi, Italy – SCADA management of 105 district heating substations. SiDiO local control center.

Ptholemaida, Amyntaio, Megalopolis, Greece – SCADA management of 1975 district heating substations. SiDiO local control center.

Poltava, Cherkassi, Ternopil, Ukraine – SCADA management of 48 district heating substations.

Kolozduy, Bulgaria – 260 district heating substations are monitored and controlled by SiDiO local control center.

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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