



Operating conditions

For all kind of heating substation circuit, the standard conditions project are:

	Hot Water	Superheated Water	Pressure loss	A.C.S. instantaneous production	A.C.S. production with harvesting tank
Primary Circuit	85/60°C	115/70°C	100 kPa	75/40°C	75/60°C
Secondary Circuit	55/70 °C	55/70 °C	30 KPa	15/50°C	50/65°C

Our substations includes:

- Heat exchanger
- Regulation valve/s with relative motor/s
- Steel ball interception valves to be welded, on primary circuit
- Interception valves on secondary circuit
- Ultrasound heat meter
- Safety devices, control e protection
- Control system and electrical box
- Piping connecting various components
- CE/PED certification (if necessary)



Available models of substations (ISP=removable plates heat exchanger/SB=Brazed heat exchanger)

Heating only
Heating and instant production of domestic hot water
Heating and instant production of domestic hot water with harvesting tank

STEA S.p.A.

THE COMPANY
 STEA SPA stands for energy and environmental technology services, operates in the field of integrated technological services aimed at saving energy and particularly in sector of design, construction and installation of compact substations for district heating. The company's headquarters is located in Brescia, the first Italian city to adopt, over 30 years ago, the widespread district heating for urban heating. The choice of designing and building compact substations is born from the need to reduce costs to a minimum, allowing at the same time the connection of old thermal plants to the district heating network in a short time. This operation is carried out by us without any discomfort for the end user even during the heating season in progress. All substations STEA are comply with the regulations of European community, in particular directive 97/23/CW (PED) for pressure equipment. STEA SPA has a management system of business process compliance with regulation UNI EN ISO 9001. Our society, in relation to technological systems, has SOA certificate for the main categories.

MISSION

Select and promote the use of the best technologies for the rational use of energy in harmony with the environment.

OUR PRINCIPLES

Customer-oriented

stay focused on customer satisfaction;

Service-oriented

listen to the customer staying always available and ready, respecting his expectations;

Help

our customers to be more competitive supporting him in finding the best solutions to their needs;

Looking for

improving and innovation to increase and improve our efficiency, reactivity and competitiveness.

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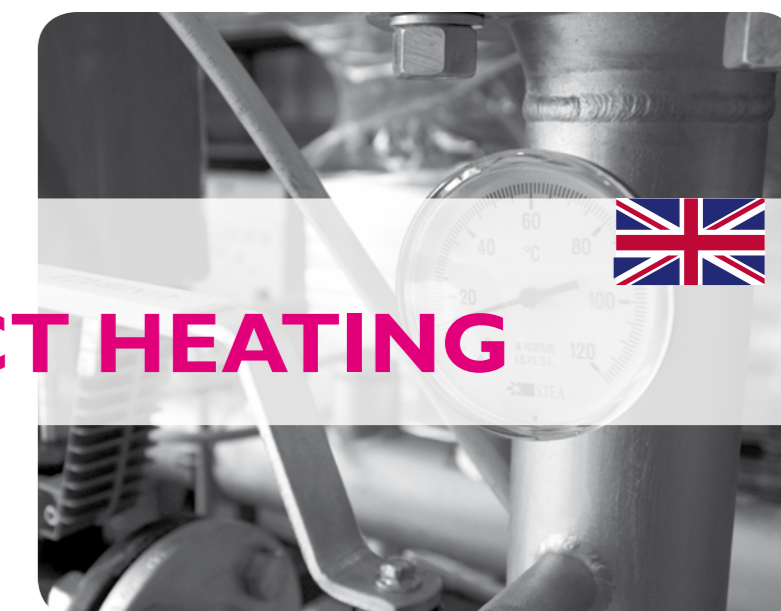
ENERGY AND ENVIRONMENT SOLUTIONS

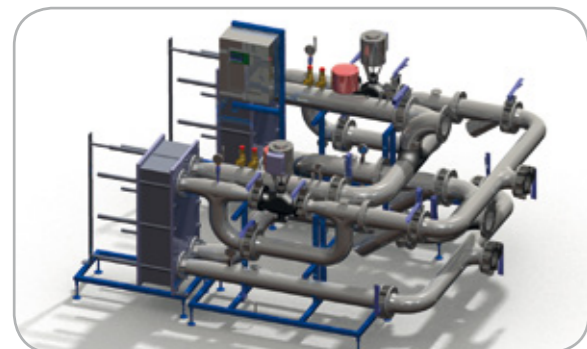
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STEA



DIVISION
DISTRICT HEATING





District heating substations



SATELLITES USER UNIT

- From 10 to 35 kW heating , up to 35 kW for domestic hot water production;
- Designed to be installed on secondary system of thermal power plants;
- Available standard or built-in version;
- Complete whit ultrasound heat meter and opportunity of data transmission by MBUS or radio waves;
- PN 10. Single accounting and instant production of domestic hot water;
- Intuitive control panel
- The control panel can be connected into the apartment.



SINGLE UNIT WALL SUBSTATION MOD. ELI

- Power from 35 kW for heating production and 35 kW for domestic hot water production;
- Instant production of domestic hot water (with priority over the heating);
- Single heat exchanger on primary circuit;
- Including protection cloak;
- Complete whit ultrasound heat meter and opportunity of data transmission by MBUS or radio waves;
- Suitable for hot water or superheated water networks;
- PN 25 primary circuit;
- Complete with control system, safety devices, circulation pump and expansion tank;
- Manual filling system;
- Intuitive control panel;
- Opportunity to set up fixed temperature or "climatic mode", placing an external thermal sensor;
- Designed to hold a possible flow limiting valve;
- Opportunity to manage a domestic hot water recirculation;
- Opportunity to manage a buffer storage tank of domestic hot water;
- Opportunity to set up the function "pronto"("ready");
- Small sizes ;
- Limited maintenance and easy access to all details;
- Certificates and approval CE/PED.



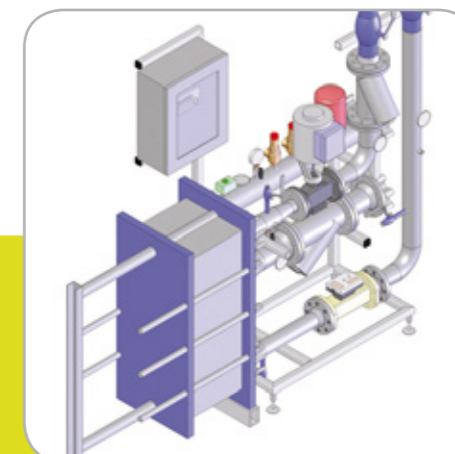
SINGLE UNIT WALL SUBSTATION MOD. RAF

- Power from 35 kW for heating production and 35 kW for domestic hot water production;
- Instant production of domestic hot water with dedicated heat exchanger;
- Double heat exchanger on primary circuit of district heating;
- Including protection cloak;
- Complete whit ultrasound heat meter, and opportunity of data transmission by MBUS or radio waves;
- Suitable for hot water or superheated water networks;
- PN 25 primary circuit;
- Complete with control system, safety devices, circulation pump and expansion tank;
- Manual filling system;
- Intuitive control panel;
- Opportunity to set up a fixed temperature or "climatic mode", placing an external thermal sensor;
- Designed to hold a possible flow limiting valve;
- Opportunity to manage a domestic hot water recirculation;
- Opportunity to manage a buffer storage tank of domestic hot water;
- Opportunity to set up the function "pronto"("ready");
- Small sizes;
- Limited maintenance and easy access to all particular;
- Certificates and approval CE/PED.



SINGLE/MULTIPLE LIVING UNIT WALL SUBSTATION MOD. VAL FROM 10 TO 120 KW

- Version with double heat exchanger type on the primary circuit, one exchanger for each circuit;
- Only heating type with single heat exchanger;
- Heating and domestic hot water type, with double heat exchanger;
- Suitable for hot water or superheated water networks;
- Opportunity to select power of heating circuit from 15 to 120 kW;
- Opportunity to select power of domestic hot water circuit from 15 to 120 kW;
- Electrical box complete with control system embedded and wired on a board the machine;
- Primary circuit PN 25;
- Designed to hold flow limiting and temperature limiting valve;
- Opportunity to customize according to customer requirements for devices and lay out;
- Small sizes;
- Certificates and approval CE/PED.



BASE SUBSTATION FROM 50 TO 10.000 KW

- Removable plates heat exchangers or brazed heat plates;
- Heat exchanger insulated adequately;
- Power from 50 to 10.000 kW;
- Preassembled and fully wired substations ("skid");
- Equipped with ultrasound heat meter;
- Opportunity to customize it for devices and layout;
- Primary circuit PN 25;
- Designed to hold flow limiting or temperature limiting valve on demand;
- Suitable for hot water or superheated water networks;
- Electrical box and control system embedded and wired on a board the machine;
- Small sizes;
- Certificates and approval CE/PED.



DRAINAGE FILTER

- Bag filter to clean secondary circuits;
- Completely made with stainless steel ;
- Equipped with stainless steel support;
- Maximum Flow 20 mc/h;
- Opportunity to insert many filters in parallel to increase the filtered flow;
- Easy opening for fast maintenance;
- Filter bag with several filtration rating;
- Very low load losses.



SIZES EXAMPLES OF SUBSTATIONS

MODEL	Power	Length (mm)	Width (mm)	Height (mm)
Satellite User unit wall	10-35 kW	560	231	375
ELI unit wall	35 kW	520	245	713
RAF unit wall	35 kW	520	245	713
VAL unit wall	10-120 Kw	682	407	1076
Base substation	100-400 kW	1800	800	1758
Base substation	500-700 kW	2100	800	1785
Base substation	800-1000 kW	2800	800	1840

MANAGEMENT SYSTEM

- Management system and remote control of substations;
- Auto-reading of consume about installed heat meters;
- Trend on line of main characteristics of substation;
- Continuous monitoring of district heating network operating conditions;
- Intervention programs on individual users according to load condition of the power plant;
- Opportunity to check the system by smartphone.

