



# Maxi

## Large district heating substation

Maxi is a district heating unit of high quality from Alfa Laval. It has defined base solutions that are made for the needs of space heating and tap water heating in larger buildings, or when special needs should be fulfilled.

### Applications

Maxi heating units fits many requirements, from multifamily houses to factories, and for both new installations and replacing old. Maxi is designed from type of building and needs, temperatures and capacities in the heated building.

Many of the modularized functions in Maxi can be chosen and added to fit the needs even better. Possible is 1 to 3 heat exchangers for heating and 1 for heating tap water. From 20 to 2000 kW heating capacity is available in the modularized range. Almost any function, flow chart and capacity is available as an engineered solution.

### Characteristics

Maxi is a heating unit based on brazed heat exchangers from Alfa Laval. Due to the modularized concept a MAXI has a relatively short delivery time. The units are compact, and ready to connect to any buildings pipe systems, as well as for the district heating pipe network.

### Design

A software is used to calculate and configure a MAXI. Basic functions wanted, design data, components calculation and choice, pipe sizes, pump calculation etc is main input to the design work. This tool is also available in a customer version, Alfa Select.

### Components

All components and sizes are designed from input data like temperatures, capacities, pressure demands and other needs. Alfa Laval uses only well-known brands and high quality components in Maxi systems. Many pipe parts has been designed by Alfa Laval, to ensure quality and function.

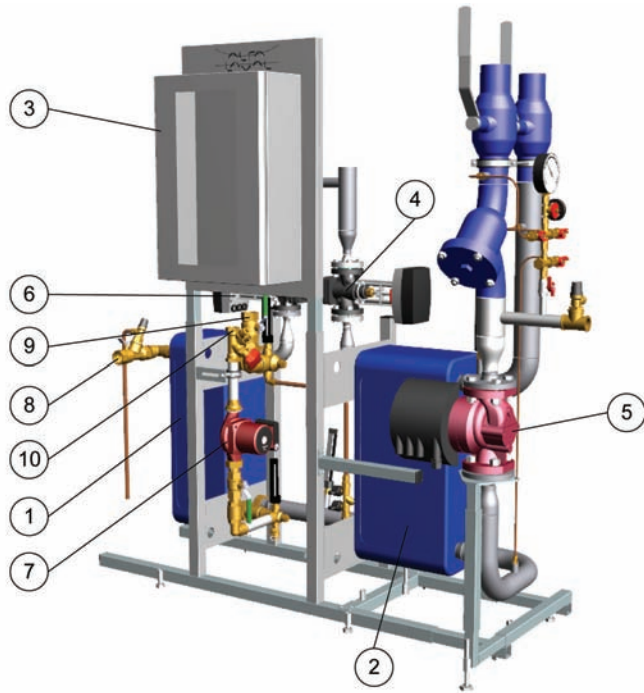
Maxi can preferably be equipped with electronically controlled pumps to ensure optimal energy use. Maxi has a control cabinet with controller and pump switching functions. Depending on need of the customer or the building different brands and complexity of control equipment can be used. In a Maxi, Alfa Laval's own IQHeat is a good choice of controller, with very good possibilities of communication and optimization from a distance, to manage best energy use possible.



### Heat exchangers

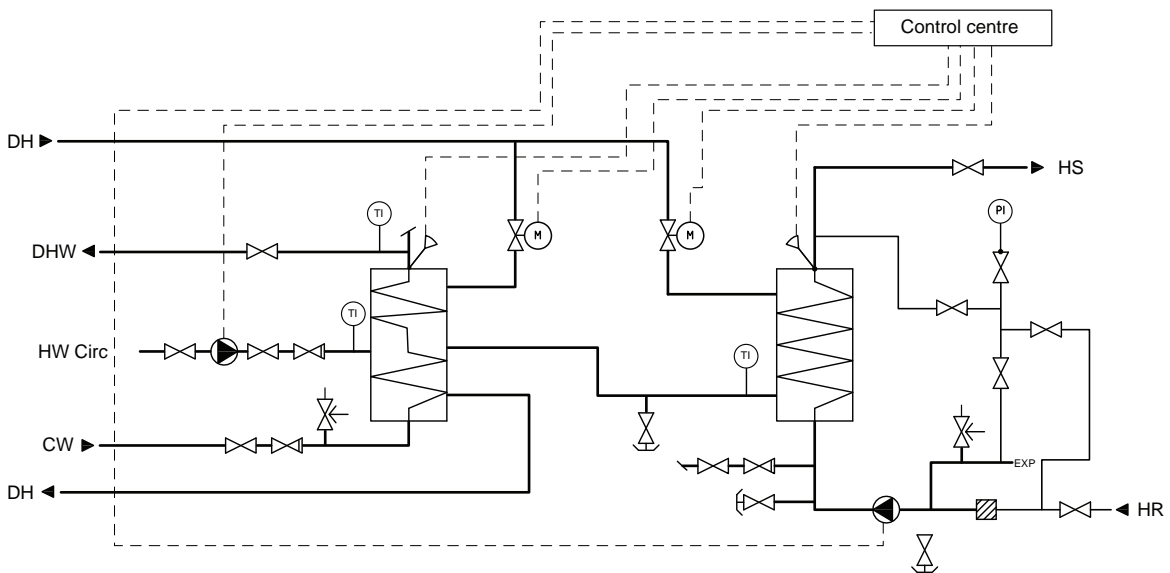
In Maxi, Alfa Laval brazed heat exchangers are most often used, both for tap water and space heating. Also plate heat exchangers (PHE) can be used, if customer demands, or capacity requires so. In some areas PHE are used for the possibility to disassemble and clean the heat surfaces.

Our brazed heat exchangers are made in stainless steel and pure copper. We always use threaded or flanged connections on the heat exchangers in our systems, for easy demounting and service. Heat exchangers are insulated with 30 mm environmental friendly polyurethane foam with an ABS plastic surface.



- Components**
1. Heat exchanger (domestic hot water)
  2. Heat exchanger (heating)
  3. Controller cabinet
  4. Control valve (heating)
  5. Pump secondary (heating)
  6. Control valve (domestic hot water)
  7. Pump, domestic hot water circulation
  8. Cold water inlet
  9. Hot water outlet
  10. Hot water circulation

Example of a flow chart for a Maxi with one circuit for hot water heating and one for space heating, 2-step connected.



## Design data

	District heating	Domestic hot water	Heating
Design pressure PS	16-25 bar	10 bar	6 bar
Design temperature TS, °C	120	100	100

## Maxi capacity and measure table

### Dimensions of Maxi C1 with typical capacities

Capacity (kW)	Hot water	Heating	Length mm	Width mm	Height mm	Weight kg
	200	100	1500	660	1550	100
	350	200	1650	660	1550	150
	400	300	1650	660	1600	170
	500	500	1750	700	1650	230

Typical design data, others on demand. Example measure table from a Maxi with tap water and space heating, pumps included. Other configuration or layout will influence measures and weight. Electrical panel height is about 1750 mm.

## Tests and certifications

Our quality assurance system at Alfa Laval is in accordance with ISO9001. The systems are CE approved and manufactured in accordance with the Pressure Equipment Directive and its harmonized standards. All circuits are pressure tested with water at min 1,43 x PS. Electrical function and safety tests are performed on wired components

## Advantages

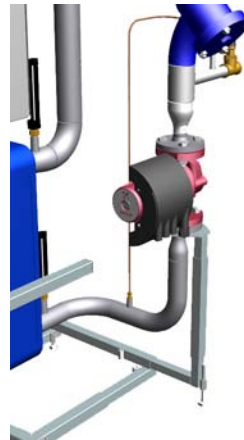
- Open layout with a design that give good overview over its different components and circuits. This makes service and maintenance easier.
- Prefabricated optimized system with all components tested provides for less trouble during installation and startup, and better performance over many years of service.
- Compact design makes it easy to take unit in to installation room.



All documentation is placed in a binder behind electrical panel

## AlfaSelect – calculation program

Available in a customer version for design of Maxi substations. User interface and printouts are available in many languages. Program is updated through internet. Contact Alfa Laval to get a free version of the program.



Adjustable feet simplifies installation

**How to contact Alfa Laval**

Up-to-date AlfaLaval contact details for all countries are always available on our website on [www.alfalaval.com](http://www.alfalaval.com)