



# AquaCompact

## Compact heat exchanger system

### Applications

AquaCompact is a compact pre-assembled system. It is designed to provide domestic hot water in applications in which the demand is not constant such as apartment blocks, hotels, hospitals, schools, sport halls etc.

AquaCompact optimizes the necessary power rating and the hot water storage volume without reducing domestic hot water capacity. AquaCompact therefore offers best possible overall economy by minimizing installation and operating costs.

### Dependable performance

Since 1923, Alfa Laval has been in the water heating business, and has become a leading manufacturer and supplier. AquaCompact incorporates a wealth of background experience for secure and reliable water heating. The components have been carefully selected and tested to perform well in combination with one another.

Different ready-made charging kits including the heat exchanger, charging pump, valves and piping are available up to 240 kW to easily meet different project designs and installation requirements.

AquaCompact can be selected with:

- a Copper Brazed heat exchanger
- a Plate and Gasket heat exchanger
- or with an AlfaNova 100% Stainless Steel heat exchanger

The kits can then be combined to storage vessels from 300L up to 1500L in stainless steel or enamel.

In its standard version AquaCompact is only delivered with the charging kit but several ready-made primary kits are offered as option. These optional kits allow choosing between 2-Port and 3-Port valve and comes self actuated or with an actuator operated by a fully equipped electronic control that offers many advanced functions.

### Principle

AquaCompact combines the high efficiency of a heat exchanger with the storage capacity of a tank. The charging pump and charging circuit are continuously in operation and the system is therefore continuously prepared to meet high rates of domestic hot water demand. The hot water produced in the heat exchanger is led to the top of the storage vessel from where the hot water is drawn.

If the hot water demand is less than the energy supply the extra amount of hot water produced by the heat exchanger will be stored in the storage vessel. When the hot water demand corresponds to the energy supply, the heat exchanger compensates without affecting the quantity of stored hot water.



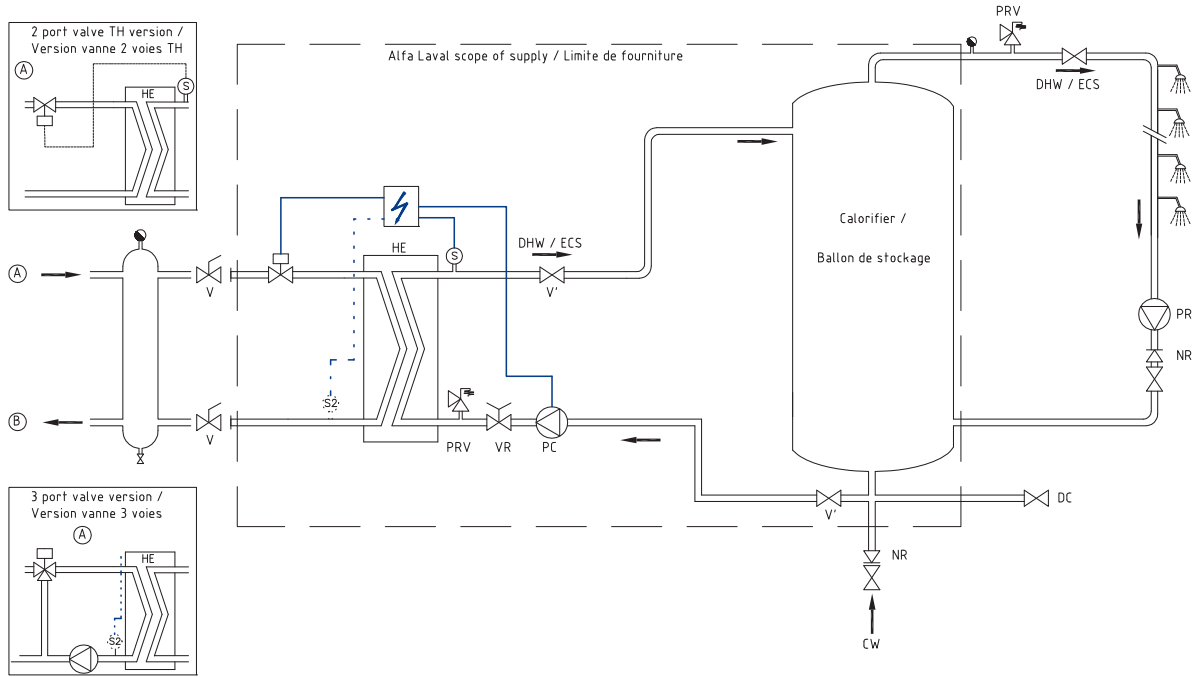
The stored hot water is only used for high hot water demands that are higher in terms of energy than the power supply. The storage vessel of the system serves as a buffer for medium or high domestic hot water demand. AquaCompact will always provide hot water at a rate corresponding to the energy input even if the storage vessel has been completely emptied of hot water.

A balancing valve is used to ensure the charging circuit will operate at the design request flow. This valve also includes a flow meter for simple adjustment.

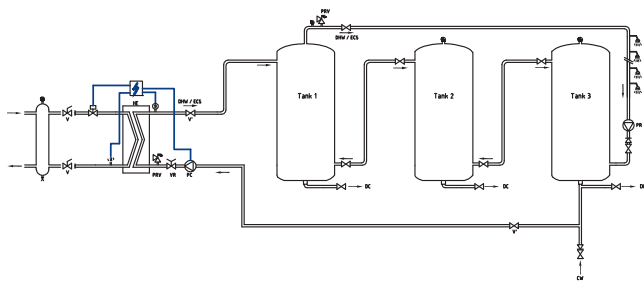
If the water hardness is high, temperature control should always be installed in order to avoid limescale deposits. The primary kit will control that only the necessary amount of hot water enters the heat exchanger and will limit thermal shocks and limescaling. In this case also the temperature set point on secondary side should be limited on the basis of local experience or best practice.

To help prevent lack of capacity due to lime-scaling the electronic primary kits provide you with an early warning message that will inform when the heat exchanger needs to be cleaned. For this purpose the Copper Brazed and AlfaNova heat exchangers are equipped with two extra connections to easily connect a Cleaning-In-Place system. Several isolating valves allow the easy maintenance of the different components used in AquaCompact without having to flush all the water stored into the tank.

AquaCompact, a compact system thought for the daily life.



- |    |                      |     |  |    |  |
|----|----------------------|-----|--|----|--|
| A  | Primary inlet        | PC  | Charging pump                            | S  | Sensor                                 |
| B  | Primary outlet       | PR  | Installation recycling pump              | V  | Manual gate valve                      |
| CW | Cold water inlet     | HE  | Heat exchanger (AlfaNova / Brazed / PHE) | VR | Flow setting valve                     |
| DC | Drain cock / flooded | PRV | Pressure relief valve                    | S2 | Scaling function / CIP optional sensor |
| NR | Return valve         |     |  |    |  |



Principle to connect several storage vessels in serie.

	Primary side	Secondary side
Maximum operating pressure	16 bar	10 bar
Maximum operating temperature	110°C	80°C
Maximum operating temperature may differ due to local regulation.		

#### 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)