Catalogue
Heating and cooling systems - 2018

**Heating systems / Tap water systems / Storage tanks /
Tubular heat exchangers / Pressurisation sets**

Catalogue and Pricelist 2018

Heating and cooling systems

Content

Domestic hot water storage tanks

Primary storage tanks

Tubular heat exchangers

Pressurisation sets

After sales

Dear customer,
This price list is valid from 01.01.2018; all previous price lists will loose their validity at this date. The prices shown in this list are our gross prices, based on Term of delivery according to Incoterm 2010, including export packing and loading at production unit (FCA Production site), excluding VAT and export/import duties. «The General Conditions of the selling Alfa Laval Group company apply to all purchases of products contained in this pricelist. These conditions apply whether or not a copy is attached to the order confirmation or whether a reference is made in the order confirmation. A copy of these General Conditions can be obtained from the selling Alfa Laval Group company». Prices are subject to change without notice. While every precaution has been taken, Alfa Laval assumes no responsibility for errors or omission, or for damage resulting from the information contained herein.

Alfa Laval Heating and Cooling Systems

Our mission

To be the **Preferred Brand** for leading HVAC companies, providing **innovative, energy saving Heating & Cooling Solutions** using Compact Heat Exchangers and Connectivity as core technologies for the growing district energy and boiler room markets.
Together with our value adding **Partners**, we strive at maximum customer satisfaction.

Our solutions

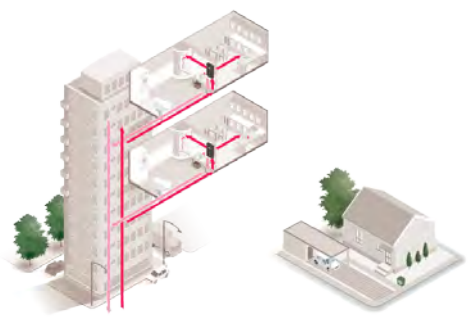
District heating and collective boiler heating are growing markets all over the world. We are offering the most energy efficient solutions within this market with a product range supplying:

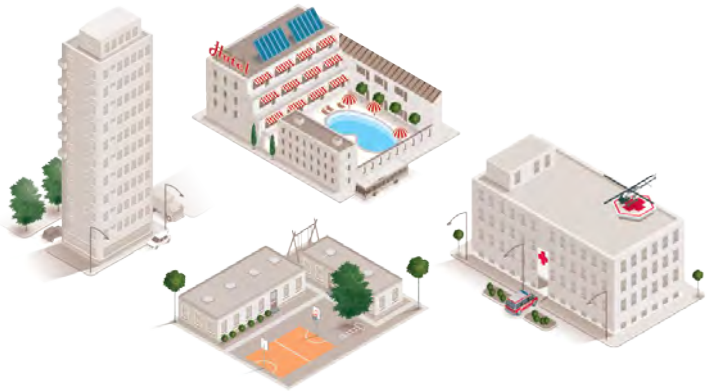
- Domestic hot water (DHW) and space heating combined
- Domestic hot water
- Space heating
- Cooling

We offer 2 types of solutions to our customers :
1 - **Standardized solutions :** ready to use plug-n-play systems
2 - **Customized solutions :** preconfigured solutions following customer's needs and the requirements of the building

Our applications

- **Any type of building :** individual and multi-family houses, apartment blocks, hotels, hospitals, offices, sport centers, factories… for new installations and renovation projects
- **Any heating source :** district and community heating networks, cooling circuits, local boilers and renewables
- **Any capacity :** up to 10 MW





Our product ranges

Heat Interface Units (HIU) for apartments and one family houses

Micro range

Mini range

- DHW & space heating
- Space heating only
- DHW only

District heating Substations medium

Midi Wall

Midi Compact

Midi Compact with IQHeat

- DHW & space heating

District heating Substations large

Maxi Compact

Maxi heating

Maxi Cooling

- DHW & space heating
- Space heating only
- Cooling

Tap water systems for collective boilers

AquaFirst

AquaEfficiency

AquaCompact

AquaProtect

AlfaPilot

- DHW

Storage tanks

AquaTank

Primary tank

- **DHW**
- **Primary heated water**

Tubular heat exchangers

Cetecoil & Cetetube

- **DHW & space heating**

Pressurisation sets

Pressomart range with Closed or Open expansion vessels

- **Stable pressure in heating circuits**

After sales service

- Spare parts are available for actual and obsolete product ranges of the following brands Alfa Laval, Cetetherm, Uranus and Smart.
- Spare parts Finder : our easy selection tool to find the correct article number in a few clicks.
- We have Service partners in most countries for technical support.

Our organization

The Heating & Cooling Systems organization within Alfa Laval is an international team of highly experienced people based in 10 different countries taking care of:

- Research & Development
- Product management
- Production
- Sales & After sales
- Marketing & Communication

Highly competent people and a lot of product expertise in one single team to give fast response, technical support and product trainings to our customers and partners.

To complete our own sales force, we are working with multiple sales partners in each country. Our sales partners are receiving the necessary support and trainings to be an:

- Authorized Distributor
- Certified Distributor
- Master Distributor

Our Sales Force

	Roger Dahlstrand Tel: +46 (0)457 755 92 Mail: comfort.se@alfalaval.com	Norway, Sweden, Finland, Estonia, Latia, Lithuania
	Johan De Cuyper Tel: +46 (0)70 847 72 73 Mail: johan.decuyper@alfalaval.com	Netherlands, Belgium, France, Luxemburg, Germany, Austria, Switzerland
	Alan Unwin Tel: +44 (0)78 36 32 57 68 Mail: alan.unwin@alfalaval.com	United Kingdom, Ireland
	Jakub Vantuch Tel: + 42 (0)778 45 38 84 Mail: jakub.vantuch@alfalaval.com	Czech Republic, Slovakia, Poland, Hungary
	Jury Galkin Tel: + 7 921 954 7477 Mail: jury.galkin@alfalaval.com	Russia, Belarus, Kyrgyzstan, Kazakhstan, Uzbekistan, Tajikistan, Turkmenistan
	Matthieu Perrin Tel: + 33 6 10 60 28 32 Mail: matthieu.perrin@alfalaval.com	North West Africa
	Joe Garcia Tel: + 1(215) 760 5459 Mail: joe.garcia@energetxllc.com	USA, Canada

Heating systems small

Alfa Laval AquaStar

Alfa Laval AquaStar

AquaStar is a domestic hot water unit for **apartments or one-family houses**. This product can be used in district heating networks, secondary networks or local heating networks.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	no	no

Operating limits	Design temperature	Design pressure
Primary heating	120°C	16 bar
Domestic hot water (DHW)	100°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €
AquaStar 1-2.5-I (27 plate version)	-	-	185	115	335	4	738879	**697**
AquaStar 2-2.5-I (35 plate version)	-	-	185	115	335	4	738915	**761**

More information on Alfa Laval website: http://www.alfalaval.com/aquastar

Alfa Laval AquaStar

Domestic hot water unit for apartments

Alfa Laval AquaStar is a complete, installation-ready tap water unit. It is suitable for apartments and single family houses that are connected to a heating network.
Alfa Laval has long experience in district heating technology and has developed AquaStar with a well-considered function and simple operation. All components are readily accessible for maintenance and future servicing needs.

High comfort
AquaStar offers fully automatic temperature control for hot water. The hot water is heated by direct exchange with high capacity. This means that the hot water is always as fresh as the incoming cold water.

Simple installation
Small dimensions, low weight, and self-acting control equipment ensure simple installation.

AquaStar includes insulation to save energy.

Long-term security
AquaStar represents the very latest technology and meets very strict long-term performance specifications. The plates are made from acid-resistant, stainless steel. All components are mutually tuned and are subjected to detailed functional testing according to Alfa Laval's ISO 9001:2008 quality assurance system.
AquaStar is built in compliance with PED 97/23/EC.

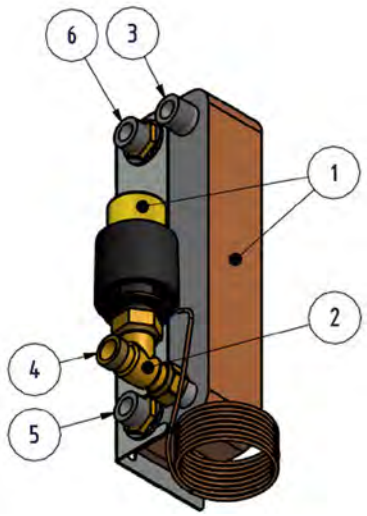
Heating network – a good source of heat
A heating network is an efficient technology that meets the need for hot water in a simple, convenient and secure way.

Operation
AquaStar is used for the indirect connection of apartments and single family houses to the heating network.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow. This patented, in-house Alfa Laval design gives a constant hot water temperature irrespective of volume and pressure flow.

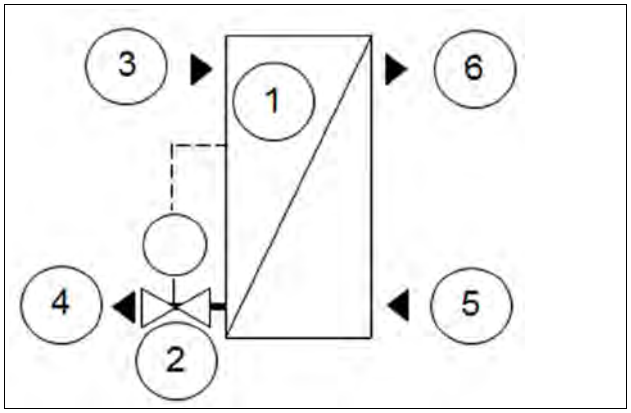
AquaStar includes insulation for better energy efficiency.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Heating network media, supply
4. Heating network media, return
5. Cold water (CW)
6. Hot water (HW)

Diagrammatic flow chart for AquaStar



An easily manageable, economical and durable source of heat

The AquaStar uses the heating network medium for heating the domestic hot water.
The AquaStar is a wall-mounted unit and is very compact. The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete.
AquaStar requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

Standard data for CB20IS-27H

Operating data	Heating medium	Hot water circuit
Design pressure, MPa	1.6	1.0
Design temperature, °C	120	100
Volume, l	0.34	0.36

Performance at differential pressure min 50 kPa and max 600 kPa.				
Designed temperature programme (°C)	**Capacity (kW)**	**Primary flow (l/s)**	**Actual return temp. (°C)**	**Secondary flow (l/s)**
Hot water circuit				
80-25/10-55	67	0.28	25	0.36
70-25/10-58	40	0.21	25	0.20
65-25/10-50	50	0.29	25	0.30

Standard data for CB20IS-35H

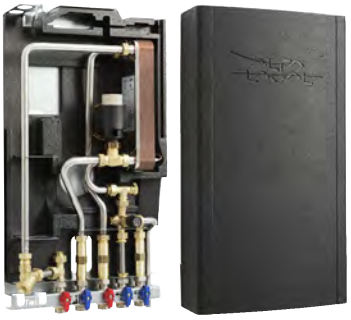
Operating data	Heating medium	Hot water circuit
Design pressure, MPa	1.6	1.0
Design temperature, °C	120	100
Volume, l	0.45	0.48

Performance at differential pressure min 50 kPa and max 600 kPa.				
Designed temperature programme (°C)	**Capacity (kW)**	**Primary flow (l/s)**	**Actual return temp. (°C)**	**Secondary flow (l/s)**
Hot water circuit				
80-25/10-55	78	0.32	21	0.41
70-25/10-58	54	0.29	25	0.27
65-25/10-50	60	0.33	22	0.36

Other information
Electrical data: ----------
Dimensions (with out cover): 200 mm width x 120 mm depth, 350 mm height
Weight: 5 kg
Transport particulars: Total weight 8 kg, 0,01 m³

Connections	External thread
Heating network media supply	G ¾
Heating network media return	G ¾
Cold water	G ¾
Hot water	G ¾

Alfa Laval AquaMicro



Alfa Laval AquaMicro

AquaMicro is a domestic hot water unit for **apartments or one-family houses**. This product can be used in district heating networks, secondary networks or local heating networks.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	no	no

Operating limits	Design temperature	Design pressure
Primary heating	120°C	16 bar
Domestic hot water (DHW)	100°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recommended First fix jig
AquaMicro-9-2.5-3x110-C-I	-	3 x 110 x 3/4"	430	160	780	19	738880	**1395**	AM1115

Options for Alfa Laval AquaMicro	Article no.	Public Price €
First fix jig including 5 Shut-off valves	AM1115	**134**

More information on Alfa Laval website: http://www.alfalaval.com/aquamicro

Alfa Laval AquaMicro

Domestic hot water unit for apartments

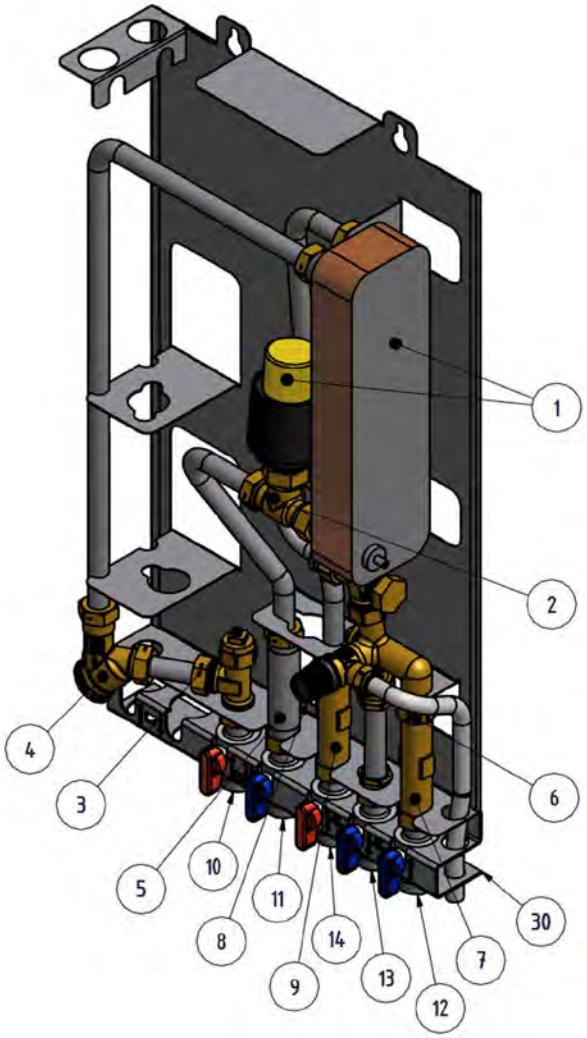
Alfa Laval AquaMicro is a complete, installation-ready district heating substation for domestic hot water. Ilt is suitable for apartments and single family houses that are connected to a heating network. Alfa Laval has long experience in district heating technology and has developed AquaMicro with a well-considered function and simple operation. All components are readily accessible for maintenance and future servicing needs.

High comfort
AquaMicro offers fully automatic temperature control for hot water. The hot water is heated by direct exchange with high capacity. This means that the hot water is always as fresh as the incoming cold water.

Simple installation
Small dimensions, low weight, well-designed pipe routing and self-acting control equipment ensure simple installation.

AquaMicro is mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and better energy efficiency.

Long-term security
AquaMicro represents the very latest technology and meets very strict long-term performance specifications. The plates and all the pipes in the unit are made from acid-resistant, stainless steel. All components are mutually tuned and are subjected to detailed functional testing according to Alfa Laval's ISO 9001:2008 quality assurance system. AquaMicro is built in compliance with PED 97/23/EC.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Temperature sensor connection, heating media supply
4. Filter for heating media
5. Adapter for energy meter
6. Check valve for cold water
7. Adapter for Cold water flow meter
8. Safety valve for domestic hot water
9. Adapter for Hot water flow meter
10. Heating network media, supply
11. Heating network media, return

12. Cold water inlet (cw)
13. Cold water outlet (cw)
14. Hot water (hw)
30. First fix jig including shut-off valves (option)

Heating network – a good source of heat
A heating network is an efficient technology that meets the need for hot water in a simple, convenient and secure way.

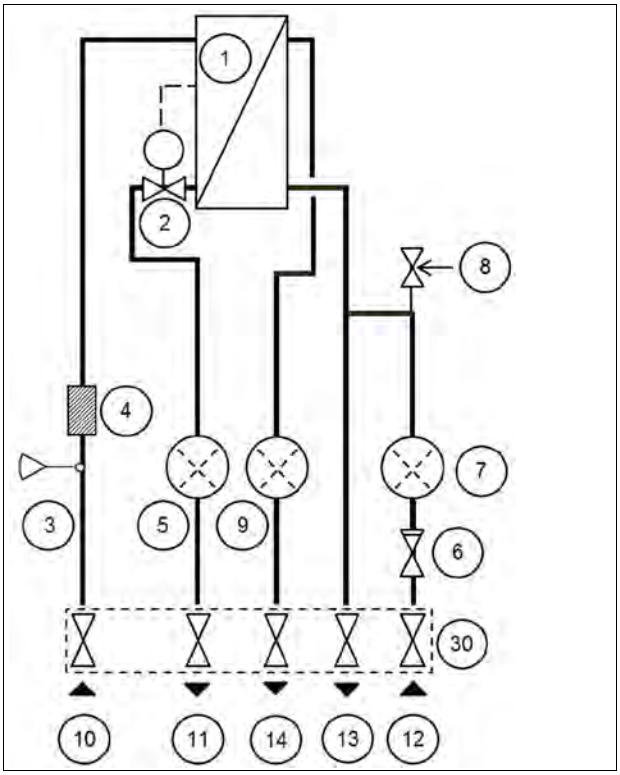
Operation
AquaMicro is used for the indirect connection of apartments and single family houses to the heating network.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow. This patented, in-house Alfa Laval design gives a constant hot water temperature irrespective of volume and pressure flow.

The energy supplier registers use of energy. Measurement is done by recording the flow of heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for AquaMicro



An easily manageable, economical and durable source of heat

The AquaMicro uses the heating network medium for heating the domestic hot water. The AquaMicro is a wall-mounted unit and is very compact. The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete. AquaMicro requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and efficiency the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

Other information
Electrical data: ----------
Dimensions (cover): 430 mm width x 160 mm depth, 775 mm height
Dimensions (with out cover): 400 mm width x 120 mm depth, 630 mm height
Weight: 12 kg, cover, 2kg
Transport particulars: Total weight 19 kg, 0.08 m³

Connections first-fix jig	Internal thread	External thread
Heating network media supply	G ¾	G 1
Heating network media return	G ¾	G 1
Cold water inlet	G ¾	G 1
Cold water oulet	G ¾	G 1
Hot water	G ¾	G 1

Operating data		
	Heating medium	**Hot water circuit**
Design pressure, MPa	1.6	1.0
Design temperature, °C	120	100
Opening pressure, safety valve, MPa	-	0.9
Volume, l	0.34	0.36

Performance at available differential pressure 50-600 kPa				
Designed temperature programme (°C)	**Capacity (kW)**	**Primary flow (l/s)**	**Actual return temp. (°C)**	**Secondary flow (l/s)**
Hot water circuit				
80-25/10-55	79	0.34	25	0.42
70-25/10-58	36	0.19	25	0.18
65-25/10-50	55	0.33	25	0.33

Option

First fix jig with shut-off valves.

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Micro HTC

Alfa Laval Micro HTC

Alfa Laval Micro HTC is an "All-in-one" unique tap water & heating solution. This product can be used in district heating networks or local heating networks for **direct connection**. Applications: **apartments or one-family houses**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	yes	no

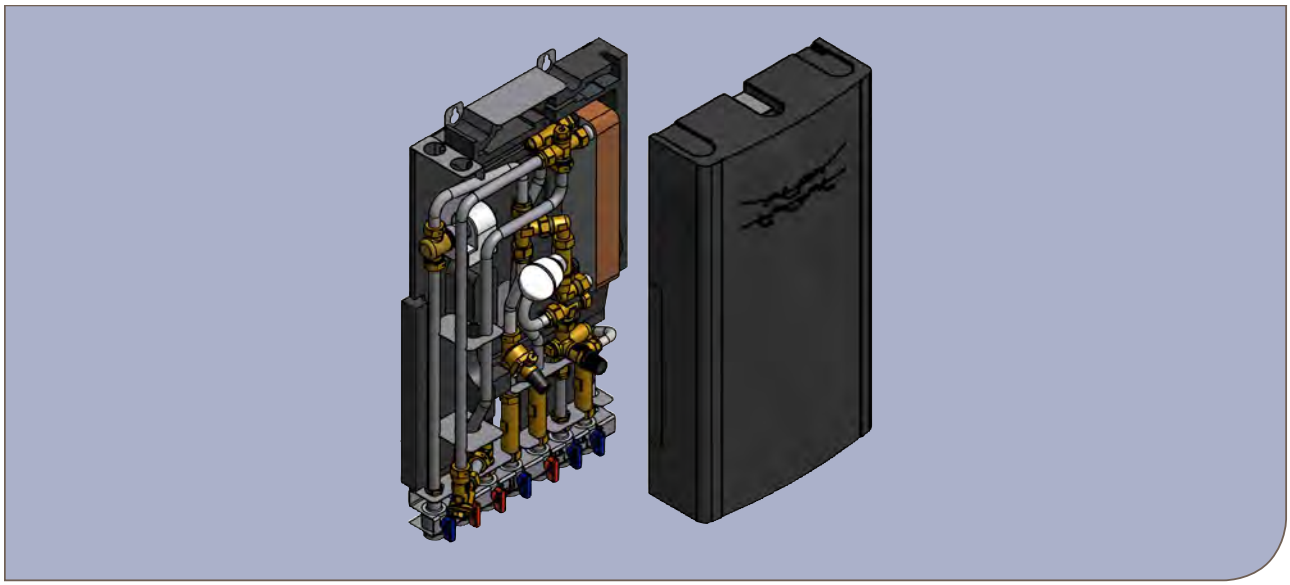
Operating limits	Design temperature	Design pressure
Primary heating	100°C	10 bar
Secondary heating	100°C	10 bar
Domestic hot water (DHW)	100°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recommended First fix jig
Micro HTC-9-2.5-0.63-DP-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	19	738891	**1585**	AM1117

Options for Alfa Laval Micro HTC	Article no.	Public Price €
First fix jig including 7 Shut-off valves	AM1117	**160**

Alfa Laval Micro HTC

Heating and domestic hotwater substation for apartments and single family houses



The Alfa Laval Micro HTC heating substation is ready for installation to meet the complete central heating and hot water requirements. It is suitable for apartments and single-family houses that are direct connected to a heating network.

Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Micro HTC, resulting in its practical functionality and ease of use. All components are easily accessible for inspection and future servicing when required.

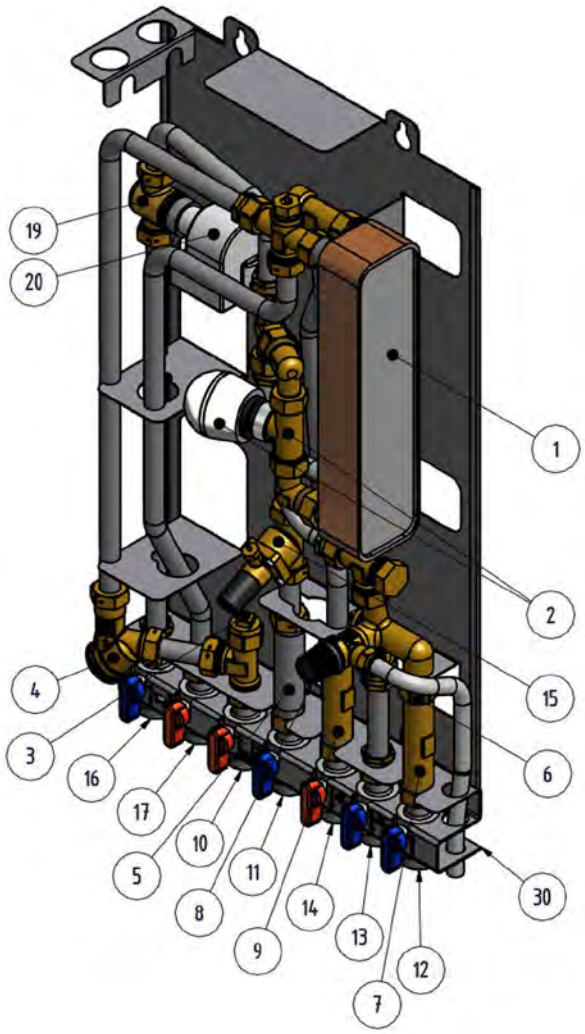
Comfort
The Micro HTC is the simplest model in the Micro family. It has an automatic individual temperature setting for hot water. Micro HTC is fully prepared for individual temperature control for central heating by its valve and actuator. Domestic hot water is heated separately in a high capacity heat exchanger, this ensuring that the hot water is always as fresh as the incoming cold water main supply.

Simple installation
Compact dimensions, light weight, well arranged plumbing and ready for connection to individual temperature control for heating.

Micro HTC is mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and better energy efficiency.

Long-term security
The Micro HTC represents the most modern technology, and provides the answer to stringent demands for long-term performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel.
All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008.

Micro HTC is built in compliance with PED 97/23/EC.



Components

1. Heat exchanger for hot water
2. Control valve, thermostat and sensor for hot water
3. Temperature sensor connection, heating media supply
4. Filter for heating media
5. Adapter for energy meter
6. Check valve for cold water
7. Adapter for cold water flow meter
8. Safety valve for domestic hot water
9. Adapter for hot water flow meter
10. Heating network media, supply
11. Heating network media, return
12. Cold water, inlet (CW)
13. Cold water outlet (CW)
14. Hot water (HW)
15. Differential pressure controller
16. Heating circuit, return
17. Heating circuit, supply
19. Control valve, heating circuit
20. Actuator, heating circuit
30. First fix jig including shut-off valves (option)

Heating network – a good source of heat
A heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way.

Operation
Micro HTC is used for the direct connection of apartments and single family houses to the heating network. With this kind of connection, the heating water from the mains network is used for heating the radiator system of the apartment or single family house.

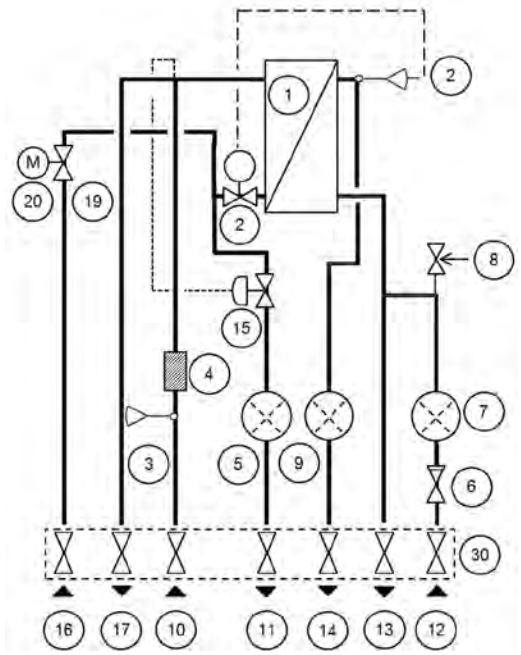
For connection to underfloor heating system, the unit should be completed with a special control equipment, suited for this purpose, or use Alfa Laval Micro STC.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow.

The energy supplier registers the use of energy. Measurement is done by recording the flow of heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Micro HTC



For underfloor heating systems
Underfloor heating systems must be separately controlled. The instructions of the underfloor heating supplier must also be checked.

Operating data

	Heating network	Heating circuit	Hot water circuit
Design pressure, MPa	1.0	1.0	1.0
Design temperature, °C	100	100	100
Relief valve opening pressure, MPa	-	-	0.9
Volume, l	0.34	-	0.38

Performance at available primary differential pressure 50-400 kPa

Designed temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temp. (°C)	Secondary flow (l/s)
Hot water circuit				
80-30/10-55	50	0,23	28	0,27
70-30/10-55	38	0,23	30	0,20
65-30/10-50	35	0,23	28	0,21
Heating circuit				
80-60	10	0.12	60	0.12

An easily manageable, economical and durable source of heat

The Micro HTC uses the heating network medium for heating the domestic hot water (providing an uninterrupted supply) as well as the water in the central heating system.

The Micro HTC is a wall-mounted unit and is very compact. The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete.
Micro HTC requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and efficiency the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

Other information
Electrical data: 230 V, single phase, 25 W
Dimensions (cover): 430 mm width x 160 mm depth, 775 mm height
Dimensions (substation): 400 mm width x 120 mm depth x 630 mm height
Weight: 13 kg, cover 2 kg
Transport particulars: Total weight 20 kg, 0.08 m³

Connections first-fix jig	Internal thread	External thread
Heating network media supply	G ¾	G 1
Heating network media return	G ¾	G 1
Heating circuit supply	G ¾	G 1
Heating circuit return	G ¾	G 1
Cold water, inlet	G ¾	G 1
Cold water, outlet	G ¾	G 1
Hot water	G ¾	G 1

Option

First fix jig with shut-off valves.

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Micro DPC

Alfa Laval Micro DPC

Alfa Laval Micro DPC is an "All-in-one" unique tap water & heating solution. This product can be used in district heating networks or local heating networks for **direct connection**. Applications: **apartments or one-family houses**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	yes	no

Operating limits	Design temperature	Design pressure
Primary heating	100°C	10 bar
Secondary heating	100°C	10 bar
Domestic hot water (DHW)	100°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recommended First fix jig
Micro DPC-9-2.5-DP-3x110-C-I	-	3 x 110 x 3/4"	430	160	780	23	738881	**1649**	AM1117
Micro DPC-2.5-DP-1x110-C-I	-	1 x 110 x 3/4"	430	160	780	23	738882	**1585**	AM1116

Options for Alfa Laval Micro DPC	Article no.	Public Price €
First fix jig including 6 Shut-off valves	AM1116	**145**
First fix jig including 7 Shut-off valves	AM1117	**160**

More information on Alfa Laval website: http://www.alfalaval.com/micro-dpc

Alfa Laval Micro DPC

Heating and domestic hotwater substation for apartments and single family houses

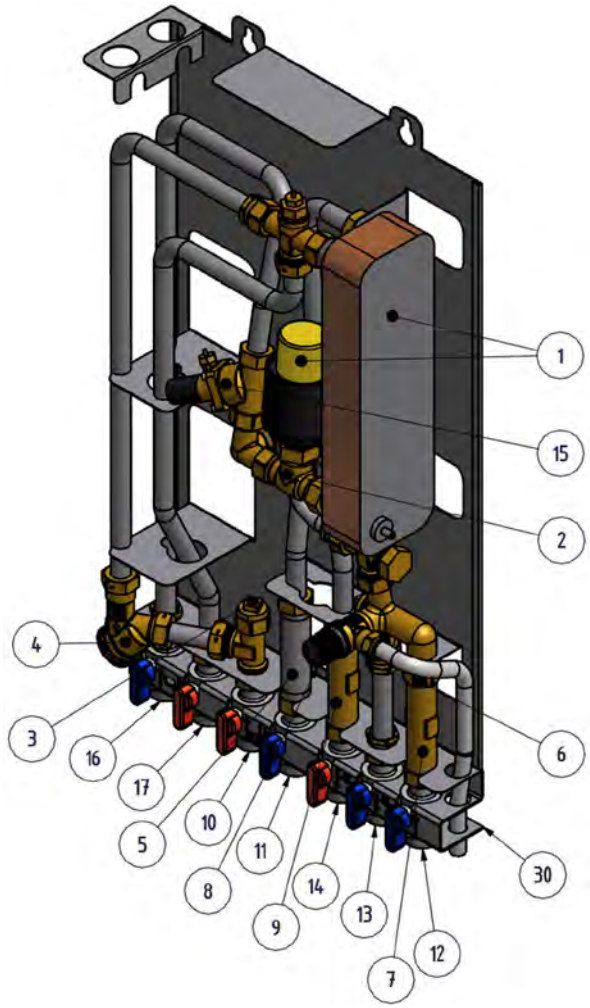
The Alfa Laval Micro DPC heating substation is installation-ready for complete central heating and hot water requirements. It is suitable for apartments and single family houses that are connected to a heating network. Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Micro DPC, resulting in its practical function and ease of use. All components are easily accessible for inspection and future service when required.

High comfort
Micro DPC offers fully automatic temperature control for hot water. The hot water is heated by direct exchange with high capacity. This means that the hot water is always as fresh as the incoming cold water. The room temperature is regulated with the help of thermostatic radiator valves. Integral differential pressure regulation means that good comfort is maintained throughout the year in spite of variations in the pressure of the heating network.

Simple installation
Compact dimensions, light weight, well arranged plumbing and factory-complete internal wiring – all make installation very simple.

Micro DPC is mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and better energy efficiency.

Long-term security
The Micro DPC represents the most modern technology, and provides the answer to stringent demands for longterm performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. Micro DPC harmonizes with PED 97/23/EC.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Temperature sensor connection, heating media supply
4. Filter for heating media
5. Adapter for energy meter
6. Check valve for cold water
7. Adapter for Cold water flow meter
8. Safety valve for domestic hot water *
9. Adapter for Hot water flow meter
10. Heating network media, supply
11. Heating network media, return
12. Cold water inlet (cw)
13. Cold water outlet (cw)
14. Hot water (hw)
15. Differential pressure controller
16. Heating circuit, return
17. Heating circuit, supply
30. First fix jig including shut-off valves (option)

*) included depending on model

Heating network – a good source of heat
A heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way.

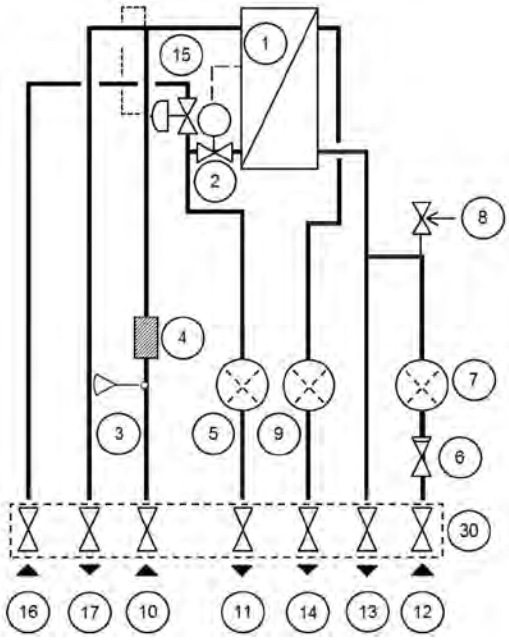
Operation
Micro DPC is used for the direct connection of apartments and single family houses to the heating network. With this kind of connection, the heating water from the heating network is used for heating the radiator system of the apartment or single family house.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow. This patented, in-house Alfa Laval design gives a constant hot water temperature irrespective of volume and pressure flow.

The energy supplier registers use of energy. Measurement is done by recording the flow of heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Micro DPC



For underfloor heating systems
The instructions of the underfloor heating supplier must also be checked.

Operating data

	Heating medium	Heating circuit	Hot water circuit
Design pressure, MPa	1.0	1.0	1.0
Design temperature, °C	100	100	100
Opening pressure, safety valve, MPa	-	-	0.9
Volume, l	0.34	-	0.36

Performance at available differential pressure 50-400 kPa				
Designed temperature programme (°C)	**Capacity (kW)**	**Primary flow (l/s)**	**Actual return temp. (°C)**	**Secondary flow (l/s)**
Hot water circuit				
80-25/10-55	79	0.34	25	0.42
70-25/10-58	36	0.19	25	0.18
65-25/10-50	55	0.33	25	0.33
Heating circuit				
80-50	10	0.08	50	0.08

An easily manageable, economical and durable source of heat

The Micro DPC uses the heating network medium for heating the domestic hot water (providing an uninterrupted supply) as well as the water in the central heating system. The Micro DPC is a wall-mounted unit and is very compact. The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete. Micro DPC requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and efficiency the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

Other information
Electrical data: ----------
Dimensions (cover): 430 mm width x 160 mm depth, 775 mm height
Dimensions (with out cover): 400 mm width x 120 mm depth, 630 mm height
Weight: 13 kg, cover 2 kg
Transport particulars: Total weight 20 kg, 0.08m³

Connections first-fix jig	Internal thread	External thread
Heating network media supply	G ¾	G 1
Heating network media return	G ¾	G 1
Heating circuit supply	G ¾	G 1
Heating circuit return	G ¾	G 1
Cold water inlet	G ¾	G 1
Cold water outlet	G ¾	G 1
Hot water	G ¾	G 1

Option

First fix jig with shut-off valves.

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Micro RTC

Alfa Laval Micro RTC

Alfa Laval Micro RTC is an "All-in-one" unique tap water & heating solution with automatic wireless room temperature control. This product can be used in district heating networks or local heating networks for **direct connection**. Applications: **apartments or one-family houses**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	yes	no

Operating limits	Design temperature	Design pressure
Primary heating	100°C	10 bar
Secondary heating	100°C	10 bar
Domestic hot water (DHW)	100°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recommended First fix jig
Micro RTC-721-FS-9-2.5-0.63-DP-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	23	738883	**2092**	AM1117
Micro RTC-721-9-2.5-0.63-DP-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	23	738884	**2029**	AM1117
Micro RTC-721-2.5-0.63-DP-1x110-C-I	Honeywell	1 x 110 x 3/4"	430	160	780	23	738906	**1966**	AM1116
Micro RTC-2.5-0.63-DP-1x110-C-I	-	1 x 110 x 3/4"	430	160	780	23	739057	**1650**	AM1116

Options for Alfa Laval Micro RTC	Article no.	Public Price €
First fix jig including 6 Shut-off valves	AM1116	**145**
First fix jig including 7 Shut-off valves	AM1117	**160**

More information on Alfa Laval website: http://www.alfalaval.com/micro-rtc

Alfa Laval Micro RTC

Heating and domestic hotwater substation for apartments and single family houses

Heating and domestic hot water substation for apartments and single family houses

The Alfa Laval Micro RTC heating substation is installation-ready for complete central heating and hot water requirements. It is suitable for apartments and single family houses that are connected to a heating network.

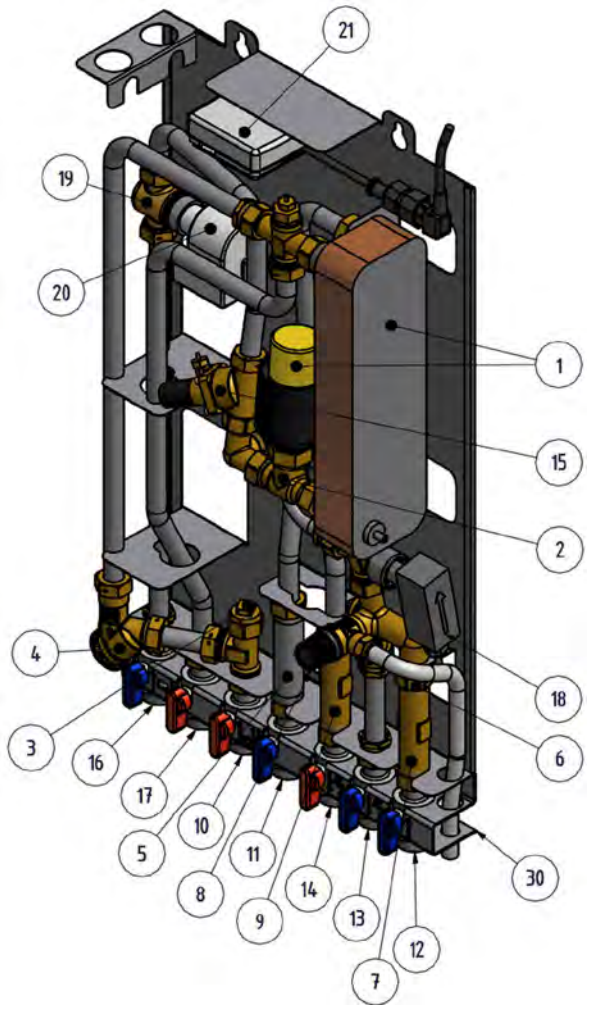
Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Micro RTC, resulting in its practical function and ease of use. All components are easily accessible for inspection and future service when required.

High comfort
The Micro RTC has a fully automatic individual temperature setting for central heating and hot water. Heat is automatically regulated, depending on indoor temperature. Domestic hot water is heated separately in a high-capacity heat exchanger; thus ensuring that the hot water is always as fresh as the incoming cold water mains supply.

Simple installation
Compact dimensions, light weight, well arranged plumbing and factory-complete internal wiring – all make installation very simple. A pre-programmed control unit and a power cable already fitted with a plug make things even simpler to allow immediate start-up.

Micro RTC is mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and better energy efficiency.

Long-term security
The Micro RTC represents the most modern technology, and provides the answer to stringent demands for longterm performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. Micro RTC is built in compliance with PED 97/23/EC.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Temperature sensor connection, heating media supply
4. Filter for heating media
5. Adapter for energy meter
6. Check valve for cold water
7. Adapter for Cold water flow meter
8. Safety valve for domestic hot water *
9. Adapter for Hot water flow meter
10. Heating network media, supply
11. Heating network media, return
12. Cold water inlet (cw)
13. Cold water outlet (cw)
14. Hot water (hw)
15. Differential pressure controller
16. Heating circuit, return
17. Heating circuit, supply
18. Flow switch for domestic hot water *
19. Control valve, heating circuit
20. Actuator, heating circuit
21. Connection box for electric power and sensors, heating circuit
22. Room thermostat/control panel *
30. First fix jig including shut-off valves (option)

*) included depending on model

Heating network – a good source of heat
A heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way.

Operation
Micro RTC is used for the direct connection of apartments and single family houses to the heating network. With this kind of connection, the heating water from the heating network is used for heating the radiator system of the apartment or single family house.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

Micro RTC has automatic temperature control for central heating. The heating circuit is adjusted in relation to the required indoor temperature via a thermostatic control.

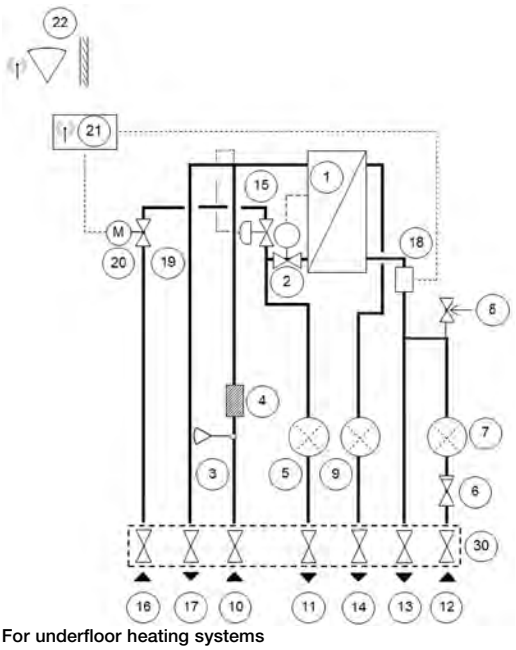
The indoor panel with the indoor sensor is always included and increase the comfort and saves energy.

The heating controller has an easy to use interface and built in energy saving functions.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow. This patented, in-house Alfa Laval design gives a constant hot water temperature irrespective of volume and pressure flow.

The energy supplier registers use of energy. Measurement is done by recording the flow of heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Micro RTC



For underfloor heating systems
The instructions of the underfloor heating supplier must also be checked.

An easily manageable, economical and durable source of heat

The Micro RTC uses the heating network medium for heating the domestic hot water (providing an uninterrupted supply) as well as the water in the central heating system.
The Micro RTC is a wall-mounted unit and is very compact. The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete. Micro RTC requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and efficiency the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

Other information
Electrical data: 230 V, 1-phase, 25 W
Dimensions (cover): 430 mm width x 160 mm depth, 775 mm height
Dimensions (with out cover): 400 mm width x 120 mm depth, 630 mm height
Weight: 14 kg, cover 2 kg

Transport particulars: Total weight 21 kg, 0.08 m³

Operating data

	Heating medium	Heating circuit	Hot water circuit
Design pressure, MPa	1.0	1.0	1.0
Design temperature, °C	100	100	100
Opening pressure, safety valve, MPa	-	-	0.9
Volume, l	0.34	-	0.36

Connections first-fix jig	Internal thread	External thread
Heating network media supply	G ¾	G 1
Heating network media return	G ¾	G 1
Heating circuit supply	G ¾	G 1
Heating circuit return	G ¾	G 1
Cold water inlet	G ¾	G 1
Cold water outlet	G ¾	G 1
Hot water	G ¾	G 1

Performance at available differential pressure 50-400 kPa

Designed temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temp. (°C)	Secondary flow (l/s)
Hot water circuit				
80-25/10-55	79	0.34	25	0.42
70-25/10-58	36	0.19	25	0.18
65-25/10-50	55	0.33	25	0.33
Heating circuit				
80-50	10	0.08	50	0.08

Option

First fix jig with shut-off valves.

CE ISO 9001:2008

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Micro STC

Alfa Laval Micro STC

Alfa Laval Micro STC is an "All-in-one" unique tap water & heating solution with modulating supply temperature giving a maximum comfort with a minimum energy usage. This product can be used in district heating networks or local heating networks for **direct connection**. Suitable for **apartments or one-family houses**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	yes	yes

Operating limits	Design temperature	Design pressure
Primary heating	100°C	10 bar
Secondary heating	100°C	10 bar
Domestic hot water (DHW)	100°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recommended First fix jig
Micro STC-GE-737-FS-9-2.5-0.63-DP-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	25	738885	**2726**	AM1117
Micro STC-GE-737-FS-9-2.5-0.63-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	25	738886	**2600**	AM1117
Micro STC-GE-737-O-9-2.5-0.63-DP-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	25	738887	**2663**	AM1117
Micro STC-GE-737-O-9-2.5-0.63-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	25	738888	**2600**	AM1117
Micro STC-GE-737-O-9-2.5-0.63-1x110-C-I	Honeywell	1 x 110 x 3/4"	430	160	780	25	738908	**2537**	AM1116

Options for Alfa Laval Micro STC	Article no.	Public Price €
First fix jig including 6 Shut-off valves	AM1116	**145**
First fix jig including 7 Shut-off valves	AM1117	**160**

More information on Alfa Laval website: http://www.alfalaval.com/micro-stc

Alfa Laval Micro STC

Heating and domestic hotwater substation for apartments and single family houses

Heating and domestic hot water substation for apartments and single family houses

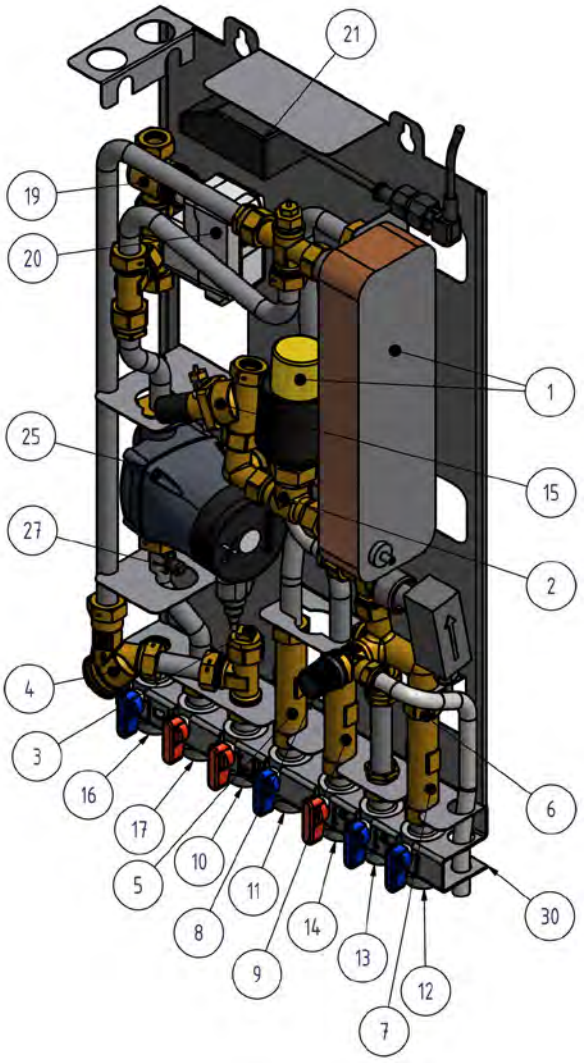
The Alfa Laval Micro STC heating substation is installation-ready for complete central heating and hot water requirements. It is suitable for apartments and single family houses that are connected to a heating network.
Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Micro STC, resulting in its practical function and ease of use.

High comfort
The Micro STC has a fully automatic individual temperature setting for central heating and hot water. Heat is automatically regulated, depending on outdoor temperature and/or the temperature desired inside the dwelling. Domestic hot water is heated separately in a high-capacity heat exchanger; thus ensuring that the hot water is always as fresh as the incoming cold water mains supply.

Simple installation
Compact dimensions, light weight, well arranged plumbing and factory-complete internal wiring – all make installation very simple. A pre-programmed control unit and a power cable already fitted with a plug make things even simpler to allow immediate start-up.

Micro STC is wall mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and better energy efficiency.

Long-term security
The Micro STC represents the most modern technology, and provides the answer to stringent demands for longterm performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. Micro STC is built in compliance with PED 97/23/EC.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Temperature sensor connection, heating media supply
4. Filter for heating media
5. Adapter for energy meter
6. Check valve for cold water
7. Adapter for Cold water flow meter
8. Safety valve for domestic hot water *
9. Adapter for Hot water flow meter
10. Heating network media, supply
11. Heating network media, return
12. Cold water inlet (cw)
13. Cold water outlet (cw)
14. Hot water (hw)
15. Differential pressure controller *
16. Heating circuit, return
17. Heating circuit, supply
18. Flow switch for domestic hot water *
19. Control valve, heating circuit
20. Actuator, heating circuit
21. Connection box for electric power and sensors, heating circuit
22. Room thermostat/control panel
23. Outdoor temperature sensor *
25. Circulation pump, heating circuit
26. Safety thermostat (option)
27. Supply temperature sensor, heating circuit
30. First fix jig including shut-off valves (option)

*) included depending on model

Heating network – a good source of heat
A heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way.

Operation
Micro STC is used for the direct connection of apartments and single family houses to the heating network. With this kind of connection, the heating water from the heating network is used for heating the radiator system of the apartment or single family house.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

Micro STC has automatic temperature control for central heating. The heating circuit is adjusted in relation to the outdoor temperature and the required indoor temperature via a thermostatic control, outdoor sensor and/or indoor sensor.

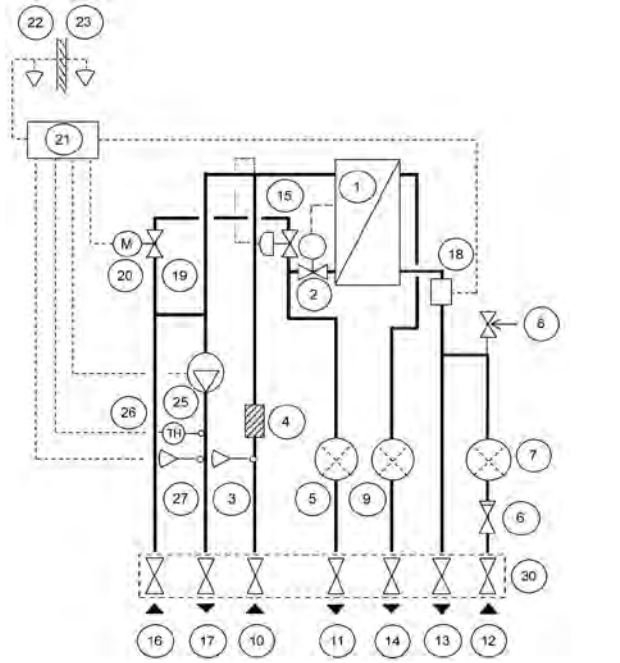
The indoor panel with the indoor sensor is always included and increase the comfort and saves energy.

When no heating flow is required, the heating circulation pump stops automatically, but is run occasionally to prevent seizing up due to standing still for a long time. The pump is energy optimized and comply with the EuP2015 directive. The heating controller has an easy to use interface and built in energy saving functions.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow. This patented, in-house Alfa Laval design gives a constant hot water temperature irrespective of volume and pressure flow.

The energy supplier registers use of energy. Measurement is done by recording the flow of heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Micro STC



For underfloor heating systems
The instructions of the underfloor heating supplier must also be checked.

Operating data

	Heating medium	Heating circuit	Hot water circuit
Design pressure, MPa	1.0	1.0	1.0
Design temperature, °C	100	100	100
Opening pressure, safety valve, MPa	-	-	0.9
Volume, l	0.34	-	0.36

Performance at available differential pressure 50-400 kPa

Designed temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temp. (°C)	Secondary flow (l/s)
Hot water circuit				
80-25/10-55	79	0.34	25	0.42
70-25/10-58	36	0.19	25	0.18
65-25/10-50	55	0.33	25	0.33
Heating circuit				
80-50/50-70	10	0.08	50	0.12
80-60/60-70	7	0.08	60	0.16
80-45/45-60	12	0.08	45	0.19
80-30/30-35	7	0.03	30	0.33

An easily manageable, economical and durable source of heat

The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete. Micro STC requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and efficiency the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

Other information
Electrical data: 230 V, 1-phase, 50 W
Dimensions (cover): 430 mm width x 160 mm depth, 775 mm height
Dimensions (with out cover): 400 mm width x 120 mm depth, 630 mm height
Weight: 14 kg, cover 2kg
Transport particulars: Total weight 21 kg, 0.08 m³

Connections first-fix jig	Internal thread	External thread
Heating network media supply	G ¾	G 1
Heating network media return	G ¾	G 1
Heating circuit supply	G ¾	G 1
Heating circuit return	G ¾	G 1
Cold water inlet	G ¾	G 1
Cold water outlet	G ¾	G 1
Hot water	G ¾	G 1

Option

First fix jig with shut-off valves.

CE ISO 9001:2008

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Micro STC2

Alfa Laval Micro STC2

Alfa Laval Micro STC2 is an "All-in-one" unique tap water & heating solution with modulating supply temperature giving a maximum comfort with a minimum energy usage. This product can be used in district heating networks or local heating networks for **direct connection**. Suitable for **apartments or one-family houses**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	yes	yes

Operating limits	Design temperature	Design pressure
Primary heating	100°C	10 bar
Secondary heating	100°C	10 bar
Domestic hot water (DHW)	100°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recommended First fix jig
Micro STC2-GE-737-O-9-2.5-0.63-DP-3x110-C-I	Honeywell	3 x 110 x 3/4"	430	160	780	26	738889	**2854**	AM1117
Micro STC2-GE-737-O-2.5-0.63-1x110-C-I	Honeywell	1 x 110 x 3/4"	430	160	780	26	738890	**2726**	AM1116

Options for Alfa Laval Micro STC2	Article no.	Public Price €
First fix jig including 6 Shut-off valves	AM1116	**145**
First fix jig including 7 Shut-off valves	AM1117	**160**

More information on Alfa Laval website: http://www.alfalaval.com/micro-stc2

Alfa Laval Micro STC2

Heating and domestic hotwater substation for apartments and single family houses

Heating and domestic hot water substation for apartments and single family houses

The Alfa Laval Micro STC2 heating substation is installation-ready for complete central heating and hot water requirements. It is suitable for apartments and single family houses that are connected to a heating network.

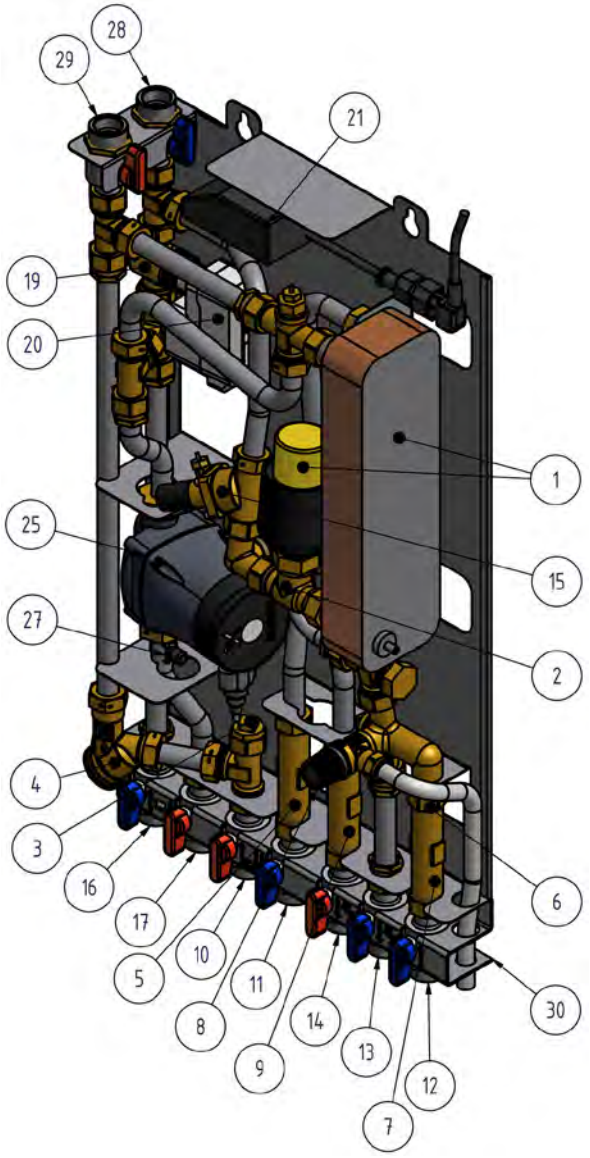
Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Micro STC2, resulting in its practical function and ease of use.

High comfort
The Micro STC2 has a fully automatic individual temperature setting for central heating and hot water. Heat is supported for two separate circuits, one for high temperature (towel heaters, washing machines and radiators) and one that is automatically regulated, depending on outdoor temperature and/or the temperature desired inside the dwelling. Domestic hot water is heated separately in a high-capacity heat exchanger; thus ensuring that the hot water is always as fresh as the incoming cold water mains supply.

Simple installation
Compact dimensions, light weight, well arranged plumbing and factory-complete internal wiring – all make installation very simple. A pre-programmed control unit and a power cable already fitted with a plug make things even simpler to allow immediate start-up.

Micro STC2 is wall mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and better energy efficiency.

Long-term security
The Micro STC2 represents the most modern technology, and provides the answer to stringent demands for longterm performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. Micro STC2 is built in compliance with PED 97/23/EC.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Temperature sensor connection, heating media supply
4. Filter for heating media
5. Adapter for energy meter
6. Check valve for cold water
7. Adapter for Cold water flow meter
8. Safety valve for domestic hot water *
9. Adapter for Hot water flow meter
10. Heating network media, supply
11. Heating network media, return
12. Cold water inlet(cw)
13. Cold water outlet (cw)
14. Hot water (hw)
15. Differential pressure controller *
16. Heating circuit, return
17. Heating circuit, supply
19. Control valve, heating circuit
20. Actuator, heating circuit
21. Connection box for electric power and sensors, heating circuit
22. Room thermostat/control panel
23. Outdoor temperature sensor
25. Circulation pump, heating circuit
26. Safety thermostat (option)
27. Supply temperature sensor, heating circuit
28. Heating circuit primary temp, return
29. Heating circuit primary temp, supply
30. First fix jig including shut-off valves (option)

*) included depending on model

Heating network – a good source of heat
A heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way.

Operation
Micro STC2 is used for the direct connection of apartments and single family houses to the heating network. With this kind of connection, the heating water from the heating network is used for heating the radiator system of the apartment or single family house.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

Micro STC2 has two separate circuits for central heating. One circuit for high temperature connection of towel heaters, washing machines or radiators. The second circuit can be connected to under floor heating systems or radiators and has automatic temperature control for central heating. This heating circuit is adjusted in relation to the outdoor temperature and the required indoor temperature via a thermostatic control, outdoor sensor and/or indoor sensor.

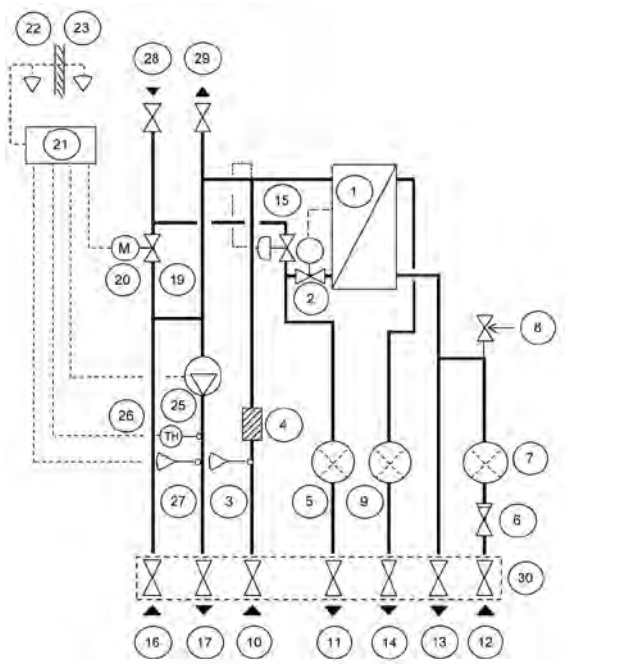
The indoor panel with the indoor sensor is always included and increase the comfort and saves energy.

When no heating flow is required, the heating circulation pump stops automatically, but is run occasionally to prevent seizing up due to standing still for a long time. The pump is energy optimized and comply with the EuP2015 directive. The heating controller has an easy to use interface and built in energy saving functions.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow. This patented, in-house Alfa Laval design gives a constant hot water temperature irrespective of volume and pressure flow.

The energy supplier registers use of energy. Measurement is done by recording the flow of heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Micro STC2



For underfloor heating systems
The instructions of the underfloor heating supplier must also be checked.

Operating data

	Heating medium	Heating circuit	Hot water circuit
Design pressure, MPa	1.0	1.0	1.0
Design temperature, °C	100	100	100
Opening pressure, safety valve, MPa	-	-	0.9
Volume, l	0.34	-	0.36

Performance at available differential pressure 50-400 kPa

Designed temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temp. (°C)	Secondary flow (l/s)
Hot water circuit				
80-25/10-55	79	0.34	25	0.42
70-25/10-58	36	0.19	25	0.18
65-25/10-50	55	0.33	25	0.33
Heating circuit 1				
80-50/50-70	10	0.08	50	0.12
80-60/60-70	7	0.08	60	0.16
80-45/45-60	12	0.08	45	0.19
80-30/30-35	7	0.03	30	0.33
Heating circuit 2				
80-50	10	0.08	50	0.08

An easily manageable, economical and durable source of heat

The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete. Micro STC2 requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and efficiency the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

Other information
Electrical data: 230 V, 1-phase, 50 W
Dimensions (cover): 430 mm width x 160 mm depth, 775 mm height
Dimensions (with out cover): 400 mm width x 120 mm depth, 630 mm height
Weight: 15 kg, cover 2 kg
Transport particulars: Total weight 22 kg, 0.,08 m³

Connections first-fix jig	Internal thread	External thread
Heating network media supply	G ¾	G 1
Heating network media return	G ¾	G 1
Heating circuit supply 1	G ¾	G 1
Heating circuit return 1	G ¾	G 1
Cold water, inlet	G ¾	G 1
Cold water, outlet	G ¾	G 1
Hot water	G ¾	G 1

Connections Heating Circuit 2	Internal thread	External thread
Heating circuit supply 2	G ¾	G 1
Heating circuit return 2	G ¾	G 1

Option

First fix jig with shut-off valves.

CE ISO 9001:2008

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Mini City

Alfa Laval Mini City

Alfa Laval Mini City supplies hot water to both the tap water & the space heating circuit with **modulating supply temperature**. The space heating supply can be connected to **radiators or floor heating**. On the primary side the unit has an **indirect connection**: one heat exchanger for the space heating circuit and one heat exchanger to produce tap water. Suitable for **apartments and one-family houses**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	yes	yes	yes

Operating limits	Design temperature	Design pressure
Primary heating	120°C	16 bar
Secondary heating	90°C	10 bar
Domestic hot water (DHW)	90°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recom-mended First fix jig
Mini City F2-H1T1-GE7-E-R-O-9-STL-2,5-V0,4-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	430	155	1480	20	738949	**3267**	AM1117
Mini City F2-H1T1-GE7-E-R-O-9-STL-2,5-V0,63-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	430	155	1480	20	738950	**3267**	AM1117
Mini City F3-H1T1-GE7-E-R-O-9-2,5-V0,4-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	430	155	1480	20	738951	**3106**	AM1117
Mini City F3-H1T1-GE7-E-R-O-9-2,5-V1,0-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	430	155	1480	20	738952	**3106**	AM1117
Mini City F4-H1T1-GE7-E-R-O-2,5-V0,4-1x110-1x110	Honeywell	1x110x3/4"	430	155	1480	20	738953	**3044**	AM1116

Options for Alfa Laval Mini City	Article no.	Public Price €
First fix jig including 6 Shut-off valves	AM1116	**145**
First fix jig including 7 Shut-off valves	AM1117	**160**
Flushing-by-pass kit	AM1140	**85**
Underfloor heating thermostat	AM1141	**177**
Additional expansion vessel module 7L	AM1139	**71**
Adapter energy meter 3/4"-1"	732545	**42**

More information on Alfa Laval website: http://www.alfalaval.com/minicity

Alfa Laval Mini City / Heating only

Alfa Laval Mini City / Heating only

Alfa Laval Mini City / **Heating only** supplies hot water to the space heating circuit only. The space heating supply can be connected to **radiators or floor heating**. On the primary side the unit has an **indirect connection**: one heat exchanger between the district heating network and the space heating circuit. Suitable for **apartments and one-family houses**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 apartment or 1 family house	no	yes	yes

Operating limits	Design temperature	Design pressure
Primary heating	120°C	16 bar
Secondary heating	90°C	10 bar

Model Alfa Laval Mini City / Heating only	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recom-mended First fix jig
Mini City F1-H1-GE7-E-R-O-V0,4-1x110	Honeywell	1x110x3/4"	430	155	1480	17	738947	**2603**	AM1114
Mini City F1-H1-GE7-E-R-O-V1,0-1x130	Honeywell	1 x130 x 1"	430	155	1480	17	738948	**2603**	AM1114

Options for Alfa Laval Mini City / Heating only	Article no.	Public Price €
First fix jig including 4 Shut-off valves	AM1114	**129**
Flushing-by-pass kit	AM1140	**85**
Underfloor heating thermostat	AM1141	**177**
Additional expansion vessel module 7L	AM1139	**71**
Adapter energy meter 3/4"-1"	732545	**42**

Alfa Laval Mini City

Heating and domestic hotwater substation for apartments and single family houses

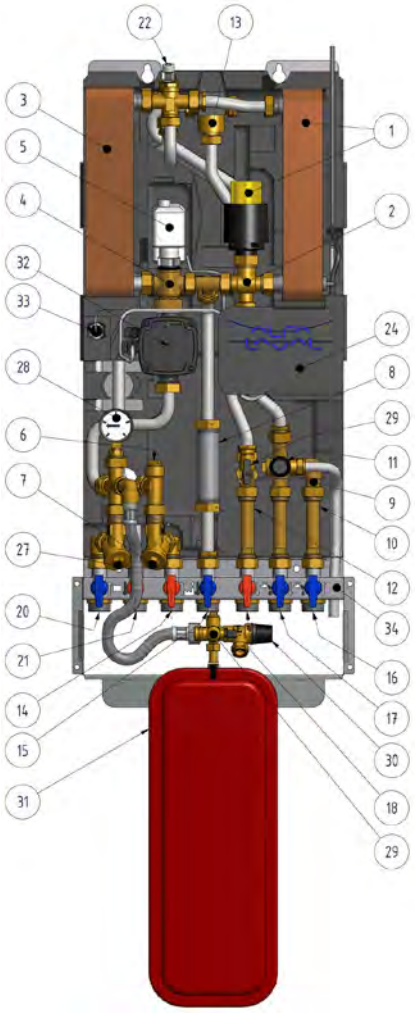
The Alfa Laval Mini City Heat Interface Unit is installation ready for complete central heating and hot water requirements. It is suitable for apartments and single-family houses that are indirect connected to a local heating or district heating network. Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Mini City, resulting in its practical function and ease of use. All components are easily accessible for inspection and future service when required.

High comfort
The Mini City has a fully automatic individual temperature setting for central heating and hot water. Heat is automatically regulated, depending on outdoor temperature and/or the temperature desired inside the dwelling. Domestic hot water is heated separately in a high-capacity heat exchanger; thus ensuring that the hot water is always as fresh as the incoming cold water mains supply.

Simple installation
Compact dimensions, light weight, well arranged plumbing and factory-complete internal wiring – all make installation very simple. A pre-programmed control unit and a power cable already fitted with a plug make things even simpler to allow immediate start-up. Mini City is mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and higher energy efficiency.

Long-term security
The Mini City represents the most modern technology, and provides the answer to stringent demands for long term performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. The Mini City is CE approved.

Benefits
- Comfortable tapwater control with built in energy optimised idle function
- Clever insulation
- Metering connections for individual measuring of energy usage, cold and hot water flow
- Easy to install with first fix-jig
- Room panel for space heating that is easy to start up and easy to use for the installers and end customers.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Heat exchanger for heating
4. Control valve, heating circuit
5. Actuator, heating circuit
6. Temperature sensor connection, heating media supply
7. Filter for heating media
8. Adapter for energy meter
9. Check valve for cold water
10. Adapter for Cold water flow meter
11. Safety valve for domestic hot water
12. Adapter for Hot water flow meter
13. Safety temperature limiter hot water
14. Heating network media, supply
15. Heating network media, return
16. Cold water (cw)
17. Cold water outlet (cw)
18. Hot water (hw)
20. Heating circuit, return
21. Heating circuit, supply
22. Drain valve
24. Connection box for electric power and sensors, heating circuit
25. Room thermostat/control panel
26. Outdoor temperature sensor (option)
27. Filter heating circuit
28. Pressure gauge for heating circuit
29. Filling valve
30. Safety valve for heating circuit
31. Expansion vessel heating circuit
32. Circulation pump, heating circuit
33. Supply temperature sensor, heating circuit
34. First fix-jig including shut-off valves (option)

Heating network – a good source of heat

A community or district heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way. The expansion of district heating to its current level has reduced emission of greenhouse gases from heating by about 20%. The economics of district heating are very competitive compared with other forms of heating.

Operation

The incoming hot medium from the district heating/heating network is at very high pressure and temperature. Therefore only the heat is used; the district/heating network medium does not mix with the water in the dwelling's heating and hot water system.

Heat exchangers are used to transfer heat from the district heating/heating network medium to the water in the dwelling's central heating and hot water system. Heat is transferred through a package of thin acid-resistant, stainless steel plates, which keep the district heating/heating network medium completely separate from the dwelling's own system.

The Mini City has automatic temperature control for central heating. The heating circuit is adjusted in relation to the outdoor temperature and the required indoor temperature via a room thermostat/control panel, outdoor sensor and/or indoor sensor. The room thermostat/control panel with the indoor sensor is always included and increase the comfort and saves energy.

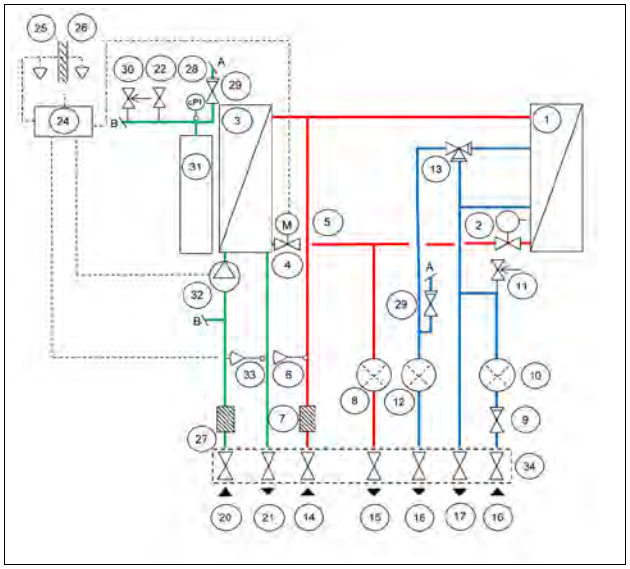
When no heating flow is required, the heating circulation pump stops automatically, but it will run occasionally to prevent seizing up due to standing still for a long time. The pump has an easy to use interface and built in energy saving functions.

Mini City is equipped with the Alfa Laval patented, heat exchanger CB20 Integrated Sensor. The CB20 Integrated Sensor has a unique way of controlling tap water. It is designed and optimized for best performance, lowest return temperature and lowest possible life cycle cost. The revolutionary design of the sensor that is a part of the heat exchanger gives the CB20 Integrated Sensor its accurate temperature control. When no tap water is used the built-in idle function takes over and keeps the CB20 Integrated Sensor ready for production of tap water as well as keeping the return temperature and flow to a minimum. The self-acting solution uses a minimum of energy to operate.

Mini City can be offered with a differential pressure controller that keeps the differential pressure over the load constant. This secures accurate and stable modulating control, less risk of noise from control valves and easy balancing and commissioning.

The district heating utility company/energy supplier registers use of energy. Measurement is done by recording the flow of district heating/heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Mini City



Operating data

	Heating medium	Heating circuit	Hot water circuit
Design pressure, MPa	1.6	1.0	1.0
Design temperature, °C	120	90	90
Opening pressure, safety valve, MPa	-	0.25	0.9
Volume, l	0.24/0.34	0.29	0.36

Performance at differential pressure min 50 kPa and max 600* kPa.

Designed temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temp. (°C)	Secondary flow (l/s)
Hot water circuit				
80-25/10-60	62	0.27	25	0.30
80-25/10-55	67	0.28	23	0.35
65-25/10-50	50	0.29	23	0.30
65-22/10-50	43	0.24	22	0.26
60-25/10-50	40	0.27	25	0.24
Heating circuit				
100-63/60-80	14	0.09	63	0.17
100-43/40-60	22	0.09	43	0.26
100-33/30-35	6	0.02	30	0.29
85-47/45-60	14	0.09	47	0.22
80-63/60-70	11	0.15	63	0.26

* Depending on option

An easily manageable, economical and durable source of heat

The Mini City uses the heating network/the hot district heating medium for heating the domestic hot water (providing an uninterrupted supply) as well as the water in the central heating system.

The Mini City is a wall-mounted unit and is very compact and discreet. To minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete.

Mini City requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and effficicate the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

Other information
Electrical data: 230 V, 1-phase, 50 W
Dimensions (cover): 430 mm width x 160 mm depth, 1480 mm height
Dimensions (without cover): 410 mm width x 150mm depth, 1440 mm height
Weight: 19kg without expansion vessel and cover
Transport particulars: Total weight 29 kg, 0.2 m³
Noise: <55 dB

Connections first-fix jig	Internal thread	External thread
Heating network media supply	G ¾	G 1
Heating network media return	G ¾	G 1
Heating circuit supply	G ¾	G 1
Heating circuit return	G ¾	G 1
Cold water, inlet	G ¾	G 1
Cold water, outlet	G ¾	G 1
Hot water	G ¾	G 1

Option

First fix-jig with shut-off valves.

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Mini ECO

Alfa Laval Mini ECO

Alfa Laval Mini ECO supplies hot water to both the tap water & the space heating circuit with modulating supply temperature. The space heating supply can be connected to **radiators or floor heating**. On the primary side the unit has an **indirect connection**: one heat exchanger for the space heating circuit and one heat exchanger to produce tap water. Suitable for **multi-family houses up to 4 apartments**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 – 4 apartments	yes	yes	yes

Operating limits	Design temperature	Design pressure
Primary heating	120°C	16 bar
Secondary heating	90°C	10 bar
Domestic hot water (DHW)	90°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recom-mended set of valves
Mini ECO F2-H2T2-GE7-E-R-O-9-STL-2,5-B0,63-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	540	230	835	32	738963	**3722**	AM1137
Mini ECO F2-H2T2-GE7-E-R-O-9-STL-2,5-V1,0-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	540	230	835	32	738964	**3722**	AM1137
Mini ECO F3-H2T2-GE7-E-R-O-9-2,5-B0,63-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	540	230	835	32	738965	**3562**	AM1137
Mini ECO F4-H2T2-GE7-E-R-O-2,5-V0,63-1x110	Honeywell	1x110x3/4"	540	230	835	32	738966	**3499**	AM1136
Mini ECO F5-H2T2-GE7-E-R-O-2,5-V1,0-DP-2x110-1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	540	230	835	32	738967	**3690**	AM1137
Mini ECO F5-H2T2-GE7-E-R-O-2,5-V1,0-PPV-DP-2x110–1x130	Honeywell	2x110x3/4"+ 1 x130 x 1"	540	230	835	32	738968	**3696**	AM1137

Options for Alfa Laval Mini ECO	Article no.	Public Price €
Set of 6 Shut-off valves	AM1136	**145**
Set of 7 Shut-off valves	AM1137	**160**
Flushing-by-pass kit	AM1140	**85**
Underfloor heating thermostat	AM1141	**177**
Adapter energy meter 3/4"-1"	732545	**42**

More information on Alfa Laval website: http://www.alfalaval.com/mini-eco

Alfa Laval Mini Eco / Heating only

Alfa Laval Mini ECO / Heating only

Alfa Laval Mini ECO / **Heating only** supplies hot water to the space heating circuit only. The space heating supply can be connected to **radiators or floor heating**. On the primary side the unit has an **indirect connection**: one heat exchanger between the district heating network and the space heating circuit. Suitable for **multi-family houses up to 4 apartments**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 – 4 apartments	no	yes	yes

Operating limits	Design temperature	Design pressure
Primary heating	120°C	16 bar
Secondary heating	90°C	10 bar

Model	Control equipment	Connections (flow meters)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €	Recom-mended set of valves
Mini ECO F1-H2-GE7-E-R-O-V1.0-1x130	Honeywell	1x130x1"	540	230	835	29	738962	**3123**	AM1134

Options for Alfa Laval Mini ECO / Heating only	Article no.	Public Price €
Set of 4 Shut-off valves	AM1134	**118**
Flushing-by-pass kit	AM1140	**85**
Underfloor heating thermostat	AM1141	**177**
Adapter energy meter 3/4"-1"	732545	**42**

Alfa Laval Mini Eco

Heating and domestic hotwater substation for apartments and single family houses

Heating and domestic hot water substation for apartments and single family houses

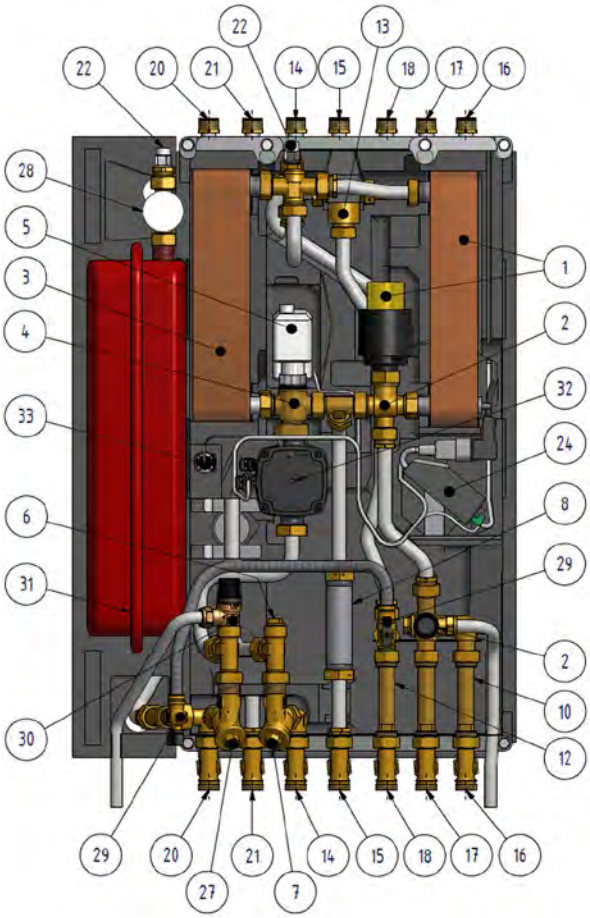
The Alfa Laval Mini ECO Heat Interface Unit/ district heating substation is installation ready for complete central heating and hot water requirements. It is suitable for apartments and single-family houses that are indirect connected to a local heating or district heating network. Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Mini ECO, resulting in its practical function and ease of use. All components are easily accessible for inspection and future service when required.

High comfort
The Mini ECO has a fully automatic individual temperature setting for central heating and hot water. Heat is automatically regulated, depending on outdoor temperature and/or the temperature desired inside the dwelling. Domestic hot water is heated separately in a high-capacity heat exchanger; thus ensuring that the hot water is always as fresh as the incoming cold water mains supply.

Simple installation
Compact dimensions, light weight, well arranged plumbing and factory-complete internal wiring – all make installation very simple. A pre-programmed control unit and a power cable already fitted with a plug make things even simpler to allow immediate start-up. Mini ECO is mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and higher energy efficiency. In addition, the pipes can be connected up or down depending on the layout of the building.

Long-term security
The Mini ECO represents the most modern technology, and provides the answer to stringent demands for long term performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. The Mini ECO is CE and P marked.

Benefits
- Comfortable tapwater control with built in energy optimised idle function
- Clever insulation
- Metering connections for individual measuring of energy usage, cold and hot water flow
- Easy to install with pip connection up and down
- Room panel for space heating that is easy to start up and easy to use for the installers and end customers.



Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Heat exchanger for heating
4. Control valve, heating circuit
5. Actuator, heating circuit
6. Temperature sensor connection, heating media supply
7. Filter for heating media
8. Adapter for energy meter
9. Check valve for cold water
10. Adapter for Cold water flow meter
11. Safety valve for domestic hot water
12. Adapter for Hot water flow meter
13. Safety temperature limiter hot water
14. Heating network media, supply
15. Heating network media, return
16. Cold water (cw)
17. Cold water outlet (cw)
18. Hot water (hw)
20. Heating circuit, return
21. Heating circuit, supply
22. Drain valve
24. Connection box for electric power and sensors, heating circuit
25. Room thermostat/control panel
26. Outdoor temperature sensor (option)
27. Filter heating circuit
28. Pressure gauge for heating circuit
29. Filling loop
30. Safety valve for heating circuit
31. Expansion vessel heating circuit
32. Circulation pump, heating circuit
33. Supply temperature sensor, heating circuit

Heating network/district heating – a good source of heat
A community or district heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way. The expansion of district heating to its current level has reduced emission of greenhouse gases from heating by about 20%. The economics of district heating are very competitive compared with other forms of heating.

Operation
The incoming hot medium from the district heating /heating network is at very high pressure and temperature. Therefore only the heat is used; the district/heating network medium does not mix with the water in the dwelling's heating and hot water system.

Heat exchangers are used to transfer heat from the district heating /heating network medium to the water in the dwelling's central heating and hot water system. Heat is transferred through a package of thin acid-resistant, stainless steel plates, which keep the district heating/heating network medium completely separate from the dwelling's own system.

The Mini ECO has automatic temperature control for central heating. The heating circuit is adjusted in relation to the outdoor temperature and the required indoor temperature via a room thermostat/control panel, outdoor sensor and/or indoor sensor. The room thermostat/control panel with the indoor sensor is always included and increase the comfort and saves energy.

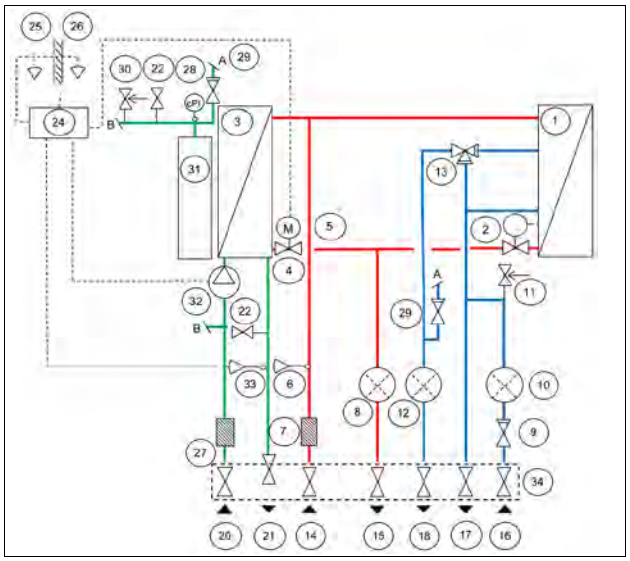
When no heating flow is required, the heating circulation pump stops automatically, but is run occasionally to prevent seizing up due to standing still for a long time. The pump has an easy to use interface and built in energy saving functions.

Mini Eco is equipped with the Alfa Laval patented, heat exchanger CB20 Integrated Sensor. The CB20 Integrated Sensor has a unique way of controlling tap water. It is designed and optimized for best performance, lowest return temperature and lowest possible life cycle cost. The revolutionary design of the sensor that is a part of the heat exchanger gives the CB20 Integrated Sensor its accurate temperature control. When no tap water is used the built-in idle function takes over and keeps the CB20Integrated Sensor ready for production of tap water as well as keeping the return temperature and flow to a minimum. The self-acting solution makes uses a minimum of energy to operate.

Mini ECO can be offered with a differential pressure controller that keeps the differential pressure over the load constant. This secures accurate and stable modulating control, less risk of noise from control valves and easy balancing and commissioning.

The district heating utility company/energy supplier registers use of energy. Measurement is done by recording the flow of district heating /heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Mini ECO



Operating data

	Heating medium	Heating circuit	Hot water circuit
Design pressure, MPa	1.6	1.0	1.0
Design temperature, °C	120	90	90
Opening pressure, safety valve, MPa	-	0.25	0.9
Volume, l	0.38/0.45	0.46	0.48

Performance at differential pressure min 50 kPa and max 600* kPa.

Designed temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temp. (°C)	Secondary flow (l/s)
Hot water circuit				
80-25/10-60	69	0.29	23	0.33
80-25/10-55	75	0.30	21	0.40
65-25/10-50	67	0.38	23	0.40
65-22/10-50	50	0.27	20	0.30
60-25/10-50	50	0.33	24	0.30
Heating circuit				
100-63/60-80	24	0.15	63	0.29
100-43/40-60	27	0.11	42	0.32
100-33/30-35	6.5	0.02	30	0.31
85-47/45-60	19	0.12	47	0.30
80-63/60-70	13	0.17	62	0.31

* Depending on option

An easily manageable, economical and durable source of heat

The Mini ECO uses the heating network/ the hot district heating medium for heating the domestic hot water (providing an uninterrupted supply) as well as the water in the central heating system.

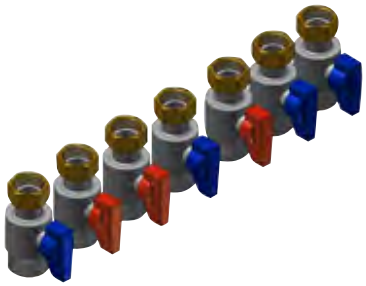
The Mini ECO is a wall-mounted unit and is very compact and discreet. To minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete.

Mini ECO requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

Other information
Electrical data: 230 V, 1-phase, 50 W
Dimensions (cover): 560 mm width x 240 mm depth, 850 mm height
Dimensions (without cover): 560 mm width x 220 mm depth, 850 mm height
Weight: 26 kg
Transport particulars: Total weight 32 kg, 0.2 m³
Noise: <55 dB

Option

Valve kit.



How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Mini Plus

Alfa Laval Mini Plus

Alfa Laval Mini Plus is a range of substations which supplies tap water and space heating in one single unit. This product can be used in district heating networks or local heating networks for **indirect connection**. Applications: **one-family houses and multi-family buildings**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
1 - 12 apartments	yes	yes	yes

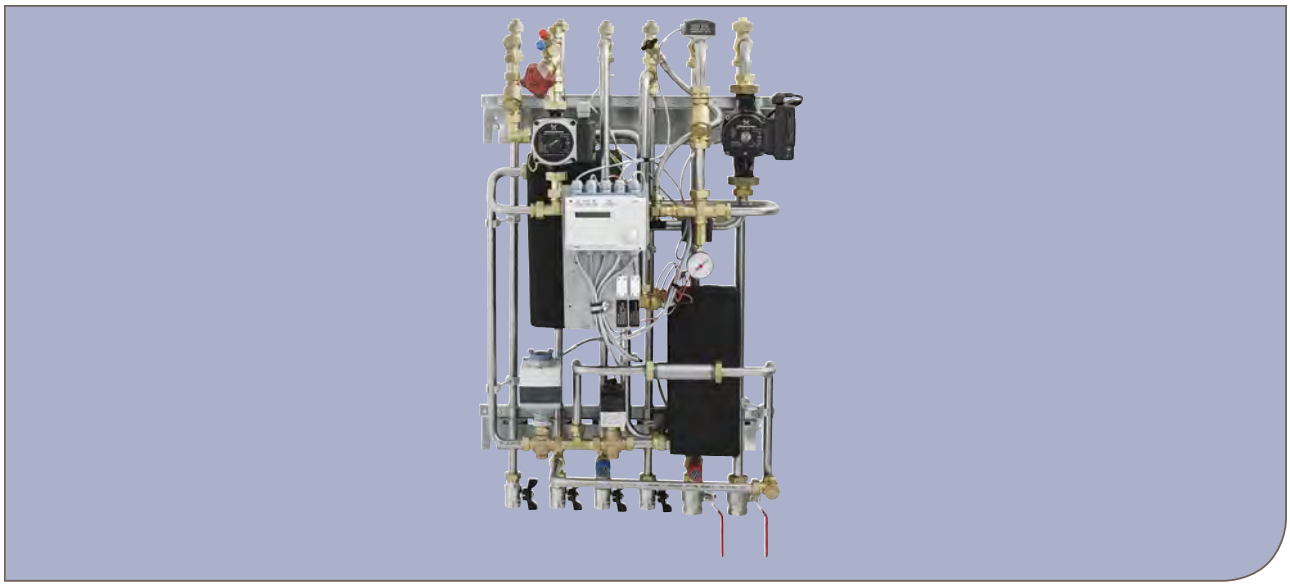
Operating limits	Design temperature	Design pressure
District heating	120°C	16 bar
Secondary heating	90°C	6 bar
Domestic hot water (DHW)	90°C	10 bar

Model	Control equipment	Connections (energy meter)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €
Alfa Laval Mini Plus-GE7-SR144-1,6-1,0-DHWC	Siemens	130 x 1"	600	470	1000	41	739066	**6371**
Alfa Laval Mini Plus-GE8-SR144-1,6-1,0-DHWC	Siemens	130 x 1"	600	470	1000	41	739067	**7042**
Alfa Laval Mini Plus-GE7-H737S-2,5-1,0-DHWC	Honeywell	130 x 1"	600	470	1000	41	739068	**5217**
Alfa Laval Mini Plus-GE8-H737S-2,5-1,0-DHWC	Honeywell	130 x 1"	600	470	1000	41	739069	**5888**

More information on Alfa Laval website: http://www.alfalaval.com/mini-plus

Alfa Laval Mini Plus

District heating substation for single-family houses and multi-family buildings



The Alfa Laval Mini Plus district heating substation is ready for installation to meet the complete central heating and hot water requirements. It can be used for single-family houses or multi-family buildings (1-12 dwellings).

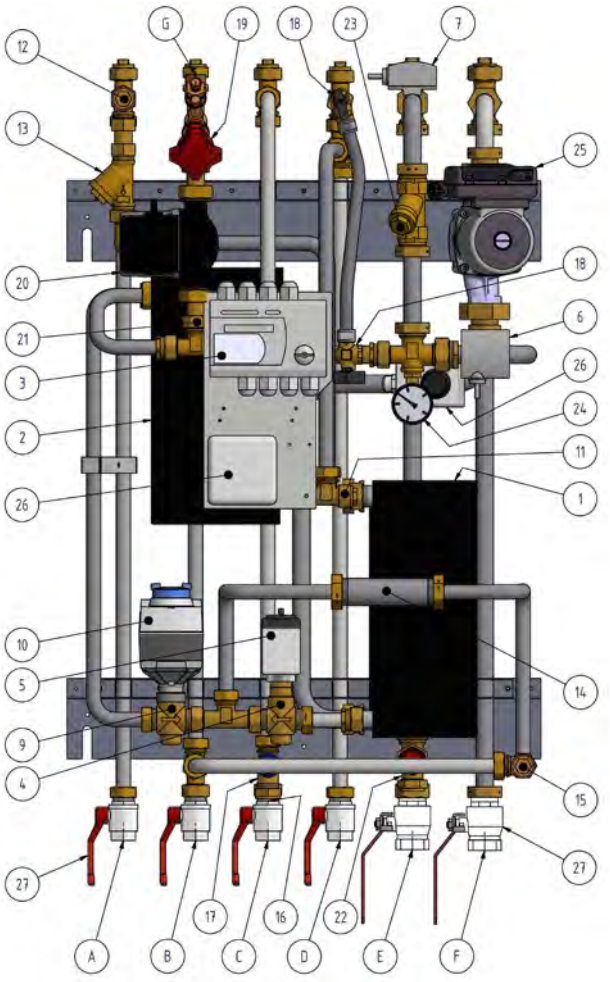
Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Mini Plus, resulting in its practical function and ease of use. All components are easily accessible for inspection and future servicing when required.

High comfort
The Mini Plus has a fully automatic individual temperature setting for central heating and hot water. Heat is automatically regulated, depending on outdoor temperature and the desired temperature inside the building. Domestic hot water is heated completely separately in a high-capacity heat exchanger, thus ensuring that the hot water is always as fresh as the incoming cold water from the main supply.

Simple installation
Compact dimensions, lightweight, well-planned pipe runs and factory-installed interior electrical routing all make installation very simple. A pre-programmed control unit and a power cable already fitted with a plug make things even simpler to allow immediate start-up. In addition, the pipes can be connected up or down depending on the layout of the building.

Long-term security
The Mini Plus represents the most modern technology and provides the answer to stringent demands for long-term performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel.

All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. The Mini Plus is CE-marked to certify that the substation confirms to international safety regulations.



Components

1. Heat exchanger for heating
2. Heat exchanger for domestic hot water
3. Operator control panel with connection box
4. Control valve, heating circuit
5. Actuator, heating circuit
6. Supply temperature sensor, heating circuit
7. Return temperature sensor, heating circuit
8. Outdoor temperature sensor
9. Control valve for domestic hot water
10. Actuator, domestic hot water
11. Supply temperature sensor, domestic hot water
12. Temperature sensor connection, district heating supply
13. Filter for district heating supply
14. Adapter for energy meter
15. Temperature sensor connection, district heating return
16. Check valve for cold water
17. Safety valve for domestic hot water
18. Topping-up heating
19. Balancing valve DHWC
20. Circulation pump for DHWC
21. Check valve for DHWC
22. Safety valve for heating circuit
23. Filter for heating circuit
24. Pressure gauge for heating circuit
25. Circulation pump for heating circuit
26. Safety thermostat (option)
27. Shut-off valve

A. District heating media, supply
B. District heating media, return
C. Cold water
D. Hot water
E. Heating circuit, return
F. Heating circuit, supply
G. Domestic hot water circulation

Brass components are of dezincification-resistant quality. Connections for district heating and tap water DN20, internal threading. Connections for heating DN25, internal threading. The pipes can be connected up and/or down. Shut-off valves are included and come with the delivery.

District heating – an excellent heating method
District heating is an efficient technology that satisfies the need for central heating and hot water in a simple, convenient and secure way. The expansion of district heating to its current level has reduced emission of greenhouse gases from heating by about 20%. The financial aspects of district heating are very competitive compared with other forms of heating.

Operation
The incoming hot medium from the district heating underground network is at very high pressure and temperature. Therefore, only the heat from this is used; the district heating medium does not mix with the water in the heating and hot water system in the building. Heat exchangers are used to transfer heat from the district heating medium to the water in the dwelling's central heating and hot water system.

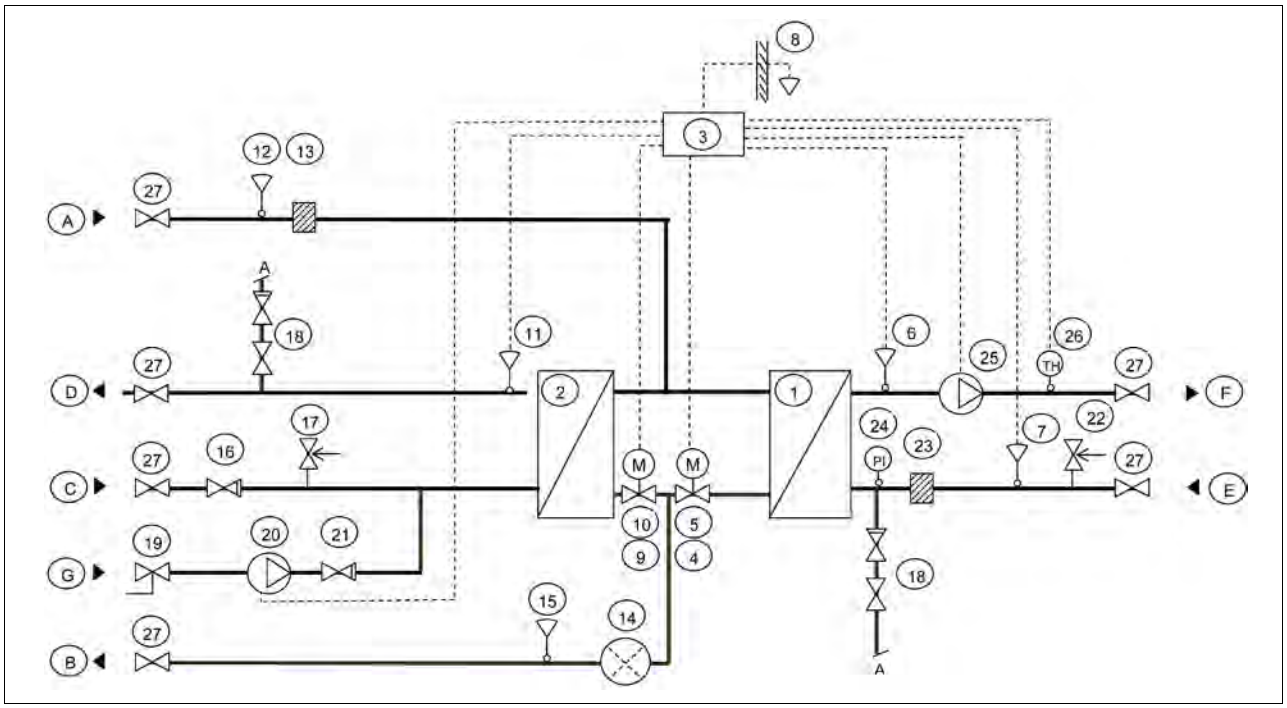
Heat is transferred through a package of thin acid-resistant, stainless steel plates, which keep the district heating medium completely separate from the building's own system.

Mini Plus has automatic temperature control for central heating and hot water. The heating circuit is adjusted in relation to the outdoor temperature and the required indoor temperature via a thermostatic control and outdoor temperature sensor. When no heating flow is required, the heating circulation pump stops automatically, but is run occasionally to prevent seizing up due to long standstill.

An automatic temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow.

The district heating utility company registers use of energy. Measurement is done by recording the flow of the district heating medium through the system and by measuring the temperature difference between the medium's supply and return flow.

Diagrammatic flow chart for Mini Plus



An easily manageable, economical and durable source of heat

The Mini Plus uses the hot district heating medium for heating domestic hot water (providing an uninterrupted supply) as well as the water in the central heating system.

The Mini Plus is a wall-hung unit and is very compact and discreet. To minimize transmission of operational noise we recommend installing it on well insulated walls or on walls of concrete.

Mini Plus requires no attendance or maintenance and has a very long operational life. In the event service is required or components need to be exchanged at some future date, all parts are easily accessible and individually replaceable.

Other information
Electrical data: 230 V, 1-phase, 120 W
Dimensions: 590 mm width x 400 mm depth, 990 mm height
Weight: 33 kg
Transport particulars: Total weight 40 kg, 0.4 m³

Connections	Screws
District heating media supply	G ¾"
District heating media return	G ¾"
Heating circuit supply	G 1"
Heating circuit return	G 1"
Cold water	G ¾"
Hot water	G ¾"

Operating data

	District heating medium	Heating circuit	Hot water circuit
Design pressure, MPa	1.6	1.0	1.0
Design temperature, °C	120	90	90
Opening pressure, safety valve, MPa	-	0.25	0.9
Volume, l	1.01/1.47	1.05	1.62

Performance at available primary differential pressure 100-600 kPa

Designed temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temp. (°C)	Secondary flow (l/s)
Hot water circuit				
80-22/10-55	113	0.42	16	0.60
70-25/10-58	100	0.48	20	0.50
65-22/10-55	113	0.63	22	0.60
65-22/10-55	82	0.43	20	0.43
Heating circuit UPML 25-95 pump				
115-65/60-80	60	0.28	61.50	0.74
100-63/60-80	58	0.39	63.00	0.71
100-53/50-70	60	0.31	52.10	0.73
100-33/30-37	21	0.07	30.03	0.72
Heating circuit UPM3 15-70 pump				
115-65/60-80	53	0.25	61.20	0.64
100-63/60-80	53	0.35	62.70	0.64
100-53/50-70	53	0.27	51.80	0.64
100-33/30-37	19	0.07	30.02	0.64

CE ISO 9001:2008

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Heating systems medium

Alfa Laval Midi Wall

Alfa Laval Midi Wall

Alfa Laval Midi Wall is a wall-mounted substation range supplying tap water and space heating for multi-family buildings up to 30 apartments. Nominal capacities: 70, 100 &130 kW. This product can be used in district heating networks or local heating networks for **indirect connection**.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
10 - 30 apartments	yes	yes	yes

Operating limits	Design temperature	Design pressure
District heating	120°C	16 bar
Secondary heating	90°C	10 bar
Domestic hot water (DHW)	90°C	10 bar

Model	Nominal cap. (kW)	Control equipment	Connections (energy meter)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €
70-H-GE9-TA-1.6-1.6	**70**	Schneider control valves	190 x 1"	730	510	1115	62	739071	**4963**
100-H-GE9-TA-1.6-1.6	**100**	Schneider control valves	190 x 1"	730	510	1115	64	739072	**5395**
130-H-GE9-TA-1.6-2.5	**130**	Schneider control valves	190 x 1"	730	510	1115	66	739073	**6014**
70-H-GE9-SR-1.6-1.6	**70**	Siemens control valves	190 x 1"	730	510	1115	61	739074	**4639**
100-H-GE9-SR-1.6-1.6	**100**	Siemens control valves	190 x 1"	730	510	1115	63	739075	**5071**
130-H-GE9-SR-1.6-2.5	**130**	Siemens control valves	190 x 1"	730	510	1115	65	739076	**5690**
70-H-GE9-TA2222-1.6-1.6	**70**	Schneider TAC 2222	190 x 1"	730	510	1115	68	739077	**7120**
100-H-GE9-TA2222-1.6-1.6	**100**	Schneider TAC 2222	190 x 1"	730	510	1115	70	739078	**7552**
130-H-GE9-TA2222-1.6-2.5	**130**	Schneider TAC 2222	190 x 1"	730	510	1115	72	739079	**8171**
70-H-GE9-SR144-1.6-1.6	**70**	Siemens RVD 144	190 x 1"	730	510	1115	65	739080	**6152**
100-H-GE9-SR144-1.6-1.6	**100**	Siemens RVD 144	190 x 1"	730	510	1115	67	739081	**6584**
130-H-GE9-SR144-1.6-2.5	**130**	Siemens RVD 144	190 x 1"	730	510	1115	69	739082	**7203**

Options for Midi Wall	Article no.	Public Price €
3-point flanged HB meter section 260 x F25	738662	**1339**
CIM200 Modbus Magna3	AM1132	**328**
Floor support	FR1183	**216**
Floor heating thermostat	AM1069	**189**
Adjustable valve DHWC	VAB1013	**144**
IQWeb200 - Web option to IQHeat	SO1022	**1608**
IQMeter200 - Mbus option IQHeat	SO1023	**630**
Schneider actuator M800	AC1008	**500**
Pressure sensor 0-10 bar, 24 V AC	AM1007MW	**524**

More information on Alfa Laval website: http://www.alfalaval.com/midi-wall

Alfa Laval Midi Wall

District heating substation for multi-family houses (10-30 dwellings)

District heating substation for multi-family houses (10-30 dwellings)

Alfa Laval Midi Wall is a complete, ready-to-install district heating substation for heating and hot water. Midi Wall is available in three sizes. The sizes offered are 70, 100 and 130kW heating, with matching hot water output.

Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Midi Wall, resulting in well-planned pipe-work and with all components easily accessible for inspection and future servicing.

Comfort
Midi Wall has fully automatic temperature control for heating and hot water. The outside temperature is used to control heating. The hot water temperature is set and maintained at the desired temperature.

To achieve the very best control performance and lowest return temperature, Midi Wall has been equipped with a DHW Heat Exchanger in two stroke.

Simple installation
Compact dimensions, light weight, well-planned pipe runs and factory-installed interior electrical routing all make installation very simple. The pre-programmed control device and plug connection make life even simpler in that the system can be activated immediately.

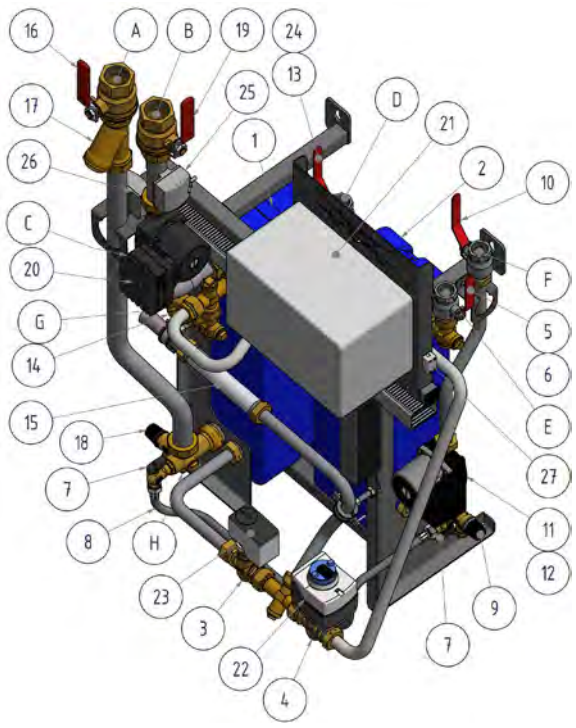
Long-term security
The Midi Wall represents the most modern technology, and provides the answer to stringent demands for long-term performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008.

Midi Wall is CE-marked to certify that the substation conforms to international safety regulations. To maintain the validity of the CE marking, only identical replacement parts may be used.

AHRI-certification
AHRI (Air Conditioning, Heating and Refrigeration Institute) is the only worldwide organization, that certifies the performance of plate heat exchangers. This third-party verification of thermal performance in the AHRI Liquid to Liquid Brazed and Fusion bonded Heat Exchangers Certification Program ensures:

- An **energy-efficient** system performing according to specifications that reduces lifetime operating costs.
- **Confidence** that the system is performing according to promised performance.
- **Correct** thermal performance when choosing the heat exchanger.

AHRI CERTIFIED®
www.ahridirectory.org
Liquid to Liquid Brazed & Fusion Bonded Heat Exchangers (LLBF) AHRI Standard 400



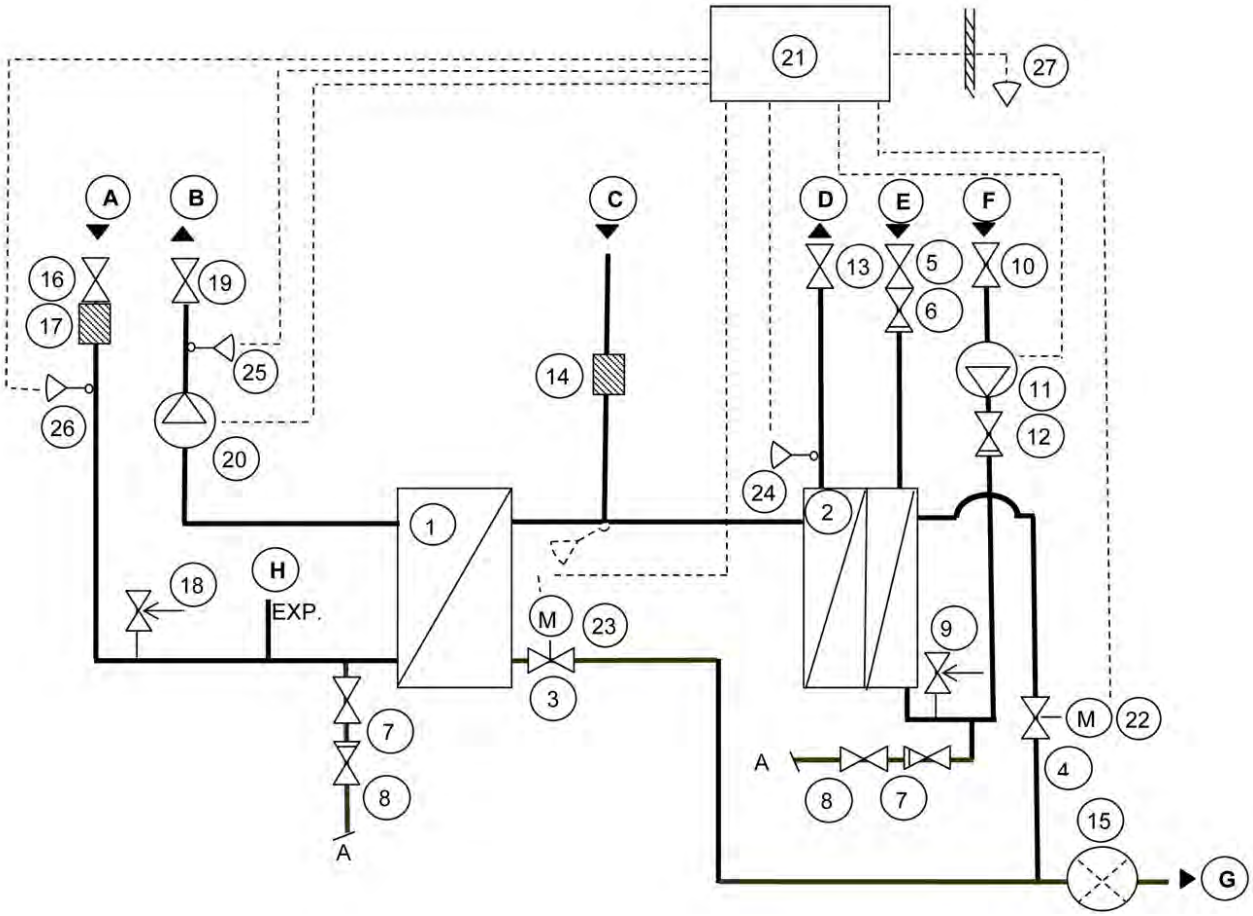
Components

1. Heat exchanger, heating
2. Heat exchanger, DHW
3. Control valve, heating
4. Control valve, DHW
5. Shut-off valve, CW
6. Non-return valve, CW
7. Topping up, incl shutt-off valves and non-return valve
8. Hose
9. Safety valve, CW
10. Shut-off valve, DHWC
11. Pump, DHWC
12. Non-return valve, DHWC
13. Shut-off valve, DHW
14. Strainer, primary in
15. Dummy, heat meter
16. Shut-off valve, heating return
17. Strainer, heating return
18. Safety valve, heating
19. Shut-off valve, heat supply
20. Pump, heating
21. Control center *
22. Actuator, DHW *
23. Actuator, heating *
24. Temperature sensor, DHW supply *
25. Temperature sensor, heating supply *
26. Temperature sensor, heating return *
27. Terminal block to Temperature sensor, outdoor *

A. Heating return
B. Heating supply
C. District heating supply
D. DHW
E. CW
F. DHWC
G. District heating return
H. Connection expansion vessel

*) included depending on model

Connections for district heating are welded connections in DN25, for tap water side internal threaded connections in G 1" and for heating side internal threaded connections in G 1½".



Operating data

	Primary side	Heating	DHW
Design pressure, PS	16 bar	6 bar	10 bar
Design temperature TS, °C	120	90	90
Relief pressure safety valve	-	3 bar	9 bar
Volume, heat exchanger, L	1.96-2.99/1.96	2.06-3.09	2.06

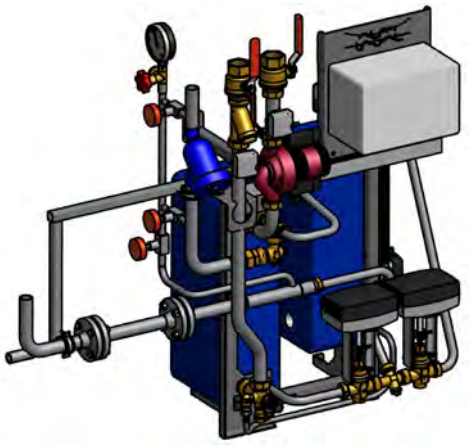
Performance at available primary differential pressure 100-600 kPa

Type	Temperature programme (°C)	Capacity (kW)	Primary flow (l/s)	Actual return temperature (°C)	Secondary flow (l/s)
Heating circuit					
Midi Wall 70	100-63/60-80	82	0.55	63	1.00
	100-43/40-60	121.5	0.53	42.5	1.47
Midi Wall 100	100-63/60-80	105	0.71	63	1.28
	100-43/40-60	146.4	0.63	42.3	1.77
Midi Wall 130	100-63/60-80	128.5	0.86	63	1.57
	100-43/40-60	168.4	0.73	42.2	2.04
Hot water circuit					
Midi Wall 70	65-22/10-55	126	0.70	22	0.66
	70-22/10-55	141	0.67	19.8	0.75
	70-25/10-55	141	0.67	19.8	0.75
Midi Wall 100	65-22/10-55	126	0.70	22	0.66
	70-22/10-55	141	0.67	19.8	0.75
	70-25/10-55	141	0.67	19.8	0.75
Midi Wall 130	65-22/10-55	126	0.70	22	0.66
	70-22/10-55	141	0.67	19.8	0.75
	70-25/10-55	141	0.67	19.8	0.75

Connections	Weld	Thread
District heating supply	DN25	
District heating return	DN25	
Heating supply		G 1½"
Heating return		G 1½"
Cold water		G 1"
Hot water		G 1"
Hot water circulation		G 1"
Expansion vessel		G 3/4 "

Other information
Electrical data: 230 V 50 Hz, single phase, 290-315 W
Sound level: <70 dB(A), 1.6 meters above the floor and 1 meter from the sound source
Dimensions: 730 x 510 x 1115 mm (W x D x H)
Weight: 65-85 kg
Support leg is included in all deliveries

Options



3-point HB measurement
item. nr 738662

Floor stand
item nr FR-1183

- Safety thermostat
  item nr AM-1069
- Adjustable valve DHWC
  item. nr VAB-1013

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Midi Compact

Alfa Laval Midi Compact

Midi Compact is a range of substations for multi-family buidings up to 50 apartments. Nominal capacities: 80 - 200kW . This product can be used in district heating networks or local heating networks for **indirect connection** .

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
10 - 50 apartments	yes	yes	yes

Operating limits	Design temperature	Design pressure
District heating	120°C	16 bar
Secondary heating	90°C	10 bar
Domestic hot water (DHW)	90°C	10 bar

Model	Nominal capacity (kW)	Control equipment	Connections (energy meter)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €
80-GM1-SR144-1.6-1.6	**80**	Siemens RVD 144	-	679	581	1299	112	738683	**6693**
100-GM1-SR144-1.6-1.6	**100**	Siemens RVD 144	-	697	581	1299	117	738684	**7064**
160-GM1-SR144-2.5-2.5	**160**	Siemens RVD 144	-	697	581	1299	122	738685	**7660**
200-WS3-SR144-2.5-4.0	**200**	Siemens RVD 144	-	726	581	1299	127	738686	**8493**
80-V-GM1-SR144-1.6-1.6	**80**	Siemens RVD 144	190 x 1"	764	581	1299	115	738687	**7198**
100-V-GM1-SR144-1.6-1.6	**100**	Siemens RVD 144	190 x 1"	783	581	1299	120	738688	**7569**
160-V-GM1-SR144-2.5-2.5	**160**	Siemens RVD 144	190 x 1"	783	581	1299	125	738689	**8165**
200-V-WS3-SR144-2.5-4.0	**200**	Siemens RVD 144	190 x 1"	811	581	1299	130	738690	**8998**
80-HB-GM1-SR144-1.6-1.6	**80**	Siemens RVD 144	260 x F25	1092	708	1299	120	738691	**8949**
100-HB-GM1-SR144-1.6-1.6	**100**	Siemens RVD 144	260 x F25	1092	708	1299	125	738692	**9320**
160-HB-GM1-SR144-2.5-2.5	**160**	Siemens RVD 144	260 x F25	1092	708	1299	130	738693	**9916**
200-HB-WS3-SR144-2.5-4.0	**200**	Siemens RVD 144	260 x F25	1092	708	1299	135	738694	**10749**
80-GM1-SR-1.6-1.6	**80**	Siemens valves	-	679	581	1299	106	738695	**5118**
100-GM1-SR-1.6-1.6	**100**	Siemens valves	-	697	581	1299	111	738696	**5489**
160-GM1-SR-2.5-2.5	**160**	Siemens valves	-	697	581	1299	116	738697	**6085**
200-WS2-SR-2.5-4.0	**200**	Siemens valves	-	726	581	1299	121	738698	**6918**
80-V-GM1-SR-1.6-1.6	**80**	Siemens valves	190 x 1"	764	581	1299	109	738699	**5623**
100-V-GM1-SR-1.6-1.6	**100**	Siemens valves	190 x 1"	783	581	1299	114	738700	**5994**
160-V-GM1-SR-2.5-2.5	**160**	Siemens valves	190 x 1"	783	581	1299	119	738701	**6590**
200-V-WS2-SR-2.5-4.0	**200**	Siemens valves	190 x 1"	811	581	1299	124	738702	**7423**
80-GM1-TA2222-1.6-1.6	**80**	Schneider TAC 2222	-	679	581	1299	112	738707	**7542**
100-GM1-TA2222-1.6-1.6	**100**	Schneider TAC 2222	-	697	581	1299	117	738708	**7913**
160-GM1-TA2222-2.5-2.5	**160**	Schneider TAC 2222	-	697	581	1299	122	738709	**8509**
200-WS3-TA2222-2.5-4.0	**200**	Schneider TAC 2222	-	726	581	1299	127	738710	**9342**
80-V-GM1-TA2222-1.6-1.6	**80**	Schneider TAC 2222	190 x 1"	764	581	1299	115	738711	**8047**
100-V-GM1-TA2222-1.6-1.6	**100**	Schneider TAC 2222	190 x 1"	783	581	1299	120	738712	**8418**
160-V-GM1-TA2222-2.5-2.5	**160**	Schneider TAC 2222	190 x 1"	783	581	1299	125	738713	**9014**
200-V-WS3-TA2222-2.5-4.0	**200**	Schneider TAC 2222	190 x 1"	811	581	1299	130	738714	**9847**

Issue : 2018 Revision : 1801 Prices : **EUR**

Model	Nominal capacity (kW)	Control equipment	Connections (energy meter)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €
80-HB-GM1-TA2222-1.6-1.6	**80**	Schneider TAC 2222	260 x F25	1092	708	1299	120	738715	**9798**
100-HB-GM1-TA2222-1.6-1.6	**100**	Schneider TAC 2222	260 x F25	1092	708	1299	125	738716	**10169**
160-HB-GM1-TA2222-2.5-2.5	**160**	Schneider TAC 2222	260 x F25	1092	708	1299	130	738717	**10765**
200-HB-WS3-TA2222-2.5-4.0	**200**	Schneider TAC 2222	260 x F25	1092	708	1299	135	738718	**11598**
80-GM1-TA-1.6-1.6	**80**	Schneider valves	-	679	581	1299	106	738719	**5178**
100-GM1-TA-1.6-1.6	**100**	Schneider valves	-	697	581	1299	111	738720	**5549**
160-GM1-TA-2.5-2.5	**160**	Schneider valves	-	697	581	1299	116	738721	**6145**
200-WS2-TA-2.5-4.0	**200**	Schneider valves	-	726	581	1299	121	738722	**6978**
80-V-GM1-TA-1.6-1.6	**80**	Schneider valves	190 x 1"	764	581	1299	109	738723	**5683**
100-V-GM1-TA-1.6-1.6	**100**	Schneider valves	190 x 1"	783	581	1299	114	738724	**6054**
160-V-GM1-TA-2.5-2.5	**160**	Schneider valves	190 x 1"	783	581	1299	119	738725	**6650**
200-V-WS2-TA-2.5-4.0	**200**	Schneider valves	190 x 1"	811	581	1299	124	738726	**7483**

Options for Midi Compact	Article no.	Public Price €
4-point secondary meter	MA1031	**836**
3-point secondary meter	MA1032	**796**
If WILO module Stratos	SP1075	**225**

More information on Alfa Laval website: http://www.alfalaval.com/midi-compact

Midi Compact

District heating substation for multi-family houses (10-50 dwellings)

District heating substation for multi-family houses (10-50 dwellings)

Midi Compact is a complete, ready-to-install district heating substation for heating and hot water. Midi Compact is available in four sizes. The sizes offered are 80, 100, 160 and 200 kW heating, with matching hot water output.

Alfa Laval has years of experience in district heating technology and has developed Midi Compact with well-planned pipe-work and with all components easily accessible for inspection and future servicing.

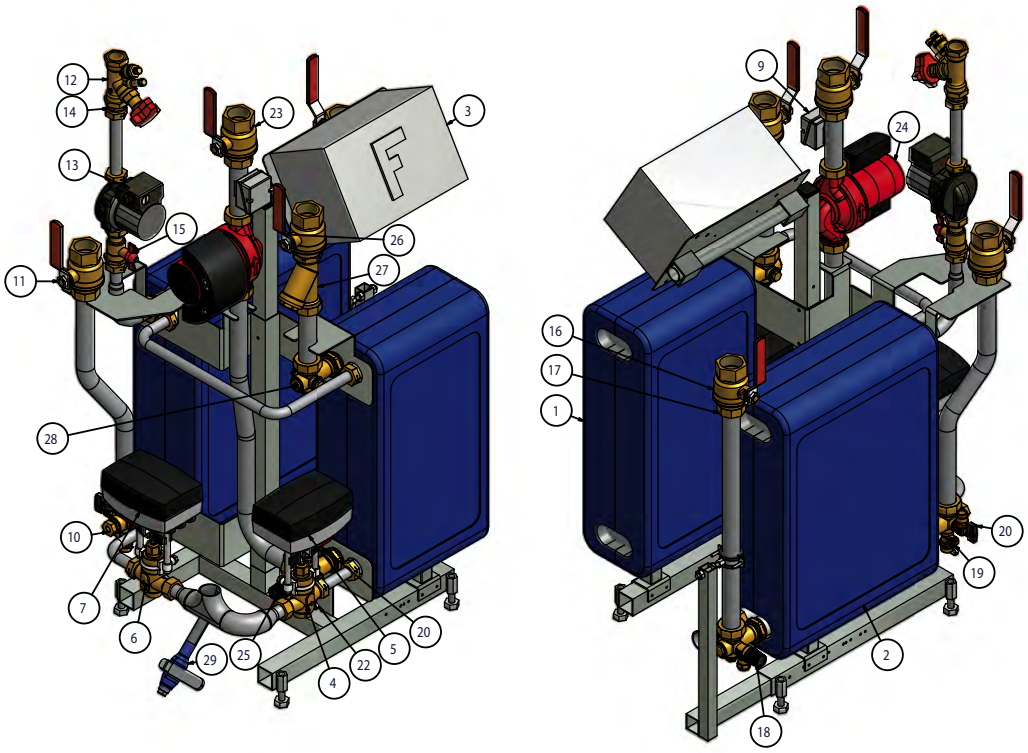
Comfort
Midi Compact has fully-automatic temperature control for heating and hot water. The outside temperature is used to control heating. The hot water temperature is set and maintained at the desired temperature. The unit has been designed with a two-step connection in order to have the best control performance and to optimize cooling on the primary return for best long term life cycle cost and performance.

Simple installation
Installation is easy due to well planned pipe-work and pre-wiring. A pre-programmed controller with plug connection, which makes it easy to start the substation without delay. With its small size and light weight, the Midi Compact is easy to carry in, mount and maintain in both new and renovated buildings.

Long-term security
The Midi Compact represents the most modern technology, and provides the answer to stringent demands for long-term performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008.

Midi Compact is CE-marked to certify that the substation conforms to international safety regulations. To maintain the validity of the CE marking, only identical replacement parts may be used.

Features and benefits
- Complete installation package - tap water and space heating available in four sizes.
- Optimized price/performance, Alfa Laval world class technology heat exchangers.
- Optimized parameter settings on the control loops and 2-step for lowest return temperature and best control performance.
- Short delivery time, shipment from warehouse - easy to install, just plug-and-play.
- Extremely small footprint, optimized compact design and low weight with good accessibility for service and maintenance.
- Best performance for longterm use - stainless steel piping.
- Reduces the use of energy - individual measuring of energy available.

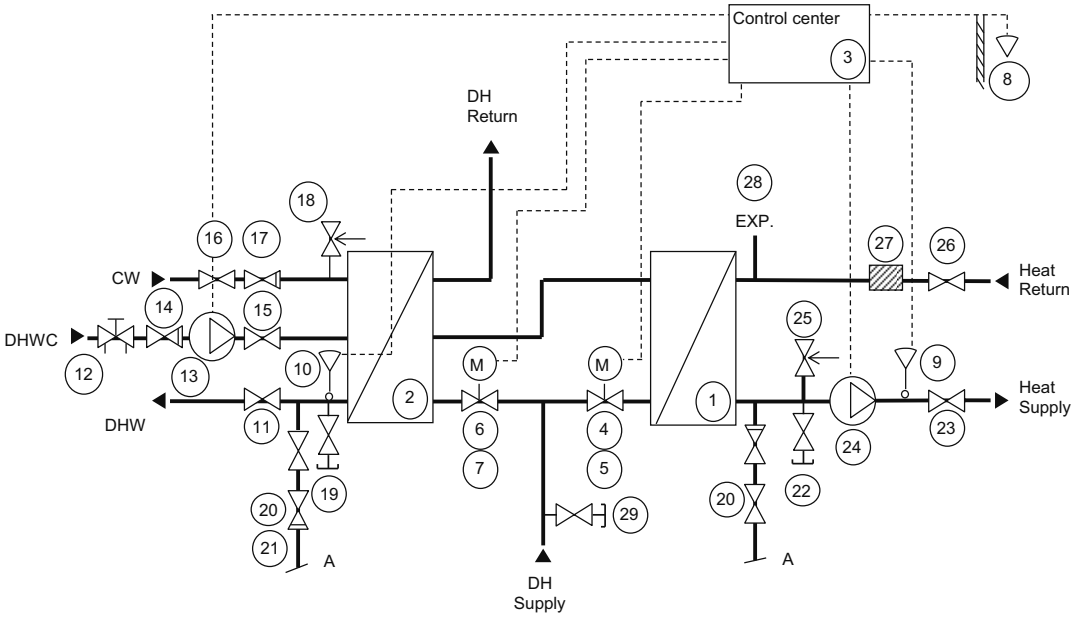


Connections for district heating are welded connections in DN32, for tap water circulation it is internal threaded connection in G 1" and for DHW & heating side internal threaded connections G 1½".

Components

1. Heat exchanger, heating
2. Heat exchanger, DHW
3. Control center *
4. Control valve, heating
5. Actuator, heating *
6. Control valve, DHW
7. Actuator, DHW *
8. Temperature sensor, outdoor *
9. Temperature sensor, heating supply *
10. Temperature sensor, DHW supply *
11. Shut-off valve, DHW
12. Balancing valve, DHWC
13. Pump, DHWC
14. Non return valve, DHWC
15. Shut-off valve, DHWC
16. Shut-off valve, CW
17. Non return valve, CW
18. Safety valve, CW
19. Draining valve, DHW supply
20. Topping up
21. Hose
22. Draining valve, heat supply
23. Shut-off valve, heat supply
24. Pump heating
25. Safety valve, heating
26. Shut-off valve, heating return
27. Strainer, heat return
28. Connection expansion vessel
29. Draining valve, DH supply

* Option



Operating data

	Primary side	Heating	DHW
Design pressure, PS	16 bar	6 bar	10 bar
Design temperature TS, °C	120	100	100
Relief pressure safety valve	-	3 bar	9 bar
Volume, heat exchanger, L	2.1-5.2 / 1.85-2.88	2.1-5.2	1.75-3.2

Performance at available primary differential pressure 100-600 kPa

Type	Temperature programme (°C)	Capacity (kW)	Primary flow (°C)	Actual return temperature (°C)	Secondary flow (l/s)
Heating circuit					
Midi Compact 80	100-63/60-80	82	0.55	63	1.00
	100-43/40-60	123	0.53	42.5	1.49
Midi Compact 100	100-63/60-80	105	0.71	63	1.28
	100-43/40-60	150	0.65	42.4	1.81
Midi Compact 160	100-63/60-80	162	1.09	63	1.97
	100-43/40-60	163	0.71	41.4	1.97
Midi Compact 200	100-63/60-80	209	1.41	62.9	2.55
	100-43/40-60	210	0.92	41.5	2.54
Hot water circuit					
Midi Compact 80	65-22/10-55	111	0.63	22	0.59
	70-25/10-55	126	0.69	19.9	0.67
Midi Compact 100	65-22/10-55	111	0.63	22	0.59
	70-25/10-55	126	0.64	19.9	0.67
Midi Compact 160	65-22/10-55	139	0.79	22	0.74
	70-25/10-55	156	0.85	19.8	0.83
Midi Compact 200	65-22/10-55	183	1.04	22	0.97
	70-25/10-55	198	1.08	19.5	1.05

Welded connections

District heating supply	DN32
District heating return	DN32

Threaded connections

Heating supply	G 1½"	DN40
Heating return	G 1½"	DN40
Cold water	G 1½"	DN40
Hot water	G 1½"	DN40
Hot water circulation	G 1"	DN25
Expansion vessel	G ¾"	DN20

Other information

Electrical data: 230 V 50Hz, single phase, 290-315 W

Sound level: <70 dB(A), 1.6 meters above the floor and 1 meter from the sound source

Dimensions: 800 mm width x 600 mm depth, 1300 mm height

Weight: 80-110 kg

Alfa Laval reserves the right to change specifications without prior notification.

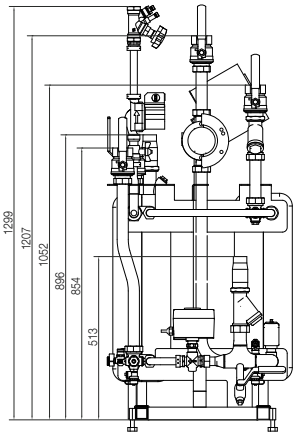
Midi Compact completed with different primary heat meter sections

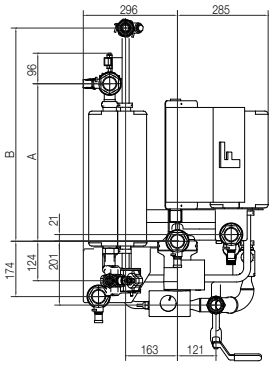
Integrated threaded vertical meter section

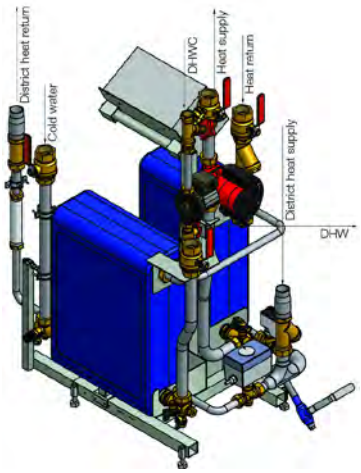
- Prefabricated place for heat meter integrated in the substation.
- Completed for measuring of heat metering.
- Vertical meter section with 5X before and 3X measure pipe DN after meter.
- Pressure norm PN16.
- Connection size welded DN32.

Consisting of:

- Filter with drain-off valve.
- Pocket for temperature sensor in DN15.
- Meter section for heat metering, threaded dummy DN25 L=190 mm.
- Drain-off valve in primary circuit.





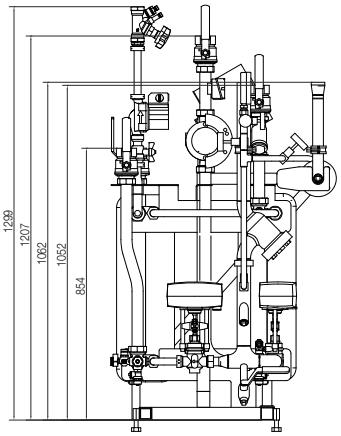


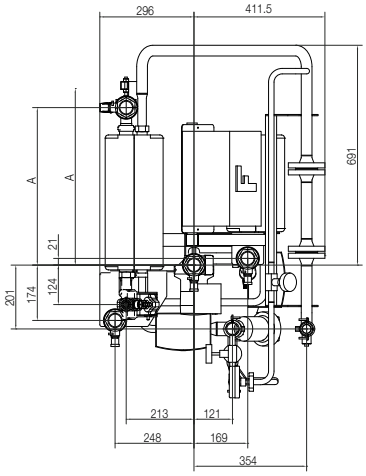
Integrated flanged horizontal meter section

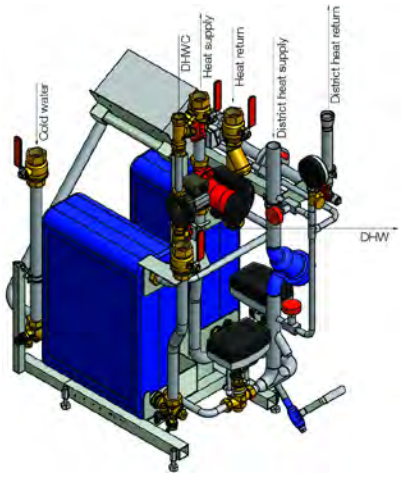
- Prefabricated place for heat meter integrated in the substation.
- Completed for measuring of heat metering.
- Horizontal meter section with 10X before and 5X measure pipe DN after meter.
- Pressure norm PN16.
- Connection size welded DN32.

Consisting of:

- Filter with drain-off valve.
- 3 points metering, over filter and before heat meter.
- Pocket for temperature sensor in DN15.
- Meter section for heat metering, flanged dummy DN25 L= 260 mm.
- Drain-off valve in primary circuit.







How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Midi Compact with IQHeat

Alfa Laval Midi Compact with IQHeat

Range of the most advanced substations equipped with the Alfa Laval developed software - the IQHeat controller - monitoring the lowest return temperatures. This product can be used in district heating networks or local heating networks for **indirect connection**. Applications: multi-family buildings up to 50 apartments.

Application	Tap water supply	Space heating supply	
		Radiators	Floor heating
10 - 50 apartments	yes	yes	yes

Operating limits	Design temperature	Design pressure
District heating	120°C	16 bar
Secondary heating	90°C	6 bar
Domestic hot water (DHW)	90°C	10 bar

Model	Nominal cap. (kW)	Control equipment	Connections (energy meter)	W (mm)	D (mm)	H (mm)	Weight (kg)	Article no.	Public Price €
80-GM1-IQHeat-1.6-1.6	**80**	Alfa Laval IQHeat	-	679	581	1299	113	*	**10783**
100-GM1-IQHeat-1.6-1.6	**100**	Alfa Laval IQHeat	-	697	581	1299	118	*	**11154**
160-GM1-IQHeat-2.5-2.5	**160**	Alfa Laval IQHeat	-	697	581	1299	123	*	**11750**
200-WS2-IQHeat-2.5-4.0	**200**	Alfa Laval IQHeat	-	726	581	1299	128	*	**12583**
80-V-GM1-IQHeat-1.6-1.6	**80**	Alfa Laval IQHeat	190 x 1"	764	581	1299	116	*	**11288**
100-V-GM1-IQHeat-1.6-1.6	**100**	Alfa Laval IQHeat	190 x 1"	783	581	1299	121	*	**11659**
160-V-GM1-IQHeat-2.5-2.5	**160**	Alfa Laval IQHeat	190 x 1"	783	581	1299	126	*	**12255**
200-V-WS2-IQHeat-2.5-4.0	**200**	Alfa Laval IQHeat	190 x 1"	811	581	1299	131	*	**13088**
80-HB-GM1-IQHeat-1.6-1.6	**80**	Alfa Laval IQHeat	260 x F25	1092	708	1299	121	*	**13039**
100-HB-GM1-IQHeat-1.6-1.6	**100**	Alfa Laval IQHeat	260 x F25	1092	708	1299	126	*	**13410**
160-HB-GM1-IQHeat-2.5-2.5	**160**	Alfa Laval IQHeat	260 x F25	1092	708	1299	131	*	**14006**
200-HB-WS2-IQHeat-2.5-4.0	**200**	Alfa Laval IQHeat	260 x F25	1092	708	1299	136	*	**14839**

Options for Midi Compact with IQHeat	Article no.	Public Price €
4-point manometer secondary side	MA1031	**836**
3-point manometer secondary side	MA1032	**796**
IQWeb 200 ** Web-module, including local web-page	SO1022	**1608**
IQMeter 200 ** M-Bus communication energy meter	SO1023	**630**
IQBacNet ** BacNet communication module	SO1025	**1029**
IQWeb200** + Bacnet	SO1026	**1877**
If WILO module Stratos	SP1075	**225**
Pressure sensor for secondary side / only available in combination with IQMeter 200	AM1007	**524**

* Midi Compact with IQHeat has to be selected in AlfaSelect / CAS. Please consult Alfa Laval or the Alfa Laval sales partner.
** Maximum 2 out of the 3 communication systems can be added

More information on Alfa Laval website: http://www.alfalaval.com/midi-compact-with-iqheat

Issue : 2018 Revision : 1801 Prices : **EUR**

Midi Compact with IQHeat

District heating substation with communication for medium buildings

District heating substation with communication for medium buildings

Midi Compact-IQHeat is a district heating substation for the connection of apartment blocks and other medium buildings to district heating networks. IQHeat is our most advanced substation. It comes with integrated DDC and web solution.

Midi Compact-IQHeat reduces heating costs and flow charges for the property owner and gives lower return temperatures for network.

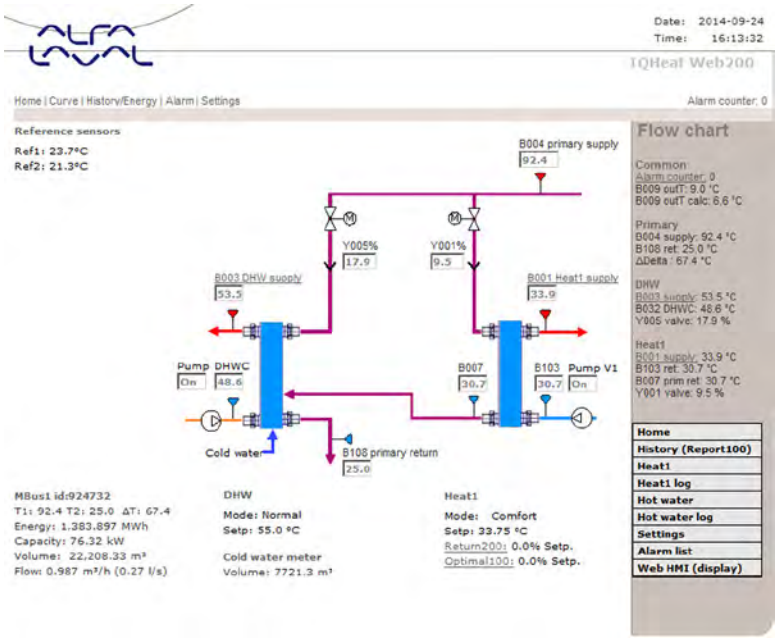
Midi Compact-IQHeat is manufactured and sold by Alfa Laval which has unique and world-leading expertise in the field of pre-fabricated district heating substations.

Complete and ready for operation upon delivery
Midi Compact-IQHeat comes ready for operation and complete with a DDC unit and web solution according to customer specifications.

The built-in simple Web solution can be used for easy connection to the internet. Basic software is installed and ready for operation. Communication and control takes place via the internet, ModBus or with a built-in operator panel.

Management, control and readings
IQHeat can be controlled and monitored using a standard PC with an internet connection or by an operator panel. With the Web200 option, all operating information is displayed graphically on the computer screen but is also stored as Excel files for cost accounting, statistics and more.

When connecting to existing property systems, IQHeat can communicate across different protocols, see Options. IQHeat always uses multiple sensors to ensure that troubleshooting and optimisation is possible remotely.



Flow Image via IQheat Web

In order to monitor and control one or more Midi Compact IQHeat district heating substations, no special equipment is required, just a standard web interface.

With IQWeb200 you download a flow image from IQHeat via the Internet to your computer screen or smart phone. If several substations are controlled from your computer, each substation has its own flow image. Here you get a quick overview of the district heating substation temperatures. If the values need to be adjusted, you do so on the following sides. This allows you to easily adjust, for example, for seasonal changes and to optimise operating costs.

Under the heading operation history, eight days of operation is displayed in the form of a curve chart. All operational history is continuously stored in XML files for Excel, and you can save up to 20 years of data. The operational history gives you transparent control of your adjustments and in so doing gives you both valuable feedback and statistics.

After the settings are made IQHeat automatically regulates flows and temperatures without any special supervision or control. The system has alarm functions for many parameters, such as overheating and scalding risk, operation of pumps and pressure in expansion vessels. Alarms can be sent as e-mails or SMS, see options.

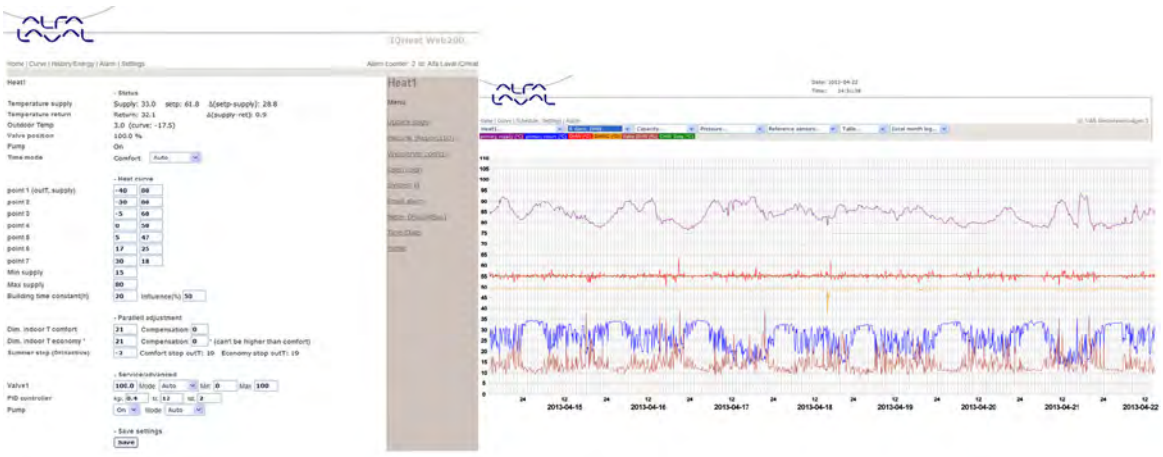
Weather forecast control, eGain forecasting™
IQHeat is prepared for direct communication with weather forecast services from eGain. With an IQHeat the communication of weather forecast for a building is done by WEB directly to eGain's servers holding data for each building. No extra hardware is needed, the IQWeb200 manage all communication.

Visit *http://egain.se/en-gb/* for more information of this unique weather forecasting, and its possibilities.

The major advantages with Midi Compact IQHeat is that the 2-step connected standardized substation, in four sizes, has a very small foot-print, short delivery time and several options for integrated primary circuits. It has been developed and configured to meet the optimum performance for heating and DHW. Low return temperature together with the energy saving functions makes Midi Compact IQHeat the very best choice in this range, with proven energy savings up to 15%. Midi Compact IQHeat is wired and tested from the factory, this provides optimum performance and also clear guarantee undertakings, all from one single supplier.

Midi Compact-IQHeat is design for one heating circuit and one hot water circuit, with integrated DDC control and ready to run default settings. Fully prepared for quick and easy installation.

Please contact Alfa Laval if you are interested of a quote or more information.



Heating settings and history via IQHeat Web

Basic version
An operator panel is included as standard, along with communications with ModBus, a simple Web solution with the same information as the operator panel.

Monitoring with choice
IQHeat comes with optional communications solution. Changeable also after installation by replacement or adding of communication modules.

- IQHeat Web200, web solution and a PC with Internet access is an effective solution for controlling and managing one or more Midi Compact IQHeat units. Complete with flow images.
- IQHeat, connection to existing building management system, BMS. If a property system is already in place with familiar functions and interfaces, IQHeat communicates via OPC, Modbus, LON or BacNet. This means that the plant is controlled locally by IQHeat during the construction period. When the external, master system is then connected, IQHeat will be controlled by the sent parameters.
- IQMeter200 provides the option of reading the heat meter values via Mbus. The functions such as capacity control in Web200 can then be activated to optimise operating costs.

Options
- IQAlarm. SMS alerts via Modem

Alfa Laval continuously works on improving existing functions in IQHeat, as well as developing new.

New versions of IQHeat applications can be downloaded through internet, for units that need update, or upgrading

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Heating systems large

Alfa Laval Maxi

The Alfa Laval Maxi range is a very large range of heating & cooling systems with multiple possibilities in capacities and applications. Maxi range offers an **engineered** solution according to customers needs and the requirements of the building.

Applications
- Apartment blocks
- Commercial centres
- Offices
- Public buildings
- Factories etc.

Supplies
- Domestic Hot Water & space heating: 4 circuits maximum
- Space heating only
- Cooling

Nominal capacities
- 50kW - 10MW

Primary source
- District heating circuit
- District cooling circuit
- Local networks

Control equipment
- Alfa Laval IQHeat with built-in IQWeb (web solution), IQMeter (MBus heat meter) or IQBacNet option
  or
- District cooling circuit
- other control equipment brands

Key benefits
- The Alfa Laval “Plug & play solution”: easy to install, easy to maintain
- Top quality with unique and world-leading expertise
- Most energy efficient solution thanks to optimum heat recovery & low return temperatures
- Supervision via customer’s computer, smartphone or control panel (IQWeb solution)
- “All-in-one”: 1 single system for any type of heating & cooling circuit (1 to 4 different heat exchangers)

Selection
Please contact your local Alfa Laval company or Alfa Laval sales partner

Operating limits	Design temperature	Design pressure
District heating	120°C - 150°C	16 bar - 25 bar
District cooling	50°C	16 bar
Secondary heating	100°C	10bar
Secondary cooling	0°C	10 bar
Domestic hot water (DHW)	90°C	10 bar

More information on Alfa Laval website: http://www.alfalaval.com/heating-systems-large

Alfa Laval Maxi

Large district heating substation

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.

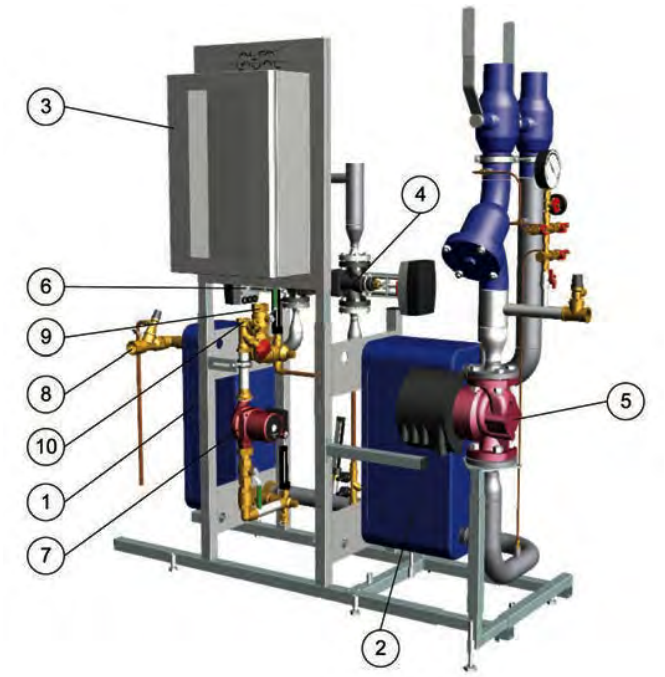
Design
A software is used to calculate and configure a MAXI. Basic functions wanted, design data, components calculation and choice, pipe sizes, pump calculation etc is main input to the design work. This tool is also available in a customer version, Alfa Select.

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.

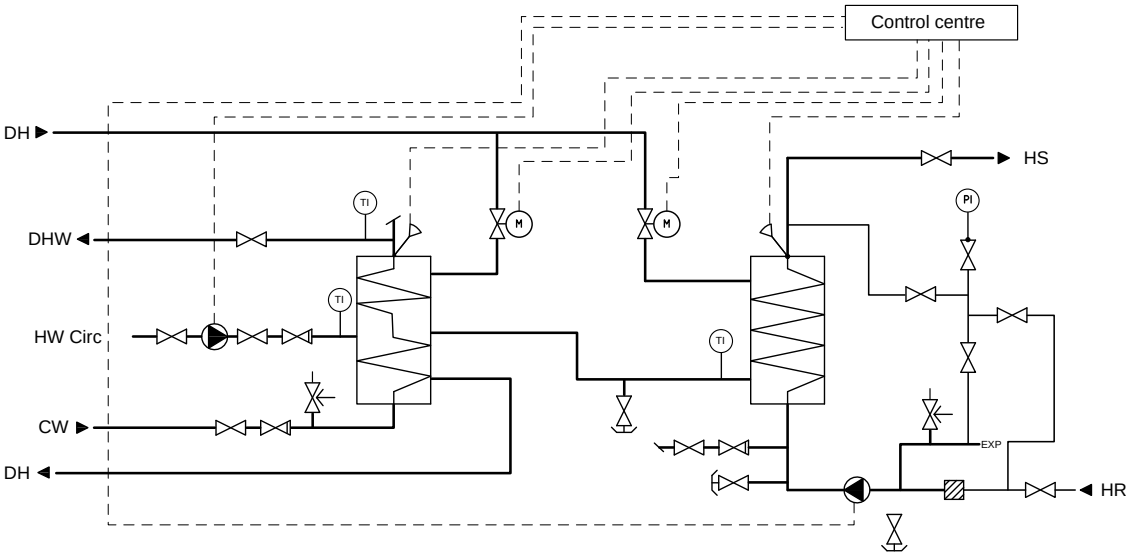
Our brazed heat exchangers are made in stainless steel and pure copper. We always use threaded or flanged connections on the heat exchangers in our systems, for easy demounting and service. Heat exchangers are insulated with 30 mm environmental friendly polyurethane foam with an ABS plastic surface.



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.

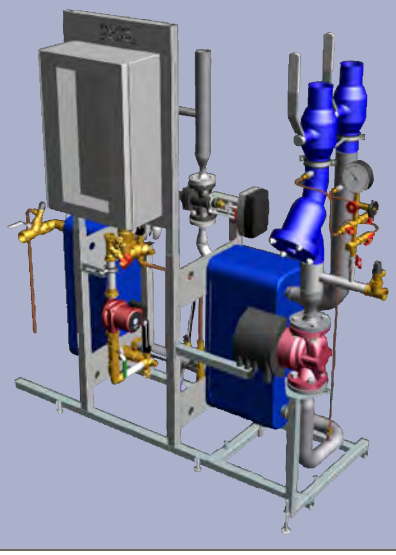
Adjustable feet simplifies installation

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Maxi with IQHeat

District heating substation with communication for large buildings

District heating substation with communication for large buildings



Maxi-IQHeat is a district heating substation for the connection of apartment blocks and other large buildings to district heating networks. IQHeat is our most advanced substation. It comes with integrated DDC and web solution.

Maxi-IQHeat reduces heating costs and flow charges for the property owner and gives lower return temperatures for network.

Maxi-IQHeat is manufactured and sold by Alfa Laval which has unique and world-leading expertise in the field of pre-fabricated district heating substations.

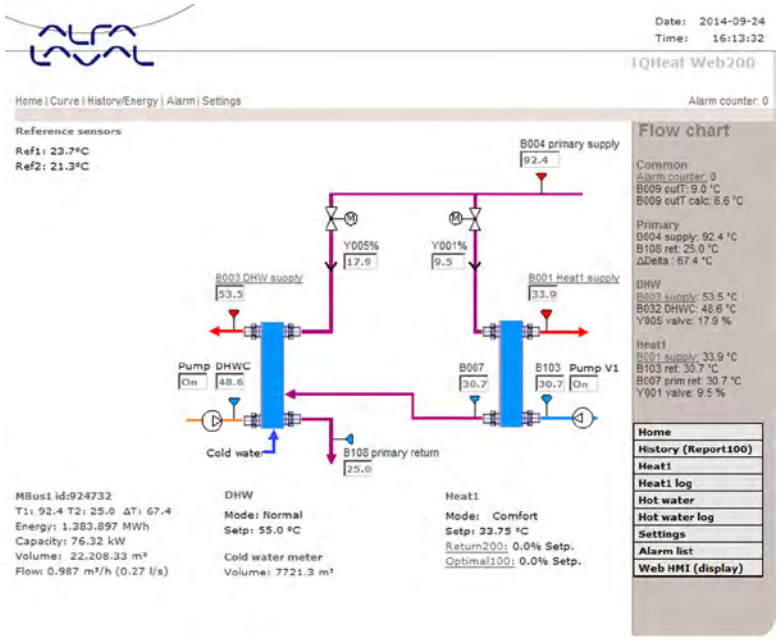
Complete and ready for operation upon delivery
Maxi-IQHeat comes ready for operation and complete with a DDC unit and web solution according to customer specifications. The primary and secondary sides can be supplied pre-assembled.

The built-in simple Web solution can be used for easy connection to the internet. Basic software is installed and ready for operation. Communication and control takes place via the internet, ModBus or with a built-in operator panel.

Right dimensioning
Each delivered Maxi IQHeat is "customised" with the components and software to exactly meet requirement specifications . IQHeat is available in several basic designs depending on the needs of the property for both heating and hot water.

Management, control and readings
IQHeat can be controlled and monitored using a standard PC with an internet connection or by an operator panel. With the Web200 option, all operating information is displayed graphically on the computer screen but is also stored as Excel files for cost accounting, statistics and more..

When connecting to existing property systems, IQHeat can communicate across different protocols, see options. IQHeat always uses multiple sensors to ensure that troubleshooting and optimisation is possible remotely



Flow Image via IQHeat Web

In order to monitor and control one or more Maxi IQHeat district heating substations, no special equipment is required, just a standard PC with internet access.

With IQWeb200 you download a flow image from IQHeat via the Internet to your computer screen. If several substations are controlled from your computer, each substation has its own flow image. Here you get a quick overview of the district heating substation temperatures. If the values need to be adjusted, you do so on the following sides. This allows you to easily adjust, for example, for seasonal changes and to optimise operating costs.

Under the heading operation history, eight days of operation is displayed in the form of a curve chart. All operational history is continuously stored in XML files for Excel, and you can save up to 20 years of data. The operational history gives you transparent control of your adjustments and in so doing gives you both valuable feedback and statistics.

After the settings are made IQHeat automatically regulates flows and temperatures without any special supervision or control. The system has alarm functions for many parameters, such as overheating and scalding risk, operation of pumps and pressure in expansion vessels. Alarms can be sent as e-mails or SMS, see options.

Weather forecast control, eGain forecasting™
IQHeat is prepared for direct communication with weather forecast services from eGain. With an IQHeat the communication of weather forecast for a building is done by WEB directly to eGain's servers holding data for each building. No extra hardware is needed, the IQWeb200 manage all communication.

Visit *http://egain.se/en-gb/* for more information of this unique weather forecasting, and its possibilities.

Customised in all sizes
One of the major advantages of Maxi-IQHeat is that the substation is already tailored at the factory to meet requirement specifications. This provides optimum performance and also clear guarantee undertakings, all from a single supplier.

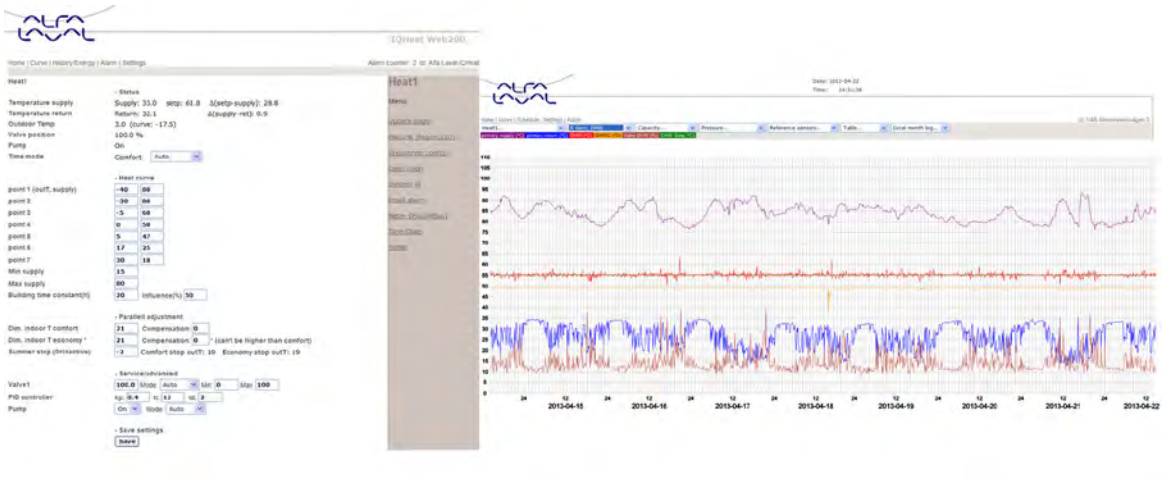
Maxi-IQHeat comes in basic designs for one to three heating circuits and one hot water circuit. All with integrated DDC control and ready to run default settings. All fully prepared for quick and easy installation. IQHeat 50 also comes in a version for district cooling.

Easy to dimension correctly
The number of heating and hot water systems in your property will determine which model of Maxi-IQHeat you should choose, see table.

Model	Example of property	Heating system
IQHeat 100	Normal property, heating and hot water	One hot water One heating
IQHeat 110	Property with hot water, heating and ventilation circuits	One hot water Two heating
IQHeat 120	Property with hot water and three heating circuits	One hot water Three heating
IQHeat 50	Property with only one heating circuit	One heating
IQHeat 60	Larger premises, need of two separate heating circuits	Two heating

Operation cards are available for each model.

Please contact Alfa Laval if you are interested of a quote or more information.



Heating settings and history via IQHeat Web

Basic version
An operator panel is included as standard, along with communications with ModBus, a simple Web solution with the same information as the operator panel.

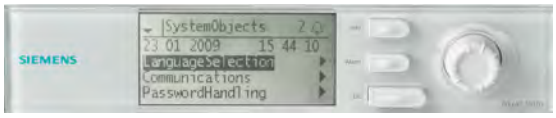
Monitoring with choice
IQHeat comes with optional communications solution. Changeable also after installation by replacement or adding of communication modules.

- IQHeat Web200, web solution and a PC with Internet access is an effective solution for controlling and managing one or more Maxi IQHeat units. Complete with flow images.

- IQHeat, connection to existing property system. If a property system is already in place with familiar functions and interfaces, IQHeat communicates via OPC, Modbus, LON or BacNet. This means that the plant is controlled locally by IQHeat during the construction period. When the external, master system is then connected, IQHeat will be controlled by the sent parameters. Flow images must be created in the master system.

- IQMeter200 provides the option of reading the heat meter values via Mbus. The functions such as capacity control in Web200 can then be activated to optimise operating costs.

Options
- IQAlarm. SMS alerts via Modem
- IQRefill. Upgrading an existing substation to the IQHeat standard



Alfa Laval continuously works on improving existing functions in IQHeat, as well as developing new.

New versions of IQHeat applications can be downloaded through internet, for units that need update, or upgrading.

Alfa Laval Maxi Compact

Alfa Laval Maxi Compact — NEW

The Maxi Compact is the first complete range of district heating systems in the world with **AHRI certified** heat exchangers. It is the most energy efficient solution thanks to optimum heat recovery and low return temperatures. Applications: multi-family buildings up to 90 apartments.

Operating limits	Design temperature	Design pressure
District heating	120°C	16 or 25 bar
Secondary heating	90°C	10 bar
Domestic hot water (DHW)	90°C	10 bar

Applications
- Apartment blocks and multifamily houses, up to 90 apartments

Supplies
- Domestic Hot Water & space heating
- Space heating only

Nominal capacities
- 10kW - 350kW

Primary source
- District heating circuit
- Local heating networks

Control equipment
- Alfa Laval IQHeat with built-in IQWeb (web solution)
- or other control equipment brands

Key benefits
- Competitive pricing
- AHRI certified heat exchangers
- Easy to select
- Most energy-efficient solution with Alfa Laval IQHeat controller
- Short lead time

Selection
Please contact your local Alfa Laval company or Alfa Laval sales partner

More information on Alfa Laval website: http://www.alfalaval.com/maxi-compact

Alfa Laval Maxi Compact

Compact and flexible district heating substation for larger premises

Compact and flexible district heating substation for larger premises

Alfa Laval Maxi Compact is the first product in the world with a complete flexible and compact range of district heating substations with AHRI-certified brazed plate heat exchangers only. Substations with AHRI-certified heat exchangers are the only way to be sure to get real performance in accordance with the thermal specifications.

Maxi Compact has one of the most energy efficient and unique control system on the market – Alfa Laval IQHeat.

Alfa Laval has many years of experience in district heating and has developed Maxi Compact with practical function and easy to use. All components are easily accessible for inspection and future service when required.

To get the most optimized low primary return temperature, the Maxi Compact is two-step connected. In the long term this will give the best combination of low cost and high performance.

Key benefits

- Most **energy-efficient** solution reducing lifetime operating costs with the AHRI-certified heat exchangers, two-step connected and Alfa Laval IQHeat.
- **Small footprint** with good accessibility for maintenance and service.
- **Remote communication**– supervision by computer, smartphone or control panel with the Alfa Laval IQHeat controller.
- **Short lead time**.
- **Robust and reliable** – made in Sweden.
- All components in **low led**.
- Possible to get in a **fully insulated** version.

Applications

Maxi Compact supply Domestic Hot Water (DHW) and space heating – or space heating only – in large premises like:

- apartment blocks
- commercial centers
- hotels
- office building
- public buildings
- factories.

Capacity: 20-350 kW heating and 1,6 l/s DHW, possible to get in several meter sections, controllers and options.

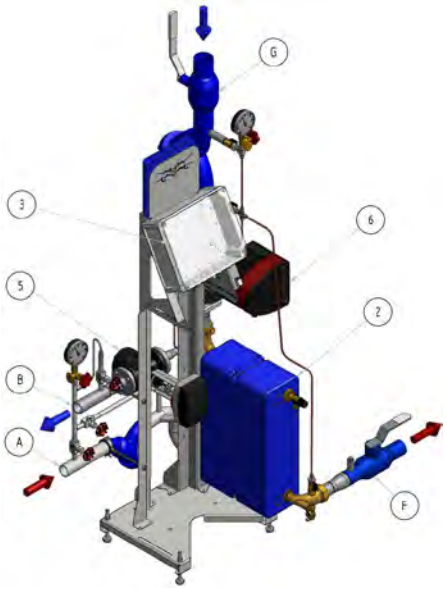
AHRI-certification

AHRI (Air Conditioning, Heating and Refrigeration Institute) is the only worldwide organization, that certifies the performance of plate heat exchangers. This third-party verification of thermal performance in the AHRI Liquid to Liquid Brazed and Fusion bonded Heat Exchangers Certification Program ensures:

- An **energy-efficient** system performing according to specifications that reduces lifetime operating costs.
- **Confidence** that the system is performing according to promised performance.
- **Correct** thermal performance when choosing the heat exchanger.

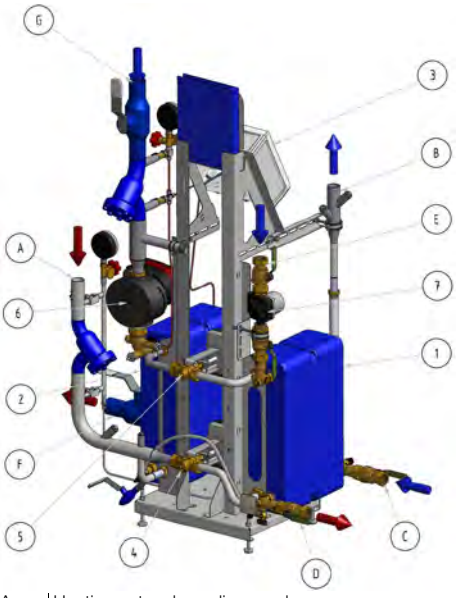
AHRI CERTIFIED®
www.ahridirectory.org
Liquid to Liquid Brazed & Fusion Bonded Heat Exchangers (LLBF) AHRI Standard 400

Model F1 with heating



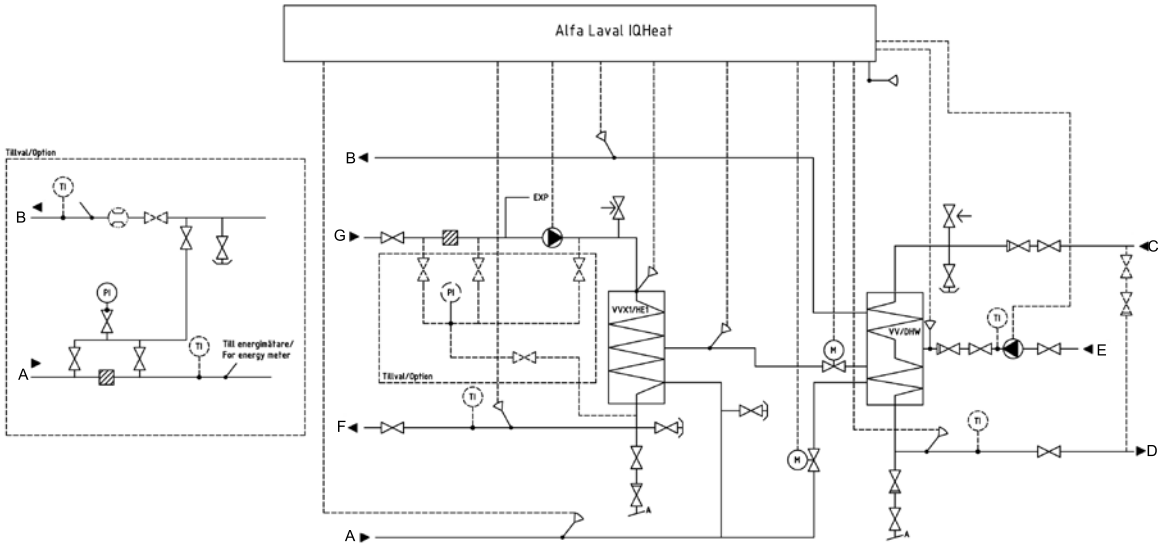
1.	Heat exchanger, hotwater
2.	Heat exchanger, heating
3.	Control cabinet
4.	Control valve, hot water
5.	Control valve, heating
6.	Pump, heating circuit
7.	Pump, hot water circuit

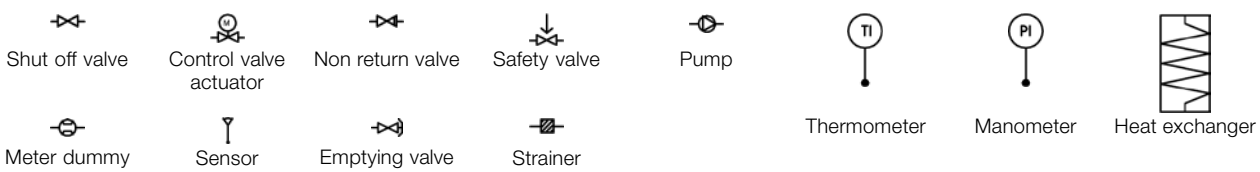
Model F2 with heating and hot water



A	Heating network media, supply
B.	Heating network media, return
C.	Cold water
D.	Hot watter
E.	DHWC
F.	Heating circuit, supply
G.	Heating circuit, return

Exampel flowchart; Maxi Compact with heating and hot water, two-step connected





Controller Alfa Laval IQHeat
Maxi Compact can be equipped with the Alfa Laval IQHeat control system, an integrated Direct Digital Control (DDC) unit for reading and steering of data. The IQHeat is ready for operation and can be fit to the customer requirements.

Communication is via internet, ModBus or BacNet without any extra cost per month. Maxi Compact with IQHeat can be controlled and monitored using a standard PC/mobile with internet connection or by the built in display.

The main benefits with an Alfa Laval IQHeat:
- Reduced heating costs for the property owner.
- Lower return temperatures to the network.
- Possible to remote troubleshoot and optimize the unit on distance.
- Quick and easy installation as all equipment are preprogrammed and tested from the factory.
- Easy to add communication modules or to do updates on distance.

Maxi Compact is also available with controllers from Schneider, Siemens and Regin or without controller. Primary filter with 3-point measuring and meter sections in different design, other types of filling up, fully insulated, service bypass, thermometers and other options are available.

Standard version Maxi Compact
Heat exchanger
- AHRI-certified Brazed heat exchanger.
- Corrosion resistant stainless steel "316".

Pumps
- Circulation Pump heating: on return pipe before heat exchanger with frequency controlled Magna 3 pump.
- DHWC pump: three different models, one simple or two frequency controlled

Valves
- Welded shut of valves on the heating circuit and threaded on the tap water side

Control valve
- Dimensioned to manage differential pressure up to 8 bar, available in both threaded and flanged design.

Controller
- Alfa Laval IQHeat with integrated web communication, other controllers also avaiable.

Temperature sensors
- Ni1000si, PT1000 or NTC1,8k depending on controller.

Pressure sensors (option)
- 0-10 V/0-10 bar.

Water meter (option)
Mbus or pulse.

	Welded connections	Threaded connections
District heating supply & return	DN40	
Heating, supply & return	DN40-DN65 [1]	G2" [2]
Cold water, hot water and DHWC		G1¼"
Expansion vessel		G1" [1] eller G½" [2]

[1] With heating circuit, size depending on flow and chosen pump.
[2] No heating circuit.

Other information

Electrical data: 230 V 50Hz, 1-phase, max 550 W
Sound level <70 dB(A), 1,6 meter above the floor and 1 meter from the source

Maxi Compact capacity - and measure table

Max size and max weight, Maxi Compact with heating and hot water, including pumps and meter section. Control cabinet height is approximate 1550 mm.

Model	Heating (kW)	Hot water (kW)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)
H1T1	50	120	1275	576	1715	115
H3T2	100	150	1275	576	1715	125
H4T3	150	180	1275	633	1715	135
H5T4	200	220	1275	670	1715	150
H6T5	250	270	1282	716	2012	165
H7T6	300	300	1282	797	2012	180
H8T6	350	300	1282	797	2045	195

Operating data, Maxi Compact

	Primary side	Heating	DHW
Dimensioned pressure, PS	25/16 bar	10 bar	10 bar
Dimensioned temperature TS, °C	120	100	100
Safety valve opening pressure	-	4/6 bar	9/10 bar

Type	Temperature program (°C)	Capacity (kW)	Primary flow (l/s)	Secondary flow (l/s)	Pressure drop primary (kPa)	Pressure drop secondary (kPa)
Heating circuit						
H1 CB60AQ-20L	100-63/60-80 100-43/40-60	53,82 69,72	0,35 0,29	0,64 0,84	4,14 3,08	10,10 17,00
H2 CB60AQ-30L	100-63/60-80 100-43/40-60	90,26 104,00	0,58 0,44	1,08 1,25	5,24 3,12	12,56 17,00
H3 CB60AQ-40L	100-63/60-80 100-43/40-60	126,82 137,60	0,82 0,58	1,52 1,65	6,35 3,35	14,05 17,00
H4 CB60AQ-50L	100-63/60-80 100-43/40-60	163,49 170,30	1,06 0,71	1,96 2,04	7,63 3,69	15,17 17,00
H5 CB60AQ-60L	100-63/60-80 100-43/40-60	200,23 201,90	1,29 0,85	2,40 2,42	9,15 4,12	16,13 17,00
H6 CB60AQ-80L	100-63/60-80 100-43/40-60	266,10 261,30	1,72 1,10	3,18 3,13	12,35 5,20	17,00 17,00
H7 CB60AQ-100L	100-63/60-80 100-43/40-60	319,90 314,75	2,07 1,32	3,83 3,77	15,50 6,47	17,00 17,00
H8 CB60AQ-120L	100-63/60-80 100-43/40-60	367,00 361,77	2,37 1,52	4,39 4,33	18,89 7,85	17,00 17,00
DHW circuit						
T1 CB60AQ-40L:2	65-22/10-55 60-22/10-55	120,70 86,08	0,67 0,54	0,64 0,46	23,49 15,76	25,00 13,24
T2 CB60AQ-52L:2	65-22/10-55 60-22/10-55	156,10 123,70	0,87 0,78	0,83 0,66	23,70 19,34	25,00 16,11
T3 CB60AQ-64L:2	65-22/10-55 60-22/10-55	189,10 160,80	1,05 1,01	1,00 0,85	23,59 21,95	25,00 18,36
T4 CB60AQ-80L:2	65-22/10-55 60-22/10-55	229,00 210,30	1,28 1,33	1,22 1,12	23,19 24,91	25,00 15,31
T5 CB60AQ-100L:2	65-22/10-55 60-22/10-55	271,90 254,20	1,51 1,60	1,44 1,35	22,51 25,00	25,00 21,91
T6 CB60AQ-120L:2	65-22/10-55 60-22/10-55	307,00 292,00	1,71 1,84	1,63 1,55	21,78 25,00	25,00 22,61

ECF00584EN 1705

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Tap water systems

Alfa Laval AquaFirst

Alfa Laval AquaFirst

Very competitive tap water system with remote control and class A pump that provides large quantities of Domestic Hot Water (DHW) for any collective application. Nominal capacities: 50-1000 kW. Prices include the Expansed PolyPropylene (EPP) insulation.

Nominal capacities and flow rates are given for: 80°C primary inlet and 10/55 ºC secondary DHW side
Free pressure on primary side: ≥ 5 Kpa

Operating limits	Design temperature *	Design pressure
Primary	110°C	10 bar
Secondary	100°C	10 bar

* In accordance with each country's legislation

Direct (Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	L x W x H (mm)	IS**		ID**	
				Article no.	Public Price €	Article no.	Public Price €
2000	**35**	0,7	485x407x1025	FI2007IS	**3687**	FI2007ID	**4434**
2000	**105**	2,0	485x407x1025	FI2017IS	**3868**	FI2017ID	**4603**
4000	**195**	3,7	485x407x1025	FI4027IS	**4618**	FI4027ID	**5689**
4000	**285**	5,5	485x407x1025	FI4045IS	**4770**	FI4045ID	**5824**
6000	**320**	6,2	846x504x1365	FI6113IS	**5562**	FI6113ID	**6641**
6000	**470**	9,0	846x504x1365	FI6123IS	**5578**	FI6123ID	**7036**
8000	**650**	12,5	846x504x1365	FI8031IS	**7253**	FI8031ID	**8906**
8000	**800**	15,4	846x504x1365	FI8055IS	**8225**	FI8055ID	**9920**

Indirect (Semi-Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	L x W x H (mm)	SS**		DS**		DD**	
				Article no.	Public Price €	Article no.	Public Price €	Article no.	Public Price €
2000	**35**	0,7	485x533x1025	FI2007SS	**4472**	FI2007DS	**5289**	FI2007DD	**5940**
2000	**105**	2,0	485x533x1025	FI2017SS	**4647**	FI2017DS	**5450**	FI2017DD	**6115**
4000	**195**	3,7	485x533x1025	FI4027SS	**5386**	FI4027DS	**6545**	FI4027DD	**7190**
4000	**285**	5,5	485x533x1025	FI4045SS	**5667**	FI4045DS	**6828**	FI4045DD	**7475**
6000	**320**	6,2	846x504x1365	FI6113SS	**6030**	FI6113DS	**7100**	FI6113DD	**7665**
6000	**470**	9,0	846x504x1365	FI6123SS	**6218**	FI6123DS	**7775**	FI6123DD	**8340**
8000	**650**	12,5	846x504x1365	FI8031SS	**8902**	FI8031DS	**10690**	FI8031DD	**11325**
8000	**750**	14,3	846x504x1365	FI8055SS	**9137**	FI8055DS	**10947**	FI8055DD	**11583**

** **IS** = Single primary pump / **ID** = Double primary pump
SS = Single primary pump, single charging pump / **DS** = Double primary pump, single charging pump / **DD** = Double primary pump, double charging pump

Options for AquaFirst	Model	Article no.	Public Price €
additional costs for rockwool isoxal insulation instead of EPP standard insulation	2000 & 4000	CALFIRSTM3	**203**
additional costs for rockwool isoxal insulation instead of EPP standard insulation	6000 & 8000	CALFIRSTM6	**278**
2 NTC20K sensor immersion and contact with glands	All models	KITFIS2S3	**151**
15 bar pressure test with certificate	All models	PRESTEST1	**203**

More information on Alfa Laval website: http://www.alfalaval.com/aquafirst

Issue : 2018 Revision : 1801 Prices : **EUR**

Alfa Laval AquaFirst

A newly designed domestic hot water unit to save time and money

A newly designed domestic hot water unit to save time and money

Applications
Alfa Laval AquaFirst is an “easy to select” product designed to provide Domestic Hot Water (DHW) from 50kW up to 1000kW for:

- apartment blocks
- hospitals
- hotels
- retirement and nursing homes
- schools
- leisure centres...

Competitive, efficient and ready to be connected to any type of boiler, Alfa Laval AquaFirst has the possibility to connect to a local building Management System (slave ModBus).

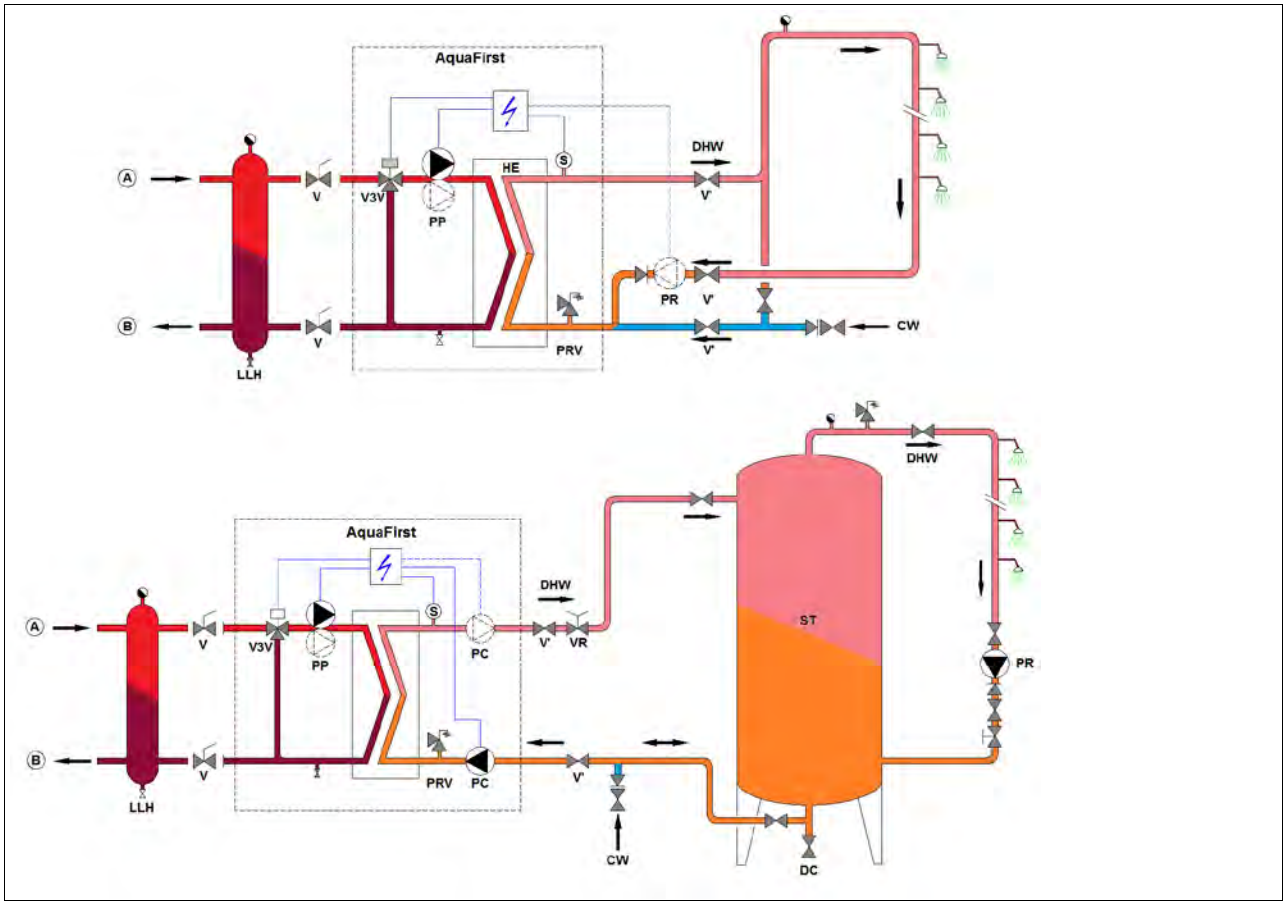
Benefits
- Easy and simple to select
  - 16 Direct versions: no storage tank required
  - 24 Indirect versions: to be combined with a DHW storage tank
- Low energy class A pump(s) on primary
- Reduced risk of limescale build up
- Hot water in a split second thanks to 15 seconds fast response control valves
- Network capable controller (ModBus)
- Robust components
- Drinking water material conformity thanks to stainless steel 316 plates & EPDM FF clip-on gaskets
- Possibility to increase capacity by adding plates
- Quick and easy maintenance

Working principle
In the tap water system, energy is exchanged through a heat exchanger from the primary to the DHW side. On the primary side, the Alfa Laval AquaFirst has to be fed by a heating source that can be provided for example by a local boiler, a primary tank or a solar system. The temperature of the water entering the heat exchanger on the primary side is adapted to meet the demand detected on the domestic side. The mixing valve eliminates thermal shock in the heat exchanger and reduces the potential build-up of lime-scale on the secondary side.

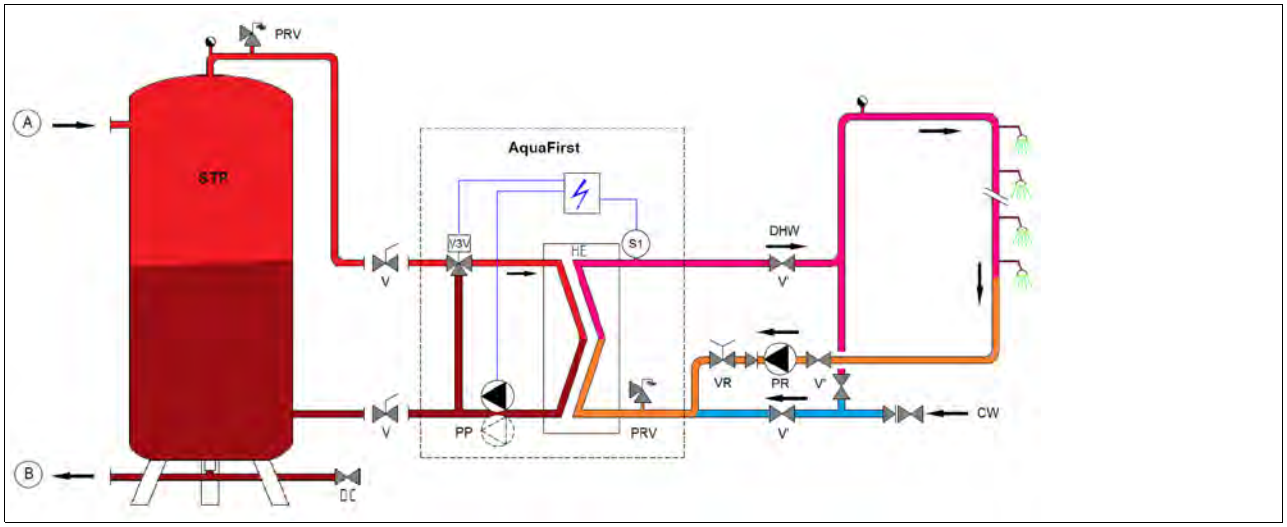
On the secondary side, Alfa Laval AquaFirst Direct is connected to the main water circuit and provides domestic hot water to the distribution pipe-work when there is demand. A circulation pump - which is usually used to limit the time needed to deliver domestic hot water to the tap at the right temperature - maintains a minimum flow rate through the heat exchanger and through the distribution pipe-work.

For Alfa Laval AquaFirst Indirect a charging pump maintains - thanks to a constant flow rate -the supply of energy to the storage tank and the DHW network. This storage tank ensures DHW supply is met during peak demand periods.

Flowchart AquaFirst Direct & Indirect



Flowchart AquaFirst with Primary Tank



A	Primary inlet
B	Primary outlet
CW	Cold water inlet
DC	Draining valve
DHW	Domestic Hot Water
HE	Heat exchanger (PHE)
PC	Charging pump (one or two)
PP	Primary pump (single or double)
PR	Recycling pump (on installation)
PRV	Pressure relief valve
S	DHW temperature sensor
ST	Storage tank (Buffer vessel)
V	Manual gate valve
VR	Balancing valve
V3V	Mixing 3-port control valve with actuator
STP	Primary Storage Tank

Quick selection table 1 – Direct version

Secondary: 10 - 55°C / free pressure available on primary: 5 Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
1,1	**45**	0,2	23	**35**	0,2	15	**35**	0,2	15	**22**	0,1	6	**17**	0,1	2	**FI2007IS**	**FI2007ID**
2,9	**135**	0,7	30	**110**	0,6	20	**105**	0,6	19	**75**	0,4	10	**57**	0,3	6	**FI2017IS**	**FI2017ID**
5,2	**250**	1,3	39	**210**	1,1	28	**195**	1,0	25	**140**	0,8	13	**108**	0,6	8	**FI4027IS**	**FI4027ID**
6,3	**360**	1,9	30	**305**	1,6	23	**285**	1,5	20	**210**	1,1	11	**165**	0,9	7	**FI4045IS**	**FI4045ID**
9,5	**420**	2,2	40	**340**	1,8	26	**320**	1,7	24	**220**	1,2	11	**170**	0,9	7	**FI6113IS**	**FI6113ID**
12	**600**	3,2	32	**470**	2,5	20	**470**	2,5	20	**330**	1,8	10	**260**	1,4	7	**FI6123IS**	**FI6123ID**
14	**800**	4,2	17	**680**	3,6	12	**650**	3,5	12	**470**	2,5	6	**370**	2,0	4	**FI8031IS**	**FI8031ID**
15,3	**1000**	5,3	10	**850**	4.5	7	**800**	4,3	7	**600**	3,2	7	**485**	2,6	3	**FI8055IS**	**FI8055ID**

Secondary: 10°C - 60°C / free pressure available on primary: 5 Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
1,1	**40**	0,2	15	**30**	0,2	9	**30**	0,2	9	**18**	0,1	4	**12**	0,1	2	**FI2007IS**	**FI2007ID**
2,9	**125**	0,6	21	**100**	0,5	14	**95**	0,5	13	**60**	0,3	5	**42**	0,2	3	**FI2017IS**	**FI2017ID**
5,2	**235**	1,1	29	**190**	0,9	19	**175**	0,8	16	**115**	0,6	8	**80**	0,4	4	**FI4027IS**	**FI4027ID**
6,3	**340**	1,6	23	**280**	1,4	16	**260**	1,3	14	**175**	0,8	7	**125**	0,6	4	**FI4045IS**	**FI4045ID**
9,8	**400**	1,9	29	**320**	1,5	19	**295**	1,4	16	**185**	0,9	7	**120**	0,6	3	**FI6113IS**	**FI6113ID**
12,2	**565**	2,7	23	**460**	2,2	16	**430**	2,1	14	**260**	1,2	5	**180**	0,9	3	**FI6123IS**	**FI6123ID**
14,3	**770**	3,7	13	**640**	3,1	9	**600**	2,9	8	**400**	1,9	4	**280**	1,3	2	**FI8031IS**	**FI8031ID**
15,4	**950**	4,6	7	**790**	3,8	6	**750**	3,6	5	**520**	2,5	3	**380**	1,8	2	**FI8055IS**	**FI8055ID**

Quick selection table 2 – Indirect version

Secondary: 10°C - 55°C / free pressure available on primary: 5 Kpa

Prim.	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber *		
flow rate m3/h	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	single/single pumps	double/single pumps	double/double pumps
1,1	**45**	0,2	50	**35**	0,2	59	**35**	0,2	59	**22**	0,1	69	**17**	0,1	73	**FI2007SS**	**FI2007DS**	**FI2007DD**
2,9	**135**	0,7	36	**110**	0,6	48	**105**	0,6	49	**75**	0,4	61	**57**	0,3	66	**FI2017SS**	**FI2017DS**	**FI2017DD**
5,2	**250**	1,3	14	**210**	1,1	30	**195**	1,0	35	**140**	0,8	52	**108**	0,6	60	**FI4027SS**	**FI4027DS**	**FI4027DD**
6,3	**360**	1,9	9	**305**	1,6	23	**285**	1,5	29	**210**	1,1	47	**165**	0,9	55	**FI4045SS**	**FI4045DS**	**FI4045DD**
9,5	**390**	2,1	5	**340**	1,8	16	**320**	1,7	21	**220**	1,2	46	**170**	0,9	55	**FI6113SS**	**FI6113DS**	**FI6113DD**
12	**470**	2,5	5	**470**	2,5	5	**470**	2,5	5	**330**	1,8	34	**260**	1,4	45	**FI6123SS**	**FI6123DS**	**FI6123DD**
13,1	**700**	3,7	5	**680**	3,6	7	**650**	3,5	13	**470**	2,5	49	**370**	2,0	65	**FI8031SS**	**FI8031DS**	**FI8031DD**
15,3	**750**	4,0	5	**750**	4,0	5	**750**	4,0	5	**600**	3,2	27	**485**	2,6	50	**FI8055SS**	**FI8055DS**	**FI8055DD**

Secondary: 10°C - 60°C / free pressure available on primary: 5 Kpa

Prim.	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber *		
flow rate m3/h	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	cap. kW	flow rate L/sec	free pres. kPa	single/single pumps	double/single pumps	double/double pumps
1,1	**40**	0,2	59	**30**	0,2	65	**30**	0,2	65	**18**	0,1	71	**12**	0,1	74	**FI2007SS**	**FI2007DS**	**FI2007DD**
2,9	**125**	0,6	47	**100**	0,5	55	**95**	0,5	57	**60**	0,3	68	**42**	0,2	71	**FI2017SS**	**FI2017DS**	**FI2017DD**
5,2	**235**	1,1	28	**190**	0,9	43	**175**	0,8	47	**115**	0,6	60	**80**	0,4	67	**FI4027SS**	**FI4027DS**	**FI4027DD**
6,3	**340**	1,6	23	**280**	1,4	37	**260**	1,3	41	**175**	0,8	56	**125**	0,6	64	**FI4045SS**	**FI4045DS**	**FI4045DD**
9,8	**400**	1,9	11	**320**	1,5	30	**295**	1,4	36	**185**	0,9	56	**120**	0,6	65	**FI6113SS**	**FI6113DS**	**FI6113DD**
12,2	**520**	2,5	5	**460**	2,2	16	**430**	2,1	22	**260**	1,2	51	**180**	0,9	60	**FI6123SS**	**FI6123DS**	**FI6123DD**
14,3	**770**	3,7	5	**640**	3,1	30	**600**	2,9	37	**400**	1,9	66	**280**	1,3	80	**FI8031SS**	**FI8031DS**	**FI8031DD**
15,4	**820**	3,9	5	**790**	3,8	8	**750**	3,6	16	**520**	2,5	53	**380**	1,8	70	**FI8055SS**	**FI8055DS**	**FI8055DD**

* Charging pump(s) limited use: PH 6-9 and TH < 25°TH or 14°dH. Beyond these values please consult Alfa Laval.

Standard features

Heat exchanger	- Plates & Gasket heat exchanger; corrosion resistant stainless steel 316 plates & EPDMFF clip-on gaskets - EPP insulation
Control system	- 3-port mixing electronic control valve - 24V 0-10V, 15 second speed actuator - ModBus RTU RS 485 Controller - Multi functional IP54 control box - NTC20K temperature sensors on secondary outlet with stainless steel sleeve
Pumps	- Primary class A flooded rotor pump: single or double head - Stainless steel charging flooded rotor pump: single or double head for Indirect solutions
Valves	- Drain valve (primary) - Pressure relief valve (secondary)

Description table

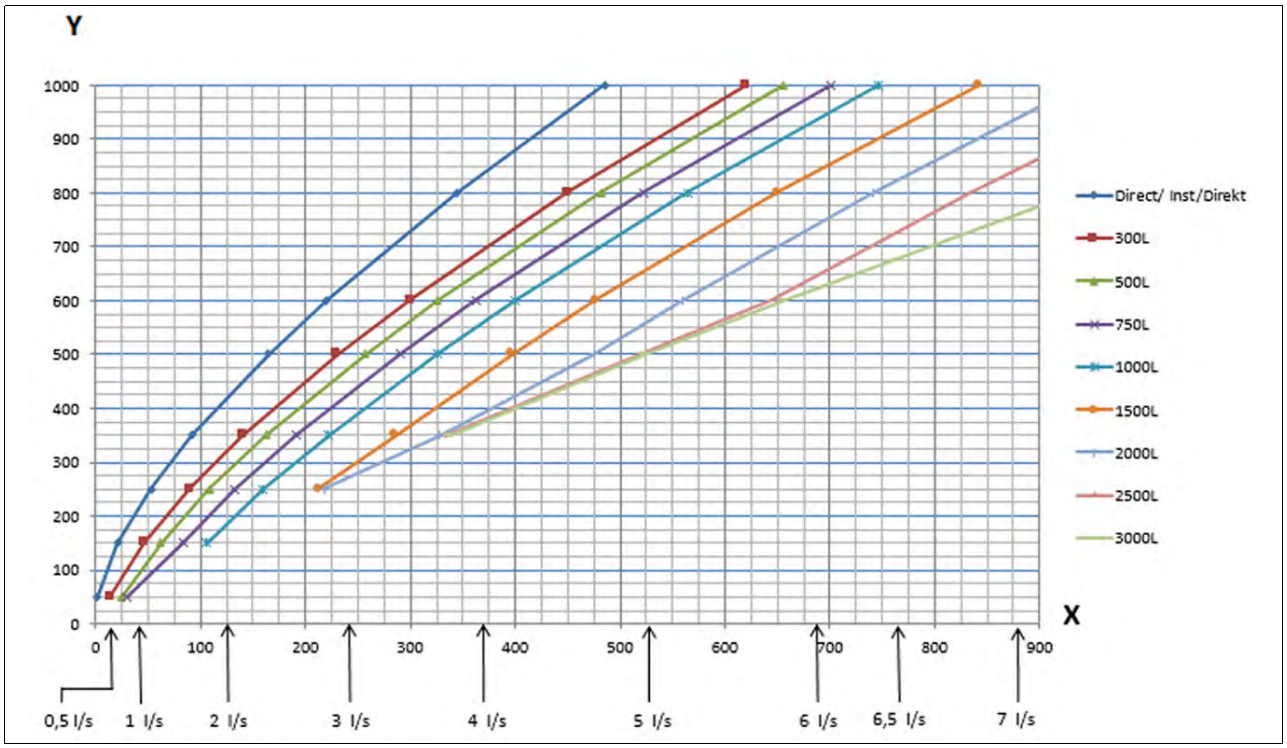
Part number	Primary side			Heat exchanger		Secondary side		Electrical consumption		Dimensions	Weight
	Pump(s) Magna1	Control valve HNW V5833	Actuator	Number	Type	Pump(s)	Safety valve Barg	Pmax (W)	Imax (A)	L x W x H mm	Kg
FI2007IS	single	DN32 Kvs 16	HNW ML7430E	7	M3H	-	10	85	1.2	492x326x1025	57
FI2017IS	32-40			17							60
FI4027IS	single			27				165	1.8		62
FI4045IS	32-80			45							64
FI2007ID	double	DN32 Kvs 16	HNW ML7430E	7	M3H	-	10	85/ 160*	1.2 / 1.8*	485x407x1025	66
FI2017ID	32-40			17							69
FI4027ID	double			27				165 / 315*	1.8 / 3*		71
FI4045ID	32-80			45							73
FI2007SS	single	DN32 Kvs 16	HNW ML7430E	7	M3H	UPS32-80N	10	305	2.2	492x452x1025	63
FI2017SS	32-40			17							66
FI4027SS	single			27				385	2.8		68
FI4045SS	32-80			45							70
FI2007DS	double	DN32 Kvs 16	HNW ML7430E	7	M3H	UPS32-80N	10	305 / 380*	2.2 / 2.8*	485x533x1025	70
FI2017DS	32-40			17							74
FI4027DS	double			27				385 / 535*	2.8 / 4.1*		77
FI4045DS	32-80			45							79
FI2007DD	double	DN32 Kvs 16	HNW ML7430E	7	M3H	2x UPS32-80N	10	305 / 380* / 600**	2.2 / 2,8* / 3,8**	485x533x1025	76
FI2017DD	32-40			17							80
FI4027DD	double			27				385 / 535* / 755**	2.8 / 4.1* / 5**		83
FI4045DD	32-80			45							85
FI6113IS	single	DN40 Kvs25	HNW ML7430E	13	M6M ML/MH	-	10	210	2.2	843x326x1365	155
FI6123IS	40-60			23							163
FI8031IS	single			31				385	2.2		178
FI8055IS	40-100			55							199
FI6113ID	double	DN40 Kvs25	HNW ML7430E	13	M6M ML/MH	-	10	210 / 405*	2.2 / 3.8*	846x504x1365	164
FI6123ID	40-60			23							173
FI8031ID	double			31				385 / 755*	2.2 / 3.9*		196
FI8055ID	40-100			55							217
FI6113SS	single	DN40 Kvs25	HNW ML7430E	13	M6M ML/MH	UPS32-80N	10	430	3.15	843x350x1365	160
FI6123SS	40-60			23							169
FI8031SS	single			31		UPS32-100N		730	3.7		186
FI8055SS	40-100			55							207
FI6113DS	double	DN40 Kvs25	HNW ML7430E	13	M6M ML/MH	UPS32-80N	10	430 / 625*	3.15 / 4.7*	846x504x1365	170
FI6123DS	40-60			23							179
FI8031DS	double			31		UPS32-100N		730 / 1100*	3.7 / 5.5*		204
FI8055DS	40-100			55							225
FI6113DD	double	DN40 Kvs25	HNW ML7430E	13	M6M ML/MH	2x UPS32-80N	10	430 / 625*/ 845**	3.15 / 4.7* / 5.7**	846x504x1365	176
FI6123DD	40-60			23							184
FI8031DD	double			31		2x UPS32-100N		730 / 1100* / 1445**	3.7 / 5.5* / 6.9**		211
FI8055DD	40-100			55							233

* with booster function activated

** with safety function activated

Operating limits	Primary	Secondary
Maximum operating pressure bar	10	10
Maximum operating temperature °C	110	100

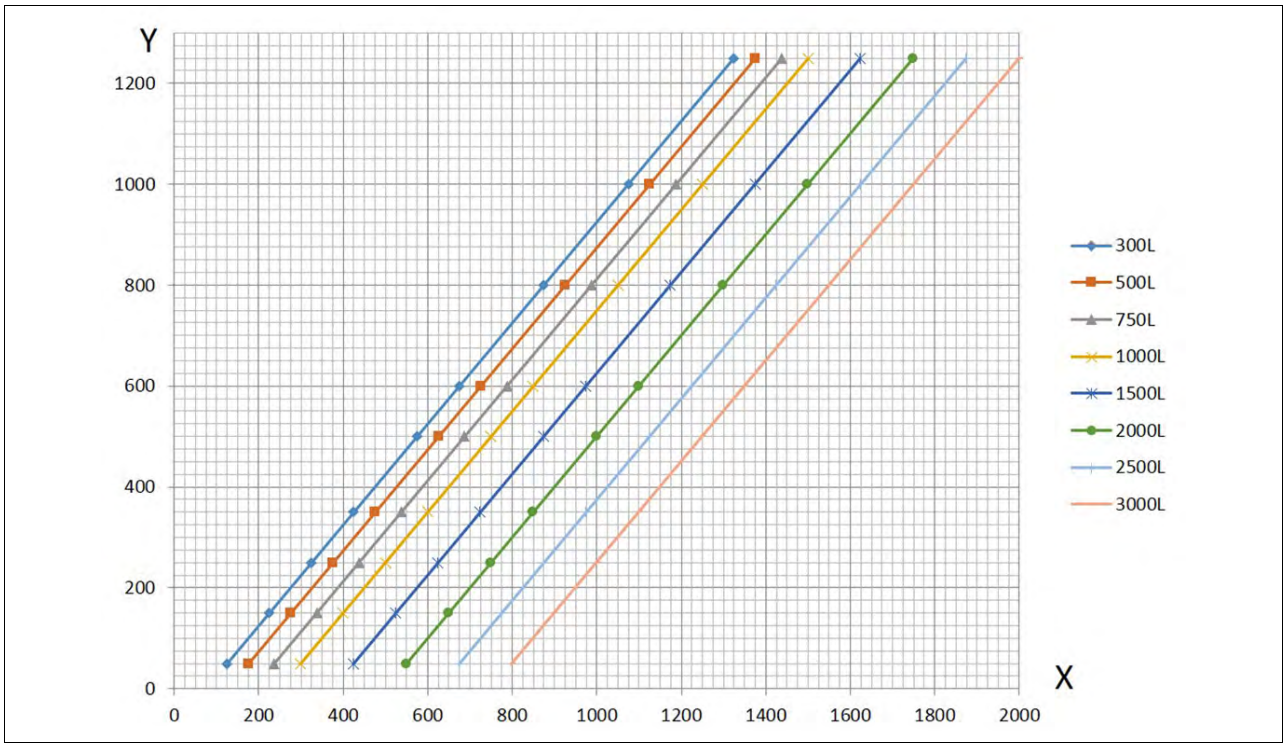
Selection chart AquaFIrst (DHW flow rate: 10 - 60°C)



Y Capacity in Kw

X Number of 3-4 rooms apartments or Liters/second

Selection chart AquaFirst with Primary vessel (DHW outlet: 60°C)



How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval AquaEfficiency Plate and Gaskets

Alfa Laval AquaEfficiency Plate and Gaskets

The most energy-efficient tap water system ensuring the **lowest return temperature** on primary side. AquaEfficiency provides large quantities of Domestic Hot Water (DHW) for any collective application. Best savings if combined with a **condensing** boiler.

Nominal capacities and flow rates are given for: 70°C primary inlet and 10/60 ºC secondary DHW side
Free pressure on primary side: ≥ 5 Kpa

Operating limits	Design temperature *	Design pressure
Primary	110°C	10 bar
Secondary	100°C	10 bar

* In accordance with each country's legislation

Direct (Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	DHW P. drop (Kpa)	L x W x H (mm)	IS**		ID**	
					Article no.	Public Price €	Article no.	Public Price €
GPHE 3000 Inst.	110	1,9	10	451x785x1365	EFP3013IS	**7398**	EFP3013ID	**8645**
GPHE 3000 Inst.	180	3,1	11	451x785x1365	EFP3017IS	**7717**	EFP3017ID	**8962**
GPHE 3000 Inst.	250	4,3	10	451x785x1365	EFP3027IS	**8174**	EFP3027ID	**9426**
GPHE 5000 Inst.	350	6	11	451x785x1365	EFP5037IS	**8561**	EFP5037ID	**9812**
GPHE 7000 Inst.	510	8,8	15	451x785x1365	EFP7045IS	**9791**	EFP7045ID	**12088**
GPHE 7000 Inst.	640	11	11	451x785x1365	EFP7069IS	**10370**	EFP7069ID	**12667**
GPHE 9000 Inst.	750	12,9	9	508x961x1365	EFP9097IS	**12141**	EFP9097ID	**14437**

Indirect (Semi-Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	DHW free pressure (Kpa)	L x W x H (mm)	SS**		DS**		DD**	
					Article no.	Public Price €	Article no.	Public Price €	Article no.	Public Price €
GPHE 3000 Semi I.	110	1,9	33	536x785x1365	EFP3013SS	**9163**	EFP3013DS	**10409**	EFP3013DD	**12207**
GPHE 3000 Semi I.	180	3,1	26	536x785x1365	EFP3017SS	**9482**	EFP3017DS	**10726**	EFP3017DD	**12526**
GPHE 3000 Semi I.	250	4,3	20	536x785x1365	EFP3027SS	**9939**	EFP3027DS	**11191**	EFP3027DD	**12989**
GPHE 5000 Semi I.	350	6	7	536x785x1365	EFP5037SS	**10326**	EFP5037DS	**11576**	EFP5037DD	**13373**
GPHE 7000 Semi I.	510	8,8	19	536x785x1365	EFP7045SS	**11706**	EFP7045DS	**14003**	EFP7045DD	**15950**
GPHE 7000 Semi I.	510	8,8	27	536x785x1365	EFP7069SS	**12703**	EFP7069DS	**14280**	EFP7069DD	**16227**
GPHE 9000 Semi I.	510	8,8	30	542x961x1365	EFP9097SS	**14160**	EFP9097DS	**15340**	EFP9097DD	**17522**

** **IS** = Single primary pump / **ID** = Double primary pump
SS = Single primary pump, single charging pump / **DS** = Double primary pump, single charging pump / **DD** = Double primary pump, double charging pump

Options for AquaEfficiency	Model	Article no.	Public Price €
SolarFlow sensor kit for AquaEfficiency	Direct version only	KITSFPT1	**266**
15 bar pressure test with certificate	All models	PRESTEST1	**203**
Expansed PolyPropylene (EPP) insulation — fire class: E / EN13501-1, and B2/ DIN4102-1 — instead of the standard rockwool isoxal insulation	P&G 3000, 5000 & 7000	CALEFPEPP	**-258**

More information on Alfa Laval website: http://www.alfalaval.com/aquaefficiency

Issue : 2018 Revision : 1801 Prices : **EUR**

Alfa Laval AquaEfficiency AlfaNova®

Alfa Laval AquaEfficiency AlfaNova®

The most energy-efficient tap water system ensuring the **lowest return temperature** on primary side. AquaEfficiency provides large quantities of Domestic Hot Water (DHW) for any collective application. Best savings if combined with a **condensing** boiler.

Nominal capacities and flow rates are given for: 70°C primary inlet and 10/60 ºC secondary DHW side
Free pressure on primary side: ≥ 5 Kpa

Operating limits	Design temperature *	Design pressure
Primary	110°C	10 bar
Secondary	100°C	10 bar

* In accordance with each country's legislation

Direct (Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	DHW P. drop (Kpa)	L x W x H (mm)	IS**		ID**	
					Article no.	Public Price €	Article no.	Public Price €
AN52-30H Inst.	**140**	2,4	24	412x352x1244	EFF5230IS	**5979**	EFF5230ID	**7182**
AN52-50H Inst.	**220**	3,8	22	412x352x1244	EFF5250IS	**6317**	EFF5250ID	**7521**
AN52-60H Inst.	**250**	4,3	20	412x352x1244	EFF5260IS	**8477**	EFF5260ID	**9686**
AN76-50H Inst.	**320**	5,5	7	451x823x1244	EFF7650IS	**8890**	EFF7650ID	**10098**
AN76-70H Inst.	**450**	7,7	7	451x823x1244	EFF7670IS	**10134**	EFF7670ID	**12641**

Indirect (Semi-Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	DHW free pressure (Kpa)	L x W x H (mm)	SS**		DS**		DD**	
					Article no.	Public Price €	Article no.	Public Price €	Article no.	Public Price €
AN52-30H Semi I.	**140**	2,4	17	521x532x1244	EFF5230SS	**7744**	EFF5230DS	**8948**	EFF5230DD	**10745**
AN52-50H Semi I.	**220**	3,8	11	521x532x1244	EFF5250SS	**8082**	EFF5250DS	**9285**	EFF5250DD	**11081**
AN52-60H Semi I.	**250**	4,3	10	521x532x1244	EFF5260SS	**10242**	EFF5260DS	**11450**	EFF5260DD	**13247**
AN76-50H Semi I.	**320**	5,5	47	583x823x1244	EFF7650SS	**10655**	EFF7650DS	**11864**	EFF7650DD	**13661**
AN76-70H Semi I.	**450**	7,7	26	583x823x1244	EFF7670SS	**12049**	EFF7670DS	**14302**	EFF7670DD	**16251**

** **IS** = Single primary pump / **ID** = Double primary pump
SS = Single primary pump, single charging pump / **DS** = Double primary pump, single charging pump / **DD** = Double primary pump, double charging pump

Options for AquaEfficiency	Model	Article no.	Public Price €
SolarFlow sensor kit for AquaEfficiency	Direct version only	KITSFPT1	**266**
15 bar pressure test with certificate	All models	PRESTEST1	**203**

More information on Alfa Laval website: http://www.alfalaval.com/aquaefficiency

Alfa Laval AquaEfficiency Copper Brazed

Alfa Laval AquaEfficiency Copper Brazed

The most energy-efficient tap water system ensuring the **lowest return temperature** on primary side. AquaEfficiency provides large quantities of Domestic Hot Water (DHW) for any collective application. Best savings if combined with a **condensing** boiler.

Nominal capacities and flow rates are given for: 70°C primary inlet and 10/60 ºC secondary DHW side
Free pressure on primary side: ≥ 5 Kpa

Operating limits	Design temperature *	Design pressure
Primary	110°C	10 bar
Secondary	100°C	10 bar

* In accordance with each country's legislation

Direct (Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	DHW P. drop (Kpa)	L x W x H (mm)	IS**		ID**	
					Article no.	Public Price €	Article no.	Public Price €
CB60-30H Inst.	**150**	2,6	20	412x532x1244	EFB6030IS	**5573**	EFB6030ID	**6768**
CB60-50H Inst.	**240**	4,1	20	412x532x1244	EFB6050IS	**7282**	EFB6050ID	**8758**
CB60-60H Inst.	**270**	4,6	19	412x532x1244	EFB6060IS	**7345**	EFB6060ID	**8821**
CB112-50M Inst.	**490**	8,4	21	451x823x1244	EFB11250IS	**8556**	EFB11250ID	**11332**
CB112-70M Inst.	**570**	9,8	20	451x823x1244	EFB11270IS	**8794**	EFB11270ID	**11569**

Indirect (Semi-Instantaneous) version

Model	Nominal capacity (kW)	DHW flowrate (m^3/h)	DHW free pressure (Kpa)	L x W x H (mm)	SS**		DS**		DD**	
					Article no.	Public Price €	Article no.	Public Price €	Article no.	Public Price €
CB60-30H Semi I.	**150**	2,6	20	521x532x1244	EFB6030SS	**7303**	EFB6030DS	**8460**	EFB6030DD	**10159**
CB60-50H Semi I.	**240**	4,1	11	521x532x1244	EFB6050SS	**9181**	EFB6050DS	**10622**	EFB6050DD	**12628**
CB60-60H Semi I.	**270**	4,6	9	521x532x1244	EFB6060SS	**9244**	EFB6060DS	**10686**	EFB6060DD	**12690**
CB112-50M Semi I.	**490**	8,4	17	583x823x1244	EFB11250SS	**10441**	EFB11250DS	**13214**	EFB11250DD	**15239**
CB112-70M Semi I.	**570**	9,8	6	583x823x1244	EFB11270SS	**10703**	EFB11270DS	**13476**	EFB11270DD	**15523**

** **IS** = Single primary pump / **ID** = Double primary pump
SS = Single primary pump, single charging pump / **DS** = Double primary pump, single charging pump / **DD** = Double primary pump, double charging pump

Options for AquaEfficiency	Model	Article no.	Public Price €
SolarFlow sensor kit for AquaEfficiency	Direct version only	KITSFPT1	**266**
15 bar pressure test with certificate	All models	PRESTEST1	**203**

More information on Alfa Laval website: http://www.alfalaval.com/aquaefficiency

Alfa Laval AquaEfficiency

Best solution for boiler condensation

Best solution for boiler condensation

Applications

Alfa Laval AquaEfficiency is the most energy efficient tap water system with major innovations and an unique setpoint control, ensuring the lowest return temperature on the primary side. It is designed to provide domestic hot water up to 1200 kW for:

- apartment blocks
- hospitals
- hotels
- retirement and nursing homes
- schools
- leisure centres

Benefits

- High primary deltaT heat exchanger with auto-adaptative primary flow rate control for the **best boiler condensation**
- **Robust and reliable** solution with EPDMFF gaskets and primary 3 port mixing valve against scaling
- **Short pay back period** of the overcost compared to other standard ranges due to
  - condensation
  - electrical savings due to controlled Class A pumps
- **Insulated** heat exchanger
- **Sanitary safe** materials and total range in conformity with new pump rules
- **ModBus** RTU RS485 multi-sensors controls: up to 7 sensors

Working principle

AquaEfficiency is available in two different models:

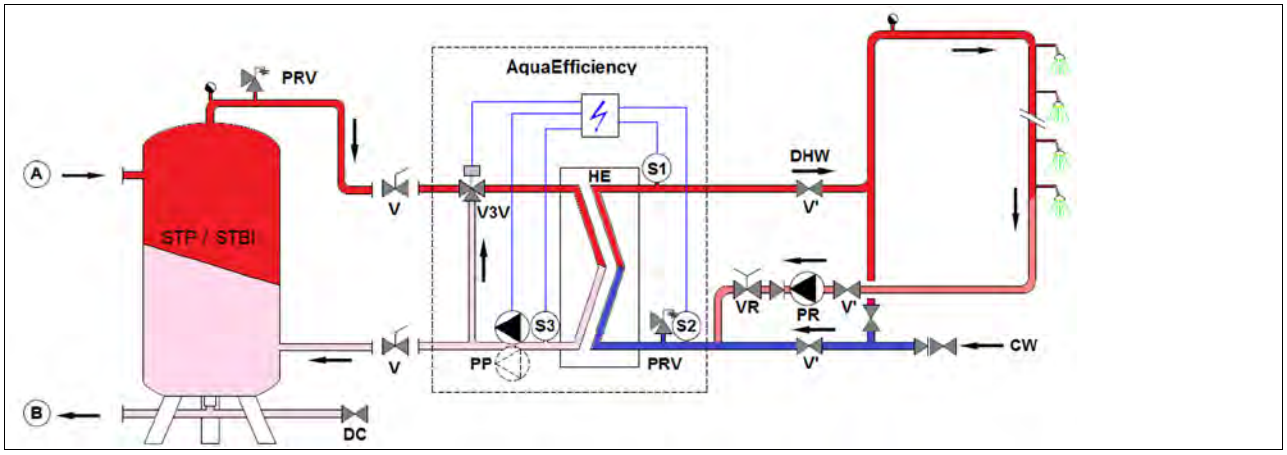
- Direct (instantaneous)
- Indirect (semi-instantaneous)

In the tap water system, energy is exchanged through a heat exchanger from the primary to the DHW side. On the primary side, AquaEfficiency has to be fed by a heating source that for example can be a local boiler, a primary tank or a solar system. The temperature of the water entering the heat exchanger on the primary side is adapted to meet the demand on the domestic side. The mixing valve eliminates thermal shock in the heat exchanger and reduces the potential build-up of lime-scale on the secondary side.

On the secondary side, AquaEfficiency Direct is connected to the main water circuit and provides domestic hot water to the distribution pipe-work when there is a demand. A circulation pump, which is used to limit the time needed to deliver domestic hot water with right temperature to the tap, maintains a minimum flow rate through the heat exchanger and through the distribution pipe-work.

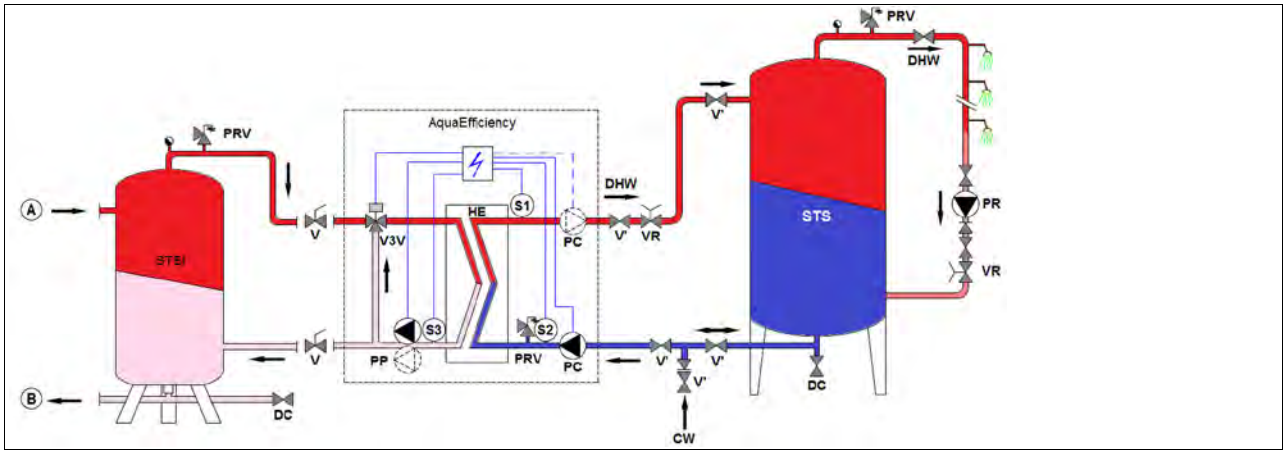
For AquaEfficiency Indirect a charging pump maintains, due to a constant flow rate, the supply of energy to the storage tank and the domestic hot water network. The storage tank ensures that domestic hot water supply is met during peak demand periods.

Standard flowchart for Direct version *

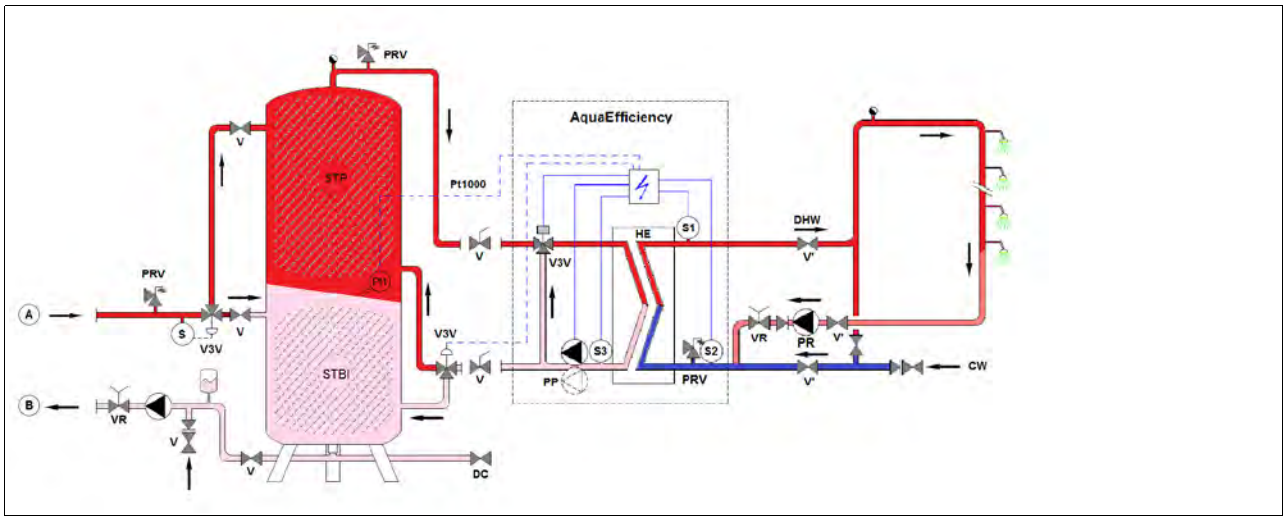


* We do not recommend the use of a mixing bottle on primary side of an AquaEfficiency installation, because the mixing effect destroys the low return temperature. But the need for the differential pressure breaker functionality of this mixing bottle is still mandatory. On AquaEfficiency we recommend to replace the traditionnal mixing bottle by a small buffer tank, named STBI, that serves as an inertial storage tank and avoids any boiler pumping. In case a primary vessel, named STP, is required or designed on the installation, the STBI tanks becomes unnecessary.

Standard flowchart for Indirect version



Example of full option flowchart with optimized use of Primary vessel



Flowchart legend

A	Primary inlet	PRV	Pressure relief valve / Safety valve
B	Primary outlet	S	Temperature sensor
CW	Cold water inlet	S1,S2,S3	NTC20K Temperature sensors
DC	Draining valve	STBI	Inertial condensation boiler storage tank
DHW	Domestic Hot Water	STP	Primary storage tank
HE	Heat exchanger	STS	Secondary storage tank
Pt1	Vessel 2 wiring eventual PT1000 sensor	V, V'	Shut off valve
PC	Charging pump (one or two)	VR	Balancing valve
PP	Primary pump (single or double)	V3V	3-port control valve with actuator
PR	Recycling pump (on installation)		

Standard features

Heat exchangers	**1. Plate and Gasket heat exchanger** - Corrosion resistant stainless steel 316 plates - EPDMFF Roof top Clip-on gaskets - Rock-wool insulation **2. Copper Brazed insulated heat exchanger** **3. AlfaNova insulated heat exchanger** - 100% stainless steel fusion bonded heat exchanger
Control system	- 3-port mixing electronic control valve - 24V 0-10V, 15 second speed actuator - Micro3000 ModBus RTU RS485 controller - Dedicated Multi functional IP54 control box - 2 NTC20K temperature sensors on secondary inlet and outlet - 1 NTC20K temperature sensor on primary outlet
Pumps	**Primary pumps** - Single or double head flooded rotor - Dedicated 0-10V signal for each pump for effective steering/control of primary flow rate **Secondary pumps** - Single or double stainless steel head flooded rotor - Dedicated 0-10V signal for each pump for effective electrical energy savings
Added facilities	- Easy access to analogic and digital data - Up to 2 control valves signal commands - Up to 4 variable speed pumps signal commands - Up to 7 sensors - 1 Added 230 V AC relay: to activate an eventual draining valve Volt free contacts in: - 1 Remote contact - 4 Pump ipsothermic contacts reported to the electrical box Volt free contacts out: - Configurable relays 1 & 2 permitting communication with boilers (eco function, thermal treatment, pump default etc.) - Up to 4 flow switches on/off for pumps

Operating limits	Primary	Secondary
Maximum operating pressure bar g	10	10
Maximum operating temperature °C	110	100

For additional on-line information

URL address:

http://www.alfalaval.com/aquaefficiency

QR code:

Quick selection tables - DIRECT

AquaEfficiency Plate & Gasket - Direct

Secondary: 10°C- 55°C/ / Free pressure available on primary: 5Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
3,9	240	1,28	51	220	1,17	43	212	1,14	41	165	0,89	25	120	0,64	25	EFP3013IS	EFP3013ID
4,4	300	1,58	45	275	1,47	38	270	1,44	37	205	1,08	22	170	0,89	22	EFP3017IS	EFP3017ID
5,4	420	2,22	34	350	1,86	24	345	1,83	23	270	1,44	15	225	1,19	15	EFP3027IS	EFP3027ID
8,1	630	3,33	40	525	2,78	28	510	2,69	27	400	2,11	17	335	1,78	12	EFP5037IS	EFP5037ID
12,35	880	4,67	52	780	4,14	42	750	3,97	39	585	3,11	24	485	2,58	17	EFP7045IS	EFP7045ID
13,4	1060	5,64	32	900	4,78	25	870	4,61	23	690	3,67	15	575	3,06	11	EFP7069IS	EFP7069ID
14,9	1200	6,36	24	1030	5,47	18	1000	5,31	17	800	4,25	11	680	3,61	8	EFP9097IS	EFP9097ID

Secondary: 10°C- 60°C/ / Free pressure available on primary: 5Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
2,6	260	1,25	49	205	0,97	30	200	0,94	29	110	0,53	10	60	0,28	3	EFP3013IS	EFP3013ID
4,2	320	1,53	42	263	1,25	29	260	1,25	28	180	0,86	11	90	0,42	4	EFP3017IS	EFP3017ID
5,6	410	1,97	26	345	1,64	19	335	1,61	18	250	1,19	10	160	0,78	5	EFP3027IS	EFP3027ID
7,8	610	2,92	17	510	2,44	22	500	2,39	21	350	1,67	11	240	1,14	6	EFP5037IS	EFP5037ID
11,8	900	4,31	45	740	3,53	31	720	3,44	29	510	2,44	15	290	1,39	5	EFP7045IS	EFP7045ID
13,7	1015	4,86	25	860	4,11	19	820	3,92	20	640	3,06	11	470	2,25	6	EFP7069IS	EFP7069ID
15,3	1150	5,50	18	990	4,72	14	950	4,53	13	750	3,58	9	580	2,78	5	EFP9097IS	EFP9097ID

AquaEfficiency Copper Brazed - Direct

Secondary: 10°C- 55°C / Free pressure available on primary: 5Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
4,1	190	1,00	42	190	1,00	42	190	1,00	42	190	1,00	42	160	0,86	31	EFB6030IS	EFB6030ID
5,25	310	1,64	42	310	1,64	42	310	1,64	42	260	1,39	31	220	1,17	23	EFB6050IS	EFB6050ID
5,7	365	1,94	42	350	1,86	41	350	1,86	41	290	1,53	27	240	1,28	21	EFB6060IS	EFB6060ID
10,6	610	3,25	42	590	3,14	42	580	3,08	41	530	2,81	32	440	2,33	23	EFB11250IS	EFB11250ID
11,5	850	4,50	42	770	4,08	40	760	4,03	39	605	3,22	22	510	2,69	19	EFB11270IS	EFB11270ID

Secondary: 10°C- 60°C / Free pressure available on primary: 5Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
3,5	210	1,00	41	210	1,00	42	220	1,06	40	150	0,72	20	90	0,42	9	EFB6030IS	EFB6030ID
5,3	340	1,61	40	340	1,61	40	330	1,58	37	235	1,11	20	150	0,72	9	EFB6050IS	EFB6050ID
5,8	400	1,92	41	385	1,83	38	370	1,78	35	270	1,28	19	190	0,92	11	EFB6060IS	EFB6060ID
10,8	680	3,25	42	660	3,14	42	650	3,11	39	490	2,33	23	350	1,67	13	EFB11250IS	EFB11250ID
11,9	870	4,17	36	770	3,67	33	750	3,58	27	570	2,72	16	440	2,11	12	EFB11270IS	EFB11270ID

AquaEfficiency AlfaNova - Direct

Secondary: 10°C- 55°C / Free pressure available on primary: 5Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
3,5	170	0,89	42	170	0,89	42	200	1,06	42	165	0,89	40	135	0,72	27	EFF5230IS	EFF5230ID
4,85	280	1,50	42	280	1,50	42	290	1,53	45	240	1,28	32	195	1,03	21	EFF5250IS	EFF5250ID
5,2	330	1,75	42	330	1,75	42	330	1,75	42	265	1,42	27	220	1,17	19	EFF5260IS	EFF5260ID
10,2	730	3,86	42	650	3,44	34	600	3,19	29	450	2,39	17	360	1,92	11	EFF7650IS	EFF7650ID
11,8	850	4,50	34	740	3,92	26	720	3,83	24	550	2,92	15	450	2,39	10	EFF7670IS	EFF7670ID

Secondary: 10°C- 60°C / Free pressure available on primary: 5Kpa

Primary	Prim. 90°C	Secondary		Prim. 82°C	Secondary		Prim. 80°C	Secondary		Prim. 70°C	Secondary		Prim. 65°C	Secondary		Partnumber	
flow rate m3/h	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	cap. kW	flow rate L/sec	pres. drop kPa	single pump	double pump
3,3	190	0,92	42	190	0,92	42	190	0,92	42	140	0,67	24	80	0,39	8	EFF5230IS	EFF5230ID
4,9	310	1,47	42	300	1,44	39	290	1,39	37	220	1,06	22	155	0,75	11	EFF5250IS	EFF5250ID
5,2	370	1,78	42	330	1,58	34	320	1,53	32	240	1,14	19	180	0,86	11	EFF5260IS	EFF5260ID
7,5	710	3,39	33	610	2,92	24	590	2,81	21	320	1,53	7	190	0,92	3	EFF7650IS	EFF7650ID
10,4	810	3,86	25	700	3,33	20	680	3,25	18	450	2,14	7	270	1,28	3	EFF7670IS	EFF7670ID

Quick selection tables - INDIRECT

AquaEfficiency Plate & Gasket - Indirect

Secondary: 10°C - 55°C / free pressure available on primary: 5 Kpa

Prim.	**Prim. 90°C**	Secondary		**Prim. 82°C**	Secondary		**Prim. 80°C**	Secondary		**Prim. 70°C**	Secondary		**Prim. 65°C**	Secondary		**Partnumber**		
flow rate m3/h	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**single/single pumps**	**double/single pumps**	**double/double pumps**
3,9	180	0,94	6	220	1,17	5	180	0,94	6	165	0,89	11	120	0,64	27	EFP3013SS	EFP3013DS	EFP3013DD
4,4	220	1,17	5	225	1,19	5	220	1,17	5	205	1,08	10	170	0,89	21	EFP3017SS	EFP3017DS	EFP3017DD
5,4	280	1,50	6	295	1,56	4	290	1,53	5	270	1,44	8	225	1,19	20	EFP3027SS	EFP3027DS	EFP3027DD
6,2	320	1,69	6	325	1,72	5	320	1,69	6	320	1,69	6	320	1,69	6	EFP5037SS	EFP5037DS	EFP5037DD
10,6	520	2,75	6	525	2,78	5	520	2,75	6	520	2,75	6	485	2,58	13	EFP7045SS	EFP7045DS	EFP7045DD
10,9	580	3,08	5	585	3,11	4	580	3,08	5	580	3,08	5	575	3,06	5	EFP7069SS	EFP7069DS	EFP7069DD
10,7	620	3,28	4	620	3,28	4	620	3,28	4	600	3,19	6	620	3,28	4	EFP9097SS	EFP9097DS	EFP9097DD

Secondary: 10°C - 60°C / free pressure available on primary: 5 Kpa

Prim.	**Prim. 90°C**	Secondary		**Prim. 82°C**	Secondary		**Prim. 80°C**	Secondary		**Prim. 70°C**	Secondary		**Prim. 65°C**	Secondary		**Partnumber**		
flow rate m3/h	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**single/single pumps**	**double/single pumps**	**double/double pumps**
2,6	200	0,94	5	200	0,94	6	200	0,94	6	110	0,53	33	60	0,28	45	EFP3013SS	EFP3013DS	EFP3013DD
4,2	245	1,17	5	240	1,14	7	240	1,14	7	180	0,86	26	90	0,42	41	EFP3017SS	EFP3017DS	EFP3017DD
5,6	320	1,53	5	310	1,47	7	310	1,47	7	250	1,19	20	160	0,78	34	EFP3027SS	EFP3027DS	EFP3027DD
7,8	360	1,72	5	380	1,81	4	380	1,81	4	350	1,67	7	240	1,14	25	EFP5037SS	EFP5037DS	EFP5037DD
11,8	580	2,78	5	590	2,81	4	590	2,81	4	510	2,44	19	290	1,39	68	EFP7045SS	EFP7045DS	EFP7045DD
13,3	650	3,11	4	630	3,00	6	630	3,00	6	620	2,97	8	470	2,25	35	EFP7069SS	EFP7069DS	EFP7069DD
13,7	680	3,25	4	680	3,25	4	680	3,25	4	680	3,25	4	580	2,78	19	EFP9097SS	EFP9097DS	EFP9097DD

AquaEfficiency Copper Brazed - Indirect

Secondary: 10°C - 55°C / free pressure available on primary: 5 Kpa

Prim.	**Prim. 90°C**	Secondary		**Prim. 82°C**	Secondary		**Prim. 80°C**	Secondary		**Prim. 70°C**	Secondary		**Prim. 65°C**	Secondary		**Partnumber**		
flow rate m3/h	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**single/single pumps**	**double/single pumps**	**double/double pumps**
3,3	160	0,86	6	160	0,86	37	160	0,86	6	160	0,86	6	160	0,86	6	EFB6030SS	EFB6030DS	EFB6030DD
4,5	230	1,22	5	230	1,22	29	230	1,22	4	230	1,22	4	220	1,17	7	EFB6050SS	EFB6050DS	EFB6050DD
4,8	250	1,33	5	250	1,33	26	250	1,33	4	250	1,33	4	240	1,28	7	EFB6060SS	EFB6060DS	EFB6060DD
9,2	460	2,44	9	460	2,44	34	470	2,50	4	470	2,50	4	440	2,33	15	EFB11250SS	EFB11250DS	EFB11250DD
9,7	520	2,75	8	520	2,75	25	520	2,75	6	520	2,75	6	510	2,69	7	EFB11270SS	EFB11270DS	EFB11270DD

Secondary: 10°C - 60°C / free pressure available on primary: 5 Kpa

Prim.	**Prim. 90°C**	Secondary		**Prim. 82°C**	Secondary		**Prim. 80°C**	Secondary		**Prim. 70°C**	Secondary		**Prim. 65°C**	Secondary		**Partnumber**		
flow rate m3/h	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**single/single pumps**	**double/single pumps**	**double/double pumps**
3,5	190	0,92	4	190	0,92	5	190	0,92	5	150	0,72	20	90	0,42	36	EFB6030SS	EFB6030DS	EFB6030DD
5,3	260	1,25	4	260	1,25	6	260	1,25	6	235	1,11	12	150	0,72	31	EFB6050SS	EFB6050DS	EFB6050DD
5,8	280	1,33	5	300	1,44	3	300	1,44	3	270	1,28	9	190	0,92	25	EFB6060SS	EFB6060DS	EFB6060DD
10,8	530	2,53	4	540	2,58	4	540	2,58	4	490	2,33	15	350	1,67	49	EFB11250SS	EFB11250DS	EFB11250DD
11,9	590	2,81	6	600	2,86	5	600	2,86	5	570	2,72	10	440	2,11	33	EFB11270SS	EFB11270DS	EFB11270DD

AquaEfficiency AlfaNova - Indirect

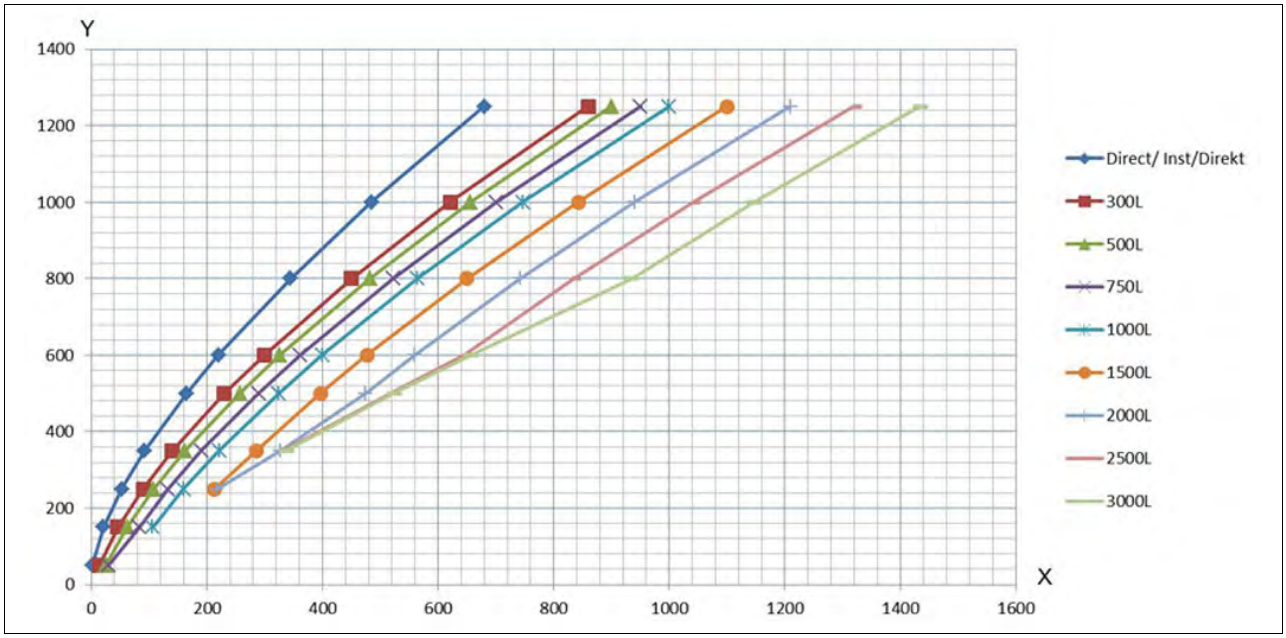
Secondary: 10°C - 55°C / free pressure available on primary: 5 Kpa

Prim.	**Prim. 90°C**	Secondary		**Prim. 82°C**	Secondary		**Prim. 80°C**	Secondary		**Prim. 70°C**	Secondary		**Prim. 65°C**	Secondary		**Partnumber**		
flow rate m3/h	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**single/single pumps**	**double/single pumps**	**double/double pumps**
3,1	150	0,81	5	150	0,81	5	150	0,81	5	150	0,81	5	135	0,72	13	EFF5230SS	EFF5230DS	EFF5230DD
4,2	210	1,11	7	210	1,11	7	215	1,14	6	215	1,14	6	195	1,03	12	EFF5250SS	EFF5250DS	EFF5250DD
4,8	240	1,28	5	240	1,28	5	240	1,28	5	245	1,31	4	220	1,17	11	EFF5260SS	EFF5260DS	EFF5260DD
10,2	450	2,39	7	450	2,39	7	460	2,44	5	450	2,39	7	360	1,92	29	EFF7650SS	EFF7650DS	EFF7650DD
10,6	500	2,67	4	500	2,67	4	500	2,67	4	500	2,67	4	450	2,39	14	EFF7670SS	EFF7670DS	EFF7670DD

Secondary: 10°C - 60°C / free pressure available on primary: 5 Kpa

Prim.	**Prim. 90°C**	Secondary		**Prim. 82°C**	Secondary		**Prim. 80°C**	Secondary		**Prim. 70°C**	Secondary		**Prim. 65°C**	Secondary		**Partnumber**		
flow rate m3/h	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**cap. kW**	flow rate L/sec	free pres. kPa	**single/single pumps**	**double/single pumps**	**double/double pumps**
3,3	165	0,78	6	165	0,78	6	165	0,78	6	140	0,67	17	80	0,39	38	EFF5230SS	EFF5230DS	EFF5230DD
4,9	240	1,14	5	240	1,14	5	240	1,14	5	220	1,06	11	155	0,75	28	EFF5250SS	EFF5250DS	EFF5250DD
5,2	270	1,28	5	270	1,28	5	270	1,28	5	240	1,14	12	180	0,86	26	EFF5260SS	EFF5260DS	EFF5260DD
7,5	510	2,44	5	520	2,47	4	510	2,44	6	320	1,53	47	190	0,92	75	EFF7650SS	EFF7650DS	EFF7650DD
10,4	550	2,64	4	560	2,67	4	560	2,67	5	450	2,14	26	270	1,28	61	EFF7670SS	EFF7670DS	EFF7670DD

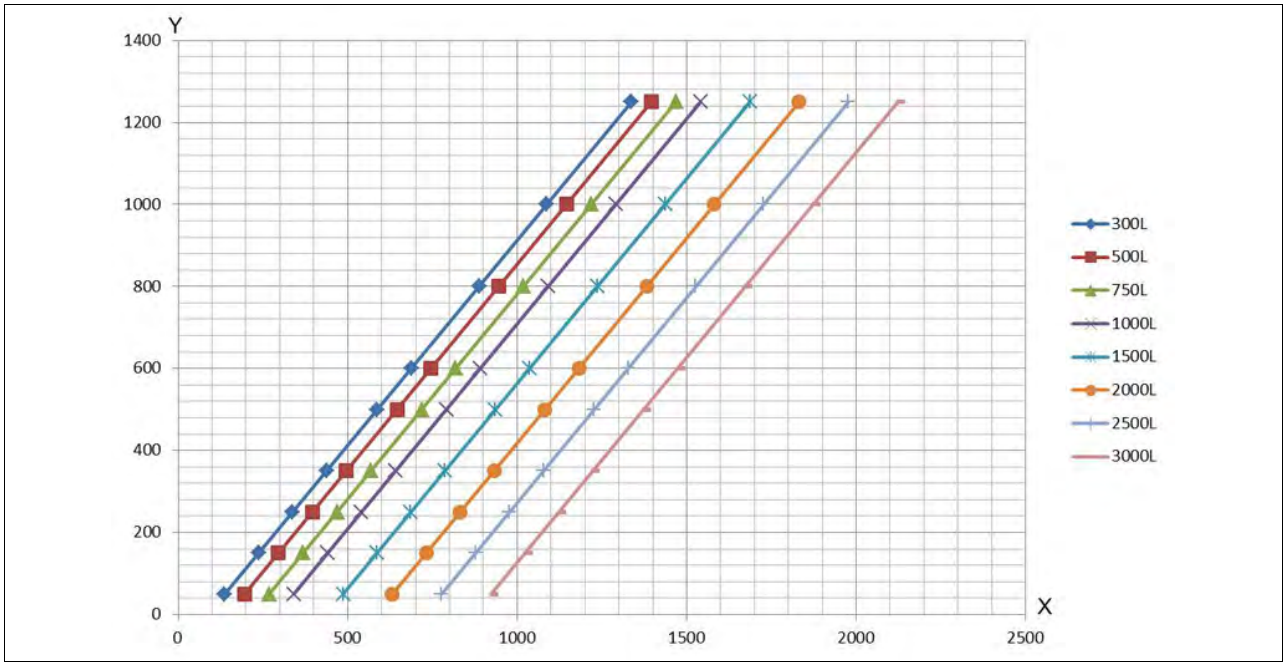
Selection curve AquaEfficiency with primary inlet/outlet: 70 - 30°C / DHW inlet/outlet: 10 - 60°C



Y Capacity in Kw

X Number of 3-4 rooms apartments

Selection curve Primary vessel with AquaEfficiency DHW outlet 60°C



Y Required boiler power in Kw

X Required power for Direct domestic hot water unit in Kw

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval AquaCompact

Alfa Laval AquaCompact

Heat exchanger unit with 2-port or 3-port control valve, fixed to a secondary storage tank designed to deliver indirect Domestic Hot Water (DHW). Can be combined with the AquaTank Stainless Steel 316 (300 to 1500L).

Key benefits

+ Space saving
+ Only low to mid boiler capacity needed
+ Simple solution for low budgets
+ Connection possible to district heating network or to local boiler

Standard versions (photo 1, 2 and 3) do not have a primary kit but this can be ordered as an option. Three primary kit options available:

- 2-port valve: Self-actuated (photo 4)
- 2-port valve: Electronic (photo 5)
- 3-port valve: Electronic (photo 6)

Selection

AquaCompact has to be configurated in our selection tool “AlfaSelect”. Please contact your local Alfa Laval company or Alfa Laval sales partner.

AquaCompact standard versions

		
1. AlfaNova or Copper Brazed	**2. Gasketed heat exchanger**	**3. Gasketed heat exchanger with insulation**

AquaCompact with primary kits versions

		
4. 2-port valve: Self-actuated	**5. 2-port valve: Electronic**	**6. 3-port valve: Electronic**

Standard version equipment

- Copper Brazed, AlfaNova or Gasketed plate heat exchanger (photo 1, 2 and 3)
- Insulation (Copper Brazed AlfaNova: included / Gasketed : optional)
- Charging pump
- Balancing valve
- 10 bar pressure relief valve
- Isolating valve and connection pipework and flexible(s)
- Two additional CIP 3/4" connections (Copper Brazed and AlfaNova versions only)

More information on Alfa Laval website: http://www.alfalaval.com/aquacompact

Issue : 2018 Revision : 1801 Prices : **EUR**

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. Aqua-Compact 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.

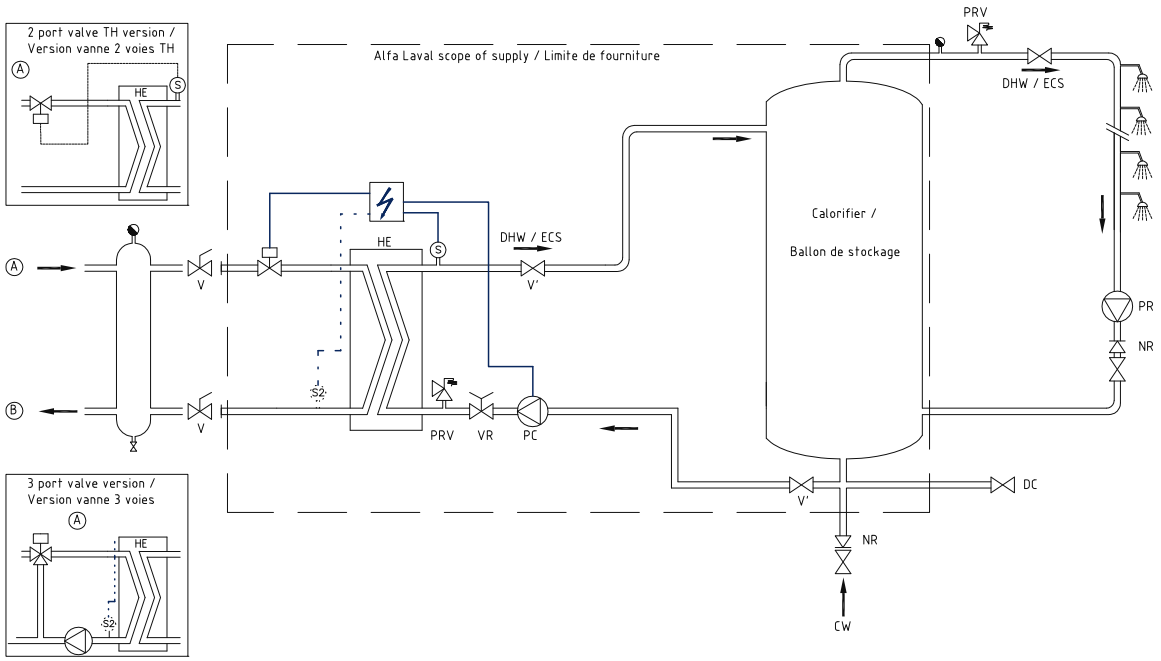
The stored hot water is only used for high hot water demands that are higher in terms of energy than the power supply. The storage vessel of the system serves as a buffer for medium or high domestic hot water demand. AquaCompact will always provide hot water at a rate corresponding to the energy input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

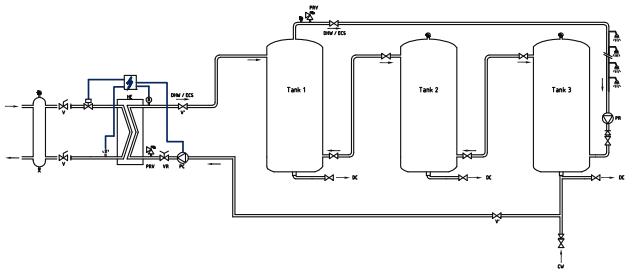
If the water hardness is high, temperature control should always be installed in order to avoid limescale deposits. The primary kit will control that only the necessary amount of hot water enters the heat exchanger and will limit thermal shocks and limescaling. In this case also the temperature set point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

Alfa Laval AquaProtect

Alfa Laval AquaProtect

AquaProtect is a range of tap water systems designed to deliver legionella-free Domestic Hot Water (DHW) in the complete network of any collective building.
Nominal capacities: up to 756 kW, and more for indirect/semi-instantaneous systems.

Nominal capacities and flow rates are given for: 80°C primary inlet and 10/60 ºC secondary DHW side with disinfection at 70°C
Free pressure on primary side: ≥ 5 Kpa

Operating limits	Design temperature *	Design pressure
Primary	110°C	10 bar
Secondary	90°C	10 bar

* In accordance with each country's legislation

Direct (instantaneous) version

Model	Heat supply (kW)	L x W x H (mm)	Weight (kg)	Article no.	Public Price €
T1 - I 3P	**174**	1500 x 770 x 1460	280	AQPRT1I03PV	**18532**
T1 - I 5P	**291**	1500 x 770 x 1460	320	AQPRT1I05PV	**19744**
T1 - I 7P	**407**	1500 x 770 x 1460	350	AQPRT1I07PV	**23600**
T1 - I 9P	**523**	1500 x 770 x 1460	370	AQPRT1I09PV	**24907**
T1 - I 11P	**640**	1690 x 980 x 1660	530	AQPRT1I11PV	**26068**
T1 - I 13P	**756**	1780 x 980 x 1660	560	AQPRT1I13PV	**27136**

Indirect (semi-instantaneous) version

Model	Heat supply (kW)	L x W x H (mm)	Weight (kg)	Article no.	Public Price €
T1 - SI 3P	**174**	1500 x 770 x 1460	300	AQPRT1SI03PV	**21421**
T1 - SI 5P	**291**	1500 x 770 x 1460	350	AQPRT1SI05PV	**22656**
T1 - SI 7P	**407**	1500 x 770 x 1460	370	AQPRT1SI07PV	**25819**
T1 - SI 9P	**523**	1500 x 770 x 1460	390	AQPRT1SI09PV	**31201**
T1 - SI 11P	**640**	1690 x 980 x 1660	550	AQPRT1SI11PV	**32171**
T1 - SI 13P	**756**	1780 x 980 x 1660	600	AQPRT1SI13PV	**32354**

Options for AquaProtect			
Control box	**Description**	**Article no.**	**Public Price €**
All models	8 relay CI 594 board fitted in the control box	OPT8RAQPRT1	**269**
All models	2nd sensor PT100 with 2 meters cable, delivered loose (not mounted)	OPT2SON	**168**
All models	Data downloading cable & CD Rom	OPTCABLE	**381**
insulation	**Description**	**Article no.**	**Public Price €**
for model T1 3P & 5P	Metallic/rockwool insulation for AquaProtect	OPTJAQAQPR51	**1360**
for model T1 7P	Metallic/rockwool insulation for AquaProtect	OPTJAQAQPR52	**1360**
for model T1 9P	Metallic/rockwool insulation for AquaProtect	OPTJAQAQPR53	**1360**
for model T1 11P & 13P	Metallic/rockwool insulation for AquaProtect	OPTJAQAQPR61	**1659**

** DIRECT anti-legionella systems: To guarantee 1 minute holding time, we recommend to combine the AquaProtect unit with a 300L storage tank. If a longer holding time is needed, please consult.
*** INDIRECT anti-legionella systems: The size of the storage tank will define the holding time; a thermal treatment tank and a storage tank could be necessary. Please consult.

More information on Alfa Laval website: http://www.alfalaval.com/aquaprotect

Issue : 2018 Revision : 1801 Prices : **EUR**

AquaProtect

Anti-legionella tap water systems

Anti-legionella tap water systems

The system to the left is AquaProtect T1 and the system to the right is AquaProtect T2 connected to a reaction tank.

Applications
AquaProtect is a tap water system which uses continuous thermal disinfection of incoming and circulating water to provide legionella-free domestic hot water for buildings such as hospitals, hotels, nursing homes, prisons and similar institutions.

Legionella bacteria occur in low numbers in natural environments such as rivers, lakes and reservoirs and can survive temperatures as low as 6°C and as high as 50°C. From these natural habitats, the bacteria can migrate into man-made water systems. Enclosed, warm storage vessels, blind spots in pipe-work and water systems containing stagnant water provide an ideal environment in which the bugs can flourish, particularly if sludge, sediment and scale are present for them to feed on. Studies have shown that many hot water systems contain legionella and other bacteria at various concentration rates.

Inhaled in tiny water droplets, legionella bacteria can cause legionnaire's disease which is potentially fatal to humans, especially those made more vulnerable because of age or illness.

AquaProtect uses recovered heat to disinfect hot water and no additional energy input is required.

Features and benefits
- Disinfection at 70°C of all incoming water.
- Continuous disinfection of the circulation loop.
- Adaptable holding time to comply with local rules.
- Domestic hot water supply at appropriate temperature (60°C) to avoid scalding at the tap.
- Up to 13 m³/h of disinfected water.
- Continuous circulation through the system.
- Possibility to run thermal treatment of the network.
- Temperature safety function to ensure that only disinfected water enters the reaction tank (AquaProtect T2 only).
- Heat exchangers for all applications and conditions
- Electronic control.

Working principle

AquaProtect uses two heat exchangers. One is connected to the heat source (boiler, district heating network, etc) and is used to disinfect water at 70°C.

The other heat exchanger is used on one side to cool water from 70°C down to a suitable temperature for a hot tap water network (60°C). The heat recovered in the process is used to pre-heat incoming and circulating water before it enters the disinfection heat exchanger where it is heated to 70°C.

Once heated to 70°C, the disinfected water needs to be held at this temperature for a given time to ensure eradication of bacteria.

A range of tank sizes enables the appropriate tank to be selected to ensure that the hold time (1 minute, 6 minutes, etc) complies with local or national regulations. This can be achieved by using either a standard storage vessel or a reaction tank with a special internal configuration that controls the direction of flow.

In semi-instantaneous systems, disinfected water flows to a storage vessel where it is stored until the peak demand period occurs (a combined reaction tank can offer both functionalities. See hydraulic chart on the back page. AquaProtect T1 Instantaneous does not use a storage vessel but still need a holding tank).

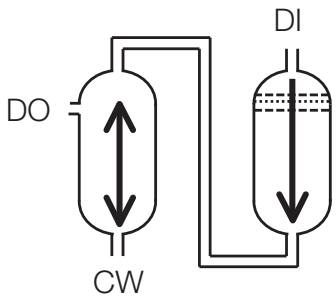
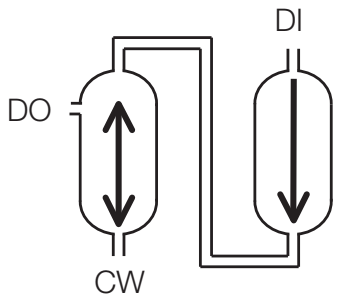
From this storage vessel, disinfected water flows to the cooling heat exchanger. A mixing valve ensures that domestic hot water is provided at the right temperature (60°C) by mixing disinfected water at 70°C with cooled water coming from the storage vessel. To eliminate any risk of infection, only disinfected water is used.

During peak periods, disinfected water is drawn off from the top of the storage vessel to the network by water entering the network.

When there is no or limited demand the water in the storage vessel is continuously replenished. Circulation through the system ensures that the water is drawn from the bottom of the storage vessel to be pre-heated and then disinfected before being stored.

AquaProtect T2 is supplied with a temperature safety function which ensures that only disinfected water enters the reaction tank. Water that hasn't attained the disinfection temperature is diverted to the beginning of the process to ensure that it finally reaches 70°C. This function can be very useful in cases of low capacity on the primary side, or in the event of scaling.

Possible tank combinations

AquaProtect T1 Instantaneous		AquaProtect T1 Semi-instantaneous & AquaProtect T2		AquaProtect T2 Combined
				
One reaction tank (holding tank)	One storage vessel used as holding tank	One storage vessel and one reaction tank (holding tank)	One storage vessel and one storage vessel used as holding tank	Combined reaction tank (holding tank and storage vessel)

DI Disinfected Water In
DO Disinfected Water Out
CW Cold Water In or To Pre-Heating HE

Equipment

Disinfection temperature	70°C				
Holding temperature	70°C				
Distribution temperature	60°C				
Circulation return continuous disinfection	Yes				
Periodic net disinfection	Yes				
By-pass renewable energy connection	Optional				
	AquaProtect T1		**AquaProtect T2**		**T2 Combined**
Temperature safety function	-		Yes		
Available controller	Alfa Laval Micro 2000 Special		Samson 5479 with/without Communication Interface RS485		
Heat exchanger	Plates & Gaskets		Plates & Gaskets	Copper Brazed	Copper Brazed
Process	Instantaneous	Semi-instantaneous	Semi-instantaneous		
Holding tank	Needed		Needed		Combined reaction tank needed
Storage vessel	-	Needed	Needed		
Excessive tapping protection	-		Optional		
Over-heating protection	-	Yes	-		-

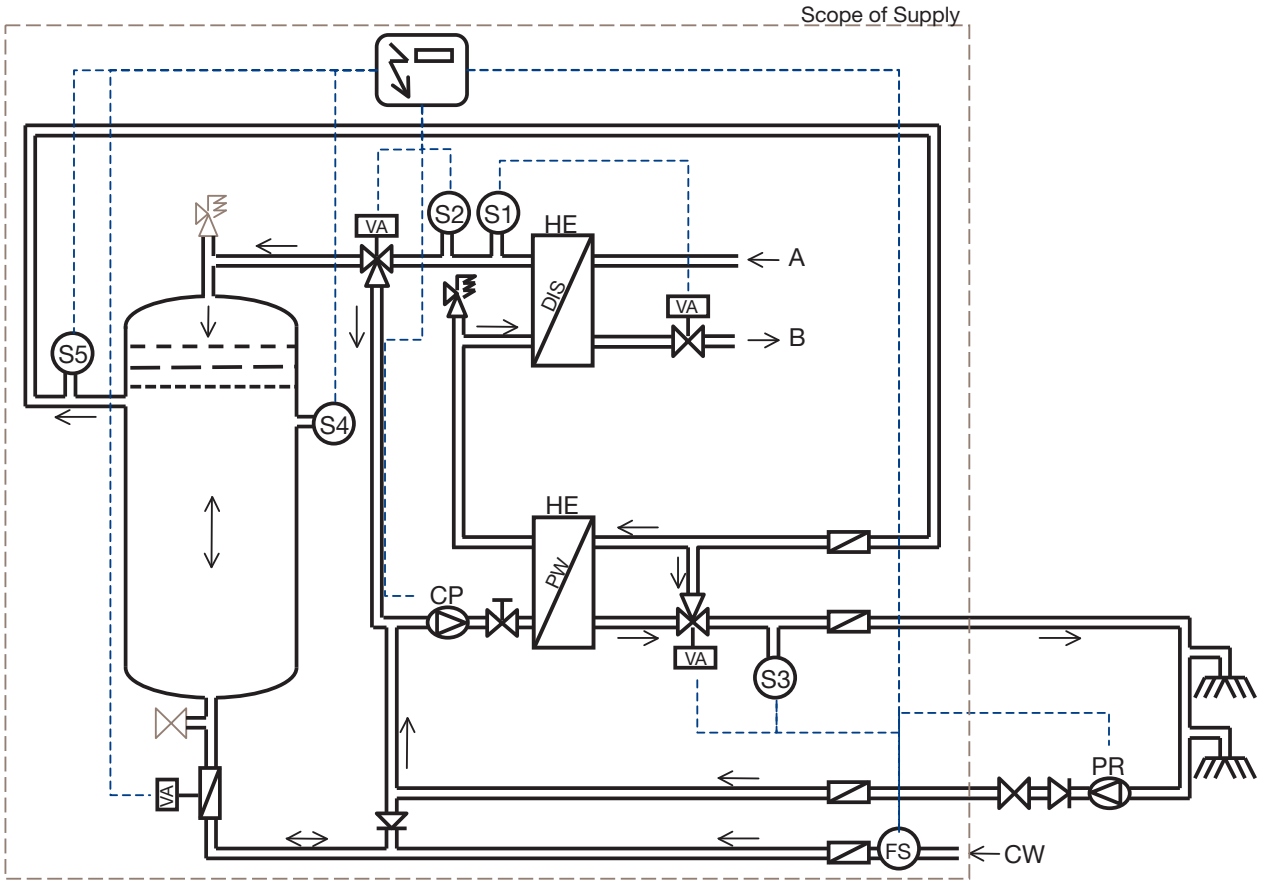
For additional features or AlfaNova Heat Exchanger, please consult.
AquaProtect T2 Combined can easily be connected to the Combined Reaction Tank which has a 6 min holding time.

Examples of holding time according to holding tank size:
For an AquaProtect providing 5 m³/h flow rate of disinfected water

Holding tank	300 L	500 L	750 L
Holding time	3 min	6 min	9 min
Operating limits	**Primary**		
Maximum operating pressure	25 Bar		
Maximum operating temperature	130°C		

Maximum pressure and temperature differ according to model and type of heat exchanger.

Hydraulic chart



A	From District Heating Network / Boiler	**PW**	Pre-Heating HE	**VA**	Primary Control Valve
B	To District Heating Network / Boiler	**DIS**	Disinfecting HE	**FS**	Flow Switch
CW	Cold Water Inlet	**CP**	Charging Pump	**S**	Temperature Sensor
HE	Heat Exchanger	**PR**	Circulation Pump		

Note: The illustration above shows a semi-instantaneous system using a combined reaction tank. The use of 2 separate tanks may have to be considered for larger application. Tank(s) are not part of the AquaProtect Scope of Supply and should be ordered separately.

AquaProtect is also available with 2 or 3-port electronic control on the primary side of the disinfection heat exchanger.

Test requirements
AquaProtect is built in compliance with PED CE 97/23 Art 3.3 or PED 1 and CE 73/23 electrical regulation. AquaProtect is assembled, wired and tested prior to shipment.

AlfaPilot

AlfaPilot

AlfaPilot is a simple & universel fluid navigation system that gives priority to renewables before any use of fossil energy. The Multi-Energy-Pilot AlfaPilot can be integrated on primary return heating loops of low return temperature units like:
- Alfa Laval Micro STC or Mini City heat interface units
- Alfa Laval AquaEfficiency DHW systems
- Alfa Laval Maxi or Midi Compact units

Necessary data to design an AlfaPilot: Primary flow rate

Operating limits	Design temperature *	Design pressure
Primary	110°C / 1°C max. / min.	10 bar

* In accordance with each country's legislation

Model	Control valve		Primary flow rate			Primary pressure loss			L x W x H (mm)	Weight (kg)	Article no.	Public Price €
	Diameter	Kvs	m^3/h	m^3/h	m^3/h	Kpa	Kpa	Kpa				
25	25	10	**2**	**2.5**	**3.6**	4	6	13	680 x 260 x 315	24	ASTB25	**3410**
32	32	16	**3**	**4**	**7.2**	4	6	20	720 x 260 x 315	25	ASTB32	**3545**
40	40	25	**5**	**6**	**15**	4	6	36	730 x 260 x 315	30	ASTB40	**3640**
50	50	40	**8**	**13**	**22**	4	11	30	800 x 260 x 315	33	ASTB50	**3771**

Options for AlfaPilot	Article no.	Public Price €
External sensor NTC20K for Micro3000 controller	OPTSON3000	**42**

More information on Alfa Laval website: http://www.alfalaval.com/alfapilot

AlfaPilot

Multi-Energy-Pilot

Multi-Energy-Pilot

AlfaPilot is a fluid navigation system that gives priority to renewables before any use of fossil energy. The Multi-Energy-Pilot AlfaPilot can be integrated into:
- Comfort heating systems
- Domestic Hot Water (DHW) systems
- Combined systems (comfort heating & DHW)

for any collective application as residential buildings, hospitals, schools, hotels, sport centers etc.

The simplicity and robustness of the AlfaPilot reduce installation and maintenance costs, ensuring reliable return on investment.
Installed on the heat return loop, parallel to a primary storage tank, AlfaPilot is dedicated for low primary return systems like:
- DHW systems "AquaEfficiency"
- Apartments comfort heating systems "Mini City"

Benefits of AlfaPilot
- Automatic navigation on available energy
- On-going priority given to the use of renewable energy
- Allows pre-heating, even at low temperatures
- Includes remote communication
- Supply of DHW during peak demands thanks to storage of energy accumulated in the primary tank
- Supplies also DHW at low demand periods during recycling
- Protects the user and the equipment during summer overheating periods on solar installations
- No scaling, legionella or DHW health issues, no risk of inter-circuit leakage between the solar and the DHW loop as the solar circuit is not in contact with DHW
- Ideal for renovating all systems fitted with AquaEfficiency and Mini City that are connected to a renewable energy source

Description
- Standard equipment:
  - 3-port diverting valve
  - three temperature sensors
  - IP54 control box with MICRO3000 regulator communicating in MODBUS
  - outdoor temperature sensor is available as an option

Selection tool
Four models to choose from depending on Primary flow rate:

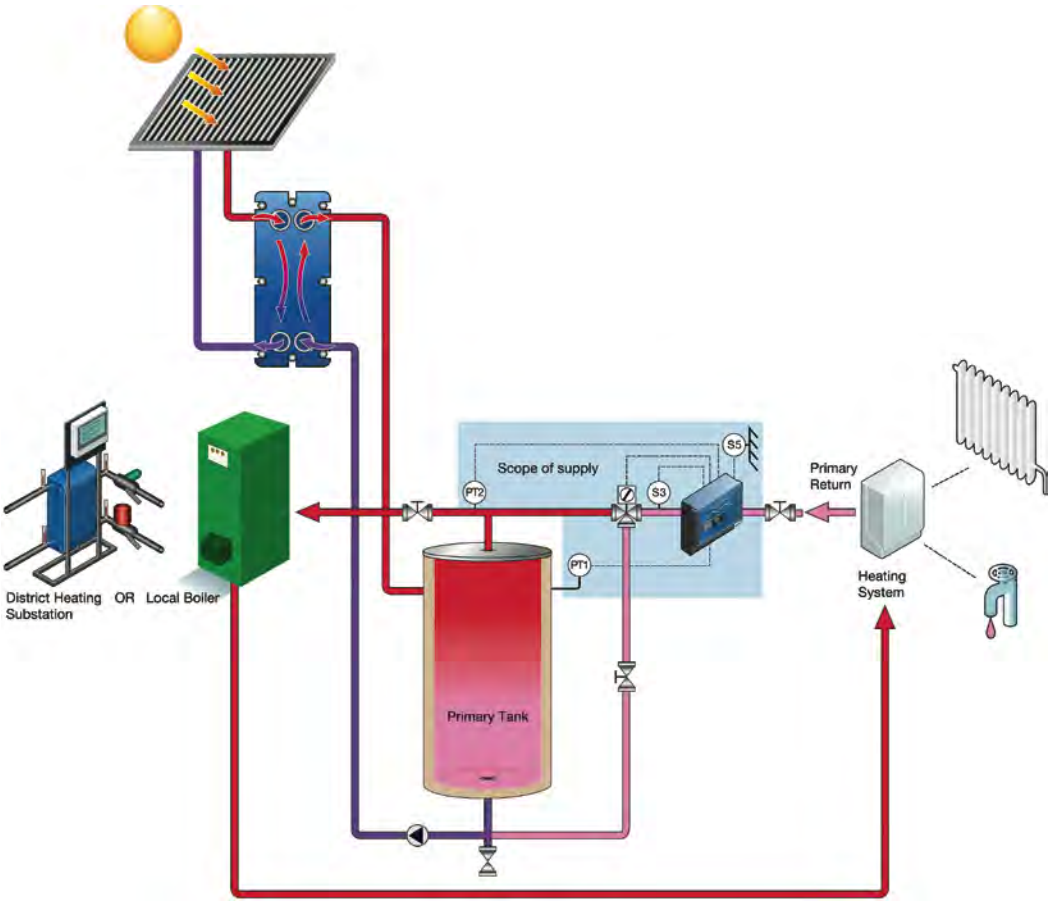
Model	Valve		Flow	Pressure loss	Flow	Pressure loss	Flow	Pressure loss	Part number	W x D x H
	Diameter DN	Kvs	m3/h	Kpa	m3/h	Kpa	m3/h	Kpa		mm
25	25	10	2,0	4	2,5	6	3,6	13	**ASTB25**	680 x 260 x 315
32	32	16	3,0	4	4,0	6	7,2	20	**ASTB32**	720 x 260 x 315
40	40	25	5,0	4	6,0	6	15,0	36	**ASTB40**	730 x 260 x 315
50	50	40	8,0	4	13,0	11	22,0	30	**ASTB50**	800 x 260 x 315

Operating limits	Maximum	Minimum
Temperature	110 °C	1 °C
Pressure	10 bar	1,5 bar

Working principle
AlfaPilot is a "plug and play" fluid navigation system based on comparative temperature measurements.
Example:

- If PT1 – S3 <Δ T: the fluid is guided straight away to the main power source
- If PT1 – S3 >Δ T: AlfaPilot navigates the fluid towards the bottom of the primary tank
- Sensor PT2 controls the 3-port valve and thus limits the outlet temperature of the system
- The optional outdoor sensor S5, permitting external influence on PT2 settings, gives the best out of AlfaPilot

AlfaPilot flow chart



Temperature sensors:
S3 = primary inlet sensor
S5 = outdoor sensor (optional)
PT1 = primary tank sensor
PT2 = sensor for additional hot water outlet - return local boiler or heating substation

Domestic hot water storage tanks

Alfa Laval AquaTank Stainless steel 10 bar

Alfa Laval AquaTank Stainless steel 10 bar

Domestic hot water storage vessel made of 100% 316 stainless steel type.
AquaTank Stainless steel is approved according to PED and manufactured according to PED 2014/68/EU.

Inspection opening:

- up to 500 L: one inspection opening of 120 mm
- > 500 L: one inspection opening of 120 mm or 400 mm (manhole)

Max. operating pressure bar gauge	10
Max. operating temperature °C	95

Volume (L)	Description	Inspection opening (mm)	Connections (tw / cw / circ.)	Immersion heater connection	D (mm)	d (mm)	Height (mm)	Weight (kg)	Article no.	Public Price €
150	Standard	120	1" / 1" / 1"	-	700	500	1132	44	AQT015SB4	**2214**
200	Standard	120	1" / 1" / 1"	-	700	500	1507	51	AQT020SB4	**2472**
300	Standard	120	2" / 2" / 1"	1 x 2"	750	550	1560	90	AQT030SB4	**2985**
300	For UK *	120	2" / 2" / 1"	1 x 2"	750	550	1560	90	AQT030SB4U	**3026**
500	Standard	120	2" / 2" / 1"	1 x 2"	850	650	1815	120	AQT050SB4	**3574**
500	Additonal connection	120	2" / 2" / 1"	2 x 2"	850	650	1815	120	AQT052SB4	**3677**
500	For UK *	120	2" / 2" / 1"	2 x 2"	850	650	1815	120	AQT052SB4U	**3721**
750	Standard	120	2" / 2" / 1"	2 x 2"	950	750	2105	180	AQT075SB4	**5052**
750	Additonal connection	120	2" / 2" / 1"	3 x 2"	950	750	2102	180	AQT073SB4	**5152**
750	Manhole	400	2" / 2" / 1"	2 x 2"	950	750	2105	180	AQT075SC4	**7541**
750	For UK *	120	2" / 2" / 1"	2 x 2"	950	750	2105	180	AQT075SB4U	**5136**
1000	Standard	120	2" / 2" / 1"	3 x 2"	1050	850	2180	215	AQT100SB5	**6809**
1000	Manhole	400	2" / 2" / 1"	3 x 2"	1050	850	2180	215	AQT100SC5	**9345**
1000	For UK *	120	2" / 2" / 1"	3 x 2"	1050	850	2180	215	AQT100SB5U	**6892**
1500	Standard	400	2" / 2" / 1"	-	1240	1000	2245	295	AQT150SC5	**11715**
1500	For UK *	400	2" / 2" / 1"	3 x 2"	1240	1000	2245	295	AQT150SC5U	**12114**
2000	Standard	400	2" / 2" / 2"	-	1340	1100	2604	345	AQT200SC5	**14351**
2000	For UK *	400	2" / 2" / 2"	3 x 2"	1340	1100	2604	345	AQT200SC5U	**14751**
2500	Standard	400	DN50 / DN50 / 1¼"	-	1540	1300	2405	470	AQT250SC5	**16217**
3000	Standard	400	DN50 / DN50 / 1¼"	-	1540	1300	2903	550	AQT300SC5	**18302**
4000	Standard	400	DN65 / DN65 / 1¼"	-	1540	1300	3655	660	AQT400SC5	**22638**

Abbreviations
tw = tap water / cw = cold water / circ. = circulation / D = outer diameter incl. insulation / d = outer diameter of tank
* for UK market
Dimensions and weights are target values

Insulation : Eurofire class D S1, do/EN 13501-1 (or B2 / DIN4102)

- 150 - 300L: Neodul 80/20 (100mm) covered with a polyester hard plastic (energy efficiency class B)
- 500 - 1000L: Neodul 80/20 (100mm) covered with a polyester hard plastic (energy efficiency class C)
- 1500 - 4000L: Neodul 100/20 (120mm) covered with a polyester hard plastic (energy efficiency class C)

More information on Alfa Laval website: http://www.alfalaval.com/aquatank

Issue : 2018 Revision : 1801 Prices : **EUR**

Alfa Laval AquaTank 316Ti 10bar

Domestic Hot Water storage tank, 150-4000 litres

Domestic Hot Water storage tank, 150-4000 litres

Applications

Alfa Laval AquaTank 316Ti is a range of stainless steel secondary storage tanks from 150 - 4000 litres. These tanks are designed for use in combination with Alfa Laval's tap water systems like AquaFirst, AquaEfficiency, AquaProtect or AquaCompact. Ideal for any premises where the water flow need is not constant such as in:

- apartment blocks
- hospitals
- hotels
- retirement and nursing homes
- schools
- leisure centres...

Key benefits

- Best quality for 10bar applications
- Extremely hygienic: no galvanic corrosion
- Energy saving insulation
- Very long lifetime
- Possibility to add electric immersion heaters

Working principle

The AquaTank acts as a buffer to meet the power peaks occurring at high water flow rates. The Domestic Hot Water (DHW) - heated up by the connected tap water system - is stored at the top of the vessel. The specific AquaTank internal tube arrangement keeps the hot water separated from the recycling and cold water inlet. The cold water inlet at the very bottom of the tank (see flowchart) avoids having a zone of stagnant cold water inside the vessel. When high demand occurs, hot water is drawn from the bottom to the centre and from the centre to the very top of the vessel.

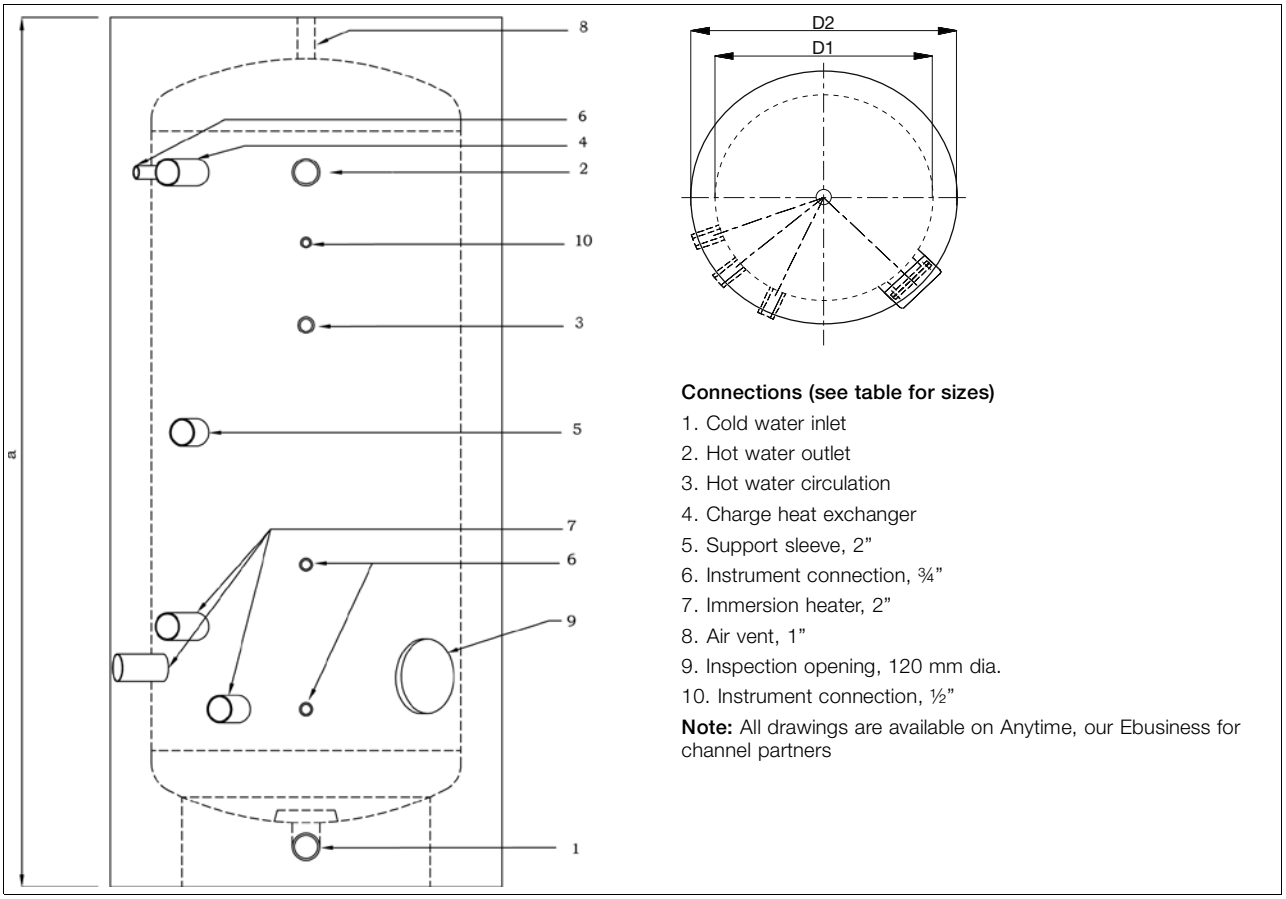
Insulation

- The energy saving insulation is made of Neodul and the surface is covered with an impact-resistant polyester hard plastic (see technical data).
- Conform to the EU directive of energy efficiency and conform to Eurofire class (see technical data).
- Extremely low heat losses thanks to the special design of the insulation avoiding the so-called "chimney-effet" between insulation and vessel surface (see technical data).
- Very easy to remove and refit makes this vessel easy to transport into and out of premises.

Flexible energy source

The complete range of the Alfa Laval AquaTank 316Ti are equipped with threaded connections to give the possibility to add electric immersion heaters (not supplied by Alfa Laval). These can be fitted directly to the threaded connections, which simplifies the installation work.

Drawing



Connections (see table for sizes)

1. Cold water inlet
2. Hot water outlet
3. Hot water circulation
4. Charge heat exchanger
5. Support sleeve, 2”
6. Instrument connection, ¾”
7. Immersion heater, 2”
8. Air vent, 1”
9. Inspection opening, 120 mm dia.
10. Instrument connection, ½”

Note: All drawings are available on Anytime, our Ebusiness for channel partners

Technical data

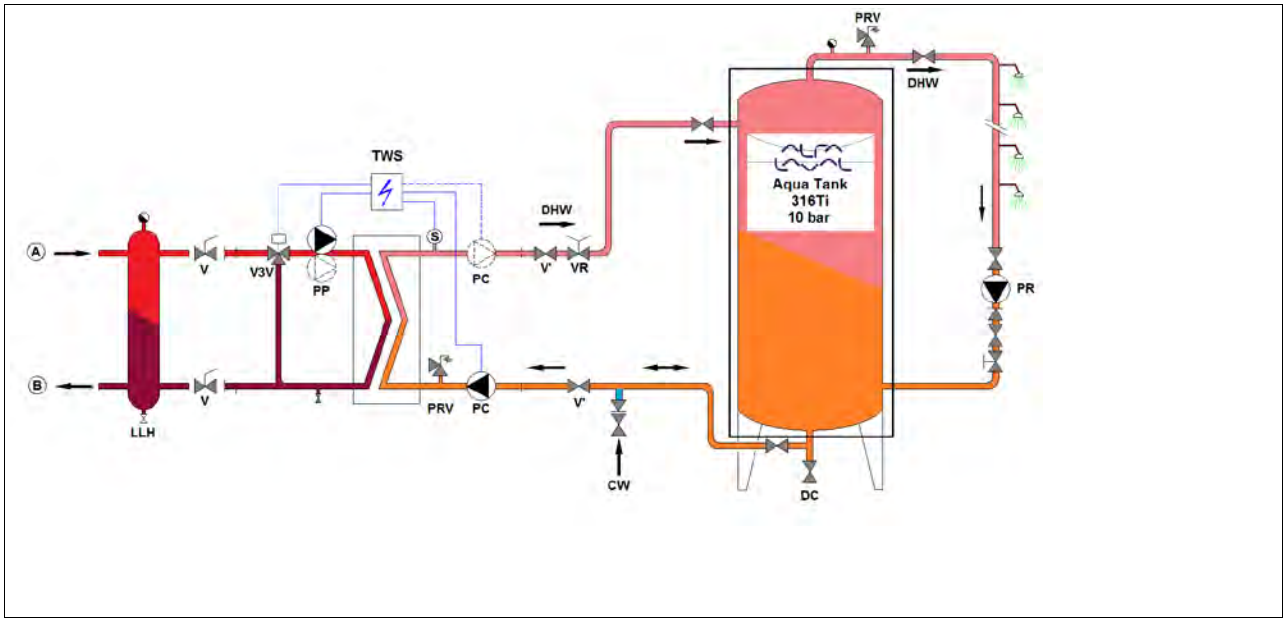
Article number	Tank capacity (L)	inspection opening (mm)	Dimensions *(mm)			Connections 1, 2, & 3 (inch or DN)	heat losses (kWh in 24 h)	Dry weight with insulation (kg)	Immersion heater rating possibilities ** (kW)
			a	D1	D2				
AQT015SB4	150	120/180	1125	500	700	1” / 1” / 1”	1,19	45	Ø
AQT020SB4	200	120/180	1500	500	700	1” / 1” / 1”	1,4	52	Ø
AQT030SB4	300	120/180	1560	550	750	2" / 2" / 1"	1,58	68	1 x 5.25
AQT030SB4U	300	120/180	1560	550	750	2" / 2" / 1"	1,58	68	1 x 5.25
AQT050SB4	500	120/180	1815	650	850	2" / 2" / 1"	2,36	91	1 x 9
AQT052SB4	500	120/180	1815	650	850	2" / 2" / 1"	2,36	91	2 x 9
AQT052SB4U	500	120/180	1815	650	850	2" / 2" / 1"	2,36	91	2 x 9
AQT075SB4	750	120/180	2105	750	950	2" / 2" / 1"	2,89	146	2 x 12
AQT073SB4	750	120/180	2105	750	950	2" / 2" / 1"	2,89	146	3 x 12
AQT075SC4	750	400/480	2105	750	950	2" / 2" / 1"	3,17	158	2 x 12
AQT075SB4U	750	120/180	2105	750	950	2" / 2" / 1"	2,89	146	2 x 12
AQT100SB5	1000	120/180	2180	850	1050	2" / 2" / 1"	3,36	200	3 x 12
AQT100SC5	1000	400/480	2180	850	1050	2" / 2" / 1"	3,52	198	3 x 12
AQT100SB5U	1000	120/180	2180	850	1050	2" / 2" / 1"	3,36	200	3 x 12
AQT150SC5	1500	400/480	2245	1000	1240	2" / 2" / 1"	3,89	298	Ø
AQT150SC5U	1500	400/480	2245	1000	1240	2" / 2" / 1"	3,89	299	3 x 12
AQT200SC5	2000	400/480	2595	1100	1340	2" / 2" / 2”	4,31	350	Ø
AQT200SC5U	2000	400/480	2545	1100	1340	2" / 2" / 2”	4,31	348	3 x 12
AQT250SC5	2500	400/480	2410	1300	1540	DN50 / DN50 / 1¼"		475	Ø
AQT300SC5	3000	400/480	2910	1300	1540	DN50 / DN50 / 1¼"		555	Ø
AQT400SC5	4000	400/480	3660	1300	1540	DN65 / DN65 / 1¼"		665	Ø

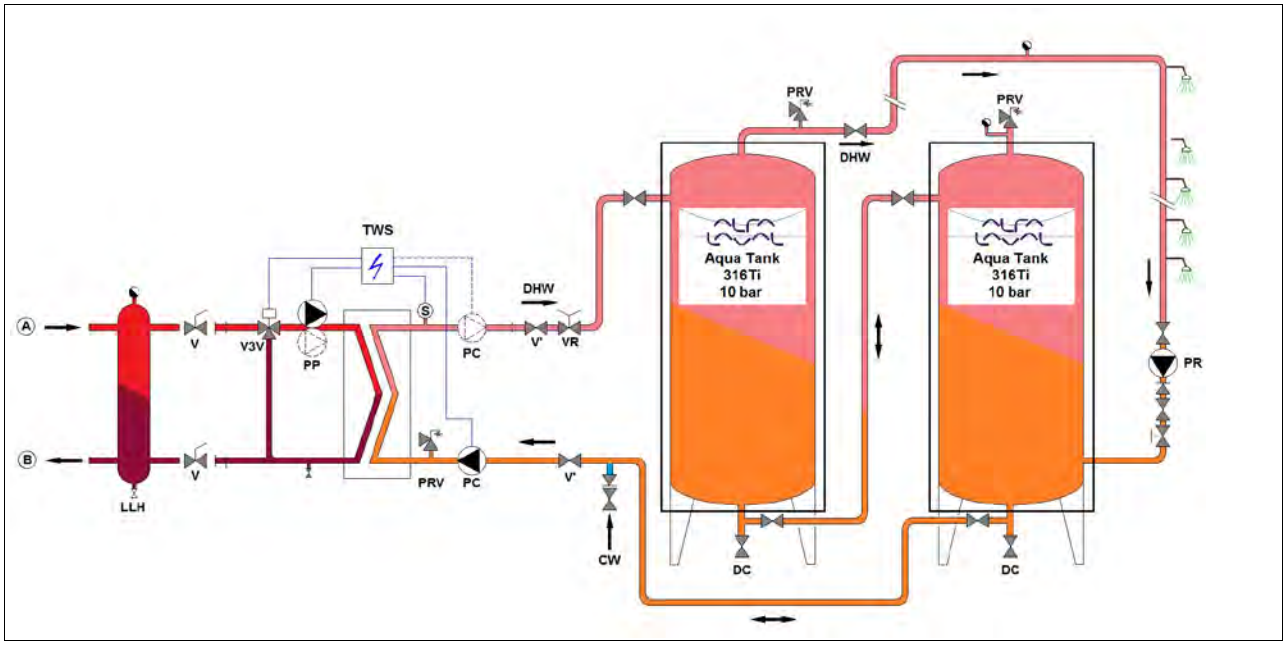
* Dimensions are target values. Binding figures are shown on the drawings
** Immersion heaters are not supplied by Alfa Laval but customer has the possibility to add them locally

Insulation characteristics

- Eurofire class D S1, do/EN 13501-1 (or B2 / DIN4102)
- 150 to 1000L: Neodul 80/20 (100mm) covered with a polyester hard plastic
- 1500 to 4000L: Neodul 100/20 (120mm) covered with a polyester hard plastic
- Energy efficiency class according to European Union rule N°814/2013 and N°812/2013:
    - 150 to 300L: energy efficiency class B
    - 500 to 2000L: energy efficiency class C
    - 2500 to 4000L: not mandatory

Flowcharts





A	Primary inlet
B	Primary outlet
CW	Cold water inlet
DC	Draining valve
DHW	Domestic Hot Water
HE	Heat exchanger (PHE)
PC	Charging pump (one or two)
PP	Primary pump (single or double)
PR	Recycling pump (on installation)
PRV	Pressure relief valve
S	DHW temperature sensor
TWS	Tap Water System
V	Manual gate valve
VR	Balancing valve
V3V	Mixing 3-port control valve with actuator

Operating limits	
Maximum operating pressure (gauge)	10 bar
Maximum operating temperature	95°C

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval AquaTank Stainless steel 10 bar with heating coil

Alfa Laval AquaTank Stainless steel 10 bar with heating coil

Domestic hot water storage vessel made of 100% 316 stainless steel type with heating coil made of stainless steel 316, Tube DN25.
Approved according to PED and manufactured according to PED 2014/68/EU.

Inspection opening

- up to 200L: 2"
- > 200L: 120 mm

	Heating coil	Vessel
Max. operating pressure bar gauge	25	10
Max. operating temperature °C (2)	200	95

Volume (L)	Inspection opening	Connections (tw / cw / circ.)	Connection HC	D (mm)	d (mm)	Height (mm)	Weight (kg)	Article no.	Public Price €
125	2"	1" / 1" / 1/2"	2 x 1"	700	500	995	40	AQTHC012SA4	**2563**
160	2"	1" / 1" / 1/2"	2 x 1"	700	500	1245	50	AQTHC016SA4	**2906**
200	2"	1" / 1" / 1/2"	2 x 1"	700	500	1495	58	AQTHC020SA4	**3196**
350	120 mm	1¼" / 1¼" / 3/4"	2 x 1"	750	550	1725	85	AQTHC035SB4	**4170**
500	120 mm	1¼" / 1¼" / 3/4"	2 x 1"	850	650	1745	95	AQTHC050SB4	**4773**
750	120 mm	2" / 2" / 1"	2 x 1"	1000	800	1830	145	AQTHC075SB4	**7055**
1000	120 mm	2" / 2" / 1"	2 x 1"	1050	850	2080	195	AQTHC100SB5	**8901**

Abbreviations
tw = tap water / cw = cold water / circ. = circulation / D = outer diameter incl. insulation / d = outer diameter of tank / HC = Heating Coil
Dimensions and weights are target values

Insulation / Eurofire class D S1, do/EN 13501-1 (or B2 / DIN4102)

- 125 - 200L: Neodul 80/20 (100mm) covered with a polyester hard plastic (energy efficiency class B)
- 350 - 1000L: Neodul 80/20 (100mm) covered with a polyester hard plastic (energy efficiency class C)

More information on Alfa Laval website: http://www.alfalaval.com/aquatank

Alfa Laval AquaTank 316Ti with heating coil

Domestic Hot Water storage tank with heating coil, 125-1000 litres

Domestic Hot Water storage tank with heating coil, 125-1000 litres

Domestic hot water storage tanks equipped with a stainless steel heating coil dedicated to charge the vessel. Available from 125 - 1000 litres, these tanks are designed for use in combination with boilers. Ideal for any premises where the water flow need is not constant such as in:

- apartment blocks
- hotels
- schools
- leisure centres...

Key benefits

- Power demand can be substantially reduced
- Best quality for 10bar applications
- Extremely hygienic: no galvanic corrosion
- Energy saving insulation
- Very long lifetime
- Simplicity

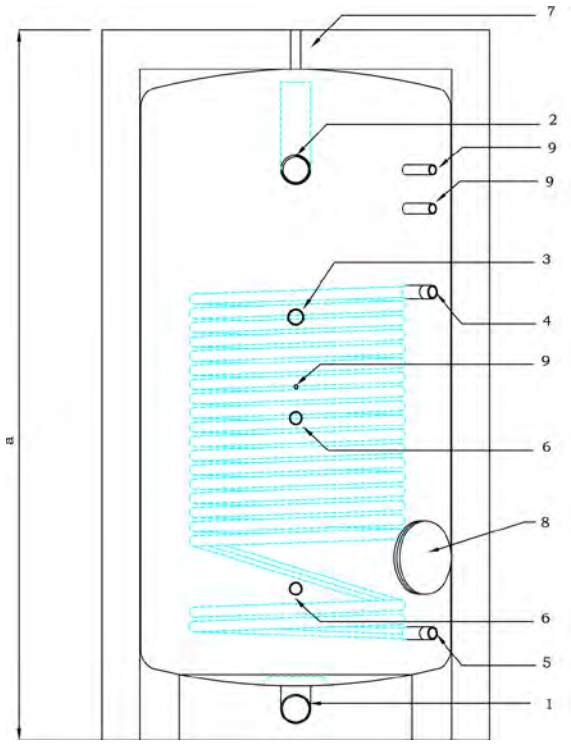
Working principle

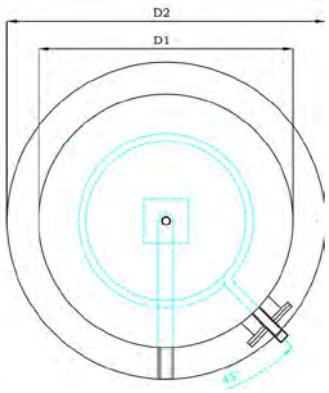
The AquaTank acts as a buffer to meet the power peaks occurring at high water flow rates. With the built-in heating coil heating takes place very quickly, because the water that has been heated by the coil is stored at the top of the vessel. The specific AquaTank internal tube arrangement keeps the hot water separated from the recycling and cold water inlet. The cold water inlet at the very bottom of the tank (see flowchart) avoids having a zone of stagnant cold water inside the vessel. When high demand occurs, hot water is drawn from the bottom to the centre and from the centre to the very top of the vessel.

Insulation

- The energy saving insulation is made of Neodul and the surface is covered with an impact-resistant polyester hard plastic (see technical data).
- Conform to the EU directive of energy efficiency, to the PED 97/23/EEC and to Eurofire class (see technical data).
- Extremely low heat losses thanks to the special design of the insulation avoiding the so-called "chimney-effet" between insulation and vessel surface (see technical data).
- Very easy to remove and refit makes this vessel easy to tranport into and out of premises.

Drawing





Connections (see table for sizes)

1. Cold water inlet
2. Hot water outlet
3. Hot water circulation
4. Primary flow, male thread
5. Primary return, male thread
6. Instrument connection, ¾"
7. Air vent, 1/2"
8. Inspection opening,
9. Instrument connection, ½"

Note: All drawings are available on Anytime, our Ebusiness for channel partners

Technical data

Article number	Tank capacity (L)	inspection opening (inch or mm)	Dimensions* (mm)			Connections		heat losses (kWh in 24 h)	Dry weight with insulation (kg)
			a	D1	D2	1, 2, & 3 (inch or DN)	4 & 5 (inch)		
AQTHC012SA4	125	Rp2"	995	500	700	1" / 1" / 3/4"	1"	1,19	57
AQTHC016SA4	160	Rp2"	1245	500	700	1" / 1" / 3/4"	1"	1,21	68
AQTHC020SA4	200	Rp2"	1495	500	700	1" / 1" / 3/4"	1"	1,4	87
AQTHC035SB4	350	120/180mm	1725	550	750	1"1/4 / 1"1/4 / 3/4"	1"	1,84	110
AQTHC050SB4	500	120/180mm	1745	650	850	1"1/4 / 1"1/4 / 3/4"	1"	2,36	132
AQTHC075SB4	750	120/180mm	1830	800	1000	2" / 2" / 1"	1"	2,89	191
AQTHC100SB5	1000	120/180mm	2080	850	1050	2" / 2" / 1"	1"	3,36	243

* Dimensions are target values. Binding figures are shown on the drawings

Insulation characteristics

- Eurofire class D S1, do/EN 13501-1 (or B2 / DIN4102)
- Neodul 80/20 (100mm) covered with a polyester hard plastic

Energy efficiency class according to European Union rule N°814/2013 and N°812/2013

- 125 to 200L: energy efficiency class B
- 350 to 1000L: energy efficiency class C

Operating limits	Maximum operating pressure (gauge)	Maximum operating temperature
Tank	10 bar	95°C
Coil	25 bar	200°C

Alfa Laval AquaTank Enamel 7 bar M1/M0

Alfa Laval AquaTank Enamel 7 bar M1/M0

Domestic hot water storage vessel made of enamel (glass-lined) 7 bar.
AquaTank Enamel (7 bar) is approved according to PED and manufactured according to PED 2014/68/EU. Delivery of magnesium anode included, assembling at site.

Inspection opening

- 110, 260 or 400 mm following volume

Insulation

- M1: 100 mm glass wool covered with PVC jacket, European fireclass B
- M0: 100 mm rockwool cladded with aluminium metal plate, European fireclass A

Max. operating pressure bar gauge	7
Max. operating temperature ºC	95

Volume (L)	Insulation (mm)		Inspection opening (mm)	ErP class* / standing losses (W)	Connections (tw / cw / circ.)	D ** (mm)	d ***(mm)	Height (mm)	Weight (kg)	Article no.	Public Price €
300	M1	100	110	B / 61,2	2" / 2" / 1"	749	549	1804	110	AQT030EB1100	**1443**
300	M1	100	260	B / 63,4	2" / 2" / 1"	749	549	1804	120	AQT030ED1100	**2210**
500	M1	100	110	C / 90,6	2" / 2" / 1"	830	630	2143	137	AQT050EB1100	**1904**
500	M1	100	260	C / 95,5	2" / 2" / 1"	830	630	2143	150	AQT050ED1100	**2597**
500	M0	100	110	C / 92,1	2" / 2" / 1"	830	630	2133	165	AQT050EB0100	**2893**
500	M0	100	260	C / 102,9	2" / 2" / 1"	830	630	2133	167	AQT050ED0100	**3584**
750	M1	100	110	C / 126,7	2" / 2" / 1"	990	790	2047	200	AQT075EB1100	**2756**
750	M1	100	400	C / 130,0	2" / 2" / 1"	990	790	2047	243	AQT075EC1100	**3643**
750	M0	100	110	C / 121,8	2" / 2" / 1"	990	790	2037	260	AQT075EB0100	**3880**
750	M0	100	400	C / 130,9	2" / 2" / 1"	990	790	2037	293	AQT075EC0100	**4766**
1000	M1	100	110	C / 129,8	2" / 2" / 1"	990	790	2400	263	AQT100EB1100	**3076**
1000	M1	100	400	C / 139,0	2" / 2" / 1"	990	790	2400	263	AQT100EC1100	**4141**
1000	M0	100	110	C / 129,1	2" / 2" / 1"	990	790	2390	293	AQT100EB0100	**4420**
1000	M0	100	400	C / 140,7	2" / 2" / 1"	990	790	2390	320	AQT100EC0100	**5485**
1500	M1	100	110	C / 152,6	2" / 2" / 1"	1300	1100	2226	344	AQT150EB1100	**4168**
1500	M1	100	400	C / 165,0	2" / 2" / 1"	1300	1100	2226	390	AQT150EC1100	**5136**
1500	M0	100	110	C / 153,3	2" / 2" / 1"	1300	1100	2216	384	AQT150EB0100	**5932**
1500	M0	100	400	C / 166,4	2" / 2" / 1"	1300	1100	2216	480	AQT150EC0100	**6898**
2000	M1	100	400	C / 174,3	2" / 2" / 1"	1300	1100	2414	420	AQT200EC1100	**5826**
2000	M0	100	400	C / 184,1	2" / 2" / 1"	1300	1100	2404	520	AQT200EC0100	**7663**
2500	M1	100	400	E / 298,2	2" / 2" / 1"	1600	1400	2245	556	AQT250EC1100	**7190**
2500	M0	100	400	E / 304,1	2" / 2" / 1"	1600	1400	2245	660	AQT250EC0100	**9433**
3000	M1	100	400	E / 323,2	2" / 2" / 1"	1600	1400	2374	560	AQT300EC1100	**8218**
3000	M0	100	400	E / 329,7	2" / 2" / 1"	1600	1400	2374	665	AQT300EC0100	**10475**

* EN 12897: 2006 / ** D = outer diameter incl. insulation / *** d = outer diameter of tank
More information on Alfa Laval website: http://www.alfalaval.com/aquatank

Issue : 2018 Revision : 1801 Prices : **EUR**

AquaTank EM (7 bar)

Hot water storage tank, 300-3000 litres

Hot water storage tank, 300-3000 litres

Applications
Alfa Laval AquaTank EM is a range of enamel (glass lined) Domestic Hot Water (DHW) storage tanks from 300 - 3000 litres. These tanks are designed for use in combination with Alfa Laval's tap water systems like AquaFirst, AquaEfficiency, AquaProtect or AquaCompact. Ideal for any premises where the water flow need is not constant such as in:

- apartment blocks
- hospitals
- hotels
- retirement and nursing homes
- schools
- leisure centres...

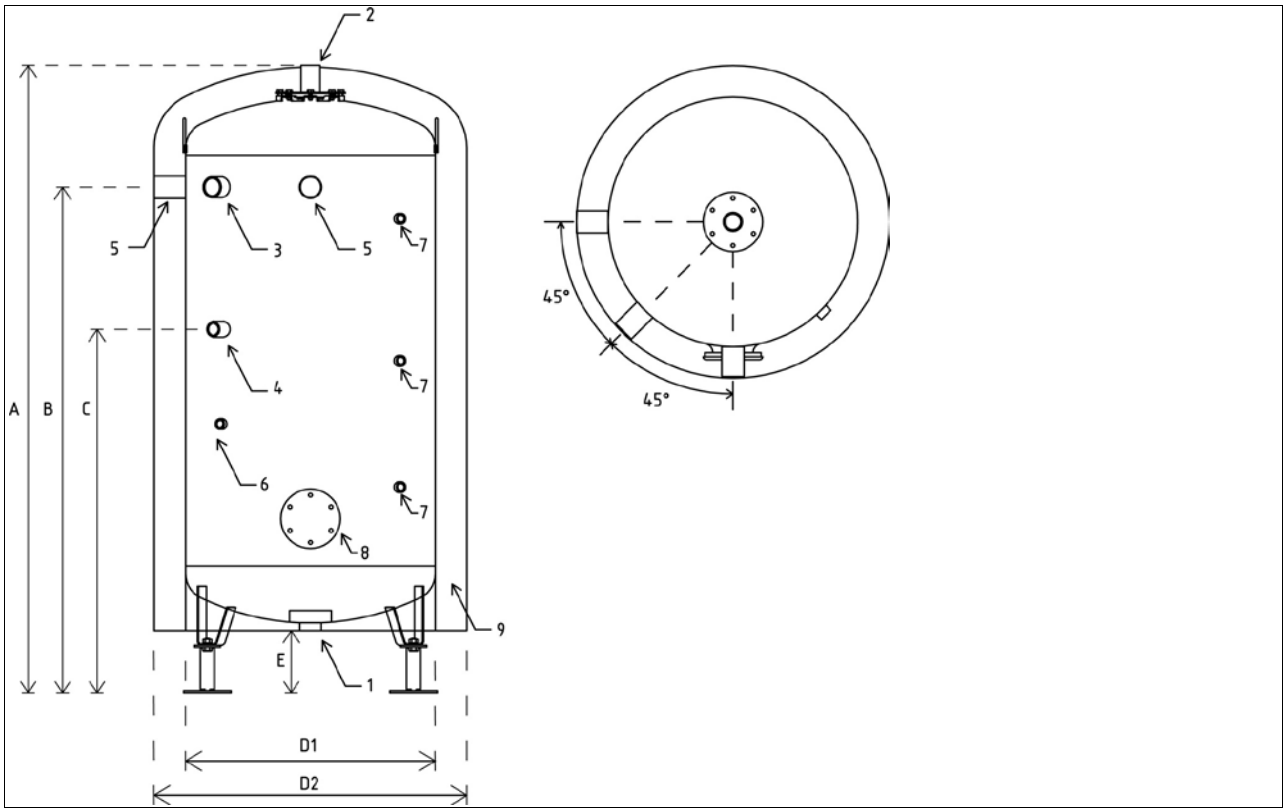
Key benefits
- Robust and good value for money
- Easy maintenance thanks to tanks' polished inside surface
- High resistance to any chemicals and to high temperatures
- Energy saving insulations with high level of fireclass
- Sanitary conformity of materials in contact with DHW
- Easy to install

Working principle
The AquaTank acts as a buffer to meet the power peaks occurring at high water flow rates. The Domestic Hot Water (DHW) - heated up by the connected tap water system - is stored at the top of the vessel. The specific AquaTank internal tube arrangement keeps the hot water separated from the recycling and cold water inlet and improves stratification during peak hours. The cold water inlet at the very bottom of the tank (see flowchart) avoids having a zone of stagnant cold water inside the vessel. When high demand occurs, hot water is drawn from the bottom to the centre and from the centre to the very top of the vessel.

Insulations
The enamel AquaTank range is available with 2 types of insulation:

- M1 insulation: 100 mm glass wool covered with a PVC-jacket, Eurofire class B
- M0 insulation: 100 mm rockwool covered with an aluminium-plate cladding, Eurofire fireclass A
- Conform to the EU directive of energy efficiency (see technical data).
- Extremely low heat losses thanks to the special design of the insulation avoiding the so-called "chimney-effet" between insulation and vessel surface (see technical data).
- Very easy to remove and refit makes this vessel easy to transport into and out of premises.

Flexible energy source
The complete AquaTank Enamel range is able to accept electric immersion heaters. These immersion heaters can be installed on the inspection holes in a very simple way.



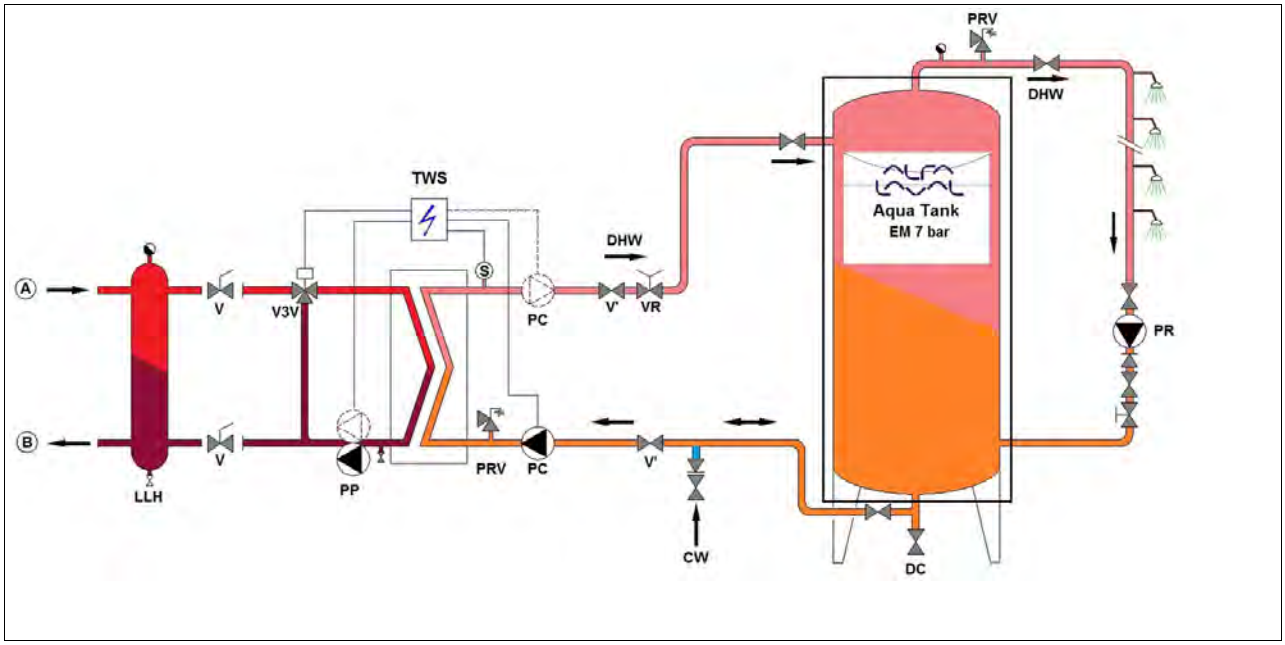
Connections (see table for sizes)			
1	Cold water inlet with specific stratification feature	5	Two added Rp 2" connections for extra inlet or safety valve installation (not proposed on 2500 and 3000 litres enamel tank)
2	Hot water outlet	6	Rp 3/4" added sensor connection on all the range except on 2500 and 3000 litres enamel tank where an added Rp 2" on the bottom of the vessel, is proposed instead
3	Heat exchanger charge inlet	7	Two or three anodes available depending on the volume of the tank
4	Hot water recirculation inlet	8	Visit or manhole opening
		9	100 mm glasswool (M1) or rock wool (M0) insulation

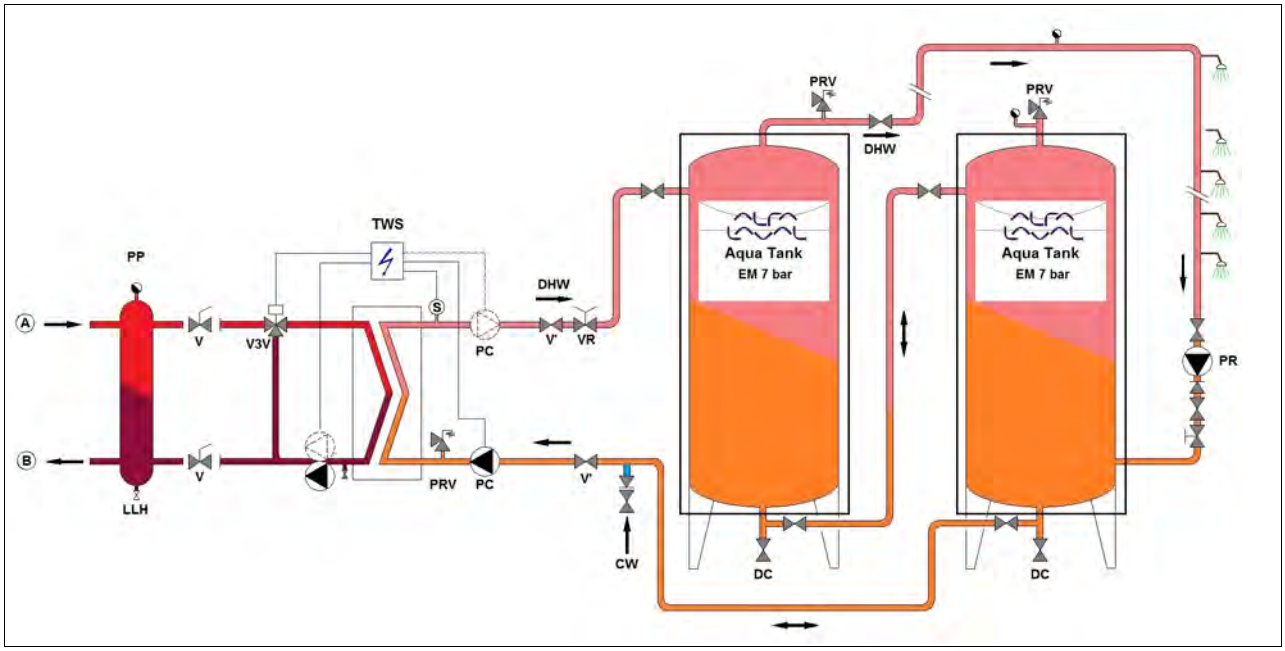
Technical data

Article number	Tank capacity (L)	Inspection opening (mm)	Insulation (100mm)	Dimensions (mm)						Connections 1 / 2 / 3 / 4	ErP class * standing losses (W)	Dry weight (Kg)
				A	B	C	E	D1	D2 (insulated)			
AQT030EB1100	300	110	M1	1804	1395	1075	216	549	749	2" / 2" / 2" / 1"	B / 61,2	110
AQT030ED1100		260	M1								B / 63,4	120
AQT050EB1100	500	110	M1	2143	1748	959	198	630	830	2" / 2" / 2" / 1"	C / 90,6	137
AQT050ED1100		260	M1								C / 95,5	150
AQT050EB0100		110	M0	2133							C / 92,1	165
AQT050ED0100		260	M0								C / 102,9	167
AQT075EB1100	750	110	M1	2047	1601	1151	197	790	990	2" / 2" / 2" / 1"	C / 126,7	200
AQT075EC1100		400	M1								C / 130,0	243
AQT075EB0100		110	M0	2037							C / 121,8	260
AQT075EC0100		400	M0								C / 130,9	293
AQT100EB1100	1000	110	M1	2400	1954	1324	197	790	990	2" / 2" / 2" / 1"	C / 129,8	263
AQT100EC1100		400	M1								C / 139,0	263
AQT100EB0100		110	M0	2390							C / 129,1	293
AQT100EC0100		400	M0								C / 140,7	320
AQT150EB1100	1500	110	M1	2226	1700	1250	221	1100	1300	2" / 2" / 2" / 1"	C / 152,6	344
AQT150EC1100		400	M1								C / 165,0	390
AQT150EB0100		110	M0	2216							C / 153,3	384
AQT150EC0100		400	M0								C / 166,4	480
AQT200EC1100	2000	400	M1	2414	1888	1258	221	1100	1300	2" / 2" / 2" / 1"	C / 174,3	420
AQT200EC0100		400	M0	2404							C / 184,1	520
AQT250EC1100	2500	400	M1	2245	1680	1180	215	1400	1600	2" / 2" / 2" / 2"	E / 298,2	556
AQT250EC0100		400	M0								E / 304,1	660
AQT300EC1100	3000	400	M1	2374	1810	1245	215	1400	1600	2" / 2" / 2" / 2"	E / 323,2	560
AQT300EC0100		400	M0								E / 329,7	665

* EN12897: 2006

Flowcharts





A	Primary inlet
B	Primary outlet
CW	Cold water inlet
DC	Draining valve
DHW	Domestic Hot Water
HE	Heat exchanger (PHE)
PC	Charging pump (one or two)
PP	Primary pump (single or double)
PR	Recycling pump (on installation)
PRV	Pressure relief valve
S	DHW temperature sensor
TWS	Tap Water System
V	Manual gate valve
VR	Balancing valve
V3V	Mixing 3-port control valve with actuator

Operating limits	
Maximum operating pressure (gauge)	7 bar
Maximum operating temperature	95°C

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Primary storage tanks

Alfa Laval Primary Tank 5 bar

Alfa Laval Primary Tank 5 bar

Primary storage vessel or thermal store, made of carbon steel, suitable to store water from heating loops, solar circuits and so on the boiler side
It reduces the boiler usage and improves system efficiency through the storage of large quantities of heated primary water, can be combined with any tap water system.
Primary Tank is manufactured according to PED 2014/68/EU.

Max. operating pressure bar gauge	5
Max. operating temperature ºC	99

Volume (L)	Insulation (mm)	ErP class* / standing losses (W)	Connections CW / HW	D (mm)	d (mm)	Height ** (mm)	Weight (kg)	Article no.	Public Price €
300	M1	B / 58,6	2" / 2"	830	630	1410	68	AQTVP030M1100	**1057**
500	M1	C / 85	2" / 2"	830	630	2012	96	AQTVP050M1100	**1254**
500	M0	C / 85,5	2" / 2"	830	630	2012	130	AQTVP050M0100	**2139**
750	M1	C / 114	2" / 2"	990	790	1907	155	AQTVP075M1100	**1631**
750	M0	C / 114,2	2" / 2"	990	790	1907	190	AQTVP075M0100	**2570**
1000	M1	C / 118	2" / 2"	990	790	2260	175	AQTVP100M1100	**1900**
1000	M0	C / 119,2	2" / 2"	990	790	2260	220	AQTVP100M0100	**3093**
1500	M1	C / 137,3	2" / 2"	1300	1100	2083	349	AQTVP150M1100	**2701**
1500	M0	C / 138	2" / 2"	1300	1100	2083	433	AQTVP150M0100	**4267**
2000	M1	C / 145,3	2" / 2"	1300	1100	2274	407	AQTVP200M1100	**2870**
2000	M0	C / 152,6	2" / 2"	1300	1100	2274	481	AQTVP200M0100	**4497**
2500	M1	E / 283,18	2" / 2"	1600	1400	2145	414	AQTVP250M1100	**3627**
2500	M0	E / 288,8	2" / 2"	1600	1400	2145	501	AQTVP250M0100	**5382**
3000	M1	E / 308,21	2" / 2"	1600	1400	2274	516	AQTVP300M1100	**4030**
3000	M0	E / 314,4	2" / 2"	1600	1400	2274	603	AQTVP300M0100	**5781**

* EN 12897: 2006
** + 132mm for M1 insulation / + 122mm for M0 insulation

Abbreviations
CW = cold water / HW = hot water / D = outer diameter incl. insulation / d = outer diameter of tank
Dimensions and weights are target values

Insulation

- M1: 100 mm glass wool covered with PVC jacket, European fireclass B.
- M0: 100 mm rockwool cladded with aluminium metal plate, European fireclass A.

More information on Alfa Laval website: http://www.alfalaval.com/primary-tank

Alfa Laval Primary Tank 5 bar

Thermal storage vessel for Primary side / 300-3000 litres

Thermal storage vessel for Primary side / 300-3000 litres

Alfa Laval Primary Tank is suitable to store large quantities of heated **primary** water from different heat sources such as boilers, hydraulic networks, solar heaters or any other heat recovery system. The Tank is designed for use in combination with a tap water system like Alfa Laval AquaFirst, AquaEfficiency or AquaFlow/Store and also high efficient heat interface units, such as type Mini City.

Applications

The Primary Tank stores energy to generate hot primary water on demand in facilities where sudden high demands occur on a fairly regular basis such as:

- apartment blocks
- hospitals, retirement and nursing homes
- hotels
- schools
- leisure centres
- any other collective building

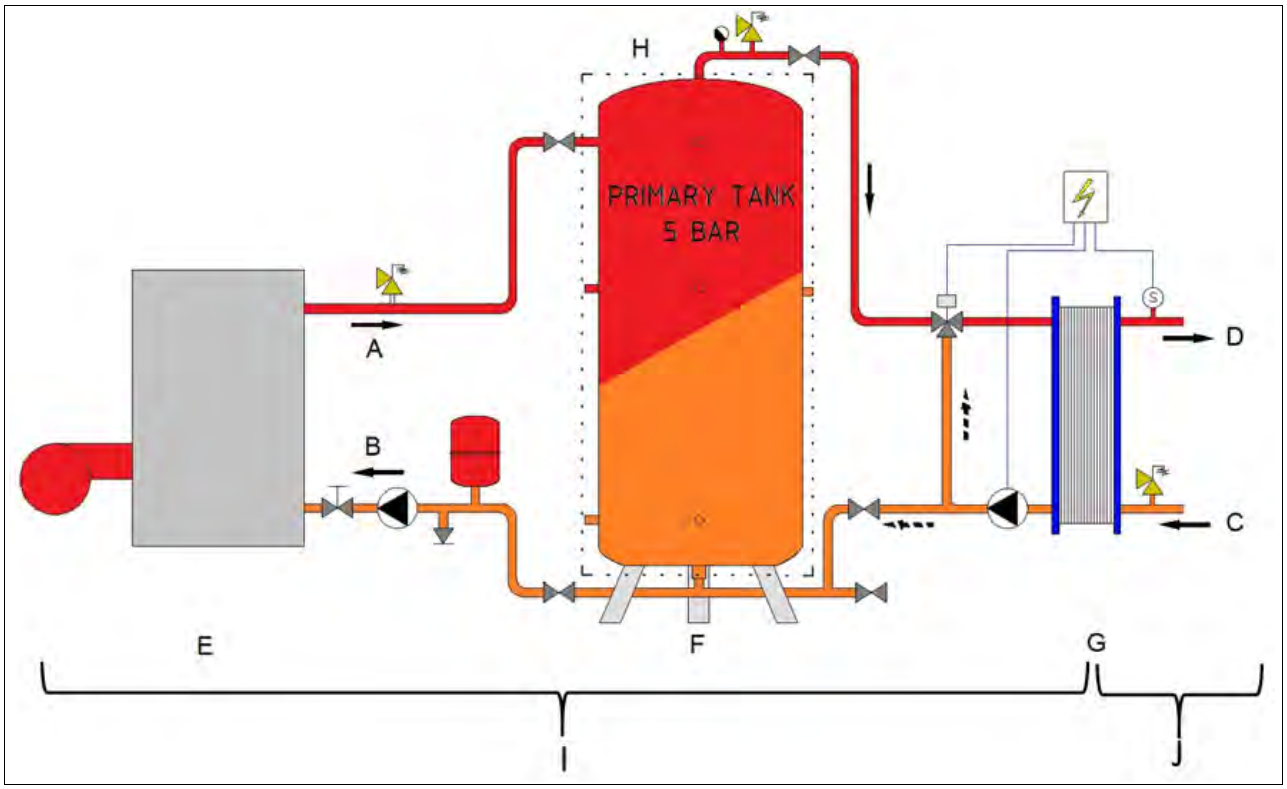
Benefits

- Energy saving solution as reduces the boiler or network capacity
- Hygienic solution: no riks of legionella, even at low temperature thanks to the water being stored on the primary side
- Maximum hot water production thanks to its specific internal tube arrangement avoiding mixing of the cold water return loop with the stored hot water
- Easy handling thanks to 2 ring bolts on top of the Primary Tank
- Delivered with feet to facilitate the cold water inlet connection and emptying, and to maximize the total available volume
- Insulation - standard 100mm - easy to remove and refit
- Reduces the risk of lime scaling if combined with the 3-port mixing valve of the AquaFirst, AquaEfficiency or AquaFlow/Store unit, especially if combined with thermal solar installation
- Additional connections to optimize condensation and the heating of boilers
- Low total cost of ownership

Charasteristics

Volumes	300 to 3000 litres
Material	Carbon steel, conform PED 2014/68/EU
Outer coating	Painted
Insulation	M1: 100mm glass wool covered with PVC jacket, European fireclass B
	M0: 100mm rockwool cladded with aluminium metal plate, European fireclass A
Maximum operation temperature	99°C
Maximum operating pressure bar gauge	5 bar g
Connections	All connections are female threads
	All 1/2" connections are dedicated for additional instruments like temperature sensors

Flowchart and working principle



A Primary heating water inlet
B Primary heating water outlet
C Secondary return from network
D Secondary outlet to network
E Local boiler
F Return from tap water system
G Tap water system
H To tap water system
I Primary side
J Secondary side

In the tap water system (G), energy is exchanged through a heat exchanger from the primary (I) to the DHW side (J). On the primary side, the DHW unit has to be fed by a heating source that can be provided for example by a local boiler (E) and the Alfa Laval Primary Tank 5 bar. In the case of the Primary Tank, the required DHW unit primary flow rate comes from the top of the Primary Vessel. This flow rate (H) is a combination of the flow rate coming from the bottom of the vessel (F) and the additional flow rate (A) coming from the boiler. This storage tank ensures that DHW primary flowrate supply is met during peak demand periods.

Sizing

The "total peak need for Domestic Hot Water" (DHW) = "nominal capacity of a tap water system" + "volume of the stored DHW" on secondary side used in 10min.
How to size an equivalent solution with the Primary Tank 5 bar?

- Design the DHW on the "total peak need for Domestic Hot Water" required
- Design the Primary Tank 5 bar with the above calculated "volume of the stocked DHW" X 1,4

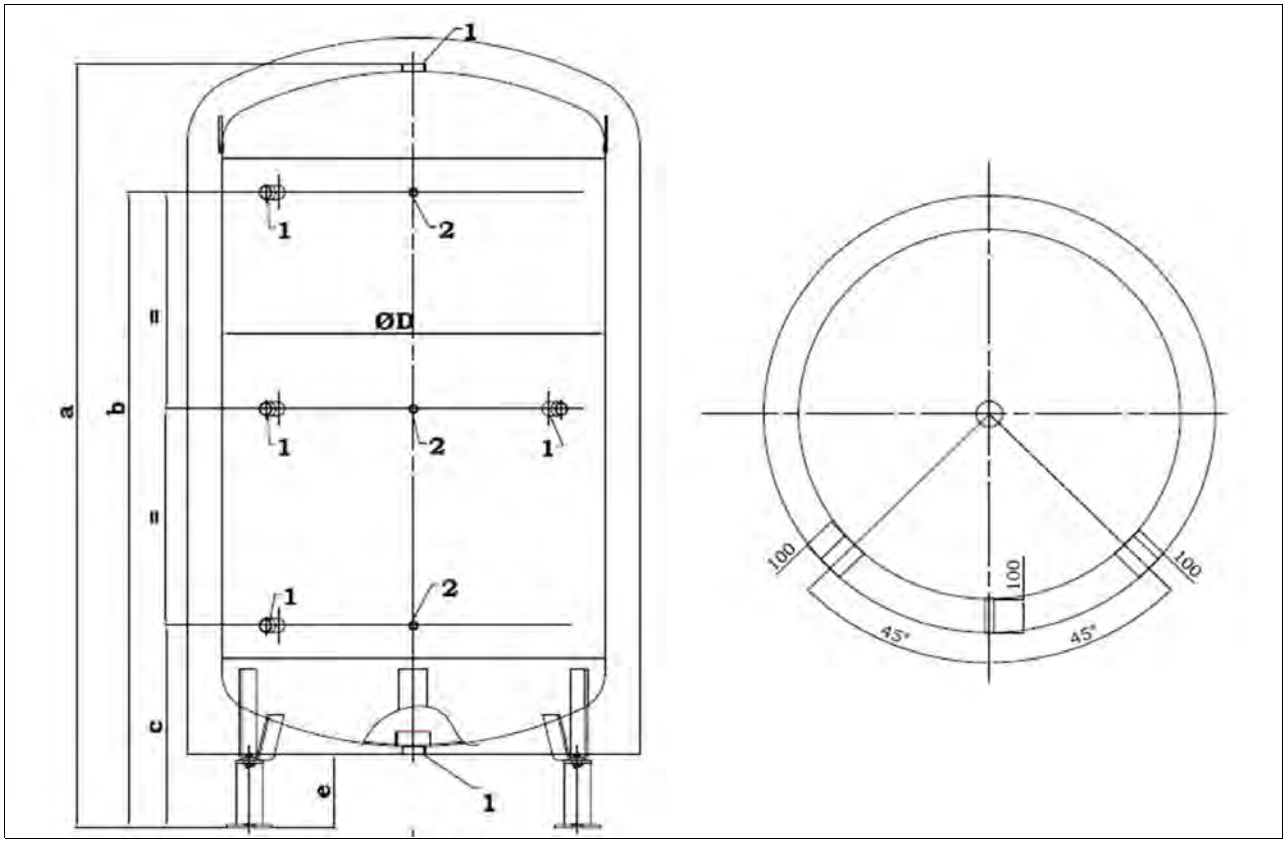
Example for 71 standard apartments:
Requested capacity for a Direct (Instantaneous) tap water system of 300 kW with an available capacity of the boiler of 100 kW:

- Offer for an Indirect (Semi-instantaneous) tap water system, 100 kW boiler and a secondary DHW storage tank would be:
  - Indirect (Semi-instantaneous) tap water system: 100 kW (G = E)
  - Volume DHW storage tank: **1000L**

- Offer with a Direct (Instantaneous) tap water system, 100 kW boiler and the Primary Tank 5 bar would be:
  - Direct (Instantaneous) tap water system: 300 kW
  - Volume of the Primary Tank 5 bar: 1,4 X 1000L = **1400L**

In this example the solution will be the Primary Tank 5 bar of 1500L (see next page).

Drawing & Selection table



Volume (L)	Dimensions (mm)					Connection sizes (inch)		Erp* class standing losses (W)		Article Numbers Primary Tank 5 bar with insulation M1	Dry weight	Article Numbers Primary Tank 5 bar with insulation M0	Dry weight
	a	b	c	D	e	1	2	M1	M0	M1	Kg	M0	Kg
300	1410	1150	458	630	200	Rp 2''	Rp 1/2''	B / 58,6	-	**AQTVP030M1**	68	**-**	-
500	2012	1753	464	630	205			C / 85	C / 85,5	**AQTVP050M1**	96	**AQTVP050M0**	130
750	1907	1600	500	790	193			C / 114	C / 114,2	**AQTVP075M1**	155	**AQTVP075M0**	190
1000	2260	1953	500	790	193			C / 118	C / 119,2	**AQTVP100M1**	175	**AQTVP100M0**	220
1500	2083	1699	599	1100	212			C / 137,3	C / 138	**AQTVP150M1**	349	**AQTVP150M0**	433
2000	2274	1887	599	1100	212			C / 145,3	C / 152,6	**AQTVP200M1**	407	**AQTVP200M0**	481
2500	2145	1679	679	1400	214			E / 283,18	E / 288,8	**AQTVP250M1**	414	**AQTVP250M0**	501
3000	2274	1809	679	1400	214			E / 308,21	E / 314,4	**AQTVP300M1**	516	**AQTVP300M0**	603

* EN12897: 2006

ECF00451EN 1709

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Tubular heat exchangers

Alfa Laval Cetecoil R

Alfa Laval Cetecoil R

Cetecoil R is a vertical, tubular type heat exchanger consisting of a stainless steel spirally spun tube bundle and a collecting chamber built in to a carbon steel shell. The heat exchanger is insulated with mineral wool and covered by an aluminium structural plate and has adjustable feet.The insulation is dismountable.
All connections are flanged.

Cetecoil R is built in accordance with PED.

Material	
Collecting chamber	Stainless steel AISI 316
Tubes	Stainless steel AISI 316
Shell	Carbon steel

Operating limits	Design temperature *	Design pressure
Tube side	200°C	16 bar
Shell side	200°C	16 bar

* In accordance with each country's legislation

Model	Volume shell (L)	Volume tube (L)	Connection shell (DN)	Connection tube (DN)	Weight (kg)	Article no.	Public Price €
480 - L	8	2	50	50	30	724115	**3398**
480 - M	11	3	50	50	35	724116	**3737**
480 - H	15	4	50	50	45	724117	**4091**
850 - L	9	3	50	50	35	724118	**3786**
850 - M	14	4	50	50	45	724119	**4283**
850 - H	20	6	50	50	50	724120	**4783**
1450 - L	11	7	65	50	45	725052	**5109**
1450 - M	17	8	65	50	75	725053	**5827**
1450 - H	24	12	65	50	90	725054	**6729**
2150 - L	30	10,5	80	50	50	725099	**6336**
2150 - M	45	14	80	50	110	725100	**7270**
2150 - H	65	19	80	50	160	725101	**8279**
3300 - L	35	14	100	65	100	725399	**8018**
3300 - M	42	21	100	65	150	725400	**9546**
3300 - H	55	28	100	65	220	725401	**11201**
4100 - L	33	16	125	65	110	725402	**8677**
4100 - M	38	24	125	65	170	725403	**10435**
4100 - H	49	34	125	65	230	725404	**12471**
6600 - L	104	29	150	100	236	725884	**17428**
6600 - M	128	37	150	100	287	725885	**20451**
6600 - H	158	43	150	100	338	725886	**23741**
8200 - L	103	38	150	125	253	725887	**21036**
8200 - M	124	47	150	125	312	725888	**24609**
8200 - H	152	55	150	125	369	725889	**28700**

More information on Alfa Laval website: http://www.alfalaval.com/cetecoil

Issue : 2018 Revision : 1801 Prices : **EUR**

Alfa Laval Cetecoil S

Alfa Laval Cetecoil S

Cetecoil S is a vertical, tubular type heat exchanger consisting of a stainless steel spirally spun tube bundle and a collecting chamber built in to a carbon steel shell. The heat exchanger is insulated with mineral wool and covered by an aluminium structural plate and has adjustable feet.The insulation is dismountable.
All connections are flanged.

Cetecoil S is built in accordance with PED.

Material	
Collecting chamber	Carbon steel
Tubes	Stainless steel AISI 316
Shell	Carbon steel

Operating limits	Design temperature *	Design pressure
Tube side	200°C	25 bar
Shell side	200°C	16 bar

* In accordance with each country's legislation

Model	Volume shell (L)	Volume tube (L)	Connection shell (DN)	Connection tube (DN)	Weight (kg)	Article no.	Public Price €
480 - L	8	2	50	50	30	724122	**3255**
480 - M	11	3	50	50	35	724123	**3605**
480 - H	15	4	50	50	45	724124	**3971**
850 - L	9	3	50	50	35	724125	**3655**
850 - M	14	4	50	50	45	724126	**4170**
850 - H	20	6	50	50	50	724127	**4688**
1450 - L	11	7	65	50	45	725234	**4613**
1450 - M	17	8	65	50	75	725235	**5490**
1450 - H	24	12	65	50	90	725236	**6396**
2150 - L	30	10,5	80	50	50	725183	**5837**
2150 - M	45	14	80	50	110	725184	**6738**
2150 - H	65	19	80	50	160	725185	**7990**
3300 - L	35	14	100	65	100	725818	**6281**
3300 - M	42	21	100	65	150	725819	**7811**
3300 - H	55	28	100	65	220	725820	**9469**
4100 - L	33	16	125	65	110	725821	**6945**
4100 - M	38	24	125	65	170	725822	**8702**
4100 - H	49	34	125	65	230	725823	**10738**
6600 - L	104	29	150	125	236	725907	**13313**
6600 - M	128	37	150	125	287	725908	**15857**
6600 - H	158	43	150	125	338	725909	**19149**
8200 - L	103	38	150	125	253	725910	**14912**
8200 - M	124	47	150	125	312	725911	**18482**
8200 - H	152	55	150	125	369	725912	**22568**

More information on Alfa Laval website: http://www.alfalaval.com/cetecoil

Issue : 2018 Revision : 1801 Prices : **EUR**

Alfa Laval Cetecoil E

Alfa Laval Cetecoil E

Cetecoil E is a vertical, tubular type heat exchanger consisting of a stainless steel spirally spun tube bundle and a collecting chamber built in to a stainless steel shell. The heat exchanger is insulated with mineral wool and covered by an aluminium structural plate and has adjustable feet.The insulation is dismountable.
All connections are flanged.

Cetecoil E is built in accordance with PED.

Material	
Collecting chamber	Stainless steel AISI 316
Tubes	Stainless steel AISI 316
Shell	Stainless steel AISI 316

Operating limits	Design temperature *	Design pressure
Tube side	200°C	16 bar
Shell side	200°C	16 bar

* In accordance with each country's legislation

Model	Volume shell (L)	Volume tube (L)	Connection shell (DN)	Connection tube (DN)	Weight (kg)	Article no.	Public Price €
480 - L	8	2	50	50	30	724129	**6091**
480 - M	11	3	50	50	35	724130	**6794**
480 - H	15	4	50	50	45	724131	**7545**
850 - L	9	3	50	50	35	724132	**6739**
850 - M	14	4	50	50	45	724133	**7862**
850 - H	20	6	50	50	50	724134	**8986**
1450 - L	11	7	65	50	45	725226	**8239**
1450 - M	17	8	65	50	75	725227	**9732**
1450 - H	24	12	65	50	90	725228	**11541**
2150 - L	30	10,5	80	50	50	725188	**11012**
2150 - M	45	14	80	50	110	725189	**12900**
2150 - H	65	19	80	50	160	725190	**15006**
3300 - L	35	14	100	65	100	725484	**12541**
3300 - M	42	21	100	65	150	725485	**14912**
3300 - H	55	28	100	65	220	725486	**17476**
4100 - L	33	16	100	65	110	725487	**13126**
4100 - M	38	24	100	65	170	725488	**15615**
4100 - H	49	34	100	65	230	725489	**18472**
6600 - L	104	29	150	125	236	725490	**20647**
6600 - M	128	37	150	125	287	725491	**24563**
6600 - H	158	43	150	125	338	725492	**28813**
8200 - L	103	38	150	125	253	725493	**23713**
8200 - M	124	47	150	125	312	725494	**27910**
8200 - H	152	55	150	125	369	725495	**32684**

More information on Alfa Laval website: http://www.alfalaval.com/cetecoil

Issue : 2018 Revision : 1801 Prices : **EUR**

Cetecoil®

Shell and tube heat exchanger stainless steel / carbon steel

Shell and tube heat exchanger stainless steel / carbon steel

Cetecoil® is the collective name for a range of heat exchangers with tubes made of acid proof stainless steel and suitable for many different media, such as steam, domestic hot water, heating water and hot oil. When operating with steam, the Cetecoil is a very efficient condensate cooler. The Cetecoil heat exchanger is also very well-suited for use in systems in which continuous operation at high water velocities is required.

High pressures and temperatures
Cetecoil heat exchangers have no gaskets and can operate at high pressures and high temperatures, even when handling media that are subject to sudden and big temperature variations, such as in steam and refrigeration systems. In their standard design, Cetecoil heat exchangers are rated for pressures up to 25 bar and temperatures up to 300°C.

Flexible range
Cetecoil heat exchangers are manufactured in three different basic versions as regards materials and pressures, and these are designated R, S and E. All versions have stainless steel tubes.

Every basic version is manufactured in a number of sizes and different thermal lengths. This wide range makes it simple to order a suitable Cetecoil heat exchanger for virtually any operating conditions. For higher capacities, several heat exchangers can be connected in parallel or in series.

Unique design with patented tubes
The stainless steel tubes are cross-rilled. This improves the thermal properties of the tube, both on the inside and on the outside, which contributes towards a very high heat transfer rate. The performance of the heat exchanger is determined by the number of tubes and the tube length. The tubes are wound into a spiral around a central core. Each end is then secured into the tube plate. The tubes form together with the collecting chambers the 'coil' which is welded to the surrounding shell. In this design, the strength of an all-welded design is combined with high elasticity for absorbing thermal expansion. The upright position also means that Cetecoil needs a minimum of space.

All dimensions in mm. Design subject to changes without prior notice.

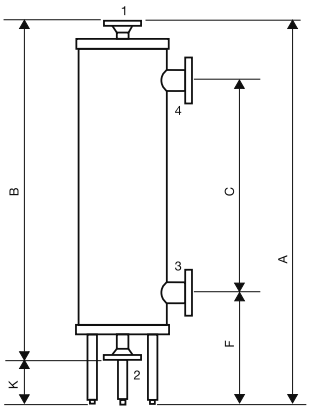
Cetecoil S/R/E Type	A mm	B mm	C mm	D mm	F mm	K mm	I mm	Connections		Volume		Dry Weight kg
								1.2 PN 40*	3.4 PN 16	Coil Litres	Shell Litres	
480 - L	980	680	440	280	425	300	200	50	50	2	8	30
850 - L	1070	771	531	280	425	300	200	50	50	3	9	35
1450 - L	1145	870	585	280	415	275	200	50	65	7	11	45
2150 - L	1170	920	580	340	420	250	235	50	80	10	30	65
3300 - L	1255	985	420	430	560	270	270	65	100	14	35	100
4100 - L	1255	985	420	430	560	270	270	65	125[1)]	16	33	110
480 - M	1160	860	620	280	425	300	200	50	50	3	11	35
850 - M	1360	1060	826	280	425	300	200	50	50	4	14	45
1450 - M	1505	1230	935	280	415	275	200	50	65	8	17	75
2150 - M	1500	1250	900	340	420	250	235	50	80	14	45	110
3300 - M	1455	1185	620	430	560	270	270	65	100	21	42	150
4100 - M	1455	1185	620	430	560	270	270	65	125[1)]	24	38	170
480 - H	1360	1060	826	280	425	300	200	50	50	4	15	45
850 - H	1670	1370	1130	280	425	300	200	50	50	6	20	50
1450 - H	1900	1625	1335	280	415	275	200	50	65	12	24	90
2150 - H	1800	1550	1200	340	420	250	235	50	80	19	65	160
3300 - H	1695	1425	860	430	560	270	270	65	100	28	55	220
4100 - H	1695	1425	860	430	560	270	270	65	125[1)]	34	49	230

* PN16 for type E.

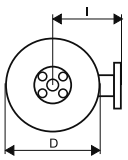
[1)] For type E the connection is DN 100.

The tube coil inside the shell

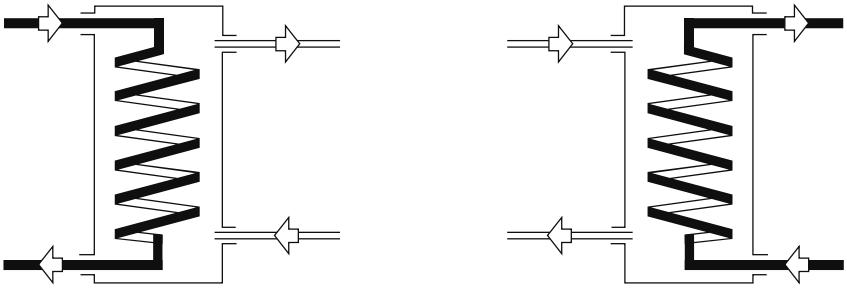
Cetecoil 480-4100



The cross-rilled tube



Connection examples (flow diagrams)



(The heat exchanger must always be connected with the media in counterflow and,if the materials allow, at the larger flow rate on the shell side.)

Operating pressure/operating temperature

Cetecoil Type	Max. operating pressure bar (gauge) at operating temperature					
	200°C		250°C		300°C	
	Coil	Shell	Coil	Shell	Coil	Shell
R	16	16	15	14	14	12
S	25	16	23	14	19	12
E	16	16	15	15	14	14

Materials

Cetecoil type	Coil		Shell
	Tubes	Collecting chambers	
R	Stainless steel	Stainless steel	Carbon steel
S	Stainless steel	Carbon steel	Carbon steel
E	Stainless steel	Stainless steel	Stainless steel

Examples of suitable media in the coil and shell

Cetecoil type	Coil (connections 1 and 2)	Shell (connections 3 and 4)
R	Steam, domestic hot water, oils	Steam, hot oil, heating water
S	Steam, heating water	Hot oil, heating water
E	Steam, domestic hot water, oils	Same as on coil side

Insulation

The insulation consists of 50 mm thick mineral wool clad with tough Aluminium structural plate.

Quality standard/approval

Designed and rated according to PED and AD2000. Approved by German TÜV. Stainless steel type AISI 316

Cetecoil article numbers

Type	Cetecoil R	Cetecoil S	Cetecoil E
480 - L	724 115	724 122	724 129
480 - M	724 116	724 123	724 130
480 - H	724 117	724 124	724 131
850 - L	724 118	724 125	724 132
850 - M	724 119	724 126	724 133
850 - H	724 120	724 127	724 134
1450 - L	725 052	725 234	725 226
1450 - M	725 053	725 235	725 227
1450 - H	725 054	725 236	725 228
2150 - L	725 099	725 183	725 188
2150 - M	725 100	725 184	725 189
2150 - H	725 101	725 185	725 190
3300 - L	725 399	725 818	725 484
3300 - M	725 400	725 819	725 485
3300 - H	725 401	725 820	725 486
4100 - L	725 402	725 821	725 487
4100 - M	725 403	725 822	725 488
4100 - H	725 404	725 823	725 489

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Cetetube

Alfa Laval Cetetube

Cetetube is a verticle, tubular type heat exchanger consisting of bundle of spirally spun, finned copper tubes inside a carbon steel shell.
The heat exchanger is insulated with mineral wool and covered by an aluminium structural plate and has adjustable feet.The insulation is dismountable.

Cetetube is built in accordance with PED.

Material	
Tubes	Copper
Shell	Carbon steel

Operating limits	Design temperature *	Design pressure
Tube side	160°C	25 bar
Shell side	150°C	16 bar

* In accordance with each country's legislation

Model	Volume shell (L)	Volume tube (L)	Connection shell (DN)	Connection tube (DN)	Weight (kg)	Article no.	Public Price €
460 - M	8	3	40	25	48	720211	**2787**
460 - H	9	4	40	25	55	720213	**3105**
460 - EH	13	5	40	25	78	720214	**3491**
700 - M	12	4	50	32	75	720102	**3171**
700 - H	16	5	50	32	95	720104	**3482**
700 - EH	21	6	50	32	105	720105	**4116**
1050 - M	50	9	65	50	125	720033	**4824**
1050 - H	58	11	65	50	135	720035	**5508**
1050 - EH	73	14	65	50	150	720036	**6406**
1400 - M	50	9	65	50	125	720047	**4824**
1400 - H	58	11	65	50	135	720053	**5508**
1400 - EH	73	14	65	50	150	720056	**6406**
2100 - M	45	12	65	50	135	720048	**5673**
2100 - H	53	15	65	50	150	720054	**6678**
2100 - EH	66	19	65	50	165	720057	**7925**
2800 - M	41	15	65	50	150	720049	**6554**
2800 - H	46	19	65	50	160	720055	**7967**
2800 - EH	57	23	65	50	175	720058	**9450**
3500 - M	95	20	125	65	260	720111	**9663**
3500 - H	111	25	125	65	285	720119	**11353**
3500 - EH	139	32	125	65	315	720076	**13437**
4200 - M	90	23	125	65	270	720112	**10513**
4200 - H	106	29	125	65	300	720120	**12525**
4200 - EH	132	32	125	65	315	720124	**14959**

More information on Alfa Laval website: http://www.alfalaval.com/cetetube

Alfa Laval Cetetube

Shell and tube heat exchanger

Shell and tube heat exchanger stainless steel / carbon steel

Cetecoil® is the collective name for a range of heat exchangers with tubes made of acid proof stainless steel and suitable for many different media, such as steam, domestic hot water, heating water and hot oil. When operating with steam, the Cetecoil is a very efficient condensate cooler. The Cetecoil heat exchanger is also very well-suited for use in systems in which continuous operation at high water velocities is required.

High pressures and temperatures
Cetecoil heat exchangers have no gaskets and can operate at high pressures and high temperatures, even when handling media that are subject to sudden and big temperature variations, such as in steam and refrigeration systems. In their standard design, Cetecoil heat exchangers are rated for pressures up to 25 bar and temperatures up to 300°C.

Flexible range
Cetecoil heat exchangers are manufactured in three different basic versions as regards materials and pressures, and these are designated R, S and E. All versions have stainless steel tubes.

Every basic version is manufactured in a number of sizes and different thermal lengths. This wide range makes it simple to order a suitable Cetecoil heat exchanger for virtually any operating conditions. For higher capacities, several heat exchangers can be connected in parallel or in series.

Unique design with patented tubes
The stainless steel tubes are cross-rilled. This improves the thermal properties of the tube, both on the inside and on the outside, which contributes towards a very high heat transfer rate. The performance of the heat exchanger is determined by the number of tubes and the tube length. The tubes are wound into a spiral around a central core. Each end is then secured into the tube plate. The tubes form together with the collecting chambers the 'coil' which is welded to the surrounding shell. In this design, the strength of an all-welded design is combined with high elasticity for absorbing thermal expansion. The upright position also means that Cetecoil needs a minimum of space.

Shell
The shell is made of pressure vessel steel and conforms to the relevant pressure vessel standards.

Coil
The coil is made of spiral-round, seamless copper tube with area-extending fins.

Maximum operating pressure
The maximum operating pressure is 1.6 MPa (gauge) on shell side and 2.5 MPa (gauge) on tube side.

Maximum operating temperature
The corresponding maximum operating temperature is 150 °C on shell side and 160 °C on tube side

Insulation
The insulation consists of 50 mm mineral wool clad with tough Aluminium structural plate. The insulation is easy to remove and refit.

Connections
The tube coil and the shell are equipped with flange connections PN40 on tube side and PN16 on shell side.

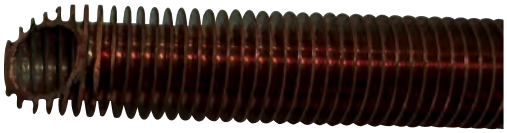
Installation
The Cetetube heat exchangers are provided with tubular legs with adjustable feet.

Connection
See the flow diagram for the relevant heat exchanger type. As a general rule, the liquid at the lower flow rate should be routed through the coil. N.B. However, domestic hot water must always flow through the coil.

Quality standard/ approval
All sizes are designed and rated according to PED, approved by German TÜV.

The Cetetube is manufactured in 7 sizes, with size designations ranging between 460 and 3500. Every size is manufactured in three different thermal lengths, to suit most operating conditions. In addition, also non-standard units are available on request. For further information, see the data sheet for each size and thermal length.

The tube coil inside the shell.



The finned copper tube.

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Pressurisation sets

Alfa Laval Pressosmart MP195 - Single pump

Alfa Laval Pressosmart MP195 - Single pump

Compact packaged pressurisation set - fully assembled, wired, electrically and hydraulically tested - including:

- Built in 195 litre epoxy painted mild steel expansion vessel
- Single headed multicellular centrifugal pump
- Brass pressure control valve
- 230V/50Hz solenoïd water feeding valve
- High and low flow level contacts
- 4-20 mA pressure sensor and IP43 electrical control box incorporating Micro2000 controller
- Integrated 5 litres anti-hammer vessel

Operating limits	Water
Max. operating pressure bar	8
Max. operating temperature °C	95

Model	Pump(s)	PCV(s)*	Building static height (m)	Hydraulic connection	L x W x H (mm)	Weight (kg)	Article no.	Public Price €
MP195 L1	1	1	**10 - 35**	DN25 (1")	520 x 800 x 1070	95	MP195NL	**4758**
MP195 L2	1	1	**10 - 45**	DN25 (1")	520 x 800 x 1070	98	MP195NL4150	**4925**

Options for Pressosmart MP 195	Article no.	Public Price €
89 µm core water strainer - atomatic cold feed (loose)	OPTMPFILT	**172**
Impulse meter — 10 litres/impulsion — for water leak detection	OPTMPDETECT	**317**
Cold water feed bypass kit	BYPASMP	**158**
8 Relay board	OPT8RELAYMP	**350**
Software and download cable to extract data	OPTCABLE	**381**
Flooding detector	INONDMP	**314**

* Pressure control valve

v

More information on Alfa Laval website: http://www.alfalaval.com/pressosmart

Alfa Laval Pressosmart MP4 - Single pump

Alfa Laval Pressosmart MP4 - Single pump

The Pressosmart range MP4 with **single pump** is designed to maintain stable pressure in a closed water heating and cooling network. It is a split system which needs to be piped up to Alfa Laval's **Open or Closed Expansion vessels**. Pressosmart units perform 3 main functions:

1. Maintain of a constant and steady pressure
2. Answers to expansion
3. Network filling-up if necessary

Operating limits	Water
Max. operating pressure bar	10*
Max. operating temperature ºC	95

Pump module	Building static height (m)	Pump(s)	PCV(s)**	Hydraulic connection	L x W x H (mm)	Weight (kg)	Article no.	Public Price €
MP4N 3-16	5-15	1	1	DN25 (1")	595 x 400 x 1145	50	MP4N316	**3613**
MP4N 4-16	5-25	1	1	DN25 (1")	595 x 400 x 1145	50	MP4N416	**3670**
MP4N 5-16	15-35	1	1	DN25 (1")	595 x 400 x 1145	50	MP4N516	**3716**
MP4N 6-16	25	1	1	DN25 (1")	595 x 400 x 1145	50	MP4N616	**3824**
MP4N 6-16	26-45	1	1	DN25 (1")	595 x 400 x 1145	50	MP4N6163150	**3824**
MP4N 7-16	25	1	1	DN25 (1")	595 x 400 x 1145	53	MP4N716	**4045**
MP4N 7-16	26-45	1	1	DN25 (1")	595 x 400 x 1145	53	MP4N7163150	**4045**
MP4N 7-16	46-55	1	1	DN25 (1")	595 x 400 x 1145	53	MP4N7165160	**4045**

Options for Pressosmart MP4	Article no.	Public Price €
8 litre anti-hammer vessel - work pressure: 8 bar max.	VASABMP01	**174**
89 µm core water strainer - atomatic cold feed (loose)	OPTMPFILT	**172**
Impulse meter — 10 litres/impulsion — for water leak detection	OPTMPDETECT	**317**
Cold water feed bypass kit	BYPASMP	**158**
8 Relay board fitted in the control box	OPT8RELAYMP	**350**
Software and download cable to extract data	OPTCABLE	**381**
Flooding detector	INONDMP	**314**
Set of 2 float contacts	OPTMPFLO	**336**
High temperature level sensors for industrial and non-comfort applications	OPTHTFLO	**137**

* Limited to 8 bar in case of selected option anti-hammer vessel / ** Pressure control valve
For vessels see chapters "Closed expansion vessels" and "Open expansion vessels"

More information on Alfa Laval website: http://www.alfalaval.com/pressosmart

Issue : 2018 Revision : 1801 Prices : **EUR**

Alfa Laval Pressosmart MP5 - Double pump

Alfa Laval Pressosmart MP5 - Double pump

The Pressosmart range MP5 with **double pump** is designed to maintain stable pressure in a closed water heating and cooling network. It is a split system which needs to be piped up to Alfa Laval's **Open or Closed Expansion vessels**. Pressosmart units perform 3 main functions:

1. Maintain of a constant and steady pressure
2. Answers to expansion
3. Network filling-up if necessary

Operating limits	Water
Max. operating pressure bar	10*
Max. operating temperature °C	95

Pump module	Building static height (m)	Pump(s)	PCV(s)**	Hydraulic connection	L x W x H (mm)	Weight (kg)	Article no.	Public Price €
MP5N 3-16	5-15	2	1	DN40 (1 1/2")	595 x 465 x 1215	72	MP5N316	**4337**
MP5N 4-16	5-25	2	1	DN40 (1 1/2")	595 x 465 x 1215	77	MP5N416	**4416**
MP5N 5-16	5-25	2	1	DN40 (1 1/2")	595 x 465 x 1215	77	MP5N516	**4508**
MP5N 5-16	26-35	2	1	DN40 (1 1/2")	595 x 465 x 1215	77	MP5N5163140	**4508**
MP5N 6-16	5-25	2	1	DN40 (1 1/2")	595 x 465 x 1215	79	MP5N616	**4738**
MP5N 6-16	26-45	2	1	DN40 (1 1/2")	595 x 465 x 1215	79	MP5N6163150	**4738**
MP5N 7-16	5-25	2	1	DN40 (1 1/2")	595 x 465 x 1215	80	MP5N716	**5273**
MP5N 7-16	26-45	2	1	DN40 (1 1/2")	595 x 465 x 1215	80	MP5N7163150	**5273**
MP5N 7-16	46-55	2	1	DN40 (1 1/2")	595 x 465 x 1215	80	MP5N7165160	**5273**
MP5N 8-16	5-25	2	1	DN40 (1 1/2")	595 x 465 x 1215	85	MP5N816	**5561**
MP5N 8-16	26-45	2	1	DN40 (1 1/2")	595 x 465 x 1215	85	MP5N8163150	**5561**
MP5N 8-16	46-65	2	1	DN40 (1 1/2")	595 x 465 x 1215	85	MP5N8165170	**5561**
MP5N 3-26	5-15	2	2	DN40 (1 1/2")	595 x 465 x 1215	73	MP5N326	**5039**
MP5N 4-26	5-25	2	2	DN40 (1 1/2")	595 x 465 x 1215	78	MP5N426	**5144**
MP5N 5-26	5-25	2	2	DN40 (1 1/2")	595 x 465 x 1215	78	MP5N526	**5232**
MP5N 5-26	26-35	2	2	DN40 (1 1/2")	595 x 465 x 1215	78	MP5N5263140	**5232**
MP5N 6-26	5-25	2	2	DN40 (1 1/2")	595 x 465 x 1215	80	MP5N626	**5454**
MP5N 6-26	26-45	2	2	DN40 (1 1/2")	595 x 465 x 1215	80	MP5N6263150	**5454**
MP5N 7-26	5-25	2	2	DN40 (1 1/2")	595 x 465 x 1215	81	MP5N726	**5852**
MP5N 7-26	26-45	2	2	DN40 (1 1/2")	595 x 465 x 1215	81	MP5N7263150	**5852**
MP5N 7-26	46-55	2	2	DN40 (1 1/2")	595 x 465 x 1215	81	MP5N7265160	**5852**
MP5N 8-26	5-25	2	2	DN40 (1 1/2")	595 x 465 x 1215	86	MP5N826	**6191**
MP5N 8-26	26-45	2	2	DN40 (1 1/2")	595 x 465 x 1215	86	MP5N8263150	**6191**
MP5N 8-26	46-65	2	2	DN40 (1 1/2")	595 x 465 x 1215	86	MP5N8265170	**6191**

Issue : 2018 Revision : 1801 Prices : **EUR**

Options for Pressosmart MP5	Article no.	Public Price €
8 litre anti-hammer vessel - work pressure: 8 Bar max.	VASABMP02	**174**
89 µm core water strainer - atomatic cold feed (loose)	OPTMPFILT	**172**
Impulse meter — 10 litres/impulsion — for water leak detection	OPTMPDETECT	**317**
Cold water feed bypass kit	BYPASMP	**158**
8 Relay board fitted in the control box	OPT8RELAYMP	**350**
Software and download cable to extract data	OPTCABLE	**381**
Flooding detector	INONDMP	**314**
Set of 2 float contacts	OPTMPFLO	**336**
High temperature level sensors for industrial and non-comfort applications	OPTHTFLO	**137**

* Limited to 8 bar in case of selected option anti-hammer vessel / ** Pressure control valve
For vessels see chapters “Closed expansion vessels” and “Open expansion vessels”

More information on Alfa Laval website: http://www.alfalaval.com/pressosmart

Alfa Laval Pressosmart MP7 - Double pump

Alfa Laval Pressosmart MP7 - Double pump

The Pressosmart range MP7 **double pump** is designed to maintain stable pressure in a closed water heating and cooling network. It is a split system which needs to be piped up to Alfa Laval's **Open or Closed Expansion vessels**. Pressosmart units perform 3 main functions:

1. Maintain of a constant and steady pressure
2. Answers to expansion
3. Network filling-up if necessary

Operating limits	Water
Max. operating pressure bar	10*
Max. operating temperature °C	95

Pump module	Building static height (m)	Pump(s)	PCV(s)**	Hydraulic connection	L x W x H (mm)	Weight (kg)	Article no.	Public Price €
MP7 10-16	10-45	2	1 ***	DN50 (2")	595 x 500 x 1460	121	MP71016	**6499**
MP7 10-16	46-55	2	1 ***	DN50 (2")	595 x 500 x 1460	121	MP710164555	**6499**
MP7 13-16	10-45	2	1 ***	DN50 (2")	595 x 500 x 1460	135	MP71316	**7098**
MP7 13-16	46-55	2	1 ***	DN50 (2")	595 x 500 x 1460	135	MP713164565	**7098**
MP7 15-16	10-45	2	1 ***	DN50 (2")	595 x 500 x 1460	137	MP71516	**7263**
MP7 15-16	46-75	2	1 ***	DN50 (2")	595 x 500 x 1460	137	MP715164575	**7263**
MP7 10-26	10-45	2	2 ***	DN50 (2")	595 x 500 x 1460	122	MP71026	**7158**
MP7 10-26	46-55	2	2 ***	DN50 (2")	595 x 500 x 1460	122	MP710264555	**7158**
MP7 13-26	10-45	2	2 ***	DN50 (2")	595 x 500 x 1460	136	MP71326	**7756**
MP7 13-26	46-55	2	2 ***	DN50 (2")	595 x 500 x 1460	136	MP713264565	**7756**
MP7 15-26	10-45	2	2 ***	DN50 (2")	595 x 500 x 1460	138	MP71526	**7922**
MP7 15-26	46-75	2	2 ***	DN50 (2")	595 x 500 x 1460	138	MP715264575	**7922**
MP7 10-17	10-45	2	1 ****	DN50 (2")	595 x 500 x 1460	122	MP71017	**7249**
MP7 10-17	46-55	2	1 ****	DN50 (2")	595 x 500 x 1460	122	MP710174555	**7249**
MP7 13-17	10-45	2	1 ****	DN50 (2")	595 x 500 x 1460	137	MP71317	**7849**
MP7 13-17	46-55	2	1 ****	DN50 (2")	595 x 500 x 1460	137	MP713174555	**7849**
MP7 13-17	56-65	2	1 ****	DN50 (2")	595 x 500 x 1460	137	MP713175565	**7849**
MP7 15-17	10-45	2	1 ****	DN50 (2")	595 x 500 x 1460	138	MP71517	**8015**
MP7 15-17	46-55	2	1 ****	DN50 (2")	595 x 500 x 1460	138	MP715174555	**8015**
MP7 15-17	56-75	2	1 ****	DN50 (2")	595 x 500 x 1460	138	MP715175575	**8015**
MP7 10-27	10-45	2	2 ****	DN50 (2")	595 x 500 x 1460	123	MP71027	**8660**
MP7 10-27	46-55	2	2 ****	DN50 (2")	595 x 500 x 1460	123	MP710274555	**8660**
MP7 13-27	10-45	2	2 ****	DN50 (2")	595 x 500 x 1460	137	MP71327	**9255**
MP7 13-27	46-55	2	2 ****	DN50 (2")	595 x 500 x 1460	137	MP713274555	**9255**
MP7 13-27	56-65	2	2 ****	DN50 (2")	595 x 500 x 1460	137	MP713275565	**9255**
MP7 15-27	10-45	2	2 ****	DN50 (2")	595 x 500 x 1460	139	MP71527	**9422**
MP7 15-27	46-55	2	2 ****	DN50 (2")	595 x 500 x 1460	139	MP715274555	**9422**
MP7 15-27	56-75	2	2 ****	DN50 (2")	595 x 500 x 1460	139	MP715275575	**9422**

* Limited to 8 bar in case of selected option anti-hammer vessel / ** Pressure control valve
*** Pressure control valve **brass body** type 44-6 / **** Pressure control valve **brass body** type 44-7

Issue : 2018 Revision : 1801 Prices : **EUR**

Options for Presssmart MP 7	Article no.	Public Price €
8 litre anti-hammer vessel - work pressure: 8 Bar max.	VASABMP03	**212**
89 µm core water strainer - atomatic cold feed (loose)	OPTMPFILT	**172**
Impulse meter — 10 litres/impulsion — for water leak detection	OPTMPDETECT	**317**
Cold water feed bypass kit	BYPASMP	**158**
8 Relay board fitted in the control box	OPT8RELAYMP	**350**
Software and download cable to extract data	OPTCABLE	**381**
Flooding detector	INONDMP	**314**
Set of 2 float contacts	OPTMPFLO	**336**
High temperature level sensors for industrial and non-comfort applications	OPTHTFLO	**137**

For vessels see chapters “Closed expansion vessels” and “Open expansion vessels”

More information on Alfa Laval website: http://www.alfalaval.com/pressosmart

Alfa Laval Closed expansion vessels

Alfa Laval Closed expansion vessels

Standard version equipment:

- Outside steel, inside internal rubber bag
- Two configurations:

1) **with** control equipment:

- air vent and feet
- 1 bar g. safety valve
- piezo electrical level gauge
- added electrical box transducer

2) **without** control equipment:

- air vent and feet

Operating limits	Water
Max. operating pressure bar	1
Max. operating temperature ºC	80

Volume (L)	Control equipment	To be connected to	Diameter	Height (mm)	Weight (kg)	Article no.	Public Price €
500	with	MP4 / MP5	775	1642	90	VASMP0500E5	**4518**
500	with	MP7	775	1642	90	VASMP0500E7	**4518**
500	without	MP4 / MP5 / MP7	775	1642	90	VASMP0500	**1551**

More information on Alfa Laval website: http://www.alfalaval.com/pressosmart

Alfa Laval Open expansion vessels

Alfa Laval Open expansion vessels

- PPH material (polypropylene)
- Excellent corrosion resistance
- Removable top cover for internal inspection
- Strengthened connections (steel rings)
- Specially designed to be piped up to all pump modules
- Capacities from 200 to 5000 litres
- Equipped with 2 float contacts if vessel is combined with a pump module (article number ending with "...PPHX")
- No float contacts are provided for loose vessels (article number ending with "...PPHY)

Operating limits	Water
Max. operating pressure bar	atmosphere
Max. operating temperature °C	80

Open vessels combined with a pump module; 2 float contacts are included / To be connected to MP4 / MP5 / MP7

Volume (L)	Diameter (mm)	Height (mm)	Weight (kg)	Article no.	Public Price €
200	400	1505	14	BAC0200PPHX	**1481**
400	600	1505	19	BAC0400PPHX	**1495**
600	700	1505	23	BAC0600PPHX	**1640**
800	850	1506	33	BAC0800PPHX	**1740**
1000	950	1506	38	BAC1000PPHX	**1863**
1800	1250	1506	57	BAC1800PPHX	**2581**
2500	1250	2006	85	BAC2500PPHX	**2992**
3000	1430	2008	104	BAC3000PPHX	**3352**
3500	1430	2258	113	BAC3500PPHX	**3648**
4000	1430	2508	122	BAC4000PPHX	**3801**
5000	1430	3008	167	BAC5000PPHX	**4125**

Loose Open vessels; float contacts are NOT included / To be connected to MP4 / MP5 / MP7

Volume (L)	Diameter (mm)	Height (mm)	Weight (kg)	Article no.	Public Price €
200	400	1505	14	BAC0200PPHY	**1245**
400	600	1505	19	BAC0400PPHY	**1260**
600	700	1505	23	BAC0600PPHY	**1404**
800	850	1506	33	BAC0800PPHY	**1503**
1000	950	1506	38	BAC1000PPHY	**1626**
1800	1250	1506	57	BAC1800PPHY	**2343**
2500	1250	2006	85	BAC2500PPHY	**2756**
3000	1430	2008	104	BAC3000PPHY	**3115**
3500	1430	2258	113	BAC3500PPHY	**3410**
4000	1430	2508	122	BAC4000PPHY	**3565**
5000	1430	3008	167	BAC5000PPHY	**3888**

More information on Alfa Laval website: http://www.alfalaval.com/pressosmart

Issue : 2018 Revision : 1801 Prices : **EUR**

Alfa Laval Pressosmart

Complete line of hydraulic expansion systems

Applications
Pressosmart is a complete line of pressurisation sets designed to maintain stable pressure in a closed water loop, using low temperature heating networks, overheated water and cooling networks, such as those used in:

- heating systems
- air conditioning systems
- a variety of industrial applications

Benefits Pressosmart pump unit

- Robust and long durability, up to 14.500kW and 75 mCW (meter column of water) static height
- Very accurate and visible control compared to a stand-alone membrane expansion technology with Alfa Laval's reliable and multi-functional control box
- Extremely silent pump unit with low electrical consumption compared to other pressurisation technologies
- Extremely smaller footprint compared to membrane solutions

Pressosmart is a split system which needs to be piped up to Alfa Laval's:

- Closed expansion vessel; made of steel painted outside with inside internal rubber bag,

or

- Open expansion vessel with natural disconnection; made of polypropylene (PPH) with removable cover for internal inspection, available from 200L up to 5000L

Benefits Pressosmart with Closed expansion vessel

- Water loop is not in contact with oxygen in air, which reduces corrosion and pipeline maintenance and extends the lifetime of the entire installation
- Upgrading from open to a closed vessel for existing Pressosmart installations is very simple as the pump unit does not need to be replaced
- Closed expansion vessels can be installed in serie: one with control equipment and the other(s) without control equipment.

Working principle
The units perform 3 main functions:

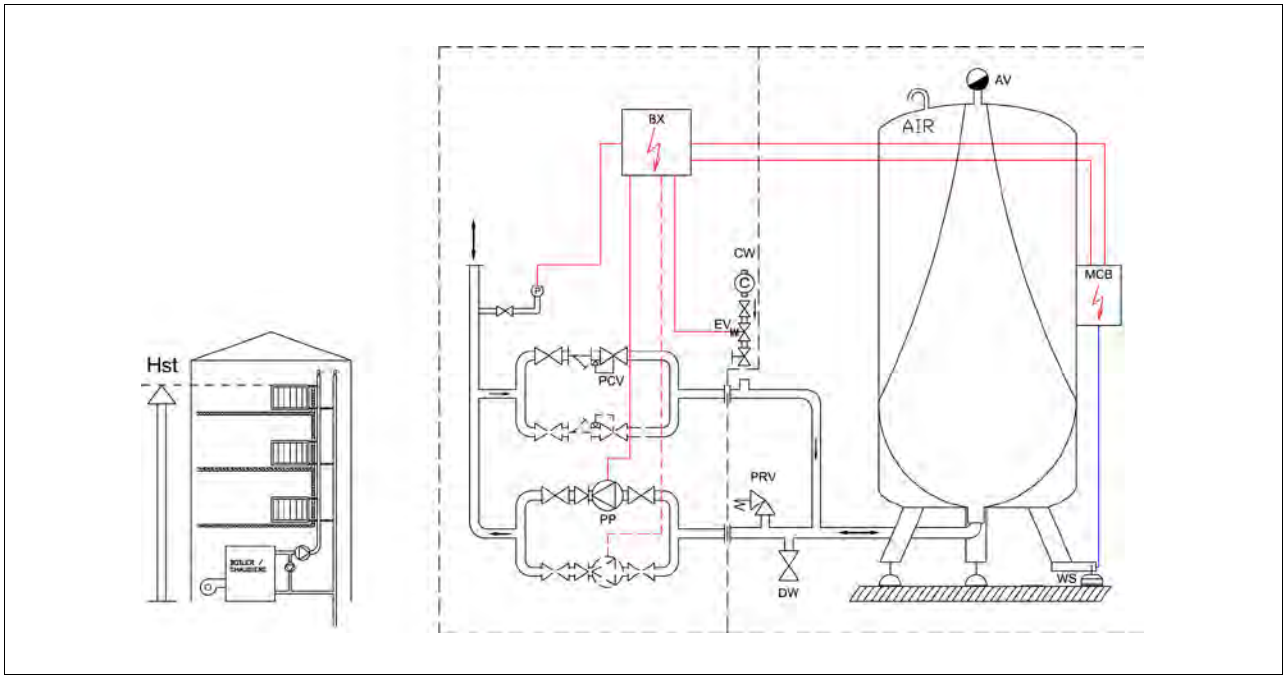
1. Maintain of a constant and steady pressure
2. Answer to expansion
3. Network filling-up if necessary

When the temperature increases in a closed water loop, the water volume expands. When the temperature decreases, the opposite occurs.

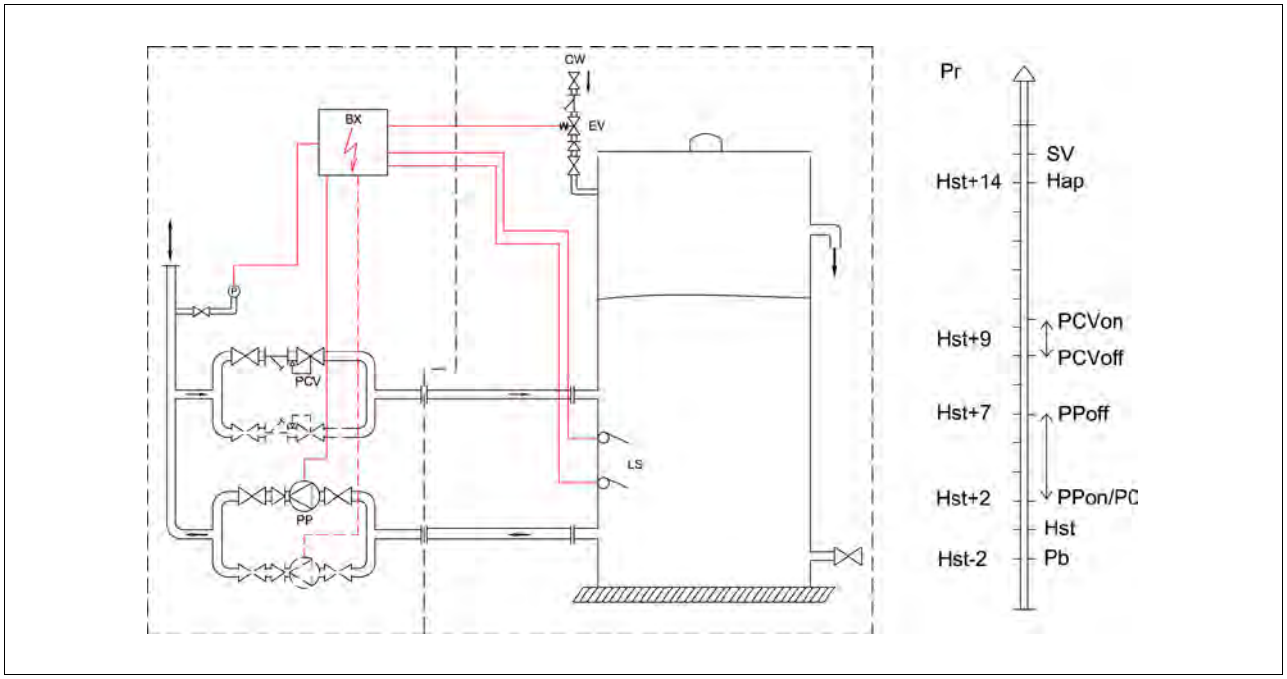
The increased volume generated by thermal expansion in the closed loop will be discharged through the pressure control valves and stored in the expansion vessel. When the pressure sensor detects a pressure drop due to a temperature decrease, water will be pumped back into the loop. Stable and even pressure is thus continuously maintained in the closed loop.

Pressosmart automatically fills the installation when there is not enough water and also protects against overfilling.

Hydraulic flowcharts: Pressosmart combined with Closed Expansion vessel



Hydraulic flowcharts: Pressosmart combined with Open Expansion vessel



AV	Air vent
BX	Control box
C	Filled up flow meter
CW	Cold water feed
DW	Drain work connection
EV	Solenoid electro-valve
Hap	High pressure alarm
MCB	Measure control box
P	Pressure sensor
P0	Main pressure setting on controller
Pb	Low pressure alarm
PCV	Pressure control valve
PCVon	Pressure control valve ON
PCVoff	Pressure control valve OFF
PP	Pressurization pump
PPon	Pressurization pump ON
PPoff	Pressurization pump OFF
Pr	Heating loop pressure
PRV	Pressure relief valve
SV	Heating loop safety valve setting
WS	Weight sensor

Quick selection guide

The chart below should be used for closed-loop installations running low-pressure hot water at 90/70°C (average temp. 80°C).

Example for an installation capacity of 2400 kW with a building static height of 40 mCW:
4 different Pressosmart models are proposed: MP4N716, MP5N616, MP5N626 or MP71016 . In case of a “MP5N626” with a static height of 40 mCW the correct article number is “MP5N6263150” (see Pressosmart equipment table on next page).
These models can be connected to two 500L closed expanion vessels installed in parallel.

Installation Volume (m^3)	0	6	12	18	24	**30**	45	60	75	90	105	120	150	175
Installation Capacity P (kW)	0	500	1000	1500	2000	**2500**	3750	4650	6850	7500	8750	10000	12500	14500

Open exp. vessel	200 L	400 L	600 L	800 L	**1000 L**	1800 L	2500 L	3000 L	3500 L	4000 L	5000 L	2 x 3000 L

Closed exp. vessel	500 L	**2 x 500 L**	4 x 500 L

75 mCW	MP71516	MP71516	MP71516	MP71516	MP71516	MP71516	MP71516							
	MP71526	MP71526	MP71526	MP71526	MP71526	MP71526	MP71526	MP71526*	MP71526**	MP71526**				
	MP71517	MP71517	MP71517	MP71517	MP71517	MP71517	MP71517	MP71517						
	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527*	MP71527*				
65 mCW	MP5N816	MP5N816	MP5N816	MP5N816										
	MP5N826	MP5N826	MP5N826	MP5N826										
		MP71316	MP71316	MP71316	MP71316	MP71316	MP71316							
		MP71326	MP71326	MP71326	MP71326	MP71326	MP71326	MP71326*	MP71326**	MP71326**	MP71526**			
		MP71317	MP71317	MP71317	MP71317	MP71317	MP71317	MP71317						
		MP71327	MP71327	MP71327	MP71327	MP71327	MP71327	MP71327	MP71327*	MP71327*	MP71527**			
55 mCW	MP4N716	MP4N716	MP4N716	MP4N716	MP4N716									
	MP5N716	MP5N716	MP5N716	MP5N716	MP5N716	MP5N816								
	MP5N726	MP5N726	MP5N726	MP5N726	MP5N726	MP5N826	MP5N826*	MP5N826**	MP5N826**					
		MP71016	MP71016	MP71016	MP71016	MP71016	MP71016							
		MP71026	MP71026	MP71026	MP71026	MP71026	MP71026	MP71326*	MP71326**	MP71326**	MP71326**			
		MP71017	MP71017	MP71017	MP71017	MP71017	MP71017	MP71317						
		MP71027	MP71027	MP71027	MP71027	MP71027	MP71027	MP71327	MP71327*	MP71327*	MP71327**	MP71527**		
45 mCW	MP195NL													
Building static height 40 mCW	MP4N616	MP4N616	MP4N616	MP4N616	**MP4N716**	MP4N716								
	MP5N616	MP5N616	MP5N616	MP5N616	**MP5N616**	MP5N716								
	MP5N626	MP5N626	MP5N626	MP5N626	**MP5N626**	MP5N726	MP5N726*	MP5N726**	MP5N726**					
		MP71016	MP71016	MP71016	**MP71016**	MP71016	MP71016							
						MP71026	MP71026	MP71026*	MP71026**	MP71026**	MP71026**			
						MP71017	MP71017	MP71017						
						MP71027	MP71027	MP71027	MP71027*	MP71027*	MP71027**	MP71327**		
35 mCW	MP195NL													
	MP4N516	MP4N516	MP4N516	MP4N516	MP4N616	MP4N716								
	MP5N516	MP5N516	MP5N516	MP5N516	MP5N516	MP5N516								
	MP5N526	MP5N526	MP5N526	MP5N526	MP5N526	MP5N526	MP5N626*	MP5N626**	MP5N726**					
		MP71016	MP71016	MP71016	MP71016	MP71016	MP71016							
						MP71026	MP71026	MP71026*	MP71026**	MP71026**	MP71026**			
						MP71017	MP71017	MP71017						
						MP71027	MP71027	MP71027	MP71027*	MP71027*	MP71027**	MP71327**	MP71327**	
25 mCW	MP195NL													
	MP4N416	MP4N416	MP4N416	MP4N416	MP4N416	MP4N516								
	MP5N416	MP5N416	MP5N416	MP5N416	MP5N416	MP5N416								
	MP5N426	MP5N426	MP5N426	MP5N426	MP5N426	MP5N426	MP5N526*	MP5N526**	MP5N526**					
		MP71016	MP71016	MP71016	MP71016	MP71016	MP71016							
						MP71026	MP71026	MP71026*	MP71026**	MP71026**	MP71026**			
						MP71017	MP71017	MP71017						
						MP71027	MP71027	MP71027	MP71027*	MP71027*	MP71027**	MP71027**	MP71327**	
15 mCW	MP4N316	MP4N316	MP4N316	MP4N316	MP4N316	MP4N316								
	MP5N316	MP5N316	MP5N316	MP5N316	MP5N316	MP5N316								
	MP5N326	MP5N326	MP5N326	MP5N326	MP5N326	MP5N326	MP5N326*	MP5N326**	MP5N326**					

* Each Pressure Control Valve is ⅔ of expansion flowrate

** Each Pressure Control Valve is ½ of expansion flowrate

Correction factor for power / Average T° (°C) = [inlet T°+Outlet T°] / 2

Average T° (°C)	0	10	20	30	40	50	60	70	80	90	100	110
Correction factor	0,01	0,01	0,07	0,15	0,27	0,41	0,59	0,79	1	1,24	1,5	1,78

- Pressosmart pressure setting = Building static height + 2 mCW
- Average real control pressure in the heating loop = Building static height + 6 mCW
- Equivalent building static height =Average real control pressure in the heating loop - 6 mCW
- Safety valve pressure setting > or = Building static height + 15 mCW
- Building static height < or = Safety valve pressure setting - 15 mCW

Pressosmart equipment

model	Number of pumps	Number of PCV (1)	Type of PCV (1)	Static Height (mCW)	1 PCV (1)		2 PCV (1)		Hydraulic connection
					Max. capacity (kW)	Article number	Max. capacity (kW)	Article number	
MP195 (2)	1	1	3/4"	10-35	500	MP195NL	N/A		**1"**
				10-45	500	MP195NL4150			
MP4	1	1	3/4"	5-15	3750	MP4N316			**1"**
				5-25	2500	MP4N416			
				15-35	3500	MP4N516			
				5-25	3750	MP4N616			
				26-45	2000	MP4N6163150			
				5-25	3750	MP4N716			
				26-45	3750	MP4N7163150			
				46-55	2500	MP4N7165160			
MP5	2	1 or 2	3/4"	5-15	3750	MP5N316	7500	MP5N326	**1½"**
				5-25	3750	MP5N416	7500	MP5N426	
				5-25	3750	MP5N516	7500	MP5N526	
				26-35	3750	MP5N5163140	3750	MP5N5263140	
				5-25	3750	MP5N616	7500	MP5N626	
				26-45	2500	MP5N6163150	2500	MP5N6263150	
				5-25	3750	MP5N716	7500	MP5N726	
				20-45	3750	MP5N7163150	7500	MP5N7263150	
				46-55	2500	MP5N7165160	7500	MP5N7265160	
				5-25	3750	MP5N816	7500	MP5N826	
				26-45	3750	MP5N8163150	7500	MP5N8263150	
				46-65	2000	MP5N8165170	2000	MP5N8265170	
MP7 with 44-6 PCV (3)	2	1 or 2	1"	10-45	4650	MP71016	10000	MP71026	**2"**
				46-55	3750	MP710164555	3750	MP710264555	
				10-45	4650	MP71316	1000	MP71326	
				46-65	4650	MP713164565	7500	MP713264565	
				10-45	4650	MP71516	10000	MP71526	
				46-75	4650	MP715164575	8750	MP715264575	
MP7 with 44-7 PCV (3)	2	1 or 2	1"	10-45	6850	MP71017	14500	MP71027	**2"**
				46-55	3750	MP710174555	3750	MP710274555	
				10-45	6850	MP71317	14500	MP71327	
				46-65	6850	MP713174555	7500	MP713274555	
				56-65	4650	MP713175565	4650	MP713275565	
				10-45	6850	MP71517	14500	MP71527	
				46-55	6850	MP715174555	12500	MP715274555	
				56-75	6850	MP715175575	10000	MP715275575	

(1) Pressure Control Valve, opens when pressure exceeds the set point.
(2) Pressosmart MP195 has a built-in open expansion vessel. Other models can be combined with open or closed expansion vessels..
(3) Max capacity given for Samson 44-6 PCV type. The use of Samson 44-7 type will increase these values (see MP7 capacity values between 1 and 2 PCV).

Operating limits pump unit	MP195	MP4	MP5	MP7
Max. operating pressure bar (water)	8	10*	10*	10*
Max. operating temperature °C (water)	95	95	95	95

* limited to 8 bar in case of selected option of anti water-hammer vessel

The Pressosmart range is built in compliance with PED 2014/68/EU article 4.3.
Different options are available for the Pressosmart product range; impulsion meter, anti water-hammer vessel, 89 µm core-water strainer, fill-up bypass and a flood detector. Please consult your local Alfa Laval company.

ECF00107EN 1611

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

After sales

Spare parts & Service

Spare parts for Heating & Cooling Systems are available for **actual and obsolete product ranges**. If the original component of an obsolete product is not available anymore, we offer ready-to-use replacement kits fitting to old product models. Our spare parts range covers the following brands:

- **Alfa Laval**
- **Cetetherm**
- **Uranus**
- **Smart**

Examples of **actual** product ranges of **Alfa Laval**

Examples of **obsolete** product ranges of **Alfa Laval, Cetetherm, Uranus, Smart**

Correct article numbers for any key component can be selected in a few clicks in the “Alfa Laval Spare Parts Finder”. This digital tool - very user friendly - can be downloaded from:
- The Alfa Laval website. See on each product page under “Documents” / “Spare part list”, eg http://www.alfalaval.com/aquafirst
- Anytime, our eBusiness for channel partners. Please contact your local Alfa Laval company or Alfa Laval sales partner.

Alfa Laval Service partners are available in most countries for any technical support; assistance by phone or mail, commissioning, trouble shooting or assistance for selecting new equipment. Please contact your local Alfa Laval company or Alfa Laval sales partner.

Alfa Laval in brief
Alfa Laval is a leading global provider of specialized products and engineered solutions.
Our equipment, systems and services are dedicated to helping customers optimize the performance of their processes. Time and time again.
We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.
Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Scandinavia & Baltics
Roger Dahlstrand
Tel: + 46 (0)457 755 92
Mail: comfort.se@alfalaval.com

Russia, Belarus, Kyrgyzstan, Kazakhstan, Uzbekistan, Tajikistan, Turkmenistan
Jury Galkin
Tel: + 7 921 954 74 77
Mail: jury.galkin@alfalaval.com

Benelux, France, Germany, Austria, Switzerland
Johan De Cuyper
Tel: + 46 (0)70 847 72 73
Mail: johan.decuyper@alfalaval.com

North West Africa
Matthieu Perrin
Tel: + 33 6 10 60 28 32
Mail: matthieu.perrin@alfalaval.com

United Kingdom & Ireland
Alan Unwin
Tel: + 44 (0)78 36 32 57 68
Mail: alan.unwin@alfalaval.com

USA & Canada
Joe Garcia
Tel: + 1 (215) 760 5459
Mail: joe.garcia@energetxllc.com

Czech Rep., Slovakia, Poland, Hungary
Jakub Vantuch
Tel: + 42 (0)778 45 38 84
Mail: jakub.vantuch@alfalaval.com

Rest of the world
Johan De Cuyper
Tel: + 46 (0)70 847 72 73
Mail: johan.decuyper@alfalaval.com