Fresh Water Stations for DHW
Mounted SET



Floor standing SET
DHW fresh water station

A plug and play system for transferring heat from the technical water storage tank with a programmable control unit and a circulator. The SET unit ensures the DHW production with a limited formation of chalk and at a temperature chosen by the user. The heat exchange is carried out by the AISI 316 stainless steel plate heat exchanger in a high performance and hygienic manner.

The unit, connected to the water storage tank from which it takes energy, is composed of all necessary parts. Through a control unit with a graphical display the user can monitor the functioning or easily impose user parameters. The heart of the SET unit is the special electronic control unit which keeps up the imposed DHW temperature by modulating the flow in the primary circuit.



TESTED

The Floor standing SET unit is available in several sizes (60, 70, 80, 100, 120, 160 and 200*)
(*): DHW production of 10 to 45C with a temperature of 55°C in the primary circuit

The innovative and qualifying element of the SET unit is the electronic control unit which guarantees the DHW temperature through the modulation of the flow in the primary circuit.
In this way the following is guaranteed:

- ✔ max heat drop in the primary circuit in order the optimize the efficiency of the generator (solar thermal power, heat pump, biomass,etc.)
- ✔ precise and trustworthy management

Thanks to the high efficiency heat exchanger the unit is ideal for installations with heat pumps or solar panels that use water storage tanks for low temperatures (50-55°C)

Plus

- ✔ regulation of the hot water temperature
- ✔ easy and cheap in use
- ✔ high efficiency circulation pump (in accordance with the 2005-35/CE directive) and with an electronic control of the number of turns
- ✔ synoptically graphical display with the indication of the temperatures in the installation and of the power
- ✔ easy Plug and Play installation
- ✔ insulated pipe fittings
- ✔ vessel with a metal structure and thermoform panels for mounting to the wall
- ✔ possibility to manage the sanitary recirculation pump

Available accessories see pag. 270

			Packed	
Code	Description	Price	Dimensions cm	Weight kg
842030004X	SET 60 - DHW FRESH WATER STATION		110x60x100	166
842030005X	SET 70 - DHW FRESH WATER STATION		110x60x100	168
842030006X	SET 80 - DHW FRESH WATER STATION		110x60x100	189
842030007X	SET 100 - DHW FRESH WATER STATION		110x60x100	193
842030008X	SET 120 - DHW FRESH WATER STATION		110x60x100	198
842030046X	SET 160 - DHW FRESH WATER STATION		140x60x100	198
842030016X	SET 200 - DHW FRESH WATER STATION		139x63x125	200

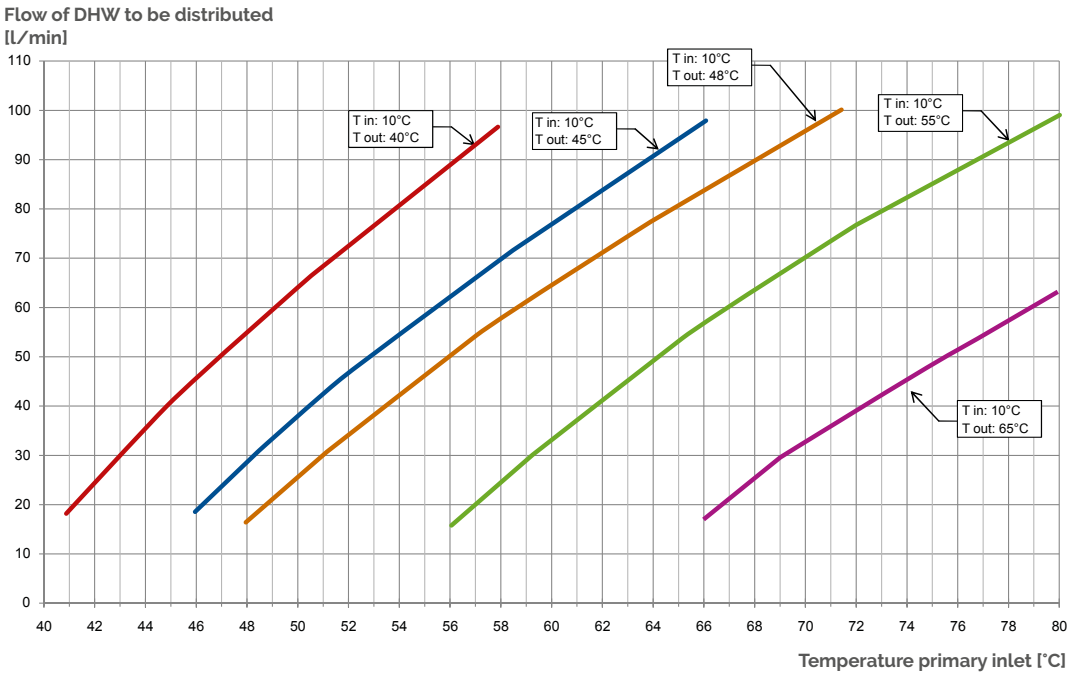
Functions of the regulator

The SET fresh water station is equipped with a regulator that can execute the following functions:

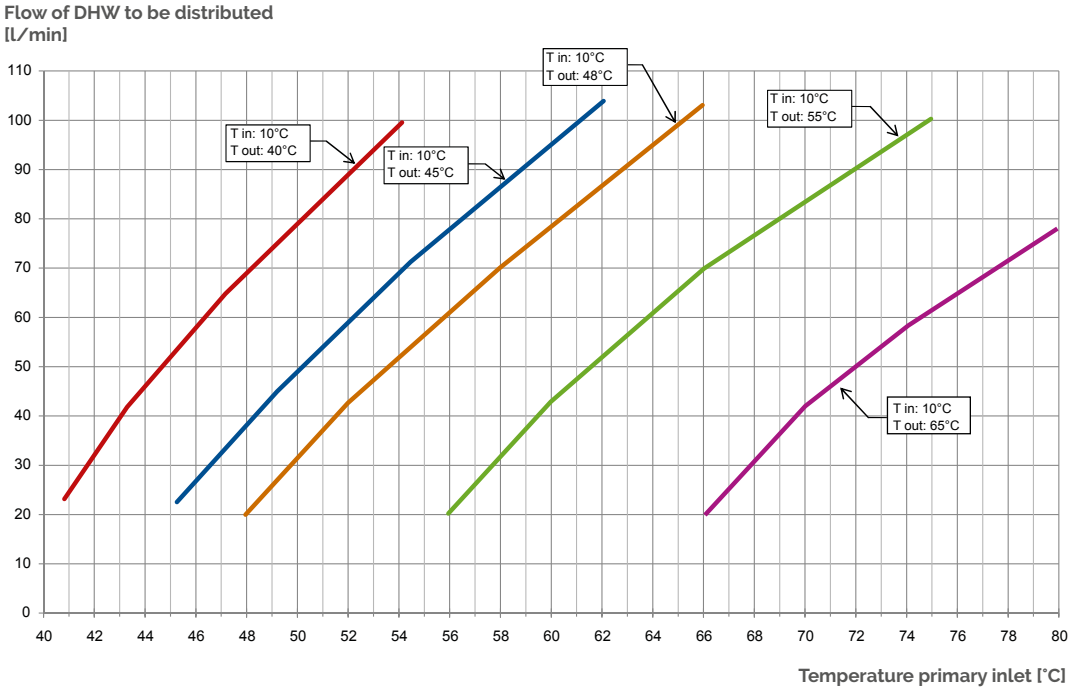
Efficient, electronic regulation of the velocity of the pump
Graphical display
Imposing the temperature of the DHW
Imposing the max temperature of the DHW. This is a safety option which stops the unit in case the max value is reached.
Management kit in series
Management kit Mixing valve on the primary circuit
Management kit stratification of the tank
Possibility to control the recirculation pump for sanitary purposes by fixing the activation times of the pump and the temperature of the recirculation circuit
Anti-legionella: carry out anti-legionella treatments through thermal shocks along the DHW adduction line
AL heating: activation of an integrative heat source when the anti-legionella treatment is carried out
Comfort function: when activated, the exchanger is kept warm in order to guarantee a fast recuperation
Anti-chalk protection: when activated, the circulator keeps on running even when the DHW distribution time is up in order to reduce chalk formation
Solar: control and command the circulator of a solar power device
Management of the heat generator: activate and deactivate a heat generator when the temperature in the tank is below the set point
Consumption accounting functions

Floor standing SET thermal performance

SET 60 performance

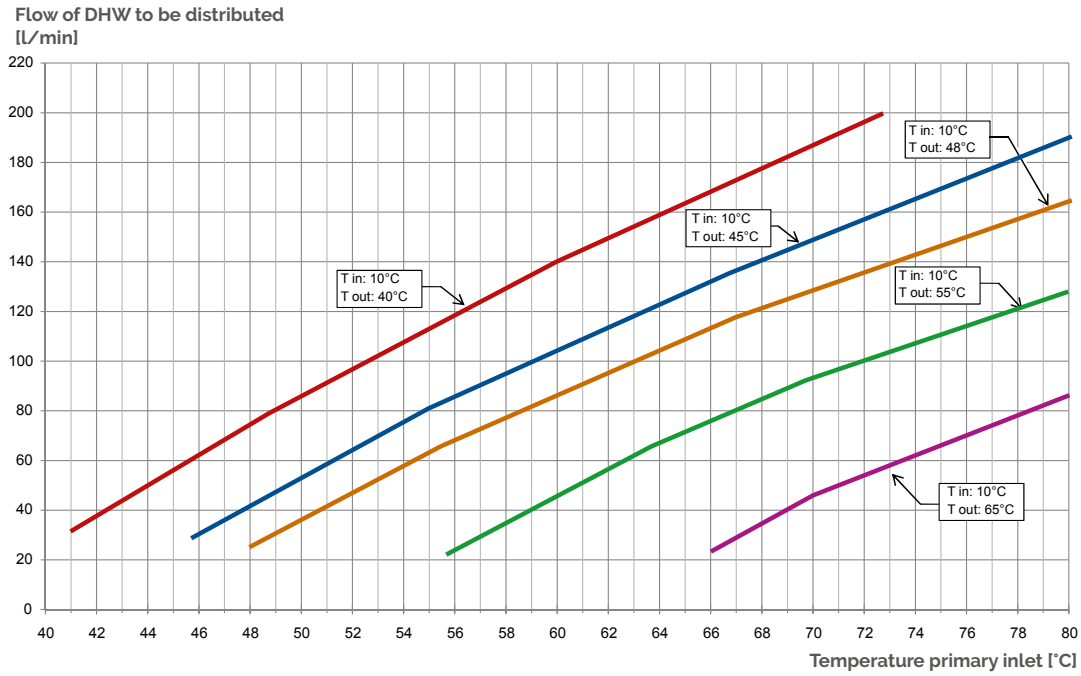


SET 70 performance

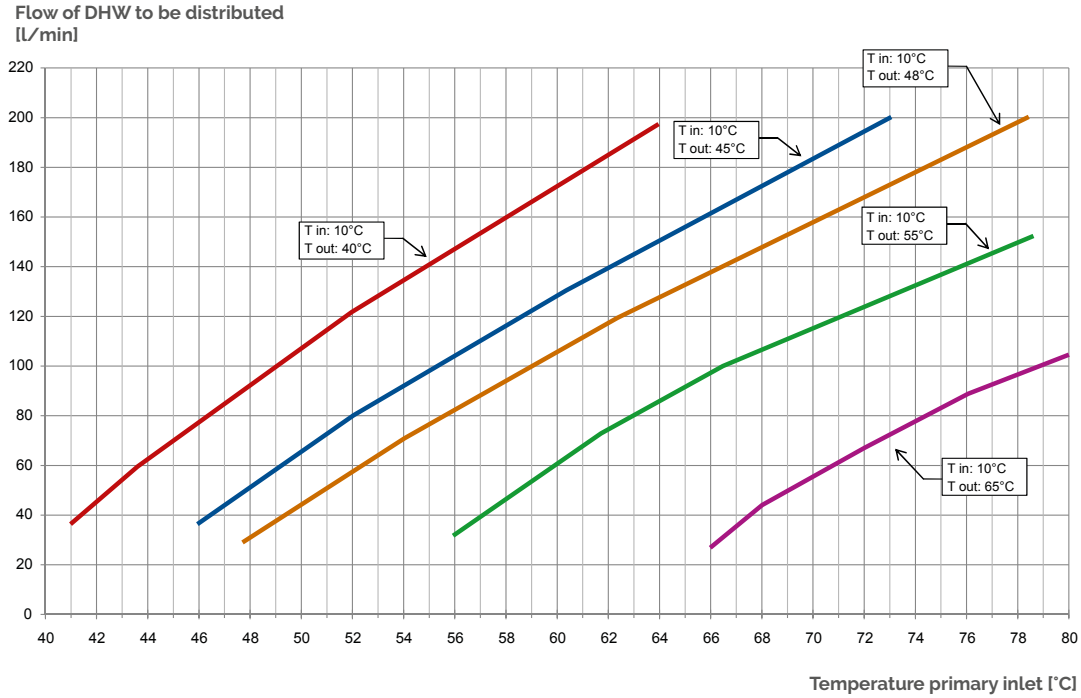


Floor standing SET thermal performance

SET 80 performance

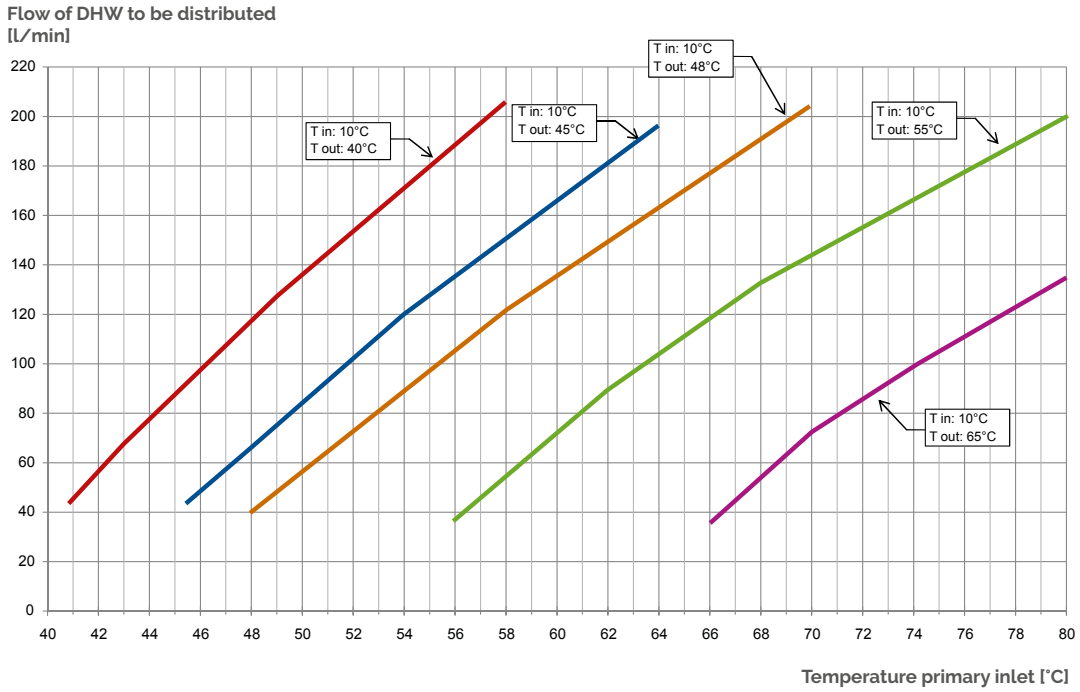


SET 100 performance

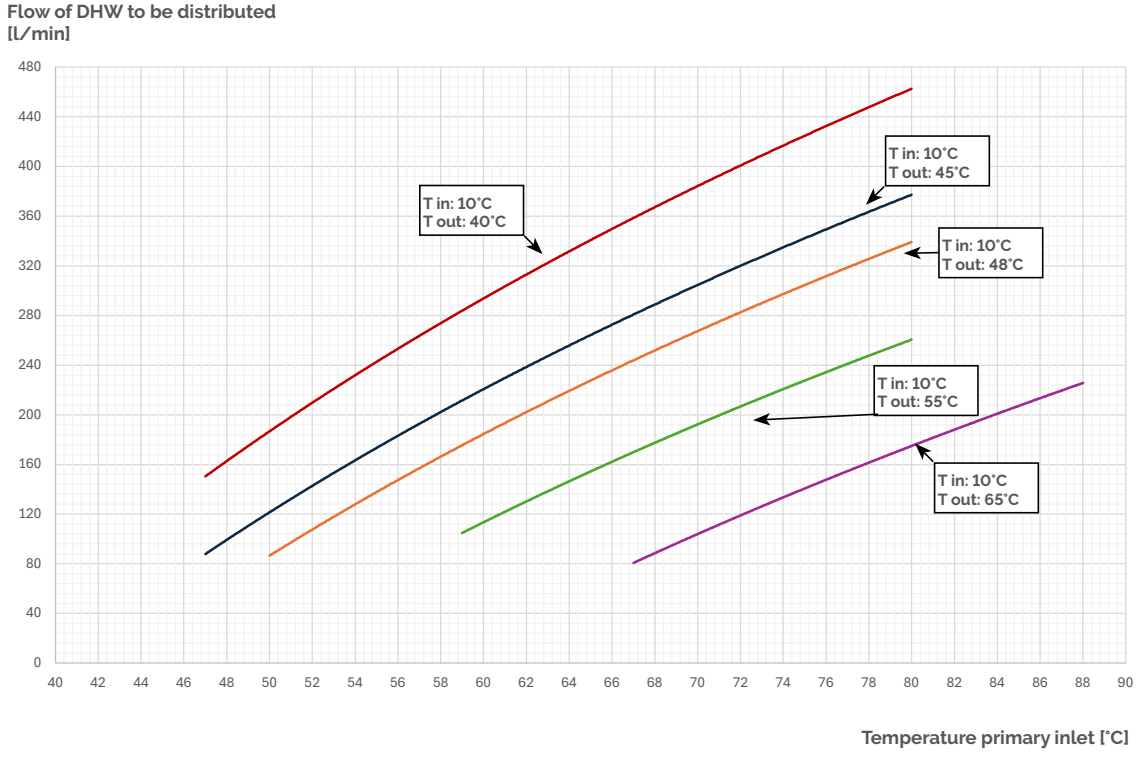


Floor standing SET thermal performance

SET 120 performance

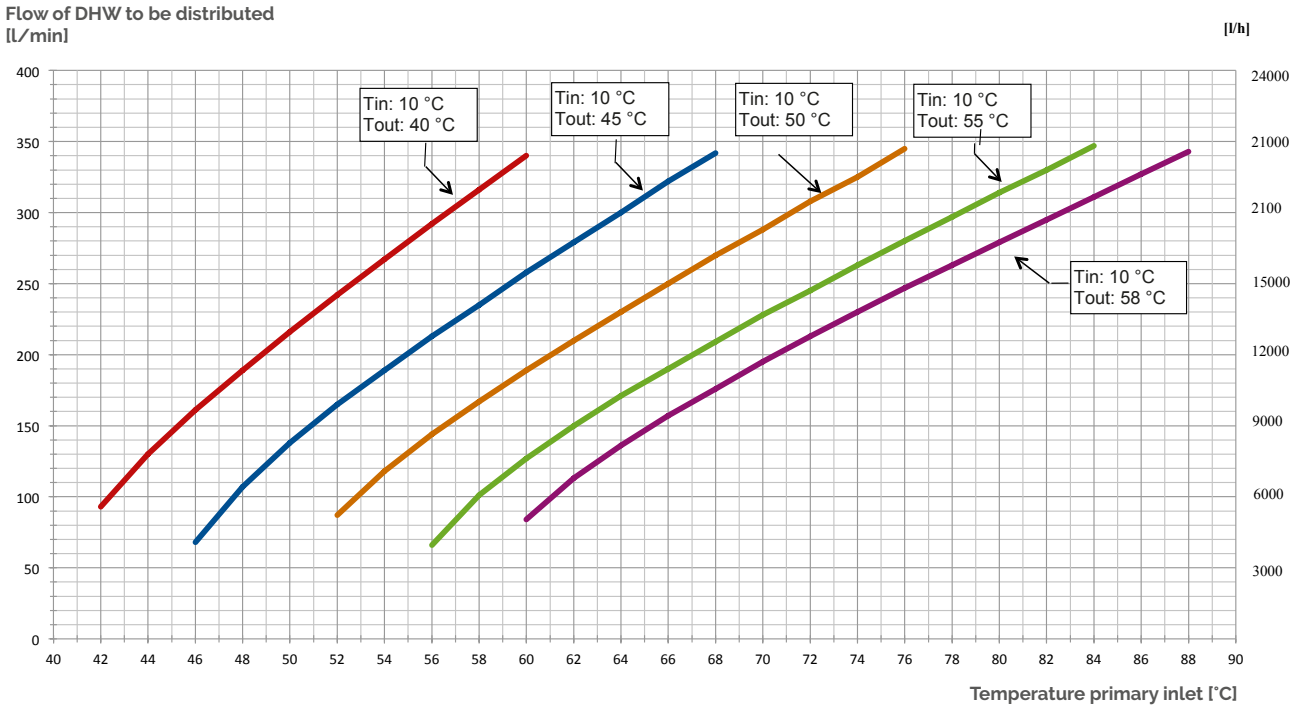


SET 160 performance

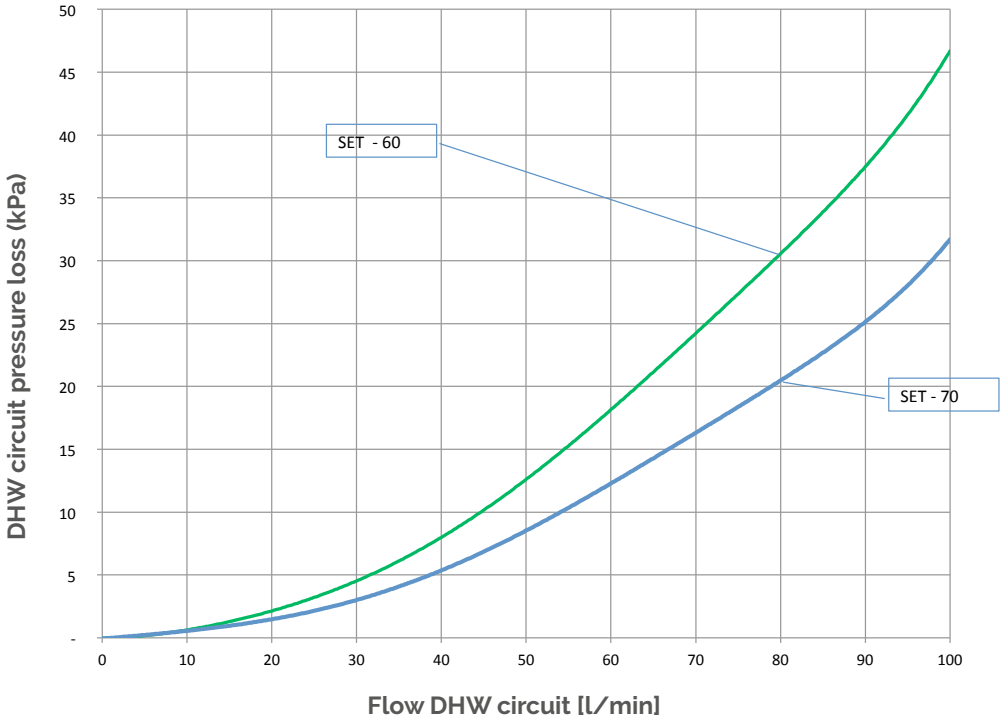


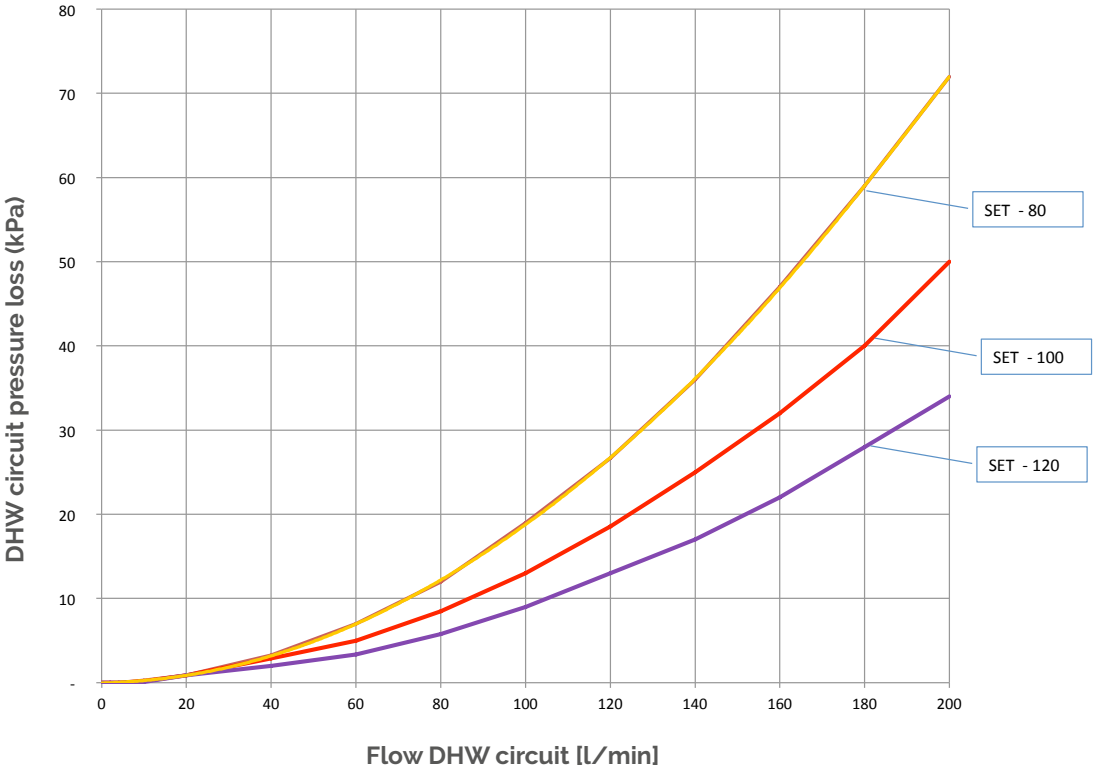
Floor standing SET thermal performance

SET 200 performance

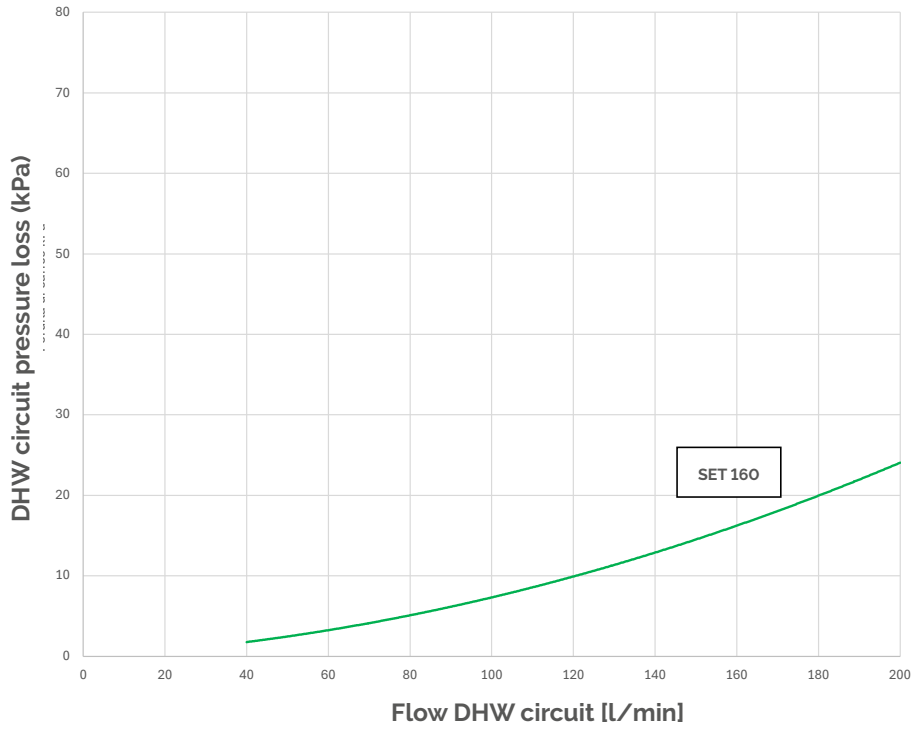


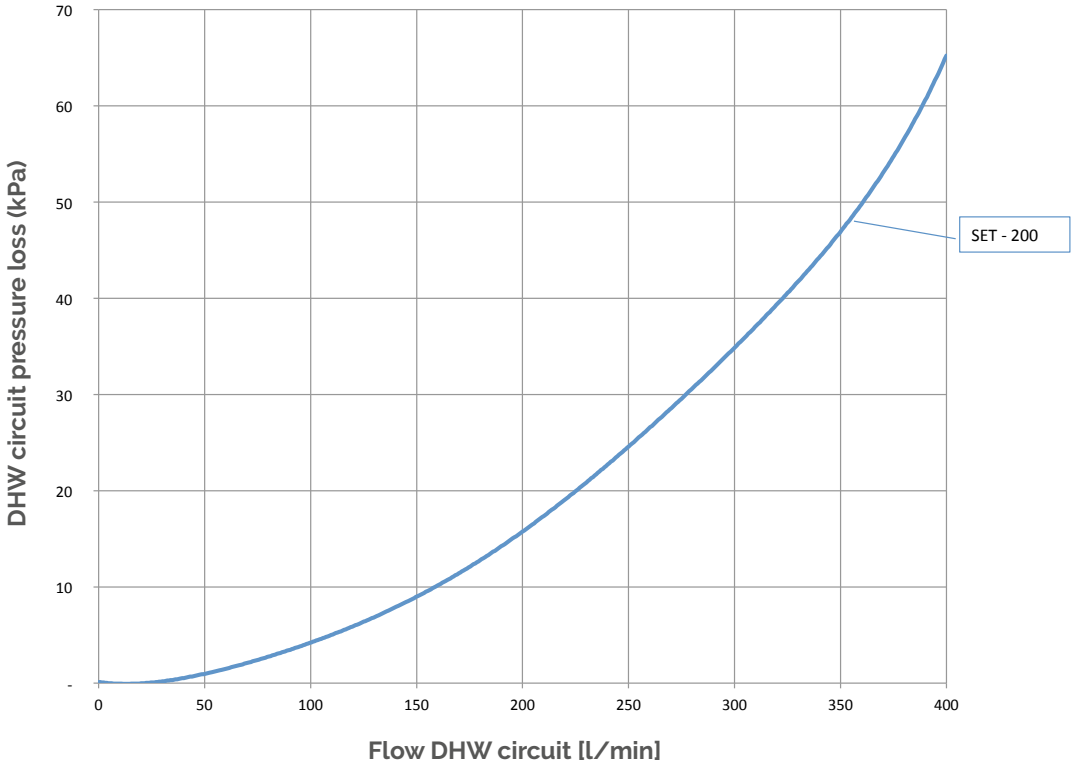
Hydraulic performance SET



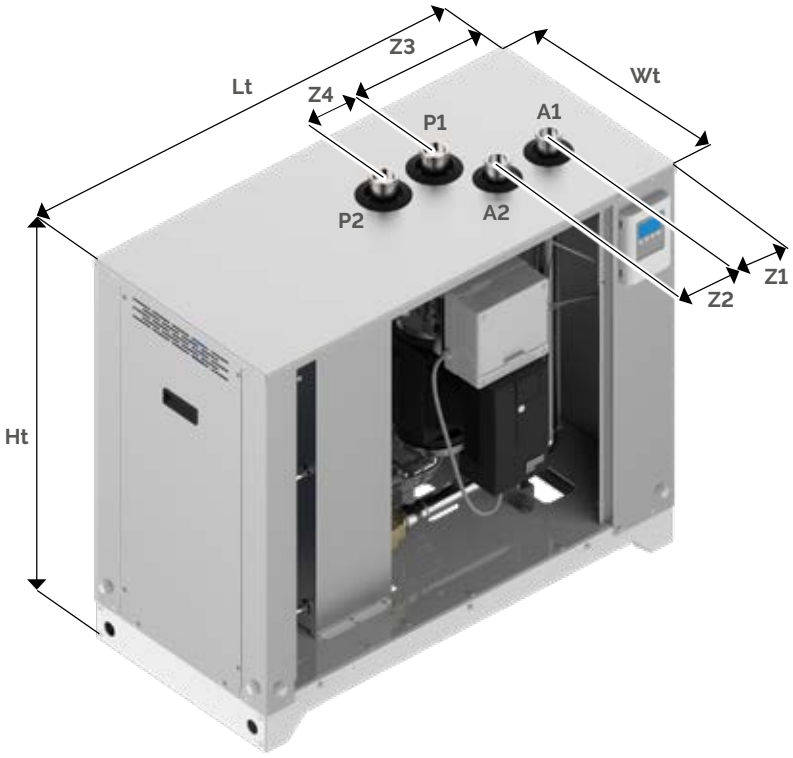


Hydraulic performance SET





Dimensions



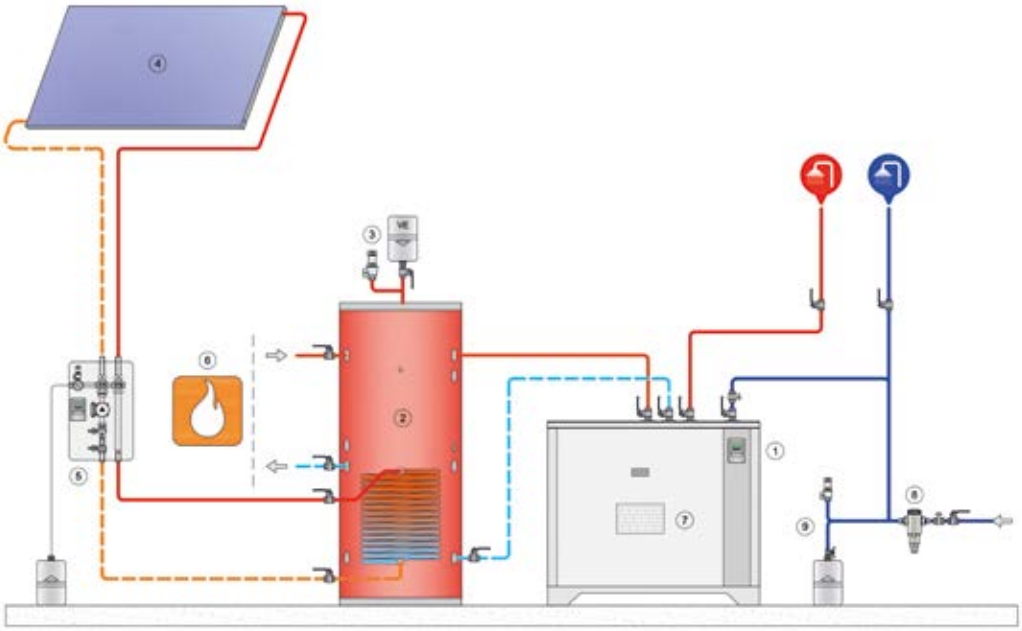
Couplings legend

A1	DHW inlet
A2	DHW outlet
P1	To energy source
P2	From energy source

Model	Lt mm	Ht mm	Wt mm	Z1 mm	Z2 mm	Z3 mm	Z4 mm
SET 60	1004	871	484	153	125	346	125
SET 70	1004	871	484	153	125	346	125
SET 80	1004	871	484	153	125	346	125
SET 100	1004	871	484	153	125	346	125
SET 120	1004	871	484	153	125	346	125
SET 200	1220	1100	550	90	125	389	125

Technical information	Floor standing SET						
	60	70	80	100	120	160	200
Electrical supply (V/Ph/Hz)	230/1/50						
Power of primary pump max (W)	310			450		480	600
Absorption of primary pump max (A)	1,37			2,01		2,2	2,7
Max power of the recirculation pump (can be managed from the control unit)(pump not supplied)	460						
Primary flow (litres/h)	6700	8200	9000	11000	14000	14000	22000
Residual prevalence of the primary circuit (m.c.a.)	2,0	4,0	2,0	2,0	4,0	4,0	2,0
Volume of the primary circuit (l)	2,66	2,90	3,15	3,87	4,84	6,1	6,55
Volume of the domestic circuit (l)	2,54	2,14	3,06	3,77	4,71	6,3	6,37
Max operating pressure primary and DHW (bar)	10						
Couplings primary circuit (inch)	1" 1/2 GAS M						2" 1/2 GAS M
Couplings secondary circuit (inch)	1" 1/4 GAS M						2" GAS M
Max operating temperature (°C)	95						
Category of electrical protection	IP40						
Min DHW ignition flow (l/min)	5	5	10	10	10	10	20
Max DHW flow (l/min)	100	100	200	200	200	200	400

Installation chart
In combination with the water storage tank



Legend

1	SET fresh water station
2	Fiorini PFB water storage tank
3	Heating side safety devices: expansion tank and safety valve
4	Solat thermal collectors
5	Solat thermal return
6	Heating from primary or additional source
7	DHW recirculation pump
8	Cold water bacteriostatic filter
9	Sanitary side safety devices: expansion tank and safety valve

N.B.: Installation of an expansion vessel on the cold water line is mandatory

Equipment

The Floor standing SET fresh water station is delivered in a cardboard box with:
✔ Fresh water station with electric switchboard for connection to the electric grid
✔ User guide

Accessories on request

Several accessory kits are available that can be combined with the SET fresh water station.

Description	Digital output
kit to connect the SET in series	1
recirculation kit	1
kit with mixing valve on the primary circuit	2
kit storage tank stratification (with external diverter valve)	1
Multigateway	1

* The control unit handles up to 3 digital outputs: check the availability of free outputs and the requirements of the various accessories.

Kit to connect the SET in series

The kit to connect the SET in series is the option for all applications in which the need for domestic hot water is very variable, for example in sport centres, etc. In this way it is possible to connect max 8 fresh water stations and ensure a DHW production of min 5 l/m and max 3200 l/min*. The electronic control units that are mounted on every fresh water station enables communication between the stations via Modbus. As such, the electronics decide how many and which fresh water stations are activated, depending on the user conditions.

Advantages and benefits

✔ variable DHW production: from 5 to 3200 l/min
✔ The production by several SET connected in series depends on the temperature in the primary circuit and the production of DHW. The DHW flow that is to be distributed by a system in series is equal to the sum of the flow of all fresh water station as indicated in the graphic Hydraulic Performance
✔ trustworthy. Because the control unit carries out diagnoses by itself, in case of malfunctioning of one of the stations, the station is automatically deactivated and another station is activated. In this way, every fresh water station always operates in circumstances that approach the nominal circumstances and the precision and efficiency of the regulation is improved.
✔ The installation with the fresh water system in series can be expanded. You can add more units, even after the initial installation.
✔ The programmed maintenance of the fresh water stations can be executed without interrupting the DHW distribution.
✔ Every fresh water station operates for an equal number of hours which guarantees a long life span of the system.
✔ Regulation of the temperature is even more precise. The regulation makes it possible to activate the right number of fresh water station based on the flow and the temperature of the DHW.

Installation of the Kit

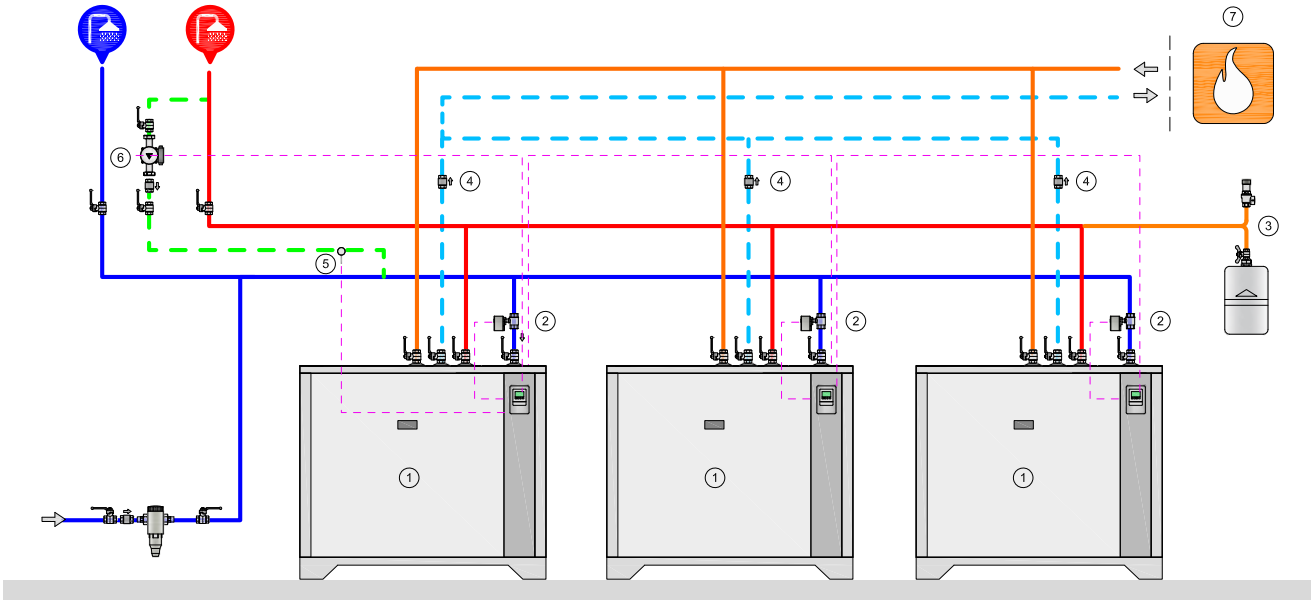
Install one kit for every fresh water station. The kit is supplied in parts, non-assembled and is composed of:

✔ one motorized zone valve with a fast 230V motor
✔ one CanBus cable
✔ the instructions

Key

1	DHW production unit SET
2	2-way valve for waterfall kit
3	Expansion tank
4	Non-return valve
5	Temperature probe for DHW recirculation
6	DHW circulation pump

Installation chart



MULTIGATEWAY -Remote management for SET fresh water stations

The Multigateway is a device with a touchscreen display for remote management of devices that communicate with the CAN protocol. Once the Multigateway is installed, it is possible to manage the system directly via the App or with the integration of a BMS (Building Management System) that communicates using the Modbus protocol. In the case of a SET cascade, it is sufficient to use 1 Multigateway.



Operating conditions

- ✔ Protection class: IP 20
- ✔ Temperatures: 0°C - 50°C
- ✔ CAN cable length < 3 m, or you need to use shielded cable

Main features

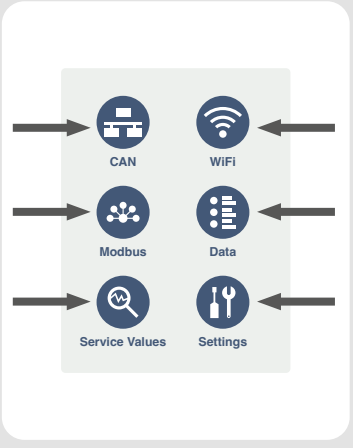
- ✔ Data Logger
- ✔ Fieldbus CAN
- ✔ Modbus RTU RS 485
- ✔ WiFi module
- ✔ Display touchscreen
- ✔ 12/24 V Power supply
- ✔ Android & iOS app
- ✔ Dimensions: 75 x 95 x 19 mm
- ✔ ABS body and glass front

Main menu

CAN
Add devices to the network

Modbus
Protocol specific settings

Service values
System messages and data



WiFi
WiFi settings

Data
Data storage settings

Settings
Device parameters such as language, brightness, etc.

Recirculation kit

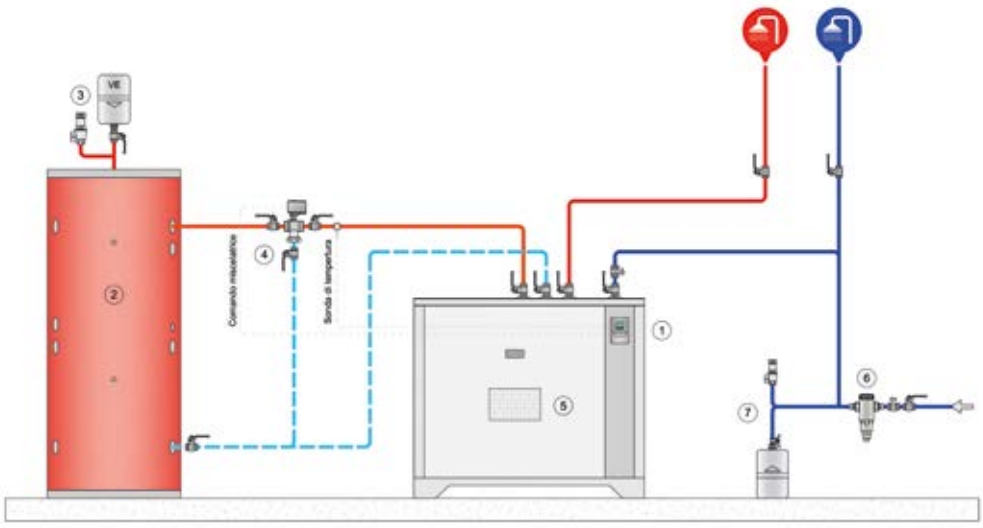
The recirculation kit makes it possible to opt for one of the multiple option offered by the electronic control station to control the pump of the sanitary recirculation circuit (circulator not supplied).

Possible settings
✔ Programming the recirculation in time slots. The recirculation pump is activated only during the indicated time slots and when the recirculation temperature is below the programmed temperature
✔ recirculation pump is always activated
✔ activation of the recirculation pump after a brief sampling period.
This option activates the recirculation pump only when strictly necessary, as such heating the domestic circuit without wasting drinking water.

Composition of the kit
The kit is supplied in parts, non-assembled and is composed of:
✔ temperature probe to be put on the recirculation ring
✔ instructions

Recirculation pump
The recirculation pump is not supplied with the kit because the pump has to be selected on the basis of the specifics of your installation. However, because the pump is to be controlled by the SET regulator, it has to have the following features
✔ power supply 230V/50hz/1ph
✔ max power 460 W
Alternatively, the controller output could be used to activate a contactor coil.

Kit with mixing valve on the primary circuit



Legend

1	DHW production SET module
2	Fiorini water storage tank
3	Heating side safety devices: expansion tank and safety valve
4	Primary circuit mixing valve
5	DHW recirculation pump integrated in the SET module
6	Bacteriostatic cold water mains filter
7	Sanitary side safety devices: expansion tank and safety valve

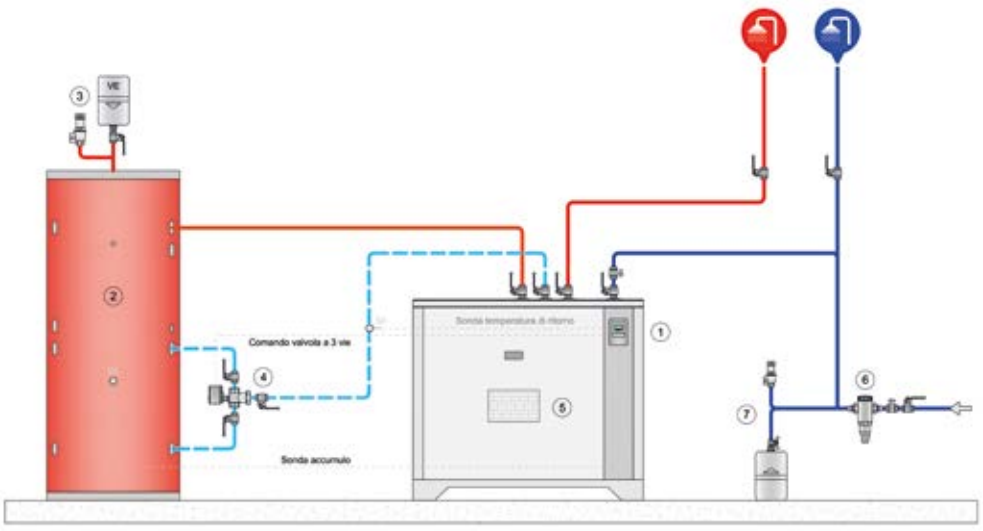
N.B.: Installation of an expansion vessel on the cold water line is mandatory

The kit helps regulate the temperature at the entrance of the fresh water station. In this way, especially in installations that can reach high temperatures in the primary circuit, the precision of the regulation is improved, which guarantees higher comfort.

Composition of the kit
The kit is supplied in parts, non-assembled and is composed of:
✔ S3 temperature probe to be placed at the entrance of the exchanger on the primary circuit
✔ instructions
✔ Mixing valve

Kit with stratification valve for the storage tank

The kit makes it possible to direct the return from the fresh water station to the lower part instead of the mid part of the storage tank. Because of this, the stratification phenomenon in the storage tank is favoured and the efficiency of the entire heating system is maximized.



Legend

1	DHW production SET module
2	Fiorini water storage tank
3	Heating side safety devices: expansion tank and safety valve
4	Three-way valve for accumulation stratification
5	DHW recirculation pump integrated in the SET module
6	Bacteriostatic cold water mains filter
7	Sanitary side safety devices: expansion tank and safety valve

N.B.: Installation of an expansion vessel on the cold water line is mandatory

Composition of the kit

The kit is supplied in parts, non-assembled and is composed of:

✔ S6 temperature probe to be placed in the middle of the storage tank
✔ S6 temperature probe on the return of the primary circuit
✔ instructions
✔ Stratification valve

Codes and prices for the accessories of SET wall-mounted

	External accessories	Digital output*	Price
842030092X	KIT SET SERIES DN32 - Models 60 - 70 - 80 - 100 - 120 - 160	-1	
842030140X	KIT SET SERIES DN50 - Model 200	-1	
842040009X	Recirculation kit SET (NO PUMP)	-1	
842030096X	Kit storage tank with stratification with external diverter valve) SET DN40	-1	
842030098X	Kit with mixing valve SET DN40	-2	
C24090225	EXTERNAL RELAY 1W 6A OUTPUT 0-10V IP55	+1	
C22120078	MULTIGATEWAY	0	

* The L control unit handles up to 3 digital outputs: check the availability of free outputs and the requirements of the various accessories.



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