Fresh water modules

premium-line

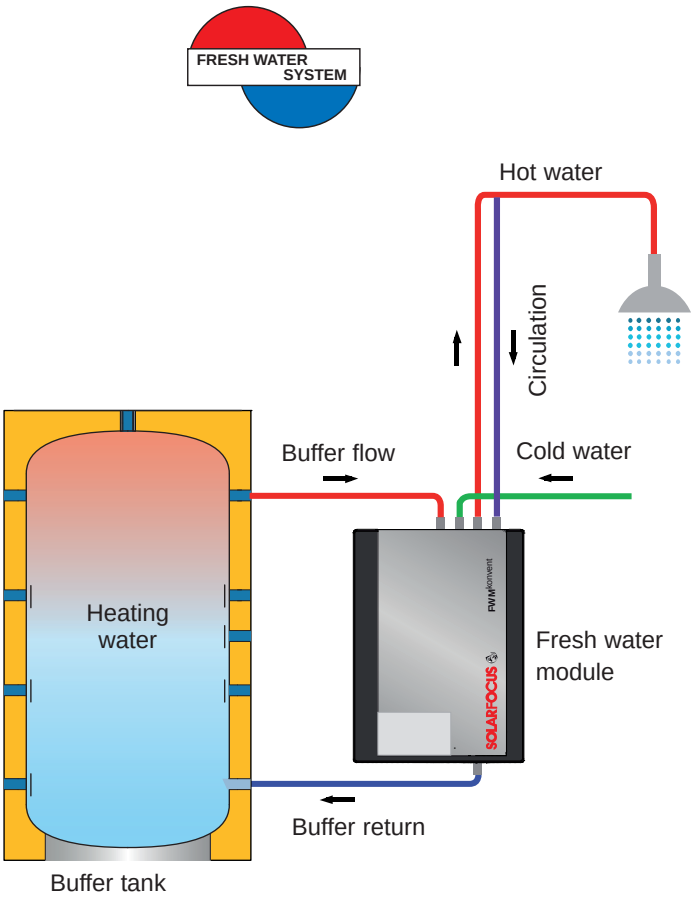
Hygienic hot

SOLARFOCUS®

Hot water – hygienic and convenient

A freshwater module heats drinking water in accordance with the instant hot water principle, only when it's needed. In contrast to a traditional hot water tank or boiler, potable water is not used to store energy - and stored as hot water for hours or days at a time. Only when hot water is needed is it heated to the desired temperature with the aid of a stainless steel plate heat exchanger. Stockpiling over the course of days is now a thing of the past.

The energy for heating drinking water is supplied by a buffer tank, which can be heated by various systems – by solar power units as well as by a pellet boiler, wood-fired boiler, traditional oil/gas boiler, heat pumps or other systems. High-efficiency pumps ensure the right volume flow from the buffer to the stainless steel plate heat exchanger.



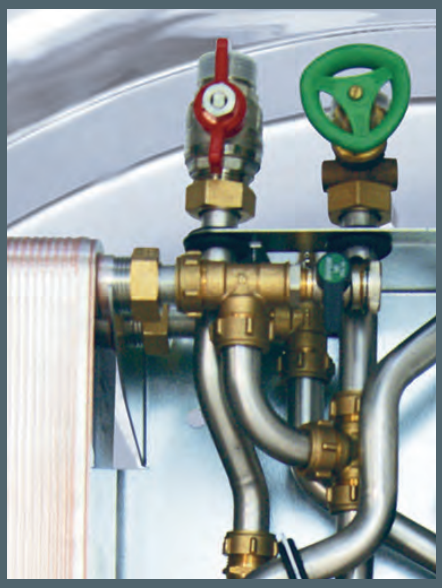
Premium components

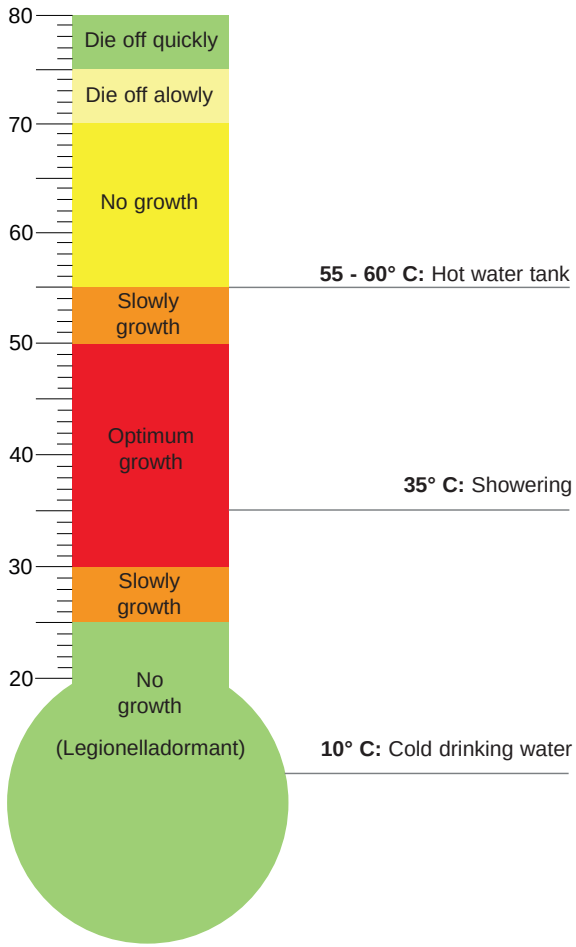
Freshwater modules are subject to strict quality requirements, defined in DIN 1988. The material must not negatively impact the water quality, even over longer periods. The SOLARFOCUS freshwater modules consist of materials that fulfil these requirements.

The pipework is made of stainless steel and its material quality is in line with the most stringent requirements for drinking water systems. The drinking water circuit is equipped with piston valves made of gunmetal and enables easy operation even over longer periods.

The cover made of EPP with a beautifully designed plate can be form-fit secured on the base plate.

The freshwater modules are equipped with copper-soldered plate heat exchangers as standard. If the water qualities are more aggressive, a nickel-soldered plate heat exchanger can be used. If necessary, ask for the water qualities datasheet.





When legionella fall on fertile ground

Flawless drinking water is pure and completely free from anything that is harmful to health. It contains germs such as legionella, which are not harmful at the normal levels of concentration. However, if drinking water is stored at a temperature range of 25-50°C for an extended period, these germs proliferate extensively and represent a health risk. These germs can then enter your lungs as aerosols via a shower or whirlpool. Once in the lungs, they can result in dangerous infections, in particular in children, older people or people already experiencing health problems.

Freshwater modules heat drinking water to the desired temperature only it is needed, in accordance with the instant hot water principle. The days of stockpiling hot water are a thing of the past. Hot water, freshly tapped – hygienic and convenient.

*Accumulation of legionella **(L. pneumophila)** magnified with the aid of the electron microscope (TEM). One bacterium is approximately 0.003 mm long.*

Image: Hans R. Gelderblom, Rolf Reissbrodt / Robert Koch Institute

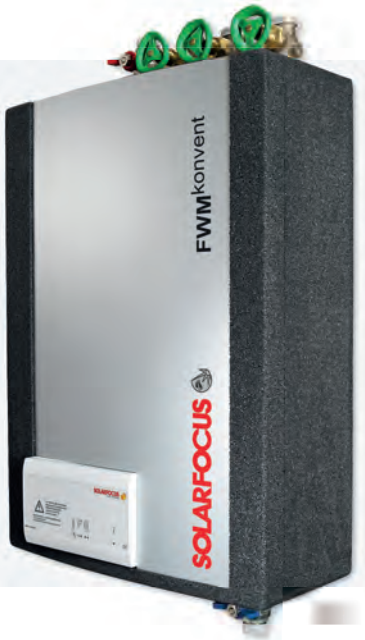
Choose your module

Fresh water module FWM^{eco}

Featuring the basic equipment, best suited for systems with buffer tank temperatures of up to 60°C. The ideal price/performance ratio.

Fresh water module FWM^{konvent}

The electronic controller of this module also guarantees a constant hot water temperature and low return flow temperature in the tank, even with differing tapped quantities and buffer temperatures.



Fresh water module FWM^{autark}

No electronic pump and control needed. The direct connection of the cold water turbines with the pump also guarantees a constant hot water temperature and low return flow temperature in the tank, even with differing tapped quantities and buffer temperatures.

The Technology:

- Freshwater module with high-efficiency pump and flow switch
- No control needed
- Circulation and premix valve can also be integrated
- Output capacity 20 and 30 l/min

Your benefit:

- A cost-efficient entry-level model with premium components
- With the basic equipment, best suited for systems with buffer tank temperatures of up to 60°C
- The option of circulation that can also be integrated guarantees hot water quickly, even through long pipes

The technology:

- Freshwater module with electronically controlled high-efficiency pump
- Circulation and premix valve can also be integrated
- Optional for SOLARFOCUS **eco**manager-*touch* or with separate control
- Output capacity 20, 30, 40 and 50 l/min

Your benefit:

- The electronic control guarantees a constant hot water temperature and low return flow temperature in the tank, even with differing tapped quantities and buffer temperatures
- Ideal for combination with solar power systems and biomass boilers
- Easy adjustment possible on the touch-display using the SOLARFOCUS biomass boiler
- The option of circulation that can also be integrated guarantees hot water quickly, even through long pipes

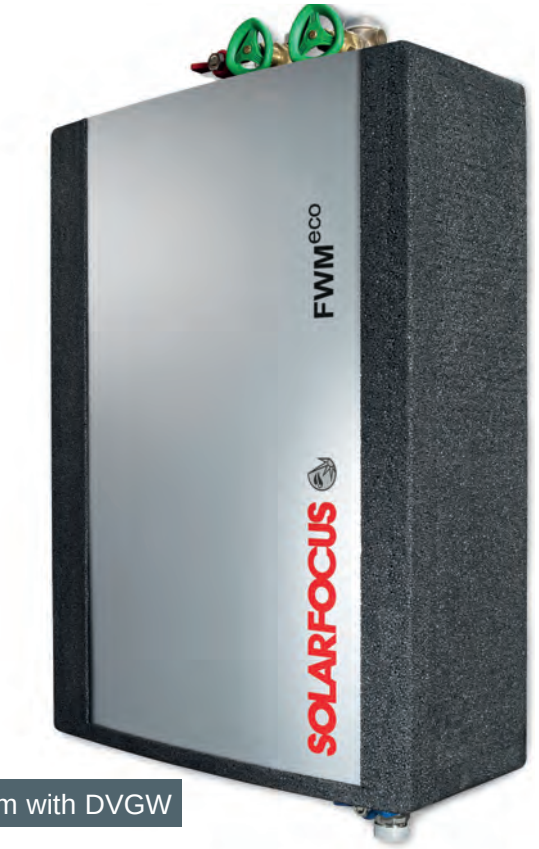
The technology:

- Freshwater module with cold water turbines and directly flange-mounted pump
- No electronic pump or control needed
- Wear-free and wear-optimised magnetic coupling
- Output capacity up to 28 l/min, regardless of the pipe pressure

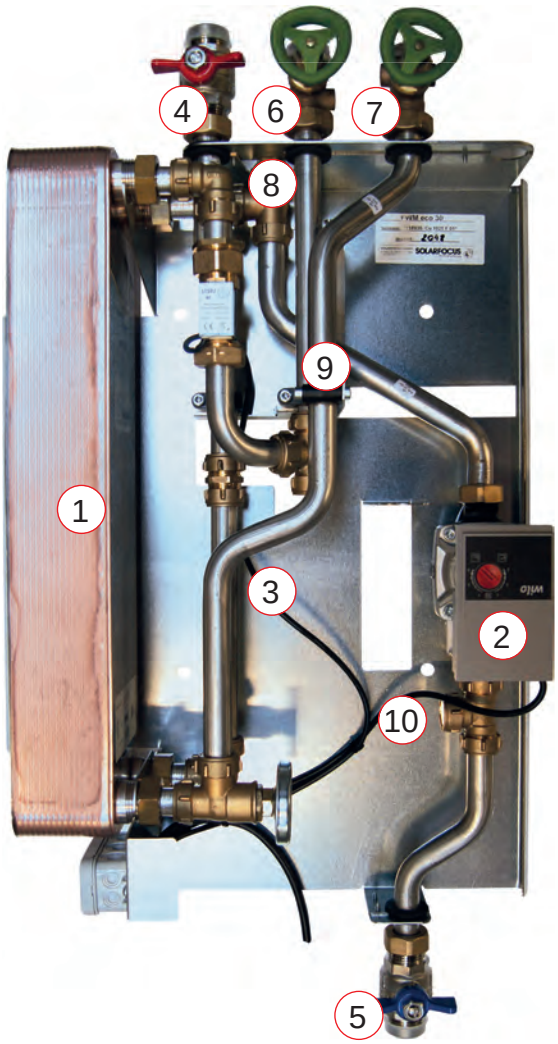
The benefit:

- The direct coupling of the cold water turbines with the pump guarantees a constant hot water temperature and low return flow temperature in the tank, even with differing tapped quantities and buffer temperatures
- No electrical connected load required
- Save electricity costs, as the pump is driven from the cold water pipeline pressure
- Ideal for combination with solar power systems and biomass boilers
- The option of circulation that can also be integrated guarantees hot water quickly, even through long pipes

Fresh water module FWM^{eco}



Conform with DVGW



Info

- ✓ A cost-efficient entry-level model with premium components
- ✓ With the basic equipment, best suited for systems with buffer tank temperatures of up to 60°C.
- ✓ No controller needed
- ✓ Option of integrating circulation and premix valve
- ✓ Output capacity 20 and 30 l/min

The quality entry-level model

The **FWM**^{eco} combines simplicity with premium components. The drinking water is heated in accordance with the instant hot water principle, by means of a stainless steel plate heat exchanger. First, the water is heated up when it is needed – 'just in time'. This means that fresh, hot and perfectly hygienic water is always available. Stockpiling large quantities of hot water is a thing of the past.

Simply technology

A flow switch registers when hot water is being tapped and switches the high-efficiency pump on. The speed of the high-efficiency pump is set to the desired temperature once, when the system is first started, by means of an installed thermometer. No control is required.

The **FWM**^{eco}, with the basic equipment, is best suited for systems with buffer storage temperatures of up to 60°C.

Equipment

1 Stainless steel plate heat exchanger
2 High-efficiency pump
3 230 V flow switch
4 Flow buffer tank 1"OT
5 Return flow buffer tank 1"OT
6 Cold water input 1"OT
7 Hot water output 1"OT
8 Ventilation valve
9 Circulation connection
10 Premix valve connection

Comfort plus+

For even more convenience, the freshwater module can also be equipped with a premix valve and a circulation line, which can be integrated. The option of circulation that can also be integrated guarantees hot water quickly, even through long pipes, and the circulation can be adapted to individual needs.

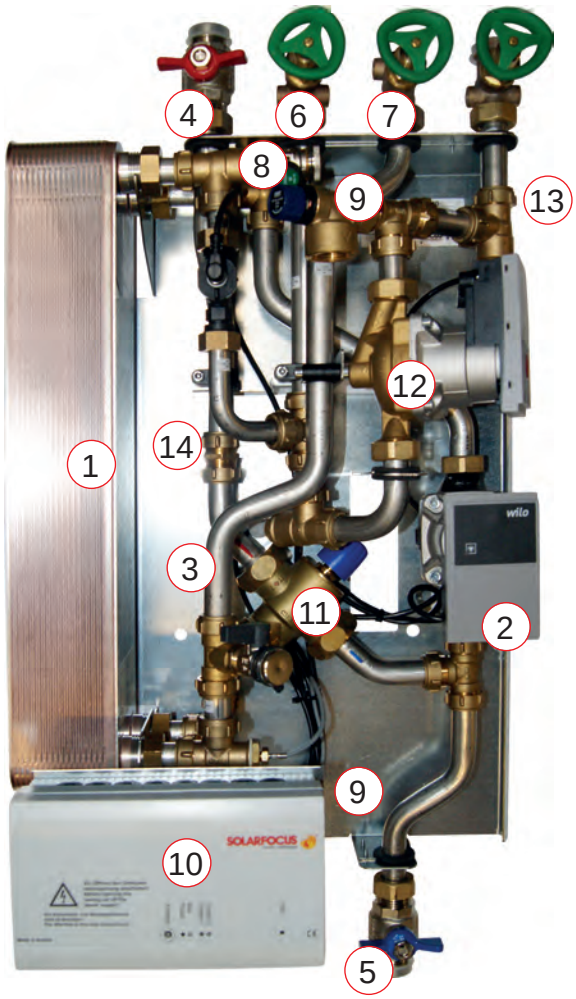
Technical data

Fresh water module FWM^{eco}				Output capacity/heath pump at 50° C buffer flow	
FWM^{eco}		**20**	**30**	**20**	**30**
Buffer flow	[°C]	60	60	50	50
Cold water input	[°C]	10	10	10	10
Hot water output	[°C]	45	45	45	45
Output capacity	[l/min]	20	30	11.7	21
Return flow temperature to the buffer	[°C]	21	21	24.3	24.8
Output max.	[kW]	49	73	28	51
Weight	[kg]	18.6	20.5	18.6	20.5
Electr. supply	[V]	230			
Connections	["]	1" OT			
Conn. circulation	["]	1" OT			
Height/Width/Depth	[cm]	85/49/27			

TIP: Install the fresh water module as close as possible to the buffer tank, so that you avoid losing energy.

Fresh water module FWM^{konvent}

Conform with DVGW



Info

- ✓ Freshwater module with an electronically controlled high-efficiency pump
- ✓ Optional for SOLARFOCUS **eco**manager-*touch* or with independent control
- ✓ Ideal for combination with solar power systems and biomass boilers
- ✓ Circulation and premix valve that can also be integrated optional
- ✓ Output capacity 20, 30, 40 and 50 l/min

The perfect solution

The fresh water module **FWM**^{konvent} combines premium components an with intelligent controller. In order to be able to guarantee a consistent output temperature at the hot water tap, even with differing tapped quantities and buffer temperatures, the rotary speed of the volume flow from the buffer is regulated using a high-efficiency pump with the aid of a powerful controller. The controller receives the information required to regulate the system from a volume flow sensor or a volume flow encoder and extremely fast temperature sensors, which are able to record the smallest deviations in temperature immediately.

The adjustments to the volume flow from the buffer, and the very good heat transfer in the stainless steel plate heat exchangers, mean that the return flow temperatures in the buffer are very low. The low return flow temperature ensures ideal operating conditions in solar power systems, heat pumps or condensing boilers. An optimum level of efficiency is guaranteed.

Equipment

1 Stainless steel plate heat exchanger
2 Speed-regulated high-efficiency pump
3 Volume flow sensor/ volume flow encoder
4 Buffer tank flow 1”OT
5 Buffer tank return flow 1“OT
6 Cold water input 1”OT
7 Hot water output1“OT
8 Ventilation valve
9 Rinse and purging valves for drinking water
10 Controller (**eco**manager-*touch* / separate)
11 Premix valve (optional)
12 Circulation (optional)
13 Rinse and purging valve, circulation
14 Safety valve, 8 bar, circulation

Shared controller for your heating system

In order to avoid your heating area accumulating an unnecessarily high number of controllers from a wide variety of manufacturers – controllers that do not all communicate with each other – the **eco**manager-*touch* controller of the SOLARFOCUS biomass boiler can take over control of the **FWM**konvent .

The colour 7” touch display makes operation incredibly easy. When connected to the internet and the mySOLARFOCUS app, you can also access your heating system’s most important settings using your smartphone.

If you do not have **eco**manager-*touch* controller, but are interested in **FWM**konvent there’s an answer. The freshwater modules are also available with separate button-based controller, located on the FWM.

Comfort plus+

For even more convenience, the freshwater module can also be equipped with a premix valve and a circulation line, which can be integrated. The option of circulation that can also be integrated guarantees hot water quickly, even through long pipes, and the circulation can be adapted to individual needs.

Technical data

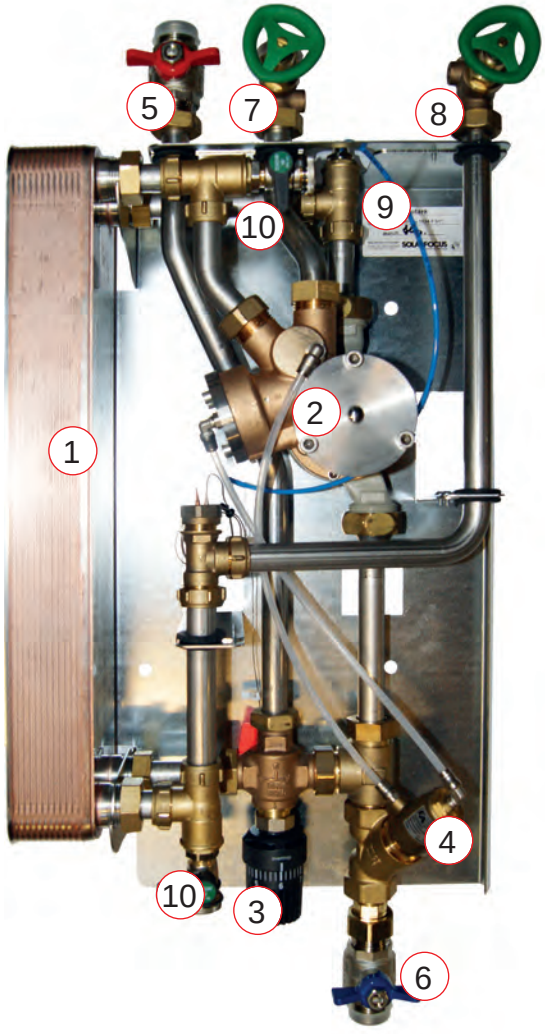
Fresh water module FWMkonvent						Output capacity/heat pump at 50°C buffer flow			
FWMkonvent		**20**	**30**	**40**	**50**	**20**	**30**	**40**	**50**
Buffer flow	[°C]	60	60	60	60	50	50	50	50
Cold water input	[°C]	10	10	10	10	10	10	10	10
Hot water output	[°C]	45	45	45	45	45	45	45	45
Output capacity	[l/min]	20	30	40	50	11.7	21	28	35
Return flow temperature to the buffer	[°C]	21	21	21	21	24.3	24.8	25	26
Output max.	[kW]	49	73	98	122	28	51	68	85
Weight	[kg]	18.6	20.5	21.3	22.7	18.6	20.5	21.3	22.7
Electr. supply	[V]	230							
Connections	["]	1" OT							
Conn. circulation	["]	1" OT							
Height/Width/Depth	[cm]	85/49/27							

TIP: To avoid energy loss, install the freshwater module as close as possible to the buffer tank.

Fresh water module FWM^{autark}

Conform to DVGW

3-fold patented



Info

- ✓ Freshwater module with cold water turbines and directly flange-mounted pump
- ✓ No electronic pump or control needed
- ✓ No electrical connection line needed
- ✓ Ideal for combination with solar power systems and biomass boilers
- ✓ Output capacity of up to 28 l/min, regardless of the flow pressure

No electrical current needed

The **FWM**^{autark} is the highlight in the area of freshwater technology. In contrast to traditional freshwater modules, the **FWM**^{autark} does not need any electrical current of any type in order to operate, either to push the volume flow from the buffer water over the plate heat exchanger, or for the controller.

Hot water is created purely using pipeline pressure, with the aid of a cold water turbine, which is connected directly with the pump. This also means that a constant hot water temperature is guaranteed even with differing tapped quantities and buffering temperatures.

In this way fresh, hot and perfectly hygienic water is always available. Stockpiling large quantities of hot water is a thing of the past.

Equipment

1 Stainless steel plate heat exchanger
2 Cold-water turbine with a flange-mounted heating pump
3 Thermal mixing valve to set the hot water temperature
4 Hydraulically control non-return valve
5 Buffer tank flow 1”OT
6 Buffer tank return flow 1”OT
7 Cold water input 1”OT
8 Hot water output 1“OT
9 Ventilation valve
10 Rinsing and purging valves, drinking water

Simply brilliant – brilliantly simple

When hot water is tapped, the turbine wheel in the cold water pipe starts the turn. The turbine wheel is connected with the pump wheel on the buffer side directly by means of magnetic coupling, and pushes the volume flow out of the buffer via the heat exchanger.

If more hot water is tapped, the turbine wheel also turns more quickly. This means that a constant water temperature can be guaranteed even with differing tapped quantities and buffer temperatures, without using an electronic controller. The desired hot water temperature is set using a thermal mixing valve.
The adjustments to the volume flow from the buffer, and the very good heat transfer in the stainless steel plate heat exchangers, mean that the return flow temperatures in the buffer are very low.

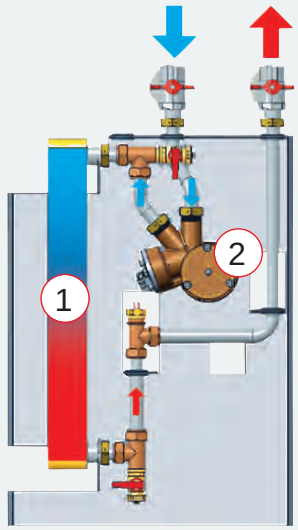
The low return flow temperature ensures ideal operating conditions in solar power systems, heat pumps or condensing boilers. An optimum level of efficiency is guaranteed.

Comfort plus+

For even more convenience, the freshwater module can also be equipped with an external circulation line for integration into the buffer tank. The option of circulation guarantees hot water quickly, even through long pipes, and can be adapted to your individual needs.

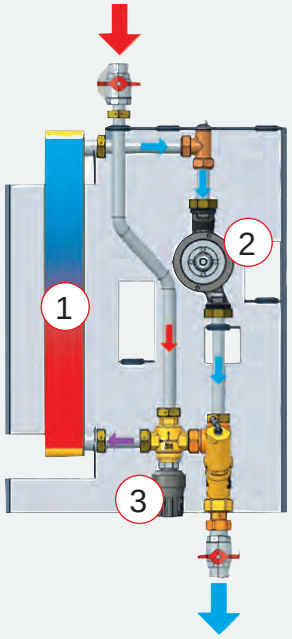
Drinking water side:

Cold drinking water flows through the turbine wheel (2) and the heat exchanger (1), where it is heated in line with the counter-flow principle.



Buffer side:

Hot heating water is transported through the pump (2) to the mixing valve (3). The premixed water flows through the heat exchanger (1) and heats up the drinking water in line with the counter-flow principle.



Technical data

Fresh water module FWM autark					
Output capacity	[l/min]	**15**	**20**	**26**	**28**
Buffer flow	[°C]	60	60	60	60
Cold water input	[°C]	10	10	10	10
Hot water output	[°C]	45	45	45	45
Required flow pressure	[bar]	3.5	4	5.4	6
Pressure drop through the modulel	[bar]	2	2.5	3.2	3.4
Connections	["]	1" OT			
Height/width/depth	[cm]	85/49/27			
Weight	[kg]	23.6			

TIP: Install the freshwater module as close as possible to the buffer tank, so that you avoid losing energy. The required flow pressure is calculated as follows: pressure drop through the module + pressure drop via the fittings. The flow pressure must be measured at the point at which the largest consumer is used (bathtub).

SOLARFOCUS
makes you independent

Innovative products, which protect the environment and relieve the purse.

PREMIUM up to 10 years Guarantee

Everything from one supplier

Solar systems − Biomass heating − Storage technology − Fresh water technology

Tested state-of-the-art technology – EN ISO 9001 certified

TÜV ENERGIE UND SYSTEME · EDELSTAHL Rostfrei · EN 303-5 CEN/TC 57 · EN plus – Der neue Maßstab für Holzpellets · MEMBER of VdZ HEATINGlabel

Your specialised dealer

SOLARFOCUS GmbH Werkstraße 1 A-4451 St. Ulrich/Steyr

e-mail: office@solarfocus.com Tel.: +43 (0) 7252 / 50 002 - 0
web: www.solarfocus.com Fax: +43 (0) 7252 / 50 002 - 10