Fresh water station FW-D 40

The FW-D 40 fresh water station is a robust and reliable solution for central drinking water heating using the flow principle. It features high-efficiency pumps, circuit control valves, variable return stratification and efficient control for a constant hot water temperature.

Suitable for:

- **High-efficiency pump:** PWM-controlled for demand-based heating.
- **Sanitary circuit control valves:** High-quality valves for precise control of water flow.
- **Outlets at the top:** All drinking water outlets are located at the top for easy installation.
- **Sturdy construction:** Installation frame made of galvanized sheet steel for durability and stability.
- **Fitting piece for meter:** For easy integration of a water meter.
- **Variable return stratification:** Optimizes buffer storage stratification and return temperatures.
- **Cascade capable:** To enable higher performance, it can be operated in cascade mode.
- Incl. safety valve (cold water connection)

Application: The FW-D 40 fresh water station heats drinking water centrally and distributes it to the tapping points via the hot water pipe. Operation based on the flow principle means that the hot drinking water is heated "just in time" only when needed, so there is no need for storage. A buffer tank is required to provide a sufficient volume flow of heating water.

Hot water preparation: The drinking water is only heated when needed via a stainless steel plate heat exchanger. The design of the heat exchanger enables high tap capacities and a low return temperature to the buffer tank.

High-efficiency pump: The integrated PWM-controlled high-efficiency pump ensures precise and demand-based control of the heating water flow rate. It operates quietly and energy-efficiently, ensuring a constant hot water temperature.

Control: The central control unit is the electronic control system. This ensures a constant domestic hot water temperature.

Sensors: Modern sensors enable fast and precise control processes. A flow sensor based on the vortex principle determines the flow rate and hot water temperature. Accurate and fast-responding PT-1000 temperature sensors measure the temperatures of the heating return, cold water, buffer tank flow and circulation return.

Variable return stratification: The heating return flow to the buffer tank is variably stratified by an integrated 3-way switching valve. At higher return temperatures, e.g. due to prolonged circulation operation without tapping, stratification takes place in the middle of the buffer tank. In normal operation, for example during tapping with very low return temperatures, the return is stratified in the lower part of the buffer tank. This maintains the temperature stratification in the buffer tank and preserves the low return temperatures in the lower part, which are necessary for solar yield.

Circulation: A high-efficiency drinking water circulation pump is intelligently controlled (by pulse, time, and temperature) and speed-controlled by the electronic control system.

	PRIMARY	SECONDARY
	BUFFER STORAGE	DRINKING WATER
Pressure rating:	PN 6	PN 10
Max. temperature:	110 °C	75 °C
Connection dimensions:	DN 25	DN 20
Thread:	G1" internal thread	G1" external thread
Dimensions (WxHxD):	480 x 675 x 240 mm	

ORDER NO.	
1610005	with fully stainl. steel brazed plate heat exchanger
1610002	with copper brazed plate heat exchanger

TECHNICAL DATA	
OPERATION	• Easy-to-read, illuminated LCD display with full text and graphics mode • Internationally understandable thanks to up to 6 languages included • Self-explanatory: The assigned commands are shown on the display directly above the respective input key • Quick and easy installation thanks to the integrated commissioning wizard
OPERATING MODE	Fresh water control with circulation and variable storage stratification
ADD. FUNCTION	Storage charging, cascade
PLATE HEAT EXCHANGER	Long thermal length, low pressure loss Stainless steel 1.4401, copper soldered
PIPING	Stainless steel 1.4401, 22x1 mm
PUMPS	Heating pump HE 15-60/130 PWM 1 Drinking water circulation pump HE-Z 15-7 PWM 2
3-WAY SWITCHING VALVE	Honeywell DN 20, extra short running time
SENSORS	Hot water temperature and volume flow: Sika VVX15 HR/ CW/ Buffer/ Circulation temperature: PT1000/B/2 plug-in sensor with cable
INSULATION	EPP, black
DELIVERY	Wired and leak-tested, with operating instructions and mounting accessories in the box

PERFORMANCE DATA	PI2*	PI1**
Hot water output:	87,2 kW	83 kW
Supply temperature:	70 °C	60 °C
Return temperature:	32,6 °C	25,4 °C
CW/HW temperature:	10 °C / 60 °C	10 °C / 45 °C
Tap capacity:	25 l/min	34 l/min
Pressure loss DHW***:	294 mbar	542 mbar
Pressure loss Heating***:	247 mbar	261 mbar
Heating flow rate:	2005 l/h	2066 l/h
38 °C DHW tap quantity after cold water admixture:	44,6 l/min	42,5 l/min
40 °C DHW tap quantity after cold water admixture:	41,7 l/min	39,7 l/min

Attention! Normal operation guaranteed at 50-75 °C install a pre-mixer if necessary

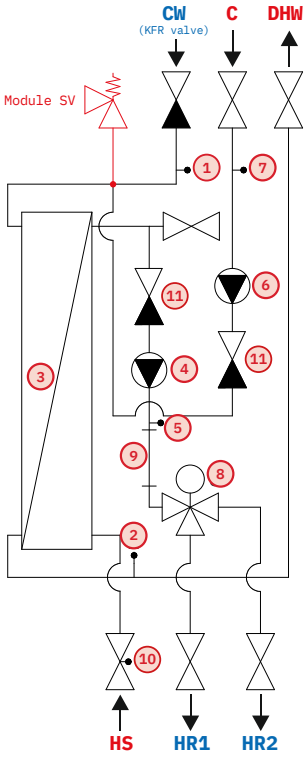
*** without cold water meter or heat meter

****PI2 = Performance indicator 2:** at a set hot water temperature of 60 °C; at a primary flow temperature of 70 °C; at a cold water temperature of 10 °C

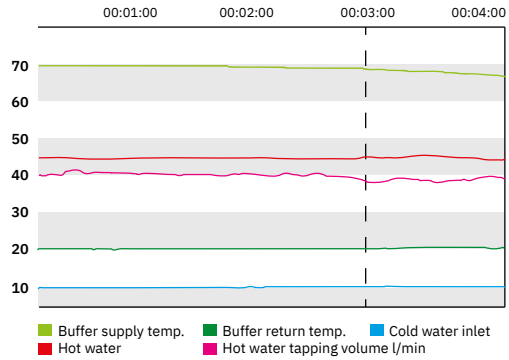
***PI1 = Performance indicator 1:** at a set hot water temperature of 45 °C; at a primary flow temperature of 60 °C; at a cold water temperature of 10 °C

DHW = Hot drinking water
CW = Cold water
HS = Heating supply
HR = Heating return
C = Circulation

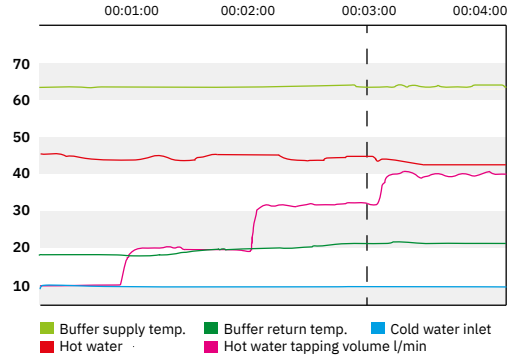
Design front



PERFORMANCE DIAGRAM: FULL LOAD



PERFORM. DIAGRAM: LOAD CHANGE W/ INCREASING LOAD



SCHEMATIC	
1	Temperature sensor CW
2	Temperature and flow sensor based on the vortex principle
3	Plate heat exchanger
4	Heating pump
5	Temperature sensor HR
6	Circulation pump
7	Temperature sensor Z
8	3-way switching valve
9	Heat meter fitting piece 130 mm
10	Direct measuring point heat meter
11	Backflow preventer

OPTIONS

ORDER NO.	
1000132	Module Pre-mixer

Pre-mixer set for eco and FW-40 series