

FWS

FRESH WATER MODULES

SONNENKRAFT

EASY

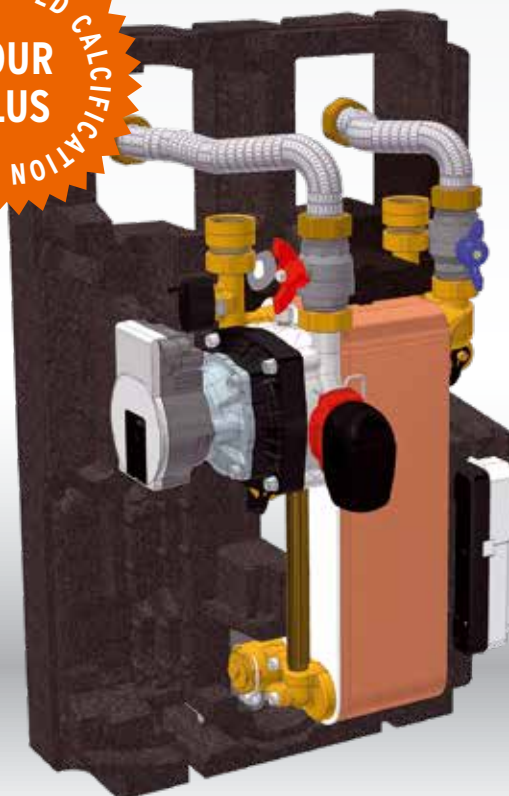
Minimal piping effort and
easy wall and tank mounting

EFFICIENT

High tap capacity thanks to large dimensioned
plate heat exchangers

EXTRA

Heats up fresh, vital hot water in the required quantity



TECHNICAL DATA

	FWS20E	FWS30E	FWSWP	FWS40HYDRO
Mounting	Wall / Tank			Wall / Tank
Controller	thermostatic			electronic
Tap capacity	l / min	2 - 20	2 - 30	2 - 40
Plate heat exchanger	plates	21	29	41
Dimensions (W x H x D)	mm	400 x 600 x 302		400 x 600 x 302
Cover	EPP schwarz			EPP schwarz
Weight	kg	15	17	21
CONNECTIONS				
Cold water (A)	G1" IG			G1" IG
Hot water (B)	G1" IG			G1" IG
Buffer flow (C)	G1" AG			G1" AG
Buffer return (D)	G1" AG			G1" AG
Circulation (E)	G1/2" IG			G1/2" IG
Flushing connection (F)	-			G3/4" AG
min. perm. operating temperature	°C	2		2
max. perm. operating temperature	°C	95		95
max. perm. operating pressure (hot water / heating)	bar	10 / 3		
Pump	Para HU 25/7.0 / PWM2			
Pump	V / Hz	230 / 50		
Leistungsaufnahme	W	3 - 50		
Zirkulationspumpe	Xylem E3 vario - 15/000 BRU			
Zirkulationspumpe	V / Hz	230 / 50		
Leistungsaufnahme	W	27		

WATER INGREDIENTS (LIMITS)

	CU-WT
pH value (considering SI Index)	7-9
Saturation index SI (Delta pH value)	-0,2 < 0 < +0,2
Total hardness	°dH
Conductivity	µS/cm
Filterable substances	mg/l
Free Chlorine	mg/l
Hydrogen sulfide (H2S)	mg/l
Ammoniac (NH3/NH4+)	mg/l
Sulfate	mg/l
Hydrocarbonate	mg/l
Hydrocarbonate/Sulfate	mg/l
Sulfide	mg/l
Nitrate	mg/l
Nitrite	mg/l
Iron, solved	mg/l
Manganese	mg/l
Free aggressive carbonation	mg/l

For areas with different water limits, please use the new fresh water module FWS40HYDROIN

TEMPERATURE FLUCTUATIONS ON THE EXAMPLE FWS40HYDRO

Volume flow at the tap at 42 °C assuming an admixture of cold water at 10 °C

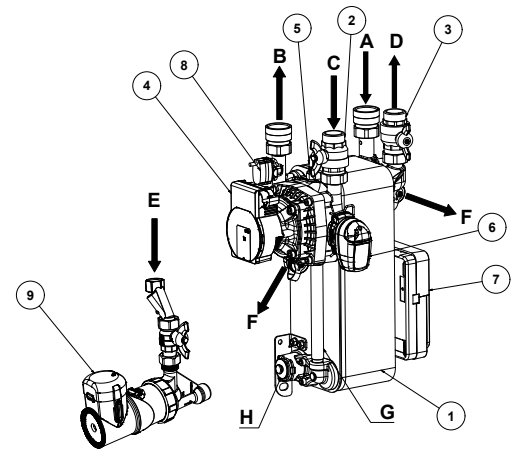
T _{SVsoll}	45 °C			60 °C		
T _{pV} [°C]	50	55	90	65	70	90
3 l/min	■	■	■	■	■	■
7 l/min	■	■	■	■	■	■
14 l/min	■	■	■	■	■	■

T_{SVsoll} Target temperature secondary flow
 T_{pV} Primary flow temperature
 ■ Temperature constant
 ■ Normally no disturbing fluctuations
 ■ Disturbing fluctuations possible
 ■ Strong fluctuations

Source: Institut für Solartechnik SPF, Rapperswil, Schweiz



COMPONENTS FWS40HYDRO



- 1 Plate heat exchanger WT11-41 VLD
- 2 Ball valve flow 1" red
- 3 Ball valve return 1" blue
- 4 Para HU 25/7.0 / PWM2
- 5 Temperature sensor PT1000
- 6 Super Flow valve
- 7 FRESH Control
- 8 Flow sensor Grundfos Direct SensorTM
- 9 Circulation unit (optional)

ANSCHLÜSSE

- A Fresh water
- B Hot water
- C Buffer feed
- D Buffer return
- E Circulation
- F Drain connection
- G Pipe "bypass"
- H Push-In-connection for circulation unit

DIMENSIONS TABLE FWS40HYDRO

Cold water temperature = 10 °C
Hot water temperature = HW-T

Example:
Storage tank temperature: 65 °C
Tap capacity: 40 l/min
Hot water temperature: 45 °C

