ENERGY SYSTEMS

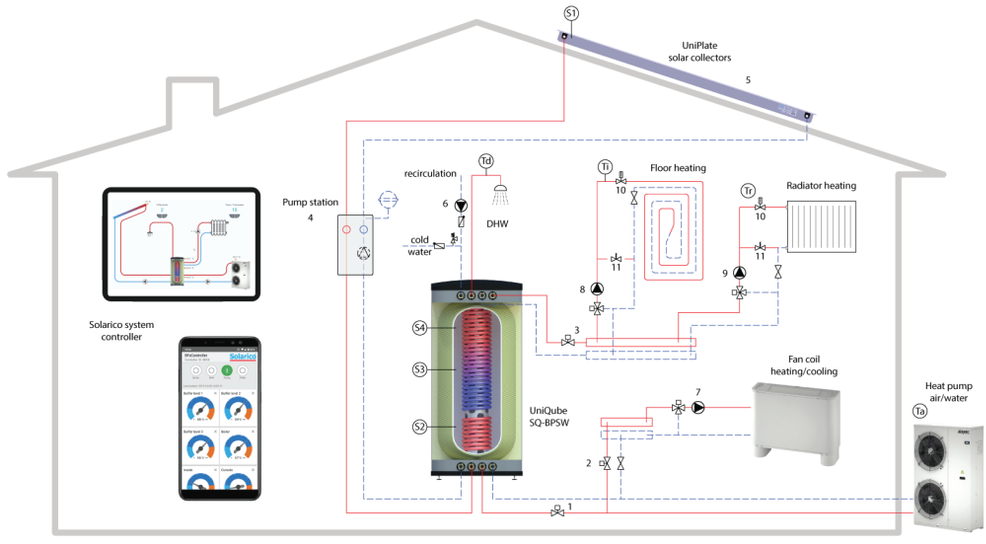
Solarico®

UniQube

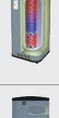
Hydraulic Variants

- Central heating
- Domestic hot water
- Drain-Back
- Solar thermal panels
- Heat pumps
- Boilers
- Heat Exchanger

Heart of your energy systems



Overview of storage tank types

Type of Storage Tank		Buffer	Hydraulic separator	Hygenic hot water	Solar pressurized	Solar drain back	Integrated Heat Pump	Energy Efficiency	Benefits
	SQ-B	●						A	• For 2 pipe buffer tank piping • Absorbing the peaks of heat sources, improves the lifetime of heat sources • Accumulates heat and distributes it on demand. Improves the efficiency of the heating system
	SQ-BP	●	●					A	• For 4 pipe buffer tank piping • Hydraulicaly separates the heat sources and heat consumers • Provides comfort temperature regulation and improves the lifetime of circulating pumps • Lowers heat loss and improves system's efficiency by min. 20%
	SQ-BPS	●	●		●			A	• Buffer/hydraulic separator with 1 solar heat exchanger, positioned at the coldest thermal layer of the stratified tank • Stores and inputs the maximum sun heat into the heating system, saving a lot of fuel of the main heat source
	SQ-BPW	●	●	●				A	• Buffer/hydraulic separator with 1 domestic hot water heat exchanger, positioned at the warmest thermal layer of the stratified tank • Saves energy by heating the hygienic hot water by the on-demand principle, only when the tap is open
	SQ-BPSW	●	●	●	●			A	• For 4 pipe buffer tank piping + solar thermal input + domestic hygienic hot water output • Stratified buffer/hydraulic separator with 2 heat exchangers, all in one solution for best system performance and high energy efficiency
	HP SQ-B	●					●	A+	• Integrated heat pump cools, ventilates and uses the waste heat back into the heating system • Absorbing the peaks of heat sources, improves the lifetime of heat sources • Accumulates heat and distributes it on demand, improving the efficiency of the heating system
	HP SQ-BP	●	●				●	A+	• Integrated heat pump cools, ventilates and uses the waste heat back into the heating system • Hydraulicaly separates the heat sources and heat consumers • Improves temperature regulation and lifetime of circulating pumps. Thermally stratified tank, lowering the heat loss and improving system's efficiency by minimum 20%
	HP SQ-BPS	●	●		●		●	A+	• Integrated heat pump cools, ventilates and uses the waste heat back into the heating system • Buffer/hydraulic separator with 1 solar heat exchanger, positioned at the coldest thermal layer of the stratified tank • Stores and inputs the maximum sun heat into the heating system, saving a lot of fuel of the main heat source
	HP SQ-BPW	●	●	●			●	A+	• Integrated heat pump back up, saves more than 70% energy compared to conventional heaters. It cools, ventilates and uses the waste heat back into the heating system • Buffer/hydraulic separator with 1 solar heat exchanger, positioned at the coldest thermal layer of the stratified tank. It stores and inputs the maximum sun heat into the heating system, saving a lot of fuel of the main heat source
	HP SQ-BPSW	●	●	●	●		●	A+	• Integrated heat pump back up, saves more than 70% energy compared to using a conventional electric heater. It can also cool and ventilate a space, reuse the waste heat back into the heating system. • Stratified buffer/hydraulic separator with 2 heat exchangers, all in one solution for best system performance and high energy efficiency
	SQ-BPS DB	●	●			●		A	• Solar support for the heating system. Supports up to 9kW UniPlate collectors solar power • Buffer/hydraulic separator with 1 solar heat exchanger, positioned at the coldest thermal layer of the stratified tank. It stores and inputs the maximum sun heat into the heating system, saving a lot of fuel of the main heat source
	SQ-BPSW DB	●	●	●		●		A	• Solar support for the heating system. Supports up to 9kW UniPlate collectors solar power • Stratified buffer/hydraulic separator with 2 heat exchangers, all in one solution for best system performance and high energy efficiency
	Drain Back Reservoir SQ-DB					●		A	• Converts any UniQube solar storage tank into the drain back tank • Its usage allows installation of additional solar thermal collectors adding more free solar energy for the heating system

Overview of hydraulic variants

		Scheme no.	2.1	2.2	3	5	6	7	8.1.1	8.1.2	9	10	14
		Page	5	6	7	8	9	10	11	12	13	14	15
Type of Storage Tank	UniQube 310 and/or 440	SQ-BPSW Combined											
		SQ-BPW Domestic Hot Water											
		SQ-BPS Solar											
		SQ-BP Hydraulic separator											
		SQ-B Buffer											
	UniQube Heat Pump	SQ-BPSW HP 310 Combined											
		SQ-BPW HP 310 Domestic Hot Water											
		SQ-BPS HP 310 Solar											
		SQ-BP HP 310 Hydraulic separator											
		SQ-B HP 310 Buffer											
	UniQube Drain Back	Drain Back Reservoir SQ-DB											
		SQ-BPSW DB 310 Combined											
		SQ-BPW DB 310 Domestic Hot Water											
		SQ-BPS DB 310 Solar pressurized											
		SQ-BP DB 310 Hydraulic separator											
		SQ-B DB 310 Buffer											
Heat Generator		UniPlate Solar Collectors Solar heating and hygienic DHW											
		Heat Pump											
		Pellet Boiler											
		Gas Condensing Boiler											

Overview of hydraulic variants

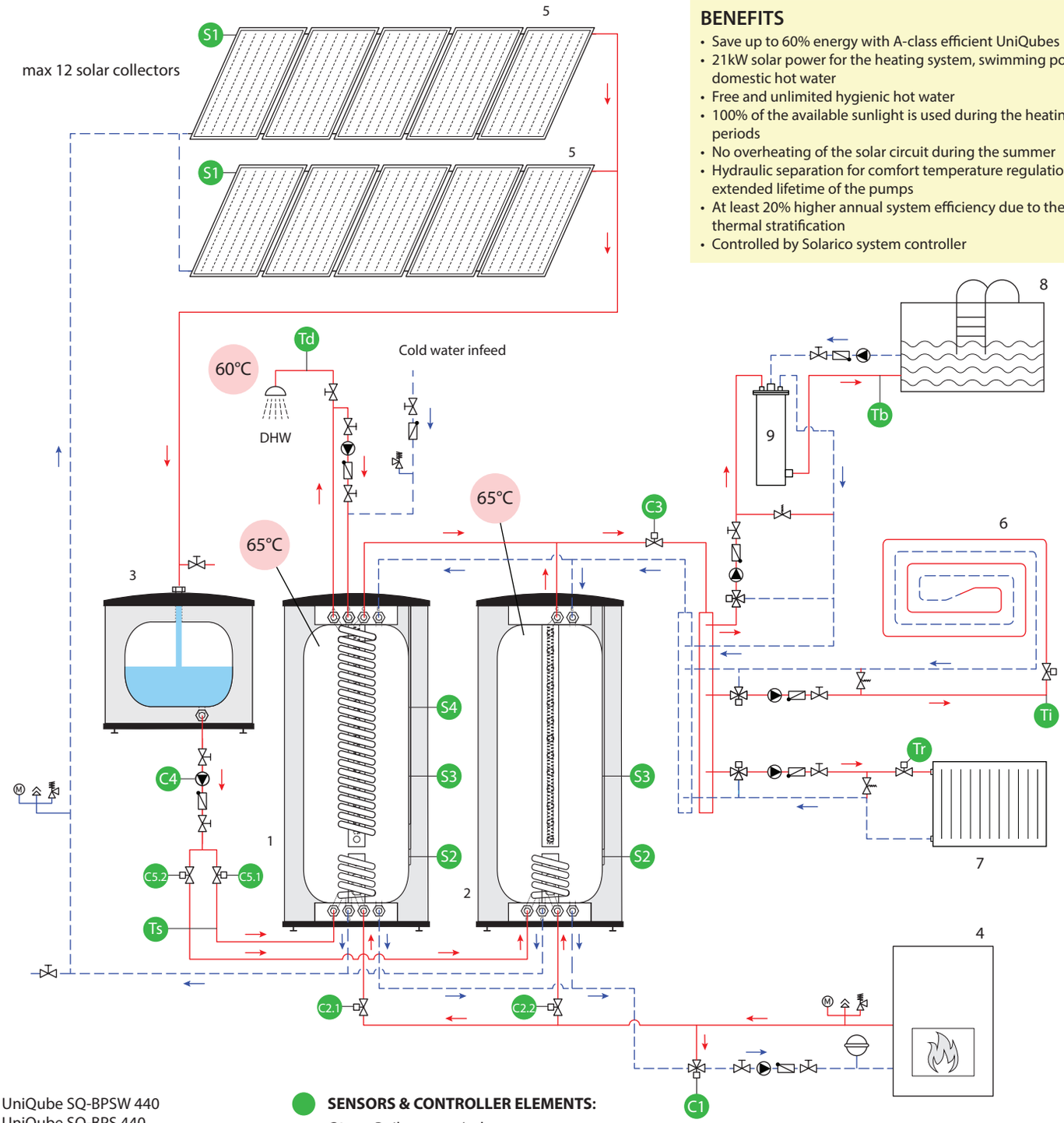
		Scheme no.	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-10	M-11	M-12
		Page	16	17	18	19	20	21	22	23	24	25	26	27
Type of Storage Tank	UniQube 310 and/or 440	SQ-BPSW Combined												
		SQ-BPW Domestic Hot Water												
		SQ-BPS Solar												
		SQ-BP Hydraulic separator												
		SQ-B Buffer												
	UniQube Heat Pump	SQ-BPSW HP 310 Combined												
		SQ-BPW HP 310 Domestic Hot Water												
		SQ-BPS HP 310 Solar												
		SQ-BP HP 310 Hydraulic separator												
		SQ-B HP 310 Buffer												
	UniQube Drain Back	Drain Back Reservoir SQ-DB												
		SQ-BPSW DB 310 Combined												
		SQ-BPW DB 310 Domestic Hot Water												
		SQ-BPS DB 310 Solar pressurized												
		SQ-BP DB 310 Hydraulic separator												
		SQ-B DB 310 Buffer												
Heat Generator		UniPlate Solar Collectors Solar heating and hygienic DHW												
		Heat Pump												
		Pellet Boiler												
		Gas Condensing Boiler												

Integration with pellet boiler, solar heating for home, hot water and swimming pool

Scheme 2.1

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes
- 21kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water
- 100% of the available sunlight is used during the heating periods
- No overheating of the solar circuit during the summer
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller



1. UniQube SQ-BPSW 440
2. UniQube SQ-BPS 440
3. UniQube Drain Back Reservoir DB
4. Pellet boiler
5. Solar collectors UniPlate 2.5 SB
6. Floor heating
7. Radiators heating
8. Swimming pool
9. Solarico Heat Exchanger

SENSORS & CONTROLLER ELEMENTS:

C1 - Boiler pump/valve
C2.1 - Buffer valve
C2.2 - Water heater valve
C3 - Heating valve
C5.1 - Solar valve 1
C5.2 - Solar valve 2
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

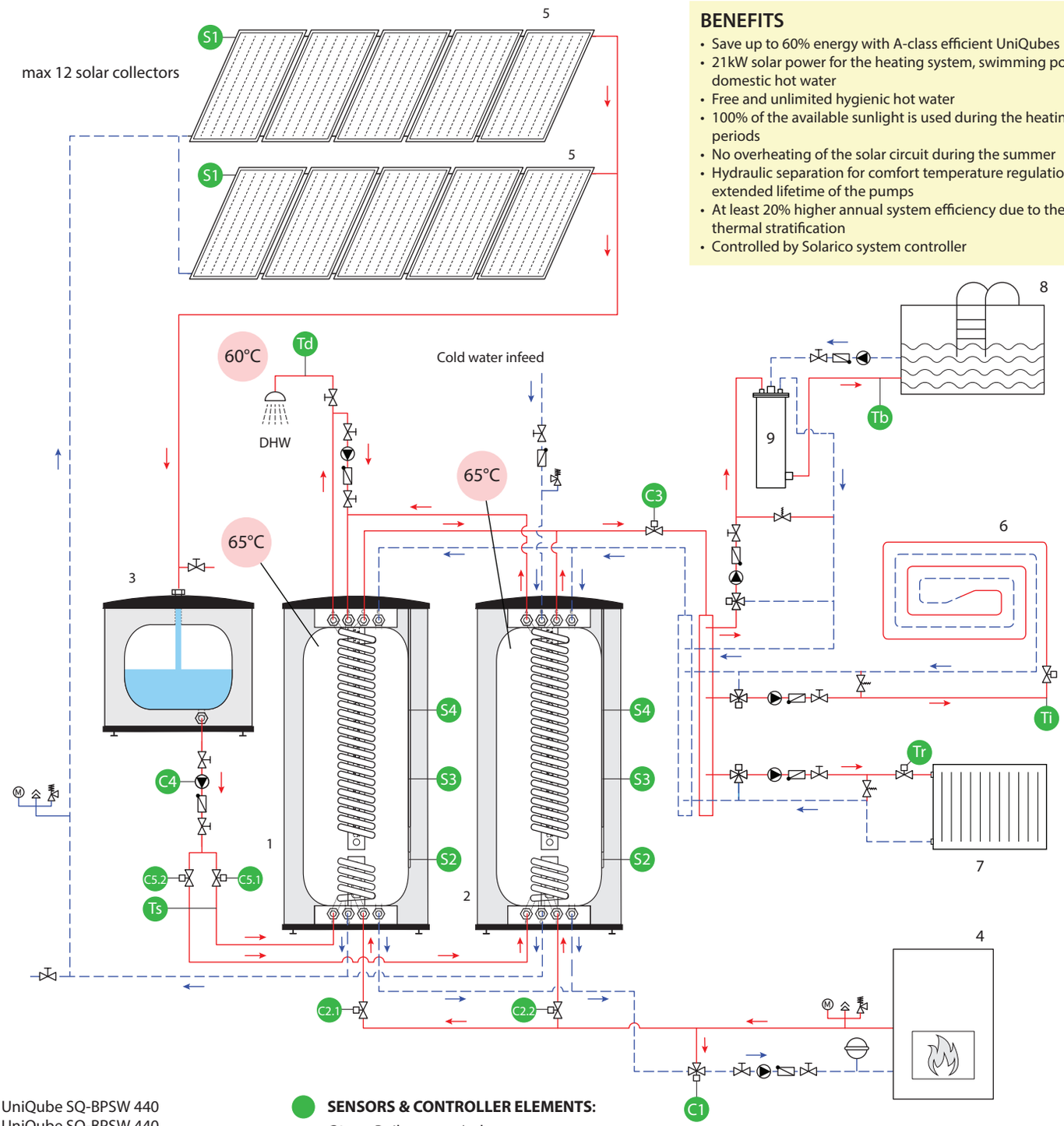
Solarico Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1	C2.1	C2.2	C3	C5.1	C5.2
	WINTER	Boiler - ON Solar heating - ON	ON	ON	ON	ON	ON	ON
	SUMMER	Boiler - OFF; Solar heating - ON	OFF	OFF	OFF	OFF	ON	OFF
		DHW back up heating with electric heater	OFF	OFF		OFF	ON	
		DHW back up heating with boiler	ON	ON		OFF	ON	

Integration with pellet boiler, solar heating for home, hot water and swimming pool

Scheme 2.2



BENEFITS

- Save up to 60% energy with A-class efficient UniQubes
- 21kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water
- 100% of the available sunlight is used during the heating periods
- No overheating of the solar circuit during the summer
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller

1. UniQube SQ-BPSW 440
2. UniQube SQ-BPSW 440
3. UniQube Drain Back Reservoir DB
4. Pellet boiler
5. Solar collectors UniPlate 2.5 SB
6. Floor heating
7. Radiators heating
8. Swimming pool
9. Solarico Heat Exchanger

SENSORS & CONTROLLER ELEMENTS:

C1 - Boiler pump/valve
C2.1 - Buffer valve
C2.2 - Water heater valve
C3 - Heating valve
C5.1 - Solar valve 1
C5.2 - Solar valve 2
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico Wi-Fi Controller

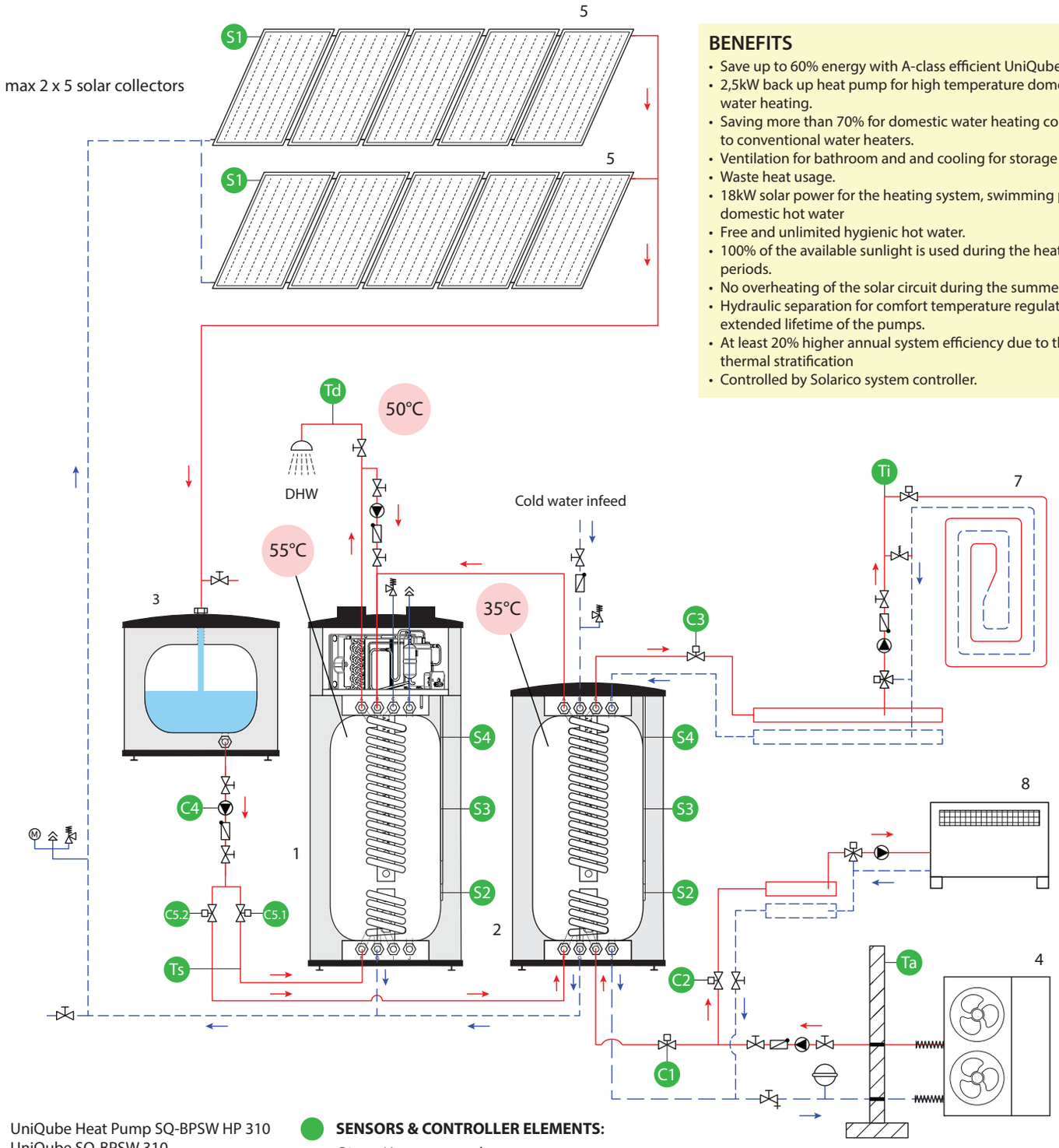
UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1	C2.1	C2.2	C3	C5.1	C5.2
	WINTER	Boiler - ON Solar heating - ON	ON	ON	ON	ON	ON	ON
	SUMMER	Boiler - OFF; Solar heating - ON	OFF	OFF	OFF	OFF	ON	OFF
		DHW back up heating with electric heater	OFF	OFF		OFF	ON	
		DHW back up heating with boiler	ON	ON		OFF	ON	

Integration with heat pump, ventilation, solar heating for home and hot water

Scheme 3

This connection diagram serves only as an installation suggestion and does not replace technical planning!



BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- 2,5kW back up heat pump for high temperature domestic hot water heating.
- Saving more than 70% for domestic water heating compared to conventional water heaters.
- Ventilation for bathroom and and cooling for storage spaces.
- Waste heat usage.
- 18kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water.
- 100% of the available sunlight is used during the heating periods.
- No overheating of the solar circuit during the summer.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.

1. UniQube Heat Pump SQ-BPSW HP 310
2. UniQube SQ-BPSW 310
3. UniQube Drain Back Reservoir DB
4. Heat pump
5. Solar collectors UniPlate 2.5 SB
7. Floor heating
8. Fan coil units

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve
C5.1 - Solar valve 1
C5.2 - Solar valve 2
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

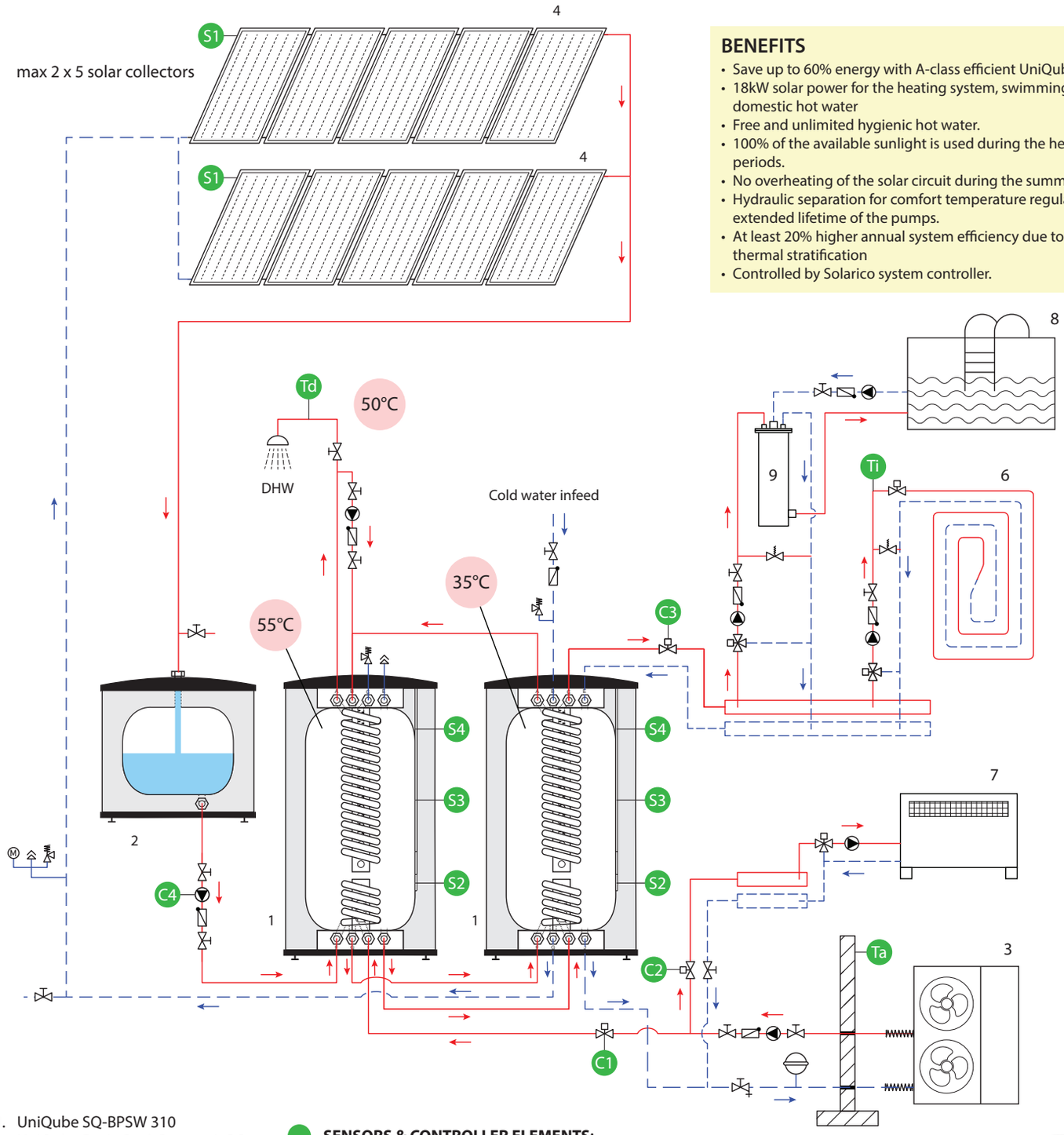
			C1		C2	C3	C5.1	C5.2
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C	S4 > 55°C	ON	ON	ON	ON
			ON	OFF*				
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON	OFF
		DHW back up heating with integrated heat pump	OFF		ON	OFF	ON	OFF

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

UniQubes in serial connection, integrated with heat pump and solar heating for home

Scheme 5

This connection diagram serves only as an installation suggestion and does not replace technical planning!



BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- 18kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water.
- 100% of the available sunlight is used during the heating periods.
- No overheating of the solar circuit during the summer.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.

1. UniQube SQ-BPSW 310
2. UniQube Drain Back Reservoir DB
3. Heat pump
4. Solar collectors UniPlate 2.5 SB
6. Floor heating
7. Fan coil units
8. Swimming pool
9. Solarico Heat Exchanger

SENSORS & CONTROLLER ELEMENTS:

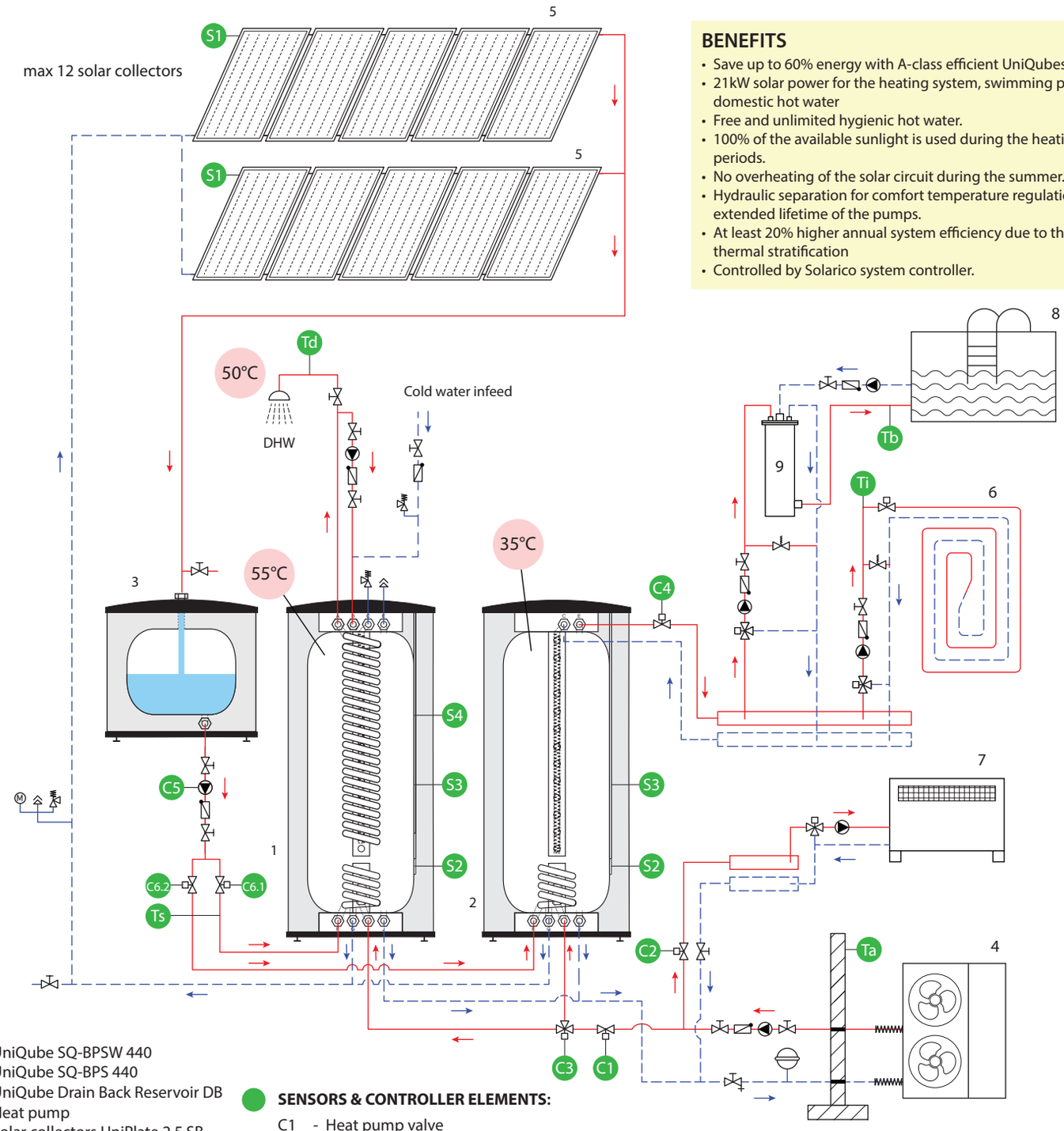
C1 - Boiler pump/valve
C2 - Fan coil units valve
C3 - Heating valve
C4 - Solar pump and valve
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	C4
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C ON	S4 > 55°C OFF*	ON	ON	ON
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON
		DHW back up heating with Electric Heater	OFF		ON		
		DHW back up heating with heat pump	S4 < 40°C ON	S4 > 55°C OFF*	OFF		

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C



BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- 21kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water.
- 100% of the available sunlight is used during the heating periods.
- No overheating of the solar circuit during the summer.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.

1. UniQube SQ-BPSW 440
2. UniQube SQ-BPS 440
3. UniQube Drain Back Reservoir DB
4. Heat pump
5. Solar collectors UniPlate 2.5 SB
6. Floor heating
7. Fan coil units
8. Swimming pool
9. Solarico Heat Exchanger

SENSORS & CONTROLLER ELEMENTS:

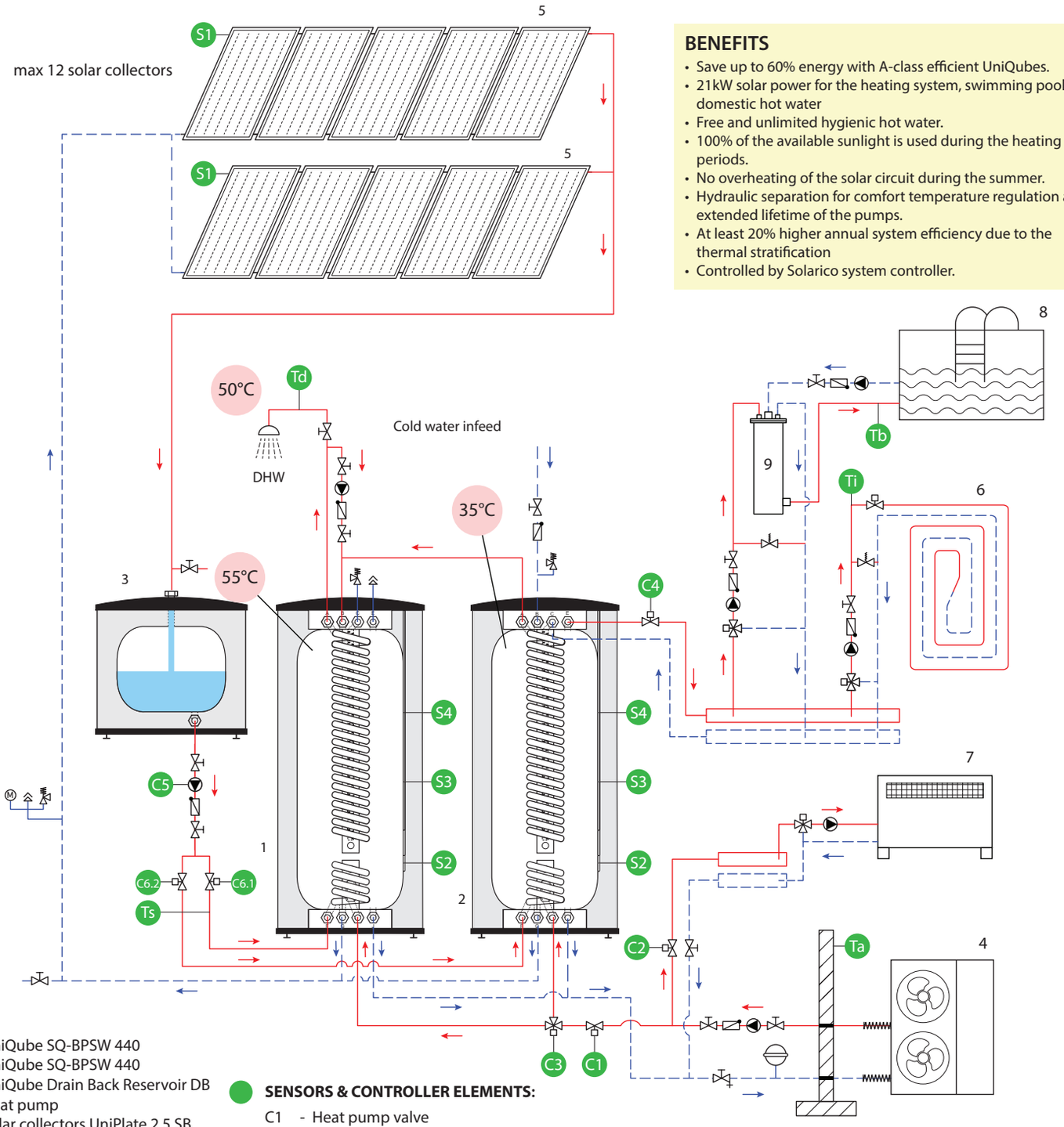
C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Three-way valve
C4 - Heating valve
C6.1 - Solar valve for DHW
C6.2 - Solar valve for heating
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico
Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3		C4	C6.1	C6.2
						DHW (1)	Heating (2)			
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C ON	S4 > 55°C OFF*	ON	S4 < 40°C ON	S4 > 55°C ON	ON	S2 < 55°C ON	S2 > 55°C ON
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	ON	OFF	OFF	ON	OFF
		DHW back up heating with Electric Heater	OFF		ON					
		DHW back up heating with heat pump	S4 < 40°C ON	S4 > 55°C OFF*	OFF					

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C



BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- 21kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water.
- 100% of the available sunlight is used during the heating periods.
- No overheating of the solar circuit during the summer.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.

1. UniQube SQ-BPSW 440
2. UniQube SQ-BPSW 440
3. UniQube Drain Back Reservoir DB
4. Heat pump
5. Solar collectors UniPlate 2.5 SB
6. Floor heating
7. Fan coil units
8. Swimming pool
9. Solarico Heat Exchanger

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Three-way valve
C4 - Heating valve
C6.1 - Solar valve for DHW
C6.2 - Solar valve for heating
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico Wi-Fi Controller

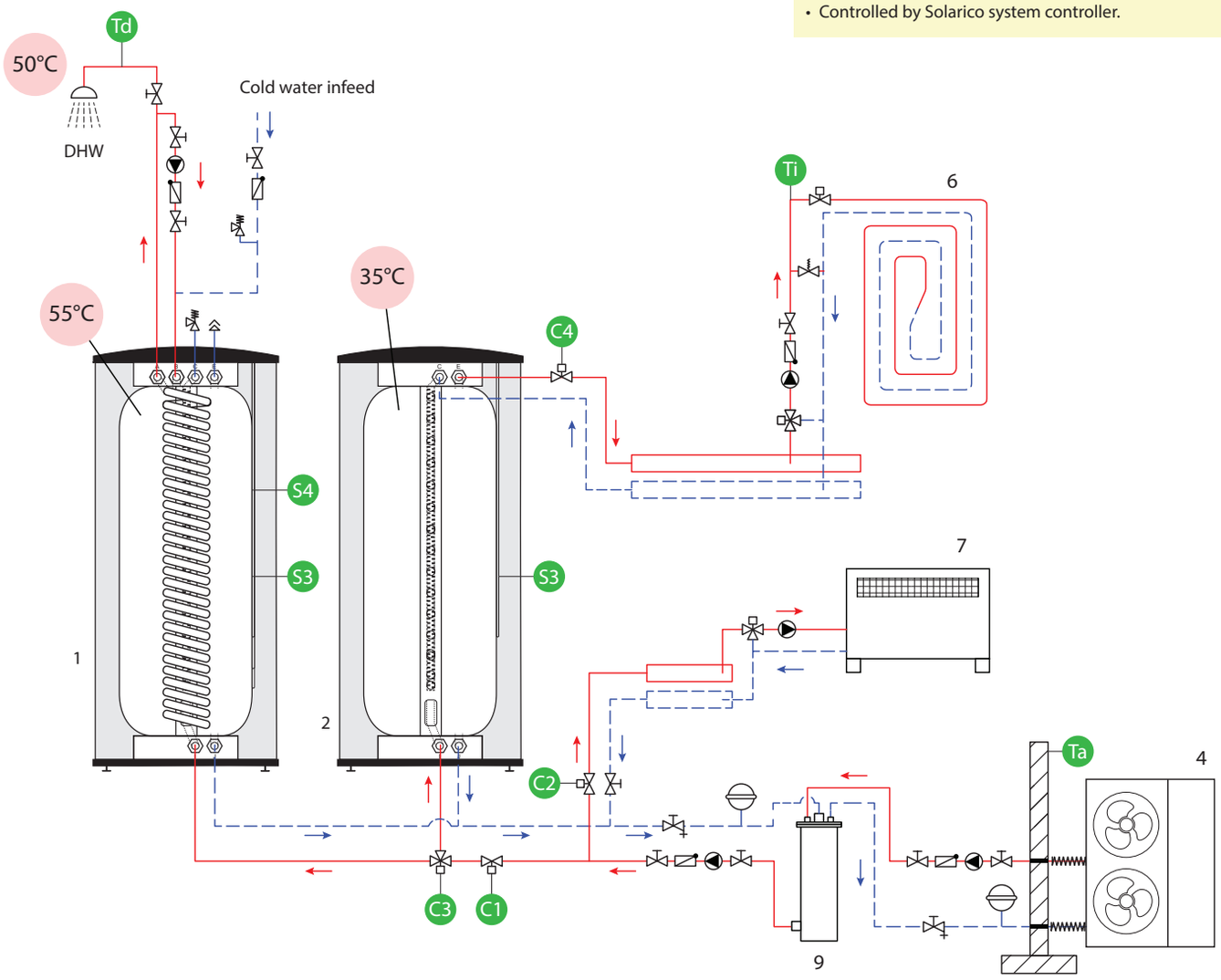
UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3		C4	C6.1	C6.2
						DHW (1)	Heating (2)			
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C	S4 > 55°C	ON	S4 < 40°C	S4 > 55°C	ON	S2 < 55°C	S2 > 55°C
			ON	OFF*		ON	ON		ON	ON
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	ON	OFF	OFF	ON	OFF
		DHW back up heating with Electric Heater	OFF		ON					
		DHW back up heating with heat pump	S4 < 40°C	S4 > 55°C	OFF					
			ON	OFF*						

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- Heating at highest COP
- Free and unlimited hygienic hot water.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.



1. UniQube HP-Ready SQ-BPW 440
2. UniQube SQ-BP 440
4. Heat pump
6. Floor heating
7. Fan coil units
9. Solarico Heat Exchanger

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Three-way valve
C4 - Heating valve
S3, S4 - Storage tank sensors

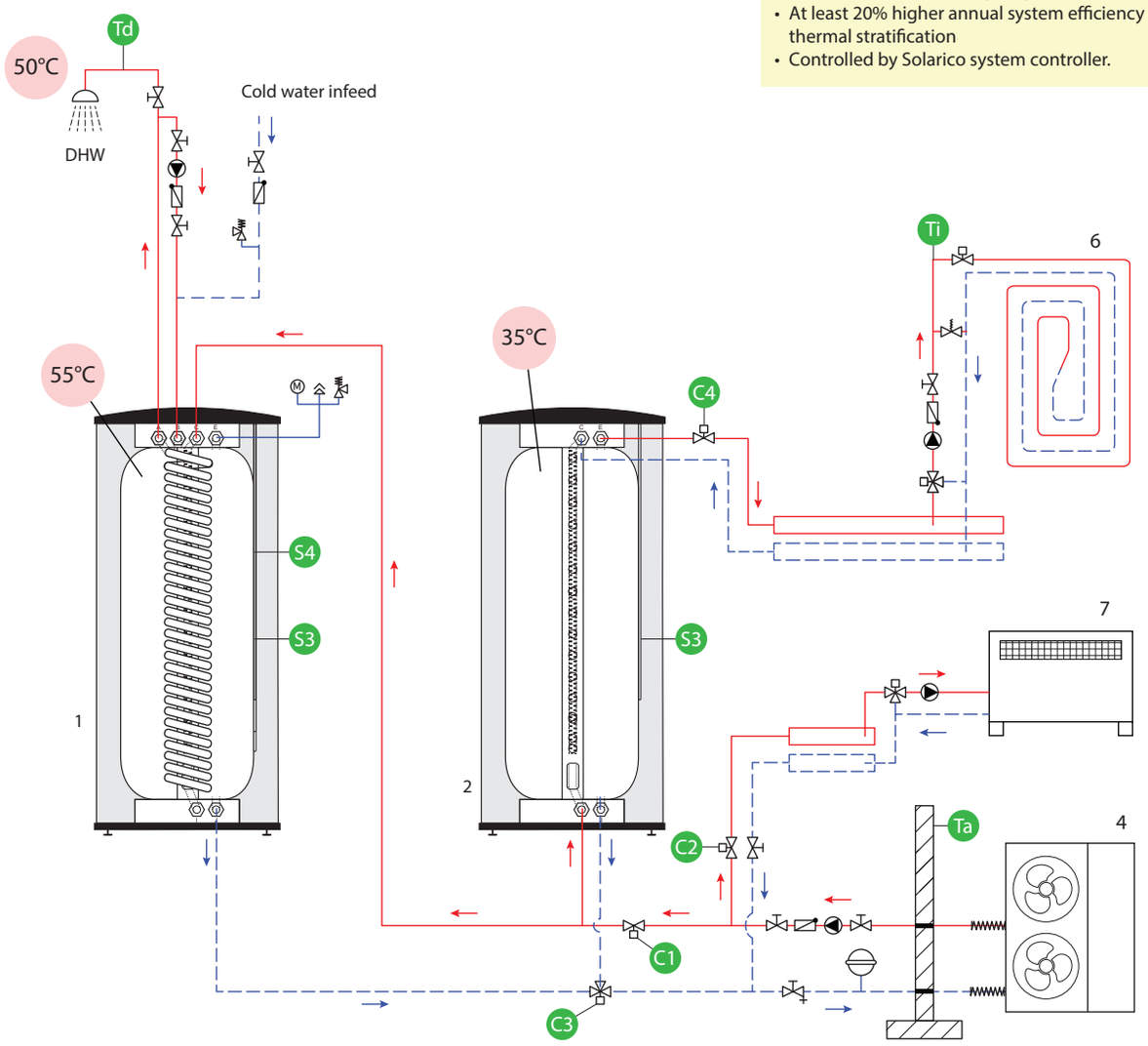
Solarico Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	
						DHW (1)	Heating (2)
	WINTER	Heat pump heating - ON	ON	ON	ON	S4 < 40°C	S4 > 55°C
						ON	ON
	SUMMER	Heat pump cooling - ON	OFF		ON	ON	OFF
		DHW back up heating with Electric Heater	OFF		ON		
		DHW back up heating with heat pump	S4 < 40°C	S4 > 55°C	OFF		
			ON	OFF			

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- Heating at highest COP
- Free and unlimited hygienic hot water.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.



1. UniQube HP-Ready SQ-BPW 440
2. UniQube SQ-BP 440
4. Heat pump
6. Floor heating
7. Fan coil units

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Three-way valve
C4 - Heating valve
S3, S4 - Storage tank sensors

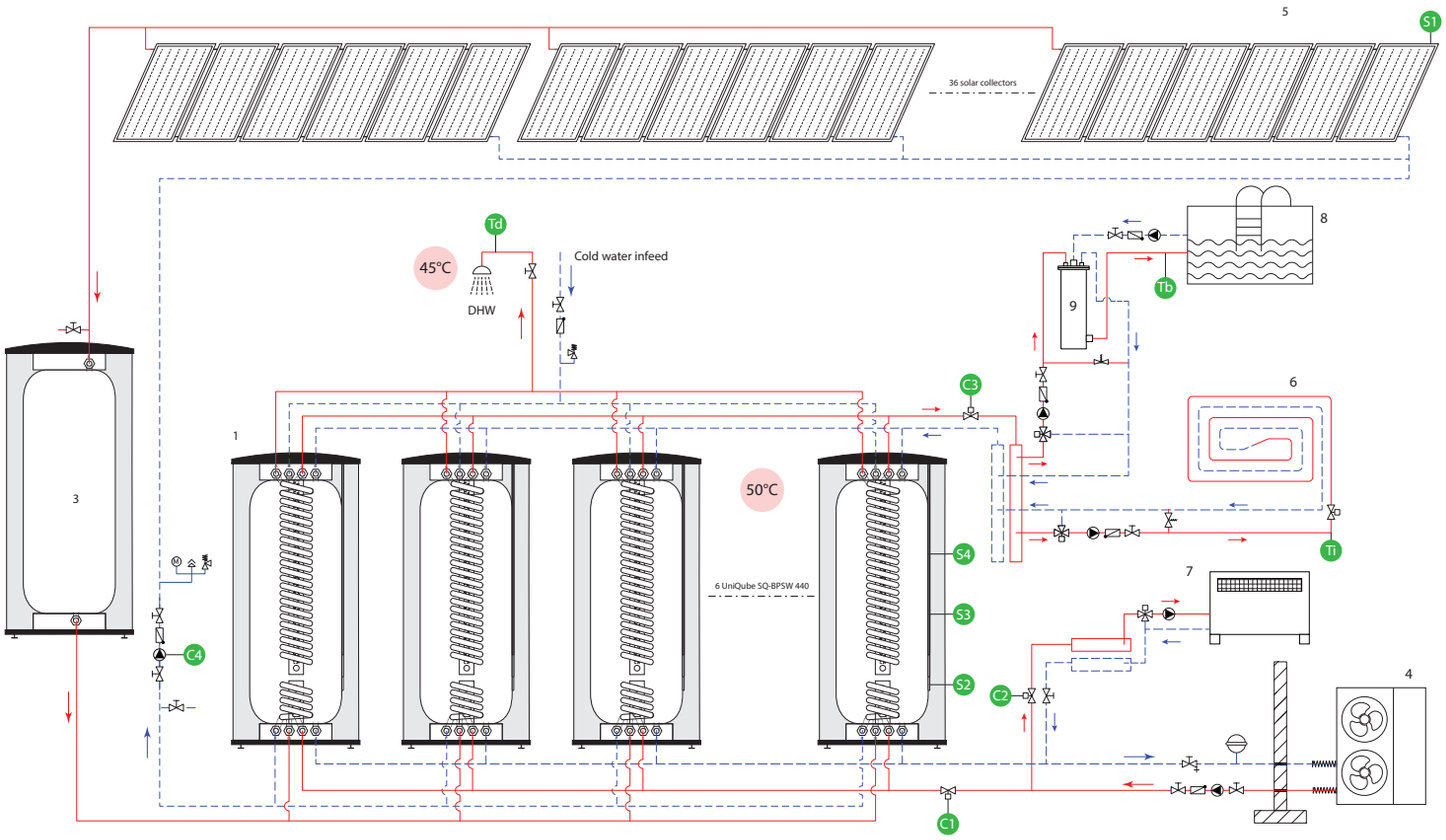
Solarico Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	
						DHW (1)	Heating (2)
	WINTER	Heat pump heating - ON	ON	ON	ON	S4 < 40°C	S4 > 55°C
						ON	ON
	SUMMER	Heat pump cooling - ON	OFF		ON	ON	OFF
		DHW back up heating with Electric Heater	OFF		ON		
		DHW back up heating with heat pump	S4 < 40°C	S4 > 55°C	OFF		
			ON	OFF			

BENEFITS

- Suitable for systems with variable heat consumtion
- 64kW solar power for the heating system, swimming pool and domestic hot water
- No overheating in summer and no freezing in winter
- Supports installation of more collectors than conventional solar systems
- Save up to 60% energy with A-class efficient UniQubes
- Comfort temperature regulation for each room
- Improving the lifetime of circulators and heat source
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.



1. UniQube 6 x SQ-BPSW 440
3. UniQube SQ-B 440
4. Heat pump
5. Solar collectors UniPlate 2.5 SB
6. Floor heating
7. Fan coil units
8. Swimming pool
9. Swimming pool heat exchanger

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve
C4 - Solar pump and valve
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico Wi-Fi Controller

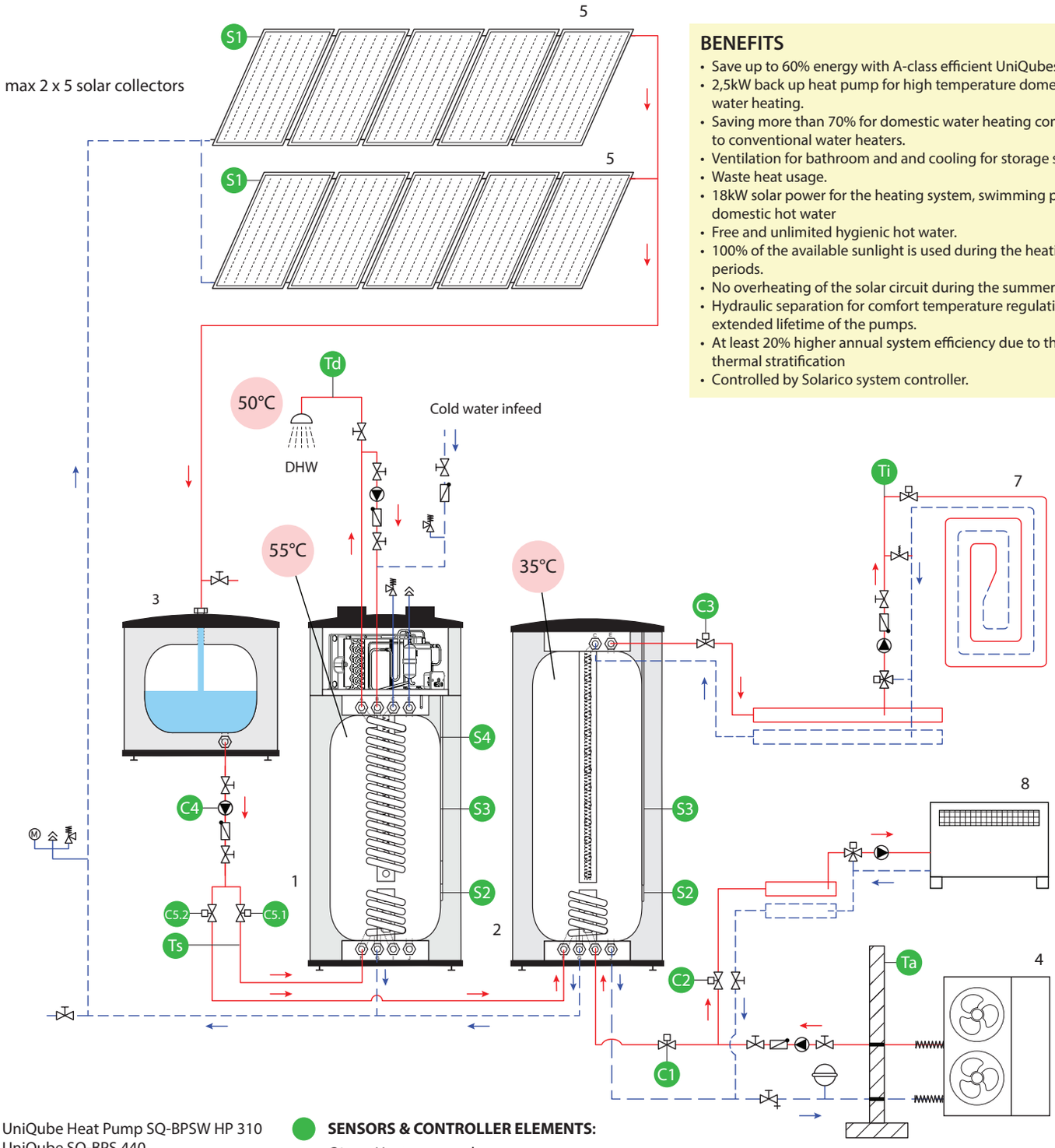
UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	C4
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C	S4 > 55°C	ON	ON	ON
			ON	OFF*			
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON
		DHW back up heating with Electric Heater	OFF		ON		
		DHW back up heating with heat pump	S4 < 40°C	S4 > 55°C	OFF		
			ON	OFF*			

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

Integration with heat pump, ventilation, solar heating for home and hot water

Scheme 10



BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- 2,5kW back up heat pump for high temperature domestic hot water heating.
- Saving more than 70% for domestic water heating compared to conventional water heaters.
- Ventilation for bathroom and and cooling for storage spaces.
- Waste heat usage.
- 18kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water.
- 100% of the available sunlight is used during the heating periods.
- No overheating of the solar circuit during the summer.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.

1. UniQube Heat Pump SQ-BPSW HP 310
2. UniQube SQ-BPS 440
3. UniQube Drain Back Reservoir DB
4. Heat pump
5. Solar collectors UniPlate 2.5 SB
7. Floor heating
8. Fan coil units

SENSORS & CONTROLLER ELEMENTS:

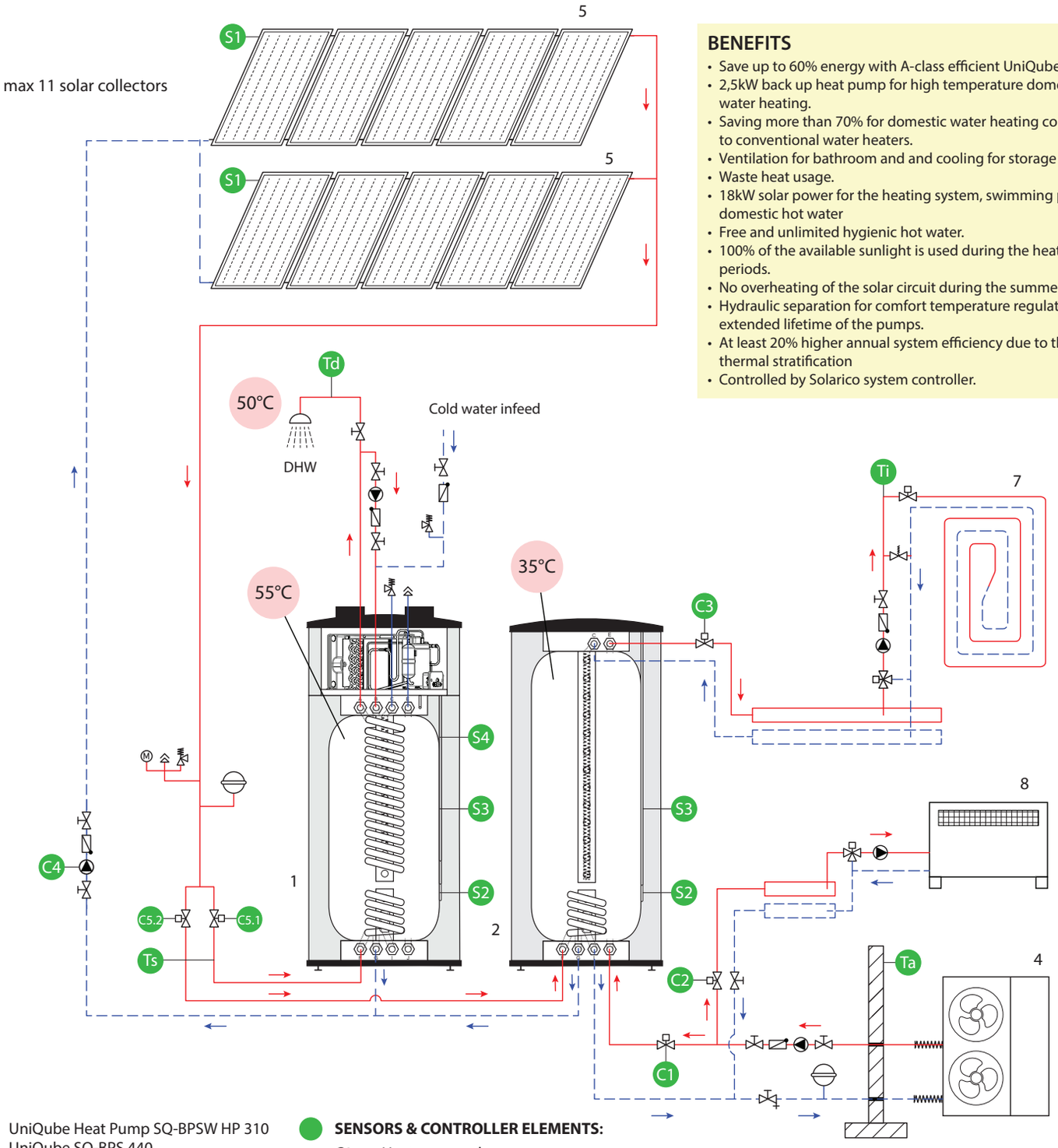
C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve
C5.1 - Solar valve 1
C5.2 - Solar valve 2
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	C5.1	C5.2
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C ON	S4 > 55°C OFF*	ON	ON	ON	ON
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON	OFF
		DHW back up heating with integrated heat pump	OFF		ON	OFF	ON	OFF

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C



BENEFITS

- Save up to 60% energy with A-class efficient UniQubes.
- 2,5kW back up heat pump for high temperature domestic hot water heating.
- Saving more than 70% for domestic water heating compared to conventional water heaters.
- Ventilation for bathroom and and cooling for storage spaces.
- Waste heat usage.
- 18kW solar power for the heating system, swimming pool and domestic hot water
- Free and unlimited hygienic hot water.
- 100% of the available sunlight is used during the heating periods.
- No overheating of the solar circuit during the summer.
- Hydraulic separation for comfort temperature regulation and extended lifetime of the pumps.
- At least 20% higher annual system efficiency due to the thermal stratification
- Controlled by Solarico system controller.

1. UniQube Heat Pump SQ-BPSW HP 310
2. UniQube SQ-BPS 440
4. Heat pump
5. Solar collectors UniPlate 2.5 SB
7. Floor heating
8. Fan coil units

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units
C3 - Heating valve
C5.1 - Solar valve 1
C5.2 - Solar valve 2
S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors

Solarico Wi-Fi Controller

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	C5.1	C5.2
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C	S4 > 55°C	ON	ON	ON	ON
			ON	OFF*				
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON	OFF
		DHW back up heating with integrated heat pump	OFF		ON	OFF	ON	OFF

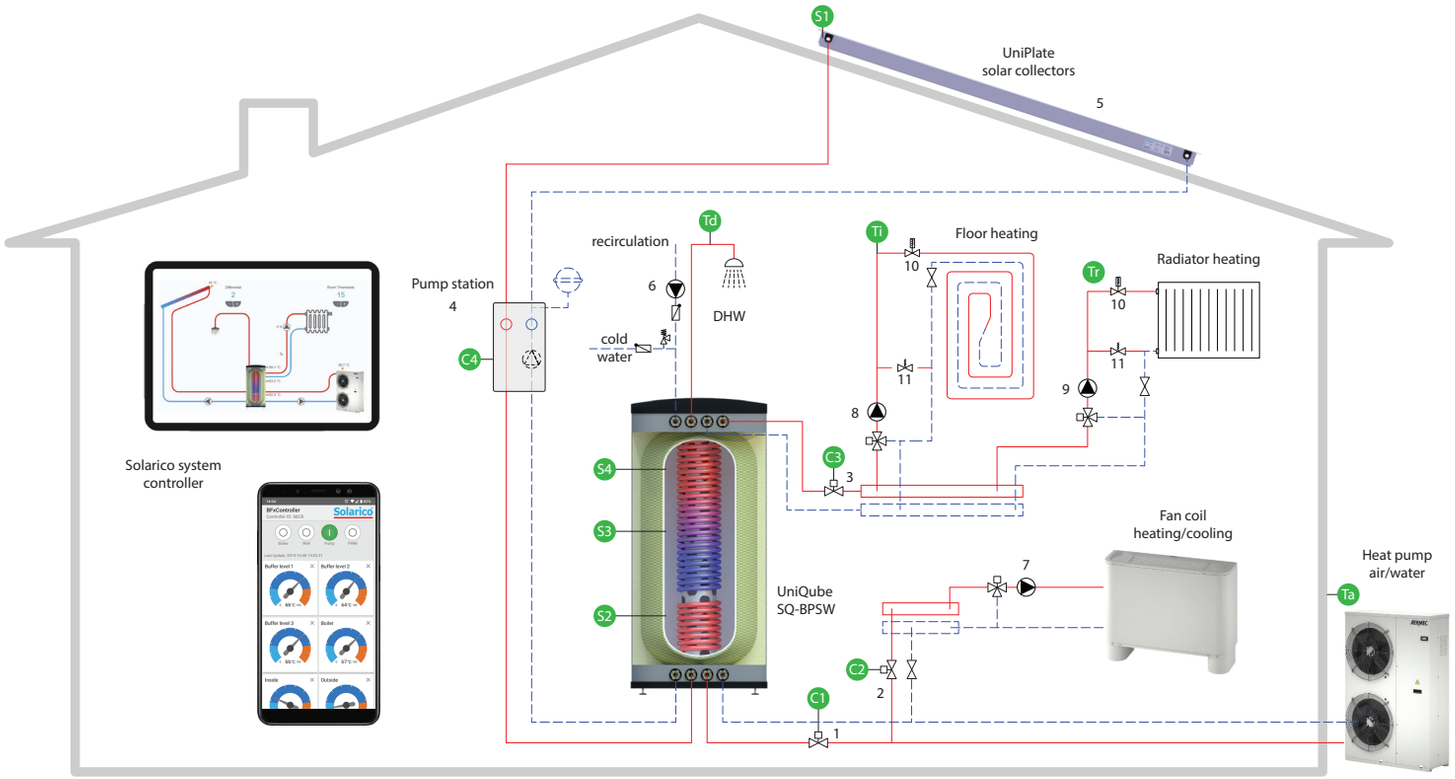
* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Heat Pump and Solar Thermal
The Outputs - Heating and Hygienic Hot Water
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes
- Free sun power for Home Heating
- Free sun power for Hygienic Hot Water
- Instant hygienic hot water
- Comfort temperature regulation for each room
- Improving the lifetime of pumps
- Improving the lifetime of heat source
- Heat storage during the cheap tariff
- Storage of the excessive sun heat
- Improved annual system efficiency by 20% and more



PRIMARY CIRCUITS
(hot/cold water sources)

1. Heat pump valve
2. Fan coil valve
3. Heating valve
4. Solar system pump station
5. Solar thermal panels

SECONDARY CIRCUITS
(hot/cold water consumers)

7. Circulation pump for fan coils
8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve
C4 - Solar system station

S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors
Ta - External temperature sensor
Td - DHW sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	C4
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C ON	S4 > 55°C OFF*	ON	ON	ON
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON
		DHW back up heating with Electric Heater	OFF		ON		
		DHW back up heating with heat pump	S4 < 40°C ON	S4 > 55°C OFF*	OFF		

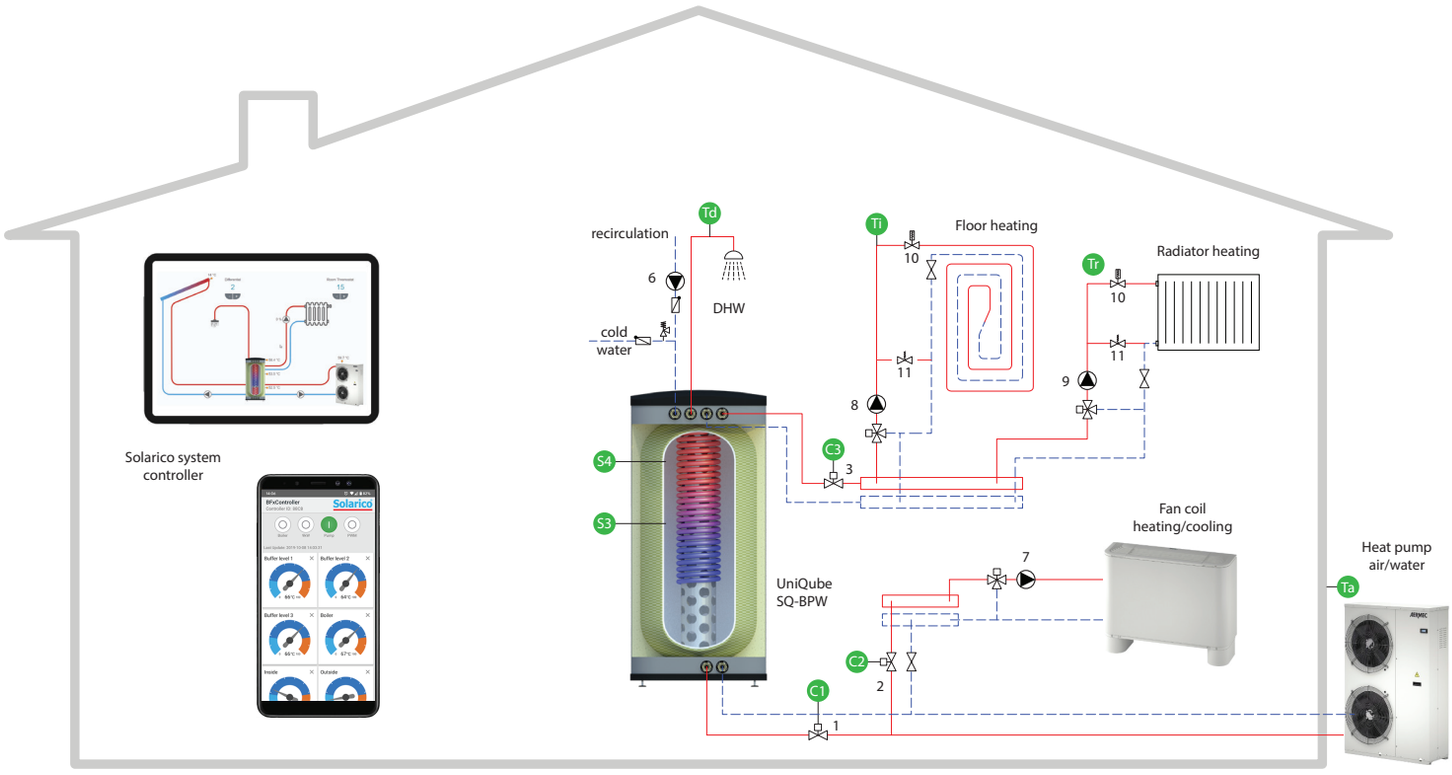
* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Heat Pump
The Outputs - Heating and Hygienic Hot Water
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes
- Instant hygienic hot water
- Comfort temperature regulation for each room
- Improving the lifetime of pumps
- Improving the lifetime of heat source
- Heat storage during the cheap tariff
- Improved annual system efficiency by 20% and more
- No need to invest in renewable solar heat system



PRIMARY CIRCUITS
(hot/cold water sources)

1. Heat pump valve
2. Fan coil valve
3. Heating valve

SECONDARY CIRCUITS
(hot/cold water consumers)

7. Circulation pump for fan coils
8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve

S3, S4 - Storage tank sensors
Ta - External temperature sensor
Td - DHW sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3
	WINTER	Heat pump heating - ON	S4 < 40°C	S4 > 55°C	ON	ON
			ON	OFF*		
	SUMMER	Heat pump cooling - ON	OFF		ON	OFF
		DHW back up heating with Electric Heater	OFF		ON	
		DHW back up heating with heat pump	S4 < 40°C	S4 > 55°C	OFF	
			ON	OFF*		

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Heat Pump and Solar Thermal
The Outputs - Heating
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes
- Free sun power for Home Heating
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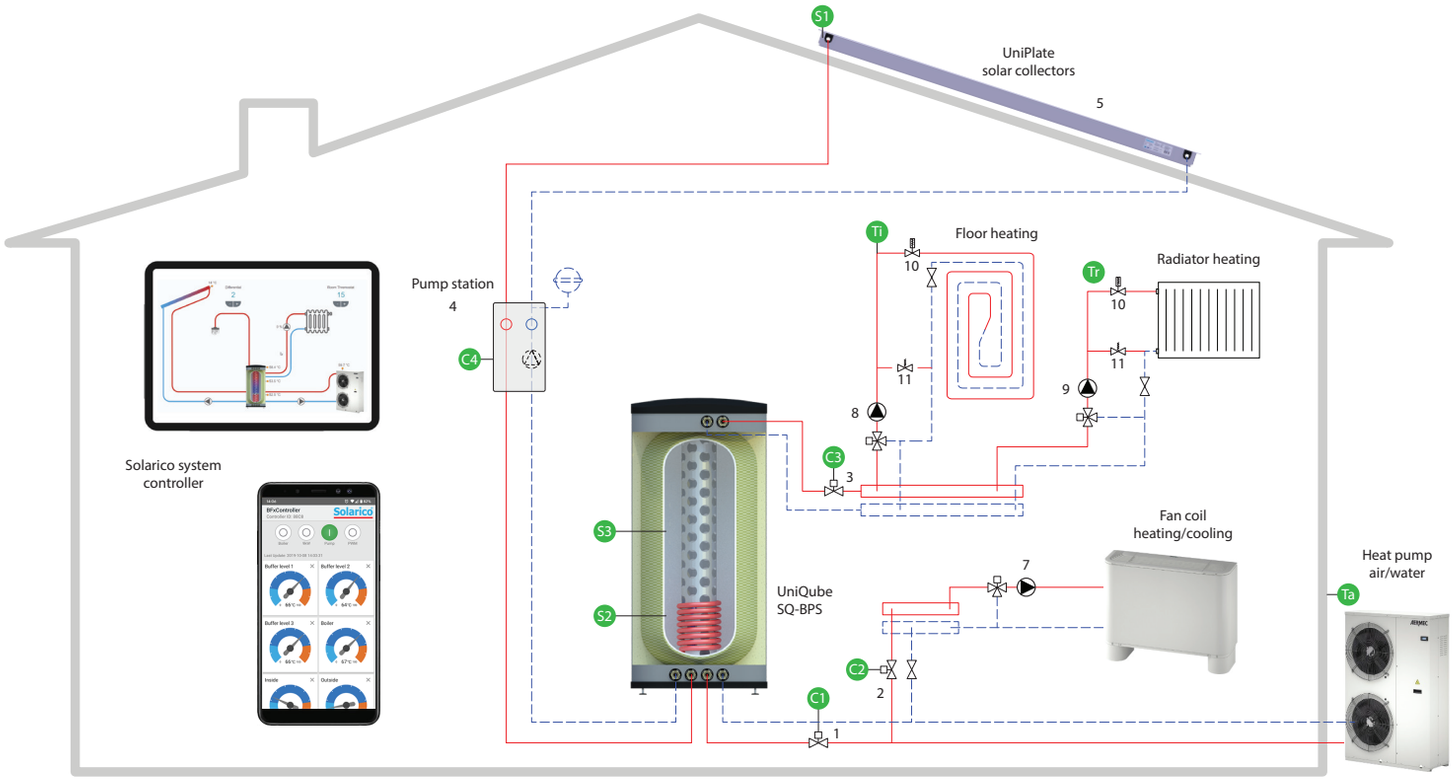
- Improving the lifetime of pumps
- Improving the lifetime of heat source
- Heat storage during the cheap tariff
- Storage of the excessive sun heat
- Improved annual system efficiency by 20% and more



PRIMARY CIRCUITS
(hot/cold water sources)

1. Heat pump valve
2. Fan coil valve
3. Heating valve
4. Solar system pump station
5. Solar thermal panels

SECONDARY CIRCUITS
(hot/cold water consumers)

7. Circulation pump for fan coils
8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve
C4 - Solar system station

S1 - Solar panels sensor
S2, S3 - Storage tank sensors
Ta - External temperature sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1	C2	C3	C4
	WINTER	Heat pump heating - ON Solar heating - ON	ON	ON	ON	ON
	SUMMER	Heat pump cooling - ON Solar heating - OFF	OFF	ON	OFF	OFF

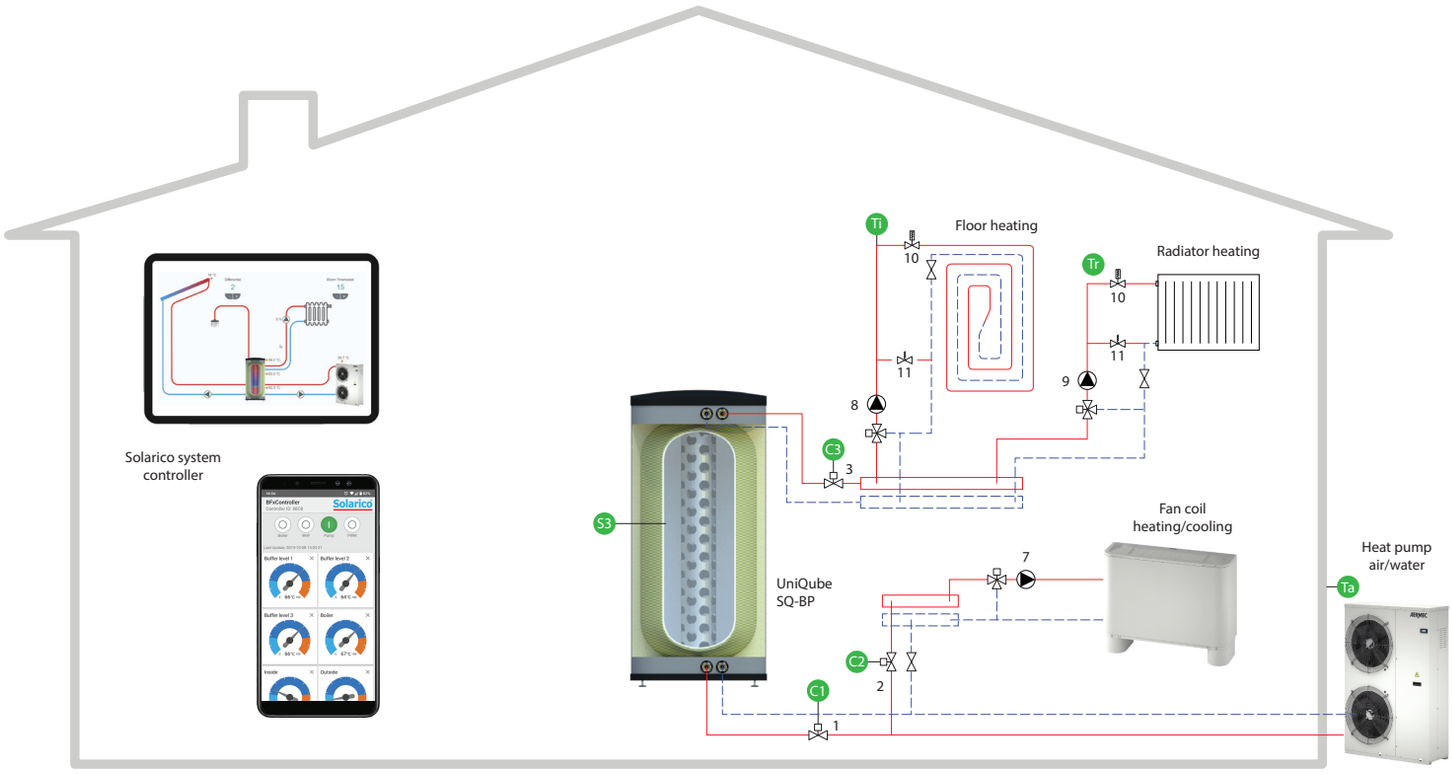
* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Heat Pump
The Outputs - Heating
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes
- Comfort temperature regulation for each room
- Improving the lifetime of pumps
- Improving the lifetime of heat source
- Heat storage during the cheap tariff
- Improved annual system efficiency by 20% and more
- No need to invest in renewable solar heat system



PRIMARY CIRCUITS
(hot/cold water sources)

1. Heat pump valve
2. Fan coil valve
3. Heating valve

SECONDARY CIRCUITS
(hot/cold water consumers)

7. Circulation pump for fan coils
8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve

S3 - Storage tank sensors
Ta - External temperature sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

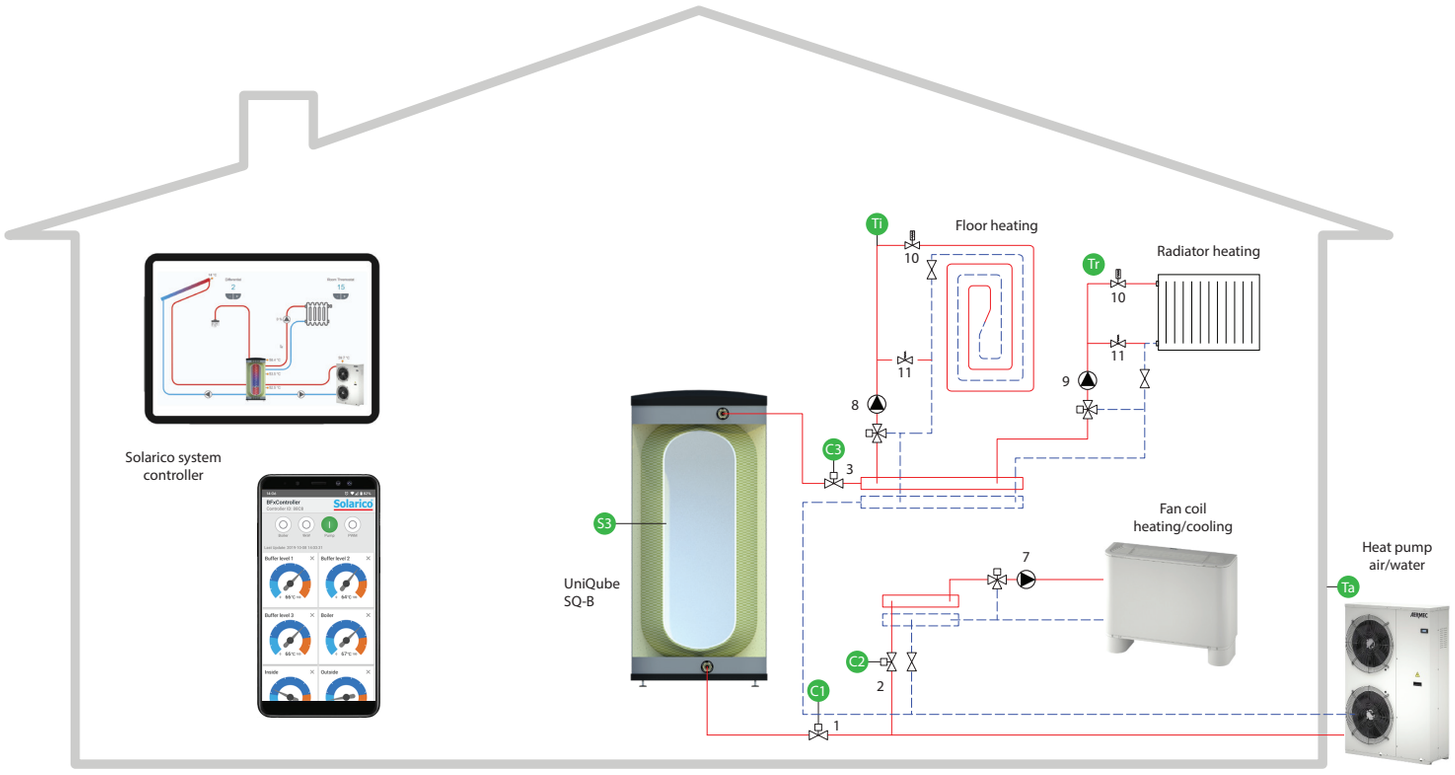
			C1	C2	C3
	WINTER	Heat pump heating - ON	ON	ON	ON
	SUMMER	Heat pump cooling - ON	OFF	ON	OFF

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Heat Pump
The Outputs - Heating
Inside -

BENEFITS

- Save up to 60% energy with A-class efficient UniQubes
- Improving the lifetime of heat source
- Heat storage during the cheap tariff
- No need to invest in renewable solar heat system
- Simple installation



PRIMARY CIRCUITS
(hot/cold water sources)

1. Heat pump valve
2. Fan coil valve
3. Heating valve

SECONDARY CIRCUITS
(hot/cold water consumers)

7. Circulation pump for fan coils
8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve

S3 - Storage tank sensors
Ta - External temperature sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

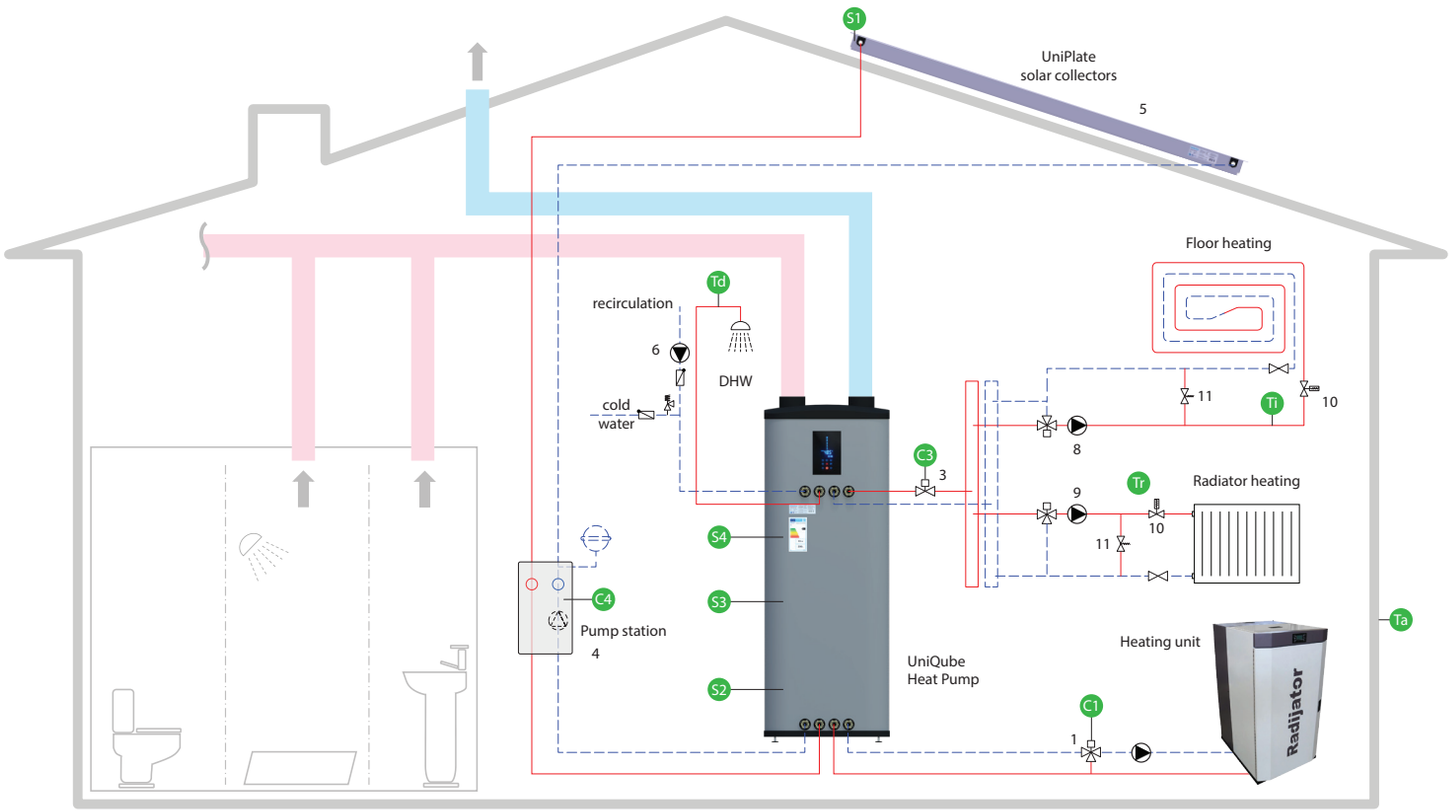
			C1	C2	C3
	WINTER	Heat pump heating - ON	ON	ON	ON
	SUMMER	Heat pump cooling - ON	OFF	ON	OFF

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Integrated Heat Pump and Solar Thermal
The Outputs - Heating and Hygienic Hot Water
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Integrated heat pump instead of conventional electric heater at the top of the tank
- Saves more than 70% for domestic water heating compared to conventional water heaters
- Stores heat during the cheap tariff, and use it on demand
- Uses the waste heat of your home back into the heating system
- Uses the ambient heat
- Operates at external air temperatures of -10 °C.
- Ventilates bathrooms and/or cools storage rooms
- Safe water heating - No electrical heater in direct contact with water



PRIMARY CIRCUITS

1. Boiler valve
3. Heating valve
4. Solar system pump station
5. Solar thermal panels

SECONDARY CIRCUITS

8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Boiler valve
C3 - Heating valve
C4 - Solar system station

S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors
Ta - External temperature sensor
Td - DHW sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C3	C4
	WINTER	Boiler heating - ON Solar heating - ON	S4 < 40°C ON	S4 > 55°C OFF*	ON	ON
	SUMMER	Solar heating - ON	OFF		OFF	ON
		DHW back up heating with Electric Heater	OFF			
		DHW back up heating with heat pump	S4 < 40°C ON	S4 > 55°C OFF*		

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Integrated Heat Pump
The Outputs - Heating and Hygienic Hot Water
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Integrated heat pump instead of conventional electric heater at the top of the tank
- Saves more than 70% for domestic water heating compared to conventional water heaters
- Stores heat during the cheap tariff, and use it on demand
- Uses the waste heat of your home back into the heating system
- Uses the ambient heat
- Operates at external air temperatures of -10 °C.
- Ventilates bathrooms and/or cools storage rooms
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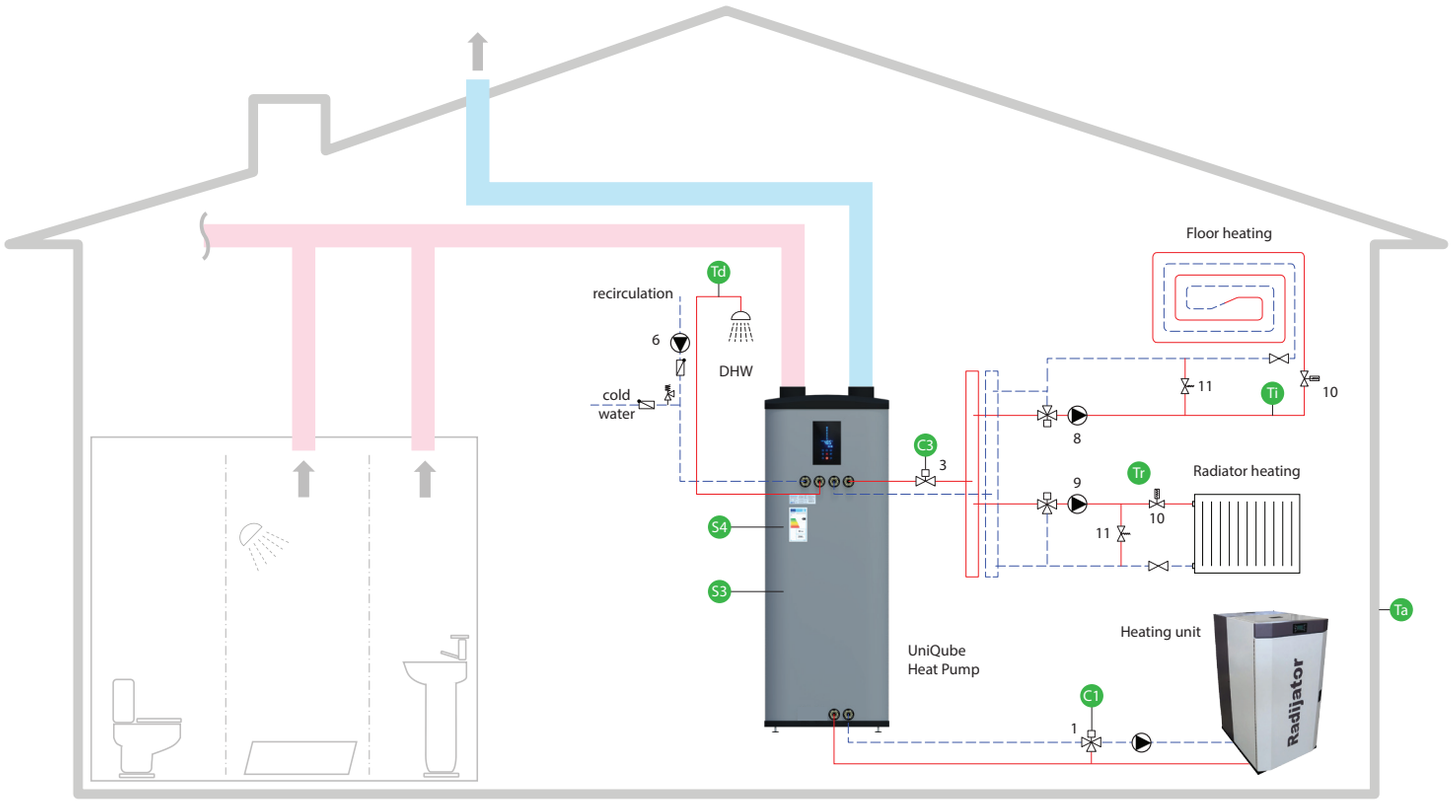

PRIMARY CIRCUITS

1. Boiler valve
3. Heating valve

SECONDARY CIRCUITS

8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Boiler valve
C3 - Heating valve
S3, S4 - Storage tank sensors
Ta - External temperature sensor
Td - DHW sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C3
	WINTER	Boiler heating - ON	S4 < 40°C	S4 > 55°C	ON
			ON	OFF*	
	SUMMER	DHW back up heating with Electric Heater	OFF		OFF
		DHW back up heating with heat pump	S4 < 40°C	S4 > 55°C	
			ON	OFF*	

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Integrated Heat Pump and Solar Thermal
The Outputs - Heating
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Integrated heat pump instead of conventional electric heater at the top of the tank
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- Operates at external air temperatures of -10 °C.
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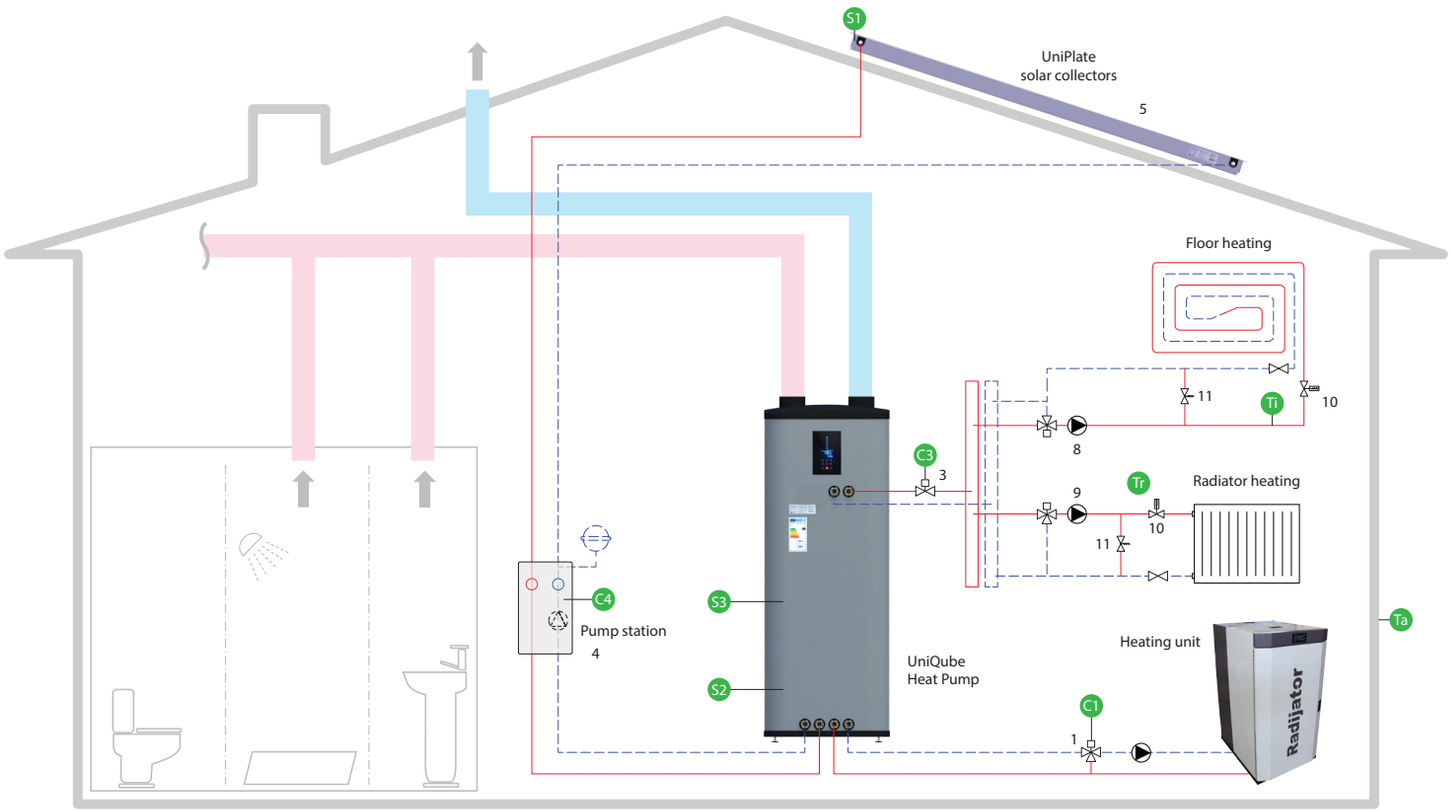
- Save up to 60% energy with A-class efficient UniQubes



PRIMARY CIRCUITS

1. Boiler valve
3. Heating valve
4. Solar system pump station
5. Solar thermal panels

SECONDARY CIRCUITS

8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Boiler valve
C3 - Heating valve
C4 - Solar system station

S1 - Solar panels sensor
S2, S3 - Storage tank sensors
Ta - External temperature sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C3	C4
	WINTER	Boiler heating - ON Solar heating - ON	S4 < 40°C	S4 > 55°C	ON	ON
			ON	OFF*		

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Integrated Heat Pump
The Outputs - Heating
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Integrated heat pump instead of conventional electric heater at the top of the tank
- Stores heat during the cheap tariff, and use it on demand
- Uses the waste heat of your home back into the heating system
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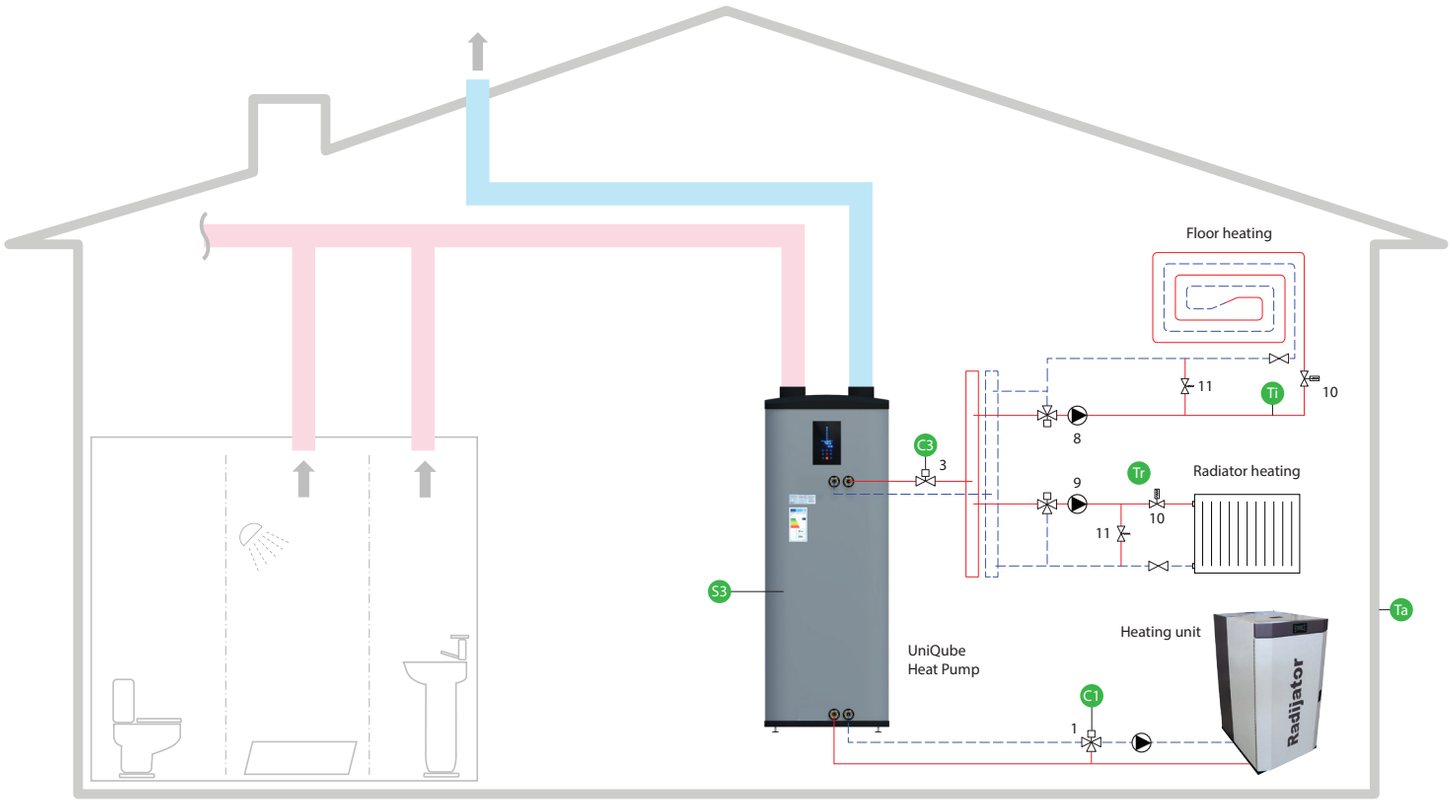

PRIMARY CIRCUITS

1. Boiler valve
3. Heating valve

SECONDARY CIRCUITS

8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Boiler valve
C3 - Heating valve
S3 - Storage tank sensors
Ta - External temperature sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C3
	WINTER	Boiler heating - ON	S4 < 40°C	S4 > 55°C	ON
			ON	OFF*	

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Integrated Heat Pump
The Outputs - Heating
Inside -

BENEFITS

- Integrated heat pump instead of conventional electric heater at the top of the tank
- Stores heat during the cheap tariff, and use it on demand
- Uses the waste heat of your home back into the heating system
- Uses the ambient heat
- Operates at external air temperatures of -10 °C.
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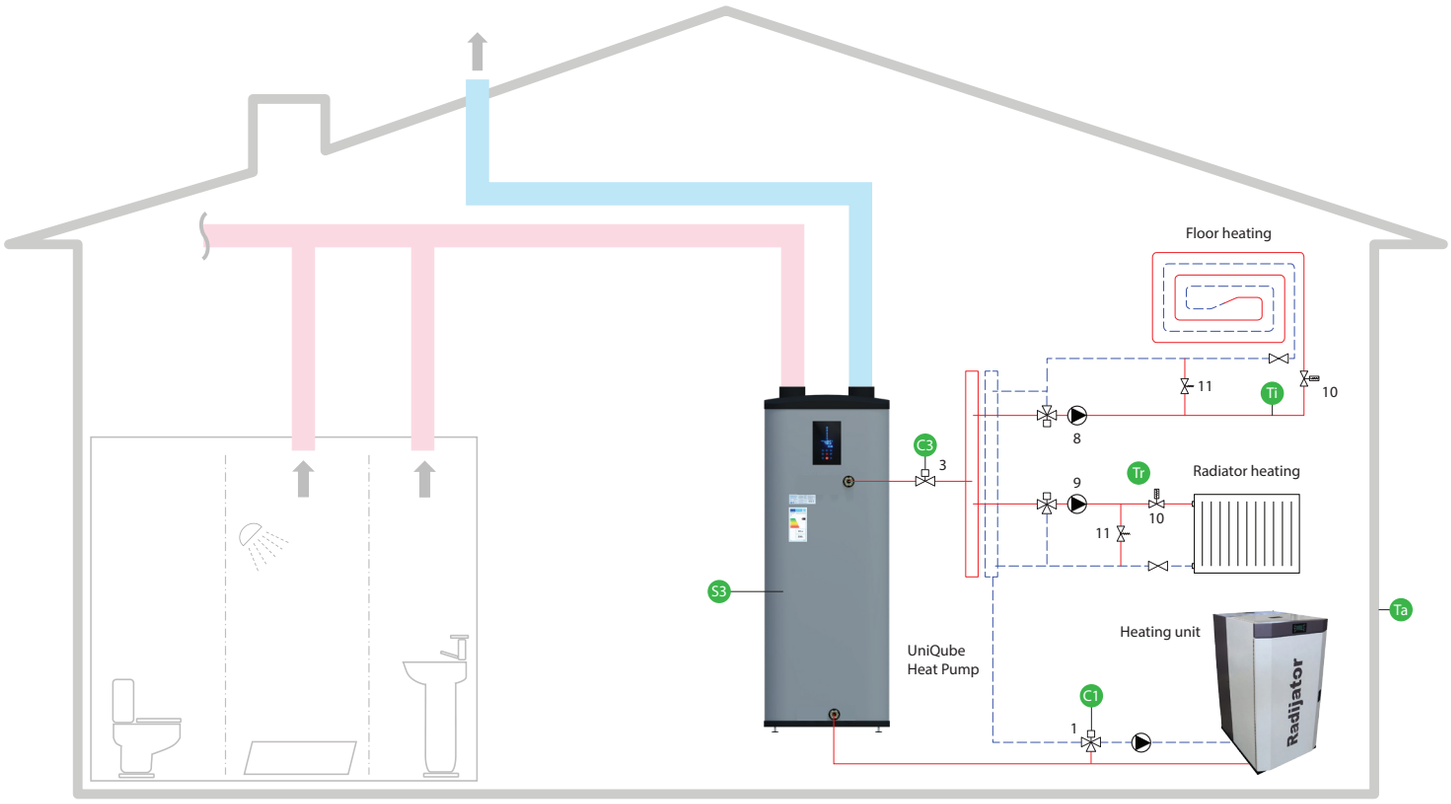


PRIMARY CIRCUITS

1. Boiler valve
3. Heating valve

SECONDARY CIRCUITS

8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Boiler valve
C3 - Heating valve
S3 - Storage tank sensors
Ta - External temperature sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C3
	WINTER	Boiler heating - ON	S4 < 40°C	S4 > 55°C	ON
			ON	OFF*	

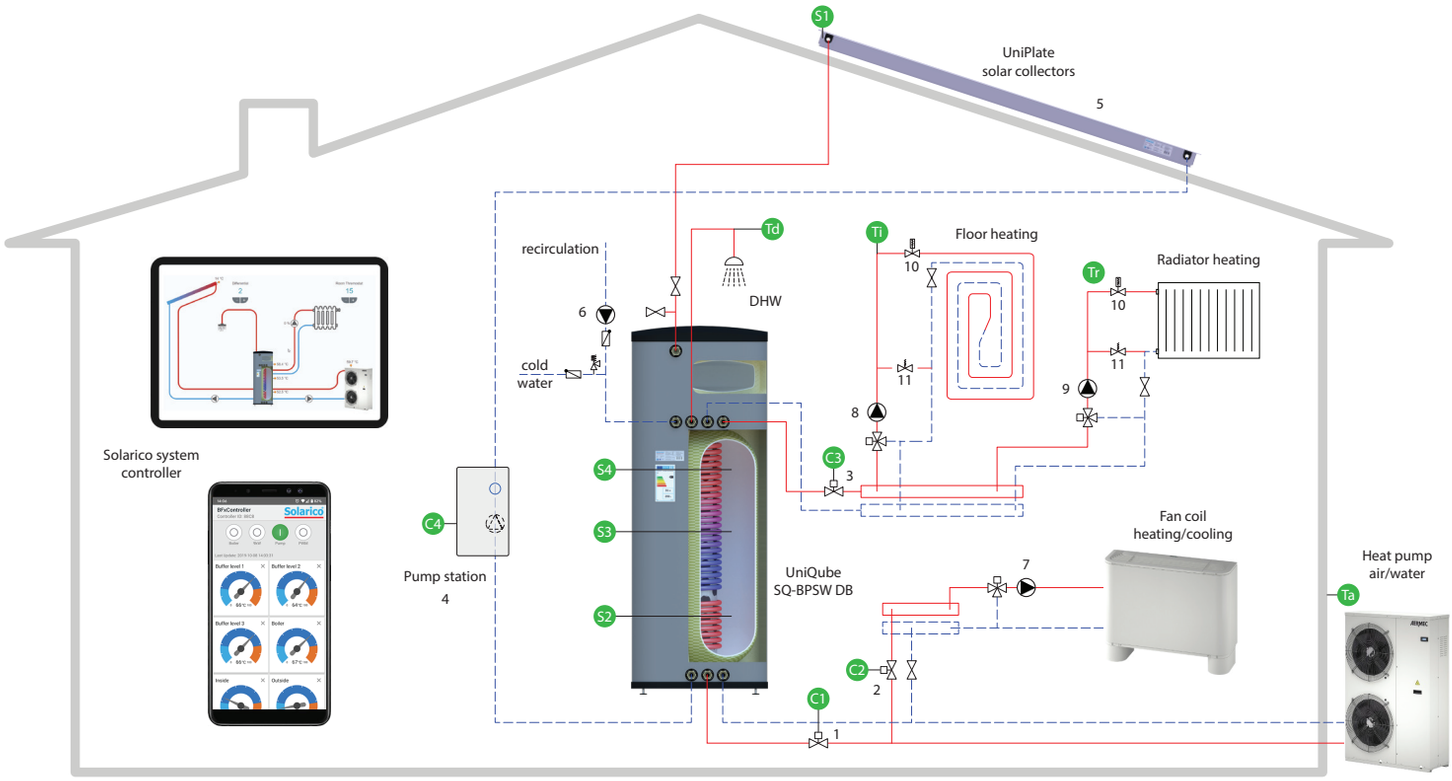
* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

The Inputs - Heat Pump and Solar Thermal
The Outputs - Heating and Hygienic Hot Water
Inside - Thermal Stratification and Hydraulic Separation

BENEFITS

- Suitable for systems with irregular hot water consumtion like hospitality industry
- No overheating in summer and no freezing in winter
- Supports installation of more collectors than conventional solar systems
- Real free solar heating for your home
- Save up to 60% energy with A-class efficient UniQubes
- Free sun power for Hygienic Hot Water
- Instant hygienic hot water
- Comfort temperature regulation for each room
- Improving the lifetime of pumps
- Improving the lifetime of heat source
- Heat storage during the cheap tariff
- Storage of the excessive sun heat
- Improved annual system efficiency by 20% and more



PRIMARY CIRCUITS
(hot/cold water sources)

1. Heat pump valve
2. Fan coil valve
3. Heating valve
4. Solar system pump station
5. Solar thermal panels

SECONDARY CIRCUITS
(hot/cold water consumers)

7. Circulation pump for fan coils
8. Circulation pump for floor heating
9. Circulation pump for radiator heating
10. Individual room control/thermostat valve
11. Differential pressure / bypass valve

SENSORS & CONTROLLER ELEMENTS:

C1 - Heat pump valve
C2 - Fan coil units valve
C3 - Heating valve
C4 - Solar system station

S1 - Solar panels sensor
S2, S3, S4 - Storage tank sensors
Ta - External temperature sensor
Td - DHW sensor
Ti - Floor temperature limiter
Tr - Individual room control

UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	C4
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C ON	S4 > 55°C OFF*	ON	ON	ON
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON
		DHW back up heating with Electric Heater	OFF		ON		
		DHW back up heating with heat pump	S4 < 40°C ON	S4 > 55°C OFF*	OFF		

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

GET MORE THAN A-CLASS EFFICIENCY

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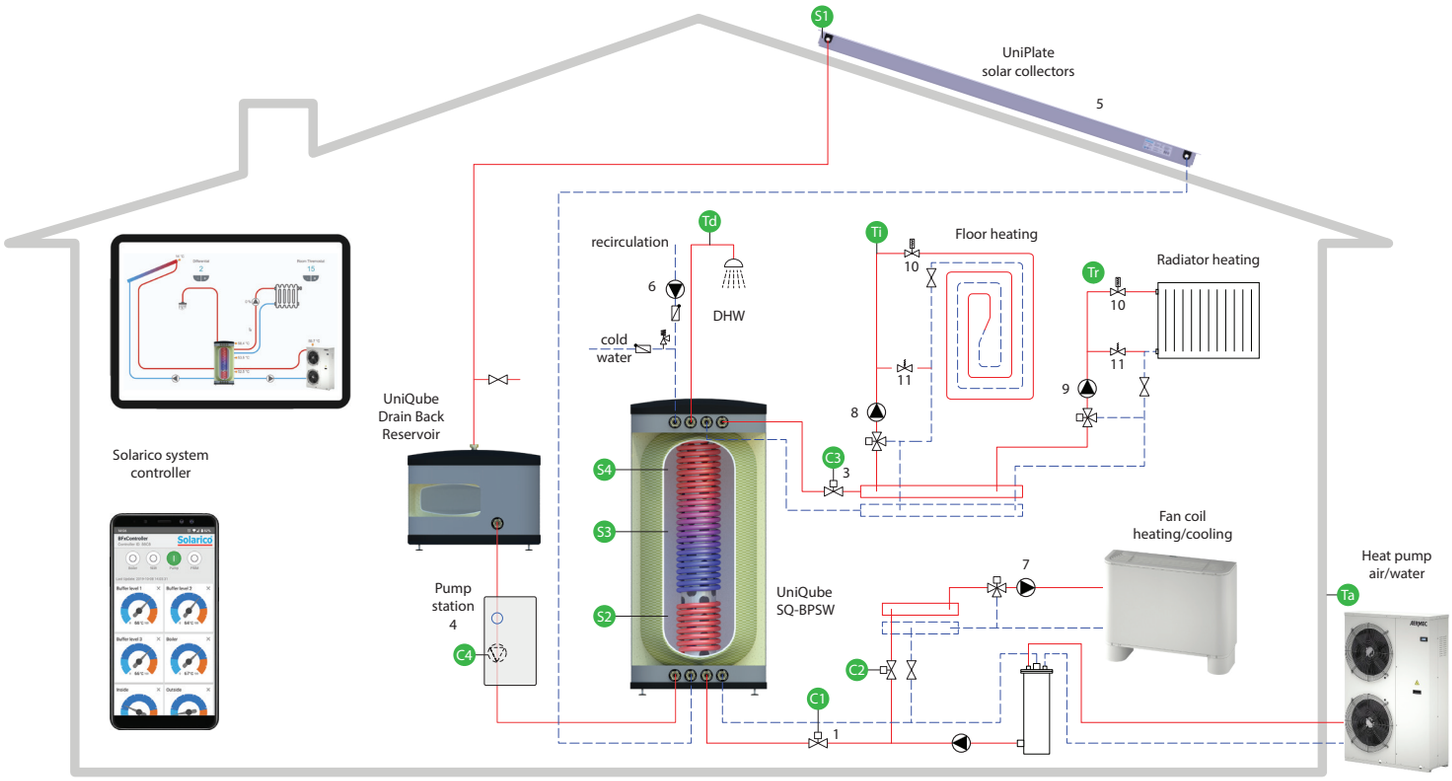

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UNIQUBE & PRIMARY CIRCUIT CONTROL

			C1		C2	C3	C4
	WINTER	Heat pump heating - ON Solar heating - ON	S4 < 40°C ON	S4 > 55°C OFF*	ON	ON	ON
	SUMMER	Heat pump cooling - ON Solar heating - ON	OFF		ON	OFF	ON
		DHW back up heating with Electric Heater	OFF		ON		
		DHW back up heating with heat pump	S4 < 40°C ON	S4 > 55°C OFF*	OFF		

* Heat Pump high pressure protection if Solar DHW heating is set above 55°C

Solarico®

UniQube
Heart of your energy systems

SUPPORTED BY
FUND FOR INNOVATION AND
TECHNOLOGY DEVELOPMENT
OF NORTH MACEDONIA

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Euroterm d.o.o.
Lece Koteski 50
Industrial area Biljana,
7500 Prilep, R. N. Macedonia

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