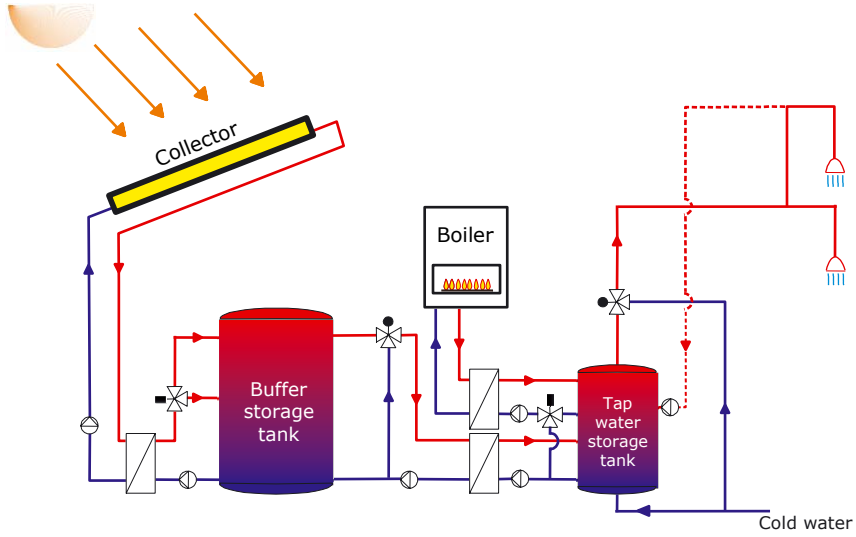
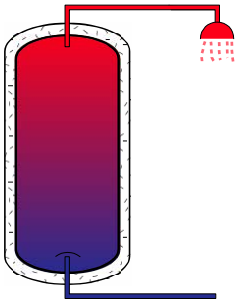
Large solar thermal systems – typical components



Storage tank types: differences and fields of application

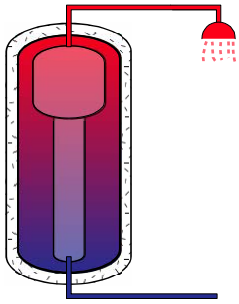
Tap water storage tank



Small systems

- easy installation
- limited water hygiene

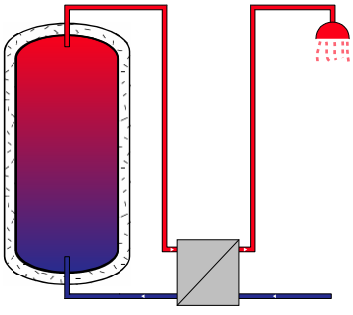
Combination storage tank



Medium systems

- easy installation
- good water hygiene
- low pressure
- corrosion protection in outer storage

Buffer storage tank



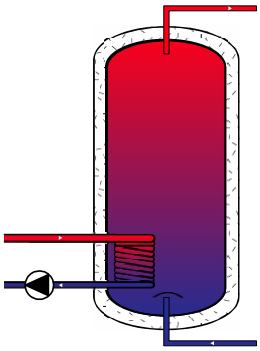
Large systems

- more complex installation
- good water hygiene
- low pressure
- corrosion protection

Basics: interior and exterior heat exchangers

SOLARGE

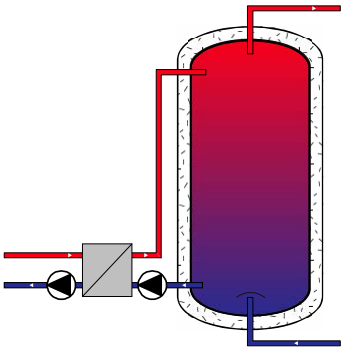
Interior (small systems)



- easy installation
- few losses

- limited surface
- no layer

Exterior (large systems)



- unlimited surface
- good layer

- more complex installation
- two pumps necessary
- careful dimensioning necessary

Tap water connection: storage tank loading and fresh water system

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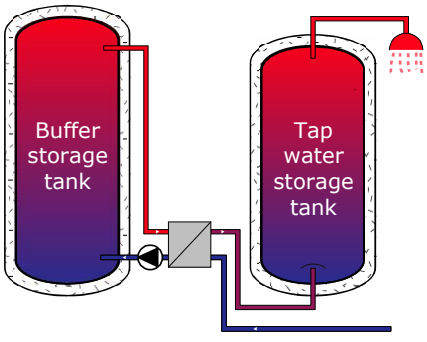
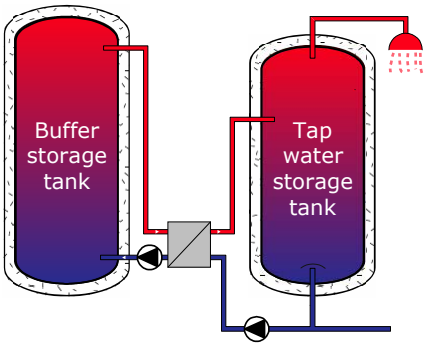
Fresh water system
Pbackup heating system



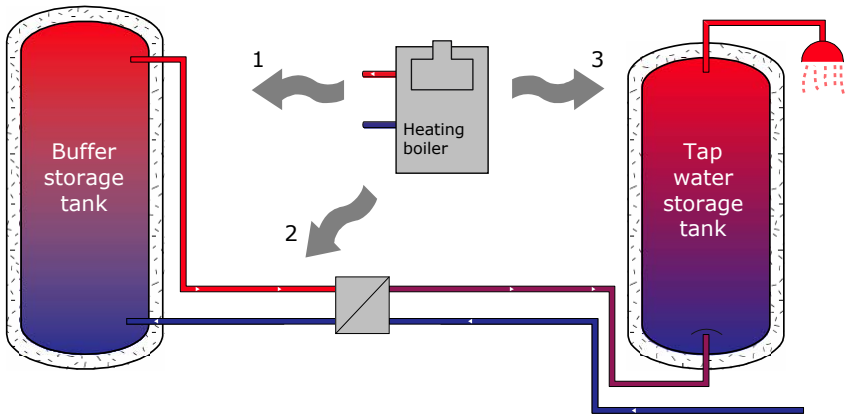
- The tap water is heated according to the flow through principle before entering the domestic water storage tank
- A heat transfer is only taking place, when water is tapped.

Storage tank loading system
Loading storage tank system



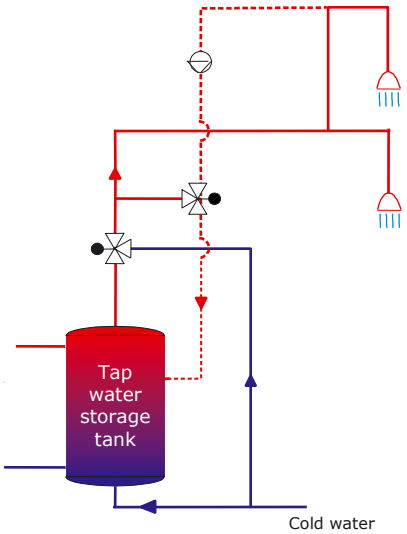
- The tap water storage tank is heated by the buffer storage tank through a heat exchanger.

Backup heating alternatives



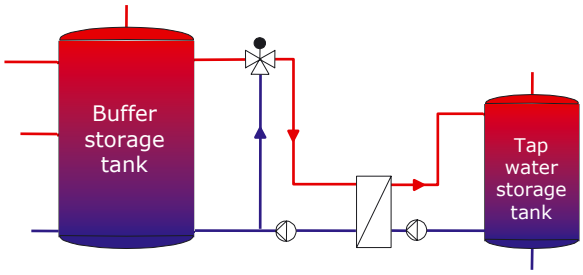
1 Backup heating into the buffer storage tank
2 Backup heating at the heat exchanger
3 Backup heating into the hot tap water storage tank

Integration of circulation

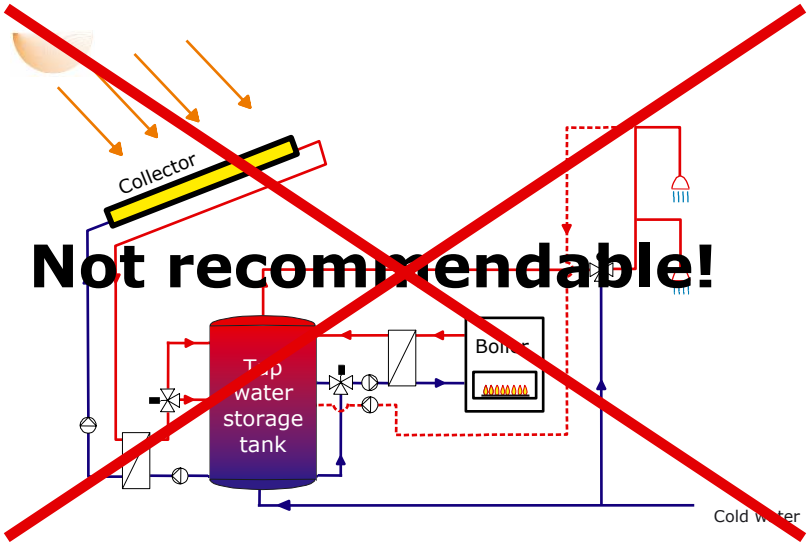


- undertake measures to reduce the losses
- determine losses as precisely as possible
- integration into the solar system

Temperature limitation

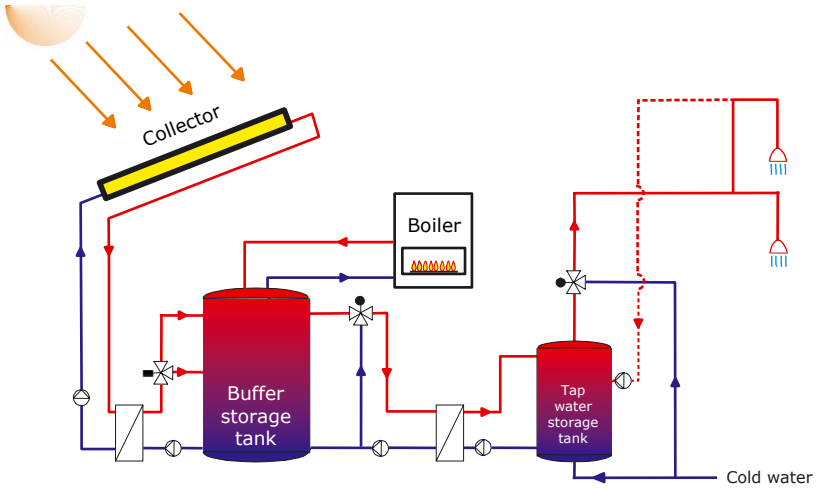


„Large small system" with hot tap water heating



Buffer storage tank and storage tank loading system

with backup heating into the buffer storage tank



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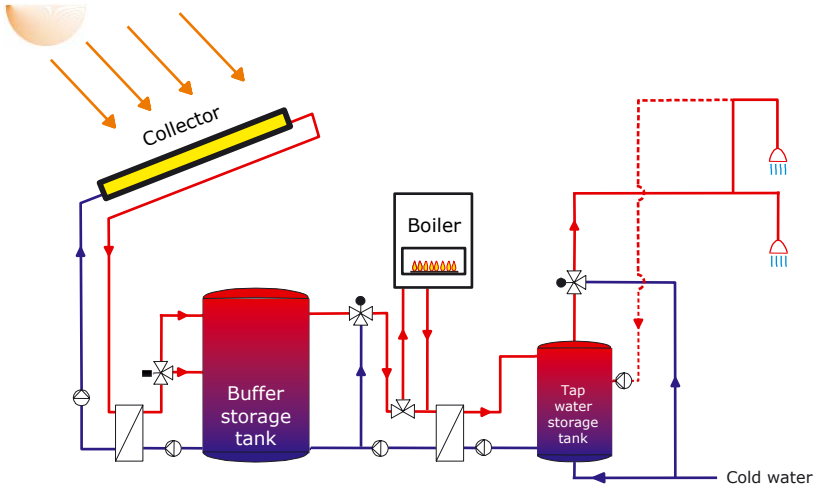
Buffer storage tank and storage tank loading system

with backup heating in the discharge circuit



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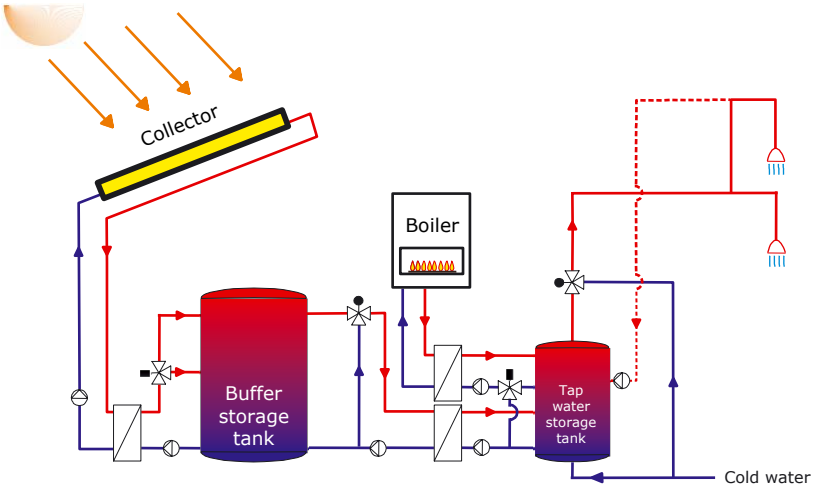
Buffer storage tank and storage tank loading system

with backup heating of the tap water standby storage tank



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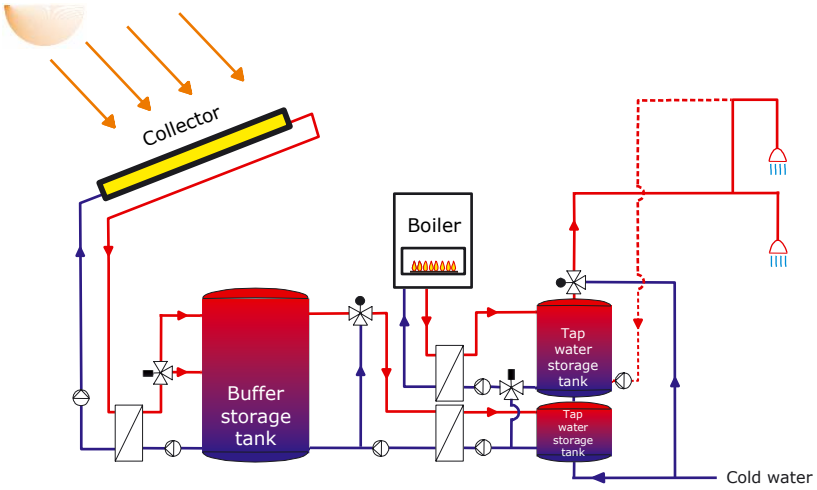
Buffer storage tank and storage tank loading system

with separate pre heating storage tank
and additional backup heating of the tap water standby storage tank



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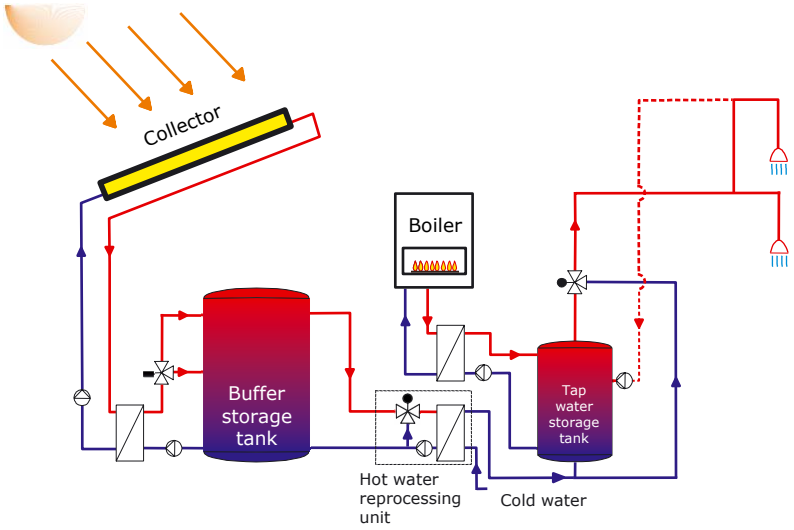
Buffer storage tank with fresh water system

and backup heating of the tap water standby storage tank



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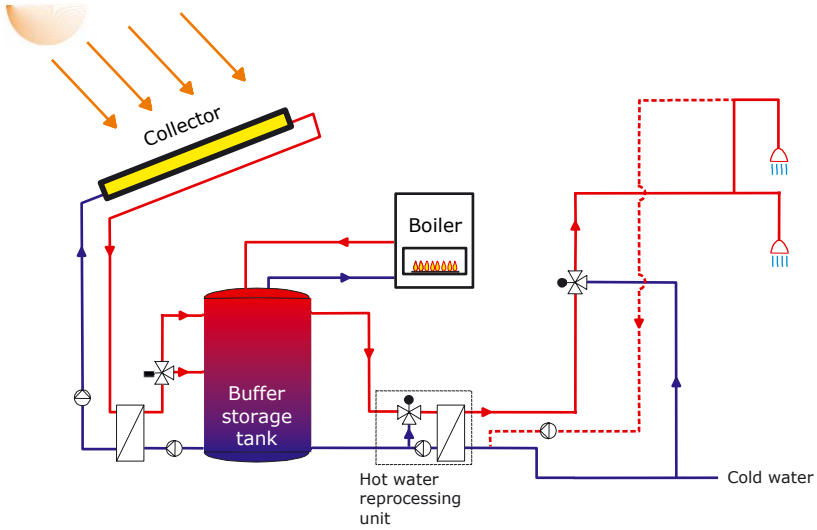
Buffer storage tank without tap water storage tank

and backup heating of the buffer storage tank



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System with heating support:

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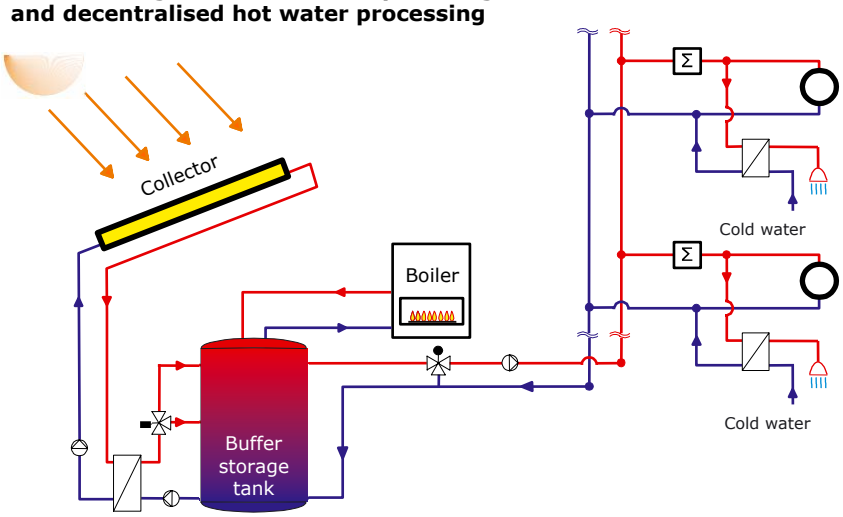
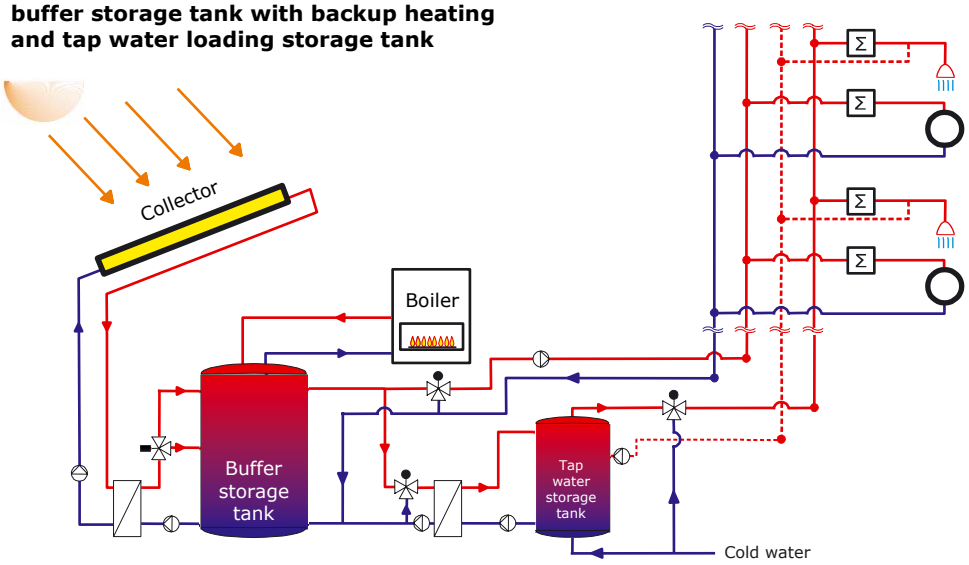
buffer storage tank with backup heating and decentralised hot water processing



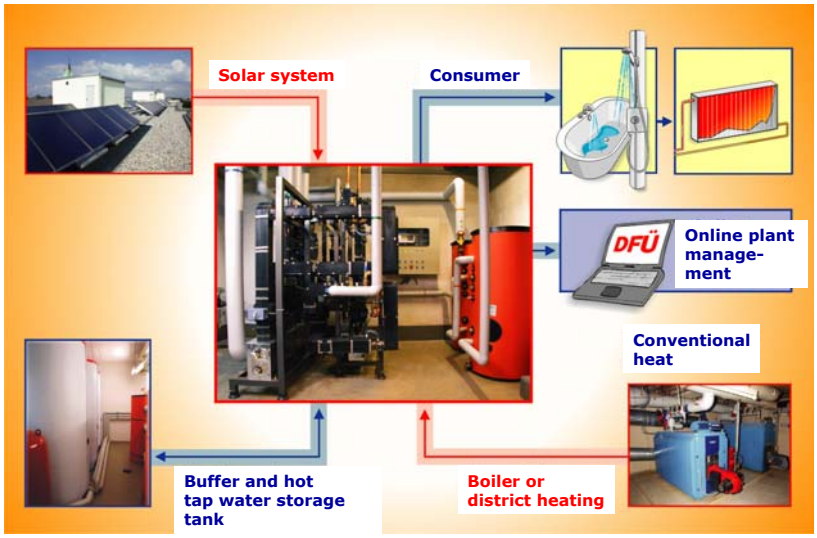
System with heating support:

SOLARGE

buffer storage tank with backup heating and tap water loading storage tank



SolvisZentro/Solar-Energy-Central (I)



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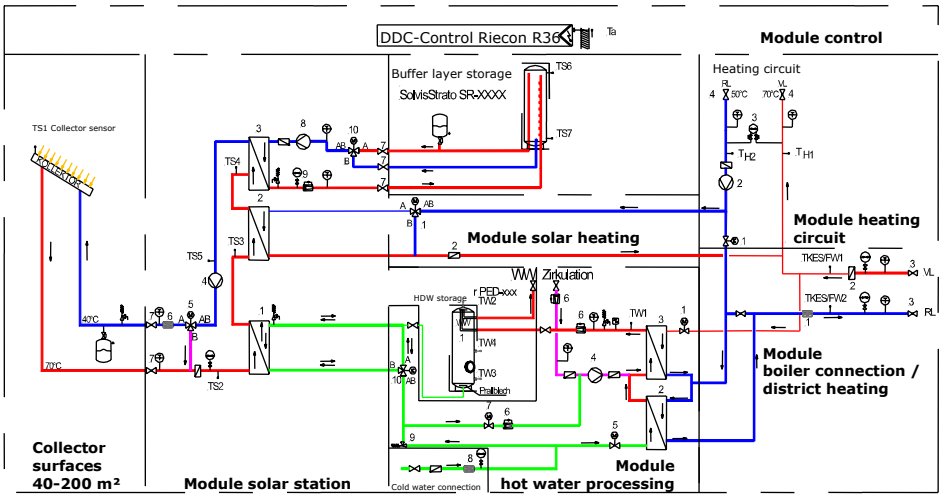
SolvisZentro/Solar-Energy-Central (II)



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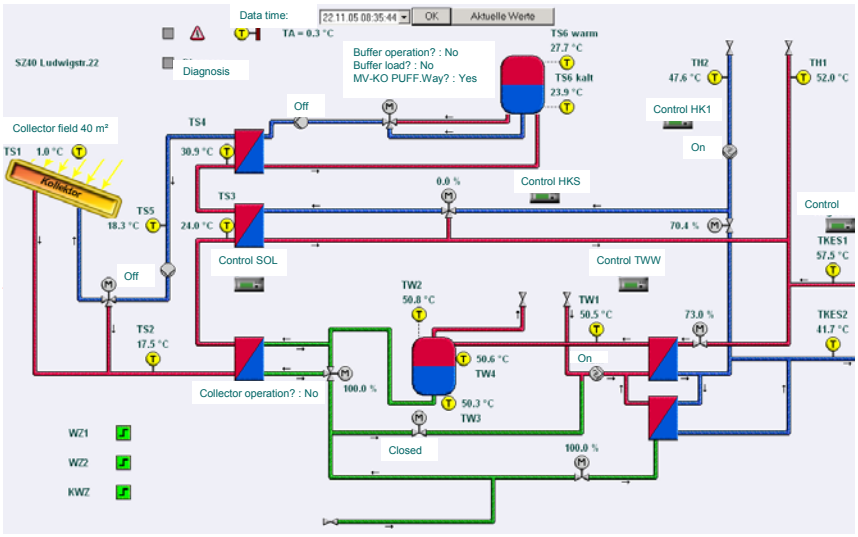
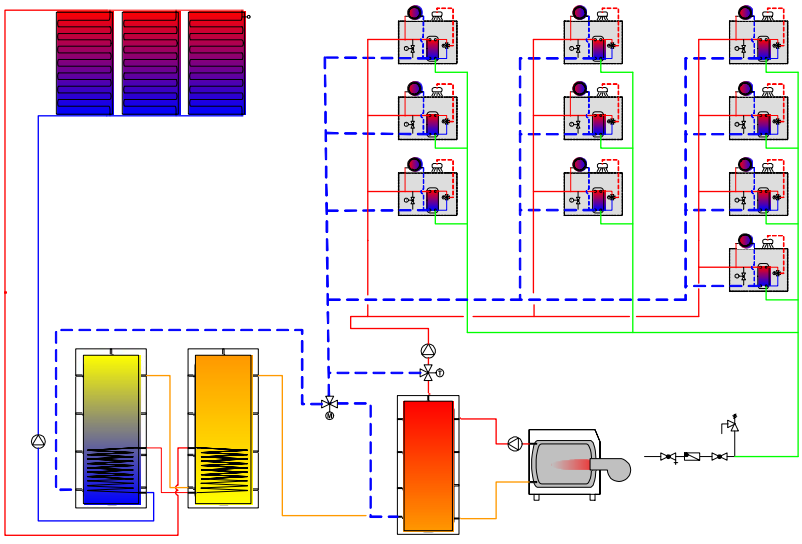
SolvisZentro/Solar-Energy-Central (III)



Flat station with solar integration



Flat station with full equipment

- Return flow temperature limiter RTB
- Thermostatic Temperature lead module WK-TTV
- Actuating drive housing space control KHY, 230
- Differential pressure regulator WK-DRG-SE
- Differential pressure regulator in flat heating circuit WK-DRG-WH
- Cold water flat outlet, with fitting piece for cold water counter WK-KWA
- Dirt trap WK-SF
- Thermostatic hot water controller
- Outflow-Set WK-E
- Ball valve connection set WK-KAS

Legionella connection