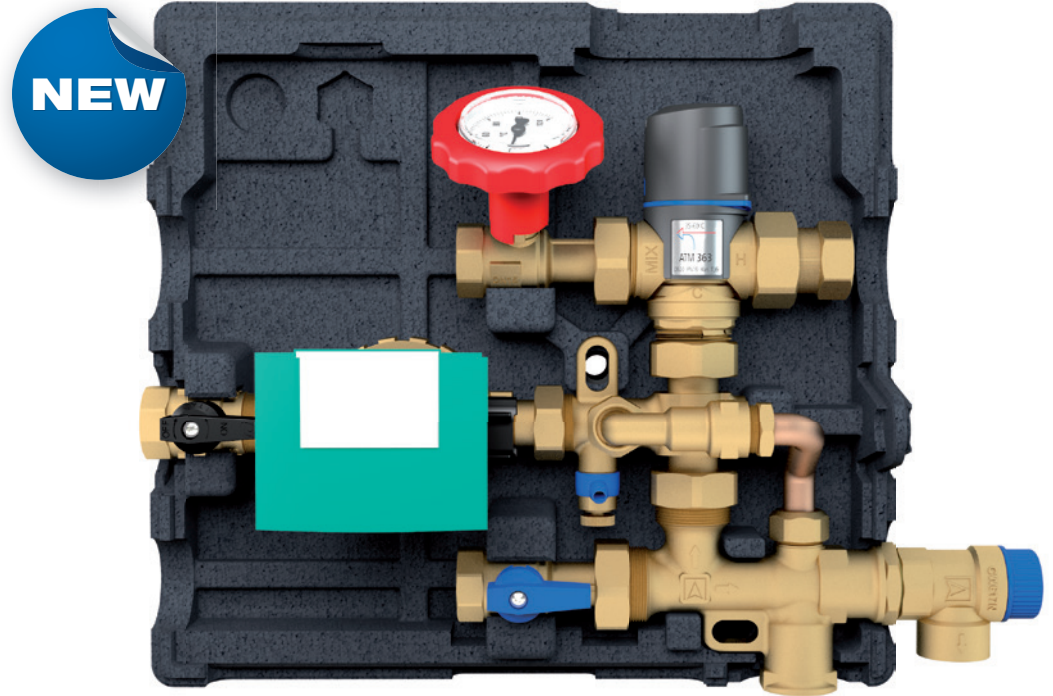


Dramatic time savings. High reliability. Efficient operation.

Hot water circulation systems series WZS for energy storage tanks



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The new range

The increasing use of renewable energies in heating systems results in rising requirements on HVAC installers with regard to expertise and construction site logistics. Frequently, in the installation of solar, hot water, hygienic or combination storage tanks, the details concerning professional integration of the service water circulation are not clarified until on site, required components are compiled and far-reaching decisions made under enormous time pressure

which has decisive impacts on the hydraulic schemes and the operation of modern energy storage tank systems. To obtain maximum energy yield with stratified storage tanks, the selection of the "correct" fittings, safety equipment and connection parts is crucial – but the key factor is continuous stratification of the thermal layers in the tank and limitation of the outlet water.

Just turn the page to see how easy it is to meet the challenges with the new WZS series.

Dear Reader

Many interested consumers are still insecure as to which smart home products or brands to use in implementing their intelligent homes. There is a fear to go for the wrong smart home solution that may turn out to be a dead end road. With AFRISO smart home, you give your customers the security they are looking for. You leave them the choice of using components from a wide range of manufacturers with various wireless standards and

give them the option to start with a small solution allowing for modular extensibility. The smart innovations for 2018 presented in this edition follow this credo as well. Options, versatility and modularity are also keywords for the new WZS series hot water circulation systems. You will find a suitable version for practically any situation to professionally, quickly and efficiently connect modern stratified storage tanks. We'd be happy to introduce you to

more details at one of this year's trade fairs, during our seminars or at your site.

We wish you pleasant reading.

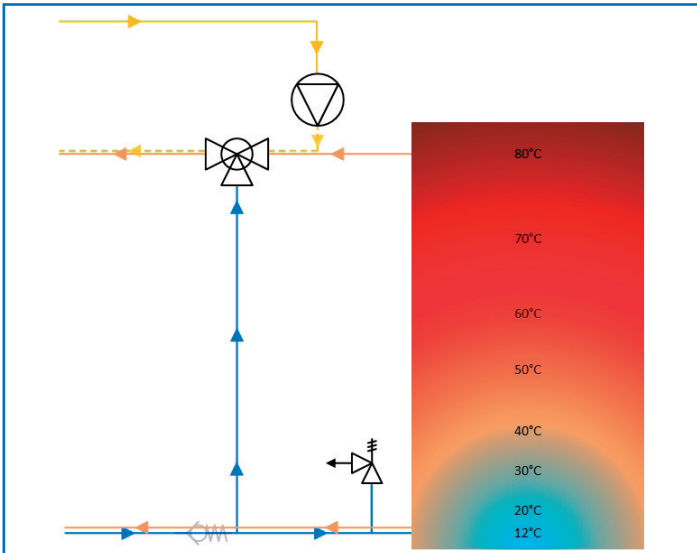
Best regards
Matthias Blasinger
Managing Director Sales and Distribution
AFRISO-EURO-INDEX GmbH



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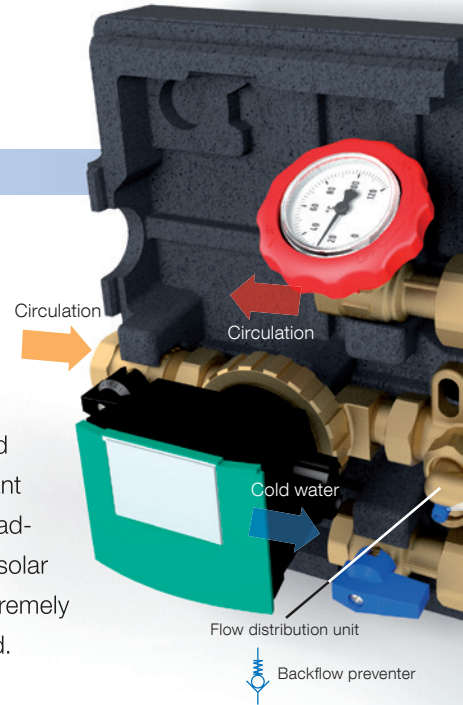
Typical implementation errors

In most cases, the circulation line of stratified storage tanks is accidentally connected to the cold water inlet of the tank. This way, the hot circulation water of the return flows through the lower, cooler area of the stratified storage tank where it is cooled down -



Due to the incorrect installation upstream of the mixing valve (hot water), the circulation pump cannot operate properly as a result of the high resistance. Since the backflow preventer was forgotten, the hot water is pressed through the energy storage tank and into the cold water system in the wrong direction by the pump which destroys the thermal layers in the tank and also has drastic consequences for hygiene and comfort.

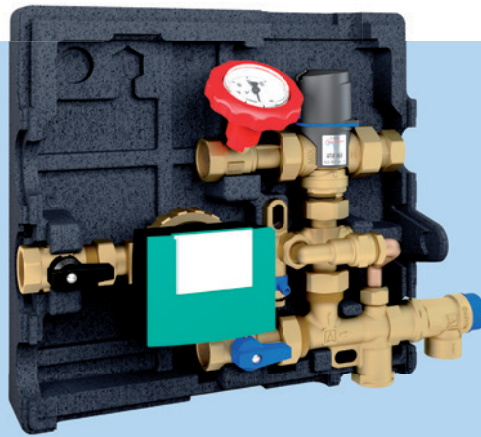
only to be heated up again in the upper thermal layers. The consequence: The storage medium is evenly heated which destroys the important thermal layering. In the most adverse case, the function of a solar system is prevented or extremely limited in the transition period.



Keeping the thermal layers in the stratified storage tank

With the hot water circulation system WZS 100, the return part of the circulation line has a direct connection to the cold water inlet of the integrated thermal mixing valve via the flow distribution unit. Depending on the inlet temperatures at the mixing valve, the hot water inlet and the cold water inlet are opened or closed to a higher or less degree. A partial volume of the returning circulation water flows directly to the cold water connection of the mixing valve. Depending on the mounting situation (internal/external circulation with lance), the other partial volume can be resupplied upstream

Numerous versions:
Assemblies suitable for any situation



Hot water circulation system WZS 75

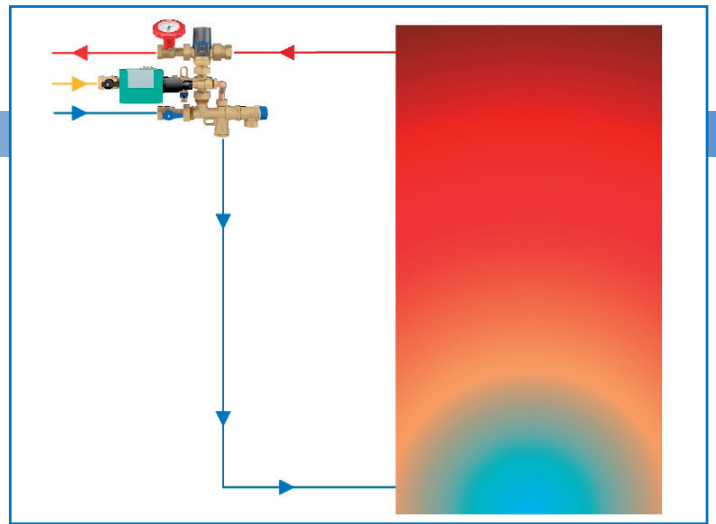
- Assembly for storage tanks with existing safety-related equipment
- Thermally controlled hot water temperature with scald protection
- Returning circulation water is stratified in an optimum way
- Circulation lance can be connected via bypass extension kit
- Safety group assembly WSG 150 can be retrofitted

Hot water circulation system WZS 100

- Pre-assembled, tightness-tested and heat-insulated hydraulic assembly for all types of storage tanks
- Fully secured: diaphragm safety valve, backflow preventer and all shut-off valves integrated
- Thermally controlled hot water temperature (scald protection)
- Time savings: Low mounting effort, fast commissioning

Water safety group assembly WSG 150

- Storage tank connection flow preventers
- Ideal as overpressure device (electrical) boilers
- Easy mounting – even directly on the tank
- Extensible via screw connection removing the 1" cap
- Adaptable to on-site requirements safety valve



With WZS 100, a partial volume of the hot return water is supplied to the cold water inlet via a flow distributor and mixed to the adjusted reference temperature by the mixing valve. This saves energy since only the amount of heating energy really required to ensure the desired water temperature is actually used.

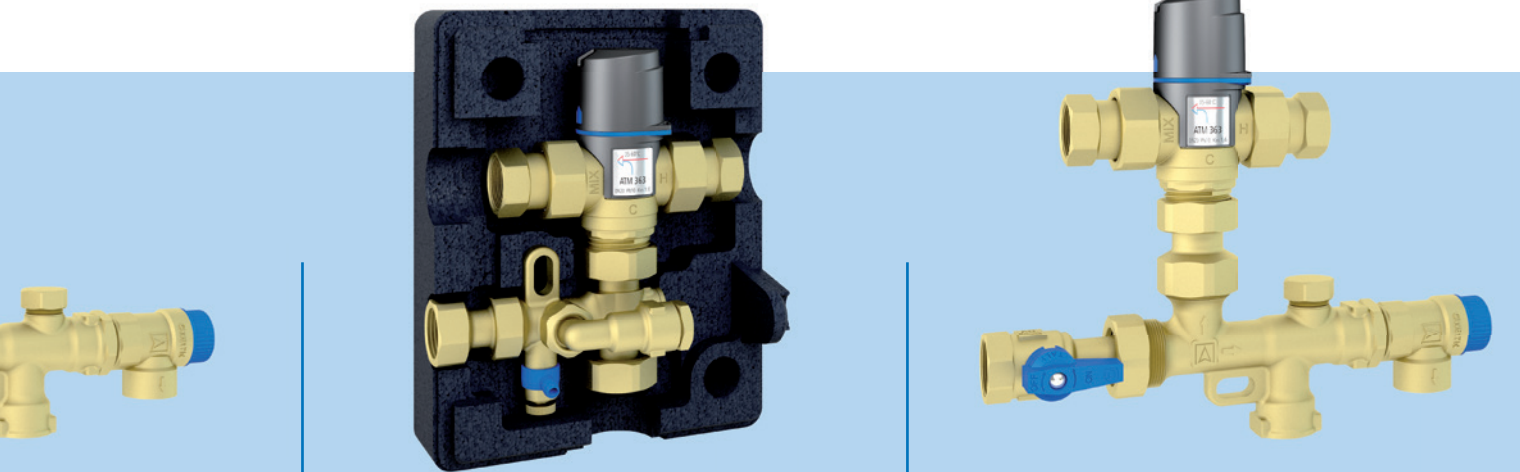
of the tank. The assembly thus allows for intelligent circulation distribution without back-circulation and without "mixing" of the temperatures in the stratified storage tank.

With the hot water circulation system series WZS, AFRISO offers a compact, ready-to-install product that meets all technical and logistical challenges in the connection of energy storage tanks. Depending on the type of energy storage tank and its safety-related equipment, completely preassembled, tightness-tested ver-

sions are available which allow for extremely time-saving installation and commissioning as compared to installation consisting of many individual parts.

The benefits for the expert company:

There is no need to plan a circulation system, there is no risk of implementation errors or "forgetting" of important safety-related components so that the installers can focus on their installation activities.



assembly

kit with integrated back-

vice of water heaters and

ectly to a water heater

nections or ATM 363 by

irements by rotating the

Thermal mixing valve ATM 363 WMG

- For storage tanks with existing safety-related equipment and pump
- Easy mounting without time-consuming, extensive insulation work
- Circulation lance can be connected

Thermal mixing valve ATM 363 WSG

- For solar-heated drinking water heaters and hot water storage tanks with hot water heating according to flow principle
- Advisable if circulation is not necessary or if the water heater already has a circulation connection
- All relevant backflow preventers at the correct positions



Operation either with optional battery or without battery

Door and window contact **AMC 20**

The new AMC 20 door and window contact is a battery-less, maintenance-free magnetic contact sensor for monitoring the states OPEN and CLOSED and for transmission to the AFRISOhome gateway or to stand-alone wireless components such as the indoor siren AIS 10 PRO or the plug-in socket

APR 234. The energy required to send an EnOcean® telegram is generated by means of an integrated photovoltaic cell. The integrated energy storage module allows for operation for several days even in total darkness. In permanently dark environments (such as basements or warehouses) it is also possible to use a button cell battery. A double-sided adhesive strip allows for extremely easy mounting of the compact, shapely housing to windows, door frames or cabinet doors.

Benefits:

- Maintenance-free battery-less operation
- Solar-operated energy storage module for several days of operation even in darkness
- Battery operation optionally possible



Compact, wireless transmitter for flexible, location-independent operation.

Temperature and humidity sensor **FTM 20 TF**

The new temperature and humidity sensor excels with flexible mounting and placement possibilities. A double-sided adhesive strip allows for extremely easy mounting of the small sensor housing to walls or furniture. It is possible to plug on a metal plate which serves as a base for placing the sensor on a shelf, a window sill or a side-board.

FTM 20 TF measure the temperature and the humidity in the environment at regular in-

tervals. Significant changes of the sensor data are immediately transmitted to the AFRISOhome gateway; they can be used as parameters to control the radiator actuators AVD 30, the single room temperature controller CosiTherm® or extractor fans. A "heartbeat signal" is sent at regular intervals to ensure correct operation. Just like all other AFRISO smart home sensors based on EnOcean® wireless, FTM 20 TF generates the energy it needs by means of a photovoltaic cell; thanks to its integrated energy storage module it can operate in complete darkness for several days.

Benefits:

- Maintenance-free battery-less operation
- Battery operation optionally possible
- Either easy adhesive mounting or placement by means of base




Wireless universal level measurement.

Smart tank contents indicator DTA 20 E

Next chapter of the success story: With the new DTA 20 E digital tank contents indicator, AFRISO is now offering a smart-home-enabled version of the popular entry level device for electronic, hydrostatic level measurement. DTA 20 E can be connected to the AFRISOhome gateway via EnOcean® wireless by simple plug and play. End customers can check their consumption data and the level measured once per day from anywhere in the world. In addition to the local alarm, the tank operator also receives a push message as soon as the adjustable minimum tank level is reached.

The electro-pneumatic tank contents indicator DTA 20 E is suitable for tanks of up to a liquid level of 400 cm and a great variety of liquids such as fuel oil, diesel fuel, biodiesel or water. The density of the medium (0.5 to 1.5 g/cm³) can now also be entered conveniently in the AFRISOhome app.



Benefits:

- For fuel oil, diesel, water and many other media with a density between 0.5 and 1.5 g/cm³
- Indication of measured values in litres, % and liquid level (cm)

Heat turns into power: The battery-less radiator thermostat.

Wireless actuator AVD 30

Smart radiator thermostats provide for increased heating comfort and help to take energy savings to their full potential. Test results of the German "Stiftung Warentest"*, an independent consumer protection association, demonstrate that the annual consumption can be reduced by 10 % if the room temperature is reduced by 4 °C during the day when the residents are not at home. If meaningful and targeted heating is complemented by the possibilities of additional smart sensors such as window contacts, the savings are even higher. Simple automated sequences such as "if the window is opened, then reduce the temperature of the radiators" may well save just as much energy as ventilation and insulation methods. The new AVD 30 wireless actuator has been designed to meet exactly the requirements of this and of similar applications, and it also eliminates the greatest weakness of modern radiator thermostats: the battery. Depending on the type of control, the battery must be replaced once per year. AVD 30 requires no batteries; to generate the energy required for operation and communication between the AFRISOhome gateway it uses the temperature difference between the room and the radiator.

Benefits:

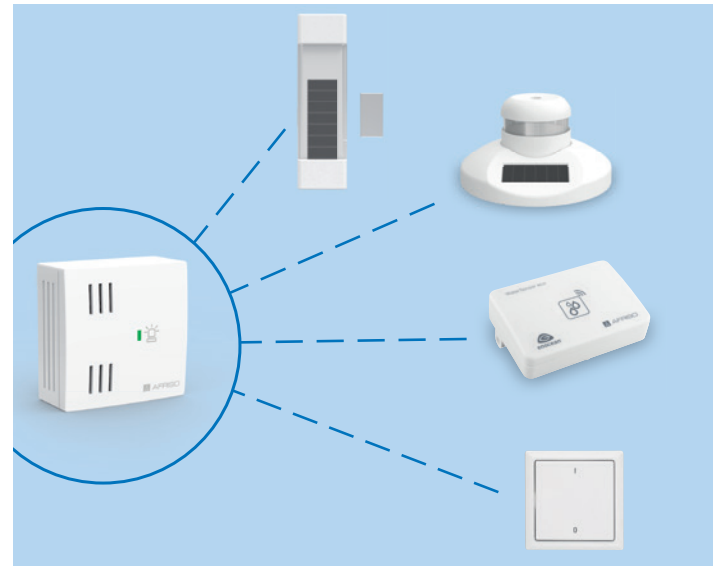
- Battery-less operation
- Maintenance-free without additional operating costs
- Connection M30 x 1.5: Easy replacement of existing thermostat heads

* See www.co2online.de, interview with Thomas Müller (editor of the magazine "test" of "Stiftung Warentest") on a test of programmable radiator thermostats



Stand-alone wireless solutions

Demonstrate your customers the benefits of AFRISO wireless solutions and request your personal selection folder. We support you free of charge with information material for your mailings, trade fairs or advertising activities.



The stand-alone functionality of many AFRISO smart home products allows for retrofitting typical building automation tasks such as burglary protection, leak detection or window blinds/roller shutters control in an extremely simple way without the need for a gateway. Your advantage as an installer: You do not have to occupy yourself with work beyond the scope of your expertise, but extend your competency by wireless solutions that can be installed without a lot of dirt and dust by simple plug and play.

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Publisher:
AFRISO-EURO-INDEX GmbH
Lindenstraße 20 · 74363 Güglingen
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Editors:
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Design:
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The publisher is responsible for the content.

Reprint only with publisher's consent.

Circulation: 20,000 copies

ID no.: 991517 06816 03/18

New program - new topics

Courses and training 2018

Date	Subject
2018-06-05	Smart Home I: "Getting Started" course for installers
2018-05-04 2018-07-19	Smart Home II: Basic training for installers
2018-04-26 2018-10-11	Fuel oil consuming facilities – current status (AwSV / TRwS)
2018-12-06/07 2019-01-17/18	Tank protection and leak protection lining
2018-05-14 2018-09-13 2018-11-06	Fit for HVAC service with BlueLine, CAPBs and Apps
2018-10-18	Dust measurement at solid-fuel systems

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| <input type="checkbox"/> Thermal mixing valves ATM | <input type="checkbox"/> Wireless actuator AVD 30 |
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