DEHOUST

Break Tank System STS CONNECT

Hybrid System HST CONNECT

Fully-automated process water control centre with Category 5 system separation as per DIN EN 1717

Installation and commissioning instructions

Valid from version: 1.1

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1. Safety advice

1.1. Reference to other instructions

To ensure safe and trouble-free operation of the system, the following instructions should also be taken into account along with this manual. In addition, the instructions for external appliances must be taken into consideration.

- *CONNECT* operating manual

1.2. Safety advice in these instructions

Instructions labelled with this symbol provide advice on technical information and tips for usage which should avoid any damage to the system. This symbol does not denote safety advice.

Instructions labelled with this symbol indicate that minor bodily injury or minor material damage can occur if the precautionary measures are not heeded.

Instructions labelled with this symbol indicate that death, severe bodily injury or considerable material damage can occur if the precautionary measures are not heeded.

1.3. General safety advice

This manual contains basic instructions which should be taken into account during transportation, installation, maintenance and disposal. The valid data, operating conditions and usage conditions specified in the technical datasheet and manual must be taken into account when using the *CONNECT STS / hybrid system*.

- Never exceed the permitted limits of use stated in the documentation with regards pressure, temperature, etc.
- Follow all the safety advice and handling instructions in this manual.
- Instructions displayed directly on the system must be heeded and must be kept in a completely legible condition. This applies to:
    - Safety advice
    - Labels regarding connections
    - Type plate
- Before assembly and commissioning, the manual must be read by the user and the responsible specialist/operator. The manual must always be available in the *CONNECT STS / hybrid system*'s place of use.
- Installation and maintenance work must only be carried out by an authorised professional with suitable tools.
- The technical condition of the *CONNECT STS / hybrid system* must be checked at regular intervals (at least once a year) by the operator.
- Local safety and accident regulations must be complied with when operating the *CONNECT STS / hybrid system*.
- The general rules of technology must be complied with operational planning and operation of the appliance.
- No changes to the *CONNECT STS / hybrid system* are permitted. Any changes will lead to any warranty claims being void.
- A defined or controlled restart of the process must be guaranteed after any interruption to the electricity or fluid supplies.
- The operator is responsible for complying with the local conditions that are not detailed in this manual.

1.4. Further safety conditions

As well as the safety advice listed in this manual and the intended use, the following safety conditions apply:

- Accident prevention regulations, safety and operating conditions
- Safety conditions when dealing with hazardous substances
- Valid standards and legislation

1.5. Consequences and risks of non-compliance with the manual

- Non-compliance with this manual will lead to the loss of any warranty and damage claims.
- Non-compliance can result in the following risks:
    - Danger to persons due to electrical, thermal, mechanical and chemical impacts
    - Failure of important functions of the product
    - Failure of instructed methods for maintenance and repairs
    - Danger to the environment due to the leakage of hazardous substances

1.6. Duty of care of the operator

The *CONNECT STS / hybrid system* has been designed and constructed whilst taking into account a risk assessment and after careful selection of the harmonised standards to be complied with and other technical specifications. This means it conforms to the state of technical knowledge and guarantees a maximum level of safety. But this safety can only be achieved in operational practice if all the measures needed for this are met. It is the *CONNECT STS / hybrid system* operator's duty of care to plan these measures and check their execution. In particular, the operator must ensure that

- the *CONNECT STS / hybrid system* is only used as intended.
- the *CONNECT STS / hybrid system* is only operated in a flawless, functional state.
- the manual is always in a legible condition and available in its entirety at the *CONNECT STS / hybrid system*'s place of use.
- only sufficiently qualified and authorised personnel assemble the *CONNECT STS / hybrid system*, commission it, repair it and take it out of operation.
- these personnel are regularly instructed in all the relevant issues of occupational safety and environmental protection, as well as ensuring that they have read and understood the manual and, specifically, the safety advice contained therein.
- none of the safety and warning signs attached to the *CONNECT STS / hybrid system* are removed and that all remain in a legible state.
- any additional risks which arise due to the specific working conditions at the place of use of the *CONNECT STS / hybrid system* are recognised as part of a risk assessment (in the sense of the German Occupational Safety and Health Act § 5 or the equivalent legislation in the country of use).
- all additional instructions and safety advice arising from the risk assessment are compiled in a user guide (in the sense of German Work Equipment Usage Ordinance § 6 or the equivalent legislation in the country of use).
- the duct routing is assessed sufficiently.

1.7. Safety advice for maintenance, inspection and assembly

- The machine must only be altered or modified with the consent of the manufacturer.
- Only use original parts or those authorised by the manufacturer. Using other parts can void your warranty for any consequences resulting there from.
- Only work on the machine when it is turned off.
- The pump housing must be at the ambient temperature.
- The pump housing must be depressurized and emptied.
- Ensure the procedures to decommission the system are complied with exactly, as described in these instructions.
- Reattach or restart any safety and protection equipment immediately after work has been completed.
- Before restarting the equipment, ensure the listed points for commissioning have been taken into account.

- Keep any unauthorised persons (e.g. children) away from the system.

1.8. Duty to register process water systems

Make sure if process water systems must be registered with the relevant authorities (regional water authority, building authorities, local health authorities) when being commissioned or decommissioned.

1.9. Requirements of operating personnel

The *CONNECT STS / hybrid system* must only be assembled, commissioned, repaired and decommissioned by persons who have been trained, instructed and authorised for this purpose. If necessary, training can be provided the manufacturer/supplier at the request of the operator. Training sessions for the system must only be carried out under the supervision of technical professionals. The relevant authorisations of personnel must be clearly specified by the operator in the form of a user guide. In addition, special qualifications are required for the following activities:

- Work on the electrical equipment must only be carried out by trained electricians.
- Assembly, maintenance and repair work must only be carried out by qualified professionals.

The basic regulations for occupational safety and accident prevention must be heeded.

2. General information

The manual is part of the specified series and its models. The manual describes the proper and safe use of the equipment in all operating phases. The type plate states the series and size, the most important operational data and the serial number. To maintain any warranty claims in the case of damage, the authorised dealer must be notified immediately with information of the installation site and serial number of the machine.

2.1. Warranty and liability

The general delivery conditions and terms of sale of DEHOUST shall apply. Any warranty and liability claims for personal or material damage are void if they can be attributed to one or more of the following causes.

- Improper use of the CONNECT STS / hybrid system
- Improper assembly, commissioning, operation and maintenance of the *CONNECT STS / hybrid system*
- Non-compliance with the instructions in the manual regarding transportation, storage, assembly, commissioning, operation, maintenance and repair of the *CONNECT STS / hybrid system*
- Unauthorised structural modifications to the *CONNECT STS / hybrid system*
- Improperly executed repairs
- Disasters caused by third party exposure and force majeure.

2.2. Legal warranty (extract)

Statutory warranty applies in accordance with § 437 BGB (German Civil Code).

Within the warranty period, DEHOUST shall rectify free-of-charge any functional disturbances which can be attributed to production or material defects. This includes all faults that occur despite verifiably proper installation, proper operation and compliance with all operational and installation manual.

3. Description

The *CONNECT STS / hybrid system* is a fully-automated process water control centre with double booster pump station, which guarantees the safe separation of drinkable water from Category 5 fluids (water of unknown origin) as per DIN EN 1717 type AB and prevents any recontamination in the central mains water network. There are uses for break tanks and hybrid systems with integrated separation of drinkable water from process water according to Category 5 in rainwater usage, well water usage, grey water utilisation, irrigation systems, agricultural operations, slaughterhouses, gastronomy and hospitals, among other places.

3.1. Functional description

As a fully-automated process water control centre, the *CONNECT STS / hybrid system* is equipped as standard for floor installation with the *CONNECT* station, including noise absorption hood, *CONNECT* control unit with touchscreen display, double booster pump station, large volume process water storage tank and Category 5 type AB mains water back-up.

The *CONNECT hybrid system* also provides the process water control centre with process water using a process water supply pump from an external water source, such as a rainwater cistern.

The intelligent *CONNECT* control unit with its large touchscreen colour display undertakes the control and monitoring of all system processes. Features of the *CONNECT* control unit are the automatic control of the pressure booster with alternating start-up, freely definable switchpoints of the pressure booster, demand-based activation of the process water supply pump, automatic mains water back-up as per EN 1717 using an electrically controlled ball valve in the integrated process water storage tank in the case of a lack of process water, automatic stagnation protection of the mains water pipe (flushing of the mains water pipe after a defined time interval), monitoring of the ball valve position with self-closing feature in case of operational failures (network failure), manual switching to pure drinkable water operation, continual monitoring of the fill levels in the process water storage tank and optionally in a rainwater cistern, consisting moisture monitoring of the plant room using a water detector, visualisation of the operating statuses in real-time on the touchscreen display of the control unit, real-time remote inquiry possible at any time via smartphone, tablet or PC through simple and secure connection of *DEHOUSTCONNECT* to the domestic LAN or WLAN network, secure data communication via *DEHOUSTCONNECT* server, remote display of operating statuses, maintenance information and error messages.

A membrane pressure expansion vessel with 8 litres is integrated, to protect the double booster pump station in the case of small loss quantities.

In the *CONNECT hybrid system*, an immersion motor pump works as a process water supply pump and is fitted vertically in an on-site rainwater cistern on a fixable stainless steel basic panel. It has a jacket-cooled cage motor for constant operation, with an integrated thermal protection switch, including 10 metre H07 RN-F connection cable and mains plug.

Depending on the type of installation and distance to the process water storage tank, the type of process water supply pump must be adapted to the local conditions.

To reduce the switching frequency of the pressure booster, the installation of a membrane pressure expansion vessel of at least 50 litres in volume is recommended in the process water pressure line. The membrane pressure expansion vessel must be suitable for operation with process water. The preliminary pressure in the membrane pressure expansion vessel must be 0.3 to 0.5 bar below the start-up pressure of the pump.

3.2. Technical specifications

Table 1: Technical details about the CONNECT STS/hybrid system

Break tank system CONNECT	6-40 STS	8-40 STS	8-50 STS	14-40 STS
Item	**814404**	**814405**	**814406**	**814409**
max. flow rate (m^3/h)	3,3	4,8	4,8	7,2
max flow rate double pump	6	9	9	14**
max. delivery height (m)	46	42	58	47
mains water back-up in quantity (m^3/h)*	8	8	8	8**
power consumption (A)	6,5	8	11	11
power load (kW)	1,5	1,8	2,5	2,5
connection mains water line	1“ female thread			
connection of process water pressure line	1 ½“ male thread			
emergency overflow connection	DN 100			
process water storage volume (litre)	500			
dimensions: HxLxW (mm)	1.870 x 730 x 1.800			
weight (kg)	95	93	100	100

*With 4 bar preliminary pressure of the mains water line at the connection of the break tank system CONNECT.
** With the necessary feed-in volume over 8m^3/h, depending on the operating point, an additional mains water back-up unit is necessary.

Hybrid system CONNECT	6-40 HST	8-40 HST	8-50 HST	14-40 HST
Item	**814324**	**814325**	**814326**	**814329**
max. flow rate (m^3/h)	3,3	4,8	4,8	7,2
max flow rate double pump	6	9	9	14**
max. delivery height (m)	46	42	58	47
mains water back-up in quantity (m^3/h)*	8	8	8	8**
power consumption (A)	11,5	13	16	16
power load (kW)	2,6	2,9	3,6	3,6
connection mains water line	1“ female thread			
connection of process water pressure line	1 ½“ male thread			
Connection supply line	1 ½“ male thread			
emergency overflow connection	DN 100			
process water storage volume (litre)	500			
dimensions: HxLxW (mm)	1.870 x 730 x 1.800			
weight (kg)	65	65	70	78

*With 4 bar preliminary pressure of the mains water line at the connection of the hybrid system CONNECT.
** With the necessary feed-in volume over 8m^3/h, depending on the operating point, an additional mains water back-up unit is necessary.

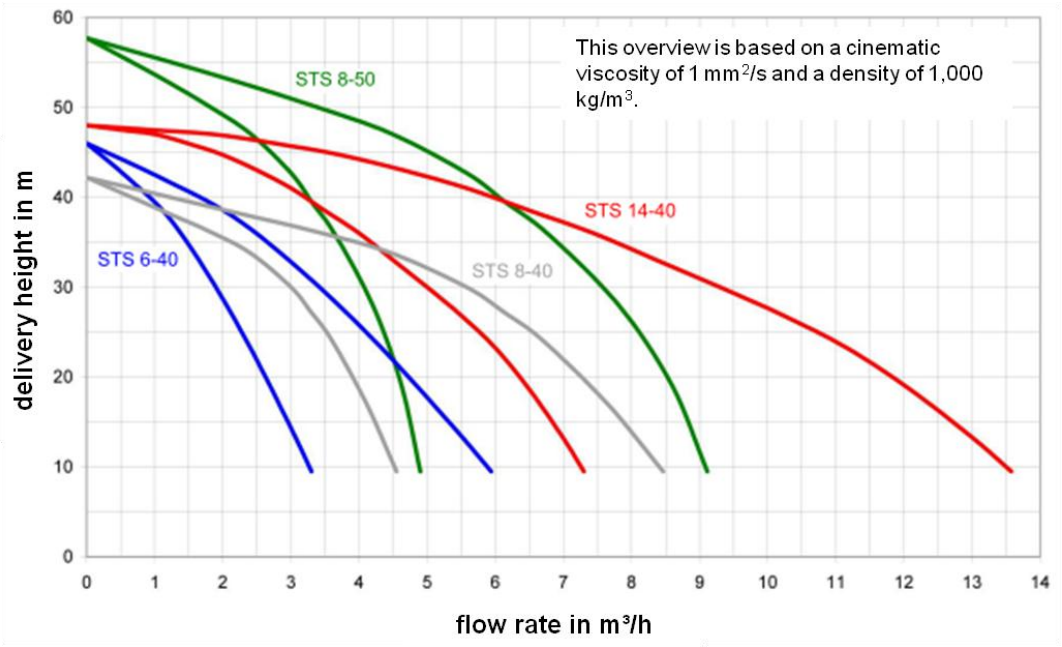

Figure 1: Pump characteristics of the CONNECT STS/hybrid system

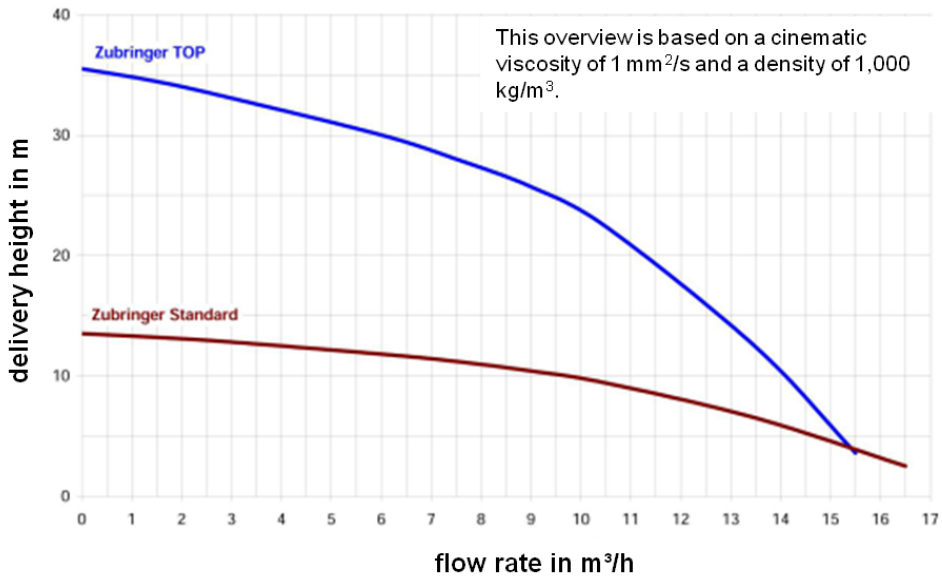

Figure 2: Pump characteristics of the process water supply pump for the CONNECT hybrid system

3.3. Scope of delivery

The ready-to-connect *CONNECT STS / hybrid system*, consisting of:

- *CONNECT station including noise absorption hood*
- *Aquaform* process water storage tank including mains water back-up
- PE connection pipe set for mains water feed
- Double booster pump connection set for suction line
- Flush-mounted main HS-A 20 switch
- Installation manual
- *CONNECT* operating manual

For *CONNECT hybrid system*, additionally:

- process water supply pump as immersion motor pump
- Set for floating sampling line

3.4. Structure

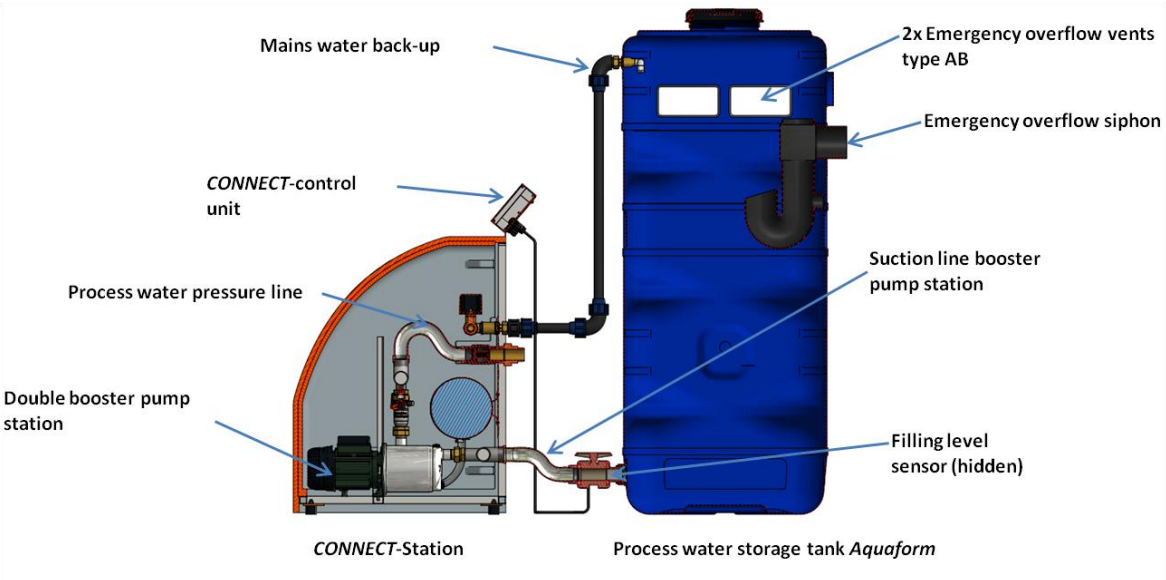

Figure 3: Structure of the STS CONNECT

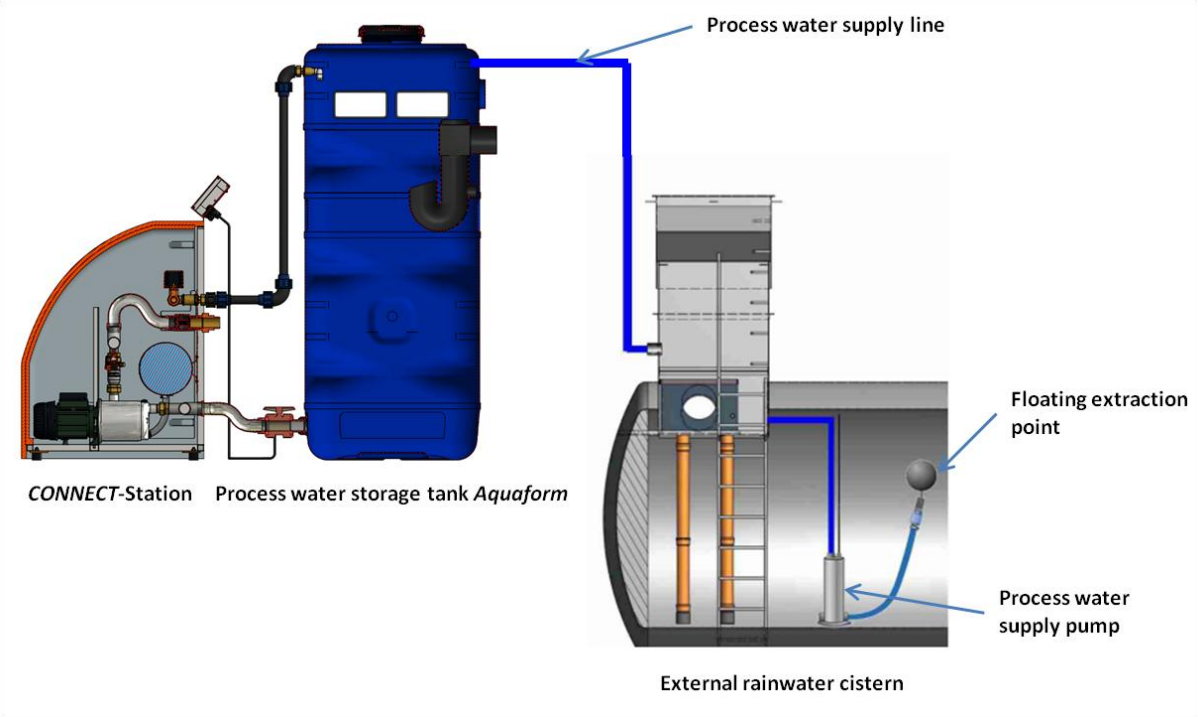

Figure 4: expanded structure of the CONNECT hybrid system

3.5. Intended use

The *CONNECT STS / hybrid system* must only be operated in those fields of use described in this manual. Risks for people, surrounding systems and the environment may arise if the *CONNECT STS / hybrid system* is used improperly.

- Only operate the *CONNECT STS / hybrid system* in a technically flawless state.
- Do not operate the *CONNECT STS / hybrid system* in a partially assembled state.
- The *CONNECT STS / hybrid system* must only carry the medium described in the documentation of the design in question.
- Never operate the *CONNECT STS / hybrid system* without the carried medium.
- Heed the information concerning minimum flow rates (see chapter 3.2) (avoidance of overheating damage, storage damage, ...).
- Heed the information concerning maximum flow rates (see chapter 3.2) (avoidance of overheating, damage to mechanical seals, damage to cavitations, storage damage, ...).
- Do not restrict the drinking water feed of the *CONNECT STS / hybrid system* on the input side (avoidance of cavitation damage).
- Agree alternative modes of operations, if not stated in the documentation, with the manufacturer.

3.6. Improper use

The *CONNECT STS / hybrid system* is not intended for outdoor use. Influences of temperature, light and moisture can lead to functional disturbances and damage to the equipment.

- Do not use the *CONNECT STS / hybrid system* outside.
- Only use the *CONNECT STS / hybrid system* as intended.
- Do not use the system to carry dirty water or water contaminated with wastewater.
- Do not fill the media connections of the system with aggressive or flammable media.
- The temperature of the conveyed medium must not be higher than 35° Celsius.

- Do not put the casing under mechanical strain (e.g. by stacking objects on them or using them as steps). Do not make any external changes to the equipment casing. Casing components and screws must not be painted!
- Do not disassemble the *CONNECT STS / hybrid system* beyond the level required for installation and maintenance.

4. Transport

The production must not attached to the electric supply line during transportation. During transportation, you must ensure that the appliance is not knocked or dropped. The product must be stored in a dry, cold room protected from both sunlight and frost.

When delivering goods, check every packing unit for damage. In case of transport damage, determine the exact damage, document it and report it immediately in writing to DEHOUST.

5. Assembly

5.1. Installation room

The *CONNECT STS / hybrid system* must be installed at ground level and horizontally in a frost-free, dry and well-ventilated room. The load bearing capacity of the floor must be at least the total weight of the *CONNECT STS / hybrid system* in its filled operating state (see 3.2). The room temperature should be in the temperature range of 4°Celsius to max. 25° Celsius in order to minimise hygienic risks in the process water storage tank.

The *CONNECT* station must be installed at the same level as the Aquaform process water storage tank in order to rule out any damage or disturbances in subsequent operation.

The distance between the *CONNECT* station and the Aquaform process water storage tank can be up to max. 0.5 metres as standard. If the on-site distance is greater than this, please extend the lines correctly or contact DEHOUST.

The distance between the *CONNECT STS / hybrid system* and the adjoining walls should be:

- at least 40 cm at the sides.
- at least 40 cm at the back.

Do not operate the *CONNECT STS / hybrid system* near living rooms or bedrooms due to the noise caused by feed units and pumps.

Pay attention to the space requirements for operation and repairs.

A suitable sound insulation panel can be used to create the sound decoupler between the storage tank of the *CONNECT STS / hybrid system* and the building.

The installation room must have a suitable floor drain/sump to securely drain away the overflowing water in case of backflooding over the emergency overflow vent of the process water storage tank.

The *CONNECT hybrid system* must be installed at a higher level to the maximum water level of the external rainwater cistern.

If it is not possible to install the *CONNECT hybrid system* above the maximum water level of the external rainwater cistern, please contact DEHOUST.

5.2. Connections between *CONNECT* Station und process water storage tank

All connections of the *CONNECT STS / hybrid system* are equipped with 3-part screw fittings, which make subsequent maintenance / repairs easier.

5.2.1. Mains water back-up feed line between the *CONNECT* station and process water storage tank

Use the included PE connection pipe set to create the drinking water feed between the *CONNECT* station and the Aquaform process water storage tank.

Connect the PE pipeline in a de-energised state. No forces must be applied to the connection sockets and system.

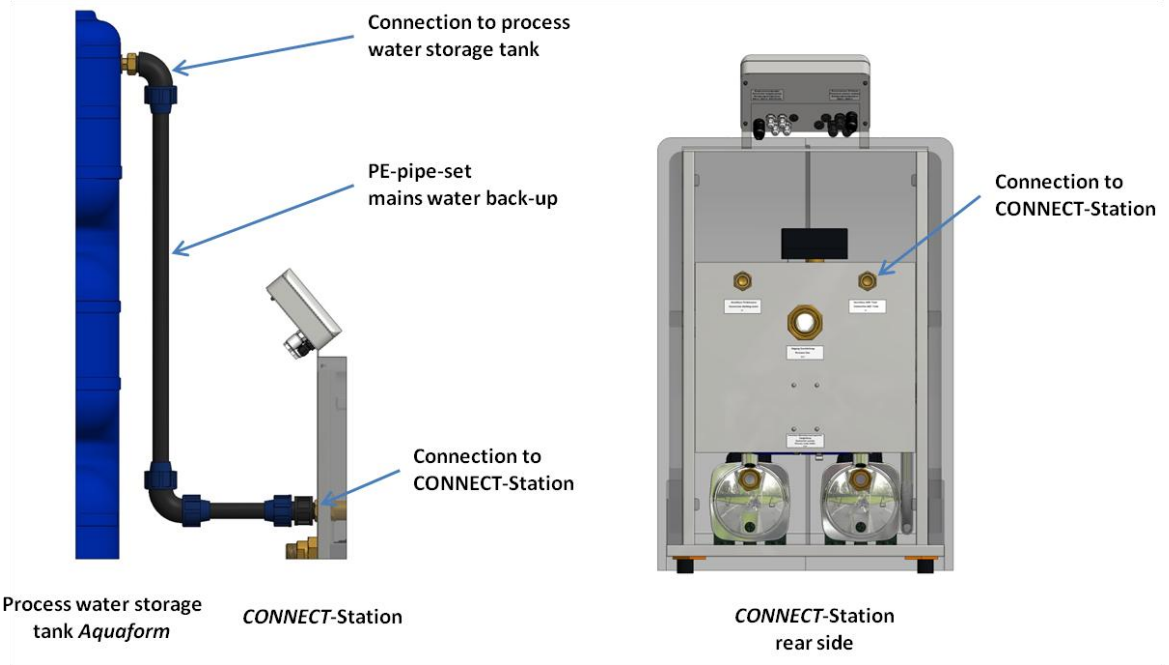

Figure 5: mains water back-up feed line between CONNECT station and process water storage tank

5.2.2. Suction line between the *CONNECT* station and process water storage tank

Use the included double pump connection set for the suction line to create the suction connection of the *CONNECT* station with the process water storage tank.

The suction line is already fitted to the suction connection of the *CONNECT* station when delivered. The suction connection to the process water storage tank is created using the union nut of the PVC stopcock (see Figure 6).

Also tighten and screw the union nut to the PVC stopcock on the process water storage tank.

Connect the double pump connection set in a de-energised state. No forces must be applied to the connection sockets and system.

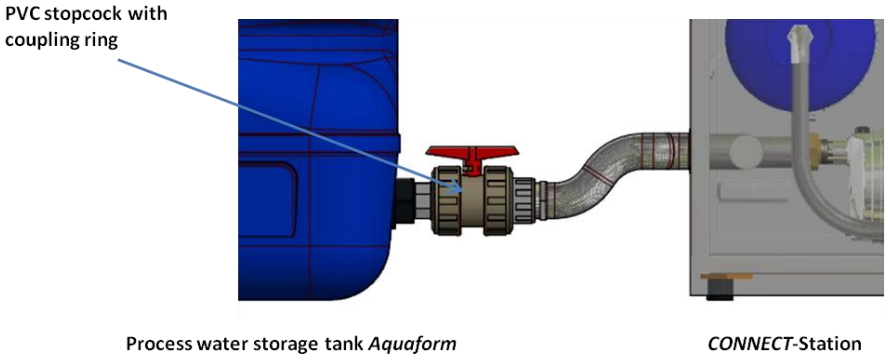

Figure 6: Create the suction connection using the PVC drain valve

Figure 7: the suction line between the CONNECT station and process water storage tank

5.3. Connection to water pipes

All connections of the *CONNECT STS / hybrid system* are equipped with 3-part brass screw fittings, which make subsequent maintenance / repairs easier.

We recommend connecting flexible water pipes to the *CONNECT STS / hybrid system* and a suitable stopcock. This will mean that:

- vibrations and noise transmissions are avoided.
- assembly inaccuracies are balanced out.
- the pipes can be locked at any time.
- functional disturbances can be rectified with little effort.
- repairs and maintenance work are possible at any time.
- the water flow can be cut off in cases of extended absence.

5.3.1. Mains water back-up to the *CONNECT* station

Connect and seal the mains water back-up line with the drinking water connection (see 3.2) to the rear side of the *CONNECT STS / hybrid system*.

Connect the line in a de-energised state. No forces must be applied to the connection sockets and system. Install a pressure reduced in front of the system if necessary so it is guaranteed that no more than 5 bar of primary pressure is fed in from the drinking water network. We recommend installing a shut-off valve, a detachable screw and an external fine water filter.

We recommend installing a shut-off valve and a detachable screw.

The feed volumes of the mains water back-up must be within the range of the stated flow pressure (see 3.2) in order to guarantee long-term security of supply of the immersion pressure pump with sufficient water guarantees.

Figure 8: The mains water back-up is connected on the rear side of the CONNECT station

5.3.2. Process water pressure line

Connect and seal the process water pressure line with the rear 3-part brass threaded connection (see 3.2) of the *CONNECT STS / hybrid system*.

Connect the pressure line in a de-energised state. No forces must be applied to the brass threaded connection of the system.

We recommend installing a shut-off valve and a detachable screw.

Figure 9: The process water pressure line is connected on the rear side of the CONNECT station

5.4. Process water supply pump for CONNECT hybrid system

5.4.1. General information about installation

The process water-supply pump is licensed for operation

- to carry process water (rainwater, well water).
- for installation into an on-site process water storage tank (e.g. cisterns, underground tank).
- up to a maximum immersion depth of 10 metres.
- in the surrounding area to living, business and commercial areas and small businesses.

5.4.2. Hydraulic connection

Position the supply pump firmly on the ground of the external rainwater cistern.

Connect the pressure outlet of the supply pump tightly, firmly and in a de-energised state to the on-site supply line, which is connected to the *CONNECT hybrid system*.

Connect the on-site supply pipe tightly, firmly and in a de-energised state to the correspondingly labelled 3-part brass connection (see 3.2) on the Aquaform process water storage tank of the *CONNECT hybrid system*.

The floating sampling line must be freely moveable in the external rainwater cistern and must not hit any obstacles.

When dimensioning the supply pipe, ensure a suitable pipe cross-section which at least corresponds to the technical specifications (see 3.2).

When installing the supply pipe, dirt can get into the pipeline. If this cannot be ruled out, the supply pressure line must be flushed out before connecting to the process water storage tank!

Please note that the supply pump is not attached to the supply pipe with its own weight.

Please ensure that the floating switch of the supply pump can move freely.

To guarantee smooth operation of the *CONNECT hybrid system*, only the supplied original process water supply pump should be used.

Figure 10: Connection of the supply pipe to the process water storage tank

5.5. Emergency overflow connection

Connect the emergency overflow connection (see 3.2) of the *CONNECT STS / hybrid system* with the channel interface or a suitable pump system (see Figure 11).

This overflow then comes into effect if the ball valve of the mains water back-up exhibits a functional disturbance and the water rises as a result above the maximum level in the process water storage tank.

To avoid unpleasant odours from the sewage drain, a siphon is fitted as standard to the process water storage tank.

The drain connection or pump system must be able to securely drain the maximum mains water feed volume (see 3.2).

Make sure the overflow line to the sewer/pumping system has the same nominal width as the emergency overflow connection (no cross-section constriction!).

The installation room is at risk of flooding if the overflow connection is not attached to the drain.

Figure 11: Connection of the emergency overflow connection

5.6. Type AB emergency overflow vent

If a backflow occurs due to a drain blockage/defect of the pumping station, reaching into the process water storage tank of the *CONNECT STS* / *hybrid system*, the water is drained through the tank's emergency overflow vent (see Figure 12) into the installation room. This free overflow is required to protect the mains water back-up line in accordance with EN 1717 CAT 5.

The installation room must have a suitable floor drain/sump to securely drain away the overflowing water in case of backflooding over the tank emergency overflow vent of the process water storage tank.

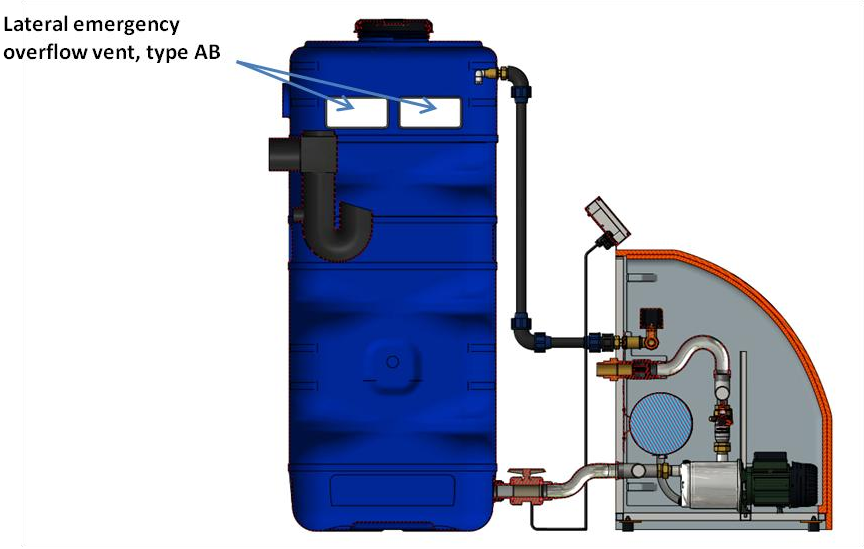

Figure 12: Integrated emergency overflow vent as per EN 1717 type AB

5.7. Electrical connection of components

All electrical connections of the *CONNECT STS / hybrid system* are prepared and wired in the factory.

5.7.1. Connection of the filling level sensor

Connect the labelled wire of the filling level sensor of the *CONNECT* station with the pressure sensor on the *Aquaform* process water storage tank and tighten the cross-head screw.

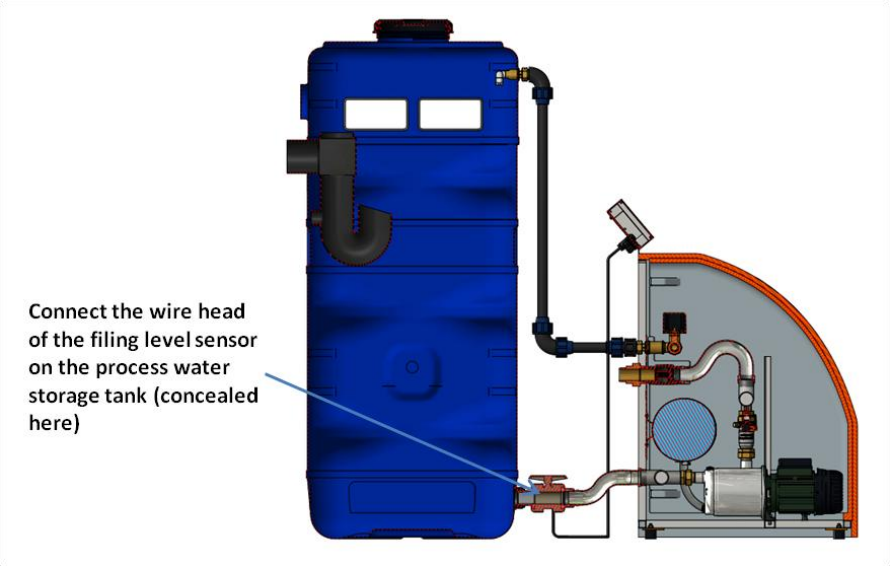

Figure 13: Connect the wire head firmly to the filling level sensor on the process water storage tank

5.7.2. Connection of the process water supply pump

Install the network cable of the process water supply pump up to the *CONNECT hybrid system*, extend if necessary.

Loosen the labelled Quickon plug for the supply pump from the *CONNECT* control unit (see Figure 14).

Connect the network pipe to the Quickon plug (see Figure 14).

Connect the Quickon plug to the correspondingly labelled connector of the *CONNECT* control unit (see Figure 15).

Connection of the network pipe to the Quickon plug as follows:

- Stripping of the network pipe by approx. 60 mm.
- To create a lagging PE connection, the PE conductor should be looped around the live conductor. If the line is pulled forcibly, the PE conductor is therefore the last thing to be pulled from the clamp.
- Introduce the network line into the Quickon nut and fix the conductors into the conductor receptacle of the plug body.
- Set up the network line of the supply pump on the Quickon contacts as follows:
    - 1 = L1 (brown conductor);
    - 2 = N (blue conductor);
    - PE = protective conductor (yellow/green)
- Cut the projecting conductor flushly with wire cutting pliers.
- Screw the Quickon nut to the lower part.
- Connect the Quickon plug to the *CONNECT* control unit

Network lines must not be installed without protection in the earth. Please use suitable empty PE pipes for this.

The network line must not be laid over sharp edges. To avoid damage, the network line must be attached to the pressure line within the process water storage tank at regular intervals with cable ties.

Please note that the supply pump is not attached to the network line with its own weight.

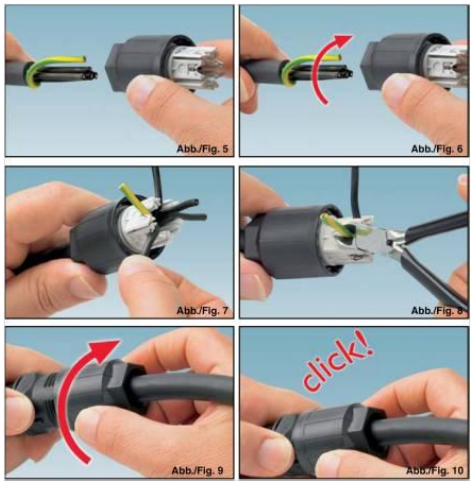

Figure 14: Connection of network line of the supply pump to the Quickon plug

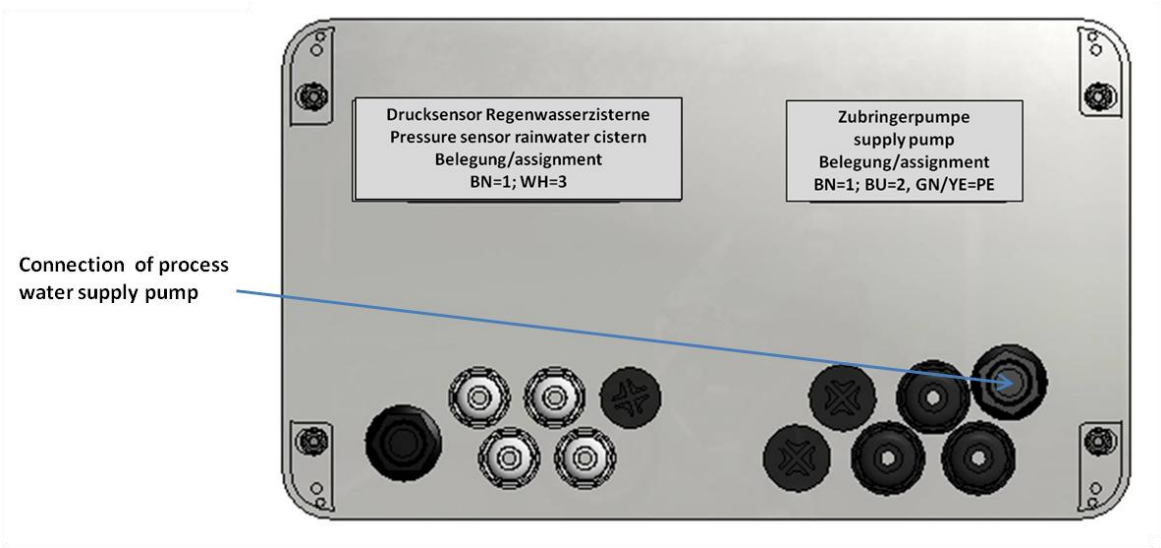

Figure 15: Connection of the process water supply pump to the CONNECT control unit

5.7.3. Connection to supply network

Check the information about the mains voltage (see 3.2) on the type label with the mains voltage in question.

The electrical connection of the network line of the *CONNECT STS / hybrid system* (3 x 2.5mm²) is carried out according to the above specifications and is connected firmly with the supply network.

Fit the main switch included in the delivery (type HS-a 20) in an easily accessible position in direct proximity to the *CONNECT STS / hybrid system* and set up the cable supply line of the *CONNECT* control unit.

The fuse protection must be carried out using the technical data as per the information on the type plate. Generally, we recommend a 16 ampere overcurrent fuse protection here (C 16 LS circuit breaker).

The system is activated as soon as the mains switch is turned on.

The electrical system must conform to the general requirements for installation IEC 364 / VDE 0100. The electrical network, onto which the equipment is connected, must have a residual current operated circuit breaker (RCCB) in accordance with DIN EN 60335-2-41 / VDE 0700.

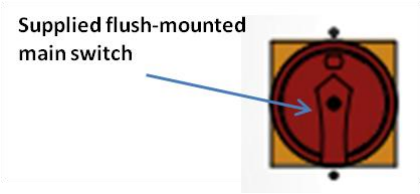

Figure 16: Main switch of the CONNECT STS / hybrid system

5.8. Potential-free alarm output

It is possible for a general error message to be sent to a central control unit by connecting to the potential-free outlet (max. 230 V / 1 A) of the *CONNECT* control unit. The error message output of the *CONNECT* control unit has a break contact (break-proof). The error message remains open (active) until it has been manually deactivated in the *CONNECT* control unit.

Connect the alarm output with the correspondingly labelled cable plug on the *CONNECT* control unit (see Figure 17). Connection of the cable line into the plug as per Figure Figure 18.

Pin assignment: Pin 1 + Pin 2

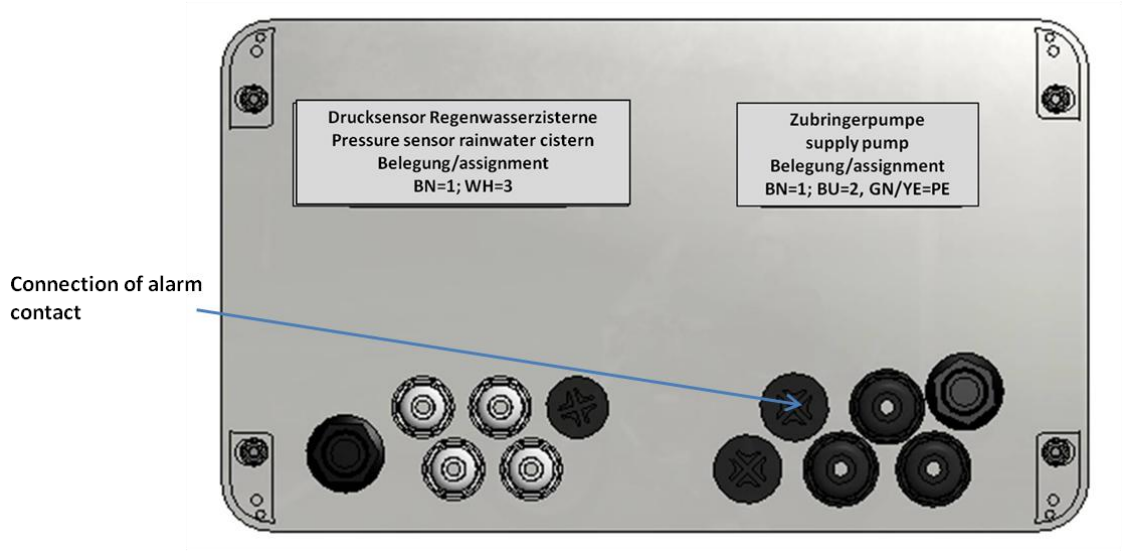

Figure 17: Connection of the alarm contact to the CONNECT control unit

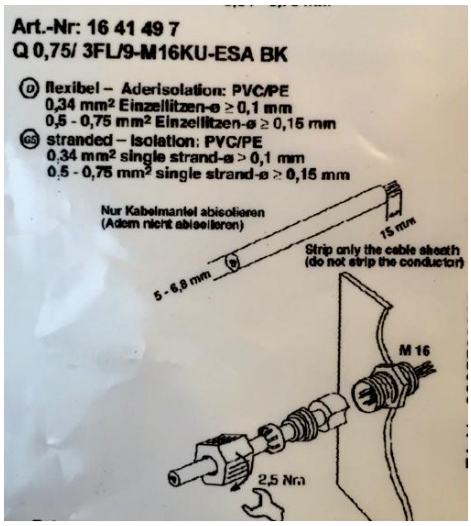

Figure 18: Connection of the cable line to the plug contact

6. Commissioning

Only allow qualified personnel to commission the system (see 1.6).

Please heed the operating manual of the *CONNECT* control unit for the switchpoints of the pressure booster, feed-in limits for drinking water and rainwater (from external rainwater cistern).

Before putting into operation, you must ensure the following points:

- The *CONNECT STS* / *hybrid system* is electrically connected as per regulations.
- The relevant country-specific regulations have been complied with and fulfilled.
- Emergency overflow connection of the process water storage tank is connected to the sewage system.
- Mains water back-up is connected to the mains water network.
- Process water pressure connection is connected to the process water pressure line.
- Drain cock on the process water storage tank is closed.
- Stopcocks for mains water, suction and process water pressure line closed.

For *CONNECT hybrid system*, additionally:

- Process water supply pump connected hydraulically and electrically.
- External rainwater cistern filled at least 1/3 with water.

The following steps must be carried out in this sequence to put the system into operation:

I. Activation of the system using the main switch.
II. Input of switchpoints for start-up pressure and cut-off pressure of the pressure pumps.

The inputted cut-off pressure must be at least 0.3 bar beneath the maximum feed pressure of the installed pressure pump.

Open the stopcock of the mains water back-up. The system automatically feeds mains water into the process water storage tank.

CONNECT hybrid system: As well as the mains water back-up, the process water supply pump is also connected as per the defined feed-in limits. Please ensure that all stopcocks of the supply line are opened.

III. After finishing the feed-in process, open the stopcock to the suction line between the process water storage tank and the *CONNECT* station.
IV. Vent both pressure pumps by opening the black filling lid until water is discharged (see Figure 19).
V. Open at least one process water consumer (e.g. WC, tap).
VI. Open stopcock to the process water pressure line. Both pressure pumps start up as per the switchpoints.
VII. Close the process water consumers as soon as air bubbles can no longer be seen in the discharging water.
VIII. The pressure pumps switch off after reaching the cut-off pressure and defined follow-up time.
IX. System is now ready to operate.

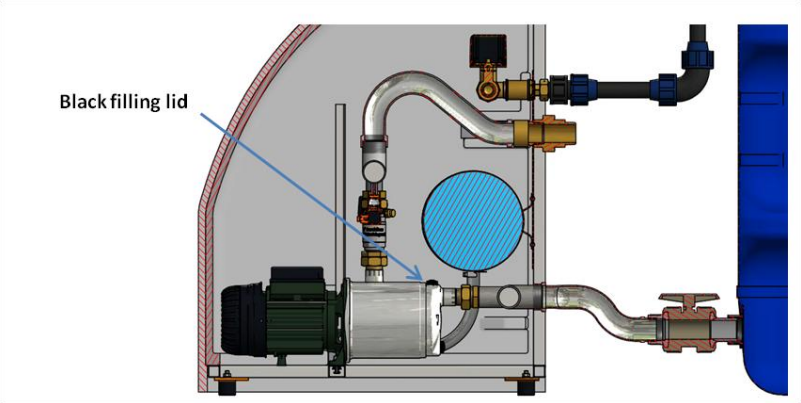

Figure 19: Venting of the pressure pump

7. Inspections

The *CONNECT STS / hybrid system* contains components, for which inspections are required.

- Inspections should be carried out by the operator of the system.
- Repairs should only be carried out by qualified specialists (see 1.9).

If an inspection identifies faults/damage in the *CONNECT STS / hybrid system*, then you should contact your contracting partner / dealer.

It is in the operator's best interested to take note of the stated intervals for inspection measures and the described work steps.

7.1. *Aquaform process water storage tank*

Check the process water storage tank for impermeability, cleanliness, damage and sedimentary deposits.

Remove external dirt with a damp cloth and conventional detergent.

Interval: annually

When cleaning, do not allow fluid to enter the electrical components.

7.2. Check water connections

Check the mains water and process water connections for damage, impermeability and porous or worn patches. If necessary, replace and reseal hoses/lines.

Interval: six-monthly

7.3. Electrical ball valve for mains water back-up

Check the electrical ball valve for impermeability and function. Temporarily deactivate the process water supply pump to do this. Open the process water consumer and wait until the fill level in the *CONNECT STS / hybrid system* has fallen so that the ball valve is open. Reclose the process water consumer and wait until the ball valve recloses. Reactivate the process water supply pump.

Interval: six-monthly

7.4. Battery replacement for ball valve of mains water back up

We recommend changing the batteries in the battery compartment of the electrical ball valve for the mains water back-up every 2 years. To do this, open the relevant battery compartment and replace the 4 Mignon AA batteries.

Time frame: Every 2 years

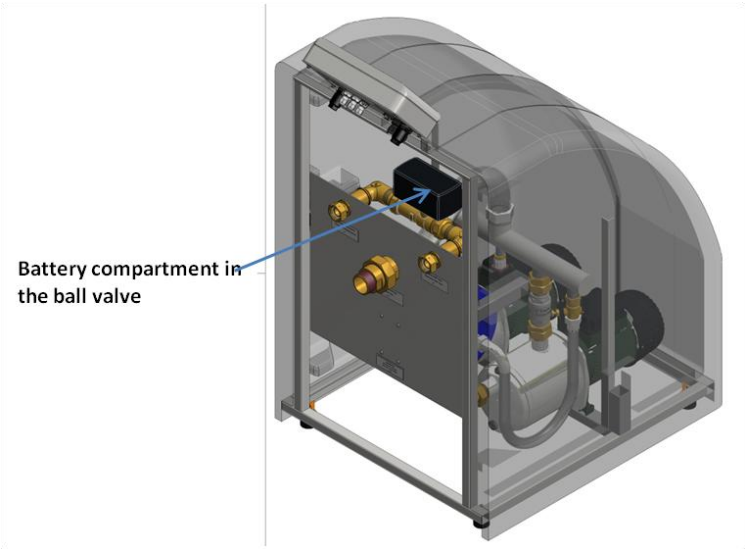

Figure 20: Replacing the batteries in the ball valve

7.5. Function of process water in supply pump

Check the pressure build-up, impermeability, pump and circulation noises and function. To do this, open the service water consumer, thus activating the supply pump.

Interval: six-monthly

7.6. Double pump system

Check the pressure build-up, impermeability, pump and circulation noises and function. To do this, open the service water consumer, thus activating the pressure pumps.

Interval: six-monthly

7.7. Integrated expansion vessel

External check of vessel damages (for instance corrosion).

Diaphragm inspection: briefly actuate the nitrogen valve, if water escapes please contact your contracting partner / dealer.

Check pressure setting: close water side with shutt-off fitting of the expansion vessel. Drain the water of the expansion vessel. Adjusting pre-pressure to minimum supply pressure of the system: pre-pressure = minimum supply pressure of system – 0,5 bar.
If the pressure is too high, drain gas from the gas filling valve, if the pressure is too low, replenish intergas (for example with a nitrogen cylinder). Enter newly adjusted pre-pressure on the name plate.

Interval: six-monthly

7.8. Dry-run protection of double pumps

Shut off the drinking water feed and open the service water consumer until the service water storage tank has been pumped empty. The integrated dry-run protection automatically switches off the double pumps. Then reopen the drinking water feed and close the service water consumer.

Interval: six-monthly