Planning aid

Fittings with additional
bypass solenoid valve
for thermal disinfection

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1. Abbreviations and units

RCD	Residual current protective device, earth leakage circuit breaker
SELV	Safety extra low voltage
Best.-Nr.	Aquarotter ordering number
Conversion	1 mm = 0.03937 inches 1 inch = 25.4 mm

All length specifications in the graphics are in mm.

2. Key

⚠ **Warning!**
Failure to observe can result in bodily injury or even death.

⚠ **Caution!**
Failure to observe can result in material damage.

☞ **Important!**
Failure to observe can cause the product to malfunction.

☞ Useful information for optimum handling of the product.

3. Requirements for thermal disinfection

The basis for carrying out the thermal disinfection is the DVGW Worksheet W 551.
The thermal disinfection must cover the entire system, including all take-off fittings.
All the internal surfaces of a domestic water installation that come into contact with water must be heated to at least 70 °C for at least 3 minutes (e.g. material temperature shower head). So the water in the domestic water heater must be heated to > 70 °C (e.g.: 85 °C).
The take-off temperature (or better the surface temperature) must be measured at each take-off point.
In order that the entire system in circulation systems (hot water and circulation lines) is covered by this measure, all take-off points must be closed during the heating up phase of the domestic water heater. The circulation pump must be operated in continuous running mode. This operating condition is retained until a temperature of 70 °C is reached in the circulation.
Only then can the take-off points be flushed one after another with the outlet open.
Depending on the size of the installation and the routing of the lines, the thermal disinfection must be carried out in sections. In order to prevent recontamination of the system, the individual sections must be subjected to thermal disinfection immediately one after the other.
It may be necessary to interrupt the thermal disinfection until the domestic water heater heats up again.
The installation must be returned to the proper operating mode after completing the thermal disinfection. This means that each fitting must be actuated in order to drain hot water (over 42 °C).

4. Fittings technology

The facility for thermal disinfection must be guaranteed during the planning of sanitary installations, in accordance with the "Recognised Rules of Technology" as per the DVGW Worksheet W 551.

Thermostatic fittings provide the facility for thermal disinfection. An additional bypass solenoid valve cartridge in the function block of the fitting connects the hot water inlet to the mixed water take-off on the fitting.

5. Planning instructions

The thermal disinfection must be carried out in sections, depending on the structural situation. Groups of fittings must be established for this purpose. For example, a group of fittings must be created, such as shower fittings in a room that need to be flushed when starting the thermal disinfection.

The criteria for determining the groups of fittings are:

- The volume of the hot water heater
- The size of the installation
- Spatial criteria (e.g. fittings group 1 = men's shower room - 1st floor)
- Volume flow of the bypass solenoid valve cartridge (V = 0.06 l/s)
- Power consumption of the bypass solenoid valve cartridge e.g. 2 W

For detailed information for planning an installation with automatic thermal disinfection, please contact our Customer Service department, or request the AQUA 3000 open-system documentation.

6. Safety instructions

⚠ **Warning!**
Personal protective measures (scald protection) must be implemented for the duration of the thermal disinfection. This might include cordoning off the shower facilities.
Failure to observe this instruction can result in injuries due to scalding.

The operator is responsible for the execution, monitoring, and logging (room, tapping point, date, time, temperature and duration).
The manufacturer does not accept any liability for claims by third parties relating to the improper execution of thermal disinfection on the part of the operator.

7. Description of the actuation using a key-operated switch

The thermal disinfection of a group of fittings is started manually using an external key-operated switch.

Carrying out the thermal disinfection

⚠ **Warning!**

- The power supply, consisting of the residual current safety device (RCD), mains unit and key-operated switch, must be installed in a separate room outside the wet room.
- If you are using timers you need to take suitable measures to prevent the thermal disinfection from being triggered in an uncontrolled manner, causing injury to persons.
- The local accident prevention regulations (UVV) must be observed.

Failure to observe this instruction can result in injuries due to scalding.

☞ Fittings-dependent setting of the scald protection or temperature limit stop, before and after the flushing process, is not necessary.

7.1 Actuate the key-operated switch.

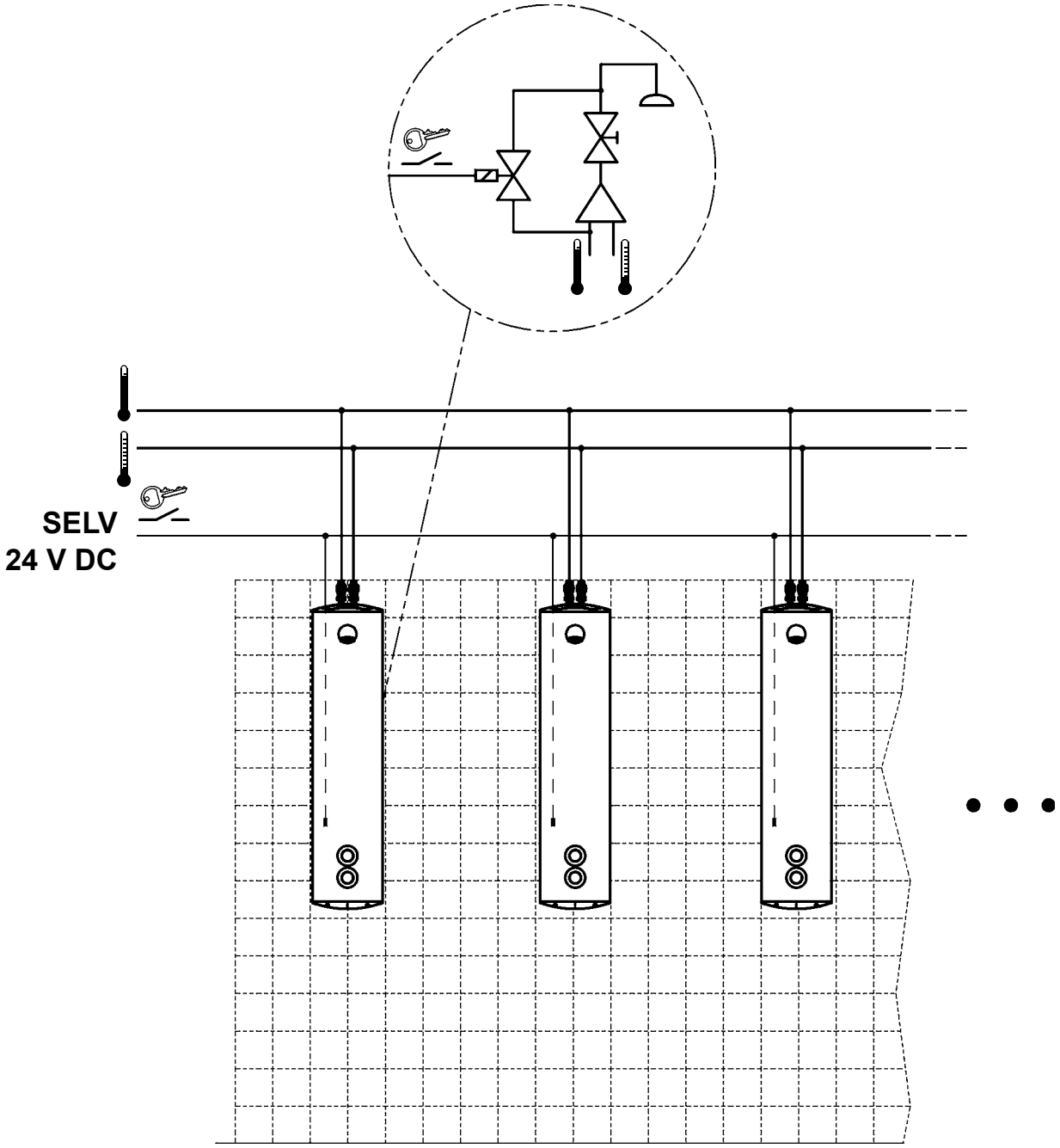
- The bypass solenoid valve cartridges of a fittings group open up.
- Unmixed hot water flows into the shower cubicle via the shower head (volume flow = 0.06 l/s). The flushing temperature corresponds to the temperature in the circulation line. The flushing time corresponds to the actuation time of the key-operated switch.

7.2 Room, take-off point, date, time, temperature and duration of thermal disinfection to be recorded manually.

7.3 After thermal disinfection, manually drain the remaining hot water (>45 °C) from each shower fitting. Trigger each fitting to do so.

8. AQUALINE-Therm with thermal disinfection

Example of electrical installation connections



Materials required

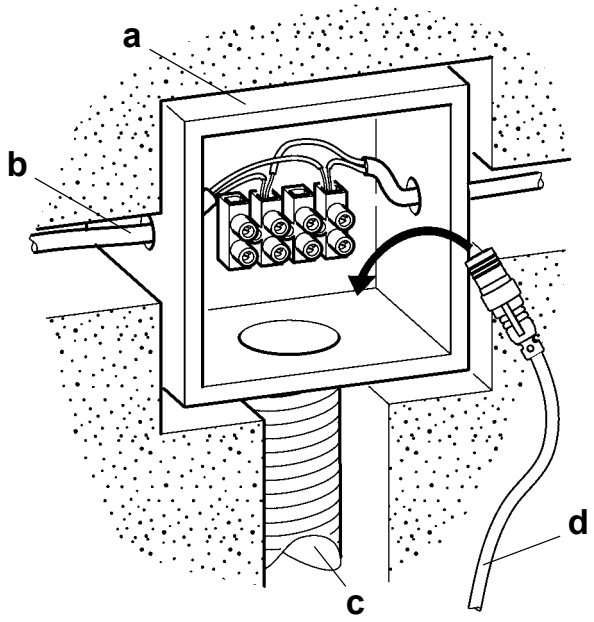
Customer to provide:

- Wetroom distributor box (≥100 mm × ≥100 mm)
- Residual current safety device (RCD)
- Empty ducting for connection cable bypass solenoid valve ($Ø_{inner}$ = at least 20 mm)
- Empty ducting for cable
- flexible 2-core cable (type H05VV-F 2×0.75 mm²; for max. 24 fittings over a max. length of 100 m)

Accessories	Order No.
Mains power unit (230 V AC/24 V DC)	
System mains unit	2000100433
Key-operated switch	2000102675
Bypass solenoid valve cartridge . .	2000100431
Connection cable for bypass solenoid valve.	2000100432

Preparing the electrical connection

☞ Place the power supply and the key-operated switch outside the wetroom in a separate room and protect with a residual current safety device (RCD).



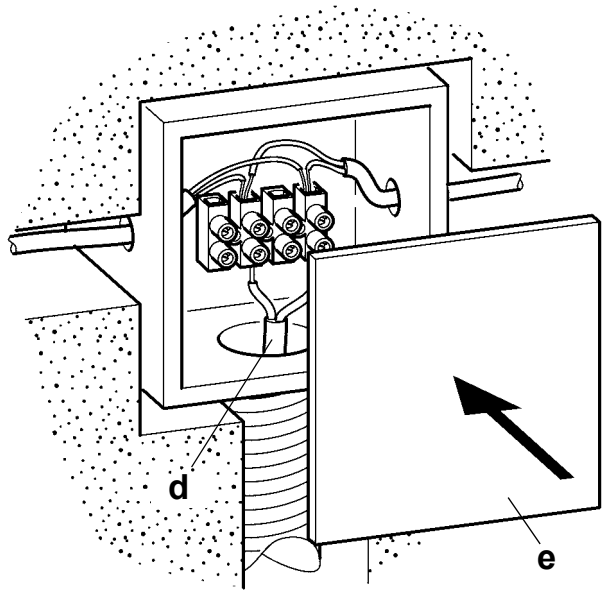
8.1 Install one wetroom distributor box (a) per shower.

8.2 Lay an empty duct (c; $Ø_{inner}$ = at least 20 mm) from the wetroom distributor box to the shower.

8.3 Lay a flexible 2-core cable (b) in the empty duct and loop from wetroom distributor box to wetroom distributor box.

8.4 Push the connection cable (d) for the bypass solenoid valve through the empty duct (c).

☞ The plug must be easily accessible in the shower.



8.5 Connect the connection cable (d) for the bypass solenoid valve in the wetroom distributor box.

8.6 Close off the wetroom distributor box with the protection cap (e).

9. Description AQUA 3000 open

The thermal disinfection of a group of fittings is started automatically by actuating the electronic modules.
The sequence of thermal disinfection is controlled and recorded by the ECC function controller or the system software.

Carrying out the thermal disinfection

⚠ **Warning!**

- The power supply, consisting of the residual current safety device (RCD), mains unit and controller must be installed in a separate room outside the wetroom.
- The local accident prevention regulations (UVV) must be observed.

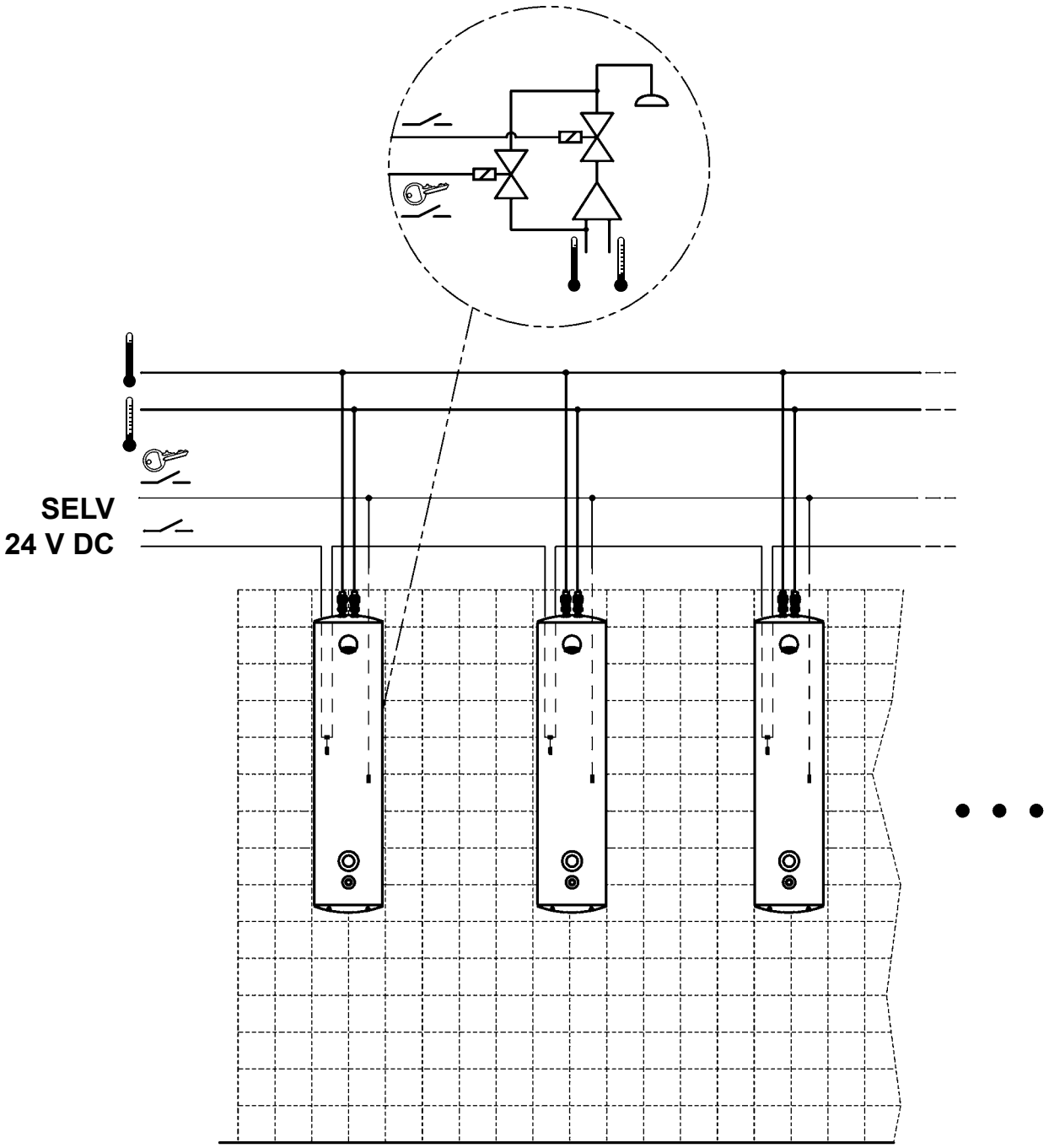
Failure to observe this instruction can result in injuries due to scalding.

☞ Fittings-dependent setting of the scald protection or temperature limit stop, before and after the flushing process, is not necessary.

9.1 Start the thermal disinfection.

- The bypass solenoid valve cartridges of a fittings group open up.
- Unmixed hot water flows into the shower cubicle via the shower head (volume flow = 0.06 l/s). The flushing temperature corresponds to the temperature in the circulation line.
- After thermal disinfection, the remaining hot water (>45 °C) is drained from each shower fitting. This is done by automatically triggering each fitting.

10. AQUATIMER A3000 open – without ECC



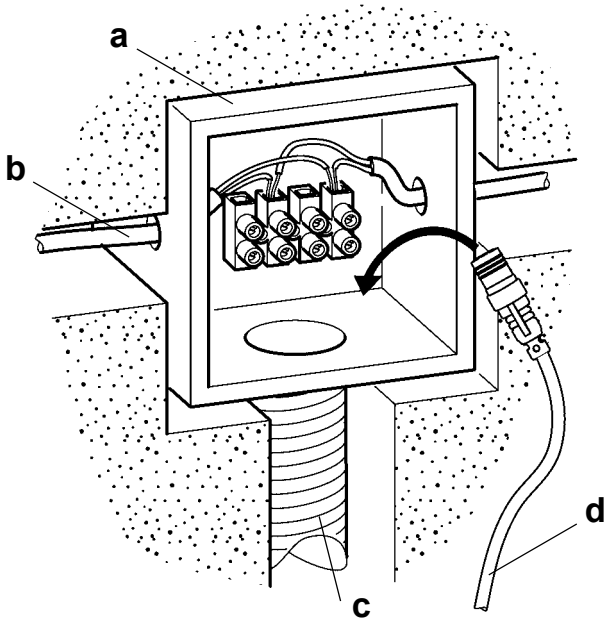
Materials required
Customer to provide:

- Wetroom distributor box (≥100 mm × ≥100 mm)
- Residual current safety device (RCD)
- Empty ducting for connection cable bypass solenoid valve ($Ø_{inner}$ = at least 20 mm)
- Empty ducting for cable
- flexible 2-core cable (type H05VV-F 2×0.75 mm²; for max. 24 fittings over a max. length of 100 m)
- Empty ducting for system cable

Accessories	Order No.
Mains unit - A3000 open (12 W) 230 V AC / 24 V DC	2000100375
Key-operated switch	2000102675
Bypass solenoid valve cartridge	2000100431
Connection cable for bypass solenoid valve	2000100432

Preparing the electrical connection

☞ Place the power supply and the key-operated switch outside the wetroom in a separate room and protect with a residual current safety device (RCD).



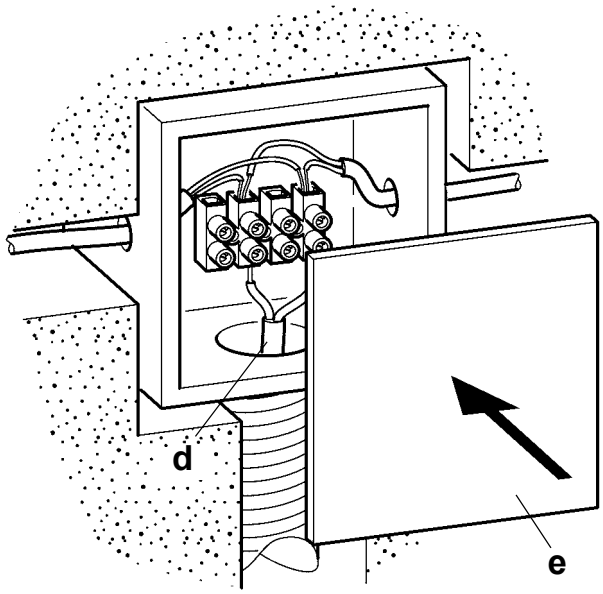
10.1 Install one wetroom distributor box (a) per shower.

10.2 Lay an empty duct (c; $Ø_{inner}$ = at least 20 mm) from the wetroom distributor box to the shower.

10.3 Lay a flexible 2-core cable (b) in the empty duct and loop from wetroom distributor box to wetroom distributor box.

10.4 Push the connection cable (d) for the bypass solenoid valve through the empty duct (c).

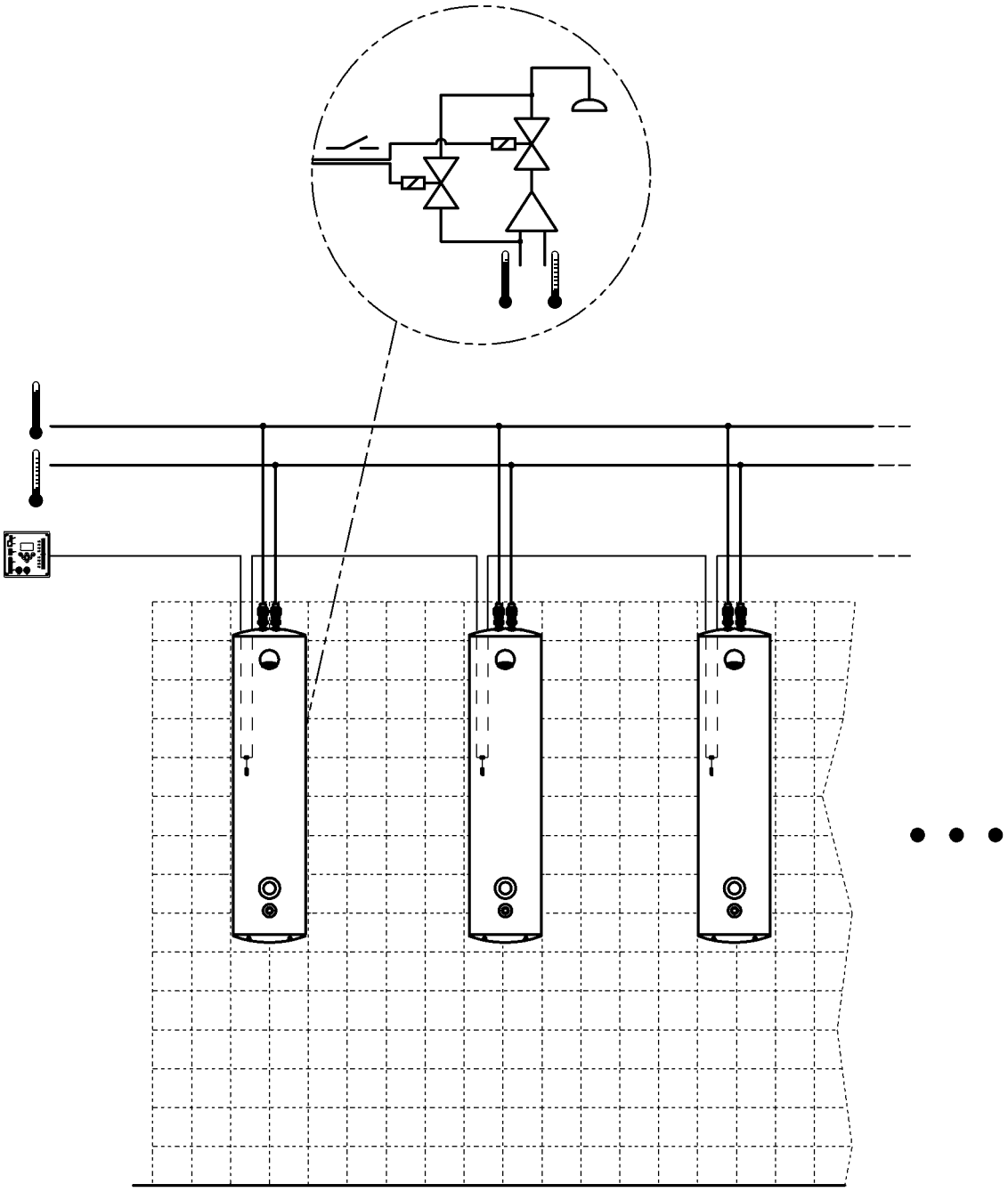
☞ The plug must be easily accessible in the shower.



10.5 Connect the connection cable (d) for the bypass solenoid valve in the wetroom distributor box.

10.6 Close off the wetroom distributor box with the protection cap (e).

11. AQUATIMER A3000 open – with ECC



for max. 32 fittings / ECC function controller

Materials required
Customer to provide:

- Residual current safety device (RCD)
- Empty ducting for system cable

Accessories	Order No.
ECC2 function controller (60 W) with Ethernet connection	2000108123
Bypass solenoid valve cartridge	2000100431
Push-in temperature sensor	2000100972
System cable	
blue, halogen-free 100 m	2000104272
blue, halogen-free 25 m	2000104274
grey, not halogen-free, 100 m	2000100801
grey, not halogen-free, 25 m	2000100852
Closing resistance	2000100847

Preparing the electrical connection

☞ Place the power supply outside the wetroom in a separate room and protect with a residual current safety device (RCD).

12. AQUACONTACT

Accessories	Order No.
Remote control	2000101087
Bypass solenoid valve cartridge	2000109499

☞ Thermal disinfection can only be triggered using the remote control.

13. SMARTWAVE AQUACONTACT

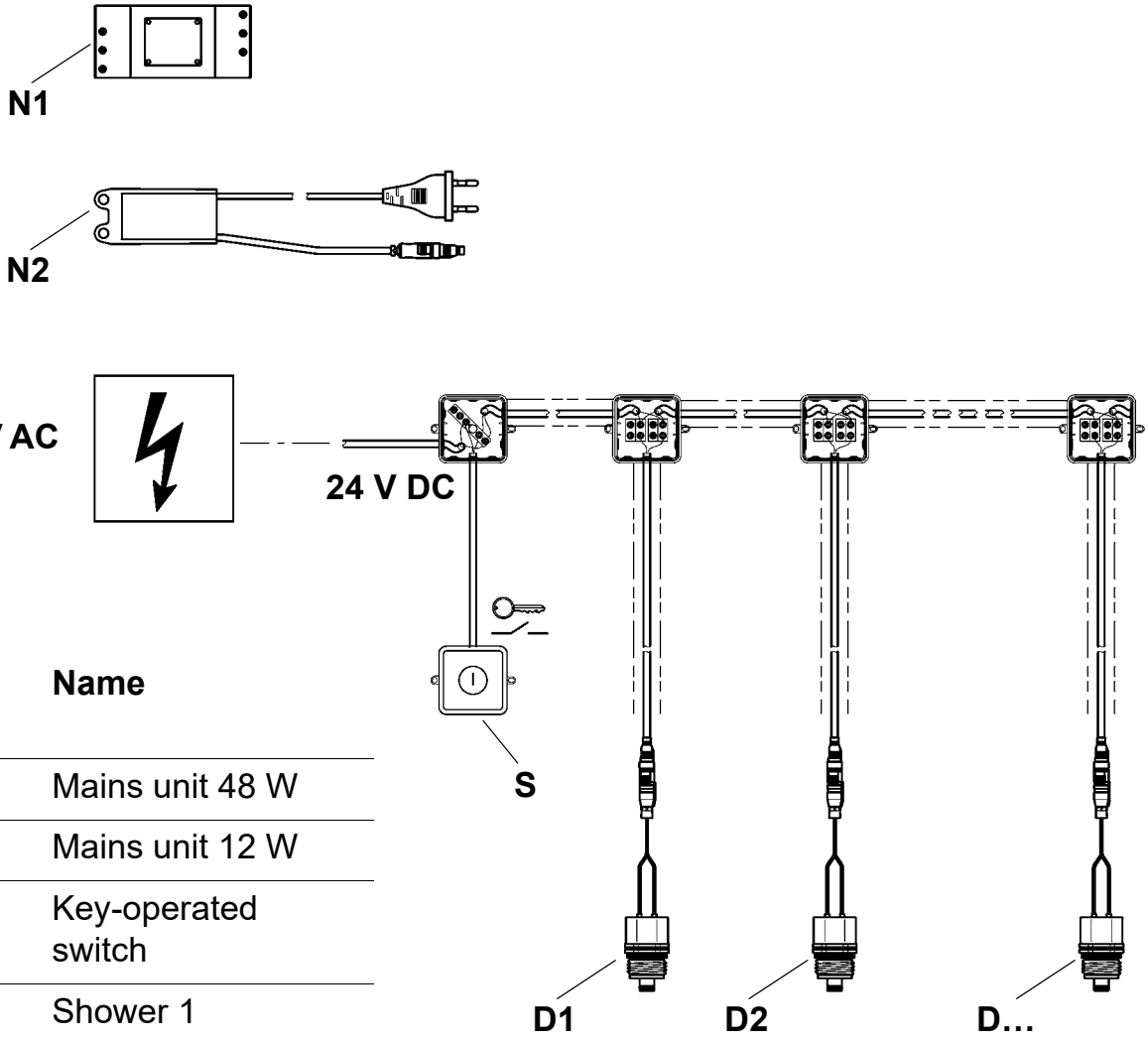
Accessories	Order No.
Remote control	2000101087
Bypass solenoid valve cartridge	2030003033

☞ Thermal disinfection can only be triggered using the remote control.

14. SMARTWAVE AQUALINE-Therm

The thermal disinfection of a group of fittings is started manually using an external key-operated switch.

System schematic



Item No.	Name
N1	Mains unit 48 W
N2	Mains unit 12 W
S	Key-operated switch
D1	Shower 1
D2	Shower 2
D…	Shower...

N1: max. 26 fittings; N2: max. 6 fittings

Materials required

Customer to provide:

- Wetroom distributor box (≥100 mm × ≥100 mm)
- Residual current safety device (RCD)
- Empty ducting for connection cable bypass solenoid valve ($Ø_{inner}$ = at least 20 mm)
- Empty ducting for cable
- flexible 2-core cable (type H05VV-F 2×0.75 mm²; for max. 24 fittings over a max. length of 100 m)

Accessories	Order No.
Mains unit (12 W)	2000100375
Mains unit (60 W)	2000100433
Key-operated switch	2000102675
Bypass solenoid valve cartridge	2000111145
Connection cable for bypass solenoid valve	2030010982

Carrying out the thermal disinfection

⚠ **Warning!**

- The power supply, consisting of the residual current safety device (RCD), mains unit and key-operated switch, must be installed in a separate room outside the wet room.
- If you are using timers you need to take suitable measures to prevent the thermal disinfection from being triggered in an uncontrolled manner, causing injury to persons.
- The local accident prevention regulations (UVV) must be observed.

Failure to observe this instruction can result in injuries due to scalding.

☞ Fittings-dependent setting of the scald protection before and after the flushing process, is not necessary.

14.1 Actuate the key-operated switch.

- The bypass solenoid valve cartridge of a fittings group opens up.
- Unmixed hot water flows into the shower cubicle via the shower head (volume flow = 0.06 l/s). The flushing temperature corresponds to the temperature in the circulation line. The flushing time corresponds to the actuation time of the key-operated switch.

14.2 Room, take-off point, date, time, temperature and duration of thermal disinfection to be recorded manually.

14.3 After thermal disinfection, manually drain the remaining hot water (>45 °C) from each shower fitting. Trigger each fitting to do so.

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