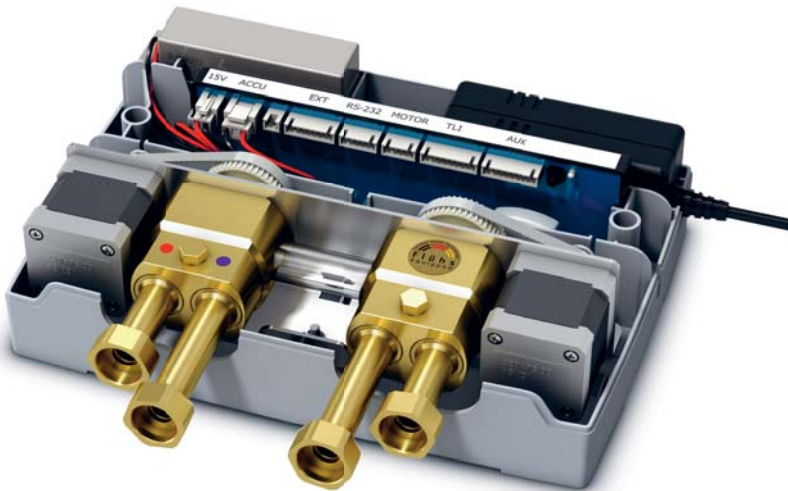




ESTB. 1978

WATERWORKS



INSTALLATION MANUAL

GUTHD2

Universal Two Way Digital Thermostatic
Valve for Shower Systems



IMPORTANT:

- To ensure this product is installed properly, you must read and follow these guidelines.
- The owner/ user of this product must keep this information for future reference.
- This product must be installed by a professional licensed contractor. Electrical connections and components must be installed by a professional licensed electrician.
- Check to ensure the power supply has been turned off prior to starting installation.
- Check incoming water pressure.
- Ensure the installation conforms to all federal, state, and local codes. In the State of Massachusetts, all installations must comply with the rules and regulations set forth within 248 CMR.
- Inspect this product to ensure you have all parts required for proper installation.

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Notice



PLEASE READ THE MANUAL CAREFULLY BEFORE STARTING THE INSTALLATION. AFTER COMMISSIONING AND TESTING THE SYSTEMS FUNCTIONALITY, THIS DOCUMENT MUST BE GIVEN TO THE ENDUSER OF THE SYSTEM.

General

This installation manual contains instructions for the correct installation of the GUTHD2 product. The warranty will be invalidated if the product is not installed according to these instructions. Installation must be carried out by qualified installers in accordance to this installation manual. Country-specific standards, rules and safety regulation do apply.

Place of installation

The GUTHD2 products must be installed in an accessible place and in accordance to this installation manual. This ensures a problem-free service and maintenance procedure.



DANGER OF ELECTRIC SHOCK!

Electrical installation

Before opening the housing, the mains connection must be switched off.
Work on electrical parts and connections must be carried out by qualified electrician.
Country-specific standards and regulations do apply.



Maintenance

Waterworks products are made of high quality materials and require only minimal maintenance. The following maintenance tips help to preserve the surface and prevent damage through incorrect cleaning. Fittings and control parts should be wiped dry after used. Only use mild cleaning products that contain soap. The following must not be used: Scourers, abrasive sponges, hydrochloric acid, lime-, plaster- or cement removers, solutions or cleaning agents containing acid ($\text{pH} \leq 4$), lime scale remover or vinegar-based cleaner – and cleaning agents where the chemical solution is not known which may be sold as «special cleaner for fittings».

Electrical Specs

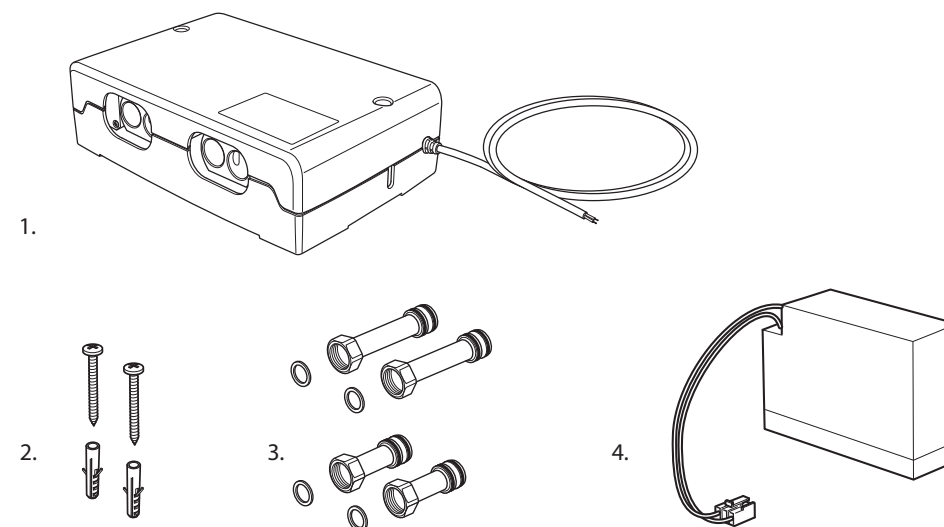
Power supply	100-240V AC / 50–60 Hz
Power consumption	Standby < 0.5 W, max. 45 W
Output	max. 4 external actuators (e.g. drain- or solenoid valves)

Water Specs

Input	1/2" NPT Female plug nipple
Output	1/2" NPT Female plug nipple
Flow	max. 9.5gpm [36 L/min] @ 45psi [3 bar] (see diagram, page 6)
Pressure range	7.25psi [0.5 bar] – 145psi [10 bar]
Difference of pressure	WW / KW max. 14.5psi [1 bar]
Interfaces	UNDS02

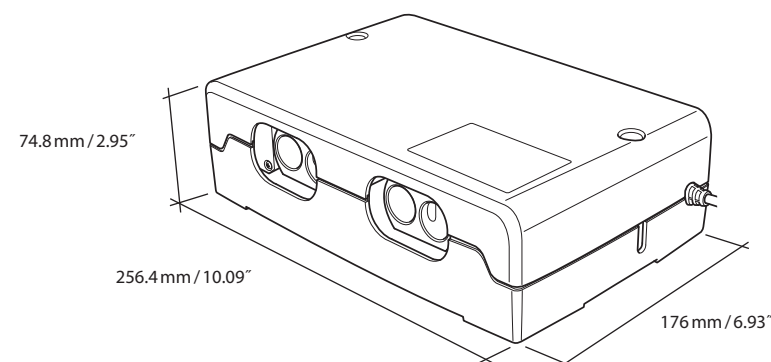
Components

GUTHD2

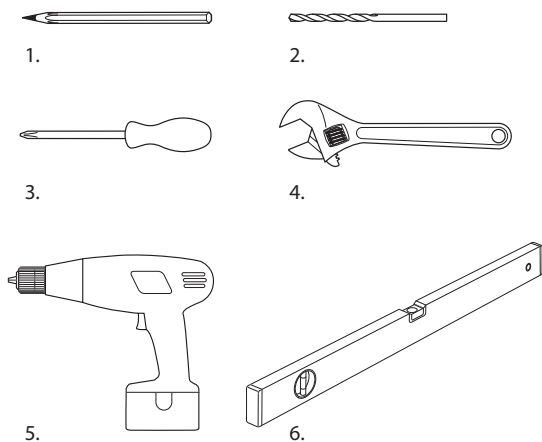


1. Digital Two Way Thermostatic Valve
2. Set of screws, $2 \times 5 \times 50$ mm
3. Set of connection nipples
4. Back up battery

Measurements

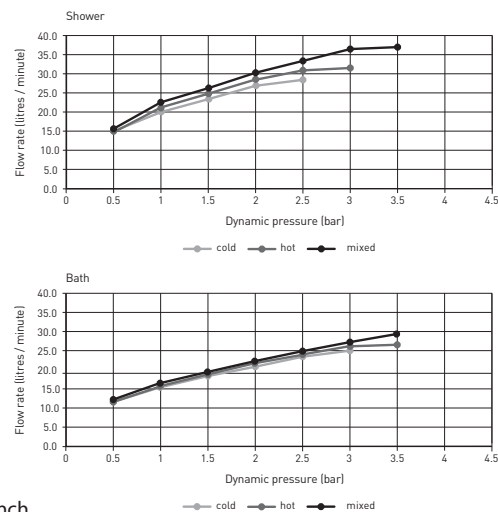


Tools required



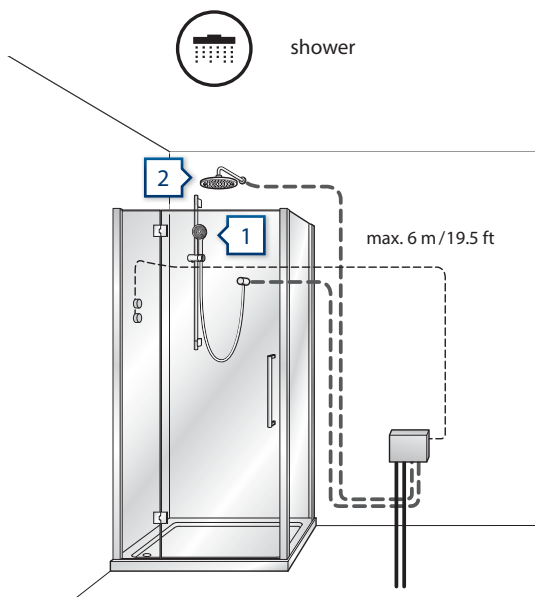
1. Pencil
2. Drill bit ø8 mm
3. Crosshead screwdriver
4. Adjustable spanner/wrench
5. Drill
6. Spirit level

Flow rate



ADVICE: The flow chart is measured open ended as the outlets have no restrictions.

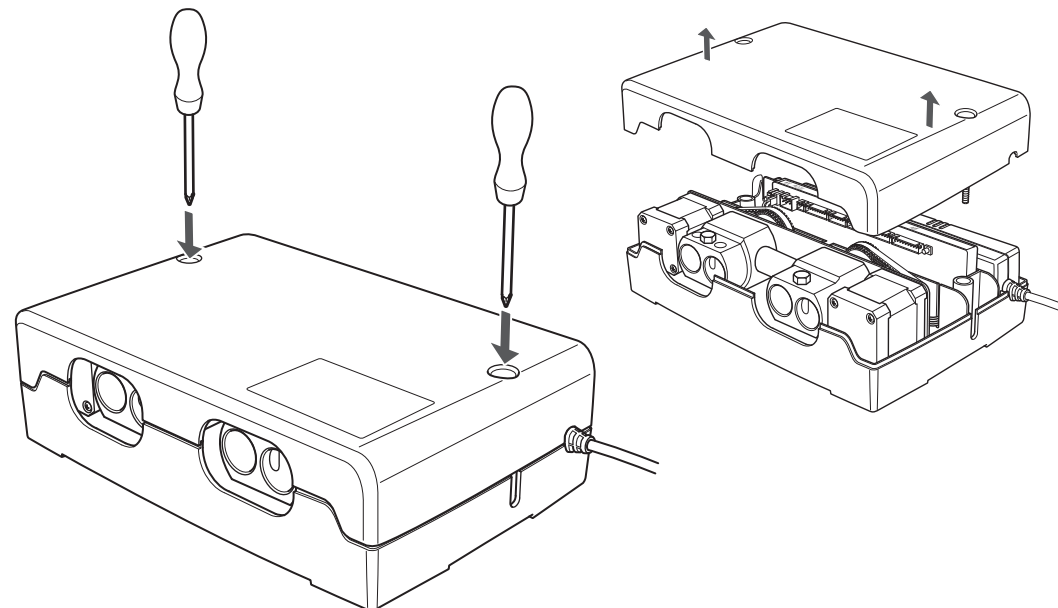
Scope of application



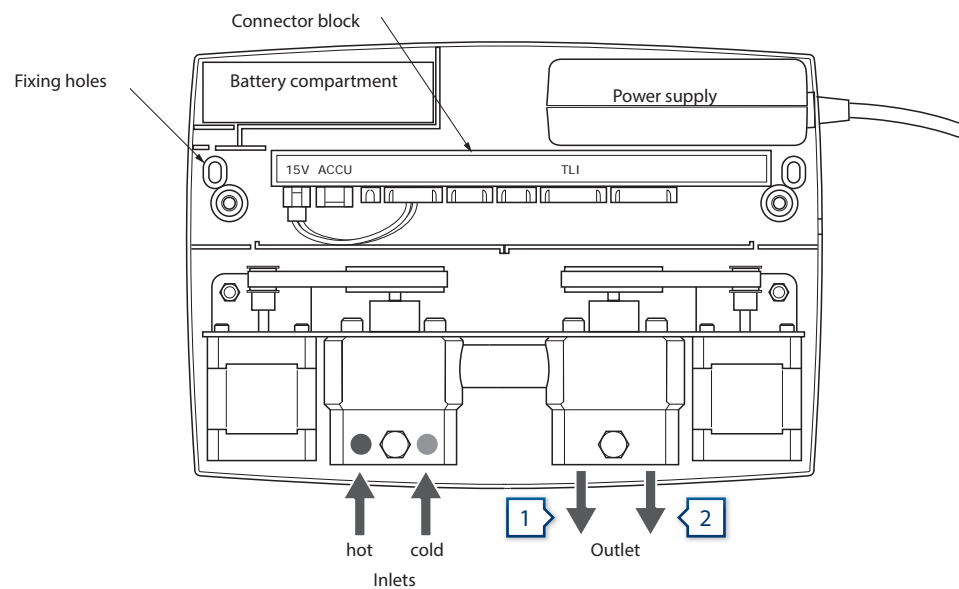
IMPORTANT: The controller must be accessible and should not be sealed in the wall

Installation

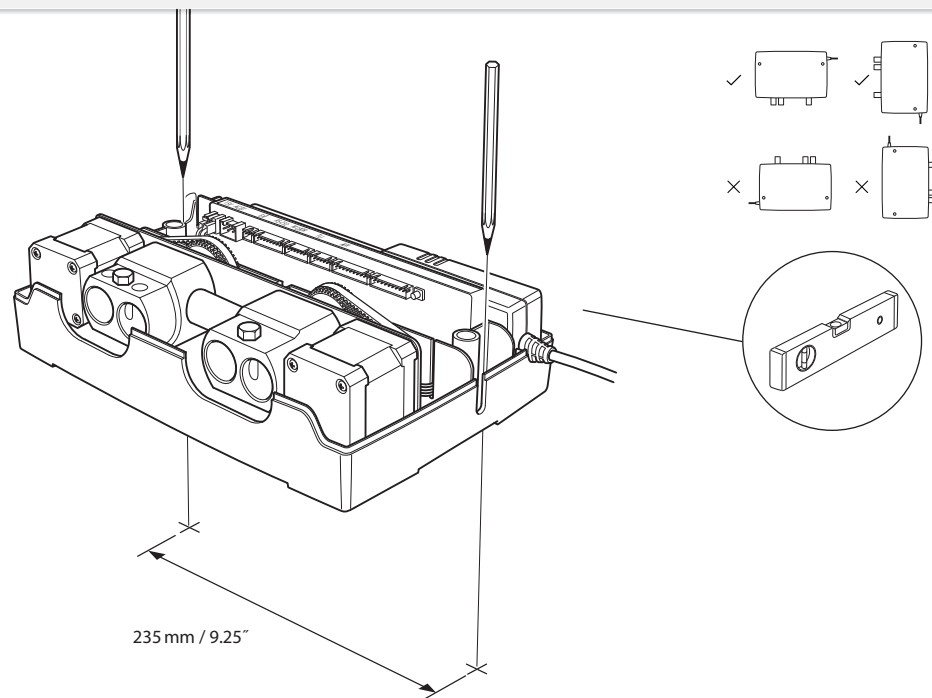
1 Remove cover



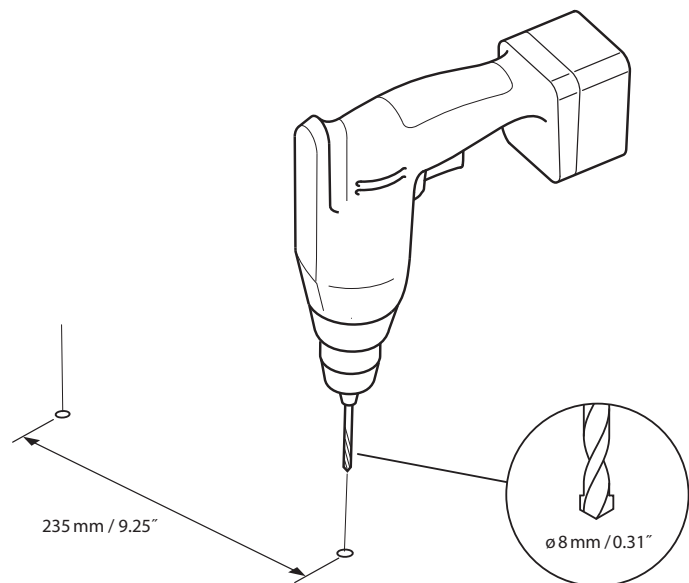
2 Inside digital valve



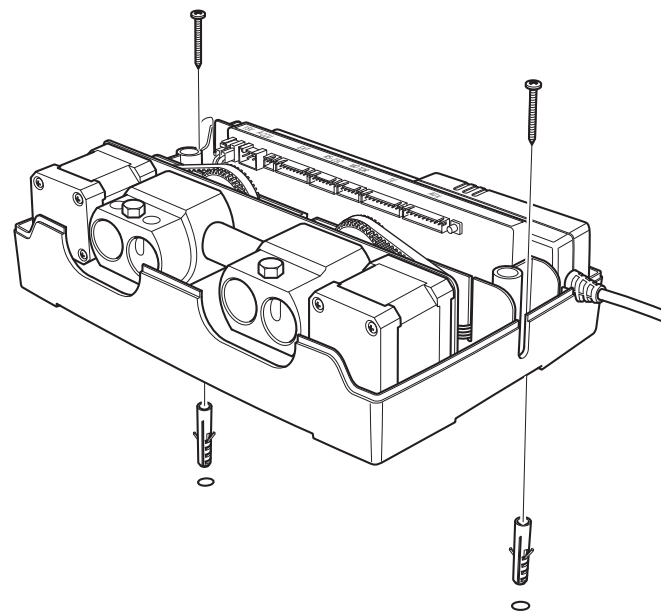
3 Mark fixing holes



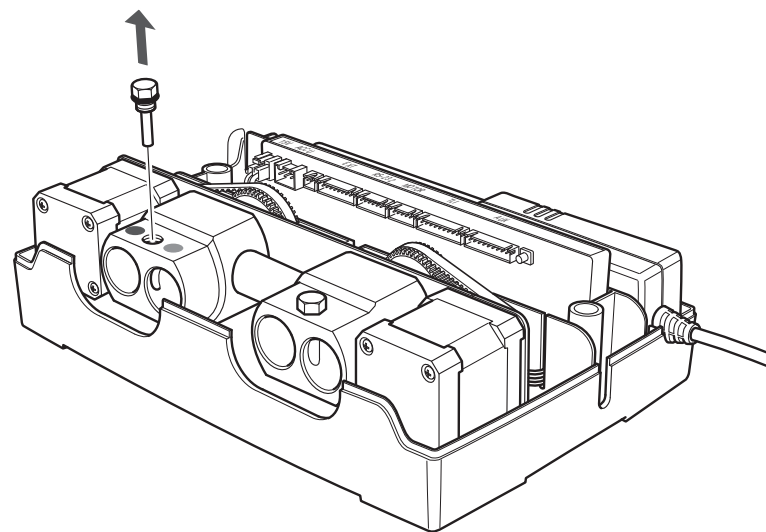
4 Drill fixing holes



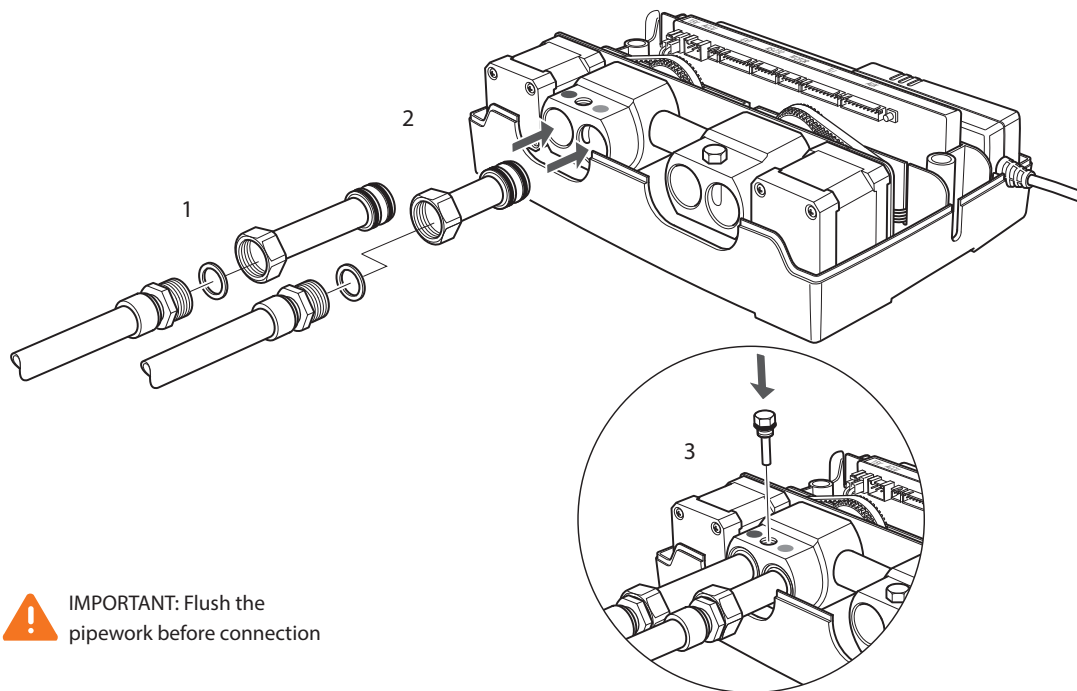
5 Install digital valve



6 Remove inlet retaining bolt

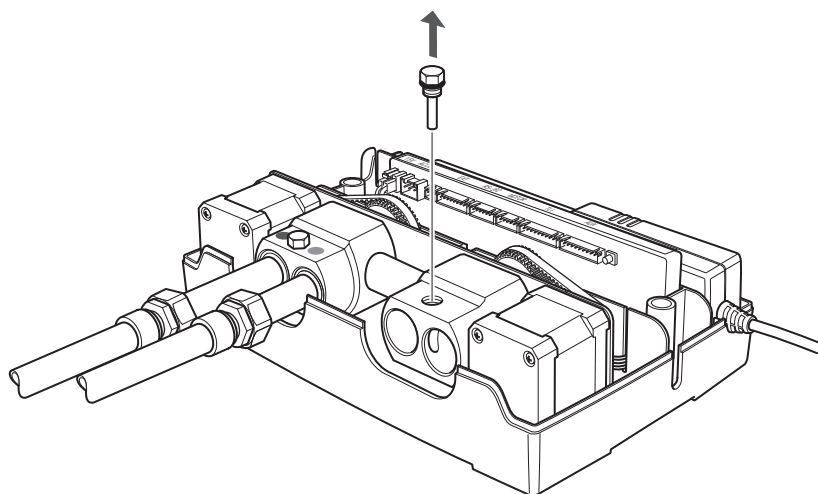


7 1: Connect hot and cold water supply 2: Insert inlet connectors 3: tighten retaining bolt

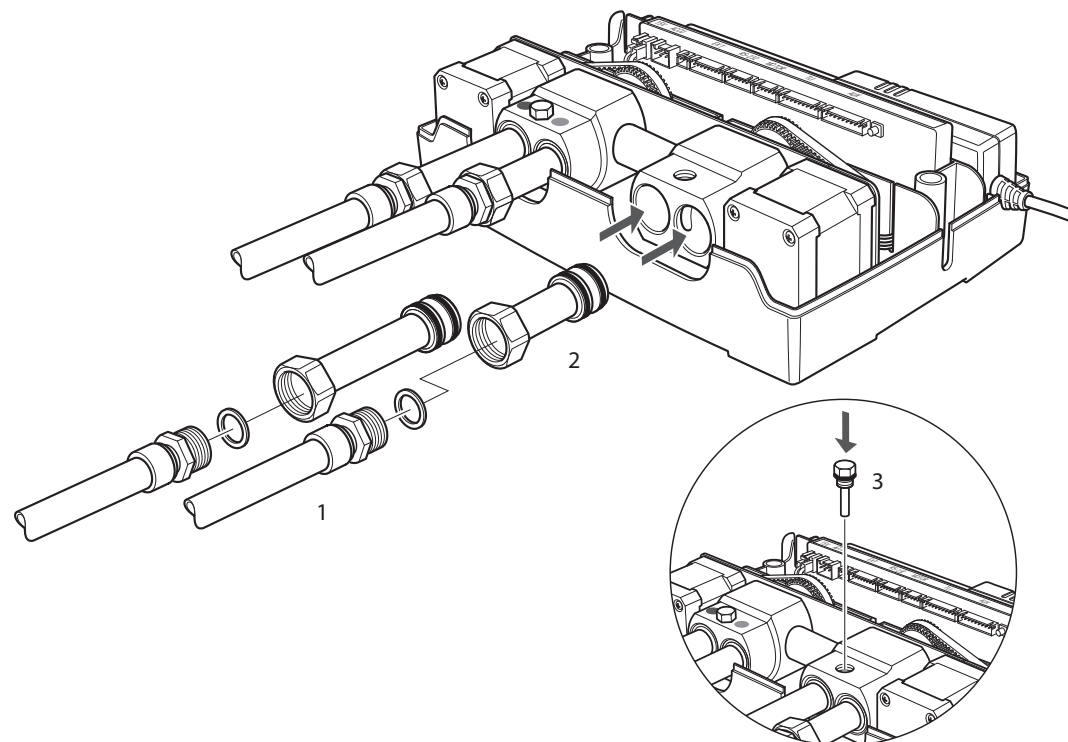


IMPORTANT: Flush the pipework before connection

8 Remove outlet retaining bolt



9 1: Connect outlet pipeworks 2: Insert outlet connectors 3: tighten retaining bolt

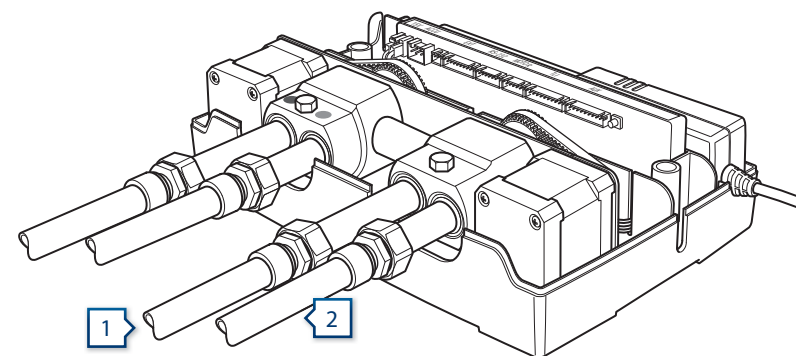


shower

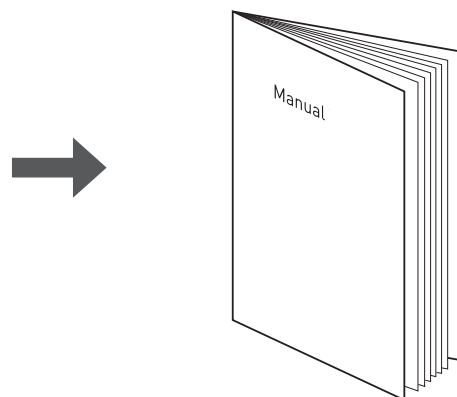
1



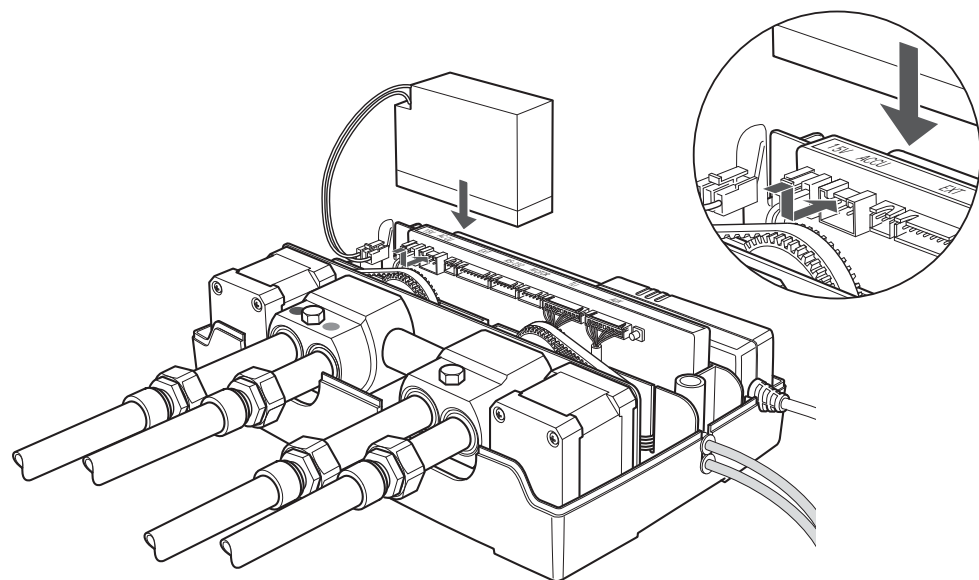
2



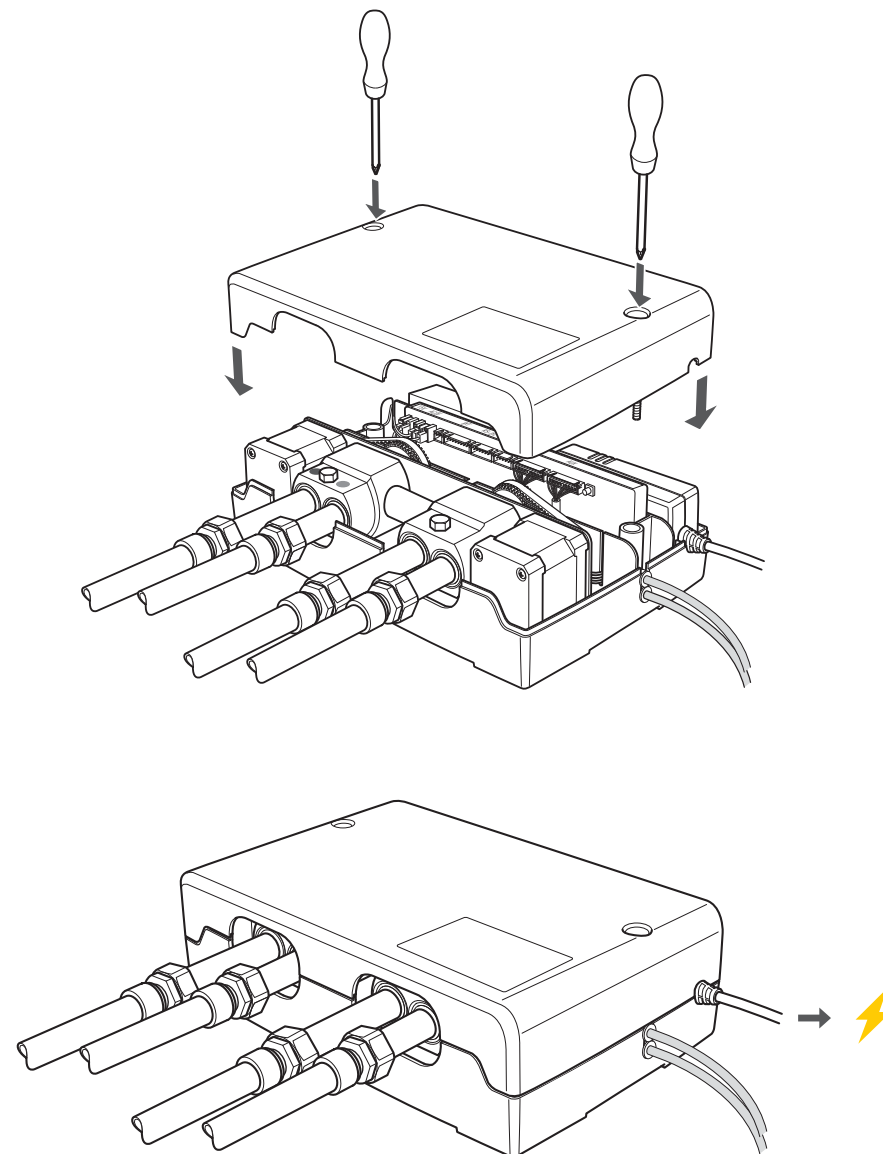
10 | Install UNDS02 according to the correlating installation manual




11 | Connect back up battery



12 | Re-attach cover and connect GUTHD2 to the mains



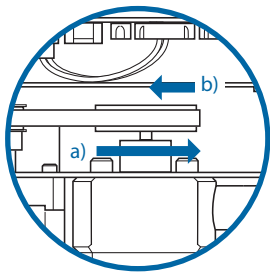
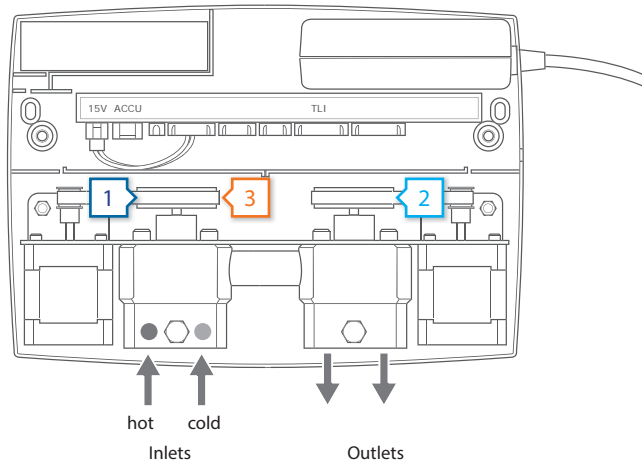
 **IMPORTANT:** Electrical connection must be installed by a qualified electrician.

Pressure test



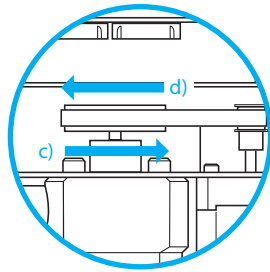
The complete installation can be pressure tested up to the outlet point. This manual outlines operating the GUTHD2 controller manually.

The pressure test must be performed by a qualified professional person.



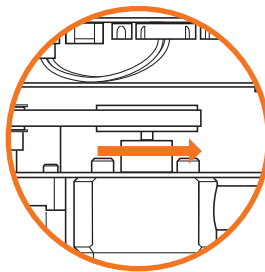
1 Open Inlets

- a) Ensure that cartridge 1 (temperature mixer) is fully turned to the right end stop.
- b) Then turn on the cartridge about 90° (quarter turn).



2 Open Outlets

- c) Turn cartridge 2 (flow control/diverter) to the right end stop.
- d) Then turn the cartridge to the left end stop.



3 Close Inlets

For closing the mixing unit, turn cartridge 1 back to the right end stop.

Troubleshooting

Error	Problem	Solution
The device does not function	The device is not connected to the mains	Connect device to the mains power
	Mains power failure	Check fuse box
	The mains supply is not connected to the electronic controller	Connect 2-poled plug with electronic controller
The water temperature is not correct	Interface or display element is not connected	Check connections
	Hot and cold water connections mixed-up	Change connections
	Hot or cold water stop valve closed or only half opened	Fully open both stop valves
	Kink in supply hose	Check connection hoses
	Connecting pipe blocked	Flush pipes and clean filter
	Hot water tank empty or instantaneous heater not connected	Check hot water tank and connections
	Temperature sensor defect	Carry out function «Diagnosis mode» (see user manual)
The required water flow is not correct	Difference in supply volume between hot and cold water too large ($\Delta > 1$ bar)	Balance pressure to eliminate difference
	Hot or cold water stop valve closed or only half opened	Open stop valves fully
	Kink in supply hose or blocked	Flush pipes and clean filter
Constant flow of water	Stored flow rate is too low	Carry out «factory settings» option (see user manual)
	Motors are not calibrated	Carry out function «Diagnosis mode» (see user manual)
The water simply shuts off after a period of time	Valves will not close	See diagnosis mode
	The maximum running time has been reached	See user manual

Troubleshooting

Error	Problem	Solution
No water flow	Stop valves closed	Open stop valves fully
	No water supply	No water pressure, main fitting blocked
	Kink in supply hose	Check
	Dirt filter contaminated	Clean
	The device is not connected to the mains	Connect device to the mains
	Mains power failure	Check power supply
	The mains supply is not connected to the electronic controller	Connect 2-poled plug with electronic controller
The saved filling volume is not correct (bath version)	Interface and display elements are not connected	Connect interface or display elements
Interface flashes green	Flow sensor is defective	Carry out function «diagnosis mode» (see user manual)
Device does not operate power failure	Cleaning mode active	Wait 45 seconds or deactivate via menu
	Battery not in place or not connected	Connect battery with controller (ACCU)
	Battery empty	Charge (at least 24 hours)
The housing is damp or wet	Battery defective	Replace (replace every 3 to 5 years)
	Non-permitted installation situation	See the label on the lid
The interface elements (with cable connection) are not responding	Inlet and outlet of the valves are not properly sealed	Check and, if necessary, re-seal
	The interface elements are connected incorrectly	Must be connected at interface- and display elements
	The interface is defective	Replace interface unit
	The knob is not running smoothly	Remove and clean knob



ESTB. 1978

WATERWORKS



INSTALLATION MANUAL

UNDS02 & UNDS03

Universal Two Way & Three Way Digital Interface
for Thermostatic Shower Systems



IMPORTANT:

- To ensure this product is installed properly, you must read and follow these guidelines.
- The owner/ user of this product must keep this information for future reference.
- This product must be installed by a professional licensed contractor. Electrical connections and components must be installed by a professional licensed electrician.
- Check to ensure the power supply has been turned off prior to starting installation.
- Ensure the installation conforms to all federal, state, and local codes. In the State of Massachusetts, all installations must comply with the rules and regulations set forth within 248 CMR.
- Inspect this product to ensure you have all parts required for proper installation.

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Scope of delivery	5
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Connect to GUTHD2/GUTHD3	10
Troubleshooting	12

Notice



PLEASE READ THE MANUAL CAREFULLY BEFORE STARTING THE INSTALLATION. AFTER COMMISSIONING AND TESTING THE SYSTEMS FUNCTIONALITY, THIS DOCUMENT MUST BE GIVEN TO THE ENDUSER OF THE SYSTEM.

General

This installation manual contains instructions for the correct installation of the UNDS02/UNDS03 product. The warranty will be invalidated if the product is not installed according to these instructions.

Installation must be carried out by qualified installers in accordance to this installation manual. Country-specific standards, rules and safety regulation do apply.

Place of installation

The UNDS02/UNDS03 products must be installed in an accessible place and in accordance to this installation manual. This ensures a problem-free service and maintenance procedure.



DANGER OF ELECTRIC SHOCK!

Electrical installation

Before opening the housing, the mains connection must be switched off.
Work on electrical parts and connections must be carried out by qualified electrician.
Country-specific standards and regulations do apply.

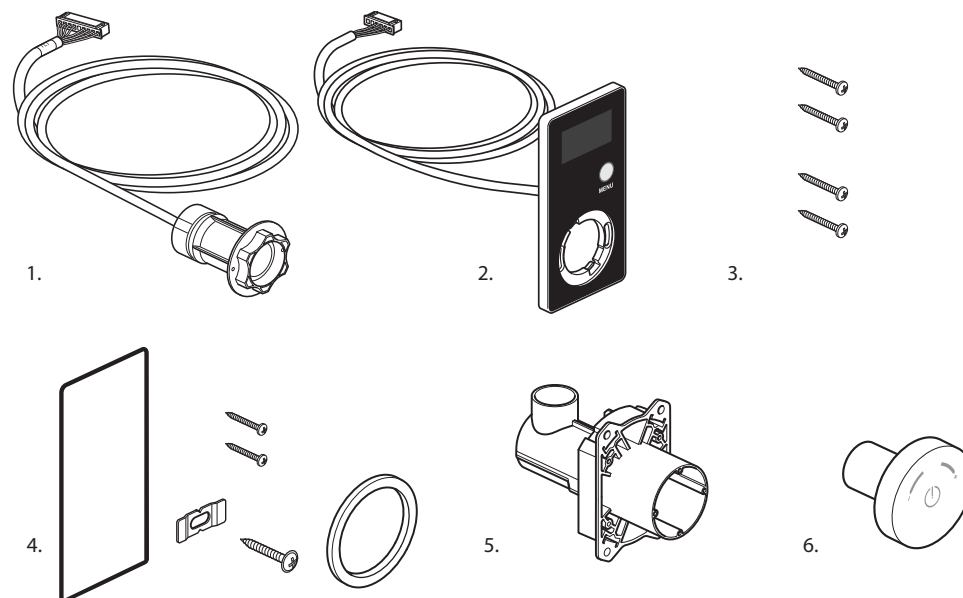


Maintenance

Waterworks products are made of high quality materials and require only minimal maintenance. The following maintenance tips help to preserve the surface and prevent damage through incorrect cleaning. Fittings and control parts should be wiped dry after used. Only use mild cleaning products that contain soap. The following must not be used: Scourers, abrasive sponges, hydrochloric acid, lime-, plaster- or cement removers, solutions or cleaning agents containing acid ($\text{pH} \leq 4$), lime scale remover or vinegar-based cleaner – and cleaning agents where the chemical solution is not known which may be sold as «special cleaner for fittings».

Scope of delivery

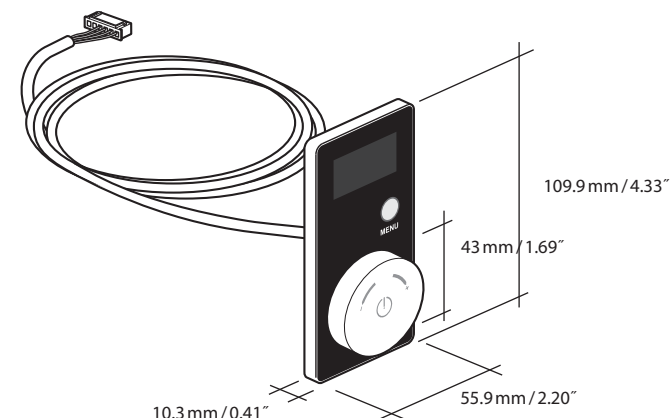
UNDS02/UNDS03



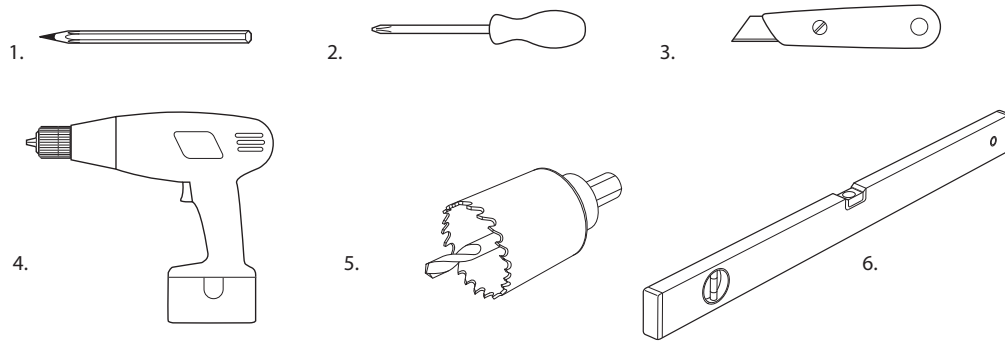
1. Interface Vision Wheel
2. Display
3. Set of screws (6 × 2.5 × 16 mm)

4. Fastening and seating set Vision Wheel
5. In-wall box
6. Turning knob

Measurements

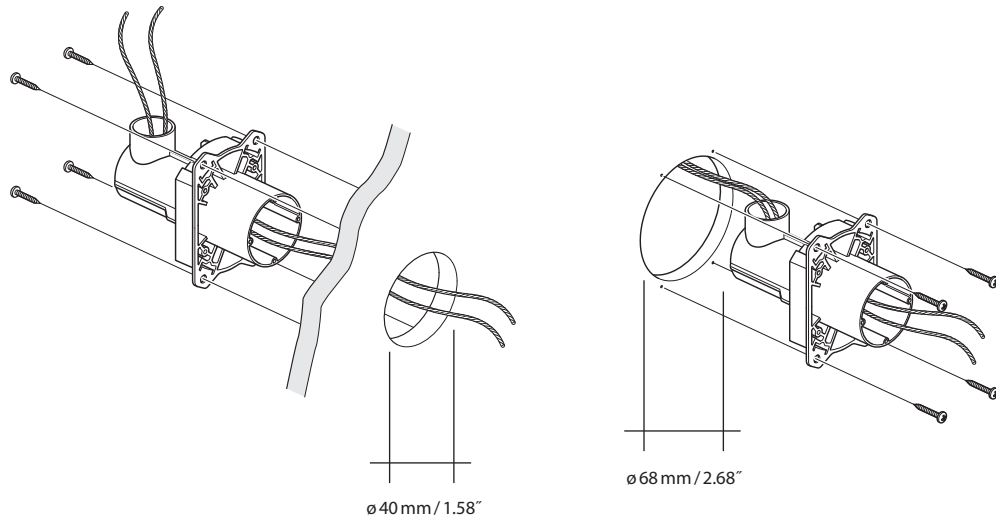


Tools required



Installation

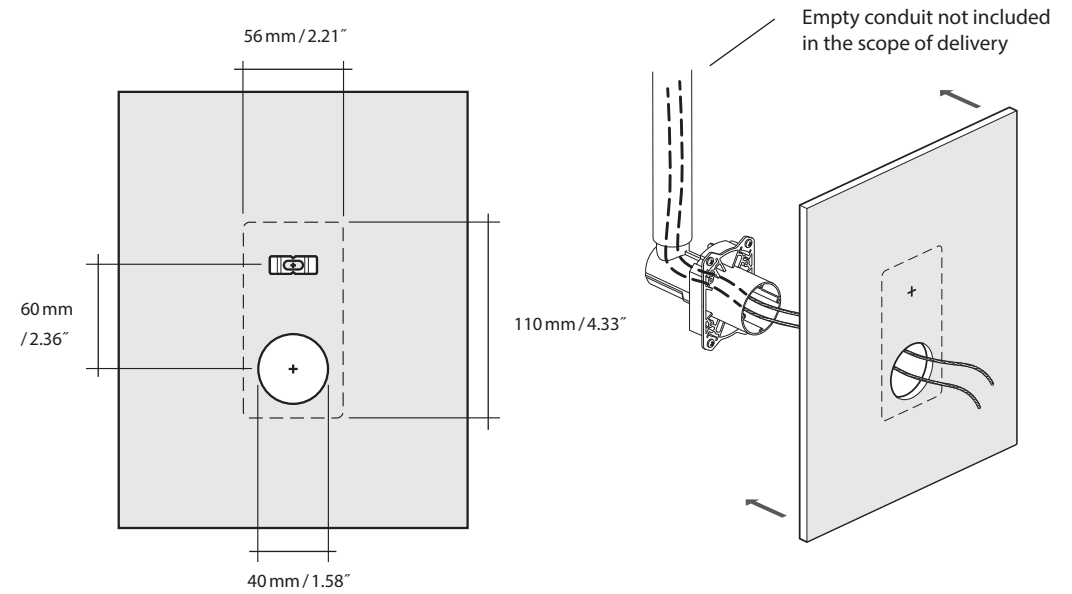
1 Attach in-wall box



Fitting from the backside

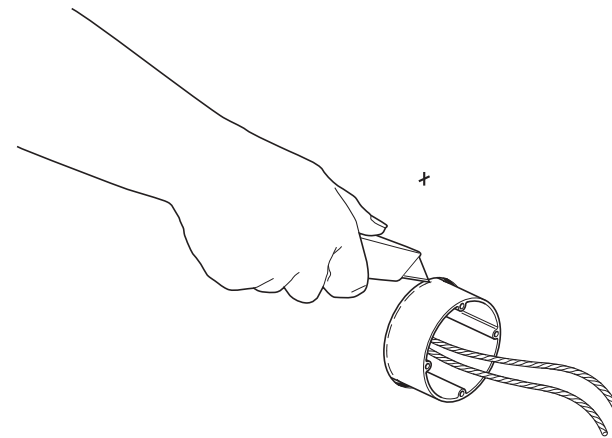
Fitting from the front

2 Connect empty conduit/finish the wall

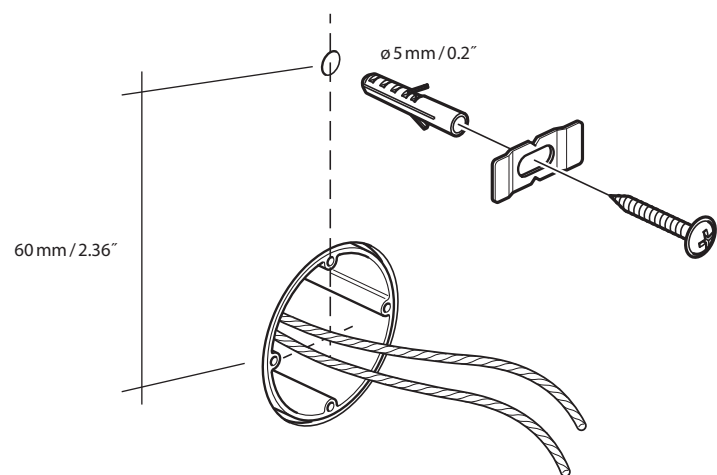


String or wire to help pull interface cable through to the UNDS02/UNDS03 controller

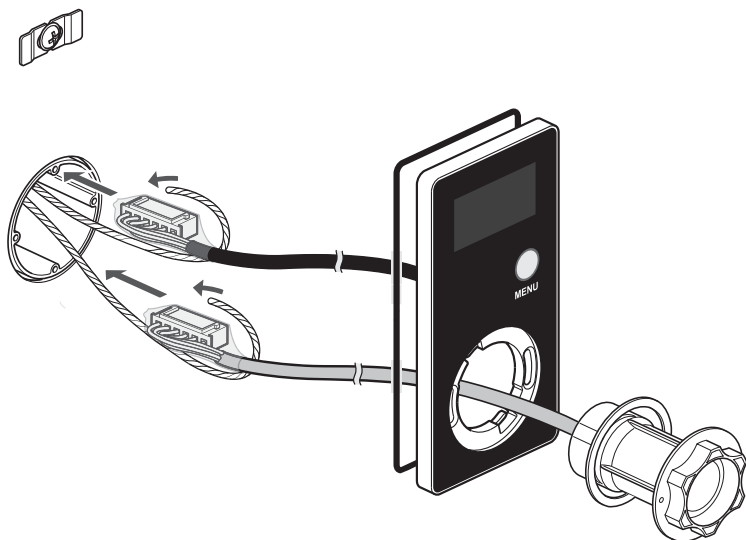
3 Cut back in-wall box



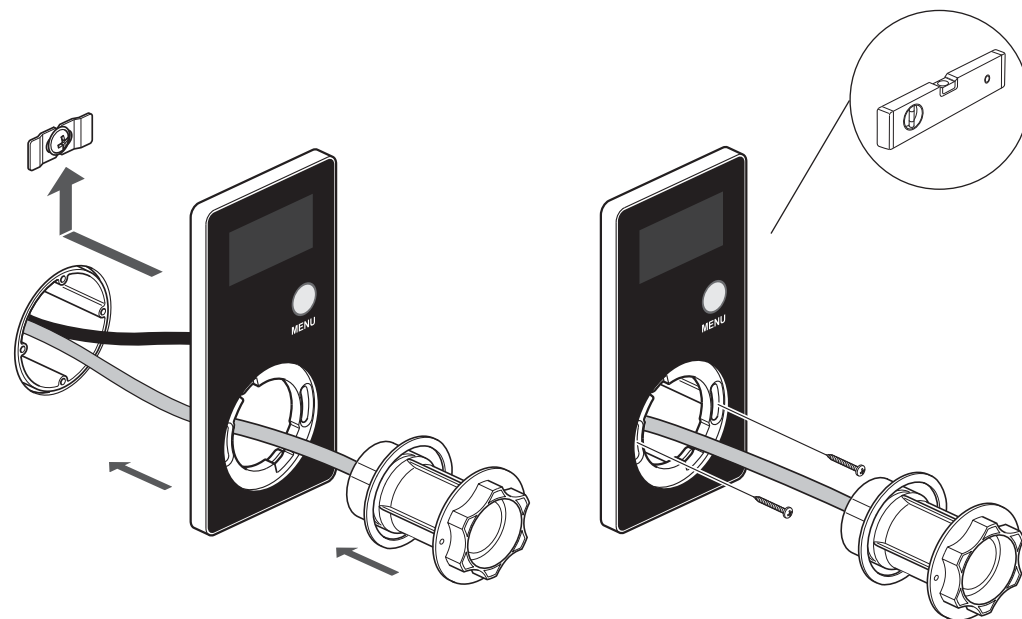
4 Attach fixing clip



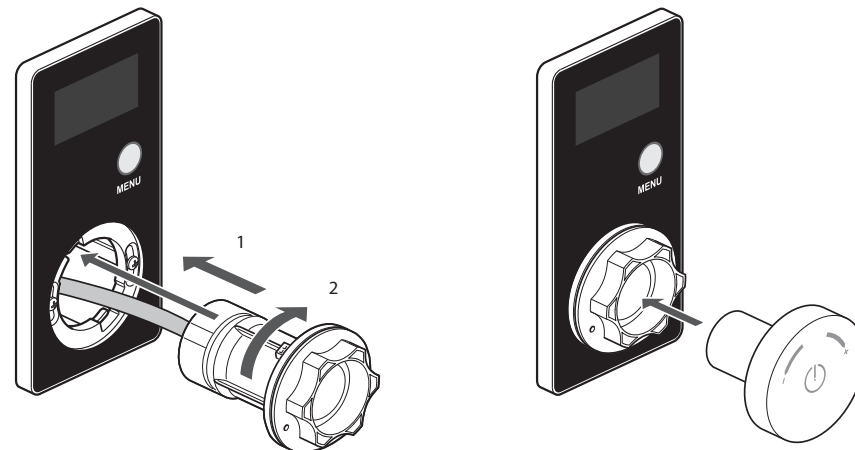
5 Feed both cables through to the controller

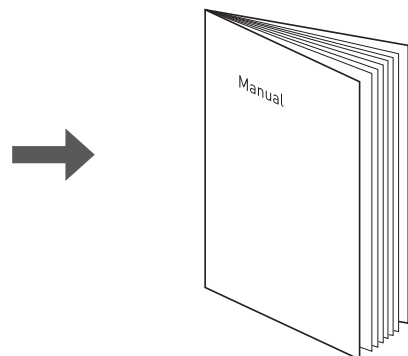


6 Position display and lock by screws



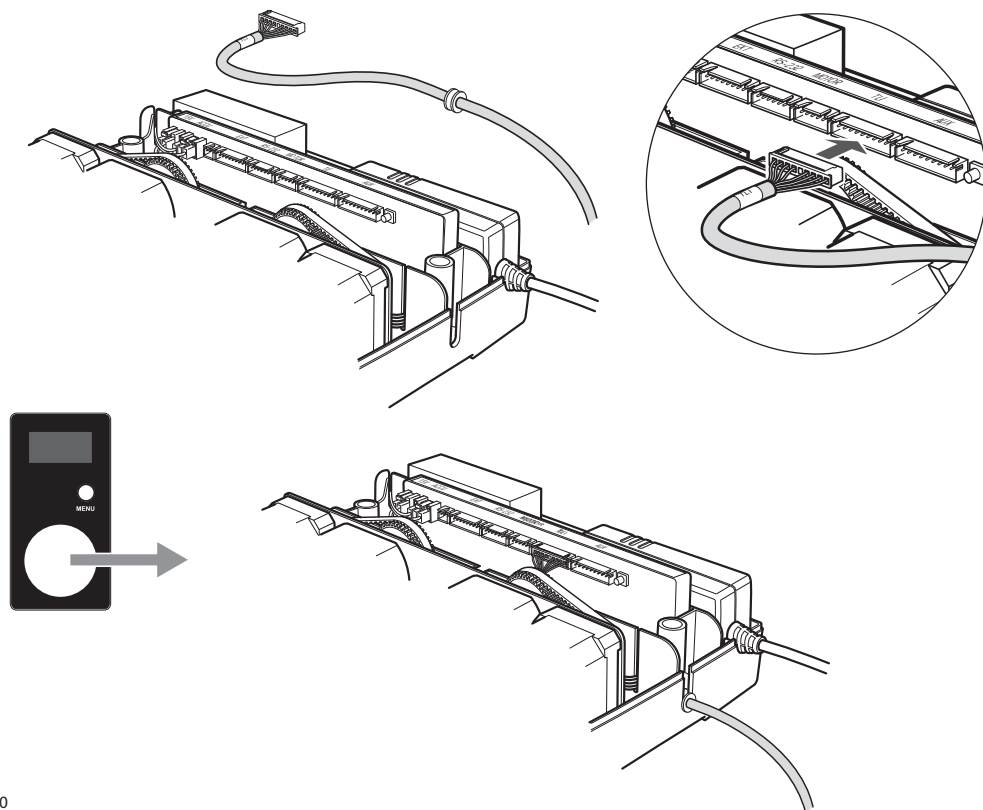
7 Position interface vision wheel into the display and lock by turning clockwise



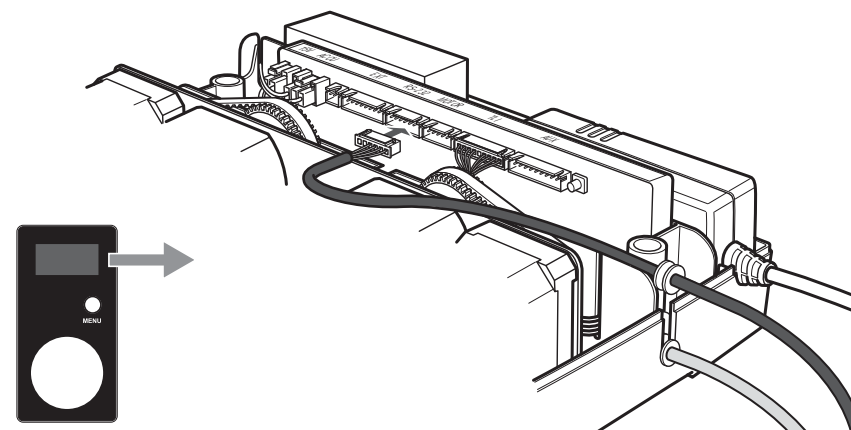


Connect UNDS02/UNDS03 to:

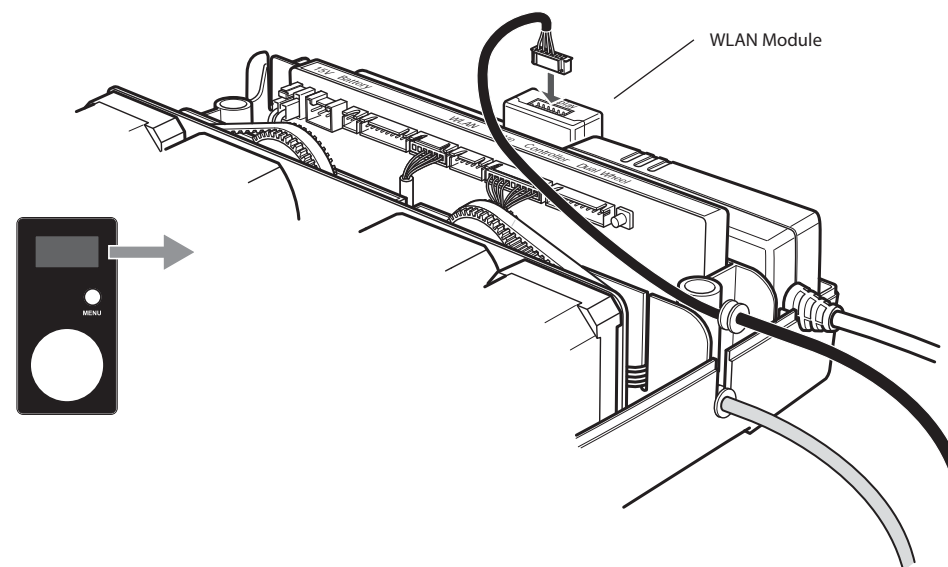
Interface cable on GUTHD2/GUTHD3



Display cable on GUTHD2/GUTHD3



Display cable on GUTHD2/GUTHD3 with WLAN Module



Troubleshooting

Error	Problem	Solution
The device does not function	The device is not connected to the mains	Connect device to the mains power
	Mains power failure	Check fuse box
	The mains supply is not connected to the electronic controller	Connect 2-poled plug with electronic controller
	Interface or display element is not connected	Check connections
The water temperature is not correct	Hot and cold water connections mixed-up	Change connections
	Hot or cold water stop valve closed or only half opened	Fully open both stop valves
	Kink in supply hose	Check connection hoses
	Connecting pipe blocked	Flush pipes and clean filter
	Hot water tank empty or instantaneous heater not connected	Check hot water tank and connections
	Temperature sensor defect	Carry out function «Diagnosis mode» (see user manual)
	Difference in supply volume between hot and cold water too large ($\Delta > 1$ bar)	Balance pressure to eliminate difference
The required water flow is not correct	Hot or cold water stop valve closed or only half opened	Open stop valves fully
	Kink in supply hose or blocked	Flush pipes and clean filter
	Stored flow rate is too low	Carry out «factory settings» option (see user manual)
Constant flow of water	Motors are not calibrated	Carry out function «Diagnosis mode» (see user manual)
	Valves will not close	See diagnosis mode
The water simply shuts off after a period of time	The maximum running time has been reached	See user manual

Error	Problem	Solution
No water flow	Stop valves closed	Open stop valves fully
	No water supply	No water pressure, main fitting blocked
	Kink in supply hose	Check
	Dirt filter contaminated	Clean
	The device is not connected to the mains	Connect device to the mains
The saved filling volume is not correct (bath version)	Mains power failure	Check power supply
	The mains supply is not connected to the electronic controller	Connect 2-poled plug with electronic controller
Interface flashes green	Interface and display elements are not connected	Connect interface or display elements
	Flow sensor is defective	Carry out function «diagnosis mode» (see user manual)
Device does not operate power failure	Cleaning mode active	Wait 45 seconds or deactivate via menu
	Battery not in place or not connected	Connect battery with controller (ACCU)
	Battery empty	Charge (at least 24 hours)
The housing is damp or wet	Battery defective	Replace (replace every 3 to 5 years)
	Non-permitted installation situation	See the label on the lid
The interface elements (with cable connection) are not responding	Inlet and outlet of the valves are not properly sealed	Check and, if necessary, re-seal
	The interface elements are connected incorrectly	Must be connected at interface- and display elements
	The interface is defective	Replace interface unit
	The knob is not running smoothly	Remove and clean knob



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WATERWORKS



USER MANUAL

UNDS02 & UNDS03

Universal Two Way & Three Way Digital Interface
for Thermostatic Shower Systems



Content

Notice	3
Vision Wheel for shower application (with temperature- and water flow sensor)	4

Notice



The user manual must be given to the user.
Please read this user manual carefully before using the system and keep in a safe place for future reference.
To reduce the risk of injuries, scalding and electrical shock, the safety precautions below must be installed and followed



Risk of injury
This device is not intended for use by persons with different or reduced physical, sensory, or mental abilities, or who lack experience or knowledge, unless they are under the supervision of or receive training for the use of the device by a person responsible for their safety.

CONTINUOUSLY TURNING THE CONTROL WHEEL IN THE CLOCKWISE DIRECTION MAY OVERRIDE THE PRE-SET MAXIMUM TEMPERATURE, RESULTING IN A RISK OF SCALDING.

If the power cord gets damaged, it must be replaced by the manufacturer, its authorized service agent or qualified personnel to avoid danger. Never operate the device with a damaged cable or plug! Do not pull on the power cable as this could cause damage to the cable and cause electric shock.



Malfunctions, Possible cause, Solution

The device is not working.

Start Diagnostic. Check that:

- The control unit is connected to the mains
- There is no power supply failure
- The electric plug inside the control unit is well connected

No water flow when activated. Check that:

- Your faucet is connected to the water supply
- Both angle valves are fully opened
- Check another faucet in the house if water is running
- The water supply hoses are not bent or twisted
- The supply hoses might be soiled
- The control unit is connected to the mains

Minimal water flow. Check that:

- Both angle valves are fully opened
- The water supply hoses are not bent or twisted
- The supply hoses might be soiled

Continuous water flow

- Press the ON/OFF button
- Close angle valve or main valve
- After a few minutes, open again. It's still a continuous water flow, close valve and contact your installer.



Use soft cloth, soapy solution and water for regular care. Wipe with a dry cloth.
Avoid the use of abrasives or solvents, which damage the surface.
Damage caused by inappropriate treatment by the user, is not covered by our guarantee.



for shower application
(with temperature- and water flow sensor)



Legend display icons

Symbols Menu

Diverter body spray, head shower, hand shower



Change-Display Flow <> Temperature (After 10 seconds, display changes automatically from flow back to temperature indication)



Save / Delete current Quick-Access (flow, temperature)



Symbols extended Menu

Cleaning Mode
(Disabling of water flow for 45 seconds)



Water consumption
(Total water usage in cubic metre and last water usage in litre)



Max. water running time (Factory setting:
45 Min. / Input range: 1–99 Min.)



Max. water temperature
(Factory setting:
80.0 °C, Input range 4.0–80.0 °C)



Diagnostic: Checking electronic control and
water supply



Statistics



Switching between temperature units shown
as °C and/or °F



Thermal disinfection (Duration 5 minutes
max. supply temperature, small amount)



Factory setting



Open the extended menu list with a 3-digit
PIN-Code (After the selection, the extended
menu will be locked)



Setting a new PIN-Code for the extended
menu (active for first 30 minutes after
power up)



Back



Menu structure

DISPLAY (operating mode OFF / no water flow)



Note: Setting a new PIN-Code to open the
extended menu list. The extended menu is
activated by key (cf. activating the extended
menu list)



DISPLAY (operating mode OFF / no water flow
and activated key)

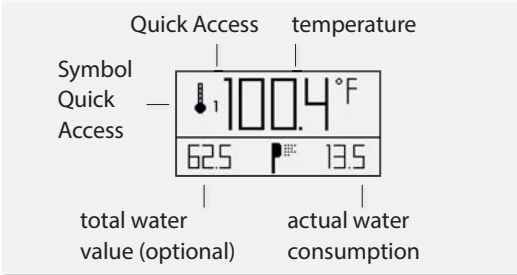


The grey icons are only visible and selectable
with activated key.

DISPLAY (operating mode ON / water flowing)



Live Display (activated water supply)



Basic functions (via the knob)

Water ON with vision wheel knob

Press 1 x: water ON

Changing water temperature with vision wheel knob

Turn vision wheel knob when water ON: Temperature is shown on display

Changing water flow with vision wheel knob

Push and turn the vision wheel knob, when water ON

Water OFF with vision wheel knob

Press 1 x: water OFF

Basic functions (via menu button)

Water ON with vision wheel knob

Press 1 x: water ON

Changing water flow via menu button

Press 1 x menu button, select symbol by vision wheel knob, confirming with vision wheel knob or menu button

Turn vision wheel knob for in- / decreasing water flow

Water OFF with vision wheel knob

Press 1 x: water OFF

Quick Access for shower (factory setting)

Quick Access 1	Quick Access 2	Quick Access 3
Press 1 x: Water ON by 96.8° Fahrenheit and 100 % water flow	Press 2 x briefly: Water ON by 98.6° Fahrenheit and 100 % water flow	Press 3 x briefly: Water ON by 100.4° Fahrenheit and 100 % water flow

Saving Quick Access


Quick Access 1	Quick Access 2	Quick Access 3
Press 1 x: Water ON like Quick Access 1	Press 2 x briefly: Water ON like Quick Access 2	Press 3 x briefly: Water ON like Quick Access 3

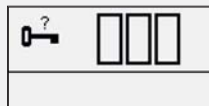
Changing water temperature: Turn vision wheel knob
Changing water flow: Press, hold and turn: setting the desired water flow

Saving new settings: select symbol by turning vision wheel knob, confirming with vision wheel knob or menu button. Water OFF.

Set new PIN-Code (for extended menu)

Active during first 30 minutes after power up
Code factory setting: 000


Press 1 × menu button select symbol  by turning vision wheel knob, confirming with vision wheel knob or menu button.



Turning vision wheel knob for setting the desired PIN-Code, confirming with vision wheel knob or menu button.

The new PIN-Code is NOT shown for security reasons.

Activating the extended menu


Press 1 × menu button, select symbol  by turning vision wheel knob, confirming with vision wheel knob or menu button.

Input the desired PIN-Code by turning the vision wheel knob, confirming with vision wheel knob or menu button.

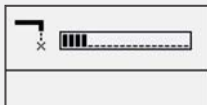
By pressing the menu button 1 ×, the extended menu list is shown now.

Activating the cleaning mode


Activate (disabling of water flow for 45 sec)

Press 1 × menu button; select symbol  by turning vision wheel knob, confirming with vision wheel knob or menu button.


Vision wheel LED color ring is flashing green as long as cleaning mode is activated.



Deactivating the cleaning mode

Press 1 × menu button, select symbol  vision wheel knob, confirm with menu button.

Diverting (hand shower/head shower, body spray)

Press 1 × vision wheel knob: water ON
Press 1 × menu button, select symbol  by turning vision wheel knob, confirming with vision wheel knob or menu button.


Diverting hand shower < head shower < body spray

Scalding protection

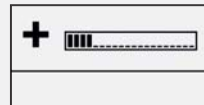
Turning vision wheel knob:
Changing temperature
From ≥ 38° C temperature increase in smaller increments (more wheel turns)



Diagnostic (extended menu activated)

Press 1 × menu button, select symbol  turning vision wheel knob, confirming with vision wheel knob or menu button.

Start Diagnostic



LED Color ring RED: Hot water ON
LED Color ring GREEN: Water OFF
LED Color ring BLUE: Cold water ON

After Diagnostic:



OK



Problem with temperature sensor



Problem with flow sensor or no water supply


Stop Diagnostic

Press 1 × vision wheel knob; Diagnostic stops

Thermal disinfection (extended menu activated)

⚠ ATTENTION: RISK OF SCALDING!

Run disinfection


Press 1 × menu button, select symbol  by turning vision wheel knob, confirming with vision wheel knob or menu button.

Stop disinfection

Press 1 × vision wheel knob or wait 5 minutes (automatic stop).

Statistics

(extended menu activated)

Press 1 × menu button, select symbol  by turning vision wheel knob, confirm with vision wheel knob or menu button.

Display shows:



¹ Operating time (hours)



² Total activation of Quick Access 1



² Total activation of Quick Access 2



² Total activation of Quick Access 3




Total activation of thermal disinfection



Total operating time of back up battery (min)

Factory setting

(Special function must be activated)

Press 1 × menu button, select symbol  by turning vision wheel knob, confirming with vision wheel knob or menu button.

Temperature unit °C / °F

Quick Access 1, by 96.8°, 2 by 98.6°
3 by 100.4°, 100 % water flow

Max. water running time: 45 minutes

Functions are depending on the controller used.