Zip
Instantaneous Hot Water

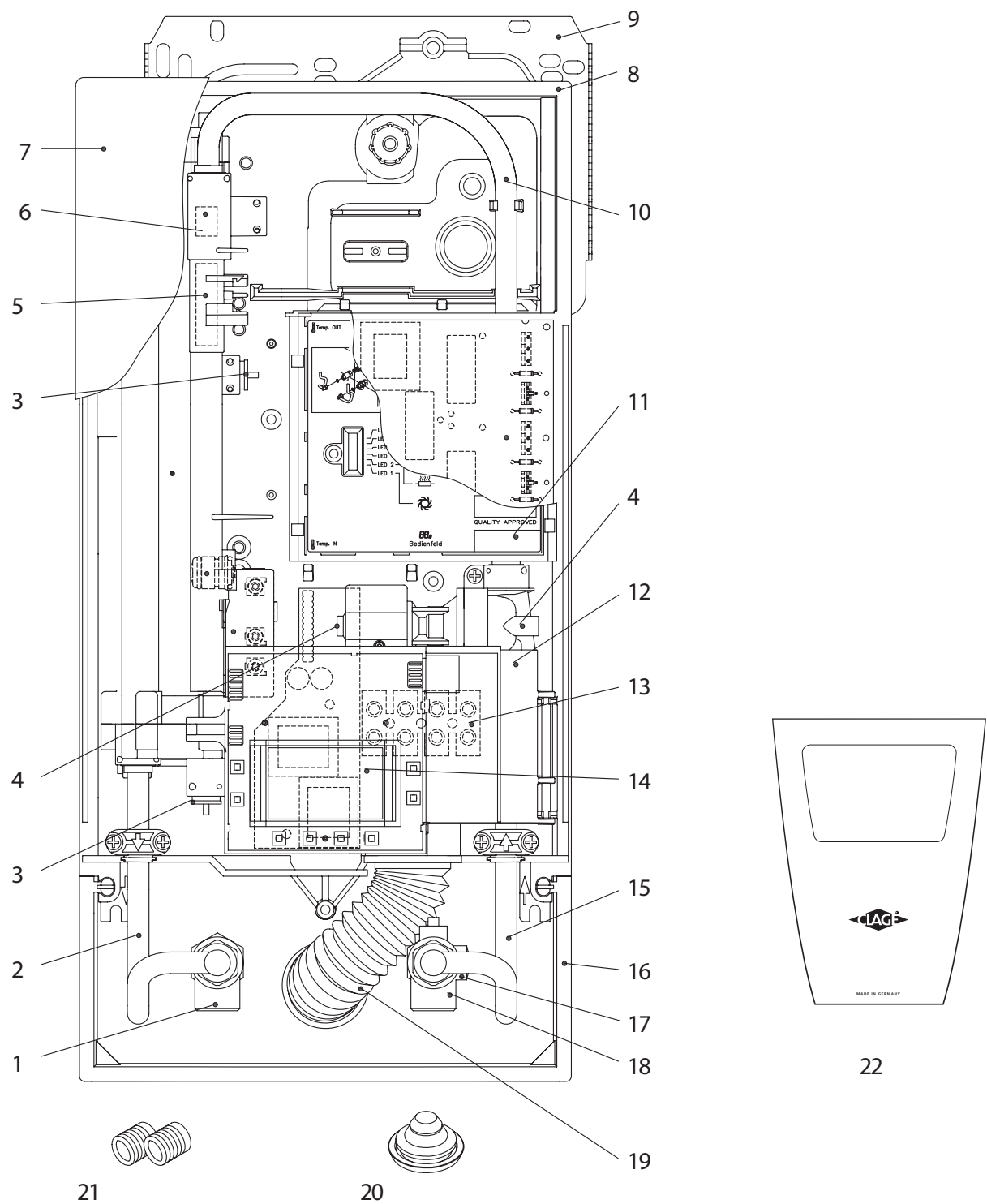# Electronically controlled instantaneous water heater

DSX: : 27941 - 60 °C models

Instructions for the user

When ordering spare parts, please always specify the appliance model and serial number.

| Pos.	Part.-No.	Description		Pos.	Part.-No.	Description
1	**801097**	**Hot water connection**		**14**	**801103**	**DSX control panel**
2		Outlet pipe		15		Inlet pipe
3	**801098**	**DSX / DEX thermal sensor set 2.1**		16		Frame
4	**801099**	**Servomotor with electronic 2.1**		**17**	**801104**	**Fine filter**
5	**801099**	**Flow sensor**		**18**	**801105**	**Cold water connection**
6	**801101**	**Non-return valve**		19		Water splash protection sleeve
7		DSX hood		20		Grommet
8		Bottom part		21		Screw-in nipples 1/2"
9		Wall bracket		22		Faceplate
10		DSX connecting pipe		not shown:		
11	**801102**	**PCB cover 2.1**		**23**		**Set of small spare parts**
12		Control panel support				
13		Connecting terminal				

Parts in **Bold Type** are available as **Spare Parts**.
Other parts are available on request.

Contents

2. Environment and recycling

This symbol on the products and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take these products to designated collection points. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product. Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation. If you are a business user and you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information. This symbol is only valid in the European Union.
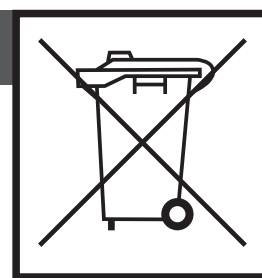
Installation, initial operation and maintenance of this appliance must only be conducted by an authorised professional, who will then be responsible for adherence to applicable standards and installation regulations. We assume no liability for any damages caused by failure to observe these instructions.

- Do not use the appliance until it has been correctly installed and unless it is in perfect working order.

- The appliance is suitable but not limited to domestic use and similar applications inside closed, frost-free rooms, and must only be used to heat potable water from mains supply.

- The appliance must never be exposed to frost.

- The appliance must be earthed at all times.

- The minimal specific water resistance must not fall below the value stated on the label.

- The maximum water pressure must not exceed the value on the label.

- Before commissioning for the first time and each time the appliance is emptied (e.g. due to work on the plumbing system, if there is a risk of freezing or in case of maintenance), the appliance must be vented correctly in accordance with the instructions in this manual.

- Do not remove the front cover under any circumstances before switching off the mains electrical supply to the unit.

- Never make technical modifications, either to the appliance itself or the electrical leads and water pipes.

- Pay attention to the fact that water temperatures in excess of approx. 43 °C are perceived as hot, especially by children, and may cause a feeling of burning. Please note that the fittings and taps may be very hot when the appliance has been in use for some time.

- Water inlet temperature must not exceed 70 °C.

- In case of malfunction, disconnect the fuses immediately. In case of leaks, cut off the cold water supply instantly. Repairs must only be carried out by the customer service department or an authorised professional.

- This appliance must not be used by any person (including children) with limited physical, sensorial or mental abilities or failing experience and/or knowledge unless they are supervised by a person responsible for their safety or received instructions about how to use the appliance. Children should be supervised in order to make sure that they do not play with the appliance.
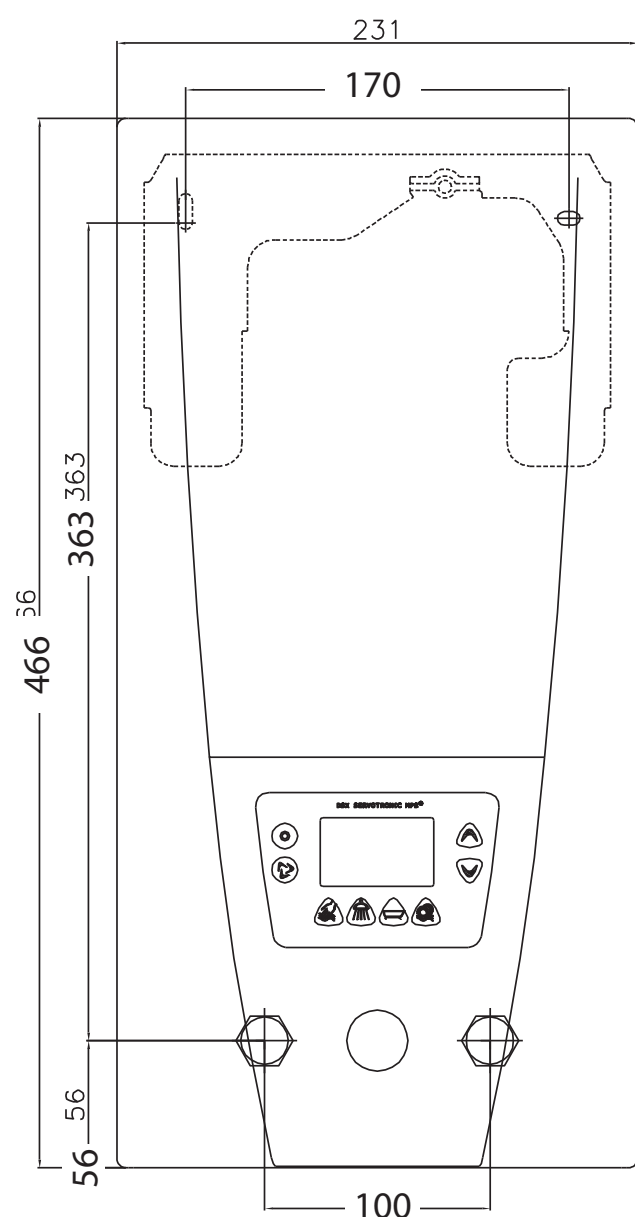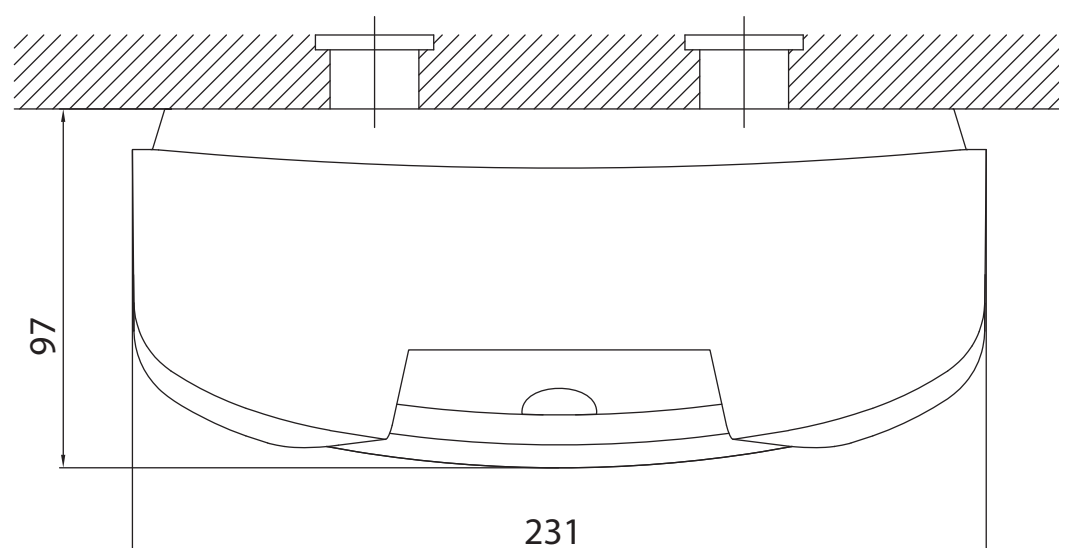
4. Technical specifications

Model	DSX ELECTRONIC MPS®			
Part no.	27941 - 60 °C models			
Rated capacity / rated current	18 kW..27 kW (26 A..39 A)			
Chosen capacity / current	18 kW (26 A)	21 kW (30 A)	24 kW (35 A)	27 kW (39 A)
Electrical connection	3/PE 380..415 V AC			3/PE 400 V AC
Min. required cable size	See note 1)			
Hot water (l/min) max. at Δt = 28 K max. at Δt = 38 K	9,2 6,8	10,7 7,9	12,3 9,0	13,8 10,2
Rated volume	0,4 l			
Type	Pressure type 1 MPa (10 bar)			
Heating system	Bare wire heating system IES®			
Required spec. water resistance @ 15 °C Spec. electrical conductivity	≥ 1100 Ω cm ≤ 90 mS/m			
Inlet temperature	≤ 70 °C			
Flow rate to switch on	2,5 l/min			
Pressure loss	20 kPa at 2,5 l/min 130 kPa at 9,0 l/min			
Temperature choice	20 °C – 60 °C			
Water connection	G ½"			
Weight (when filled with water)	4,2 kg			
VDE class of protection	I			
Noise level test certificate	PA-IX 6822/I			
Type of protection / safety	DVE GS VDE IP25 WaterMark CE			

1) The cross sectional area of the connection cable must be in accordance with the power rating of the appliance and the specific requirements of AS/NZS 3000.

5. Dimensions

Dimensions in mm

Example of installation with two tap connections.

alternative
rear cable entry g

231

170

466   363

depth of
the unit:
97

56

rear
cable
entry

G1/2"

0

100

lower edge of the appliance min. 10 (recommended approx. 1200)

upper edge of the shower cabin approx. 1950

upper edge of the wash basin approx. 850

550

shut-off valve

dimensions in mm

7
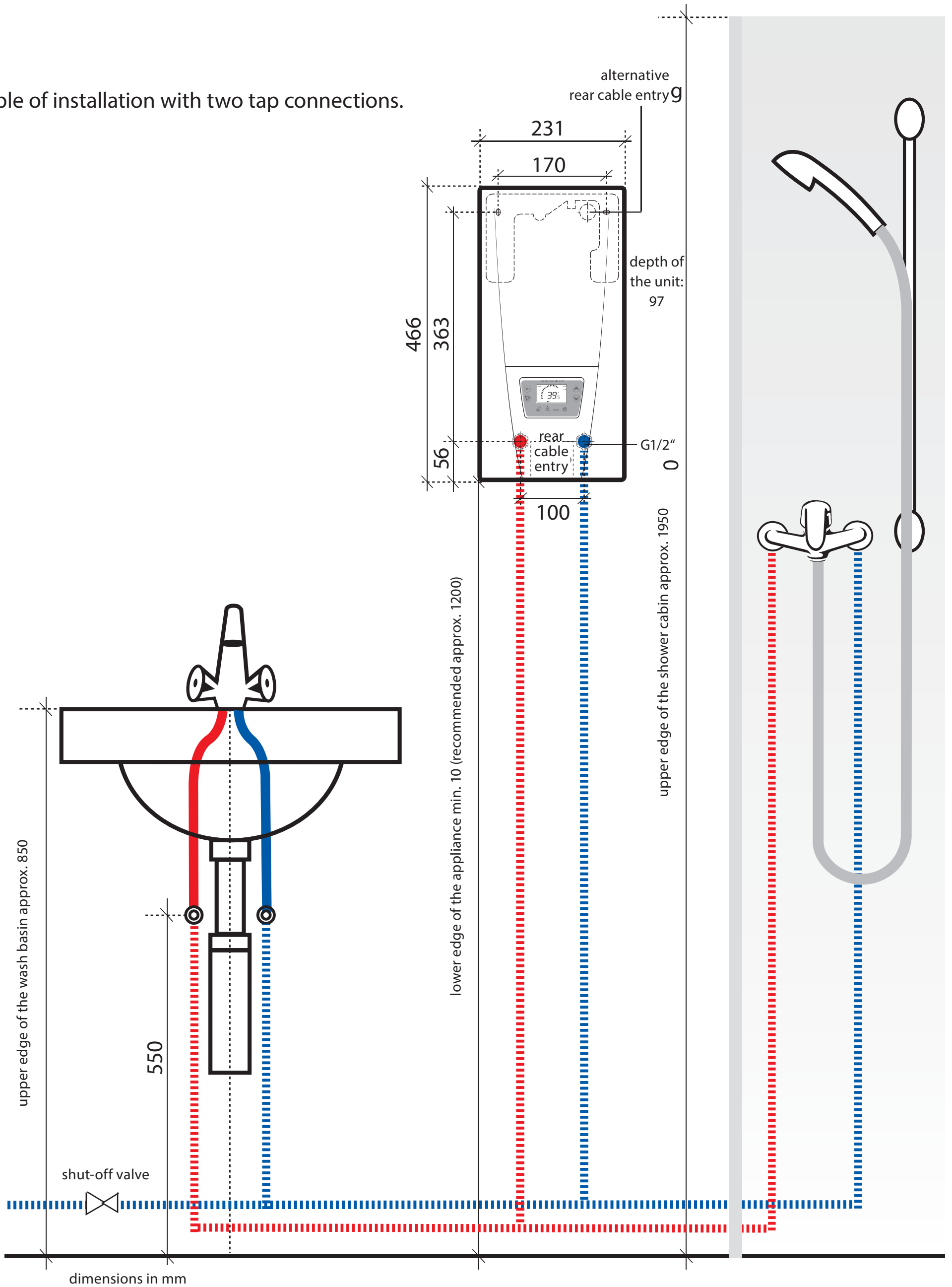
The instantaneous water heater DSX is a microprocessor-controlled, pressure-resistant water heater for a decentralised water supply to one or more tap connections.

Its electronic control regulates the power consumption depending on the selected outlet temperature, the respective inlet temperature and the flow rate, thus reaching the set temperature exactly to the degree and keeping it constant in case of pressure fluctuations. The required outlet temperature can be entered between 20 °C and 60 °C and is indicated on the digital display.

This appliance may be able to be used with a Thermostatic Mixing valve or where serving a fixture that does not require temperature limitation such as a commercial Kitchen sink or Cleaners sink. Refer to AS/NZS 3500.4.

8. Operation

As soon as you open the hot water tap, the instantaneous water heater switches on automatically. When the tap is closed, the appliance automatically switches off.

Temperature setting

The required hot water temperature can be increased or decreased in increments of 1°C by briefly pressing the up arrow and down arrow function keys.

Depressing the function key for a longer time changes the temperature continuously.

The temperature can be adjusted between 20°C and 60°C.

Note. Reducing the temperature below 20°C displays '- -' and the heating function will not operate.

Note:
If temperature is set below 20 °C with arrow key ⌄ the display shows "--" and the appliance switches off the heating function.

Programme buttons

The four programme keys allows you to quickly select the preset temperature.

The factory settings are:

- "hand wash" ✍ 35 °C,
- "shower" ⌂ is 38 °C,
- "bath tub" ⬭ it is 42 °C,
- "kitchen" ◉ it is 48 °C.

You can assign your own settings using the programme keys:

Select the desired temperature via the arrow keys ⌄ and ⌃ . Prolonged pressing (at least 3 seconds) of one of the four programme keys stores the previously selected temperature. The display confirms by "-- ok--" and an acoustic signal will resound.

The stored temperature is now available to you each time you press the corresponding programme key.

Set temperature

| ⌄ −1 °C | ⌃ +1 °C |

Select preset temperature

Store temperature

Press ≥ 3 Secs.
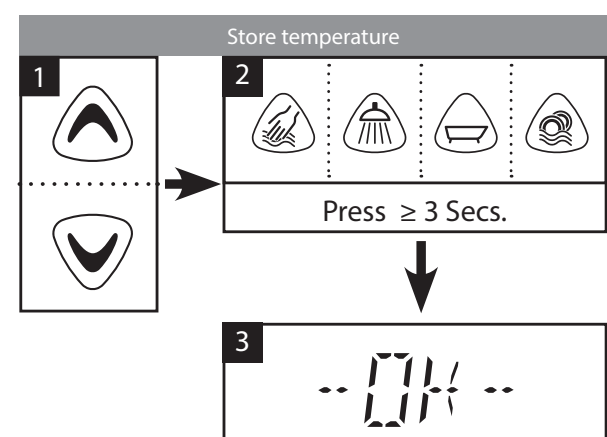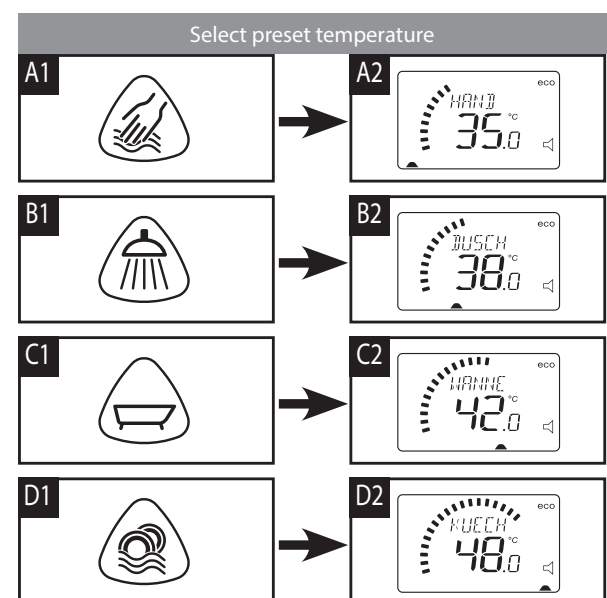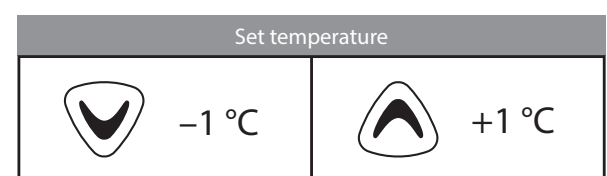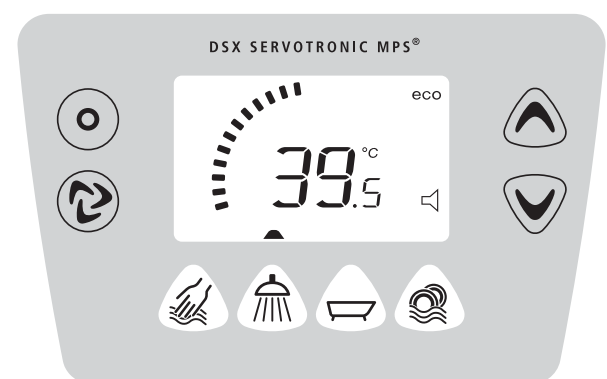
Info menu

The Info menu offers a variety of display values, that provide information on various parameters.

Press the info key ⟲ for at least 3 seconds to call up the Info menu, the display confirms by "Info".

Using the arrow keys ⋁ and ⋀ to select the available display information. Press the info key ⟲ to return to the standard display.

Individual display values as follows:

Power limit

Informs about the current maximum power rating (kW) of the appliance.

Temperature protection

Information, if temperature protection is activated or deactivated.

Working time

Indication of total operating time of the heating given in seconds / minutes / days / years.

Standby time

Indication of the operating time since latest connection of the appliance to the supply voltage given in seconds / minutes / days / years.

Lifetime counter

Indication of the total operating time of the appliance given in seconds / minutes / days / years.

Flow

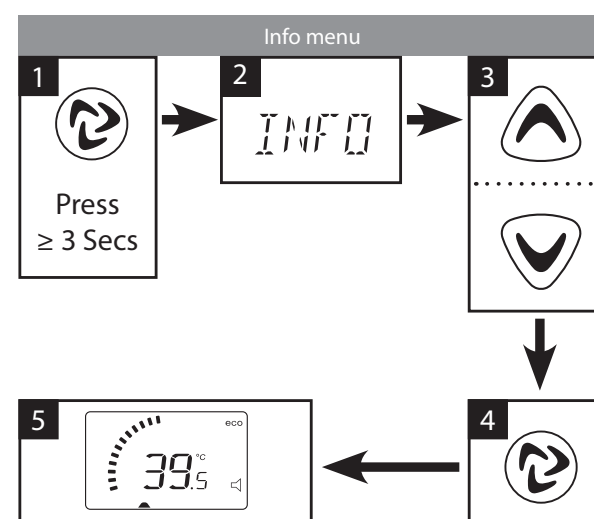Indication of current flow rate given in l/min.
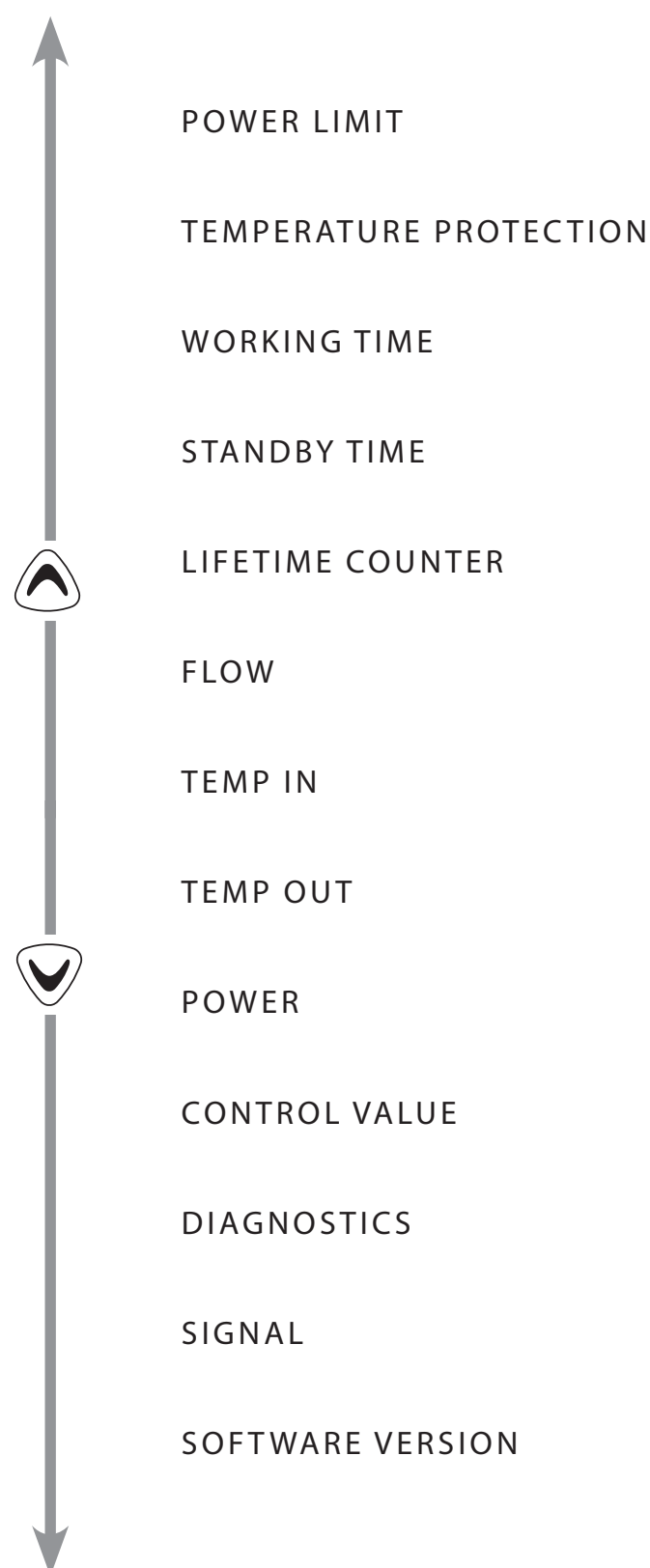
Temp in

Indication of inlet temperature (°C).

Temp out

Indication of outlet temperature (°C).

Power

Indication of current power consumption (kW).

Menu item order of "Info menu":

POWER LIMIT

TEMPERATURE PROTECTION

WORKING TIME

STANDBY TIME

LIFETIME COUNTER

FLOW

TEMP IN

TEMP OUT

POWER

CONTROL VALUE

DIAGNOSTICS

SIGNAL

SOFTWARE VERSION

Control value

Indication of calibration value of the control system.

Diagnostics

Indication of the last ten diagnostic messages.

Signal

Indication of the current I2- connection quality in %.

Software version

Information about installed software version.

Note: Values of the Info menu cannot be modified or entered. Above mentioned values are only given for your information!

Note: The values are for information only and are not suitable for billing purposes.

Setup menu

The setup menu allows the performance and display of the appliance to be adjusted.

Press the setup key ⊙ and the info key ℗ simultaneously for at least 3 seconds to call up the setup menu, the display confirms by "setup".

Using the arrow keys ⌄ and ⌃ to select the available modes. To enter each mode, press the setup key ⊙ and the display will flash.

New settings can be selected using the arrow keys ⌄ and ⌃.

The new settings are stored when the setup key ⊙ is pressed again.

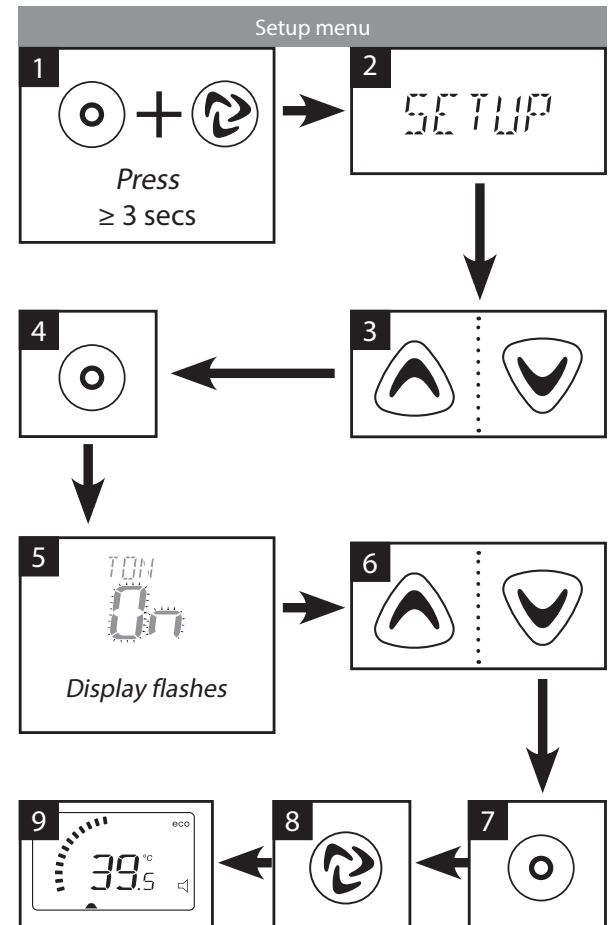Press the info key ℗ to return to the standard display.
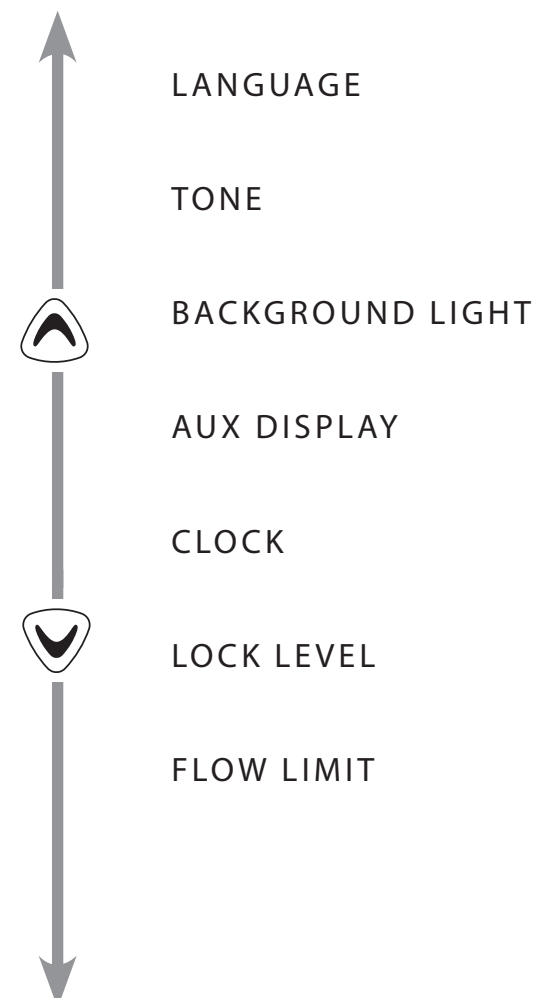
Individual parameter as follows:

Language

Operating language can be selected.

Setting options:
"1"   German
"0"   English

Menu item order of "Setup menu":

LANGUAGE

TONE

BACKGROUND LIGHT

AUX DISPLAY

CLOCK

LOCK LEVEL

FLOW LIMIT

Tone

Activation and deactivation of key tone.

Setting options:

"on" key tone activated
"--" key tone deactivated

Background light

Activation and deactivation of display background light

Setting options:

"on" background light constantly on
"At" background light switches on automatically e.g. when keys are pressed, and switches off automatically after some time
"--" background light off

Clock

Time settings can be done

Setting options:

"h" hours
"min" minutes
"s" seconds

The info key selects the clock parameter to be changed ("h","min" or "s").

The arrow keys and changes the set value shown.

Pressing the setup key stores the new value.

With info key you will get back to the standard display.

Note:
The arrow key resets the display to zero when mode "s" is chosen.
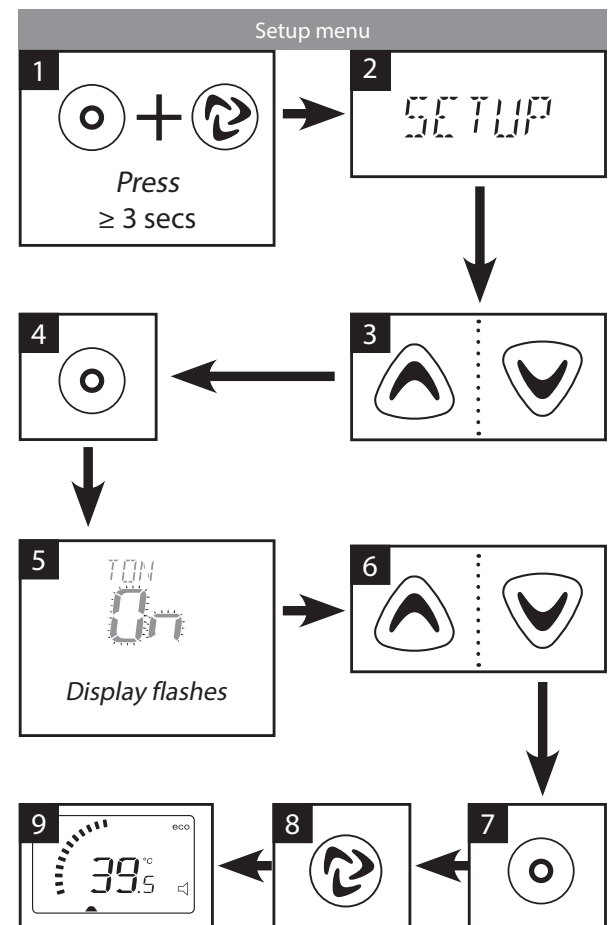**The arrow key deactivates the display of the clock.**

Load decrease

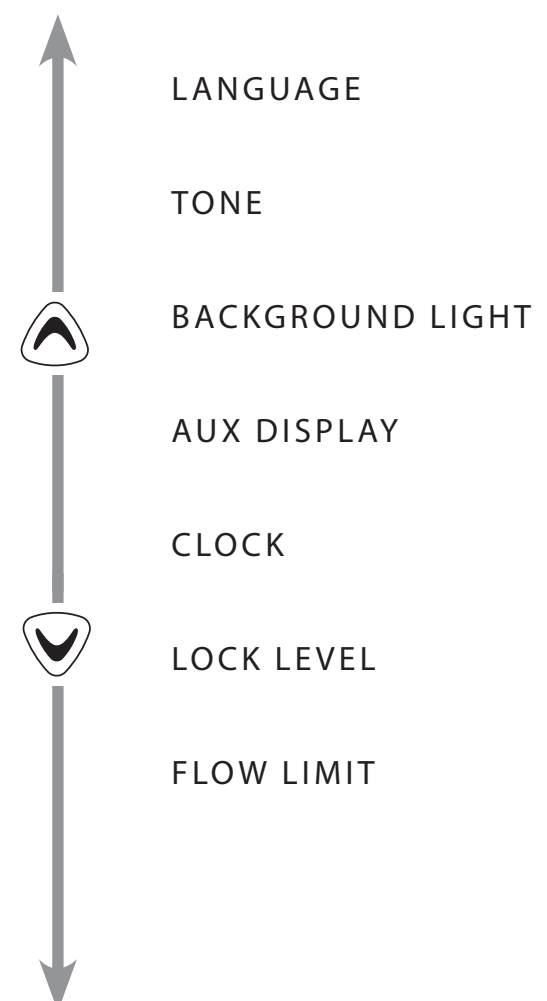Setting of load shedding parameters

Setting options:

"0" standard operation, factory setting
"1" operation with standard load shedding relay
"2" operation with sensitive load shedding relay

Menu item order of "Setup menu":

LANGUAGE

TONE

BACKGROUND LIGHT

AUX DISPLAY

CLOCK

LOCK LEVEL

FLOW LIMIT

Lock level

To enter "Lock level" mode, you will need to access the Setup menu.

Press the setup key ⊙ and the info key ↻ simultaneously for at least 3 seconds to call up the setup menu, the display confirms by "setup".

Using the arrow keys ⌄ and ⌃ to select the available modes. To enter each mode, press the setup key ⊙ and the display will flash.

New settings can be selected using the arrow keys ⌄ and ⌃.

The new settings are stored when the setup key ⊙ is pressed again.

Press the info key ↻ to return to the standard display.

Setting options:
"0" no restriction (factory setting)
"1" factory reset via key (countdown) not possible, parameters can be seen but not be modified in setup menu
"2" same as "1", additionally the setup menu cannot be opened
"3" same as "2", additionally nominal value memory (handwash, shower, bathtub, kitchen) not changeable
"4" same as "3", additionally nominal value not changeable

Flow limit

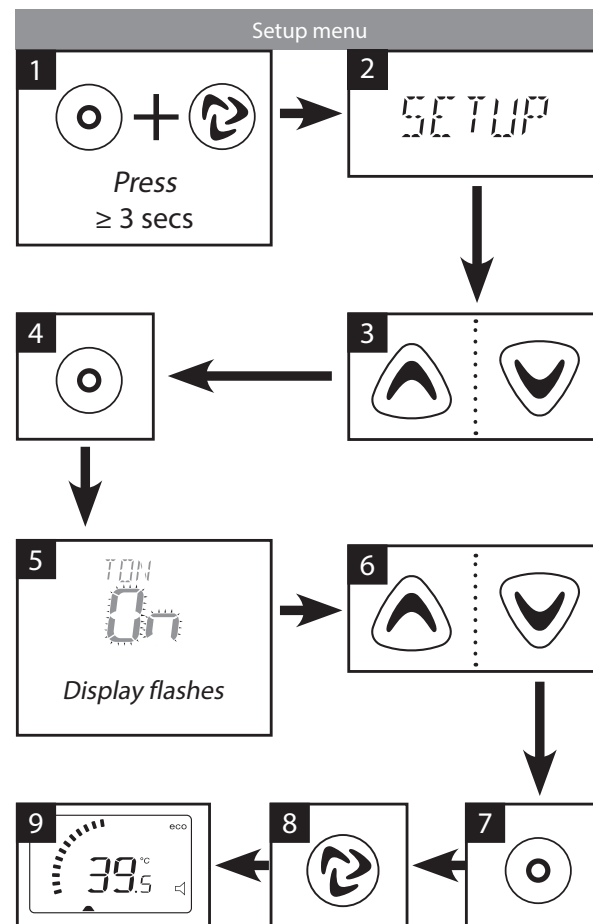Setting of flow rate limitation.

Setting options:
"--" no flow rate limitation
"At" automatic adjustment, i.e. flow rate is limited in a way so that the selected outlet temperature is reached
"Eco" flow rate limitation to max. 8.0 l/min
e.g. "9.0" limitation to the selected value

Note:
"Eco" is displayed when operating mode "Eco" is selected and the set temperature is below 43 °C.

Menu item order of "Setup menu":

LANGUAGE

TONE

BACKGROUND LIGHT

AUX DISPLAY

CLOCK

LOCK LEVEL

FLOW LIMIT

12
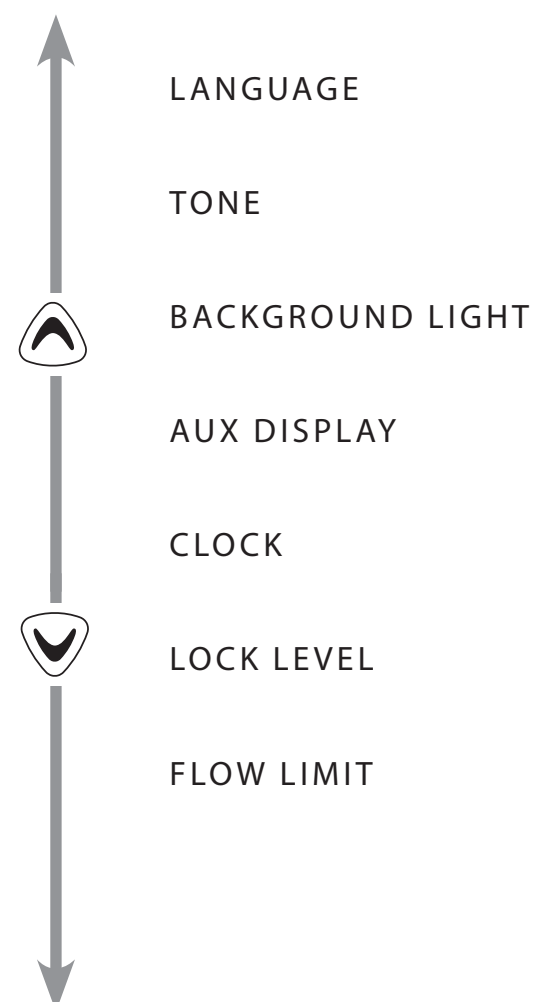
Performance monitoring

In the top row of the display, various information can be displayed permanently.

If you press the info button ⟳ once, the name of the currently selected monitor is displayed as scrolling text. To continue to the next monitor, press the info button ⟳ a second time while the scrolling text is visible. The name of the monitor will appear as scrolling text.

After the scrolling text, the value of the currently selected parameter will be displayed permanently in the top row of the display.

Individual parameter as follows:

CLAGE (or Clock, if enabled)
This is the normal display mode without an activated Energy and Status Monitor. If the clock was enabled in the Setup menu, it is only shown in normal display mode.

Note:
The menu items "Power", "Flow", "Temp In", "Temp Out" and "Costs per hour" are explained in the chapter "Info Menu".

Energy consumption since last use (Energy last tapping)
Energy consumption since last use in Wh or kWh.

Water consumption since last use (Water volume last tapping)
Display the amount of water used since last use in litres.

Total energy
Display of the total accumulated energy consumption in kWh.

Total water consumtion
Indication of the total water consumption in litres.

Note: The values are for information only and are not suitable for billing purposes.

Menu item order of "Energy Efficiency Monitor":

CLOCK
POWER
FLOW
TEMP IN
TEMP OUT
ENERGY LAST TAPPING
WATER VOLUME LAST
TAPPING
TOTAL ENERGY
TOTAL WATER VOLUME
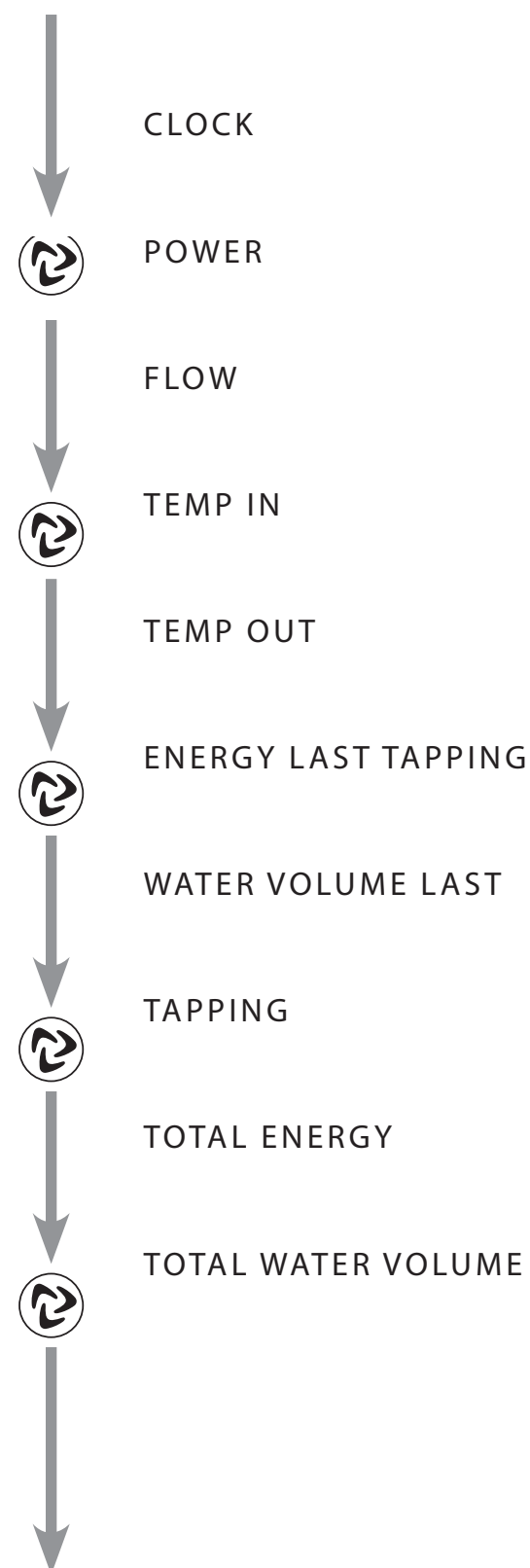
Reset to factory setting

To return to factory settings:

- Press and hold the setup key ⊙, the display now counts backwards from "10" to "00" in second intervals.

- The appliance is reset at value "00"

Note:

To cancel the reset process, release the setup key ⊙ before the count-down reaches "00".

Factory reset

Press + hold!

09, 08, 07, ...

00

Reset completed
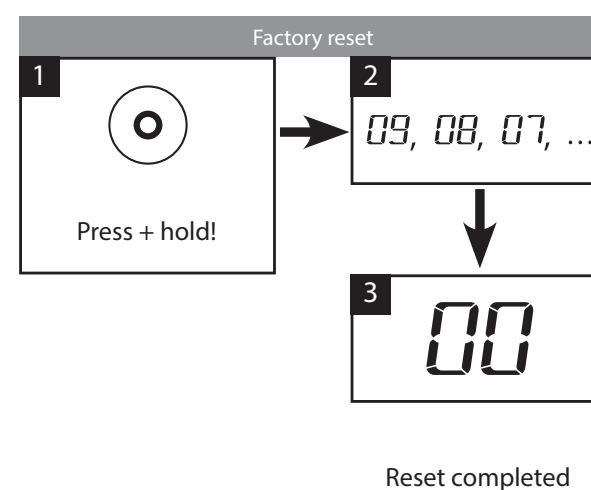
Energy saving

Set the required hot water temperature on the appliance.

If the water is too hot reduce the temperature on the appliance instead of mixing with cold water.

Adding cold water wastes valuable energy that has been used producing excessively hot water.

Also, any cold water added is not controlled by the electronic circuitry meaning that precise temperature control can no longer be guaranteed when supplying more than one outlet.
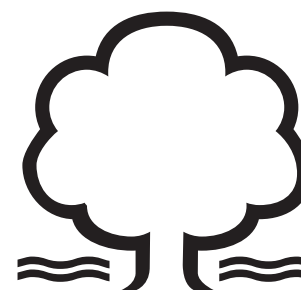
Power limit

If the maximum power available from the appliance is insufficient to heat the volume of hot water being drawn off to the required temperature, the control valve automatically reduces the flow rate so that the set tempera-ture is reached.

Operating with solar systems

When operating with solar systems, the appliance should be used with a thermostatic mixing vavle or a tempering valve to ensure that the inlet temperature does not exceed 70 °C.

If the inlet temperature exceeds 70 °C, the display screen will show "**INLET TEMP TOO HIGH**".

9. Maintenance

N.B. Maintenance work must only be carried out by a qualified tradesperson familiar with instantaneous water heaters.

Plastic surfaces and sanitary fittings should only be wiped with a damp cloth.

Never use abrasive or chloric cleaning agents or solvents.

Outlet fittings (tap nozzles and shower heads) should be unscrewed and cleaned at regular intervals.

The electrical and plumbing components should be inspected regularly by a competent person to ensure proper functioning and operational safety. Water quality should be considered when determining the frequency of inspection.

Each time the appliance is emptied (e.g. due to work on the plumbing system, if there is a risk of freezing or in case of maintenance), the appliance must be vented by opening and closing the hot water tap until all air has been eliminated from the water heater and no more air emerges before re-connecting to the electrical supply.

10. Fault finding

Repairs should only be carried out by qualified tradespersons familiar with electric instantaneous water heaters.

All service work should be performed by an authorized Zip service technician – for details of the full range of services available call Zip Service on 1800 460 222.

When calling for service, please always specify the appliance model and serial number.

The following table will be helpful in determining the causes of some common problems and their solutions.

Problem	Cause	Solution
Water stays cold Digital display does not light up	Circuit breaker tripped	Reset circuit breaker
	STCO tripped	Contact Zip Service to reset STCO
Display flashes error symbol 'screwdriver'	Control system has switched off	Switch power supply off and on. If the symbol 'screwdriver' still flashes contact Zip Service
Poor hot water flow rate	Outlet fitting dirty or calcified	Clean shower head or tap nozzle
	Fine filter dirty or calcified	Contact Zip Service to clean fine filter
Selected temperature not achieved	Excessive water flow rate	Reduce water flow rate at the outlet
	Cold water has been added	Set for required temperature and tap hot water only
Screen displays "Inlet temp too high"	Inlet temperature exceeding set point	Reduce inlet temperature
No response to key press	Appliance cover not fitted correctly	Contact Zip Service

Head Office

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As Zip policy is one of continuous
product improvement, changes
to specifications may be made
without prior notice. Images in this
booklet have been modified and
may not be true representations of
the finished goods.

Zip®

◀**CLAGE**◆

…the innovative hot water solution.

Quick reference guide

DSX SERVOTRONIC MPS®

Setup button — Arrow key up
Info button — Arrow key down

Programme buttons

Set temperature

⌄ –1 °C	⌃ +1 °C

35,0..42,0 °C Convenience zone

⌄ –0,5 °C	⌃ +0,5 °C

Select preset temperature

A1 → A2 HAND 35.0 °C
B1 → B2 DUSCH 38.0 °C
C1 → C2 WANNE 42.0 °C
D1 → D2 KUECH 48.0 °C

Store temperature

1 ⌃⌄ → 2 Press ≥ 3 Secs. → 3 -- OK --

Info menu

1 Press ≥ 3 Secs. → 2 INFO → 3 ⌃⌄ → 4 → 5 39.5 °C

Setup menu

1 Press ≥ 3 secs → 2 SETUP → ⌃⌄ → 4 ◉ → 5 TON On Display flashes → ⌃⌄ → 7 ◉ → 8 → 9 39.5 °C

Reset

1 Press + hold! → 2 09, 08, 07, … → 3 00

Reset completed