

# User manual

## Ecolab Healthcare

### DG-Xtra dosing device

Stationary precision dosing device  
for the decentralised provision of  
disinfectant working solution  
from powder concentrates



user version (from software version 1.20.hex)

Type: Ecolab DG-Xtra

English



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## 1. General information

This manual contains all important information for operating the Ecolab Healthcare DG-Xtra precision dosing device.

### 1.1. Instructions on Operating Manual

	<p><b>NOTE</b></p>	<p>This Operating Manual is an integral part of the device and must be available to the operating and maintenance personnel at all times. If the device is resold, the Operating Manual must always be supplied with it. All safety instructions contained in this Operating Manual and all instructions for the respective disinfection product used (see chemical supplement) must be observed.</p> <p>Before installation, initial operation and before maintenance or repair work, the relevant chapters of the manual must be read and observed. The German chapters of this manual represent the ORIGINAL OPERATING MANUAL, which is legally relevant. All other languages are translations of the ORIGINAL OPERATING MANUAL.</p> <p>If you have any questions, please contact us as stated in chapter 1.4 "Contact address / Manufacturer".</p>
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### 1.2. Special markings in this Operating Manual

	<p><b>CAUTION</b></p>	<p>is used if incorrect observance or non-observance of operating instructions, work instructions, prescribed work procedures and the like can lead to injuries or accidents.</p>
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	<p><b>ATTENTION</b></p>	<p>is used if incorrect observance or non-observance of operating instructions, work instructions, prescribed work procedures and the like can lead to damage to the device.</p>
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	<p><b>IMPORTANT</b></p>	<p>is used when special consideration must be taken in the handling the device.</p>
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	<p><b>NOTE</b></p>	<p>is used to draw attention to a special feature.</p>
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	<p><b>NOTE</b></p>	<p>Instructions relating to the Operating Manual are marked with the adjacent symbol.</p>
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#### 1.2.1. Safety symbols

	<p><b>HAZARD</b></p>	<p>Hazards caused by electric current are marked with the adjacent symbol.</p>
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	<p><b>HAZARD</b></p>	<p>Wash your hands before breaks and at the end of work. The usual precautions for handling chemicals and the relevant safety data sheet must be observed.</p>
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	<p><b>NOTE</b></p>	<p>No drinking water!</p>
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	<p><b>WARNING</b></p>	<p>When working in areas marked with the adjacent symbol, protective goggles must be worn.</p>
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	<b>WARNING</b>	When working in areas marked with the adjacent symbol, a face mask must be worn.
	<b>WARNING</b>	When working in areas marked with the adjacent symbol, the appropriate protective clothing must be worn.
	<b>WARNING</b>	When working in areas marked with the adjacent symbol, the appropriate protective gloves must be worn.
	<b>WARNING</b>	When working in areas marked with the adjacent symbol, the appropriate safety shoes must be worn.
	<b>NOTE</b>	The environmental label identifies measures to protect the environment

**1.2.2. Lists**

Lists preceded with the (A/S) symbol describe an activity that must be performed by the user or service provider.

**1.3. Scope of warranty**

The manufacturer only provides a warranty for the operational safety, reliability and performance of the DG-Xtra dosing device under the following conditions:

- Installation, connection, adjustment, maintenance and repairs are only carried out by authorised specialist personnel.
- The dosing device is only used in accordance with the Operating Manual.
- Only original spare parts are used for repairs.
- Maintenance intervals are observed.
- Only RKI approved or listed disinfectants are used.
- The warranty does not apply to seals (wearing parts) or to defects caused by impurities in the water (e.g. sand and oxidation residues). We recommend connecting the device to an angle valve or similar valve with a built-in filter.
- The warranty does not apply in case of damage / faults caused by mixing different products. Product changes may only be carried out by authorised expert personnel.

Otherwise, the general warranty and performance conditions of **Ecolab Deutschland GmbH** shall apply.

#### 1.4. Contact address / Manufacturer

Ecolab Deutschland GmbH  
 Ecolab Avenue 1  
 D-40789 Monheim am Rhein  
 e-mail: [technischer.service@ecolab.com](mailto:technischer.service@ecolab.com)  
 Fax: +49-2173-599-89806

## 2. Safety

 	<p><b>CAUTION</b></p> <p><b>ATTENTION</b></p>	<p><b>Safety instructions and highlights must always be observed!</b></p>
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#### 2.1. Transport damage / Unpacking

 	<p><b>CAUTION</b></p> <p><b>ATTENTION</b></p>	<p><b>If transport damage is detected during unpacking, the dosing device must not be installed! The transport company must be informed immediately and a damage report must be requested. A copy of the damage confirmation must be sent immediately to the manufacturing company Ecolab Deutschland GmbH.</b></p>
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#### 2.2. Dosing media

	<p><b>ATTENTION</b></p>	<p><b>The dosing device may only be used with products approved by Ecolab. No warranty can be given if non-approved products are used or if products are mixed!</b></p>
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	<p><b>IMPORTANT</b></p>	<p>The instructions on the safety data sheet of the dosing medium must be strictly adhered to, the operating personnel must be trained accordingly (documentation from the DG-Xtra briefing log)!</p>
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	<p><b>CAUTION</b></p>	<p>The Ecolab powder concentrates used for the intended operation of the dosing device are procured and used by the operator of the device. The proper handling of these concentrates and the associated hazards are the sole responsibility of the operator. Hazard and disposal instructions must be provided by the operator and their implementation monitored. When handling the dosing medium, always wear suitable protective clothing (see safety data sheet). All safety regulations for handling chemicals must be observed and the information in the safety data sheet / product sheet of the dosing medium must be observed.</p>
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#### 2.3. General safety instructions

- The connection and repair work on the dosing device may only be carried out by authorised specialist personnel.
- Before operating the dosing device, the operator must ensure that local regulations (e.g. for electrical connection) are observed during installation and commissioning if these are actually carried out by the operator.
- Before working on electrical parts, switch off the power supply.
- Suitable protective clothing must be worn during maintenance and repair work.

- The safety regulations for handling chemicals must always be observed.
- The water flow temperature should not exceed 19°C (DIN 1988-200) due to the increasing risk of microbial contamination. A flow temperature above 25°C is not permitted for the DG-Xtra.

### 2.3.1. Important safety instructions

- The dosing device is operated with a 24V DC power supply. The cable from the compact plug-in power supply unit to the device must be protected against damage.
- The dosing device must only be mounted on a sufficiently strong, level and stable wall using dowels suitable for the particular wall construction.
- No storage of objects on the dosing device
- The dosing device may only be operated under the electrical specifications stated on the type plate.
- Ideally, operating manual should be kept close to the device.
- Other modifications to the system are strictly prohibited.

## 2.4. Safety data sheets

The safety data sheet of the dosing medium is primarily intended for use by the user to enable them to take the necessary measures for the protection of health and safety at work.

Ecolab is aware of the importance of a safety data sheet and the responsibility entailed; therefore the safety data sheets provided by Ecolab are subject to constant monitoring. This ensures that the current information is available at all times.

When the dosing device is first installed, the operator is provided with the current safety data sheets of the product used in the device.

In the course of the continuous improvement and further development of Ecolab products, the composition of products may change. Products may also be replaced by other products.

In both cases, the safety data sheets are updated and sent to the operator. If you are uncertain whether you have an up-to-date safety data sheet, contact the competent Ecolab specialist advisor, who will of course help you to ensure that the measures for ongoing protection of health at the workplace are in place.

Safety data sheets should ideally be displayed close to the device or the container so that appropriate countermeasures can be taken quickly in the event of an accident.

Persons familiar with the operation of the device must be briefed and trained accordingly.

## 2.5. Special safety instructions for maintenance and repair work

	<p><b>CAUTION</b> Always wear protective clothing (protective goggles, gloves and apron) before carrying out repair and maintenance work.</p> <p>Electrical repairs may only be carried out by qualified electricians. Here it is essential to observe the local regulations and rules.</p> <p>When opening covers or removing parts, live parts may be exposed, and connection points may also be live.</p>
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	<p><b>IMPORTANT</b> Only original spare parts may be used for repairs.</p>
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**2.6. Intended use**

 **ATTENTION** The dosing device may only be used with products approved by Ecolab. No warranty can be given if non-approved products are used!

The Ecolab Healthcare DG-Xtra dosing device creates an aqueous solution from a powdery disinfectant product. When using a powder concentrate, the additional specifications for the concentrate (waiting times, repeated stirring) after preparation of the solution must be observed (see chemical supplement). The device has been developed, constructed and built exclusively for commercial use. Private use of the device is excluded.

Intended use also includes compliance with the Operating Manual/Instructions prescribed by the manufacturer as well as the maintenance and repair conditions.

The service life of the dosing device is approx. 10 years, depending on the annual maintenance being performed properly. Afterwards a revision (if necessary general overhaul) is necessary by the manufacturer or an appropriately licensed specialist company.

**2.7. Special safety information**

 **CAUTION** When refilling the powder container, protective clothing, goggles and gloves must be worn.  
Never hold the powder container upside down!

**2.8. Safety measures to be taken by the operator**

It should be noted that the operator:

- instructs his operating and maintenance personnel on the protective devices of the dosing device
- monitors their operating and maintenance personnel with regard to compliance with security measures

The frequency of maintenance, inspections and control measures must be observed. The care instructions in chapter 'Powder concentrate' from page 22 must be observed.

The device can signal an early service request depending on consumption.

The work described here is listed such that:

- the operation is understood by an instructed person
- transport, installation / assembly, maintenance and fault recognition/rectification is understood by a specialist and only specialists carry out the work described in these chapters.

**2.8.1. Instructed person**

A person who has been informed by a specialist about the tasks assigned to them and the possible hazards of improper behaviour and, if necessary, has been trained and instructed in the necessary protective equipment and measures.

**Based on the definition of EN 60204-1:2006**

**2.8.2. Specialist**

A person with appropriate training, education and experience who is able to identify risks and avoid hazards

**Based on the definition of EN 60204-1:2006**

**2.9. Important markings on the device**

Symbol	Meaning
	START/STOP (Enter, ST) key ⌘ Acknowledgement of a function or menu item
	"ARROW" key down ⌘ Select a menu item or option, also change/minimise numerical value
<b>ESC</b>	"ESCAPE" key ⌘ Terminate an action currently executed
	"ARROW" key up ⌘ Select menu item or option, also change/maximise numerical value
	red LED, error message see cause text display
	 <b>CAUTION</b> No drinking water

**2.10. Device identification**

		<p>The information in this Operating Manual applies only to the device whose type designation is given on the title page. The type plate with the type designation is found on the outside, on the right-hand side of the device.</p>
	<b>NOTE</b>	<p><u>The correct information is important for all requests:</u></p> <ul style="list-style-type: none"> <li>• the type</li> <li>• the device no.</li> <li>• the year of manufacture</li> <li>• the location of the device</li> </ul> <p>This is the only way to ensure correct and fast processing.</p>

### 3. Scope of delivery



Ecolab Healthcare  
DG-Xtra dosing device



Operating Manual  
DG-Xtra dosing device

- Canister console
- Wall mounting set
- 6 screws 5x40mm (DIN96)
- 6 dowels 5x8mm
- power adapter 24V / 2,5A

	<p><b>NOTE</b></p>	<p>The DG-Xtra dosing device is supplied and put into operation for the first time by Ecolab.</p> <p>The installation of the device, including installation material, is a service provided at the customer's site, carried out on request by an installation company or Ecolab Technical Service.</p>
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## 4. Functional description

The Ecolab DG-Xtra dosing device is a microprocessor-controlled precision dosing device for the provision of disinfectant solutions for surface and instrument disinfection.

Based on the precise dosing capacity (characteristic range control) and safety equipment, the device is suitable for all disinfection-relevant areas of healthcare and industry.

### 4.1. Testing institutes / Conformities

- Drinking water protection through certified system separation, protection against back-flow of disinfectants into the drinking water pipe network.
- Safety and EMC testing
- Certified according to RKI guidelines

### 4.2. Conception

After the device has been put into operation for the first time, the operating procedures are carried out user-friendly and menu-driven using only the membrane keypad with its own display.

The control menu structure is configured:

- Level A, operator level
- Level B, access with PIN for authorised persons, e.g. hygiene specialist, facility management
- Level C, access with PIN, only for Technical Service

The solution is always delivered depressurised via the swivelling outlet with special flow regulator. Therefore, no pressure-dependent consumers, such as spray lances etc., may be connected. In addition, no commercially available jet regulators may be used.

Changes in the device control (e.g. settings/changes in concentrations) can be made by service technicians and instructed persons after entering a user code, provided they have previously been enabled in the service menu (Level C).

The disinfectant is withdrawn directly from the internal powder container; fresh water from the on-site pipe network is fed into the device via the water inlet.

The exact dosing of the disinfectant is carried out by using the powder feed according to the preset main concentration; based on the technical concept, even the smallest quantities are dosed with the highest precision in the set concentration.

Even when using a powder concentrate, it is possible to set two further secondary concentrations in addition to the main concentration (adjustment range standard 1% to 5%; optionally up to 7%).

In addition to the manual withdrawal quantity (maximum settable quantity), you can choose between two fixed withdrawal quantities. Depending on the selected concentration, an automatically adapted minimum withdrawal may be necessary.

With the aid of a self-generating characteristic range during initial operation, the device control then realizes the exact dosing quantities with regard to flow volume and concentrate delivery in control mode, based on the characteristic range data.



#### ATTENTION

Products based on substances containing chlorine or with phosphoric acid, peracetic acid or phenols as ingredients must **not** be used. Mixing different products is not permitted. Only materials released by the manufacturer may be used.

Non-observance of this instruction immediately voids the warranty!



**ATTENTION**

The dosing device may only be used with products approved by Ecolab. No warranty can be given if non-approved products are used or if products are mixed!

All operating states are displayed as plain text in the operator displays.

During the withdrawal process, the number of litres delivered and the concentration are shown on the display.

In the event of a fault, the device interrupts its function and reports an error message on the display with a red LED and an additional text line, therefore the menu navigation in the display must always be observed.

Only after the reported fault has been rectified (e.g. fill powder container, ensure water supply or rectify defect; see chapter 9 "Troubleshooting and eliminating faults") can the unit be operated normally again by pressing the  $\leftarrow$  key (Start/Stop) after acknowledging the fault message.

#### 4.3. Safety / Optical control display in case of faults

The quantity of the product to be added, as well as the amount of water, is constantly checked by the device. As soon as faults occur or the residual quantity in the powder reservoir falls below a certain level, an optical warning is given with an LED on the control panel (lights red) and a corresponding instruction on the display (e.g. "Low concentrate level" or "Low water level").

Maintenance due (depending on operating time and/or performance) is shown in the display. In this case, the Ecolab Technical Service must be contacted immediately. The device can still be used after acknowledging the message, but the relevant instruction is displayed again at intervals. The microprocessor continuously carries out its own checks so that errors are detected and signalled.

#### 4.4. Factory version / Optics / Wall mounting

The DG-Xtra dosing device is ready for connection or plugging in.

A compact external plug-in power supply unit supplies all system components and monitoring systems used in the device with a protective low voltage of 24V.

The overall construction complies with VDE regulations.

The housing of the DG-Xtra dosing device is made of uncoated stainless steel and has a smooth operator surface. The version described here is equipped with a brushed stainless steel lid and protective foil. In accordance with practical requirements, the device is therefore very easy to wipe off and can be maintained for perfect hygiene.

Practical wall installation solves space problems and filling the storage container is very simple. The powder container holds a powder supply of 1.5 kg. The storage container must always be kept dry during use.

#### 4.5. Device features / Selection

##### General information

- Solution preparation: precise dosage of the disinfectant, so the withdrawal quantity is always ready for use at the swivel outlet. When using the powder concentrate, the additional specifications for the concentrate (waiting times, repeated stirring) after preparation of the solution must be observed (see chemical supplement).
- Display
- Process data memory

- Statistical data memory
- Error memory
- Consumption-dependent service message
- Function monitoring of the water meter:  
The device control also monitors the actual function of the water meter and, in the event of a fault, indicates this on the display as a corresponding message with a red flashing fault LED.
- Mains power failure protection:  
The device control has non-volatile memory modules. If the mains voltage fails, the device settings and stored data are not lost.
- System separation:  
A system separator is located in front of the disinfectant supply. This ensures that no disinfectant can flow back into the drinking water network.
- Flow rate limitation:  
A flow regulator is located at the water inlet to differentiate the max. outflowing water quantity.

#### Powder concentrate

- Powder container assembly:  
The correct locking of the powder container is monitored by a reed switch. If the container is missing or incorrectly inserted, solution withdrawal cannot be started.
- Product defect protection:  
The light barrier mounted in the powder outlet monitors the powder delivery. If there is a product defect due to an error in the powder feed, the device switches to fault mode.
- Powder level monitoring:  
If the canister is empty, the dosing function is switched off, the red fault LED lights up, "Canister empty" is shown in the display and solution withdrawal is not possible. If the minimum filling quantity in the storage tank is not reached, the dosing function is switched off, the red fault LED lights up, the display shows "Refill powder" and no solution can be withdrawn.
- Leakage monitoring:  
In the event of backflow in the outlet, for example due to an incorrect or dirty jet regulator, the device switches to fault mode.

## 5. View

Fig. 1 Device front



- 1 – Bedientasten und Displayanzeige Pulverkonzentrat Nutzung
- 2 – Zugang für Pulverbehälter (siehe auch Abb. 2)
- 3 – Schwenkauslauf (Auslauf mit Spezialstrahlregler)
- 4 – Anschluss für Wasserzulauf (am Geräteboden)

Access to the powder container



5 - Rotary knob for unlocking the powder container

Powder container removed and opened



Lateral viewing window for visually checking powder



On the right side of the housing there is a viewing window which allows a view of the powder reservoir. By pressing the ESC key on the control panel, an LED installed in the device can be activated in standby mode to improve visibility.



**Do not look directly into the light of the LED (risk of eye damage cannot be excluded).**

## 6. Assembly and installation

	<b>CAUTION</b>	<b>Assembly and installation must only be carried out by qualified personnel.</b>
	<b>ATTENTION</b>	

	<b>NOTE</b>	<p>The DG-Xtra dosing device is exclusively put into operation for the first time by Ecolab.</p> <p>Installation, including installation material, is a service provided by the customer, carried out after being commissioned by an installation company or Ecolab Technical Service.</p>
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The following connection and assembly instructions are recommended as the preferred method. The environmental conditions, however, determine the actual method of assembly and installation to be used. Local regulations must always be observed.

### 6.1. Connection and assembly requirements

The DG-Xtra dosing device is intended for wall mounting, preferably above or in the immediate vicinity of a drain basin or drain funnel (length of the swivel outlet 250 mm).

A shut-off valve must be provided on site for the fresh water connection of the DG-Xtra. The water inlet temperature must not exceed 25°C. For higher or strongly fluctuating temperatures, a mixer tap must be connected upstream.

The power supply (earthed power socket) for the plug-in power supply unit is 100-240 VAC input voltage. (For further information see section Technical data)

### 6.2. Unpacking the device

The DG-Xtra dosing device is delivered in a sturdy cardboard box in a high-quality moulded foam for protection against transport damage.

Included in delivery:

- DG-Xtra dosing device
- 6 dowels
- 6 screws
- Compact plug-in power supply unit
- Swivel outlet with special jet regulator  
(use of another outlet / jet regulator will damage the device)
- Operating manual brochure
- Operating manual in short form (wipeable)

### 6.3. Removing / attaching the device cover

#### Removing:

Loosen the two retaining screws on the upper side of the device. Unscrew the two retaining screws on the sides (one on each side) of the device. Raise the device cover a little and then pull it forward.

#### Mounting:

Slide the device cover from the front onto the device, making sure that the side panels are correctly seated on the right and left sides and pushing the housing recesses under the upper retaining screws as far as they will go. After checking the correct assembly of the cover, screw in the two retaining screws on the sides but do not tighten them, then hand-tighten the upper retaining screws. Check whether the powder container can be removed and reinserted without any problems. Then tighten the lateral screws by hand as well.

#### 6.4. Wall mounting



#### CAUTION

Depending on the state of the wall, special fastening elements must be used or procured.



#### NOTE

Before starting the mounting work, the space required by the device must be taken into account. Care must be taken to ensure that the device opening for the powder container can be reached at all times.

Install the DG-Xtra dosing device as follows:

- Mark the drill holes for the device, see attachment: Drawing DG-Xtra dosing device - dimensioning.
- Drill the marked holes and insert the dowels supplied.
- Remove the hood.
- Screw the device fastening screws into the dowels up to approx. 1 cm and hang the device with the openings provided for this purpose.
- Screw in the fastening screws until they are tight.

#### 6.5. Water connection

- If necessary, connect an angle valve to the on-site water connection using a T-piece.
- Install a connecting line, min. chrome-plated Øcopper pipe 12x1mm with conical compression fittings or stainless steel pipe Ø12x1mm, between angle valve and connection nipple on the underside of the device.
- Water pressure min. 0.15 Mpa (1.5 bar), max. 0.6 Mpa (6 bar)

#### 6.6. Electrical connection

The DG-Xtra dosing device is delivered ready for connection. The cable length at the power supply unit is approx. 1m. For the connection, a 230 V / 50 Hz socket outlet with earthing contact and an appropriate protective device must be installed by the customer. If possible, the socket should be installed above the device. A certain minimum distance from the device must be maintained so that the device cover can be easily opened.

Connection of the round plug on the mains cable to the electronics housing and pulling in of excess cable is carried out by Ecolab Technical Service during initial operation.

### 7. Initial operation / parameterization

Initial operation and all necessary adjustments are carried out by Technical Service Ecolab!

## 8. Operation

The following requirements must be met to ensure smooth operation:

- The device is mounted in a suitable place.
- Device is put into initial operation by Technical Service Ecolab
-  Powder container filled with permissible powder concentrate and inserted into the device.  
Make sure that the container is always kept dry.
- The required dosing quantity is set and checked.
- Fresh water inlet open
-  Device switched on by pressing the  key

### 8.1. Operating controls and displays

#### Operating controls

(Product name in the display depends on the setting made during initial operation)



Display \*

Red LED:  
General fault display

- Flashing light on: Empty container and display of system faults.  
(Acknowledgeable with the  key)

(\* if mains plug is plugged into a socket provided by the customer)

LCD display:	Display of all data, functions and faults in plain text
 Key:	START/STOP; acknowledgement of fault messages; enter function in menu mode
ESC key:	Manual operation of the dosing pump; ESC function in menu mode
 /  keys:	Selection function in menu mode

If the device is connected to the mains, it first carries out a self-test.  
 In the standby position, the device displays the following information:  
 Upper line text depending on setup during initial operation, here e.g. the product name  
 Incidin Active.

<b>Incidin Active</b> 1,0 %
--------------------------------

The bottom line shows the main concentration adjusted during initial operation.

### No operator intervention is necessary in undisturbed operation!

The desired solution can be taken from the swivel outlet.  
 When using the powder concentrate, the additional specifications for the concentrate (waiting times, repeated stirring) after preparation of the solution and the hold time must be observed (see chemical supplement).

## 8.2. Starting a withdrawal process

In the standby position, the device displays the following information, for example:

<b>Incidin Active</b> 1,0 %
--------------------------------

(Text depending on equipment during initial operation)

To remove a solution, press the  $\leftarrow$  key.  
 The operating display now appears on the display:

<b>Filling</b> 1,0 % 0,35 L 20,0 L
---------------------------------------

In the first line the current concentration is displayed, in the second line the quantity of working solution already withdrawn as well as the preselected or maximum possible withdrawal quantity (e.g. 20.0 l).

During withdrawal, the preselected quantity can be changed by briefly pressing one of the arrow keys ( $\blacktriangledown$   $\blacktriangle$ ) as long as the quantity withdrawn is not greater than the desired preselected quantity.

### Example

After withdrawal has started and the  $\blacktriangledown$  key has been pressed, the following display appears:

<b>Filling</b> 1,0 % 1,55 L 2,5 L
--------------------------------------

After complete withdrawal, here of 2.5 litres, the device returns to the standby position.

## 8.3. Aborting a withdrawal process

The withdrawal process can be aborted at any time by pressing the  $\leftarrow$  key.  
 The display will then show the following message for a few seconds, for example:

<b>Aborting</b> 1,0 % 1,95 L 2,5 L
---------------------------------------

In the example, a total of 1.95 l of working solution was withdrawn.  
 The unit then returns to the standby position.

### 8.4. Alternative concentrations

In addition to the main concentration, the device is prepared for the provision of two additional concentrations, but these must be enabled (Ecolab Technical Service).

A change in concentration can only take place from the ready position and is effective for one withdrawal (after which the main concentration is restored).

Display in idle state:

```
Incidin Active
2,0 %
```

Display when the ▼ key is pressed (example):

```
Incidin Active
1,0 %
```

Display when the ▲ key is pressed (example):

```
Incidin Active
3,0 %
```

To withdraw the solution with the selected concentration, hold down the corresponding arrow key and then press the "↵" key. Then release both keys again.

Display:

```
Filling    2,0 %
0,74 L    20,0 L
```

The other functions, such as changing the preselected quantity and aborting the withdrawal, are retained.

**Instruction:**

If after pressing one of the arrow keys (▼ ▲) a series of "----" characters appears in the display, no alternative concentration is enabled for this key!

Display:

```
Incidin Active
-----
```

## 8.5. Setting the withdrawal quantity

Here you can set the limitation or preselection of the quantity to be withdrawn - for normal operation under "Normal", for the quantity to be extracted after pressing the ▼ key under "Mini" and after pressing the ▲ key under "Maxi".

Press both arrow keys (▼, ▲) simultaneously.

Display:

```
Level A:
Volumes
```

After confirmation with the "↵" key

Display:

```
Volumes
Normal 20,0 L
```

Select with arrow keys (▼▲):

```
Volumes
Mini   3,0 L
```

or

```
Volumes
Maxi   6,0 L
```

If the larger preselected quantity ("Maxi") is to be changed, press the "↵" key while "Maxi" is displayed.

New display:

```
Maxi volume 0,1 L
#30   0060
```

The first digit flashes and can be changed with the arrow keys (▼▲), after confirmation with "↵" key the next digit flashes.

As shown in the first line, the displayed numerical value must be multiplied by a factor of 0.1 to obtain the desired withdrawal quantity.

If, for example, this is to be 10 l, the input value must be set to "100":

```
Maxi volume 0,1 L
#30   0100
```

After entering and confirming the last digit, the display returns to the "Withdrawal quantity" menu and displays the changed value. The entry must always be made up to the last digit.

```
Volume
Maxi   10,0 L
```

Press the "ESC" key to access the memory query:

```
Save?
ESC=exit, ST=save
```

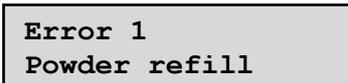
ST = YES (save); ESC = EXIT (not save)

Confirm the desired action with the specified key.  
 The device then returns to normal standby mode.  
 This detailed description can be used analogously for all other menu items!

**8.6. Operator-relevant messages to be acknowledged**

**8.6.1. Powder concentrate**

- a. Powder concentrate reservoir used up



 Fill powder container

	<p><b>CAUTION</b> When refilling the powder container, protective clothing, goggles and gloves must be worn. Never hold the powder container upside down! Never fill the powder container with moist powder!</p>
---	--



Unlock the rotary knob on the front by turning it to the left and carefully pull the powder container out of the device.



Powder container



Before refilling the container, check whether lumps or deposits have formed in the area of the powder outlet / spiral. Check the smooth running of the spiral conveyor. Deposits, lumps etc. must be removed before refilling the container!



Empty the container completely. Then loosen the union nut by turning to the right (!) and pull the spindle out of the container. Carefully remove powder residues / lumps, then reinsert the spindle into the device and secure with the union nut. Turn union nut to the left (!) and tighten hand-tight.

-  Fill powder up to the maximum mark on the container (maximum filling level). Take care not to mix different powder concentrates.
-  The powder reservoir should be **checked for clumping** at least **once a week**, even if consumption is low. Also check the smooth running of the spiral conveyor. Clumping and powder whose service life has been exceeded must always be replaced. The tank must be completely dry inside and outside before refilling!
-  A regular check (depending on use, recommended every 2 weeks) of the jet regulator at the outlet of the swivel outlet must be carried out. To do this, unscrew the cap at the end of the swivel outlet and rinse the jet regulator under running water. Then remount the jet regulator at the swivel outlet.

**Re-insert the container:**

Close the plastic cover again and insert the container into the dosing device.

Please note the following:

- Powder outlet not twisted (output must point downwards).
- Container guide correctly inserted again in guide rail (holder in device)?
- Container not jammed?
- Is the metal cover again completely in contact with the device housing after the container has been inserted?



If the container cannot be pushed in far enough, the drive mounting on the container may have been rotated during refilling or cleaning. In this case, remove the container again and turn the drive adapter 2-3 mm further by hand. Then try inserting again. Repeat this process if necessary.

Then lock the knob by turning it clockwise until it stops.

**Error 22  
Interlock**

Acknowledge with **↵** key

**Canister full ?  
ST=Yes, ESC=No**

If the powder container has been refilled, acknowledge with the **↵** key (= Yes).  
If there is no new filling, confirm with ESC key (= No)

b. Powder container not correctly locked

**Error 22  
Interlock**

Possible error after filling the container:  
Rotary knob not properly locked ⇒ Device goes into fault and signals "Locking"  
Locking the rotary knob of the powder feeder correctly so that the flap switch is actuated.

c. Solution outflow obstructed

**Error 5**  
**Outlet blocked**

⚠ Solution outlet blocked, check outlet, clear if necessary. Acknowledge with **↵** key and contact Technical Service if the message appears again.

d. Powder feed insufficient

**Error 20**  
**Powder shortage**

⚠ Not enough powder was conveyed. Powder concentrate reservoir. Is there enough powder in the container and is the powder outlet directed downwards? Acknowledge with **↵** key and contact Technical Service if the message appears again.

**8.6.2. General information**

**Error 8**  
**No water**

⚠ Open water supply, acknowledge message with **↵** key, contact Technical Service if necessary.

**Service request.**

Maintenance interval reached.

⚠ After acknowledgement with the **↵** key, the device can continue to be used if there is no further error. The message reappears later, can then be acknowledged again, etc.  
Technical Service is to be informed for the necessary maintenance.

⚠ Every further or other message must be reported to Technical Service and then acknowledged with the **↵** key; the error may occur again after a short running time.

 **NOTE** ⚠ When notifying Technical Service, the error number and, if possible, the error text must be stated.

 **ATTENTION** The cause of each fault must be determined.

## 9. Troubleshooting and eliminating faults

	<b>CAUTION</b>	<p>Risk of injury!            Never carry out repairs on the device yourself.            Repairs to electrical devices may only be carried out by Technical Service.</p>
--	----------------	--

	<b>NOTE</b>	<p>After every fault has been rectified, the  key must be pressed to acknowledge.</p>
--	-------------	---

### Error table

Fault	Cause	Error elimination
Control without function (no display, no reaction to key-stroke)	<ul style="list-style-type: none"> <li>- No supply voltage</li> <li>- Power supply unit defective</li> <li>- Control board defective</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- Ensure supply voltage</li> <li>- Replace plug-in power supply</li> <li>- Notify Technical Service</li> <li>-</li> </ul>
key pressed, no function;	<ul style="list-style-type: none"> <li>- Water supply turned off at angle valve</li> <li>- Dirt trap on solenoid valve dirty</li> </ul>	<ul style="list-style-type: none"> <li>- Open angle valve</li> <li>- Clean or replace dirt trap</li> </ul>
Display: <b>Service required</b>	<ul style="list-style-type: none"> <li>- Service due (time interval)</li> <li>- Service due (consumption-dependent)</li> </ul>	<ul style="list-style-type: none"> <li>- Notify Technical Service have maintenance performed</li> </ul>
<< <b>Error 1</b> >> "Refill powder"	<ul style="list-style-type: none"> <li>- Content of powder container to minimum</li> </ul>	<ul style="list-style-type: none"> <li>- Remove container and refill (see section 8.6.1)</li> <li>- Close container lock</li> </ul>
Display: << <b>Error 3</b> >> "Underdosing"	<ul style="list-style-type: none"> <li>- Wrong powder</li> </ul>	<ul style="list-style-type: none"> <li>- Use the right powder concentrate</li> </ul>
Display: << <b>Error 5</b> >> "Drain blocked"	<i>See Fault 9</i>	<i>See Fault 9</i>
Display: < <b>Error 7</b> >> "Water pressure low"	<ul style="list-style-type: none"> <li>- Water inlet / pressure not sufficient</li> <li>- Solenoid valve dirty</li> <li>- Flow limiter dirty</li> <li>- Incorrect swivel outlet mounted</li> </ul>	<ul style="list-style-type: none"> <li>- Turn on the angle valve completely; clean the sieve</li> <li>- Replace solenoid valve</li> <li>- Replace flow limiter</li> <li>- Mount <b>original</b> swivel outlet</li> </ul>
Display: << <b>Error 8</b> >> "Lack of water"	<i>See Fault 11</i>	<i>See Fault 11</i>

Fault	Cause	Error elimination
Display: << <b>Error 9</b> >> "Level sensor"	<ul style="list-style-type: none"> <li>- Solution flows off too slowly; incorrect jet regulator installed or outflow blocked</li> <li>- Hose mounted on swivel outlet</li> <li>- Injection point blocked</li> </ul>	<ul style="list-style-type: none"> <li>- Mount original jet regulator or clean outflow</li> <li>- Remove hose</li> <li>- Cleaning mixing container</li> </ul>
Display: < <b>Error 11</b> >> "Lack of water"	<ul style="list-style-type: none"> <li>- Solenoid valve does not open</li> <li>- Solenoid valve defective</li> <li>- Incorrect swivel outlet mounted</li> </ul>	<ul style="list-style-type: none"> <li>- Clean solenoid valve or install new partial kit or new valve</li> <li>- Replace solenoid coil</li> <li>- Mount <b>original</b> swivel outlet</li> </ul>
Display: << <b>Error 12</b> >> "Stagnation"	<ul style="list-style-type: none"> <li>- Device has not been used for more than a preset time</li> </ul>	<ul style="list-style-type: none"> <li>- Carry out solution withdrawal &gt;2 litres</li> </ul>
Display: << <b>Error 14</b> >> "min. flow"	<ul style="list-style-type: none"> <li>- Dirt trap on solenoid valve dirty</li> <li>- Solenoid valve does not open</li> <li>- Solenoid valve defective</li> <li>- Angle valve defective</li> </ul>	<ul style="list-style-type: none"> <li>- Clean or replace dirt trap</li> <li>- Clean solenoid valve or install new partial kit or new valve</li> <li>- Replace solenoid coil</li> <li>- Check angle valve</li> </ul>
Display: << <b>Error 20</b> >> "Lack of powder"	<ul style="list-style-type: none"> <li>- Wrong / little preparation</li> <li>- Conveyor motor does not pump or pumps too little</li> </ul>	<ul style="list-style-type: none"> <li>- Fill powder container with correct / sufficient powder</li> <li>- Notify Technical Service -</li> </ul>
Display: << <b>Error 22</b> >> "Locking"	<ul style="list-style-type: none"> <li>- Container lock not correctly closed</li> </ul>	<ul style="list-style-type: none"> <li>- Make sure that the knob is turned to the right until it stops.</li> </ul>
Display: << <b>Error 24</b> >> "User cancel"	<ul style="list-style-type: none"> <li>- Operating error, multiple</li> <li>- Pressing the ← key in rapid succession may result in over-concentration</li> </ul>	<ul style="list-style-type: none"> <li>- Press the key only once to start or stop a dosing operation</li> </ul>
Display: << <b>Error 25</b> >> "Motor sensor"	<ul style="list-style-type: none"> <li>- Motor running disturbed</li> </ul>	<ul style="list-style-type: none"> <li>- If fault occurs repeatedly, please contact Technical Service</li> </ul>
Display: << <b>Error 26</b> >> "Outputsensor"	<ul style="list-style-type: none"> <li>- Powder detection incorrect</li> <li>- Light barrier permanently interrupted</li> </ul>	<ul style="list-style-type: none"> <li>- Check whether powder residues permanently interrupt the light barrier. Remove powder residue with a brush</li> </ul>
Device switched off; water escape at swivel outlet	<ul style="list-style-type: none"> <li>- Solenoid valve dirty or defective</li> </ul>	<ul style="list-style-type: none"> <li>- Replace solenoid valve</li> </ul>
Control without defined function; undefined display	<ul style="list-style-type: none"> <li>- Internal error</li> </ul>	<ul style="list-style-type: none"> <li>- Carry out reset. To do this, pull out the plug-in power supply and plug it in again after approx. 30 sec.</li> <li>- If fault occurs repeatedly, please contact Technical Service</li> </ul>

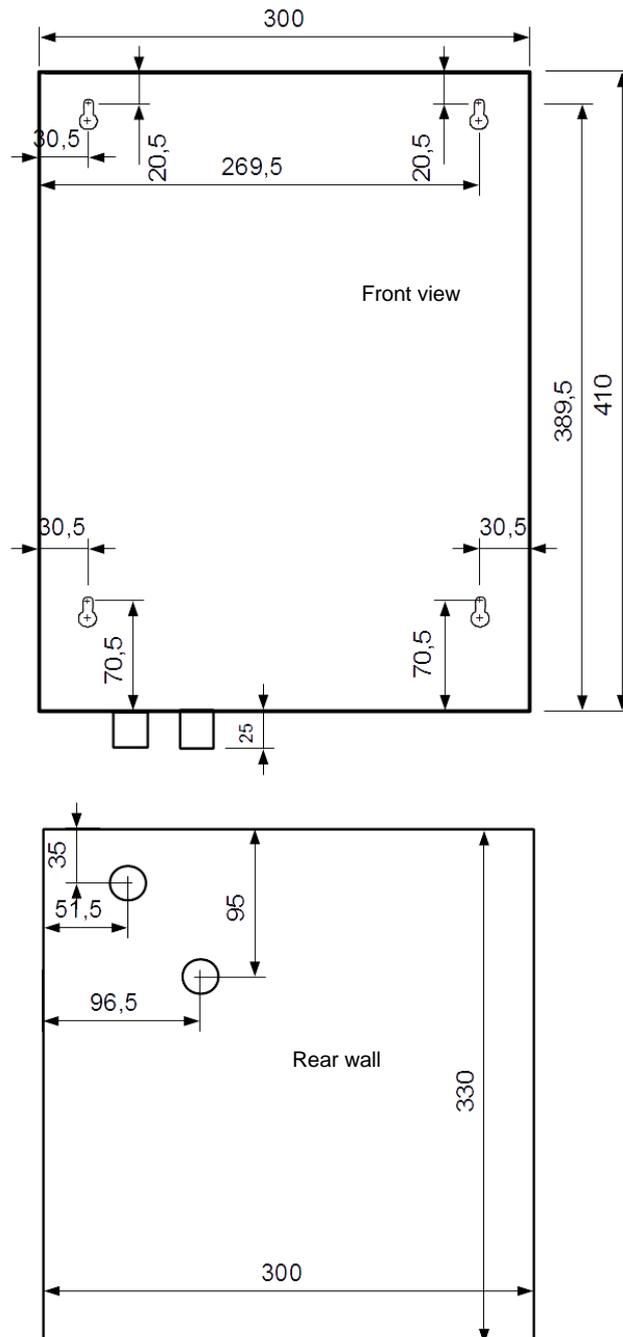
In case of undefined errors, disconnect the mains plug and reconnect it after approx. 30 seconds. The device performs a self-check and then returns to standby mode. In the event of repeated error messages, please inform your facility management department or Ecolab Technical Service.

## 10. Dimension

A free area of 20 cm all around the DG-Xtra dosing device in total height and width should be planned for service work.

Dosiergerät DG-Xtra  
Bemaßung

Grätemaße:  
Breite 300mm  
Höhe 410mm  
Tiefe 330mm



## 11. Disassembly / Disposal

### 11.1. Disassembly



Disassembly may only be carried out by qualified personnel.



Before starting the disassembly work, the device must be completely disconnected from the power supply and the media supplies.



In particular, all disinfectant concentrate lines and solution lines must be properly emptied and rinsed or neutralized.



The rinse water must be disposed of in accordance with local regulations.



### 11.2. Disposing of the device



The device is mainly made of metal, except for electrical equipment, and must be disposed of in accordance with the applicable local environmental regulations.

Dispose of according to condition, existing regulations and in compliance with current regulations, e.g. as:

electrical scrap, plastics, sheet metal, steel, copper, non-ferrous metals, aluminium, separated by type.

All parts in contact with the medium must be decontaminated before disposal.

Oils, solvents and cleaning agents, contaminated cleaning tools and aids must be disposed of in accordance with local regulations, in accordance with the applicable waste code and observing the instructions in the safety data sheets of the manufacturers.

### 11.3. Disposing of the packaging



The packaging is an important part of the product, it protects the device from damage during transport and reduces the risk of device failure. Therefore it is not possible to do without the packaging.

The packaging can be disposed of after removal of the device, at any time and without restrictions in accordance with the applicable local environmental regulations, e.g. via regional facilities such as waste paper bins, recycling bins, recycling depots, etc.

## 12. Technical data

Supply voltage:	Plug-in power supply
	Input:
	100-240V AC
	Output:
	24V DC 2.5A
Protection class:	3
Back-up fuse:	max. 16 A
Water connection:	External thread ½",
Water supply line:	min. Cu / VA pipe, Ø12x1, with shut-off valve
Water inlet temperature:	max. 25°C
Water flow pressure inlet:	0.15 Mpa (1.5 bar), max. 0.6 Mpa (6 bar)
System separation:	acc. to DIN EN 1717
concentration range:	
Powder concentrate Standard:	1.0% - 5.0%
Powder concentrate Optional:	1.0% - 7.0%
Capacity/solution flow Standard:	approx. 600 l/h (unpressurised) disinfectant solution
Power/solution flow rate Optional:	approx. 400 l/h (unpressurised) disinfectant solution
Solution withdrawal:	Swivel outlet
Permissible ambient temperature:	10 to 40°C
Safety features:	Water and product shortage protection, system separation, flow rate limitation
Stainless steel housing dimensions: (without suction lance)	Width 300 mm Height 410 mm Depth 330 mm
Weight:	approx. 12 kg

We reserve the right to make technical changes, as our products are subject to constant further development!

**13. Certificate**




# Zertifikat

für das Unternehmen

**Ecolab Deutschland GmbH**  
**Ecolab-Allee 1**  
**40789 Monheim am Rhein**

produzierte

**„Ecolab DG-Xtra / Ecolab DG-Xtra 2in1 Desinfektionsmitteldosiergerät“  
für pulverförmige Konzentrate**  
für die Herstellung von gebrauchsfertigen Desinfektionsmittellösungen.

Nach Prüfung wird bestätigt, dass die Anlage den  
**„Anforderungen an Gestaltung, Eigenschaften und Betrieb von dezentralen  
Desinfektionsmittel-Dosiergeräten“ RKI-Empfehlung: 2004  
entspricht.**

**geprüfte Produkte der Ecolab Deutschland GmbH:**  
Pulver: Sekusept aktiv, Incidin Active,  
Flüssig: Incidin Plus

**Identifikationsnummer:**


---

 Dr. med. univ. Sebastian Werner  
 Geschäftsführer

99385  
 Schwerin, den 06.08.2019


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 Prof. Dr. med. H.-P. Werner  
 Wissenschaftlich-technischer Leiter

HygCen Germany GmbH | Bornhövedstrasse 78 | 19055 Schwerin

**14. DG-Xtra spare parts and accessories**

On request (status 4.10.2019)



Swivel outlet 250 mm, Art. LAN230130



Special jet regulator type DG-Xtra  
Art. Lanx230108



Power supply 24V Art. HS271101



DG-Xtra powder container (complete)  
Art. LAN230101



Extra powder container  
Art. Lan230105



Powder extruder  
Art. Lan230107



Powder feed wheel  
Art. Lan230103



Powder ejection  
Art. Lan230102



