



# SMARTPOWER™ Rinse Dispenser

Dispenser for solid rinse aid products



Operating instructions



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## Table of contents

<b>1</b>	<b>General</b> .....	<b>5</b>
1.1	Notes on the operating instructions.....	5
1.2	Transportation.....	9
1.3	Packaging.....	9
1.4	Storage.....	10
1.5	Equipment marking – identification plate.....	11
1.6	Warranty.....	11
1.7	Repairs/returns to Ecolab Engineering GmbH.....	12
1.8	Contact.....	13
<b>2</b>	<b>Safety</b> .....	<b>15</b>
2.1	Intended use.....	16
2.2	Service life.....	16
2.3	Safety measures taken by the operator.....	17
2.4	Personnel requirements.....	18
2.5	Personal protection equipment (PPE).....	20
2.6	General information about risks.....	20
2.7	Metering media.....	23
2.8	Installation, maintenance and repair work.....	26
<b>3</b>	<b>Delivery</b> .....	<b>27</b>
<b>4</b>	<b>Set-up / Functional description</b> .....	<b>29</b>
<b>5</b>	<b>Assembly and connection</b> .....	<b>31</b>
5.1	Installation.....	31
5.2	Hydraulic installation.....	34
5.3	Power supply.....	36
<b>6</b>	<b>Commissioning / operation</b> .....	<b>39</b>
6.1	Control/Software.....	39
6.2	Start-up.....	42
6.2.1	Initial start-up.....	42
6.2.2	Set-up.....	42
6.2.3	Adjusting the rinse aid concentration.....	43
6.3	Operation.....	45
6.3.1	Switching on the unit.....	45
6.3.2	Temporarily taking the unit out of operation.....	46
6.3.3	Entering the access code.....	46
6.3.4	Insert a new rinse aid capsule.....	47
<b>7</b>	<b>Servicing and maintenance</b> .....	<b>49</b>
7.1	Maintenance intervals.....	51
7.2	Maintenance and servicing work.....	52
7.2.1	Clean the unit.....	52
7.2.2	Opening the front hatch.....	52

7.2.3	Remove the collection cup.....	53
7.2.4	Remove the product cylinder.....	53
7.2.5	Descaling the spray nozzle.....	55
7.2.6	Removing the rinse aid hose and suction pipe.....	57
7.2.7	Removing the solenoid valve.....	59
<b>8</b>	<b>Operational malfunctions and troubleshooting.....</b>	<b>61</b>
8.1	General troubleshooting and fault rectification.....	61
8.2	Fault messages.....	62
<b>9</b>	<b>Spare parts.....</b>	<b>63</b>
<b>10</b>	<b>Technical data.....</b>	<b>65</b>
<b>11</b>	<b>Decommissioning, dismantling and disposal.....</b>	<b>69</b>
11.1	Disposal and environmental protection.....	70
<b>12</b>	<b>Index.....</b>	<b>71</b>
	<b>Appendix.....</b>	<b>75</b>
	Appendix - Table of contents.....	77
A	Ecolab representatives and service partners.....	79
B	EC Declaration of Conformity.....	83

# 1 General

## 1.1 Notes on the operating instructions



**CAUTION**

**Read the instructions!**

**Prior to commencing any works and/or operating, appliances or machinery, these instructions must be read and understood as a strict necessity. In addition, always heed all the instructions relating to the product that are included with the product!**

All instructions are also available for download if you have mislaid the original. Furthermore, you will always have the opportunity to get the latest version of the manuals. The German-language manual is the **original operating manual**, which is legally relevant. **All other languages are translations.**

**Particular attention should be paid to the following:**

- Personnel must have carefully read and understood all instructions belonging to the product before starting any work. The basic premise for safe operation is observing all safety instructions and work instructions in this manual.
- Figures in this manual are provided for basic understanding and may deviate from the actual product.
- All manuals and guides must be placed at the disposal of the operating and maintenance personnel at all times. Therefore, please store all manuals and guides as a reference for operation and service.
- If the system is resold, this manual must always be supplied with it.
- The relevant sections of this operating manual must be read, understood and noted before installing the system, using it for the first time, and before carrying out any maintenance or repair work.

**Available instructions**

The most up-to-date and complete operating manual is available online:



To download the instruction with a PC, tablet or smartphone, use the link below or scan the QR code given.

**Download the operating instructions 'SMARTPOWER™ Rinse Dispenser' (MAN054126):**

→ [https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054126\\_SMARTPOWER\\_Rinse\\_Dispenser\\_UK.pdf](https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054126_SMARTPOWER_Rinse_Dispenser_UK.pdf)

The EcoPlus PDRX dispenser to which the SMARTPOWER™ Rinse Dispenser is connected is described in a separate manual. To download the instruction with a PC, tablet or smartphone, use the link below or scan the QR code given.



**Download the operating instructions for 'EcoPlus PDRX' (MAN054265):**

→ [https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265\\_EcoPlus\\_PDRX\\_UK.pdf](https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265_EcoPlus_PDRX_UK.pdf)

**Always call up the latest operating instructions**

If any 'operating instructions' are changed, the document will immediately be posted 'online'. All operating instructions are provided in PDF format . To open and display the operating instructions, we recommend that you use Adobe PDF Viewer(→ <https://acrobat.adobe.com>).

**Accessing operating instructions using the website of Ecolab Engineering GmbH**

You can search for and select the required instructions on the manufacturer's website (→ <https://www.ecolab-engineering.de>) under **[Media Centre]** / **[Operating Instructions]**.

**Go to the instructions in the 'DocuAPP' for Windows®**

You can use the 'DocuApp' for Windows® (as of Version 10) to download, read and print all published operating instructions, catalogues, certificates and CE declarations of conformity on a Windows® PC.



To install this program, open the 'Microsoft Store' and enter **DocuAPP** in the search field or click this link: → <https://www.microsoft.com/store/productId/9N7SHKNHC8CK>. Follow the installation instructions.

**Viewing user manuals on smartphones/tablets**

You can use the Ecolab 'DocuApp' to access all operating manuals, catalogues, certificates and CE declarations of conformity published by Ecolab Engineering using a smartphone or tablet (Android & iOS ). The published documents are always up to date and new versions are displayed immediately.



**'Ecolab DocuApp' instructions for download:**

For more information about the 'DocuApp' , refer to the specific software description.

→ [Download instructions](#)

**Installing 'DocuApp' for Android**

On Android based smartphones, the 'DocuApp' can be installed from the "Google Play Store".

1. Call up the "Google Play Store" with your Smartphone / Tablet.
2. Enter the name "Ecolab DocuAPP" in the search field.
3. Select the **Ecolab DocuAPP**.
4. Choose **[Install]**.
  - ➔ The 'DocuApp' is installed.

**Installing the 'DocuApp' for iOS (Apple)**

On iOS based smartphones, the 'DocuApp' can be installed from "App Store".

1. Call up the "App Store" on your iPhone/iPad.
2. Go to the search function.
3. Enter the name "Ecolab DocuAPP" in the search field.
4. Enter the search term **Ecolab DocuAPP** to search for the app.
5. Choose **[Install]**.
  - ➔ The 'DocuApp' is installed.

**Symbols, highlights and bulleted lists**

Safety instructions in this manual are identified by symbols and introduced by signal words expressing the extent of the hazard.



**DANGER**

Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.



**WARNING**

Indicates a potentially imminent danger that can lead to serious injuries or even death.



**CAUTION**

Indicates a potentially hazardous situation which may result in minor or slight injury.



**NOTICE**

Indicates a potentially dangerous situation that may result in property damage.



**Tips and recommendations**

*This symbol highlights useful tips, recommendations and information for an efficient and trouble-free operation.*



**ENVIRONMENT**

Indicates potential hazards to the environment and identifies environmental protection measures.

**Safety instructions in the operating instructions**

Safety instructions can refer to specific, individual operating instructions. These safety instructions are embedded in the operating instructions, so they do not interrupt the reading flow when executing the action. The signal words described above are used.

**Example:**

1. → Loosen screw.

2. →



**CAUTION**

**Risk of trapping on the cover!**

Close the cover carefully.

3. → Tighten screw.



**Tips and recommendations**

*This symbol highlights useful tips, recommendations and information for an efficient and trouble-free operation.*

**Other markings**

The following markings are used in these instructions to provide emphasis:

1., 2., 3. ...



Step-by-step operating instructions



Results of the operating steps



References to sections of these instructions and related documents



Lists in no set order

**[Button]**

Controls (e.g. button, switch), indicators (e.g. signal lights)

'Display'

Screen elements (e.g. buttons, assignment of function keys)



**Item numbers and EBS numbers**

*Both item numbers and EBS numbers are shown in these operating instructions.*

*EBS numbers are Ecolab-internal item numbers and are used within our corporate group.*

**Copyright**

**This manual is copyright protected. All rights belong to the manufacturer.**

The transfer of this manual to third parties, reproductions in any kind and form, even in extracts, as well as the exploitation and/or communication of the content are not permitted without the written permission of Ecolab (hereinafter referred to as "manufacturer") except for internal purposes. Any violations result in obligatory compensation for damages. The manufacturer reserves the right to enforce additional claims.



## 1.2 Transportation

The unit is supplied in cardboard packaging. Please refer to the technical data for the packaging dimensions and packaging weight.

### Improper transportation



#### NOTICE

##### Material damage due to improper transport

Transport units can fall or tip over if improperly transported. This can cause considerable damage.

- Observe symbols and instructions on the packaging
- Unload and transport the transport items carefully
- Only use intended attachment points
- Transport items to the place of use using a suitable means of transport or lifting equipment.
- Use only approved means of transport
- Do not remove packaging until immediately before installation



#### DANGER

##### Risks when commissioning equipment which has been damaged during transportation.

Installation or start-up must not take place if any transport damage is detected when unpacking the system.

Installing/starting up a damaged pump may result in uncontrollable errors, which may lead to irreparable damage to personnel and/or of the equipment when using aggressive dosing agents.

### Transport inspection



#### NOTICE

Check the delivery for completeness and any transport damage.

#### **In case of visible transport damage, proceed as follows:**

- Do not accept the delivery or accept it only on a provisional basis.
- Note down the extent of damage on the transport documents or on the carrier's delivery slip.
- Lodge a complaint.



#### ***Claim for any damage as soon as you notice it!***

*Damage claims can be filed only within the applicable period for complaints.*

## 1.3 Packaging

The individual packages are bundled to suit the expected transport conditions.

Only environmentally-friendly materials have been used in the packaging.

The packaging is designed to protect the individual components against shipping damage, corrosion and other damage before assembly. Do not destroy the packaging and only remove it just before assembly.



*There may be instructions on how to handle the packages (e.g. this way up, fragile, keep dry). These must be adhered to accordingly.*



**ENVIRONMENT**

**Risk of environmental damage from incorrect disposal!**

Packaging materials are valuable raw materials and can, in many cases, be used again or be usefully processed and recycled.

**Incorrect disposal of packaging materials can be a threat to the environment.**

- Observe the local disposal regulations!
- Environmentally-friendly disposal of packaging materials.
- If necessary, hire a specialist to carry out disposal.

**1.4 Storage**



*In certain cases, storage instructions may be specified on the packages that go beyond the requirements specified here. These must be observed accordingly.*

- Do not store outdoors.
- Store in a dry and dust-free place.
- Do not use abrasive solutions.
- Keep away from direct sunlight.
- Avoid mechanical vibrations.
- If stored for longer than 3 months, regularly check the condition of all parts and packaging. If necessary, renew or replace the packaging.
- Store away from frost.
- For more information, please see [↗ 10' Technical data'](#)



**NOTICE**

**Intermediate storage**

- The packaging is designed for a storage period of 3 months.
- If the dispenser is not operational for a period of longer than one week: fully empty and flush tank with water.



**CAUTION**

**Risk of damage to the dispenser.**

Ingress of dirt and water can damage the dispenser. Never clean the unit with a steam cleaner or with a water jet.

**1.5 Equipment marking - identification plate**



**Information on the type plate**

Information on equipment marking and information on the rating plate can be found in chapter → [Chapter 10 'Technical data' on page 65.](#)

The correct specification of the name and type is important for all queries.

This is the only way of ensuring fast and accurate processing of your enquiry.

**1.6 Warranty**

**The manufacturer provides a warranty for operational safety, reliability and performance under the following conditions only:**

- Assembly, connection, adjustment, maintenance and repairs must be carried out by qualified and authorised specialist personnel in compliance with all documents supplied.
- Please follow the instructions for use in the User Manual.
- Only original equipment spare parts are to be used for repairs.
- If dosing media are specified for use in these instructions, we explicitly exclude any warranty/liability for the use of other products!



*Our products are built, tested and certified in accordance with current standards/guidelines. They left the factory in a safe, faultless condition.*

*To maintain this condition and to ensure a trouble-free operation, the user must observe all instructions, warnings, maintenance regulations, etc. that are contained in all the corresponding manuals and that may be attached to the product.*

**The manufacturer's general warranty and service conditions apply.**

## 1.7 Repairs/returns to Ecolab Engineering GmbH



### DANGER

#### Conditions for returns

**Before being returned, all parts must be completely free of all chemicals! We would point out that only clean, rinsed parts that are free of all chemicals can be accepted by our service!**

This is the only way of excluding the possibility of the risk of injury to our staff due to residues of chemical products. The goods sent in must, where possible, also be packed in a suitable bag preventing any leakage of liquid residues into the surrounding packaging.

Enclose a copy of the product data sheet for the chemical used so that our Service staff can be prepared to use the necessary personal protective equipment (PPE).



#### **The return must be requested online**

→ <https://www.ecolab-engineering.de/en/contact/returns>

**Fill in all details and follow the further navigation.**

*You will receive the completed return form by email.*

### Packaging and shipping

If possible, use the original box to return the device.



#### **General information for returns**

- *Ecolab assumes no liability for transport damage.*
- *Make sure that the original serial number label is on all products sent in.*
- *The return form must be affixed in a clearly visible position **on the outside** of the package using a delivery note pouch.*

1. → Print and sign the return form.
2. → Pack the product to be returned without any accessories, unless they may be related to the fault.
3. → Enclose the following documents with the consignment:
  - Signed return form
  - Copy of the order confirmation or delivery note
  - In the case of a warranty claim: Invoice copy with date of purchase
  - Safety data sheet for hazardous chemicals
4. → Copy the return address with return number to the shipping label.

## 1.8 Contact

### Manufacturer



#### **Ecolab Engineering GmbH**

Raiffeisenstraße 7  
**D-83313 Siegsdorf, German**

Telephone (+49) 86 62 / 61 0  
Fax (+49) 86 62 / 61 166

↪ [engineering-mailbox@ecolab.com](mailto:engineering-mailbox@ecolab.com)

↪ <http://www.ecolab-engineering.com>

**Before you contact the manufacturer, we recommend that you always contact your sales partner first.**



**2 Safety**



**DANGER**

If you believe that the unit can no longer be operated safely, you must decommission it immediately and secure it so that it cannot be used inadvertently.

**This applies:**

- if the unit shows visible signs of damage,
- if the unit no longer appears to be operational,
- after prolonged periods of storage under unfavourable conditions.

**The following instructions must always be observed:**

- Prior to carrying out any work on electric parts, switch off the power supply and secure the system against being switched back on again.
- Safety regulations and prescribed protective clothing when handling chemicals should be followed.
- Attention must be paid to the information included on the product data sheet of the metering medium used.
- The unit must only be operated with the supply and control voltage specified in the Technical Data section.



**CAUTION**

**Complete machine**

**This component is delivered as a "complete machine" in accordance with the Machinery Directive 2006/42/EC.**

Ecolab (the manufacturer) provides the component as a stand-alone machine, including all required components and controls. For this reason, the is component defined as a complete machine.

**The operator is responsible for all components to be connected to the component that are located outside the boundaries of the machine and that are provided by the operator in order to integrate the component into its plant.**

The manufacturer supplies a declaration of conformity ([↔ Appendix B 'EC Declaration of Conformity' on page 83](#)). **Any subsequent change requires a new evaluation process and CE certification.**

**Despite constructive safety measures, various residual risks remain which cannot be avoided. These residual risks are covered by the safety instructions in this manual and are a prerequisite for safe operation of the component.**

## 2.1 Intended use

The SMARTPOWER™ Rinse Dispenser dispenser delivers rinse aid solution from Ecolab's compressed rinse aid capsules (SMARTPOWER™).

The following points are included under intended use:

- Only the compressed rinse aid approved for the product may be dispensed.
- Use is restricted to commercial applications; private use is excluded.
- All operating instructions and operating instructions prescribed by Ecolab and all maintenance and servicing conditions must be complied with.
- The metering unit must be operated only within the operating conditions permitted in accordance with → [Chapter 10 'Technical data' on page 65](#).

Any other or additional use is considered improper. Ecolab shall not be liable for any resulting damage to property or for personal injury.

### Reasonably foreseeable incorrect use

According to the hazard analysis, the following points can lead to misuse:

- Operation with an open cover or without a cover.
- Using the metering unit as a storage location for objects or tools.
- Operation using incorrect voltage supplies.
- Incompatible accessory parts.
- Line cross-sections that are too small.
- Incorrect ambient temperatures or media temperatures.
- Operation in potentially explosive areas.
- Use of unsuitable metering media.

### Unauthorised modifications and spare parts



#### CAUTION

Changes or modifications are not permitted without prior, written permission from Ecolab Engineering GmbH and shall result in the forfeiting of any and all warranty entitlements. Original spare parts and accessories approved by the manufacturer are designed to increase safety. The use of other parts excludes the warranty for the resulting consequences. **Note that CE conformity expires if subsequent modifications are made.**


## 2.2 Service life

If maintenance is conducted properly (visual inspection, functional testing, replacement of parts, etc.), the life span of the component is approximately 10 years.


Subsequently, revision and, if necessary, a major overhaul by the manufacturer is required. → ['Manufacturer' on page 13](#)



**2.3 Safety measures taken by the operator**

 **NOTICE**  
**Instruct/train staff**

It is expressly up to the operator to train, monitor and instruct its operating and maintenance personnel so that they comply with all of the necessary safety measures.  
**The frequency of inspections and controls must be complied with and documented.**

 **WARNING**  
**Danger due to improperly installed system components**


Improperly installed system components can result in personal injury and damage to the system.

To prevent damage and personal injury, all system components made available by the operator (e.g. pipe connections, flanges, connections) must be checked for proper assembly.

To ensure safe operation, a final leak test of all system components is essential during initial commissioning and this test must be documented (operator obligations).

If assembly was not carried out by Customer Support/ Service, check that all system components are made of the correct materials (product is resistant to the dosing media used) and meet the applicable requirements.

**Obligations of the operator**

 **Valid guidelines**

*In the EEA (European Economic Area), national implementation of the Directive (89/391/EEC) and corresponding individual directives, in particular the Directive (2009/104/EC) concerning the minimum safety and health requirements for the use of work equipment by workers at work, as amended, are to be observed and adhered to. If you are outside the EEA, the local regulations always apply. However, it is important to make sure that the EEA rules do not apply to your area, due to special agreements.*

**The operator is responsible for checking the terms and conditions that affect you.**

**The operator must adhere to the local legal provisions for:**

- The safety of personnel (within the Federal Republic of Germany, in particular the federal law and accident prevention regulations, workplace guidelines, e.g. operating instructions, also according to Section 20 Hazardous Substances Ordinance (GefStoffV), personal protective equipment (PPE), preventive investigations)
- The safety of work materials and tools (protective equipment, work instructions, procedural risks and maintenance)
- Product procurement (safety datasheets, list of hazardous substances)
- Disposal of products (Waste Act)
- Disposal of materials (decommissioning, Waste Act)

- Cleaning (detergents and disposal)
- and observe current environment protection regulations.

**The owner is also required to:**

- Provide personal protective equipment (PPE)
- Incorporate the measures into operating instructions and to instruct personnel accordingly
- For operating sites (from 1m above ground) To provide safe access
- The operator must provide lighting in workplaces in accordance with DIN EN 12464-1 (within the Federal Republic of Germany). Observe the local applicable regulations!
- To ensure that local regulations are complied with during installation and commissioning, if these procedures are conducted by the operator

## 2.4 Personnel requirements

### Qualifications



**DANGER**

**Risk of injury if personnel are inadequately qualified! If unqualified personnel carry out work or are in the danger area, dangers may arise which can lead to serious injuries and considerable damage to property.**  
 All the activities may only be performed by personnel that is qualified and suitably trained for this purpose. **Keep unqualified personnel away from hazard areas.**



**NOTICE**

**Incorrect operation by unreliable personnel**

Material damage due to incorrect operation.

Only persons who can be expected to carry out their work reliably can be approved as personnel. Individuals whose reactions are impaired, e.g. by drugs, alcohol, medicines, are not authorised.

- When selecting personnel, observe the valid age and occupation-specific regulations.
- Unauthorised persons must be kept away from the component.

### Obligations on the part of personnel

**The personnel must:**

- follow the applicable national laws and regulations, as well as the operator's regulations on occupational safety
- read and follow the instructions in this document before starting work
- not enter areas secured using protective measures or access restrictions without due authorisation
- in the event of faults that could jeopardise the safety of personnel or components, immediately switch off the plant and report the fault to the responsible department or person
- wear the personal protective equipment (PPE) prescribed by the operator
- observe the applicable safety regulations and the manufacturer's safety data sheet when handling chemicals

**Operator**

The operator has been instructed about the tasks assigned to him and possible dangers in case of improper behaviour. He may only carry out tasks that go beyond operation during normal operation if this is specified in these instructions or the owner has expressly authorised the operator to do so.

**Qualified electrician**

Qualified electricians are able to carry out the work on electrical systems because of their technical training, knowledge and experience, as well as awareness of the relevant standards and regulations; qualified electricians are capable of independently identifying and preventing potential risks. He is specially trained and knows the relevant standards and regulations.

**Qualified employee**

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

**Service personnel**

Certain work may only be carried out by service personnel of the manufacturer or by service personnel authorised or specially trained by the manufacturer. If you have any questions, please contact manufacturer.

**Specialist**

A person with appropriate training, schooling and experience enabling him or her to identify risks and avert danger.

**Trained personnel**

Someone who has been instructed by a professional in their designated task and informed of the possible dangers of improper behaviour and, if applicable, has been informed of the necessary protective devices and measures.




**DANGER**

**Auxiliary personnel without special qualifications**

Auxiliary personnel without special qualifications or without special training who do not meet the requirements described here are unaware of the dangers in the work area.


**Therefore, there is a risk of injury to auxiliary personnel.**

It is imperative that auxiliary personnel without specialist knowledge are familiarised with the use of personal protective equipment (PPE) for the activities to be performed, or are appropriately trained, and that these measures are monitored. These personnel may then only be deployed on activities for which intensive training has been given beforehand.

 **DANGER**  
**Unauthorised personnel**  
 Unauthorised persons who do not meet the requirements described here are not familiar with the risks in the operating area.  
 Therefore unauthorised persons are at risk of injury.  
**Working with unauthorised persons:**

- All work must be suspended for as long as unauthorised persons are present in hazardous or working areas.
- If in doubt as to whether a person is authorised to be in hazardous and operating area, approach said person and lead them out of this area.
- General information: Keep unauthorised persons away!

## 2.5 Personal protection equipment (PPE)

 **DANGER**  
 Personal protective equipment, hereinafter referred to as PPE, is used to protect personnel. It is imperative to pay attention to the PPE described in the product data sheet (safety data sheet) for the metered medium.



### Chemical resistant protective gloves

Chemical-resistant protective gloves are used to protect the hands against aggressive chemicals.



### Protective eyewear

Protective eyewear protects the eyes against flying parts and liquid splashes.



### Protective gloves

Protective gloves are used to protect the hands against friction, abrasions, cuts or deeper injuries as well as when touching hot surfaces.




### Safety shoes


Safety shoes protect feet against crushing, falling parts, sliding on slippery surfaces and against aggressive chemicals.

## 2.6 General information about risks

### Unauthorised access

 **DANGER**  
**Unauthorised access**  
 The owner must ensure that unauthorised personnel are prevented from accessing the operating area.

### Hazard arising from automatic start-up

 **DANGER**  
 Automatic start-up poses a hazard in areas marked with the symbol opposite. An automatic start-up can be initiated as soon as the power supply is connected with no need to press a switch/button beforehand.

**Risk of slipping**



**DANGER**

Risks of slipping are to be identified using the adjacent symbol.  
Spilled chemicals are a slipping hazard in wet conditions.



**WARNING**

**Risk of slipping due to leaking liquids in the operation and provisioning area!**

Depending on the floor conditions, accidental spillages can cause a significant risk of accidents due to slipping on the wet surface.

**To avoid accidents caused by slipping:**

- Wear non-slip, chemically resistant shoes
- Place the product container in a suitable sump
- When changing containers, ensure that suction tubes/ suction lances are quickly removed from the container and placed in a suitable collection tray, as they could leak or drip.



**ENVIRONMENT**

Leaked, spilled metering media must be cleaned and disposed of correctly, according to the instructions on the safety data sheet. It is essential to ensure that the required personal protective equipment (PPE) is used.

**Risk of fire**



**DANGER**

**Risk of fire**

If there is a risk of fire, it is imperative to use the designated extinguishing agent and to implement suitable safety measures to tackle the fire.  
It is also imperative here to comply with the safety data sheet for the chemicals you use to tackle the fire!

**Chemical hazards (metering medium/active substance)**



**WARNING**

**Burns caused by harmful chemicals**

Leaks on the component can allow corrosive chemicals to escape and cause serious injury.

- Read the enclosed safety data sheet carefully before using chemicals.
- The safety regulations and the required protective clothing for working with chemicals must be complied with.
- Safety devices such as showers and eye flushing must be accessible and checked regularly to ensure that they are fully functional.
- Ensure adequate ventilation and extraction.
- Avoid skin and eye contact.
- Check the component regularly for tightness.
- Do not put the component into operation if leaks occur.
- If leaks are identified, trigger the emergency stop function immediately.
- Do not operate the component again until the leaks have been repaired.



**DANGER**

**Spilled chemicals can pose a biological hazard.**

Be careful not to spill chemicals or allow them to leak; otherwise, a biological hazard cannot be ruled out. Make sure that suitable binding agents are provided at the filling point according to the safety data sheet for the metering chemicals.



**DANGER**

**Risk of injury to the skin and eyes caused by the chemical used (metering medium).**

- Read the safety data sheet for the metering medium before using it.
- The safety regulations and the required protective clothing when working with chemicals must be complied with.
- Attention must be paid to the information included on the product data sheet of the dosing medium used.



**DANGER**

Hands must be washed before breaks and at the end of the working day. Information about the usual precautions when handling chemicals and about the use of PPE can be found on the relevant safety data sheet for the chemical being used and must be complied with.



**ENVIRONMENT**

**Metering medium that leaks or spills may be harmful to the environment.**

Leaks or spills of a metering medium must be cleaned up and disposed of correctly in accordance with the instructions on the safety data sheet.

It is imperative to use the specified PPE.

**Preventive action:**

Place product containers in a tray to collect leaking fluids without harming the environment.

**2.7 Metering media**



**CAUTION**

**Use of metering media:**

- The component may be used only with products validated by Ecolab.  
**The use of unvalidated products will void the warranty!**
- The metering media are procured by the operator.
- The owner will bear sole responsibility for correct handling and the associated risks.
- The hazard warnings and disposal instructions are provided by the operator.
- Wear suitable protective clothing (see safety data sheet).
- All safety regulations must be followed and the information contained in the safety data sheet/product data sheet must be observed.

**WARNING****Injury from uncontrolled chemical spills**

Uncontrolled chemical spills can cause serious injuries.

- **Read the enclosed safety data sheet carefully before using the chemical product.**
- Obey the safety regulations and wear the required protective clothing when working with chemicals.
- When working with chemicals, always adhere to the safety instructions and use the personal protective equipment (PPE) specified in the safety datasheet for the chemical products.
- Safety units such as showers and eye baths must be accessible and checked regularly to ensure that they are fully functional.
- Make sure that there is sufficient ventilation.
- Avoid skin and eye contact.
- Check component the regularly for tightness.
- Do not use the component in case of leakages.
- If leaks are detected, immediately activate the emergency stop function.

**If there is an uncontrolled chemical leak, your own safety and that of all employees in the vicinity must come first!**

**What to do:**

- Get out of the danger area as quickly as possible.
- Immediately ask employees to leave the danger area.
- Perform an emergency shutdown.
- Cordon off and secure the danger area (LoTo method).
- Have qualified personnel with appropriate training and using the prescribed PPE eliminate the cause of chemical leak.
- Only operate the component again after the leaks have been repaired.



**Safety when handling chemicals**



**NOTICE**

**⊘ Risk of accident and environmental damage when chemical residues are mixed together**

For operational reasons, residues remain in the chemical supply containers. These are completely normal and designed to be kept to a minimum.

To avoid accidents caused by burns to operating personnel and damage to the environment caused by leaking chemicals, no residual stocks may be mixed together.



**CAUTION**

**Danger due to mixing of different chemicals**

**There is a risk of chemical burns and possibly uncontrollable chemical reactions if leftover stocks are poured together.**

- Suction lances or suction pipes must be marked to indicate the chemical variant used, in order to avoid confusion here as well.
- **The container change is only to be carried out by trained personnel.** Furthermore, it is essential to ensure that only the same chemicals are exchanged.

**Different chemicals must never be mixed with each other.**

This is only permissible if this is precisely the purpose of the component!

It must be checked beforehand which chemicals may be mixed and in which ratio.

Mixing must only be carried out by trained specialist personnel.

**Safety instructions for chemical containers / chemical storage**

- The operator is responsible for the correct installation of the chemical types and this is to be defined in consultation with the chemical supplier.  
**Incompatible chemical types must be separated from each other to prevent mixing in the event of leakage.**
- Incompatible chemicals must be positioned and stored on separate collection trays so that they are on a flat and stable surface and cannot tip over.
- In addition, the containers are to be stored so far away from traffic and access routes that they cannot be accidentally damaged by operational activities .

**Safety data sheets** The safety data sheet is intended to be consulted by users and enables them to take any steps necessary to safeguard their health and safety at work.



**DANGER**

Safety data sheets are always provided together with the supplied chemicals. Before using the chemicals, the safety data sheets must be read and understood, and all requirements must be implemented on site. Ideally, they should be displayed close to the workplace or to the supply containers so that the appropriate measures can be taken quickly in the event of an accident. The operator must provide the necessary protective equipment (PPE), as well as the described emergency equipment (eye bottle, etc.). Persons entrusted with operating the equipment must be instructed accordingly and trained.

Tab. 1: Download of safety data sheets



The latest Ecolab safety data sheets are available online. To download them, go to the following link or scan the QR code. Then you can enter your required product and download the associated safety data sheet.

→ <https://www.ecolab.com/sds-search>

**2.8 Installation, maintenance and repair work**



**NOTICE**

**Material damage by using incorrect tools!**

Material damage may arise by using incorrect tools. **Use the correct tools.**



**DANGER**

**Damage and injuries may occur if installation, maintenance or repair work is carried out incorrectly.**

All installation, maintenance and repair work must only be performed by authorised and trained specialist personnel in accordance with the applicable local regulations. Safety regulations and prescribed protective clothing when handling chemicals should be followed. Attention must be paid to the information included on the product data sheet for the metering medium used. Prior to all work the feeding of the metering medium should be disconnected and the system cleaned.




**NOTICE**

**Only original equipment spare parts may be used for maintenance and repairs.**

**3 Delivery**

Item	Item description	Article no.	EBS no.
	<b>SMARTPOWER™ Rinse Dispenser</b>	178044	92231099
	1 x quick mounting plate	92232209	10033406
	4 x PAN PLATE SCREW 4.8X45 DIN7981 SS	413059064	10005489
	4 x WASHER 6.4X12X1.6 DIN125 SS	413500361	10000603
	4 x ALL-PURPOSE SPRING SPIRAL DOWEL TFS 6/35	417200041	10009539
	1 x BALL VALVE, G3/8 M-FM, brass/chrome	415502807	10101487
	1 x CABLE UNION M 25 x 1.5 PA/GR	418441004	10009616
	1 x JAM NUT M 25 X 1.5 HGR	418441112	10013879

<b>Item</b>	<b>Item description</b>	<b>Article no.</b>	<b>EBS no.</b>
	1 x flexible hose iG3/8-iG3/8, 2.5 m	417400764	10200268
	1 x SMARTPOWER™ Safety instructions		

## 4 Set-up / Functional description

### Setup SMARTPOWER™ Rinse Dispenser

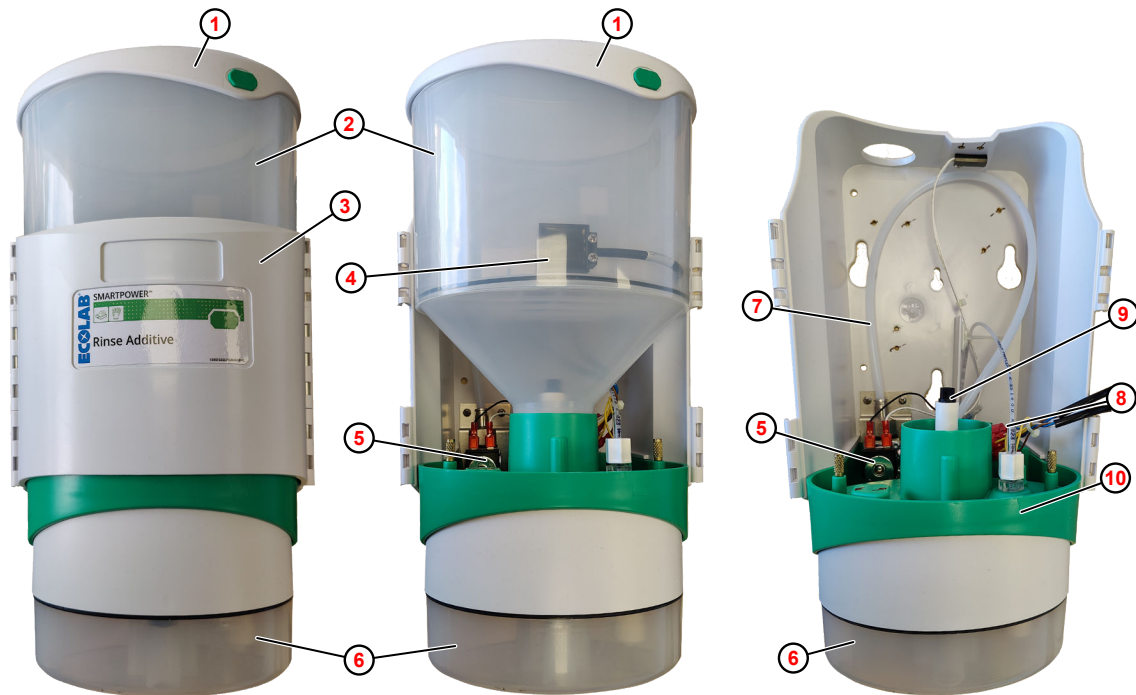


Fig. 1: Setup

- |                                      |                               |
|--------------------------------------|-------------------------------|
| ① Cover with sensor                  | ⑥ Collection cup              |
| ② Product cylinder with product feed | ⑦ Fresh water supply line     |
| ③ Front flap                         | ⑧ Rinse aid supply connection |
| ④ Infrared sensor                    | ⑨ Spray nozzle                |
| ⑤ Solenoid valve                     | ⑩ Base                        |

#### Function description

The SMARTPOWER™ Rinse Dispenser is an automatic dispenser for Ecolab pressed rinse aid products. It essentially consists of a base (Fig. 1, ⑩), a product cylinder with product feed ② to accommodate the compressed rinse aid, a solenoid valve ⑤ and a spray nozzle ⑨. To improve the rinse aid concentration and concentration consistency, the clean water can be dispensed in pulse mode with a Rinse-Pulse-Timer board.

The Rinse-Pulse-Time board is built in to the rear wall behind the product cylinder.



*The Rinse-Pulse-Timer board is disabled by default.*

After opening the front flap ③ and removing the product cylinder ②, all parts are freely accessible for assembly, maintenance and repair.

The SMARTPOWER™ Rinse Dispenser is connected to an EcoPlus PDRX dispenser and controlled via the WWC-PCB control board installed in it. As soon as the commercial dishwasher sends the release signal to the control board, the EcoPlus PDRX commands the SMARTPOWER™ Rinse Dispenser for the entire cleaning process. The solenoid valve ⑤ opens and clean water flows into the product cylinder from below, releasing rinse

aid from the inserted rinse aid capsule. The rinse aid solution collects in the collection cup ⑥ of the dispenser until a float switch in the collection cup switches off the solenoid valve.

If more rinse aid is required, the EcoPlus PDRX dispenser triggers a peristaltic squeeze pump attached to the PDRX. This extracts the rinse aid solution from the collection cup. If the float switch in the collection cup sinks, the solenoid valve of the SMARTPOWER™ Rinse Dispenser is activated and fresh rinse aid solution is added.

If the rinse aid capsule dissolves to such an extent that the infrared sensors ④ no longer detect it, error code '0206' appears on the EcoPlus PDRX dispenser.



*To prevent contaminated water from flowing back into the drinking water network, a double check valve must be installed in the inlet pipe SMARTPOWER™ Rinse Dispenser.*

## 5 Assembly and connection



### CAUTION

- Assembly must always be carried out by authorised personnel using these operating instructions.
- Wear appropriate protective clothing during the assembly and handling of this system. All valid safety regulations on handling chemicals must be observed.
- Electrical work must only be carried out by qualified electricians. Opening covers or removing parts may expose other parts carrying an electrical current. Connection points may also be live.
- Always use approved installation parts and accessories; refer to the accessories and installation list.
- Make absolutely sure that all line connections are firmly mounted and leakproof.
- Improper assembly may lead to injury due to chemical leaks.
- Legal regulations and the applicable product data sheets ([↪ 'Safety data sheets' on page 26](#)) must be taken into account for all chemicals.
- Wear personal protective equipment.

### 5.1 Installation

#### Installation site

The SMARTPOWER™ Rinse Dispenser is mounted in the immediate vicinity of the EcoPlus PDRX.

When determining the installation site, make sure the specifications of the unit are adhered to. The unit must not be exposed to strong shocks or constant vibrations. Electromagnetic fields e.g. by motors or transformers, must be avoided.

Direct heat, especially direct sunlight, will heat up the unit inside the housing and can damage the unit. Make sure the unit is not exposed to direct sunlight.



*Before installation, make sure the supply lines are properly connected. [↪ Chapter 10 'Technical data' on page 65.](#)*

#### Wall condition

When mounting the component on a wall, it must be ensured that the wall can support the weight on a permanent basis (see [↪ Chapter 10 'Technical data' on page 65](#)).

#### Climatic conditions

The ambient temperature and relative humidity at the installation location must comply with the specifications in the technical data. [↪ Chapter 10 'Technical data' on page 65](#)

#### Installation position

The device must be mounted vertically, hanging on the wall.

### Space requirements

To be able to open the hinged cover and insert the product, leave a clearance of at least 23 cm directly above the SMARTPOWER™ Rinse Dispenser.  
Leave a clearance of 10 cm below the SMARTPOWER™ Rinse Dispenser so the ready-to-use solution can drain through the flexible drain hose.

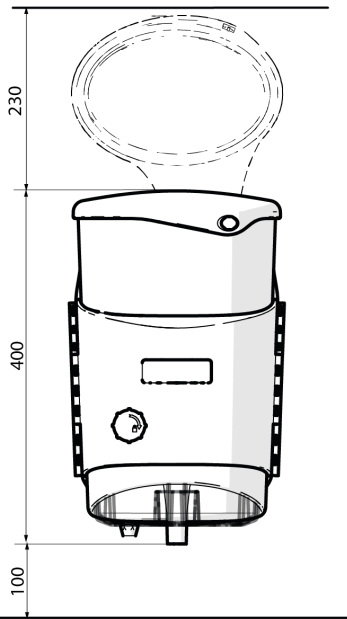


Fig. 2: Space requirements



**Mounting the unit on the wall**

**Personnel:**

- Service personnel
- Specialist

**Protective equipment:**

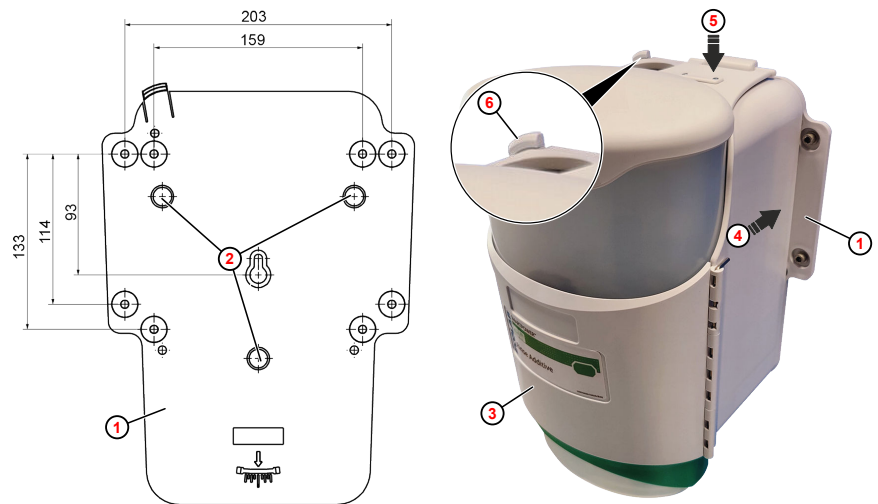
- Protective gloves
- Safety shoes
- Protective eyewear

**Tool:**

- Drill
- Spirit level

**Requirements:**

- ✓ The suitability of the wall for wall mounting has been checked.
- ✓ The necessary utility connections are available.
- ✓ The installation location is suitable for the operation of the unit.



*Fig. 3: Mounting the unit (example: rinse dispenser)*

- 1.** → Select the mounting location of the SMARTPOWER™ Rinse Dispenser and mark holes in accordance with [Fig. 3](#).
- 2.** → Drill mounting holes and insert  $\varnothing$  6 mm dowels.
- 3.** → Attach the mounting plate **1** using dowel screws.
- 4.** → SMARTPOWER™ Rinse Dispenser **3** Place on the retaining pins **2** **4**.
- 5.** → SMARTPOWER™ Rinse Dispenser Press down **5** until the locking tab **6** clicks into place on the top of the unit.

## 5.2 Hydraulic installation

### Domestic water supply Personnel:

- Service personnel
- Qualified employee

### Protective equipment:

- Protective gloves
- Safety shoes
- Protective eyewear

### Material:

- 3/8" outer diameter plastic pipe
- T-piece shut-off valve 15mm x 15mm x 3/8"-pipe
- John Guest double check valve, 15 mm
- 2x pipe shaft 15mm x 3/8" pipe
- T-screw connection 3/8" pipe
- G3/8 adapter x 3/8" pipe



### CAUTION

#### Risk of injury caused by chemicals harmful to health

In the event of a system fault, dosing chemicals could enter the public water supply network.

- To secure the public water supply network, a double check valve must be installed on site in the fresh water connection pipe to the SMARTPOWER™ Rinse Dispenser and to the EcoPlus PDRX.

Connect the appliance to the hot water supply as described below.

### Requirements

- ✓ The unit is mounted in accordance with the regulations.
- ✓ The clean water supply line is shut off.



### CAUTION

#### Damage to the unit if the permissible water pressure is exceeded

- Always observe the max. permissible water pressures and temperatures (see → [Section 'Technical data' on page 65](#)).  
If necessary, fit a pressure reducer and/or mixing valve upstream.
- The connection for the water supply (feed line) must be located behind a shut-off cock (angle valve).

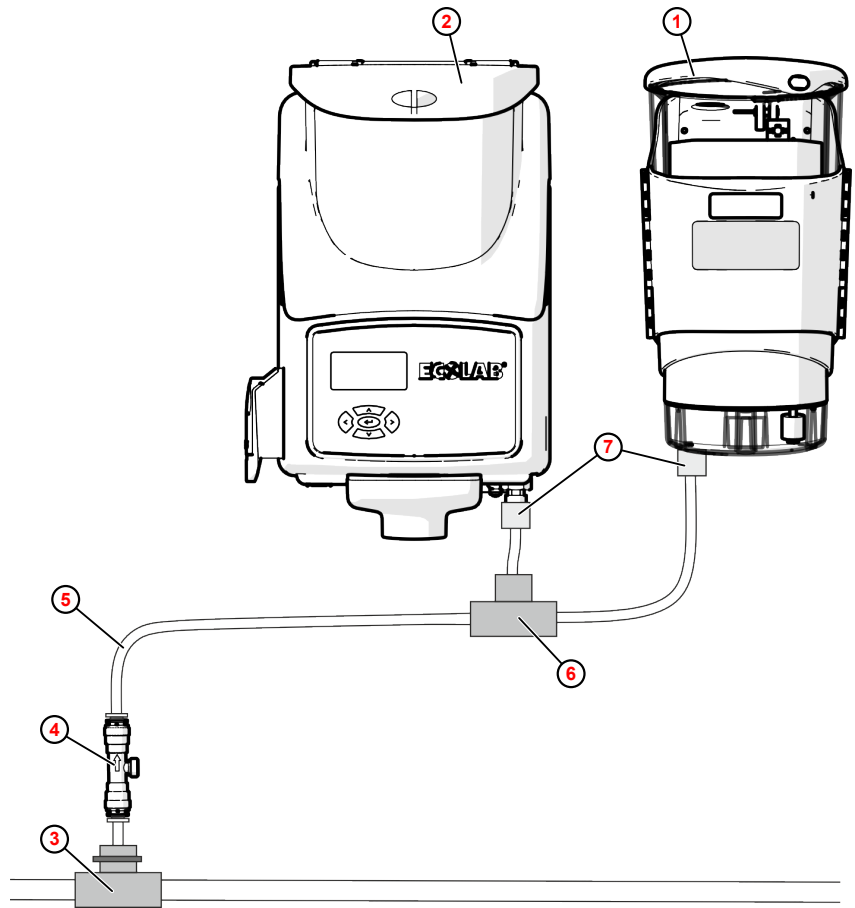


Fig. 4: Water connection

1. ➔ Connect a G3/8 x 3/8" pipe adapter (7) to the water connection of both the SMARTPOWER™ Rinse Dispenser (1) and the EcoPlus PDRX (2).
2. ➔ Disconnect the clean water supply line and install a compatible shut-off valve T-piece (3).
3. ➔ Before dividing the clean water connection pipe (5) into two connection lines, install a John Guest double check valve (4) in the connection pipe.
4. ➔ Lead and connect the fresh water connection pipe (5) via a T-piece (6) and a suitable adapter (7) to the SMARTPOWER™ Rinse Dispenser and to the EcoPlus PDRX.



*The components (3) - (7) are not supplied with the unit. Please procure them locally.*

## Rinse aid hose for EcoPlus PDRX



Fig. 5: Rinse aid hose connection

→ Connect the rinse aid hose ① to the peristaltic squeeze pump of the EcoPlus PDRX.



*On the metering side, a pressure control valve must be installed in the rinse-aid feed of the dishwasher.*

## 5.3 Power supply

Risk due to electrical energy



### CAUTION

**Disconnect the power supply when working on electrical components**

To protect against electrical shocks, switch off the power supply prior to carrying out any work on electric parts and secure the system against being switched back on again. Work on such components may be carried out only by skilled personnel who are duly trained and authorised.



### CAUTION

**Risk of damage to components sensitive to electrostatic discharge!**

The control PCB contains components sensitive to electrostatic discharge. These can be destroyed by improper handling:

- Touch electronic components only if it is unavoidable due to the work to be carried out on them.
- If parts must be touched, discharge your body immediately before.
- Wear an ESD wrist strap during the work and establish potential equalisation to the component.
- Place components only on conductive surfaces.
- Store or ship components only in antistatic packaging.

### Preparing for electrical installation



The SMARTPOWER™ Rinse Dispenser is connected to an EcoPlus PDRX dispenser and controlled via the WWC-PCB control board installed in it.

See the operating instructions for how to prepare the EcoPlus PDRX for electrical installation.

To download the instruction with a PC, tablet or smartphone, use the link below or scan the QR code given.

#### **Download the operating instructions for 'EcoPlus PDRX' (MAN054265):**

↪ [https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265\\_EcoPlus\\_PDRX\\_UK.pdf](https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265_EcoPlus_PDRX_UK.pdf)

### SMARTPOWER™ Rinse Dispenser Connect to the EcoPlus PDRX

#### **Personnel:**

- Qualified electrician

#### **Tool:**

- ESD wrist strap

#### **Requirements**

- ✓ The unit is correctly mounted and installed
- ✓ The EcoPlus PDRX is correctly mounted and installed

1. ➤ Lay the connection cable to the EcoPlus PDRX.
2. ➤ Connect the connection cable to the control board WWC-PCB as shown in the connection diagram. ↪ *'Connection diagram SMARTPOWER™ Rinse Dispenser' on page 38*

**Connection diagram  
SMARTPOWER™ Rinse  
Dispenser**

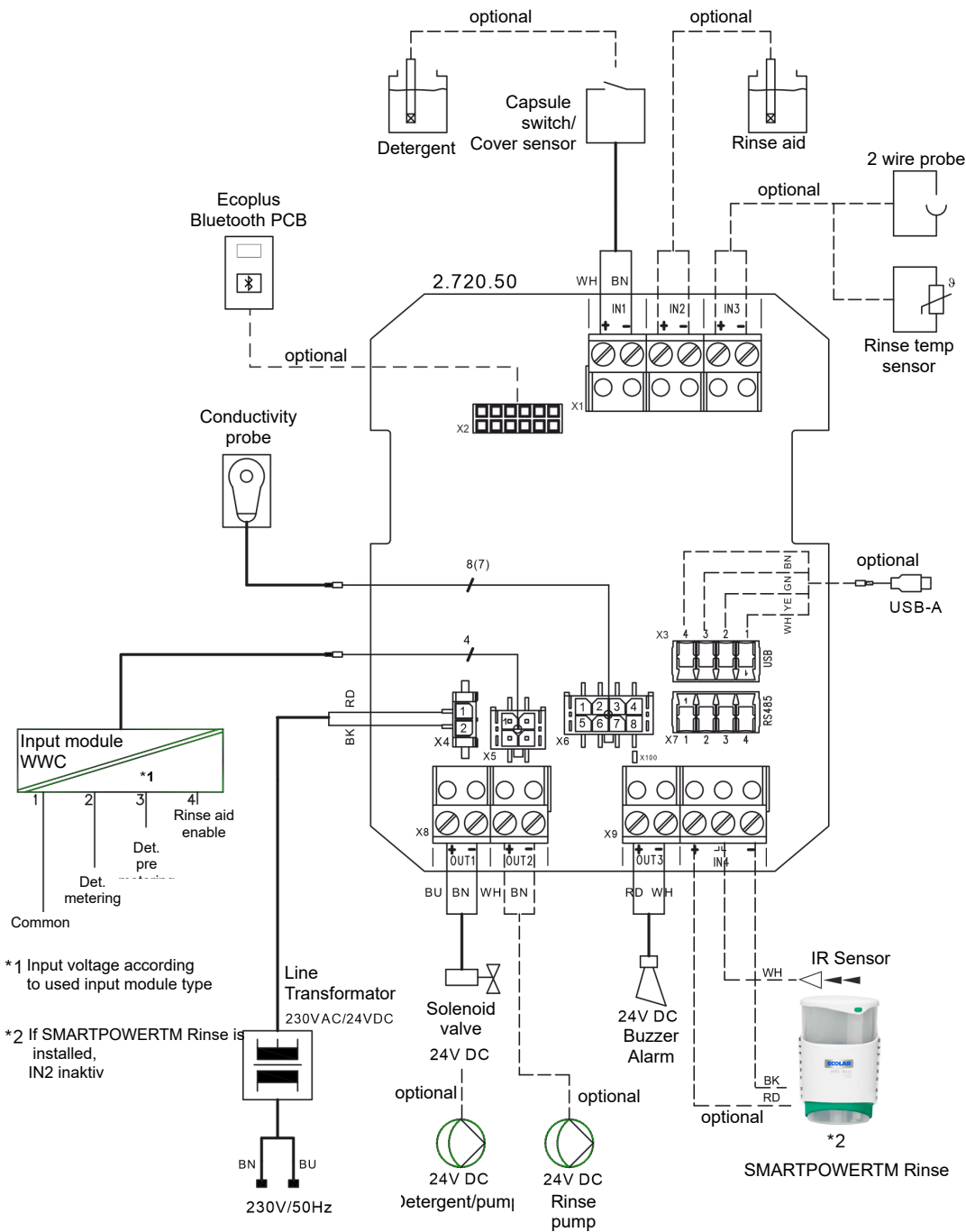


Fig. 6: Connection diagram SMARTPOWER™ Rinse Dispenser

## 6 Commissioning / operation

### 6.1 Control/Software



The SMARTPOWER™ Rinse Dispenser is connected to an EcoPlus PDRX dispenser and controlled via the WWC-PCB control board installed in it. Settings and controls are mainly done on the EcoPlus PDRX. The startup, adjustment and operation of the control PCB are described in separate instructions.

To download the corresponding instructions on a PC, tablet or smartphone, use the link below or scan the QR code.

Tab. 2: Complete operating instructions for download



The EcoPlus PDRX dispenser to which the SMARTPOWER™ Rinse Dispenser is connected is described in a separate manual. To download the instructions to a PC, tablet or smartphone, use the link below or scan the QR code provided.

**Download the operating instructions for 'EcoPlus PDRX' (MAN054265):**

↪ [https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265\\_EcoPlus\\_PDRX\\_UK.pdf](https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265_EcoPlus_PDRX_UK.pdf)



**To download the manual WWC PCB (part no. MAN049685), go to:**

↪ [https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN049685\\_WWC-PCB.pdf](https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN049685_WWC-PCB.pdf)

Symbols

Symbol	Meaning	Symbol	Meaning	Symbol	Meaning
	"System working"		Solid product		Pre-dosing
	Alarm (general)		Detergent capsule (SMARTPOWER™)		Washing
	Access code		Rinse aid capsule (SMARTPOWER™)		Rinsing
	Visualisation		Liquid product		Single tank dishwasher
	Manual mode		Powder product		Multiple tank dishwasher
	Settings		Solenoid valve		Module enable
<b>SETUP</b>	Configuration		Peristaltic pump		Memory
	Inductive LF measuring cell		Pump (general)	<b>mS/cm</b>	Conductivity
	Conductive LF measuring cell		Booster		Volume
	Time-controlled / date, time / period		Buzzer		activated
	Delay time		Save		Not activated
	Dosing time		Increase value		Decrease value
	Max. temperature		Automatic summer/winter switching		Exit/Quit
	Min. temperature		TurboSmart pump 20 l/h		TurboSmart pump 1.4 l/h
	Box/box counter		Operating data		Reset to factory settings
	Change tank water		Rinse phases		Bluetooth connection
	Conveyor belt speed (in dishwashing lines)				



**Program structure**

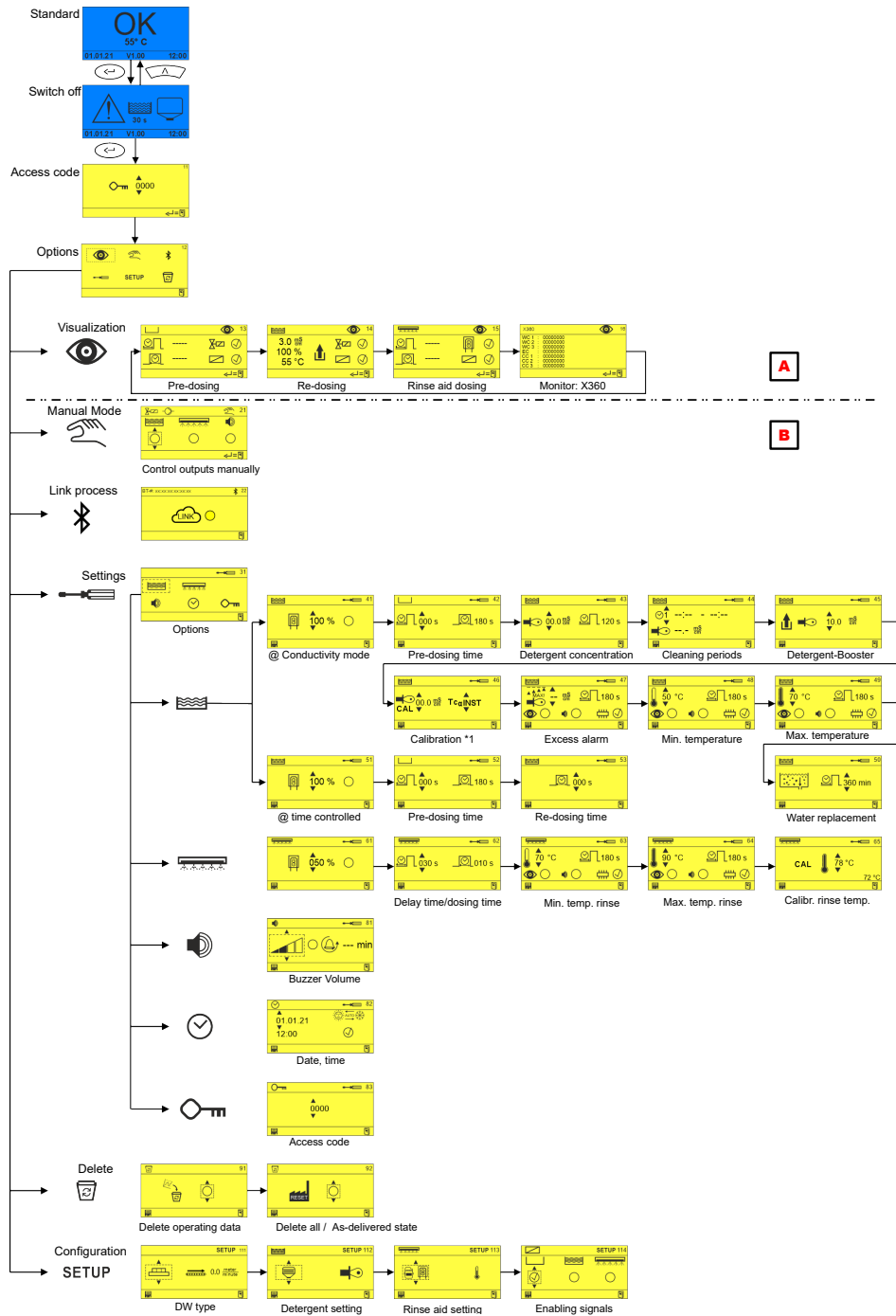


Fig. 7: Program structure

## 6.2 Start-up

### 6.2.1 Initial start-up



*This description assumes that the SMARTPOWER™ Rinse Dispenser was connected to an EcoPlus PDRX that was already in operation.*

*The initial commissioning of the EcoPlus PDRX is described in the corresponding operating instructions.*

#### Performing the initial start-up

##### Personnel:

- Service personnel

##### Protective equipment:

- Protective gloves
- Safety shoes
- Protective eyewear

##### Prerequisites

- ✓ The SMARTPOWER™ Rinse Dispenser is correctly mounted and installed. → [Chapter 5 'Assembly and connection' on page 31](#)

1. → Switch on the GSM.
  - ➔ The EcoPlus PDRX starts up
  - ➔ The main screen is displayed.
2. → Perform the rinse aid set-up on the EcoPlus PDRX.
3. → Prepare the GSM and make further parameter settings on the EcoPlus PDRX.
4. → Open the shut-off valve on the water supply line.
5. → Check that all hoses, connections and components are leak-proof and test the lid switch for correct function.
6. → In the SMARTPOWER™ Rinse Dispenser, insert a SMARTPOWER™ rinse aid block and start the GSM rinse program.



*Check the rinse result after five to ten program cycles.*

### 6.2.2 Set-up

Use the 'Setup' menu to set up the unit operated using the WWC PCB.

Basic settings such as dishwasher type, detergent and rinse aid products used (solid, liquid) and the use of enable signals are set in this process.





*When installing a complete unit, the system is already preset. Only the dishwasher type and enable signals still need to be configured.*

**Rinse aid  - SETUP 113**

On the 'Rinse Aid Setup' (113) screen, the rinse aid used is configured and determined if the rinse temperature is measured or not.

Depending on the rinse aid used, the following settings can be made in the EcoPlus PDRX:


 Liquid product via peristaltic squeeze pump (versions **SDR-ST** and **SDRX**)


 Block


The following cleaner must be configured for using the SMARTPOWER™ Rinse Dispenser :

 Block


The following setting can also be configured:

 The boiler temperature is measured and displayed

 No temperature sensor configured to display the boiler temperature

**Enable signals  - SETUP 114**

On the 'Enable Signals Setup' (114) screen, enable signals are configured that are sent from GSM modules to the control board.


 *When enable signals are configured, the SMARTPOWER™ Rinse Dispenser waits with the corresponding metering until the relevant enable signal is received.*

The following enable signals can be configured:

 Pre-metering

 Washing

 Rinse


 *If no input is activated, the corresponding metering starts as soon as the voltage is applied!*

**6.2.3 Adjusting the rinse aid concentration**

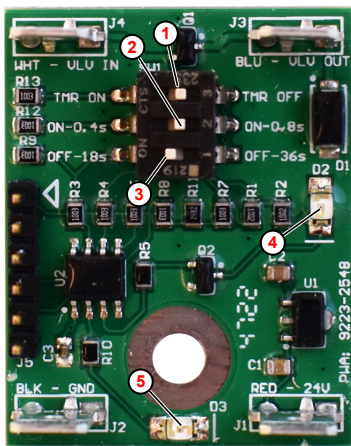
**Description** To improve the rinse aid concentration and concentration consistency, you can set the clean water output to pulse mode:

- The pulsating flow of water releases more rinse aid from the capsule.
- The rinse aid concentration increases.

To do this, the Rinse-Pulse-Timer board ( , ) must be switched on.

 *By default, SMARTPOWER™ Rinse Dispenser the Rinse-Pulse-Timer board is switched off.*

Switch positions



- ① "TIMER" DIP switch
- ② "ON" DIP switch
- ③ "OFF" DIP switch
- ④ "Operation" LED - flashes when the solenoid valve is actuated
- ⑤ "Pulse" LED - flashes when 24 VDC is running through the board

The Rinse-Pulse-Timer board has 3 DIP switches. These have the following settings:

- Timer (TMR) ①: ON/OFF, **Default:** OFF
- Active time (ON) ②: 0.4 s or 0.8 s, **Default:** 0.8 sec
- Pause time (OFF) ③: 18 s or 36 s, **Default:** 18 sec

Fig. 8: Rinse-Pulse-Timer board

Activating the rinse pulse timer

Personnel:

- Service personnel

Protective equipment:

- Protective gloves
- Safety shoes
- Protective eyewear

Prerequisites

- ✓ The initial commissioning has been carried out. → [Chapter 6.2.1 'Initial start-up' on page 42](#)

1. → Open the front cover.
2. → Remove the product funnel.
3. → Set the "TMR" ① DIP switch to the "ON" position.
  - ➔ The rinse pulse timer is turned on.
4. → Adjust the activity and pause times as needed:
  - "ON" DIP switch ②: Setting the active time
  - "OFF" DIP switch ③: Setting the pause time

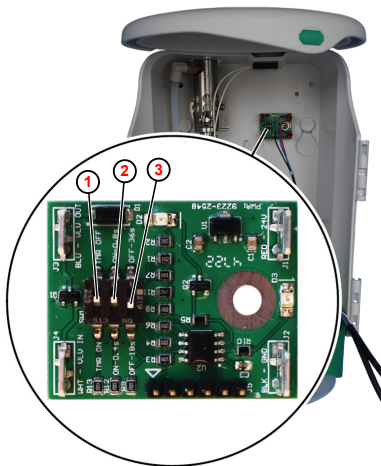


Fig. 9: Rinse pulse timer board

**i** Any deviation from the standard settings should only be made in consultation with Ecolab customer service. → ['Switch positions' on page 44](#)

5. → Final tasks:
  - Installing the product funnel
  - Closing the front cover

**i** Check the rinse result after two to three program cycles.

**6.3 Operation**



The SMARTPOWER™ Rinse Dispenser is connected to an EcoPlus PDRX dispenser and controlled via the WWC-PCB control board installed in it. Settings and controls are mainly done on the EcoPlus PDRX. The startup, adjustment and operation of the control PCB are described in separate instructions.

To download the corresponding instructions on a PC, tablet or smartphone, use the link below or scan the QR code.

Tab. 3: Complete operating instructions for download



**Download the operating instructions for 'EcoPlus PDRX' (MAN054265):**

➔ [https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265\\_EcoPlus\\_PDRX\\_UK.pdf](https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265_EcoPlus_PDRX_UK.pdf)

**6.3.1 Switching on the unit**



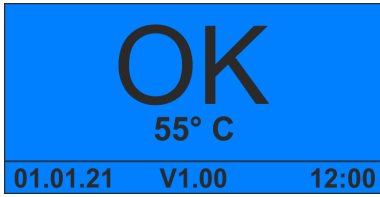
The EcoPlus PDRX is powered directly by the dishwasher and switched on with it.

- ➔ Turn on the dishwasher.
  - ➔ The EcoPlus PDRX starts up.
  - ➔ The main screen appears.

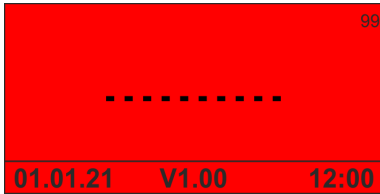


### 6.3.2 Temporarily taking the unit out of operation

Starting point: Default 'screen'



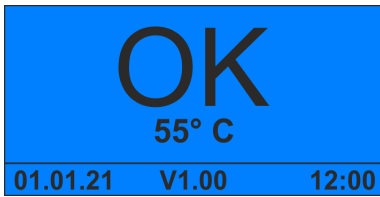
1. Press simultaneously for 5 seconds.
  - ➔ The appliance stops and goes into standby mode.
2. If necessary, disconnect the water supply.



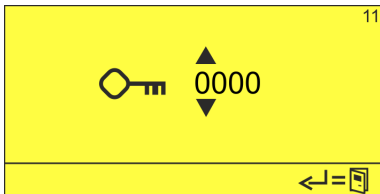
Press to resume operation.

### 6.3.3 Entering the access code

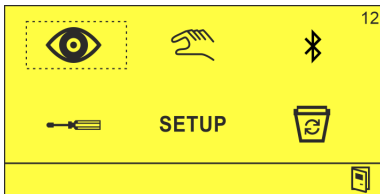
Starting point: Default 'screen'



1. key combination pressed while the pump is currently in operation.



2. Enter the access code with and confirm with .
- ➔ The 'Options' screen (12) appears.



**6.3.4 Insert a new rinse aid capsule**

**General** The SMARTPOWER™ Rinse Dispenser detects the rinse aid capsule in the product funnel with the help of two infrared sensors (, ).

If the rinse aid capsule is empty, the EcoPlus PDRX displays error code 206 "Rinse aid capsule empty".

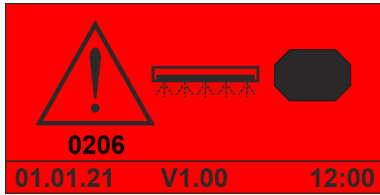


Fig. 10: Error code 206 (SMARTPOWER™ rinse aid)

*The EcoPlus PDRX and the SMARTPOWER™ Rinse Dispenser come to a stop.*

**Procedure Personnel:**

- Operator

**Protective equipment:**

- Protective gloves
- Safety shoes
- Protective eyewear

**Requirements:**

✓ Error code 206 appears

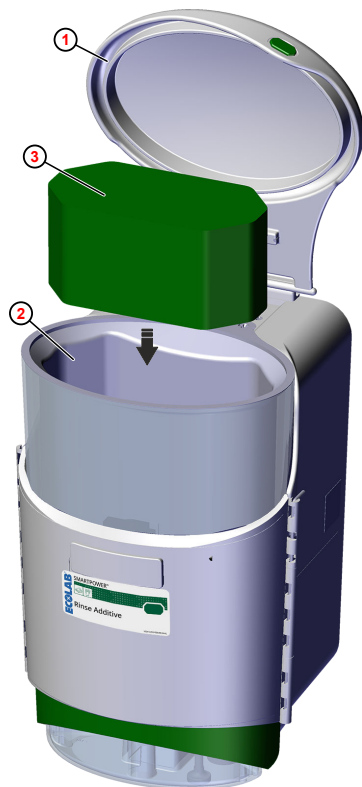


Fig. 11: Insert a new rinse aid capsule

1. → Open the hinged cover ①.
2. → Check the product funnel ② for foreign bodies and dirt and clean if necessary.

3. → *Remove the rinse aid capsule ③ from the cellophane packaging.*

Insert the rinse aid capsule into the product funnel.

4. → Close the hinged lid.
  - ➡ The error message disappears.





## 7 Servicing and maintenance



**NOTICE**

**Material damage by using incorrect tools!**

Material damage may arise by using incorrect tools. **Use the correct tools.**



**DANGER**

If you believe that the unit can no longer be operated safely, you must decommission it immediately and secure it so that it cannot be used inadvertently.

**This applies:**

- if the unit shows visible signs of damage,
- if the unit no longer appears to be operational,
- after prolonged periods of storage under unfavourable conditions.

**The following instructions must always be observed:**

- Prior to carrying out any work on electric parts, switch off the power supply and secure the system against being switched back on again.
- Safety regulations and prescribed protective clothing when handling chemicals should be followed.
- Attention must be paid to the information included on the product data sheet of the metering medium used.
- The unit must only be operated with the supply and control voltage specified in the Technical Data section.



**CAUTION**

Changes or modifications are not permitted without prior, written permission from Ecolab Engineering GmbH and result in the forfeiting of any and all warranty entitlements. Original spare parts and accessories approved by the manufacturer heighten the degree of safety.

The use of other parts results in an exclusion of the warranty for any ensuing consequences.

**Please consider that the CE conformity expires in case of subsequent conversions**



### DANGER

**Damage and injuries may occur if installation, maintenance or repair work is carried out incorrectly.**

All installation, maintenance and repair work must only be performed by authorised and trained specialist personnel in accordance with the applicable local regulations. Safety regulations and prescribed protective clothing when handling chemicals should be followed. Attention must be paid to the information included on the product data sheet for the metering medium used. Prior to all work the feeding of the metering medium should be disconnected and the system cleaned.



### NOTICE

**Only original equipment spare parts may be used for maintenance and repairs.**



### CAUTION

Before conducting maintenance work, the power to the system must be switched off and the water supply must be interrupted. Furthermore, the safety guidelines must be observed. → [Chapter 2 'Safety' on page 15](#)

The maintenance interval is 1 year maximum, although every six months is recommended.

## 7.1 Maintenance intervals

Interval	Maintenance work	Personnel
As required	<b>General condition:</b> <ul style="list-style-type: none"> <li>External soiling: Check the device for cleanliness, clean if necessary.</li> <li>Damage: Check the device for damage; if necessary, notify Ecolab customer service.</li> </ul>	Specialist
	<b>Product funnel:</b> <ul style="list-style-type: none"> <li>Soiling: Clean the funnel if necessary.</li> </ul>	Specialist
	<b>Collector cup:</b> <ul style="list-style-type: none"> <li>Soiling: Clean the collector cup if necessary.</li> </ul>	Specialist
Half-yearly	<b>Water inlet pipe and water-carrying components in the device:</b> <ul style="list-style-type: none"> <li>Tightness: If applicable. Replace seals or defective components.</li> </ul>	Specialist Service personnel
	<b>Rinse aid line:</b> <ul style="list-style-type: none"> <li>Blockage/Tightness: Replace hose if necessary.</li> </ul>	Specialist Service personnel
	<b>Lid sensor:</b> <ul style="list-style-type: none"> <li>Correct function: Clean the funnel if necessary, replace components.</li> </ul>	Specialist Service personnel
	<b>Spray nozzle:</b> <ul style="list-style-type: none"> <li>Soiling: Descaling, replace if necessary.</li> </ul>	Specialist Service personnel
	<b>Upstream system separator:</b> <ul style="list-style-type: none"> <li>Check for damage and leaks.</li> <li>Perform a pressure loss test according to the manufacturer's specifications</li> </ul>	Specialist Service personnel

## 7.2 Maintenance and servicing work

### 7.2.1 Clean the unit

**Personnel:**

- Operator
- Trained personnel

**Protective equipment:**

- Protective eyewear
- Chemical resistant protective gloves



**NOTICE**

**Damage to the unit caused by unsuitable cleaning agents!**

Unsuitable cleaning agents can damage the surfaces and internal components of the unit and impair its functionality.

- ▶ The unit should only be cleaned using a damp cloth.

1. → Clean the unit with a damp cloth.
2. → Check the unit for secure mounting and external damage.
3. → If available, check the display for damage and pixel defects.
4. → Check connecting lines and cables for damage, secure fit and correct routing.

### 7.2.2 Opening the front hatch

**Personnel:**

- Operator

**Protective equipment:**

- Protective eyewear
- Chemical resistant protective gloves

1. → Pull the hinge pin ① upwards out of the unit.
2. → Open the front hatch ②.

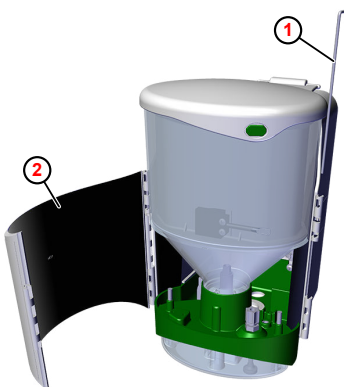


Fig. 12: Open the front flap  
(e.g. SMARTPOWER™ Rinse  
Dispenser)

**7.2.3 Remove the collection cup**

**Personnel:**

- Operator

**Protective equipment:**

- Protective eyewear
- Chemical resistant protective gloves

**Requirements:**

- ✓ Front hatch open. → [Chapter 7.2.2 'Opening the front hatch' on page 52](#)

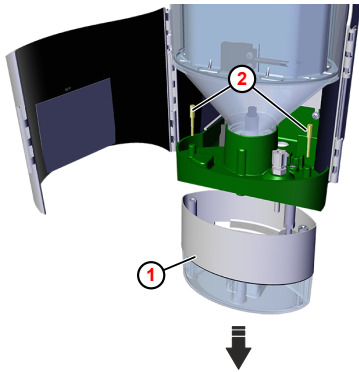


Fig. 13: Remove the collection cup

1. → Press the collection cup ① against the unit from below.
2. → Unscrew the fastening screws ②.
3. → Remove the collection cup by moving down and out of the unit.



*Before replacing, rinse the collection cup with clean water.*

**7.2.4 Remove the product cylinder**

**Personnel:**

- Operator

**Protective equipment:**

- Protective eyewear
- Chemical resistant protective gloves

**Requirements:**

- ✓ The dishwasher is switched off and protected against reactivation.
- ✓ Angle valve for water supply closed.
- ✓ Hinged cover is open.
- ✓ Front hatch open. → [Chapter 7.2.2 'Opening the front hatch' on page 52](#)

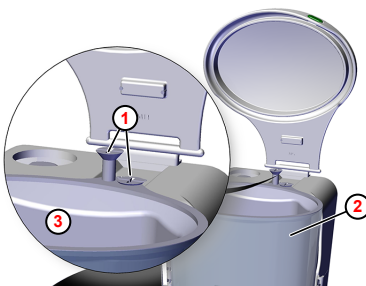


Fig. 14: Loosen the product cylinder

1. → If necessary, remove the SMARTPOWER™ rinse aid capsule.

2. → Unscrew the two countersunk screws ①.

3. →



**NOTICE**

**Risk of damage to connection cables and plugs**

When removing the product cylinder, make sure that the connection cables of the infrared sensors ④ are not damaged.

Remove the product cylinder ② with the product feed ③ facing upwards.

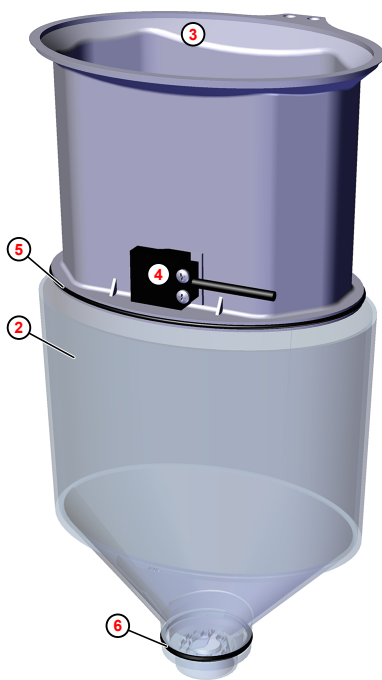


Fig. 15: Pull out and remove the product feed

4. → Pull the product feed ③ out of the product cylinder ②.
5. →
  - Clean the product feed using a damp cloth.
  - Rinse product cylinder with clean water.

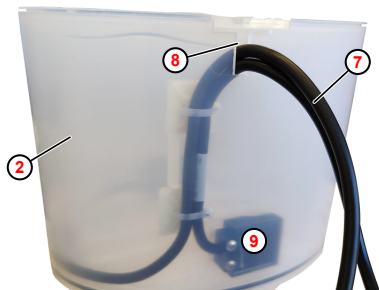


Fig. 16: Feed-through connection cable

6. → Pay particular attention to the following during installation:
  - Clean the O-rings ⑤, ⑥ and the O-ring grooves thoroughly.
  - Grease the O-rings with petroleum jelly, replace if necessary.



### NOTICE

#### Risk of damage to connection cables and plugs

When inserting the product guide, make sure that the connection cables ⑦ of the infrared sensors ④, ⑨ are routed through the recess ⑧ on the product cylinder.

**7.2.5 Descaling the spray nozzle**

**Personnel:**

- Service personnel

**Protective equipment:**

- Protective eyewear
- Chemical resistant protective gloves

**Material:**

- Ecolab Sidosil® Intensive Limescale Remover



**WARNING**

**Injury from uncontrolled chemical spills**

Uncontrolled chemical spills can cause serious injuries.

- **Read the enclosed safety data sheet carefully before using the chemical product.**
- Obey the safety regulations and wear the required protective clothing when working with chemicals.
- When working with chemicals, always adhere to the safety instructions and use the personal protective equipment (PPE) specified in the safety datasheet for the chemical products.
- Safety units such as showers and eye baths must be accessible and checked regularly to ensure that they are fully functional.
- Make sure that there is sufficient ventilation.
- Avoid skin and eye contact.
- Check component the regularly for tightness.
- Do not use the component in case of leakages.
- If leaks are detected, immediately activate the emergency stop function.

**If there is an uncontrolled chemical leak, your own safety and that of all employees in the vicinity must come first!**

**What to do:**

- Get out of the danger area as quickly as possible.
- Immediately ask employees to leave the danger area.
- Perform an emergency shutdown.
- Cordon off and secure the danger area (LoTo method).
- Have qualified personnel with appropriate training and using the prescribed PPE eliminate the cause of chemical leak.
- Only operate the component again after the leaks have been repaired.

**Requirements:**

- ✓ The dishwasher is switched off and secured against being switched back on.
- ✓ Angle valve for water supply closed.

- ✓ Front cover opened. → [Chapter 7.2.2 'Opening the front hatch' on page 52](#)
- ✓ Product cylinder removed. → [Chapter 7.2.4 'Remove the product cylinder' on page 53](#)

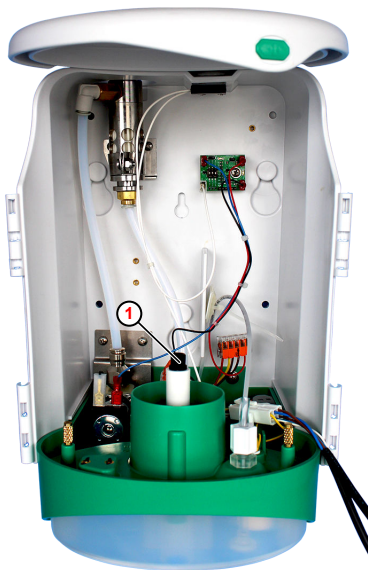


Fig. 17: Removing the spray nozzle



Fig. 18: Checking the spray nozzle

1. → Pour some Sidosil® Intensive Rinse Aid into a cup or bowl.



The fill level should be high enough to completely cover the spray nozzle.

2. → Unscrew the spray nozzle ①.
3. → Immerse the spray nozzle in the lime scale remover and let it soak for two minutes.
4. → Rinse the spray nozzle thoroughly with clean water.

5. → Checking the spray nozzle:

- Check the outlet hole ② of the spray nozzle for lime scale and soiling
- Check the underside of the swirl insert ③ for soiling and damage



Replace the spray nozzle if necessary.



**7.2.6 Removing the rinse aid hose and suction pipe**

**Personnel:**

- Service personnel

**Protective equipment:**

- Protective eyewear
- Chemical resistant protective gloves

**Material:**

- Ecolab Sidossil® Intensive Limescale Remover

**Requirements:**

- ✓ The dishwasher is switched off and secured against being switched back on.
- ✓ Angle valve for water supply closed.
- ✓ Front cover opened. → [Chapter 7.2.2 'Opening the front hatch' on page 52](#)
- ✓ Product cylinder removed. → [Chapter 7.2.4 'Remove the product cylinder' on page 53](#)
- ✓ Collecting cup removed. → [Chapter 7.2.3 'Remove the collection cup' on page 53](#)

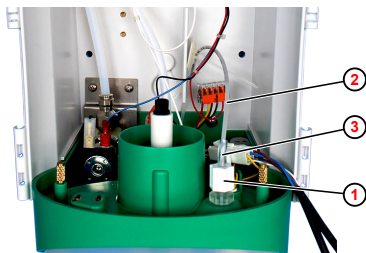


Fig. 19: Detaching the rinse aid hose

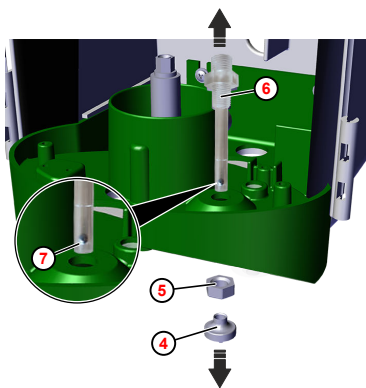


Fig. 20: Removing the suction hose

1. → Unscrew the hose fitting (1).
2. → Pull the rinse aid hose (2) with reducer (3) off the suction hose.
3. → Pull the reducer and hose fitting off the suction hose.
4. → If necessary, unthread the suction hose from the SMARTPOWER™ Rinse Dispenser .

5. → Pull off the intake screen (4) downwards.
6. → Undo the lock nut (5) and remove it downwards.
7. →



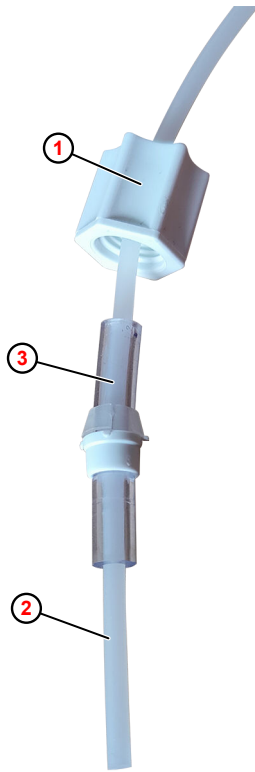
**NOTICE**

**Loss of components**

A ball (7) is inserted in the suction hose to prevent rinse aid solution from flowing back from the rinse aid hose into the collection cup.

- When removing the suction hose, be careful not to lose the ball!

Remove the suction hose (6) upwards.



8. → Special attention should be paid to the following during installation:
- Ensure that the ball (7) is reinserted into the suction hose.
  - First slide the hose fitting (1) onto the rinse aid hose (2).
  - Slide the reducer (3) onto the rinse aid hose so that it protrudes by approximately 3-4 cm.



*The ball's freedom of movement within the suction hose must be maintained when the rinse aid hose is inserted.*

Fig. 21: Pushing on the reducer

**7.2.7 Removing the solenoid valve**

**Personnel:**

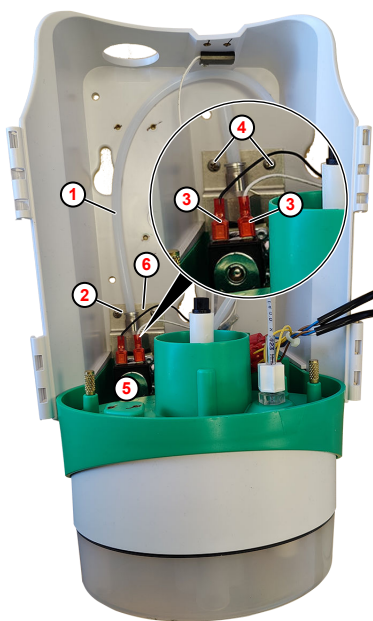
- Service personnel

**Protective equipment:**

- Protective eyewear
- Chemical resistant protective gloves

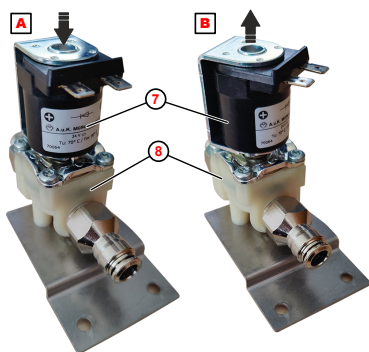
**Requirements:**

- ✓ The dishwasher is switched off and protected against reactivation.
- ✓ Angle valve for water supply closed.
- ✓ Front hatch open. → [Chapter 7.2.2 'Opening the front hatch' on page 52](#)
- ✓ Product cylinder is removed. → [Chapter 7.2.4 'Remove the product cylinder' on page 53](#)



*Fig. 22: Loosen the solenoid valve*

1. ➔ Unscrew the clean water connection cable at the solenoid valve inlet.
2. ➔ Press the retaining rings onto the plug-in couplings and disconnect the clean water pipe .
3. ➔ Mark and disconnect the connection cable on the solenoid valve.
4. ➔ Remove the screws .
5. ➔ Remove the solenoid valve with holder from the unit.



*Fig. 23: Unlock the solenoid*

6. ➔ Press the solenoid towards the valve body and rotate it approx. 30° anti-clockwise.
  - ➔ The solenoid is unlocked and can be removed in the direction of the arrow .



### WARNING

Lubricate O-rings before assembly, otherwise damage and wear may occur.  
Never press directly on the connection nipple or solenoid coil – there is a risk of breakage.

- 7.** → Pay particular attention to the following during installation:
- Before installing the solenoid valve, securely lock the solenoid to the valve body .
  - Push the clean water pipes into the plug-in couplings until you hear a click.



*Make sure the pipes are correctly connected.*

## 8 Operational malfunctions and troubleshooting

### 8.1 General troubleshooting and fault rectification

Fault description	Cause	Remedy	Personnel
No rinse aid solution in the collection cup	Hinged lid opened	Close hinged lid	Operator
	Dispenser incorrectly connected to the WWC PCB.	Check the connection of the dispenser to the EcoPlus PDRX. → <a href="#">'Connection diagram SMARTPOWER™ Rinse Dispenser' on page 38</a>	Qualified electrician
	Solenoid valve body defective.	Replace the solenoid valve body.	Service personnel
	Solenoid valve coil defective.	Replace the solenoid valve coil.	Service personnel
	Float switch or lid switch defective	<ul style="list-style-type: none"> <li>■ Check if 24V DC is present at the solenoid valve switch.</li> <li>■ If not, bridge the float switch and check again.</li> <li>■ If 24V DC is present at the solenoid valve switch, replace the float switch.</li> <li>■ If there is no 24V DC at the solenoid valve switch, replace the lid switch.</li> </ul>	Service personnel
Collection cup overflows	Float switch defective.	Check the float switch and replace if necessary.	Service personnel
	Solenoid valve defective.	<ul style="list-style-type: none"> <li>■ Turn off or disconnect the power supply to the rinse dispenser.</li> <li>■ If the collection cup continues to overflow, repair or replace the solenoid valve.</li> </ul>	Service personnel
	Dispenser incorrectly connected to the WWC PCB.	Check the connection of the dispenser to the EcoPlus PDRX. → <a href="#">'Connection diagram SMARTPOWER™ Rinse Dispenser' on page 38</a>	Qualified electrician
	The metering valve on the dishwasher is defective.	<ul style="list-style-type: none"> <li>■ Disconnect the rinse aid hose from the rinse dispenser.</li> <li>■ Start the rinse cycle on the dishwasher.</li> <li>■ If water leaks from the rinse aid hose, replace the rinse aid metering valve on the dishwasher.</li> </ul>	Service personnel

## 8.2 Fault messages



The SMARTPOWER™ Rinse Dispenser is connected to an EcoPlus PDRX dispenser and controlled via the WWC-PCB control board installed in it. Settings and controls are mainly done on the EcoPlus PDRX.

This section only describes the error messages that are triggered by the SMARTPOWER™ Rinse Dispenser on the EcoPlus PDRX. For other error messages, please see the operating instructions of the SMARTPOWER™ PDRX.

To download the operating instructions for 'EcoPlus PDRX' on a PC, tablet or smartphone, use the link below or scan the QR code.

Tab. 4: Complete operating instructions for download



**Download the operating instructions for 'EcoPlus PDRX' (MAN054265):**

→ [https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265\\_EcoPlus\\_PDRX\\_UK.pdf](https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265_EcoPlus_PDRX_UK.pdf)



The acoustic alarm can be switched off by pressing any button on the front of the unit. The alarm message on the display remains visible until the error has been resolved.

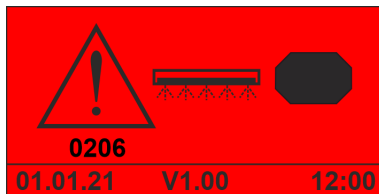


Fig. 24: Error code 206 (SMARTPOWER™ rinse aid)

No.	Fault description	Cause	Remedy
206	Display: Error code 206	Empty message for rinse aid block (SMARTPOWER™)	Insert new rinse aid block
		SMARTPOWER™ Detergent Dispenser faulty	Check that dispenser is functioning correctly; replace if necessary
		PCB defective	Change board

## 9 Spare parts

**Spare parts list for download:** Wearing parts, spare parts and accessories are listed in a separate spare parts list.



*The spare parts list is always available for download in its latest version.*

*To download the parts list on a PC, tablet or smartphone, use the link below or scan the QR code.*



### **SMARTPOWER™ Spare parts list**

➔ <http://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/SMARTPOWER-spare-parts.pdf>





**10 Technical data**

In this chapter you will find the technical data of the SMARTPOWER™ Rinse Dispenser.

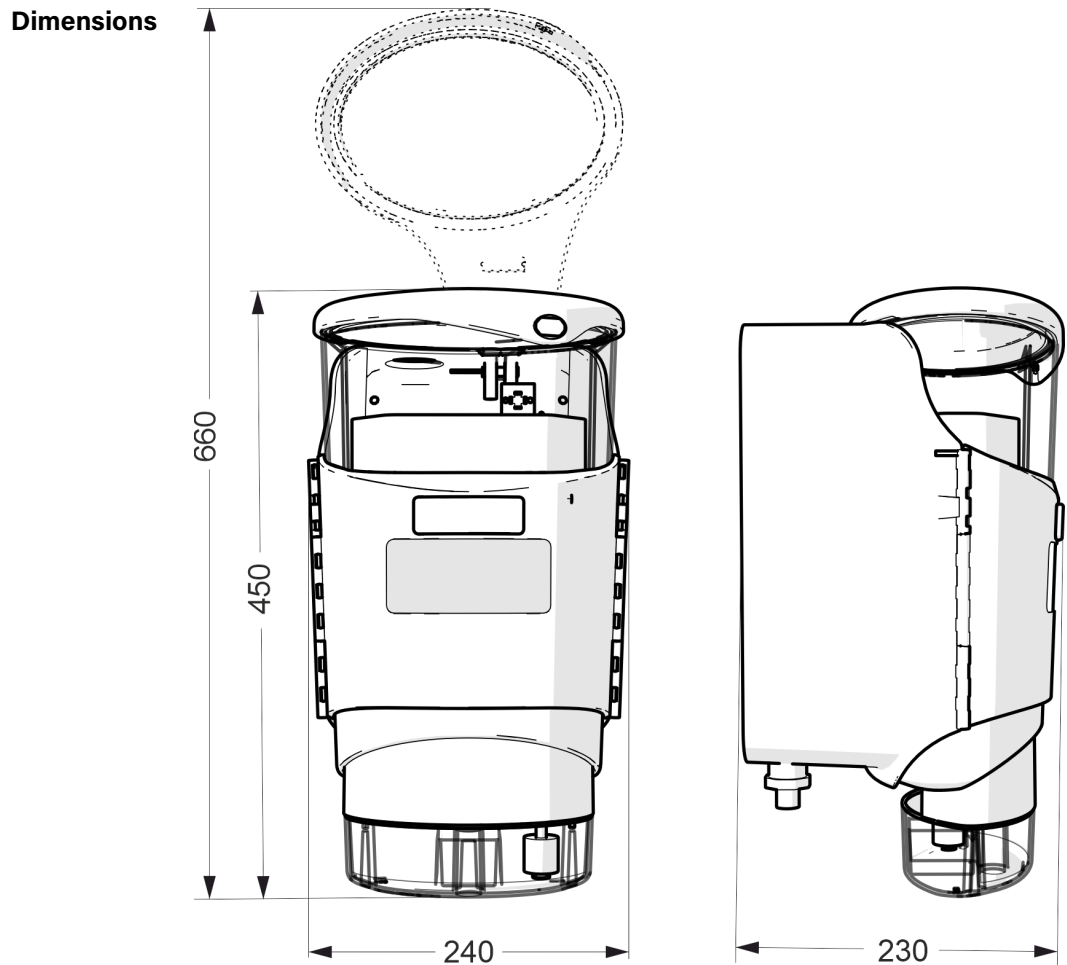


Fig. 25: Dimensions

Data	Value	Unit
Height (cover closed)	450	mm
Height (cover open)	660	mm
Width	240	mm
Depth	230	mm
Package size LxWxH	500 x 300 x 300	mm
Weight (unit without rinse aid capsule)	3,2	kg
Weight (including accessories and packaging)	4,9	kg

**General data**

Data	Value	Unit
Control voltage ( $\pm 10\%$ , unregulated)	DC 24	V
Connected rating	26,4	W
Degree of protection	IP2X	
Appliance class	II	
Equipment classification (pollution degree)	PD2	
Connection of water inlet:	Size G 3/8	
Water pressure, static (max.)	6 (0,6)	bar (MPa)
Water pressure, dynamic (min.) (with water temperature at $> 5^{\circ}\text{C}$ )	1,8 (0,18)	bar (MPa)
Water pressure, dynamic (min.) (with water temperature at $> 15^{\circ}\text{C}$ )	1,5 (0,15)	bar (MPa)
Water temperature (max.)	60	$^{\circ}\text{C}$
Water quality: Drinking water (min.)	3	$^{\circ}\text{d}$
Approved area of use	Wet environment	


**Environmental load**

Data	Value	Unit
Noise pollution	$< 70$	dB(A)

**Ambient conditions**

Data	Value	Unit
Ambient temperature	5 - 40	$^{\circ}\text{C}$
Relative humidity (non-condensing) (up to $31^{\circ}\text{C}$ , linear reduction to 50% at $40^{\circ}\text{C}$ )	80	%
Maximum operating height	2000	m
Approved area of use	Damp area	

**Nameplate** The nameplate contains the most important technical information for the SMARTPOWER™ Rinse Dispenser.

 *The information on the nameplate is required for all enquiries to Ecolab customer service.*

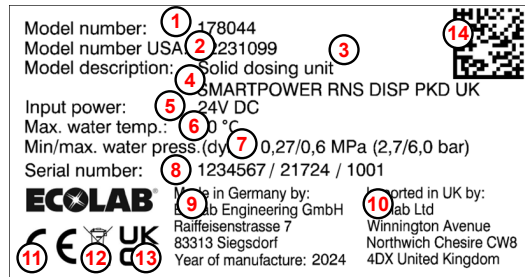


Fig. 26: Nameplate SMARTPOWER™ Rinse Dispenser

- ① Pa number
- ② US part number
- ③ EBS number
- ④ Item designation
- ⑤ Voltage specification [V]
- ⑥ Max. water temperature
- ⑦ Min/max. water pressure (static)
- ⑧ Production code consisting of  
 production order number (six digits) /  
 production code with weekday (single digit, Monday = 1, Friday = 5),  
 calendar week (two-digit), production year (two-digit) /  
 number of pieces per production order (consecutive number starting  
 with 1001)
- ⑨ Manufacturer's address
- ⑩ Importer in UK
- ⑪ Note on CE conformity
- ⑫ Disposal regulation
- ⑬ Note on CE UKCA conformity
- ⑭ Data matrix code containing the following :  
 part number,  
 production code



## 11 Decommissioning, dismantling and disposal



**NOTICE**

The following dismantling description is the recommended method. However, in practice, the different conditions and physical circumstances determine the dismantling process.



**CAUTION**

When working on parts that come into contact with hazardous products, the prescribed protective clothing (safety goggles, protective gloves, and, if necessary, an apron) must be worn due to the risk of chemical burns. When working on the electrical connection of a metering device (e.g. EcoPlus PDRX), all applicable international, national and local safety regulations must be observed. Before working on the voltage connection, the corresponding voltage connection must be de-energised.

**Recommended approach**

1. ➤ Disconnect the unit from the power supply (if necessary).
2. ➤ Remove the cleaning capsule.
3. ➤ Remove chemical residues from the funnel, e.g. by cleaning in GGSM.
4. ➤ Close the hinged lid and run the unit with fresh water for a few minutes.
5. ➤ Close the water supply (via angle valve or similar) and remove the connection.
6. ➤ Disconnect the unit from the power supply.
7. ➤ Finally, completely empty the unit and remove any chemical residue from the inside.
8. ➤ Either dispose of the unit according to applicable national guidelines or pack it securely for shipping (cardboard box with cushioning material) and return it to the company commissioned by Ecolab for reprocessing.

## 11.1 Disposal and environmental protection

All components are to be disposed of in accordance with prevailing local environmental regulations. Dispose of them according to their condition, existing regulations and with due regard for current requirements and criteria.

### **Recycle the dismantled components:**

- Scrap all metals.
- Electrical waste and electronic components must be recycled.
- Recycle all plastic parts.
- Dispose of all other components in line with their material characteristics.
- Hand in batteries at communal collection points or dispose of them through a specialist.



### **ENVIRONMENT**

#### **Risk of environmental damage due to incorrect disposal!**

#### **Incorrect disposal can be a threat to the environment.**

- Electrical scrap, electronic components, lubricants and other operating fluids must be disposed of by approved waste disposal service providers.
- If in doubt, contact your local authority, or an approved waste disposal service provider for information on correct disposal.

Prior to disposal, all parts which are in contact with media must be decontaminated. Oils, solvents, detergents and contaminated cleaning tools (brushes, cloths, etc.) must be disposed of in compliance with local provisions, in accordance with the prevailing waste code and with due attention to the notes contained in the manufacturers' safety data sheets.

## 12 Index

<b>A</b>		<b>F</b>	
Access code.....	46	Front flap	
Additional instructions		Open.....	52
Control PCB.....	39, 45, 62	Functional description.....	29
Ambient conditions.....	66	<b>I</b>	
Assembly		Improper transportation.....	9
Installation site.....	31	Installation	
Please note: Use of incorrect tools.....	26, 49	Climatic conditions.....	31
<b>B</b>		Installation position.....	31
Basic functions		Mounting the unit on the wall.....	33
Access code.....	46	Wall condition.....	31
Standby.....	46	Installation, maintenance or repair work	
Switching on.....	45	Please note: Incorrect procedure.....	26, 50
<b>C</b>		Intended use.....	16
Changing the container		Approved metering media.....	16
Risk of slipping due to escaping liquids.....	21	Exclusion of liability.....	16
Clean the unit.....	52	Obligations of the operator.....	17
Complete machine		Unauthorised modifications and spare parts.....	16
Definition.....	15	IOS (Apple) app	
Complete operating instructions		Download.....	7
Downloads.....	6	<b>L</b>	
Contacts		Lists	
Manufacturer.....	13	Representation.....	8
Control description		<b>M</b>	
Program structure.....	41	Machinery Directive	
Symbols.....	40	Definition.....	15
Copyright		Main instructions	
Operating instructions.....	8	Downloads.....	6
<b>D</b>		Maintenance	
Definition		Life span.....	16
Complete machine.....	15	Opening the front hatch.....	52
Machinery Directive.....	15	Please note: Use of incorrect tools.....	26, 49
Dimensions.....	65	Product cylinder.....	53
DocuApp		Remove the collection cup.....	53
Android App.....	6	Solenoid valve.....	59
For Windows.....	6	Maintenance work	
Installation iOS (Apple) systems.....	7	Cleaning.....	52
Installing Android systems.....	7	Rinse aid hose.....	57
IOS (Apple) App.....	6	Spray nozzle.....	55
Downloads		Suction pipe.....	57
Complete operating instructions.....	6	Manufacturer	
Drip tray		Contact.....	13
- remove the hose.....	53	Markings	
<b>E</b>		Representation.....	8
Environmental load.....	66	Metering chemical	
Explanations of instructions		Safety data sheets.....	26
Danger - no entry.....	20	Metering media	
Earthing.....	36	Approved products.....	16
Hazard - Automatic start-up.....	20	Protective equipment.....	23
Hazard - Chemical products.....	22	Safety data sheet.....	23
Hazard - Risk of fire.....	21	Validated products.....	23
Hazard - Risk of slipping.....	21	Misuse.....	16
Protective conductor terminal.....	36	Mixing of different chemicals	
		Safety.....	25
		Mounting the unit on the wall.....	33

<b>N</b>			
Nameplate.....	67		
<b>O</b>			
Operating conditions			
Safety data sheets.....	26		
Operating faults			
General troubleshooting.....	61		
Operating instructions			
Always call up the latest operating instructions.....	6		
Copyright.....	8		
Item numbers / EBS numbers.....	8		
Other markings.....	8		
QR code for WWC PCB operating instructions...	39		
Representation.....	8		
Symbols, highlights and bulleted lists.....	7		
Tips and recommendations.....	7		
Operating Instructions			
Accessing operating instructions using the website of Ecolab Engineering GmbH.....	6		
Operating steps			
Representation method.....	8		
Operation			
Access code.....	46		
Rinse aid capsule.....	47		
Standby.....	46		
Switching on.....	45		
<b>P</b>			
Packaging			
Disposal instructions.....	9		
Packaging size			
of the delivery.....	9		
Packaging weight			
of the delivery.....	9		
Personal protection equipment			
PPE.....	20		
Personnel requirement			
Unskilled workers without special qualifications.	19		
Personnel requirements			
Qualifications.....	18		
Product cylinder			
- remove the hose.....	53		
Product labelling			
Type plate.....	11		
Program structure.....	41		
<b>Q</b>			
QR code			
Contacting the manufacturer.....	13		
DocuAPP manual.....	6		
Download of safety data sheets.....	26		
Downloads.....	6		
<b>R</b>			
Reasonably foreseeable incorrect use.....	16		
References			
Representation.....	8		
Removal			
Please note: Use of incorrect tools.....	26, 49		
Repair			
Risk of slipping due to escaping liquids.....	21		
Repairs			
Conditions for returns.....	12		
General information.....	12		
Online application for returns.....	12		
Returns.....	12		
Residual risks			
Safety.....	15		
Results of the operating instructions			
Representation.....	8		
Returns			
Conditions.....	12		
Packaging and shipping.....	12		
Rinse aid capsule			
- inserting a capsule.....	47		
Rinse aid concentration			
Increasing.....	43		
Rinse aid hose			
Removing.....	57		
Risk of slipping due to escaping liquids			
Changing the container.....	21		
Repair.....	21		
Service.....	21		
Workspace.....	21		
<b>S</b>			
Safety			
Burns.....	22, 24, 55		
Burns due to leakage.....	24, 55		
Explosion protection.....	16		
Foreseeable misuse.....	16		
General handling of the system.....	15		
Hazard caused by the metering medium.....	22		
Improper transportation.....	9		
mixing of different chemicals.....	25		
Obligations of the operator.....	17		
Obligations on the part of personnel.....	18		
Residual risks.....	15		
Risk of accidents and environmental damage when mixing chemical residues.....	25		
Risk of slipping.....	21		
Risk of slipping due to escaping liquids.....	21		
Safety data sheets.....	26		
Serious injuries due to leakages.....	22		
Serious injury from leaked fluids.....	24, 55		
Staff instruction.....	17		
Staff training.....	17		
Uncontrolled chemical spills.....	24, 55		
Safety data sheets			
Download.....	26		
General information.....	26		
Safety Instructions			
Representation in the manual.....	7		
Safety measures by the operator			
Monitoring.....	17		
Training.....	17		
Safety precautions by the operator			
Requirements for system components provided by the operator.....	17		
Safety precautions by the owner			
Obligations of the operator.....	17		
Sales and service branches.....	79		
Service			
Risk of slipping due to escaping liquids.....	21		



Set up dishwasher  
 Setup.....42  
 Setup..... 29, 42  
 Signal words  
 Representation in the manual.....7  
 Solenoid valve  
 - remove the hose.....59  
 Source  
 Complete operating instructions.....6  
 Spray nozzle  
 Descaling.....55  
 Staff instruction  
 Safety.....17  
 Staff requisition  
 Unauthorised personnel.....20  
 Staff training  
 Safety.....17  
 Standby.....46  
 Start-up  
 of damaged equipment.....9  
 Rinse aid concentration.....43  
 Storage  
 Conditions.....10  
 Conditions for intermediate storage.....10  
 Suction pipe  
 Removing.....57  
 Switching on.....45  
 Symbols  
 Representation in the manual.....7

**T**

Technical data  
 Dimensions.....65  
 Nameplate.....67  
 Technical specifications  
 Ambient conditions.....66  
 Environmental load.....66  
 Tips and recommendations  
 Representation method.....7, 8  
 Transport inspection  
 Checking the delivery.....9  
 Type plate  
 Product labelling.....11

**U**

Uncontrolled chemical spills  
 Safety.....24, 55  
 Use.....16  
 User interface  
 Symbols.....40  
 User Manual  
 DocuApp.....6  
 Go to the instructions in the DocuAPP for  
 Windows®.....6  
 Safety instructions in the operating instructions...8  
 Tips and recommendations.....8  
 View on your smartphone/tablet.....6

**V**

Validated metering media  
 Safety data sheets.....26

**W**

Warranty  
 Guarantee.....11  
 What to do  
 if there is an uncontrolled chemical spill.....24, 55  
 Workspace  
 Risk of slipping due to escaping liquids.....21



## Appendix



## Appendix - Table of contents

A	Ecolab representatives and service partners.....	79
B	EC Declaration of Conformity.....	83



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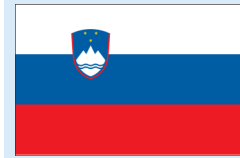
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Ecolab EOOD



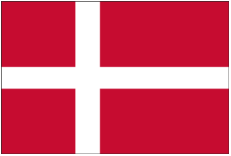




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**B EC Declaration of Conformity**

De
En
Fr

**Konformitätserklärung / Declaration of Conformity / Déclaration de Conformité**

**ECOLAB®**

ECOLAB Engineering GmbH  
Postfach 1164  
D-83309 Siegsdorf

Wir erklären hiermit, dass das folgende Produkt  
We herewith declare that the following product  
Nous déclarons que le produit suivant

Beschreibung / description / description	SMARTPOWER RINSE DISPENSER SMARTPOWER RINSE DISPENSER UK
Modell / model / modèle	178011 / 178044
Typ / part no / type	10019606 / 92231099
Gültig ab / valid from / valable dès:	2024-05-01

auf das sich diese Erklärung bezieht, der / den folgenden Norm(en) oder normativen Dokument(en) entspricht:  
to which this declaration relates is in conformity with the following standard(s) or other normative document(s):  
auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s)

EN ISO 12100:2010  
EN1717:2011  
EN IEC 63000:2018


gemäß den Bestimmungen der Richtlinie(n):  
following the provisions of directive(s):  
conformément aux dispositions de(s) directive(s):

2006/42/EG  
2011/65/EU

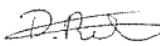
Bevollmächtigter für die Zusammenstellung der technischen Unterlagen: Authorised person for compiling the technical file: Personne autorisée pour constituer le dossier technique:	Ecolab Engineering GmbH Postfach 1164 D-83309 Siegsdorf
--	---

Ort und Datum der Ausstellung  
Place and date of issue  
Lieu et date

83313 Siegsdorf, 11.03.2024



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Annex 1a to WI-EU-RDE-602 Rev. 4 / 2022-06-02

Fig. 27: CE Declaration for the SMARTPOWER™ Rinse Dispenser





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Translation of the original operating instructions

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