

EcoPlus PDRX (UK Version)

Dispenser for solid detergent products



Operating instructions



Ecolab Engineering GmbH
Raiffeisenstraße 7
D-83313 Siegsdorf, Germany
Telephone: +49 (0) 86 62 / 61 0
Fax: +49 (0) 86 62 / 61 235
Email: engineering-mailbox@ecolab.com
Internet: <http://www.ecolab-engineering.com>

MAN054265, 2, en_GB
MAN054265 Rev. 02-09.2026

01.10.2026

Ecolab Engineering GmbH
Email: documentation@ecolab.com

© 2026

Table of contents

1	General.....	5
1.1	Notes on the operating instructions.....	5
1.2	Transportation.....	8
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
2	Safety.....	15
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	Metering media.....	20
2.6	General information about risks.....	23
2.7	Installation, maintenance and repair work.....	28
2.8	Safety labels used.....	29
2.9	Personal protection equipment (PPE).....	30
3	Delivery.....	31
4	Functional description/layout.....	35
5	Assembly and connection.....	37
5.1	Wall mounting.....	37
5.2	Hydraulic installation.....	39
5.3	Electrical installation.....	44
6	Start-up, operation.....	51
6.1	Software description of the control PCB.....	51
6.2	Initial start-up.....	54
6.3	Set-up.....	55
6.4	Operation.....	56
6.4.1	Switching on the unit.....	57
6.4.2	Temporarily taking the appliance out of operation.....	57
6.4.3	Booster activation.....	58
6.4.4	Entering the access code.....	58
6.4.5	Dosing functions.....	59
7	Servicing and maintenance.....	63
7.1	Maintenance intervals.....	65
7.2	Maintenance and repair work.....	66
7.2.1	Clean the unit.....	66
7.2.2	Inserting/removing the funnel lock.....	66

7.2.3	Disassembling and cleaning the funnel and outlet hose.....	67
7.2.4	Cleaning and installing the connection adapter.....	68
7.2.5	Removing/installing the hood.....	69
7.2.6	Disassembling/assembling the double check valve.....	70
7.2.7	Removing/installing the solenoid valve.....	71
7.2.8	Removing the unit from the holder.....	75
7.2.9	Disassembling/assembling the nozzle line.....	75
7.2.10	Removing and installing the peristaltic hose.....	77
8	Operational faults and troubleshooting.....	79
8.1	General troubleshooting and fault rectification.....	79
8.2	Fault messages.....	79
9	Wear parts, spare parts and accessories.....	87
10	Technical data.....	89
11	Decommissioning, dismantling and disposal.....	93
11.1	Disposal and environmental protection.....	94
12	Index.....	95
	Appendix.....	99
	Appendix - Table of contents.....	101
A	Ecolab representatives and service partners.....	103
B	Certificates.....	107
B.1	EC Declaration of Conformity.....	107

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 latest and complete operating instructions are available online.



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

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

↪ https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265_EcoPlus_PDRX_UK.pdf



The control board of the 'EcoPlus PDRX' is described in a separate manual. To download the instructions on a PC, tablet or smartphone, use the link below or scan the QR code.

Download operating instructions for WWC PCB (MAN049685):

↪ https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN049685_WWC-PCB.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](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](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](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



Observe the instructions for storing the packages.

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 expose to aggressive media.
- Keep away from direct sunlight.
- Avoid mechanical vibrations.
- If stored for longer than three months, regularly check the condition of all parts and packaging.
If necessary, refresh or renew the packaging.
- Storage must be frost-proof.
- Further information can be found in the chapter ➔ [Chapter 10 'Technical data' on page 89](#)



NOTICE

Intermediate storage

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



CAUTION

Risk of damage to the Maschine

Ingress of dirt and water can damage the Maschine . Never clean the electrical equipment or the parts of the equipment with a high-pressure cleaner or by spraying them with water.

1.5 Equipment marking – identification plate



Information on equipment marking and information on the rating plate can be found in ➔ [Chapter 10 'Technical data' on page 89.](#)

It is important to provide the correct specification of the name and type in 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

↪ <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 Komponente is delivered as a "complete machine" in accordance with the Machinery Directive 2006/42/EC.

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

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

The manufacturer supplies a declaration of conformity ([↗ Appendix B.1 'EC Declaration of Conformity' on page 107](#)). **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 Komponente.

2.1 Intended use

The dosing unit EcoPlus PDRX is used to dose Ecolab pressed detergent (SMARTPOWER™) as well as for dosing solid and liquid rinse aid products in commercial dishwashers.

Intended use includes the following points:

- Only the pressed detergent approved for the product may be dosed.
- Use is restricted to commercial applications; private use is excluded.
- All operating instructions prescribed by Ecolab and all maintenance and servicing conditions must be complied with.
- The dosing unit may only be installed and operated indoors.
- The dosing unit may be operated only within the operating conditions permitted according to ➔ [Chapter 10 'Technical data' on page 89](#).



Any other or further use is considered improper. Ecolab shall not be liable for any resulting damage to property or bodily 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 Komponente 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

2



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 Komponente.

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

Mechanic

The mechanic is trained for the particular range of tasks in which s/he operates and knows the relevant standards and regulations. S/he can perform work on pneumatic and hydraulic systems because of his/her specialized training and experience and can independently recognise and avoid potential dangers.

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 Metering media



CAUTION

Use of metering media:

- The Komponente 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 Komponente the regularly for tightness.
- Do not use the Komponente 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 Komponente 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 Komponente!

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.

2



DANGER

Dangers due to ignorance of the safety data sheets

Safety data sheets are always provided with the chemicals supplied.

They must be read and understood before using the chemical and all instructions must be implemented on site. The safety data sheets should ideally be kept directly at the workplace or attached to the containers so that the proper countermeasures can be implemented at once in the event of an accident. The operator must provide the necessary personal protective equipment (PPE) and the emergency equipment described (e.g. eye bath). 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>

2.6 General information about risks

During the set-up, installation, operation and maintenance of the unit, various types of risk remain that cannot be avoided despite embedded safety measures. These residual risks are described by the following general safety instructions.

Dangers due to improper use



WARNING

Risk of injury and property damage due to improper use

Use of the device outside of its intended use may result in the following hazards:

- Increased risk of injury to users and third parties.
- Damage to the device.
- Property damage to the surrounding area or other equipment.

Observe the areas of application and safety specifications described in the operating instructions. → [Chapter 2.1 'Intended use' on page 16](#)

Improper use can not only affect functionality, but also lead to dangerous situations. → ['Reasonably foreseeable incorrect use' on page 16](#)

Risk due to electrical energy



WARNING

The protective earth connection is marked by this symbol at the connection points.



DANGER

Risk of fatal injury from electric current!

Electrical hazards are identified by the symbol opposite. Work on those places may only be carried out by skilled personnel who are duly trained and authorised.

Contact with live parts represents immediate danger to life due to electrocution. Damage to the insulation or individual components can be life-threatening.

- Before starting work, create a de-energised state and ensure this state is maintained for the duration of the work.
- If the insulation is damaged, switch off the power supply immediately and arrange for repairs.
- Never bridge or decommission fuses.
- When replacing fuses, comply with the rating.
- Do not expose live parts to moisture as this may cause short-circuits.

Mechanical hazards



WARNING

Staying in the hazardous area

No access for unauthorised persons

Staying in the hazardous area of the Komponente can lead to serious injury for untrained personnel.



WARNING

Components and hoses under pressure

Components and hoses under pressure can move in an uncontrolled manner and cause injuries.

To ensure process safety:

- Close the shut-off valves of the pressurised media and, if possible, secure them with a lock to prevent unauthorised opening.
- Komponente Switch to a depressurised state.
- Wait until the standstill position is reached.
- Release connections only when depressurised.
- Ensure that no liquids escape unintentionally.
- During all maintenance and servicing work, wear safety goggles or a full-face mask.



CAUTION

Danger of slipping on wet floors

Liquids leaking in the working and preparation area can cause slipping and injuries.

- Wear non-slip, chemical-resistant shoes when working
- Shut off the area of the escaping liquid
- Duly absorb any liquids escaping during work
- Keep a suitable container ready to collect the liquids during maintenance work

Dangers of misuse



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 Komponente.

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)

2



WARNING

Burns caused by harmful chemicals

Leaks on the Komponente 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 Komponente regularly for tightness.
- Do not put the Komponente into operation if leaks occur.
- If leaks are identified, trigger the emergency stop function immediately.
- Do not operate the Komponente 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 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.

2.8 Safety labels used

The safety markings attached to the appliance must not be removed or covered.



The safety labels must be checked for presence and readability as part of regular maintenance.

Symbol	Safety symbol on the[Bezeichnung]
	Observe the instructions for use
	Wear safety goggles
	Wear safety gloves
	Warning of electrical voltage
	Warning: Risk of entanglement in rotating parts

2.9 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.



Protective gloves, mechanical hazards

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



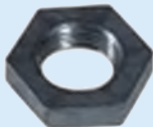
Safety shoes

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

3 Delivery

Part	Part description	Part no.	EBS no.
	EcoPlus PDRX Voltage 24 V, DC	10240068	10240068
	1 x WWC mains isolator module 230 V, common N	272060	10017489
	Mains unit 50 W, 100 - 240 V AC / 24 V DC	10241553	10241553
	1 x quick mounting plate	37200120	10007507
	4 x PAN PLATE SCREW 4.8X45 DIN7981 SS	413059064	10005489
	4 x ALL-PURPOSE SPRING SPIRAL DOWEL TFS 6/35	417200041	10009539
	4 x WASHER 6.4X12X1.6 DIN125	413500361	on request
	Tapered squeeze connection G3/8 D10 MSV	415507002	on request
	1 x extension cable 6 m V/VT	E99000128	10177432

Part	Part description	Part no.	EBS no.
	1 x extension cable 5 m, 4-pin, RSMV RKMV	32357301	10200721
	1 x conductivity sensor ind. 0.2 m int. temp.	287409	10177424
	INLET SCREW CONNECTION MS D3/8"-G3/8"	37100126	10177424
	1 x HOSE CLAMP DI20-32 DIN3017	415013305	on request
	1 x blue protective cap for 9 mm hose clamp	415013314	on request
	Flat seal 17.5x24x1 Klingersil C4400	417000124	on request
	FLAT SEAL 16.7 X 22 X 1.5 FIBRE	417000172	on request
	Flat seal 14.5x9x2 PE-Poly-G HD KTW	417000708	on request
	1 x replacement hose 1 CC, for peristaltic pump	223795	10200194
	1 x overflow hose Ø 16 1.5 (DK)	272096	on request
	1 x tank connector G1/2" PEEK	37100123	on request

Part	Part description	Part no.	EBS no.
	1 x hex nut 1/2" DIN431 1.4401	415203824	on request
	2 x DISC 1-1/2X7/8X3/32	P88569009	on request
	1 x 45° 45° Product Outlet Ecoplus Future	37200113	10200142
	1 x information sheet "Changing the product"	10240431	10240431
	1 x information sheet "Rack Load"	37211006	on request
Not illustrated	Installation instructions for tank inlet connector	37200182	on request
Not illustrated	Supplement sheet Ecoplus in 24 languages	37211004	on request
	Air Gap Ecoplus S UK	10240601	on request

4 Functional description/layout

Function **EcoPlus P** (Pressed Chemical Blocks) **D** (Display) **R** (Rinse Pump) **X** (Printer Interface) is an automatic dispenser for Ecolab pressed detergents as well as solid and liquid rinse aid products.

The EcoPlus PDRX consists of a housing, electronics with microcontroller, a solenoid valve, a double check valve and a spray nozzle.

Once the hood and funnel are removed, all parts are freely accessible for assembly, maintenance and repair.

As soon as the OK signal comes from the commercial dishwasher, the detergent concentration is measured continuously throughout the entire cleaning process by an inductive conductivity measuring cell in the dishwasher's main tank.

The control unit monitors the detergent concentration. As soon as the concentration drops below the set value, the top-up is activated.

The cleaner capsule is sprayed from below with cold or hot water.

The solution is dispensed into the dishwasher and the detergent concentration in the tank is measured.

Dispensing stops when the target concentration is reached.

In appliances with an integrated rinse aid pump, this is controlled either proportionally or timed.



Legal requirements for the United Kingdom of Great Britain and Northern Ireland

The EcoPlus PDRX may be operated only if the supplied air gap is installed between the product outlet and the product inlet line to the dishwasher.

Design EcoPlus PDRX



Fig. 1: Design

- ① Lid assembly with sensor
- ② Lid seals
- ③ Funnel
- ④ Dispensing pump connection from rinse aid to peristaltic pump
- ⑤ Electronics module display
- ⑥ Key field
- ⑦ Dishwasher connection
- ⑧ Water connection
- ⑨ Funnel lock

Key functions

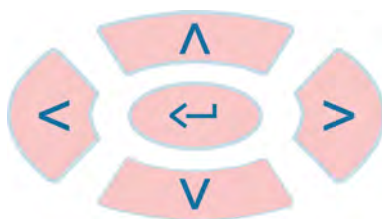


Fig. 2: Key field

 + 	Select sub-menus and functions
 + 	Select setting values
	- Call the selected function - Open the selected sub-menu - Confirm the selected value
When the 'Default' screen is displayed, the control buttons have the following functions:	
	- Interrupt dosing for 30 sec. - Go to Parametrisation/enter the TM code (> 2 sec.) - Activate from standby
	View operating data (capsule consumption, times)
 + 5 sec	Activate booster
 + 1 sec	Deactivate booster
 +  (at the same time for > 5 sec.)	Put the device into standby mode Note: Press  to switch the unit back on again.

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 23](#)) must be taken into account for all chemicals.
- Wear personal protective equipment.



NOTICE

Risk of incorrect measurements and error messages

The measuring method of the inductive conductivity measurement is susceptible to electromagnetic fields and influences. These can lead to faulty measurements and error messages:

- Do not install the device, the measuring cell and the measuring cell cable in the vicinity of frequency-controlled motors, mobile radio antennas or WLAN antennas.
- Do not install the measuring cell cable together with high-energy cables in a cable duct.

5.1 Wall mounting



NOTICE

The assembly and installation descriptions that follow are the recommended methods for installation. In practice, however, the actual assembly and installation processes are determined by various conditions and physical situations.

Units must be installed in line with current regulations.

- **The EcoPlus PDRX is designed for wall mounting.**
- The appliance must be arranged so that all display messages are clearly visible.
- The unit must be fixed in such a way that the cleaning solution can enter the tank of the dishwasher unhindered (see section [↪ 'Wall-mounting' on page 38](#)).
- Leave a sufficiently large space above the unit to enable product capsules to be loaded or exchanged without obstruction.

Wall-mounting



The EcoPlus PDRX is supplied for wall mounting and for this purpose has a mounting plate, which on the one hand allows the EcoPlus PDRX to be quickly installed and, on the other, can be uninstalled again for maintenance work.

Personnel:

- Service personnel
- Mechanic
- Specialist

Protective equipment:

- Protective eyewear
- Protective gloves, mechanical hazards
- Safety shoes

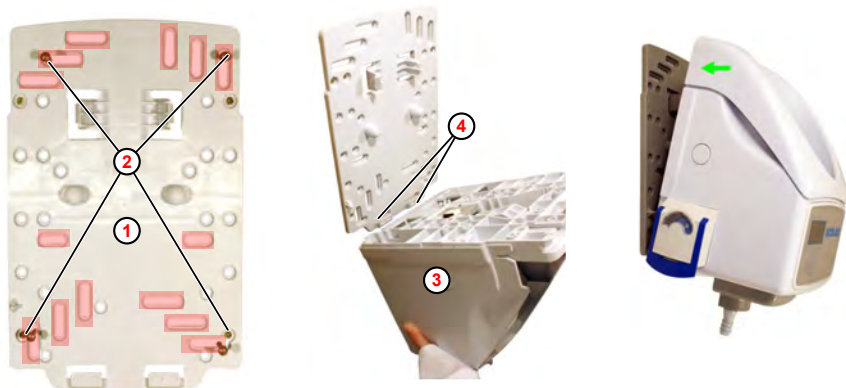


Fig. 3: Wall mounting (example with EcoPlus S)

1. ➔ Mark the desired drill holes at the mounting position using the wall bracket Fig. 3(1), (2).
2. ➔ Drill holes.
3. ➔ Fix the wall bracket (1) to the wall using suitable attachment parts.
4. ➔ EcoPlus PDRX (3) Put the into the hooks (4) of the wall bracket (1) from above.
5. ➔ EcoPlus PDRX (3) Pivot the onto the wall bracket (1) and push it back until it audibly engages.

5.2 Hydraulic installation

Domestic water supply



CAUTION

- Always observe the max. permissible water pressures and temperatures (see the [↪ section 10 „Specifications“ on page 89](#)). If necessary, install a pressure reducer and/or a mixing valve.
- The connection for the water supply line must be located behind a shut-off valve (angle valve).

Personnel:

- Service personnel
- Qualified employee

Protective equipment:

- Protective gloves
- Safety shoes
- Protective eyewear

Material:

- Plastic tube with 3/8-inch outer diameter
- Shut-off valve T-piece 15mm x 15mm x 3/8-inch pipe
- Adapter 3/8-thread x 3/8-inch tube

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

Requirements

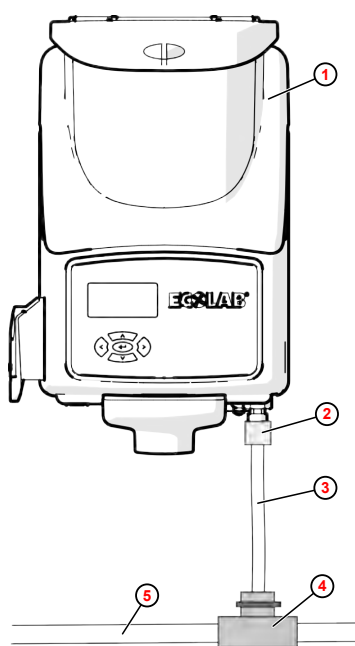
- ✓ The unit is mounted in accordance with the regulations.
- ✓ The water supply line is shut off.



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 89](#)). 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).



1. → Connect an adapter of 3/8-thread x 3/8-inch pipe (2) to the water supply connection of the EcoPlus PDRX (1).
2. → Disconnect the water supply line (5) and install a compatible shut-off valve T-piece (4).
3. → Guide the water connection pipe (3) to the EcoPlus PDRX and connect to the adapter.



The components (2) - (4) are not included with the unit and must be sourced locally.

Fig. 4: Domestic water supply connection

Product inlet line to the dishwasher

CAUTION

Always follow these rules to prevent the feed line from getting blocked by product sedimentation:

- The feed line should be kept as short as possible. The incline of the feed line must be at least 5° throughout. Do not lay the inlet pipe so it is sagging (= siphon) or loose.
- The tank connection must be above the max. water level of the wash tank.


Legal requirements for the United Kingdom of Great Britain and Northern Ireland

The EcoPlus PDRX may be operated only if the supplied air gap is installed between the product outlet and the product inlet line to the dishwasher.

Personnel:

- Service personnel
- Qualified employee

Protective equipment:

- Protective gloves
- Safety shoes
- Protective eyewear

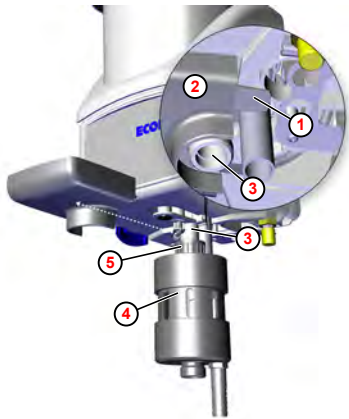


Fig. 5: Connect the Air Gap

1. ➔ Mark the water level when the wash tank is full.
2. ➔ Shut off the main water supply to the dishwasher.
3. ➔ Drain the water from the dishwasher.
4. ➔ Make a hole for the tank connection approx. 5 cm above max. fill level of the dishwasher.
5. ➔ Install the tank connection.
6. ➔ Hold down the release tab ① of the funnel lock ②.
7. ➔ Push the funnel lock ② up and off.
8. ➔ Connect the Air Gap ④ to the funnel outlet ③ and tighten the union nut ⑤ clockwise.

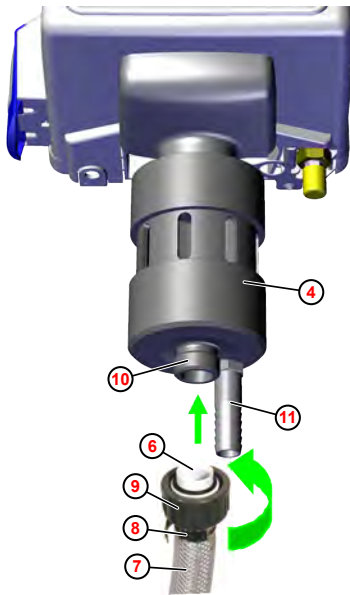


Fig. 6: Product inlet line to the dishwasher

9. ➔ Slide the union nut (9) over the connection nipple (6).
10. ➔ Slide the hose clamp (8) over the product inlet line (7).
11. ➔ Slide the product inlet line (7) onto the connecting nipple (6).
12. ➔ Tighten the hose clamp (8).
13. ➔ Connect the product inlet line to the Air Gap outlet (10) and tighten the union nut (9) clockwise.
14. ➔ Connect the product inlet line to the tank connection.
15. ➔ If necessary, connect an overflow hose to the hose connection (11) and lead it into a collection container or to the wastewater system.

Safety overflow hose



CAUTION

The safety overflow hose (PVC - hose clear; included in delivery) must be installed. The hose must only be used for the overflow line!

Personnel:

- Service personnel
- Specialist

Protective equipment:

- Protective gloves, mechanical hazards
- Safety shoes
- Protective eyewear

1. ➔ Shorten the PVC hose to the required length.
2. ➔ Connect the hose to a collection container or direct it to the sewage system.

Measuring cell



NOTICE

The installation location must be selected in such a way that sufficient mixing is ensured in the area of the measuring cell and that this is clearly below the minimum level of the cleaning solution even when the circulation is running:

- The measuring point must always be located downstream of the dosing point in the direction of flow.
- The transverse drilling of the measuring cell must be aligned vertically, or up to an angle of max. 45°, in order to avoid residues and air bubbles in the drilling.
- **The distance between the measuring cell and the device must not exceed 20 m.**

Tab. 2: The following distances must be observed:

Construction element	Distance
Tank corners	Min. 50 mm
Heating elements	As large as possible

Mounting the measuring cell:

Personnel:

- Service personnel
- Specialist

Protective equipment:

- Protective gloves, mechanical hazards
- Safety shoes
- Protective eyewear

- 1.** ➤ Fabricate a sufficiently large hole at the desired location in the tank wall.
- 2.** ➤ Fit the measuring cell to the tank wall of the dishwasher.

Rinse aid connection Applies to appliances with integrated rinse aid dosing pump (PDRX).

Personnel:

- Service personnel
- Qualified employee

Protective equipment:

- Protective gloves
- Safety shoes
- Protective eyewear

→ Lay the dosing line from the peristaltic pump to the rinse aid supply on the commercial dishwasher and connect it.



On the dosing side, a pressure control valve must be installed in the rinse aid feed of the commercial dishwasher.



CAUTION

Always use approved installation parts and accessories; refer to the list of accessories and installation list.

5.3 Electrical installation

Personnel:

- Qualified electrician
- Service personnel

Protective equipment:

- Protective gloves, mechanical hazards
- Safety shoes
- Protective eyewear

Danger from electrical energy

WARNING

The protective earth connection is marked by this symbol at the connection points.


DANGER
Danger to life due to electric current!

Contact with live parts represents immediate danger to life due to electrocution. Damage to the insulation or individual components may be fatal.

- Before starting work, isolate the system from the power supply and ensure this state is maintained for the duration of the work.
- Work on electrical components may only be carried out by trained electricians.
- If you discover any damage to the insulation, switch off the power supply and organise repairs.
- Never bridge or decommission fuses.
- When replacing fuses, observe the correct rating.
- Do not expose live parts to moisture as this may cause short-circuits.
- The maximum permissible voltage must not be exceeded.


WARNING
Risk of injury from automatically starting components

With some components, an automatic start-up is already started as soon as the power supply is connected or restored after a power failure. This is done without first actuating a switch or button and can lead to injuries.

- Ensure operational readiness before connecting the power supply
- Prevent automatic restart after power failure by suitable superordinate measures


WARNING

The main switch of the dishwasher must be switched off before any work is carried out on electrical parts.

The following applies to the main switch of the dishwasher:

- The main switch must remain easily accessible at all times.
- The main switch must disconnect all poles
- Before working on the unit, ensure that it is completely de-energised – check both the unit itself and the release signals.

All current international, national and regional safety regulations must be observed in relation to the electrical connection of the unit.

Before starting the installation:

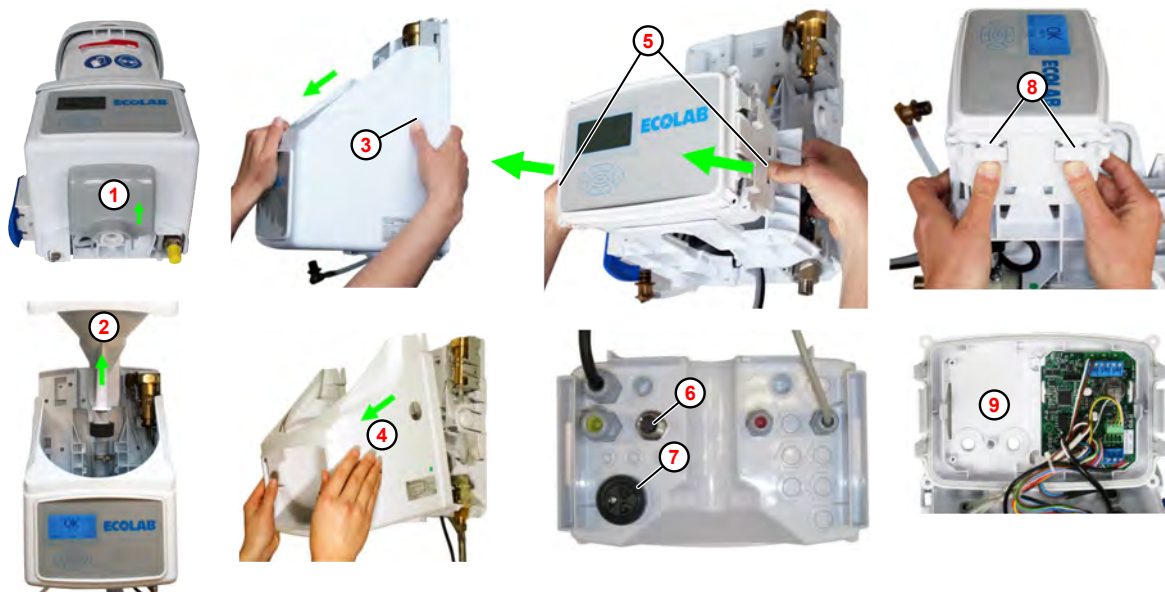


Fig. 7: Dismantling the electronic unit

1. ➤ Hold down the release tab of the funnel lock.
2. ➤ Push the funnel lock (Fig. 7, 1) upwards and remove it.
 - ➡ The funnel is now unlocked.
3. ➤ Remove the funnel 2 upwards.
4. ➤ Press both buttons 3 of the housing (right and left).
 - ➡ The housing is unlocked.
5. ➤ Remove the housing 4 forwards.
 - ➡ The electronics housing is exposed.
6. ➤ Press both tabs 5 of the electronics housing (right and left).
 - ➡ The electronics housing is unlocked and can be removed completely.
 - ➡ The buzzer volume (alarm) can be set here 7.
 - ➡ ['Set alarm volume' on page 47](#)
7. ➤ Press all four tabs 8 of the electronics housing cover (right and left).
 - ➡ The electronics housing cover 9 is unlocked and can be removed.
8. ➤ The PCB is now exposed and the electrical installation can begin.

Set alarm volume



Fig. 8: Set alarm volume

1. ➤ Press both tabs (Fig. 8, ①) on the electronics housing ②.
➡ The electronics housing is unlocked and can be removed completely.
2. ➤ Turn over the electronics housing. The unit has a buzzer ③ in order to issue an acoustic alarm.
3. ➤ Adjust the volume by turning the inner disc by hand.
Open ④ = max. volume, closed ⑤ = min. volume

WWC mains isolation module

The WWC mains isolation module provides galvanic isolation of the electrical enable signals between the commercial dishwasher and the EcoPlus PDRX. It is used to prevent interference, increase safety and enable signal transmission without requiring a direct electrical connection.



DANGER

Danger to life from electric current!

Contact with live parts represents an immediate danger to life due to electric shock.

- Install the WWC mains isolation module inside the dishwasher so that it is protected against splashing water.
- The enable signals to the WWC mains isolation module must be connected to the terminal points specified by the manufacturer of the commercial dishwasher.
- Conductor 1 on the connection cable Fig. 9, ① must be connected to the neutral conductor (N) inside the commercial dishwasher.

Requirements:

- ✓ The included WWC mains isolation module is installed in a suitable place inside the dishwasher.
- ✓ The appliance is connected via a main switch, which is designed as a disconnector and switches off at all poles.



Fig. 9: WWC mains isolation module

1. ➤ Connect the enable signals from the commercial dishwasher to the commercial dishwasher connection cable ① as follows:

1	Neutral conductor
2	Dosing
3	Pre-dosing
4	Rinsing
2. ➤ Connect the connection cable ② to the EcoPlus PDRX at the input terminal Fig. 7, ⑥ on the electronics housing.

Power supply



DANGER

Danger to life from electric current!

Contact with live parts represents an immediate danger to life due to electric shock.

- ▶ Install the mains unit inside the dishwasher so that it is protected against splashing water.
- ▶ Connect the appliance via a main switch that is designed as a disconnector and switches off at all poles.
- ▶ Mark the main switch as a disconnector for the appliance.

Requirements:

- ✓ The included mains unit is installed in a suitable place inside the dishwasher.
- ✓ The appliance is connected via a main switch, which is designed as a disconnector and switches off at all poles.

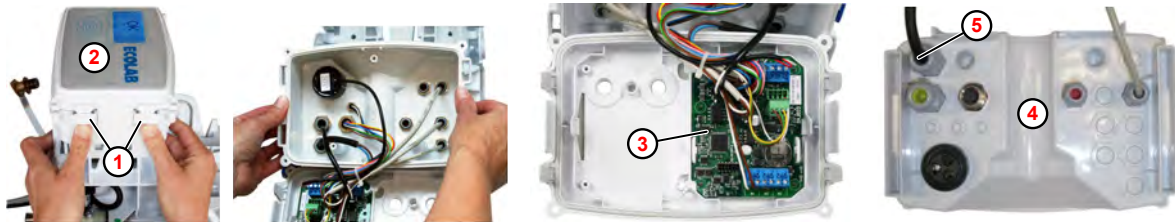


Fig. 10: Power supply

1. ➤ Press the securing catches (Fig. 10, ①) on one side and pull the electronics module ② out of the lock.
2. ➤ Then press the securing catch on the other side and disengage the electronic module on this side as well.
 - ➡ The electronics housing is unlocked and can be completely removed.
 - ➡ The WWC board ③ with the power supply and electronic cables is located in the cover.
3. ➤ Turn over the electronics housing ④.
 - ➡ The cable glands ⑤ are now freely accessible.
4. ➤ Pass the transformer cable (Fig. 11, ⑥) through the cable gland ⑦.
5. ➤ Check that the seal ⑧ is correctly fitted.
6. ➤ Connect the transformer cable.
7. ➤ Tighten the cable gland by hand.

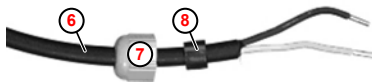


Fig. 11: Transformer cable



WARNING

Leave enough room around the connecting cables so that the electronics module hangs freely and without tension. At the same time, however, always make sure that no cable loops form!

Connection diagram EcoPlus PDRX

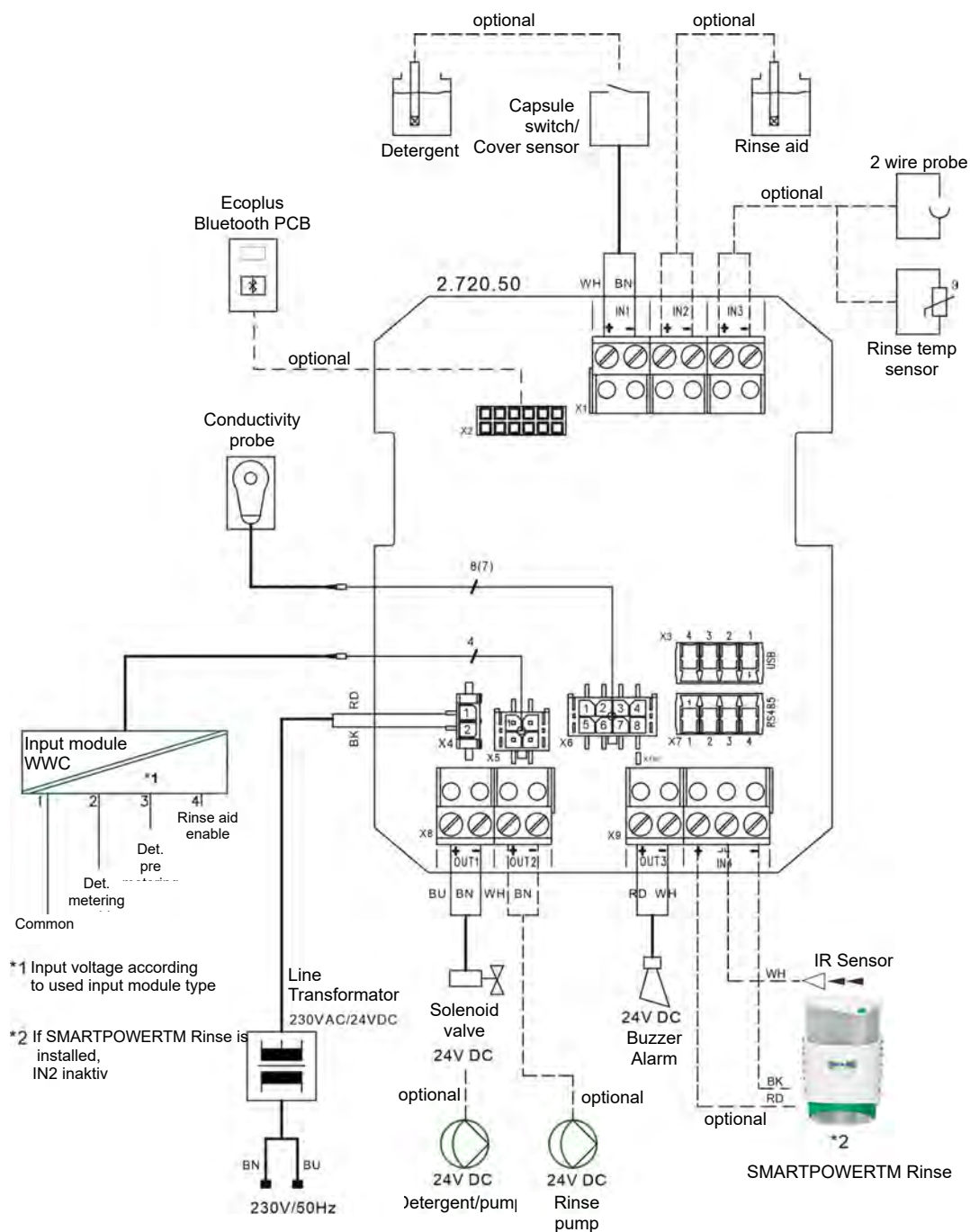


Fig. 12: Connection diagram EcoPlus PDRX

6 Start-up, operation

Personnel:

- Operator
- Specialist

Protective equipment:

- Protective gloves
- Protective eyewear
- Safety shoes

6.1 Software description of the control PCB



The commissioning, set-up, adjustment and operation of the control PCB are described in separate instructions. To download the instructions with a PC, tablet or smartphone, use the link below or scan the QR code given.

Tab. 3: Complete operating instructions for download



Download the WWC PCB operating instructions (MAN049685):

➔ 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
SETUP	Configuration		Peristaltic pump		Memory
	Inductive LF measuring cell		Pump (general)	$\frac{mS}{cm}$	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

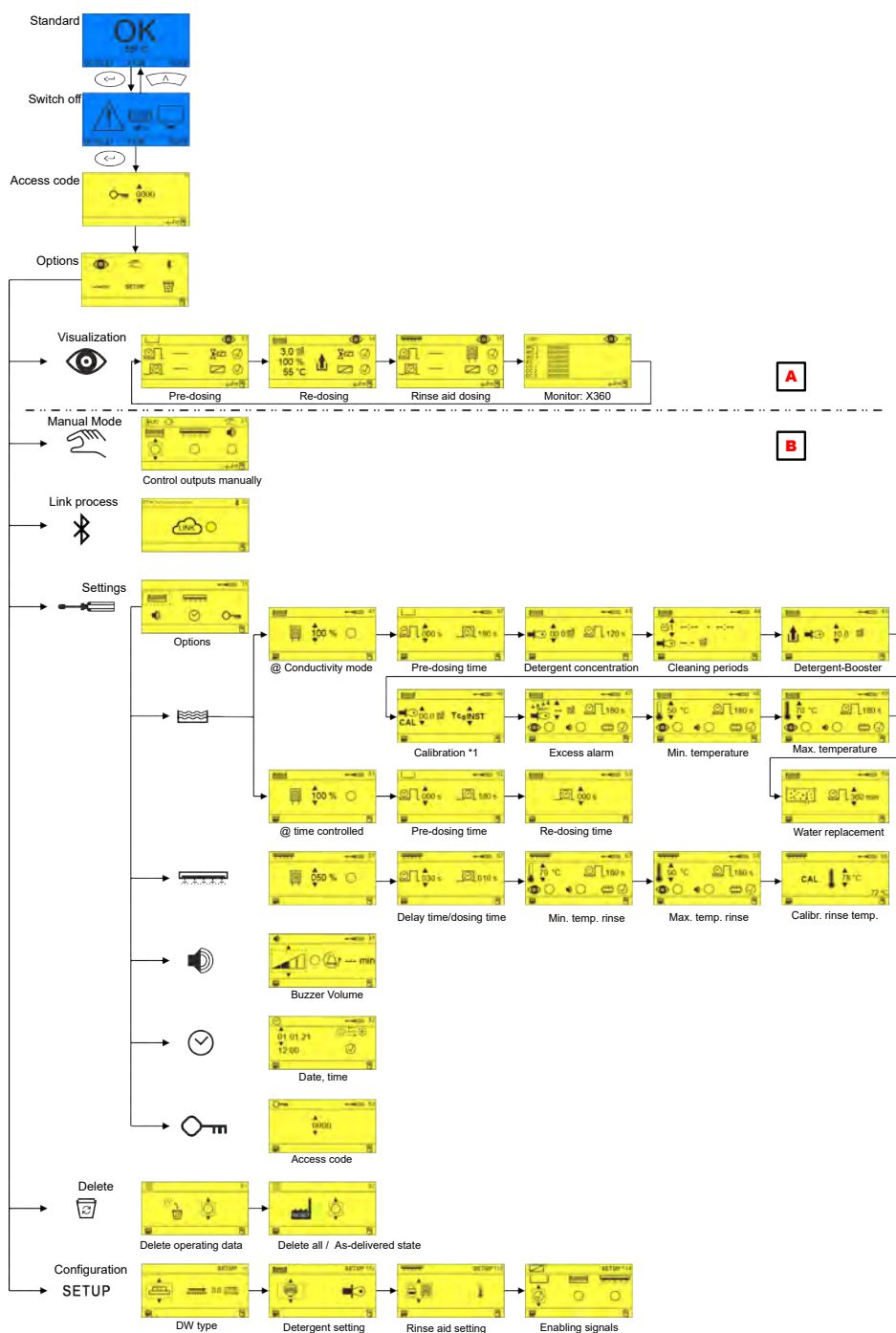


Fig. 13: Programme structure

6.2 Initial start-up

In the following cases, the control PCB of the EcoPlus PDRX starts with the 'No Setup' alarm screen:

- When first starting up the EcoPlus PDRX
- After installing a new control PCB
- After resetting to factory settings
- After replacing the CMOS battery

Carrying out the initial start-up

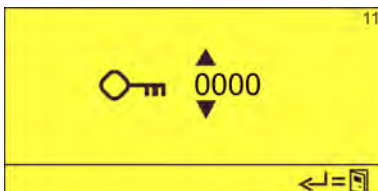
Requirements:

- The EcoPlus PDRX is correctly mounted and installed. → [Chapter 5 'Assembly and connection' on page 37](#)

1. → Switch on the commercial dishwasher.
 - ➔ The 'No Setup' screen appears.



2. → Press to put the appliance into operation.



3. → Enter the access code using and press to confirm.
 - ➔ The 'Options' screen (12) appears.
4. → Carry out the appliance set-up. → [Chapter 6.3 'Set-up' on page 55](#)
5. → Fill the wash tank with clean water.
6. → If necessary, perform the zero calibration.
7. → Set the concentration to approx. 3.5 mS/cm (starting value).
8. → Make all other parameter settings.



Please refer to the description of the control PCB.
→ [Chapter 6.1 'Software description of the control PCB' on page 51](#)

9. → If necessary, reset the operating data memory.
10. → Open the shut-off valve on the water supply line.
11. → Check that all hoses, connections and components are tightly sealed and that the cover switch functions correctly.
12. → Insert a SMARTPOWER™ rinse aid capsule and start the commercial dishwasher rinse program.
13. → After two to three program runs, check the concentration by means of titration. Correct the required conductivity value accordingly if necessary.



NOTICE

Before titration, the preparation value must have reached about 100% of the target value.

6.3 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.

The following configurations can be selected:

- Dishwasher type → 'Dishwasher type - SETUP 111' on page 55
- Detergent set-up → 'Detergent'  - SETUP 112' on page 55
- Rinse aid set-up → 'Rinse aid'  - SETUP 113' on page 56
- Enable signals set-up → 'Enable signals'  - SETUP 114' on page 56

Dishwasher type - SETUP 111

The 'GSM Type Setup' screen (111) is used to determine the type of dishwasher. This specifies whether the EcoPlus PDRX is used on a single-tank or multi-tank dishwasher.



Single-tank dishwasher



Multi-tank dishwasher



Changing the dishwasher type resets the rinsing delay time!

Detergent - SETUP 112

The 'Detergent Setup' screen (112) is used to configure the detergent used and the dosing mode.

The following detergent must be configured for use of the EcoPlus PDRX:



Capsule

Depending on the conductivity probe used, the following dosing modes can be configured:



Conductivity with inductive measuring cell



Conductivity with rinsing phases



Conductivity with conductive measuring cell



Time-controlled

Rinse aid - SETUP 113

If a rinse aid is used in the commercial dishwasher, the 'Rinse Aid Setup' screen (113) can be used to configure and set whether the rinsing occurs at a rinsing temperature or without heating.

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

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

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

The 'Enable Signals Setup' screen (114) is used to configure enable signals that are sent from commercial dishwasher modules to the control PCB.



If enable signals are configured, the EcoPlus PDRX waits until the corresponding enable signal is given to deliver the corresponding dosage.

The following enable signals can be configured:

- | | |
|---|------------|
|  | Pre-dosing |
|  | Washing |
|  | Rinsing |



If no input is activated, the corresponding dosing starts as soon as the voltage is applied.

6.4 Operation

Personnel:

- Operator
- Specialist

Protective equipment:

- Protective gloves, mechanical hazards
- Protective eyewear
- Safety shoes

6.4.1 Switching on the unit



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

- ➔ Switch on the dishwasher.
 - ➔ The EcoPlus PDRX starts up.
 - ➔ The home screen is displayed.



6.4.2 Temporarily taking the appliance out of operation



WARNING

Risk of contamination of the public drinking water supply

If the system has a defect, a malfunction or is taken out of operation for an extended period, there is a risk that contaminated water will flow back into the public drinking water supply unless the system is properly disconnected. This can lead to contamination of the drinking water supply and pose serious health risks.

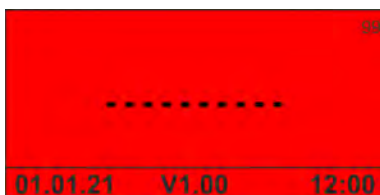
Measures:

- If the appliance is taken out of operation for more than one day, the water supply to the appliance must be disconnected.
- When switching back on, make sure that water is run through it immediately to flush the appliance.

Starting point: 'Standard 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 of the appliance.

6.4.3 Booster activation

Prerequisite:

- The unit is switched on and in operation

Starting point: Default 'screen'



→ Press for 5 seconds.

- ➔ The booster is active for one hour.



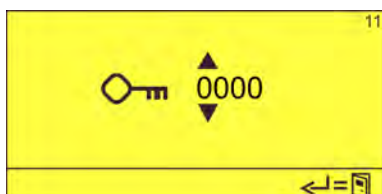
Press for one second to manually disable the booster.

6.4.4 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.



6.4.5 Dosing functions

Abbreviations used:

Abbreviation	Meaning
EN	External enable
EN-VD	External enable, pre-dosing
EN-ND	External enable, post-dosing
EN-KS	External enable, rinse aid dosing
LF	Conductivity

6.4.5.1 Detergent dosing

Pre-dosing

	Description	Setting in
Prerequisite:	External enable ("EN-VD") configured	Setup [114]
Enable:	EN-VD = 1 and simultaneously LF < 0.5mS/cm (tank empty) Special features: ■ Process once only per washing cycle ■ Changes EN-VD to 0 → VD stops ■ New enable possible, either: – By metering unit = OFF - or – - No EN active - Conductivity < 50% of nominal value for > 5 minutes	
Process:	■ Delay time expires ■ Dosing time expires	Parameters [42] or [52]
End:	■ Pre-dosing time expired Note: If post-dosing is active (EN-ND = 1) and the conductivity is > 80% of the setpoint value, pre-dosing ends.	
Behaviour in the event of an alarm	■ Dosing interrupted ■ Times continue to run	
Behaviour in parameter setting/ Configuration	■ Times reset ■ New pre-dosing possible	

Comment: "[xx]" indicates the corresponding display, see → ['Program structure' on page 53](#)

Post-dosing

	Description	Setting in
Dishwasher type		Setup [111]
Metering modes	Time-controlled or conductivity controlled	Setup [112]
Enable	■ For external enable: Status EN-ND = 1 ■ For internal enable: Metering unit = ON	Setup [114]
Dosing process	For "time-controlled": ■ Expiry of dosing time ■ Then stop Comment: EN-ND stops dosing and resets the dosing time	Parameter [53]
	For "Conductivity controlled": ■ Depending on concentration (with self-learning function)	Parameters [43], [44], [45]
Behaviour in the event of an alarm	■ Dosing interrupted ■ Times reset ■ New process after new enable	
Behaviour in parameter setting/ Configuration	■ Times reset ■ New re-dosing possible	

Comment: "[xx]" indicates the corresponding display, see [↗ 'Program structure' on page 53](#)

6.4.5.2 Rinse aid dosing
**Single tank dishwasher /
small dishwasher**

	Description	Setting in
Dishwasher type		Setup [111]
Dosing mode	Time controlled or continuous: ■ Delay time ■ Dosing time	Parameter [62] Parameter [62]
Enable	■ For external enable: Edge change EN-KS 0->1 ■ For internal enable: Metering unit OFF->ON	Setup [114]
Dosing process	■ Delay time expiry ■ Expiry of dosing time	
Behaviour in the event of an alarm	■ Dosing interrupted ■ Times reset ■ New process after new enable	
Behaviour in parameter setting/ configuration	■ Times reset ■ New pre-dosing possible	

Comment: "[xx]" indicates the corresponding display, see ➔ [‘Program structure’ on page 53](#)

Multiple tank dishwasher

	Description	Setting in
Dishwasher type		Setup [111]
Dosing mode	■ Continuous (= "ON") ■ (Optionally also time-controlled)	Parameter [62]
Enable	■ For external enable: Status EN-KS=1 ■ For internal enable: Metering unit ON	Setup [114]
Dosing process	Dosing if enable is present	
Behaviour in the event of an alarm	■ Dosing interrupted ■ New process as soon as enable present	
Behaviour in parameter setting/ Configuration	■ Times reset ■ New pre-dosing possible	

Comment: "[xx]" indicates the corresponding display, see ➔ [‘Program structure’ on page 53](#)

6.4.5.3 Calibrating the conductivity measurement

	Description	Setting in
Manual (Standard, recommended)	■ Measuring the conductivity of the GGSM filling water ■ Manual entry of this value (max. 15.0 MS/cm) Note: This value is always deducted from the currently measured conductivity reading.	Parameter [46]
AUTO (not recommended, only select when the quality of the water changes!)	Precondition: ■ EN-VD activated ■ EN-ND activated	SETUP [114]
	Settings: ■ "AUTO"	Parameter [46]
	■ The water value is measured at the end of the pre-dosing delay. ■ This value is always deducted from the currently measured conductivity reading.	Parameter [42], (min. 120 s)

Comment: "[xx]" indicates the corresponding display, see [↩ 'Program structure' on page 53](#)

7 Servicing and maintenance

Protective equipment:

- Protective eyewear
- Protective gloves
- Safety shoes



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 maintenance work, the system must be de-energised and the water supply disconnected. The safety regulations must also be observed. ➔ [Chapter 2 'Safety' on page 15](#)
The maintenance interval is 1 year maximum, although every six months is recommended.
- After completing all maintenance and repair work, the appliance must be checked to ensure it is in a safe condition, that it is completely intact and that there are no foreign objects inside it.

Careful maintenance and inspection enables faults to be found and corrected at an early stage. This helps maintain the value of the Komponente, prevent failures and improve the reliability of the Komponente.

Maintenance includes the following periodic work:

- Inspection
Inspection consists of a regular inspection of the Komponente and the elimination of possible causes of wear.
- Recalibration
Recalibration consists of the regular monitoring and adjustment of the settings of the Komponente according to operator specifications.
- Repair
Repair involves the repair and replacement of damaged components to prevent personal injury or damage to the Komponente.

The Komponente must be maintained by service personnel depending on wear and in accordance with the maintenance schedule.

The service life of the Komponente depends both on the service life of the components used and on the maintenance work being carried out properly.



Obligation to create and maintain a maintenance log

The owner of the Komponente is obliged to provide a maintenance log and keep it at the Komponente.

All maintenance work, defects, faults or damage must be recorded in the maintenance log and their rectification measures recorded accordingly!

7.1 Maintenance intervals

Interval	Maintenance work	Personnel
Daily	General status: External dirt: Check the unit is clean and clean if necessary. Damage: Check the unit damage and notify Ecolab Customer Service if necessary.	Specialist
Every six months	Water inlet pipe and water-bearing components in the unit: Tightness: As necessary. Replace seals or replace defective components. Dirt: If necessary, clean the sieve of the solenoid valve.	Specialist Service personnel
	Squeeze tube (depending on model): Damage, wear: Replace squeeze tube at least annually, or every six months if overworked (see Chapter 7.2.10 'Removing and installing the peristaltic hose' on page 77).	Specialist Service personnel
	Feed line to the commercial dishwasher: Blockage, leak tightness: Replace hose if necessary.	Specialist Service personnel
	Overflow line: Blockage / watertightness: Where necessary, replace hose.	Specialist Service personnel
	Concentration in the commercial dishwasher: Correct concentration: If necessary, clean the LF measuring cell, readjust the concentration (see I/O Ecodos PCB or WWC PCB).	Specialist Service personnel
	Lid sensor: Correct function: Clean funnel if necessary, replace components.	Specialist Service personnel
	Spray nozzle: Dirt: Replace if necessary.	Specialist Service personnel

7.2 Maintenance and repair 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 Inserting/removing the funnel lock

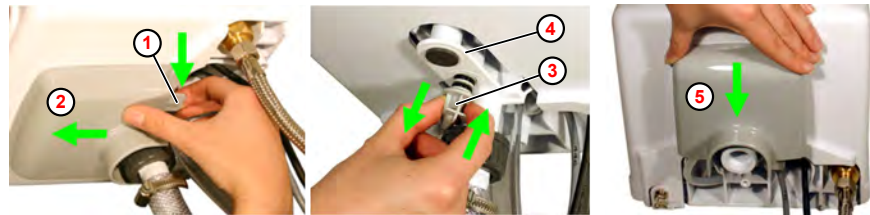


Fig. 14: Funnel lock

Removal:

1. ➞ Pull the safety latch (Fig. 14, ①) downwards.
2. ➞ Slide the funnel lock ② forwards/remove.



WARNING

Risk of breakage!

Hold the connection adapter ③ only by the side ribs.
Do not pull on the hose or bend the hose.

3. ➞ Pull the connection adapter ③ downwards.

Assembly:

1. ➞ Insert the connection adapter ③ as far as it will go until it is flush with the funnel housing.
2. ➞ Push the funnel lock ⑤ onto the retainer ④ until it engages with a distinct noise.

7.2.3 Disassembling and cleaning the funnel and outlet hose

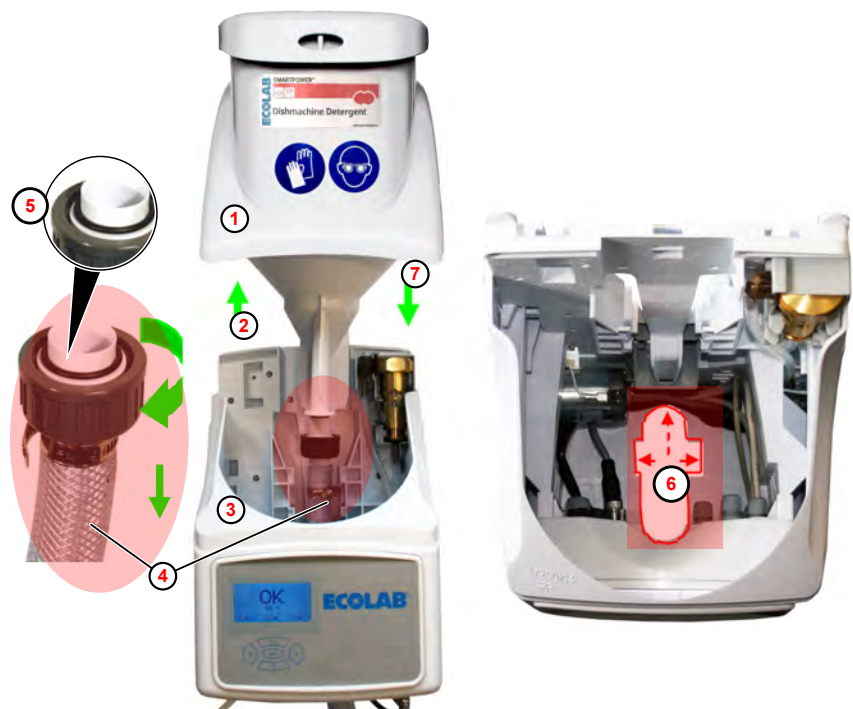


Fig. 15: Removing the funnel

Requirements:

✓ Funnel lock removed → [Chapter 7.2.2 'Inserting/removing the funnel lock' on page 66](#)

1. ➤ Pull funnel (Fig. 15, ①) upwards and out ②.
2. ➤ Pull the funnel together with the outlet hose ④ upwards out of the housing.
3. ➤ Clean the funnel on the outside and inside (e.g. in the dishwasher at max. 55°C).
4. ➤ Clean the O-ring ⑤ by hand.
5. ➤ Lubricate the O-ring with silicone grease.
6. ➤ Keep all connecting lines in the housing away from the funnel shaft ⑥.
7. ➤ Push the funnel back into the housing ③ from above ⑦.
8. ➤ Screw the drain hose ④ back onto the funnel until hand-tight.



CAUTION

Make sure that the O-ring ⑤ is inserted in the hose to achieve the necessary leak tightness.

7.2.4 Cleaning and installing the connection adapter

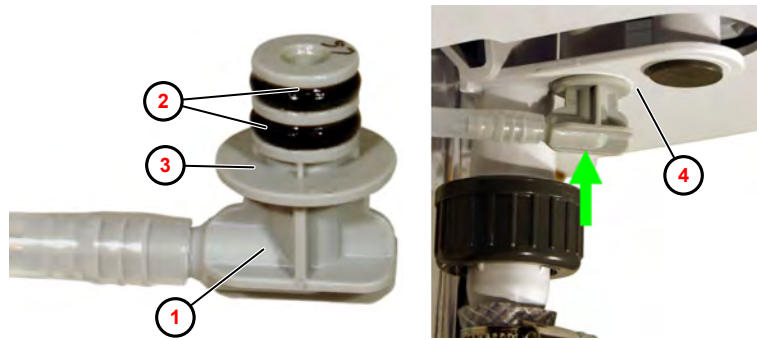


Fig. 16: Removing the connection adapter

- ① Connection adapter
- ② O-rings
- ③ O-ring seat
- ④ Funnel housing

Requirements:

- ✓ Funnel lock removed → [Chapter 7.2.2 'Inserting/removing the funnel lock' on page 66](#)



WARNING

Do not use any tools!

1. ➤ Remove O-rings ([Fig. 16](#), ②) from the connection adapter ①.
2. ➤ Clean the O-ring ③ seat by hand.
3. ➤ Clean O-rings and relubricate with silicone grease.
4. ➤ Push the O-rings back onto the connection adapter and re-grease.
5. ➤ Insert the connection adapter as far as it will go until it is flush with the funnel housing ④.



WARNING

Risk of breakage!

Hold the connector adapter ① only by the side ribs.
Do not pull on the hose or bend the hose.

7.2.5 Removing/installing the hood

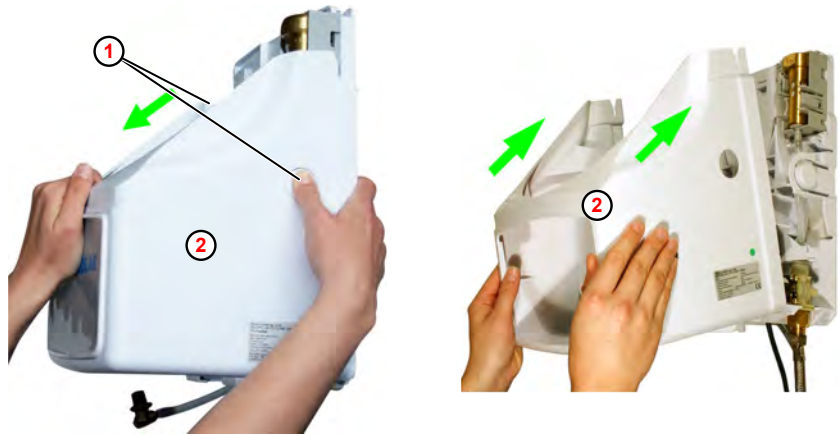


Fig. 17: Removing/installing the hood (example with EcoPlus S)

- ① Release button
- ② Housing

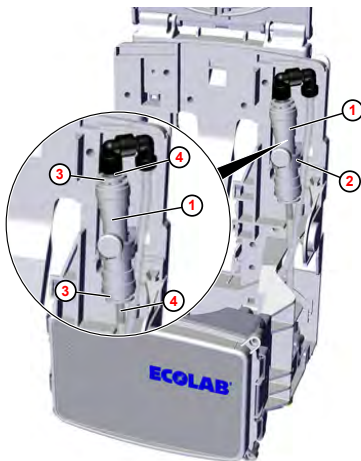
- Disassembly**
1. ➤ Press both buttons (Fig. 17, ①) on the housing (right and left).
 2. ➤ Remove the housing ② forwards.
- Installation**
1. ➤ Place the housing ② onto the rear panel from the front.
 2. ➤ Slide the housing backwards until you hear both release buttons ① click into place.

7.2.6 Disassembling/assembling the double check valve

Disassembling

Requirements:

- ✓ Angle valve for water supply closed.
- ✓ Hinged cover is open.
- ✓ Funnel dismantled. ➔ [Chapter 7.2.3 'Disassembling and cleaning the funnel and outlet hose' on page 67](#)
- ✓ Hood dismantled. ➔ [Chapter 7.2.5 'Removing/installing the hood' on page 69](#)



1. ➔ Unclip the double check valve ① from its holder ②.
2. ➔ Press in the retaining rings on the plug-in couplings ③ of the double check valve and remove the connecting brackets ④, with any connecting parts.
3. ➔ Remove the double check valve ① from the unit.

Fig. 18: Disassembly/installation of double check valve

Assembly



When installing the double check valve, observe the flow direction (from bottom to top)!

1. ➔ Insert the connecting brackets ④ into the double check valve ① as far as they will go.
2. ➔ Push the double check valve into the holder until it clicks into place ②.

7.2.7 Removing/installing the solenoid valve

Disassembly

Requirements:

- ✓ Power supply is disconnected.
- ✓ Water supply has been stopped.



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.



When screwing the inlet hose, counter using a second open-end spanner on the connection adapter.

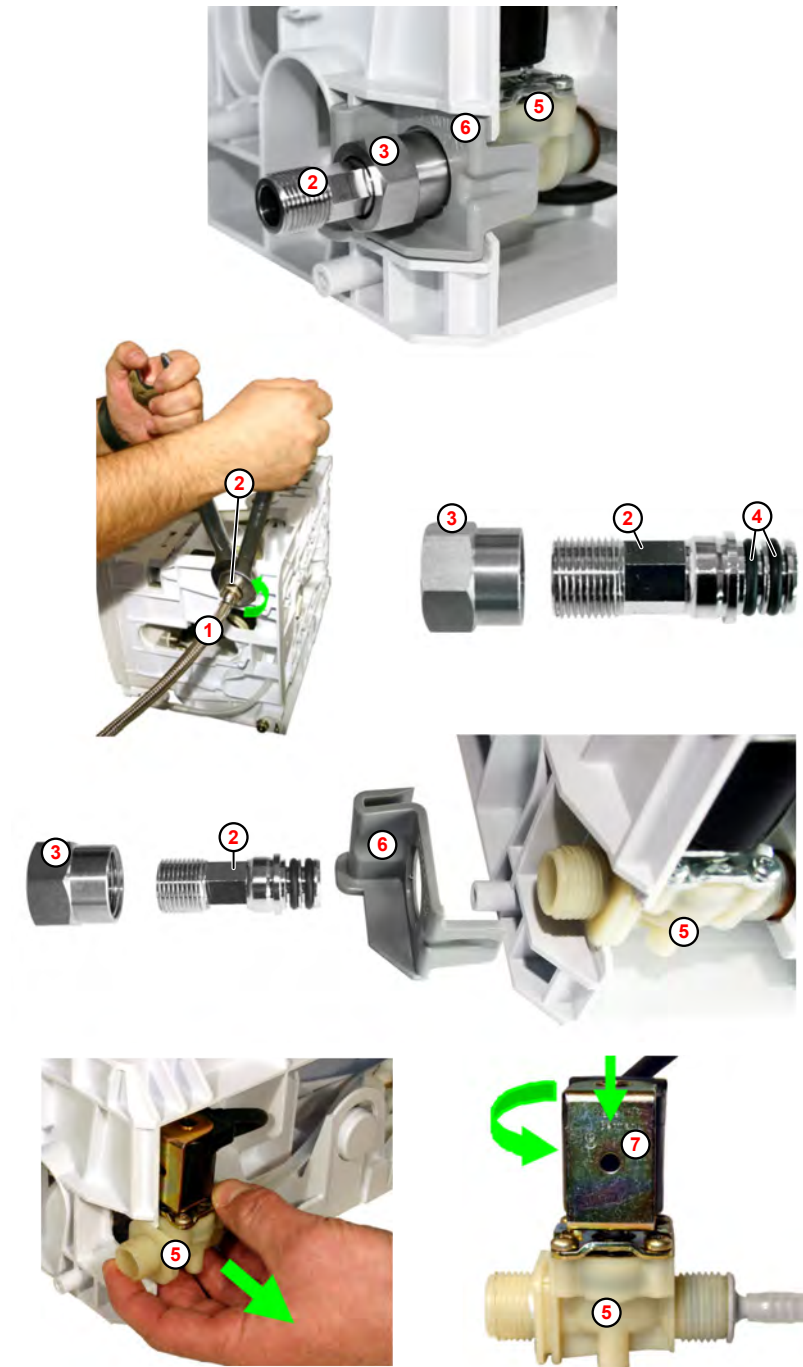


Fig. 19: Solenoid valve disassembly

1. ➤ Unscrew the inlet hose (Fig. 19, ①).
2. ➤ Screw on the union nut ③ and carefully pull the connection adapter ② out of the valve body ⑤.
3. ➤ Pull the valve body out of the housing sideways.
4. ➤ Push the electrical (magnetic) coil (bayonet clutch) ⑦ against the valve body while turning it anticlockwise (to the left - approximately 30°) until the electrical (magnetic) coil is released from the lock.
5. ➤ Remove the electrical (magnetic) coil.

Installation Requirements:

- ✓ Power supply is disconnected.
- ✓ Water supply has been stopped.


WARNING

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


CAUTION

When connecting the inlet hose ⑥, ensure that the seal ⑨ is correctly positioned in the union nut ⑦.

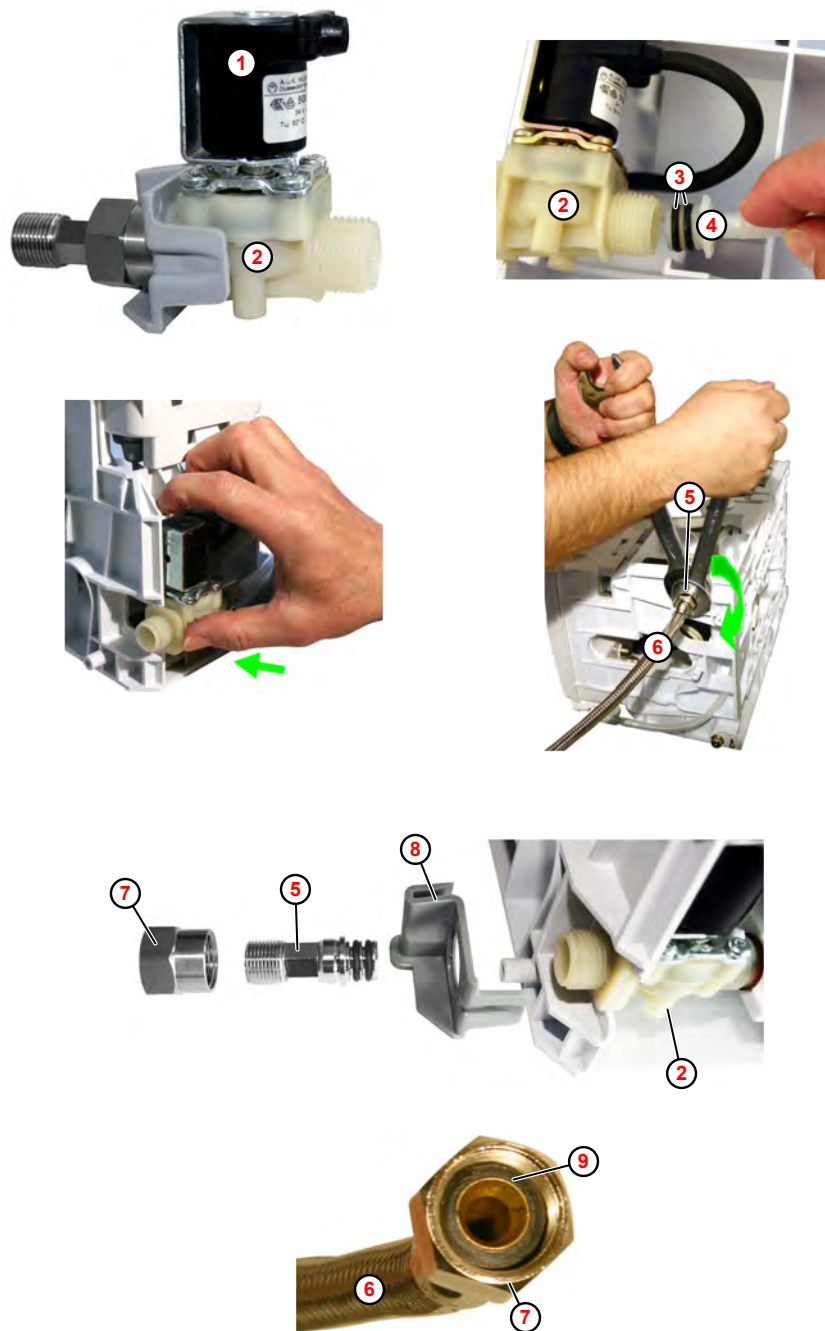


Fig. 20: Solenoid valve assembly

1. ➤ Press the coil (Fig. 20, ①) against the valve body (②) while turning it approx. 30° clockwise (to the right) until the coil audibly clicks into place.
2. ➤ Clean both O-rings (③) on their connecting nipples (④) using a lint-free cloth.
3. ➤ Guide the connecting nipple (④) into the valve (②) until it is flush with the valve housing.
4. ➤ Slide the solenoid valve into the rear wall (tight).
5. ➤ Attach the fastening element (⑧) to the valve body and housing.
6. ➤ Carefully insert the connection adapter (⑤) into the valve body (tight).
7. ➤ Screw the union nut (⑦) onto the valve body.
8. ➤ Screw the inlet hose (⑥) onto the connection adapter.

9. ➔ Use a second open-ended spanner on the connection adapter to counter the force applied.

7.2.8 Removing the unit from the holder

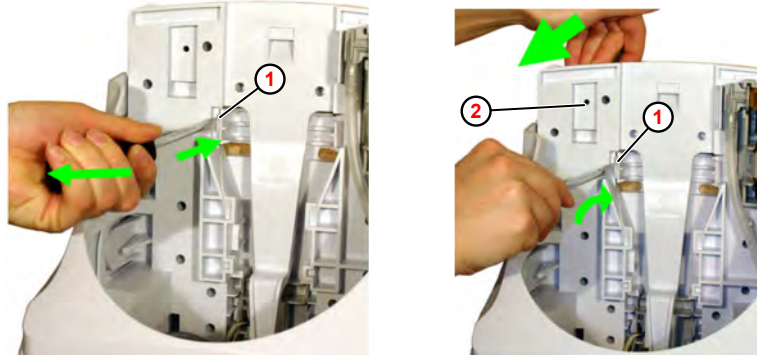


Fig. 21: Removal from the holder (shown with EcoPlus S)

- ① Screwdriver
- ② Unit

Requirements:

- ✓ Funnel is removed.



WARNING

It is only possible to unlock the catch by turning it with a broad, flat blade.
Do not use the screwdriver as a lifting tool.

1. ➔ Insert a large flat-headed screwdriver (Fig. 21, ①) (broad blade) between the catch and the rear wall of the unit.
2. ➔ Turn the screwdriver until the catch opens and, at the same time, pull the unit ② forwards with the other hand.

7.2.9 Disassembling/assembling the nozzle line



WARNING

Never bend the nozzle line or use force.
Connection nipples must not be rotated in the pipe. Do not degrease, soil or damage o-rings.

Requirements:

- ✓ Angle valve for water supply closed.
- ✓ Funnel dismantled. ➔ [Chapter 7.2.3 'Disassembling and cleaning the funnel and outlet hose' on page 67](#)
- ✓ Hood dismantled. ➔ [Chapter 7.2.5 'Removing/installing the hood' on page 69](#)

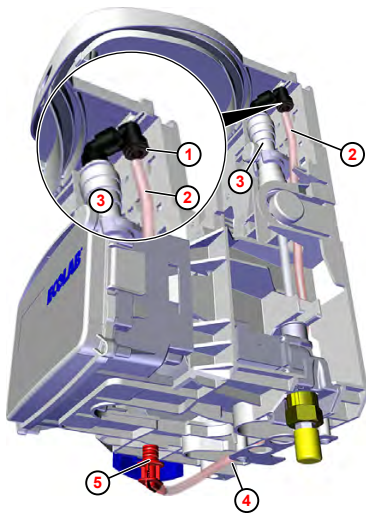


Fig. 22: Disassembling/
assembling the nozzle line

1. ➤ Press in the retaining ring on the plug-in coupling ① and pull the nozzle line ② out of the plug-in coupling.
2. ➤ Unthread the nozzle line downwards from the unit.
3. ➤ Insert the nozzle line ② from below through the opening ④ in the back of the housing.
4. ➤ Pull out the nozzle line up and sideways through the shaft above the solenoid valve.
5. ➤ By turning and threading at the same time, bring the nozzle line into the correct installation position to the double check valve ③.
6. ➤ Remove the protective packaging of the connection adapter ⑤.
7. ➤ Click the nozzle line ② all the way into the plug-in coupling ①.

7.2.10 Removing and installing the peristaltic hose

Disassembly



WARNING

The main switch of the dishwasher must be switched off before any work is carried out on electrical parts.

The following applies to the main switch of the dishwasher:

- The main switch must remain easily accessible at all times.
- The main switch must disconnect all poles
- Before working on the unit, ensure that it is completely de-energised – check both the unit itself and the release signals.

All current international, national and regional safety regulations must be observed in relation to the electrical connection of the unit.



CAUTION

Danger of hand injuries at the peristaltic pump!

When the power supply is switched on, the peristaltic pump may start automatically. With the pump cover removed, there is a risk of hand injuries due to crushing.

- Before carrying out any maintenance or cleaning work, switch off the power supply and secure it against accidental reactivation.
- Ensure that the unit is completely de-energised before beginning work.



Fig. 23: Replacing the peristaltic hose

Replacement/Assembly

1. ➤ Fold up the bracket (Fig. 23, ①) of the peristaltic pump ②.
2. ➤ Use the bracket to pull the housing cover ③ up and out of the housing of the peristaltic pump.
3. ➤ Pull the hose up and out of the peristaltic pump ④.
1. ➤ The scope of delivery (see ➡ [Chapter 3 'Delivery' on page 31](#)) includes a replacement hose ⑤. Insert this into the peristaltic pump ⑥.
2. ➤ Attach the housing cover ③ onto the housing again with the bracket and slide it downwards.
3. ➤ Fold down the bracket ① of the peristaltic pump.
4. ➤ Reconnect the connecting lines ⑦ (inlet and outlet) to the peristaltic pump.

8 Operational faults and troubleshooting

8.1 General troubleshooting and fault rectification

Fault description	Cause	Remedy
No display	GGSM not switched on	Turn on GGSM
	Connection transformer defective	Replace the connection transformer
	Control PCB defective	Replace WWC PCB
Date/time is not saved	Defective or empty CMOS battery	Replace WWC PCB

8.2 Fault messages



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



Fig. 24: No Setup

Fault description	Cause	Remedy
No Setup display	No initial commissioning carried out	Starting up the unit for the first time



Fig. 25: No Detergent Setting

Fault description	Cause	Remedy
No Detergent Setting display	Detergent concentration is not set	Perform the detergent concentration setting



Fig. 26: Error code 201

No.	Fault description	Cause	Remedy
201	Display: Error code 201	Detergent block empty signal	Insert new detergent product
		Incorrect product used	■ Rinse unit and product lines with water ■ Use a suitable detergent block
		Measuring cell defective	Replace measuring cell
		PCB defective	Change PCB



Fig. 27: Error code 203

No.	Fault description	Cause	Remedy
203	Display: Error code 203	Cover open	Close cover
		Ceiling electronics defective	Check cover wiring replace cover if necessary
		Circuit board defective	Change circuit board

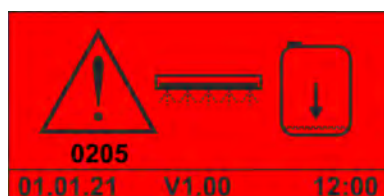


Fig. 28: Error code 205 (liquid rinse aid)

No.	Fault description	Cause	Remedy
205	Display: Error code 205	Liquid rinse air empty signal	Change rinse aid
		Suction pipe defective	Check function, replace if necessary
		PCB defective	Change PCB



Fig. 29: 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



Fig. 30: Error code 251



This alarm is displayed as soon as the tank temperature falls below the permitted minimum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
251	Display: Error code 251	Parameter limit value set too low	■ Adjust value [Display 46] - Note: Where applicable, the choice of position of the measuring cell is unsuitable, the temperature display does not match the GGSM. ■ GGSM defective
		Measuring cell defective	Check measuring cell function, replace if necessary



Fig. 31: Error code 252



This alarm is displayed as soon as the tank temperature rises above the permitted maximum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
252	Display: Error code 252	Parameter limit value set too high	- Adjust parameters [Display 47]. - Note: Where applicable, the choice of position of the measuring cell is unsuitable, the temperature display does not match the GGSM. - GGSM defective.
		Measuring cell defective	Check measuring cell function, replace if necessary

Error code 253

Fig. 32: Error code 253



This alarm is displayed as soon as the rinse aid temperature falls below the permitted minimum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
253	Display: Error code 253	Parameter limit value set too low.	- Adjust parameters [display 63] - Comment: The selected measuring cell position may be unfavourable; the temperature display does not correspond to the GGSM display. - GGSM defective.
		Defective temperature sensor	Check function, replace if necessary



Fig. 33: Error code 254



This alarm is displayed as soon as the rinse aid temperature rises above the permitted maximum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
254	Display: Error code 254	Parameter limit value set too high	- Adjust parameters [display 64] - Note: Where applicable, the choice of position of the sensor is unsuitable, the temperature display does not match the GGSM. - GGSM defective
		Defective temperature sensor	Check function, replace if necessary



Fig. 34: Error code 255

No.	Fault description	Cause	Remedy
255	Display: Error code 255	Water change interval has been exceeded	- Empty and clean commercial dishwasher - or - Adjust parameters as required [display 50]



Fig. 35: Illustration 'measuring cell error'

No.	Fault description	Cause	Remedy
210	Display: Error code 0210	No measuring cell connected	Connect measuring cell
		Temperature < 0° C	Temperature must be > 0° C
		Measuring cell defective (NTC sensor breakage)	Check the measuring cell and replace if necessary
		Cable breakage	Check the wiring and replace if necessary
211	Display: Error code 0211	Measuring cell defective (NTC short-circuit)	Check the measuring cell and replace if necessary
		Temperature > 100°C	Temperature must be < 100°C
		Cable short circuit	Check the wiring and replace if necessary
212	Display: Error code 0212	Measuring cell leaking (LF short-circuit)	Check the measuring cell and replace if necessary
		Cable short circuit	Check the wiring and replace if necessary
		Electromagnetic interference	Install the measuring cell and its cable away from possible sources of electromagnetic interference: ■ Lay the measuring cell cable as far away from the dishwasher pump motor as possible. ■ Do not lay measuring cell cables together with high-voltage cables in a cable duct. ■ Do not install the measuring cell and its cable near frequency-controlled motors, mobile phone antennas or WLAN antennas.



Fig. 36: Illustration 'detergent SQP error'

No.	Fault description	Cause	Remedy
213	Display: Error code 0213	Detergent SQP (short-circuit)	Where applicable, pump back-pressure too high: Check hydraulic lines, where applicable rinse. Check connecting cable. Motor defective, change
214	Display: Error code 0214	Detergent SQP (cable breakage)	Where applicable, pump back-pressure too high: Check hydraulic lines, where applicable, rinse. Check connecting cable. Motor defective, change.



Fig. 37: Error code 1234

No.	Fault description	Cause	Remedy
1001	Display: Error code 1001	RTCC	Change PCB
2xxx	Display: Error code 2xxx	EEPROM U2	- Check whether the EEPROM is correctly plugged into the 8-pin socket - Where applicable, change PCB
3xxx	Display: Error code 3xxx	FRAM U3	Change PCB
4xxx	Display: Error code 4xxx	Flash U4	Change PCB



Please note for alarms 250 to 299: Do NOT stop the dosing!

9 Wear parts, spare parts and accessories

Wear parts and spare parts

Wear parts, spare parts and accessories are listed in a separate spare parts list.



The most recent version of the spare parts list is always available for download.

To download the spare parts list to a PC, tablet or smartphone, use the link below or scan the QR code provided.



Ecoplus PDRX spare parts list

→ http://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ecoplus-PDRX_SMARTPOWER-DET-DISP_SP.pdf

Accessories (optional)

Item	Item designation	Item no.	EBS no.
	Thermal Mixer 1/2" TM50 HW with CK-VALVE THERMAL MIXER TM50	415502443	100110984



Please enquire about this item if required (→ Chapter 1.8 'Contact' on page 13).

10 Technical data

In this chapter you will find the technical data of the EcoPlus PDRX.

Electrical specifications

Data	Value	Unit
Supply voltage (+/- 10%) (via external transformer)	100-240 (50/60)	V AC (Hz)
Control voltage (+/- 5%)	24	V DC
Power consumption (max.)	50	W
Backup fuse (max.)	16	A
Overvoltage category	OVC II	
Protection degree	IP54	
Protection class	II	
Equipment classification (pollution degree)	PD2	

General information

Data	Value	Unit
Water flow rate	3	l/min
Water pressure, dynamic (min.)	2.7 (0.27)	bar (MPa)
Water pressure, static (max.)	6 (0.6)	bar (MPa)
Water temperature (max.)	60	°C
Water quality: Drinking water (min.)	3	°d
Water inlet connection:	G 1/2, G 3/8	
Product line Ø internal (appliance - GGSM) PVC-fabric hose	19	mm

Dimensions and weight

Data	Value	Unit
Dimensions with SQP (W x D x H)	395 x 280 x 470	mm
Weight (approx.)	9,3	kg

Ambient conditions

Data	Value	Unit
Permissible ambient temperature	10 - 40	°C
Humidity (max.)	80	%
Max. operating altitude (above sea level)	2.000	m
Approved area of application	Indoors (wet environment)	



Installation is permitted only in closed, frost-protected rooms.

WWC mains isolation module

Data	Value	Unit
Input voltage ($\pm 10\%$)	230 (50/60)	V AC (Hz)
Output voltage ($\pm 5\%$)	24	V DC
Max. current consumption (per channel)	< 3	mA
Max. current consumption (total)	< 9	mA

Control PCB



The technical data for the control PCB 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.

Tab. 4: Complete operating instructions for download



**Download of operating instructions WWC PCB
(article no. MAN049685):**

↪ [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)

Nameplate The nameplate contains the key technical information about the EcoPlus PDRX.



You will need the information on the nameplate whenever you contact Ecolab Customer Services.

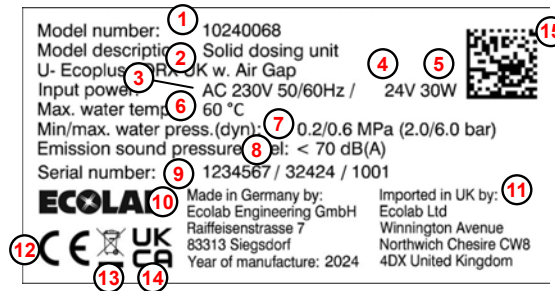


Fig. 38: Nameplate EcoPlus PDRX

- | | |
|---|---|
| ① Part number | ⑩ Manufacturer address |
| ② Unit name | ⑪ Importer in UK |
| ③ Voltage [V] / power frequency [Hz] | ⑫ Note on CE conformity |
| ④ Control voltage | ⑬ Disposal regulation |
| ⑤ Power consumption [W] | ⑭ Protection class Marking Type 2 |
| ⑥ Max. water temperature | ⑮ Data matrix code containing the following:
part number,
production code |
| ⑦ Min/max. Water pressure | |
| ⑧ Noise pressure level | |
| ⑨ 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 (consecu-
tive number starting with 1001) | |

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 dangerous products, the prescribed protective clothing (safety goggles, protective gloves, apron if necessary) must be used because of the risk of burns.

When working on the electrical connection of a dispenser unit (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 procedure

1. ➤ Disconnect power to the unit.
2. ➤ Remove the detergent capsule.
3. ➤ Remove chemical residues from the funnel, e.g. by cleaning in GGSM.
4. ➤ Insert the empty chemical capsule, power on the unit and operate it using clean water for a few minutes.
5. ➤ Close the water supply inlet (via an 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

A

Access code	58
Additional instructions	
Control PCB	51
Assembly	
Please note: Use of incorrect tools	28, 63

B

Basic functions	
Access code	58
Booster	58
Standby	57
Switch on	57
Booster	58

C

Changing the container	
Risk of slipping due to escaping liquids	26
Clean the unit	66
Complete machine	
Definition	15
Complete operating instructions	
Downloads	5
Contacts	
Manufacturer	13
Control description	
Key functions	36
Programme structure	53
Symbols	52
Copyright	
Operating instructions	8

D

Damage	
due to moisture	11
Dangers	
due to moisture	11
Definition	
Complete machine	15
Machinery Directive	15
Design	35
DocuApp	
Android App	6
For Windows	6
Installation iOS (Apple) systems	6
Installing Android systems	6
iOS (Apple) App	6
Dosing media	
Validated products	16
Downloads	
Complete operating instructions	5

E

Equipment marking	
Rating plate	11
Explanations of instructions	
Earthing	24, 45
Hazard - Automatic start-up	26
Hazard - Chemical products	27
Hazard - Risk of fire	26

Hazard - Risk of slipping	26
Protective conductor connection	45
Protective earth connection	24

F

Function	35
----------------	----

H

Hazards	
Safety data sheets	23

I

Improper transportation	9
Improper use	16
Installation, maintenance or repair work	
Please note: Incorrect procedure	28, 64
Intended use	16
Approved dosing media	16
Exclusion of liability	16
Obligations of the operator	17
Unauthorised modifications and spare parts	16
IOS (Apple) app	
Download	6

L

Lists	
Representation	8

M

Machinery Directive	
Definition	15
Main Manual	
Downloads	5
Maintenance	
Definition	64
Life span	16
Maintenance log	65
Please note: Use of incorrect tools	28, 63
Reliability	64
Maintenance work	
Cleaning	66
Manufacturer	
Contact	13
Markings	
Representation	8
Metering chemical	
Safety data sheets	23
Metering media	
Protective equipment	20
Safety data sheet	20
Validated products	20
Mixing of different chemicals	
Safety	22

N

Note	
Intermediate storage	10
Storage	10

O		
Operating conditions		
Safety data sheets	23	
Operating faults		
General troubleshooting	79	
Operating instructions		
Always call up the latest operating instructions ...	6	
Copyright	8	
Item numbers / EBS numbers	8	
Other markings	8	
QR code for the WWC PCB operating instructions	51	
QR code for WWC PCB operating instructions ..	90	
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	
QR code operating instructions WWC PCB	5	
Operating steps		
Representation method	7	
Operation		
Access code	58	
Booster	58	
Standby	57	
Switch on	57	
P		
Packaging		
Disposal instructions	9	
Packaging size		
of the delivery	8	
Packaging weight		
of the delivery	8	
Personal protection equipment		
PPE	30	
Personnel requirement		
Unskilled workers without special qualifications	19	
Personnel requirements		
Qualifications	18	
Programme structure	53	
Q		
QR code		
Contacting the manufacturer	13	
DocuAPP manual	6	
Download of safety data sheets	23	
Downloads	5	
R		
Rating plate	11	
Reasonably foreseeable incorrect use	16	
Reference source		
Complete operating instructions	5	
References		
Representation	8	
Removal		
Please note: Use of incorrect tools	28, 63	
Repair		
Risk of slipping due to escaping liquids	26	
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	
Risk of slipping due to escaping liquids		
Changing the container	26	
Repair	26	
Service	26	
Workspace	26	
S		
Safety		
Automatically starting components	45	
Burns	21, 27	
Burns due to leakage	21	
electrical energy	24	
Explosion protection	16	
Foreseeable misuse	16	
General handling of the system	15	
Hazard caused by the metering medium	27	
Hazardous area	25	
Improper transportation	9	
Maintenance log	65	
mixing of different chemicals	22	
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	22	
Risk of slipping	26	
Risk of slipping due to escaping liquids	26	
Safety data sheets	23	
Safety signs	29	
Serious injuries due to leakages	27	
Serious injury from leaked fluids	21	
Staff instruction	17	
Staff training	17	
Uncontrolled chemical spills	21	
Safety data sheets		
Download	23	
General information	23	
Safety	23	
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	103	
Security		
Components under pressure	25	

Service	
Risk of slipping due to escaping liquids	26
Set up dishwasher	
Setup	55
Setup	55
Signal words	
Representation in the manual	7
Staff instruction	
Safety	17
Staff requisition	
Unauthorised personnel	20
Staff training	
Safety	17
Standby	57
Start-up	
of damaged equipment	9
Storage	
Conditions	10
Interim storage conditions	10, 11
Observe instructions	10
Switch on	57
Symbols	
Representation in the manual	7
T	
Technical data	
Control PCB	90
Tips and recommendations	
Representation method	7
Transport inspection	
Checking the delivery	9
U	
Uncontrolled chemical spills	
Safety	21
Use	16
User interface	
Key functions	36
Symbols	52
User Manual	
DocuApp	6
Go to the instructions in the DocuAPP for Windows®	6
Safety instructions in the operating instructions ..	7
Tips and recommendations	7
View on your smartphone/tablet	6
V	
Validated metering media	
Safety data sheets	23
W	
Warranty	
Guarantee	11
What to do	
if there is an uncontrolled chemical spill	21
Workspace	
Risk of slipping due to escaping liquids	26

Appendix

Appendix - Table of contents

A	Ecolab representatives and service partners.....	103
B	Certificates.....	107
B.1	EC Declaration of Conformity.....	107

A Ecolab representatives and service partners

Addresses outside Europa

Ecolab Center

USA



370 N. Wabasha Street
St. Paul, Minnesota 55102-2233

☎ (001) 651 293 2233

📠 (001) 651 293 2092

Addresses in Europe

Ecolab Germany GmbH

Germany



Ecolab-Allee 1
D-40789 Monheim am Rhein

☎ +49 2173 5991900

📠 +49 (0)2173 599-89173

Ecolab S.A.

Greece



280 Kifisias Av. and 2 Idras Str.
15232 Halandri, Athen

☎ (0030) 210 6873700

📠 (0030) 210 6840325

Ecolab Hispano-Portuguesa, S.L.

Spain



Avenida Del Baix Llobregat 3-5
08970 Sant Joan Despi
(Barcelona)

☎ (0034) 93 475 89 00

📠 (0034) 93 477 00 75

Ecolab BV

Netherlands



Iepenhoeve 7a +7b
NL-3438 MR Nieuwegein

☎ (0031) 30 60 82 222

📠 (0031) 30 60 82 228

Ecolab UK Ltd.

United Kingdom



David Murray John Building,
Swindon, Wiltshire SN1 1 ND

☎ (0044) 1 793 54 87 80

📠 (0044) 1 793 54 88 92

Ecolab d.o.o. Maribor

Slovenia



Vajngerlova 4
Postfach 1007 SLO-2001 Maribor

☎ (0038) 2 42 93 100

📠 (0038) 2 42 93 152

Ecolab Austria

Austria



Rivergate D1/4OG, Handelskai 92
A-1200 Vienna

☎ (0043) 810 312586

📠 (0043) 1 7152550-2852

Ecolab a.s.

Norway



Stålverksvägen 1, Postboks
6440 - Etterstad N-0605 Oslo

☎ (0047) 22 68 18 00

📠 (0047) 36 15 85 99

Ecolab EOOD

Bulgaria



Tsarigradsko chaussee Blv. 115A
BG-1784 Sofia

☎ (00359) 29 76 80 30

📠 2 976 80 50

OY Ecolab Ab

Finland

Henkel Ecolab Kft.

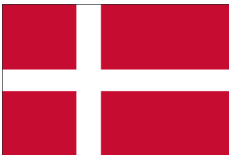
Hungary

Ecolab d.o.o.

Croatia



	Mäkelänkatu 54 A FIN-00241 Helsinki ☎ (00358) 207561400 📠 (00358) 9 39 65 53 05	David Ferenc. u. 6 H-1519 Budapest, Pf. 429 ☎ (0036) 1 372 55 76 ☎ (0036) 1 372 55 73 📠 (0036) 1 209 15 44 📠 (0036) 1 372 55 46	Zavrtnica 17 10000 Zagreb ☎ (00385) 1 6321 600 ☎ (00385) 1 880 5771 📠 (00385) 1 6321 633
Belgium	Noordkustlaan 16C B-1702 Groot Bijgaarden ☎ (0032) 24675111 📠 (0032) 24675100	ul. Opolska 114 PL-31-323 Kraków ☎ (0048) 12 2616 100 📠 (0048) 12 2616 101	Vizyon Bulvar No: 13 Kat: 1 No: 65 Esentepe Mah. Cevizli-Esentepe E-5 Yanyol Cad. Kartal, ISTANBUL TR 34870 ☎ (0090) 216 458 6900 📠 (0090) 216 458 6904
France	Ecolab SNC 23 Avenue Aristide Briand, CS 70107 F-94112 Arcueil CEDEX ☎ (0033) 1 49 69 65 00	Ecolab Ireland Forest Park, Mullingar Industrial Estate, Mullingar Co. Westmeath, Ireland ☎ (0035) 1 276 3500 📠 (0035) 1 286 9298	Ecolab AG Kriegackerstrasse 91 CH-4132 Muttensz ☎ (0041) 61 46 69 408 📠 (0041) 61 46 69 455
Czech Republic	Ecolab s.r.o. Vocetářova 2449/5 CZ-180 00 Praha 8 ☎ (00420) 296 114 040 📠 (00420) 54 22 11 227	Ecolab Hispano-Portuguesa TagusPark, Avenida Prof. Doutor Cavaco Silva Edifício Qualidade, B1-1B 2740-122 Porto Salvo ☎ (0035) 1 214 48 0750 📠 (0035) 1 214 48 0787	CJSC Ecolab Letnikovskaya str., 10, bld. 4, 6th floor 115114 Moscow ☎ (007) 495 9807060
Sweden	Ecolab AB	Ecolab S.r.l.	Ecolab LLC

	Götalandsvägen 230, Hus 23 S-125 24 Älvsjö ☎ (0046) 8 6032 200	Via Trento, 26 20871Vimercate - MB ☎ (0039) 039 60501 ☎ (0039) 039 6050300	Geroiv Kosmosu Street 4. Floor 8. Office 805 03148 Kiev ☎ (0038) 0 4449431-20 ☎ (0038) 0 4449422-56
	Ecolab ApS	Ecolab s.r.o.	Ecolab SRL
Denmark	 Høffdingsvej 36 2500 Valby ☎ (0045) 36 15 85 85 ☎ (0045) 36 15 85 48	 Cajakova 18 SK-811 05 Bratislava ☎ (00421) 2 572049-15 ☎ (00421) 2 572049-28	 Șoseaua Păcurari 138 700545 Iași ☎ (0040) 232 222 210 ☎ (0040) 232 222 250

B Certificates

B.1 EC Declaration of Conformity

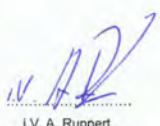
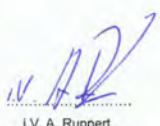
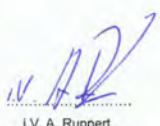
D	GB	F								
Konformitätserklärung / Declaration of Conformity / Déclaration de Conformité										
										
<table border="0"> <tr> <td>gemäß EG Richtlinie</td> <td>2006/42/EG, Anhang II 1A</td> </tr> <tr> <td>referring to EC Directive</td> <td>2006/42/EC, Annex II 1A</td> </tr> <tr> <td>référant à la EC directive</td> <td>2006/42/EC, Annexe II 1A</td> </tr> </table>			gemäß EG Richtlinie	2006/42/EG, Anhang II 1A	referring to EC Directive	2006/42/EC, Annex II 1A	référant à la EC directive	2006/42/EC, Annexe II 1A		
gemäß EG Richtlinie	2006/42/EG, Anhang II 1A									
referring to EC Directive	2006/42/EC, Annex II 1A									
référant à la EC directive	2006/42/EC, Annexe II 1A									
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										
<table border="0"> <tr> <td>Beschreibung / description / description</td> <td>Feststoffdosiergerät dosing unit for solid products Unité de dosage pour solides</td> </tr> <tr> <td>Modell / model / modèle</td> <td>Ecoplus S-series, Ecoplus P-series with integrated P-Pump</td> </tr> <tr> <td>Typ / part no / type</td> <td>1721ff</td> </tr> <tr> <td>Gültig ab / valid from / valable dès:</td> <td>2020-03-12</td> </tr> </table>			Beschreibung / description / description	Feststoffdosiergerät dosing unit for solid products Unité de dosage pour solides	Modell / model / modèle	Ecoplus S-series, Ecoplus P-series with integrated P-Pump	Typ / part no / type	1721ff	Gültig ab / valid from / valable dès:	2020-03-12
Beschreibung / description / description	Feststoffdosiergerät dosing unit for solid products Unité de dosage pour solides									
Modell / model / modèle	Ecoplus S-series, Ecoplus P-series with integrated P-Pump									
Typ / part no / type	1721ff									
Gültig ab / valid from / valable dès:	2020-03-12									
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)										
ISO 12100:2010 EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019 EN IEC 61000-6-2:2019 EN 61000-6-3:2007 + A1:2011 EN IEC 63000:2018 EN 1717:2000										
gemäß den Bestimmungen der Richtlinie(n): following the provisions of directive(s): conformément aux dispositions de(s) directive(s):										
2006/42/EC 2014/30/EU 2011/65/EU										
Bevollmächtigter für die Zusammenstellung der technischen Unterlagen: Authorised person for compiling the technical file: Personne autorisée pour constituer le dossier technique:										
<table border="0"> <tr> <td> Ort und Datum der Ausstellung Place and date of issue Lieu et date 83313 Siegsdorf, 2020-03-12 </td> <td> Ecobab Engineering GmbH Postfach 1164 D-83309 Siegsdorf  M. Niederbichler Geschäftsführer Company Manager Directeur </td> <td>  I.V. A. Ruppert Entwicklung und Konstruktion Research & Development Développement et la Construction </td> </tr> </table>			Ort und Datum der Ausstellung Place and date of issue Lieu et date 83313 Siegsdorf, 2020-03-12	Ecobab Engineering GmbH Postfach 1164 D-83309 Siegsdorf  M. Niederbichler Geschäftsführer Company Manager Directeur	 I.V. A. Ruppert Entwicklung und Konstruktion Research & Development Développement et la Construction					
Ort und Datum der Ausstellung Place and date of issue Lieu et date 83313 Siegsdorf, 2020-03-12	Ecobab Engineering GmbH Postfach 1164 D-83309 Siegsdorf  M. Niederbichler Geschäftsführer Company Manager Directeur	 I.V. A. Ruppert Entwicklung und Konstruktion Research & Development Développement et la Construction								

Fig. 39: CE Declaration for the EcoPlus-S and EcoPlus-P series

Ecolab Engineering GmbH
Raiffeisenstraße 7
D-83313 Siegsdorf, Germany
Telephone: +49 (0) 86 62 / 61 0
Fax: +49 (0) 86 62 / 61 235
Email: engineering-mailbox@ecolab.com
Internet: <http://www.ecolab-engineering.com>

MAN054265, 2, en_GB
MAN054265 Rev. 02-09.2026

01.10.2026