

Hydroflex

USER MANUAL



PurMop BLACK®

C1/C2

Carbon Fiber Mop Systems

Telescopic Handle & Frame

BLACK
PERFOR
MANCE
LINE

PurMop BLACK® C1/C2 INSTRUCTIONS FOR USE

Carbon Fiber Mop Systems

Congratulations, and thank you for deciding to purchase a Hydroflex product. With our cleanroom cleaning solutions we offer quality, safety and reliability right from the get-go. To ensure the lasting quality of our solutions on a long-term basis, we have summarized the most important instructions for using our PurMop BLACK® carbon fiber mop systems in the following user guide.

SYMBOL GUIDE

This manual is divided into function-based and task-oriented chapters. Warnings and important notes are presented separately from the general texts and marked with corresponding symbols. The symbol alone, however, cannot replace the text of the safety instructions. Please therefore be sure to carefully read the

entire text of the safety advice. The warnings and important notes in this manual are categorized as follows, with different symbols used to show the degree of danger involved.



WARNING

There is a **risk of injury or material damage** if the instructions are not followed precisely or the conditions described are not observed.



IMPORTANT

Indicates special conditions or additional important information on the topic in question.



INFO

Contains additional information on properties/factors that make work easier or recommendations on the topic in question.

CONTENTS

1. ASSEMBLY
2. FUNCTIONS
(length adjustment, mop pick-up, mop saturation, wiping direction)
3. HOW TO USE (ceiling/wall/floor cleaning, mop discarding)
4. CLEANING AND MAINTENANCE
5. AUTOCLAVING INSTRUCTIONS
6. MATCHING PRODUCTS
(dry/presaturated mops, cleaning trolleys)
7. DISPOSAL/WARRANTY/CONTACT DETAILS

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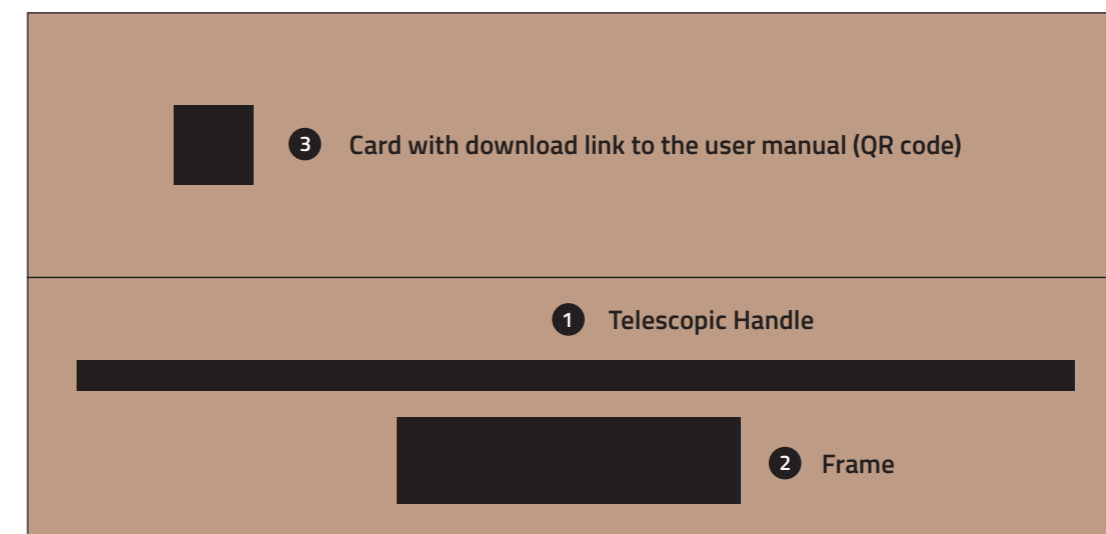
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PurMop BLACK® C1/C2 BOX CONTENTS

Carbon Fiber Mop Systems



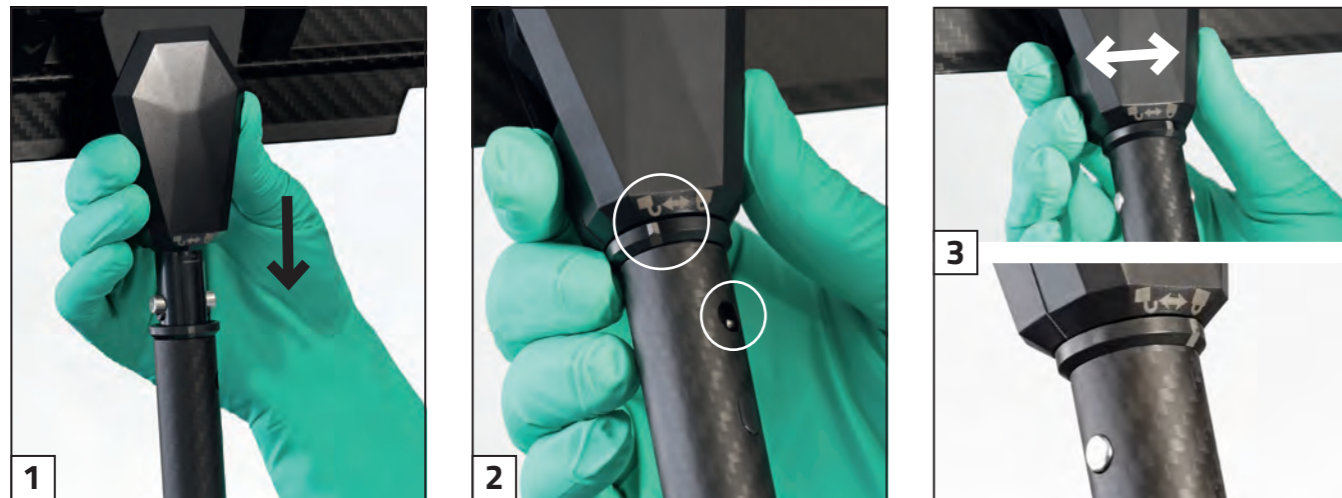
PurMop BLACK® C1/C2 ASSEMBLY

Carbon Fiber Mop Systems

CONNECTING THE FRAME TO THE HANDLE

A quick-release adaptor allows you to easily attach the frame to the handle:

1. Insert the mop frame into the handle.
2. Push together the frame and the handle.
3. Fix the frame in place by twisting it as shown in the diagram on the frame. The marked line on the handle and the padlock symbol (locked) on the frame must line up. The lock pins must click into place in the holes of the handle.



PurMop BLACK® C1/C2 FUNCTIONS

Carbon Fiber Mop Systems

First assemble the carbon fiber mop system as described in the assembly instructions (1).



INFO: Before use, the carbon fiber mop system must be prepared for cleanroom applications. For this, please refer to the "Cleaning and Maintenance Instructions" (Chapter 4) and "Autoclaving Instructions" (Chapter 5).



WARNING: Risk of injury by falling handle!
When using a cleaning trolley, place the handle in the handle holder to prevent it from falling.

LENGTH ADJUSTMENT I (floor cleaning)



Press the button on top of the handle to release the braking mechanism.



Adjust the handle to the desired height and release the button to lock it in place.

LENGTH ADJUSTMENT II (wall/ceiling cleaning)



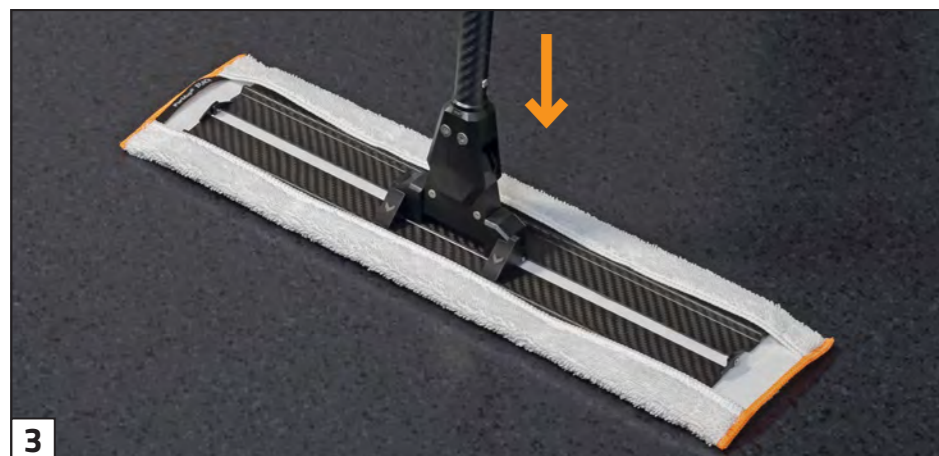
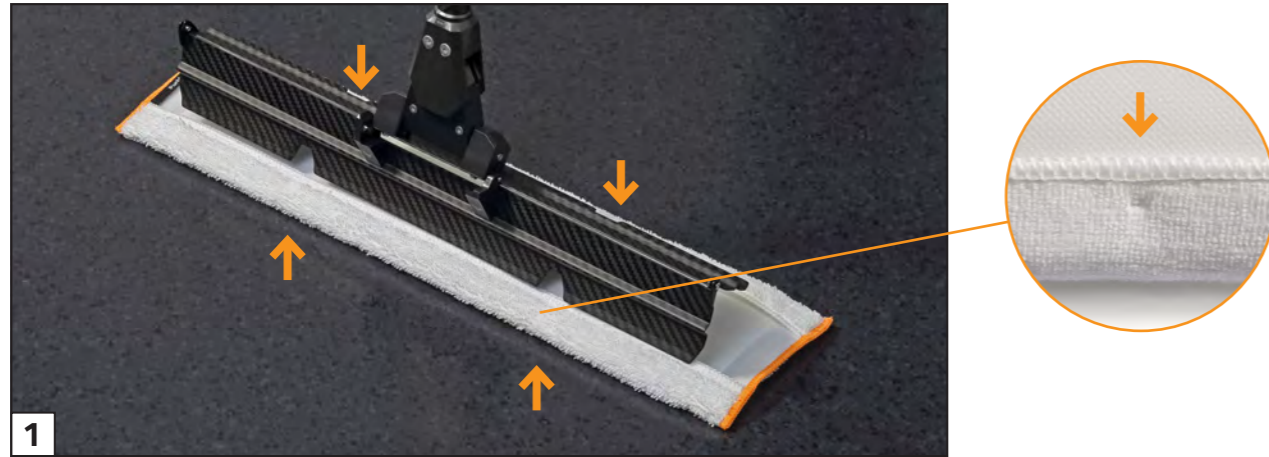
Press the lower button.



Pull the handle to the desired length and release the button to lock it in place.

MOP PICK-UP (without cleaning trolley)

1. Position the frame in the middle of the mop opening.
Make sure that the four notches in the plates line up with the markings/stitches sewn into the mop.
2. Let the frame slide into the mop pockets.
3. Push down lightly to attach the mop to the frame.

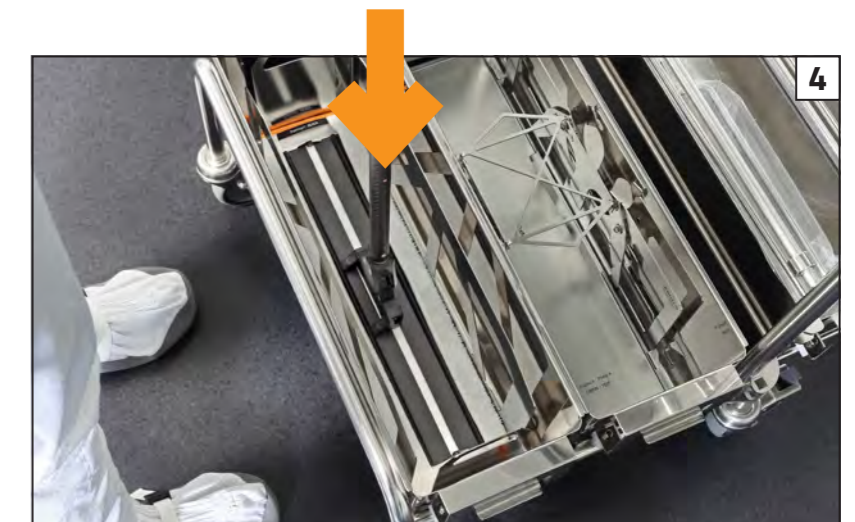


PurMop BLACK® C1/C2 FUNCTIONS

Carbon Fiber Mop Systems

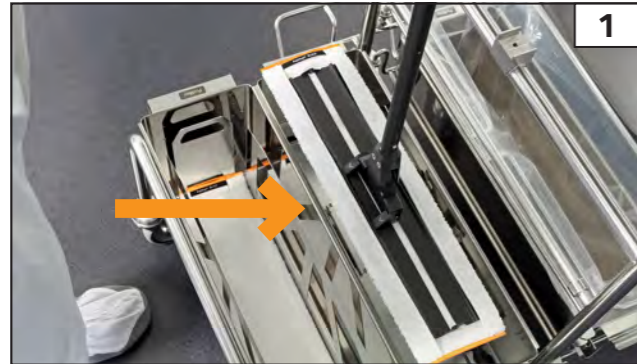
MOP PICK-UP with the PurMop BLACK® 2.0 ERGO-SB

1. Open the mop bag.
2. Slide the mops into the mop holder.
3. Position the frame centrally over the mop.
4. Push down lightly so that the frame slides into the mop pockets, and then lock in place to attach the mop.



MOP SATURATION with the PurMop BLACK® 2.0 ERGO-SB

Place the mop on the mop dosing unit (filled with liquid).

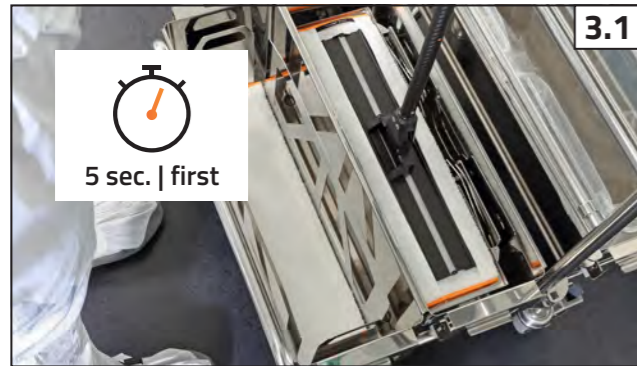


Push down the mop to lift up the WPE4 liquid plate.



Floor cleaning

Hold the mop down for five seconds so that it can absorb the liquid off the plate, then release the pressure.



Repeat the procedure a second time to achieve maximum saturation.



Wall/Ceiling cleaning

Hold the mop down for one second, then release the pressure.

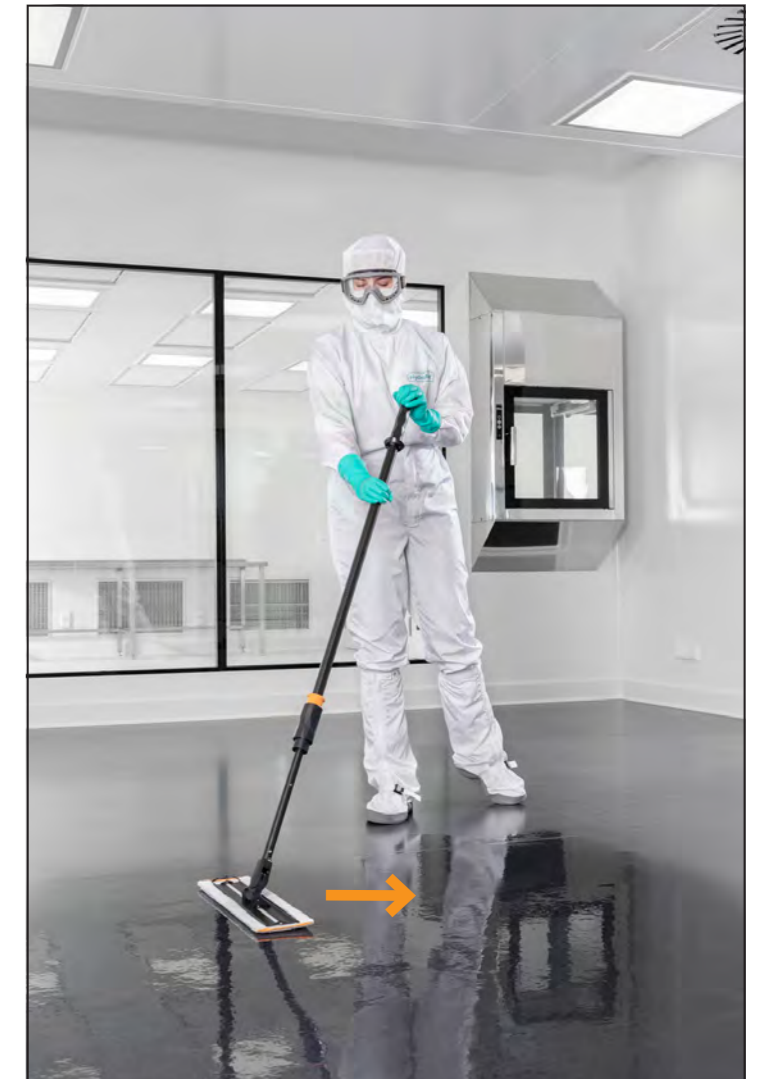


To prevent liquid from dripping from the mop, the saturation procedure should not be repeated when cleaning walls and ceilings.

PurMop BLACK® C1/C2 FUNCTIONS Carbon Fiber Mop Systems

WIPING DIRECTION

The frame contains two arrows that indicate the wiping direction. These are designed as a guide to ensure that the mop is always used in the same forward direction.



PurMop BLACK® C1/C2 FUNCTIONS

Carbon Fiber Mop Systems

THE BENEFITS AT A GLANCE

The perfect pairing: the Carbon Fiber Mop System & PurMop BLACK® Mops

Two special features

The new CFRP mop system offers two innovations that are particularly important when cleaning walls and ceilings. Firstly, a second length adjustment button in the middle of the handle makes work easier for the user and enables you to easily reach even the most remote corners. Secondly, the automatic centering system of the mop frame makes handling considerably easier by enabling optimal control of the frame position at all times.



„BLACK48“ – the new mop design

„48“ – this is 8 cm more mop size, more surface, more fluid distribution and more dirt pick-up.

The new pocket design prevents the mop from slipping during the wiping process and provides an even cleaning performance while requiring little effort.



„Wing Technology“ for optimal corner cleaning

Specially designed wings, integrated into each end of the mop, allow for effective cleaning of curvatures, coving and corners. The flexible,

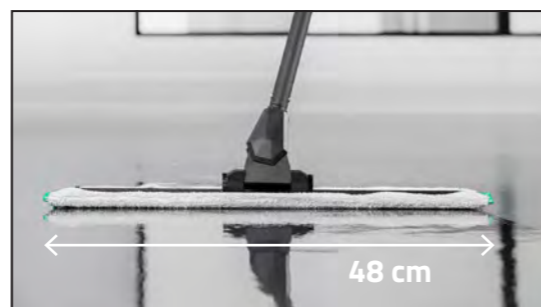
foldable wings adjust to fit the space, thus allowing ergonomic and safe cleaning of hard-to-reach areas.



„Enhanced performance“ for maximum surface coverage

A new mop size – halving the number of times you need to replace your mop head.

The combination of well-proven polyester micro-fiber and a new mop size means that fewer mops are needed to cover the same surface area. This will reduce mop consumption and ensure maximum sustainability.

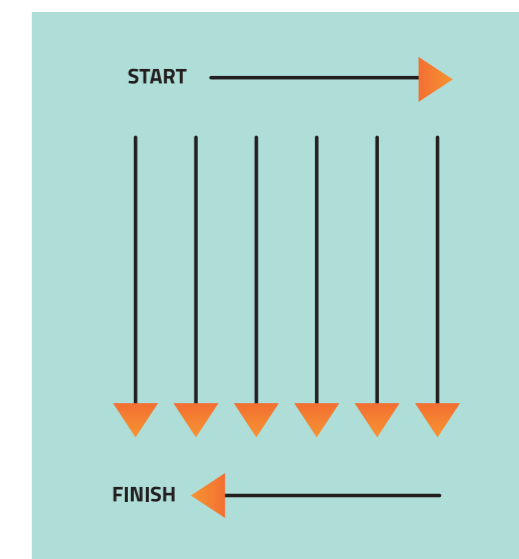


PurMop BLACK® C1/C2 HOW TO USE

Carbon Fiber Mop Systems

CEILING CLEANING

with the Carbon Fiber Mop System & PurMop BLACK® Mops



IMPORTANT: When wiping the ceiling, ensure that the wiped lanes overlap.



IMPORTANT: Maintain the wiping direction shown on the frame during the entire wiping procedure.

Begin with an initial wiped lane going horizontally along the edge of the (part-) area to be cleaned.

Next, clean the ceiling in single, parallel vertical wiped lanes (laminar method).

Finally, wipe in a straight line running horizontally below the already cleaned area.

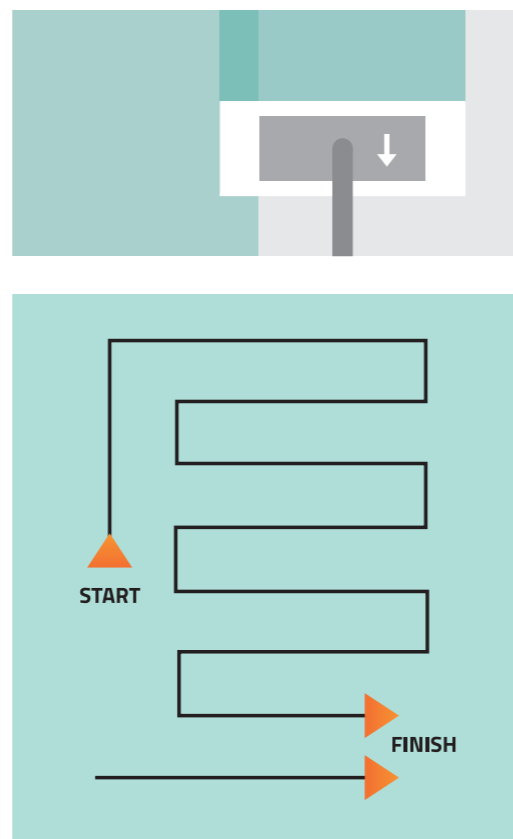
WALL CLEANING

with the Carbon Fiber Mop System & PurMop BLACK® Mops



! **IMPORTANT:** When wiping the walls, ensure that the wiped lanes overlap.

! **IMPORTANT:** Maintain the wiping direction shown on the frame during the entire wiping procedure.



Begin with an initial wiped lane along the top edge of the wall.

Continue the lane down the wall from top to bottom with figure-of-eight movements.

Finally, wipe the bottom edge of the wall in a straight lane.

PurMop BLACK® C1/C2 HOW TO USE

Carbon Fiber Mop Systems

FLOOR CLEANING

with the Carbon Fiber Mop System & PurMop BLACK® Mops



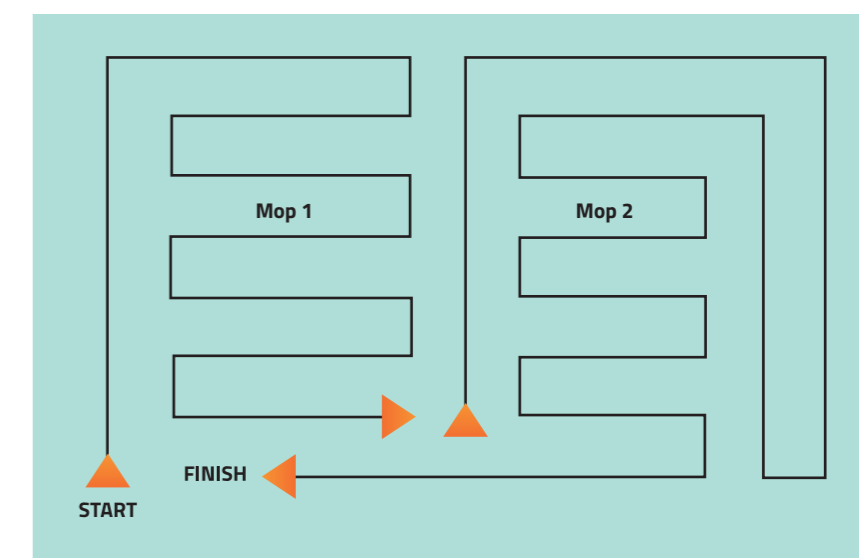
! **IMPORTANT:** When wiping the floor, ensure that the wiped lanes overlap.

! **IMPORTANT:** Maintain the wiping direction shown on the frame during the entire wiping procedure.



The first wiped lane should be along the corners and edges of the (part-) area that needs to be cleaned (approx. 30–40 m²).

To avoid wiping gaps, the second wiped lane should be performed backwards, in looped lanes without lifting the mop (figure-of-eight method).



PurMop BLACK® C1/C2

HOW TO USE

Carbon Fiber Mop Systems

MOP DISCARDING

1. Place the frame over the disposal bag.
2. Press the release button on the handle to release the locking mechanism of the frame.
3. Drop the used mop into the bag.



PurMop BLACK®
Application video
YouTube

PurMop BLACK® C1/C2

CLEANING AND MAINTENANCE

Carbon Fiber Mop Systems

The PurMop BLACK® carbon fiber mop system is made of high-quality carbon material (CFRP). To preserve its durability and ensure maximum functionality over a long time, we recommend that you observe the cleaning and maintenance instructions described below.



IMPORTANT: Gross disregard of the cleaning and maintenance instructions recommended in this manual may void the warranty.

1. GETTING STARTED

After delivery, the components should first be visually inspected. Before using the mop system for the first time, you must carefully clean the components by hand to remove any dirt or residue. Only once you have cleaned the components, you can bring them into the cleanroom – in accordance with your internal cleanroom protocol (SOP).

2. CLEANING

PREPARATION FOR CLEANING

First, disconnect the frame from the handle. The handle must be extended to its maximum length to fully clean all the round tube. When cleaning the handle, clean the entire tube and the buttons with a wiper.

All components must be cleaned carefully after every use. A cleanroom-compliant wiper and pure water or alcohol should be used to clean the components.

3. DISINFECTION

The wipe/surface disinfection method should be used to disinfect the components. The facility's internal regulations for the disinfection of cleanroom equipment must be observed in accordance with the operator's cleanroom protocol. Please ensure that the disinfectant used does not react to the component material used (CFRP) – this must be checked in advance. It is essential that the components are cleaned thoroughly. Any disinfectant residue must be removed; we recommend using alcohol disinfectant with no additives.

4. AUTOCLAVING / STERILIZATION

For information on this topic, please refer to the "Autoclaving Instructions" (Chapter 5).

5. STORAGE

Before storage, ensure that the components have been carefully cleaned without leaving any residue, disinfected/sterilized and dried. The components should be stored in accordance with the facility's internal regulations to maintain hygiene and sterility.

6. MATERIALS / RESISTANCE

The components are made of high-quality carbon-fiber-reinforced plastic (CFRP) and polyetherimide (PEI) as well as PPSU plastic. All surfaces are smooth. They therefore offer excellent stability and a long service life provided that they are not damaged or subjected to stress due to improper use (e.g. long contact time with aggressive chemicals or scratches that damage the surface of the product).

7. WARNINGS

Disinfectants containing acetone must not be used. Acetone has negative effects on the material properties (softening, deformation, decay).

CHEMICAL RESISTANCE

Please note: After each application of using chemicals, we recommend that you clean the components with an alcohol disinfectant to guarantee that the PurMop BLACK® carbon fiber mop system continues to function perfectly.

To ensure that the carbon fiber, PEI and PPSU cleanroom cleaning systems remain damage free even after long periods of contact with cleaning products and disinfectants, their chemical resistance has been verified in complex tests, and the materials have been consequently adapted. The high-performance plastic is resistant to regular wipe and wash disinfection and is also suitable for the long-term use of products containing peroxides and chlorides.

| GROUP OF SUBSTANCES | REPRESENTATIVE TEST WITH | CONCENTRATES USED | CFRP RESISTANCE | PLASTIC RESISTANCE | MAX. RECOMMENDED CONTACT TIME |
|---|--------------------------|-------------------|-----------------|--------------------|-------------------------------|
| Quaternary ammonium compounds | QT | 4,00 % | High resistance | High resistance | 24 hours |
| Diamines | AN | 4,00 % | | | |
| Alcohols | DE | 70,00 % | | | |
| | Isopropanol | 99,90 % | | | |
| Chlorine and organic or inorganic substances with active chlorine | Sodium hypochlorite | 0,50 % | | | |
| | | 12,50 % | | | |
| Alkalis | Sodium hydroxide | 10,00 % | | | |
| Acids | Phosphoric acid | 8,50 % | | | |
| Hydroperoxide | OX | 6,0 % - 0,4 % | | | |
| | Hydrogen peroxide | 6,00 % | | | |
| Ketone | Acetone | 99,50 % | Low resistance | Low resistance | Use not recommended |

This document contains reference values. These values can be influenced by processing conditions, modifications and environmental influences and do not exempt users from conducting their own tests. No legally binding assurance of specific properties or suitability for a concrete purpose can be derived from the details provided.

PurMop BLACK® C1/C2 CLEANING AND MAINTENANCE

Carbon Fiber Mop Systems

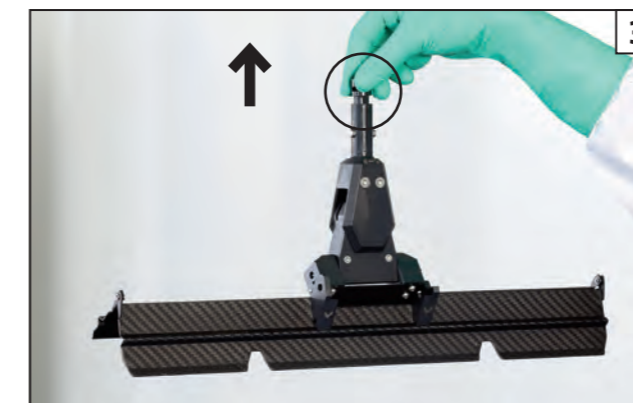
CLEANING THE FRAME

After use, make sure you first remove any residues – dirt or chemicals – from the cleaning tool.

NOTE: In the event of heavy contamination with salty residues, we recommend cleaning the mop frame under running water.

For optimal and convenient cleaning, we recommend that you disconnect the frame from the handle. After disconnecting the frame, clean it by using an isopropanol-soaked wipe. We recommend a presaturated wipe with a mixture of alcohol and purified pharma water (70 % / 30 %).

1. Disconnect the frame by pushing in both pins at the same time and twisting the frame to the left [c.f. "Connecting the frame to the handle" (1)].
2. Clean the frame plates.
3. Pull the connector upwards to fold the plates.
4. Clean the plastic parts.



PurMop BLACK® C1/C2 CLEANING AND MAINTENANCE

Carbon Fiber Mop Systems



CLEANING THE HANDLE

After use, the product must be thoroughly cleaned in accordance with the instructions (1–5) to ensure proper functionality. After disconnecting it from the frame, clean the handle using a microfiber nonwoven wipe moistened with isopropanol. For optimal performance, we recommend using a pre-saturated cleanroom wipe with alcohol and purified pharmaceutical-grade water (70% / 30%).

1. Pull the holder off the handle (see page 4/assembly).
 2. Press the length adjustment button (see page 5/functions). Fully extend the handle.
 3. Cleaning the inner tube:
 - Using a damp IPA wipe, thoroughly wipe the extended tube (inner tube).
 - Keep the length adjustment button pressed.
 - Move the handle in and out several times. While doing so, briefly release the length adjustment button several times.
 - This allows the liquid to enter the mechanism.
- !** **IMPORTANT:**
- Do not use additional liquid.
 - Do not immerse or spray.
 - Excess liquid can damage the mechanism.
 - Use only pre-saturated wipes (recommended: V3 series).
4. Leave the handle fully extended for 10 minutes.
 5. Function test:
 - Hold the extended handle at a 90° angle to the floor.
 - When the button is not pressed, the handle must not move under load.
 - If it does: Repeat steps 2 to 4.

PurMop BLACK® C1/C2 AUTOCLAVING INSTRUCTIONS

Carbon Fiber Mop Systems

RECOMMENDED PARAMETERS

The following parameters should generally be observed during the steam sterilization (autoclaving) of the carbon fiber mop systems:

121 °C – 20 minutes

134 °C – 5 minutes



IMPORTANT: No warranty is given for other types of sterilization or different autoclaving parameters.



INFO: Thoroughly clean before sterilization process, so that there are no residues on the surface.



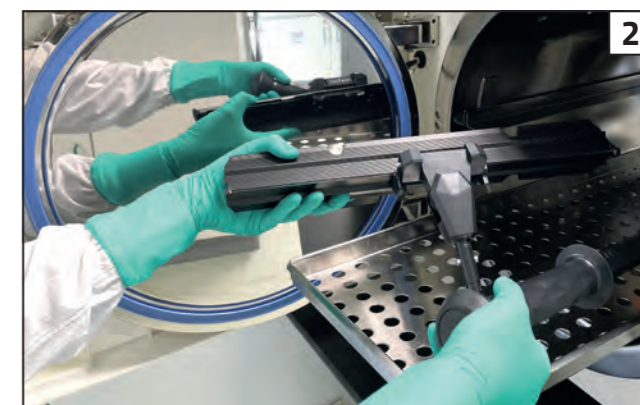
INFO: Groups of components should preferably be dismantled before being autoclaved.



IMPORTANT: The components should not be stacked in order to avoid mechanical pressure during the sterilization process.

STEPS

1. Disconnect the handle and mop frame. The discarding mechanism must be opened.
2. The handle and frame must be placed in the autoclave separately. Place the frame with the opened mechanism on its side on the autoclave tray.
3. Start the autoclaving procedure. Make sure that the autoclaving parameters stipulated by Hydroflex (see above) are observed.



DRY MOPS

PurMop BLACK®
D1 Cleanroom Mop
 Polyester Microfiber

The all-rounder for the floor / wall / ceiling

- Up to 30 m² per mop
- High-performance material made of microfiber and polyester
- Suitable for picking up finest particles
- Extremely fine fluid distribution, ideal for smooth surfaces like glass

PurMop BLACK®
D3 Cleanroom Mop
 Polyester Microfiber

Ideal for large floor areas

- Maximum pick-up capacity for all kinds of contamination
- Maximum absorption rate thanks to high-performance materials
- Suitable for all cleanroom flooring types
- New: medium-length loops for optimal disinfection performance

PurMop BLACK®
D3-R Cleanroom Mop (recycled)
 Polyester Microfiber

Focusing on sustainability!

- 5 PET bottles = 1 cleanroom mop!
 Made of 100% recycled polyester yarn (GRS-certified)
- Up to 50% fewer CO₂ emissions during production
- Includes all the benefits of the new mop generation (BLACK48)
- High liquid absorption thanks to high-performance materials
- Medium-length loops for optimal disinfection performance



D1 Item no. 2112023 ISO 5 | GMP C/D
D1-S [sterile] Item no. 2112024 ISO 5 | GMP A/B



D3 Item no. 2112054 ISO 5 | GMP C/D
D3-S [sterile] Item no. 2112055 ISO 5 | GMP A/B



D3-R Item no. 2112025 ISO 5 | GMP C/D
D3-SR [sterile] Item no. 2112026 ISO 5 | GMP A/B

PRESAT MOPS

The safe solution – without cleaning trolley

Small cleanroom areas, a lack of storage space and no time to prepare a cleaning trolley? We offer two different designs that are ideal for such conditions, both guaranteeing fast and easy handling while also reducing user errors.

The PurMop BLACK® D1 mops form the core of these R2U and DIY models, which include all the advantages of the new mop generation (BLACK48).

PurMop BLACK®
F1-S Cleanroom Mop in a Fillpack
 for Self Saturation
 Polyester Microfiber

Do it yourself: fillpack for self-saturation

- Special bag with screw cap: ready for presaturation with your chosen fluid
- Ready to use in 2 or 5 minutes (for floors or ceilings & walls) – safe and reliable to use – ideal for small cleanrooms
- 2 mops per bag/fillpack = area performance of up to 40 or 30 m² (600 ml fluid for floors/ 350 ml for ceilings & walls)
- Bags and mops are compatible with common bactericides, sporicides and cleaning agents

PurMop BLACK®
P1-S Cleanroom Mop Presaturated
 with IPA/Ethanol/Water
 Polyester Microfiber

Ready-2-use: presaturated, ready for cleaning

- Virtually residue-free, for daily disinfection: isopropanol 65% / ethanol 5% / water for pharmaceutical use 30%
- Ideal for small cleanrooms or for removing residue, for subsequent cleaning and for glass surfaces
- 2 mops per bag = coverage of up to 44 m²
- Avoids deviations and under/over-dosage
- “BLACK48” – the new mop size to go with the carbon fiber mop systems

PurMop BLACK® C1/C2 MATCHING PRODUCTS

Carbon Fiber Mop Systems



F1-S Item no. 2112046 ISO 5 | GMP A/B

Ideal for varying
 disinfectant requirements!



P1-S Item no. 2112037 ISO 5 | GMP A/B

Use biocidal products carefully! Always read the label and product information before use!

PT2-Disinfection of hard/non-porous surfaces in cleanrooms with RTU pre-impregnated mops/wipes with mandatory prior cleaning at 18-25 °C. Make sure to wet the surfaces completely and apply the product in sufficient quantity to ensure that the surfaces remain wet during the entire incubation time.

CLEANING TROLLEYS

PurMop BLACK®

2.0 ERGO-B/SB

Cleanroom Cleaning System
with Dosing Unit

Ergonomic, unique and
GMP-compliant

- GMP-compliant design, easy to take apart and clean
- New mop magazine for easy mop pick-up
- Special dosing plate for "BLACK48" mops
- Optimal presaturation of the mops thanks to the established dosing system of the 2.0 ERGO product range
- Plaque for individual marking



2.0 ERGO-SB 230

- 2.0 ERGO-B 230 (plastic)
Item. no. 2123036 ISO 6 | GMP C/D
- 2.0 ERGO-SB 230 (stainless steel)
Item. no. 2123035 ISO 5 | GMP A/B

PurMop BLACK®

MAW-B

Mop Magazine (spare part)
Stainless Steel

- Mop holder, to be placed in the bucket of the 2.0 ERGO-B/SB cleaning trolley
- Guarantees reliable and easy pick-up of the stacked mops of the BLACK Performance Line
- Holds up to ten mops



MAW-B Item. no. 2129276 ISO 5 | GMP A/B

PurMop BLACK®

WPE4

Dosing Plate (spare part)
Stainless Steel

- A special dosing plate for the new 48 cm mop size – designed to fit the carbon fiber mop systems
- For optimal and repeatable mop wetting



WPE4 Item. no. 2129275 ISO 5 | GMP A/B

PurMop BLACK® C1/C2

DISPOSAL WARRANTY CONTACT

Carbon Mop Systems

DISPOSAL/WARRANTY

The packaging is made of materials that can be disposed of at local recycling facilities.

The PurMop BLACK® carbon fiber mop systems are made of carbon-fiber-reinforced plastic (CFRP) and plastic components. In the interests of environmental protection, please pass on the mop systems to an authorized disposal facility once they have reached the end of their product life. You can obtain information on waste collection facilities from the local authority responsible for your location.

Recycling is a consequent part of the Hydroflex sustainability strategy. In Germany we therefore offer takeback and recycling of our carbon fiber products in cooperation with specialized partners.

We provide a 12-month warranty from the date of purchase, applicable to material and manufacturing defects. The warranty does not apply:

- In the case of damages caused by improper use
- For wear parts
- To damages caused by the user
- As soon as the product has been dismantled/ repaired by a non-authorized service provider

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