

Instruction manual / user manual for Fleece filter

MC 12000/25000/35000

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Dear customer,

Thank you very much for choosing an MC fleece filter!

Please refer to installation instructions and technical information and data of the following operating instructions for your fleece filter.



Please inform yourself about safety instructions.



Spare parts and accessories fleece can be found in the shop at

www.riffgrotte.de



Additional information and assistance with questions can be found at info@riffgrotte.de or Tel :+49 (0)9131 160 880

1. Safety instructions

General safety instructions:

- Use the device only for its intended use internally in a filter tank or in the aquarium.
- Use only the AL 50 fleece - this ensures compliance with the technical operating data.
- NEVER turn the engine manually by force, only use the button on the controller to operate the propulsion.
- Secure clear space around the take-up spool and storage roll.
- Make sure your overflow system retains large particles, pebbles, etc. and cannot find an entrance to the fleece filter.
- Secure the device from being accessed by children.
- Do not operate near strong heat sources
- Outdoor operation is not permitted

Electrical safety instructions:

- The propulsion motor works with a safe 12 V DC voltage. Only operate with the MC plug power supply.
- Use the waterproof protective sleeves on the cable connectors to prevent corrosion.
- Lay the cables outside the filter basin!
- Secure the tax controller from incorrect operation by children or people who do not know the functions - this can lead to errors in operation.
- As a matter of principle, observe the VDE safety regulations.

2. Operation

Functional description of the non-woven filter:

The MC fleece filter filters all solid particles from the aquarium water such as microalgae, detritus, food residues and other organic residues and ensures crystal clear water

- Laser production by hand Quality Made in Germany
- Small space requirement with a width of only 20-35 cm
- Use of saltwater and freshwater aquariums in ponds and pools
- Large Flow Capacity 12,000/25,000/35,000L/hr
- Filter fleece type AL 50 Compound fleece for best depth filtration Made in Germany
- Filter area *from 65 (160) sqcm- 840 (1,600) sqcm*
- Compact design with useful extras
- Universal installation options
- Adjustable limit switch for operating stop when the winding coil is full
- Material Acryl GS 10 / 8 / 5mm
- Winding motor Dual motor construction 75 mm 3 rpm 12 Volt DC / 2 x 260 mA

The filter fleece is stretched in the inner filter box in front of an upright water column in front of a sieve plate. The water inlet is introduced into the filter from below. A high-flow injector over the entire width of the fleece ensures maximum water throughput with minimal turbulence. The water passes through this distributor in the bottom area and thus reduces turbulence at high flow rates.

The laminar flow ensures the necessary slow "loading" of the fleece with particles. The screen plate offers the lowest possible fleece resistance due to the outlet openings in honeycomb structure.

The fleece is pulled into the filter chamber via a rotatable roller in a precise position. This design ensures the lowest frictional resistance and prevents the fleece from jamming - furthermore, the propulsion motor requires only the least amount of force to transport the fleece.

An integrated "throttle valve" in front of the fleece guide roller allows a partial amount of water to be set, which can be directed directly past the fleece into the filter sump. The adjustment can be adjusted by twisting the throttle valve; in this way, the efficiency of the fleece filter can be individually adjusted in continuous operation.

After the water has passed through the sieve plate and fleece (optionally previously the add-in box with absorber), it then enters the filter sump laterally. By easily adjusting it to the filter sump with appropriate water levels up to max. 26 cm, fleece noises are completely avoided.

The inner filter box carries modular functional plates at the front and rear. These allow:

- Moving the entrance either to the front or to the rear
- furthermore, the insertion of the add-in box both at the front and at the back,

MARINE CLEAN FILTERS work with an automatic fleece feed to filter out solid particles. The fleece winding coil has an integrated 12 volt DC tube motor, which is activated by a float switch and switches to ON when the fleece becomes more impermeable to water due to trapped particles and causes the water level in the inner filter chamber to rise to the highest point.

- Then the motor rotates counterclockwise and pulls new fleece from the supply roller into the filter chamber. The water level is falling again, as the new fleece section now allows more water to pass through again
- The float switch switches to OFF.

The low motor speed ensures the lowest fleece consumption.

Description Filter fleece:

MARINE CLEAN filters enable the use of special fleeces.

The surface and structure of this COMPOUND fleece are designed for fine/deep filtration
MC AL 50 – High-performance fleece with outstanding filter properties

- Up to 15 micron particle size
- Suitable for seawater-freshwater ponds, without chemical cross-linking of the individual fibres, no influence on skimming
- Highly tear-resistant and dimensionally stable
- Knitted structure made of polyester or polyester Polypropylene fibres without viscose
- Tailored to optimal surfaces as well as depth filtering
- ISO certified
- Large passage capacity - approx. 30% larger than comparable nonwovens
- Optimized particle loading due to special surface structure
- Highly economical with minimal consumption – length 30 m or 50m depending on the model

The roll lengths are designed for a consumption period of up to 2 months. However, actual consumption is subject to the amount of particles and the flow rate. The used fleece does not create any odour nuisance in the wrapping roll. Due to the special surface structure, the wrapping roll dries out and thus prevents composting of trapped organic particles.

The fleece is available in roll widths for the respective type of the MC series 12,000-35,000 with

- 20 cm
- 40 cm
- 60 cm
- available as consumables. (See page 1)



3. Assembly

Initial commissioning

After unpacking, check that all components are included, as listed below.

Please pay attention to transport damage: (Please send a complaint immediately to the above email address)

- MARINE CLEAN Filter
- Motor Winding Coil
- Non-woven roller
- Float switch
- Float Switch Set Digital (Controller, und 12 V DC 2A Netzadapter)

Prepare the preferred place/room for installation in the filter tank.

Connect your chosen port opening (front/rear or side) under the Closure plates are always 50-63mm holes for further casing.

Use the enclosed 90°PVC bracket and the drain pipe of the basin (Inlet piping to the filter basin).

Remove the individual components from the box.

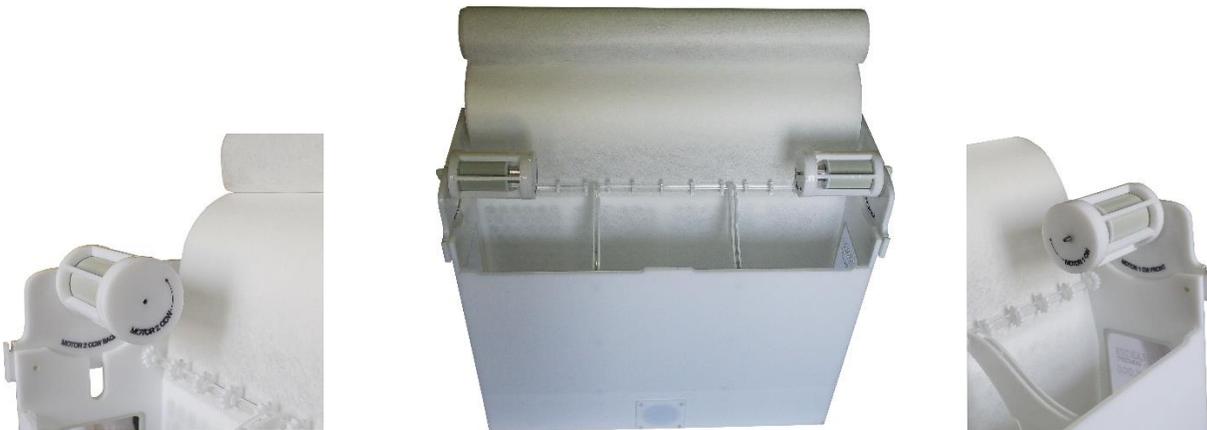
Install the included float switch (if it is not already pre-assembled)

The enclosed fingers on the float switch slide these are used to switch off, if the fleece on the motor is completely wound up, the motor control no longer unlocks.

The MARINE CLEAN filter is simply adjusted into the filter sump. The maximum immersion depth of the device in the filter sump is 26 cm.

The filter can be easily adjusted into the filter sump - inlet with the inlet pipe and the device is ready for use. All filters have a reliable forced overflow that directs the water directly into the filter sump when overfilled.

Slide the start of the fleece, fixed to the grey sliding sleeve, onto the engine block, insert the motor into the retaining brackets and slightly tighten the fixing screw on the back of the engine. See the following sketch.



Check the overflow for retention against small stones and larger particles.

After filling the filter with water from the overflow system, please check for the entry of bubbles.

If this is too high, we recommend the use of a ball valve before entering the filter.

In this way, the water in the supply line is dammed up and bubble entry into the filter is reduced.

Each type of device can also be connected directly to a feed pump and used as an independent unit in the filter. (stand-alone operation).

4. Maintenance - Cleaning and care

Maintenance during operation:

The filter should be cleaned regularly every 2 months. With the throttle cap fully open, the filter interior can be rinsed out. If calcareous algae grow in the filter room, it is recommended to remove them, as this can block the fleece pulley.

Occasionally clean the plugs of the motor, power supply and float switch if necessary. Of salt crusts and deposits.

Clean the motor with a damp cloth when changing rollers.

Insert fleece

Loosen the fixing screw on the back of the motor – in the slot, extend about 2 cm from the bracket upwards. Peel off the light grey PVC cover from the engine.

Place the supply roll in the retaining brackets. Please note: the fleece is pulled up into the filter on the left side of the transport roller at the bottom. See the back of the device with schematic for the fleece guide.

Insert the locking disc between the screen plate and the fleece, this is intended as a splash guard.

Unroll about 40 cm from the depot roller and guide this over the grey transport roller in the filter box from bottom to top to the motor - please note, the fleece beginning must be long enough to place it on the motor. Fix the motor again as described above.

Place the end of the fleece on the right side of the motor drum and fix the beginning of the fleece with an adhesive strip.

Press the button for manual operation until the motor has made 2-3 revolutions. Check the fleece for the correct winding position, if necessary move the PVC sleeve axially.

Quick fleece change:

With the help of the remaining section of the empty fleece roll, the beginning of the new fleece roll is threaded and pulled through the filter onto the winding motor.

To do this, connect the end of the empty fleece roll to the beginning of the new roll (adhesive tape).

Operate the motor manually on the controller until the new fleece has been pulled through; remove the adhesive strip, remove the used fleece from the wrapping body and fix the beginning of the new fleece roll back onto the sliding sleeve with an adhesive strip. Then insert a new fleece roll into the carrier fork.



5. Troubleshooting

In the event of malfunctions during regular operation, it is helpful to first check the following parameters:

- Operating state of the controller? See page 3.Operation/Digital Controller
- Does the engine have voltage? – Lift the float or operate it manually on the controller motor. Then the blue operating LED on the back of the engine must light up.

If the above check is not results, please follow the instructions below for detailed troubleshooting.

Troubleshooting:

1. Motor does not wind the fleece for possible causes
 - Check motor cables and plugs
 - Check the winding sleeve on the motor for a precise fit
 - Check fixation of the beginning of the fleece with a wrapping sleeve
2. Float switch does not respond Possible causes
 - Check cables and plugs
 - Check the mobility of the float
 - Operating status of the controller.... Error fashion?
 - If the function is permanent, pull the plug from the controller, wait 10 sec. The float switch was initialized incorrectly.
3. Filter overflows, water leakage at the emergency overflow possible causes
 - Water throughput too large
 - End of the fleece roll achieved with OPERATION STOP by controller
 - See also 1 above.
4. Fleece jams and controller switches to OPERATION STOP possible causes
 - Check the fleece guide
 - Check the deflection pulley at the bottom for freewheel
 - Check the freewheel of the supply roll

6. Technical Data

MARINE CLEAN filters of the MC series are available in 3 sizes. The width is for all Types 11cm + roller overhang top right 5 cm.

MC 12000	Fleece width 20 cm	Flow max. 12,000 l/h	25 x 31 x 57 cm	Length x Height
MC 25000	Fleece width 40 cm	Flow max. 25,000 l/h	45 x 33 x 60 cm	Length x Height
MC 35000	Fleece width 60 cm	Flow max. 35,000 l/h	68 x 47 x 60 cm	Length x Height

MC 12000

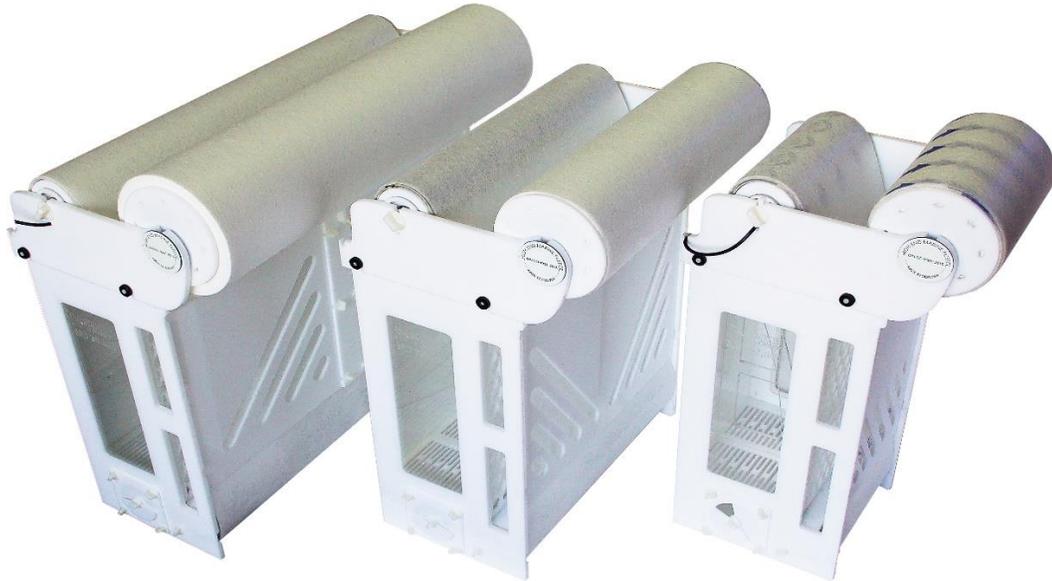


MC 25000



MC 35000





7. Warranty/Liability for Material Defects

In accordance with the legal provisions, the warranty is 24 months.

- Warranty on motors and control system is 12 months
- Transport damage must be caused immediately upon receipt of the goods.
- The guarantee or warranty expires
 - In case of improper use or installation
 - When not using the original AL 50 filter fleece
 - When using third-party components to operate the device

MC Series (MC12000/25000/35000) Utility Model Protection No. DPA 20 2018 001 394.3 are manufactured in accordance with CE standards. All prefabricated electronic components used are CE compliant and RohS compatible.

The risk assessment complies with the guidelines of the EU Small Electrical Equipment Regulation and the of the EU Low Voltage Directive.

Please refer to the registration coupon for the respective device serial number.

Please return the registration coupon to the address below.



Production&Distribution Marine Concept 90152 D-Erlangen, Strümpellstr.12

Contact: info@marineconcept.de Tel: +49 (0)9131 930 448

Product information:

www.riffgrotte.de

info@riffgrotte.de Phone: +49 (0)9131 160

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9. EC declaration of conformity

Declaration of Conformity according to EC - Machinery Directive (2006/42/EC, Appendix No. II 1. A)

The manufacturer,

Marine Concept
Rainer Fischer
Strümpellstrasse 12
D 91052 Erlangen



declares under its sole responsibility that the machine,

Description: Automatic fleece filter with DC winding motor
Model: Marine Clean Version 2.3
Serial number.: 21-2.3 _ _ _ _ _
Year of construction: 2021

complies with all relevant provisions of the Machinery Directive (2006/42/EC).

The machine also complies with all the provisions of the following directives:

- *EMC Directive 2014/30/EU*
- *RohS Directive 2001/65/EU*

The following harmonised standards have been applied:

- *EN ISO 12100:2010 Safety of machinery Design Principles - Risk Assessment & Risk Mitigation*
- *EN 60204 1 :2006 Safety of machineelectrical equipment of machinery Part 1 :General Requirements*
- *EN IEC 61204-7 : 2018 Power supply equipment for low voltage with DC output - Part 7: Safety requirements*
- *EN IEC 60947-5-1:2017 Low Voltage Equipment Part 5 - Control Units & Switching Element Proximity Switches*
- *DIN EN IEC 60730-2-15 :2020 Special requirements for automatic electrical controls for air flow-water flow and water level*
- *IEC 60335-2-55 :2003 /A1:2008 and A11:2018 Requirements for electrical appliances for use with aquariums and garden ponds*

The following is commissioned to compile the technical documentation:

Rainer Fischer
Strümpellstr. 12
D-91052 Erlangen

Signatories and details of the signatory:

Owner
Rainer Fischer

Place, date: ... Obtaining the

Signature:

A handwritten signature in blue ink that reads "R. Fischer".

.....

Registriercoupon.

TYPE	MC 12000		Device No.	Date
	MC 25000			
	MC 35000		----- : ----- : -----	