Royal Exclusiv pumps & skimmers

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Since 1986

Operating and maintenance manual for Bubble King® Double Cone

For all Bubble King® Double Cone skimmer 130 - 150 - 180 - 200 - 250 - 300

v2.0

ENG

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Important Notice

Please read this manual carefully before you install the device. We recommend not to proceed the installation of the device until you read the manual. This prevents any questions and problems that might occur in installation process. As soon as you power-on the skimmer for the first time, you agree that you read and understood this manual. In doubt or if anything is unclear please contact your supplier/vendor or dealer before you start-up the skimmer.

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1. Commissioning (putting into operation)

Remove the packaging from the Bubble King® Double Cone and check the skimmer for transport damages which must be immediately notified to the responsible retailer within 24 hours.

The pre-installed Bubble King® Double Cone is ready for operation and can be instantly installed on a filter sump, for example. First, drain the pot to enable easy handling of the unit.

The water level of the Bubble King® Double Cone 130/150/180 should be **at least 15 cm** and **not exceed 20 cm**. The ideal water level is 17 cm.

200/250/300 should be **at least 20 cm** and **not exceed 25 cm**. The ideal water level is 22 cm.

Connect power plug to socket. Please note that immersion pumps require a power source with a residual current circuit breaker. Furthermore, we recommend a connector strip with over-voltage protection to prevent voltage spikes and triggering of the fuse inside the ***Red Dragon®*** pump in the event of power supply short circuits. In the event the fuse of the pump is triggered, the motor cannot be repaired and must be replaced.

Shortly after starting the dispersant pump, foam will appear – *The photo shows the right connection of the dispersant pump.*

Photo below: Let the skimmer run for several hours without placing the pot on top.

In general, **new** skimmers require a **certain amount of time** to produce **firm foam**.

New skimmers can contain numerous foam-preventing substances such as adhesive residues, fats or other similar impurities that prevent formation of foam. Formation of firm foam can take between 2 minutes and one week, depending on the contamination of your aquarium water.

A general statement on the amount of time needed for a skimmer to run smoothly cannot be made.

As soon as the foam is firm enough screw the pot onto the column. Please make sure that the O-ring on the inside is firmly attached to the notch, without distortion, warping or other irregularities, as they may result in minor leakage.
If the foam is now sufficiently firm, you can carefully adjust the water level in the skimmer by turning the wedge shaped tube clockwise or counter-clockwise *(see photo: observe the change in the skimmer at the turning of the wedge tube).*

There is a small screw at the edge of the wedge shaped tube holder with which the wedge shaped tube can be clamped into the guide holder. *(functional principle wedge shaped tube next page)*
The screw should only be tightened loosely without using any tools. Risk of breakage!

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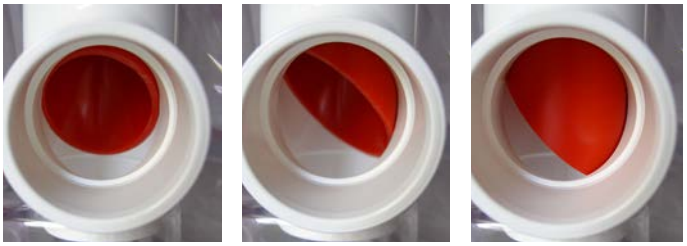
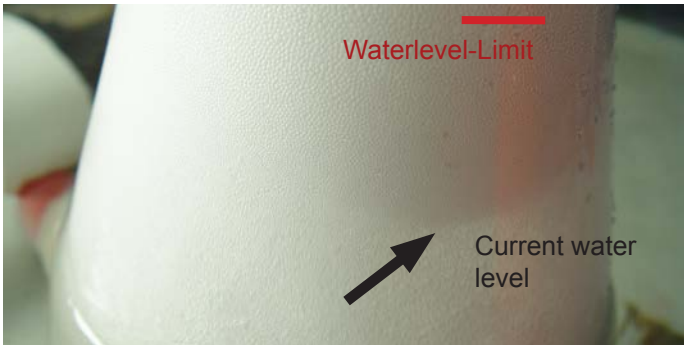


Please observe the water separation line. The transition of wet water foam into dry foam takes place at the also called water/air separation line. If possible, the water level should not exceed the maximum water separation line which is usually at the end of the riser. This maximum line ensures dry skimming.
However, this line can be exceeded, if required. Our recommendation is a guideline and not a requirement. It is at the discretion of the user whether he prefers dry or wet skimming.



However, the user should take into consideration that the Bubble King® Double Cone skimmer may become very sensitive if the separation layer is too high. This can result in overflowing if impurities like fat – rich feed, various trace elements or fresh filter media come into contact with water. On the photo above you can see the water level stripline approx. 5 cm below the maximum level. This water level stripline can be lowered or rised by turning the tube. The water level stripline is different in every aquarium, depending on quality and surface tension of the salt water.
The left photo above shows the ideal condition – not too dry and not too wet. To maintain this condition it is vital to operate the device with open outlet in the first few days. Photo below right: Mount plug only after “running in”.

After the skimmer was forming enough dry foam it is recommended to grease the upper end of the riser tube as well as the inner foam ring. This will prevent the foam cup to be filled with solid dry foam, because the bubbles will burst immediately when touching the grease.

Please keep the skimmer running until the absorbate pot (skimmer head) has been filled by a foamy liquid.

This will force adsorbate into the cup and no dry foam, which might leave the cup through the ventilation holes and fall back into the filter sump.
All Bubble King® skimmers have a so called “absorbate drain”. On the bottom of the pot (skimmer head) is a 10mm hole located, which was sealed by a silicone plug. This is the hand-over location. The customer may install an additional attachment (p. ex. a small ball tap) to drain the absorbate, which makes cleaning easy.

Notice:
Please do not wait too long until cleaning an over-filled pot.

Red Dragon® 3 Mini Speedy

Mini Red Dragon

***Note:** For the Bubble King® Double Cone can be used two different skimmer pumps.*

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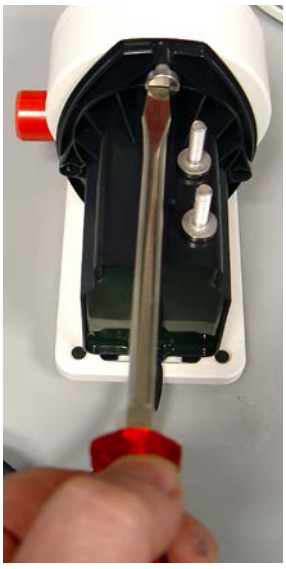
2. Maintenance

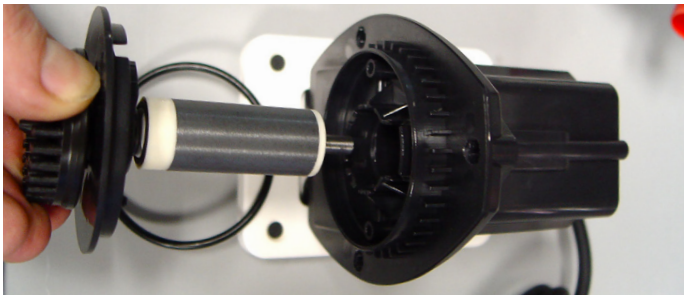
We recommend the cleaning of the Bubble King® Double Cone skimmer at frequent intervals respectively to check the needle wheel for foreign objects. To check the needle wheel ist not necessary to remove the skimmer from the filter tank. The Bubble King® Double Cone skimmer is available with two differ pump types, the MiniRedDragon or the adjustable Red Dragon® 3 Mini Speedy.

2.1. Maintenance of the Mini Red Dragon - MRD - pump
For the entire maintenance of the skimmer only a bigger slotted srewdriver is necessary.
Unplug the skimmer from the mains or disconnect the power plug and remove the pump from the silicone hose by gently rotating it. Remove the nozzle from its seating. Turn the pump into your direction and optically check the first row of needles for foreign objects like snails, mussels, activated carbon pellets, filter cotton or food debris. In case of an accumulation of debris in the pump, the pump must be disassembled.
Remove the three titanium pump head srews and check the pin wheel for snail shells, mussels, active carbon pellets, filter cotton or residual food. In case of larger accumulations, please clean the pin wheel. Pull out the impeller and clean and delime the entire pump.

Red Dragon® Bubble King® pumps feature an integrated automatic switch-off function. The energy input is continuously measured electronically. If power consumption increases for whatever reasons, e.g. in case of calcification resulting in sluggish bearings – the electronic system of the pump recognizes this as a failure and the pump is switched off automatically.



By plugging/unplugging the power plug the pump can be made ready for operation again. Please note that it is prohibited to circumvent the electronics to make the pump run again by constantly plugging/unplugging the power. If the Red Dragon® pump switches off, there is always a problem which must be remedied. This is usually a cleaning interval that is to be implemented. Continuous circumventing of of the pump electronics may result in motor damage which is not covered by guarantee or goodwill. Furthermore, major impurities may generate vibrations.
We recommend to check the ***Red Dragon***® pump already after three months, to determine the possible maintenance intervals that, can be depending on precipitation between 2-12 months.



If the impeller group extremely calcified,
solve the plate between engine and rotor. Cover enter with a small slot screwdriver, !**carefully**!

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For assembly: fix the O-ring in position, then carefully let the magnetic impeller with the lip on top click into place. Caution ! Strong magnetic forces !!

2.2. Deliming and cleaning the impeller of the MRD

Caution: Never apply force to the wheel unit.
The ceramic shaft is very sensitive and may break immediately if bent.
Replacement shafts are available.

Now delime the impeller unit
using a suitable deliming bath.
Never use hydrochloric acid - not even diluted!

This may damage the pump. Suitable substances are: formic acetic phosphoric acid or common deliming agents for water purification appliances like coffee makers. The containment shell of the motor must also be delimed.

Coarse, greasy plaques must be removed under ordinary tap water prior to deliming using a mediumcoarse brush.

Please observe the relevant safety regulation attached to every sales package prior to using deliming acids. Wear protective clothing and goggles.

Important notice:
The rear bearing bush
requires spezial attention
as most errors are made here.

If the rear bearing brush – as seen on the photo – sits on the shaft when removing the impeller unit, it is vital to carefully remove the bearing from the shaft photo

Under no circumstances put the bearing loosely onto the shaft and then insert the wheel unit into the motor block.

The bearing wont fit in its slide, and thus, the pump will hum extremely after putting into operation. The bearing must securely installed into its slide before assembling the wheel unit. Blocked bearings may cause damage to the pump or prevent it starting up, due to the O-ring grinding against the bearing seat.

2.3. Assembly of the rear bearing of the MRD

If the bearing is mounted into the appropriate notch, the O-ring must be firmly pressed into the notch using a medium-size slotted screwdriver.

It is important that the bearing, properly in its Groove, is positioned. The O-ring must be above such as in figure. O-rings points down, the runner in this State may not engage and the whole wheel unit is pressed to approx. 2 mm to the front. This touches the fan on the front of the cover, causing an extreme noise. The bearings must not be mounted in this position.

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3. Installation of the Red Dragon® 3 Mini Speedy with speed regulation

The pump has a DC motor and therefore is equipped with a driver unit. The ***Red Dragon® 3*** Speedy pumps may only be operated with an ELCB (earth leakage circuit breaker)!!

!! Important !!
Electrical grounding of the wiring of the ***Red Dragon® 3*** pumps **is absolutely mandatory**! Bridge circuits or grounding over neutral conductor are not permitted and might cause inductive fault current up to 50 Volt!

Setting-up operation has to take place in the following order:

1. Thoroughly purge the pump, to remove the disinfectant.
2. Place the pump below the water level. (The pump is not regenerative).
3. Insert power plug. Caution: The electrical socket needs to be grounded.
4. Keep hole of the pump during the test run. Danger of blowback!
5. The pump starts immedialty (softstart).
6. Use the buttons (red triangles) to adjust the revolutions per minute.

Note: The pump will start with the display of the type of pump (P1-P3). Then the initialization (In) takes place. Afterwards the start message (SP) and the last selected set wattage will be shown. Through the „Up“ and „Down“ we fixed keys performance in 5 Watt increments.

3.1. Operation of the RD3 pumps with controller

Important Notice:
The imprint on the buttons and LEDs may vary troughout the text, the functions however remain the same.

The display is in W (the actual measured effective power / energy meter consumption). **Note:** when you press the button, the pump in 5 Watt increments can be regulated. After a loss of the electrical power supply the pump will restart in the last valid setting automatically.

Pressing the “plus-key” increases the revolution of the pump. Thus the flow rate and the energy consumption increase.Pressing the “minus-key” decreases the revolution of the pump.Thus the flow rate and the energy consumption decrease.
The revolution can be chosen in 5W steps from 15-50W. The pump runs always on the configured speed.

3.2. Maintenance and cleaning of the Red Dragon 3 Mini Speedy

Disconnect the pump from the power supply prior to each maintenance work. ***Red Dragon®*** supply- and flow pumps are essentially to be classified as low-maintenance. Usually the necessary maintenance work is limited to a check of the impellor for obstruction. Remove obstacles from the impellor with a slim and spiky tool.

A decreasing supply rate is often the result of dirt. Possible calcinations (especially in saltwater applications) has to be removed with a very soft acid as for instance vinegar. Avoid applying pressure to the sides of the impellor or the rotor. The pump can be disassembled nearly completely for cleaning.

In freshwater- and saltwater applications calcification only appears in very hard water and after a complete re-filling of the pond. After this the largest amount of carbonate will be omitted within 2-3 days.

To dismount the pumps head from the engine, unscrew the M5 hexagon socket titanium screws with a matching spanner. When this is done the whole pumps head can be removed. I necessary the impeller unit can be removed, by cautiously pulling on the rotor with.

When you pull on the rotor, be very careful, as the impellor is held in its position by the magnet. If you release the rotor while trying to pull it out, the bearing can get a serious damage.

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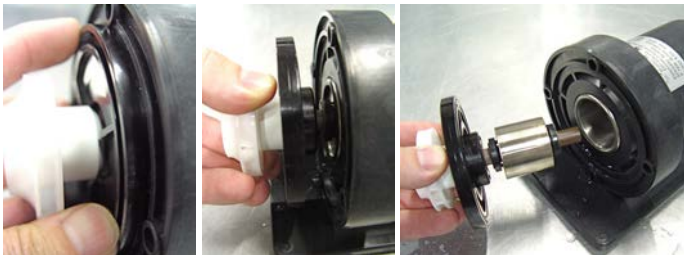
Use fitting hexagon key to loosen the 4 screws from the case.

Do not underestimate the power of the magnet. If you slightly losse the grip and the axis hits the rear bearing, the risk to damage the bearing is very high. A damage bearing causes high reparation costs.



Grab rotor and and cautiously pull out completely. Check parts for calcification.

After maintenance you can assemble the pump in reversed order. Please pay attention to first only loosely fix the in crossed over order and then fix them semi-solid (hand tight).
For the usage of a cordless screwdriver see the picture and respect the motoring torque. (soft/carefully)
The O-rings of the pump are made from silicone or EPDM/ Viton, depending on the application.

Please use only fresh and original O-seals with the correct thickness and hardness as replacement. When O-seals are aging, the hardness slightly changes. When you re-assemble the pump, the O-seals should always be replaced by new ones. This will increase the lifespan of the pump. Silicone and EPDM / Viton O-seals are resistant against acids and bases.

3.3. Decalcification, cleaning and assembly of the RD3 Mini Speedy

Decalcify the pump completely. Please **do not** use hydrochloric acid, **not** even in extenuated form. This may damage the pump beyond repair. Suitable substances are: formic acetic phosphoric acid or common deliming agents for water purification appliances like coffee makers. The containment shell of the motor must also be delimed. After the decalcification purge the pump with clear water. Re-assemble the pump.

Very important: Tighten the screws loosely crossed over and the fix them semi-solidly (hand tight).

3.4. Power outages and emergency power supply

After a blackout the pump will start automatically and the controller will set up the last chosen speed.
The pump can used on a commercial emergency power supply or a commercial UPS, which is fitted with a rectifier package.

3.5. Meaning of the codes in the display

F1/F2	=	Init error start-communication
F4	=	Dry-Run-Error
F6	=	Over-Temperature motor-driver
F8	=	Air-Feeding error skimmer (only Skimmer pump P3)
P1	=	50W MiniSpeedy
P2	=	80W Speedy
P3	=	Skimmer-pump with 50W-motor

RD3 MiniSpeedy 50 Watt BubbleKing®

The noise level is beneath the levels of the benchmark of the machine directive of the European Council, partly below 32dB (measured in an outdoor setting, 1 meter).
110/ 230 Volt 50/60 Hz
50 Watt
Nozzle with ozone & air plug
reducing ring Ø 32mm
weight 4 kg,
Speed variable
400 – 4000 1/min

For the maintenance and disassembly of the Bubble King® Double Cone Skimmer with RD3 MiniSpeedy-pump is only a larger slot screwdriver and a M5 hex wrench needed.
All screws only medium tight.

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4. Cleaning and assembly of the skimmer

Bubble King® skimmers can be totally disassembled. Thanks to new production processes with a precision range of 100/mm, all CNC-machined parts have a so-called zero fit. This means that most of the parts are not bonded to each other, but feature precise fits.

All screws are made from pure titanium, grade 2, and are absolutely seawater resistant and rustfree.

Remove all parts which can be dismantled, such as the wedge shaped tube, pot, hose, pump and also the T-piece from the outlet, including all titanium screws. Pull out the red pipe for injection using a sharp tong.
Unscrew injection pan as well as the titanium screw and delime and clean all parts thoroughly. Do not use any abrasives or the like that might damage the surfaces.

4.1. Assembly

After the skimmer was cleaned completely, reassemble the skimmer as follows:
Only skimmer with MRD: At first, check if the bearing sleeve of the wheel unit on the back was seated properly. Now take the wheel unit and position in a way that the rectangular slide shows upward. Before installing the wheel unit please assemble the O-ring seal. Properly seated O-ring on the picture on the left side shown.

Reassemble the injection pan, carefully screw in the titanium screws, beat in the injection pipe up to the stop and align screw holes, distribute the screws and screw in crosswise.

Lightly tighten screws!

Finally check the silencer. The upper cover is stuck only and should be easily removable. If not removable, insert a screw driver from the bottom side of the 10 mm air tube and slightly hit the cover. Now, the cover will lift and the silencer is accessible. After an eventual cleaning, re-seat the cover. Please do not insert cotton wool or activated carbon into the silencer. We state explicitly, that the pump cannot be operated in dry run. It is not allowed, even for testing purposes, to check the pumps operability by a dry run or instant damage may result. The skimmer is now operational again.

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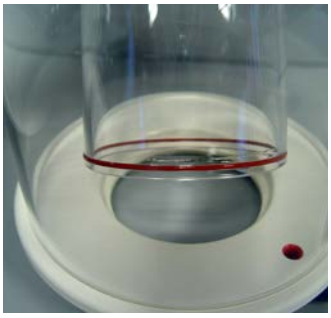
5. Skimmer pot and general information

The outlet piping is rotatable. Prior to unscrewing the pot, align the angle with the respective rotation direction and unscrew pot.



Regular lubrication with silicon grease enables easy rotation of the thread. The foam tube can be removed. After cleaning, lubricate or wet the O-ring. Push it against the notch and press down with a gentle rotation.

The red silicon O-ring is permanently sea-water and wear resistant.

6. Setup instructions, adjustable nozzle (MRD)
Setup instructions RD3 via controller

The water intake screw-on nozzle is designed to control the amount of water pumped into the mixing chamber. Turning the nozzle **counter-clockwise** will increase the water pumping capacity and **screwing it clockwise** will reduce the throughput (about 500 litres per turn).

For **ideal** results follow these steps: screw on the nozzle fully, make a complete turn counter-clockwise. If air bubbles rapidly leave the output tube, the pumping power is too high. Please screw on the nozzle until no air bubbles exit the T-piece. If the skimmer is new, screw on the nozzle almost completely and run it in for 1-2 days. Brand-new skimmers may produce bubbles, cause overflow and be subject to extreme fluctuations. The bearingsof the pump also need approximately one week to grind in. Before first use, open the wedge-shaped tube fully.

Nozzle screwed off completely

Nozzle closed

Ideal condition 1 x turn counter-clockwise

7. Cleaning the nozzle and suction pipes

The suction pipe with 10 mm for air induction (red) and 6 mm for ozone (grey) needs regular decalcification and cleaning as, depending on the degree of lime content in the water, a plug may form, which can impair the overall the performance of the pump and deteriorate skimming drastically.
Please inspect and decalcify the nozzle regulary !! Remove major cloggig using a pointed tool before decalcification.

Nozzle
with air- and ozon- plug

All information without guarantee. We try our best, but printing errors reserved.

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8. Cleaning the silencer/resonator

The resonator is not glued but clamped in the nut. The silencer needs regular cleaning. When the pump is at rest or the water level in the filter is extremely high, some water can penetrate into the resonator.

This is no cause for concern because once the pump runs again, it will evaporate the water. Over time, salt crystals may clot and heavily block the silencer. Please inspect the silencer regulary, once every 1-3 months.

Above: Removal of the silencer // Clamping the resonator *Cleaning the inner parts* *Placing the cap*

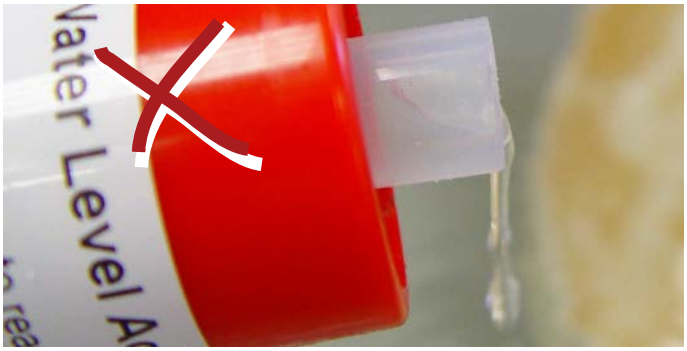
Opening of the resonator is depicted.

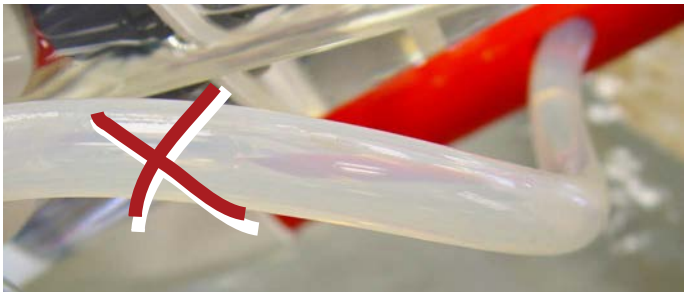
Now, the silencer inlay can be washed out with fresh water. The inlay must be **completely dry** before reinstalled again!

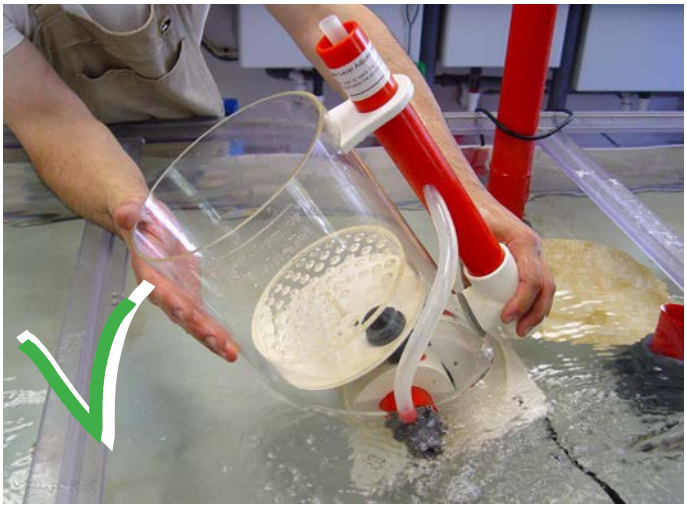
Important note:

When the skimmer is moving from the filter basin is essential to ensure that is no salt water in the silencer!

This could be lead to salt crystal formation later, what the silencer hampered in his capacity or evokes unpleasant noises.







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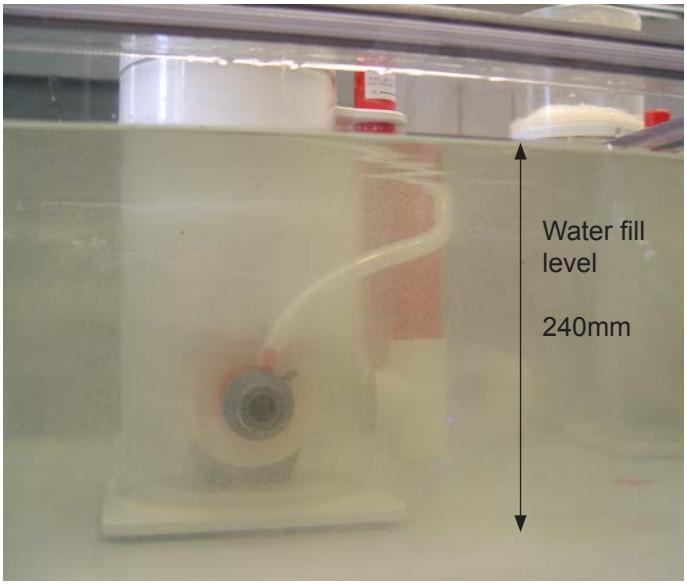
The Bubble King® Double Cone after cleaning and successful assembly.

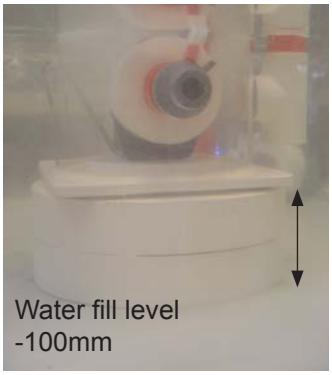


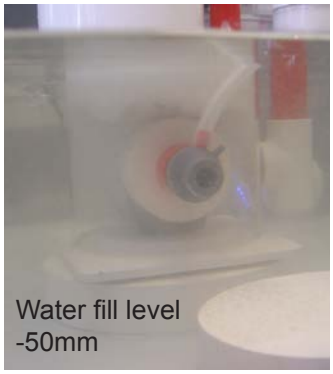
Depending on how high is the water fill level in the filter, the Bubble King® Double Cone can be placed on the right height, to achieve an optimal result of skimming.

9. Possible sources of error

To get an optimal skimming result, the following informations are important:

1. Water is not equal to water by the different composition, it can happen only right expands from which the skimmer after a few days.
   (Particularly in new products)
2. Note water filling level
   from ~ 150 mm up to ~ 200 mm **(ideal ~ 170 mm** or
   from ~ 200 mm up to ~ 250 mm **(ideal ~ 220 mm)**
   this is the height of the water in the filter basin!
3. The water level in the skimmer is controlled using a tube. This sets the amount of foam to be produced.
   (The **level** of **water in the skimmer** is set by **turning** it **left or right**).
4. If the skimmer produces a water-air mixture in the tube when it is turned on, this means that the skimmer is operating correctly. The skimming default must lie elsewhere.
5. Do not let the pump run dry -
   this would lead **to permanent damage**!
6. A **sufficient pre-filtering** of the water **before** it **enters the skimmer**, is recommended! So, the pump will be spared as before large parts, such as snail shells or shells, which can lead to a blockage of the needle wheel.





Do not forget!
At least **20-30 mm** are required for take-off and cleaning of the complete skimmer pot via screw connection!
And **40-50 mm** are required for take-off the lid.

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10. Defects and claims for compensation, disclaimer

10. Defects and claims for compensation

10.1. Barring any further claims we are only liable that the supplied goods are free of defects until the initial transfer of perils. Insignificant variations of the contracted appearance and workmanship or marginal limitation of the usability or suitability of the product are unremarkable.
The warranted condition, endurance and usability the product is solely subject to the specification agreed in writing, in the product specification and / or in this manual. Further oral agreements, especially from preliminary talks, advertising and / or in related industrial standards will are only valid as integral part of a written contract. Only conditions and specifications assured specifically by us are valid. We do not accept conditions or specifications made by third parties. Specifically the specification assured in this manual are valid. If the customer wants to use the product for other than the intended purpose, he is obliged to thoroughly the suitability of the product for the other purposes. We give no warranty and no liability accrues for any applications that are not agreed on by us explicitly and in written form.
Any manipulation of the pump, the (needle whell) impeller or the electronic as well as any attempt to modify the software, to influence the software or to read out or re-engineer the software of the driver unit immediately causes a loss of warranty and all claims and rights expire.

Every user is held responsible for the appropriate usage of his ***Bubble King® Double Cone*** skimmer. The user manual does not discharge you from your liability for a safe, appropriate and secure application, installation, operation and maintenance.
By using this manual you agree that in no circumstances the manufacturer can or will be held liable for any personal injuries or property damages which possibly occur due to the usage of the device. This applies specifically for any damages that are due to inappropriate piping or plumbing.
Insufficient or missing cleaning- or maintenance intervals and damages that might result due to these are not covered by warranty. This applies especially for calcinations (salt water usage) and accumulated foreign particles (pond usage) such as sand or gravel, which lead to damages on rotors, bearings, rotor housing or motor housing, that are not covered by warranty.

10.2. Our warranty for defects is strictly limited to supplementary performance. This is upon our choice either removal of defects or replacement delivery free from defects. In the case of challenge, impossibility or failure of the supplementary performance the customer has the right for impairment or the right to withdraw from the contract.
Additional expenses which arise because the customer has brought the sales item to another place than his subsidiary. The manufacturer explicitly limits the warranty to the pump itself. We are not reliable for consequential damages, or damages that are caused by a malfunction or failure of the skimmer, such as a loss of animals. It is in the responsibility of the customer to provide back-up devices for the case of a potential malfunction or failure of the pump.

10.3. The customer has to check the goods immediately thoroughly, also for product safety. Apparent damages have to be reported in written form immediately. Hidden damages have to be reported immediately after their discovery. The customer is liable to report transport damages within 24 hours to the carrier and/or the delivery service. Disregarding the rules for checking and reporting results in a loss of warranty.

10.4. Furthermore we are not liable for the consequences of inappropriate application, usage, maintenance and handling of the product by the customer or his subsidiaries, neither for normal abrasion. This applies specifically to the consequences of thermal, chemical, electrochemical or electrical influences as well as for infringements against our uses- and maintenance manuals. The same applies to damages which are the result of changes or adjustments by the customer which have not been approved by us in beforehand.

10.5. Our liability for wanton negligence is limited to claims of injury of life, body and health, to claims based upon the law on product liability and to claims from culpable fundamental breach of the contract which peril contractual obligations. For the rest our liabilities for wantonly negligent breach of contractual obligations, which are foreseeable at the time of the conclusion of the contract, are barred.

Damages, which are unambiguously attributed to inappropriate usage of the product, are in general to be accounted for by the customer. In the case of returns of the product the customer has to use break-proof packaging for the product. The customer is liable for any damages that can be accounted to an inappropriate packaging.

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10.6. Claims against us become time-barred within a year after the initial delivery of the goods to the customer. The same applies to claims for damages regardless of their juridical cause. The limitation period does not apply to claims based upon the malicious concealment of damages from the injury of life, health or body and for other damages that result out of intention or wanton negligence.

10.7. If it becomes apparent during our examination of damages reported by the customer or in the course of our removal of defects, that the reported damages or claims were made wantonly negligent or unwarranted, we may charge an adequate consideration for our examination and for the removal of defects. The customer has the right to neglect a necessary repairing and to demand the return of the skimmer. In general every examination of damages is bound to lump-sum compensation if it occurs that the customer has to be accounted for the damages.

10.8. Spare parts
Our liability to deliver and hold spare parts available is limited to the period of 5 years after initial shipment of the product. Our respective list prices apply for spare parts.

10.9. Disposal
We offer our customers to take back products that fall under the restriction of hazardous substances directive (ElektroG) within Germany free of charge, for products, which were brought into circulation after the 13th of August 2005. We will take care for the disposal. If a customer chooses not to let us take care for the disposal, he takes the responsibility of a disposal according to legal regulations and discharges us from our liabilities according to §10 sect. 2 ElektroG and any associated liabilities of others.

10.10. Subject to alterations
The manufacture has the right for changes in hardware and software of the product at any time without preliminary notice, as long as these changes advance reliability or quality of the skimmer. No claims can be made if for instance design, functionality or performance of the skimmer changes elementary. The assured specification of the skimmer is always guaranteed.

11. Manufacturer's declaration

Titles against ***Royal Exclusiv®*** concerning the products described in this manual adress on the ***Royal Exclusiv®*** guarantee clauses.
Specification may vary due technical improvements.

11.1. Manufacturer

Royal Exclusiv® pumps and skimmers

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Made in Germany

Royal-Exclusiv® EAR-number: WEE.Reg.No. 83082352

11.2. Informations and support
Thank your for purchasing a ***Royal Exclusiv®*** Bubble King® protein skimmer. This protein skimmer is a high quality product made in Germany with the highest manufacturing demands on modern CNC maschines. This manual is supposed to help you to setup the protein skimmer for use and to advice you with the necessarily maintenance procedures.

To ensure longlasting satisfaction with this product we please you to read this manual carefully and follow our guidelines.
Royal Exclusiv® guarantees 5 years of spare part availability for the Bubble King® Double Cone protein skimmer.

Should the device in some way not meet the high demands you expect from ***Royal Exclusiv®*** please contact the dealer where you purchases your Bubble King® Double Cone protein skimmer. This is usually the best way for product support. However you may feel free to contact our support on our website: ***http://www.royal-exclusiv.de***