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# Impressively minimalistic **LTER 3161** NOF

The Comline® Nanofilter 3161 is a very compact and quiet internal filter which offers the Comline® design with two chambers, a surface suction device and floor-level suction for nano fresh water and marine aquariums from 30 liters (7 USgal.) to 100 liters (26 USgal.). It is also a singlepurpose surface filter, especially for the surface film removal in large aquariums up to 1,000 liters (264 USgal.). In such aquariums which are often not equipped with a drain, the Comline® Nanofilter 3161 is able to ensure the highly efficient surface cleaning with only a small footprint. The Comline® Nanofilter 3161 is ready for installation and includes the filter media.

## Comline<sup>®</sup> Nanofilter 3161

For fresh and sea water depending on the tank load of 30 liters (8 USgal.) to 100 liters (26 USgal.) (filter for nano aquariums) or up to 1,000 liters (264 USgal.) (surface filter). Variable pumping power from 250 l/h (66 USgal./h) up to 850 l/h (225 USgal./h). Power consumption: 2.5 - 4.5 W, 230V/50Hz (115V/60Hz) Max. immersion depth: approx. 160 mm (6.3") Dimensions (L x W x H): 115 x 60 x 175 mm (4.5" x 2.4" x 6.9") Silonco Magned Helder un to a glass thickness of 10 mm (2.1%")

Silence Magnet Holder up to a glass thickness of 10 mm (3/8").

- Icor-level suction (15% of the pump performance) for a collection of the particles in the water column.
- Attachment with a patented Magnet Holder for a glass thickness of up to 10 mm (3/8").
- Pre-chamber for nano heater, probes or organic material.
- Other stating surface suction device allows the filter to be placed in every corner of the aquarium. Two parts can be attached.
- Adjustable Comline<sup>®</sup> energy-saving pump with a variable performance between 250 and 850 l/h (66 to 225 US gal./h). Power consumption 2.5 4.5 W.
- Main Chamber (85% pump performance) with a filter volume of 250 cc, can be refilled with any kind of loose micro and macro-cotton, loose activated carbon or other filter media.
- Filter cover above the main chamber for an easy filter change.
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# **K 3162**

The Comline® Filter 3162 is an internal fresh and saltwater filter for 60 to 400 liters (15 to 105 USgal.), depending on tank load, with bottom and surface intake, variable output`of 250 - 850 l/h (70 - 225 USgal./h), patented Magnet Holder up to a pane thickness of 12 mm (1/2"). It can be upgraded with controlled heaters up to 75 W, TUNZE® Osmolator® and other Magnet Holders. The Comline® Filter 3162 is ready for installation, including filtering media and filter bags for activated carbon or other filtering media.

## Comline<sup>®</sup> Filter 3162

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For fresh and saltwater from 60 to 400 liters (15 to 105 USgal.), depending on tank load. Variable pump output from 250 to 850 l/h (70 to 225 US gal./h) Energy consumption: 2.5 - 4.5 W, 230V/50Hz (115V/ 60Hz) Dimensions (L x W x H): 110 x 90 x 255 mm (4.3" x 3.5" x 10") Max. immersion depth: approx. 230 mm (9.1") Fixed by means of Magnet Holder up to a pane thickness of 12 mm ( $\frac{1}{2}$ ).

Ocan be retrofit with controlled heaters up to 75 W directly inside the case, better heater efficiency, no risk of burns for animals.

- Surface intake with bacteria film removal.
- Omline<sup>®</sup> design: easy to use, elegant and unobtrusive in the aquarium.
- Adjustable Comline<sup>®</sup> energy saving pump with variable output of 250 850 l/h (70 225 USgal./h), energy consumption 2.5 - 4.5 W.
- Can be retrofit with Osmolator<sup>®</sup> 3155 for water level control directly in the case.

**③**Attachment with a patented magnet holder for a glass thickness of up to 12 mm ( $\frac{1}{2}$ ).

- Large filtering volume of 780 cm<sup>3</sup> (0.21 USgall.), can be refilled with any type of loose Micro and Macro wadding, loose activated carbon or other filtering media.
- 8 Adjustable bottom intake for heavy particles and sediments.



# Impressively minimalistic REAMFILTER 3163

The Comline® Streamfilter 3163 is an internal fresh and saltwater filter with propeller pump for filtering and current production, from 60 to 400 liters (15 - 105 USgal.), depending on tank load, with bottom and surface intake, 1,800 l/h (475 USgal./h) Turbelle® nanostream® and patented Magnet Holder up to a pane thickness of 12 mm ( $V_2''$ ). It can be upgraded with controlled heaters up to 75 W, TUNZE® Osmolator® and other magnet holders. The Comline® Streamfilter 3163 is ready for installation, including filtering media and filter bags for activated carbon or other filtering media.

Comline<sup>®</sup> Streamfilter 3163

For fresh and sea water from 60 to 400 liters (15 to 105 USgal.), depending on tank load. Pump output: 1,800 l/h (475 US gal./h) Energy consumption: 3,5 W, 230V/50Hz (115V/ 60Hz) Dimensions (L x W x H): 110 x 90 x 255 mm (4.3" x 3.5" x 10") Max. immersion depth: approx. 230 mm (9.1") Fixed by means of Magnet Holder up to a pane thickness of 12 mm ( $\frac{1}{2}$ ").

- Attachment with a patented magnet holder for a glass thickness of up to 12 mm ( $\frac{1}{2}$ "). Surface intake with bacteria film removal.
- Streamfilter pump 3163.200, energy consumption 3,5 W.
- Ocan be retrofit with Osmolator<sup>®</sup> 3155 for water level control directly in the case.
- Ocan be retrofit with controlled heaters up to 75 W directly inside the case, better heater efficiency, no risk of burns for animals.
- Earge filtering volume of 780 cm<sup>3</sup> (0.21 USgall.), can be refilled with any type of loose Micro and Macro wadding, loose activated carbon or other filtering media.
- Adjustable bottom intake for heavy particles and sediments.
- Omline<sup>®</sup> design: easy to use, elegant and unobtrusive in the aquarium.

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## The practical quick filter for every aquarium...

The Comline® Multifilter 3168 is a mechanical quick filter for aquariums from 200 to 500 liters (53 to 132 USgal.), completely installation-ready with a cartridge quick-change filter, Comline® Pump 2000 and Silence Magnet Holder. The filter can be used for both bottom as well as surface water, and its performance is easily adjustable from 500 up to 2,200 l/h (132 to 581 USgal.). It can be retrofitted with the Osmolator® 3155 to enable a perfect surface suction as well as the required compensation for the evaporation. Instead of the installed Filter cartridges 0800.010, it is also possible to use the activated carbon acrylic wadding cartridges 0800.030or refillable cartridges 870 / 871 for carbon, Quickphos, Silphos or loose wadding.

## ... is also a universal internal filter for all filter media.

Only two parts need to be replaced (included in the delivery) and the Multifilter is transformed into a universal internal filter with a filter volume of 1,200 cm<sup>3</sup> (73 in<sup>3</sup>). It can be refilled with all kinds of loose micro and macro wadding, activated carbon or other filter media, and integrates itself as a main filter into aquariums from 200 to 500 liters (53 to 132 USgal.) and also as an additional filter for a targeted filtering (activated carbon, zeolite, etc.) in larger systems. Silicone buffers on the Multifilter prevent the transfer of vibrations to the aquarium glass pane.

#### Comline<sup>®</sup> Multifilter 3168

For fresh and sea water, depending on the tank load from 200 to 500 liters (53 - 132 USgal.). Variable pump capacity from 500 to 2.100 l/h (132 to 555 USgal./h). Energy consumption: 10 - 18 W, 230V/50Hz (115V/60Hz) Immersion depth: approx. 270 to 290 mm (10.6" - 11.4") in the aquarium and min. 250 mm (9.8") in cabinet systems. Dimensions with Magnet Holder (L x W x H):  $140 \times 110 \times 300$  mm (5.5" x 4.3" x 11.8")

Fixed by means of Silence Magnet Holder up to a pane thickness of 15 mm (2/3'').



# Impressively minimalistic **OC SKIMMER 9001**

Simple, quiet and effective – these are the current demands towards aquarium components. That is precisely what distinguishes the small Comline® DOC Skimmer 9001 – a true "plug and play" skimmer for small seawater aquariums with 20 to 140 liters (5.3 to 37 USgal.). There is no complicated setting or regular adjustment required for the operation. A simple installation into a corner of the aquarium is sufficient and it will work autonomously.

Comline<sup>®</sup> DOC Skimmer 9001 Recommended from 20 to 140 liters (5.3 to 37 USgal.) of sea water. Immersion depth: approx. 135 - 155 mm (5.3" - 6.1") Skimmer cup volume: 0.2 liters (.05 USgal.) Air capacity: approx. 100 l/h (26 USgal./h) Energy consumption: 2.5 W, 230V/50Hz (115V/60Hz) Dimensions (L x W x H): 110 x 63 x 215 mm (4.3" x 2.5" x 8.5") Magnet Holder for glass thickness of up to 10 mm (3/8").



Comline<sup>®</sup> DOC Skimmer 9001 DC Recommended from 20 to 160 liters (5.3 to 42.3 USgal.) of sea water. Immersion depth: approx. 135 to 155 mm (5.3 " - 6.1") Skimmer cup volume: 0.2 liters (.05 USgal.) Air capacity: approx. 150 l/h (39.6 USgal./h) Energy consumption: approx. 5 W (max. 8 W) Power supply unit: 100-240V / 50-60Hz Cable length: 3 m (118.1") up to the Turbelle $^{\circ}$  controller Dimensions (L x W x H): 110 x 63 x 215 mm (4.3" x 2.5" x 8.5")

Magnet Holder for glass thickness of up to 10 mm (3/8")

# DOC SKIN 90

The Comline® DOC Skimmer 9004 is designed for use in seawater up to 250 liters (66 US gal.). It operates according to the TUNZE® flash skimming principle and acquires the water through an efficient surface suction with a surface film removal, and can therefore also be used as a "standalone" solution in the aquarium. The TUNZE® Foamer generates large volumes of fine air bubbles with a diameter of between .1 and .3 mm (.004" - .012") and is especially quiet during operation. The Comline<sup>®</sup> DOC Skimmer with a magnet holder for glass up to a thickness of  $12 \text{ mm} (\frac{1}{2}'')$  is supplied installation-ready.

Comline<sup>®</sup> DOC Skimmer 9004 Recommended, depending on tank load, from 60 to 250 liters (15 to 65 USgal.) of sea water. Immersion depth: approx. 225 to 245 mm (8.9" to 9.7") Skimmer cup volume: 0.2 liters (.05 Usgal.) Air capacity: approx. 150 l/h (40 USgal./h) Energy consumption: 4 W, 230V/50Hz (115V/60Hz) Dimensions (L x W x H): 110 x 90 x 305 mm (4.3" x 3.5" x 12") Magnet Holder up tò a glass thickness of 12 mm (1/2").

Comline<sup>®</sup> DOC Skimmer 9004 DC Recommended, depending on tank load, from 60 to 300 liters (15 to 79 USgal.) of sea water.



Immersion depth: approx. 225 to 245 mm (8.9" - 9.7") Skimmer cup volume: 0.2 liters (.05 USgal.) Air capacity: approx. 200 l/h (52.8 USgal./h) Energy consumption: approx. 5 W (max. 10 W) Power supply unit: 100-240V / 50-60Hz Cable length: 3 m (118,1") up to the Turbelle® controller Dimensions (L x W x H): 110 x 90 x 305 mm (4.3" x 3.5" x 12") Magnet Holder up to a glass thickness of 12 mm (1/2").

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Skimmer cup, 0.2 liters (.05 USgal.), also accommodates the foam reactor, easy to remove. **2**TUNZE<sup>®</sup> Foamer 9004.040, high air output and low energy consumption. Omline<sup>®</sup> Design: comfortable use, elegant and unobtrusive in the aquarium. • Attachment with a patented magnet holder for a glass thickness of up to 12 mm ( $\frac{1}{2}$ ). **5** Intermediate chamber with a patented anti-overfoaming system. 6 Air flow regulation and silencer for an exceptionally quiet operation. Surface intake with bacteria film removal.

8 Bubble-free outgoing water.



# Impressively minimalistic **OC SKIMMER 9012**

The large Comline® DOC Skimmer 9012 is designed for use in mixed seawater aquariums / soft coral aquariums from 200 to 1,200 liters (53 to 317 USgal.), or for sensitive reef biotopes with hard corals up to 500 liters (132 USgal.). It operates according to the TUNZE® flash skimming principle and acquires the water through an efficient surface suction with a surface film removal, and can therefore also be used as a "stand-alone" solution in the aquarium. The TUNZE® Foamer generates large volumes of fine air bubbles with a diameter between .1 and .3 mm (.004" -.012") and is especially quiet during the operation. Silicone buffers on the skimmer prevent the transfer of vibrations to the aquarium glass pane. The Comline® DOC Skimmer with a Magnet Holder for glass up to a thickness of 15 mm (2/3") is delivered installation-ready.

> The skimmer cup with a capacity of 0.7 liters (0.18 USgal.) also contains the foam reactor, which can be easily removed.

Air flow regulation and silencer for an exceptionally quiet operation.

Surface suction with surface film removal.

Intermediate chamber with a patented anti-overfoaming system.

Silicone buffers on the skimmer prevent the transfer of vibrations to the aquarium glass pane.

TUNZE<sup>®</sup> Foamer 9012.040, high air flow performance and low energy consumption.

Attachment with a patented Magnet Holder for a glass thickness of up to 15 mm (2/3").

Bubble-free outgoing water.

Comline<sup>®</sup> DOC Skimmer 9012 DC Recommended, depending on tank load, from 200 to 1,400 liters (53 to 370 USgal.) of sea water. Immersion depth: approx. 255 to 285 mm (10 to 11") Skimmer cup volume: 0.7 liters (0.18 USgal.) Air capacity: approx. 4501/h (118.9 USgal./h Energy consumption: approx. 17 W (max. 21 W) Power supply unit: 100-240V/50-60Hz Cable length: 3 m (118.1 in.) up to the Turbelle® controller Dimensions (LxWxH): 140x110x415mm(5.5"x4.3"x16.3") XX 12 V Silence Magnet Holder up to a glass thickness

of 15 mm (2/3").



### Skimmer cup holiday 9012.145

For DOC Skimmer 9012, with appropriate hose connection and 2 m (78.7") silicone hose. Provides the accumulation of significantly larger quantities of foam, e.g. in a bucket, cup or directly into the drain. For aquariums during holiday/ vacation, for professional systems, larger aquariums, etc.



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# Comline<sup>®</sup> DOC Skimmer 9012 Recommended, depending on tank load, from 200 to 1,200 liters (53 to 317 USgal.) of sea water. Immersion depth: approx. 255 to 285 mm (10 to 11") Skimmer cup volume: 0.7 liters (0.18 USgal.) Air capacity: approx. 400 l/h (105 USgal./h)

Energy consumption: 13 W, 230V/50Hz (115V/60Hz) Dimensions (LxWxH): 140x110x415mm(5.5"x4.3"x16.3") Silence Magnet Holder up to a glass thickness of 15 mm (2/3").

## Skimmer cup holiday 9004.145 For DOC Skimmer 9004, with

appropriate hose connection and 2 m (78.7") silicone hose. Provides the accumulation of significantly larger quantities of foam, e.g. in a bucket, cup or directly into the drain. For aquariums during holiday/ vacation, for professional systems, larger aquariums, etc.



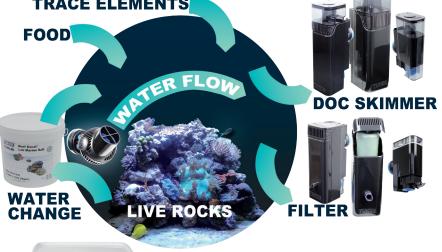
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# Impressively minimalistic PACK



Filters, skimmers and biological know-how are requirements in marine aquariums; natural conditions are obtained, provided that there is a balance between the input and removal of food, waste and additives. The combination of equipment and know-how results in balance, where pollutants discharged into the water by some organisms (e.g. fish) are either utilized by other species (e.g. corals, small organisms) or removed by means of technical equipment (e.g. filters, skimmers).





# Water change with Comline<sup>®</sup> Reefpack:

Regular water changes are standard practice for maintaining any aquarium. The high efficiency of the Reefpack filtering reduces this need to a minimum as the filtration system is capable of maintaining constant parameters on its own.

- Comline<sup>®</sup> Reefpack 100 For nano seawater habitats from 30 to 100 liters (8 to 26 US gal.).
- Power consumption only 7 W for all components, 230V/50Hz (115V/60Hz). Comline<sup>®</sup> DOC Skimmer 9001
- Comline® Filter 3161 for mechanical and chemical filtration, refillable with any kind of filter media.
- Filter walding 0873.010
  Storage tank 5002.100 with a volume of 13 liters (3.4 USgal.) to hold the refill water.
  Magnet Holder up to a glass thickness of 10 mm (3/8").
  Dimensions (LxWxH): 115x123x215 mm (4.5" x4.6" x8.5")



## Comline<sup>®</sup> Reefpack 250

- For seawater biotopes from 60 to 250 liters (15 to 65 USgal.)
- Power consumption only 8.5 W for all components, 230(V/S0Hz (115V/60Hz).
   Comline® DOC Skimmer 9004 for high performance skimming.
- Loop current in aquarium by energy saving pump with variable performance from 250 to 850 l/h (70 to 250 USgal./h).
- Comline<sup>®</sup> Filter 3162 for mechanical and chemical filtration, refillable with any type of filter medium.
  Storage tank 5002.100 with a volume of 13 liters (3.4 USgal.) to hold the refill water.
  Magnet Holder up to a glass thickness of 12 mm (<sup>1</sup>/<sub>2</sub>").
  Dimensions (L x W x H): 110 x 180 x 305 mm (4.3" x 7.1" x 12")



## Comline<sup>®</sup> Reefpack 500

- For seawater biotopes from 200 to 500 liters (53 to 132 USgal.). Power consumption only 31 W for all components, 230V/50Hz (115V/60Hz). Comline® DOC Skimmer 9012 for high performance skimming. Loop current in aquarium by energy saving pump with variable performance from 500 to 2,100 l/h (132 to 555 USgal./h).
- Comline® Multifilter 3168 (cartridge quick filter)
- Osmolator® 3155 • Storage tank 5002.250 with a volume of 27 liters (7.1 USgal.) to hold the refill water.
- Magnet Holder up to a glass thickness of 15 mm (2/3"). Dimensions (L x W x H): 140 x 220 x 415 mm (5.5" x 8.6" x 16.3") Can be easily combined with other TUNZE® products.





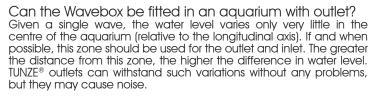


# Impressively minimalistic WAVEBOX

The Comline® Wavebox 6208 is a wave generator for small and medium-sized tanks from 150 to 800 liters (40 - 211 USgal.), Wavebox 6214 for aquariums from 400 to 1,400 liters (105 to 370 USgal.), depending on the type of the aquarium and on the decoration. It is easy to use, elegant and its compact size allows discrete mounting in the corner of the aquarium. The Comline® Wavebox 6208 is operating with a Turbelle® nanostream® 6055, 6214 with a Turbelle® stream. The embedded Magnet Holder allows the simple mounting of the Wavebox everywhere inside aquariums with glass panes up to a thickness of 15 mm (2/3") (6208), resp.19 mm (3/4") (6214). The emission of vibrations to the glass pane is avoided by the attached silicone buffers.







#### Can the Wavebox produce several waves?

Given an aquarium of two meters (78") in length, a double wave can be produced. In order to get an indication for this frequency, the resonance frequency of single wave has to be divided by two. However, this can be achieved by means of the bigger Wavebox only.









Is the Wavebox compatible with other Turbelle® pumps? The Wavebox can also be integrated in an aquarium with Turbelle® pumps. The circular current of the Turbelle® and the washing of the waves produced by the Wavebox superimpose each other and result in a strongly pulsating circular current for reef top biotopes, for example.

Two Waveboxes 6214 are needed for a tank with a content of 2,000 liters (528 USgal.). Do the Waveboxes have to be located next to each other in case of space problems? Two Waveboxes can be placed in opposite corners of the tank; in this case they will operate alternatingly: When one Wavebox operates, the other is switched off, et cetera; Wavecontroller 7092 is used to control the entire system.

#### How does the Wavebox operate?

The pump in the Wavebox presses the water to the left-hand side of the tank causing all polyps in every position in the aquarium to move to the left.

The pump is stopped; the wavebox fills up; and the entire water in the aquarium returns to the right-hand side. All polyps move to the right.

Comline® Wavebox 6214 For aquariums from 400 to 1,400 liters (106 to 370 USgal.). With Turbelle® controller. Immersion depth: 255 to 285 mm (10 - 11 in.) Energy consumption: average 26 W at 24 V Power supply unit: 100-240V / 50-60Hz Dimensions (L x W x H): 140 x 110 x 300 mm (5.5" x 4.3" x 12") Silence Magnet Holder up to a glass thickness of 19 mm (3/4"). With Moonlight Turbelle®, controls the night setback of the controller.



Comline<sup>®</sup> Wavebox 6208 For aquariums from 150 to 800 liters (40 - 211 USgal.). With Turbelle<sup>®</sup> controller. Immersion depth: approx. 230 mm (9.1") Energy consumption: average 10 W Power supply unit: 100-240V / 50-60Hz Dimensions (L x W x H): 110 x 90 x 255 mm (4.3" x 3.5" x 10") Magnet Holder up to a glass thickness of 15 mm (2/3"). With Moonlight Turbelle<sup>®</sup>, controls the night setback of the controller.