



23.440 - 30 x 15 cm

23.450 - 60 x 25 cm

23.500 - 70 x 30 cm

Manta Net – Available Models

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Manual

KC Denmark A/S

Research Equipment

Limnology • Oceanography • Hydrobiology

Manta Net – Available Models



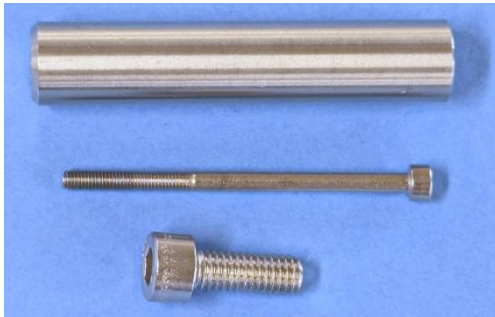
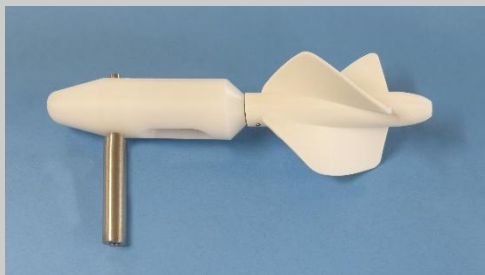
Caution

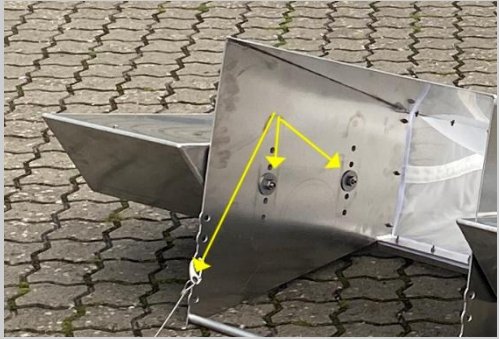
Liability disclaimer:

KC Denmark A/S is not, and cannot be held, responsible for any damage to equipment or injury to operators resulting from ignored safety precautions, misuse, or incorrect operation.

Operating instruction:

Recommended towing speed: max. 3 knots. For mesh sizes below 300 µm, you may reduce the speed to compensate for the smaller open area in the net bag.

Item	Description	
1	If the Manta net is supplied with a flow meter, it comes with a small spacer and bolts for the mounting. For calculating the flow see item 7.	
2	When mounting the flow meter on the spacer, ensure that it is in an easily readable position, and secure it with the bolt. Do not overtighten the bolt, as this may damage the flow meter.	
3	Mount the flow meter as shown. The nose of the flow meter must point towards the opening of the Manta net.	

4	The net's position on the water surface can be adjusted in 2 ways: 1. At the front of the net, the bridle has three positions, as shown. 2. The front and rear edges of the opening each have two vertical sets of holes for adjusting the angle of the wings, thereby setting the actual sample depth.	
5	The collecting bottle has five windows covered by a stainless steel filter, and the mesh size corresponds to that of the main net. Furthermore, the bottle has a small eye to which you can attach a small float to keep the bottle close to the water's surface.	
6	To empty the bottle, unscrew the lower part.	

Calculating the water flow

To calculate the volume of water passing through the plankton net, you can attach a digital flow meter.

The principle for calculating the water volume is the same for both models; see below. The digital flow meter incorporates a three-blade impeller coupled directly to a five-digit counter that records each revolution of the impeller.

The pitch of the impeller is 0,3 m per revolution, i.e., the number of revolutions multiplied by 0.3 makes the towing distance.

For quantitative measurements the threshold flow velocity of the impeller should not be smaller than 0,5 m/sec. For comparison measurements flow velocities smaller than 0,5 m/sec are possible.

Example: The number of revolutions is 100; this means a towing distance of 30 m.

The opening area of the plankton net must be known or has to be calculated. The water volume passed through the plankton net is determined as follows:

Indicated number of revolutions x 0,3 x net opening area (m²) x 1000 = water volume.

Example:

The plankton net has a diameter of 40 cm, i.e., the opening area is 0,125 m². If the number of revolutions associated with a tow is 266 (noted from the digital flow meter counter), the water volume passed through the plankton net is:

$$266 \times 0,3 \times 0,125 \times 1000 = 9.975 \text{ L} = 9,975 \text{ m}^3$$

Spreadsheet for converting flow-meter readout to water volume.

The flow-meter readout (max. value 99999) can be converted to water volume using our spreadsheet, which allows quick and intuitive conversion regardless of whether the net opening is circular, square, or rectangular.

Download the spreadsheet [here](#), or scan the QR code to download it.



	Maintenance	
8	The plankton net: Give plankton nets proper care and maintenance. Do not let particulate matter dry on the net, as this can significantly reduce the size of the mesh apertures and increase the frequency of clogging. Wash net thoroughly with water after each use. Periodically clean with a warm soap solution. It is also advisable to hang-up the net to air-dry after washing. Because nylon net material is susceptible to deterioration from abrasion and sunlight, guard against unnecessary wear and store the net in the dark. The flow meter: Rinse the digital flow meter thoroughly with freshwater after use. Otherwise, the mechanism may become clogged by salt and other deposits.	

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E-mail: sales@kc-denmark.dk website: <http://www.kc-denmark.dk/>
Holmbladsvej 17-19, DK 8600 Silkeborg, Denmark. Tel. +45 86 82 83 47
Bank: Sydbank. SWIFT: SYBKDK22 - IBAN DK5070460000104832
VAT no. DK 29 61 96 62