

# USER MANUAL

Flat Bird Nets

REVISION 1

**AKVA**GROUP<sup>TM</sup>  
EGERSUND NET

# SUMMARY

Bird nets are installed over a fish farming net to prevent birds getting into the floater and from there into the fish farming net, and to prevent fish escaping. They can be produced in various sizes and to various specifications.

They are manufactured from nylon, polyethylene or Dyneema®, and can be specially designed if required. This user manual is for bird nets installed over fish farming nets without the support of poles attached to the floater, hamster wheels or centre floaters.

Bird nets can be supplied for both round and square floaters.

Bird nets are manufactured in accordance with the requirements for extra equipment in Norwegian Standard 9415:2021 and the Nytek23 regulations.

When using bird nets, it is important to be aware of certain risks:

- The bird net must be suitable for the floater it is attached to. This is to prevent placing too great a strain on the floater or the bird net itself.
- The bird net must not be installed on the fish farming net in any way that could place a strain on the netting or other fish farming net components.

Inspection and maintenance of bird nets is essential to ensure safe use and optimal service life.

## CONTENTS

<b>1</b>	<b>BIRD NETS AND THEIR COMPONENTS. . . . .</b>	<b>4</b>
1.1	Components with specifications/construction . . . . .	4
1.2	Assumptions and limitations . . . . .	5
1.3	Modification, renovation and enlargement . . . . .	5
1.4	Nonconformities and managing faults . . . . .	5
<b>2</b>	<b>INTERACTION WITH OTHER COMPONENTS. . . . .</b>	<b>6</b>
2.1	Interaction with fish farming net . . . . .	6
2.2	Interaction with floater . . . . .	6
<b>3</b>	<b>INSTALLATION AND USE OF BIRD NET . . . . .</b>	<b>7</b>
3.1	Checking documentation and checkpoints before installation and use . . . . .	7
3.2	Installation and use . . . . .	7
3.3	Removing bird net from floater . . . . .	8
3.4	Special environmental conditions . . . . .	8
3.4.1	Extreme weather or strong currents . . . . .	8
3.5	Risk assessment – critical points . . . . .	8
<b>4</b>	<b>INSPECTION AND MAINTENANCE . . . . .</b>	<b>9</b>
4.1	General . . . . .	9
4.2	Inspection checklist . . . . .	9
4.3	Inspection of bird nets at service facilities . . . . .	10
4.4	Log . . . . .	10
4.5	Disposal/recycling . . . . .	10
<b>5</b>	<b>TRANSPORTATION AND STORAGE . . . . .</b>	<b>11</b>
5.1	Transport and receipt of bird nets . . . . .	11
5.2	Storage of bird nets . . . . .	11
<b>6</b>	<b>MANUFACTURER AND PRODUCT IDENTIFICATION . . . . .</b>	<b>12</b>
6.1	Contact . . . . .	12
6.2	Identification of bird nets . . . . .	13
6.3	Net-Reg . . . . .	13
6.4	Explanation of symbols . . . . .	13
<b>7</b>	<b>REVISION HISTORY. . . . .</b>	<b>14</b>
7.1	Revision changes . . . . .	14

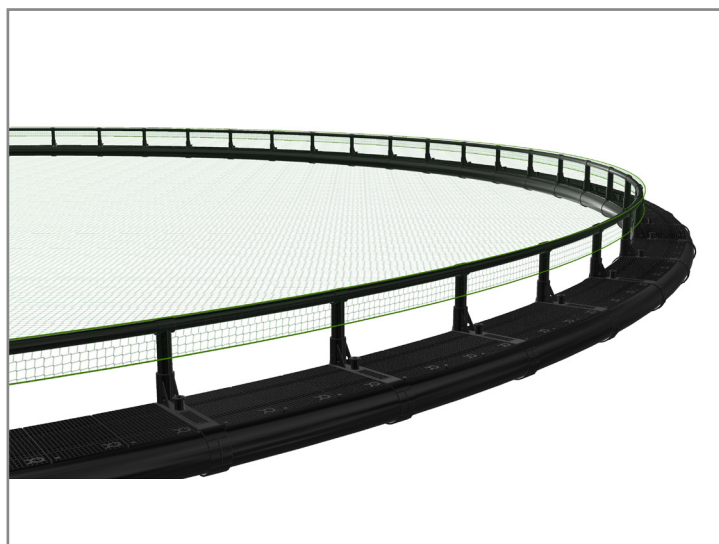
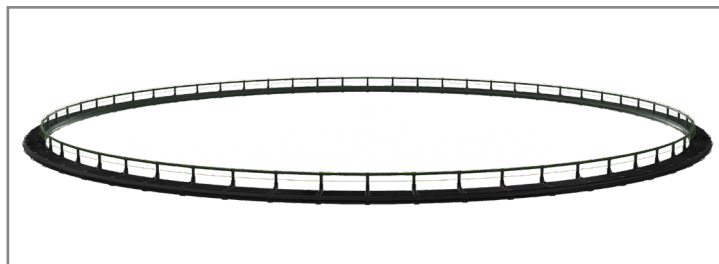
# 1 BIRD NETS AND THEIR COMPONENTS

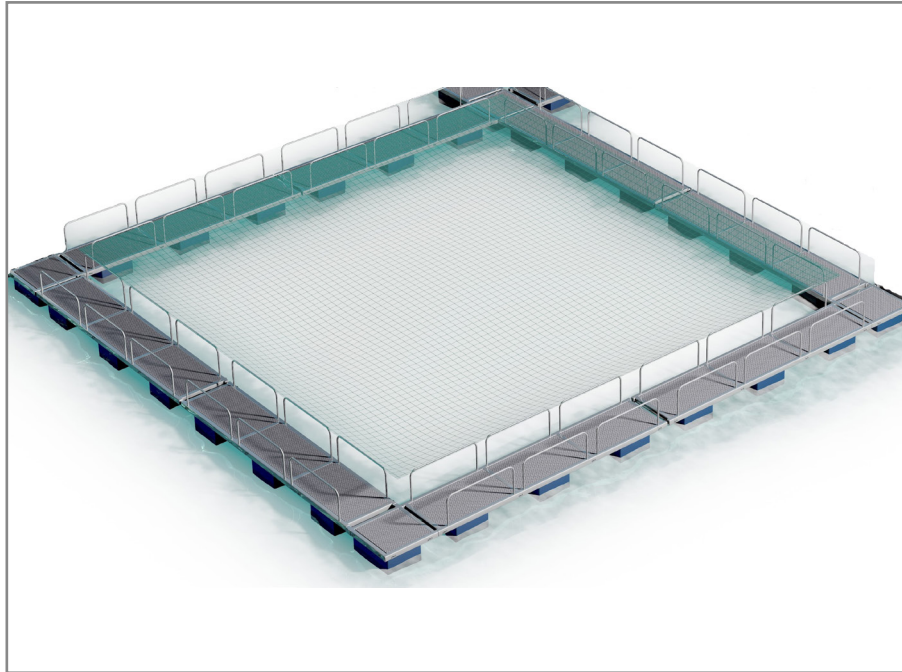
## 1.1 Components with specifications/construction

The bird net is usually made of nylon, polyethylene or Dyneema, and is tailored to the size of the floater.

A rope is affixed around the circumference of the bird net, to which rope ends can be attached for fastening. In some cases an extra skirt, or jump skirt, is fitted to the bird net, which then hangs from the handrail and down to the walkway. This prevents birds from entering the fish farming net or fish escaping from it.

In some cases, cross ropes are attached to the bird net.





## 1.2 Assumptions and limitations

Bird nets from AKVA Group Egersund Net are made to prevent birds getting into floaters or to prevent fish escaping. They must not be used for any other purposes. The net must be suitable for its intended purpose. It is important to consider how the bird net and other components in a complete system affect each other.

## 1.3 Modification, renovation and enlargement

Any modification or renovation of bird nets must be carried out in consultation with AKVA Group Egersund Net. AKVA Group Egersund Net should be contacted prior to any renovation or modification.

## 1.4 Nonconformities and managing faults

Any faults or defects discovered in the bird net must be reported immediately to our sales representative or to one of our service facilities. The type of fault or defect will determine what measures are to be taken:

- whether the fault or defect is to be rectified on site
- whether the bird net must be returned to the nearest service facility

## 2 INTERACTION WITH OTHER COMPONENTS



### 2.1 Interaction with fish farming net

A bird net must be adapted to the fish farming net with which it is to be used. It is important to inspect the bird net before use to ensure it is not worn and that there are no sharp edges that could snag the netting of the fish farming net. You must also ensure that the bird net does not hang in a way that could cause wear to the fish farming net.



### 2.2 Interaction with floater

The bird net should be attached to the floater at regular intervals around its whole circumference, by fastening to the handrail. It is important that the bird net is installed in a way that will not cause unnecessary strain on the floater.

The bird net must not be allowed to hang in the water, as fish may get stuck in it.

## 3 INSTALLATION AND USE OF BIRD NET

### 3.1 Checking documentation and checkpoints before installation and use

Before using the bird net, ensure that the user manual is available.

Check the netting for any damage. Visible damage to the product is a sign that something has happened to the bird net during transport or storage. In some cases, particularly close inspection of the net will be required.

Bird nets must only be installed when weather and current conditions permit.

Applicable procedures must be reviewed before the start of the operation.

The operations manager or personnel with the appropriate experience and competence must be responsible for the operation, and the various tasks must be assigned. The correct personal protective equipment must be worn, and the right type of lifting equipment must be used when using a crane. Extra equipment that could snag on the bird net must be removed or secured. The operation must be monitored.

### 3.2 Installation and use

- First unpack the net and lift it into the floater.
- The netting of the bird net should be evenly distributed around the floater and fastened to the floater handrail using fastening ropes.
- The bird net must be retightened after installation to prevent it from sagging or stretching. This is especially important if the bird net is made of nylon.
- Skirts can be fitted with two different mesh sizes, with the lower part of the skirt having smaller meshes than the rest. This is referred to as a jump skirt, and it acts as an extra measure to prevent birds entering and fish being “washed out” of the floater. The skirt should ideally be long enough to hang below the floater handrail. Skirts can also be produced for attachment to the handrail.
- Make sure that the bird net does not come into contact with the surface of the water.
- Make sure that the bird net does not come into contact with the feed spreader or other extra equipment in or on the floater, to prevent holes and wear to the bird net.
- If operations are to be performed inside the floater, such as counting lice or treating fish, a section of the bird net can be detached from the handrail and pulled into the floater. Once the operation is complete, the bird net must be reattached to the floater handrail.
- Be aware that constant wave motion may cause wear and tear to fastenings and at the contact point between the bird net and components inside the floater.

## 3.3 Removing bird net from floater

When the bird net is to be removed from the floater, we recommend using a protective cover; see User Manual for Protective Cover.

The bird net can be cut loose and released into the protective cover. Doing this carefully will result in less damage to the net. If there are fish in the floater, it is important to ensure that they do not get stuck in the bird net.

## 3.4 Special environmental conditions

### 3.4.1 Extreme weather or strong currents

Do not install or adjust bird nets in extreme weather.

## 3.5 Risk assessment – critical points

Bird nets must only be used for their intended purpose. Nevertheless, there are some critical factors that could cause a bird net to damage a fish farming net and/or allow fish to escape:

- Contact between bird net and floater can cause undue stresses – for example, if the net is not correctly installed at the time of ponding or following other operations, this can result in damage to bird net components or the fish farming net.



- Incorrect installation or use can result in the bird net becoming detached from the floater, potentially allowing fish to escape from the fish farming net.

It is important to be aware of all these factors to ensure responsible management and to prevent undesired incidents. Ensuring that personnel who handle bird nets and are responsible for daily inspections are aware of the above issues will often reduce the risk of accidents and escapes.



# 4 INSPECTION AND MAINTENANCE

## 4.1 General

It is vital to maintain bird nets to ensure that operations can be carried out in the best way possible. Regular inspections also help to extend the nets' service life. Inspections will reveal any abnormal situations and help prevent birds entering floaters and getting into fish farming nets, or fish escaping. The person in charge of monitoring the net must be familiar with the bird net and have the requisite fish-farming experience to be able to identify any abnormal situations. All inspections and maintenance must be logged.

The product does not normally contain any user-replaceable parts. Please contact one of AKVA Group Egersund Net's service facilities if you are uncertain about what is permitted in terms of servicing and replacement of parts by the fish farmer.

## 4.2 Inspection checklist

The purpose of inspections is to identify any damage and weaknesses as early as possible. You must incorporate these checks into your regular operating procedures. If you suspect that the bird net has become damaged, you must carefully examine it immediately.

The following points should be checked during inspection:



Checklist item	What to inspect
Wear and tear	Check that there is no wear to components such as rope or netting
Fastening	Check that the bird net is securely fastened to the floater

## 4.3 Inspection of bird nets at service facilities

Bird nets can be returned to a certified service facility.

Here, the net will be inspected and any necessary repairs made. Any damaged or clearly weakened components will be replaced. This includes netting, ropes and loops.

## 4.4 Log

All inspections and maintenance of a bird net must be logged.

The log must describe the following as a minimum:

- The action taken (type of inspection, cleaning, maintenance or repair) with reference to a plan and procedure
- The result of the action taken
- The necessary follow-up as a conclusion to the action taken
- Date
- Person/facility performing the work
- Signature

## 4.5 Disposal/recycling

If the bird net is no longer to be used, it can be returned to any AKVA Group Egersund Net service facility, where it will be processed in accordance with our waste management procedures.

# 5 TRANSPORTATION AND STORAGE

## 5.1 Transport and receipt of bird nets

AKVA Group Egersund Net recommends packing bird nets in a bag. When you receive a bird net, you must check the packaging for any damage. Visible damage to the packaging is a sign that something has happened to the bird net during transport. In such cases, you must inspect the netting before use and notify AKVA Group Egersund Net and the carrier. Bird nets must always be checked before and after use. This requirement also applies even if they arrive directly from the manufacturer or a service facility.

## 5.2 Storage of bird nets

Bird nets must be stored in a way that prevents exposure to any external forces that could damage their components. Similarly, work involving strong heat, such as welding, must never be performed near the net. When you receive a net, it is your responsibility to ensure that it is stored properly.

Storage in a bag or box is considered the best way to store a bird net. If a bird net is packed in a bag fitted with loops, it is important to check the capacity of the loops before performing any lifting. Bird nets must not be dragged on the ground, as this can damage them.

If you intend to store a bird net, you should clean it before packing it up. Otherwise, contaminants such as feed residues could corrode and weaken the netting.

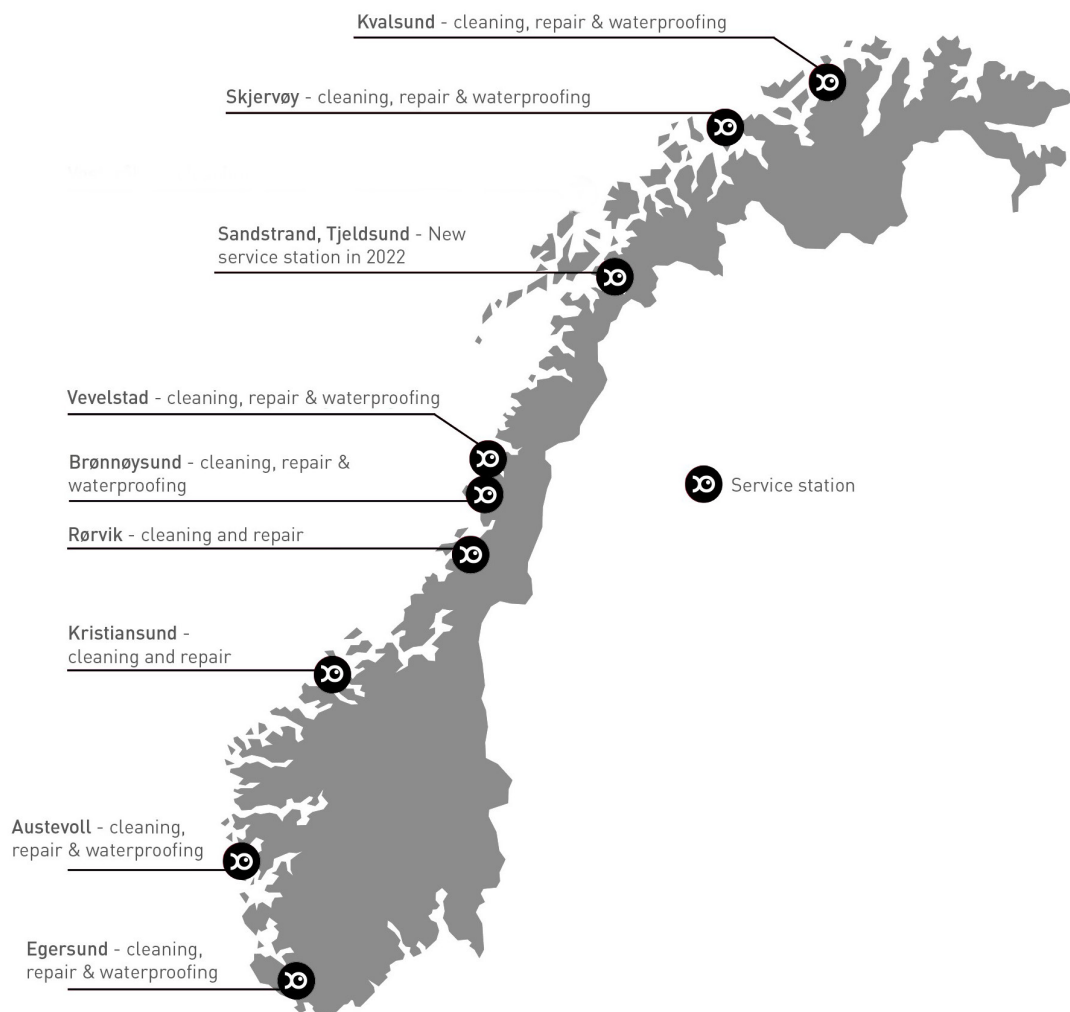
# 6 MANUFACTURER AND PRODUCT IDENTIFICATION

## 6.1 Contact

If you have any questions about bird nets, please contact our head office or your nearest service facility.

### HEAD OFFICE

AKVA Group Egersund Net AS  
Svanavågveien 30, 4373 Egersund, Norway  
Telephone: +47 51 46 29 00  
Email: [post@egersundgroup.no](mailto:post@egersundgroup.no)  
[www.akvagroup.com](http://www.akvagroup.com)



## 6.2 Identification of bird nets

Each bird net has a unique production number. All production-related information and maintenance history is registered and stored with a reference to the production number. Identification marks and production numbers are attached to ropes fitted around the circumference of the bird net.

## 6.3 Net-Reg

The Net-Reg customer portal is a user-friendly equipment log permitting the maintenance of checklists and documentation of all your equipment, including bird nets. This tool gives you a complete overview of the locations and status of your equipment. It can be used to produce documentation for each piece of equipment for internal and external audits.

## 6.4 Explanation of symbols



**REQUIREMENT:** Placed beside text describing requirements.



**NB:** Placed beside text describing potential incidents and other aspects that you should be aware of.



**TIP:** Placed beside tips and advice relating to installing and handling a bird net.



**ESCAPE RISK:** Placed beside text describing events and/or operations that may increase the risk of fish escaping.

# 7 REVISION HISTORY

## 7.1 Revision changes

Some chapters in this user manual were previously published as part of the User Manual for Top Nets – revision 4, November 2021. The changes included here are based on this previous edition of the user manual.

The table below lists changes in the latest revision of the user manual.

Rev. no.	Date	Scope	Reference
2	1 December 2023	User manual updated in accordance with Norwegian Standard 9415:2021 and the Nytek23 regulations	All
2	1 December 2023	New risks included	Section 3.2

# THANK YOU FOR CHOOSING AKVA GROUP EGERSUND NET

Our mission is to deliver solutions and services that optimise production and contribute to sustainable, cost-effective and safe fish farm operation. We place great emphasis on fish welfare, operational performance and profitability for our customers in everything we do.

Bird nets are installed over a fish farming net to prevent birds getting into the floater and to prevent fish escaping. They are normally made from nylon, polyethylene or Dyneema netting.

AKVA Group Egersund Net is committed to producing high-quality, easy-to-use bird nets, and in this user manual we describe how you should handle our nets.

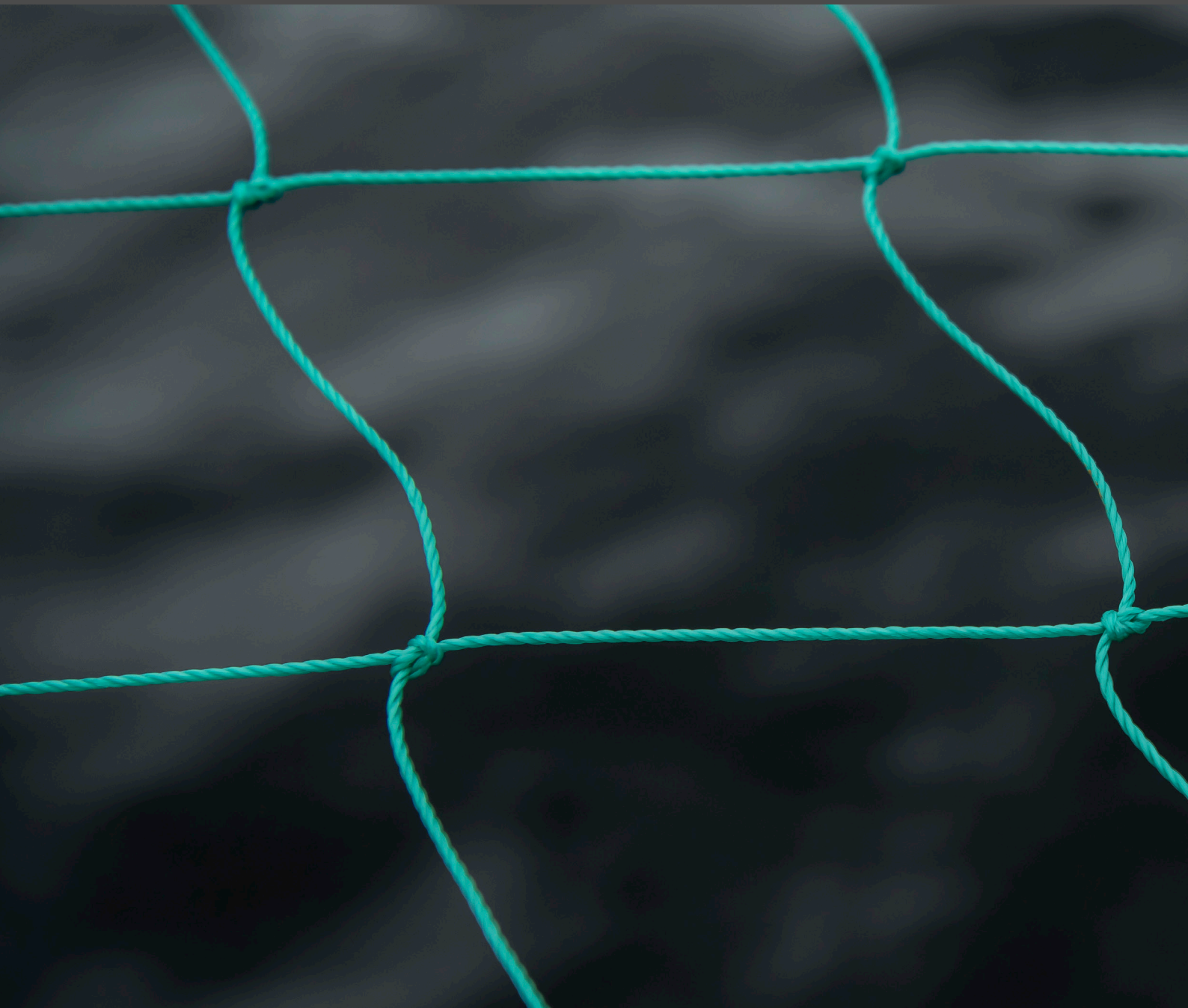
We keep our manuals as user-friendly as possible. To achieve this, we rely on your feedback and on our collaboration with you as a user of our products. We value every suggestion we receive very highly, as these help us deliver more effective and safer equipment. You are most welcome to contact us if you have any comments or suggestions for improvement.

This User Manual for Bird Nets is available on our website, [www.akvagroup.com](http://www.akvagroup.com), and on our online equipment log, Net-Reg, at [www.net-reg.no](http://www.net-reg.no).

Together, we can help ensure that fish farming is an eco-friendly, sustainable and growing industry that produces safe and healthy seafood for the global market.

This user manual is designed to meet the requirements of Norwegian Standard 9415:2021 and the Nytek23 regulations. AKVA Group Egersund Net reserves all rights to this user manual and its contents. Reproduction and distribution to third parties without our clearly expressed prior approval are not permitted. We reserve the right to correct any errors in the text or illustrations.

Best regards  
AKVA Group Egersund Net



**AKVA**GROUP™  
EGERSUND NET