



norwegian  
greentech  
part of HAV group



# Passion for **CLEAN WATER**

Norwegian Greentech  
BWMS

01



# Norwegian Greentech



Norwegian Greentech AS, a Norway-based company founded in 2010 in Fosnavåg, is a proud member of the HAV Group. Our primary focus is on developing water treatment systems tailored for the maritime industry. Our product portfolio includes ballast water treatment systems, solutions for fresh and technical water, and water treatment systems for live fish carriers and land-based aquaculture. We are committed to delivering innovative and sustainable solutions to meet the evolving needs of our clients.

Norwegian Greentech consists of highly motivated employees with long experience from several other companies in the Norwegian Maritime Cluster. With knowledge about the high demands in maritime operations we aim to give our customers the best service at all time.

Dedicated and trustworthy, based on feedback and focused on results!

# Contents

About Norwegian Greentech	02
NGT BWMS – about the system	04
Aquaculture – Supplier of Process Water Treatment	05
Service & aftermarket	07
Key Selling Points	09
BWMS Compact – small capacity range	10
BWMS Compact – medium capacity range	12
BWMS Compact – large capacity range	14
Sustainability – Clean Water solutions	15
Approvals & Certificates	16
NGT sales	20

# NGT BWMS

## – about the system

NGT BWMS make use of the latest UV-technology commercially available today, based on medium pressure UV-radiation. Which is the most efficient UV-technology for Ballast Water Treatment.

UV- light has proved to be a very “clean” alternative to active substances. Unlike these methods, UV does not produce any disinfection-by-products (DBPs).

The UV-sensor is placed in between the lamps, “looking 360 degrees” and senses all lamps simultaneously. Lamps and sensor are covered by the same quartz sleeves, and is cleaned by a state of the art wiping mechanism.

With 20-micron prefiltration we ensure great treatment efficiency for the UV which again results in low power consumption and low apex cost.



# Aquaculture – Supplier of Process Water Treatment Systems



Norwegian Greentech is a supplier of highly efficient process water treatment systems for live fish carriers and land-based aquaculture.

The Process water treatment systems are based on filter and UV technology and is approved by the veterinarian institute.

In this segment we have a close cooperation with MMC First Process.







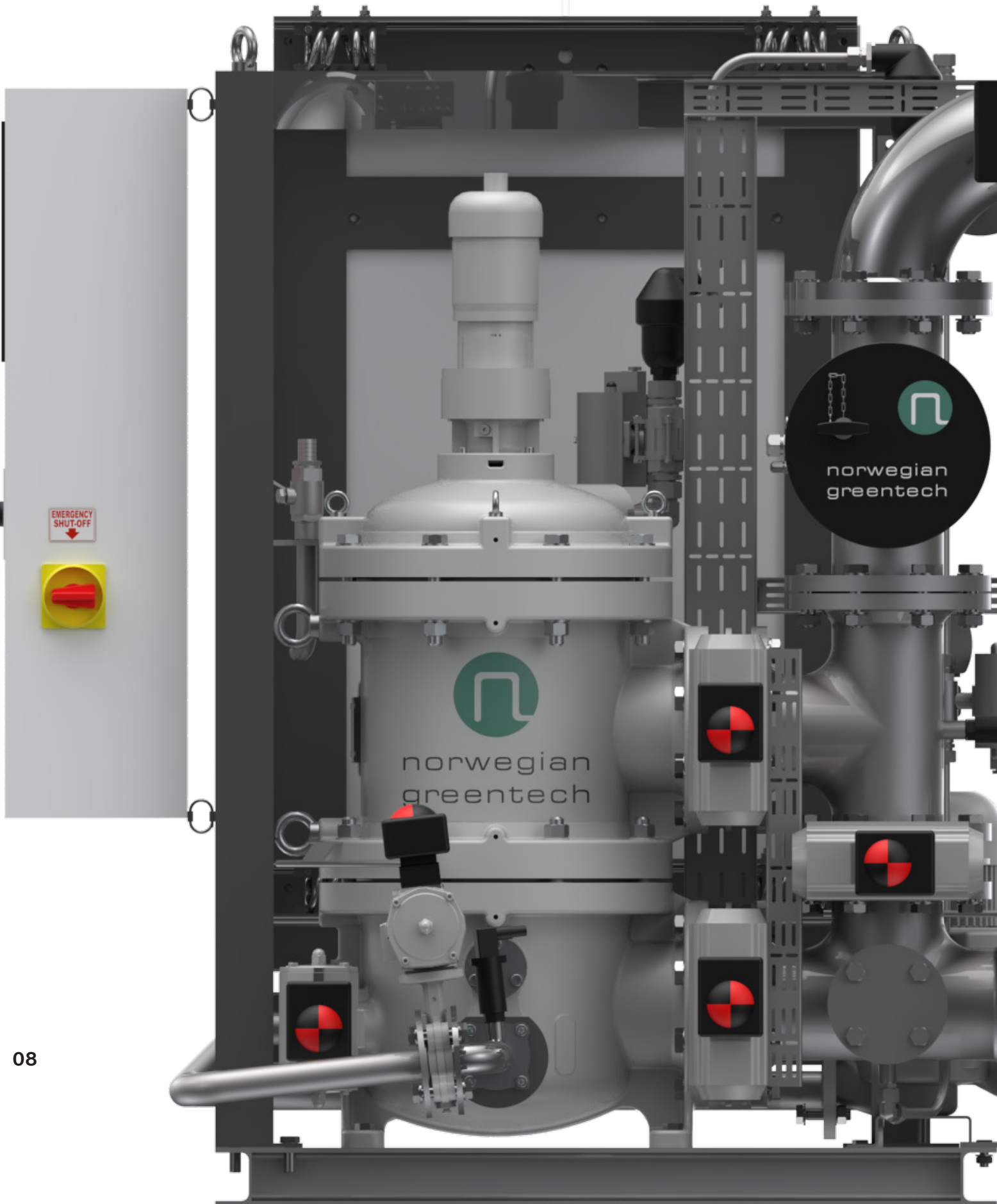


# Service & aftermarket

With our skilled and motivated service team, as well as our trained partners, we will provide advice and guidance if problems occur, and we are ready to act at very short notice.

Please contact our Service & Aftermarket department:  
[service@norwegiangt.no](mailto:service@norwegiangt.no)







# Why choose NGT BWMS



- Most compact unit on the market
- Lowest power consumption on the market
- Flexible delivery
- No active substance (environmentally friendly)
- Easy to operate
- Easy maintenance
- Competitive price
- Low CAPEX and OPEX
- Reliable and dedicated organization (talk to the expert)
- Design with reliable and well proven components

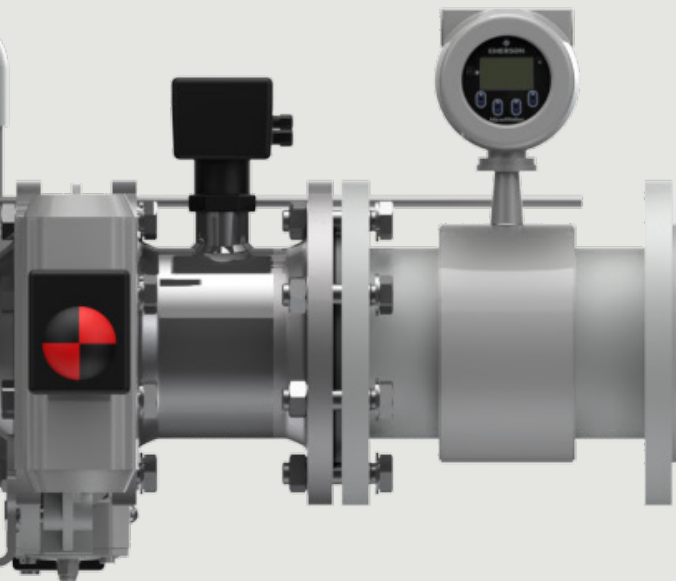
## Delivery options:

Skid: Completely mounted unit including BWMS main control cabinet and UV control cabinet.

Semi Skid, mounted: Completely mounted unit, but BWMS main control cabinet and UV control cabinet are delivered as loose components

Semi Skid, loose delivery: Includes all Semi Skid components, but not assembled

Main components: Includes all components to be in compliance with NGT TA



# Compact – small capacity range

## D0100-NGT BWMS DL2-BK273

D0100-NGT BWMS DL2-BK273	max TRC 60m <sup>3</sup> /h
System TRC:	60m <sup>3</sup> /h
System flow ballasting:	Minimum 25m <sup>3</sup> /h, maximum 60m <sup>3</sup> /h
System flow de-ballasting:	Minimum 3m <sup>3</sup> /h, maximum 60m <sup>3</sup> /h
Power consumption:	Minimum 7KW, maximum 9,3KW
Skid footprint:	820mm x 650mm (L x W)
Total height:	1423mm
System config:	Full skid, semi-skid, semi-skid loose, main components

## D0200-NGT BWMS DL3-BK324

D0200-NGT BWMS DL3-BK324	max TRC 90m <sup>3</sup> /h
System TRC:	90m <sup>3</sup> /h
System flow ballasting:	Minimum 26m <sup>3</sup> /h, maximum 90m <sup>3</sup> /h
System flow de-ballasting:	Minimum 4m <sup>3</sup> /h, maximum 90m <sup>3</sup> /h
Power consumption:	Minimum 6,5KW, maximum 11,8KW
Skid footprint:	1020mm x 790mm (L x W)
Total height:	1682mm
System config:	Full skid, semi-skid, semi-skid loose, main components

## D0300-NGT BWMS DL4-BK356

D0300-NGT BWMS DL4-BK356	max TRC 150m <sup>3</sup> /h
System TRC:	150m <sup>3</sup> /h
System flow ballasting:	Minimum 33m <sup>3</sup> /h, maximum 150m <sup>3</sup> /h
System flow de-ballasting:	Minimum 5m <sup>3</sup> /h, maximum 150m <sup>3</sup> /h
Power consumption:	Minimum 8KW, maximum 14,3KW
Skid footprint:	1072mm x 790mm (L x W)
Total height:	1682mm
System config:	Full skid, semi-skid, semi-skid loose, main components

m<sup>3</sup>/h

60

90

150



### D0400-NGT BWMS DXL6-BK356

D0400-NGT BWMS DXL6-BK356	max TRC 200m <sup>3</sup> /h
System TRC:	200m <sup>3</sup> /h
System flow ballasting:	Minimum 36m <sup>3</sup> /h, maximum 200m <sup>3</sup> /h
System flow de-ballasting:	Minimum 8m <sup>3</sup> /h, maximum 200m <sup>3</sup> /h
Power consumption:	Minimum 11KW, maximum 19,3KW
Skid footprint:	1071,5mm x 790mm (L x W)
Total height:	1815mm
System config:	Full skid, semi-skid, semi-skid loose, main components

### D0410-NGT BWMS DXL9-BK356

D0410-NGT BWMS DXL9-BK356	max TRC 204m <sup>3</sup> /h
System TRC:	204m <sup>3</sup> /h
System flow ballasting:	Minimum 40m <sup>3</sup> /h, maximum 204m <sup>3</sup> /h
System flow de-ballasting:	Minimum 12m <sup>3</sup> /h, maximum 204m <sup>3</sup> /h
Power consumption:	Minimum 15,2KW, maximum 26,8KW
Skid footprint:	1071,5mm x 790mm (L x W)
Total height:	1815mm
System config:	Full skid, semi-skid, semi-skid loose, main components

m<sup>3</sup>/h

200

204



# Compact – medium capacity range

## D0420-NGT BWMS DXL9-BK4I9

D0420-NGT BWMS DXL9-BK4I9	max TRC 260m <sup>3</sup> /h
System TRC:	260m <sup>3</sup> /h
System flow ballasting:	Minimum 52m <sup>3</sup> /h, maximum 260m <sup>3</sup> /h
System flow de-ballasting:	Minimum 12m <sup>3</sup> /h, maximum 260m <sup>3</sup> /h
Power consumption:	Minimum 15,5KW, maximum 33,3KW
Skid footprint:	1047,5mm x 1190mm (L x W)
Total height:	1806mm
System config:	Full skid, semi-skid, semi-skid loose, main components

## D0500-NGT BWMS DXLI2-BK4I9

D0500-NGT BWMS DXLI2-BK4I9	max TRC 350m <sup>3</sup> /h
System TRC:	350m <sup>3</sup> /h
System flow ballasting:	Minimum 55m <sup>3</sup> /h, maximum 350m <sup>3</sup> /h
System flow de-ballasting:	Minimum 15m <sup>3</sup> /h, maximum 350m <sup>3</sup> /h
Power consumption:	Minimum 20KW, maximum 40,8KW
Skid footprint:	1047,5mm x 1190mm (L x W)
Total height:	1806mm
System config:	Full skid, semi-skid, semi-skid loose, main components

## D0600-NGT BWMS D4XL8-BK4I9

D0600-NGT BWMS D4XL8-BK4I9	max TRC 378m <sup>3</sup> /h
System TRC:	378m <sup>3</sup> /h
System flow ballasting:	Minimum 57m <sup>3</sup> /h, maximum 378m <sup>3</sup> /h
System flow de-ballasting:	Minimum 17m <sup>3</sup> /h, maximum 378m <sup>3</sup> /h
Power consumption:	Minimum 20,4KW, maximum 44,8KW
Skid footprint:	1047,5mm x 1190mm (L x W)
Total height:	2095mm
System config:	Full skid, semi-skid, semi-skid loose, main components

m<sup>3</sup>/h

260

350

378





## D0620-NGT BWMS D4XL8-BK52I

D0620-NGT BWMS D4XL8-BK52I	max TRC 460m <sup>3</sup> /h
System TRC:	460m <sup>3</sup> /h
System flow ballasting:	Minimum 57m <sup>3</sup> /h, maximum 460m <sup>3</sup> /h
System flow de-ballasting:	Minimum 17m <sup>3</sup> /h, maximum 460m <sup>3</sup> /h
Power consumption:	Minimum 20,4KW, maximum 44,8KW
Skid footprint:	1940mm x 1190mm (L x W)
Total height:	2067,5mm
System config:	Full skid, semi-skid, semi-skid loose, main components

## D0700-NGT BWMS D4XLI0-BK52I

D0700-NGT BWMS D4XLI0-BK52I	max TRC 518m <sup>3</sup> /h
System TRC:	518m <sup>3</sup> /h
System flow ballasting:	Minimum 62m <sup>3</sup> /h, maximum 518m <sup>3</sup> /h
System flow de-ballasting:	Minimum 22m <sup>3</sup> /h, maximum 518m <sup>3</sup> /h
Power consumption:	Minimum 27,5KW, maximum 53,3KW
Skid footprint:	1940mm x 1340mm (L x W)
Total height:	2067,5mm
System config:	Full skid, semi-skid, semi-skid loose, main components

## D0800-NGT BWMS D4XLI0-BK600

D0800-NGT BWMS D4XLI0-BK600	max TRC 600m <sup>3</sup> /h
System TRC:	600m <sup>3</sup> /h
System flow ballasting:	Minimum 62m <sup>3</sup> /h, maximum 600m <sup>3</sup> /h
System flow de-ballasting:	Minimum 22m <sup>3</sup> /h, maximum 600m <sup>3</sup> /h
Power consumption:	Minimum 27,5KW, maximum 53,3KW
Skid footprint:	2170mm x 1570mm (L x W)
Total height:	2147mm
System config:	Full skid, semi-skid, semi-skid loose, main components

## D0810-NGT BWMS D4XLI2-BK600

D0810-NGT BWMS D4XLI2-BK600	max TRC 614m <sup>3</sup> /h
System TRC:	614m <sup>3</sup> /h
System flow ballasting:	Minimum 66m <sup>3</sup> /h, maximum 614m <sup>3</sup> /h
System flow de-ballasting:	Minimum 26m <sup>3</sup> /h, maximum 614m <sup>3</sup> /h
Power consumption:	Minimum 30,6KW, maximum 68,1KW
Skid footprint:	2170mm x 1570mm (L x W)
Total height:	2147mm
System config:	Full skid, semi-skid, semi-skid loose, main components

m<sup>3</sup>/h

460

518

600

614



# Compact – large capacity range

## D0900-NGT BWMS D4XLI2-BK750

m<sup>3</sup>/h

D0900-NGT BWMS D4XLI2-BK750	max TRC 750m <sup>3</sup> /h
System TRC:	750m <sup>3</sup> /h
System flow ballasting:	Minimum 66m <sup>3</sup> /h, maximum 750m <sup>3</sup> /h
System flow de-ballasting:	Minimum 26m <sup>3</sup> /h, maximum 750m <sup>3</sup> /h
Power consumption:	Minimum 30,6KW, maximum 68,1KW
Skid footprint:	3130mm x 1580mm (L x W)
Total height:	2518,5mm
System config:	Full skid, semi-skid, semi-skid loose, main components

750

## DI000-NGT BWMS D5XLI4-BK750

DI000-NGT BWMS D5XLI4-BK750	max TRC 1005m <sup>3</sup> /h
System TRC:	1005m <sup>3</sup> /h
System flow ballasting:	Minimum 88m <sup>3</sup> /h, maximum 1005m <sup>3</sup> /h
System flow de-ballasting:	Minimum 30m <sup>3</sup> /h, maximum 1005m <sup>3</sup> /h
Power consumption:	Minimum 37,8KW, maximum 76,6KW
Skid footprint:	3130mm x 1580mm (L x W)
Total height:	2614mm
System config:	Full skid, semi-skid, semi-skid loose, main components

1005

## DII00-NGT BWMS D5XLI6-BK750

DII00-NGT BWMS D5XLI6-BK750	max TRC 1274m <sup>3</sup> /h
System TRC:	1274m <sup>3</sup> /h
System flow ballasting:	Minimum 92m <sup>3</sup> /h, maximum 1274m <sup>3</sup> /h
System flow de-ballasting:	Minimum 34m <sup>3</sup> /h, maximum 1274m <sup>3</sup> /h
Power consumption:	Minimum 47,9KW, maximum 93,6KW
Skid footprint:	3130mm x 1580mm (L x W)
Total height:	2614mm
System config:	Full skid, semi-skid, semi-skid loose, main components

1274



# Sustainability – Clean Water solutions

The UN Sustainable Development Goals, political ambitions and new regulations push us and our customers to develop the solutions of the future already today.

This is good news for the environment.

We are passionate about using our knowledge to solve these challenges by creating energy-efficient products and cutting emissions, while at the same time increasing our customers' profitability, competitiveness, and value creation by giving them a tool for the future.





COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV  
ISO 9001

  
**DET NORSKE VERITAS**  
TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. P-14281

This is to certify that the  
**Ballast Water Management System**  
with type designation(s)  
**MMC Ballast Water Management System**  
Manufactured by  
**MMC GREEN TECHNOLOGY AS**  
Fosnavåg, Norway  
is found to comply with  
Resolution MEPC.174(58)  
DNV Type Approval Program No. 771.91  
Det Norske Veritas Rules for Classification of Ships

Application  
This is to certify that the Ballast Water Management System listed above has been examined and tested in accordance with the requirements of the specifications contained in Guidelines contained in Resolutions MEPC.174(58) and DNV Rules stated above. This Certificate is valid only for the Ballast Water Management System referred to above.  
The Certificate is issued on behalf of the Norwegian Maritime Directorate

Hovik, 2016-12-06  
for Det Norske Veritas AS


 This Certificate is valid until  
2016-12-31

Eivind Mykland  
Head of Section

DNV local office:  
Ullensvik

Ingrid Sigvaldsen  
Surveyor

This Certificate is subject to terms and conditions available at [www.dnv.com](http://www.dnv.com). Any significant change in design or construction may render this Certificate void.  
The validity and scope of this Type Approval Certificate is limited to the original manufacturer's design.  
Any person who makes or changes which is prohibited to be used by any flag state or operator of Det Norske Veritas, that Det Norske Veritas shall pay compensation to such person for the consequences thereof. (Signed Approval, Issued on behalf of Det Norske Veritas AS) (This certificate is the property of Det Norske Veritas AS. It is loaned to the member companies, agents and any other acting on behalf of Det Norske Veritas.  
Det Norske Veritas AS, Wellesboer 1, NO-1002 Hovik, Norway, Tel: +47 67 57 89 00, Fax: +47 67 57 89 11, Org.No: NO 948 748 821 WVA, [www.dnv.com](http://www.dnv.com)  
Form No.: TA 14114 Issue: October 2009 Page 1 of 5

 **U. S. Department of Homeland Security  
United States Coast Guard  
Certificate of Approval**

Coast Guard Approval Number: 162.060/4700 Expires: 24 February 2027

BALLAST WATER MANAGEMENT SYSTEM  
Filtration/Ultraviolet  
Norwegian Greentech AS  
Mjølhusveien  
6092 Fosnavåg  
Norway

Name of BMS: NST B RSC  
Capacity: 27-609 l/h

This is to certify that the above listed BMS, with the listed treatment capacities, has been satisfactorily examined and tested by independent Lab DNV in accordance with the requirements contained in 46 CFR 162.060. The system shall be installed and operated in accordance with applicable Operation, Maintenance, and Safety Manual of NST BMS, Part II Revision E, Dated January 3, 2022.

Operational Limitations:  
Salinity: N/A Applicable  
Temperature: Not Applicable  
Hold Time: Not Applicable  
UV-Intensity: See Appendix


The NST BMS has not been verified to meet the requirements of 46 CFR Subchapters F and G, and may not be installed on a U.S. flag vessel. The BMS is not intended for installations in hazardous locations.

The BMS must be marked in accordance with 46 CFR 162.060-22. A copy of this Type Approval Certificate shall be carried on board a vessel fitted with the ballast water management system at all times.

\*\*\* End \*\*\*

THIS IS TO CERTIFY THAT the above named manufacturer has submitted to the independent satisfactory evidence that the item specified herein complies with the applicable laws and regulations as outlined on the reverse side of this Certificate, and approved a hereby given. This approval shall be in effect until the expiration date herein set or cancelled or suspended by proper authority.

GIVEN UNDER MY HAND THIS 24<sup>th</sup> DAY OF  
February 2022, AT WASHINGTON D.C.

  
Chief, Engineering Division  
BY DIRECTION OF THE COMMANDANT

DEPT. OF HOMELAND SECURITY, USCG, CGHQ-10030  
(REV. 3-03)

# Approvals & Certificates

DNV (IMO)  
U.S. Coast Guard  
ISO 9001 certified  
Bureau Veritas (BV)  
Lloyd's Register (LR)  
French Flag - MMF  
Transport Canada





**BUREAU  
VERITAS**

Bureau Veritas



USCG AMS



RMRS



Lloyd's Register



Transport Canada







35 locations

**Global presence  
with local support**





*HAV Group is an international provider of technology and services tailored for the maritime and marine industries.*



### **SHIP DESIGN**

Supplier of innovative ship design, pioneering the design and construction of zero and low-emission vessels.



### **ENERGY DESIGN AND SMART CONTROL SYSTEMS**

Supplier of sustainable energy systems, electric propulsion, automation and NavCom systems for a wide range of vessels.



### **HYDROGEN-BASED ENERGY SYSTEMS**

Supplier of zero-emission hydrogen-based energy systems for vessels.



### **WATER TREATMENT SYSTEMS**

Supplier of ballast water treatment systems, fresh and technical water solutions and water and process water treatment systems for aquaculture and maritime use.



Graphic Design: CANN AS  
Photo cover: Njord Freediver

**Håvard Gjelseth**  
Managing Director  
Mob +47 412 25 656  
havard.gjelseth@norwegiangt.no

**Børge Gjelseth**  
Senior Vice President Commercial  
Mob +47 900 61 197  
borge.gjelseth@norwegiangt.no

**Jorge Giraldo Lozano**  
Vice President BWMS  
+47 477 64 611 / +34 627 266 760  
jorge.giraldo@norwegiangt.no

**Lars-Tore Lynge**  
Sales Manager  
Mob +47 992 56 421  
lars-tore.lynge@norwegiangt.no

Norwegian Greentech AS – 6092 Fosnavåg – Norway  
Tel: +47 70 08 01 40  
E-mail: [norwegian.greentech@norwegiangt.no](mailto:norwegian.greentech@norwegiangt.no)  
[www.norwegiangt.no](http://www.norwegiangt.no)

