



# Marine Safety Center

## BWMS Type Approval Status



<i>Approved</i>						
Application Received	Manufacturer (Country)	Model	Independent Laboratory	System Type	Capacity	Certificate Issued* (Amended)
20 Sep 2016	Optimarin (Norway)	OBS/OBS Ex	DNV	Filtration + Ultraviolet	100 – 3,000 m <sup>3</sup> /h	02 Dec 2016 (Pending)
21 Sep 2016	Alfa Laval (Sweden)	PureBallast 3.0/3.1	DNV	Filtration + Ultraviolet	85 – 3,000 m <sup>3</sup> /h	23 Dec 2016 (16 Dec 2021)
23 Sep 2016	TeamTec BWMS AS (Norway)	Oceansaver MK II	DNV	Filtration + Electrodialysis	200 – 7,200 m <sup>3</sup> /h	23 Dec 2016 (Pending)
24 Jan 2017	Sunrui (China)	BalClor	DNV	Filtration + Electrolysis	50 – 8,500 m <sup>3</sup> /h	06 Jun 2017 (03 June 2022)
31 Mar 2017	Ecochlor, Inc. (USA)	Ecochlor, EcoOne, EcoOne Hybrid BWTS	DNV	Filtration + Chemical Injection	500 – 16,200 m <sup>3</sup> /h	10 Aug 2017 (27 Jul 2022)
02 May 2017	ERMA FIRST (Greece)	Erma First FIT	Lloyd's Register	Filtration + Electrolysis	100 – 3,740 m <sup>3</sup> /h	18 Oct 2017 (Pending)
31 Oct 2017	Techcross, Inc. (Republic of Korea)	ECS & ECS-A	Korean Register	Electrolysis	150 – 12,000 m <sup>3</sup> /h	05 Jun 2018 (16 Oct 2020)
28 Sep 2017	S&SYS Co., Ltd (Republic of Korea)	Purimar	Korean Register	Filtration + Electrolysis	250 – 10,000 m <sup>3</sup> /h	15 Jun 2018 (15 Jul 2022)
12 Mar 2018	BIO-UV Group (France)	BIO-SEA	DNV	Filtration + Ultraviolet	55 – 1,400 m <sup>3</sup> /h	20 Jun 2018 (Pending)
09 Apr 2018	Wärtsilä Water Systems, Ltd. (UK)	Aquarius EC	DNV	Filtration + Electrolysis	250 – 4,000 m <sup>3</sup> /h	30 Aug 2018 (02 Dec 2021)
31 May 2018	Hyundai Heavy Industries Co., Ltd. (Republic of Korea)	HiBallast	DNV	Filtration + Electrolysis	75 – 10,000 m <sup>3</sup> /h	26 Oct 2018 (17 Apr 2020)
09 May 2018	Headway Technology Co., Ltd. (People's Republic of China)	OceanGuard	DNV	Filtration + Electrolysis	65 – 5,200 m <sup>3</sup> /h	06 Nov 2018 (7 Mar 2022)
29 Mar 2018	JFE Engineering Corporation (Japan)	BallastAce	Control Union	Filtration + Chemical Injection	500 – 4,000 m <sup>3</sup> /h	13 Nov 2018 (6 May 2021)

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30 Mar 2018	Panasia Co., Ltd. (Republic of Korea)	GloEn-Patrol	DNV	Filtration + Ultraviolet	50 – 6,000 m <sup>3</sup> /h	14 Dec 2018
03 Mar 2018	De Nora (USA)	BALPURE	Lloyd's Register	Filtration + Electrolysis	400 – 8,570 m <sup>3</sup> /h	19 Dec 2018 (17 Dec 2020)
20 Jul 2018	Scienco/FAST (USA)	inTank BWTS	DNV	Electrolysis + Chemical Injection	Up to 200,000 m <sup>3</sup>	01 Feb 2019 (23 Sep 2021)
18 Oct 2018	DESMI Ocean Guard A/S (Denmark)	CompactClean	Lloyd's Register	Filtration + Ultraviolet	35 – 3,000 m <sup>3</sup> /h	16 Apr 2019 (04 Feb 2022)
19 Oct 2018	Wärtsilä Water Systems, Ltd. (UK)	Aquarius UV	DNV	Filtration + Ultraviolet	50 – 1,000 m <sup>3</sup> /h	02 May 2019 (26 Apr 2021)
21 Sep 2016/ 18 Mar 2019	Alfa Laval (Sweden)	PureBallast 3.2	DNV	Filtration + Ultraviolet	85 – 3,000 m <sup>3</sup> /h	15 May 2019 (Pending)
19 Oct 2018	Cathelco Ltd (UK)	Evolution	Lloyd's Register	Filtration + Ultraviolet	55 – 1,500 m <sup>3</sup> /h	25 Jun 2019
13 Jun 2019	COSCO Shipping Heavy Industry Technology (Weihai) Co., Ltd. (China)	Blue Ocean Shield (BOS)	DNV	Filtration + Ultraviolet	100 – 3,200 m <sup>3</sup> /h	09 Sep 2019 (26 Aug 2022)
01 Apr 2019	Hyundai Heavy Industries Co., Ltd. (Republic of Korea)	EcoBallast	Korean Register	Filtration + Ultraviolet	250 – 2,160 m <sup>3</sup> /h	07 Oct 2019
16 Apr 2019	Miura Co., Ltd. (Japan)	HK-(E)C	DNV	Filtration + Ultraviolet	160 – 900 m <sup>3</sup> /h	28 Oct 2019 (10 Mar 2021)
28 Jun 2019	HANLA IMS Co., Ltd. (Republic of Korea)	EcoGuardian	Korean Register	Filtration + Electrolysis	130 – 4,000 m <sup>3</sup> /h	05 Nov 2019 (9 Feb 2021)
23 Jan 2019	Miura Co., Ltd. (Japan)	HK-S(E)	NSF International	Filtration + Ultraviolet	200 – 900 m <sup>3</sup> /h	08 Jan 2020
19 Jul 2019	BAWAT A/S (Denmark)	BAWAT BWMS Mk2	Lloyd's Register	Heat	50 – 5,000 m <sup>3</sup> /h	04 Mar 2020 (26 Feb 2021)

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Revised 20 Sept 2022



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30 Mar 2018/ 30 Sep 2019	Panasia Co., Ltd. (Republic of Korea)	GloEn-Patrol 2.0	DNV	Filtration + Ultraviolet	50 – 6,000 m <sup>3</sup> /h	19 Mar 2020
30 Aug 2018	NK Co., Ltd. (Republic of Korea)	NK-O3 BlueBallast II	Lloyd's Register	Ozone	200 – 8,000 m <sup>3</sup> /h	23 Mar 2020
27 Sep 2018	NK Co., Ltd. (Republic of Korea)	NK-O3 Blue-Ballast II Plus	Lloyd's Register	Ozone	200 – 8,000 m <sup>3</sup> /h	23 Mar 2020
27 Dec 2019	Hyde Marine Inc. (USA)	Guardian-US	DNV	Filtration + Ultraviolet	60 – 3,000 m <sup>3</sup> /h	29 Apr 2020 (Pending)
31 Dec 2019	Miura Co., Ltd. (Japan)	HK-(E)R	Korean Register	Filtration + Ultraviolet	200 – 900 m <sup>3</sup> /h	07 May 2020 (30 Apr 2021)
13 Jan 2020	Techcross, Inc. (Republic of Korea)	ECS-Hychlor	DNV	Filtration + Electrolysis	300 – 8,000 m <sup>3</sup> /h	11 May 2020
27 Nov 2018	Semb-Eco Pte, Ltd. (Singapore)	LUV U1	Lloyd's Register	Filtration + Ultraviolet	500 m <sup>3</sup> /h	27 May 2020
04 Feb 2020	Kuraray Co., Ltd. (Japan)	Microfade II	Control Union	Filtration + Chemical Injection	250 – 2,000 m <sup>3</sup> /h	24 Jun 2020
12 Jun 2020	oneTank, LLC (USA)	oneTank	DNV	Chemical Injection	Up to 4,000 m <sup>3</sup> /tank	14 Sep 2020 (15 Jun 2022)
17 Jun 2020	Elite Marine Corp. (China)	Seascape	DNV	Filtration + Ultraviolet	80 – 5,000 m <sup>3</sup> /h	16 Oct 2020
30 Jan 2020	Panasonic Environmental Systems & Engineering Co., Ltd. (Japan)	ATPS-BLUESys	DNV	Electrolysis	150 – 3,600 m <sup>3</sup> /h	21 Oct 2020
31 Jul 2020	Knutsen Ballast Water AS (Norway)	KBAL BWMS	Lloyd's Register	Pressure Vacuum + Ultraviolet	400 - 3,000 m <sup>3</sup> /h	05 Nov 2020 (26 Jan 2022)
28 Sep 2020	Alfa Laval (Sweden)	PureBallast 2.0	DNV	Filtration + Ultraviolet	250 – 2,500 m <sup>3</sup> /h	30 Dec 2020

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Application Received	Manufacturer (Country)	Model	Independent Laboratory	System Type	Capacity	Certificate Issued* (Amended)
09 Oct 2020	TeamTec BWMS AS (Norway)	Senza BWMS	DNV	Chemical Injection	375 – 3,750 m <sup>3</sup> /h	11 Feb 2021 (16 Jul 2021)
28 Sep 2020	SKF Marine GmbH (Germany)	SKF BlueSonic BWMS	DNV	Filtration + Ultraviolet + Ultrasound	100 – 1,500 m <sup>3</sup> /h	14 Apr 2021 (7 Apr 2022)
30 Dec 2020	Wuxi Brightsky Electronic Co. (China)	BSKY	Korean Register	Separation + Ultraviolet	80 – 6,000 m <sup>3</sup> /h	27 Apr 2021 (28 Feb 2022)
07 Jun 2019	Evoqua Water Technologies Ltd. (United Kingdom)	SeaCURE	PIA	Filtration + Electrolysis	500 – 6,000 m <sup>3</sup> /h	08 Jun 2021 (16 Dec 2021)
31 May 2021	Jiangsu Nanji Machinery Co. Ltd. (China)	NiBallast	DNV	Filtration + Deoxygenation	100 – 4,000 m <sup>3</sup> /h	10 Sep 2021
23 Apr 2021	Hyundai Heavy Industries Co., Ltd. (Republic of Korea)	HiBallast NF	KIOST	Electrolysis	75 – 10,000 m <sup>3</sup> /h	27 Oct 2021 (Pending)
27 Jul 2021	RWO GmbH (Germany)	CleanBallast-OBS	DNV	Filtration + Electrolysis	500 – 3,000 m <sup>3</sup> /h	16 Dec 2021
03 Jun 2021	Norwegian Greentech AS (Norway)	NGT BWMS	DNV	Filtration + Ultraviolet	27 – 609 m <sup>3</sup> /h	24 Feb 2022
10 May 2021	Atlantium Technologies Ltd. (Israel)	Purestream	LR	Filtration + Ultraviolet	100 – 1,500 m <sup>3</sup> /h	21 Apr 2022
31 May 2022	Langh Tech Oy AB (Finland)	LanghBW	DNV	Filtration + Ultraviolet	300 – 600 m <sup>3</sup> /h	16 Sep 2022

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<i>Under Review</i>						
<b>Application Received</b>	<b>Manufacturer (Country)</b>	<b>Model</b>	<b>Independent Laboratory</b>	<b>System Type</b>	<b>Capacity</b>	<b>Certificate Issued* (Amended)</b>
16 Mar 2022	TeamTec BWMS AS (Norway)	Oceansaver MK II	DNV	Filtration + Electrodialysis	200 – 7,200 m <sup>3</sup> /h	23 Dec 2016 (Pending)
22 April 2022	BIO-UV Group (France)	BIO-SEA	DNV	Filtration + Ultraviolet	55 – 1,400 m <sup>3</sup> /h	20 Jun 2018 (Pending)
09 May 2022	Hyundai Heavy Industries Co., Ltd. (Republic of Korea)	HiBallast NF	KIOST	Electrolysis	75 – 10,000 m <sup>3</sup> /h	27 Oct 2021 (Pending)
03 June 2022	AQUASTAR Co., Ltd (Republic of Korea)	AquaStar	Korean Register	Electrolysis	200- 5,000 m <sup>3</sup> /h	(Pending)
21 June 2022	ERMA FIRST (Greece)	Erma First FIT	Lloyd's Register	Filtration + Electrolysis	100 – 3,740 m <sup>3</sup> /h	18 Oct 2017 (Pending)
07 July 2022	Optimarin (Norway)	OBS/OBS Ex	DNV	Filtration + Ultraviolet	100 – 3,000 m <sup>3</sup> /h	02 Dec 2016 (Pending)
12 July 2022	Hyde Marine Inc. (USA)	Guardian-US	DNV	Filtration + Ultraviolet	60 – 3,000 m <sup>3</sup> /h	29 Apr 2020 (Pending)
19 July 2022	Alfa Laval (Sweden)	PureBallast 3.2	DNV	Filtration + Ultraviolet	85 – 3,000 m <sup>3</sup> /h	15 May 2019 (Pending)

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