



# Marine Safety Center

## BWMS Type Approval Status



### Approved

Application Received	Manufacturer (Country)	Model	Independent Laboratory	System Type	Capacity	Certificate Issued* (Amended)
20-Sep-2016	Optimarin (Norway)	OBS/OBS Ex	DNV	Filtration + Ultraviolet	65 – 3,000 m <sup>3</sup> /h	02-Dec-2016 (13-Jan-2025)
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 (3-Nov-2023)
23-Sep-2016	TeamTec BWMS AS (Norway)	Oceansaver MK II	DNV	Filtration + Electrodialysis	200 – 7,200 m <sup>3</sup> /h	23-Dec-2016 (9-Nov-2022)
24-Jan-2017	Sunrui (China)	BalClor, BalClor Smart	KR	Filtration + Electrolysis	50 – 8,500 m <sup>3</sup> /h	06-Jun-2017 (Pending)
31-Mar-2017	Ecochlor, Inc. (USA)	Ecochlor, EcoOne, EcoOne Hybrid	DNV	Filtration + Chemical Injection	500 – 16,200 m <sup>3</sup> /h	10-Aug-2017 (25-May-2023)
2-May-2017	ERMA FIRST (Greece)	Erma First FIT	LR	Filtration + Electrolysis	100 – 3,740 m <sup>3</sup> /h	18-Oct-2017 (28-Sep-2023)
31-Oct-2017	Techcross, Inc. (Republic of Korea)	ECS & ECS-A	KR	Electrolysis	150 – 12,000 m <sup>3</sup> /h	05-Jun-2018 (31-Jan-2024)
28-Sep-2017	S&SYS Co., Ltd (Republic of Korea)	Purimar	KR	Filtration + Electrolysis	250 – 10,000 m <sup>3</sup> /h	15-Jun-2018 (05-Dec-2025)
12-Mar-2018	BIO-UV Group (France)	BIO-SEA	DNV	Filtration + Ultraviolet	55 – 1,400 m <sup>3</sup> /h	20-Jun-2018 (18-Mar-2025)
9-Apr-2018	Wärtsilä Water Systems, Ltd. (UK)	Aquarius EC	DNV	Filtration + Electrolysis	250 – 4,000 m <sup>3</sup> /h	30-Aug-2018 (11-Aug-2023)
31-May-2018	HD Korea Shipbuilding & Offshore Engineering (Republic of Korea)	HiBallast	DNV	Filtration + Electrolysis	75 – 10,000 m <sup>3</sup> /h	26-Oct-2018 (25-Oct-2023)
9-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 (3-Nov-2023)
29-Mar-2018	JFE Engineering Corporation (Japan)	BallastAce	CU	Filtration + Chemical Injection	500 – 4,000 m <sup>3</sup> /h	13-Nov-2018 (03-Oct-2024)

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30-Mar-2018	Panasia Co., Ltd. (Republic of Korea)	GloEn-Patrol & GloEn-Patrol 2.0	DNV	Filtration + Ultraviolet	50 – 6,000 m <sup>3</sup> /h	14-Dec-2018 (04-Jun-2025)
3-Mar-2018	De Nora (USA)	BALPURE	LR	Filtration + Electrolysis	400 – 8,570 m <sup>3</sup> /h	19-Dec-2018 (07-Dec-2023)
20-Jul-2018	Scienco/FAST (USA)	inTank, inTank FITT, inTank SuperFITT BWTS	DNV	Electrolysis + Chemical Injection	Up to 200,000 m <sup>3</sup>	01-Feb-2019 (04-Apr-2025)
18-Oct-2018	DESMI Ocean Guard A/S (Denmark)	CompactClean	DNV	Filtration + Ultraviolet	35 – 1,740 m <sup>3</sup> /h	16-Apr-2019 (18-Dec-2025)
19-Oct-2018	Wärtsilä Water Systems, Ltd. (UK)	Aquarius UV	DNV	Filtration + Ultraviolet	50 – 1,000 m <sup>3</sup> /h	02-May-2019 (08-Apr-2024)
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 (03-Sep-2024)
19-Oct-2018	Cathelco Ltd (UK)	Evolution	LR	Filtration + Ultraviolet	55 – 1,500 m <sup>3</sup> /h	25-Jun-2019 (24-Jun-2024)
13-Jun-2019	COSCO Shipping Heavy Industry Technology Co., Ltd. (China)	Blue Ocean Shield (BOS)	DNV	Filtration + Ultraviolet	100 – 3,200 m <sup>3</sup> /h	09-Sep-2019 (25-Nov-2024)
1-Apr-2019	Hyundai Heavy Industries Co., Ltd. (Republic of Korea)	EcoBallast	KR	Filtration + Ultraviolet	250 – 2,160 m <sup>3</sup> /h	7-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 (16-Oct-2024)
28-Jun-2019	HANLA IMS Co., Ltd. (Republic of Korea)	EcoGuardian	KR	Filtration + Electrolysis	130 – 4,000 m <sup>3</sup> /h	05-Nov-2019 (7-Mar-2025)
23-Jan-2019	Miura Co., Ltd. (Japan)	HK-S(E)	NSF	Filtration + Ultraviolet	200 – 900 m <sup>3</sup> /h	8-Jan-2020
19-Jul-2019	BAWAT A/S (Denmark)	BAWAT BWMS Mk2	LR	Heat	50 – 5,000 m <sup>3</sup> /h	04-Mar-2020 (05-June-2024)

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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 (07-Dec-2023)
30-Aug-2018	NK Co., Ltd. (Republic of Korea)	NK-O3 BlueBallast II	LR	Ozone	200 – 8,000 m <sup>3</sup> /h	23-Mar-2020 (23-Mar-2025)
27-Sep-2018	NK Co., Ltd. (Republic of Korea)	NK-O3 Blue-Ballast II Plus	LR	Ozone	200 – 8,000 m <sup>3</sup> /h	23-Mar-2020 (23-Mar-2025)
27-Dec-2019	Hyde Marine Inc. (USA)	Guardian-US	DNV	Filtration + Ultraviolet	60 – 3,000 m <sup>3</sup> /h	29-Apr-2020 (15-Feb-23)
31-Dec-2019	Miura Co., Ltd. (Japan)	HK-(E)R	KR	Filtration + Ultraviolet	200 – 900 m <sup>3</sup> /h	07-May-2020 (Pending)
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-Feb-2025)
27-Nov-2018	Seatrium Eco Technology Pte. Ltd. (Singapore)	LUV U1	LR	Filtration + Ultraviolet	250 - 1,500 m <sup>3</sup> /h	27-May-2020 (10-Apr-2025)
4-Feb-2020	SHIKOKU Chemical Corp. (Japan)	Microfade II	CU	Filtration + Chemical Injection	250 – 2,000 m <sup>3</sup> /h	24-Jun-2020 (12-Apr-2024)
12-Jun-2020	oneTank, LLC (USA)	oneTank	DNV	Chemical Injection	Up to 4,000 m <sup>3</sup> /tank	14-Sep-2020 (26-Feb-2026)
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	LR	Pressure Vacuum + Ultraviolet	400 - 3,000 m <sup>3</sup> /h	5-Nov-2020 (21-Feb-2025)
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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9-Oct-2020	TeamTec BWMS AS (Norway)	Senza BWMS	DNV	Chemical Injection	375 – 3,750 m <sup>3</sup> /h	11-Feb-2021 (11-June-2025)
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 (07-Apr-2022)
30-Dec-2020	Wuxi Brightsky Electronic Co. (China)	BSKY	KR	Separation + Ultraviolet	80 – 6,000 m <sup>3</sup> /h	27-Apr-2021 (28-Feb-2022)
7-Jun-2019	Evoqua Water Technologies Ltd. (United Kingdom)	SeaCURE	PIA	Filtration + Electrolysis	500 – 6,000 m <sup>3</sup> /h	08-Jun-2021 (15-Jun-2023)
31-May-2021	Jiangsu Nanji Machinery Co. Ltd. (China)	NiBallast	DNV	Filtration + Deoxygenation	100 – 4,000 m <sup>3</sup> /h	10-Sep-2021 (12-Nov-2025)
23-Apr-2021	HD Korea Shipbuilding & Offshore Engineering (Republic of Korea)	HiBallast NF, HiBallast HyB	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
3-Jun-2021	Norwegian Greentech AS (Norway)	NGT BWMS	DNV	Filtration + Ultraviolet	27 – 609 m <sup>3</sup> /h	24- Feb-2022 (8-Jan-2024)
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 (14-Jan-2025)
3-Jun-2022	AQUASTAR Co., Ltd (Republic of Korea)	AquaStar	KR	Electrolysis	200- 5,000 m <sup>3</sup> /h	07-Nov-2022 (12-Dec-2024)
16-Mar-2023	Shanghai Electric Cyeco Environmental Technology Co., Ltd (China)	Cyeco	DNV	Filtration + Ultraviolet	100- 1,600 m <sup>3</sup> /h	21-Jun-2023 (03-Apr-2025)

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18-Nov-2022	SAMKUN CENTRURY Co., Ltd. (Korea)	ARA Plus+	KR	Filtration + Ultraviolet	150 – 1,300 m <sup>3</sup> /h	10-Oct-23
17-May-2023	HANLA IMS Co., Ltd. (Republic of Korea)	EcoGuardian NF	KR	Electrolysis	130 – 6,000 m <sup>3</sup> /h	26-Oct-23 (7-Mar-2025)
16-Feb-2023	Techcross, Inc. (Republic of Korea)	ECS-HYCLHOR 2.0	LR	Electrolysis	250 - 8,000 m <sup>3</sup> /h	14-Dec-2023 (Pending)
21-Aug-2025	Shanghai LEE's FUDA Electromechanical Technology Co., Ltd.	LeesGreen	KR	Filtration + Ultraviolet	150 - 1,500 m <sup>3</sup> /h	Pending
23-Sep-2025	Alfa Laval (Sweden)	PureBallast 3.5 Ultra	DNV	Filtration + Ultraviolet	85 – 3,000 m <sup>3</sup> /h	9-Feb-26
2-Oct-2025	Headway Technology Co., Ltd. (People's Republic of China)	OceanGuard Sim	DNV	Electrolysis	65 – 5,200 m <sup>3</sup> /h	24-Apr-26

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## *BWMS Type Approval Status*



### *Under Review*

<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>
15-Jan-2025	HD Korea Shipbuilding & Offshore Engineering (Republic of Korea)	HiBallast NF, HiBallast HyB	KIOST	Electrolysis	75 – 10,000 m <sup>3</sup> /h	27-Oct-2021 (Pending)
4-Mar-2025	Techcross, Inc. (Republic of Korea)	ECS-HYCLHOR 2.0	LR	Electrolysis	250 - 8,000 m <sup>3</sup> /h	14-Dec-2023 (Pending)
10-Jun-2025	Miura Co., Ltd. (Japan)	HK-(E)R	KR	Filtration + Ultraviolet	200 – 900 m <sup>3</sup> /h	07-May-2020 (Pending)
21-Aug-2025	Shanghai LEE's FUDA Electromechanical Technology Co., Ltd.	LeesGreen	KR	Filtration + Ultraviolet	150 - 1,500 m <sup>3</sup> /h	Pending
29-Apr-2026	Sunrui (China)	BalClor, BalClor Smart	DNV	Filtration + Electrolysis	50 – 8,500 m <sup>3</sup> /h	06-Jun-2017 (Pending)

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