

Ref. T5/1.01

## **POLLUTION PREVENTION EQUIPMENT REQUIRED BY MARPOL 73/78**

1 The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) requires ships to be fitted with certain pollution prevention equipment, including oil filtering equipment, oil content meters, sewage treatment plants and oil/water interface detectors. Such equipment should be of the type approved by the Administration, having regard to the specifications recommended by the Organization.

2 In implementation of the relevant requirements of MARPOL 73/78, the following resolutions on performance and test specifications of the pollution prevention equipment have been adopted by the Organization:

- .1 Recommendation on International Performance and Test Specifications for Oily-Water Separating Equipment and Oil Content Meters (resolution A.393 (X));
- .2 Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships (resolution MEPC.60 (33)), which have superseded resolution A.393 (X);
- .3 Recommendation concerning the Installation of Oily-Water Separating Equipment under MARPOL 73/78 (resolution A.444(XI)), which contains, in an appendix, Specifications for Process Units Intended for Attachment to Existing Oily-Water Separating Equipment;
- .4 Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers (resolution A.496(XII));
- .5 Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers (resolution A.586(14)), which is understood to have superseded resolution A.496(XII);
- .6 Recommendation on International Effluent Standards and Guidelines for Performance Tests for Sewage Treatment Plants (resolution MEPC.2(VI) );
- .7 Specification for Oil/Water Interface Detectors (resolution MEPC.5(XIII) ) ;
- .8 Standard Specification for Shipboard Incinerators (resolution MEPC.59(33) ).

3 By the above resolutions, Governments are invited to provide the Organization with information on successful testing of equipment against the specifications. The Organization has been compiling, since 1980, information submitted by Governments on equipment which has been tested and approved by them.

4 The present circular covers all the information on equipment approved by Governments in accordance with the above resolutions until April 1995 and shall supersede its predecessor MEPC/Circ.276 in its entirety. It has the following nine annexes:

- Annex 1 Oil filtering equipment (15ppm equipment) approved in accordance with Part 1 of the Annex of resolution MEPC.60(33)
- Annex 2 Oil content meters approved in accordance with Part 2 of the Annex of resolution MEPC.60(33)
- Annex 3 Oil filtering equipment (oil content of the effluent not exceeding 15 ppm) approved in accordance with Part II of the Annex of resolution A.393(X)
- Annex 4 Process Units intended for attachment to existing oily-water separating equipment (oil content of the effluent not exceeding 15 ppm) approved in accordance with Appendix 1 to the Annex of resolution A.444(XI)
- Annex 5 Oil content meters approved in accordance with Part III of the Annex of resolution A.393(X)
- Annex 6 Oil content meters approved in accordance with Part 1 of the annex of resolution A.586(14)
- Annex 7 Sewage treatment plants approved in accordance with resolution MEPC.2(VI)
- Annex 8 Oil/water interface detectors approved in accordance with resolution MEPC.5(XIII)
- Annex 9 Form of IMO Type Approval Certificate for Shipboard Incinerators with capacities of up to 1160 kw (this form will be replaced by information on approved incinerators when such information is received)

5 Governments are invited to bring this circular to the attention of their Administrations, authorities or industries concerned.

6 It should be noted that the lists of equipment in this circular are compiled on the basis of information submitted by Governments, and that non-entry of equipment in the lists may not necessarily mean that such equipment has not been approved by Governments under the above resolutions.

7 It will be recalled that MEPC 36, taking into account the amendments to Annex I of MARPOL 73/78 on discharge criteria and equipment requirements adopted by resolution MEPC.51(32) on 6 March 1992 and the fact that certain resolutions listed in paragraph 2 above have been superseded by others, took the following decisions (paragraph 11.4, MEPC 36/22):

- .1 from 1996, MEPC circulars on pollution prevention equipment will only list the equipment approved by Governments in accordance with resolutions MEPC.60(33), A.586(14), MEPC.2(VI), MEPC.5(VIII) and MEPC.59(33);
- .2 MEPC circulars on pollution prevention equipment shall be issued once a year with the closing date of 1 April, and Governments are urged to provide information on approved equipment to the Secretariat before 1 April each year; and
- .3 for control purposes of whether equipment had been approved, e.g. oil filtering

equipment and oil content meters which had been approved in accordance with resolution A.393(X), reference could always be made to an earlier MEPC circular.

8 The next MEPC circular on pollution prevention equipment approved by Governments will follow the MEPC decisions listed in paragraph 7 above.

9 For easy compilation of the information on approved equipment, it would be highly appreciated if Governments could, from 1996, when submitting the test certificates of equipment newly approved by them, attach a list of such equipment in accordance with the established "one-line" entry format of this circular for each type of equipment.

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**ANNEX 1****OIL FILTERING EQUIPMENT****(15 ppm equipment)**

**Approved in accordance with Part 1 of the Annex to  
resolution MEPC.60(33)**

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
1. Germany	1. NFV nord-deutsche Filter-Vertriebs-GmbH Glashüttenstr. 79 20357 Hamburg	MOWS-100 MOWS-250 PPT-BWS-100 PPT-BWS-250 PPT-BWS-500 PPT.BWS-1000 PPT-BWS-2500 PPT-BWS-5000 PPT-BWS-10000	0.1 0.25 0.1 0.25 0.5 1.5 2.5 5.0 10.0	FRG FRG FRG FRG FRG FRG FRG FRG FRG
	2. Blohm & Voss AG Hermann-Blohmstr. 3 20457 Hamburg	TCS-0.25-HD TCS-0.5-HD TCS-1-HD TCS-2.5-HD TCS-5-HD TCS-10-HD	0.25 0.5 1.0 2.5 5.0 10.0	FRG; China; RF FRG; China; RF FRG; China; RF FRG; China; RF FRG; China; RF FRG; China; RF
	3. DVZ-SERVICES Am Nordfeld 24 D-28857 Syke Barrien	DVZ 250VC DVZ 500VC DVZ 1000VC DVZ 2500VC DVZ 5000VC DVZ 7000VC	0.25 0.5 1.0 2.5 5.25 7.0	China; FRG; RF China; FRG; RF China; FRG; RF China; FRG; RF China; FRG; RF China; FRG; RF
	4. RWO Abwassertechnik GmbH Am Dammacker 12, D-28201 Bremen	SKIT S 0.1 SKIT S 0.25 SKIT S 0.5 SKIT S 1.0 SKIT S 1.5 SKIT S 2.5 SKIT S 5.0 SKIT S 10.0	0.1 0.25 0.5 1.0 1.5 2.5 5.0 10.0	China; FRG; RF China; FRG; RF

**Note:** Ar: Argentina; Belg: Belgium; BG: Bulgaria; Can: Canada; Cro: Croatia; Den: Denmark; Fin: Finland; Fr: France; FRG: Federal Republic of Germany (Germany); Gr: Greece; Ice: Iceland; Indo: Indonesia; Jpn: Japan; Neth: Netherlands; Nor: Norway; Pol: Poland; P: Portugal; ROK: Republic of Korea; RF: Russian Federation; Sig: Singapore; Sw: Sweden; UK: United Kingdom of Great Britain and Northern Ireland; USA: United States of America; Yugo: Yugoslavia.

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m³/h	Approving Governments
2. Japan	1. Taiko Kikai Industries Co. Ltd. 209-1 Shimo Tabuse Tabuse Cho Kumage-gun Yamaguchi Pref. Japan 742-15	USC-03	0.25	UK
		USC-05	0.5	UK
		USC-10	1.0	UK
		USC-20	2.0	UK
		USC-50	5.0	UK
	2. Sasakura Engineering Co. Ltd. Osaka	SMT-1A	1.0	UK
		SMT-2A	2.0	UK
		SMT-3A	3.0	UK
		SMT-5A	5.0	UK
		SMT-10A	10.0	UK
	3. Heishin Pump Works Co., Ltd. 5-30, 1-chome, Furuta, Harima-cho, Kako-gun, Hyogo Prf., 675-01 Japan	HMS-30	0.3	FRG; UK
		HMS-50	0.5	FRG; UK
		HMS-80	0.8	FRG; UK
		HMS-100	1.0	FRG; UK
		HMS-200	2.0	FRG; UK
		HMS-250	2.5	FRG; UK
		HSN-3F	3.0	FRG; UK
		HSN-5F	5.0	FRG; UK
3. Lithuania	1. Shipbuilding Yard "Baltija" Pilies St. 8 5799 Klaipeda	VKF 0.6 VKF 1.6 VKF 2.5	0.6 1.6 2.5	RF RF RF
4. Netherlands	1. Facet Industrie BV Draaibrugweg 10 1332 AD Almere - De Vaart	CPS-2.5 BV MOD I  CPS-5 BV MOD I	0.5  1.0	FRG; Neth; UK  FRG; Neth; UK
5. Russian Federation	1. "EKOS Ltd." Barrikadnaja St.36 Fl. 8 198096 ST. St. Petersburg	OHB-0.5m OHB-1m OHB-0.5m/n OHB-1.0m/n	0.5 1.0 0.5 1.0	RF RF RF RF
6. Ukraine	1. PKB "Progress" Nikolaev	UOV 0.6/10 UOV 0.6/10P UOV 1.6/10 UOV 2.5/10	0.6 0.6 1.6 2.5	RF RF RF RF
7. United Kingdom	1. Hamworthy Engineering Ltd. Poole, Dorset	HS 1 Mk II HS 2.5 Mk II HS 5 Mk II HS 10Mk II	1.0 2.5 5.0 10.0	UK UK UK UK
8. United States	1. Nelson Division Ink. Highway 51 West P.O. Box 428 Stoughton, WI 53589	Nelson Model 10025  Nelson Model 10075	0.5  2.0	RF  RF

**ANNEX 2****OIL CONTENT METERS**

**Approved in accordance with Part 2 of the Annex to  
resolution MEPC.60(33))**

Manufacturing Countries	Manufactured by	Type and Model	Bilge Alarms (15 ppm)	Approving Governments
1. Germany	1. Deckma-RTE International Sales GmbH	OCD 1 OCD 2	X X	FRG FRG
	2. Deckma Hamburg GmbH Ovelgönne 69 22605 Hamburg	OCD 1 OCD 2	X X	FRG; China; RF FRG; China; RF
2. Japan	1. Fellow Kogyo Co. Ltd. Tokyo	FOCAS-1500C	X	UK
3. United Kingdom	1. Rivertrace Engineering Ltd. Sutton, Surrey England	OCD 1 OCD 2	X X	FRG FRG

**ANNEX 3****OIL FILTERING EQUIPMENT****(Oil content of the effluent not exceeding 15 ppm)****Approved in accordance with Part II of the Annex  
of resolution A.393(X)**

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
1. Argentina	1. A.V.C. Ingenieria S.R.L.	SF - 05 SC - T2-1 SC - T2-2 SF - 2.5	0.5 1.0 2.0 2.5	Ar. Ar. Ar. Ar.
2. Brazil	1. Semco Do Brasil S/A Rua Dom Aguirre, 281 CEP 04671 Sao Paulo	Turbulo TEF 2.5S Turbulo TEF 5S Turbulo TEF 10S	2.5 5.0 10.0	FRG FRG FRG
	2. Maguinas Santa Clara Ltda. Sao Paulo	GSF 0.25 GSF 0.5 GSF 1 GSF 2.5 GSF 5 GSF 7.5 GSF 10	0.25 0.5 1.0 2.5 5.0 7.5 10.0	FRG FRG FRG FRG FRG FRG FRG
3. Bulgaria	"Michailov" MV CO.	434	3.0	BG
4. Canada	1. Fram Canada Inc. P.O. Box 550, 305 Romeo St. S., Stratford, Ontario N5A 6V4	CPS-3 CPS-25B MOD 1	0.68 5	Can Can
	2. Fast Systems Ltd. 305 Lakeshore Road East, Oakville, Ontario, L6J 1J3	FAST S1 FAST S2 FAST S3 FAST S4 FAST S5 FAST S6 FAST S7 FAST S1M FAST S2M FAST S3M FAST S4M FAST S5M FAST S6M FAST S7M	0.5 1.25 2.5 5.0 10.0 15.0 20.0 0.25 1.25 2.5 5.0 10.0 15.0 20.0	Can; RF Can; RF Can; RF RF RF RF RF RF RF RF RF RF RF RF RF RF
	3. St. Louis Ship Canada Ltd.	PACE tm S-1 PACE tm S-2 PACE tm S-3 PACE tm S-4	0.25 1.25 2.5 5.0	UK UK UK UK

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
4. Canada (Cont'd)	4. Jetvac Inc. 1151 South Service Rd.1 Unit 4 Oakville, Ontario L6L 6K4	JCS5 JCS10 JCS15 JCS25 JCS35 JCS50	0.5 1.0 1.5 2.5 3.5 5.0	Can Can Can Can Can Can
5. China	1. Changzhou Navigation Instrument Factory No.2 Changzhou, Jiang Su	YSCZ-0.1 DM YSCZ-0.25CJ YSCZ-0.5 CJ YSCZ-1 CJ YSCZ-2 CJ YSCZ-4 CJ	0.1 0.25 0.5 1 2 4	China China China China China China
	2. Nanjing Luzhou Machinery Works, Nanjing, Jiangsu	CYSC-0.25 CYSC-0.5 CYSC-1.0 CYSC-2.0 CYSC-3.0 CYSC-5.0	0.25 0.5 1.0 2.0 3.0 5.0	China China China China China China
	3. Shanghai Marine Equipment Research Institute, Jiangdu Environmental Protecting Equipment Factory	YSCZ-0.1 DM	0.1	China
	4. Shanghai Marine Instrument & Equipment Works, Shanghai	CYF 0.5B CYF 1 B CYF 2 B CYF 3 B CYF 5 B ZYF-0.25 ZYF-0.5 ZYF-1.0 ZYF-1.5 ZYF-3 ZYF-5	0.5 1 2 3 5 0.25 0.5 1.0 1.5 3.0 5.0	China China China China China China China China China China China
	5. Shunde Marine Machinery plant Shunde, Guangdong	CYCZ-0.5 YSCZ-0.1DM YSCZ-0.25DM YSCZ-0.5DM	0.25 0.1 0.25 0.5	China China China China

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
5. China (Cont'd)	6. Zhenjiang Environmental Protection Equipment Plant, Zhenjinang, Jiang Su	CYF 0.1	0.1	China
		CYF 0.25	0.25	China
		CYF 0.5	0.5	China
		CYF 1	1	China
		CYF 2	2	China
		CYF 3	3	China
		CYF 5	5	China
		CYF 0.5B	0.5	China
		CYF 1.0B	1.0	China
		CYF 2.0B	2.0	China
		CYF 3.0B	3.0	China
		CYF 5.0B	5.0	China
		SC 504	0.5	China
7. Zhenjiang Changjiang Machinery Plant Zhenjiang, Jiang Su		CYF-0.1	0.1	China
		CYF-0.25	0.25	China
8. Dalian Jinzhou Marine Oil Pollution Prevention Equipment Factory		CYSC-0.25	0.25	China
		CYSC-0.5	0.5	China
9. Shanghai Marine Institute and Equipment Works		ZYF-1.2	1.2	China
		ZYF-1.5	1.5	China
10. Jiangdu Environment Protecting Equipment Factory		YSCZ-0.1 DM	0.1	China
		YSCZ-0.25 DM	0.25	China
		YSCZ-0.5 DM	0.5	China
		YSCZ-1 DM	1.0	China
		YSCZ-2 DM	2.0	China
		YSCZ-4 DM	4.0	China
11. Weihui Machine and Motor Works, Weihui, Henan		CYSC-0.25	0.25	China
		CYSC-0.5	0.5	China
12. Wuhan Jiangan Machine Plant, Wuhan, Hubei		CYSC-0.25	0.25	China
		CYSC-0.5	0.5	China
		JCYSF-1	1.0	China
6. Croatia	1. "TIBO-3 Maj" 51211 Matulji Dalmatinskih brigada 17	TEF - 0.5S	0.5	Yugo; RF; Cro
		TEF - 1.0S	1.0	Yugo; RF; Cro
		TEF - 2.5S	2.5	Yugo; RF; Cro
		TEF - 5.0S	5.0	Yugo; RF; Cro
		TEF -10.0S	10.0	Yugo; RF; Cro

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
7. Germany	1. Fritz Schroeder KG Bahnhofstr. 337 3096 Thedinghausen Bremen	SBBE 0.25 SBBE 0.5 SBBE 1.0 SBBE 2.5 SBBE 5.0 SBBE 10.0	0.25 0.5 1.0 2.5 5.0 10.0	FRG; UK; RF; Gr; Nor FRG; Sw; Fin; Belg; Ice; Italy; UK; RF; Gr; Nor FRG; Sw; Fin; Belg; Ice; UK; Italy; RF; Gr; Nor FRG; Sw; Fin; Belg; Ice; UK; Italy; RF; Gr; Nor FRG; UK; Sw; Belg; Ice; Italy; RF; Gr; Nor FRG; UK; Sw; Ice; RF; Gr; Nor
	Bahnhofstr. 2, D-2819 Thedinghausen, Bremen	FSBE 1.0C FSBE 0.50C FSBE 0.25C	1.0 0.50 0.25	FRG; Belg; Nor Nor FRG; Belg; Nor
	2. Hebold Apparatebau und Maschinenfabrik GmbH Grodener Chaussee 25-29 2190 Cuxhaven	CUX-E-M515 CUX-E-0115 CUX-E-0215 CUX-E-0315 CUX-E-0515 CUX-E-0815 CUX-E-1015 CUX-E-2515 CUX-E00-1 CUX-E0-2.5 CUX-E0-5 CUX-E1-10 CUX-E1	0.5 1.0 1.5 2.5 5.0 7.5 10.0 25.0 1.0 2.5 5.0 10.0 1.0	Fin; FRG; Sw; RF; Nor; UK; Den Fin; FRG; Sw; RF; Nor; Belg; UK; Den Fin; FRG; Sw; RF; Nor; UK; Den Fin; FRG; Sw; RF; Nor; Belg; UK; Den Fin; FRG; Sw; RF; Nor; Belg; UK; Den Fin; FRG; Sw; RF; Nor; Fin; FRG; Sw; RF; Nor; Belg; UK; Den FRG; Sw; Nor; Den FRG; Belg FRG; Belg FRG; Belg FRG; Belg FRG
	3. Howaldtswerke- Deutschewerft AG P.O. Box 111480 2000 Hamburg 11 or Pasch y Cía., S.A. Madrid-20 Capitan Haya 9 28020 Madrid Spain (see 17 Spain 5)	TURBULO TE1F 1 TURBULO TE1F 2.5 TURBULO TE1F 5 TURBULO TE1F 10 TURBULO TEF 0.5 TURBULO TEF 1	1.0 2.5 5.0 10.0 0.5 1.0	FRG; UK; Sw; Fin; Belg; FRG; UK; Sw; Fin; Belg; Nor FRG; UK; Sw; Fin; Belg; Nor FRG; UK; Sw; Fin; Belg; Nor FRG; Sw; UK; Fin; Belg; Den FRG; Sw; RF UK; Fin; Belg; Den

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
7. Germany (Cont'd)		TURBULO TEF 2.5	2.5	FRG; Sw; Nor; RF; UK; Fin; Belg; Den
		TURBULO TEF 5	5.0	FRG; Sw; Nor; RF; UK; Fin; Belg; Den
		TURBULO TEF 10	10.0	FRG; Sw; Nor; RF; UK; Fin; Belg; Den
		TURBULO TEF 0.5-S	0.5	FRG; UK; Fin; Belg; Sw; RF; China; Gr; USA; Italy; Den
		TURBULO TEF 1-S	1.0	FRG; UK; Fin; Belg; Sw; RF; China; Gr; USA; Italy; Den
		TURBULO TEF 2.5-S	2.5	FRG; UK; Fin; Belg; Sw; RF; China; Gr; USA; Nor; Italy; Den
		TURBULO TEF 5-S	5.0	FRG; Fin; Belg; Sw; UK; RF; China; Gr; USA; Nor; Italy; Den
		TURBULO TEF 10-S	10.0	FRG; UK; Fin; Belg; Sw; RF; China; Gr; USA; Nor; Italy; Den
		TURBULO TEF 20-S	20.0	FRG; UK; Fin; Belg; Sw; RF; China; Gr; Nor; Italy; Den
		TURBULO TPC 0.25	0.25	Fin
		TURBULO TPC 0.5	0.5	Fin
		TURBULO TPC 1	1.0	Fin
		TURBULO TPC 2.5	2.5	Fin
		TURBULO TPC 5	5.0	Fin
		TURBULO TPC 0.25H	0.25	FRG; UK; Nor; Italy; Belg; Fin; China; Gr
		TURBULO TPC 0.5H	0.5	FRG; UK; Nor; Italy; Belg; Fin; China; Gr
		TURBULO TPC 1.0H	1.0	FRG; UK; Nor; Italy; Belg; Fin; China; Gr
		TURBULO TPC 2.5H	2.5	FRG; UK; Nor; Italy; Belg; Fin; China; Gr
		TURBULO TPC 5.0H	5.0	FRG; UK; Nor; Italy; Belg; Fin; China; Gr
		TURBULO TPC 10.0H	10.0	UK; China; Italy
		TURBULO TPU 0.5	0.5	Nor
		TURBULO TPU 1	1.0	Nor
		TURBULO TPU 2.5	2.5	Nor
		TURBULO TPU 5	5.0	Nor
		TURBULO TPU 10	10.0	Nor

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
7. Germany (Cont'd)	4. RWO Maschinenfabrik Armaturen und Apparatebau GmbH Gutenbergstr. 6 2803 Weyhe-Preye	WZ1/WZF1	1.0	FRG; Sw; Gr; Fin; Ice; RF
		WZ2/WZF2	2.5	FRG; Nor; Sw; Gr; Fin; UK; Ice; RF
		GSF 0.25	0.25	FRG; UK; Gr; Belg; Fin; Ice; Italy; Sw; Can; RF; China; USA; Spain; Nor; Den
		GSF 0.5	0.5	FRG; UK; Gr; Belg; Fin; Ice; Italy; Sw; Can; RF; China; USA; Spain; Nor; Den
		GSF 1.0	1.0	FRG; UK; Gr; Belg; Fin; Ice; Italy; Sw; Can; RF; China; USA; Spain; Nor; Den
		GSF 1.5	1.5	FRG; Can; USA; Nor; Den
		GSF 2.5	2.5	FRG; UK; Gr; Belg; Fin; Ice; Italy; Sw; Can; RF; China; USA; Spain; Nor; Den
		GSF 5.0	5.0	FRG; UK; Gr; Belg; Fin; Ice; Italy; Sw; Can; RF; China; USA; Spain; Nor; Den
		GSF 7.5	7.5	FRG; UK; Gr; Belg; Fin; Ice; Italy; Sw; Can; RF; China; USA; Spain; Nor; Den
		GSF 10	10.0	FRG; UK; Gr; Belg; Fin; Ice; Italy; Sw; Can; RF; China; USA; Spain; Nor; Den
		SKIT S 0.1	0.1	FRG; Can; China; Gr; Italy
		SKIT S 0.25	0.25	FRG; Can; China; Gr; Italy; Den
		SKIT S 0.5	0.5	FRG; Can; Nor; China; Gr; Italy; Den; Fin
		SKIT S 1.0	1.0	FRG; Can; China; Gr; Italy; Fin
		SKIT S 1.5	1.5	FRG; Can; China; Gr; Italy; Den; Fin
		SKIT S 2.5	2.5	FRG; Can; China; Gr; Italy; Fin
		SKIT S 5.0	5.0	FRG; Can; China; Gr; Italy; Den; Fin
		SKIT S 10.0	10.0	FRG; Can; China; Gr; Italy; Den; Fin
		SKIT SC 0.5	0.5	FRG; Can; Nor; China; Gr; Den; Fin

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
7. Germany (Cont'd)		SKIT SC 1.0	1.0	FRG; Can; China; Den; Fin
		SKIT SC 1.5	1.5	FRG; Can; China; Den; Fin
		SKIT SC 2.5	2.5	FRG; Can; China; Den; Fin
		SKIT SC 5.0	5.0	FRG; Can; China; Den; Fin
		SKIT SC 10.0	10.0	FRG; Can; China; Den; Fin
5. Westfalia Separator AG Werner-Habig Str. 1 4740 Oelde 1	OTB 2-00-066-C		0.2	FRG
6. Warner Lewis Jr. Industrie-Filter GmbH 6 Frankfurt/M.75	PM-1100 6-4A PM-1100 6-3A		1.5 1.5	FRG FRG; Belg
7. DVZ-Services Am Nordfeld 26 2808 Syke	DVZ 150 AP DVZ 250 DVZ 500 DVZ 1000 DVZ 1500 DVZ 2000 DVZ 2500 DVZ 5000 DVZ 10000 DVZ 5000 HC DVZ 7500 HC DVZ 250 HCV DVZ 500 HCV DVZ 1000 HCV DVZ 2500 HCV DVZ 5000 HCV DVZ 5000 HC DVZ 10000 HC		0.15 0.25 0.5 1.0 1.5 2.0 2.5 5.0 10.0 5.0 7.5 0.25 0.5 1.0 2.5 5.0 5.0 10.0	FRG FRG; Fin; RF; Pol; Nor; Belg; Den FRG; Fin; RF; Pol; Nor; Belg; Den FRG; Fin; RF; Pol; Nor; Belg; Den FRG; Fin; RF; Pol; Nor; Belg; Den FRG FRG; Nor; Den FRG; Fin; Pol; RF; Nor; Belg; Den Pol Pol FRG; China FRG; China FRG; China; Belg; UK; Gr; Fin FRG; China; Belg; UK; Gr; Fin FRG; China; Belg; UK; Gr; Fin FRG; Pol; Can; China; Belg; UK; Gr; Fin UK Fin FRG; Fin

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
7. Germany (Cont'd)	8. Blohm & Voss AG P.O. Box 100720 D2000 Hamburg	TURBULO TCS-0.25	0.25	China; FRG; UK; Pol; Belg; Den; Fin; Fr; Indo; Nor; Sw; USA; Italy; Spain; Neth; RF; P
		TCS-0.5	0.5	China; FRG; UK; Pol; Belg; Den; Fin; Fr; Indo; Nor; Sw; USA; Italy; Spain; Neth; RF; P
		TCS-1	1.0	China; FRG; UK; Pol; Belg; Den; Fin; Fr; Indo; Nor; Sw; USA; Italy; Spain; Neth; RF; P
		TCS-2.5	2.5	China; FRG; UK; Pol; Belg; Den; Fin; Fr; Indo; Nor; Sw; USA; Italy; Spain; Neth; RF; P
		TCS-5	5.0	China; FRG; UK; Pol; Belg; Den; Fin; Fr; Indo; Nor; Sw; USA; Italy; Spain; Neth; RF; P
		TCS-10	10.0	China; FRG; UK; Pol; Belg; Den; Fin; Fr; Indo; Nor; Sw; USA; Italy; Spain; Neth; RF; P
		TPC 0.25 H	0.25	FRG
		TPC 0.5 H	0.5	FRG
		TPC 1H	1.0	FRG
		TPC 2.5 H	2.5	FRG
		TPC 5H	5.0	FRG
		TPC 10H	10	FRG
		TPC 0.25	0.25	FRG
		TPC 0.5	0.5	FRG
		TPC 1	1.0	FRG
		TPC 2.5	2.5	FRG
		TPC 5	5.0	FRG
	9. Ross Industrie GmbH Hamburg	TURBULO TPC 0.25 H TPC 0.5 H TPC 1 H TPC 2.5 H TPC 5 H TPC 10 H	0.25 0.5 1.0 2.5 5.0 10.0	Fin Fin Fin Fin Fin Fin
	10. Heishin Pump Works Co., Ltd.	HIS-100 HIS-250 HIS-500 HIS-1000	0.1 0.25 0.5 1.0	FRG FRG FRG FRG

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m³/h	Approving Governments
7. Germany (Cont'd)	11. Schiffsanlagenbau Barth GmbH	BWEA 0.2 BWEA 0.5 BWEA 1.0 BWEA 2.5 BWEA 5.0 BWEA 10.0 TURBOLA-ENTOLER TEIF 1.0 TURBULO-ENTOLER TEIF 2.5 TURBULO-ENTOLER TEIF 5.0 TURBULO-ENTOLER TEIF 10.0 BKFA 0.1 BKFA 0.25 BKFA 0.5 BKFA 1.0 BKFA 2.5 BKFA 5.0	0.2 0.5 1.0 2.5 5.0 10.0  1.0  2.5  5.0  10.0 0.1 0.25 0.5 1.0 2.5 5.0	FRG RF; FRG RF; FRG RF; FRG RF; FRG RF; FRG  RF  FRG; RF; Nor  FRG; RF; Nor  FRG; RF; Nor FRG FRG FRG FRG FRG FRG
8. Finland	1. Aquamaster-Rauma Oy P Box 220 SF-26101 Rauma	UNEX M	1.3	Fin; RF
9. France	1. Ciececo S.A. Avenue Des Vieux Moulins, Annecy	"HYDROPUR" "HYDROPUR" "HYDROPUR" "HYDROPUR"	1.0 3.0 5.0 10.0	UK Nor; UK Nor; UK Nor; UK
	2. SEREP/BUTTERWORTH 11, rue du Pont V 76600 LE HAVRE	SFC-0.5  SFC-1 SFC-5  SFC-8  SFC-10 SFC-0.5BW SFC-1BW SFC-5BW SFC-8BW SFC-12BW SFC-12  SFC-15 SFC-20	0.5  1.0 2.0  5.0  7.0 0.5 1.0 2.0 5.0 10.0 10.0  16.0 20.0	USA; UK; Gr; Italy; RF; Can; Belg; Den USA; Can Fr; Yugo; UK; USA; Gr; Sw; RF; Can; Belg; Italy; Den; Cro Fr; Yugo; UK; USA; Gr; Sw; RF; Can; Belg; Italy; Den; Cro Fr; Italy; Yugo; UK UK UK UK UK UK UK Fr; Yugo; USA; UK; Gr; Sw; RF; Can; Belg; Italy; Cro Fr; Yugo; UK; Cro Fr; Yugo; UK; Cro

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
9. France (Cont'd)	3. SOFRANCE S.A. Zone Industrielle des Gannes, BP No. 3 87800 Nexon	BBS 9538/15/01	1.0	Fr; Belg; Fin; Ice; Sw; Gr; RF; Spain; Pol; Belg; Fin; Ice; Sw; Gr; RF; Spain; Fr
		BBS 9538/15/03	3.0	Belg; Fin; Gr; RF; Spain;
		BBS 8740	3.0	Belg; Fin; Ice; RF;
		BBS 9538/15/06	6.0	Gr; Spain
		BBS 9538/15/10	10.0	Belg; Fin; Ice; RF; Gr; Spain
	4. ALSTHOM-ATLANTIQUE (NEYRTEC) BP No. 61 X 38041 Grenoble Cedex	TURBIFLUX LL 150 TURBIFLUX LL 150 at FiltreElf. TURBIFLUX LL 150 at Filtre OMIR20S	5.0 5.0 5.0	Fr Fr Fr
10. Greece	1. ENVIRONMENTAL PROTECTION ENG. LTD. 88 Iroon Polytechniouster 185 36 Piraeus	POSEIDOM 100L	0.1	RF; Gr
		POSEIDOM 300L	0.3	RF; Gr
		POSEIDOM 600L	0.6	RF; Gr
		POSEIDOM 1200L	1.2	RF; Gr
		POSEIDOM 2300L	2.3	RF; Gr
		POSEIDOM 5000L	5.0	RF; Gr
	2. Smeralda Inc. Linardatos G. Filonos 133A 185 36 Piraeus	C-GUARDCG-0.5	0.50	Gr
		C-GUARDCG-1.0	1.00	Gr
11. Italy	1. Fram Italiana- Srt. 10042 Nichelino (see 17 United Kingdom 3)	C-GUARDCG-15	1.50	Gr
		C-GUARDCG-19	1.90	Gr
		C-GUARDCG-24	2.40	Gr
12. Japan	1. Heishin Pump Works Co. Ltd. 572 Furuta Harima-cho Kako-gun, Hyogo Pref. 673-01	C-GUARDCG-27	2.70	Gr
		C-GUARDCG-30	3.00	Gr
		CPS 5B 100/15	1.0	Italy
		CPS 25B 100/15	5.0	Italy
		OP 10	2.3	Italy
		HSN-0.25F	0.25	UK; Sw; Gr; Belg; USA; Fin; Ice; Can; Jpn; Den
		HSN-0.5F	0.5	UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Den
		HSN-1F	1.0	UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Den
		HSN-2F	2.0	UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Nor; Den
		HSN-3F	3.0	Nor; UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Nor; Den

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
12. Japan (Cont'd)		HSN-5F	5.0	Nor; UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Nor; Den
		HSN-10F	10.0	Nor; UK; Sw; Gr; Belg; USA; Fin; Ice; Can; Jpn; Nor; Den
		HSN-2FY	2.0	Nor; UK; Sw
		HSN-0.25D	0.25	UK; Sw; Gr; Belg; USA; Fin; Ice; Can; Jpn; Den
		HSN-0.5D	0.5	UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Den
		HSN-1D	1.0	UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Den
		HSN-2D	2.0	Nor; UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Nor; Den
		HSN-3D	3.0	Nor; UK; Sw; Gr; Belg; USA; Fin; Ice; RF; Jpn; Nor; Den
		HSN-5D	5.0	Nor; UK; Sw; Gr; Belg; USA; Fin; Ice; Can; RF; Jpn; Nor; Den
		HSN-10D	10.0	Nor; UK; Sw; Gr; Belg; USA; Fin; Ice; Can; Nor; Den
		HMS 30	0.3	UK; FRG; Jpn; Nor; Belg; Can
		HMS 50	0.5	UK; FRG; Jpn; Nor; Belg; Can
		HMS 80	0.8	UK; FRG; Jpn; Nor; Belg; Can
		HMS 100	1.0	UK; FRG; Jpn; Nor; Belg; Can; Fin
		HMS 200	2.0	FRG; UK; Jpn; Nor; Belg; Can; Gr
		HMS 250	2.5	FRG; UK; Jpn; Nor; Belg; Can; Gr
		HIS-1000	1.0	UK
		HFS 30	0.03	UK
		HIS 100	0.1	UK
		HIS 250	0.25	UK
		HIS 500	0.5	UK
	2. Chugoku Seiki Senpaku Co. Ltd. Kure, Hiroshima	CSA-0.3M	0.3	UK
		CSA-0.5M	0.5	UK
		CSA-1.0M	1.0	UK
		CSA-2.0M	2.0	UK
		CSA-5.0M	5.0	UK

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
12. Japan (Cont'd)	3. Sasakura Engineering Co. Ltd. 75 Mitejima, 6-Chome Nishiyodogawa-ku Osaka 555	SASAKURA-TURBULO TFU (A) SASAKURA-TURBULO TFU (A) SASAKURA-TURBULO TFU (A) SASAKURA-TURBULO TFU (A) SASAKURA-TURBULO TFU (A) SASAKURA-TURBULO TFU (A) TFU-1(B) TFU-2(B) TFU-3(B) TFU-5(B) TFU-10(B) SASAKURA SMT 0.5 SASAKURA SMT 1 SASAKURA SMT 10 SASAKURA SMT 2 SASAKURA SMT 3 SASAKURA SMT 5	0.25 0.5 1.0 2.0 5.0 10.0 1.0 2.0 3.0 5.0 10.0 0.5 1.0 10.0 2.0 3.0 5.0	UK; Gr; Sw; Fin UK; Gr; Sw; Fin UK; Gr; Sw; Fin UK; Gr; Sw; Fin; Nor UK; Gr; Sw; Fin; Nor UK; Gr; Sw; Fin; Nor UK; Gr; Sw; Fin; Jpn; Nor; Den UK; Gr; Sw; Fin; Nor; Den UK; Den UK; Den UK; Den UK; Den UK; Den UK; Den
	4. Taiko Kikai Industries Co. Ltd., 209-1 Shimo Tabuse, Tabuse Cho Kumage-gun, Yamaguchi Prefecture	UVK-05 UVK-10 UVK-20 UVK-30 UVK-50 UVK-100 UST-01 UST-03 UST-05 UST-10 UST-20 UST-30 UST-20N UST-30N UST-50N	0.5 1.0 2.0 3.0 5.0 10.0 0.15 0.25 0.5 1.0 2.0 3.0 2.0 3.0 3.0 5.0	UK; Sw; Nor UK; Sw; Nor UK; Gr; Sw; Jpn; Nor UK; Gr; Sw; Jpn; Nor UK; Gr; Sw; Jpn; Nor UK; Gr; Sw; Nor; Den USA; China; Jpn; UK UK; Gr; USA; China; Jpn; Nor; Belg UK; Gr; USA; Sw; China; Jpn; Nor; Belg UK; Gr; USA; Jpn; Sw; China; Nor; Belg UK; Gr; Sw UK; Gr; Sw; Nor UK; USA; Gr; China; Jpn; Nor; Belg UK; USA; Gr; China; Jpn; Nor; Belg UK; USA; Gr; China; Jpn; Nor; Belg

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
12. Japan (Cont'd)	5. Nissin Refrigeration and Engineering Ltd. Osaka	"NISSINCOMYN" "NISSINCOMYN" "NISSINCOMYN" "NISSINCOMYN" "NISSINCOMYN"	1.0 5.0 10.0 20.0 25.0	UK UK UK UK UK
	6. Tesco Engineering Corp. 22-44, 2-chome Takanawa, Minato-ku Tokyo 108 Japan	KEENE/OPE OS-0.1 KEENE/OPE OS-0.2 KEENE/OPE OS-0.5 KEENE/OPE OS-1 KEENE/OPE OS-2 KEENE/OPE OS-5 KEENE/OPE OS-12	0.1 0.2 0.5 1.0 2.0 5.0 12.0	UK; Fin; USA; RF; Den UK; Fin; Jpn; USA; RF; Den UK; Fin; Jpn; USA; RF; Den UK; Fin; USA; RF; Den UK; USA; RF; Jpn; Den UK; Fin; Jpn; USA; RF; Den UK; Fin; USA; Den
	7. Nippon Oil and Fats Co. Ltd. Tokyo	NIPPON SAREX OWS-5 NIPPON SAREX OWS-10 NIPPON SAREX OWS-20 NIPPON SAREX OWS-60	1.13 2.26 4.53 13.38	UK UK UK UK
	8. Nippon SRS (Separation & Recovery System) Inc. Tokyo	NIPPON SAREX OWS-2J OWS-5J OWS-10J OWS-20J	0.5 1.0 2.0 4.5	UK; Jpn Jpn Jpn Jpn
	9. Yakura Kiki Kogyo Ltd. Osaka	YKS-SASP 0.2 YKS-SASP 0.5 YKS-SASP 1.0 YKS-SASP 2.0	0.2 0.5 1.0 2.0	UK; Jpn UK UK UK
	10. Aall and Co. Ltd. Kobe	SFC-0.5 BW SFC-5 BW SFC-8 BW SFC-12 BW	0.5 2.0 5.0 10.0	UK; Nor UK; Nor UK; Nor UK; Nor
	11. Oshitari Laboratory Inc.	OFC-05C OFC-1C OFC-2C	0.5 1.0 2.0	Jpn Jpn Jpn

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
12. Japan (Cont'd)	12. Kobe Separator Co. Ltd.	M-015 M-03 M-05 M-10	0.15 0.3 0.5 1.0	Jpn Jpn Jpn Jpn
	13. Sasakura Service Center Co. Ltd.	SFU-0.25	0.25	Jpn
	14. Amerold Japan Service Kanagawa	MS-03 MS-05	0.3 0.5	Jpn Jpn
	15. Hamada Kogyo Co. Ltd.	HAS-25	0.25	Jpn
	16. Fuji Sash Co.	PBOS-200N	0.2	Jpn
	17. Sumitomo Precision Product Co. Ltd.	SGE-2500	2.6	Jpn
	18. Tanaka Giken Co. Ltd.	200 MVH 300 MVH 500 MVH	0.2 0.3 0.5	Jpn Jpn Jpn
13. Netherlands	1. Machine fabriek Geurtsen Deventer B.V. at Deventer	AQUAMARIN Ge De 250 MK II	0.25	Fin; Italy; Belg; Neth; RF
		AQUAMARIN Ge De 500 MK II	0.5	Fin; Italy; Neth; Belg; RF;
		AQUAMARIN Ge De 1000 MK II	1.0	Fin; Italy; Neth; Belg; RF Neth
		AQUAMARIN Ge De 2500 MK II	2.5	Italy; Neth; Belg; Sw; Fin; RF; Yugo; UK
		AQUAMARIN Ge De 0001 IAP/wo	1.0	Italy; Neth; UK
		Ge De 0001 IAP/e	2.5	Nor; Sw; Fin; Yugo; Cro RF; Belg
		AQUAMARIN Ge De 0002,5 IAP/wo	5.0	Italy; Neth; UK Nor; Sw; Fin; Yugo; Cro RF; Belg
		Ge De 0002,5 IAP/e	10.0	Neth; Nor; Sw
		AQUAMARIN Ge De 0005 IAP/wo	10.0	Sw; Fin; RF; Belg; UK; Yugo; Cro
		Ge De 0005 IAP/e	10.0	Italy
		AQUAMARIN 10 IPA		
		AQUAMARIN Ge De 0010 IAP/wo		
		Ge De 0010 IAP/e		

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m³/h	Approving Governments
13. Netherlands (Cont'd)	2. Stork Services B.V. Industrielplein 1 P.O. Box 2013 7550 CA, Hengelo	AQUAMARIN Ge De 0001 IAP AQUAMARIN Ge De 0002.5 IAP AQUAMARIN Ge De 0005 IAP AQUAMARIN 10 Ge De 0010 IAP AQUAMARIN MK II Ge De 250 AQUAMARIN MK II Ge De 500 AQUAMARIN MK II Ge De 1000	1.0 2.5 5.0 10.0 0.25 0.5 1.0	USA; Pol; Nor Pol; USA Pol; USA USA; Pol USA; Nor; Italy USA; Nor; Italy USA; Nor; Italy
	3. Skimovex BV De Liesbosch 5 Utrecht	Inverto 2.5 Inverto 0.25 Inverto 0.75 Inverto B25	2.5 0.25 0.75 2.5	Neth; Gr; UK; Nor Neth; UK; Sw Neth; UK; Sw Sw; Den
	4. FACET Industrial Filtration & Separation Draaibrugweg 10 Ind. Terr. De Vaart Zuid, 1332 AD Almere	FACET CPS 1.25B Mod I FACET CPS 2.5B MK II FACET CPS 2.5B Mod I FACET CPS 5B MK II FACET CPS 5B Mod I FACET CPS 10B MK II FACET CPS 10B Mod I FACET CPS 25B MK II FACET CPS 25B Mod I FACET CPS 50B MK II FACET CPS 2.5 BV Mod.I FACET CPS 5.0 BV Mod.I	0.25 0.5 0.5 1.0 1.0 1.0 2.5 2.5 2.5 5.0 5.0 10.0 0.5 1.0	FRG; Den RF; Nor; Den RF; FRG; Nor; Den RF; FRG; Nor; Den FRG; Sw; UK; RF; Fin; Nor; Den Sw; UK; Can; RF; Fin; FRG; Nor; Den FRG; RF; Nor FRG; Sw; UK; RF; Fin; Nor; Den Sw; UK; Nor RF; Fin; Den Nor; UK; Den Nor; UK; Den
14. Norway	1. Titech Dokkveien 1 P.O. Box 1356 Vika, Oslo 1	AMV 2.5 IM AMV 5 IM AMV 10 IM	2.5 5.0 10.0	Nor; Gr; Ice; Den Nor; Gr; Ice; Den Nor; Ice; Den
	2. Aker products	Aker COM 2.5	3.1	Nor; Gr; Den

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
15. Poland	1. PZUO "WARMA" Ul. Lotnicza 21 86-300 Grudziadz	OB 0.5 OB 1 NEPTUN 0.25 NEPTUN 0.5 NEPTUN 1.0 NEPTUN 2.5 A1 NEPTUN 5.0 NEPTUN 10.0 OB 5 OB 10 OB 25	0.5 1.0 0.25 0.5 1.0 2.5 5.0 10.0 5.0 10.0 25.0	RF Pol; RF Pol; RF Pol Pol; RF RF Pol; RF Pol Pol; Sw; UK; RF; Fin Pol; RF; Nor Pol; RF
16. Republic of Korea	1. Pohang Marine Engineering Co. Ltd.	KOMEX OWS-1 KOMEX OWS-2 KOMEX OWS-5 KOMEX OWS-10B1 KOMEX OWS-20B1	0.3 0.5 1.0 2.0 5.0	ROK ROK ROK ROK ROK
	2. Kolon Engineering Inc.	UST-0.3 UST-0.5 UST-1.0 UST-20N UST-30N UST-50N	0.25 0.5 1.0 2.0 3.0 5.0	ROK ROK ROK ROK ROK ROK
	3. Han Young Engineering Co. Ltd.	HM-0.15 HM-0.3 HM-0.5 HM-1.0 OS-0.5 OS-2.0 OS-3.0 OS-5.0	0.15 0.3 0.5 1.0 0.5 2.0 3.0 5.0	ROK ROK ROK ROK ROK ROK ROK ROK
17. Russian Federation	1. Sudoimport Moskva, Smolenskaia - Sennaia pl 32/34	USF-4 UKF-0.6 UKF-1.5 UKF-2.5 UKF-4.0	4.0 0.6 2.5 2.5 4.0	RF RF RF RF RF
18. Spain	1. Alfa-Laval, S.A. Antonio Cabezón, 27 28034 MADRID	AMV 2.5 IM AMV 5 IM AMV 10 IM	2.5 5.0 10.0	Spain Spain Spain
	2. Facet Ibérica Narváez, 38 28009 MADRID (see 20 United States 5)	3 OWS 2.3/10 3 OWS 0.5/2.2 3 OWS 1/4.4 3 OWS 2/8.8 3 OWS 3/13.2 3 OWS 5/22-30/132	2.3 0.5 1 2 3 5-30	Spain Spain Spain Spain Spain Spain

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
18. Spain (Cont'd)	3. Navitrade, S.A. Alameda Mazarredo, 6 48001 BILBAO	VICTOR VS2 VICTOR VS2 VICTOR VS2 VICTOR VS2 MS-0.5 MS-1 MS-2 MS-3	0.5 1.0 2.5 5.0 0.5 1.0 2.0 3.0	Spain Spain Spain Spain Spain Spain Spain Spain
	4. Gefico S.A. 15008 La Coruña	SENTICAL V/2.5	2.5	Spain
	5. Pasch y Cía., S.A. Madrid-20, Capitan Haya 9, 28020 Madrid (see 6 Federal Republic of Germany 3)	Turbulo TE1F 1-10 Turbulo TEF 0.5-10 Turbulo TEF 0.5-S-20-S	1.0-10.0 0.5-10.0 0.5-20.0	Spain Spain Spain
19. Sweden	1. Salen aud Wicander AB S-1 71 22 Solna	PP Matic BS 1500 PP Matic BS 3000 PP Matic BS 5000	1.5 3.0 5.0	Sw; UK; Gr Sw; UK; Gr Sw; UK
	2. JOWA AB, Marine Equipment Div. Gothenburg	JOWA OIL-A-DUOSEP-0.5 JOWA OIL-A-DUOSEP-1.0 JOWA OIL-A-DUOSEP-1.5 JOWA OIL-A-DUOSEP-2.5 JOWA OIL-A-DUOSEP-3.5 JOWA OIL-A-DUOSEP-5 JOWA OIL-A-DUOSEP-7.5 JOWA OIL-A-DUOSEP-10	0.5 1.0 1.5 2.5 3.5 5.0 7.5 10.0	RF; Fin UK; RF; Fin; Sw Sw; UK; Fin; RF; Nor Nor; Sw; UK; RF; Fin Sw; UK; Nor; RF; Fin Sw; UK; Fin Sw; UK; Fin; Nor Sw; UK; Nor; RF; Fin

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
20. United Kingdom	1. Alexander Esplen and Co. Ltd. Graphic House 107 Duck St. Liverpool L1 4JR	COMYN COMYN COMYN COMYN COMYN COMYN COMYN COMYN-10T/H COMYN-20T/H COMYN COMYN COMYN (Torispherical ends) COMYN (Torispherical ends) COMYN (Torispherical ends) COMYN Separating Module COMYN Separating Module COMYN Separating Module COMYN Separating Module COMYN Separating Module COMYN Separating Module COMYN Separating Module	0.25 0.5 1.0 2.5 5.0 7.0 8.5 10.0 20.0 25.0 180.0 10.0 20.0 25.0 0.25 0.5 1.0 2.5 5.0 7.5 10.0	Sw; Spain Sw; RF; Spain UK; Sw; Gr; Nor; Belg; RF; Spain; USA; Can UK; Belg; Nor; RF; Spain; USA; Can Nor; UK; Sw; Gr; Belg; Can; RF; Spain; USA RF; Spain RF Nor; UK; Sw; Gr; Belg; USA; RF; Spain; Can Nor; UK; Sw; Gr; Belg; USA; RF Nor; UK; Sw; Gr; Belg Nor UK UK UK UK; Belg; Can UK; Fin; Ice; Gr; Can; Nor; Den UK; Fin; Ice; Gr; Can; Nor; Den
	2. Hodge Separators Ltd. 1 Jenning Road Kernick Industrial Estate, Penryn, Cornwall TR10 9QD	VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VICTOR VS2 VICTOR VS2	0.25 0.5 1.0 2.0 2.5 3.0 5.0 10.0 15.0 20.0 25.0 30.0 0.5 1.0	UK; Sw UK; Sw; Fin; Gr UK; Sw; Fin; Gr UK; Sw; Gr Fin UK; Sw; Gr UK; Sw; Fin; Nor UK; Sw; Fin; Nor UK; Sw; Nor UK; Sw; Nor UK; Sw; Nor UK; Sw; Nor UK; Fin; Ice; Gr; Can; Nor; Den UK; Fin; Ice; Gr; Can; Nor; Den

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
20. United Kingdom (Cont'd)		VICTOR VS2	2.5	UK; Fin; Ice; Gr; Can; Nor; Den
		VICTOR VS2	5.0	UK; Fin; Ice; Gr; Can; Nor; Den
		VICTOR VS2	10.0	UK; Fin; Ice; Gr; Can; Nor; Den
		MS-0.5	0.5	UK; Can; Nor; Belg; Fin; Den
		MS-1	1.0	UK; Can; Nor; Belg; Fin
		MS-2	2.0	UK; Can; Nor; Belg; Fin; Den
		MS-3	3.0	UK; Can; Nor; Belg; Fin; Den
		MS-4	4.0	UK; Can
		MS-5	5.0	UK; Can
		MS-10	10.0	UK; Can
3.	Hodge Separators Ltd., Falmouth	Victor 2 stage		
		MS 05	0.5	Den; Fin
		MS- 1	1.0	Fin
		MS- 2	2.0	Fin
		MS- 3	3.0	Fin
		MS 10	1.0	Den
		MS 20	2.0	Den
		MS 30	3.0	Den
		Victor 3 stage	2.0	Den
		Victor	10.0	Fin
4.	Facet Industrial UK Ltd. (Fram Industrial Filtration and Separation Llantrisant Pontyclun Mid Glamorgan Wales)	FRAMERINE		
		CPS 1.25B	0.25	FRG
		CPS 1.25D	0.25	UK
		CPS 2.5D	0.5	UK; Italy
		CPS 5B 1	1.0	UK
		CPS 5B 5	1.3	Fin
		CPS 5B 15	1.3	UK; Gr; Fin
		CPS 10B	2.5	FRG
		CPS 25B	5.3	UK; Gr
		CPS 25 B5	5.3	FRG; Fin
		CPS 25B 15	5.3	FRG; Fin
		CPS 50B	11.4	UK
		CPS 50 B5	11.9	FRG
		CPS 50 B15	11.9	FRG
		CPS 100B	22.9	UK
5.	Facet Industrial UK Ltd. (Fram Industrial Filtration and Separation, UK, Netherlands and Italy)	FRAMARINE	0.25	UK; Italy
		CPS 1.25B MOD I		
		CPS 2.5BV MOD I	0.5	UK
		CPS 5BV MOD I	1.0	UK
		CPS 1.0D	0.22	UK
		CPS 2.5D	0.5	UK
		CPS 2.5D (FLAT BASE)	0.5	UK

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
20. United Kingdom (Cont'd)		CPS 2.5B MOD I CPS 5B MOD I  CPS 10B MK II  CPS 10B MOD I CPS 25B MOD I  CPS 2.5B MK II CPS 5B MK II CPS 10B MK II CPS 25B MK II CPS 25B MK II CPS 50B MK II	0.5 1.0  2.23  2.5 5.0  0.5 1.0 2.5 5.0 10.0 10.0	Ice; UK; Italy UK; FRG; Belg; Ice; Fin; Italy UK; FRG; Belg; Fin; Italy Ice; UK; Italy UK; FRG; Belg; Ice; Fin; Italy Ice; Italy Ice; UK; Italy Ice; UK; Italy Ice; UK; Italy UK FRG; Belg; Ice; UK; Fin; Italy
6.	Butterworth Systems Ltd. 445 Brighton Road South Croydon Surrey CR2 GEU	SFC-0.5 BW SFC-1 BW SFC-5 BW SFC-8 BW SFC-10 BW SFC-12 BW	0.5 1.0 2.0 5.0 7.0 10.0	UK; Can UK; Can UK; USA; Gr; Can; Nor UK; USA; Can; Nor Nor Italy; UK; USA; Can; Nor
7.	Hamworthy Engineering Limited Fleets Corner Poole, Dorset BH17 7LA	HS 1  HS 1A HS 2A HS 2.5  HS 5  HS 5A HS 1 Mark II HS 2.5 Mark II HS 5 Mark II HS 10 Mark II	1.0  1.0 2.0 2.5  5.0  5.0 1.0 2.5 5.0 10.0	Belg; Fin; UK; USA; Gr; Nor; Can; Pol; China; RF RF RF UK; Gr; Pol; Can; USA; China; RF; Nor; Belg; Fin UK; FRG; Nor; USA; RF; Can; Gr; Pol; China; Belg; Fin RF UK; Den UK; Den UK; Den UK; Den
8.	Stetfield Ltd. Unit 6, Blackwater Way, Aldershot Hampshire GU12 4DN	STETMARINE V300 STETMARINE V400 STETMARINE V500 STETMARINE V600 STETMARINE V1000	0.33 0.5 1.0 2.0 4.0	UK UK; Gr UK UK UK; Gr
9.	Marshall-Orr Ltd. Cumbernauld Scotland	INVERTO INVERTO INVERTO INVERTO INVERTO INVERTO	0.25 0.5 0.75 1.5 2.5 5.0	UK UK UK UK UK UK

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m³/h	Approving Governments
21. United States	1. Keen Corporation Greeneville Tennessee	KEEN Model 2100	2.5	Italy; UK
		KEEN Model 2200	5.0	Italy; UK
		KEEN Model 2600/10	10.0	Italy; UK
		KEEN Model 2600	15.0	Italy; UK
	2. Separation and Recovery System Inc. 16901 Armstrong Ave. Irvine CA 92714-4962	SAREX 5 GPM	1.135	Nor; Gr; Italy
		SAREX 10 GPM	2.27	Neth; Nor; Gr; Italy
		SAREX 20 GPM	4.54	Neth; Nor; Gr; Italy
		SAREX 60 GPM	13.6	Neth; Nor; Gr; Italy
		SAREX 100 GPM	22.7	Neth; Nor; Gr; Italy
		SAREX 150 GPM	34.0	Nor; Gr
		SAREX 200 GPM	45.3	Neth; Nor; Gr
		OWS 5	1.13	FRG; UK; Fin; Sw; RF; Can; Spain; Nor
		OWS 10	2.25	FRG; UK; Fin; Sw; RF; Can; Spain; Nor
		OWS 20	4.53	FRG; UK; Fin; Sw; RF; Can; Spain; Nor
		OWS 60	13.38	UK; Fin; Sw; Nor; RF; Can; Spain
		OWS 100	22.70	RF; Can
		OWS 150	30.00	Nor
		SAREX VGS 1	0.22	FRG; UK; Gr; Fin; Italy; Sw; RF; Can; Spain; Nor; Den
		SAREX VGS 2	0.45	UK; Italy; RF; Can; Spain
		SAREX OWS-5	1.13	Den
		SAREX OWS-10	2.26	Den
		SAREX OWS-20	4.53	Den
		SAREX VGS-10	2.26	Den; UK
		SAREX VGS-20	4.53	Den; UK
		SAREX 5 GPM/OWS	1.14	USA
		SAREX VGS 5	1.13	UK; USA; FRG; Nor; Italy
		SAREX VGS 10	2.25	FRG; UK; Fin; Ice; Italy; Sw; RF; Can; Spain; Nor
		SAREX VGS 20	4.53	FRG; UK; Fin; Ice; Sw; RF; Can; Nor
		SAREX 1 GPM/VGS	0.227	USA; Belg; RF; Can
		SAREX 2 GPM/VGS	0.45	USA; Belg; Gr; RF; Can
		SAREX 5 GPM/OWS	1.14	USA; Belg; Can; Italy; RF
		SAREX 10 GPM/OWS	2.27	USA; Belg; Can; Italy; RF
		SAREX 10 GPM/VGS	2.27	USA; Belg; RF; Can
		SAREX 20 GPM/VGS	4.54	USA; Belg; Can; Italy; RF
		SAREX 20 GPM/OWS	4.54	USA; RF; Can
		SAREX 25 GPM/VGS	5.0	



Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m³/h	Approving Governments
21. United States (Cont'd)		3 OWS-30/132 3 OWS-68.1/300 or Facet 3 OWS-10 3 OWS-91/400	30.0 68.1 91.0	USA USA USA
	6. Sigma Treatment Systems Division Parmatic Filter Corp., 92 Newark Pompton Turnpike Wayne, NJ 07470	S1-02 S1-04 S1-08 S1-16 S1-20 S1-10 S1-0.5T S1-25 S1-0.5T S1-1T S1-2T S1-3.5T S1-7T S1-7.5T S1-8(H) S1-8(J)	0.5 0.9 1.8 3.6 4.5 2.27 0.45 5.68 0.45 0.9 1.8 3.5 6.75 7.27 1.8 1.8	Can; USA USA; Can; Nor USA; Can; Nor USA; Can; Nor USA; Can; Nor USA USA Can; Gr USA; Can; Gr USA; Can; Gr USA; Can USA USA USA USA USA
	7. Sigma/Hapco Merry Meadows RD1 P.O. Box 70 Chester Springs PA 19425	SH2-12 SH2-20 SH2-40	2.72 4.54 9.08	USA USA USA
	8. Hyde Products Inc. 28045 Ranney Parkway, Cleveland, OH 44145-1188  or  Hyde Products UK Division Andover, England	Hyde MSS- 1.5 Hyde MSS- 2.2 Hyde MSS- 3.0 Hyde MSS- 4.4 Hyde MSS- 5.0 Hyde MSS- 8.8 Hyde MSS-10.0 Hyde MSS-17.6 Hyde MSS-20.0 Model 1-4	0.34 0.50 0.68 1.00 1.14 2.00 2.27 4.00 4.54 5.6	USA; UK; Nor; Gr USA; UK; Nor; Gr USA; UK; Nor; Gr USA; UK; Nor; Belg; Gr USA; UK; Nor; Gr USA; UK; Nor; Gr USA; UK; Nor; Gr UK; Nor UK; Nor USA
	9. Nelson Industries, Inc. Highway 51 West P.O. Box 428 Stoughton, WI.53589	10025 2.5 GPM Nelson 10 GPM  10075 7.5 GPM	0.568 2.27 1.7	USA; Can USA USA; Can

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
	10. Marland Environmental Systems Inc. 227 N. Main Street Walworth, WI or Marshall-Orr Ltd Blairlain Industrial Estate, Cumbernauld Near Glasgow, Scotland	MARLAND "INVERTO" MARLAND "INVERTO" MARLAND "INVERTO" 10-15 MARLAND "INVERTO" 20-25 MARLAND "INVERTO"	0.25 0.75 1.5 2.5 5.0	Nor Nor UK; Fin; Sw; Nor UK; Fin; Sw; Nor UK; Fin; Nor
21. United States (Cont'd)	11. Quantek Inc., (EX.FRAM) P.O. Box 33210 Tulsa, Oklahoma 74153	FRAMARINE CPS-10B15 CPS-3B15	2.27 0.68	USA USA
	12. Facet Quantek Inc., P.O. Box 50096, Tulsa, Oklahoma 74150-0096	CPS-22B15 3 OWS-45.5/200	5.0 45.5	USA USA
	13. Butterworth Systems Ltd. Dracut MA 1951 Lakeview Ave	SFC-10 SFC-AA-5 SFC-AA-8 SFC-AA-12 SFC-0.5-BW SFC-0.5-BWA SFC-5 SFC-8-BW SFC-8-BWA SFC-5-BW SFC-5-BWA SFC-12-BW SFC-12-BWA	7.0 1.5 5.0 10.0 0.5 0.5 1.5 5.0 5.0 1.5 1.5 10.0 10.0	Italy Italy Italy Italy Italy; Can Italy Italy; Can Italy; Can Italy Italy Italy Italy Italy Italy; Can Italy
	14. St. Louis Ship 611 East Marceau St. St. Louis, MO 63111  and  St. Louis Ship Canada Ltd.	Pace TM-S-1 S-2 S-3 S-4 S-5 S-6 S-7	0.5 1.25 2.5 5.0 10.0 15.0 20.0	USA; Can; UK; Nor USA; Can; UK; Nor USA; Can; UK; Nor USA; UK; Nor USA; Nor USA USA
	15. Red Fox Industries P.O. Drawer 640 New Iberia, LA 70560	OWS-5	1.4	USA; Can

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
	16. World Water Systems Inc. 340 E. First St. P.O. Box 3427 Tustin, CA 92681	HELI-SEP 500 HELI-SEP 1000 HELI-SEP 2000 HELI-SEP 2500 HELI-SEP 5000 HELI-SEP 10000 HELI-SEP 5000-D HELI-SEP 2000-A	0.5 1.0 2.0 2.5 5.0 10.0 3.63 2.0	UK; USA; Nor; Can; Gr; Pol; RF; Fin UK; USA; Nor; Can; Gr; Pol; RF; Fin USA; Nor; Fin USA USA
21. United States (Cont'd)	17. Harco Manufacturing Co., 7700 S.W. 69th Ave, Portland OR 97223	HAPCO HMC1-2 HAPCO HMC1-4 HAPCO HMC1-6 HAPCO HMC1-8	0.45 0.90 1.36 1.8	USA USA USA USA

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**ANNEX 4****PROCESS UNITS INTENDED FOR ATTACHMENT TO EXISTING  
OILY-WATER SEPARATING EQUIPMENT**

(Oil content of the effluent not exceeding 15 ppm)

Approved in accordance with Appendix 1 to the Annex of  
resolution A.444(XI))

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m <sup>3</sup> /h	Approving Governments
1. Argentina	1. A.V.C. Ingenieria S.R.L.	F - 0.5 F - 2.5 F - 5 F - 10	0.5 2.5 5.0 10.0	Ar. Ar. Ar. Ar.
2. Germany	1. Howaldtswerke Deutsche Werft AG P.O. Box 111480 2000 Hamburg 11	"Turbulo" TPU 0.5 "Turbulo" TPU 1 "Turbulo" TPU 2.5 "Turbulo" TPU 5 "Turbulo" TPU 10	0.5 1.0 2.5 5.0 10.0	FRG; UK; Belg; Fin; Nor FRG; UK; Belg; Fin; Nor FRG; UK; Belg; Fin; Nor FRG; UK; Belg; Fin; Nor FRG; UK; Belg; Fin; Nor
	2. VEB Schiffsanlagenbau Barth	Entölungsfilter 0.2 " 0.5 " 1.0 " 2.5 " 5.0 " 10.0	0.2 0.5 1.0 2.5 5.0 10.0	FRG FRG FRG FRG FRG FRG
3. Japan	1. Heishin Pump Works Co. Ltd. 572 Furuta Harima-cho Kako Gun Hyogo Pref. 673-01	PU-0.25 PU-0.5 PU-1 PU-2 PU-3 PU-5 PU-10	0.25 0.5 1.0 2.0 3.0 5.0 10.0	UK; Gr; Belg; Ice; Sw; Can UK; Gr; Belg; Ice; Sw; Can UK; Gr; Belg; Ice; Sw; Can UK; Gr; Belg; Ice; Sw; Can; Nor UK; Gr; Belg; Ice; Sw; Can; Nor UK; Gr; Belg; Ice; Sw; Can; Nor UK; Gr; Belg; Ice; Sw; Can; Nor

Manufacturing Countries	Manufactured by	Type and Model	Maximum Throughput m³/h	Approving Governments
3. Japan (Cont'd)	2. Sasakura Engineering Co. 75 Mitejima 6-chome Nishiyodogawa-ku Osaka 555	F-0.25  F-0.5  F-1  F-2  F-3  F-5  F-10	0.25  0.5  1.0  2.0  3.0  5.0  10.0	UK; Gr; Sw; Nor; Fin UK; Gr; Sw; Nor; Fin
4. Russian Federation	1. Sudoimport Moskva Smolenskaya- Sennaia pl 32/34	FDN-0.6  FDN-1.0  FDN-1.6  FDN-2.5  FD-4.0	0.6  1.0  1.6  2.5  4.0	RF RF RF RF RF
5. United Kingdom	1. Alexander Esplen and Co. Ltd. Graphic House 107 Duck St Liverpool L1 4JR	COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN  COMYN	0.5  1.0  2.5  5.0  7.0  8.5  10.0  15.0  20.0  25.0  30.0  50.0	UK; Nor UK; Nor
	2. Hodge Separators Ltd. Penryn Cornwall TR10 9DQ	VICTOR VP2  VICTOR VP2  VICTOR VP2  VICTOR VP2  VICTOR VP2	0.5  1.0  2.5  5.0  10.0	UK; Fin; Gr; Can; Nor UK; Fin; Gr; Can; Nor UK; Fin; Gr; Can; Nor UK; Fin; Gr; Can; Nor UK; Fin; Gr; Can; Nor

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**ANNEX 5****OIL CONTENT METERS**

Approved in accordance with Part III of the Annex of  
resolution A.393(X))

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
1. Argentina	1. A.V.C.Ingenieria S.R.L.	LD-Oleom	X				Ar.
2. China	1. Xiamen Analytical Instrument Factory Xiamen, Fujian	GQS 177 GQS 186	X X				China China
	2. Wuxi Ultrasonic Electronic Equipment Plant, Jiang Su	Y69-005	X				China
	3. Fuding Photo-InstrumentWorks Fuding, Fujian	YNP-III	X				China
3. Germany	1. Howaldtswerke Deutscherwerft P.O. Box 111480 2000 Hamburg 11	OCM OCSA OTM 2	X X	X			FRG; UK; Sw FRG; Fin; Gr Sw; China; UK; Gr
	2. GESTRA AG 2800 Bremen 1	OR 34S	X				FRG; UK; Belg; Fin; Italy; Sw; Can; China; RF; Spain; Pol; Nor FRG
		OR 36S OR 52/1	X X				FRG; Pol; Italy; RF
	3. Deckma GmbH Oevelgönne 69 2000 Hamburg 52	OCA OCD1 OCD2 OCD	X X X X	X X			FRG; Belg; Fin; Sw; Gr; China; Pol; RF; Nor FRG; Pol; Can; Fin; Belg; China; Nor; Italy FRG; Pol; Can; China; Nor; Belg; Fin; Italy FRG
	4. AEG Telefunken 2000 Hamburg 11 Steinhof 9	OILI-S.1000 MARK B		X	X	X	UK; FRG; Gr

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
3. Germany (Cont'd)	5. Deckma GmbH	OCA OCD-1 OCD-2 OCD-3	X X X X	X  X	X		Den; Fin Den; Gr; RF; Fin Den; Gr; RF; Fin Fin
	6. Howaldtswerke-Deutsche Werft AG 2000 Hamburg	OCSA	X				Fin
	7. Schiffsan-lagenbau Barth GmbH, 2380 Barth	BOA	X				FRG; RF
	8. Gestra AG 2800 Bremen	OR 34S	X				Fin
4. Finland	1. Sähköliik-keiden Oy. Sähkömestä PL88 01301 Vantaa 30	OILI OILI-S OILI-S-1000	X  X X	X X X	X X X	X X X	Fin; RF FRG Fin Nor; Fin
5. France	1. SERES Rue Albert Einstein Z.I. d'Aix-les-Milles Les Milles Cedex 12763	ODME-S.663  DRUR Type D DRUR 545D DRUR Type BW BWAM S646 BWAM-S.646	X  X X X	X  X X X	X  X X	X X X	Belg; Fin; UK; USA; Pol; Fr; Jpn; RF; Den; Nor; Spain; Pol; Can Fr; Belg; Nor; UK; USA; RF Italy; Sw; Fin Fr; Belg; Sw; RF; Nor Fin  RF; Nor; Fin; UK; USA; Pol; Fr; Spain; Can; China; Italy; Den
	2. SERES D'ETUDE Rue Albert Einstein Z.I. d'Aix prov.13762 Les Milles Cedex	ODMES 663 MKII	X	X	X		Gr

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
5. France (Cont'd)	3. SERES Rue Albert Einstein Z.I.d'Aix-les-Milles 72 13793 Aix en Province Cedex 3	ODMES 663 MKIII	X	X	X		Can
6. Greece	1. Environment Protection Engineering Ltd. 88, Iroon Polytechniou Str. 185-36 Piraeus	PL-15	X				Gr
7. Italy	1. Navalimpianti S.P.A. 16128 Genova	Navimeter 1 MK4 Navimeter 1 Navimeter 2 Navimeter 3	X	X X	X X	X X	RF Italy Italy Italy
8. Japan	1. Shimadzu Seisa-Kusho Ltd. Aichi 16/220 Kyoto	ET-25	X				Nor; UK; Gr; Sw
		ET-30A	X	X			Nor; UK; Gr; Sw
8. Japan	2. Horiba Ltd. Miyanohigashi Kisshoin Minami-ku Kyoto	ET-30M	X	X			Nor; UK; Gr; Sw
		ET-35A	X				UK
		ET-53A	X				UK
		OCMA-32A with model RS-100 recorder	X				UK; Gr; Nor
		OCMA-34 with synchronous Rectifying Amplifier	X				UK; Gr; USA; Jpn
		OCMA-34 with Band Pass Filter Amplifier	X				UK; Jpn
		OCMA-32A with Digital indicator	X				UK Can; UK;
		OCMA	X		X	X	Nor
		OCMA-70	X		X	X	Nor
		OCMA-70C	X		X	X	Nor
		OCMA-700		X			Nor; Jpn
		OCMA-1000				X	

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
8. Japan (Cont'd)	3. Yamatake-Honeywell Co.Ltd Nagai Internat. Bldg. 12-19 Shibuya 2 Chome Shibuya Tokyo 150	OIL-A-LYZER (Tape A) OIL-A-LYZER (Tape M) OIL-A-LYZER W Ballast Monitor	X	X	X		UK; Sw; Gr; Nor; Fin; Spain UK; Sw; Gr; Nor UK; Nor
	4. Fellow Kogyo Co. Ltd. 2-6 5 chome Arakawa Arakawa-ku Tokyo	FOCAS-1200 FOCAS-1500A	X X				UK; RF; Jpn UK; USA; Jpn; Gr; Sw; China; Nor; Belg; Can
	5. Sasakura Engineering Co. Ltd. 75 Mitejima Nishiyudogawa-ku Osaka 555	OTM 12/14 OTM 14 OTM 17XA OSM		X	X X X	X	UK; Gr; Sw; Nor USA Sw; UK; Gr; China UK
	6. TOEI Electronics Co. Ltd. Tokyo 15/530	Sea Gard Model D-302A	X				Sw; UK
	7. Tokyo Keiko Co. Ltd. Tokyo	CBM 1100 DR-1000			X X	X X	UK Nor
	8. Misuzu Machineries and Engineering Ltd. Hyogo, Tokyo	Misuzu-SALWICO Oil Pollution Monitor	X	X	X	X	UK; China
	9. Sumitomo Precision Products Inc. Amagasaki Osaka 16/150	"OILCON" MK II			X		USA
	10. Nippon SRS Inc.	BA-1	X				Jpn
	11. Horiba Ltd.	OCMA - 34	X				Den
	12. Fellow Kagyo Co. Ltd.	Focas-1500 A	X				Den
	13. Yamatake-Honeywell	Oil-A-Lyzer (Type A) Oil-A-Lyzer (Type M)	X	X			Den Den

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
8. Japan (Cont'd)	14. Sasakura Engineering Ltd.	Bilge alarm type OSM-1	X				Den
9. Netherlands	1. ITT Conoflow - VAF Dordrecht	ITT "OILCON" MK II C11 ITT "OILCON" MK II C12 ITT "OILCON" MK III C11 OILCON ITT "OILCON" MK II Ballast Monitor ITT "OILCON" Bilge Monitor	X  X  X  X	X  X  X  X	X  X  X  X	X  X  X  X	UK; Fin; RF; Sw; Spain; Neth; Nor; Belg; Gr UK; Jpn; RF; FRG; Sw; Spain; Nor; Fin; Gr Belg Nor Den; Fin Den; Fin
	2. ITT-VAF Instruments Dordrecht	C11 - OILCON 15 ppm Bilge Alarm C12 - OILCON 100 ppm Bilge Monitor	X		X		Den; USA Den
10. Poland	1. Centrum Techniki Okretowej Gdansk Waly Piastowskie 1 40/5	SZW-1 SZW-1A	X X				Pol Pol; RF
11. Russian Federation	1. Sudimport Moskva Smolenskaia Sennaia pl 32/34	CHC-201	X				RF
12. Sweden	1. Salen and Wicander AB S-1 7122 Solna	Salwico Oil Content Monitor MK II Salwico Oil Pollution Monitor OCMA 34	X  X	X  X	X  X	X  X	UK; Sw; Gr; Nor USA; RF; Spain Nor

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
12. Sweden (Cont'd)	2. AB Brunns-Hygien Göteborg	JOWA MONITEK ALARM SYSTEM Model 160/131 JOWA MONITOR JOWATRON CONTROIL MARK II	X  X	X			Sw; Fin; Nor; FRG; RF  RF; Nor; Fin
	3. AB Brunnshy-Hygien	JOWA MONITEK ALARM SYSTEM Model 160/131 0 - 100 ppm JOWA MONITOR ALARM SYSTEM 0-15 ppm	X  X		X	X	UK  Den
	4. Salen & Wicander AB	Salwico Oil Pollution Monitor MK III		X			Den
	5. Jowa Marine Group AB P.O. Box 2370 S-40316 Göteborg	Controil Mark II JOWA M-87	X		X	X	FRG; Nor Fin
	6. Inventron AB Göteborg	Inventron Controil Mark II			X	X	UK
13. United Kingdom	1. International Telephone and Telegraph Corporation London Road Harlow, Essex CW17 9NA	ITT "OILCON" ITT "OILCON" (Bilge Recorder Monitor) ITT "OILCON" ITT "OILCON" MK II (Ballast Monitor)		X	X		UK  UK; Gr; Nor
			X			X	UK; Gr  UK; Gr; Nor; Italy

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
13. United Kingdom (Cont'd)	2. STC International Marine Ltd. Intelco House 302 Commonside East, Mitchum Surrey CR4 1YT	OILCON MARK III OILCON MK IV			X  X	X  X	USA; UK; Nor; Gr UK; Can
	3. Babcock Bristol Ltd. 218 Purley Way Croydon CR9 4HE	OPM 1 OTM 4	X X	X			Can; USA FRG; UK; Gr; Sw; Nor
		OTM 2		X			UK; Gr; Sw; USA
		OTM 12/14 OTM 14 OTM 17XA		X	X X X	X	UK; Gr; Sw; Nor USA UK; FRG; USA; Fin; RF; Nor; Spain; Gr
		OSM	X				UK; FRG; RF; Gr; Belg; Fin; Spain; Can
		OVM I	X				UK; Spain; Nor; RF; Can; Belg
		OSMI OPMI	X X				USA; Nor FRG; UK; USA
	4. Rivertrace Engineering Ltd. 392 Leatherhead Rd. Chessington, Surrey	DECKMA OCD-1 X DECKMA OCD-2 X					UK; USA UK; USA
	5. Babcock-Bristol	OVM I Bilge alarm OSM Bilge alarm OTM 17X De-ballasting Monitor OTM-17 XA	X X	X X			Den Den; Fin Den Fin
	6. ITT Corporation	ITT "Oilcon", Bilge Monitor ITT "Oilcon"	X	X			Den Den
	7. Babcock-Bristol Croydon	OPM 1 Bilge alarm OTM 18 De-ballasting Monitor	X	X			Den Den

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
13. United Kingdom (Cont'd)	8. STC International Marine Ltd. Surrey	STC Oilcon MK4			X	X	Den; Fin
14. United States	1. Keen Corporation Greeneville Tennessee	KEEN	X				UK
	2. Separation & Recovery Systems Inc. 1733 Kaiser Ave. Irvine California 92714	BA-1  OCA-1  ECC-1 Sarex BA-1 Sarex OCA-1	X  X  X				UK; USA; Fin; Gr; Belg; FRG; Can; Spain; Italy; RF Nor; UK; USA; Belg; Gr; FRG; Italy; Can; Spain; RF; Fin Nor Italy Italy
	3. Facet Enterprises Inc. P.O. Box 50096 Tulsa, Oklahoma 74150	MARK V  MARK VI MARK VII MARK VIII	X X X	X	X	X	USA; Sw; Spain; Nor USA; Spain USA; Spain USA
	4. Inventive Systems, Inc. P.O. Box 220 Lexington Park MD 20653	OS 100 M BA 200	X X	X			USA; Gr; Nor Nor; Gr; USA
	5. Monitek Inc. 1495 Zephyr Ave. Hayward CA 94544	Monitek 160/829	X				USA; FRG; Fin
	6. Marland Environmental Systems Inc. 227N. Main St. Walworth, WI	MA-1	X				UK
	7. HF Scientific Inc. 3052 Metro Parkway S.E. Fort Myers FL 33901-7539	BA-100  HF SCIENTIFIC	X X	X			USA; Can; Nor; Belg; Gr; RF Fin

Manufacturing Countries	Manufactured by	Types and Models	Bilge Alarms (15ppm)	Bilge Monitors (100ppm)	Ballast Monitors		Approving Governments
					Crude oil and black oils	White Oils	
	8. Hyde Product Inc. 810 Sharon Dr. Cleveland OH 44145	Hydalarm TMIR-15	X				USA
14. United States (Cont'd)	9. Nalfleet, Bull & Roberts, Inc. 115 Morris Ave. Springfield, NJ 07081	Aqualert	X				USA
	10. World Water Systems Ltd. 340E. First St. P.O. Box 3427 Tustin CA 92681	BA-100	X	X			USA
	11. Keene Corporation	"Keene" Billage Alarm	X				Den
	12. HF Scientific Inc. Florida	HF Scientific Inc. Bilge Alarm MA 1	X	X			Den UK

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**ANNEX 6****OIL CONTENT METERS**

Approved in accordance with Part 1 of the Annex of  
resolution A.586(14))

Manufacturing Countries	Manufactured by	Type and Model	Approving Governments
1. Germany	1. AEG-Aktiengesellschaft FRG and Sähköliikkeiden Oy, Vantaa, Finland	OILI S-1000	Pol; China
	2. AEG Telefunken 2000 Hamburg 11 Steinhof 9	OILI S-1000 MARK B	FRG; UK; RF
2. Finland	1. Sähköliikkeiden Oy, Vantaa, Finland ISLOI and AEG-Aktiengesellschaft, FRG	OILI S-1000	Pol; FRG
	2. Sähköliikkeiden Oy, Sähkömestä PL 88 Steinhof	OILI S-1000 MARK B	RF
	3. OPTEC-International Ltd. Helsinki	OILI S-1000	FRG
3. France	1. SERES Rue Albert Einstein Z.I. d'Aix en Prov. 13762 les Milles Cedex	ODME S-663 MKII DRUR 5450 ODME S-663 MK III	UK; USA; Can; Pol; China; Italy UK China; RF
4. Japan	1. Sasakura Engineering Co. Ltd.	OTM 17XA MKII OTM 17 OTM 18	UK; China; Jpn UK UK
	2. Tokyo Keiki Co. Ltd.	DR 1000	UK
	3. Hoyiba Ltd.	OCMA-1000	UK
5. Singapore	1. Viking Engineering Pte Ltd. 184 Pandan Loop Singapore	MARPOIL	Sig; China; UK
6. Sweden	1. Jowa AB Ringgatan 23, S-417 Gothenburg	JOWA CLEANOIL 8788 JOWA CLEANOIL 9000	UK UK
7. United Kingdom	1. STC International Marine Ltd.  STC International Marine Ltd. Intelo House, 302 Commonside, East Mitcham Surrey CR4 1YT	ITT "OILCON" MKIV  OILCON MK 4C OILCON MK 4	UK  USA UK; USA

Manufacturing Countries	Manufactured by	Type and Model	Approving Governments
7. United Kingdom (Cont'd)	2. Bristol-Babcock Ltd.	OTM 18 OTM 17X OTM 18X OTM-17XA-MKII	UK; USA; Can UK FRG Can
	3. International Telephone & Telegraph Corporation	ITT OILCON MKII Bilge Monitor	UK
	4. Rivertrace Engineering Ltd.	OCD-2	Can
8. United States	1. Facet/Quantek Enterprises, Industrial Division (formerly Facet Enterprises) P.O. Box 50096 Tulsa, Oklahoma 74150	MK-IX Ballast Monitor	USA; China

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**ANNEX 7****SEWAGE TREATMENT PLANTS**

(Approved in accordance with resolution MEPC.2(VI))

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
1. Brazil	1. Tridente Ind. E. Commercio de Equipamentos Navais Ltda. 20090 Rio de Janeiro	"Super Trident" ST25X ST 2 ST 4 ST 6 ST 8 ST10 ST13 ST15 ST20 ST25 ST30 "Retrofit Trident" RT20 RT40 RT60 RT80	17.5 1.6 3.01 4.55 6.0 7.4 9.6 11.0 14.5 17.5 23.1	15 1.2 2.4 3.6 4.8 6.0 7.8 9.0 12.0 15.0 18.0	UK UK UK UK UK UK UK UK UK UK UK
	2. SEMCO SA Sao Paulo	"Super Trident" ST 2 ST 4 ST 6 ST 8 ST10 ST13 ST15 ST20 ST25 ST30 "Retrofit Trident" RT20 RT40 RT60 RT80	1.6 3.01 4.55 6.0 7.4 9.6 11.0 14.5 17.5 23.1	1.2 2.4 3.6 4.8 6.0 7.8 9.0 12.0 15.0 18.0	UK UK UK UK UK UK UK UK UK UK
2. Bulgaria	1. MICHAILOV MV" CO. Bourgas	TYPE 434	1.5	1.8	BG
3. China	1. Taixing Ship's Machinery Works Taixing, Jiangsu	WCX-36 WCX-24 WCB-300(s) WCB-250(S) WCB-200(S) WCB-150(S) WCB-100(S) WCB-80 WCB-60	39.6 26.4 22.32 18.24 14.40 10.32 7.44 6.00 4.56	1.26 0.84 15.50 13.00 10.50 8.00 5.50 4.30 3.30	China China China China China China China China China

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
3. China (Cont'd)		WCB-50 WCB-40 WCB-30 WCB-25 WCB-20 WCB-15 WCB-10 WCB-6	3.60 2.88 2.16 1.75 1.44 1.19 0.72 0.42	2.70 2.20 1.60 1.25 1.10 0.85 0.60 0.21	China China China China China China China China
	2. Zhangjiang Marine Auxiliary Machinery Factory Zhangjiang, Jiangsu	WCB-40Z	3.08	1.54	China
	3. Luzhou Machinery Works Nanjing, Jiangsu	ST1 ST2 ST3 ST4 ST6 ST8 ST10 ST15 RT-40	0.85 1.6 2.31 3.01 4.55 6.0 7.4 11.0 3.01	0.6 1.2 1.8 2.4 3.6 4.8 6.0 9.0 2.4	China China China China China China China China China
4. Croatia	1. Yugoturbina 47000 Karlovac, Mala Svarca, 155	BRODOPUR 45 BRODOPUR BP-25 BRODOPUR BP-45	3.15 1.6 3.15	2.70 1.38 2.70	RF Yugo; Cro Yugo; Cro
5. Denmark	1. Atlas A/S Baltporpvej 154 DK 2750 Ballerup Copenhagen	AWWU	36.0	-	Den; Gr; Sw
6. Germany	1. VEB Abwasser-behandlungsan-lagen Merseburg	KA-MR 1.5 S 50C KA-MR 1.5 S 50B	1.75:5.0 1.5:4.25	1.14:3.25 0.98:2.76	FRG; RF FRG; RF
	2. Wasserbehand-lung Merseburg GmbH Amtshäuser 23-29 4200 Merseburg	KA-MR 1.5 S 50-1/E	2.0	1.3	FRG

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
6. Germany (Cont'd)	3. KG Hamman Wassertechnik GmbH P.O. Box 21 31 2105 Hamburg Seevetal 2	HL-Cont HL-Cont HL-Cont HL-Cont HL-Cont HL-Cont 1m <sup>3</sup> h HL-Cont 7 HL-Compact-Mini HL-Cont C-45	1080.0 720.0 360.0 168.0 96.0 24.0 168.0 24.0 96.0	816.0 540.0 270.0 126.0 72.0 18.0 126.0 18.0 72.0	FRG; RF FRG; RF FRG; RF; Fin FRG; RF FRG; RF FRG; RF; Italy FRG FRG; Fin Fin
	4. Format-Chemie und Apparate GmbH 2086 Ellerau	MSTP 1 MSTP 1 MSTP 1A MSTP 2 MSTP 3 MSTP 4 MSTP 5 MSTP 6 MSTP 7 MSTP 8 MSTP 9	6.0 6.6 3.3 12.0 18.0 22.5 33.0 48.0 69.0 150.0 300.0	3.0 3.3 1.65 6.0 9.0 11.25 16.5 24.0 34.5 75.0 150.0	RF FRG; UK; Fin; Sw FRG; RF FRG; UK; Fin; Sw; RF FRG; UK; Fin; Sw; RF FRG; UK; Fin; Sw; RF FRG; UK; Fin; Sw; RF FRG; UK; Sw; Fin; RF FRG; UK; Fin; RF FRG; UK; Sw; Fin; RF
	5. Deutsche Gerätebau GmbH 4796 Salzkotten	Bio-Compact KSA-S-10 Bio-Compact KSA-S-15 Bio-Compact KSA-S-20 Bio-Compact KSA-S-25 Bio-Compact KSA-S-35 Bio-Compact KSA-S-50 Bio-Compact KSA-S-100 Bio-Compact KSA-S-200 Bio-Compact KSA-S-300 Bio-Compact KSA-S-600 Bio-Compact KSA-S-800	1.75 2.625 3.5 4.375 6.125 8.750 17.5 35.0 52.5 105.0 140.0	0.8 1.2 1.6 2.0 3.060 4.375 8.0 15.0 21.45 36.0 48.0	FRG; RF FRG; RF; China FRG; RF FRG; RF FRG; UK; Fin; RF; Pol FRG; UK; Fin; RF; China FRG; RF; Fin FRG FRG; Fin FRG

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
6. Germany (Cont'd)	6. Aquachem-industrielle Wasserbehandlungs-GmbH, Salierring 14-16 5000 Köln 1	BIO AQUA Aerob 35 BIO AQUA Aerob 45 BIO AQUA Aerob 55 BIO AQUA Aerob 18/36 BIO AQUA Aerob 25/50 BIO AQUA Aerob 35/70 BIO AQUA Aerob 55/110 BIO AQUA Aerob 150/300 Bio AQUA Aerob 75/150 Bio AQUA Aerob 100/200 Bio AQUA Aerob 140/280 Bio AQUA Aerob 240/480	6.125 9.625 7.875 3.15 4.375 6.125 9.625 12.6 13.125 17.5 24.5 45.0	2.6 6.875 3.4 2.7 3.72 5.25 8.25 23.6 39.375 52.5 73.5 135.0	FRG FRG FRG FRG FRG FRG FRG FRG FRG FRG FRG FRG
7. Paul Pleiger Maschinenfabrik GmbH & Co. KG, D-5810 Witten 3	BIOMAT	BS 10 BS 15 BS 20 BS 25	2.2 3.3 4.4 5.5	0.8 1.17 1.5 1.75	FRG; USA FRG FRG FRG
8. Willi Becker Ingenieurburo GmbH Hamburg	"HELI-FLOW" HF 5M "HELI-FLOW" HF 10M "HELI-FLOW" HF 13M "HELI-FLOW" HF 19M "HELI-FLOW" HF 26M "HELI-FLOW" HF 32M "HELI-FLOW" HF 41M "HELI-FLOW" HF 58M "HELI-FLOW" HF 71M "HELI-FLOW" HF 84M	0.38 0.76 0.98 1.42 1.97 2.42 3.10 4.39 5.38 6.36	0.3 0.6 0.78 1.14 1.56 1.92 2.46 3.48 4.26 5.04	UK UK UK UK UK UK UK UK UK UK	

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
6. Germany (Cont'd)	9. Aqua Mar GmbH Rothenbacher Weg 4a 5064 Rösrath 1	Aqua Mar Bio Unit MSP I Aqua Mar Bio Unit MSP II Aqua Mar Bio Unit MSP III Aqua Mar Bio Unit MSP IV Aqua Mar Bio Unit MSP V Aqua Mar Bio Unit MSP VI Aqua Mar Bio Unit MSP VII Aqua Mar Bio Unit MSP VIII Aqua Mar Bio Unit MSP IX Aqua Mar Bio Unit MSP X Aqua Mar Bio Unit MSP 25 Aqua Mar Bio Unit MSP 60 Aqua Mar Bio Unit MSP 80	2.62 5.75 7.875 12.25 26.5 44 70 105 142 172 4.38 10.5 13.12	1.25 2.47 3.38 5.25 11.25 19.5 21 32 47.6 75 1.875 4.5 5.63	FRG; Fin; RF FRG; Fin; RF FRG; Fin; RF FRG; RF; Fin FRG; RF; Fin FRG FRG FRG FRG FRG FRG; RF; Fin FRG; RF; Fin FRG; Fin
	10. Aqua chem-industrielle Abwasserbehandlung-GmbH Quellenweg 13 5060 Bergisch-Gladbach 1	Bio Aqua Aerob 45/90 Bio Aqua Aerob 12 Bio Aqua Aerob 12/24	7.815 2.1 2.1	23.625 0.89 1.80	FRG FRG FRG
	11. Citex Maschinen-Apparatebau Gastechnik GmbH 2000 Hamburg 71	CEAK 35/50	12.0	600	FRG
	12. Schiffsanlagenbau Barth GmbH, Chausseestr, 5B 0-2380 Barth	MSA 2.5 MSA 5 MSA 10 MSA 15 MSA 2.5 CL MSA 5CL	1.75-3.5 3.5-6.75 6.75-13.5 13.5-20.25 1.75-3.5 3.5-6.75	1.1-2.3 2.3-4.4 4.4-8.8 8.8-13.2 1.1-2.3 2.3-4.4	FRG FRG FRG FRG FRG FRG
	13. VEB Kombinat Schiffbau Rostock	KAREA 25	25.0	12.5	RF

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
6. Germany (Cont'd)	14. Aquamar GmbH Zum Alten Wasserwerk 6 D-51491 Overath	Bio unit MSP III Bio unit MSP I Bio unit MSP 25 Bio unit MSP II Bio unit MSP 60 Bio unit MSP IV Bio unit MSP 80	7.875 2.62 4.38 5.75 10.5 12.25 13.12	3.38 1.125 1.875 2.47 4.5 5.15 5.63	China China China China China China China
	15. Hamann WasserTechnik GmbH P.O.B.2201 D-21202 Seevetal	Basis-Frame Norway-Frame L-Frame Norway-Frame Double-Frame L-Frame Norway-Frame Double-Frame L-Frame Norway-Frame Double-Frame Compact-Mini -Big-Tank Mini-Frame-Big Norway-Frame-Big	24.0 24.0 96.0 96.0 96.0 168.0 168.0 168.0 360.0 360.0 360.0 36.0 36.0 36.0	18.0 18.0 72.0 72.0 72.0 126.0 126.0 126.0 270.0 270.0 270.0 27.0 27.0 27.0	RF RF RF RF RF RF RF RF RF RF RF RF RF RF RF
7. Finland	1. Aquamaster- Rauma Oy P Box 220 SF-26101 Rauma	UNEX BIO-20 UNEX BIO-40 UNEX BIO-60 UNEX BIO-80 UNEX BIO-100 UNEX BIO-200 UNEX BIO-600 UNEX BIO-800 UNEX BIO SECTIONAL 20 40 60 80 UNEX Cem - 3 - 7.5 - 15 UNEX SIMULTAN - 10 - 15 - 40 - 60 - 80 - 100	1.4 2.8 4.2 5.6 7.0 14.0 42.0 56.0 1.4 2.8 4.2 5.6 72.0 180.0 360.0 3.0 4.0 12.0 18.0 24.0 30.0	0.7 1.4 2.1 2.8 3.5 7.0 21.0 28.0 0.7 1.4 2.1 2.8 28.8 72.0 144.0 1.5 2.0 6.0 9.0 12.0 15.0	Fin; RF Fin; RF Fin; RF Fin; RF Fin Fin Fin Fin Fin; RF Fin; RF Fin; RF Fin; RF Fin Fin; Fin Fin Fin; Fin Fin Fin Fin Fin Fin Fin

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
8. Greece	1. Environmental Protection Engineering Ltd. 88 Iroon Polytechniou Str. 18536 Piraeus	TRITON 196 TRITON 190	1.96 19.00		Gr Gr
9. Italy	1. Pollution Control Engineering Sr.1, Trattamento Acque Via Dei Mille 99, La Spezia	BIODISK FVN 25 BIODISK FVN 30 BIODISK FVN 50 BIODISK FVN 60 BIODISK FVN 100 BIODISK FVN 200 BIODISK FVN 300	2.5 (less than 4.0 the 6.0 standards) 8.0 " 15.0 " 30.0 " 45.0 "		Italy USA Italy USA; Italy USA; Italy USA; Italy USA; Italy
	2. I.S.I.R. Sas di Antonelli & C 16165 Genova Struppa	BIOEPURO-B/50 75 25 20 75-2 100 125 150 200	5.0 15.0 2.5 2.0 7.5 10.0 12.5 15.0 20.0		Italy; RF; Gr Italy; RF Italy; RF; Gr Italy; RF; Gr Italy; Gr Gr; Italy Italy; RF; Gr Gr Gr; Italy

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m³/d	Designed Organic Loading kg/d	Approving Governments
10. Japan	1. Sasakura Engineering Co. Ltd. Osaka 500	Super Trident ST2 Super Trident ST4 Super Trident ST6 Super Trident ST8 Super Trident ST10 Super Trident ST15 Super Trident ST20 Super Trident ST25 Super Trident ST30 Super Trident ST2A Super Trident ST3A Super Trident ST4A Super Trident ST6A Super Trident ST2N Super Trident ST4N Super Trident ST6N Super Trident ST8N Super Trident ST10N Super Trident ST15N Super Trident ST20N Super Trident ST25N Super Trident ST30N Retro-fit Trident RT 20 Retro-fit Trident RT 40 Retro-fit Trident RT 60 Retro-fit Trident RT 80	1.6 3.01 4.55 6.0 7.4 11.0 14.5 17.5 23.1 1.6 2.31 3.01 4.55 1.6 3.01 4.55 6.0 7.4 11.0 14.5 17.5 23.1 1.6 3.01 4.55 6.0	1.2 2.4 3.66 4.8 6.0 9.0 12.0 15.0 18.0 1.2 1.8 2.4 3.6 1.2 2.4 3.6 4.8 6.0 9.0 12.0 15.0 18.0 1.2 2.4 3.6 4.8	UK; China; Fin UK; China; Fin UK; China; Fin UK; China UK; China; Fin UK; China UK; China; Fin UK; China; Fin UK; China; Fin UK UK UK UK UK UK UK UK UK UK UK UK UK UK UK UK UK UK; Fin UK; Fin UK; Fin

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m³/d	Designed Organic Loading kg/d	Approving Governments
	2. Nissin Refrigeration and Engineering Ltd. Osaka	Marine Defecamat NST-20 Marine Defecamat NST-30 Marine Defecamat NST-40 NST-50 NST-60 NST-70 NST-80 NST-90 NST-100 NST-125 NST-150 NST-300 NST-400 NST-500 NST-650 NST-750 Marine Defecamat NST-20H	1.2 1.8 2.4 3.0 3.6 4.2 4.8 5.4 6.0 7.5 9.0 18.0 24.0 30.0 39.0 45.0 1.2	0.27 0.405 0.54 0.67 0.81 0.94 1.08 1.21 1.35 1.68 2.02 4.05 5.40 6.75 8.77 10.12 0.27	UK; China UK; China UK; China China China China China China China China China China China China China China UK; China
10. Japan (Cont'd)		Marine Defecamat NST-25H Marine Defecamat NST-30H Marine Defecamat NST-40H	1.5 1.8 2.4	0.338 0.405 0.54	UK; China UK; China UK; China
	3. Taiko Kikai Industries Co. Ltd. 209 Shimotabuse Tabuse-cho Kamage-Gun Yamaguchi-Pref Japan 742-15	TAIKO SHIPCLEAN BFT 40 AP-2 SHIPCLEAN AP-3 SHIPCLEAN AP-4 SHIPCLEAN AP-5 SHIPCLEAN AP-6 SHIPCLEAN AP-7 SHIPCLEAN SBT-15 SBT-25 SBT-40 SBT-65	2.4 1.2 1.8 2.4 3.0 4.5 6.0 0.9 1.5 2.4 3.9	0.54 0.27 0.405 0.54 0.675 1.0125 1.35 0.2025 0.3375 0.54 0.8775	UK; China UK; China UK; RF; China UK; China UK; China UK; China UK; China UK; China UK; China UK; China UK; China UK; China
	4. Goko Seisakusho Co. Ltd. 27-3, 5-chome Shimbashi Minato-ku Tokyo	"AEROBICT C" TF 20 "AEROBICT" TF 25 1.0 "AEROBICT C" TF 40 "AEROBICT" TF 50 2.0 "AEROBICT C" TF 60 "AEROBICT" TF 40 1.6 "AEROBICT" TF 80 3.2 "AEROBICT" TF 120 4.8	0.7 0.337 1.6 0.675 2.1 0.540 1.08 1.62	0.27 0.540 0.81 0.81 1.08 1.62	UK UK; USA UK; USA UK; USA UK UK UK; USA UK; USA

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
	5. Nippon Kokan, Yokohama	NKK-25 D II	1.5	0.337	Fin
	6. Japan Development Consultants Inc. 1 Tatagami-cho Sasebo-City Nagasaki	CLEAN FRIEND BFM-35	2.13		USA
11. Poland	1. Pomorskie Zaklady Urzadzen Okretowych "WARMA" 86-300 Grudziadz Ul. Lotnicza 21	LK-30 LK-50 LK-100 LK-200 LK-320 LK-30 LK-50 LK-100 LK-200 LK-320 MOS40	1.95 3.25 6.5 13.0 20.8 1.95 3.25 6.5 13.0 20.8 40	1.36 3.0 4.55 9.1 14.56 1.8 3.0 6.0 12.0 19.2 27.9	Pol; RF Pol; RF; Sw; Fin Pol; RF Pol; RF Pol; RF UK UK; Fin UK UK UK UK Pol
11. Poland (Cont'd)	2. Centrum Techniki Morskie; OBR Gdansk, U1 J.Matejki 6	TELKA 03	6	4.5	Pol
	3. Stocznia Szczecinska im. Adolfa Warskiego Szczecin	B 430-7	1.3	0.9	FRG
	4. Zaklady Doswiadczenno-Produkcyjnych "TECHMOR" ul. Marynarki Polskiej 59, Gdansk	TELKA 06	12.0	9.0	Pol
12. Republic of Korea	1. Consolidated Machinery Inc. Yang San	BIO AQUA 35 BIO AQUA 25 BIO AQUA 18 BIO AQUA 55 BIO AQUA 45 AEROB - 12 AEROB - 12C AEROB - 18 AEROB - 18C AEROB - 25 AEROB - 35 AEROB - 45 AEROB - 55	6.125 4.375 3.15 9.625 7.875 2.1 2.1 3.15 3.15 4.375 6.125 7.875 9.625	2.6 1.86 1.34 4.125 3.4 .89 .89 1.34 1.34 1.86 2.6 3.4 4.125	FRG FRG FRG FRG FRG ROK ROK ROK ROK ROK ROK ROK ROK

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
13. Russian Federation	1. Sudoinport Moskva Smolenskaia - Sennaia pl 32/34	EOS-15 EOS-5	15.0 5.0	6.0 2.5	RF RF
	2. "EKOS Ltd." Barrikadnaija st.36, fl. 8 St. Petersburg	STOK-10M1 STOK-50M	10.0 50.0	5.0 25.0	RF RF
14. Sweden	1. Consilium Marine, Stockholm Sweden S-1 7122 Solna	NEPTUMATIC MOC-12 NEPTUMATIC MOC-20 NEPTUMATIC MOC-28 NEPTUMATIC MOC-28R NEPTUMATIC MOC-75 NEPTUMATIC MOC-75 Compart NEPTUMATIC MOC-100 NEPTUMATIC MOC-125 NEPTUMATIC MOC-130 NEPTUMATIC RETRO-30 NEPTUMATIC RETRO-45 NEPTUMATIC MOD 130	12.0 20.0 28.0 21.0 75.0 75.0 100.0 125.0 130.0 30.0 45.0 130.0	6.2 10.3 14.4 10.6 30.0 30.0 40.0 50.0 52.0 15.4 23.2 52.0	Sw; UK; RF; Pol; Fin RF RF RF RF Sw Fin; Pol Fin Sw Sw; RF; Fin Sw; RF; Fin UK

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
15. United Kingdom	1. Hamworthy Engineering Ltd., Pump and Compressor Division Fleets Corner Poole, Dorset BH17 7LA	Retro-fit Trident RT 80 Retro-fit Trident RT 60 Retro-fit Trident RT 40 Retro-fit Trident RT 20 Super Trident ST 60 Super Trident ST 50 Super Trident ST 40 Super Trident ST 40X Super Trident ST 30 Super Trident ST 25X Super Trident ST 25 Super Trident ST 20	6.0 4.55 3.01 1.6 46.2 30.0 24.0 28.0 23.1 17.5 17.5 14.5	4.8 3.6 2.4 1.2 36.0 36.75 28.0 24.0 18.0 15.0 15.0 12.0	UK; Fin; RF; China; Pol UK; Fin; RF; China; Pol UK; Fin; RF; China; Pol; Fin UK; Fin; RF; China; Pol; Fin UK; RF; Pol Pol Pol UK UK; Sw; RF; Pol; Fin Fin; Pol UK UK; Fin; RF; Pol UK; Fin; RF; Pol

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
15. United Kingdom (Cont'd)		Super Trident ST 15 Super Trident ST 13 Super Trident ST 10 Super Trident ST 8 Super Trident ST 6 Super Trident ST 4 Super Trident ST 3 Super Trident ST 2 Super Trident ST 1 Super Trident ST 0 Super Trident ST 60S Trident T 10 Trident T 20 Trident T 30 Trident T 40 Trident T 50 Trident T 60 Trident T 75 Trident T 100 Super Trident ST-0A ST-1A ST-2A ST-3A ST-4A ST-6A ST-8A	11.0 9.6 7.4 6.0 4.55 3.01 2.1 1.6 0.8 0.45 46.2 0.68 1.36 2.04 2.73 3.41 4.09 5.11 6.81 0.42 0.8 1.6 2.31 3.0 4.55 6.0	9.0 7.8 6.0 4.8 3.6 2.4 1.8 1.2 0.6 0.32 36.0 0.6 1.2 1.8 2.4 3.0 3.6 4.5 6.0 0.35 0.6 1.2 1.8 2.4 3.6 4.8	UK; RF; Pol; Fin UK; Pol; FRG UK; Fin; RF; China; FRG; Pol; Fin UK; RF; China; FRG; Pol; Fin UK; Fin; Italy; RF; China; FRG UK; Sw; RF; Fin; China; Italy; FRG UK; Italy UK UK UK UK UK UK UK UK RF; UK RF; UK; Pol RF; UK; Pol RF; UK; Pol; Fin RF; UK; Pol; Fin RF; UK; Pol; Fin RF
2. Marine Ventures Ltd. 194 Kings Road Reading RG1 4NH		SEACARE 10 SEACARE 40 SEACARE 200	1.0 4.0 20.0	0.6 2.4 12.0	UK UK UK
3. Elsan Marine International Ltd. Sandwich Kent		STOUR LC 5 STOUR LC 10 STOUR LC 20 STOUR LC 35 STOUR LC 60 STOUR LC 100	0.18 0.36 0.72 1.26 2.16 36.0	0.3 0.6 1.2 2.1 3.6 60.0	UK UK UK UK UK UK



Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
16. United States (Cont'd)	4. FAST Systems, Inc. St. Louis, MO 63110	"FAST" D1, D1M "FAST" D2, D2M "FAST" D3, D3M "FAST" D4, D4M "FAST" D5, D5M "FAST" D6, D6M "FAST" D7, D7M "FAST" D8, D8M "FAST" D9, D9M "FAST" M1 "FAST" M2 "FAST" M3 "FAST" M4 "FAST" M5	3.52 5.22 7.72 11.35 14.42 19.98 29.97 46.89 67.67 1.13 1.70 2.49 3.29 4.88		USA USA USA USA USA USA USA USA USA USA USA USA USA USA USA
	5. Sigma Treatment Systems Inc., 2 Davis Ave Frazer Pennsylvania 19355 USA (Marlor Welding and Fabrication Co. Ltd., 4-5 Wainman Rd., Woodston Peterborough PE2 OBU England)	BIO-STS 500 BIO-STS 1500 BIO-STS 1000	1.89 5.68 3.79	1.67 5.0 3.33	UK UK UK
	6. Houston Systems Manufacturing Co. New Iberia, LA	"HELI-FLOW" HF 5M "HELI-FLOW" HF 10M "HELI-FLOW" HF 13M "HELI-FLOW" HF 19M "HELI-FLOW" HF 26M "HELI-FLOW" HF 32M "HELI-FLOW" HF 41M "HELI-FLOW" HF 58M "HELI-FLOW" HF 71M "HELI-FLOW" HF 84M "HELI-FLOW" HF 104M	0.38 0.76 0.98 1.42 1.97 2.42 3.10 4.39 5.38 6.36 7.87	0.3 0.6 0.78 1.14 1.56 1.92 2.46 3.48 4.26 5.04 6.24	UK UK UK UK UK UK UK UK UK UK

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
16. United States (Cont'd)		"HELI-FLOW" HF 130M "HELI-FLOW" HF 156M "HELI-FLOW" HF 175M "HELI-FLOW" HF 188M "HELI-FLOW" HF 208M "HELI-FLOW" HF 234M "HELI-FLOW" HF 292M "HELI-FLOW" HF 325M "HELI-FLOW" HF 357M "HELI-FLOW" HF 390M "HELI-FLOW" HF 455M	9.84 11.81 13.24 14.23 15.75 17.72 22.11 24.61 27.03 29.53 34.45	7.8 9.36 10.5 11.28 12.48 14.04 17.52 19.5 21.42 23.4 27.3	UK UK UK UK UK UK UK UK UK UK UK
17. United States and authorized licensees	1. Red Fox Industries Inc. New Iberia LA	RF-100-M RF-200-M RF-350-M RF-500-M RF-750-M RF-1000-M RF-1500-M RF-2000-M RF-2500-M RF-3000-M RF-3500-M RF-4000-M RF-4500-M RF-5000-M RF-5500-M RF-6000-M RF-7500-M RF-9000-M RF-0.5-MP  (Little Fox)  PAC FP 50 PAC FP 200 PAC FP 500 PAC FP 750 PAC FP 1000 PAC FP 1500 PAC FP 2000 PAC FP 2500	0.38 0.76 1.33 1.9 2.9 3.79 5.7 7.6 9.5 11.4 13.3 15.2 17.1 19.0 20.9 22.8 28.5 34.2 0.61  0.19 0.76 1.89 2.84 3.79 5.68 7.57 9.40	0.3 0.6 1.05 2.00 3.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 30.00 36.00 0.48  0.3 0.6 1.5 2.25 3.0 4.5 6.0 7.5	UK; Gr UK; Gr Gr; UK Gr; UK Gr; UK UK Gr; UK Gr; UK UK Gr; UK

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
17. United States and authorized licensees (Cont'd)	2. EffluentTechnology Corporation 402 Tacoma Ave.S P.O. Box 2094 Tacoma WA 98401	"ORCA" MK 2/12 "ORCA" MK 2/24 "ORCA" MK 2/36	1.36 2.73 4.09	1.44 2.88 4.32	UK; Gr; USA; China UK; Gr; USA; China UK; Gr; USA; China
	3. KIMCO Inc. P.O. Box 1551 Houston, TX 77251	HF 2M HF 5M HF 10M HF 13M HF 19M HF 26M HF 32M HF 41M HF 58M HF 71M HF 84M HF 104M HF 130M HF 156M HF 175M HF 188M HF 208M  HF 234M HF 292M HF 325M HF 357M HF 390M HF 455M	- 0.38 0.76 0.98 1.42 1.97 2.42 3.10 4.39 5.38 6.36 7.87 9.84 11.81 13.24 14.23 15.75  17.72 22.11 24.61 27.03 29.53 34.45	- 0.3 0.6 0.78 1.14 1.56 1.92 2.46 3.48 4.26 5.04 6.24 7.8 9.36 10.5 11.28 12.48  14.04 17.52 19.5 21.42 23.4 27.3	USA USA
	4. OMNIPURE WASTEWATER TREATMENT 8623 Windswept Houston, Texas	"OMNIPURE" 4M "OMNIPURE" 6M "OMNIPURE" 8M "OMNIPURE" 12M "OMNIPURE" 12MX	1.48 2.96 6.815 13.63 28.39	0.78 1.62 3.6 7.2 15.0	UK UK; Fin UK; Fin UK UK
	5. EES Corporation 12850 Bournewood Drive, Sugarland, Texas 77478	"OMNIPURE" 15MX	56.00	30.0	USA

Manufacturing Countries	Manufactured by	Type and Model	Designed Hydraulic Loading m <sup>3</sup> /d	Designed Organic Loading kg/d	Approving Governments
17. United States and authorized licensees (Cont'd)	6. Envirovac Inc. 1260 Turret Drive Rockford IL 61111	ORCA II-12  ORCA II-24  ORCA II-36  ORCA II-160 ORCA II-165 ORCA II-330 ORCA II-360 ORCA II-500 ORCA IIA-12 ORCA IIA-24 ORCA IIA-36	1.36  2.72  4.09  18.17 18.93 37.47 37.47 56.81 1.36 2.73 4.09	1.44  2.88  4.32  19.2 19.8 39.6 39.6 60.0 1.44 2.88 4.32	USA; Fin; UK; Pol; China USA; Fin; UK; Pol; China USA; Fin; UK; Pol; China Fin; UK USA; Pol; China USA; Pol; UK; China; Fin Fin USA; UK; China China; Fin China; Fin China; Fin

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**ANNEX 8****OIL/WATER INTERFACE DETECTORS**

Approved in accordance with resolution MEPC.5(XIII)

Manufacturing Countries	Manufactured by	Type and Model	Portable or Permanently installed	Approving Governments
1. Germany	1. DECKMA GmbH Oevelgönne 69 2000 Hamburg 62	"Aquoil" I	portable	FRG
2. Greece	1. Environmental Protection Engineering Ltd. 88 Iroon Polytechniou Str. 185-36, Piraeus	PL-1A	portable	Gr
3. Japan	1. Riken Keiki Fine Instrument Co. Ltd. Itabashi-ku Tokyo 174	AOD-102 DC-3A	permanently portable	UK; RF; Nor Sw; RF; Jpn; Nor
	2. Nippon Corrosion Engineering Co. Ltd. Tokyo	Magicon-IIS	portable	UK; Jpn; Nor
	3. Tokyo Keiki Co. Ltd. Tokyo	UID-100-IS	permanently	UK
	4. Nippon Air Brake Co. Ltd. Hyogo, Tokyo	NABCO-MMC B2220-3	portable	China; Jpn
	5. Musasino Engineering Work's Co., Tokyo	M-LMZ (LM-VA-S-30)	permanently	Nor
	6. Keihin Sangyo Comportation 13-6 Shinmachi Kanagama Yokohama	LD 3	portable	UK; Nor
4. Norway	1. Tanksystem A/S President Harbitz gt. 22 Oslo 2	HERMETIC UTI	portable	FRG; UK; Italy; USA; RF; Nor; Belg; China
	2. Tanksystem A/S N-1324 Lysaker	HERMETIC U/1	portable	China
5. Russian Federation	1. Sudoimport Moskva, Smolenskaia-Sennaia pl 32/34	DPC	portable	RF
6. Switzerland	1. TS Tanksystem SA 2 rue de l'Industrie CH-1630 Bulle	HERMETIC U.T.I.	portable	UK; FRG; Italy; USA; Neth; RF; Nor; Fin; Sw; Yugo; Den; Belg; China; Indo; Can

Manufacturing Countries	Manufactured by	Type and Model	Portable or Permanently installed	Approving Governments
6. Switzerland (Cont'd)		HERMETIC UI HERMETIC UI-GT HERMETIC UTI-GT HERMETIC UTI/UI, UTI/UI-GT HERMETIC UTI-GT-OPTO	portable portable portable portable portable	Fin; RF; Nor; China; Belg; USA; Can Can Can China China
7. United Kingdom	1. A. Searle & Co. 72/82 Rosebery Ave London EC1R 4RR	"AQUOIL"	portable	UK; Nor
	2. Bestobell Mobrey Ltd. Bath Road Slough, England	"SENSALL" B-2220-3 B-2401 D-2401 B-2319 D-2319 ELECTROPULSE	permanently portable portable portable portable portable permanently	UK; Nor UK; FRG; Nor USA; UK; RF USA; UK; RF RF RF UK
	3. MMC (Europe) Ltd. Newcastle-upon-Tyne	D-2401/2UI	portable	UK; Nor
8. United States	1. Marine Moisture Control Co. Inip Drive Inwood, NY 11696-1096	D-2319-1 B-2401 D-2401 B-2220 D-2319	portable portable portable portable portable	UK; FRG; Nor USA; Italy USA; UK USA; UK USA USA