

APPENDIX 1 to Tender Specifications - Equipment and dispersant list

Attached to the Invitation to tender No. EMSA/NEG/5/2024 for Storage of oil pollution response equipment and dispersant in Gran Canaria

Content:

- 1. General description of the equipment**
- 2. Dispersants to be stored**
- 3. List of equipment and description**
- 4. List of dispersants and description**

1. General description of the equipment

The oil pollution recovery equipment comprises two different at-sea oil recovery systems designed to recover medium to high viscous oils.

The Contractor will receive the sets of equipment as listed in Section 4 and described in detail in Section 3 of this document.

The contractor will receive for storage the equipment listed below:

1. Sweeping Arm System – Lamor LSS 12m;
2. Oil Boom Set – Lamor Ocean Master 1900;
3. Skimmer Set – High-Capacity Skimmer Lamor LWS 1300;
4. Dispersant Application System (Lamor LDS 150 E, tank container, loading system);
5. Discharging equipment system;
6. Sampling/Testing and Cleaning Equipment:
 - a) Minilab – viscosity meter and density meter;
 - b) Flashpoint tester;
 - c) Cleaning machines.
7. RPAS Ancillaries (VHF headset);
8. Spares.

2. Dispersants

The dispersants that the Agency will transfer for storage are stored in Intermediate Bulk Containers (IBCs) of 1 m³ capacity each (weighing approximately 0.95 tonne).

The quantity of dispersant to be transferred by EMSA and stored is 201.4 tons ().

Detailed information regarding dispersants is contained in point 6 of this document.

3. List of transferred equipment

Category	Item	Additional info	ID Code
Sweeping arm Lamor LSS 12 <i>Value for insurance purpose EUR 700,536.20</i>	Frame	Lamor, LSS 12m Stiff Sweep Arm; bow & stern towing chain (15m); blue rope braided polypropylene 2x40mm/55m	2181
		Lamor, LSS 12m Stiff Sweep Arm; bow & stern towing chain (15m); blue rope braided polypropylene 2x40mm/55m	2182
	Skimmer modules	Brush module 6C with remote controlled debris grid and canvas	2185
		Brush module 6Cwith remote controlled debris grid and canvas	2186
		Weir module	2183
		Weir module	2184
	Pumps	MSP 150 with SS impeller	2189
		MSP 150 with SS impeller	2190
		Lamor GTA 140 with water injection kit: Inlet:3/4", Outlet:6", nickel plated, 140m3/h	2187
		Lamor GTA 140 with water injection kit: Inlet:3/4", Outlet:6", nickel plated, 140m3/h	2188
	Storage reel	LHW 40/4 Hose winder made of aluminium with canvas	2191
		LHW 40/4 Hose winder made of aluminium with canvas	2192
	Power Packs	Lamor Hydraulic PP Block Electric, LPP 2x90 E, 180kw, w soft start features and freshwater cooling (installed in the Engine Room)	2193
	Hydraulic hose	4 Sets 1/2" x 20m w. 3/8" SS-TEMA RFV for weir/brush modules	2194
		4 Sets L-20m, SS-TEMA for GTA 140 and MSP 150	2195
		2 Sets for Control panels	2202
	Oil transfer hose(s)	4 x Rigid rubber 16 bar 6", 10m, Al Camlock F/M	2196
		Adaptor 2 x Coupling 8" flange DIN - 6" Camlock female, Aluminium	2197
	Cranes	12.7m, Including winch and crane pedestal + manual winch (0.5tn) for pump manoeuvring	2198
		12.7m, Including winch and crane pedestal + manual winch (0.5tn) for pump manoeuvring	2199
	Control desks	Control panel 6 valves LCP 6, including control valves for LSS	2200
		Control panel 6 valves LCP 6, including control valves for LSS	2201
	Remote controls	Radio Remote Control MC-3-5 (6 functions) with receiver base unit EX Zone 1	2203
		Radio Remote Control MC-3-5 (6 functions) with receiver base unit EX Zone 1	2204

Category	Item	Additional info	ID Code
Boom Lamor Ocean Master 1900 <i>Value for insurance purpose EUR 478,623.40</i>	Segment PVC	Lamor Ocean Master, 250m, Single point inflation, Ocean Master 1900 (ex Markleen Uniboom X1900) including 2 towing bridles and 1 cross bridle for U, J and V configurating sweeping	2205
		Lamor Ocean Master, 250m, Single point inflation, Ocean Master 1900 (ex Markleen Uniboom X1900) including 2 towing bridles	2206
		Towing bridles set Length 5m	2210
	Storage reel	16W Hydraulic, turntable, manual control panel, SS fittings, aluminium base plates, failsafe couplings	2207
		16W Hydraulic, turntable, manual control panel, SS fittings, aluminium base plates, failsafe couplings	2208
		Hydraulic hose(s) 2 Set for Boom Reels 2x1" SS + 1x3/8" SS, 10m	2211
	Power Pack	Lamor LPP 55 HS, Diesel, Hydraulic Start, 55kw, Ex Zone II Canvas included	2209
	Air compressor	Lamor compressor LHC 5000F with canvas	2213
		Set w LS Line, SS 2m for Air Compressor	2214
	Air blower	Diesel air blower DAB 200 including: Canvas, Chalwyn Valve assy and Spark Arrestor / Back-up system for the boom	2215
		Air hose(s) 2 x Inflation hose, 5m	2212
		3", 10m, camlock female for Air blower	2216
HC Skimmer Lamor LWS 1300 <i>Value for insurance purpose EUR 784,975.50</i>	Storage reel	HC LWS 1300 Umbilical Hose Reel Telescopic LUT 5/80 on 20' flat-rack and Canvas	2217
		Umbilical Hose LUH 5" 80m 13 Ch	2218
		Hydraulic hose(s) Set, SS for Umbilical Hose Reel, incl. Water Injection Hose SS 10m Ludecke 3/4"	2221
	Power Pack	Lamor LPP 120, Diesel; Hydraulic Start; 120kw, Ex zone II; Canvas included	2219
	Oil hose(s)	2 x Rigid Rubber, 16 bar 6" L-10m, Al Camlock F/M	2220
	Remote control	Radio Remote Control MC-3-6 EX M36-EX501058 with Receiver Base Units 1 (LWS 1300) 2 (UHW)	2222
	Flow meter	Optisonic 6300 Clamp on, Ultrasonic; Pipe with 6" Camlock connectors; Adaptor Coupling 8" flange - 6" Camlock female, Al.	2223
	Weir module with	With hydraulic thruster set and canvas	2224

Category	Item	Additional info	ID Code
	brush adaptors	Removable Debris Screen for LWS 1300 MkII	2225
		Brush adaptor with removable debris screen	2226
		Brush adaptor with removable debris screen	2227
		Brush adaptor with removable debris screen	2228
	Pumps	Lamor, GT A 140 with water injection kit, inlet 3/4", 140 m3/h	2229
		Lamor, GT A 140 with water injection kit, inlet 3/4", 140m3/h	2230
		MSP 150 with SS impeller, 360m3/h	2231
	Ancillaries	water injection outlet assembly, DIN 5" flange D125 PN 16 SS, TEMA 5011 RFV SS, for LWS 1300 Mk II skimmer	2232
		2 x 20m Hot water pressure hose	2233
Dispersant system Lamor LDS 150 E <i>Value for insurance purpose EUR 121,728.80</i>	Pump	Lamor LDS 150 E, Dispersant pump, neat spray, electrical (LDS 150E-SA)	2240
	Spray booms	LDS 8 A, 8m Aluminum arm and 5 x 3m downpipe equipped with spraying nozzles: 5 x Dilute (black) or 5 x Neat (yellow) + 2 spares (1 x black and 1 x yellow)	2235
		LDS 8 A, 8m Aluminum arm and 5 x 3m downpipe equipped with spraying nozzles: 5 x Dilute (black) or 5 x Neat (yellow) + 2 spares (1 x black and 1 x yellow)	2236
	Control panel	Control panel for dispersant spray pump (on the bridge)	2237
	Remote control	Remote cable control system for dispersant spray pump	2238
	Tank container	LMT Storage tank, Stainless Steel, 30m ³ , 20' footprint	2239
	Pumps	Lamor LM 300, Oil/chemical transfer pump, electric, with frame & canvas	2234
		Lamor LM 300, Oil/chemical transfer pump, electric, with frame & canvas	2241
	Oil/chemical hose(s)	Apollo 4 x 10m Transfer Hose 2", Semi Rigid, Camlock F/M	2242
		Apollo 4 x 10m Transfer Hose 2", Semi Rigid, Camlock F/M	2243
	Manifold	Manifold/branch pipe with valve for LIP 400, 1x2" - 3x2"	2244
		Manifold/branch pipe with valve for LIP 400, 1x2" - 3x2"	2245
	Spill kit	SKM-XL Kit includes: 600 pads, 8 booms, 2 sweeps, 6 pair of gloves, goggles, 30 disposal bags, 1 handbook	2246
Discharging system <i>Value for insurance purpose EUR 45,325.30</i>	Pumps	Lamor GTA 115, PDAS, with water injection kit, Inlet 3/4" and Outlet 5", 115m3/h	2247
		Lamor GTA 115, PDAS, with water injection kit, Inlet 3/4" and Outlet 5", 115m3/h	2248
	Hydraulic hose(s)	2 Sets, 20m SS-TEMA, for GT A 115 pump, 2 x 1", 1 x 3/8"	2249
	Oil hose(s)	Herkules 4 x 10m Transfer hose, Lay Flat, 5", Camlock F/M, for GT A 115	2250
	Ancillaries	Trolley for GT A 115; L:160 x W:250 x H:440 mm, W:8kg	2251

Category	Item	Additional info	ID Code
		Trolley for GT A 115; L:160 x W:250 x H:440 mm, W:8kg	2252
		Hydraulic control valve with TEMA connectors, GT A 115	2253
	Oil hose(s)	Herkiles 8 x 10m Transfer hose, Lay Flat, 6", Camlock F/M	2254
	Storage reels	LHW 40/2 Hose winder, aluminum	2255
		LHW 40/2 Hose winder, aluminum	2256
		LHW 40/2 Hose winder, aluminum	2257
	Adaptor	Adaptor coupling 8" flange DIN - 6" Camlock female, AI	2258
	Water hose(s)	2 x 20m Hot water pressure hoses	2259
Sampling/testing and cleaning <i>Value for insurance purpose</i> EUR 31,308.30	Flash point tester	Flashpoint Tester Setaflash Series 3 Closed Cup	2266
	Mini lab	Sampling Mini-Lab for Oil Viscosity and Density	2267
	Cleaning machine	High pressure cleaner hydraulic HHC with 15m hydraulic hose set	2268
	Cleaning machine	High pressure cleaner hydraulic HHC with 15m hydraulic hose set	2269
	Cleaning machine	High pressure cleaner hydraulic HHC with 15m hydraulic hose set	2270
RPAS Ancillaries <i>Value for insurance purpose</i> EUR 1,299.90	VHF Headset	VHF Headset system for the RPAS pilot: Entel HT 944, Additional Battery, Helmet	7460
Spares <i>Value for insurance purpose</i> EUR 30,080.50	Twistlock	Container Twist Lock (x4), manual to Container Base	2271
	Spare parts	Lamor Kit 1 for Brush Conveyor Skimmer (Sweeping arms)	2272
	Spare parts	Lamor Kit 1 for GTA 140 (x4); MSP 150 (x2); LM300 (x1)	2273
	Spare parts	Lamor Kit 1 for Weir (x1) and Brush (x1) Skimmer Lamor 1300	2274
	Spare parts	Lamor Spares for Booms / Reels (x2); Repair kit for Booms (x2)	2275
	Spare parts	Lamor, Spare towing arrangement for SPI Ocean Master 1900	2276
	Spare parts	Lamor, Kit 2 for Diesel Driven Air Blower DAB 200	2277
	Spare parts	Lamor, Kit 1 for HPP LPP 120 D (Diesel)	2278
	Spare parts	Lamor, Kit 1 for HPP LPP 55 HS (Diesel)	2279
	Spare parts	Lamor, Kit 1 for LPP 2x90 E (Electric)	2280

Disclaimer

Any specifications and/or graphic material must not be understood as a commercial endorsement by the Agency of any given piece of equipment and/or manufacturer/supplier.

If there is a contradiction between this Enclosure and the manufacturers' manuals, the manufacturers' manuals take precedence.

Description of the Equipment

The equipment to be transferred from the expiring contract, as described in this section, consist of the following sets:

- 3.1. Sweeping Arms
- 3.2. Booms
- 3.3. High-Capacity Skimmer
- 3.4. Dispersant System
- 3.5. Discharging System
- 3.6. Sampling/testing and cleaning
- 3.7. RPAS Ancillaries
- 3.8. Spares

3.1 Sweeping Arm Set – Lamor LSS 12

Manufacturer:

Lamor Corporation Ab
Urakoitsijantie 12
06450 Porvoo

Finland Tel: +358 (0)20 7650 100

Fax: +358 (0)207 650 129

Email: info@lamor.fi,

Website: www.lamor.fi

Year of purchase: 2016



The Sweeping Arm Set (LAMOR Stiff Sweeping Arms LJS 12m) consists of:

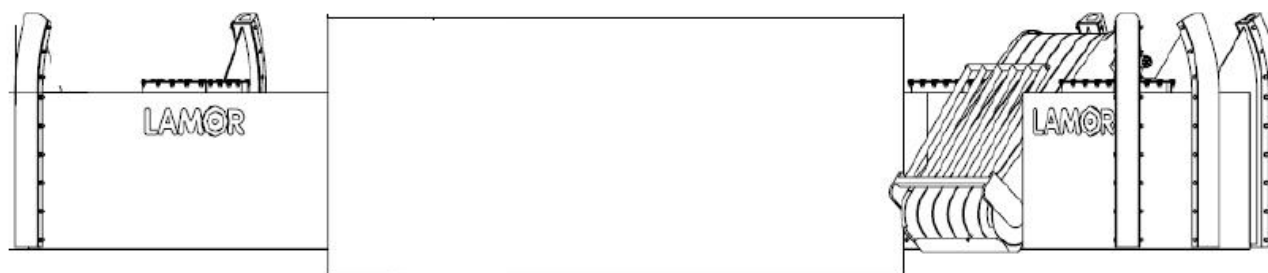
- 3.1.1 Rigid Sweeping Arm Frames
- 3.1.2 Skimmer Modules
- 3.1.3 Pumps
- 3.1.4 Storage reels
- 3.1.5 Power packs
- 3.1.6 Hydraulic Hoses
- 3.1.7 Oil Transfer Hoses
- 3.1.8 Cranes
- 3.1.9 Control desk
- 3.1.10 Remote controls

3.1.1 LAMOR Stiff Sweeping Arms Frames - LJS 12m

Each sweeping arm consists of an outer pontoon, a bridge and an inner pontoon welded together. The inner pontoon contains the weir collection chamber in which the pump (centrifugal or PDAS) is fitted. In this inner pontoon may be fitted the Brush skimmer module.

Sweeping arm dimensions

Width	approx. 3232 mm
Length	approx.11877 mm
Height	approx. 2120 mm
Weight	approx.4235 kg



The construction is made of aluminium and steel. The oil guiding plate is of polyethylene, an easy to clean, glossy surface where the oil does not stick.

3.1.2 Skimmer Modules

Brush Skimmer

The 5 Chain LAMOR Brush Conveyor Belt is a removable recovery system for oil spills on the water surface. The Brush Pack consists of 5 parallel brush chains, driven by a hydraulic motor and controlled by a control panel.

The sweeping arms may be equipped with the LAMOR GT A 140 PDAS pumps as they are more adequate to handle high viscous oils and the pumping rate meets the feeding capacity of the brush chains.



Brush Conveyor technical specification

Dimensions:	5 Brush Chains mounted in steel frame approx. 2000 mm long (between shafts)
Brush Cleaner:	Patented cleaner/comb installed at upper end for gravity discharge of oil and debris into collection hopper.
Hydraulic Motor:	Danfoss type, Installed and fitted with Quick Disconnects.

Once dismantled the sweeping arm recover the oil directly with the weir skimmer.

Weir Skimmer

The brush conveyor belt can be removed from the skimmer apex to create a weir type skimming system.

The weir module consists of a stainless-steel hopper in which bottom is fitted the oil pump. In the fore part of the hopper is assembled a plate that hinges up and down depending on the oil-water inflow rate.

For the operation with the weir skimmer the sweeping arms may be fit with the Centrifugal screw impeller pumps MSP 150.



3.1.3 Oil Transfer Pumps and Ancillaries

Marflex Centrifugal Pump MSP150

Manufacturer: Marflex B.V.
Postal Address: Louis Pasteurstraat 12
3261 LZ Oud-Beijerland
The Netherlands
Phone: +31 186 89 02 00
Fax: +31 186 89 02 49
E-mail: info@marflex.com; www.marflex.com



The Marflex pump type MSP-150 is a hydraulically driven portable single stage vertical centrifugal pump that has been designed for efficient handling of viscous liquids, bulky solids and shear-sensitive liquids. The MSP 150 portable pump is based upon a centrifugal screw impeller that combines the properties of a screw pump with those of a centrifugal one.

Technical specification of the Marflex Centrifugal Pump MSP150

Outer Diameter	490 mm
Height	610 mm
Weight excluding hoses	85 kg
Materials	Housing – Aluminium, Impeller – Nodular Cast Iron, Seals – Nitrile, Hydraulic Motor – Cast Steel, Quick Couplings – Yellow Passivated Steel

PDAS Pump Lamor GT A 140

The Lamor GT A 140 pump is a multi - purpose submersible Archimedes screw pump with a pumping capacity of 140 m³/h. This pump has been designed for use in skimmers and transfer or offloading pump applications and is able to pump a wide range of liquids ranging from water to the heaviest debris-laden viscous oils.



Technical specifications

Length:	500 mm
Width:	300 mm
Height:	598 mm
Weight:	71 kg

Water injection kit - kit 3/4" I/O GTA 140

The GT A PDAS pumps are as standard equipped with a FlemingCo type inlet side hot/cold water Annulus Water Injection Flange (AWIF). The hot/cold water AWIF significantly increases the pump's ability to deal with high and extreme viscosity oil.

3.1.4 Storage reels LHW 40/4

The Lamor Hose Reel is designed to store hydraulic and oil transfer hoses. The frame and winder are produced in marine grade aluminum.

The construction allows the transfer hoses and the hydraulic hoses to be wound and locked separately in four separate sections. The frame is equipped with 4-point lifting points and forklift channels.

Max. capacity depending on combination: e.g. 320 m hydraulic hoses and 50 m 5" Lay flat hose (alternatively approx. 50 m rigid transfer hose).



Hose reel package weight:

- 320 m Hydraulic hose weight approx. 310 kg
- 50 m Lay flat oil transfer hose weight approx. 70 kg
- With the hose winder (147 kg) the whole package weight is approx. **560 kg**.

Technical Specifications

Length	1300	mm
Width	1300	mm
Height	1535	mm
Weight	winder only 147	kg
Capacity	40+300	m
Reel diameter	1300	mm

3.1.5 Power pack - Electric LPP 2x90 E

Hydraulic Power Pack Block Electric, LPP 2x90 E, w soft start feature and fresh water cooling

The LPP 2x90 E Lamor Power Pack features a joint frame and a joint hydraulic oil tank.

The power unit is based on 1250 liter oil reservoir, pump/motor base and motor starter units. There is a dip tray for protection against oil leakage. The reservoir, pump base and motor starters can be separated for transportation. All necessary hoses and other related equipment for connecting reservoir, pumps, motor starters and electrical components of power unit are included.



Technical specifications

Length	2230	mm
Width	2000	mm
Height	1920	mm

Weight	Dry Approx 2500	kg
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3.1.6 Hydraulic Hoses

The equipment is supplied with all necessary hydraulic hoses. The hoses are manufactured in a durable material for long service and supplied with reliable stainless steel “Tema” connectors for secure linkages.

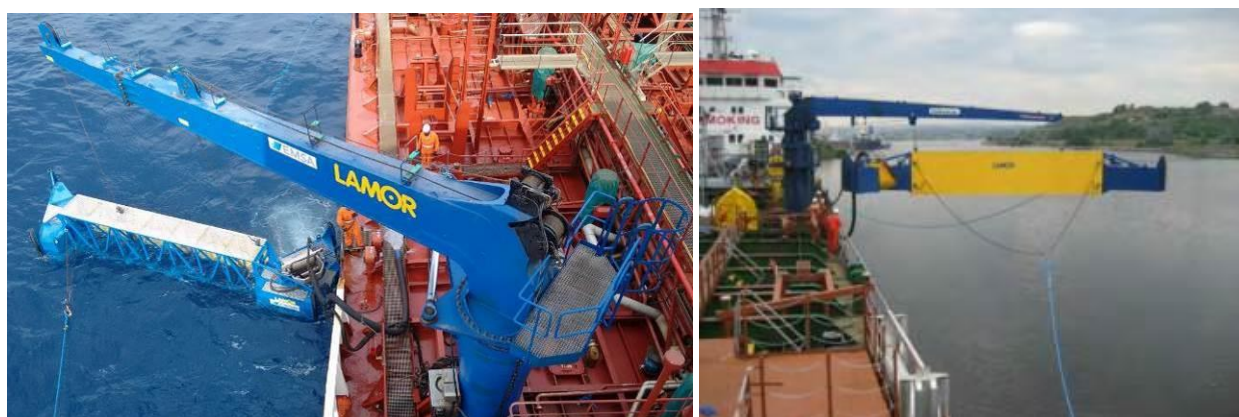
- 4 Sets 1/2" x 20m w. 3/8" SS-TEMA RFV for weir/brush modules
- 4 Sets L-20m, SS-TEMA for GTA 140 and MSP 150
- 2 Sets for Control panels

3.1.7 Oil Transfer Hoses

The equipment is supplied with 4 oil transfer rigid hose sections (6" x 10 meter – 15 bar) fitted with Camlock F/M and 2 adaptors from 8" to 6" camlock female

3.1.8 Cranes - Crane Classified 12,7 m, for LSS 12, 2 winches

The Lamor 12.7 m crane lifts and deploys Lamor stiff sweep arms for oil spill recovery operations from a dedicated vessel. 2 winches lift the stiff sweep arm and the mounted skimmer.



<u>Technical Parameter:</u>	<u>Specification:</u>
Weight (crane without pedestal)	8500 kg
Length of Jib (radius)	12.7m
Hinge Pins	Stainless Steel
Hydraulic Pipes & Fittings	Stainless Steel
Surface Treatment (steel parts)	Sandblasted to Sa 2 ½, zinc-based epoxy primer, tie coat and cover coat, overall thickness 250 microns
Color	Blue RAL 5010

3.1.9 Control desk – 6 valves LCP 6

Control panel can be connected to the hydraulic pump which is assembled to the vessel main, or usually to

auxiliary engine. The control stand includes control valves to supply the required hydraulic flow to the equipment. The control stand is further equipped with a pressure meter and a lid to cover the valves.

3.1.10 Remote controls

Radio Remote Control MC-3-5 EX Zone 1 (6 functions) with Receiver Base Unit EX Zone 1 – 372948

Remote control system for oil recovery equipment 24V including:

- 1 pc remote terminal MC-3-6 ATEX approved ZONE 1
- 1 pc electric control terminal for ZONE 1
- Base units RX Ex Zone 1 T4 (6xproportional, 4/7xON/OFF, antenna Dipol)
- charger 230VAC and 24 VDC (not Ex)
- cable for emergency use if error with remote control 5 m
- DNV-Ex certificate



Length	340	mm
Width	220	mm
Height	220	mm
Weight	2,3	kg

3.2 Booms – Lamor Ocean Master 1900 (Uniboomb X)

Manufacturer:

Lamor Corporation Ab
Mestarintie 25
06150 PORVOO
FINLAND

Tel: +358 (0)20 7650 100,

Fax: +358 (0)207 650 129

Email: info@lamor.fi

Year of purchase 2016



The Ocean Master 1900 is an automatic oil boom designed for open waters and offshore applications. The boom is designed for significant wave heights up to 3.5 m and wind speeds up to 25 m/s.

3.2.1 Ocean Master 1900 Self inflatable Oil Boom (2 x 250m sections)



Technical specifications

Length (section)	250 m	820 ft
Height	1900 mm	75 in
Weight	19 kg/m	12.7 lbs/ft

Freeboard	800 mm	31 in
Draft	1100 mm	43 in
Base fabric	PU, 1100 dtex polyester	
Fabric weight	1400 g/m ²	42.4 oz/yd ²
Fabric tensile strength	4000 N/5 cm	913 lbf/ 2 in
End connector	ASTM F962 as standard	

Hydraulic Hose Set for Lamor Ocean Master Reel 2x1" SS + 1x3/8" SS, 10m

Cross bridle

The Ocean Master booms are delivered with a net piece that can be mounted on the boom to give it desirable shape if it is to be towed in a J-formation. The cross-bridle towline allows the boom to form a straight line, in 90 degree angle from reel/vessel to form the J- or U-sweep.

The cross bridle is used so that the distance between the boom and the ship can be controlled.

Bridle Set, 5 m for Single Point Inflation Oil Boom Lamor Ocean Master, Open U configuration towing.



3.2.2 Hydraulic winder UNIREEL 16 m³

The Lamor Hydraulic operated Oceanmaster Reel 16 is designed to store up to 300m length of oil booms like Lamor Oceanmaster offshore booms.

Oceanmaster hydraulic boom reels are fitted with ISO forklift pockets, hoisting points on the frame and 4 anchoring points for fixing the base of the reel to a dockside, ship deck or container bottom.

Technical specifications

Length	4518	mm
Width	2438	mm
Height	3290	mm
Weight	5500	kg
Reel diameter	2380	mm
Reel width	4090	mm
Reel material	Steel	
Frame material	Steel	
Forklift channels	Yes	
4-point lifting rings	Yes	



Hydraulic Hose Set for Lamor Ocean Master Reel 2x1" SS + 1x3/8" SS, 10m

3.2.3 Power Pack LPP 55 HS

The ExProof Lamor Power Pack LPP 55 HS is powered by a water-cooled Perkins water-cooled diesel engine and serves as a multipurpose power pack designed for the flexible operation of many types of hydraulically operated oil spill clean-up equipment.



Technical specifications

Length	ca. 1800	mm
Width	ca. 800	mm
Height	ca. 1600	mm
Weight	ca. 1250	kg
Engine type	Perkins 1104D-44	

3.2.4 Air compressor - hydraulic, with frame LHC 5000 F

Hydraulic compressor provides pressurized air when and where needed. It easily replaces an old fashioned towed compressor plants, making trouble free compressed air always available for energizing pneumatic tools and attachments, air flushing etc.

quality.

Technical specifications

Length	980	mm
Width	630	mm
Height	980	mm
Weight	285	kg
Capacity	5000	l/min



Hydraulic Hose Set w LS Line, SS 2m, for Hydraulic Air Compressors LHC 5000 F

3.2.5 Air blower - Diesel DAB 200 Y

Engine Powered Air blower DAB 200 is used for inflating the Lamor Inflatable Booms. The air blower consists of a diesel engine and a hydraulic air blower built in a durable and portable steel double wheeled chassis with a collapsible handle allowing for easy usage and transport.

Components and accessories included in DAB 200 Y air blower:

- Yanmar diesel engine 3,5 kW
- double wheeled steel chassis with handle
- centrifugal air fan
- 10cc hydraulic motor with quick release hydraulic connectors
- Chalwyn valve and spark arrestor included



Technical specifications

Length	1170 mm	46.0 in
Width	540 mm	21.3 in
Height	780 mm	30.7 in
Weight	85 kg	187 lbs
Power	3,5 kW	4.7 hp

3.2.6 Air hoses

Air Hoses for Lamor Ocean Master Boom Inflation 5 m
Air Hose 10m w. 3" camlock female for Air Blower

3.3 High-Capacity Skimmer

Manufacturer:

Lamor Corporation Ab
Mestarintie 25
06150 PORVOO
FINLAND

Tel: +358 (0)20 7650 100,

Fax: +358 (0)207 650 129

Email: info@lamor.fi

Year of purchase 2016



3.3.1 Storage reel - Lamor Power Reel and Umbilical Hose System LUT, EX Zone I

Umbilical Hose Reel Telescopic LUT 5/80, 20' Flat Rack

The Umbilical Hose Reel Telescopic LUT 80/5"/20ft is an advanced and robust hose reel designed for the Lamor Umbilical Hose (LUH) with an integrated telescopic lifting arm for deployment, operational use and retrieval of Lamor offshore skimmers with umbilical hoses.

Technical specifications

Length	6057 mm	238 in
Width	2810 mm	110 in
Height	3480 mm	137 in
Weight	12500 kg	27560 lbs
Umbilical hose length	80m(5 in)*	262 ft (5 in)*
Footprint	6100 mm	20 ft



Umbilical Hose LUH 5" 80 m, 13 Ch

The umbilical hose is up to 80 m long and consists of items detailed below. The umbilical hose is to be mounted on a hydraulically driven deployment, retrieval, and storage reel with built-in, 360° rotation driven with hydraulic motor with integral brake.



Technical specifications

Length	80	m
Weight (total operational)	30	kg/m
Total weight	2400	kg

Hydraulic hose(s): Hydraulic Hose Set 10m SS for Umbilical Hose Reel LUT/LUF/LUM incl. Water Injection Hose SS 10m Lüdecke 3/4"

5.3.2 Power Pack - Hydraulic Power Pack Diesel Driven LPP 120, EX Zone II, Hydraulic start

The ExProof Lamor Power Pack LPP 120 D is powered by a water cooled Deutz 6-cylinder 7,15 liter turbocharged/intercooled diesel engine and serves as a high-capacity multipurpose power pack designed for the flexible operation of many types of hydraulically operated oil spill clean-up equipment.



Technical specifications

Length	ca. 2300	mm
Width	ca. 1400	mm
Height	ca. 1740	mm
Weight	ca. 2250	kg

3.3.3 Oil hose(s)

3.3.4 Remote control

Radio Remote Control MC-3-6 EX M36-EX501058 with Receiver Base Units 1 (LWS 1300) 2 (UHW)

The remote-control unit is Ex Proof design: Receiver EEX d/e IIB T5; Remote control terminal EEx ib T4



3.3.5 Flow meter - clamp on, ultrasonic, Optisonic 6300

The OPTISONIC 6300 is a clamp-on ultrasonic flow meter, which can be installed very quickly without dedicated training or special tools. Flow measurement can be done anywhere, and start-up is



immediate. With its robust industrial construction and regreasing concept, the meter provides a revolutionary solution for easy handling.

Ancillaries:

- Pipe with 6" Camlock Connectors for Flow Meter
- Adaptor Coupling 8" flange DIN - 6" Camlock female, Aluminum

3.3.6 Weir module with brush adaptors

The Lamor Free-Floating Offshore Weir Skimmer LWS 1300 Mk II is a very high-capacity weir skimmer designed for off-shore oil recovery operations. It is equipped with a floating weir lip to separate and collect the oil into the hopper. The floating weir lip has separate small ballast weights that can be independently adjusted for perfect floatation even in difficult sea conditions.

The skimmer is manufactured from aluminum with 3 specially designed hollow floats with internal chambers.

These chambers can be filled with water for optional ballast and floatation level adjustment. The skimmer incorporates a large diameter free floating weir and that all gives it excellent wave following characteristics.



Technical specifications – Weir skimmer LWS 1300 Mk II

Length	2644	mm
Width	2212	mm
Height	1830	mm
Diameter	weir: 1300	mm
Weight	250	kg

3.3.7 Pumps

Oil Transfer Pump GTA 140 PDAS

The GTA 140 is a multi-purpose submersible Archimedes positive displacement high performance screw pump that has a capacity of 140 m³/h (616 gpm).



Technical specifications

Length	500 mm	20 in
Width	300 mm	11 in
Height	598 mm	24 in
Weight	71 kg	157 lbs

SS-TEMA Change for GTA pumps, SS-TEMA 7511, 10021 RFV, 3/8" Aeroquip RST

Water injection kit for Oil Transfer Pump GTA 140, Inlet 3/4"

The GTA PDAS pumps are as standard equipped with a FlemingCo type inlet side hot/cold water Annulus Water Injection Flange (AWIF). The hot/cold water AWIF significantly increases the pump's ability to deal with high and extreme viscosity oil. The injection flange facilitates the in-flow of very viscous products, and the injected water reduces friction inside the pump and in the discharge line.



Oil transfer pump MSP 150

Refer to 5.1.3 above.

3.3.8 Ancillaries

Water Injection Outlet Assembly, DIN 5" flange D125 PN 16 SS, TEMA 5011 RFV SS, for LWS 1300 Mk II Skimmer

Should an AWI flange be required on the outlet side of the pump, Lamor can supply an additional kit including injection fitting. The kit is a flange that can be fitted in outlet flange junction.

A standard high-pressure steam or hot water cleaner is recommended for the provision of steam/hot water to the outlet AWIF. The recommended heating capability of the cleaner unit is minimum 35 kW for the GTA 115/140 pump.

Hot water pressure hose L-20m

The 20 m long hose set is to be used with steam/hot water pressures with 1/2" TEMA pressure water connectors (for example DHC 801 or Alto Contractor). No hand lance included.

Contents:

- 1 x PESU-KUUMA-20M hot water hose (5713-06-/84-06/40-8-6)
- 1 x 5011 w/o non return valve
- 1 x 5021 w/o non return valve
- 2 x USITR-08

3.4. Dispersant System

Manufacturer:

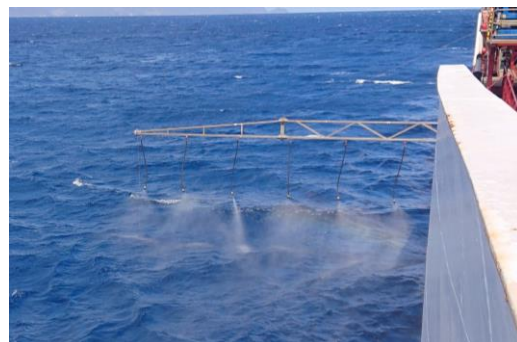
Lamor Corporation Ab
Mestarintie 25
06150 PORVOO
FINLAND

Tel: +358 (0)20 7650 100,

Fax: +358 (0)207 650 129

Email: info@lamor.fi

Year of purchase 2016



3.4.1 Pump - Dispersant Pump Electrical LDS 150E-SA with self-priming pump

The LDS 150E-SA is an electrically powered below deck dispersant spray system for the application of dilute or concentrated dispersant from Tugs, Offshore Support Vessels or Workboats. The pump unit comprises a 3Ph, IP55 electric motor driving a positive displacement roller vane pump.



Technical specifications

Length	900	mm
Width	700	mm
Height	700	mm
Weight	135	kg

3.4.2 Spray booms - Dispersant Spray Arm Alu 8 m LDS 8 A

The dispersant spray arms are used for dispersant spray of concentrated or diluted dispersants.

The 8 m long dispersant spray arm is constructed of Aluminum. The spray arm is fitted typically with 5 spray nozzles, neat or dilute nozzles can be used. Both are included in the standard set of supply of 5 nozzles.

The spray arm position shall be adjusted horizontally.



The set includes also the following items:

Stanchion:

- designed for easy mounting to gunwale of a ship. Manufactured in Stainless Steel.

Hoses:

- 1 x 1 ½" x 8 m connection spray unit/spray arms.
- 1 x 1 ½" x 8 m connection pump suction side/strainer for suction of sea water.
- 1 x 1 ¼" x 8 m connection eductor/dispersant.

Spray Arm: 1 No. 8 m in Aluminum.

Support Post: 1 No. 1 to 3 m long in Stainless Steel (depending on the vessel design).

Fore/Aft Stays: 2 No. Braided Nylon with SS Carabinas

Topping Wires: 1 No. Stainless Steel with SS Carabinas

- Nozzles: 5 No. for Neat Spraying, 5 No. for Dilute Spraying
1 No. WingJet Nozzle Assemblies
- Hoses: 2 No. Delivery 25 N.B. x 5m long
1 No. Dispersant Suction 20 N.B. x 5m long with Barrel Pipe
1 No. Seawater Suction 25 N.B. x 5m with Foot Valve and Strainer

Technical specifications

Length	8000	mm
Height	ca. 2500	mm
Weight	150	kg

3.4.3 Control panel

The Bridge Control Panel for Dispersant Spray Pump is recessed to the desk on the navigating bridge.

It is connected to the dispersant pump by an electric cable and contains the most essential functions to operate the pump.



3.4.4 Remote control - Remote Cable Control System, EX Zone I for Dispersant Spray Pump

The Remote Cable Control System for Dispersant Spray Pump is EX-proof (zone I). It is connected to the dispersant pump by an electric cable and contains the most essential functions to operate the pump from a distance limited by the length of the 10 m cable. The cable length can be customized if necessary.

3.4.5 Tank container - Storage Tank Stainless Steel, LMT, 30 m³, 20' footprint

The Lamor LMT ISO tank container is used for the transportation of dangerous chemicals.

ISO Tank Containers are clean, practical and allow liquid and powder to be stored and transported safely, easily and effectively by standard means.

Technical specifications

Length	6058	mm
Width	2438	Mm
Height	2892	mm
Weight	ca. 4800	kg
Capacity	30	M3



3.4.6 Pumps - Oil/Chemical transfer pump, Electric, LM 300 with frame

The Lamor LM300 peristaltic hose pump is ideal for pumping light and medium viscosity oils and chemicals.

Technical specifications

Length	608	mm
Width	390	mm
Height	424	mm
Weight	60	kg



3.4.7 Oil/chemical hose(s) - Apollo 2" L-10m Camlock F/M

Lamor's Oil Transfer Hoses are essential accessories for the efficient and reliable functioning of your equipment.

These sturdy hoses are manufactured in a durable material for long service and supplied with reliable Camlock connectors for secure linkages.

Technical specification

Purpose/Type	Dimension	Working Pressure (bar)	Material
Suction/Semi Rigid	2"	2	PVC/NBR
	2 1/2"	1,8	
	3"	1,8	
	4"	1,3	

All hoses are supplied with aluminium Camlocks Male/Female, sizes 2-6"

3.4.8 Manifold

Manifold/branch pipe with valves for LIP 400, 1 x 2" - 3 x 2"



3.4.9 Spill kit

The original kit included:

- 600-pads (15" (38cm) x 19" (48cm))
- 8 Booms (5" (13cm) x 10' (3m))
- Sweeps (19" (48cm) x 100' (30m))
- pairs of Nitrile Gloves
- Goggles
- 30 Disposal Bags
- Emergency Response Handbook

3.5. Discharging System

3.5.1 Pumps - Oil Transfer Pump GTA 115 PDAS

The GTA 115 is a multipurpose submersible Archimedes positive displacement high performance screw pump that has a capacity of 115 m³/h (506 gal/min). In addition to being a primary oil transfer pump, the GTA 115 can be utilized for numerous applications such as offloading emergency pumping of heavy crude, bitumen, tank cleaning, pipeline maintenance, sludge removal etc.

Technical specification

Length	500 mm	20 in
Width	300 mm	11 in
Height	598 mm	24 in
Weight	71 kg	157 lbs



3.5.2 Hydraulic hose(s) - Hydraulic Hose Set L-20m, SS-TEMA

Lamor's Hydraulic Hose Sets are essential accessories for the efficient and reliable functioning of your equipment. These sturdy hoses are manufactured in a durable material for long service, and supplied with reliable connectors for secure linkages to the matching products.

TEMA 2510	F	1/4"	No	Yes	>210 bar	Galv. Steel (SS optional)	Optional	
2520	M	1/4"						
2511	F	1/4"	Yes					
2521	M	1/4"						
3811	F	3/8"						
3821	M	3/8"						
5011	F	1/2"						
5021	M	1/2"						
7511	F	3/4"						
7521	M	3/4"						
10011	F	1"						
10021	M	1"						
15011	F	1 ½						
15021	M	1 ½						
Aeroquip 1/4"	M/F	1/4"			Yes			N/A
3/8"	M/F	3/8"	>200 bar					
1/2"	M/F	1/2"						
3/4"	M/F	3/4"						
1"	M/F	1"						

3.5.3 Oil hose(s)

Lamor Lay flat oil transfer hoses with aluminium Camlock connectors are used with the GTA range of pumps. These hoses are Antistatic and manufactured from Oil Resistant materials. Being Lay Flat they pack down to a small size and are easy to handle.

The hoses are sized as 3 to 6 inch as standard sizes and are rated to handle the pumps 12 bar discharge pressure. Temperature Range: - 20 / + 70Deg C

Lamor Lay Flat Oil Transfer Hose Set for Lamor Positive Displacement Pumps includes the following components:

- 2 x Oil transfer hose Herkules 5" lay flat L-10m Camlock male/female C2-212201

3.5.4 Ancillaries

Trolley for Oil Transfer Pump GTA 115

The trolley is fitted on the cargo emptying pump and connected to the guiding rail which is typically shipyard supply ready assembled in the vessel cargo tank. The guide bar is type HEB 100.

With the help of this arrangement the pump is lowered safely to the cargo oil tank and kept in position during the emptying process

Technical specifications

Length	160	mm
Width	250	mm
Height	440	mm
Weight	8	kg
Material	AISI 316	



Hydraulic control valve with TEMA connectors, GTA 115

3.5.5 Oil hose(s) - Oil Transfer Hose Lay Flat Herkules 6" L-10m Camlock F/M

Lamor's Oil Transfer Hoses are essential accessories for the efficient and reliable functioning of your equipment. These sturdy hoses are manufactured in a durable material for long service and supplied with reliable Camlock connectors for secure linkages.

Technical specifications for Oil Transfer Hoses

Purpose/Type	Dimension	Working Pressure (bar)	Material
Lay Flat	3"	16	PVC/NBR
	4"	12	
	5"	10	
	6"	10	

All hoses are supplied with aluminium Camlocks Male/Female, sizes 2-6"

Lay Flat Hoses

These hoses are lightweight, easy to handle yet hardwearing hose manufactured from Oil Resistant materials. Being Lay Flat they pack down to a small size and are easy to handle. They are rated to handle the pumps discharge pressure.

3.5.6 Storage reels - Hose Winder LHW 40/2 Aluminum

The Lamor Hose Reel is designed to store hydraulic and oil transfer hoses. The frame and reels are sea water resistant aluminum.

The construction allows the transfer hoses and the hydraulic hoses to be wound and locked separately. The frame is equipped with 4-point lifting points and forklift channels.

Max. capacity: 40 m hydraulic hoses and 200 m Lay flat hose (alternatively approx. 40 m rigid transfer hose).

Hose reel package weight:

- 40 m Hydraulic hose weight approx. 40 kg
- 200 m Lay flat oil transfer hose weight approx. 450 kg
- With the hose winder (110 kg) the whole package weight is approx. 600 kg.
-



Technical specifications

Length	1300	mm
Width	1300	mm
Height	1535	mm
Weight	110	kg
Reel diameter	1300	mm

3.5.7 Adaptor

- Coupling 8" flange DIN - 6" Camlock female, Aluminum

3.5.8 Water hose(s) - Hot water pressure hose L-20m

Contents:

- 1 x PESU-KUUMA-20M hot water hose (5713-06-/84-06/40-8-6)
- 1 x 5011 w/o non return valve

- 1 x 5021 w/o non return valve
- x USITR-08

3.6. Sampling/testing and cleaning

3.6.1 Flash point tester - Setaflash Series 3 Closed Cup

The Setaflash 30000-0 Series 3 Closed Cup Flash Point Tester is an easy-to-use instrument that can complete a flash/no-flash test in less than two minutes and in many cases in 60 seconds, or determine the flash point of a sample within a temperature range of 0° to 300°C.

Technical specifications

Length	280	mm
Width	260	mm
Height	260	mm
Weight	(w. battery) 4	kg
Battery endurance	up to 20	h



3.6.2 Mini lab

Digital Paddle Viscometer, 200 to 230 V

The Digital Paddle Viscometer has been designed to accurately measure the viscosity of asphalt emulsions, suspensions, marine fuels, residual oils, slurries, paints and similar materials between 30 and 30,000 centipoise (mPa·s) at temperatures of 25°C, 40°C, 50°C, 80°C, and 100°C.

Portable Density Meter Dendi 0,5-2,0g/Cm

New Di-series of digital density meters can replace all kinds of glass hydrometers in your laboratory. It provides remarkable accuracy for a wide range of liquids and eliminates any subjective mistake due to data readings on LCD. The compact device is maintenance free and simple in using: one-button control doesn't require proficient staff for its operating. Calibration is realized by distilled water.

Versatile measurement formats of DenDi enable flexible reporting options:

- Real Density (g/cm or kg/m) or Specific Gravity or API Gravity;
- Reduced Density to 15°C or 20°C or 60°F;
- Temperature (°C or °F).

Observed results can be transferred to PC, pocket PC or mini printer via built-in IR data port.



3.6.3 Cleaning machines (x3)

The Lamor Hydraulic High Pressure Cleaner (HHC) is s designed to meet all the demands of use in maritime environmental protection.

Technical specifications

Length	235	mm
Width	100	mm
Height	115	mm
Weight	8	kg



3.7. RPAS Ancillaries

VHF Headset – Entel HT 944 with CASCO Entek CHP950D headset

The Entel HT944 series are a range of professional IP68 submersible marine handheld radios that operate on the VHF marine band.

They have 56 marine international channels and 36 dealer programmable private channels.



3.8. Spares

Twist Lock, manual to Container Base CI-5-1L

Spare part kit SPK 1 for Brush Conveyor Skimmer

Spare part kit for LSC with V-type brushes - 1 yrs

Toolbox for Brush Chain type skimmers, including Brush chain master link tool; 13 mm, 17 mm and 19 mm

Combination wrench; 4 mm Allen key w/ball end; Hammer; Punch; Grease Gun; Wrench 8"



- 1 pc Tool box for LSC C2-204153
- 1 pc 2m Hollow pin chain 5/8" for LSC C2-204154
- 10 pcs Chain link 5/8" for LSC C2-204155
- 34 pcs V-Brush 5/8" type for LSC C2-204156
- 8 pcs Lori Brush 5/8" type for LSC C2-204157
- 42 pcs U-pin for chain 5/8" for LSC C2-204158

Spare part kit SPK 1 for Oil Transfer Pump GTA 115/GTA 140

The Lamor spare parts kit includes all necessary items for field repair and maintenance.

The parts included comprise:

- 9 pcs Plate wheel sealing disc for GTA 115/140 226145
- 1 pc Screw sealing ring for GTA 115/140 384318
- 1 pc Hardened bushing for GTA 115/140 396467
- pcs Sealing ring OmniSeal 23930 X1200 0331 203914
- 1 pc Plate wheel wear ring for GTA 115/140 384159
- pcs Plate wheel side wear plate for GTA 115/140 384222
- 1 pc Plate wheel plain bearing for GTA 115/140 242292
- 1 pc Grease nipple M6x1 AISI 304 205950
- pcs Plate wheel slide bearing for GTA 115/140 396468
- pcs Shaft oil sealing ring BABSL 55x72x7 FKM 205997
- 2 pcs Shaft oil sealing ring BABSL 60x80x7 FKM 205998
- 1 pc V-sealing ring VITON VA-110 384319
- 1 pc Shaft sealing ring ECOTAL A13_55x73x2 206000



- 1 pc Lock nut DIN 934 M30 206001
- 1 pc O-ring, plate wheel shaft NBR 24.2x3 205979
- 1 pc O-ring, plate wheel shaft NBR 32.2x3 205981
- 9 pcs Hexagonal socket head screw HEX_SOC_M5X6-DIN912 205984
- 1 pc O-ring, motor NBR 129.5x3 206003
- 1 pc O-ring, motor NBR 124.5x3 204010
- 1 pc O-ring, outlet NBR 132x3 206005
- 1 pc O-ring, cover NBR 250x3 206011
- pcs Hexagonal socket head screw HEX_SOC_M6X12-DIN912 205966
- 1 pc Cutting edge for GTA 115/140 396107
- 2 pcs Heli-Coil 6mm, length 9mm 205967
- 2 pcs Heli-Coil 8mm, length 12mm 205968
- 1 pc Hydraulic connector TEMA 7516 cap 3/4" 201054
- 1 pc Hydraulic connector TEMA 10026 cap 1" 201056
- 1 pc Hydraulic connector Aeroquip 3/8" C26914-06 cap 203946

Spare part kit SPK 1 for Oil Transfer Pump MSP 150

The Lamor spare parts kit includes all necessary items for field repair and maintenance.

Spare part kit SPK 1 for Weir Skimmer LWS 1300 Mk II and

- 1pc Bellows LWS 1300 Mk II C1-205815
- 1pc Locking band for bellows LWS 1300 Mk II C1-206395

Spare part Kit SPK 1 for Brush Adapter for Weir Skimmer, LBA 1300 Mk II

- The Lamor spare parts kit includes all necessary items for field repair and maintenance.

Spare Part & Boom Repair Kit for Lamor Ocean Master Boom SPK/BRK

- The Lamor spare parts kit includes all necessary items for field repair and maintenance.

Spare Part Kit for Lamor Ocean Master Boom Reel 16-26 SPK

- The Lamor spare parts kit includes all necessary items for field repair and maintenance.

Spare Towing Arrangement for Single Point Inflation Oil Boom Lamor Ocean Master 1900

Spare part kit SPK 2 for Diesel Driven Air Blower DAB 200

- Yanmar Oil Filter C2-205906 205906
- Yanmar Fuel Filter C2-205296 205296
- Yanmar Gasket Set C2-208520 208520
- Yanmar Oil Seal-Flywheel Side C2-208521 208521
- Yanmar Oil Seal-Output Shaft Side C2-208522 208522
- V-belt SPZ-750 220422
- Vibration damper 40/40 M10 395162
- Air hose sealing Camlock 2" sealing ATN50 213650
- Air hose sealing Camlock 3" sealing ATN80 204535

Spare part kit SPK 1 for Hydraulic Power Pack, Diesel LPP 120D Ex Zone II

- The Lamor spare parts kit includes all necessary items for field repair and maintenance.

Spare part kit SPK 1 for Hydraulic Power Pack, Diesel LPP 55 HS Ex Zone II

- The Lamor spare parts kit includes all necessary items for field repair and maintenance.

Spare part kit SPK 1 for Hydraulic Power pack, Electric, LPP 2x90 E

- The Lamor spare parts kit includes all necessary items for field repair and maintenance.

4. List of dispersants and description

Item	Pieces	Tons	Reception date	ID Code sticker
IBC with dispersant	1	0.95	27/07/2016	7768
IBC with dispersant	1	0.95	27/07/2016	7769
IBC with dispersant	1	0.95	27/07/2016	7770
IBC with dispersant	1	0.95	27/07/2016	7771
IBC with dispersant	1	0.95	27/07/2016	7772
IBC with dispersant	1	0.95	27/07/2016	7773
IBC with dispersant	1	0.95	27/07/2016	7774
IBC with dispersant	1	0.95	27/07/2016	7775
IBC with dispersant	1	0.95	27/07/2016	7776
IBC with dispersant	1	0.95	27/07/2016	7777
IBC with dispersant	1	0.95	27/07/2016	7778
IBC with dispersant	1	0.95	27/07/2016	7779
IBC with dispersant	1	0.95	27/07/2016	7780
IBC with dispersant	1	0.95	27/07/2016	7781
IBC with dispersant	1	0.95	27/07/2016	7782
IBC with dispersant	1	0.95	27/07/2016	7783
IBC with dispersant	1	0.95	27/07/2016	7784
IBC with dispersant	1	0.95	27/07/2016	7785
IBC with dispersant	1	0.95	27/07/2016	7786
IBC with dispersant	1	0.95	27/07/2016	7787
IBC with dispersant	1	0.95	27/07/2016	7788
IBC with dispersant	1	0.95	27/07/2016	7789
IBC with dispersant	1	0.95	27/07/2016	7790
IBC with dispersant	1	0.95	27/07/2016	7791
IBC with dispersant	1	0.95	27/07/2016	7792
IBC with dispersant	1	0.95	27/07/2016	7793
IBC with dispersant	1	0.95	27/07/2016	7794
IBC with dispersant	1	0.95	27/07/2016	7795
IBC with dispersant	1	0.95	27/07/2016	7796
IBC with dispersant	1	0.95	27/07/2016	7797
IBC with dispersant	1	0.95	27/07/2016	7798
IBC with dispersant	1	0.95	27/07/2016	7799
IBC with dispersant	1	0.95	27/07/2016	7800
IBC with dispersant	1	0.95	27/07/2016	7801
IBC with dispersant	1	0.95	27/07/2016	7802
IBC with dispersant	1	0.95	27/07/2016	7803
IBC with dispersant	1	0.95	27/07/2016	7804
IBC with dispersant	1	0.95	27/07/2016	7805
IBC with dispersant	1	0.95	27/07/2016	7806
IBC with dispersant	1	0.95	27/07/2016	7807
IBC with dispersant	1	0.95	27/07/2016	7808
IBC with dispersant	1	0.95	27/07/2016	7809
IBC with dispersant	1	0.95	27/07/2016	7810
IBC with dispersant	1	0.95	27/07/2016	7811
IBC with dispersant	1	0.95	27/07/2016	7812
IBC with dispersant	1	0.95	27/07/2016	7813
IBC with dispersant	1	0.95	27/07/2016	7814
IBC with dispersant	1	0.95	27/07/2016	7815
IBC with dispersant	1	0.95	27/07/2016	7816
IBC with dispersant	1	0.95	27/07/2016	7817
IBC with dispersant	1	0.95	27/07/2016	7818
IBC with dispersant	1	0.95	27/07/2016	7819
IBC with dispersant	1	0.95	27/07/2016	7820
IBC with dispersant	1	0.95	27/07/2016	7821

Item	Pieces	Tons	Reception date	ID Code sticker
IBC with dispersant	1	0.95	27/07/2016	7822
IBC with dispersant	1	0.95	27/07/2016	7823
IBC with dispersant	1	0.95	27/07/2016	7824
IBC with dispersant	1	0.95	27/07/2016	7825
IBC with dispersant	1	0.95	27/07/2016	7826
IBC with dispersant	1	0.95	27/07/2016	7827
IBC with dispersant	1	0.95	27/07/2016	7828
IBC with dispersant	1	0.95	27/07/2016	7829
IBC with dispersant	1	0.95	27/07/2016	7830
IBC with dispersant	1	0.95	27/07/2016	7831
IBC with dispersant	1	0.95	27/07/2016	7832
IBC with dispersant	1	0.95	27/07/2016	7833
IBC with dispersant	1	0.95	27/07/2016	7834
IBC with dispersant	1	0.95	27/07/2016	7835
IBC with dispersant	1	0.95	27/07/2016	7836
IBC with dispersant	1	0.95	27/07/2016	7837
IBC with dispersant	1	0.95	27/07/2016	7838
IBC with dispersant	1	0.95	27/07/2016	7839
IBC with dispersant	1	0.95	27/07/2016	7840
IBC with dispersant	1	0.95	27/07/2016	7841
IBC with dispersant	1	0.95	27/07/2016	7842
IBC with dispersant	1	0.95	27/07/2016	7843
IBC with dispersant	1	0.95	27/07/2016	7844
IBC with dispersant	1	0.95	27/07/2016	7845
IBC with dispersant	1	0.95	27/07/2016	7846
IBC with dispersant	1	0.95	27/07/2016	7847
IBC with dispersant	1	0.95	27/07/2016	7848
IBC with dispersant	1	0.95	27/07/2016	7849
IBC with dispersant	1	0.95	27/07/2016	7850
IBC with dispersant	1	0.95	27/07/2016	7851
IBC with dispersant	1	0.95	27/07/2016	7852
IBC with dispersant	1	0.95	27/07/2016	7853
IBC with dispersant	1	0.95	27/07/2016	7854
IBC with dispersant	1	0.95	27/07/2016	7855
IBC with dispersant	1	0.95	27/07/2016	7856
IBC with dispersant	1	0.95	27/07/2016	7857
IBC with dispersant	1	0.95	27/07/2016	7858
IBC with dispersant	1	0.95	27/07/2016	7859
IBC with dispersant	1	0.95	27/07/2016	7860
IBC with dispersant	1	0.95	27/07/2016	7861
IBC with dispersant	1	0.95	27/07/2016	7862
IBC with dispersant	1	0.95	27/07/2016	7863
IBC with dispersant	1	0.95	27/07/2016	7864
IBC with dispersant	1	0.95	27/07/2016	7865
IBC with dispersant	1	0.95	27/07/2016	7866
IBC with dispersant	1	0.95	27/07/2016	7867
IBC with dispersant	1	0.95	27/07/2016	7868
IBC with dispersant	1	0.95	27/07/2016	7869
IBC with dispersant	1	0.95	27/07/2016	7870
IBC with dispersant	1	0.95	27/07/2016	7871
IBC with dispersant	1	0.95	27/07/2016	7872
IBC with dispersant	1	0.95	27/07/2016	7873
IBC with dispersant	1	0.95	27/07/2016	7874
IBC with dispersant	1	0.95	27/07/2016	7875
IBC with dispersant	1	0.95	27/07/2016	7876
IBC with dispersant	1	0.95	27/07/2016	7877

Item	Pieces	Tons	Reception date	ID Code sticker
IBC with dispersant	1	0.95	27/07/2016	7878
IBC with dispersant	1	0.95	27/07/2016	7879
IBC with dispersant	1	0.95	27/07/2016	7880
IBC with dispersant	1	0.95	27/07/2016	7881
IBC with dispersant	1	0.95	27/07/2016	7882
IBC with dispersant	1	0.95	27/07/2016	7883
IBC with dispersant	1	0.95	27/07/2016	7884
IBC with dispersant	1	0.95	27/07/2016	7885
IBC with dispersant	1	0.95	27/07/2016	7886
IBC with dispersant	1	0.95	27/07/2016	7887
IBC with dispersant	1	0.95	27/07/2016	7888
IBC with dispersant	1	0.95	27/07/2016	7889
IBC with dispersant	1	0.95	27/07/2016	7890
IBC with dispersant	1	0.95	27/07/2016	7891
IBC with dispersant	1	0.95	27/07/2016	7892
IBC with dispersant	1	0.95	27/07/2016	7893
IBC with dispersant	1	0.95	27/07/2016	7894
IBC with dispersant	1	0.95	27/07/2016	7895
IBC with dispersant	1	0.95	27/07/2016	7896
IBC with dispersant	1	0.95	27/07/2016	7897
IBC with dispersant	1	0.95	27/07/2016	7898
IBC with dispersant	1	0.95	27/07/2016	7899
IBC with dispersant	1	0.95	27/07/2016	7900
IBC with dispersant	1	0.95	27/07/2016	7901
IBC with dispersant	1	0.95	27/07/2016	7902
IBC with dispersant	1	0.95	27/07/2016	7903
IBC with dispersant	1	0.95	27/07/2016	7904
IBC with dispersant	1	0.95	27/07/2016	7905
IBC with dispersant	1	0.95	27/07/2016	7906
IBC with dispersant	1	0.95	27/07/2016	7907
IBC with dispersant	1	0.95	27/07/2016	7908
IBC with dispersant	1	0.95	27/07/2016	7909
IBC with dispersant	1	0.95	27/07/2016	7910
IBC with dispersant	1	0.95	27/07/2016	7911
IBC with dispersant	1	0.95	27/07/2016	7912
IBC with dispersant	1	0.95	27/07/2016	7913
IBC with dispersant	1	0.95	27/07/2016	7914
IBC with dispersant	1	0.95	27/07/2016	7915
IBC with dispersant	1	0.95	27/07/2016	7916
IBC with dispersant	1	0.95	27/07/2016	7917
IBC with dispersant	1	0.95	27/07/2016	7918
IBC with dispersant	1	0.95	27/07/2016	7919
IBC with dispersant	1	0.95	27/07/2016	7920
IBC with dispersant	1	0.95	27/07/2016	7921
IBC with dispersant	1	0.95	27/07/2016	7922
IBC with dispersant	1	0.95	27/07/2016	7923
IBC with dispersant	1	0.95	27/07/2016	7924
IBC with dispersant	1	0.95	27/07/2016	7925
IBC with dispersant	1	0.95	27/07/2016	7926
IBC with dispersant	1	0.95	27/07/2016	7927
IBC with dispersant	1	0.95	27/07/2016	7928
IBC with dispersant	1	0.95	27/07/2016	7929
IBC with dispersant	1	0.95	27/07/2016	7930
IBC with dispersant	1	0.95	27/07/2016	7931
IBC with dispersant	1	0.95	27/07/2016	7932
IBC with dispersant	1	0.95	27/07/2016	7933

Item	Pieces	Tons	Reception date	ID Code sticker
IBC with dispersant	1	0.95	27/07/2016	7934
IBC with dispersant	1	0.95	27/07/2016	7935
IBC with dispersant	1	0.95	27/07/2016	7936
IBC with dispersant	1	0.95	27/07/2016	7937
IBC with dispersant	1	0.95	27/07/2016	7938
IBC with dispersant	1	0.95	27/07/2016	7939
IBC with dispersant	1	0.95	27/07/2016	7940
IBC with dispersant	1	0.95	27/07/2016	7941
IBC with dispersant	1	0.95	27/07/2016	7942
IBC with dispersant	1	0.95	27/07/2016	7943
IBC with dispersant	1	0.95	27/07/2016	7944
IBC with dispersant	1	0.95	27/07/2016	7945
IBC with dispersant	1	0.95	27/07/2016	7946
IBC with dispersant	1	0.95	27/07/2016	7947
IBC with dispersant	1	0.95	27/07/2016	7948
IBC with dispersant	1	0.95	27/07/2016	7949
IBC with dispersant	1	0.95	27/07/2016	7950
IBC with dispersant	1	0.95	27/07/2016	7951
IBC with dispersant	1	0.95	27/07/2016	7952
IBC with dispersant	1	0.95	27/07/2016	7953
IBC with dispersant	1	0.95	27/07/2016	7954
IBC with dispersant	1	0.95	27/07/2016	7955
IBC with dispersant	1	0.95	27/07/2016	7956
IBC with dispersant	1	0.95	27/07/2016	7957
IBC with dispersant	1	0.95	27/07/2016	7958
IBC with dispersant	1	0.95	27/07/2016	7959
IBC with dispersant	1	0.95	27/07/2016	7960
IBC with dispersant	1	0.95	27/07/2016	7961
IBC with dispersant	1	0.95	27/07/2016	7962
IBC with dispersant	1	0.95	27/07/2016	7963
IBC with dispersant	1	0.95	27/07/2016	7965
IBC with dispersant	1	0.95	27/07/2016	7966
IBC with dispersant	1	0.95	27/07/2016	7967
IBC with dispersant	1	0.95	27/07/2016	7968
IBC with dispersant	1	0.95	27/07/2016	7969
IBC with dispersant	1	0.95	27/07/2016	7970
IBC with dispersant	1	0.95	27/07/2016	7971
IBC with dispersant	1	0.95	27/07/2016	7972
IBC with dispersant	1	0.95	27/07/2016	7973
IBC with dispersant	1	0.95	27/07/2016	7974
IBC with dispersant	1	0.95	27/07/2016	7975
IBC with dispersant	1	0.95	27/07/2016	7976
IBC with dispersant	1	0.95	27/07/2016	7977
IBC with dispersant	1	0.95	27/07/2016	7978
IBC with dispersant	1	0.95	27/07/2016	7979
IBC with dispersant	1	0.90	27/07/2016	7989
IBC spare (empty)	1	0	27/07/2016	7964
IBC spare (empty)	1	0	27/07/2016	7980
IBC spare (empty)	1	0	27/07/2016	7981
IBC spare (empty)	1	0	27/07/2016	7982
IBC spare (empty)	1	0	27/07/2016	7983
IBC spare (empty)	1	0	27/07/2016	7984
IBC spare (empty)	1	0	27/07/2016	7985
IBC spare (empty)	1	0	27/07/2016	7986
IBC spare (empty)	1	0	27/07/2016	7987
IBC spare (empty)	1	0	27/07/2016	7988

Item	Pieces	Tons	Reception date	ID Code sticker
Value for insurance purpose: EUR 533,870				

4.1 Dispersant Radiagreen OSD

Manufacturer:

Oleon NV

Web-Site <http://www.oleon.com/>

Year of purchase: 2016

Radiagreen OSD is a concentrated blend of natural surfactants and solvents.

Due to its high solvency power, Radiagreen OSD will easily penetrate the oil slick as a result of which the surfactants will be incorporated rapidly.

The surfactants will reduce the interfacial tension between oil and water, allowing it to divide the hydrocarbons in droplets of such a size that the physical and bacterial action is accelerated, leading to a faster degradation.

Radiagreen OSD (free of aromates) has been engineered for a large number of spills. We differentiate:

- Cleaning of oil spills (crude oil, diesel, gasoil, vegetable oil, other oils);
- Oil spills on warehouse floors, port quays, sea, bulkhead areas;
- Rocks and beaches;
- Oil and fats on machines and mechanical parts.



Flammable:

Flash-point-ASTMD 93: >110°C

Maximum storage Temperature:

60°C

Minimum Temperature:

-20°C

Optimal storage Temperature:

5 - 35 °C

The product will have a shelf life of minimum 5 years if the storage conditions are respected.

Radiagreen OSD is stored in standard IBC's with the following indicative external dimensions: **Length 1.2 m x Width 1.0 m x Height 1.16 m.**