

WATER TREATMENT EQUIPMENT



# **ABOUT COMPANY**

For more than 10 years, MSC Group has been maintaining strong ties with the leading shipbuilding enterprises and yards of Russia, including Admiralty Shipyards, Baltic Shipyard, Severnaya Verf, Sredne-Nevsky Shipyard, Yantar Shipyard, Vympel Shipyard, Zelenodolsk Plant named after A.M. Gorky and many others.

Our manufacturing facilities are located in Saint Petersburg, Russia. The company offers following services:

- Design and manufacturing
- · Commissioning and inspection
- Service maintenance
- Customs services
- Logistics services
- Development of import-export operations





### Our certification







Our technical specialists always come forward with solutions and services that could match all of your requirements.

All units are made of high-quality components, providing high reliability and compact size.

MSC Group is certified by the Russian Maritime Register of Shipping that fully complies with the standards of the International Marine Organization (IMO). We also can obtain additional certification suitable per your request.

# WATER TREATMENT EQUIPMENT



MSC Group specializes in design and manufacturing of water treatment equipment, providing made-to-measure solutions

Our systems can be used for the following purposes

- Fresh water desalination:
- Oily bilge water and service water treatment;
- Sewage water treatment
- · Chemical and UV-disinfection;
- Filtration:

Composite design allows replacing and combining of different units into multi-stage water treatment systems.





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### RO (REVERSE OSMOSIS) DESALINATION SYSTEM

Control type:	Manual/ Auto-manual / Automatic		
Salt rejection, %	96-99		
Inlet pressure of booster pump, MPa	0-0,4		
Membrane operating pressure, bar	55		
Rated capacity, m³/day	1,0 / 5,0 / 10,0 / 20,0 / 30,0 / 40,0		
Dissolved solids, up to. g/l	42		
Operating pressure, MPa	5,5		
Power supply, V/Hz	380/50		



RO systems are designed for desalination of seawater and production of drinking water onboard.

The systems can be used for water supply in hotels, schools, hospitals; on ships and vessels, at manufacturing sites.

Desalination unit consists of high-pressure and low-pressure pumps, chemical cleaning unit and RO membranes. Feed seawater passes through the membrane assembly with salt removed due to its physical properties.

The scope of supply (depending on the customer requirements) includes:

- Mud filter;
- · Chemical cleaning unit;
- Mineralizer;
- UV-sterilizer;
- · Filter demineralizer;
- · Electric heater;
- · Storage tanks.

The system has a comparative small size. System configuration is fully custom-made. Desalination unit is designed in compliance with the standards of International Marine Organization (IMO) and the requirements of World Health Organization (WHO).





# SERVICE WATER STORAGE SYSTEMS

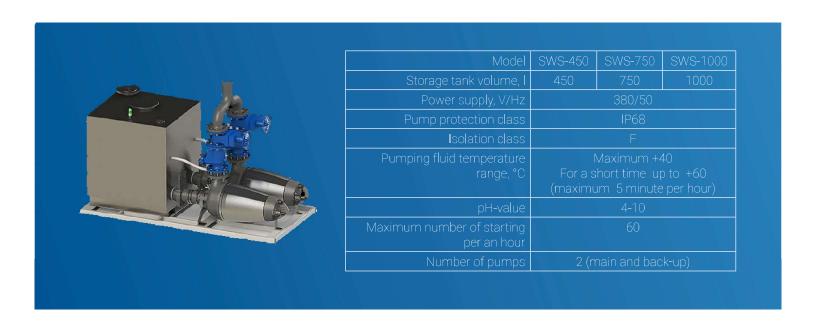
Storage system is designed for storage of service water (sewage water from galley, showers, laundry, etc.). The unit is used on vessels with unrestricted navigation.

Equipment configuration is fully custom-made.

#### Options:

- Explosion proof design;
- Non-magnetic design.

The system is designed in compliance with the standards of International Marine Organization (IMO) and the requirements of the convention MARPOL 73/78.



### **VACUUM SEWAGE SYSTEMS**

Model	UVNS 9,5-1	UVNS 15-1	UVNS 26-1	UVNS 19-2	UVNS 30-2	UVNS 52-2	
Number of pumps (pcs)	1	1	1	2	2	2	
Maximum capacity, m3/h	9,5	15	26	19	30	52	
Vacuum level, MPa	0,03-0,06						
Max.lift of sewage pump, m	15						
Power supply, V/Hz	380/50						
Max.power consumption, kW	1,7	2,8	6,1	2,8	5,0	11,6	



Vacuum sewage system is designed for transporting sewage from its source to a sewage treatment plant (onshore or on vessel) or to the storage tanks. Equipment configuration is fully custom-made. In particular, the system with a collecting tank and two macerating pumps is available.

Tank volume and configuration depend on customer demands.

System is designed in compliance with the standards of International Marine Organization (IMO) and the requirements of the convention MARPOL 73/78. The unit is used on vessels with unrestricted navigation.





# OILY BILGE WATER SEPARATOR

Oily bilge water separator is used to separate oily bilge water from solid particles up to 5 microns and to minimize the oily content in bilge water, which can be discharged from the vessel, to 15 mln-1 (5 mln-1).

Separators are suitable for different applications: from gas stations to the vessels and oil tankers.

Equipment configuration is fully custom-made.

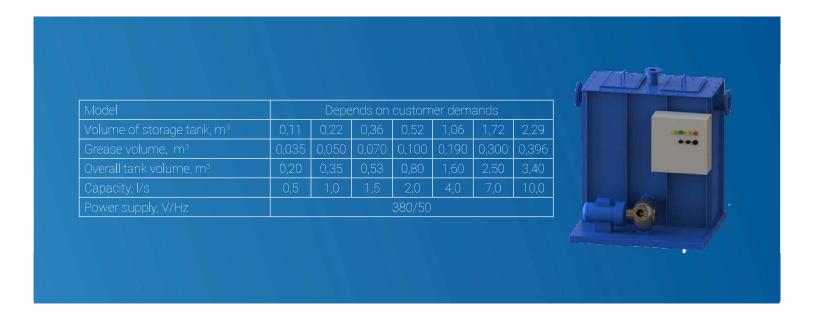
### Options:

- Explosion proof design;
- Non-magnetic design;
- · Small size

The system is designed in compliance with standards of International Marine Organization (IMO) and requirements of the convention MARPOL 73/78 and resolution MEPC.107(49). The unit is used on vessels with unrestricted navigation.



### **GREASE SEPARATOR**



Grease separator is used for easier handling of separated sludge and grease from galley water.

The unit is automatic, supplied with heaters and grinder pumps.

Equipment configuration is fully custom-made.

Grease separator is designed in compliance with standards of International Marine Organization (IMO). The equipment is used on vessels with unrestricted navigation.





### PUMP UNIT LUITZ

Pump unit LUITZ is produced for pumping fluids with different viscosities, including fluids with admixtures, multiphase and gaseous mediums.

Complex control system is used for a wide range of purposes:

- Remote control;
- Remote monitoring (fluid temperature, flow rate);
- Fluid transfer from one pump to several vessel's systems (with remotely controlled valve system).

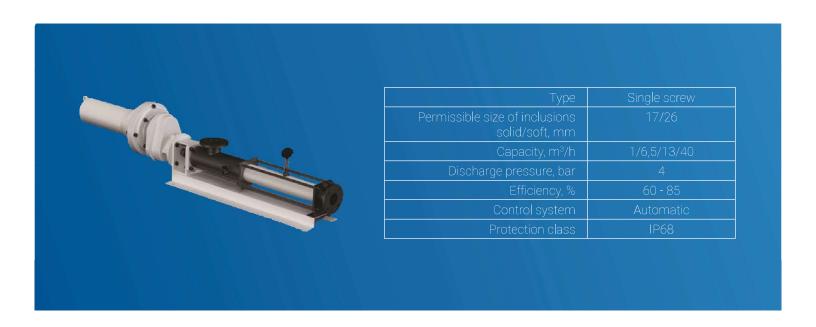
Pump unit consists of progressive cavity pump and control switchboard.

Additional configuration:

- Flow meter;
- Frequency converter;
- Reverse function.

Pump key features:

- · Reliable and flexible stator made out from a polymer material;
- · Increased safety from large inclusions;
- · Reliable and simple design;
- · Dry running up to 40 minutes;
- · Dry running protection.



### CONTAINER STORAGE UNIT OF DIFFERENT TYPES



We design and produce containerized systems of various application (based on the standard ISO-containers) according to your requirements:

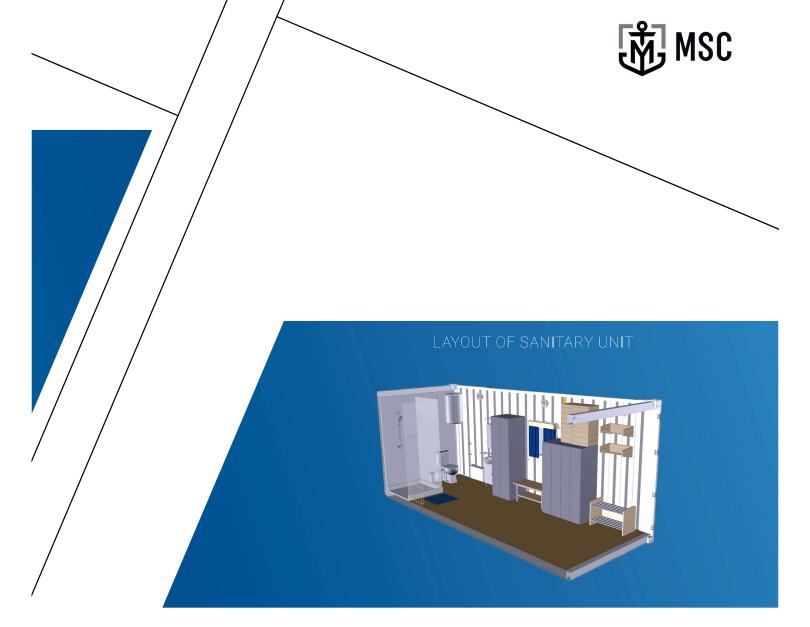
- · Sanitary containers and housing (living) units;
- · Ballast water treatment containers;
- · Containers with special equipment.

### Options:

- Explosion proof design;
- Climatic modification;
- · Non-standard size;
- Layout of any customer's equipment.



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# WATER TREATMENT EQUIPMENT



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