

OIL AND GAS EQUIPMENT



MSC GROUP

ABOUT US

For more than 10 years, MSC Group has been maintaining strong ties with the leading enterprises of Russia, including Gazprom, Rosneft, Sibur Holding, Admiralty Shipyards, Baltic Shipyard, Severnaya Verf and many others.

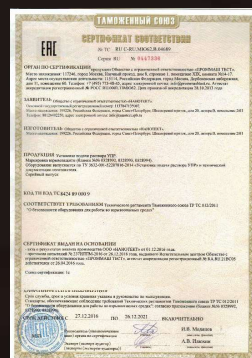
Our manufacturing facilities are located in St. Petersburg, Russia. The company offers following services:

- Design and manufacturing
- Commissioning
- Maintenance and repairs

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.

Our certificates:





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DIESEL SEPARATORS



Diesel separator is designed for purification of different types of diesel fuel from mechanical admixtures in oil and gas industry and for vessels with unrestricted navigation.

Key features:

- Two filter elements included;
- Degree of purification from mechanical admixtures (up to 5 μm) up to 100%;
- Degree of purification from water mist up to 99%;
- Extended service life due to the high quality of diesel fuel after purification process.

Equipment configuration is totally custom made.

Options:

- Explosion proof design

Equipment meets the requirements and regulations of IMO.

Main characteristics:

Parameter	Value
Capacity, m^3/h	1,0 / 2,0 / 3,0 / 5,0
Filtration degree, μm	3-5
Purification degree of water mist, %	99,997
Power, V/Hz	380/50

OIL SEPARATORS



Oil separator is designed for oil filtration to extend service life of gas turbine and other field equipment, and for purification of lubricating oil from water and mechanical admixtures on the vessels and ships.

Key features:

- Degree of purification from mechanical admixtures (up to 5 μm) up to 100%;
- Degree of purification from water mist up to 99%;
- Extended service life.

Equipment configuration is fully custom made.

Options:

- Explosion proof design.

Equipment meets the requirements and regulations of IMO. Equipment is used on vessels with unrestricted navigation.

Main characteristics:

Parameter	Value
Capacity, m^3/h	1,0 / 2,0 / 3,0 / 5,0
Viscosity of purified oil, cSt	5-100
Temperature of purified oil, $^{\circ}\text{C}$	35-70
Filtration degree, μm	3-5
Purification degree of water mist, %	99,997

WASHING SKID FOR CENTRIFUGAL AND AXIAL COMPRESSORS



Washing skid is designed for cleaning axial and centrifugal compressors. The skid can be used for oil and gas fields, underground gas storages and compressor stations.

Key features:

- Unique and exclusive design;
- Fully automatic;
- Completely customized for your washing specifications;
- Individual wash solution
- Saves from 23 to 43% of wash fluid as compared to analogues.

Options:

- Manual or automatic control;
- Fixed/portable design.

The skid is manufactured in compliance with the International standards ISO 14001, according to the regulations TR CU 012/2011 «Safety of equipment» (identical to 2014/34/EC, IIGbIIBT3).

Fixed unit:

Characteristics	Value
Regulated supply, l/min	1 - 40
Regulated head, mPa	0,1 - 20
Temperature of pumped area, °C	+5...+40
Explosion proof mark	IIGbIIBT3
Material	Stainless steel
Power supply, depends on modification, kW	5,5-7,5

Portable unit:

Characteristics	Value
Cabin	Three-man, heated
Max. Speed, km/h	40
Total weight, kg	6 000
Trailer weight, kg	1500 (w/o brake)
Chassis dimensions L*W*H	4250*1570*2100
Number of tanks, l	2 of 1000, 3 of 1000
Number of drum pumps	1-2
Operating temperature, °C	-40...+50
Explosion proof mark	IIGbIIBT3
Power supply, kW	5,5-7,5

Axial compressor washing with solution «NT-110»

Before



After



Washing of the gas cooling unit in operation mode with solution «NT-310»

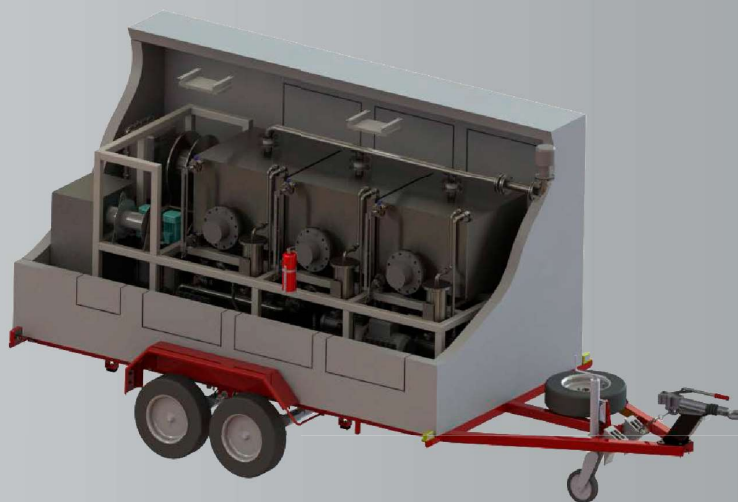
Before



After



PORTABLE CLEANING UNIT FOR OIL AND GAS COOLERS



Portable unit is designed for pipe cleaning of oil and gas air coolers with special washing agents or fluids. Equipment can also be used for cleaning of heat exchangers on the ships and vessels.

Key features:

- Rapid cleaning process due to the fact that there is no need for tube plate demounting;
- Individual washing solutions
- Equipped with portable frame and protective cap.

Main characteristics:

Characteristics	Value
Capacity, m ³ /h	150
Pressure head, MPa	0,3
Temperature of pumped medium, °C	+5...+40
Explosion proof class	IIGbIIBT3

BUFFER GAS DRYER



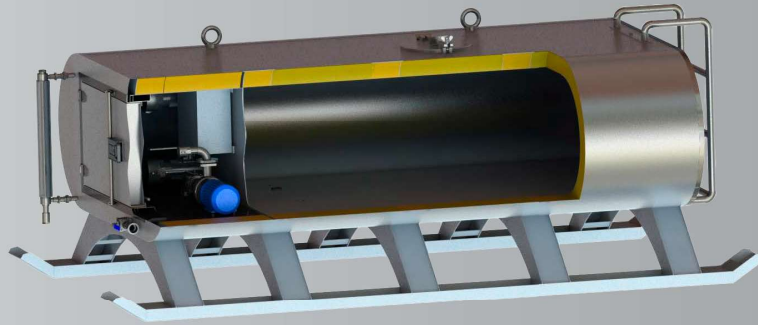
Drying unit is designed for separation of water and oil vapor from gas transferred to dry gas seals. The unit prevents condensate formation and contamination of working components, and extends service life of seals.

Buffer gas dryer was developed specifically for Gazprom-Tomsk to be used with gas compressors.

Main characteristics:

Characteristics	Value
Gas flow rate, m ³ /h	6 000
Filtration degree, µm	5
Purification degree of oil vapour , %	99,997
Power supply, kW	0,3
Temperature of purified medium, °C	+5 ... +75
Operating pressure, MPa	8
Life of filter element , hours	20 000

PRETREATMENT AND DOSING UNIT FOR CHEMICALS

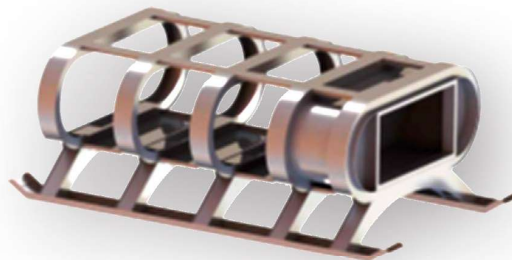


Dosing unit is used for pretreatment and dosing of the chemicals into the pipeline transportation system to prevent emulsion and decrease salt deposits on pipe surfaces as well as corrosion in oil and gas pipelines.

The unit finds a wide application, particularly on the oil and gas fields, chemical plants and paper mills.

Key features:

- Suitable for caustic chemical feed;
- Integrated dosing pump;
- High accuracy of injection;
- Fixed/portable design;
- Automatic/Manual control



ULTRASONIC CLEANING UNIT



Ultrasound unit is designed for cleaning of filter elements and filter bags of industrial cleaners in water solution.

Equipment can be used in oil and aircraft industries for cleaning of filter elements and components of aircraft engines as well as can be installed on the ships and vessels.

Working principle is based on constant circulation of washing solution at 35kHz frequency for more qualified cleaning of the filter elements.

Equipment configuration is totally custom made.

Accessories:

- Prewashing machine;
- Rinsing unit;
- Drying chamber;
- Rinses-cleaners.

Main characteristics:

Volume, l	0,5-500
Frequency of ultrasonic generator, kHz	18, 22, 25, 35, 44
Power of generator, W	55-14000
Controlled heating, °C	20-80
Power supply, V/Hz	220/50

CONTAINERIZED SYSTEMS

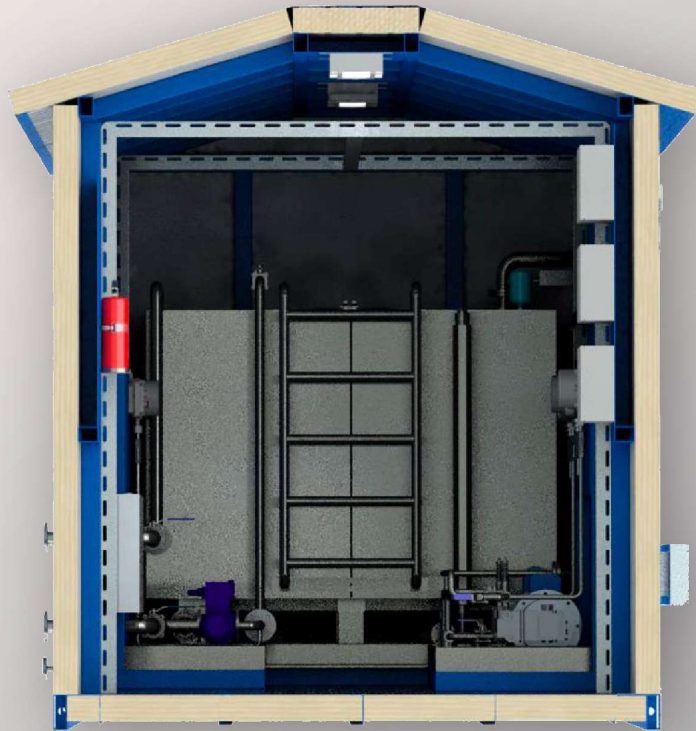


We design and produce containerized systems of various application (based on the standard ISO-containers) according to your requirements:

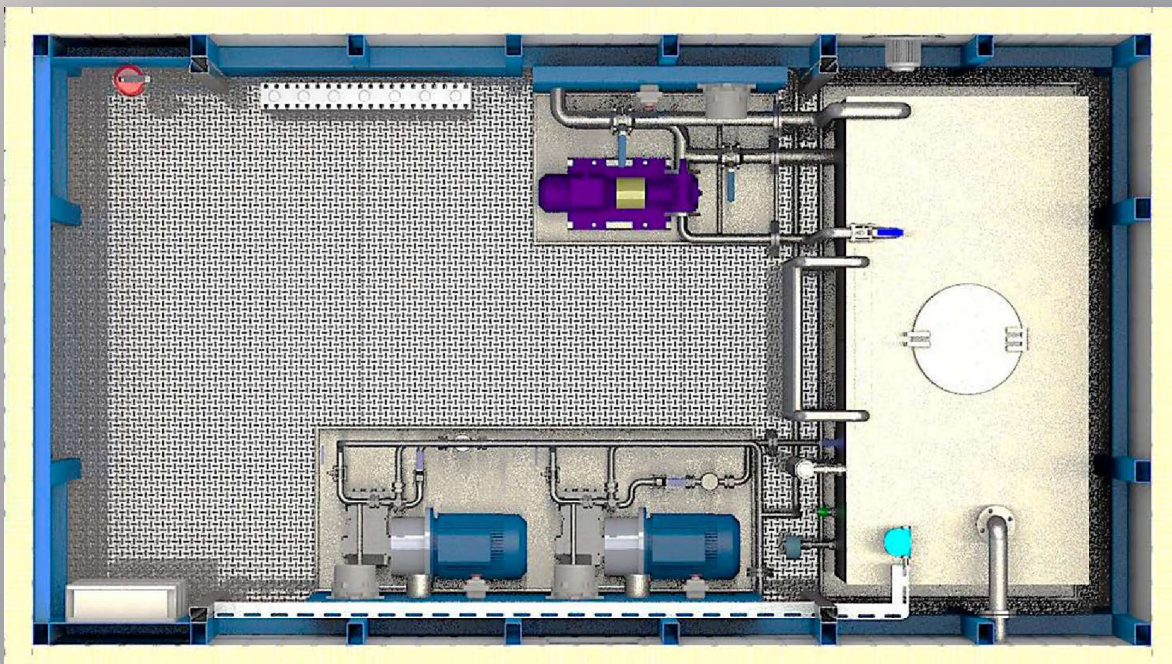
- Dosing units;
- Washing skids for axial and centrifugal compressors;
- Pump stations;
- Containers with special equipment.

Options:

- Explosion-proof design;
- Climatic modification;
- Layout of any customer's equipment.



Equipment layout for chemical injection skid



CHEMICAL PRODUCTION

Rinses and washing solutions:

- Sludge and carbonization removal;
- Salt deposits removal;
- Corrosion disposal and anti-corrosion coating;
- Antifreeze



Concentrate «NT-110»

Cleaning solution «NT-110» is used in oil and gas industry. Concentrate is designed for washing of the axial compressors of the gas turbines and surfaces exposed to carbonization.

Effective combined formulation contains nonionic inherently biodegradable surfactant substances.



Cleaning solution «NT-310»

Cleaning solution «NT-310» is designed for cleaning of axial compressors of the gas turbines, centrifugal compressors, tube plates of oil coolers, and other surfaces exposed to carbonization.

Effective combined formulation is based on hydrocarbon solution.



Cleaning solution «NT-250»

Cleaning inorganic solvent «NT-250» is a water solution of orthophosphoric acid with modifying additives. The solution is designed for cleaning of the centrifugal compressor impeller and other surfaces, that are exposed to high-mineralized formation waters from solid salt deposits - carbonate, hydrocarbon and sulfate deposits.



Antifreeze «NT-AF-410»

Antifreeze solution cleans surfaces from sludge and carbonization (based on concentrate «NT-110») at low temperature. Furthermore, solution is used as a washing agent for axial compressors of gas turbines. Content of «NT-AF-410» has no effect on the coatings and contact surfaces. Non-toxic.



OIL AND GAS EQUIPMENT



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