VINETA
ENGINEERING PLANT

Vineta Ltd., engineering plant

Product Catalog

www.vineta.ru/en

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About Us

Our enterprise has been designing and producing products for the navy and civil feet, ship repair, nuclear industry, transport and fuel and energy complex for more than 25 years.

The enterprise was founded on July 25th, 1996. Office premises and production facilities are located in Nikolskoe, Tosno district, Leningrad region.

The enterprise was founded by specialist in shipbuilding and repairing in order to meet current needs of shipbuilding and ship repairing yards in high-quality ancillary equipment: marine valves, filters, heat exchangers, fuel and water preparation and treatment systems, etc.

Within a relatively short period of its brisk growth, Vineta Ltd. has become fully-integrated state-of-the-art enterprise: from the design engineering up to the finished-product output, subject to the quality control at all production stages. It minimizes the quantity of the faulty products and increases the labour productivity in the whole.

We quickly and effectively respond to occurring demands of the industry and effectively adapt to fast-changing market conditions. The range of products, designed and produced by our enterprise, includes more than a thousand items.

At the time being we produce the following products in lots:

- Water treatment and preparation systems
- Heat exchangers
- Fuel preparation equipment
- Filters of various types
- Air and gas purification equipment
- Marine diesel engines
- Equipment of the water-supply systems
- Marine valves

Own design bureau, production areas, precision and high-performance state-of-the-art equipment, future-oriented technologies, as well as highly qualified personnel allow us to accept orders on non-standard equipment under specific requirements of our Customers.

We cooperate with leading Russian shipyards and design bureaus.

The enterprise was given 85,04 points and A category (low risk category) according to results of the audit of United Shipbuilding Corporation.

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Our products:

- Water treatment and preparation systems
- Filters of various types
- Fuel and oil preparation equipment
- Small vessels out of composite
- Air and gas purification equipment
- Heat exchangers
- Marine diesel engines
- Equipment of water-supply systems
- Marine valves
- Other equipment

1996
Year of foundation

21,5
Production and managerial premises, th. m²

1000+
Total range of products, more than

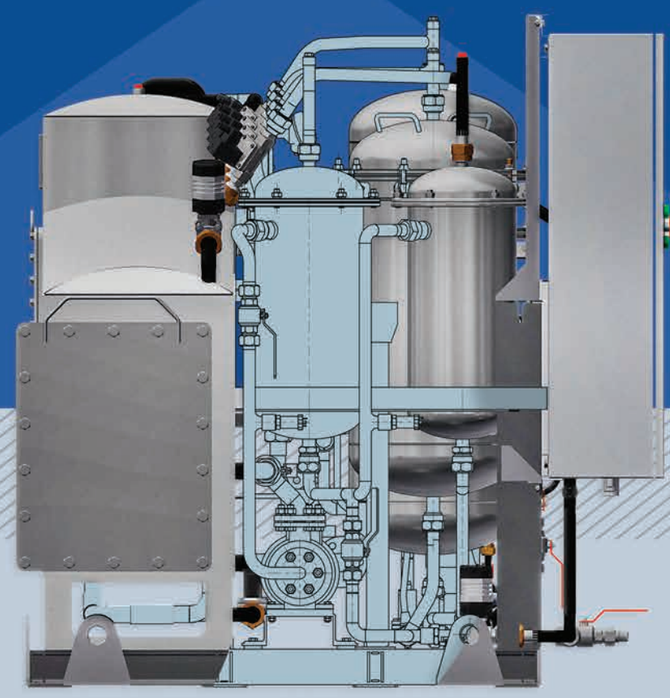
85,04
Points by USC's audit

Fully-integrated enterprise

- Own design bureau
- Manufacturing preparation
- Advanced machinery equipment
- Test and X-ray laboratory
- Product acceptance by QC department
- Packing and shipment

Water Treatment and Preparation Systems

- Fresh water desalination units
- Units to treat fresh water for domestic use
- Oily water separators СНЛВ type
- Waste water treatment units УОСВ type
- Sea water desalination unit УОМВ type
- Ballast water treatment systems СУБВ type



Fresh water desalination units

Function

- The unit is intended to desalinate fresh water

Technical data, main parameters and characteristics

Name	Value
Medium	fresh water under Sanitary Rules and Regulations 2.1.3684 and 1.2.3685 with initial salt content max 500 mg/l
Temperature, °C	from +5 up to +32
Fresh water flow rate, m³/day	max 13.0
WP, MPa	0.7 in fresh water unit
Capacity, m³/h	1.0
Desalinated water quality:	salt content – max 5 mg/l; water hardness (under ГОСТ 31865-2012) – max 4 dH
Required extreme inlet pressure, MPa	from 0.05 up to 0.10
Control board/location	yes/in-frame
Power, kW	Max 5.0
Dry weight, kg	300
L × W × H	1380 × 706 × 1600
Maintenance area (availability)	Yes/in-frame

Other technical requirement under the specification

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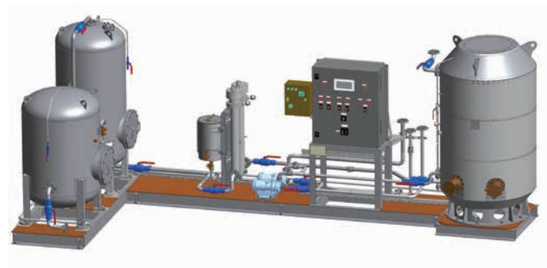
Units to treat fresh water for domestic use

Function

- The unit is intended to onboardly treat domestic fresh water and supply it to the consumers under applicable sanitary rules
- The unit secures the storage, distribution, chlorination, decontamination and heating of fresh water.
- The unit incorporates MB-50 mineralizer to fortify water with minerals
- The control and monitoring of parameters are carried out using the control board, located on the unit frame



Technical data, main parameters and characteristics

Name	Value
Medium	Fresh water for domestic use
Temperature, °C	up to +30
WP, MPa	0.4
Capacity, m³/h	cold water – 8.5; hot water – 1.0
Control board/location	yes/in-frame
Power, kW	42.0
Dry weight, kg	2110
L × W × H	5790 × 2500 × 2400
Maintenance area (availability)	yes

Oily water separators СНЛВ type

Function

- Oily water separator is intended to purify ship bilge water from oil products under requirements of MEPC.107 (49).
- It is a three-stage purification system, consisting of the following equipment installed and mounted in series on a single frame:
  - preliminary treatment unit,
  - intermediate filter,
  - fine filter,
  - single-screw pump,
  - NEVA-412 oil products content signaling device,
  - control board
- Approval of the Russian Maritime Register of Shipping

Technical data, main parameters and characteristics

Name	Value		
Index	СНЛВ-1,0	СНЛВ-2,5	СНЛВ-5,0
Medium	oily (bilge) water (the composition of the inlet medium to be purified is under the specification)		
Temperature, °C	upon the content of heavy oil products (black product), with its density max 980 kg/m³ - min +38; upon the content of light oil products (diesel fuel), with its density being max 830 kg/m³ - min +5		
WP, MPa	0.4	max 0.5	max 0.4
Capacity, m³/h	1.0	2.5	5.0
Control board/location	yes/in-frame		
Dry weight, kg	1000	770	1370
L / W / H	1730 / 1505 / 1560	1300 / 1200 / 1500	1500 / 1815 / 1720
Power, kW	2.5	7.0	10.0

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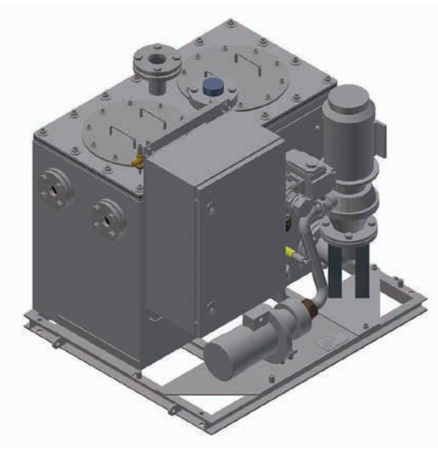
Waste water treatment units УОСВ type

Function

- The unit is designed to disinfect bilge wastewater and galley room water
  - The unit secures continuous automatic operation;
  - Complies with the requirements of MEPC 227 (64);
  - Approval of the Russian Maritime Register of Shipping.



Technical data, main parameters and characteristics

Name	Value		
Index	УОСВ 10	УОСВ 21	УОСВ 50
Type of the unit	Physico-chemical		
Type of the disinfectant	35% hydrogen dioxide		
Medium	Black- and greywater, sea water		
Capacity, m³/day, min	10	21	50
Power, kW, max	2.5	3.0	7.0

Sea water desalination unit YOMB type

Function

- The unit is intended to prepare portable quality water out of sea water.

Advantages:

- Continuous automatic operation;
- Remote control;
- The climatic version is OM4 as per ГОСТ 15150 to operate under ambient temperature up to +50 °C and relative humidity of 98%;
- Desalinated water complies with the requirements of Sanitary Rules and Norms 2.1.3684-21.

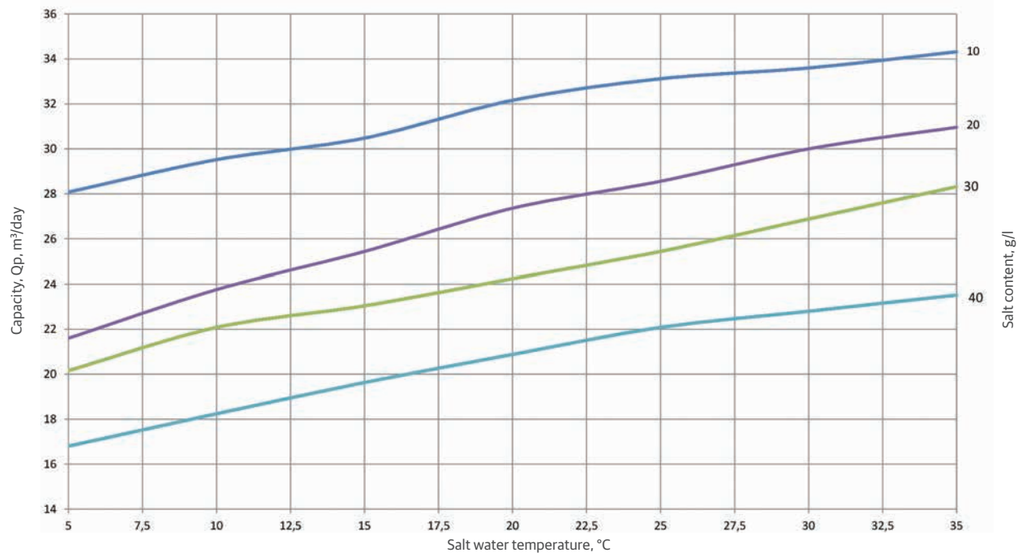
Technical data, main parameters and characteristics

Index	YOMB-005.10.01	YOMB-015.10.01	YOMB-030.10.01
Fresh water capacity, m³/day	5[1)]	15[1)]	30[1)]
Medium	sea water		
Temperature, °C	-2 ...+ 32		
Flow rate, m³/h	2.7	3.5	10.0
WP in the desalination unit, MPa	6.5		
Max sea water salt content, g/l	42		
Required inlet excessive pressure, MPa	from 0.25 up to 0.6		from 0.25 up to 0.5
Control board/location	yes/separately	yes/in-frame	yes/separately
Power, kW	4.0	4.3	12.3
Dry weight, kg	300	460	734
L / W / H	1128 / 676 / 774	1200 / 864 / 1021	1300 / 888 / 800
Maintenance area (availability)	yes		

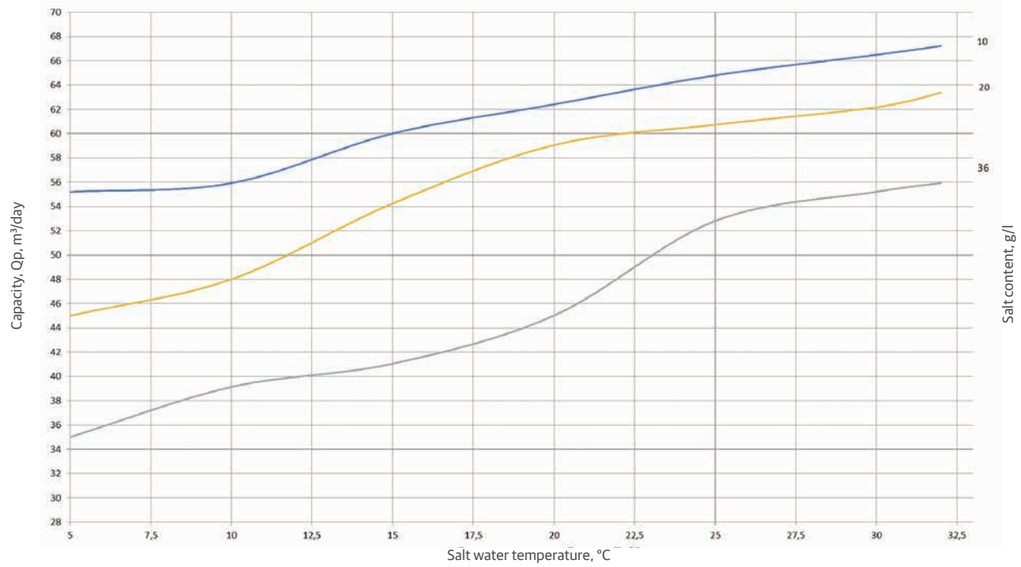
[1)] Standard terms for the capacity calculation:

- sea water salt content — 36 g/l
- sea water temperature — +5 °C

The capacity of units under conditions other than standard ones is shown in diagrams (see Pic. 1 and 2).
Other technical requirements are under the specification.



Pic. 1. Dependence of YOMB-015.10.01 capacity on the sea water temperature and salt content



Pic. 2 Dependence of YOMB-030.10.01 capacity on the sea water temperature and salt content

Ballast water treatment systems СУББВ type

Function

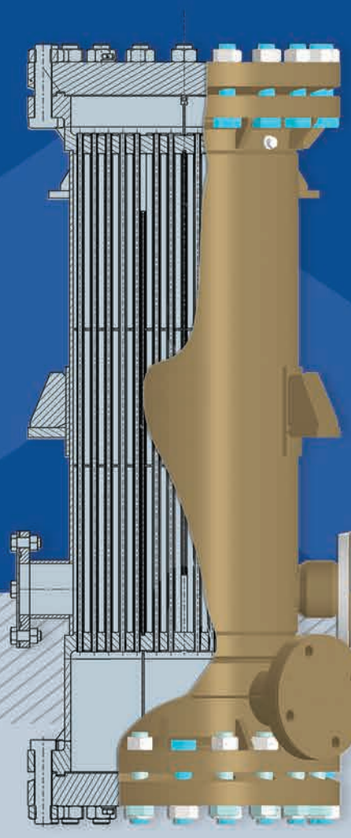
- The system is intended to purify the ballast water;
- Purification method is the ozone treatment;
- It complies with the D2, D3 rules of International Convention for the Control and Management of Ships' Ballast Water and Sediments (2004);
- It is equipped with the control board and monitoring panel.

Technical data, main parameters and characteristics

Name	Value				
Capacity, m³/h	160	250	500	1000	3000
Hydraulic resistance, MPa (kgf/cm²), max	0.05 (0.5)				
Filtration degree, mcm	50				
Max WP, MPa (kgf/cm²)	0.6 (6.0)				
Power: - Frequency, Hz - Voltage, V	50 380				

Heat-exchange Equipment

- Coolers ОКП type
- Coolers ОКН type
- Coolers ОПВ type
- Charge air coolers
- Marine steam oil heaters ПМ type
- High-speed water heaters ПС type
- Capacitive water heaters ПЕ type
- High-speed water heaters ПЭ, ППЭ type
- Flow-through hot-water heater ПВ-15
- Exhausted steam condensers ХВ type
- Exhausted steam condensers ХВ200 type
- Air-steam drier
- Flow-through oil heater ПМП-1500



Coolers ОКП type

Index	ОКП 3,4-170		ОКП 17-420		ОКП 29-420		ОКП 58-600		ОКП 90-700		ОКП 190-920					
Medium to be cooled	Fresh water		Steam-turbine oil Тп-46 ГОСТ 9972-74 or Т46 ТУ38-101251-77		Gas turbine oil ГОСТ 10289-79		Steam-turbine oil Тп-46 ГОСТ 9972-74 or Т46 ТУ38-101251-77	Steam-turbine oil ГОСТ 10289-79	Steam-turbine oil Тп-46 ГОСТ 9972-74 or Т46 ТУ38-101251-77		65% mixture of steam-turbine oil ГОСТ 10289-79 and 35% mixture of МС-20 oil ГОСТ 21743-76		Steam-turbine oil Тп-46 ГОСТ 9972-74		Fresh water	
Inlet temperature of the medium to be cooled, °C	36	90	55	130	120	130	55	130	70	130	70	90	72	93	63	72
Outlet temperature of the medium to be cooled, °C	22	52	35	58	50	58	35	58	38	58	40	50	42	53	35	40
Flow of the medium to be cooled, kg/sec (t/h)	0.83 (3.0)	1.3 (5.0)	2.7 (10.0)		2.7 (10.0)		13.8 (50.0)		11.0 (40.0)		27.7 (100.0)	38.8 (140.0)	27.7 (100.0)	38.8 (140.0)	29.1 (105.0)	50.0 (180.0)
Pressure of the medium to be cooled, MPa (kgf/cm²)	1.0 (10.0)		1.0 (10.0)		1.0 (10.0)		0.6 (6.0)		1.0 (10.0)		1.0 (10.0)					
Inlet temperature of the cooling medium, °C	15	28	20	30	20	30	20	30	20	30	20				25	
Flow of the cooling medium, kg/sec (t/h)	2.78 (10.0)	4.17 (15.0)	6.9 (25.0)	10.8 (39.0)	11.1 (40.0)		27.7 (100.0)	44.4 (160.0)	19.4 (70.0)	44.5 (160.0)	55.5 (200.0)			83.3 (300.0)	111.0 (400.0)	
Pressure of the cooling medium, MPa (kgf/cm2)	0.6 (6.0)															
Overall dimensions, L × W × H, mm	1395 × 290 × 335		1351 × 600 × 730		1760 × 600 × 730		1974 × 780 × 931		2015 × 900 × 1055		2450 × 1170 × 1290					
Weight, kg	144		509		633		1246		2110		3570					

Coolers ОКН type

Index	ОКН 0,2-74-1МД			ОКН 2,5-170-2МД				ОКН 7,5-310-1		ОКН 9,7-420-1
Medium to be cooled	Oil and hydraulic oil		Fresh and distilled water	Spindle improved petroleum-based plain mineral oil, hydraulic fire resistant fluid		Fresh water		Fresh water		Fresh water
Mode	1	2	3	1	2	3	4	1	2	1
Inlet temperature of the medium to be cooled, °C	57.0	70.0	80.0	60.0	40.0	18.5	36.0	90.0		60.0
Outlet temperature of the medium to be cooled, °C	55.0	65.0	75.0	40.0	35.0	15.0	22.0	76.0	73.0	55.0
Flow of the medium to be cooled, kg/sec (t/h)	0.4(1.5)	0.4(1.5)	0.4(1.5)	1 (3.6)	1.3 (4.8)	0.8 (3.2)	0.83 (3.0)	8.3(30.0)		25.0(90.0)
Pressure of the medium to be cooled, MPa (kgf/cm²)	0.6(6.0)			1.0(10.0)				0.6(6.0)		1.0(10.0)
Cooling medium	Sea water									
Inlet temperature of the cooling medium, °C	32	30	28	20	10	9	15	32	30	28
Flow of the cooling medium, kg/sec (t/h)	0.8(2.8)	0.8(2.8)	0.8(2.8)	2.7(10.0)	0.5 (2.0)	1.9(7.0)	2.7 (10.0)	min 8.3 (30.0)	13.8(50)	19.4 (70)
Pressure of the cooling medium, MPa (kgf/cm²)	4.3(43.0)			4.3(43.0)				0.6(6.0)		0.6(6.0)
Overall dimensions, L × W × H, mm	559 × 188 × 169			1000 × 290 × 340				954 × 460 × 530		1125 × 600 × 725
Weight, kg	27.5			129				265		413

Coolers OKH type

Index	OKH 9,7-420-2							OKH 15,8-420-1		OKH 15,8-420-1П		
Medium to be cooled	Fresh water							Distilled water ГОСТ 6709		Distilled water ГОСТ 6709		
Mode	1	2	3	4	5	6	7	1	2	1	2	3
Inlet temperature of the medium to be cooled, °C	85				60		75	47	38	51.7	53.7	56
Outlet temperature of the medium to be cooled, °C	44	55	45	54	55	56	60	36	35	45		
Flow of the medium to be cooled, kg/sec (t/h)	2.2(8.0)				25.0(90)		11.1(40)	4.1(15)	6.9 (25)	4.1 (15)	4.1(15)	4.1(15)
Pressure of the medium to be cooled, MPa (kgf/cm²)	1.0(10.0)							1.0(10.0)		1.0(10.0)		
Cooling medium	Sea water									Fresh water		
Inlet temperature of the cooling medium, °C	28	28	30	21.4	28	32	28	28	30	40		
Flow of the cooling medium, kg/sec (t/h)	17.5(63)	16.4(59)	17.5(63)	17.5(63)	19.4 (70)	19.4(70)	11.1(40)	8.3 (30)	6.9(25)	23(6.4)	8.3 (30)	7.5(27)
Pressure of the cooling medium, MPa (kgf/cm²)	0.6(6.0)							4.3(43.0)		4.3(43.0)		
Overall dimensions, L × W × H, mm	1125 × 600 × 725							1080 × 600 × 650		1125 × 600 × 650		
Weight, kg	418							613		591		

Coolers OKH type

Index	OKH 26,9-420-1	OKH 26,9-420MK		OKH 28,6-600-1	OKH 108-700-2
Medium to be cooled	Distilled water ГОСТ 6709	Hydraulic oil Тп-46 ГОСТ 9972-74 or Т46		Fresh water	High-purity water
Mode	1	1	2	1	1
Inlet temperature of the medium to be cooled, °C	40.5	56	70	60.0	12.0
Outlet temperature of the medium to be cooled, °C	34.0	37	45	55.0	8.0
Flow of the medium to be cooled, kg/sec (t/h)	15.0(54.0)	5.27(19.0)		(38.8)140.0	22.2(80.0)
Pressure of the medium to be cooled, MPa (kgf/cm²)	1.0(10.0)	0.6(6.0)		0.6(6.0)	1.0(10.0)
Cooling medium	Sea water	Fresh water		Sea water	Sea water
Inlet temperature of the cooling medium, °C	28.0	32		28.5	7.0
Flow of the cooling medium, kg/sec (t/h)	22.2(80.0)	27.7(100.0)	10.25(37.0)	27.7(100.0)	83.3(300.0)
Pressure of the cooling medium, MPa (kgf/cm²)	4.3(43.0)	1.0(10.0)		1.0(10.0)	0.6(6.0)
Overall dimensions, L × W × H, mm	1560 × 600 × 725	1619 × 921 × 881		1645 × 780 × 936	2262 × 900 × 1056
Weight, kg	758	608		1013	2251

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Coolers OKH type

Index		OKH 220-1050-3						OKH 376-1050-1					
Mode		1	2	3	4	1	2	3	4	1	2	3	4
Cooling medium		Hydraulic oil Tn-46 ГОСТ 9972	Fresh water	Hydraulic oil Tn-46 ГОСТ 9972 or Т46 ОСТ 38.01281		Hydraulic oil Tn-46 ГОСТ 9972 or Т46 ОСТ 38.01281	Fresh water	Hydraulic oil Tn-46 ГОСТ 9972 or Т46 ОСТ 38.01281		Hydraulic oil Tn-46 ГОСТ 9972 or Т46 ОСТ 38.01281	Fresh water	Hydraulic oil Tn-46 ГОСТ 9972 or Т46 ОСТ 38.01281	
Inlet temperature of the medium to be cooled, °C		60	72	70	72	59	72	70	72	55	72	63	72
Outlet temperature of the medium to be cooled, °C		42	40	50	40	42	40	50	40	38	40	35	40
Flow of the medium to be cooled, kg/sec (t/h)		50(180.0)			50(180.0)	50(180.0)			50(180.0)	55.5(200.0)		29.1(105.0)	50(180.0)
Pressure of the medium to be cooled, MPa (kgf/cm²)		1.0(10.0)				1.0(10.0)				0.11(1.1)			
Cooling medium		Sea water											
Inlet temperature of the cooling medium, °C		25			25	25			25	25			25
Flow of the cooling medium, kg/sec (t/h)		83.3(300.0)	111.1(400.0)	125(450.0)		83.3(300.0)	111.1(400.0)	125(450.0)		97.2(350.0)		111.1(400.0)	
Pressure of the cooling medium, MPa (kgf/cm²)		0.6(6.0)				0.6(6.0)				0.012(0.12)			
Overall dimensions, L × W × H, mm		3045 × 1310 × 1398				3045 × 1310 × 1398				4630 × 1310 × 1398			
Weight, kg		4337				5266				5703			

Coolers ОПВ type

Function and Technical data

- The cooler is intended to cool oil, hydraulic systems liquids, fresh and distilled water, as well as sea water in systems of marine power stations, auxiliary and other systems of ships and vessels

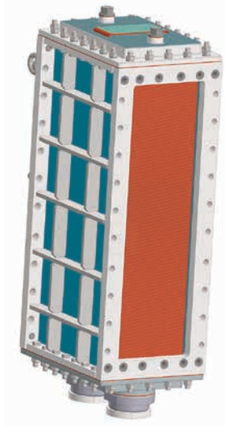
Technical data, main parameters and characteristics

Index	ОПВ 14-3		ОПВ-17		ОПВ-47	ОПВ-135		ОПВ-155
	mode 1	mode 2	mode 1	mode 2		mode 1	mode 2	
Medium to be cooled	Fresh water		Fresh or distilled water		Fresh or distilled water	Fresh water		
Inlet flow of the medium to be cooled, m³/h	30	50	22.4	28	100	200	150	105
Inlet temperature of the medium to be cooled, °C	42	43	37.7	48	42	40	37.7	from +40 up to +82
Outlet temperature of the medium to be cooled, °C	38	37	35	42.5	38	36	25	–
Outlet temperature of the cooling medium, °C	from -2 up to +33		from -2 up to +32	from +22 up to +36	32	32	20	from -2 up to +32
Inlet flow of the cooling medium, m³/h, max	30	50	30		100	100	200	
Design (operating) pressure of the cooling medium, MPa (kgf/cm²), max	6.0 (60.0)		6.4 (64.0)	0.5 (5.0)	6.4 (64.0)			8.5 (85)
Design (operating) pressure of the medium to be cooled, MPa (kgf/cm²), max	0.4 (4.0)		0.7 (7.0)		1.0 (10)			
Hydraulic resistance of the medium to be cooled, MPa (kgf/cm²), max	0.03 (0.3)	0.065 (0.65)	0.014 (0.14)	0.02 (0.2)	0.05 (0.5)	0.08 (0.8)		0.07 (0.7)
Hydraulic resistance of the cooling medium, MPa (kgf/cm²), max	0.035 (0.35)	0.075 (0.75)	0.023 (0.23)	0.02 (0.2)	0.06 (0.6)	0.016 (0.16)	0.003 (0.03)	0.017 (0.17)
Heat-transfer surface, m²	13.7		16.7		45-50	135		155
OD and WT of the heat-exchange tube, mm	10x1.5					14x1.5		
Q-ty of heat-exchange tubes, pcs.	538		788		876	1866		664
Weight, kg	335/445		430		763	2500/3650		3778/4958
Overall dimensions, mm	565×580×1265		1303×717×718		2475×717 ×842	2965×1150 ×1246		3350×1180 ×1100

Charge air coolers

Function and Technical data

- The charge air cooler is intended to cool charge air in the diesel-generator set.



Technical data, main parameters and characteristics

Index	2ОНВ.000-01 ОМ4	2ОНВ.000-06-02 ОМ4	6ДМ-185ВС
Medium to be cooled		Charge air	
Flow of the medium to be cooled, kg/sec (kg/h)	0.7(2700)	1(3600)	1.4(5040)
Inlet temperature of the medium to be cooled, K(°C)	423(150)	433(160)	543(270)
Outlet temperature of the medium to be cooled, K(°C)	348(75)		338(65)
Inlet relative pressure of the medium to be cooled, kPa (kgf/cm²)	118(1.2)	186(1.9)	534(5.34)
Pressure drop in the cavity of the medium to be cooled, kPa (kgf/cm²)	5(0.5)		
Cooling medium	Sea water		Cooling fluid of the fresh water circuit of the engine cooling system
Flow of the cooling medium, kg/sec (kg/h)	5.6(20000)		6.5
Inlet temperature of the cooling medium, K (°C)	313(40)		323(50)
Inlet relative pressure of the cooling medium, kPa (kgf/cm²)	245(2.5)		620(6.2)
Pressure drop in the cavity of the cooling medium, kPa (kgf/cm²)	44.1(0.45)		30(0.3)
Overall dimensions,L×W×H, mm	370×310×510	370×310×610	258×190×625
Weight, kg	115	130	95

Marine steam oil heaters ПМ type

Function and Technical data

- Marine steam oil heaters ПМ type are intended to heat oil in oil separation systems as well as for other purposes in electric power installations of ships and watercrafts.
- Principle of operation: the medium to be heated enters the tube cavity, washed with the steam, is heated to a certain temperature and delivered to the consumer.
- Type: shell-and-tube with U-shaped heat-exchange tubes.
- Medium to be heated: М16Д and М-16Е30 engine oil, Т57 turbine oil, spindle improved petroleum-based plain mineral oil.
- Heating medium: saturated steam.

Technical data, main parameters and characteristics

Index	ПМ 1,7Г	ПМ 6,5В	ПМ 15-В-10М-1
Medium to be heated in the tubular space	Oil		
Inlet temperature of oil, °C	15	30	30
Outlet temperature of oil, °C	75	90	90
Design (operating) pressure of oil, MPa (kgf/cm^2), max	0.8(8)		
Heating medium in the intertubular space	Saturated steam		
Data on the heating medium:			
Design (operating) pressure of saturated steam, MPa (kgf/cm^2), max	1.6(16)		
General data			
OD and WT of heat-exchange tube, mm	12x1.5		
Heat-transfer surface, m²	1.74	6.46	14.7
Q-ty of heat-exchange tubes, pcs.	30	90	159
Overall dimensions, L×W×H, mm	985×374×420	1373×506×618	1613×621×641
Weight, kg	105	315	484

High-speed water heaters ПС type

Function and Technical data

- High-speed water heaters ПС type are intended to heat fresh washing water;
- Heaters are part of the equipment of sanitary and amenity facilities (shower and wash rooms, galleys, sculleries);
- Type: shell-and-tube;
- Heating element is of a helical spiral form;
- Operating position: vertical;
- Heating medium: dry saturated steam.

Technical data, main parameters and characteristics

Index	Designation	Medium	Type	Weight, kg (dry/active)	Capacity under the differential pressure of 60 °C, l/h, max	Flow of dry saturated steam under the max capacity, kg/h
ПС 700 ст	ИУШД.065157.001	Fresh water	Shell-and-tube	9/10	700	90
ПС 700 цП	ИУШД.065157.001-01	Fresh water	Shell-and-tube		700	90
ПС 700 мП	ИУШД.065157.001-09	Fresh water	Shell-and-tube		700	90
ПС 700 цМ	ИУШД.065157.001-10	Sea water	Shell-and-tube		700	90
ПС 700 мМ	ИУШД.065157.001-11	Sea water	Shell-and-tube		700	90
ПС 1100 ст	ИУШД.065157.001-02	Fresh water	Shell-and-tube	10/12	1100	140
ПС 1100 цП	ИУШД.065157.001-03	Fresh water	Shell-and-tube		1100	140
ПС 1100 мП	ИУШД.065157.001-08	Fresh water	Shell-and-tube		1100	140
ПС 1100 цМ	ИУШД.065157.001-06	Sea water	Shell-and-tube		1100	140
ПС 1100 мМ	ИУШД.065157.001-07	Sea water	Shell-and-tube		1100	140
ПС 1900 ст	ИУШД.065157.001-04	Fresh water	Shell-and-tube	11/14	1900	230
ПС 1900 цП	ИУШД.065157.001-05	Fresh water	Shell-and-tube		1900	230
ПС 1900 мП	ИУШД.065157.001-12	Fresh water	Shell-and-tube		1900	230
ПС 1900 цМ	ИУШД.065157.001-13	Sea water	Shell-and-tube		1900	230
ПС 1900 мМ	ИУШД.065157.001-14	Sea water	Shell-and-tube		1900	230

Capacitive water heaters ПЕ type

Function and Technical data

- Capacitive water heaters ПЕ type are intended to heat washing and fresh drinking water;
- Heaters are part of the equipment of sanitary and amenity facilities;
- Type: shell-and-tube with U-shaped heat-exchange tubes;
- Upon the installation, heaters are of two versions — horizontal and vertical;

Technical data, main parameters and characteristics

Index	ПЕ 200 Вк	ПЕ 200Г лев. К	ПЕ 500Г лев. К	ПЕ 500Г пр. К
Medium to be heated	Washing and drinking water			
Capacity, l/h, max - under the temperature drop of 60 °C; - under the temperature drop of 35 °C;	3000 5000		8000 13000	
Outlet temperature of water, °C	90			
Max water pressure, MPa (kgf/cm^2)	0.65(6.5)			
Heating medium in the intertubular space	Saturated steam			
Data on the heating medium:				
Steam pressure at the max capacity, MPa (kgf/cm²)	0.5(5.0)			
Flow of dry saturated steam under the max capacity, kg/h	370		980	
OD and WT of heat-exchange tube, mm	16×1,5			
Heat-exchange surface, m²	3.7		8.05	
Overall dimensions, L×W×H, mm	1850×795×720	1715×720×916	2038×897×1117	2038×897×1117
Weight, kg	280		512	
Active weight, kg	480		1012	

High-speed water heaters ПЭ, ППЭ type

Function and Technical data

- Water heaters ПЭ, ППЭ type are intended to heat washing and fresh drinking water

Technical data, main parameters and characteristics

Index	Volume, l	Voltage, V	Power, kW	Volumetric flow rate, l/h, under the temperature drop	
				35 °C	60 °C
ПЭ 100/12	100	220/380	12	295	175
ПЭ 100/24	100	220/380	24	590	345
ПЭ 100/35	100	220/380	34.8	850	500

Index	Volume, l	Characteristics of the steam heating			
		Volumetric flow rate, l/h, max, under the temperature drop		Pressure of dry saturated steam under max capacity, MPa	Flow of dry saturated steam under max capacity, kg/h
		35 °C	60°C		
ППЭ 100/24	100	1700	1000	0.5(5.0)	120
ППЭ 100/35	100	1700	1000	0.5(5.0)	120
ППЭ 200/35	200	5000	3000	0.5(5.0)	370
ППЭ 500/35	500	1300	8000	0.5(5.0)	980
ППЭ 500/70	500	1300	8000	0.5(5.0)	980

Characteristics of the electric heating			
Power, kW	Voltage, V	Volumetric flow rate, l/h, under the temperature drop	
		35 °C	60°C
12	220/380	295	175
24	220/380	590	345
34.8	220/380	850	500
34.8	220/380	850	500
35	220/380	850	500
70	220/380	1700	1000

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Flow-through hot-water heater ПВ-15

Function and Technical data

- The hot-water heater is intended to prepare hot water for sanitary and daily living needs.

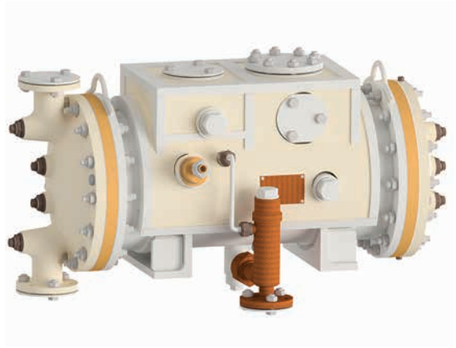
Technical data, main parameters and characteristics

Index	ПВ-15
Designation	ИУШД.065115.082
Power, kW	15
Medium	Fresh water under Sanitary Regulations and Standards 1.2.3685-21
Operating pressure, WP, max, MPa (kgf/cm²)	0.45(4.5)
Capacity, max, l/min	5±0,5
Max outlet temperature of the water to be pumped, °C	65±5
Voltage, V	380
Weight, kg - dry - active	 64 85
Protection degree	IP44
Overall dimensions, L×W×H, mm	510×336×525

Exhausted steam condensers XB type

Function and Technical data

- Exhausted steam condensers are installed on ships of all types and purposes, and are intended to condensate steam and cool condensate.



Technical data, main parameters and characteristics

№	Name	XB 4.3			XB 9.1			
		Modes						
		1	2	3	1	2	3	4
1	Steam, entering the condenser:							
	Flow rate, kg/h	450	–	600	2100	2300	2700	5600
	Max pressure, MPa (kg/cm²)	0.5 (5.0)	–	0.5 (5.0)	0.3 (3.0)	–	–	0.3 (3.0)
2	Condensate, entering the condenser:							
	Flow rate, kg/h	600	1900	–	2700	3000	1640	–
3	Outlet temperature of the condensate, K, °C	343 (70)			318 (45)			353 (80)
4	Pressure, MPa (kg/cm²)	0.1 (1.0)			0.015 (0.15)			0.1 (1.0)
5	Cooling water:							
	Flow rate, kg/h	1000			150 000			170 000
	Pressure, MPa (kg/cm²)	0.35 (3.5)			0.3 (3.0)			
	Inlet temperature, K, °C	301 (28)			291 (18)			305 (32)
6	Cooling area, m²	4.5			23.1			
7	Size of heat-exchange tubes of the cooler (OD, WT), mm	16 × 1.5 16 × 1.0						
8	Q-ty of heat-exchange tubes							
	16 × 1,5	15			35			
	16 × 1,0	123			311			

Exhausted steam condensers XB200 type

Function and Technical data

- Condensers are installed on ships of the unrestricted navigation and intended for the steam condensation and condensate depression.
- Type – surface integral condenser with flat tubes, two-way as per the cooling medium.

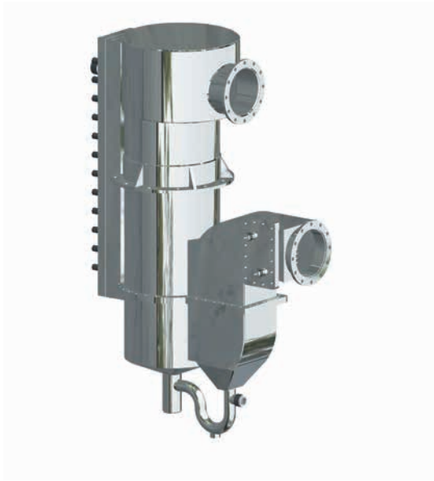
Technical data, main parameters and characteristics

№	Name	Mode		
		I	II	III
1	Steam, entering the condenser:			
	Flow rate, kg/h	24.0		24.0
	Temperature before the humidification, °C	265		300
2	Exhausted steam, entering the condenser:			
	Flow rate, kg/h	2.5	2.5	2.5
	Max possible flow rate, t/h	–	5.0	5.0
	Inlet temperature, °C	185	185	185
	Pressure, MPa (kgf/cm²)	0.103 (1.03)	0.103 (1.03)	0.103 (1.03)
3	Condensate for humidification:			
	Flow rate, kg/h	2.0		3.96
	Pressure, MPa (kgf/cm²)	0.5–0.7 (5–7)		0.5–0.7 (5–7)
4	Outlet temperature, °C	65		
5	Pressure in the condenser	atmospheric		
6	Max pressure, defined by the setting of the relief valve on the steam-supply pipeline, MPa (kgf/cm²)	0.4 (4.0)		
7	Cooling medium:	sea water		
	Flow rate, kg/h	800.0	500.0	600.0
	Pressure, MPa (kgf/cm²)	0.4 (4.0)	0.4 (4.0)	0.4 (4.0)
	Inlet temperature, °C	33	21	23
	Permissible pressure loss, MPa (kgf/cm²), max	0.035 (0.35)	0.035 (0.35)	0.035 (0.35)
8	Cooling surface, m²	176.2		
9	Heat-exchange tubes:			
	Size (OD × WT), mm	16 × 1.5		
	q-ty, pcs.	1754		
10	Dry weight, kg, max	5000		
11	Active weight, kg, max	6100		

Air-steam drier

Function and Technical data

- Air-steam driers are intended to dry air-steam mixture in the air cleaning system, emitted by apparatuses of main and auxiliary unit assemblies as well as of refrigerating units.



Technical data, main parameters and characteristics

Index	OBC 1-2	OBC 4/4
Mass flow rate of the air-steam mixture, kg/h (kg/sec)	380(0.1)	298.8(0.083)
Mass flow rate of steam vapor of the air-steam mixture, kg/h (kg/sec)	60(0.016)	29.88-34.92(0.0083-0.0097)
Inlet temperature of the air-steam mixture, °C	10-70	65
Inlet pressure of the air-steam mixture, MPa (kgf/cm²)	0.004-0.04(0.04-0.4)	–
Absolute inlet pressure of the air-steam mixture, MPa (kgf/cm²)	–	0.125(1.25)
Outlet parameters of air: a) temperature, °C b) humidity, %, max c) absolute moisture load, g/kg, max	 28-35 70 –	 45 94 33
Mass flow rate of the moisture, extracted out of the mixture, discharged out of the drier, kg/h, max	56	–
Mass flow rate of the cooling water, kg/sec (kg/h)	0.97(3500)	1.39(5004)
Heat flux in the cooler, W (kcal/h)	46520(40000)	–
Temperature of the cooling water, °C: - specified - permissible	– 	 15 22

Технические данные, основные параметры и характеристики

Index	OBC 1-2	OBC 4/4
Inlet temperature of the cooling water,°C	5-9	–
Cooling area, m²	7.1	–
Pressure of the cooling water, MPa (kgf/cm²)	4.0 (40.0)	1.0 (10.0)
Heat flux in the heater, W (kcal/h)	2093	–
Heating surface area, m²	0.073	–
Pressure resistance of the water loop of the drier, MPa (kgf/cm²)	–	0.04-0.01 (0.4-0.1)
Air flow resistance of the air-steam loop, MPa (kgf/cm²)	–	0.007 (0.7)
Heat duty of the heater, W	–	290.7
Size of heat-exchange tubes (OD×WT), m	–	0.16×0.001
Q-ty of heat-exchange tubes, pcs.	–	151
Heat duty of the cooler, W	–	24450
Mass flow rate of the heating steam, kg/h	3.3	–
Pressure of the heating steam, MPa (kgf/cm)	0.2-1.5 (2-15)	–
Temperature of the heating steam, °C	270-300	–
Size of heat-exchange tubes of the cooler (OD×WT), m	–	0.01×0.001
Q-ty of heat-exchange tubes of the cooler, pcs.	–	400
Total heat exchange surface area, m²	–	4
Weight, kg: Dry Active	 239 245	 413 453
Allowable weight variation, %	From + 2,5 up to - 6,0	

Flow-through oil heater ПМП-1500

Function and Technical data

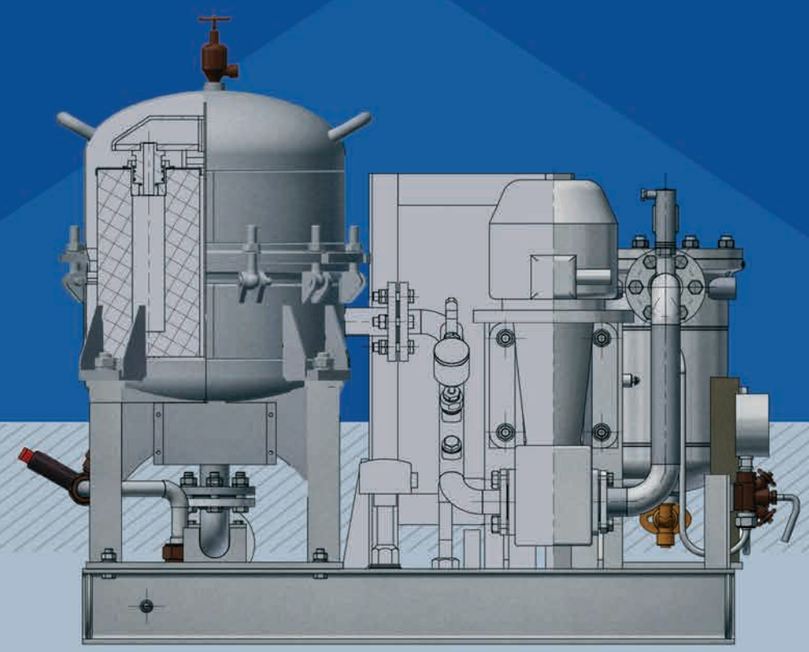
- The heater is intended to heat hydraulic oil

Technical data, main parameters and characteristics

Index	ПМП-1500
DN	32
Capacity, m³/h	1.5
Medium	Л3-КТ3 oil spec. 0253-021-5694358; Б-3В oil spec. 38.101295; Тп-22, Тп-30, Тп-46 hydraulic oil ГОСТ 9972
Operating pressure, MPa	0.4
Temperature of the medium, °C	Inlet: from +5 up to +20; Outlet: from +55 up to +70
Power, kW	39
Overall dimensions, LxWxH,mm	448×281×775
Dry weight, kg	89
Control board/location	Yes/separately
Maintenance area (availability)	Removal height of heating elements

Fuel preparation equipment

- Fine fuel filter – separator ФСТ type
- Fuel filter ФТ type
- Diesel fuel separation unit БС type
- Diesel fuel static automatically controlled separation unit ССАФ type
- Oil separation unit БСМп type
- Б-3В and Л3-КТ3 oil separation unit БСП-02 type
- Oil separation unit with heating БСП-01 type



Fine fuel filter – separator ФСТ type

Function and Technical data

- The filter-separator is intended for the separation and fine cleaning of diesel fuel, gas turbine, hydraulic and motor oil from mechanical impurities, water and biofouling.
- Medium:
  - diesel fuel under ГОСТ 305;
  - Тп-22, Тп-46 hydraulic oils under ГОСТ 9972;
  - motor oils for diesel engines under ГОСТ 12337;
  - oil for marine gas turbine under ГОСТ 10289
- Temperature of the medium, °C:
  - fuel: from +5 up to +60
  - oil: up to + 80

Technical data, main parameters and characteristics

Name	Value		
Index	**ФСТ40/10**	**ФСТ50/10**	**ФСТ50/4**
DN	40	50	50
L / W / H	458 / 547 / 785	730 / 760 / 842,5	630 / 660 / 960
Dry weight, kg	72	140	123,1
Filtration degree, mcm	5,0		
WP, MPa	1.0	1.0	0.4
Capacity, m³/h	fuel: 3,0 oil: 1,5	fuel: 5,0 oil: 2,5	fuel: 5,0 oil: 2,5
Water removal efficiency (initial content up to 3%)	trace amount of water		
Maintenance area (availability)	height of the filter elements' removal		
Control board	–	yes/separately	–

Fuel filter ФТ type

Function and Technical data

- The filter is intended for the separation and fine cleaning of diesel fuel from mechanical impurities, water and biofouling.
- Medium:
  - diesel fuel under ГОСТ 305; ГОСТ 32511; ГОСТ Р 52368
- Temperature of the medium, °C:
  - max +62

Technical data, main parameters and characteristics

Name	Value
Index	ФТ80/25-15
DN	80
L / W / H	1030 / 1330 / 1780
Dry weight, kg	750
Filtration degree, mcm	15
WP, MPa	0.4
Capacity, m³/h	25
Water removal efficiency (initial content up to 3%)	trace amount of water
Maintenance area (availability)	height of the filter elements' removal
Control board	yes/separately

Diesel fuel separation unit БС type

Function and Technical data

- the unit is intended for the separation and fine cleaning of diesel fuel (except БС 3,0/2,2-5М – is intended to clean and separate gas turbine, hydraulic and engine oils) from mechanical impurities, water and biofouling.
- the unit is controlled from the control board. Remote control is also possible.
- the control board can be installed either on the frame itself or separately at a service-friendly area.
- the pressure drop, which manifests the degree of pollution of the separation unit, is controlled by pressure sensors.

Medium:

- diesel fuel under ГОСТ 305 (except БС 3,0/2,2-5М)
- gas turbine oil under ГОСТ 10289 (only БС 3,0/2,2-5М)
- hydraulic oils under ГОСТ 9972 (only БС 3,0/2,2-5М)
- motor oils for diesel engines under ГОСТ 12337 (only БС 3,0/2,2-5М)

Technical data, main parameters and characteristics

Name	Value					
Index	БС 1,0/1,5-5	БС 1,5/1,5-5	БС 3,0/2,2-5	БС 3,0/2,2-5М*	БС 10/6,1-5 (left/right)	БС 25/7,5-5
DN	20		40		50	80
WP, MPa (kgf/cm²)	0.4 (4.0)				1.0 (10.0)	0.4 (4.0)
Capacity, m³/h	1.0	1.5	3.0	1.5	12.5	21.0
Temperature of the medium, °C	max +60		max +62	max +75	max +62	
Weight (control board on the frame/ separately), kg	155/125	156	350/230	260	799	1010
Overall dimensions (control board on the frame, separately), LxWxH, kg	761/481/1260. 761/481/886	800/523/966	1220/832/1005. 1136/ 665/1005	1147/665/1017	1380/ 1140/ 828	2029/ 935/1833
Filtration degree, mcm	5.0				15	
Max permissible pressure drop under the filter clogging at nominal capacity, MPa	0.08					
Water removal efficiency (initial content up to 3%)	trace amount of water					
Maintenance area (availability)	height of the filter elements' removal					

*oil heating is required. The heater is not included in the scope of supply.

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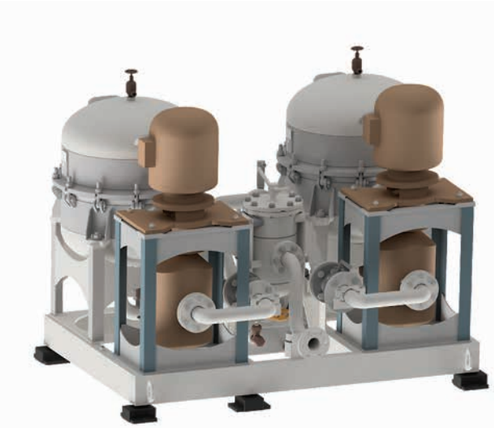
Diesel fuel static automatically controlled separation unit ССАФ type

Function and Technical data

- the unit is intended to clean diesel fuel from mechanical impurities, water and biofouling in ship (marine) systems. **The unit has the following operating modes:**
- fuel transfer from back-up fuel tanks
- direct separation from back-up fuel tanks to feed systems
- fuel annular separation in back-up fuel tanks
- freeing of back-up fuel and feed tanks

Medium:

- diesel fuel under ГОСТ 305
- Euro diesel fuel grade C under ГОСТ 32511; ГОСТ Р 52368, Л-62В under ГОСТ РВ 9130-002 with its closed flash point being not lower than 62 °C



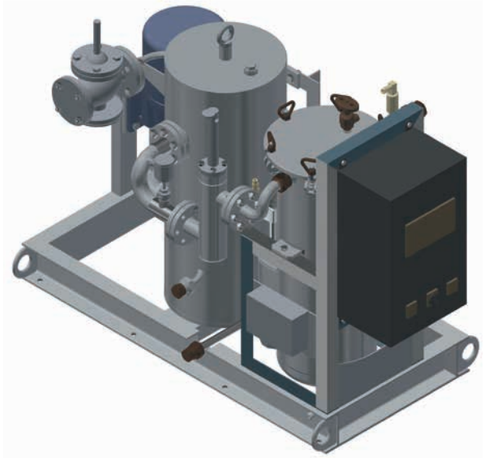
Technical data, main parameters and characteristics

Name	Value	
Index	ССАФ-5	ССАФ-10
DN	50	
WP, kgf/cm²	4.0	
Capacity, m³/h	5.0	5.0×2
Temperature of the medium, °C	Max +62	
Weight, kg	406	850
Overall dimensions, L/W/H, mm	1805/650/1210	1590/1263/1141
Filtration degree, mcm	5.0	
Power input, kW	3	6
Max permissible pressure drop under the filter clogging at nominal capacity, MPa	0.08	
Water removal efficiency (initial content up to 3%)	trace amount of water	
Maintenance area (availability)	height of the filter elements' removal	

Oil separation unit БСМп type

Function and Technical data

- the unit is intended to heat, fine clean and separate engine oil from mechanical impurities, water and biofouling.
- Medium:
  - engine oils according to the restrictive list under ГОСТ РВ 50920
  - Тп-22, ТП-46 oils under ГОСТ 9972
- Temperature of the medium, °C:
  - from 5 up to 70
  - the oil heating is carried out with the help of the steam heater



Technical data, main parameters and characteristics

Name	Value
Index	БСМп-1.0
DN	25
WP, MPa	0.4
Capacity, m³/h	1.0
Weight, kg	330
Overall dimensions, L/W/H, mm	1404/788/995
Filtration degree, mcm	5.0
Power input, kW	1.3
Max permissible pressure drop under the filter clogging at nominal capacity, MPa	0.08
Water removal efficiency (initial content up to 3%)	trace amount of water
Maintenance area (availability)	height of the filter elements' removal

Б-3В and Л3-КТ3 oil separation unit БСП type

Function and Technical data

- the unit is intended to heat and clean hydraulic oils from mechanical impurities and water in ship (marine) systems
- all units are to be mounted on-site as per customer requirements
- Medium:
  - Б-3В hydraulic oil under spec.38.101295-85
  - Л3-КТ3 hydraulic oil spec.0253-021-56194358-2008 (rev. 1-2)
- Temperature of the medium, °C:
  - max +70
  - the oil heating is carried out with the help of the electric heater

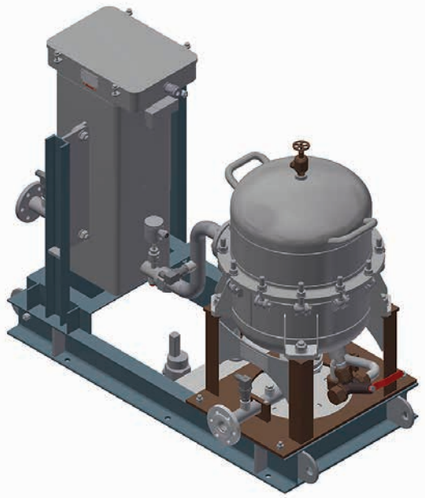
Technical data, main parameters and characteristics

Name	Value	
Index	БСП-2	БСП-02 with electrical pump unit
DN	50	
WP, kgf/cm²	0.4	
Capacity, m³/h	1.5	
Weight, kg	280	320
Overall dimensions, L/W/H, mm: - oil filter-separator DN 50, WP 4 - fine fuel filter DN 50, WP 4 - heater ПМП-1500 - electrical pump unit - control board	 590/855/1145 502/620/725 448/281/775 — 600/250/800	 590/855/1145 502/620/725 448/281/775 520/ 240/ 285 600/250/800
Filtration degree, mcm	5,0	
Power input, kW	43.0	44.0
Max permissible pressure drop under the filter clogging at nominal capacity, MPa	0.08	
Water removal efficiency (initial content up to 3%)	trace amount of water	
Maintenance area (availability)	height of the filter elements' removal	

Oil separation unit with heating БСП-01 type

Function and Technical data

- the unit is intended for the continuous fine cleaning of oil from the mechanical impurities, water and biofouling in ship (marine) systems
- control board can be mounted both on frame or separately
- Medium:
  - hydraulic oils under ГОСТ 9972
  - motor oils for diesel engines under ГОСТ 12337
  - oils for marine gas turbines under ГОСТ 10289
- Temperature of the medium, °C:
  - max +70
  - the heating is carried out with the help of the electric heater

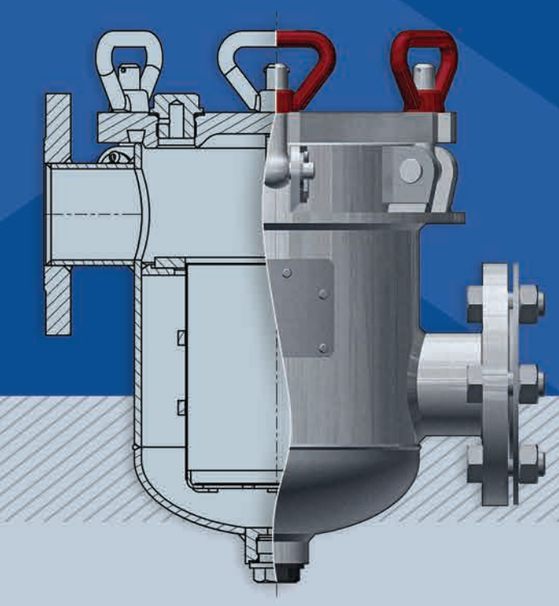


Technical data, main parameters and characteristics

Name	Value
DN	40
WP, MPa	0.4
Capacity, m³/h	1.5
Weight, kg	305
Overall dimensions, L×W×H, mm	1407 / 596 / 1006
Filtration degree, mcm	5.0
Power input, kW	44.0
Max permissible pressure drop under the filter clogging at nominal capacity, MPa	0.08
Water removal efficiency (initial content up to 3%)	trace amount of water
Maintenance area (availability)	height of the filter elements' removal

Filters

- Sea water filters
  - Flanged sea water filters
  - Port sea water filters
  - Screen inline sea water, oil and fuel filters with durite attachment
- Oil and fuel filters
  - Flanged inline oil and fuel filters
  - Flanged slotted oil and fuel filters
  - Portable oil and fuel filters
  - Port slotted oil and fuel filters
  - Flanged duplex filters with the switching unit of plug type
  - Port duplex filters with the switching unit of plug type
- Diesel fuel filters
  - Flanged angle filters with nonwoven cartridge
  - Screen duplex filters
  - Automatic fuel filters
- Other filters
  - Flanged fresh water filters
  - Port screen single filters
  - Duplex screen and disc filters
  - Ion-exchange filters
  - Deodorizers
  - Steam strainers
  - Feed water filters
  - Condensate filters



Flanged sea water filters

Function and Technical data

- Sea water filters are intended for the coarse filtering of outboard fresh and sea water with the salinity up to 4000 °Brandt from mechanical impurities in ship and watercraft systems.
- Medium: sea water
- Filtration degree, mm: 0,3; 2,5; 5
- Flanged under GOST 1536-76

Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	Material	L,mm	H,mm	Weight, kg
ФЗВ 40/40-0.3	40	40	bronze	310	445	44.0
ФЗВ 40/4-2.5М	40	4	Cu-Ni alloy	250	295	10.0
ФЗВ 50/4-2.5М	50	4	Cu-Ni alloy	260	310	13.0
ФЗВ 80/4-2.5М	80	4	Cu-Ni alloy	310	420	22.0
ФЗВ 100/2-2.5	100	2	Cu-Ni alloy	390	545	38.0
ФЗВ 100/4-2.5М	100	4	Cu-Ni alloy	400	562	48.0
ФЗВ 125/4-2.5М	125	4	Cu-Ni alloy	400	587	55.0
ФЗВ 150/4-2.5М	150	4	Cu-Ni alloy	460	670	69.0
ФВ 150/6-4.5	150	6	bronze	460	663	100.0
ФЗВ 200/4-2.5М	200	4	Cu-Ni alloy	610	850	150.0
ФЗВ 250/4-2.5М	250	4	Cu-Ni alloy	610	1003	153.0
ФЗВ 300/4-2.5М	300	4	Cu-Ni alloy	620	1145	181.0
ФЗВ 350/4-2.5М	350	4	Cu-Ni alloy	730	1281	265.0
ФЗВ 600/4-2,5М	600	4	Cu-Ni alloy	1292	820	565.0

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Port sea water filters

Function and Technical data

- Filters are intended for the coarse filtering of sea water from mechanical impurities in ship and watercraft systems.
- Material: bronze
- Delivery specification under ОСТ5Р.4404-2010.

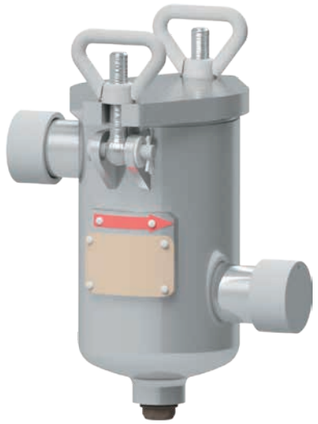
Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	Medium	Temperature of the medium, °C	Degree of filtration, mm	Service area (availability)	L×W×H,mm	Dry weight, kg
1ФЗВ 20/40-2,5	20	40	Sea water with its salinity up to 4000 °Brandt	from -2 up to +32	2.5	yes	186×147×213	7.6
2ФЗВ 20/40-2,5	20	40	Sea water with its salinity up to 4000 °Brandt	from -2 up to +32	2.5	yes	186x147x213	7.6

Screen inline sea water, oil and fuel filters with durite coupling

Function and Technical data

- Filters are intended to be installed in oil and fuel ship systems as a filtering unit.
- Material: bronze
- Degree of filtration, mm: 2,5
- Flanges under ГОСТ 1536-76.



Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	Medium	Material	L,mm	H,mm	Weight, kg
ФМТ 20/3-0,5	20	3	Oil, fuel	Light alloy	166	185	0.97
ФМТ 32/3-0,5	32	3	Oil, fuel	Light alloy	190	240	1.5
ФМТ 40/3-0,5	40	3	Oil, fuel	Light alloy	190	240	1.5
–	20	1	Sea water	Cu-Ni alloy	160	180	1.84
ФЗВ 20/4-2,5	20	4	Sea water	Cu-Ni alloy	165	192	3.8
–	32	1	Sea water	Cu-Ni alloy	170	198	2.3
ФЗВ 32/4-2,5	32	4	Sea water	Cu-Ni alloy	190	273	6.1
ФШ 50/4-2,5	50	4	Sea water	Cu-Ni alloy	210	192	6.4
ФЗВ 50/4-2,5	50	4	Sea water	Cu-Ni alloy	280	300	6.0
ФЗВ 65/4-2,5	65	4	Sea water	Cu-Ni alloy	340	400	10.2
ФЗВ 80/4-2,5	80	4	Sea water	Cu-Ni alloy	340	400	10.7

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Flanged inline oil and fuel filters

Function and Technical data

- Filters are intended to be installed on pipelines of ship power plants to clean the medium from mechanical impurities.
- PN, kgf/cm²: 6
- Material: bronze
- Degree of filtration, mm: 1 for oil/fuel
- Flanges under ГОСТ 1536-76.

Technical data, main parameters and characteristics

Index	DN, mm	Material	L,mm	H,mm	Weight, kg
ФМТ 20/6-1	20	Carbon steel	180	200	3.0
ФМТ 32/6-1	32	Carbon steel	200	268	6.5
ФМТ 50/6-1-1	50	Stainless steel	260	310	14.5
ФМТ 50/6-1	50	Carbon steel	260	310	14.5
ФМТ 80/6-1-1	80	Stainless steel	310	430	22.0
ФМТ 80/6-1	80	Carbon steel	310	430	22.0
ФМТ 100/6-1-1	100	Stainless steel	400	570	42.0
ФМТ 100/6-1	100	Carbon steel	400	570	42.0
ФМТ 150/6-1	150	Carbon steel	460	670	60.0
ФМТ 200/6-1	200	Carbon steel	610	845	137.0
ФМТ 250/6-1	250	Carbon steel	610	1000	153.0
ФМТ 300/6-1	300	Carbon steel	620	1147	172.0

Flanged slotted oil and fuel filters

Function and Technical data

- Filters are intended to clean oil and fuel from mechanical impurities in ship power plants.
- Degree of filtration, mm: 0,25; 0,4
- Capacity, t/h – 12
- Medium: oil and fuel
- Material: carbon steel
- PN, kgf/cm²: 6, 40
- Flanges under ГОСТ 1536-76
- Possible to equip with a servomotor for the automatic cleaning as well as electromagnetic drain valve. Filters can be equipped with steam heating to pump high-viscosity fluids

Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	L,mm	H,mm	Weight, kg
1ФЩ 32/40-0,25	32	40	306	540	36.0
2ФЩ 32/40-0,4	32	40	306	540	35.9
1ФЩ 40/40-0,25	40	40	310	600	39.6
2ФЩ 40/40-0,4	40	40	310	600	39.5
1ФЩ 50/6-0,25	50	6	336	585	43.8
2ФЩ 50/6-0,4	50	6	336	585	43.6
1ФЩ 50/40-0,25	50	40	356	625	58.4
2ФЩ 50/40-0,4	50	40	356	625	58.2
2ФЩ 65/6-0,4	65	6	338	715	53.1
1ФЩ 65/40-0,25	65	40	352	755	69.1
2ФЩ 65/40-0,4	65	40	352	755	68.8
1ФЩ 65/6-0,25	65	6	338	715	53.4

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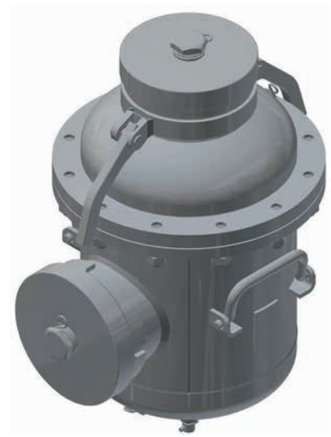
Portable oil and fuel filters

Function and Technical data

- Filters are intended to clean oil and fuel from mechanical impurities upon their acceptance on-site.
- The installation position: vertical, with the air valve located upwards.
- Medium: oil, fuel
- Degree of filtration, mm: 1,7
- Material: carbon steel



Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	L,mm	H,mm	Weight, kg
ФМТ 50/10-1,7	50	10	430	605	29.6
ФМТ 100/10-1,7	100	10	455	630	34.3
ФМТ 100/10-1,7К	100	10	200	612	31.2
ФМТ 150/10-1,7	150	10	500	610	48.9

Port slotted oil and fuel filters

Function and Technical data

- Filters are intended to clean oil and fuel from mechanical impurities in systems of ship power plants.
- Medium: oil, fuel
- Degree of filtration, mm: 0,25; 0,4; 0,15
- Material: carbon steel

Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	L,mm	H,mm	Weight, kg
1ФЩ 20/10-0,15	20	10	160	320	8.0
ФЩ 20/40-0,25	20	40	200	308	14.7
1ФЩ 25/10-0,15	25	10	165	360	9.5
1ФЩ 32/10-0,25	32	10	170	435	11.0
2ФЩ 25/10-0,4	32	10	170	435	11.0

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Flanged duplex filters with switching unit of plug type

Function and Technical data

- Filter is intended to be installed in ship systems to clean oil and fuel from mechanical impurities.
- Capacity, m³/h: 9,0
- Temperature of the medium, °C: +60
- Medium: oil, fuel
- Degree of filtration, mm: 0,5
- Material: carbon steel

Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	L,mm	H,mm	Weight, kg
Duplex fuel filter DN40 Pw6	40	6	385	360	48.0
Duplex fuel filter DN65 Pw6	65	6	470	630	100.0
Duplex fuel filter DN80 Pw6	80	6	319	515	150.0

Port duplex filters with the switching unit of plug type

Function and Technical data

- Filters are intended to clean fuel from mechanical impurities.
- Material: carbon steel

Technical data, main parameters and characteristics

Parameter	Nominal value
DN,mm	15
PN, kgf/cm²	25
Medium	Oil, fuel
Degree of filtration, mm	0.4
L, mm	320
H, mm	456
Weight, kg	2.3

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Flanged angle filters with nonwoven cartridge

4.0

Function and Technical data

- Type: single cartridge filter with nonwoven filter element.
- Filters are intended to be installed in ship systems to clean oil and fuel from mechanical impurities.
- Degree of filtration, mm: 15-20.

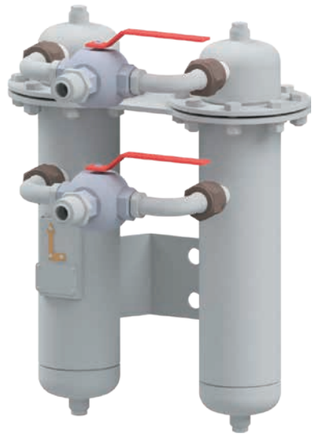
Technical data, main parameters and characteristics

Index	DN, mm	Capacity, m³/h	Hydraulic resistance of the clean filter under t = 20°C
ФНТ 40/10	40	up to 30	0.5
ФНТ 80/10	80	up to 80	0.5
ФНТ 125/10	125	up to 120	0.3

Screen duplex filters

Function and Technical data

- Filters are intended to clean fuel in ship systems of all classes, including export ones.
- Medium: diesel fuel under ГОСТ Р 52368-2005.
- Degree of filtration, μm: 100.



Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	Capacity, m³/h	Overall dimensions, L×W×H, mm	Diesel fuel temperature, °C
ФС-20/0,4-0,1	20	0.4 (4.0)	0.2	436×366×566	+60
ФС-25/0,4-0,1	25	0.4 (4.0)	0.2	436×392×566	+60
ФС-32/0,4-0,1	32	0.4 (4.0)	0.2	449×442×641	+60

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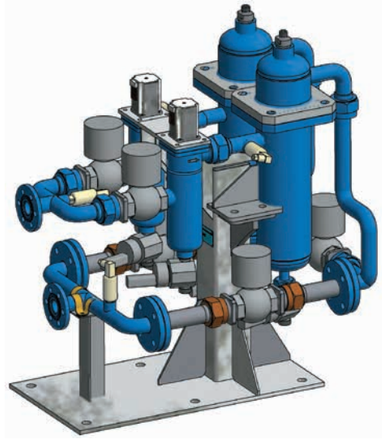
Automatic fuel filters

Function and Technical data

- two-stage cleaning: first of all, the medium enters the coarse cleaning chamber, i.e. slotted filter. Then, it enters the fine cleaning chamber with a 25 micron filter mesh.
- there is a system of hot redundancy. While reaching the ultimate pressure drop on sensors of one of chambers, the contaminated filter branch is blocked and flow is directed to the auxiliary one.
- each chamber is equipped with the automatic cleaning system.
- besides the back flushing system, the fine cleaning chamber has the function of the steam blowing.



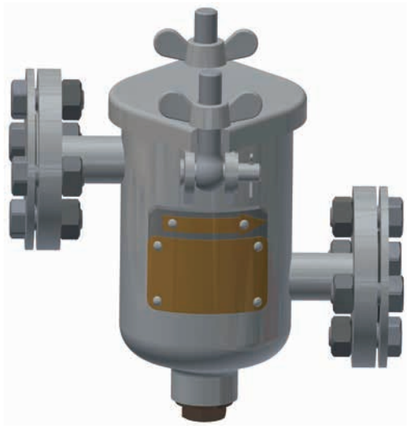
Technical data, main parameters and characteristics

Parameter	Nominal value
Index	ФА-25
DN, mm	32
PN, MPa	0.4–1.0
Medium	Diesel fuel, heavy fuel up to 50 sCt
Degree of filtration, μm	25
Pressure of the sweep steam, MPa	0.5
Overall dimensions, L×W×H, mm	945×560×910
Weight, kg	125

Flanged fresh water filters

Function and Technical data

- Filters are intended to be installed on pipelines of ship power plants to clean the medium from mechanical impurities.
- PN, kgf/cm²: 6
- Degree of filtration, mm: 1.0; 2.5 for fresh water



Technical data, main parameters and characteristics

Index	DN, mm	Medium	Material	L, mm	H, mm	Weight, kg
ФПВ 20/6-2.5	20	Fresh water	Carbon steel	180	200	3.2
ФПВ 32/6-2.5-1	32	Fresh water	Stainless steel	200	268	6.5
ФПВ 32/6-2.5	32	Fresh water	Carbon steel	200	268	6.5
ФПВ 50/6-2.5-1	50	Fresh water	Stainless steel	260	310	14.5
ФПВ 50/6-2.5	50	Fresh water	Carbon steel	260	310	14.5
ФПВ 80/6-2.5	80	Fresh water	Carbon steel	310	430	22.0
ФПВ 100/6-2.5	100	Fresh water	Carbon steel	400	570	42.0
ФПВ 150/6-2.5	150	Fresh water	Carbon steel	460	670	60.0
ФПВ 200/6-2.5	200	Fresh water	Carbon steel	610	845	137.0
ФПВ 250/6-2.5	250	Fresh water	Carbon steel	610	1000	153.0
ФПВ 300/6-2.5	300	Fresh water	Carbon steel	620	1147	172.0

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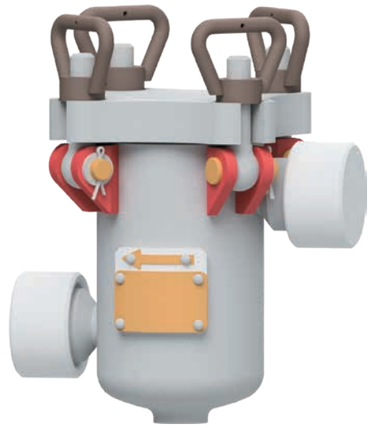
Port screen single filters

Function and Technical data

- Filters are intended to be installed in oil and fuel ship systems as a filtering unit.
- Medium: oil, fuel, sea water, bilge water
- Degree of filtration, mm: 0.25; 2.5
- PN, kgf/cm²: 6, 25, 40



Technical data, main parameters and characteristics

Index	DN, mm	PN, kgf/cm²	Medium	Material	L,mm	H,mm	Weight, kg
ФМТ 20/6-0,25	20	6	Oil, fuel	Light alloy	160	180	1.29
ФМТ 20/6-0,25-1	20	6	Oil, fuel	Light alloy	160	180	1.29
ФМТ 25/6-0,25	25	6	Oil, fuel	Light alloy	160	180	1.37
ФМТ 25/6-0,25-1	25	6	Oil, fuel	Light alloy	160	180	1.37
ФМТ 32/6-0,25	32	6	Oil, fuel	Light alloy	190	240	2.04
ФМТ 32/6-0,25-1	32	6	Oil, fuel	Light alloy	190	240	2.04
ФМТ 32/6	32	6	Oil, fuel	Stainless steel	230	268	6.2
ФЗВ 32/25	32	25	Sea water, bilge water	Titanium	230	325	5.2
ФЗВ 50/40-2,5	50	40	Sea water	Bronze	320	353	25.0
ФЗВ 80/40-2,5	80	40	Sea water	Bronze	440	500	

Duplex screen and disc filters

Function and Technical data

- Filters are intended to be installed in ship systems to clean feed water and distillate from foreign mechanical impurities.

Technical data, main parameters and characteristics

Parameter	Nominal value
DN, mm	50
PN, kgf/cm²	10
Capacity, m³	15
Medium	Feed water, distillate
Degree of filtration, mm	0.15
Temperature of the medium, K (°C)	From 273 to 363 (from 0 to 90)
Max permissible pressure drop, MPa (kgf/cm²)	0.2 (2.0)
Weight, kg	54/62

Ion-exchange filters

Function and Technical data

- Filters are intended for the fine chemical water treatment in ship systems;
- Medium: feed water, distillate;
- Material: stainless steel, special alloy

Technical data, main parameters and characteristics

Index	Type	Inlet water pressure, MPa	Max permissible capacity, m³/h, under desalting and dissolved oxygen removal	Max permissible capacity, m³/h, under hardness removal	Volume of lower cavity, m³	Volume of upper cavity, m³	Drainage substrate Weight of steel for lower cavity, kg	Drainage substrate Weight of steel for upper cavity, kg	Weight of BT1-00c alloy for lower cavity, kg	Weight of BT1-00c alloy for upper cavity, kg
ФИ160-0.6	Single-chambered	0.6	4.0	3.0	0.00081	–	3.7	–	2.1	–
ФИ300-1.0	Single-chambered	1.0	14.0	10.0	0.000284	–	13.0	–	7.5	–
ФИ400-1.6	Single-chambered	1.6	–	–	–	–	–	–	–	–
ФИ400-6.4	Single-chambered	6.4	25.0	20.0	0.00625	–	29.0	–	16.6	–
ФИ400-6.4-1	Single-chambered	6.4	–	–	–	–	–	–	–	–
ФИ600-2.5	Single-chambered	2.5	56.0	45.0	0.0141	–	65.0	–	37.0	–
ФИ600-4.0	Single-chambered	4.0	–	–	–	–	–	–	–	–
ФИ900-2.5	Single-chambered	2.5	–	–	–	–	–	–	212.0	–
ФИ900-4.0	Single-chambered	4.0	125.0	100.0	0.080	–	370.0	–	–	–
ФИ900-10.0	Single-chambered	10.0	–	–	–	–	–	–	–	–
ФИ1100-1.6	Single-chambered	1.6	–	–	–	–	–	–	–	–
ФИ1100-4.0	Single-chambered	4.0	180.0	150.0	0.110	–	510.0	–	292.4	–
ФИ1300-2.5	Single-chambered	2.5	–	220.0	–	–	550.0	–	315.3	–
ФИ1300-10.0-1	Single-chambered	10.0	–	–	0.120	–	–	–	–	–
ФИ1300-10.0-2	Single-chambered	–	160.0	–	–	–	–	–	380.0	–
ФИ1400-1.6	Single-chambered	–	–	–	–	–	–	–	–	–
ФИ1400-1.6-1	Single-chambered	1.6	300.0	245	0.140	–	640.0	–	367.0	–
ФИ1400-10.0	Single-chambered	10.0	–	–	–	–	–	–	–	–
ФИД900-6.4	Two-chambered	6.4	125.0	–	0.086	0.030	370.0	140.0	212.0	80.3
ФИД1400-1.6	Two-chambered	6.4	260.0	–	0.120	0.070	550.0	320.0	315.0	183.4
ФИД1300-6.4	Two-chambered	1.6	300.0	–	0.140	0.080	640.0	370.0	367.0	212.0

Deodorizers

Function and Technical data

- Filters are intended to remove excess active chlorine from water and eliminate odor and off-flavor of drinking and washing water;
- Main technical specifications under ОСТ5.5448-80.
- Connecting threads of flanges are under ГОСТ 1536-76.
- Connecting threads of connecting branches are under ГОСТ 5890-78

Technical data, main parameters and characteristics

Index	Denomination	DN, mm	PN, kgf/cm²	Medium	Temperature of the medium, °C	L×W×H,mm	Dry weight, kg
ФД1/3	ВНТА.066112.003	32	6,0	Fresh water	from 0 to +60	375×432×1125	96,2*
ФД1/3ММ	ВНТА.066112.003-01	32	6,0	Fresh water	from 0 to +60	375×432×1125	96,2*
ФД3/6	ВНТА.066112.004	40	6,0	Fresh water	from 0 to +60	875×716×1590	335*
ФД3/6	ВНТА.066112.004-01	40	6,0	Fresh water	from 0 to +60	875×716×1590	335*
ФД3/6	ВНТА.066112.004-02	40	6,0	Fresh water	from 0 to +60	875×716×1590	335*
ФД3/6	ВНТА.066112.004-03	40	6,0	Fresh water	from 0 to +60	875×716×1590	335*
ФД 0,5/1,0	ИУШД.066112.006	20	6,0	Fresh water	from 0 to +60	335×310×805	51,4*
ФД 6/10	ИУШД.066112.009	40	6,0	Fresh water	from 0 to +60	945×1161×2053	671,3*
ФД 6/10	ИУШД.066112.009-01	50	6,0	Fresh water	from 0 to +60	945×1161×2053	671,3*

* Weight is indicated excluding the drainage layer

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Steam strainers

Function and Technical data

- Filters are intended to purify steam vapor in ship and vessel system from mechanical impurities;
- Connecting threads of flanges are under ГОСТ 33259-2015.

Technical data, main parameters and characteristics

DN, mm	PN, kgf/cm²	Medium	Temperature of the medium, °C	Degree of filtration, mcm	Service area (availability)	L×W×H,mm	Dry weight, kg
50	16.0	steam	165	250	yes	205×160×205	11.5

Feed water filters

Function and Technical data

- Filters are intended to clean feed water from mechanical impurities in ship power plants;
- General specifications are under ОСТ5Р 4404-2010.

Technical data, main parameters and characteristics

DN, mm	PN, kgf/cm²	Medium	Temperature of the medium, °C	Degree of filtration, mcm	Service area (availability)	L×W×H,mm	Dry weight, kg
50	2.0	Feed water	up to +85	250	yes	851×304×642	90

Condensate filters

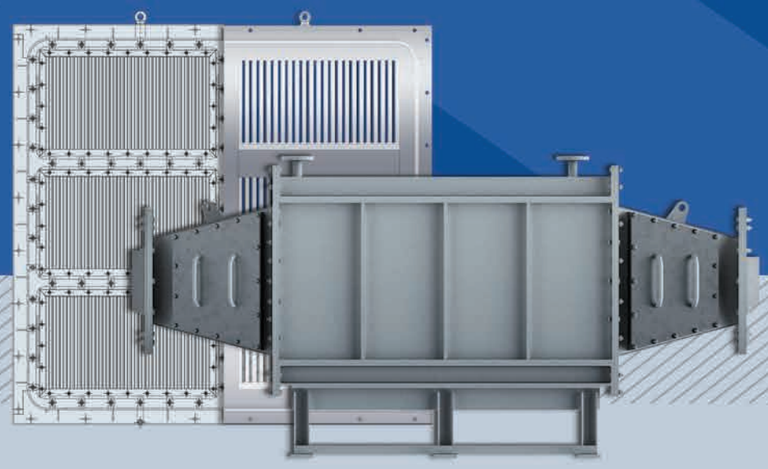
Function and Technical data

- Filters are intended to clean condensate and distillate from mechanical impurities and oil traces;
- General specifications are under ОСТ5Р 4404-2010, ОСТВД5Р.4404-85;
- Connecting threads of flanges are under ГОСТ 2822-78.

Technical data, main parameters and characteristics

DN, mm	PN, kgf/cm²	Medium	Temperature of the medium, °C	L×W×H,mm	Dry weight, kg
25	4.0	Condensate, distillate, feed water	up to +90	375×360×360	33.5

Air and Gas Purification Equipment



System to clean and cool exhaust gas of heat engines

Function

- The system is intended for the noncontact cleaning and cooling of exhaust gases from solid combustion products and moisture.

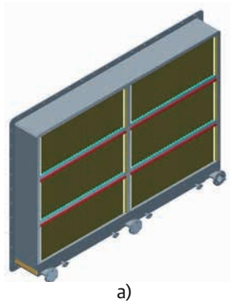
Technical data, main parameters and characteristics

Name	Value
Gas flow, kg/sec	0.5
Inlet gas temperature, °C	400
Outlet gas temperature, °C	40
WP, MPa (kgf/cm²)	0.11 (1.1)
Thermal output, kW, max	200
Cooling medium	solution of propylene glycol
Inlet temperature of the cooling medium, °C	5
Nominal flow rate of the electric pump, kg/sec (m³/h)	3.47 (12.5)
Overall dimensions, L × W × H, mm	2385 × 890 × 1240
Weight, kg	1400

Air separators

Function

- The separator is intended for the preliminary cleaning of air in air intake systems of marine gas turbine power plants. The separator is all-welded, made of aluminum alloy.
- Possible to be either steam-heated (is a part of heating system of air intake channel) — pic. a) or unheated (installed to bypass the air flow) — pic. b).
- Efficient for the rate of airflow max 10 m/sec.
- Possible to manufacture under the required sizes.



a)

b)

Technical data, main parameters and characteristics

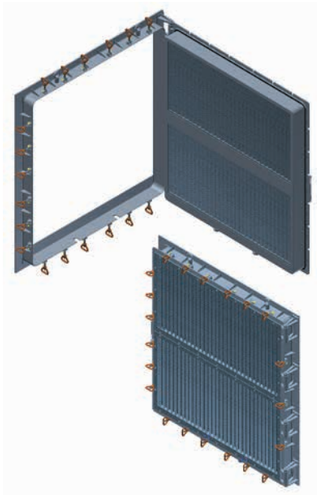
Heating	Overall dimensions, mm			Clear dimension*, mm		Weight, kg
	L	B	H	B1	H1	
available	458	2610	1790	2480	1660	411
available	472	2310	1790	2310	1790	366
available	280	1720	2070	1560	1910	140
n/a	161	780	2014	660	1884	65

*are actual dimensions that determine the open flow area of the separator. For dimensioning assembly openings of separators, it is necessary to add the required mounting clearance to this clear dimension.

Inertial separator, single-stage, hinged version

Function

- 1200 × 1300 inertial separator is intended to clean air from water and mechanical impurities in systems of air intake for combustion in ship (marine) diesel engines. Separators have simple and reliable construction built on a modular principle. It is based on welded steel body with a hinged cover with mounted-in replaceable sections out of composite material. Separators have one stage of the cleaning.



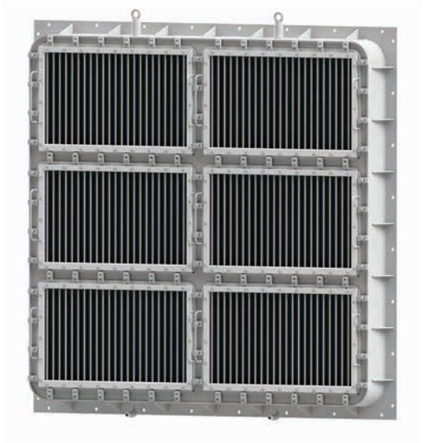
Technical data, main parameters and characteristics

Name	Value
Inlet air velocity, m/sec	10
Specific capacity per unit area, $m^3/1m^2$ per second	10
Q-ty of cleaning stages, pcs.	1
Weight of 1 m^2 of section, kg, max	25
Relative humidity under the temperature +32°C, %	100
Medium	air
L×W×H, mm	155×1336×1454

Inertial separator, two-stage, one-piece case

Function

- Inertial separator is intended to clean air from water and mechanical impurities in systems of air intake for combustion in ship (marine) diesel and gas turbine engines. Separators have simple and reliable construction built on a modular principle. It is based on welded body of light aluminum alloy with mounted-in replaceable sections out of composite material. Separators have two stages of the cleaning.



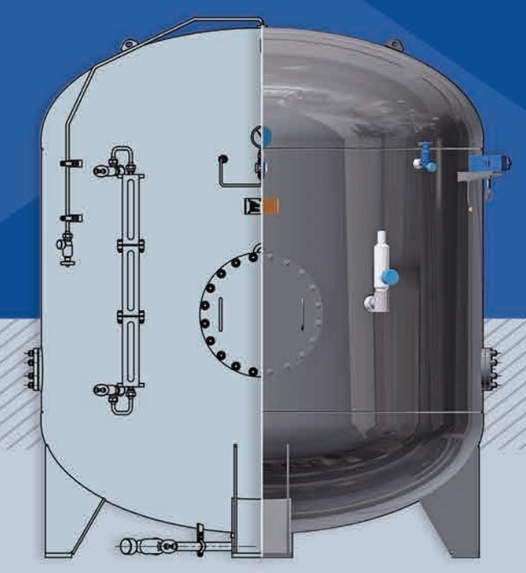
Technical data, main parameters and characteristics

Name	Value
Inlet air velocity, m/sec	10
Specific capacity per unit area, $m^3/1m^2$ per second	10
Ambient temperature range, °C	-35 ... +50
Relative humidity under the temperature +32°C, %	100
Q-ty of cleaning stages, pcs.	2
Weight of 1 m^2 of section, kg, max	25

ВИНЕТА
МАШИНОСТРОИТЕЛЬНОЕ ПРЕДПРИЯТИЕ

Equipment of Water-supply Systems

- Pneumatic pressure tanks (hydrofors)



Pneumatic pressure tanks (hydrofors)

Function and Technical data

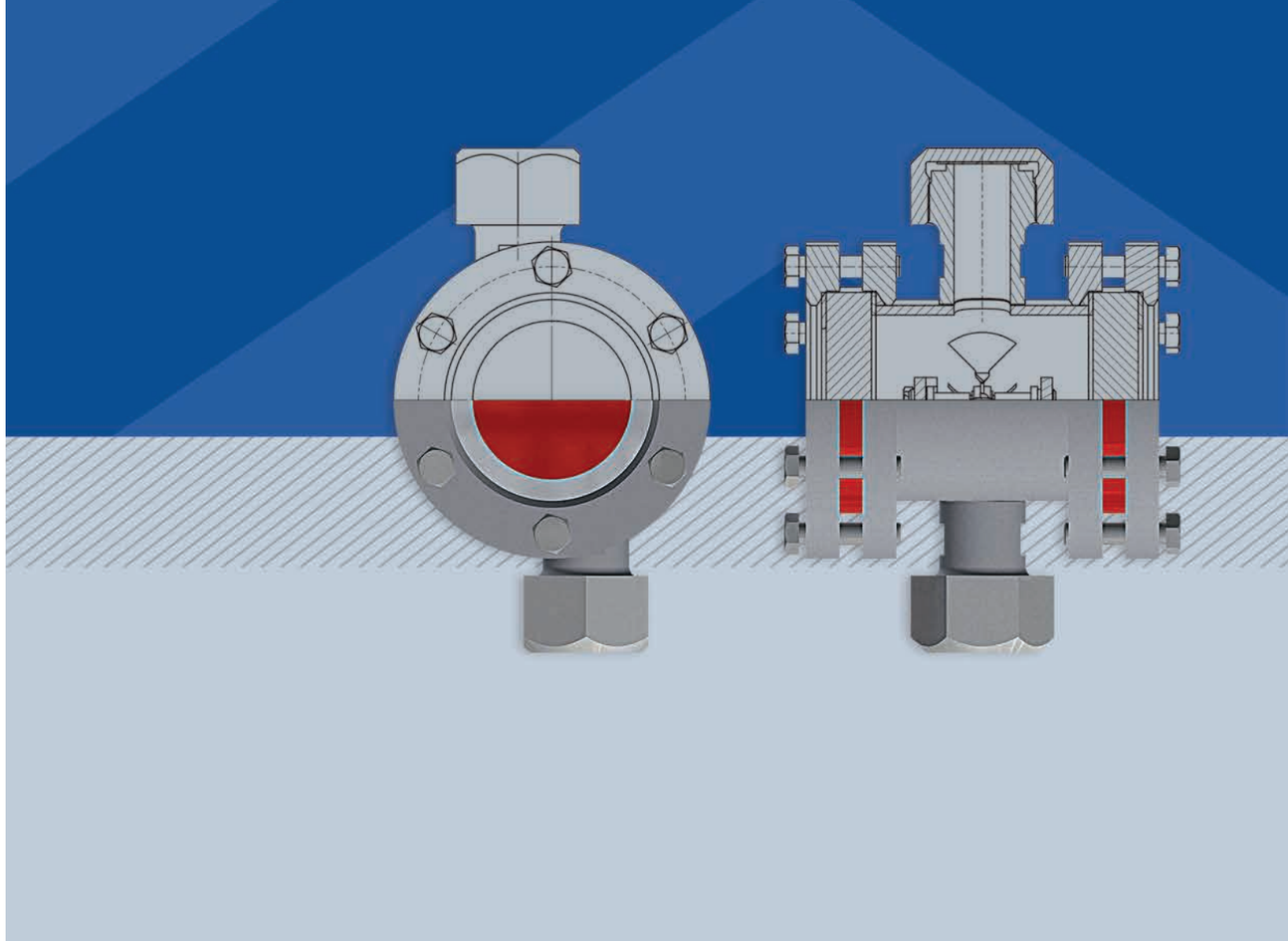
- Pneumatic pressure tanks are installed in drinking, washing and sea water systems.

Technical data, main parameters and characteristics

Index	PN, kgf/cm²	Overall dimensions, L×W×H, mm	Volume, m³	Weight, kg
ПЦ1-П-0,025-КРД2	0.4(4)	470×380×695	0.025	30
ПЦ1-П-0,063-КРД2	0.4(4)	650×550×720	0.063	68
ПЦ1-П-0,1-КРД2	0.4(4)	650×550×1060	0.1	99
ПЦ2-П-0,2-КРД2	0.65(6.5)	820×825×870	0.2	160
ПЦ2-П-0,4-КРД2	0.65(6.5)	820×825×1580	0.4	200
ПЦ2-П-0,5-КРД2	0.65(6.5)	820×825×2080	0.5	267
ПЦ3-П-0,5-КРД2	0.65(6.5)	1025×1030×1190	0.5	280
ПЦ3-П-0,63-КРД2	0.65(6.5)	1025×1030×1450	0.63	313
ПЦ3-П-1,0-КРД2	0.65(6.5)	1125×1130×1790	1	372
ПЦ3-П-2,0-КРД2	0.65(6.5)	1630×1635×1600	2	634
ПЦ3-П-3,0-КРД2	0.65(6.5)	1630×1635×2245	3	790

Marine Valves

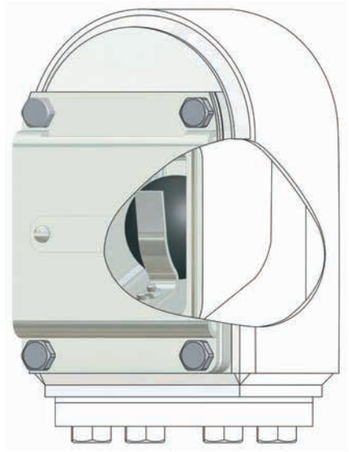
- Air pipe automatic closing devices
  - Air pipe automatic closing device with guard mesh and float. Type 1. Steel
  - Air pipe automatic closing device with guard mesh and float. Type 1. Light alloy
  - Electrically-heated air pipe automatic closing device with guard flame absorbing mesh, float. Type 1.Steel
  - Electrically-heated air pipe automatic closing device with guard flame absorbing mesh, float. Type 1.
- Deck plates
- Sight flow indicators
- Leak-tight locking vent heads



Air pipe automatic closing device with guard mesh and float. Type 1. Steel

Function

- Air pipe closing devices are designed to vent water and fuel tanks of ships, vessels and watercrafts.
- To be installed at outlet ends of water, oil, day and emergency tanks, located on open decks of the 1st tier and above these decks within the area limited by the downflooding angle.
- Climatic category — OM, location environmental class 1 under ГОСТ 15150.
- Closing devices are self-draining.
- The design of closing devices secures the access to inspect the cavity and easy replacement of gaskets.
- Closing devices are provided with guides to ensure their correct operation in any permissible heeled or trimmed conditions.
- The electric heating is used to prevent icing and ensure reliable operation of the item at low temperature (option).



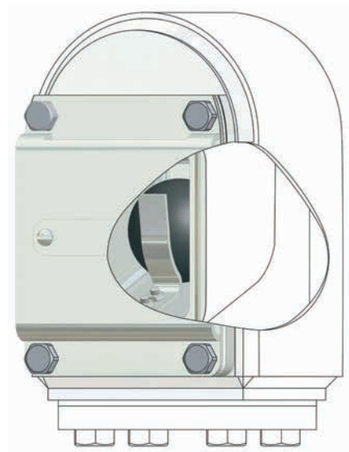
Технические данные, основные параметры и характеристики

DN, mm	L, mm	W, mm	H, mm	Weight, kg
25	86	90	140	3.1
32	94	90	156	4.2
50	124	117	200	6.1
65	144	147	232	9.2
80	172	162	285	13.8
100	197	192	337	18.9
125	227	237	406	30.4
150	270	282	471	40.2
200	360	382	617	74.26
250	450	446	766	114.5

Air pipe automatic closing device with guard mesh and float. Type 1. Light alloy

Function

- Air pipe closing devices are designed to vent water and fuel tanks of ships, vessels and watercrafts.
- To be installed at outlet ends of water, oil, day and emergency tanks, located on open decks of the 1st tier and above these decks within the area limited by the downflooding angle.
- Climatic category — OM, location environmental class 1 under ГОСТ 15150.
- Closing devices are self-draining.
- The design of closing devices secures the access to inspect the cavity and easy replacement of gaskets.
- Closing devices are provided with guides to ensure their correct operation in any permissible heeled or trimmed conditions.
- The electric heating is used to prevent icing and ensure reliable operation of the item at low temperature (option).



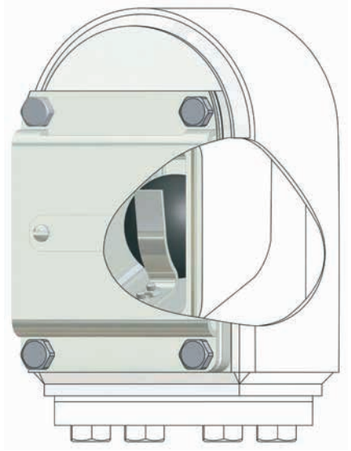
Технические данные, основные параметры и характеристики

DN, mm	Overall dimensions, L×W×H, mm	Weight, kg
25	86 × 90 × 140	1.3
32	94 × 90 × 156	1.72
50	124 × 117 × 200	2.5
65	144 × 147 × 232	3.4
80	172 × 162 × 285	4.95
100	197 × 192 × 337	7.1
125	227 × 237 × 406	10.2
150	270 × 282 × 471	15.1
200	360 × 382 × 617	27.1
250	450 × 482 × 766	38.5

Electrically-heated air pipe automatic closing device with guard flame absorbing mesh, float. Type 1. Steel

Function

- Air pipe closing devices are designed to vent water and fuel tanks of ships, vessels and watercrafts.
- To be installed at outlet ends of water, oil, day and emergency tanks, located on open decks of the 1st tier and above these decks within the area limited by the downflooding angle.
- Climatic category – OM, location environmental class 1 under ГОСТ 15150.
- Closing devices are self-draining.
- The design of closing devices secures the access to inspect the cavity and easy replacement of gaskets.
- Closing devices are provided with guides to ensure their correct operation in any permissible heeled or trimmed conditions.
- The electric heating is used to prevent icing and ensure reliable operation of the item at low temperature (option).



Technical data, main parameters and characteristics

DN, mm	L, mm	W, mm	H, mm	Power, kW	Weight, kg
50	124	203	200	0.08	7.2
65	144	233	232	0.10	10.3
80	172	248	285	0.12	14.5
100	197	275	337	0.14	20.3
125	227	323	406	0.15	31.8
150	270	368	471	0.2	42.1
200	360	468	617	0.25	75.6
250	450	532	766	0.30	117.8
400	644	793	1200	0.375	200

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Electrically-heated air pipe automatic closing device with guard flame absorbing mesh, float. Type 1.

7.0

Function

- Air pipe closing devices are designed to vent water and fuel tanks of ships, vessels and watercrafts.
- To be installed at outlet ends of water, oil, day and emergency tanks, located on open decks of the 1st tier and above these decks within the area limited by the downflooding angle.
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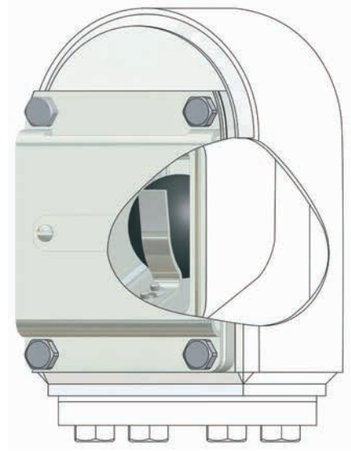
- Closing devices are provided with guides to ensure their correct operation in any permissible heeled or trimmed conditions.
- The electric heating is used to prevent icing and ensure reliable operation of the item at low temperature (option).



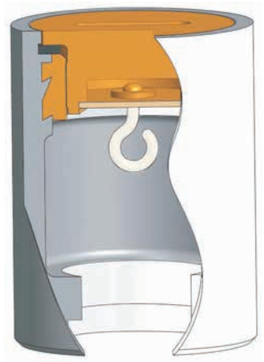
Technical data, main parameters and characteristics

DN, mm	L, mm	W, mm	H, mm	Power, kW	Weight, kg
50	124	203	200	0.08	7.2
65	144	233	232	0.10	10.3
80	172	248	285	0.12	14.5
100	197	275	337	0.14	20.3
125	227	323	406	0.15	31.8
150	270	368	471	0.2	42.1
200	360	468	617	0.25	75.6
250	450	532	766	0.30	117.8

Deck plates

Function

- Medium: sea water, fresh and portable water; oil; oil products; foaming agent; БФ-2 fire extinguisher; tetrafluorodibromethane (Freon 114B-2)
- Material: carbon steel, corrosion-resistant steel, brass, aluminum alloy, special alloy
- PN, kgf/cm²: 6
- H, mm: 110



Technical data, main parameters and characteristics

DN, mm	Medium	Material	d, mm	D, mm	n	Weight, kg
32	oil, oil products	carbon steel	G 1¼	68	–	1.7
40	oil, oil products	carbon steel	G 1½	70	–	1.8
50	oil, oil products	carbon steel	G 2	83	–	2.4
65	oil, oil products	carbon steel	G 2½	102	–	3.3
32	sea water, fresh water, oil, oil products	corrosion-resistant steel	G 1¼	68	–	1.7
40	sea water, fresh water, oil, oil products	corrosion-resistant steel	G 1½	70	–	1.8
50	sea water, fresh water, oil, oil products	corrosion-resistant steel	G 2	83	–	2.4
65	sea water, fresh water, oil, oil products	corrosion-resistant steel	G 2½	102	–	3.3
32	oil, oil products	carbon steel	G 1¼	68	6	1.7
40	oil, oil products	carbon steel	G 1½	70	6	1.8
50	oil, oil products	carbon steel	G 2	83	6	2.4
65	oil, oil products	carbon steel	G 2½	102	8	3.3

Sight flow indicators

Function

- Material: steel, Cu-Ni alloy
- Production and delivery specifications according to OCT 5P.5536-2010.

Technical data, main parameters and characteristics

DN, mm	PN, kgf/cm²	Medium	L, mm	D, mm	L1, mm	Weight, kg
10	6.3	sea water, fresh water, oil, mineral oil, condensate	175	M27×1.5	160	7.7
10	6.3	sea water	175	M27×1.5	160	7.5
20	6.3	sea water, fresh water, oil, mineral oil, condensate	190	M39×2	170	8.0
20	6.3	sea water	190	M39×2	170	8.0
32	6.3	sea water, fresh water, oil, mineral oil, condensate	220	M56×6	180	8.3
32	6.3	sea water	220	M56×2	180	8.2

Leak-tight locking vent heads

Function

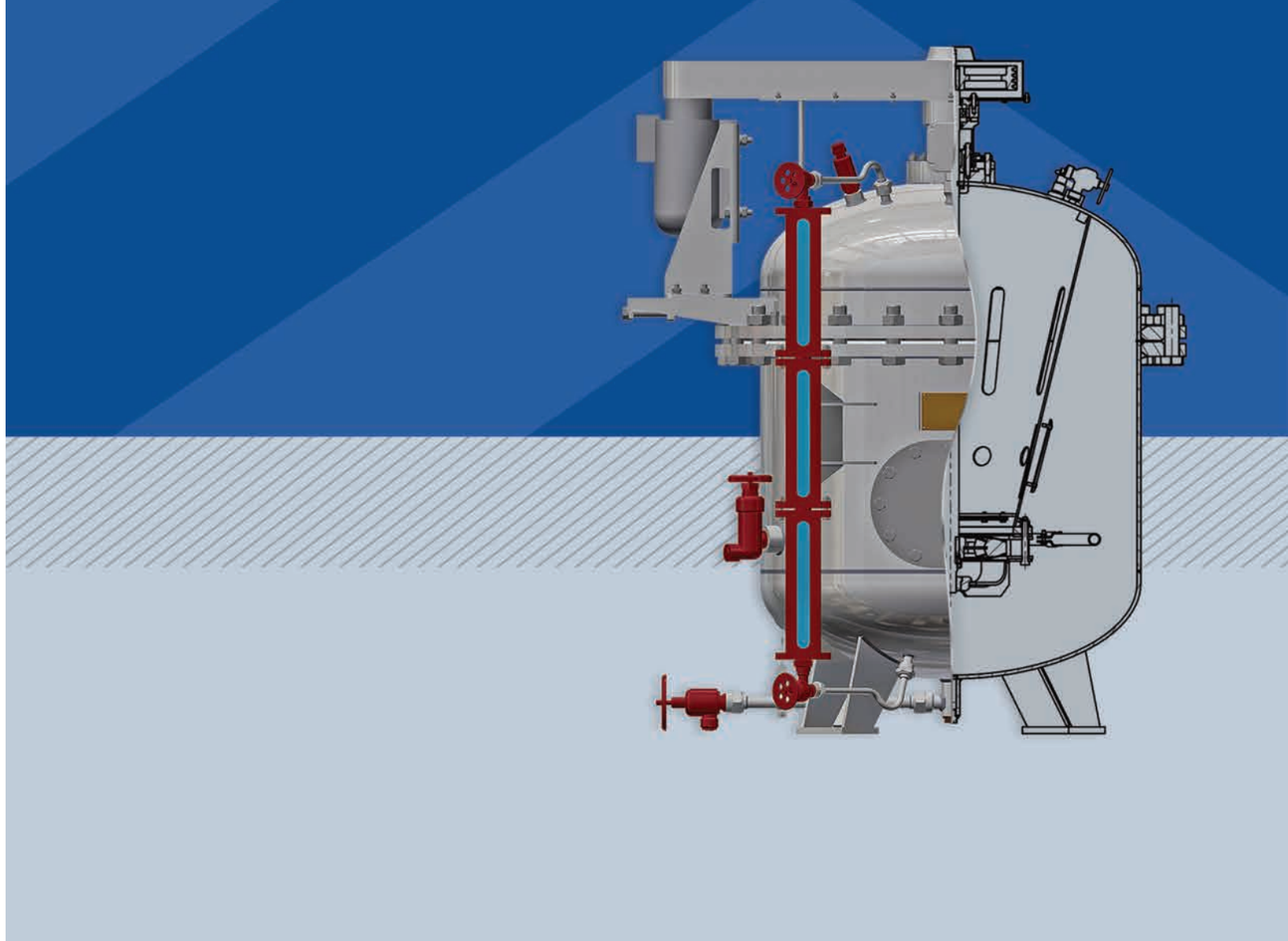
- Vent heads are intended to seal openings in air ducts or bulkheads indoors.

Technical data, main parameters and characteristics

DN, mm	L, mm	W, mm	H, mm	Weight, kg
80	136	136	139	0.8
100	156	156	139	1.2
125	181	181	139	1.5
150	206	206	172	2.1
200	276	276	179	3.0
250	326	326	227	4.4

Other Equipment

- Solution storage tanks
- Foam fire extinguishing units
  - Stationary foam fire extinguishing unit, medium expansion factor CO-I Ст
  - Stationary foam fire extinguishing unit, medium expansion factor CO-II Ст
  - Stationary foam fire extinguishing unit, medium expansion factor CO-IV Ст
- Solution preparation tanks
- Feeder
- Rod gearing to control valves
- Radiators (vertical, horizontal, single and two-row)
- Blast signal
- Warning howler



Solution storage tanks

Function

- The tank is intended to operate as a part of the general-purpose washdown system and store 40% solution of СФ-3 compound.
- Operating pressure, kgf/cm²: 7.0
- Medium: 40% solution of СФ-3 compound.

Technical data, main parameters and characteristics

Index	L, mm	W, mm	H, mm	Volume, l	Weight, kg
PXPY-200-8	710	830	1550	200	215.0
PXPY-400-8	900	975	1500	400	320.0

Stationary foam fire extinguishing unit, medium expansion factor CO-I Ст

Function

- Stationary foam fire extinguishing unit, medium expansion factor CO-I Ст is a local agent to extinguish local point of fire outbreak in ship-board spaces.
- It is a fire extinguisher to produce and emit foam, covering the fire body and securing the smothering.

Technical data, main parameters and characteristics

Name	Value
Volume of the charge, l	40
Capacity of air tank, l	40
Foam output under the full charge, l	3200-4500
Air pressure in the vessel, kgf/cm²	25-30
Pressure in the tank at the unit actuation, kgf/cm²	8-10
Overall dimensions (L×W×H), mm	850×500×1800
Charge weight, kg	200.0
Uncharged weight, kg	245.0
Foam flow time, max, kg	2
Length of the rubber hose, m	15

Stationary foam fire extinguishing unit, medium expansion factor CO-II Ст

Function

- Stationary foam fire extinguishing unit, medium expansion factor CO-II Ст is a local agent to extinguish local point of fire outbreak in ship-board spaces.
- It is a fire extinguisher to produce and emit foam, covering the fire body and securing the smothering.

Technical data, main parameters and characteristics

Name	Value
Volume of the charge, l	136
Capacity of air tank, l	130
Foam output under the full charge, l	9 500–13 500
Air pressure in the vessel, kgf/cm²	30
Pressure in the tank at the unit actuation, kgf/cm²	10
Overall dimensions (L×W×H), mm	1180×700×1935
Charge weight, kg	505.0
Uncharged weight, kg	641.0
Foam flow time, max, kg	5
Length of the rubber hose, m	15

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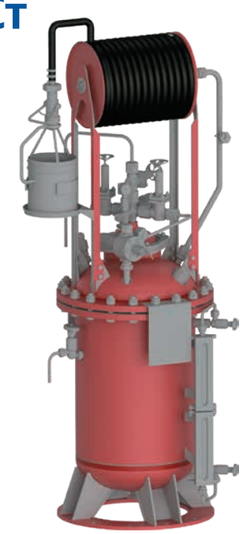
Stationary foam fire extinguishing unit, medium expansion factor CO-IV Ст

Function

- Stationary foam fire extinguishing unit, medium expansion factor CO-IV Ст is a local agent to extinguish local point of fire outbreak in ship-board spaces .
- It is a fire extinguisher to produce and emit foam, covering the fire body and securing the smothering.



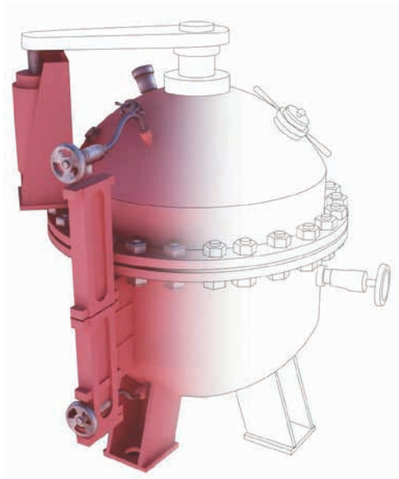
Technical data, main parameters and characteristics

Name	Value
Volume of the charge, l	136
Capacity of air tank, l	20
Foam output under the full charge, l	9 500–13 500
Air pressure in the vessel, kgf/cm²	150
Pressure in the tank at the unit actuation, kgf/cm²	10
Overall dimensions (L×W×H), mm	1010×685×2080
Charge weight, kg	360.0
Uncharged weight, kg	496.0
Foam flow time, max, kg	5
Length of the rubber hose, m	15

Solution preparation tanks

Function

- The station is intended to prepare, store and distribute concentrated 40% solution of СФ-3 compound.
- Medium: СФ-3 solution is a homogeneous fine powder of cream or dark yellow color, made of a mixture of sodium hexametaphosphate and sulfanol; 1% dilute solution of this compound in water is used for the decontamination.
- Temperature of the solution (max), °C: 60.
- Power, kW: 1.5



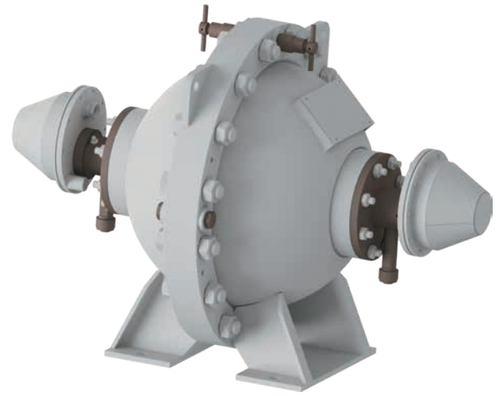
Technical data, main parameters and characteristics

Index	PN, kgf/cm²	Capacity, m³/h	L, mm	W, mm	H, mm	Shaft speed of the stirrer, rpm	Weight, kg
СПРУ 300-8	7.0	3.0	1280	1120	1240	500	514.0
СПРУ 400-8	7.0	3.0	1280	1105	1485	1500	570.0

Feeder

Function

- The tank is intended to operate as a part of the general-purpose washdown system and store 40% solution of СФ-3 compound.
- Medium: 40% solution of СФ-3 compound, sea water
- Current type: 24V DC, 127V AC



Technical data, main parameters and characteristics

Name	Value
PN, kgf/cm²	4.0...10.0
Medium	40% solution of СФ-3 compound, sea water
Volume, l	20
Current type	24V DC, 127V AC
Overall dimensions (L×W×H), mm	700×455×480
Weight, kg	76.0

Rod gearing to control valves

- The nomenclature is under OCT5P.5316-76.

Radiators (vertical, horizontal, single and two-row)

Function

- Radiators are intended to operate in the steam-heating systems of surface ships and other watercrafts
- DN, mm: 10
- PN, kgf/cm²: 5.0
- Material: cooper, steel

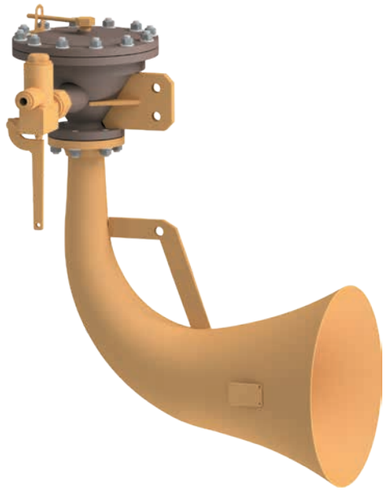
Technical data, main parameters and characteristics

Index	L, mm	H, mm	Q-ty of rows	Heating area, m²	Weight, kg
РГС2-0.5-М	365	195	2	0.5	6.6
РГС2-0.8-М	485	195	2	0.8	9.0
РГС2-1.2-М	635	195	2	1.2	12.3
РГС2-1.5-М	755	195	2	1.5	14.3
РГС4-0.8-М	330	360	4	0.8	11.4
РГС4-1.2-М	410	360	4	1.2	13.8
РГС6-1.5-М	365	530	6	1.5	18.4
РГМ2-0.5-М	365	195	2	0.5	5.8
РГМ2-0.8-М	485	195	2	0.8	7.6
РГМ2-1.2-М	635	195	2	1.2	10.0
РГМ2-1.5-М	755	195	2	1.5	11.9
РГМ4-0.8-М	330	360	4	0.8	8.3
РГМ4-1.2-М	410	360	4	1.2	11.4
РГМ6-1.5-М	365	530	6	1.5	14.0

Blast signal

Function

- The blast signal is intended to send navigation audible signals



Technical data, main parameters and characteristics

Name	Value
Index	II TB 130/350 POM
DN, mm	15
Air upstream operating pressure, set by the manufacturer, MPa (kgf/cm²)	4.41 (45)
Elementary frequency of sound, Hz, within limits	130–350
Free air flow, l/min	6000
Acoustical power level taken relative to 2×10-5, N/m², at a distance of 1 m in 1/3 octave band, dB, min	138
Range of audibility, nautical mile	1.5
Weight, kg	35.7

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Warning howler

Function

- The warning howler is intended to send navigation audible signals except for The International Regulations for Preventing Collisions at Sea 1972 (COLREGS-72)

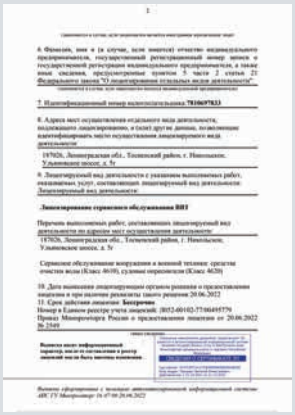
Technical data, main parameters and characteristics

Name	Value
Index	1–15
DN, mm	15
Air upstream operating pressure, set by the manufacturer, MPa (kgf/cm²)	4.41 (45)
Elementary frequency of sound, Hz, within limits	2000–3500
Free air flow, l/min	12 000
Sound level at the distance of 10 m towards the horn, dB, min	112
Upstream process pressure, MPa (kgf/cm²), within limits	0.98–4.40 (10–45)
Weight, kg	7.2

Licenses and Certificates


СИСТЕМА СЕРТИФИКАЦИИ РУССКОГО РЕГИСТРА
RUSSIAN REGISTER CERTIFICATION SYSTEM
СЕРТИФИКАТ
ООО "Винета"
ISO 9001:2015


МИНИСТЕРСТВО ПРОМЫШЛЕННОСТИ И ТОРГОВЛИ РОССИЙСКОЙ ФЕДЕРАЦИИ (МИНПРОМТОРГ РОССИИ)
Выписка




ГОСУДАРСТВЕННАЯ КОРПОРАЦИЯ ПО АТОМНОЙ ЭНЕРГИИ
ЛИЦЕНЗИЯ


ФЕДЕРАЛЬНАЯ СЛУЖБА ПО ВОЕННО-ТЕХНИЧЕСКОМУ СОТРУДНИЧЕСТВУ


ФБУ «ТЕСТ-С.-ПЕТЕРБУРГ»
СВИДЕТЕЛЬСТВО ОБ АТТЕСТАЦИИ
ИСПЫТАТЕЛЬНОЙ (АНАЛИТИЧЕСКОЙ) ЛАБОРАТОРИИ


ФБУ «ТЕСТ-С.-ПЕТЕРБУРГ»
СВИДЕТЕЛЬСТВО № SP01.01.231.036
ОБ АТТЕСТАЦИИ


РОССИЙСКИЙ МОРСКОЙ РЕГИСТР СУДОХОДСТВА
RUSSIAN MARITIME REGISTER OF SHIPPING
СВИДЕТЕЛЬСТВО
О ПРИЗНАНИИ ИСПЫТАТЕЛЬНОЙ ЛАБОРАТОРИИ
RECOGNITION CERTIFICATE
OF TESTING LABORATORY


ОРГАН ПО СЕРТИФИКАЦИИ
СЕРТИФИКАТ
ООО "Винета"
ГОСТ Р ИСО 9001-2015


СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ
«ВОЕННЫЙ РЕГИСТР»
СЕРТИФИКАТ СООТВЕТСТВИЯ


Управление Федеральной службы безопасности Российской Федерации по городу Санкт-Петербургу и Ленинградской области
ЛИЦЕНЗИЯ № 0133182


Управление Федеральной службы безопасности Российской Федерации по городу Санкт-Петербургу и Ленинградской области
ЛИЦЕНЗИЯ № 0133183


ФЕДЕРАЛЬНАЯ СЛУЖБА ПО ЭКОЛОГИЧЕСКОМУ, ТЕХНОЛОГИЧЕСКОМУ И АТОМНОМУ НАДЗОРУ
ЛИЦЕНЗИЯ


ФЕДЕРАЛЬНАЯ СЛУЖБА ПО ЭКОЛОГИЧЕСКОМУ, ТЕХНОЛОГИЧЕСКОМУ И АТОМНОМУ НАДЗОРУ
ЛИЦЕНЗИЯ


РОССИЙСКИЙ МОРСКОЙ РЕГИСТР СУДОХОДСТВА
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СВИДЕТЕЛЬСТВО О ПРИЗНАНИИ ИЗГОТОВИТЕЛЯ
RECOGNITION CERTIFICATE FOR MANUFACTURER


МИНИСТЕРСТВО ПРОМЫШЛЕННОСТИ И ТОРГОВЛИ РОССИЙСКОЙ ФЕДЕРАЦИИ
ЛИЦЕНЗИЯ