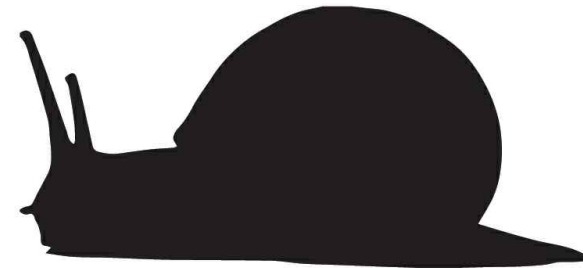
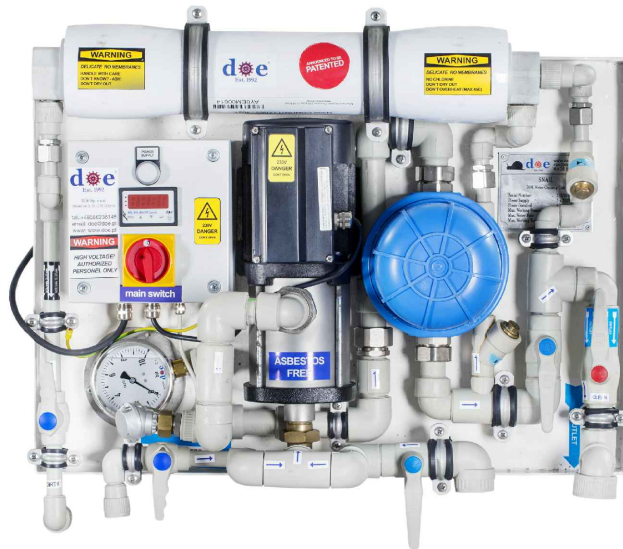
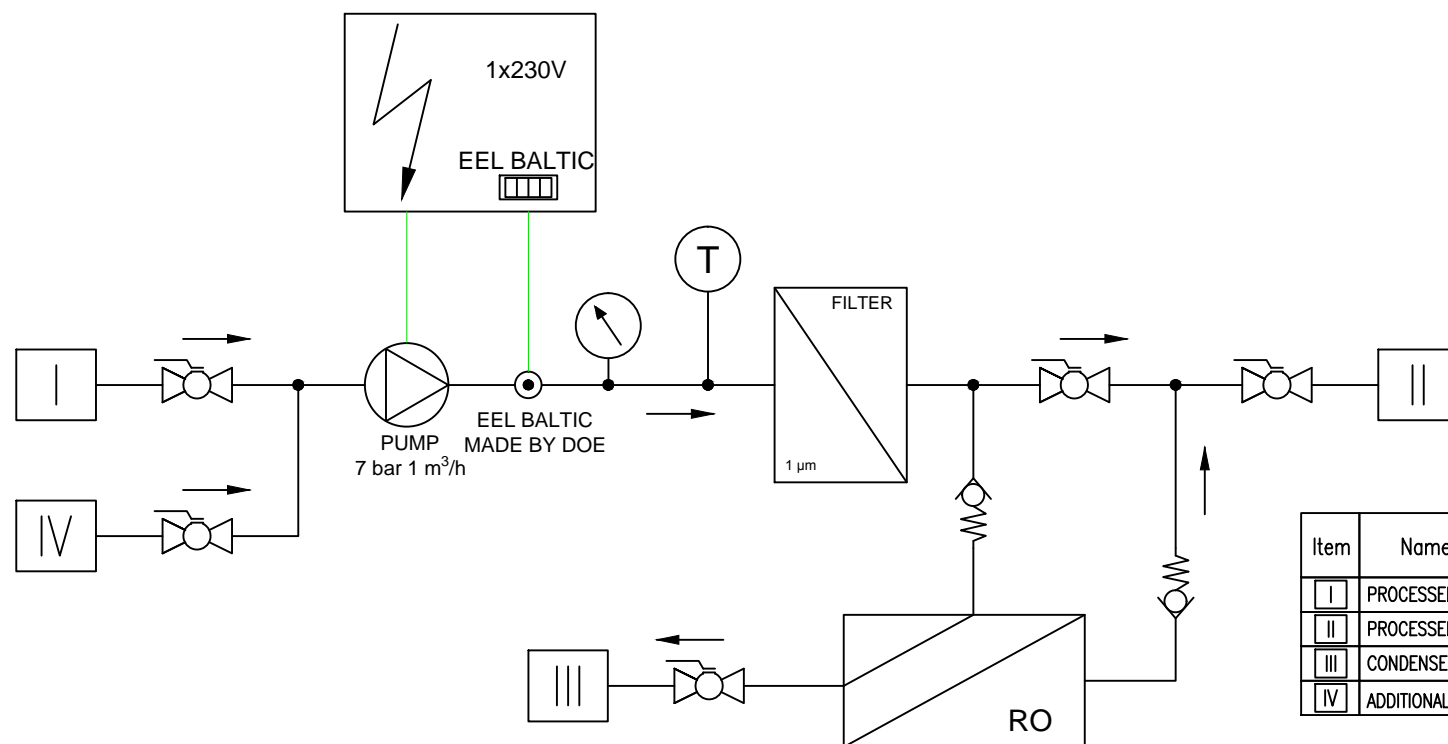


SNAIL SIDE STREAM FILTRATION



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Item	Name of connection	DN
I	PROCESSED WATER - INLET	G 1"
II	PROCESSED WATER - OUTLET	G 1"
III	CONDENSED, REJECTED WATER	G 1/2"
IV	ADDITIONAL FW TO THE SYSTEM	G 1/2"

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How Snail works:

The unit is connected to the cleaned system without disturbing the operation of the system. The flow in Snail is powered by the snail's hi pressure pump. The suspended particles are stopped on the installed filter 1 mikron. The dissolved particles are stopped in Reversed Osmosis membrane installed parallel to the main flow but not typically rather in very strange way. The outlet of the membrane is blocked by valve. The dissolved particles are kept in the RO membrane all the time (until collection).

The operator is flushing-out the condensed brine to sewage. This can be automated operation. Quantity of rejected condensed water is from 0.2 liter to few liters per operation (depending on the size of the membrane). The conductivity of that brince will be typically over 100 times bigger than the cleaned water.

The same amount of water is added later manually from the fresh water source connected on inlet. This process can be also automated. The water added to the system passes via RO so have very low conductivity typically 5-20 ppm. After several hour of operation on typical ships heating system the conductivity is reduced from 500 ppm to 10 ppm. The amount of dropped dirty water (brine, condensed water) will be 5 – 20 liters.

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SNAIL for water maintenance.

Water cleaning device made by DOE called SNAIL is working without chemicals.



SNAIL is the machine designed for marine applications in heating and cooling water systems (HVAC) under operation. SNAIL can be used also for other water systems like swimming pools, opened water tanks, fountains, machines cooled by water. Snail is cleaning the circulating water.

The installation is "side stream" that means that will not disturb, stop or changing operation of the existing system. Snail can be installed on existing system or installed on new buildings.

The effects of operation of Snail is better water in the system:

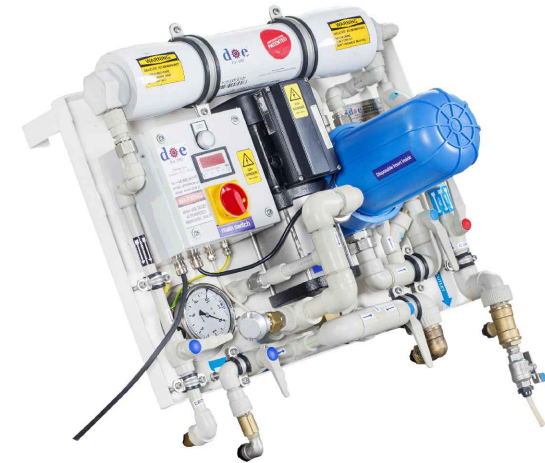
- less suspended particles in the water (sand, bacterias)
- less dissolved particles (salts, minerals, hardness)
- less air in the system

Advantages of SNAIL installation

- ability to add demi water into the system
- ability to add chemicals like inhibitors acids, detergents
- online control of conductivity of the system (hardenes)
- ability to descale the existing dirty system
- visual control of the water transparency

Savings for the owner of the system with SNAIL:

- reduced usage of the chemicals
- reduced usage of inhibitors, other added chemicals
- smaller energy consumption on clean system
- reduced cost of maintenance of the system
- better operation of the system (better efficiency)
- longer lifetime of the heat-exchangers valves, other valuable components of the system



Working parameters, specification

- no chemicals used in the system:
- low working pressure up to 10 bars on the system
- temperature up to 45C (RO membrane inside)
- power supply 500 W, 230V 50hz or 60hz 1 phase, other possible
- easy hand operated system, can be automated
- self regulating system, without possibility to have influence on cleaned system
- drained water consists of charmless minerals and particles
- pending patent solution based on Revered Osmosis membrane

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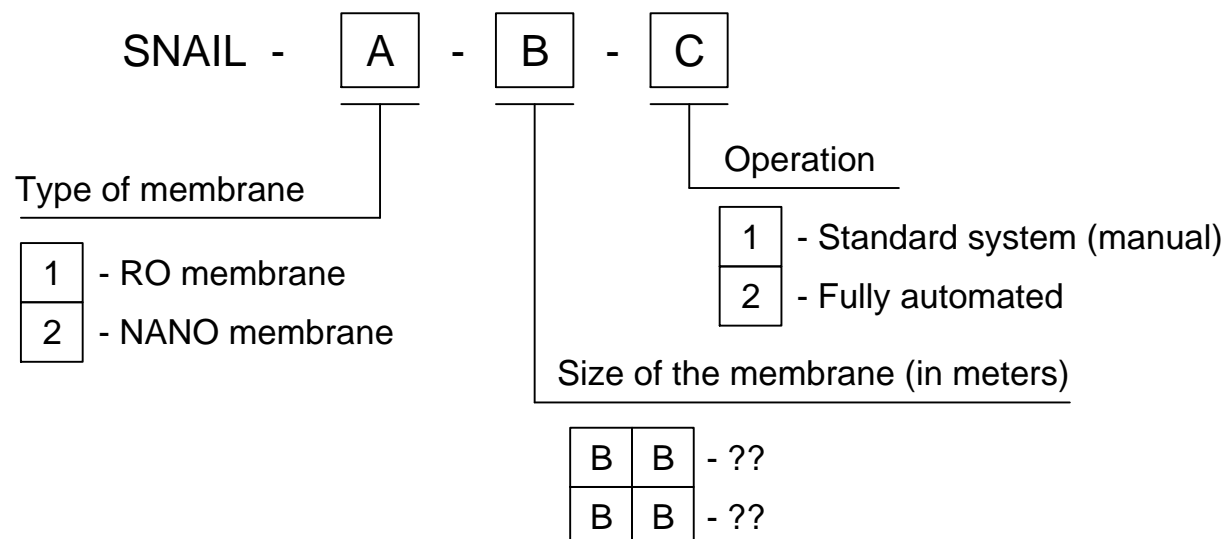
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SNAIL - SIDE STREAM FILTRATION

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Sheet: 4/5

ORDERING INFORMATION



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