

*Cleaning and distilling seawater
complex
by **Hydro Wave Method***



TECHNICAL-ECONOMIC PROPOSAL

1. Proposal description

The enterprise has worked out and been introducing the new technology of cleaning and distilling liquids of different levels of pollution.

The hydro wave method is worked out and applied in the technological scheme of cleaning plant. Cleaning water media from suspended particles and

dissoluble substances is made only with the help of hydrodynamic effects while exerting influence on liquid with high-frequency sources of mechanic and electromagnetic oscillations.

-The equipment functions without use of consumption materials in the operation process. There are no filters, ion exchange resins, sorbents, chemical reagents, etc. There is no need in major construction.

-This technical method exceeds all existing analogues.

-Specific energy waste is less comparing to other plants.

-It ensures total ecological security. Secretion of admixture in the form of hard sediment is possible.

-The character of operation; the worker of low qualification can make preventive tests and read apparatus indices.

The complex is based on the module principle of construction (Attachment No. 1)

The plant of 1200 cubic meters per 24 hours (50 cubic meters per hour) output is assumed to be the module.

2. Technical-economic indices of the module.

Rated scheme of the plant (module) is presented in the Attachment No. 2.

Productivity, cubic meters per hour	50
Power consumption, kilowatt-hour per cubic meters	3
Quality of cleaned water	Customer requirements
Admixtures (dissoluble and suspended substances)	In the hard form or in the form of "brine" (highly salted water)- according to customer requirements
Operating time	Constant and automatic

Energy supply system:
Single-phase/ 220V/380V, 50 hertz
Triple-phase
Fixed operating resource of the
plant (module), years 30
Guarantee, years 1
Period of implementing works
6 to 12 months
Module can be packed in ONE 20
footer container
Gross Weight 24000kgs



The plant can clean and distil water with any level of natural mineralization.

3. Plant (Module) composition and project elements.

Construction scheme is presented in the Attachment no. 3.

Plant composition:

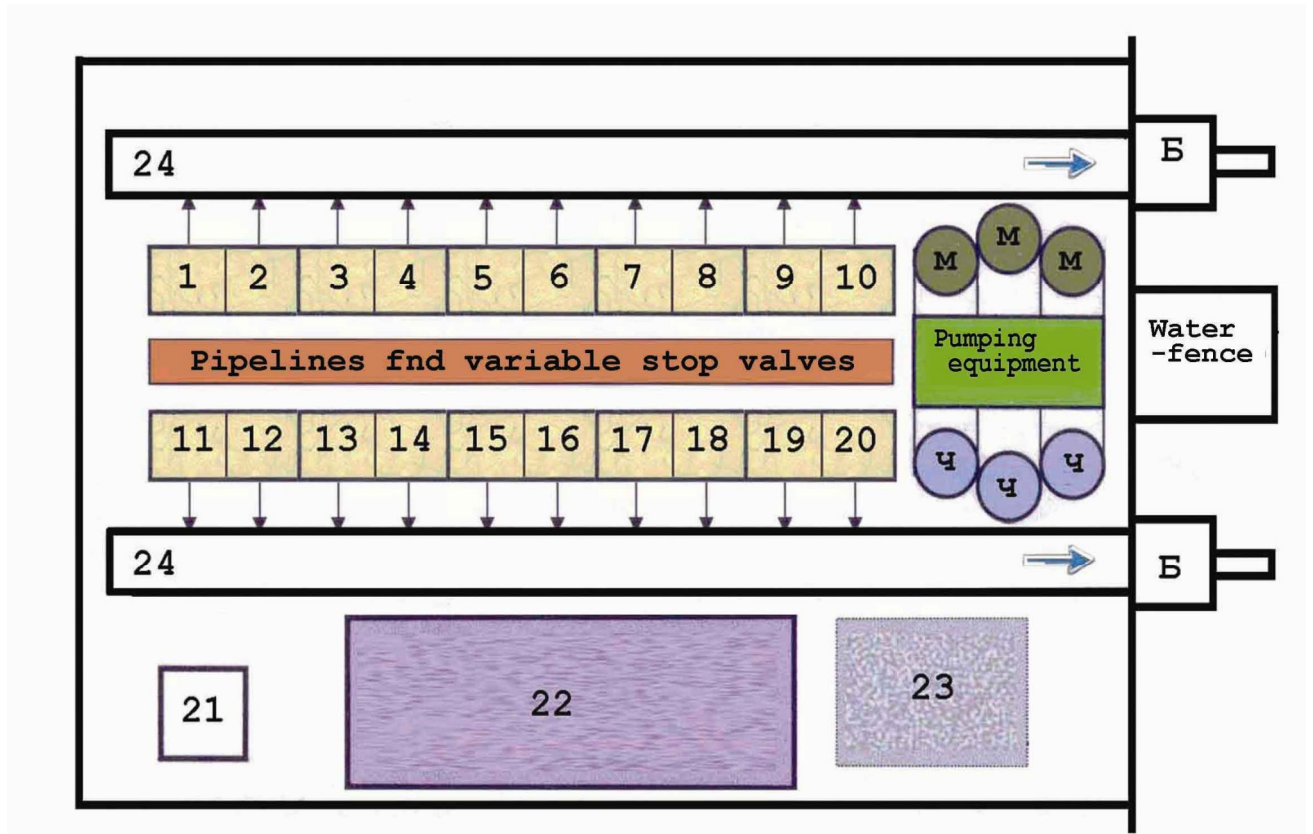
1. Vessel - seawater storage device;
2. Seawater supply pump (50 cub.m/h);
3. Heat exchanger;
4. Ejector (stream compressor);
5. Air-bend valve;
6. Hydrodynamic pump-heat generator;
7. Separating vessel;
8. Valve or admission valve;
9. Electric motor;
10. Pump (contour);
11. Hydrodynamic steam generator;
12. Steam storage device;
13. Heat exchanger;
14. Vessel - crystallizer;
15. Contour pump;
16. Shiber (small hole);
17. Mobile container (or conveyer) for sediment admixtures (salts, etc.)

The plant (module) is composed in the climatic bloc-box with the overall dimensions (3x3x10) meters – Gross 24,000kgs

Module is available as a MOBILE unit

Attachment No. 1

**Fundamental scheme of the location of the cleaning and distilling seawater complex
(with total productivity 24000 cub.m/24h)**



1-20 - plants (modules with productivity 1200 cub.m/24h)

21 - transformer substation

22 - serving premises

23 - parking

24 - conveyer for the salt transference to the bunker

M - seawater storage vessels

Ч - distilled water storage vessels and conditioning plants

Б - salt receiving, dissolving in seawater and removing "brine" to the sea bunkers.

Overall dimensions of one module-are: (3x3x10) meters

Complex area: ~ 3000 sq.m

Construction scheme of the cleaning and distilling seawater plant (module) with productivity 1200 cub.m/24h (50 cub.m/h)

