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Desalination of Wasted Water

DESALINATION of SEA & ANY OTHER WATER

CDT Enerji Sistemleri Yatırım ve Turizm Tic. San. A.Ş.



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What is CDT

CDT offers Exclusive Water Processing Method

- CDT is an exclusive water processing method which uses specific processing of brackish, salted, sew and other wasted water and producing **distilled** water.
 - NO membranes
 - NO consumable elements
 - NO scurf
 - Low energy consumption



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WASTE WATER TREATMENT



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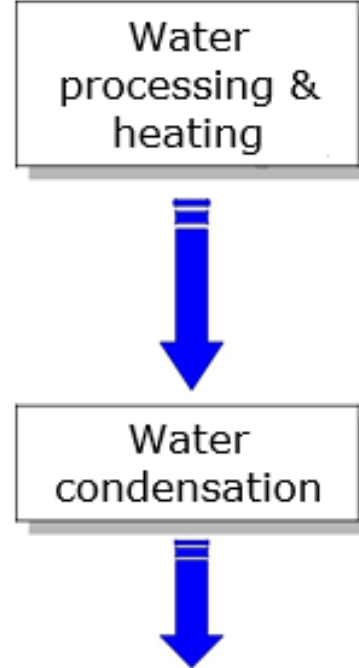
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Basic Principles



1. Brackish Water comes into the CDT unit.
2. CDT unit processes water in cavitation reactor which is used as heater. Water changes the state to a steam.
3. Steam comes to condensation unit and changes state to a distilled water.
4. Unit requires power which can be produced from renewable sources like wind and solar energy.



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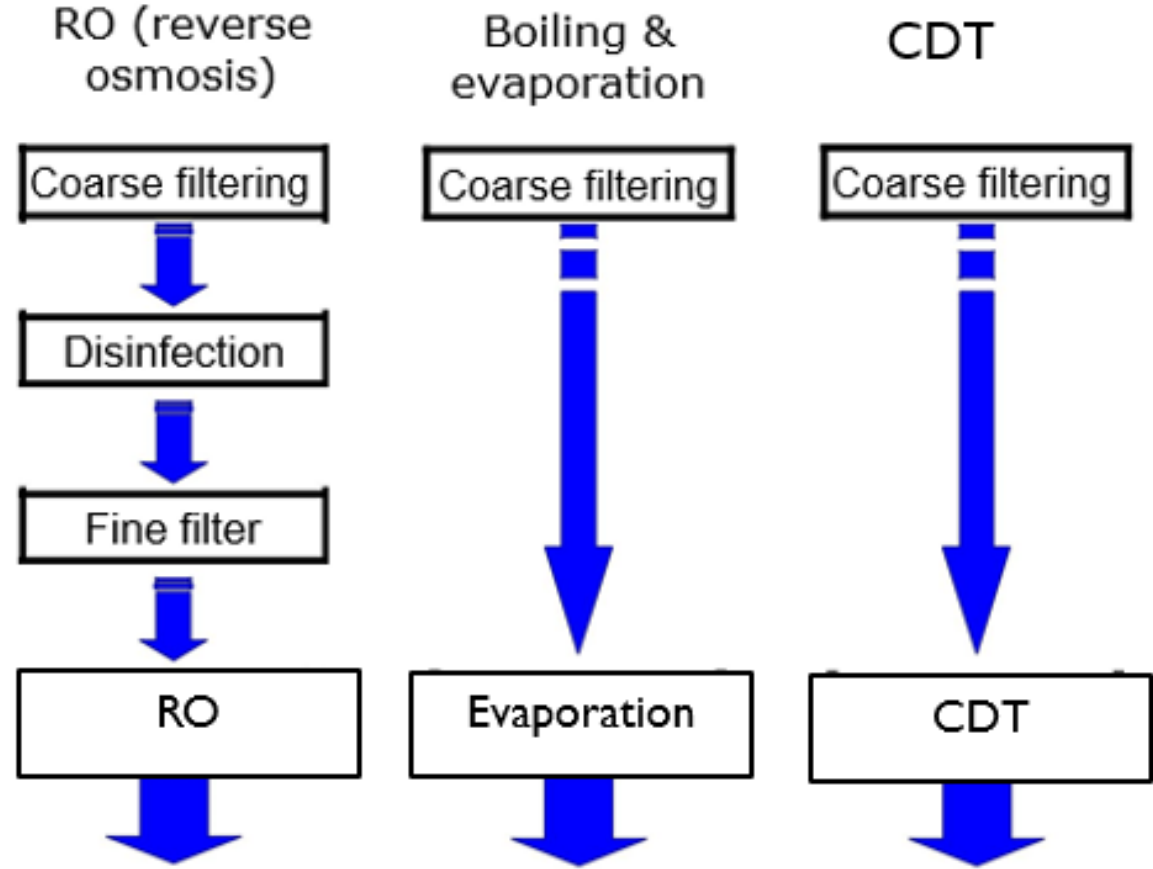
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Desalination: CDT & Others



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CDT comparing with other methods

	RO (reverse osmosis)	Boiling distiller*	CDT
Pre-filtering	Required	Required	Required
Disinfection	Required	No	No
Fine-filtering	Required	No	No
Desalination quality	99.4% average,	100% H2O Salt: <10g per liter	100% H2O Any (!) % of salts
Scurf&sediments	Yes	Yes	No (!)
Dependence on % of includes in water	Yes, strongly depends	Scurf dramatically grows if % of salt is high	Almost no dependence

* Important note! Most of *distillers* are not suitable for desalination of salt water, only for distilling tap water!

** Parameter calculated according to known data for steam desalination plant.

*** Parameter value now. To be improved in close future.



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Pre-treatment requirements

	RO (reverse osmosis)	Regular Distillers	CDT
Pre-filtering	Yes	< 100µm	< 100µm (normal pump requirements)
Fine-filtering	<< 1µm	No	No
Desalination	99.4% average	100% H2O	100% H2O
Scurf	Yes	Yes	No



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CDT applications

- Proposed method is suitable for cleaning water with high concentration of wastes:
 - Cleaning brackish water
 - Salted water
 - Etc.



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CDT advantages

- Pre-treatment, including fine filtering and disinfection, is not required.
- There are no consumable elements like membranes, sorbents, etc: no periodical charges
- Scalability: productivity of plant may be increased by adding next unit without increasing cost price
- Measures and scurf do not prevent desalination process
- 100% ecologically clear
- Salt waste could be separated by components for future use
- Competitive price!



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CDT current parameters

Parameter	Value
Productivity	40l per hour
Energy consumption	380 V, 26 kW
Maximum available % of salt in water	No less than 100g per liter
% of salt in distilled water	No more than 0.1%
W*H*L	
Weight	<700 kg
Mobile version	Yes



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CDT photos



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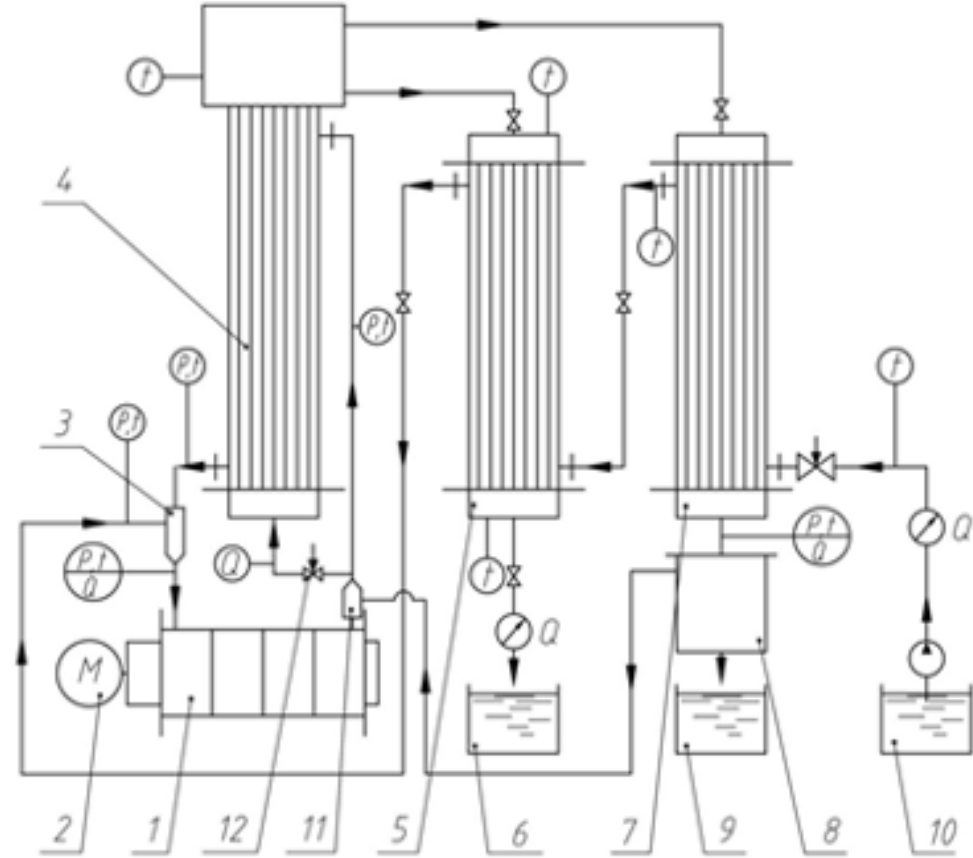
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Updated Principles

1. Water is preheated by **CDT Cracking Technology**
2. Incoming water passes through recuperation system what allows to save energy which is required for heating.
3. Water is converted to a water steam and then condensed in condensation/recuperation unit.
4. Brackish water with concentrated salts and other includes shall be sent further to crystallization.
5. It is expected that between 60 and 80% of water will be distilled and only 20...40% shall be used for crystallization.



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Stages

Project stages

1. Design – 3...4 weeks
2. Primary components for the pilot unit – 4...8 weeks
3. Final pilot unit – 4...8 weeks



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