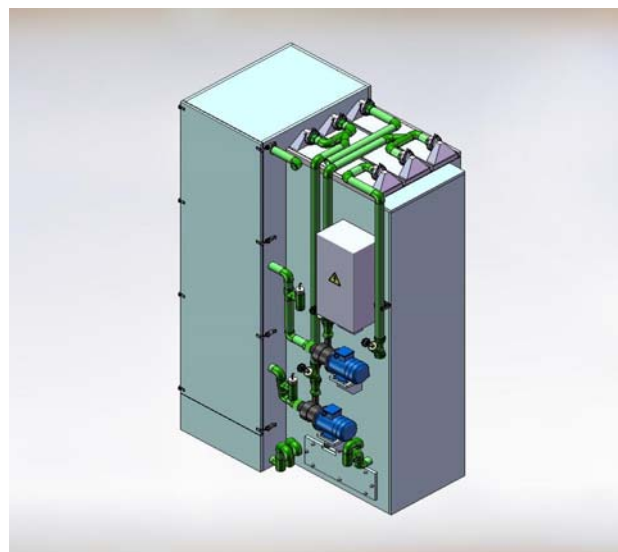


QUESTIONNAIRE

TAPROGGE terrawater

Automatic High-Performance Desalination Unit



① Project Details and Contact

1	Project Name				
2	Plant / Station				
3	Operator / Customer				
4	Person in charge			Title / Function	
5	Phone		Fax		E-mail

② Basic Data required for Proposal

please tick relevant field

6	Project / Ref. no.				
7	TAPROGGE Reference	(if any)			
8	Type of feed water	<input type="checkbox"/> well	<input type="checkbox"/> river	<input type="checkbox"/> sea	<input type="checkbox"/> brackish <input type="checkbox"/> waste
9a	Flow rate: Input (feed)	min.		normal	max.
9b	Flow rate: Output (product)	min.		normal	max.
10	Kind of feed water intake (if any) – please specify				
11	Type of feed water prescreening (if any)	<input type="checkbox"/> travelling band screens	<input type="checkbox"/> coarse screens	<input type="checkbox"/> fine screens	<input type="checkbox"/> skip rakes
		<input type="checkbox"/> other:			
12	Pressure in water supply line				bar
13	Location of unit	<input type="checkbox"/> indoors	<input type="checkbox"/> outdoors		
14	Kind of power supply	<input type="checkbox"/> grid	<input type="checkbox"/> diesel generat.	<input type="checkbox"/> solar panel	<input type="checkbox"/> others
		please specify:			
15	Kind of heat supply (if applicable, see ⑥B + C)	<input type="checkbox"/> waste steam	<input type="checkbox"/> diesel generat.	<input type="checkbox"/> solar thermal	<input type="checkbox"/> others
		please specify:			

③ Additional Data

please tick relevant field

16	Ambient temperature	min.		normal		max.		°C	
17	Feed water temperature							°C	
18	Feed water salinity							ppm	
19	Chemical treatment of feed water?	<input type="checkbox"/>	chlorination	<input type="checkbox"/>	ferrous sulfate	<input type="checkbox"/>	phosphate	<input type="checkbox"/>	acids
		<input type="checkbox"/>	Others: please specify						
20	Complete water analysis	if any, please submit							
21	Shall the brine be reused as feed water (concentration mode)?	<input type="checkbox"/>	Yes; see ⑥A				<input type="checkbox"/>	No	
22	Distance between water source (intake) and installation location of the unit							m	
23	Geodetic height between water source (intake) and installation location of the unit							m	
24	Distance between the unit and the product water tank							m	
25	Geodetic height between the unit and the product water tank							m	

④ Design Data

please tick relevant field

26	Design code	<input type="checkbox"/>	ASME	<input type="checkbox"/>	AD-Merkbl.	<input type="checkbox"/>	others		Flanges	
27	Max. tolerable height of the unit							m		
28	Containerized installation requested?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No					
29	Remote diagnostics requested?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No					
30	Feed water tank to be supplied by TAPROGGE?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No					
31	Product water tank to be supplied by TAPROGGE?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No					
32	Discharge water tank to be supplied by TAPROGGE?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No					
33	Requested plant availability					hours /day		days / year		
34	Site drawings submitted?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	Water analysis submitted?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
35	Voltage / type of enclosure		V	IP		50 / 60 Hz	AC / DC	Ex proof		
36	Specification available?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	Delivery date required				

⑤ Local Cost Structure

	Amount	Currency	Unit
37	Price of electrical energy		/kWh
38	Price of drinking water		/m ³
39	Price of feed water (if any)		/m ³
40	Price for discharge of waste water (if any)		/m ³
41	Price of water additives for product water		/m ³

⑥ Special Equipment Data

A. Brine Concentration Mode

1	In such case cooling water is required; preferably from the same source as the feed water							
2	How much cooling water would be available?						l/h – m ³ /d	
3a	Cooling water temperature (in)	min.		normal		max.		°C
3b	Cooling water temperature (out); max. allowed						max.	°C
4	Requested concentration factor of discharge water						%	

B. External Heat Source

1a	Temperature of heating medium (in)	min.		normal		max.		°C
1b	Temperature of heating medium return (out); max. allowed						max.	°C
2	Thermal energy of heat source						kWh/.....	

C. Solar Heat Source

1	Solar radiation at proposed site	min.		normal		max.		kWh _{therm.}
2	Daily sun shine time over the year	min.		normal		max.		h
3	Please provide weather data or give coordinates of the area concerned							

D. Plant Enhancement

1	Mineralization unit requested?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No				
2	Product sterilization by UV / ozone requested?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No				
3	Bottling plant requested?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No				
4	Additional power output requested?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No				
	If YES, please specify:	<input type="checkbox"/>	CoGen	<input type="checkbox"/>	Diesel generat.	<input type="checkbox"/>	Gas	<input type="checkbox"/>	Biogas
	Capacity :							kW	

please tick relevant field

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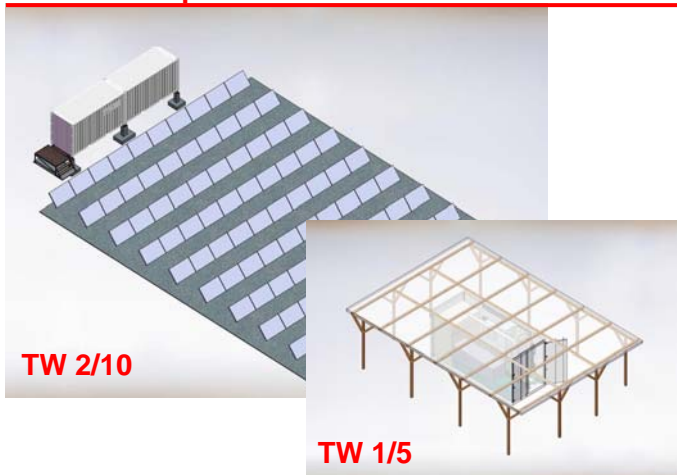
filled up by:

place, date:

Remarks:

⑦ Configuration Examples

A. Solar powered unit



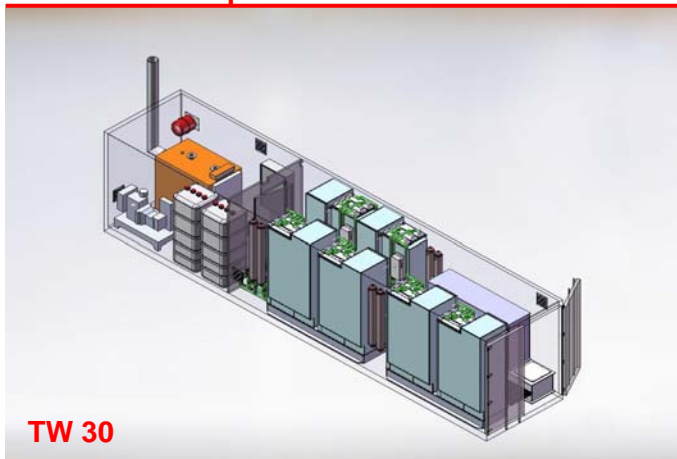
Production capacity: 1 to 10 m³/d
 (depending on solar field size and site radiation capacity)

Installation in 20" high cube container

Optional:

- Mineralization unit
- Remote diagnostics
- Connection for additional heat source

B. Oil / Gas powered unit – stand-alone



Production capacity: max. 30 m³/d

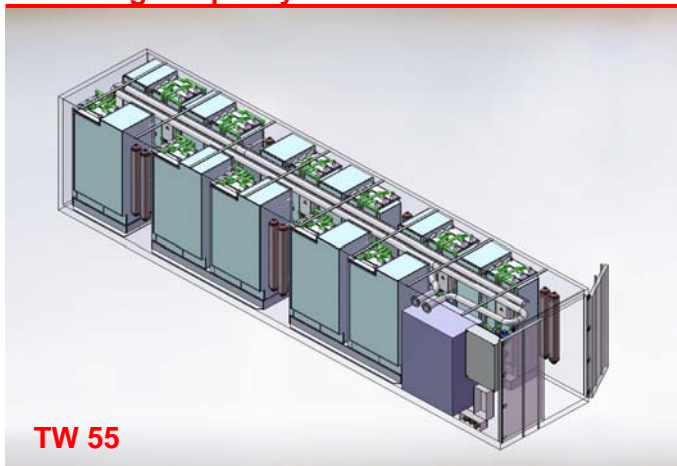
Installation in 40" high cube container

- Mineralization unit included
- Heat source integrated
- Power source integrated

Optional:

- Connection for additional heat source
- CoGen unit with 230 kW_{el}

C. High Capacity unit



Production capacity: max. 55 m³/d

Installation in 40" high cube container

- Connection for additional heat source

Optional:

- Extension with more TW units
- Additional components like: filtration units, tanks, mineralization etc.