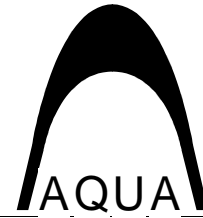


QUESTIONNAIRE DESALINATION



WATER IS OUR LIFE

1. GENERAL INFORMATION

Project name _____

Client: _____

Responsible Person _____

Address _____

Tel. / Fax _____

E-mail / Internet _____

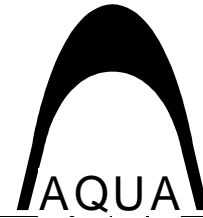
Requested:

Further information / Plant description

Budget Price

Detailed Offer

QUESTIONNAIRE DESALINATION



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TECHNICAL INFORMATION

1.1 Plant location (Town / District / Country)

Level above sea (m) _____ Ambient temperature min./ max. (°C); _____
Relative humidity (%) _____ Max. wind speed (km/h) _____
Distance from sea / raw water source (m) _____
Plant area (in m x m) _____ (please add sketch or layout)

1.2 Plant capacity in m³/d _____ in m³/h _____

continuous emergency

1.3 Annual temperature range: _____

1.4 Required treated water quality:

- | | |
|--|---|
| <input type="checkbox"/> Drinking Water (WHO) | <input type="checkbox"/> Drinking Water (other Requirement) |
| <input type="checkbox"/> Process Water | <input type="checkbox"/> Cooling Water |
| <input type="checkbox"/> Boiler Feed Water | <input type="checkbox"/> Pure / Ultrapure Water |
| <input type="checkbox"/> other (please indicate) _____ | |

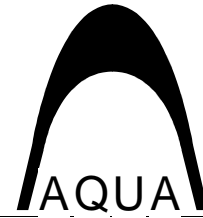
(If other than drinking water WHO please add specification for required treated water quality!)

1.5 Available Raw Water source:

- | | |
|--|--|
| <input type="checkbox"/> Well Water | <input type="checkbox"/> Open Sea Intake |
| <input type="checkbox"/> other (please indicate) _____ | |

Available raw water quantity (Minimum / Maximum) _____m³/h
(Please add specification for raw water quality according to analysis data sheet!)

QUESTIONNAIRE DESALINATION



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2. SCOPE OF SUPPLY

2.1 Type of plant:

- containerized (open air installation) skid mounted (indoor installation)
- conventional other _____

2.2 Raw water pump station (*please indicate*):

- yes
pipeline length _____ m geodetic height _____ m
- no
available feed water pressure (min. / max.): _____ bar

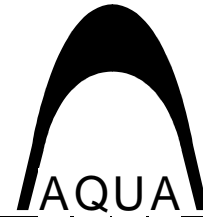
2.3 Treated water delivery to:

- existing storage tank
distance from plant _____ m geodetic height _____ m
- existing network
distance from plant _____ m geodetic height _____ m
- working pressure _____ bar

2.4 Storage tanks required:

	Capacity in m ³	Type of construction (Concrete, stainless steel, ...)
<input type="checkbox"/> raw water	_____	_____
<input type="checkbox"/> treated water	_____	_____

QUESTIONNAIRE DESALINATION



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3. Design requirements: Electrical and Control System

3.1 Power supply

Voltage (V) _____

Frequency (Hz) _____

Available Power (kW) _____

max. current (A) _____

Power Generator Set required:

yes

no

3.2 Process Control / Plant Automation

automatic (local)

automatic (Remote control, MODEM)

manual

3.3 Energy recovery required:

yes

no

4. Other Components / Auxiliaries

Spare Parts for _____ month(s) of operation

Operation chemicals for _____ month(s) of operation

Electrical and Mechanical Tools (*please specify*)

Laboratory Equipment / Test-Kits and Laboratory Chemicals for _____ month(s)

5. Commercial

Offer for financing requested:

yes

no

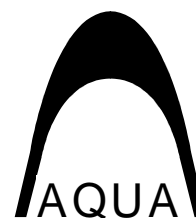
6. Special, Preferences

Please, describe any special requirements not mentioned in the questionnaire.

Attachments:

Available Data: Raw water analysis, Treated water requirements,

QUESTIONNAIRE DESALINATION



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7. Water Analysis Data Sheet:

The following is a form for a full analysis of raw water. If less information is available please insert available data or attach copy of available information.

Note: *) Parameters required in any case **) Additional parameters required for well water

General Parameters:

Location		Sample date	
Type of water (surface, well, other)			
Color		Taste / Odor	

pH-Value *)	-		Electrical conductivity *)	µS/cm	
Temperature *)	°C		Dissolved Oxygen **)	mg/l	

Alcalinity and Hardness: (use convenient unit:mg/l , ppm, meq /l or ppmCaCO3)

	Unit	Value		Unit	Value
p-Alkalinity			Total Hardness **)		
m-Alkalinity			Carbonate Hardness		
Carbon Dioxide CO ₂					

Individual ions: (use convenient unit:mg/l , ppm, meq /l or ppmCaCO3)

Cations		Unit	Value	meq / l		Unit	Value
Calcium *)	Ca ⁺⁺			Bicarbonate *)	HCO ₃ ⁻		
Magnesium *)	Mg ⁺⁺			Chloride *)	Cl ⁻		
Sodium *)	Na ⁺			Sulfate *)	SO ₄ ⁻⁻		
Potassium *)	K ⁺			Nitrate *)	NO ₃ ⁻		
Ammonium *)	NH ₄ ⁺			Nitrite	NO ₂ ⁻		
Total cations	c(eq)	-----		Total anions	c(eq)		

Total Dissolved solids *) (TDS)		
---------------------------------	--	--

Iron, Manganese, Silica etc. :

Iron **)	Fe	mg/l		Silica *)	SiO ₂	mg/l	
Manganese **)	Mn ⁺⁺	mg/l		Hydrogen Sulfide **)	H ₂ S	mg/l	

Solids:

Total Suspended Solids	mg/l		or Turbidity *)	NTU	
------------------------	------	--	-----------------	-----	--

Organics:

Permanganate - Index	mg/l O ₂		Chemical Oxygen Demand COD	mg/l	
Org. Carbon (TOC/DOC)	mg C /l		Biological Oxygen Demand BOD ₅	mg/l	

Other: (Any harmful / toxic substance present in raw water: Oil, detergents, pesticides, heavy metals, cyanide ...)
