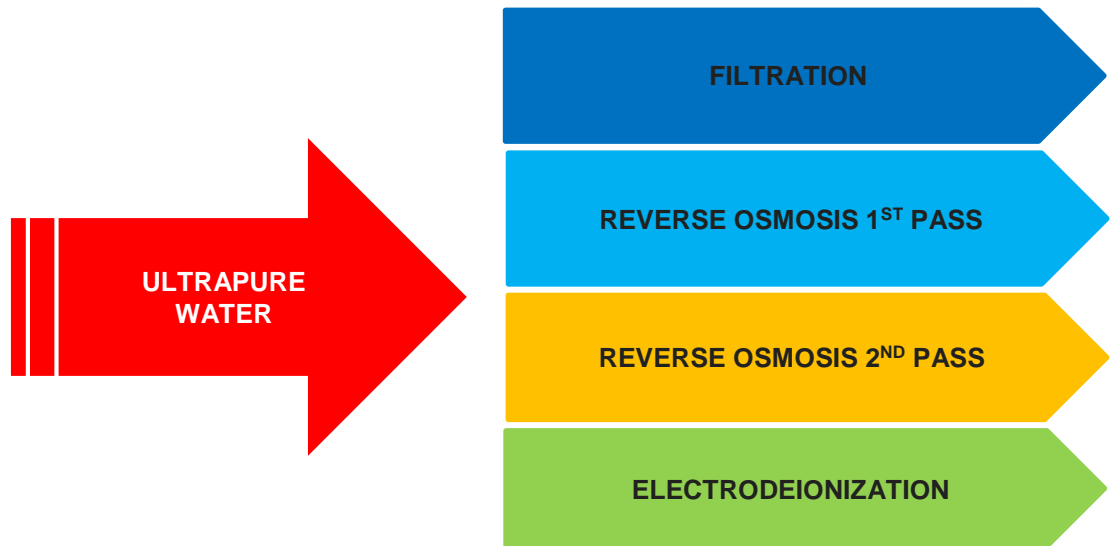


APPLICATION SHEET **ULTRAPURE WATER**

Ultrapure water (UPW) is water that has been purified to very strict specifications, containing by definition only H₂O, and H⁺ and OH⁻ ions in equilibrium. Therefore, ultrapure water conductivity is about 0,055 uS/cm at 25oC, also expressed as resistivity of 18,2 MOhm. Ultra-pure water is mainly used in the semiconductor and pharmaceutical industry often is produced through processes like membrane filtration or ion exchange to reach the ultimate conductivity of 10 uS/cm. The demineralized water is then processed through a high performance Mixed Bed or by Electro deionization.

SOLUTION:

In general these are the main steps to achieve desired ultrapure water quality



OPERATING PARAMETERS:

- TDS..... 100-12,,000 mg/l (as NaCl)
- SDI15..... < 3.0
- Temperature..... 25 to 35°C (77 to 95°F)
- Recovery 70 to 85%
- Nominal Rejection >98%
- Incoming Power.....480/380/220/110V 60/50Hz

Note: Required 3bar (45psi) minimum customer supplied pressure to high pressure RO Feed Pump. Temperatures and high salinities will reduce system productivity

LOW CHEMICAL CONSUMPTION

We use the most efficient systems and design to reduce the chemical consumption.

NETWORK READY

We provide an Ethernet port in our PLC so you can connect and pull all the information you need.

LOW NOISE

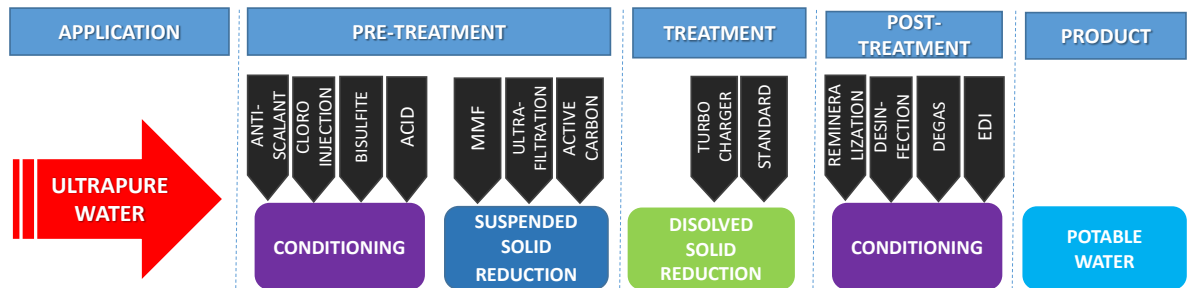
We use low rpm motor for the RO pump. This reduces substantially the noise level making the system surrounds a much better place to work.

CONTAINERIZED OPTION:

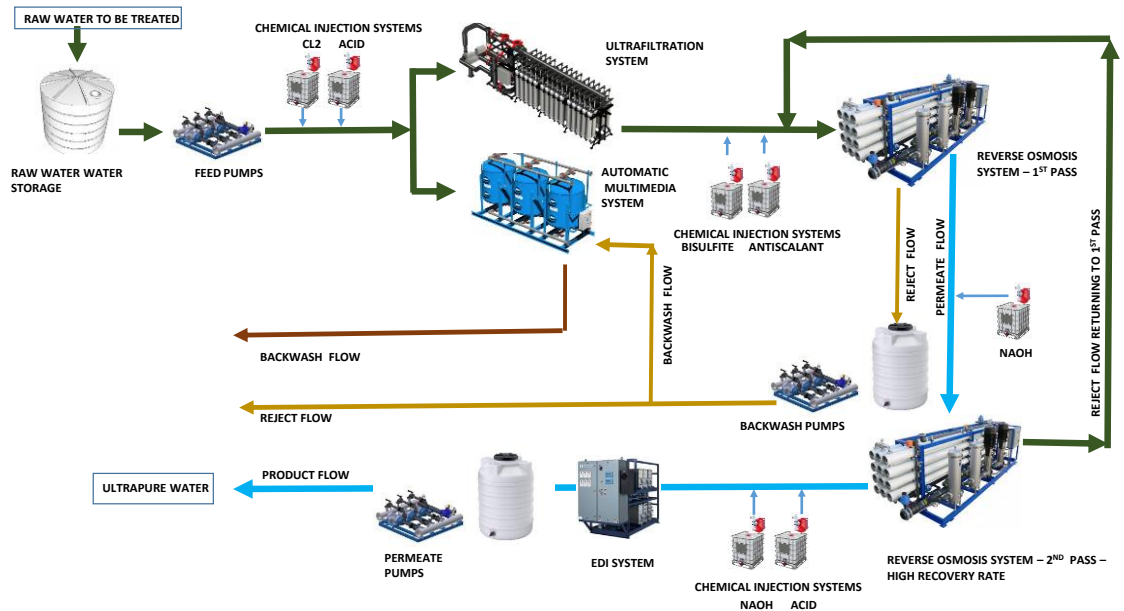
System is build inside the standard ISO 40 feet acoustic and thermal isolated container proving a robust and reliable housing for the delicate equipment inside and expediting the deployment and commissioning of the system substantially.

OUR SOLUTION

Typically we recommend the following steps:



Complete flowchart for ultrapure water production showing the ADVANCEES systems. This flowchart vary based on raw water quality and customer's requirement. Many options and combinations are possible, the best solution needs to accommodate the minimum life cycle cost such as low operating cost, low maintenance, easy to operate and monitor



Most common EDI modules available



TECHNICAL SUPPORT

Commissioning, Start-up, operators training, maintenance training, retrofits and modernization are available.

ZERO DOWNTIME

We supply all the basic two years critical spare parts with our units. Also we use very well know and proved components in all of our systems.

TURNKEY SOLUTIONS

We can provide the basic RO systems plus all pretreatment and Post treatment such as:

- Chemical injection systems
- Multimedia systems.
- Calcite contact tanks
- Ozono generators
- UV disinfection
- H₂S removal

For more information on any of our products or services please visit us on the Web at: www.advancees.com

Technical Data:

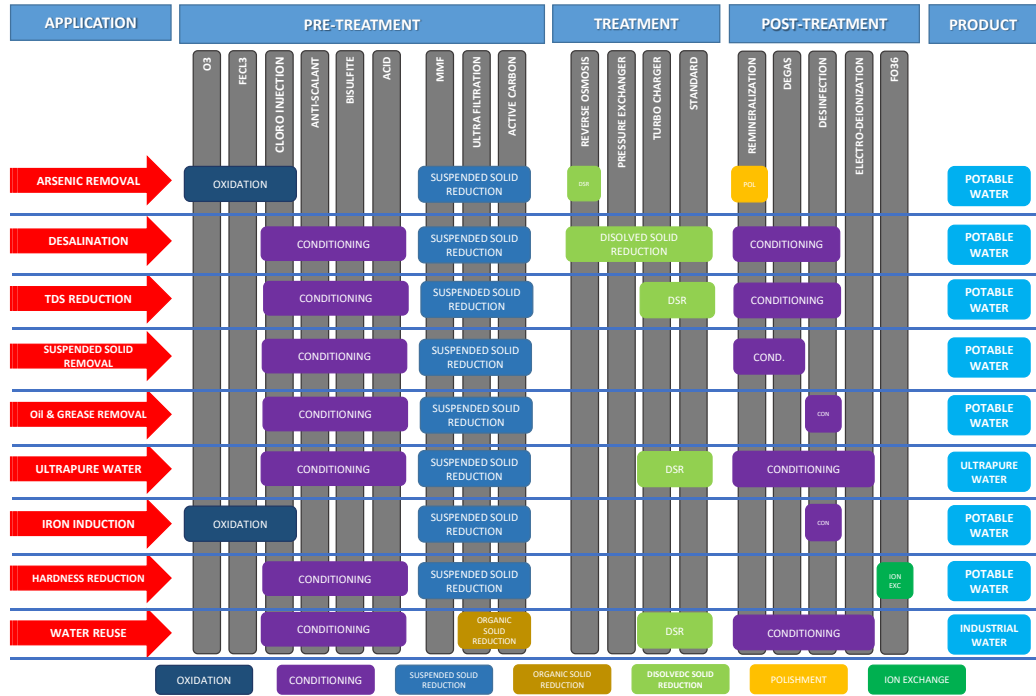
Component	Brand	Model
RO pump	FEDCO	MSS - duplex
Pressure vessels	PROTEC	RO-1000 – 4
Membranes	HYDRANAUTICS LG NanoH2O Lewabrane	SWC6-LD SW SW
Plc	DIRECT LOGIC	06
HMI (touch screen)	C-MORE	EA9 – 7”
Flush pump	GOULDS GRUNDFOS	ESV-316 CRN
High pressure piping	ZENON	316SS
Low pressure piping	GF	Sch 80 – Gray
High pressure switch	PROSENSE	MPS – 150 PSI
Low pressure switch	PROSENSE	MPS – 1500 PSI
Variable frequency drive	POWTRAN LSIS	P19000 IV
Multimedia filters	WATERCO FLUIDRA	SW MSS
Filters media	TURBIDEZ	Zeolite
Cartridge filter 5 micros	HMD	7-40
Inlet Valve actuator	VALWORX	45554 – 3”
Conductivity meter	HM-DIGITAL	PS-150
Flow meter digital product	GF-SIGNET	2536
Flow meter digital reject	GF-SIGNET	2536
UF modules	Qua Polycera	Qua-sep Titan
EDI modules	GE IONPURE SNOW DOW	

CUSTOMIZATION

We customize any of our system to your needs, please send us your inquiry for a quick proposal. sales@advancees.com

For more information on any of our products or services please visit us on the Web at: www.advancees.com

Other Applications Offered:



You can find more detailed information of the different applications at www.advancees.com/applications