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5000LPH UF Water Filtration System



1. Design basis and treated water standard:

- Target water quality standard: Mineral water for Drinking
- Capacity of pure water production for UF system: 5,000 liters per hour
- Water utilization ratio : 50% - 65%
- Mode of Operation: Full Automatic

2. System requirements:

2.1 Inlet pipelines: inlet pipe connected with the raw water tank entrance.

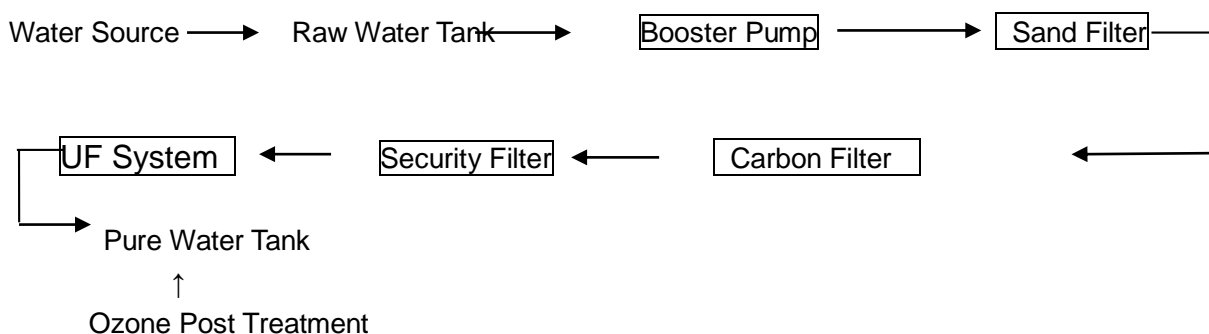
2.2 Cable: According to the calculated capacity of electric power, the user should send it on the control cabinet.

2.3 Outlet water pipelines: From pure water tank to the pure water using point.

2.4 Concentrated Water Treatment: Discharge to the wastewater pool (user considered).

2.5 Water temperature: 5-35°C

3. Process:





4. Process Description:

The process includes pretreatment, ultra filtration system, and post treatment (Ozone generator)

1) Raw water pretreatment part:

Raw water contains many impurities, such as suspended solids, colloidal, organic and inorganic. To ensure Reverse Osmosis Desalination System at normal operation, the suspended solids, colloids, organic matters must be removed in advance, so that feed water to reverse osmosis system meets the requirement. So, the pretreatment part should be equipped. The pretreatment part includes: Mechanical Filter, Activated Carbon Filter and Security Filter.

(1) Mechanical filter:

Ultra filtration equipment has the high requirement to the turbidity of the feed water, especially ultra filtration water's pollution index value requests less than 4 SDI and turbidity less than 1NTU. Multi-media filter filled with several specification quartz sand, which remove suspended solids, colloid from raw water.

(2) Activated Carbon Filter:

Ultra filtration equipment requests residual chlorine content be less than 0.1mg / L, so used activated carbon filter removing chlorine from raw water avoiding ultra filtration membrane getting contamination.

Meanwhile, it can adsorb organic matter in raw water. Activated carbon filter inside filled with the coconut shell refined activated carbon, for adsorbing the chlorine, organic matter, some pigments and harmful substances, reducing the chemical oxygen demand(COD).

Activated carbon is widely used in life water, the food industry, chemical and other industries. Due to large specific surface area and the surface covered with lots of micropores, therefore, activated carbon with high adsorption capacity.

(3) Security filter:

Security filters are micro-filtration equipment, playing the insurance role in the pretreatment, to prevent the particles into the water pump and ultra filtration system.

2) Ultra filtration purification parts:

UF system for water purification has advantage of cover small area, high quality pure water production and high automatic degrees. This system applies pollution resistant UF membrane as the main component of water treatment.

UF membrane component is a kind of capillary internal pressure type hollow fiber membrane with the characteristic feature of good hydrophilic, pollution resistant and long service life. It can ensure the high quality pure water production, with the perfect separating capacity for colloidal substances, suspended particle, germs and macromolecular organic material.

5. Main Components List:

Item	Name	Material	Model	Qty (Set)	Remark
1	Booster pump	SUS304	CNP CDL8-30	1set	380V, 1.1kw

2	Mechanical filter	SS304/FRP	Φ750 x H1800	1set	Quartz sand:750KG
3	Carbon filter	SS304/FRP	Φ750 x H1800	1set	coconut-shell active carbon 225KG
4	Precise filter	Stainless steel	30"x5	1set	30"PPx5core
5	UF membrane	hollow fiber	4040 x 1m	10pcs	
7	Conductivity of the table		CM230A	1set	
8	Panel flow meter		35GMP	2set	
9	Pressure gage	SUS304	1.5Mpa	3pcs	
10	Pressure Controller		P6E	1set	
11	Main frame	SS304		1pc	
12	Pipes and pipe fittings	PVC-U	DN40、DN32	1 batch	
13	Control electric box			1set	
14	Screw/joint etc			1 batch	

7. Pictures of the UF Water filtration system

