



Sand filter introduction document

KHN WATER TREATMENT EQUIPMENTS CO., LTD.



Quartz sand filtration is one of the most effective means to remove suspended solids in water. It is an important unit in advanced sewage treatment, sewage reuse and water supply treatment. Its function is to further

remove the flocculated pollutants in the water. It achieves the purpose of water purification through the interception, sedimentation and adsorption of the filter material.

The quartz sand filter uses quartz sand as the filter medium. The filter material has the remarkable advantages of high strength, long life, large processing flow, stable and reliable effluent water quality. The function of quartz sand is mainly to remove suspended solids, colloids, sand and rust in water. The water pump is used to pressurize, so that the raw water passes through the filter medium to remove suspended solids in the water, thereby achieving the purpose of filtration.

1. Unique multi-filter chamber structure can realize online backwashing (filtering, draining and backwashing at the same time).
2. According to the water pressure of the system, the tank material can choose to use carbon steel or glass steel.

I. Scope of application

1. Used for industrial water, domestic water and municipal water supply systems that require effluent turbidity $\leq 5\text{mg/L}$ to meet drinking water quality standards;
2. Removal of suspended solids and solids in industrial wastewater;
3. It can be used as pretreatment equipment in ion exchange softening and desalination systems, and coarse filtration equipment for industrial water supply that does not require high water quality;

4. And used in swimming pool circulating treatment system, cooling circulating water purification system, etc.

II. Technical parameters

2.1. Treatment effect

- ①. Influent turbidity: <20FTU, effluent turbidity: <3FTU;
- ②. Sewage interception capacity: 5-15Kg/m³ (filter material).

2.2. Working environment parameters

①. Working temperature: 5-60°C (special temperature can be customized);

- ②. Working pressure: $\leq 0.6\text{MPa}$;
- ③. Inlet water pressure: $\geq 0.03\text{MPa}$;
- ④. Backwash water inlet pressure: $\geq 0.15\text{MPa}$;
- ⑤. Pressure difference between inlet and outlet: 0.01-0.015MPa.

2.3. Operating parameters

- ①. Working method: pressure type;
- ②. Operation mode: water flow from top to bottom;
- ③. Filtration speed: 5-10m/h;
- ④. Operating cycle: 2-7 days;
- ⑤. Backwashing method: water washing, or air-water combined backwashing;
- ⑥. Water consumption for backwashing: 1-5%;
- ⑦. Backwash intensity: 4-15L/s·m²;

⑧. Backwash duration: 5-7min;

⑨. Backwash expansion rate: 40-50%.

III. List of specifications and models of quartz sand filter

Model	size Φ×H (mm)	Water Flow (m ³ /hr)	DN (mm)				Weight (t)
			Inlet/ backwash out	Outlet /backwash in	Air out	Diameter	
KSF-400	Φ400×2150	~1.5	DN50	DN50	DN15	400	0.48
KSF-600	Φ600×2250	~3	DN50	DN50	DN15	600	0.6
KSF-800	Φ800×2450	~5	DN65	DN65	DN20	800	0.72
KSF-1000	Φ1000×2550	~7.5	DN65	DN65	DN20	1000	0.9
KSF-1200	Φ1200×2650	~11	DN80	DN80	DN25	1200	1.4
KSF-1500	Φ1500×2850	~18	DN100	DN100	DN32	1500	2.3
KSF-1600	Φ1600×2950	~20	DN125	DN125	DN32	1600	2.6
KSF-1800	Φ1800×3050	~25	DN125	DN125	DN32	1800	2.8
KSF-2000	Φ2000×3150	~30	DN125	DN125	DN32	2000	3.5
KSF-2200	Φ2200×3300	~38	DN150	DN150	DN40	2200	4.0
KSF-2400	Φ2400×3400	~45	DN150	DN150	DN40	2400	4.4
KSF-2500	Φ2500×3450	~50	DN150	DN150	DN40	2500	4.9
KSF-2600	Φ2600×3450	~55	DN150	DN150	DN40	2600	5.1
KSF-2800	Φ2800×3600	~60	DN200	DN200	DN40	2800	5.4
KSF-3000	Φ3000×3900	~70	DN200	DN200	DN40	3000	6.0
KSF-3200	Φ3200×4500	~80	DN250	DN250	DN40	3200	6.7
KSF-3600	Φ3600×4500	~100	DN250	DN250	DN40	3600	7.5

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