

Automatic slag discharge diatomaceous earth filter

Product Description

Diatomaceous earth filter refers to the coating filter with diatomaceous earth coating as the filtration layer, mainly using the mechanical sieving action to deal with the water filtration treatment process containing tiny suspended matters. Diatomaceous earth filters filtered wines and beverages have unchanged flavour, are non-toxic, free of suspended solids and sediments, and are clear and transparent. The diatomite filter has high filtration accuracy, which can reach 1-2 microns, can filter out Escherichia coli and algae, and the turbidity of the filtered water is 0.5 to 1 degree. The equipment covers a small area, low height of the equipment, the volume is only equivalent to 1/3 of the sand filter, can save most of the investment in civil construction of the machine room; long service life and high corrosion resistance of filter elements.



The core part of the diatomite filter is composed of three parts: cylinder, wedge mesh filter element and control system. Each filter element is a perforated tube that serves as a skeleton, with a filament wrapped around the outer surface, which is coated with a diatomaceous earth cover. The filter element is fixed on the partition plate, above and below which are the raw water chamber and the fresh water chamber. The entire filtration cycle is divided into three steps: membrane spreading, filtration and backwashing. The thickness of the filter membrane is generally 2-3mm and the particle size of diatomaceous earth is 1-10 μ m. After the filtration is finished, backwashing is often done with water or compressed air or both. The advantages of the diatomite filter are good treatment effect, small washing water (less than 1% of the production water), and small footprint (less than 10% of the ordinary sand filter area).

The diagram illustrates a continuous casting system. Molten metal is drawn from a ladle (not fully shown) through a tundish into a vertical filter. The filter has multiple vertical channels. Below the filter is a slag valve and a deslagging mechanism. The metal then flows into a filter cake tank. From there, it goes to a clear liquid tank. The system includes a circulating duct with a pump and various valves and sight glasses for monitoring and control. Arrows indicate the flow direction of the metal and the gas flow for forward and reverse blowing.

Application industries

Diatomaceous earth filter is suitable for fruit wine, white wine, health wine, wine, syrup, beverage, soy sauce, vinegar, and biological, pharmaceutical, chemical and other liquid products clarification filtration.

- 1) Beverage industry: fruit and vegetable juice, tea drinks, beer, rice wine, fruit wine, liquor, wine, etc.
- 2) Sugar industry: sucrose, high fructose corn syrup, high fructose corn syrup, glucose syrup, beet sugar, honey, etc.
- 3) Pharmaceutical industry: antibiotics, vitamins, synthetic plasma, Chinese medicine extract, etc.



Parametric diagram of Automatic slag discharge diatomaceous earth filter

Model	Filter area(m²)	Filter blades	Filter capacity (m³/h)	Housing inner diameter (mm)	Dimensions (mm)			Working Pressure (Mpa)	Overall weight (t)
					Length	Width	Height		
JY-DEF-3	3	9	2-2.5	500	1800	1000	1630	0.6	1.2
JY-DEF-5	5	9	3-4	600	2000	1400	2650		1.5
JY-DEF-8	8	11	5-7	800	3300	1840	2950		1.8
JY-DEF-12	12	11	8-10	1000	3300	2000	3000		2
JY-DEF-16	16	15	11-13	1000	3300	2000	3000		2.1
JY-DEF-25	25	15	17-20	1200	4800	2950	3800		2.8
JY-DEF-30	30	19	21-24	1200	4800	2950	3800		3.0
JY-DEF-40	40	17	28-32	1400	4800	3000	4200		3.5
JY-DEF-50	50	19	35-40	1400	4800	3000	4200		3.6

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