



Iron and manganese removal water purifier

Brief introduction

The contents of iron and manganese in groundwater in many areas are high, exceeding or greatly exceeding the sanitary standards for drinking water and industrial water. The water containing iron and manganese has an iron fishy smell. During use, it can produce brown rust spots on various household appliances. Washing clothes will be dyed yellow or brownish yellow water stains. The iron precipitated on the inner wall of the pipe can make iron bacteria grow and make the faucet release "red water"; Water containing iron (manganese) is used in papermaking, textile, film manufacturing or tanning, which can stain the products and can not improve the product quality. In order to meet the needs of domestic drinking water and



industrial water, and develop and utilize iron (manganese) containing groundwater resources, with the cooperation of relevant universities and scientific research institutions, the company has developed a novel and efficient integrated iron (manganese) removal equipment – ZNFMY(Z) series iron and manganese removal water purifier.

ZNFMY(Z) series iron and manganese removal water purifier adopts the latest technology "active biofilm contact oxidation". Due to the simple process flow of the product, there is no need to add any agent for iron and manganese removal. It has the characteristics of stable and reliable operation, strong applicability to water quality, high treatment efficiency and remarkable economic benefits. It is an ideal equipment for iron and manganese removal.

Principle:

Iron and manganese in groundwater generally exist in divalent state. The main principle of water purification of this equipment is: after aeration of iron (manganese) containing groundwater, iron (manganese) in water begins to oxidize. When water flows through manganese sand or special quartz sand filter layer for filtration, due to the chemical action of filter material and iron (manganese) bacteria on the surface of filter material The biochemical action of (*Spiraea multiflora*, *Ferrobacillus carinii* containing iron, unicellular iron bacteria and *Elymus rust*, etc.) begins to take place in the filter material layer, including biochemical reaction, contact oxidation reaction and physical interception and adsorption. The combined action of these processes can greatly accelerate the oxidation, solidification and removal of iron (manganese) in water, so as to achieve the expected effect.



Technological process:

- a. When the concentration of iron in groundwater is 5-10 mg/L and the concentration of manganese is 1-2 mg/L, or when the concentration of iron in groundwater is only 10 mg/L without manganese, the process flow of aeration single-stage iron and manganese removal filter can be adopted: deep well - deep well pump - oxygenated aerator - iron and manganese removal water purifier - water tower (or pool)
- b. If the groundwater contains iron and manganese, i.e. iron is greater than 10 mg/L and manganese is greater than 2.0 mg/L, the aeration two-stage iron and manganese removal process should be adopted: deep well - pressure pump - aeration aerator - primary iron and manganese removal water purifier - secondary iron and manganese removal water purifier - water tower (or pool)

Main performance:

Model	Nor. Diameter D (mm)	Backwash intensity (L/m ² -S)	Processing capacity (m ³ /h)	Equipment load (T)
ZNFMY-5	1000	15	5	6.2
ZNFMY-10	1200	15	10	7.5
ZNFMY-15	1500	15	15	10.2
ZNFMY-20	1600	15	20	12.4
ZNFMY-30	2000	15	30	18.5
ZNFMY-40	2400	15	40	28.2
ZNFMY-50	2600	15	50	33.7
ZNFMY-100	3600	15	100	68.6
ZNFMY-150	4400	15	150	103
ZNFMY-200	5100	15	200	144
ZNFMY-250	5800	15	250	173

Process flow diagram:

