

Deferum Iron Removal System

- Removes up to 75ppm of dissolved iron
- No chemical reagents
- Does not require electricity to operate
- Does not require an operator
- Adjusts to changing contaminant levels
- No consumable parts that need to be replaced frequently
- Filter media has a life span of 25 years
- Utilizes a backwash function that self-cleans the filter media without using any additional external water



(2) IRS-C18-1 MODELS

The Deferum Iron Removal System is recommended for pretreatment in any application that has dissolved iron in the wastewater.

DESIGN

Dissolved iron can present significant problems for wastewater treatment. Once it reaches your water treatment system, the iron will oxidize and foul the equipment resulting in costly maintenance and downtime or decrease efficiency.

INLET

Raw water enters the system through the aerator-degasifier where the dissolved iron will oxidize and precipitate out, and dissolved gasses will be released. It will continue to flow down the hydro-robot and into

the bottom of the filter tank body.

FLOATING FILTER MEDIA

Once the water enters the tank, it will flow upwards towards the floating filter media where the precipitated iron and other contaminants are trapped.

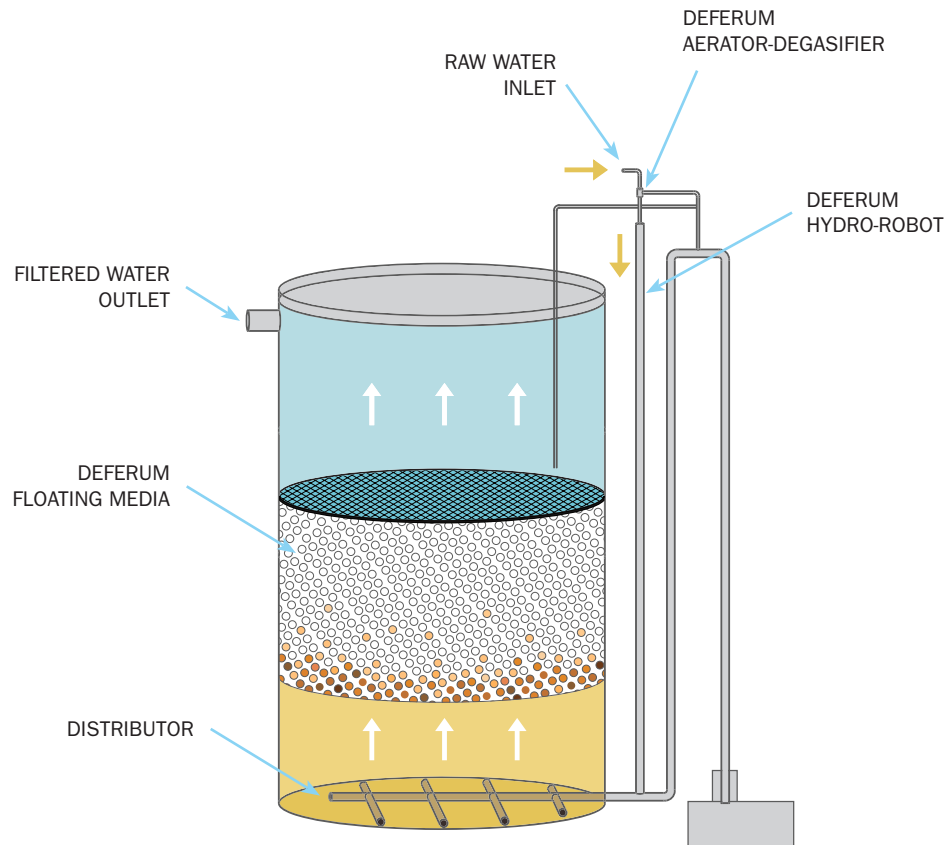
OUTLET

The now treated water will continue to flow upwards and exit the unit through the discharge pipe, or may be pumped to another stage of treatment, such as an air stripper or clarifier.

BACKWASH

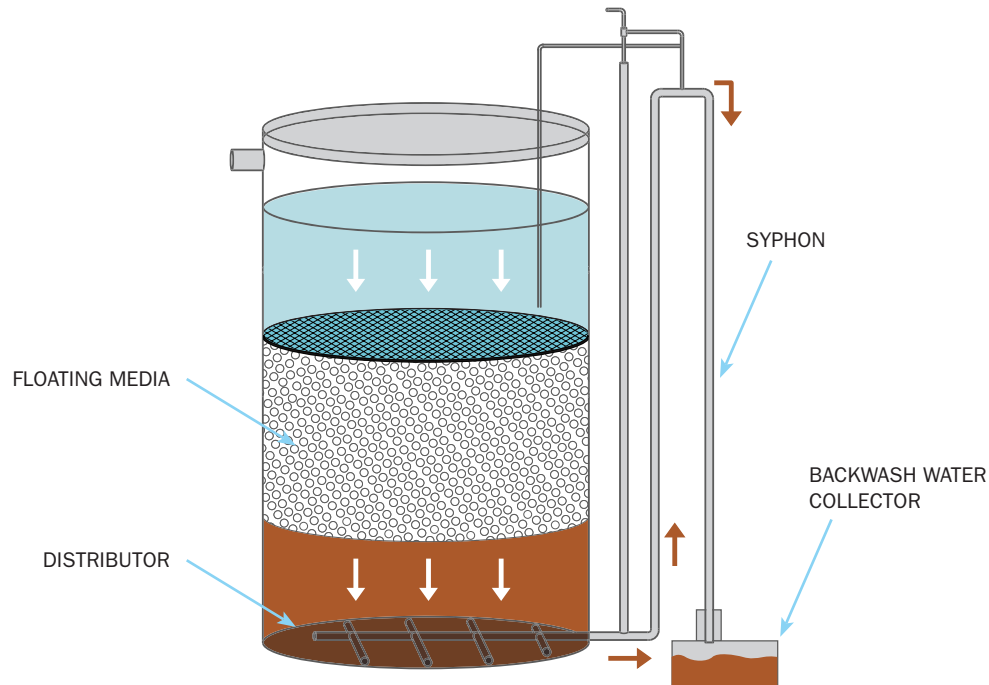
The system utilizes a backwash process that self-cleans the filter media by using the post-filtered water that has not exited the system yet. This process takes only a few minutes and doesn't require an operator. The backwash water exits through the syphon to a collection chamber where it is further treated or disposed of per your local regulations.

IRON REMOVAL FILTERING PROCESS



1. Raw water enters the system through the aerator-degasifier, where the dissolved iron gets oxidized and precipitates out, and dissolved gasses are reduced or removed.
2. Water continues to flow down the hydro-robot and into the filter tank body.
3. Once the water enters the tank, it will flow upwards towards the floating filter media where the precipitated iron is trapped, along with other contaminants.
4. The now treated water will continue to flow upwards and exit the unit through the discharge pipe. This water may be pumped to another stage of treatment, such as an air stripper.

IRON REMOVAL BACKWASH PROCESS



1. As the floating filter media gets saturated, the water level in the hydro-robot rises. This will automatically trigger the self-regulating backwash process.
2. Treated water above the media drops down, expands and scrubs the filtering bed, flushing out the accumulated iron.
3. When the treated backwash water level reaches a pre-set level, the backwash process stops and commissions the filtering process again.
4. The backwash water is gravity discharged from the bottom of the tank and disposed per your local regulations.

No external water is required for this process. The backwash process utilizes less than 3% of the treated water already in the system. This is an automatic process that doesn't require an operator.

DIMENSIONS

Model	Flow Rate (GPM)	Diameter	Height	Height of Hydro-Robot and Aerator Piping	Configuration
IRS-C18-1	18-45	5' 3"	8' 3.21"	12' 3.638"	1 unit
IRS-C91-1	91	7' 7.338"	7' 5.37"	11' 5.795"	1 unit
IRS-C91-1L	91	7' 11.276"	8' 3.21"	12' 3.638"	1 unit
IRS-C182-2	182	(2) 7' 7.338" ea	7' 5.37"	11' 5.795"	2 units
IRS-C182-2L	182	(2) 7' 11.276" ea	8' 3.21"	12' 3.638"	2 units
IRS-C910-10	910	(10) 7' 7.338" ea	7' 5.37"	11' 5.795"	10 units
IRS-C910-10L	910	(10) 7' 11.276" ea	8' 3.21"	12' 3.638"	10 units



Whether an off-the-shelf unit or customized equipment, we'll help you determine the best solution for your application and site-specific needs.

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