

# CONTINUOUS SAND FILTER



# Continuous Sand Filter

Ion Exchange offers a continuous upflow filter, which can filter influent containing up to ten times more dirt than a conventional filter. This revolutionary sand filter does not require to be backwashed to keep the filter bed clean as the sand bed is continuously cleaned and regenerated by internal recycling. This ensures uninterrupted operation without stopping for backwash.

The continuous operation results in a constant and low pressure drop. Maximum clean filtrate is assured since the filter bed always contains a certain amount of solids which improve filtration. This mode of operation also enables the filter to accept a highly polluted flow with high efficiency. The unique cleaning method means backwash water storage tanks and backwash pumps can be dispensed with.

## Principle of Operation

The sand bed of this continuous upflow filter is dirtiest around the feed inlet in the lower part of the filter. The dirty sand is carried from the lower part of the filter through the air lift pump up to the sand washer in the upper part of the filter. The cleaned sand is then returned to the upper layer of the bed. The entire filter bed is thus constantly moving downwards. This continuous action enables it to filter influent containing up to ten times more dirt than a conventional filter.

## Applications

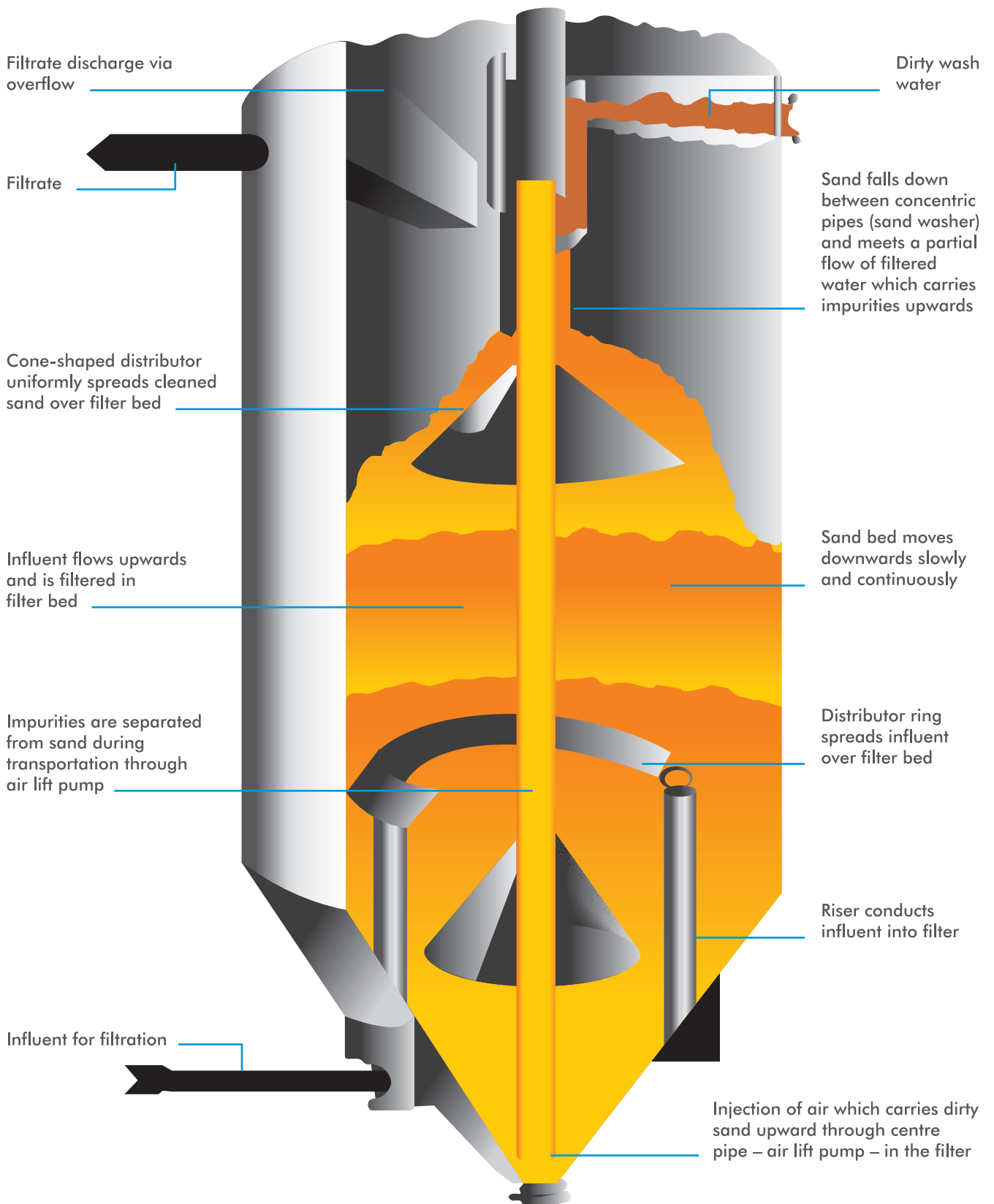
- Raw water filtration for potable use
- Raw water filtration for industrial process water
- Cooling tower sidestream filtration and make up
- Recycling of white water in pulp and paper industry
- Tertiary treatment of sewage
- Treatment of industrial waste water
- Filtration of water to remove mill scale

Features	Advantages
Continuous service flow	Less manpower required
Continuous backwash operation	Eliminates backwash downtime and requirement of backwash accessories like storage tanks, blowers and pumps.  Simple wash water handling.  Removes oil effectively, if present, without 'mud balling' effect.
Handles suspended solids load up to 150 ppm and gives consistent treated water quality of less than 5 ppm	Eliminates the requirement of clarifier for medium loads
Operates at atmospheric pressure	Low energy consumption
Simple modular construction with minimum moving parts	Low operation, space saving, easy capacity expansion

## Technical Features

- The system is suitably designed for operating at atmospheric pressure.
- Filter shell is in mild steel plate or in RCC construction, depending upon the flow rates and requirements.
- Components like inlet hood, overflow weir, collection vessel and sand distribution cone are in mild steel epoxy coated construction.
- Filter media is graded sand which is suitably selected for the application.
- Air lift pump hose is in natural rubber and clamps are of stainless steel.
- Available in various sizes in steel with flow rates of 2 - 100 m<sup>3</sup>/h. For higher flow rates, a concrete walled honeycombed structure is used.
- Surface loading depends upon the type of application and varies from 6 m/h to 30 m/h.

# Working



## Standard Models

Model Number	Filter Area (m <sup>2</sup> )	Diameter (mm)	Height on Straight (mm)	Operation Weight (tons)
DS 03	0.3	640	2700	1.3
DS 07	0.7	960	3125	3.2
DS 15	1.5	1430	4450	9.0
DS 30	3.0	1920	4800	16.0
DS 50	5.0	2550	5850	34.0

## Other Products for Clarification and Filtration

- Chemical Dosing Systems for dosing coagulants and flocculants.
- Solids Contact Clarifier and Lamella Clarifier.
- Multigarde Sand Filter, Dual Media Filter, Pressure Sand Filter and Auto Valveless Gravity Filter.
- Sludge Thickeners, Oil Removal Systems and Ultra Filtration Membranes.

To the best of our knowledge the information contained in this publication is accurate. Ion Exchange (India) Ltd. maintains a policy of continuous development and reserves the right to amend the information given herein without notice. Please contact our regional / branch offices for current product specifications.

**ION EXCHANGE INDIA LTD.**