



**Johnson  
Screens**



# Microfilter Regainer MRT

Processing Solutions for Water Treatment

A brand of  
Aqseptence Group



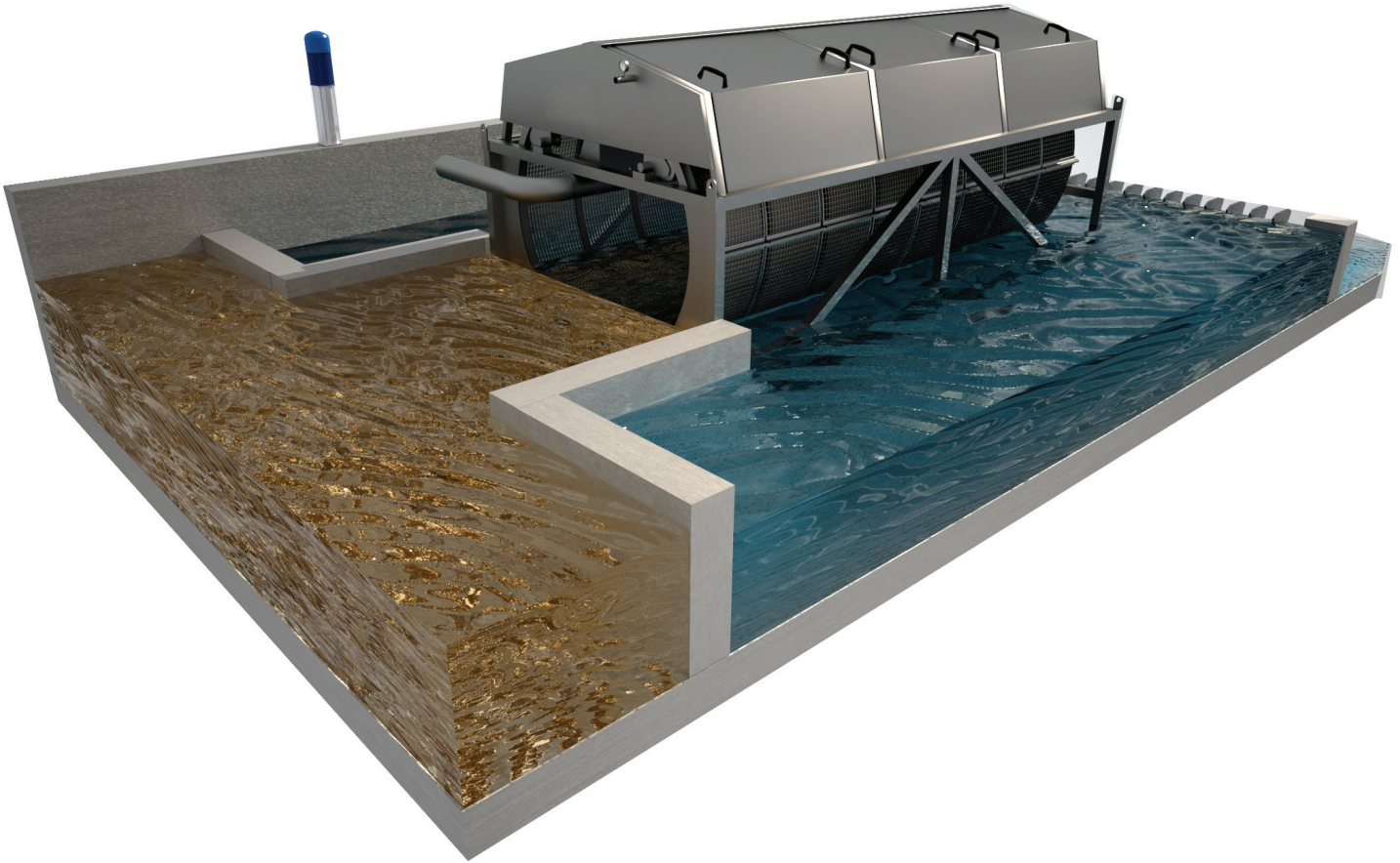
# Rotary Micro Filter

For decades, liquid filtration systems of semi submerged rotating type drums have proven to be highly efficient and reliable in removing solids. Depending on the filter element, solids can be removed as small as 20 micron in size.

The Johnson Screens submerged rotating drum screen is designed filter large volumes of water with low contents of suspended solids, presenting a high hydraulic capacity to size ratio.

The filter element is a polyester mesh welded on cross-linked polypropylene panels, which are mounted on the rotary drum.

A high-pressure pump feeds the cleaning system using flat fan spray nozzles to clean solids from the mesh.



## Benefits

Working at atmospheric pressure with a slow rotation speed, the smooth mechanical action allows solids to be deposited on the mesh screen, avoiding fragmentation and increasing retention when compared to pressurized systems.

- Low-pressure loss, less than 0.4 mm
- The automatic mesh cleaning requires no external water supply, using the filtered water from the effluent
- Drum rotation and screen washing, is intermittent and more energy efficient
- Maintenance is simple and inexpensive

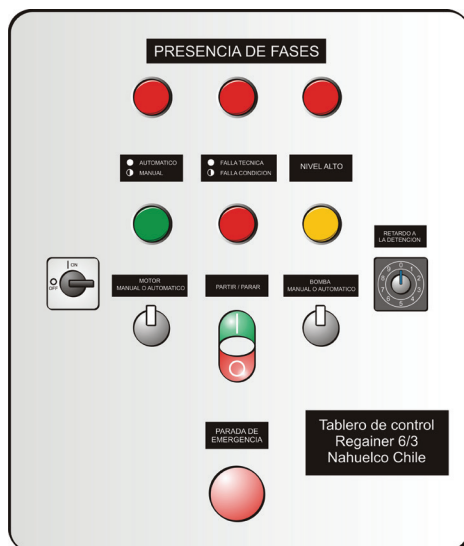


# Regainer MRT

## Applications

Water withdrawal from rivers or lakes for urban or industrial use. Widely used in hatcheries and has great potential for agribusiness, paper, cellulose, mining, thermoelectric and any activity that requires large volumes of water.

- **Municipal Wastewater:** Tertiary filtration.
- **Water:** Used by companies producing drinking water from fluvial, surface water in order to remove micro particles.
- **Fish Farming:** Most widespread use is in filtering the input and output water from aquaculture farming in both open and closed circuits.
- **Effluent Treatment:** In the horticultural industry, as part of the wastewater treatment and filtration and reuse of process water.
- **Industrial Water:** In industrial processes requiring recover microparticles that are suspended in a liquid, such as microalgae, filtering earth, fibers and others.
- **Additional Applications:** Water filtration public swimming pools, artificial lakes, ponds in zoos, aquariums large water-cooling towers, etc.



## Operation

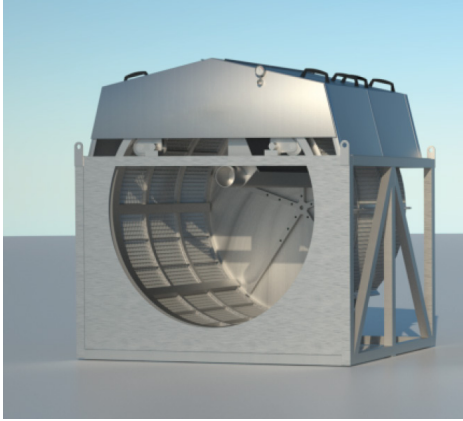
The control panel has two modes of operation: automatic and manual.

In the automatic mode, system operates when a predetermined water level is reached from a level sensor or from a timer.

In manual mode, the end user activates the system.



# Regainer MRT



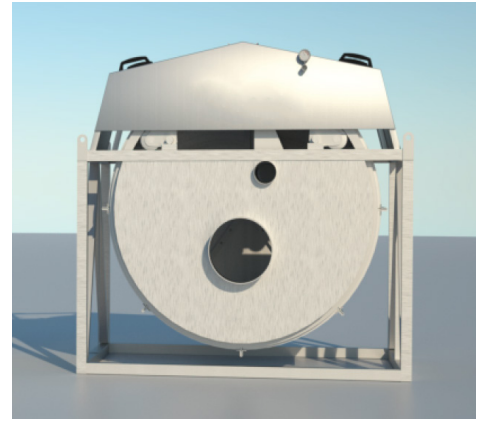
## MRT-PC Channel Equipment

Designed to be installed in a concrete channel. Water flows directly into the center of the drum, flows through the screen and is discharged into the downstream channel. This configuration is commonly used in high-throughput, large installations, often with multiple systems in parallel. Our engineers will provide support for the in channel hydraulic design.



## MRT-CE Self-Contained Equipment

Application with an existing treatment system. The MRT-CE is a self-contained equipment with an inlet and outlet, that can be pipe routed as needed. The MRT-CE does not require construction of civil works for installation, since it has its own integrated stainless steel tank to the frame. The MRT-CE is suitable for small to medium installations, as well as for mobile plant.

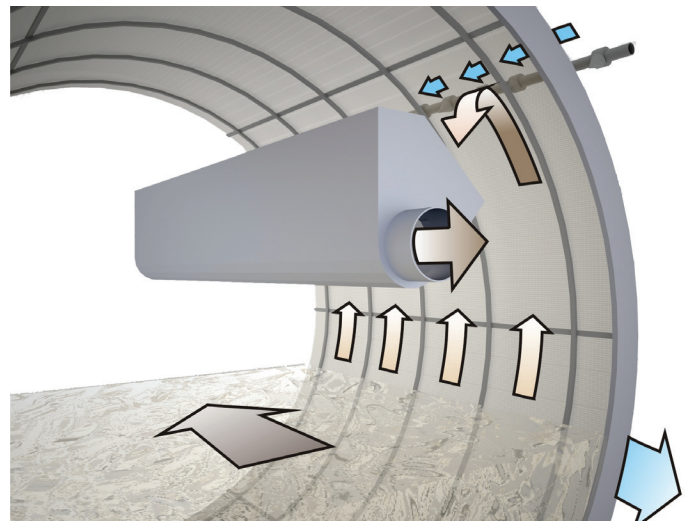


## MRT-PE Above Channel Equipment

This model is an optional system suitable for installing in an existing location. The water enters through a pipe and is discharged directly into a channel or a stream.

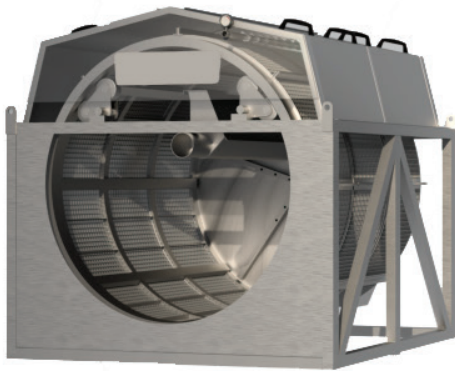
## Principle of Operation

Liquid containing solids enters the rotary drum in the front of the system. Water passes through the micro-mesh filter, which filters out solids. As the mesh clogs with solids and sludge, the water level within the drum increases to the point that triggers the cleaning process. As the drum starts to rotate, nozzles scour the screen with effluent water, returning the screen to its original permeability. This allows the internal water level to drop and stop the cleaning process. Solids that are cleaned from the screen and collected in a trough and are transported from the system for further processing.

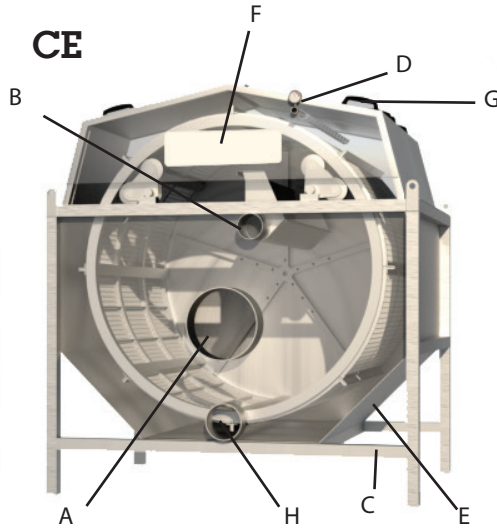


# Regainer MRT Main Components

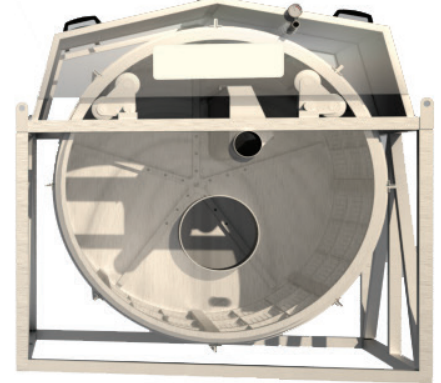
PC



CE



PE



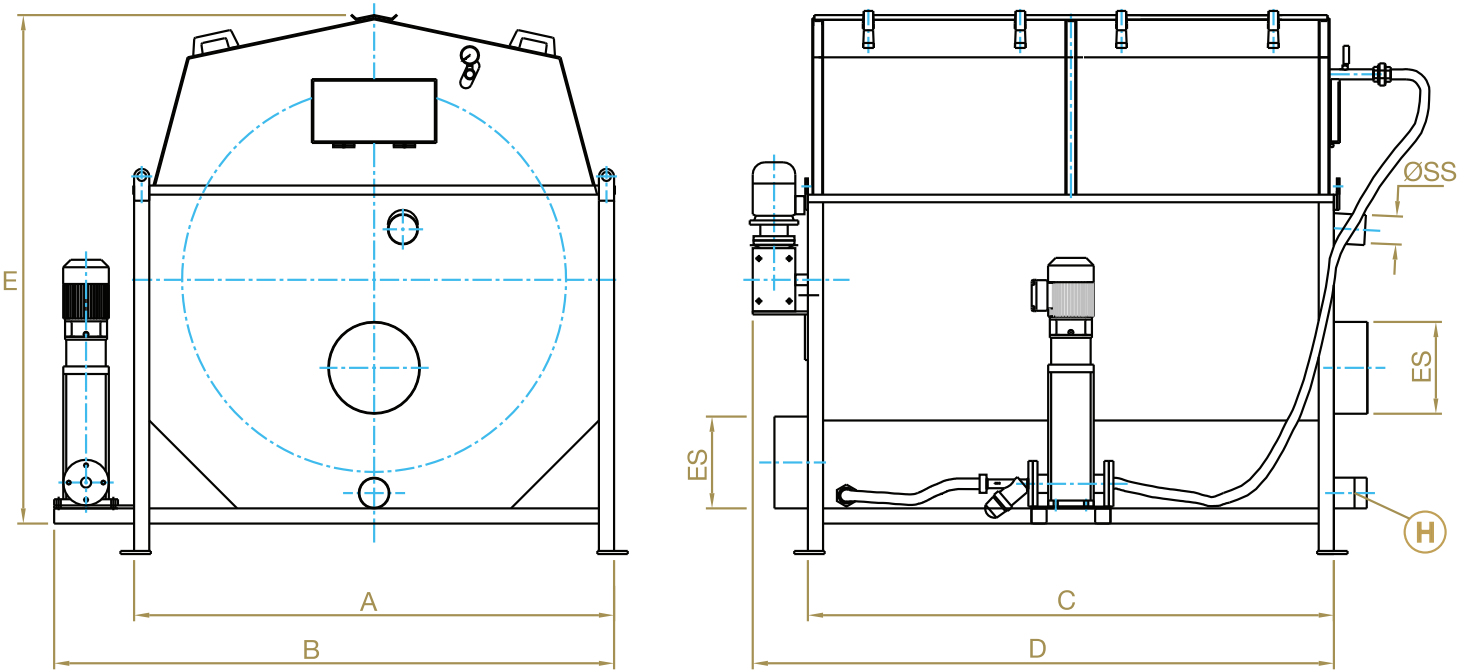
- A Water inlet filter
- B Washwater outlet
- C Filtered water
- D Wash water inlet

- E Filtered water outlet
- F Inspection cover
- G Top cap
- H Water overflow

CE version incorporates an overflow (H) which allows the exit of the water if the internal water level exceeds the maximum level. The PC and PE version are designed to be installed into concrete channel.



# Microfilter MRT CE Version

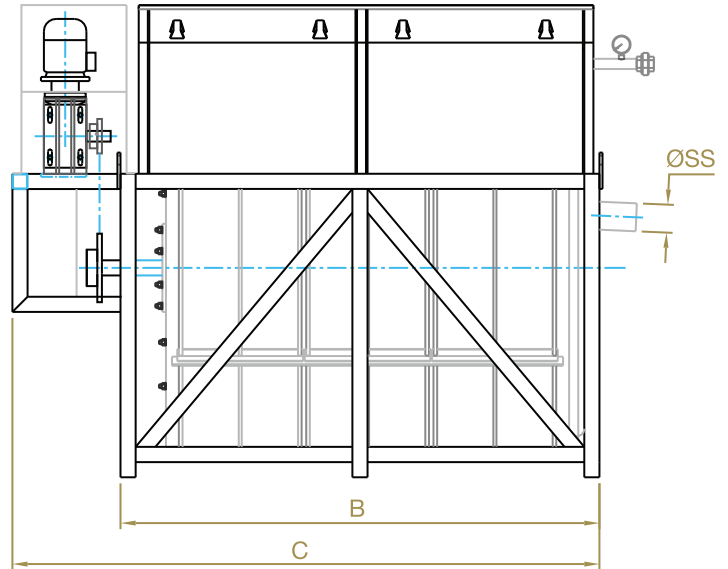
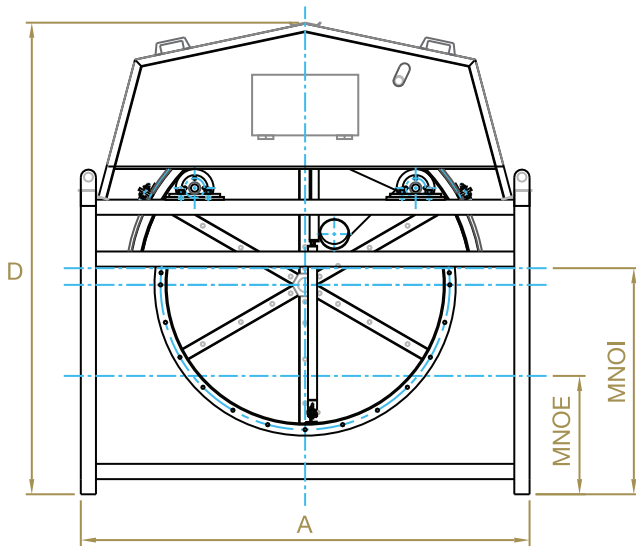


ØSS: Washwater outlet diameter  
ØES: Main outlet and inlet diameter

The Micro Filter Regainer MRT CE version incorporates an overflow weir, allowing water to exit the drum through the overflow pipe (H) if the internal water level exceeds the operational maximum.

Applications	MRT VERSION CE										
	4/1	4/2	6/2	6/3	8/3	8/4	8/5	8/6	10/5	10/6	10/7
Qty of panels	4	8	12	18	24	32	40	48	50	60	70
Filter area (ft²)	10	21	31	47	63	84	105	126	131	157	183
Motor (Hp)	0.34	0.34	0.5	0.5	0.74	0.74	0.74	0.74	1.47	1.47	1.47
Water Pump (Hp)	0.74	1.47	1.47	2.01	2.01	2.95	4.02	4.02	4.02	4.69	5.36
Spray Wash (gpm)	4	8	8	12	12	17	21	25	21	25	29
Dimensions (in.)											
A	43.3	43.3	62.2	62.2	76	76	76	76	94.5	94.5	94.5
B	53.1	53.1	72.8	72.8	86.6	86.6	86.6	86.6	104.3	104.3	104.3
C	31.5	48.4	50.4	67.3	70.9	88.6	105.5	122.4	114.2	131.1	146.9
E	40.6	57.5	59.8	76.8	84.6	102.4	119.3	136.2	129.9	146.9	163.8
D	47.2	47.2	70.9	70.9	82.7	82.7	82.7	82.7	94.5	94.5	94.5
ES	8	10	10	12	16	20	20	20	25	25	25
ØSS	4	4	4	4	4	4	6	6	6	6	6
Weight approx.(lbs.)	510	750	880	1230	1610	1910	2240	2600	3410	3960	4470

# Microfilter MRT Version PC/PE



MNOI: Maximum internal water level  
MNOE: Minimum water level  
ØSS: Wash water output diameter

Microfilter Regainer MRT PC and PE are designed to be installed in concrete channel.

Applications	MRT VERSION PC/PE											
	6/2	6/3	8/3	8/4	8/5	8/6	10/5	10/6	10/7	10/9	10/10	10/12
Qty of panels	12	18	24	32	40	48	50	60	70	90	100	120
Filter area (ft <sup>2</sup> )	31	47	63	84	105	126	131	157	183	236	262	315
Motor (Hp)	0.5	0.5	0.74	0.74	0.74	0.74	1.47	1.47	1.47	2.01	2.01	3.35
Water Pump (Hp)	1.47	2.01	2.01	2.95	4.02	4.02	4.02	4.69	5.36	6.7	7.37	8.71
Spray Wash (gpm)	8	12	12	17	21	25	21	25	29	37	42	50
Dimensions (in.)												
MNOI	29.3	29.3	37.8	37.8	37.8	37.8	51.2	51.2	51.2	51.2	51.2	51.2
MNOE	15.4	15.4	22	22	22	22	31.5	31.5	31.5	31.5	31.5	31.5
A	58.3	58.3	76	76	76	76	92.1	92.1	92.1	92.1	92.1	92.1
B	46.1	63	63.8	80.7	97.6	114.6	99.2	116.1	133.1	166.9	183.9	217.7
C	60.2	77.2	78	94.9	111.8	128.7	115	131.9	148.8	182.7	199.6	233.5
D	61.4	61.4	73.2	73.2	73.2	73.2	94.5	94.5	94.5	94.5	94.5	94.5
ØSS	4	4	4	4	6	6	6	6	6	6	6	6
Weight approx. (lbs.)	660	970	1250	1630	1980	2240	2970	3480	3980	4990	5500	6600

**Johnson Screens**  
**Industrial & Architectural Screens**

North America  
Phone +1 651 636 3900  
[info.us@johnsonscreens.com](mailto:info.us@johnsonscreens.com)

Australia - Asia Pacific  
Phone +61 7 3867 5555  
[info.au@johnsonscreens.com](mailto:info.au@johnsonscreens.com)

Europe  
Phone +33 5 49021600  
[info.fr@johnsonscreens.com](mailto:info.fr@johnsonscreens.com)

India  
Phone +91 2717 618000  
[info.in@johnsonscreens.com](mailto:info.in@johnsonscreens.com)

Japan  
Phone +81 45 661 3575  
[info.jp@johnsonscreens.com](mailto:info.jp@johnsonscreens.com)

Brazil  
Phone +55 11 4341-5777  
[info.johnsonscreens.br@aqseptence.com](mailto:info.johnsonscreens.br@aqseptence.com)

Chile  
Phone +56 02 9280700  
[info.johnsonscreens.cl@johnsonscreens.cl](mailto:info.johnsonscreens.cl@johnsonscreens.cl)

[johnsonscreens.com](http://johnsonscreens.com)