

# Tannex Organic Scavengers

## The Problems

Yellow discolouration of water can be caused by organic compounds called tannins. These are usually found in peaty areas and in water supplies that are affected by surface water. Apart from discolouration, organic compounds can make water inpotable and can foul filtration and reverse osmosis systems.

## The Solutions

Although Carbon filters can be used to remove organics, the media quickly becomes fouled when the organic load is high. Tannex filters consist of a mix of two organic scavenger resins. These have a special porous structure which will capture organic species by a number of different mechanisms. The resins are regenerated using Sodium Chloride brine, using the Chloride ion. The filter therefore operates in a similar way to a softener, with a periodic backwash and regeneration. Brining levels are higher than the equivalent softener—see table

## Caustic Cleaning

A periodic resin wash with caustic soda, typically once every 3 months, is recommended to help prevent irreversible fouling of the media with organic compounds. The caustic soda can be added into the brine well of the brine tank and left to dissolve before manually regenerating the system. The caustic will be pulled through the vessel, cleaning the media bed.

The table below shows how much caustic soda to use for each vessel size.



Example of how a Tannex filter can be used to remove organics prior to an RO.

Technical table

Resin Capacity	50 litres	100 Litres	150 Litres	200 Litres	250 litres
Flow Rate	0.78m <sup>3</sup> /hr	1.56m <sup>3</sup> /hr	2.34m <sup>3</sup> /hr	3.12m <sup>3</sup> /hr	3.90m <sup>3</sup> /hr
Salt Usage Per Regen	12kg	24kg	36kg	48kg	60kg
Caustic Soda Required Per Resin Clean	1.2kg	2.3kg	3.4kg	4.5kg	5.7kg
Connection size	1"	1"	1"	1"	1"
Vessel Size	10x54	14x65	16x65	21x62	21x62

Please note that any size of Tannex filter can be supplied and in either simplex or duplex format.



