Filtertec Systems Ltd

Cryptosporidium Removal from water by filtration

UltraPure A CRY – Cryptosporidium Meltblown Filter

Water around the world is contaminated by a parasite that causes sickness, fever and diarrhoea and is potentially fatal to individuals who are immunocompromised. This parasite is a waterbourne parasite called Cryptosporidium Parvum and can be found anywhere where water may be exposed to animal or human waste.

Many manufacturers insist that incoming water to their factories and sites is treated to remove Cryptosporidium, especially in the Food & Beverage industry where >log4 reduction (>99.99%) is often stipulated as a minimum requirement.

There are a number of ways to treat water to make it safe to drink, and Filtertec offer a number of cost effective solutions that remove Cryptosporidium Oocysts from water, without the need for the addition of chemicals.

Typically, Cryptosporidium Oocysts are 3 to 6 micron in size and can be filtered out using a fine micron cartridge filter (typically 0.65 or 1.0 micron). It is important that the filter has been tested for efficacy by being challenged with live cryptosporidium oocysts, rather than being tested using latex spheres as an alternative, or using AC Test dust. It is not sufficient to just accept a particle rated filter; to be certain of it's performance it must be validated by being challenged with live cryptosporidium.

Filtertec offer two products that have been tested and validated for the removal of Cryptosporidium Parvum by independent test laboratories, and both have been challenged with live Cryptosporidium Oocysts and exhibit excellent removal rates.

To compliment our existing range of pleated cryptosporidium filters (**UltraPore CRY** which offer a retention rate of >log7, >99.99999% reduction of cryptosporidium, significantly greater than the usual requirement of >log4, >99.99%), we have developed a new polypropylene meltblown cryptosporidium grade filter, as a further development of our existing meltblown range; utilising finer fibres to optimise cryptosporidium removal. **UltraPure A CRY** offers a more cost effective method of cryptosporidium removal and is independently tested and validated to give a LRV >5.2 (>99.9993% removal). **UltraPure A CRY** is a low cost alternative to pleated cryptosporidium removal filters.

Like our complete range of PP meltblown filters, the **UltraPure A CRY** is fully tested for extractables and fully validated as EC1935:2004 food compliant.

UltraPure A CRY Test Results

Analysis: *Cryptosporidium parvum Filtration Efficacy* Test Water: Challenge Test Water
Analysis Method: Immuno-fluorescent Microscopic Enumeration (EPA 1623.1)
Test Point: Initial Efficacy **Test Point Conclusion: N/A**
Challenge Date: 03-12-2020
Initial Pres. (PSI): 19.4 Temp(C): 22.0
pH: 7.4 Turbidity (NTU): 0.3 TOC (ppm): N/A TDS(ppm): 206.1 Hardness(ppm): 134
Alkalinity(ppm): N/A Total Chlorine(ppm): 0.0 Polyphosphate (as ppm phosphorus): N/A
Influent Conc: 1.5E+05 (Oo)cysts/L Ambient Temp(C): 24.1
Analysis Date: 04-12-2020
Test Notes: Chlorine residual was not detected (Limit of detection is at 0.01 ppm).

Sample ID 1:	2012006	Client ID 1:	UP-CRY-97/8A-EHE Unit A	Flow Rate:	10 L/min
Eff Conc 1:	<1.0E+00 (Oo)cysts/L	% Reduct 1:	>99.9993	Log10 Reduct 1:	>5.2
Sample ID 2:	2012007	Client ID 2:	UP-CRY-97/8A-EHE Unit B	Flow Rate:	10L/min
Eff Conc 2:	<1.0E+00 (Oo)cysts/L	% Reduct 2:	>99.9993	Log10 Reduct 2:	>5.2

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