

**Issue 3** The information hub is designed to provide - mainly technical - information relating to Water Coolers and Boilers, to assist you with your work

## Nano Filter Technology

### A major development in Water Filters

In addition to the removal of the Chlorine taste and smell, NANO Filter Technology has an outstanding Viral and Pharma rating and is resistant to blocking and works with low water pressure.

Microbiological removal efficiencies for the NanoCeram Cartridges

Type	Organism	Size, µm	Cartridge	Removal Efficiency, %	Comment	
Virus	Poliovirus 1	0.025-0.030	VS2.5-5	>99.92±0.01%	Ref. (1) <sup>a</sup>	
	Echovirus 1	0.050-0.080	VS2.5-5	>99.98±0.00%	Ref. (1) <sup>a</sup>	
	Coxsackievirus B5	0.027	VS2.5-5	>99.991±0.01%	Ref. (1) <sup>a</sup>	
Bacteriophage	Adenovirus	0.070-0.090	VS2.5-5	>99.997±0.00%	Ref. (1) <sup>a</sup>	
			P2.5-10	99.92%	Ref. (3) <sup>c</sup>	
	MS2	0.027	VS2.5-5	99.9%	Ref. (2) <sup>b</sup>	
			PAC2.5-10	99.96%	Ref. (3) <sup>c</sup>	
			P2.5-10	99.994±0.004%	Ref. (2) <sup>b</sup>	
		Male specific coliphages		PAC2.5-5	>99.999%	Ref. (3) <sup>c</sup>
				VS2.5-5	>98%	Ref. (4) <sup>d</sup>
Bacteria	Pseudomonas Aeruginosa	(0.5-1) <sup>e,f</sup> (2-5) <sup>e,g</sup>	VS2.5-5	99.995±0.027%	Ref. (2) <sup>b</sup>	
			PAC2.5-5AG	99.999±0.002%	Ref. (2) <sup>b</sup>	
	E. coli	0.5 <sup>f</sup> -2 <sup>g</sup>	PAC2.5-5	99.99992%	Ref. (3) <sup>c</sup>	
	Raoultella terrigena	(0.3-1) <sup>f</sup> (0.6-6) <sup>g</sup>	P2.5-10	>99.99992%	Ref. (3) <sup>c</sup>	

Notes: a) Ref. (1). L. A. Ikner, M. Soto-Beltran, and K. R. Bright, Appl. Environ. Microbiol., March 25, 2011; b) Ref. (2). Argonide datasheet. Prior to each sampling point the cartridge was conditioned with 10 void volumes (~5 L for P2.5x5 and PAC2.5x5AG) and 200 mL sample was collected at 0.5 GPM. Test was done according to NSF/ANSI P231 standard, specifically for sample point #1; c) Ref. (3). F. Tepper, L. Kaledin, O. Vargas, and T. Kaledin, IWC-10-47, October 24-28, 2010, San Antonio, TX; d) Ref. (4). C. D. Gibbons, R. A. Rodrigues, L. Tallon, and M. D. Sobsey. J. Appl. Microbiology, 2010; e) Ref. (5). J. L. Melnick, M. Rhian, J. Warren and S. S. Breese Jr. J. Immunology, 1951 vol. 67 pp. 151-162 diameter; f) length; g) Ref. (5). J. L. Melnick, M. Rhian, J. Warren and S. S. Breese Jr. J. Immunology, 1951 vol. 67 pp. 151-162

The AA NANO Filter removes 99.98% of Cryptosporidium, Giardia Intestinalis and E. Coli and provides protection against Legionella, Pseudomonas, Salmonella, Mycobacteria and Aspergillus.

At the same time our NANO Filter ensures a high flow rate, even at a slow water pressure, whilst substantially reducing the risk of blocking.



The AA NANO Filter consists of a nano fine carbon impregnated glass fibre material which is tightly folded to create a very large surface area. The NANO Filter candle fits into our standard AA Filter Housing (also used for our Carbon Blocks.) The large surface area ensures an excellent flow rate and resistance to blocking (for peaty water for instance.) It's fine weave and material properties are responsible for its outstanding Viral and Pharma ratings.

The NANO Filter candle can be disposed with household waste, whilst the Filter Housing is re-used.