Disruptor ®

Legionella removal

AHLSTROM MUNKSJÖ

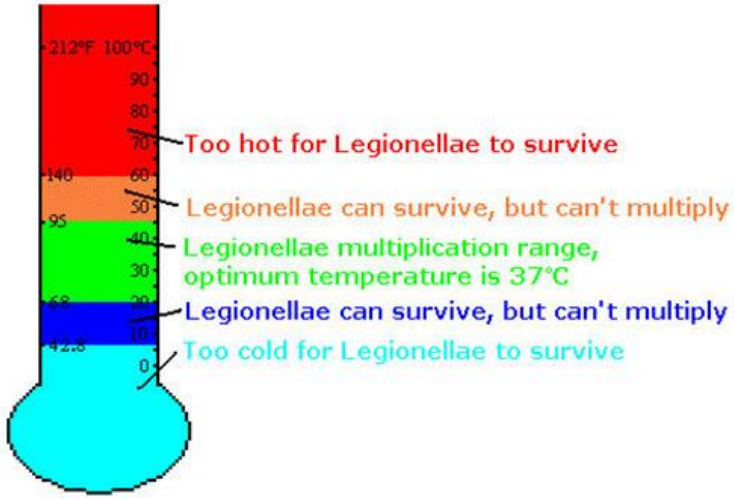
Legionella Removal

Premise Plumbing POE filters

Cooling tower , cold water loops

Faucet Filter POU

Temperature range for legionella



- Disruptor can reduce bio scale buildup that is an environment for bacteria to live
- Iron that is a nutrient for the legionella bacteria causing growth
- Submicron particulate in pipe scale
- Legionella boil-outs typically at 160 F. (71 C) temperatures

Legionella Facts

- Legionella is the only growing waterborne illness in the developing world
- Cost of legionella estimated by the CDC annually is $434M
- In comparisons the cost of Cryptosporidiosis is $46M (CDC estimate)
- Disruptor can be used as a standalone technology or with other treatment technologies

Legionella Removal

Initial Legionella Removal

Disruptor Grades	Single Layer (LRV Removal)	Double Layer (LRV Removal)
5283 - White	4.6	4.7
5284 - Carbon	5.5	5.5
5288 - White	5.5	5.5
5289 - Carbon	5	5.5

- Only a slight benefit can be seen during initial biological testing with two layers of Disruptor, the main benefit of two layers is visible under capacity testing.
- Both white and Carbon Disruptor grades removes Legionella

Legionella Removal

Capacity Legionella Removal

TEST DATA: Microbial reduction @ Flow rate- 65ml / min

Sample Code/ Customer Code	Tested parameter	Input Water Microbial Count	Output Water Microbial Count	% Reduction
5289	Legionella pneumophila ATCC 33152	7x 10^5cfu/ml 5.84 $\log_{10}$	169 cfu /ml 2.23 $\log_{10}$	99.975% 3.61 LRV

Cfu: Colony forming units.

TEST DATA: Microbial reduction @ Flow rate- 65ml / min

Sample Code/ Customer Code	Tested parameter	Input Water Microbial Count	Output Water Microbial Count	% Reduction
5288	Legionella pneumophila ATCC 33152	7x 10^5cfu/ml 5.84 $\log_{10}$	147 cfu /ml 2.16 $\log_{10}$	99.979% 3.68LRV

Cfu: Colony forming units. LRV= Log reduction value, Sampling after 10L filtration.

Conditions: pH=7.10 ; TDS=260 mg/L ; TOC=1 mg/L ; Turbidity<1 NTU ; Temperature=23°C
Sampling: 10L, disc=45mm, 6300 L/m²