

Crusader Nitrate Filter

The Crusader Nitrate filter is designed to address Nitrates in Potable Water with a decreased selectivity for sulfates. This results in higher operating capacity, lower leakage, and freedom from nitrate dumping if operated past the sulfate break. It is highly resistant to organic fouling.

Operation of the Filter

Water can contain a number of contaminants such as Nitrate Sulfate and excess Alkalinity. These contaminants are particularly difficult to remove from water and can often have serious aesthetic & health effects. This filter is designed to remove various contaminants from water based on a comprehensive water analysis.

Filtration Media - Hydrolyte Anion Hybrid Macroporous Nitrate-Select

The exchange media is a high quality, FDA-certified, commercial-grade strong base hybrid (Anion) Functional Matrix resin with a very high whole bead count and no color throw or odor when properly specified, installed, and regenerated. The media combines high operating capacity with excellent chemical and physical stability to ensure a long, dependable life. This resin is engineered with high selectivity for Nitrate and reduced selectivity for Sulfate. This provides a higher operating capacity, lower leakage, and less potential for Nitrate dumping when operated past the sulfate break.

Controller/Meter

Regeneration of the system is initiated by a simplified electronic control timer, which electronically meters filtered water flow and makes decisions to regenerate based on water consumption and program settings.

Regeneration

These filter models are controlled electronically. A fully programmable microprocessor controls Upflow Regeneration, Backwash, Rapid Rinse, Tank Fill, and Return-to-Service cycles.

Control Valve

A hydraulically balanced piston slides effortlessly through seals & spacers. All parts in the waterway are either coated brass or composite Noryl® materials to ensure a long and reliable service life on 3 cubic foot systems.

Resin & Brine Tanks

All models feature a non-corrosive fiberglass resin tank with a one-piece thermoplastic inner liner. The tank has a maximum working pressure of 90 psi and a working temperature up to 120°F. The tank is approved by NSF, UL and the FDA. It also meets WQA Standard S-100, and all fiberglass tanks carry a limited lifetime warranty. A high capacity brine tank is included as part of the system. The brine tank is a combination brine maker and salt storage vessel and is made of tough, high-density polyethylene. Larger tanks are available for extra salt storage capacity, if required.

Brine System

Brine refill is automatically controlled by the computer to provide the exact amount of brine for each regeneration. The Brine System has a float and safety valve shut-off, which minimizes the chance of overflowing the brine tank. All units are equipped with an air check.

Sodium Hydroxide (Caustic)

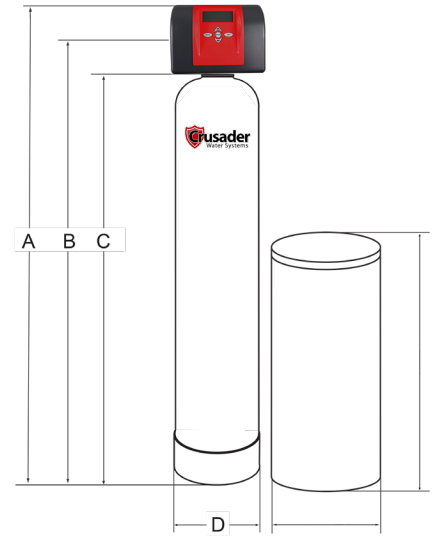
NaOH feed systems are available that dose caustic into the brine with a direct interface to the system controller. This helps to improve throughput in dealkalization applications. 0.33 lbs of NaOH is injected per ft³ of Anion Resin.

These filters should only be purchased after a water analysis has been completed.

The following contaminants should be tested: **Iron, Manganese, Hydrogen Sulfide, TDS, pH, Hardness, Chlorine, Chloramine, Sulfate, Nitrate, Silica, Fluoride, Tannins, Lignins, Total Alkalinity and Turbidity.**

www.crusaderwater.com

Commercial Nitrate Filter



Crusader Nitrate Filter

	CS-NITRATE-1-NSK	CS-NITRATE-1-NS	CS-NITRATE-2
Maximum Capacity (As CaCO ₃)	6,000	6,000	12,000
Salt Used Per Cleaning	15	15	30
Maximum Influent Hardness Level (gpg)	5	5	5
Maximum Influent Chlorine Level (ppm)	0.1	0.1	0.1
Peak Flow Rate (gpm) @ 75 psi inlet, 25 psi drop Peak Nitrate Reduction Rate	15	18	25
Water Pressure Range (psi)	45 - 75	45 - 75	45 - 75
Maximum Inlet Pipe Size	1.25"	1.25"	1.25"
Dimension A - Overall System Height	42"	61"	59"
Dimension B - System Piping Height	37.09"	56.09"	54.09"
Dimension C - Pressure Vessel Height	35"	54"	52"
Dimension D - Pressure Vessel Diameter	10"	10"	12"
Total Space Required L x W x H	18 x 31 x 42	18 x 29 x 61	18 x 31 x 59
Shipping Weight (lbs)	85	95	145

The following contaminants should be tested: **Iron, Manganese, Hydrogen Sulfide, TDS, pH, Hardness, Chlorine, Chloramine, Sulfate, Nitrate, Silica, Fluoride, Tannins, Lignins, Total Alkalinity and Turbidity.**

Crusader Twin Anion

The Crusader Twin Anion filter is designed to address a particular ionic range of compounds such as Fluoride, Nitrate, Sulfate, Tannins, and Alkalinity. Redundant treatment can be performed at flow of up to 50 gpm.

Operation of the System

Water can contain a number of contaminants such as Fluoride, Nitrate Sulfate, Silica & Tannins. These contaminants are particularly difficult to remove from water and can often have serious aesthetic & health effects. This filter is designed to remove various contaminants from water based on a comprehensive water analysis and site-specific configuration.

Filtration Media - Hydrolyte Anion Hybrid

The exchange media is a high quality, FDA-certified, commercial-grade strong base hybrid (Anion) Functional Matrix resin with a very high whole bead count and no color throw or odor when properly specified, installed, and regenerated. The media combines high operating capacity with excellent chemical and physical stability to ensure a long, dependable life.

Controller/Meter

Regeneration of the system is initiated by a simplified electronic control timer, which electronically meters filtered water flow and makes decisions to regenerate based on water consumption and program settings.

Regeneration

A fully programmable microprocessor controls Tank Alternation, Ion Exchange, Backwash, Rapid Rinse, Tank Fill, and Return-to-Service cycles.

Control Valve

Two hydraulically balanced and coated pistons utilize a composite drivetrain within a lead-free brass body. All moving parts in the waterway are either coated brass or composite Noryl® materials to ensure a long and reliable service life.

Resin Tanks

All models feature two non-corrosive fiberglass tanks with one-piece thermoplastic inner liners. Each tank has a maximum working pressure of 90 psi and a working temperature up to 120°F. Each tank is approved by NSF, UL, and the FDA. They also meet WQA Standard S-100, and all fiberglass tanks carry a limited lifetime warranty.

Brine Tank

A high capacity brine tank is included as part of the system. The brine tank is a combination brine maker and salt storage vessel and is made of tough, high-density polyethylene. Larger tanks are available for extra salt storage capacity, if required.

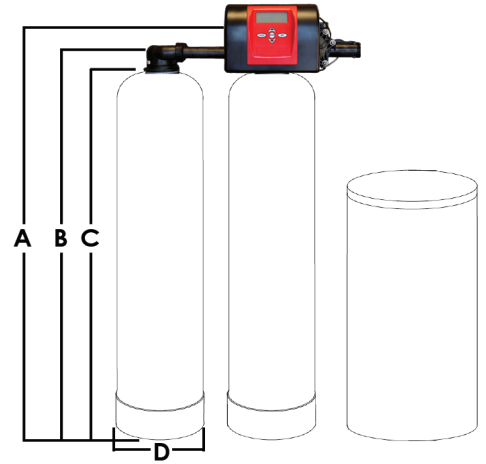
Brine System

Brine refill is automatically controlled by the computer to provide the exact amount of brine required for each regeneration cycle. The Brine System has a float and safety valve shut-off, which minimizes the chance of overflowing the brine tank. All units are equipped with an air check.

ProGuard & ProGuard Plus

A high efficiency ProGuard reservoir is included with this system to ensure peak performance, maximize efficiency, and provide the highest level of protection from inorganic metals and minerals.

Commercial Anion Filter



Crusader Twin Anion Filtration System

	CS-ANION-1T	CS-ANION-2T	CS-ANION-3T	CS-ANION-4T	CS-ANION-5T	CS-ANION-6T
Max Capacity/Tank (Grains - CaCO ₃)	10,000	15,000	20,000	30,000	40,000	50,000
Salt Used Per Cleaning (lbs)	5	7.5	10	15	20	25
Peak Flow Rate (gpm)	3	4	6	8	10	13
Inlet Pipe Size	1"	1"	1"	1"	1"	1"
Tank Diameter (each)	10"	10"	12"	13"	14"	14"
Overall Height	61"	61"	59"	61"	72"	72"
Total Space Required L x W x H (Inches)	18 x 41 x 61	18 x 41 x 61	18 x 45 x 59	18 x 47 x 61	18 x 49 x 72	18 x 49 x 72
Shipping Weight (lbs)	180	230	350	450	625	750