



Problem Areas Being Treated:

pH Neutralization (Blue/Green Stains)

This system will also remove a small amount of:

The NC series is specifically designed for applications where pH is the primary problem. Since successful water treatment often requires a 7.0+ pH, neutralizing filters are often paired with iron filters and other water treatment equipment.

A combination of low pH, low TDS and low Hardness create aggressive water that can corrode metal plumbing, especially brass & copper fittings. Given enough time, the water will corrode metal fittings from the inside-out creating the tell-tale blue-green stains in sinks, bathtubs and toilets. The corrosion results in leaks, stains, odors, distaste and other water problems. Although a neutralizing filter will not repair damage that has already occurred, it will significantly slow down or stop any future plumbing corrosion. The cost of a neutralizing filter is always a much cheaper long term alternative to the damage caused by aggressive water.

A neutralizing filter works by forcing water through a compacted granular filter media bed comprised of Calcite (Calcium carbonate) and Corosex (Magnesium oxide). The acid water reacts with the filter media by slowly dissolving away the semi-soluble calcite & Corosex media.[†] This reaction elevates the pH and renders the water less corrosive to brass & copper plumbing.

Since pH increases or decreases ten-fold for each whole number it moves, treating a pH under 6.0 requires more contact time with the calcite/Corosex filter media. Obtaining this contact time is usually accomplished by increasing the size of the filter tank and the amount of neutralizing media inside.

Specifications*

Tank Size	Bed Size	Inlet/Outlet	Service Flow Range	Minimum Required BW
9 X 48"	1 Cu. Ft.	1"	3.0 - 5.5 gpm	5 gpm
10 X 54"	1.5 Cu. Ft.	1"	3.0 - 5.5 gpm	5 gpm
12 X 48"	2 Cu. Ft.	1"	4.5 - 7.5 gpm	7 gpm
13 X 54"	2.5 Cu. Ft.	1"	5.5 - 9.0 gpm	9 gpm

Since iron and manganese readily precipitate from water with a pH higher than 7.0, neutralizing filters are often used in conjunction with iron filters when the untreated water is acidic.

NC Series filters are comprised of automatic backwashing systems with electrical control valves. Based on either time (Timer Valve) or amount of water used (Metered Valve) the filter backwashes on its own without any intervention, worry or maintenance by the homeowner. The time in which backwashing occurs is adjustable but usually is factory set at 2 am in the morning to avoid times of heavy water usage.

The system includes:

High-impact polyglass tank, Fleck or Clack backwashing valve with bypass, distributor tube, gravel under-bed, and calcite/Corosex media.

There are several options available for the NC series. There are at least 5 valves available ranging from an electronic metered version to a completely manual valve. Filter tanks start at 1 cubic foot and go up into the commercial ranges.

[†] Due to media solubility, calcite and Corosex will need to be added to the filter tank every six to eighteen months.

**These numbers indicate a continuous (service) flow rate -the amount of water the media can handle for extended periods. Filters also have a "peak" flow rate which are higher than the ones published above. These are flow rates the media can handle for short periods of time.*

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Media:

Calcite - pH Neutralization

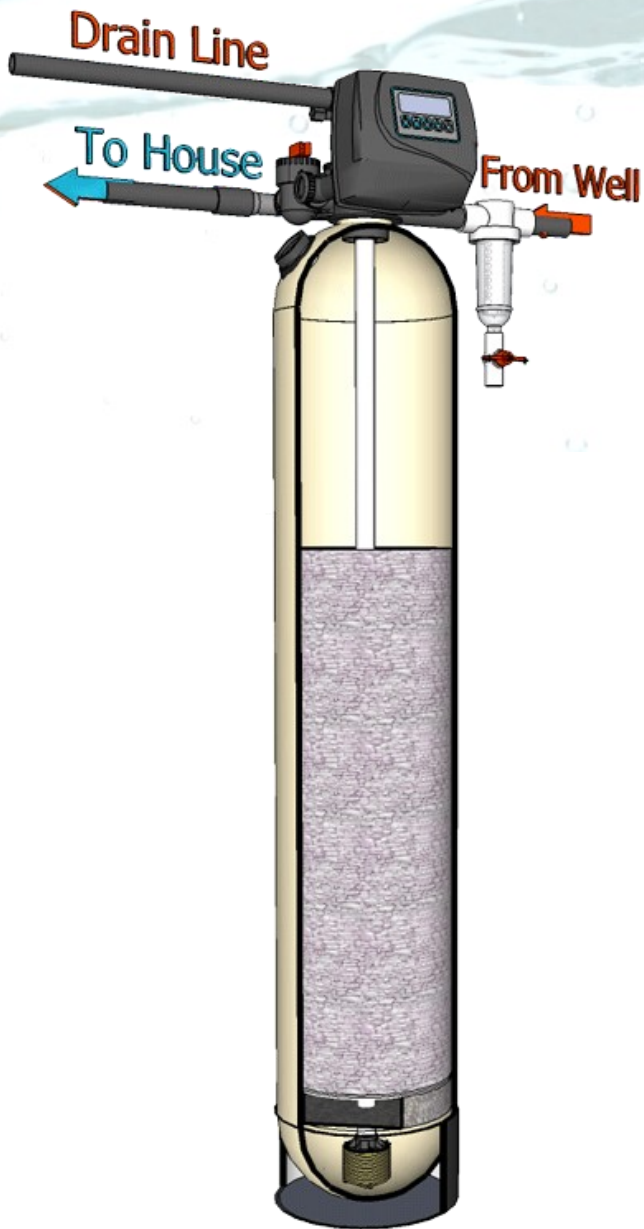
Corosex - pH Neutralization

Maintenance:

Filter must periodically be refilled (recharged) with Calcite or Corosex.

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NC Series



The neutralizing filter contains a mixture of two types of media:



Calcite (calcium carbonate) is slow to react, requires a lot of contact time with the water and corrects only up to a pH of about 7.0.



Corosex (magnesium oxide) reacts quickly, requires very little contact time and can often carry

Above: This cutaway diagram shows the interior of a neutralizing filter. About 18" of free space is left between the top of the media bed and the top of the filter tank to allow the filter media to expand and roll during the backwash cycle.



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The dome hole plug allows for easier access to the media bed when it is time to recharge the system with more calcite & Corosex.