

## AQUALINE

### Industrial Series

**SAC, SBA-1, SBA-2, WAC, WBA, DI-2, DI-3**

**SIZE:** 9 3/4 in.: Fits all standard 10 in. housings. (Also available in 2.5" X 20" and Big Blue 10" and 20")

**POST FILTER:** 20 micron spun-bonded polypropylene.

**MEDIA:**

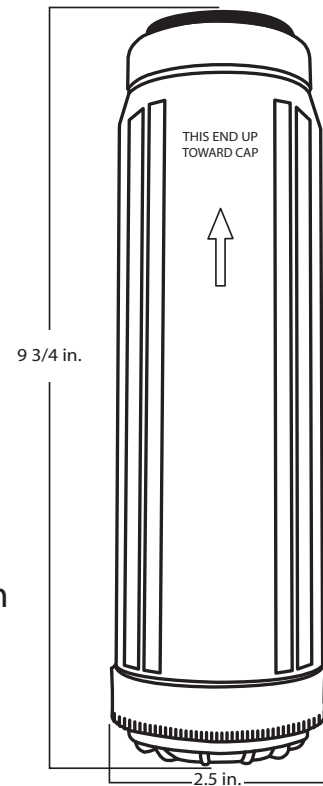
- SAC: Strong acid cation, H<sup>+</sup> form
- SBA-1: Strong base anion Type I, OH<sup>-</sup> form
- SBA-2: Strong base anion Type II, OH<sup>-</sup> form
- WAC: Weak acid cation gel, H<sup>+</sup> form
- WBA: Weak base anion gel, free base form
- DI-2: Mixed bed semi-conductor grade, H<sup>+</sup>/OH<sup>-</sup> form
- DI-3: Mixed bed color indicator grade, H<sup>+</sup>/OH<sup>-</sup> form

**PRE-FILTER:** 100 micron reticulated poly foam.

**FLOW RATE:** 0.1 - .5 gpm

**CAPACITY:** See details below

**pH RANGE:** 0 - 14



### Technical Information

The Aqualine Industrial Series is designed to fill the needs of a variety of industrial ion exchange applications. Each is constructed totally from FDA grade materials and highly purified semi-conductor grade resins. All cartridges (except the DI-3) will meet FDA Regulations for food grade applications. These cartridges are non-regenerable and intended for disposable uses.

The Aqualine Industrial Series cartridges are for use in series applications for demineralization, pilot plant studies and specific ion removal. One should be familiar with ion exchange demineralization reactions before attempting to use these cartridges since the effluent streams can be highly acidic or basic. The various factors influencing ion exchange reactions are too involved to be detailed in this data sheet. A details summary follows.

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## SAC

The Aqualine SAC cartridge has a demonstrated capacity of 13000 ppm when tested on 490 ppm TDS city water to a 10 ppm sodium break. The SAC is 99.9% in the H<sup>+</sup> form and will produce a highly acidic pH on high TDS feed streams since virtually all cations will be exchanged for hydrogen ions.

The SAC has utility for decationizing water for chemical make-up and dilution, such as for analytical standards for AA or high purity caustic and brine solutions. The SAC can also be used to polish any amine taste and odor from DI water or remove trace metals from DI water that has contacted metal containers or pipes.

## SBA-I

The Aqualine SBA-I has a demonstrated capacity of 9500 ppm when run to a break on 500 ppm HCl. The SBA-1 is 94% minimum in the OH<sup>-</sup> form and will produce a highly alkaline pH on high TDS feed streams since all salts will be converted to their respective hydroxides.

The SBA-I can be used to remove metal cyanide complexes from plating rinses or scavenging traces of acid, CO or silica from DI streams. The SBA-I is the preferred choice for use in series with the SAC for low silica tow bed demineralized water. For even higher purity, the two bed can be followed by the DI-2 high purity DI polisher.

## SBA-II

The Aqualine SBA-2 has a demonstrated capacity of 12000 ppm when run to a break on 500 ppm HCl. The SBA-2 is 92% minimum in the OH<sup>-</sup> form and will produce a highly alkaline pH on high TDS feed streams since all salts will be converted to their respective hydroxides.

The SBA-2 can be substituted for the SBA-1 for general purpose two bed water. It will yield a higher capacity throughput than the SBA-1 and can be used for high purity DI when followed by a polishing cartridge such as the DI-2 or DI-3.

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## WAC

The Aqualine WAC has a demonstrated capacity of 23000 ppm when run to a break on an alkaline base such as sodium bicarbonate, carbonate, or hydroxide. This makes the WAC an excellent candidate for polishing trace sodium leakage from a two bed demineralizer or removing trace heavy metals from a hydroxide precipitation system. The WAC can not be run on acidic feed streams (below pH 5.0) and should not be run at flow rates exceeding 0.20 gpm.

The WAC can serve as a single cartridge softener, dealkalizer, TDS reducer on feed waters containing alkalinity in excess of hardness (but effluent will contain free CO<sub>2</sub> which can be removed by heating or agitation). This unique property makes the WAC an ideal candidate for coffee, ice, and beverage makers and as pretreatment for distillers, steamers, and humidifiers.

On fee streams where hardness exceeds alkalinity, the WAC will produce an effluent with a level of residual hardness equal to the difference between total hardness and the alkalinity. If absolute softness is required, this stream should be followed by the HR-1.

## WBA

The Aqualine WBA has a demonstrated capacity of 13000 ppm when run to a break on 500 ppm HCl. Although a weak base anion exchanger, the WBA can neutralize carbonic acid (free CO<sub>2</sub>) as well as free mineral acidity. This means that it can be used as a high capacity anion exchanger following the SAC for a two bed demineralizer. The WBA will not remove silica nor will it split a neutral salt. The maximum flow rate is 0.50gpm.

The WBA does not exchange acid radicals for hydroxides. Rather, it adsorbs the entire acid molecule. The WBA is an ideal cartridge for scavenging trace acids or neutralizing acidic pH from low TDS streams. The WBA will also adsorb organic acids which may contribute to color in raw water.

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## DI-2

The Aqualine DI-2 is a high purity DI polishing cartridge with a demonstrated capacity of 7500 ppm. When used following a two bed demineralizer or in series with another DI-2, 18 megohm water is achievable. The DI-2 contains low TOC semiconductor mixed bed resin that has been cycled for purity.

## DI-3

The Aqualine DI-3 contains a Type II mixed bed that changes color upon exhaustion (from blue to yellow). It has a demonstrated capacity of 10000 ppm. When used in a clear housing, the DI-3 provides a visual indicator of its exhaustion. Because of the dye used in producing the DI-3, we do not recommend this cartridge for food grade applications.

