

## Wastewater Ion Exchange Services

### GENERAL INFORMATION

Evoqua Water Technologies LLC supplies wastewater ion exchange (WWIX) media, services and equipment to help customers meet their process and wastewater treatment challenges. Evoqua's WWIX service utilizes ion exchange (IX) resin and adsorptive media selected to remove specific inorganic contaminants from industrial wastewater, groundwater, stormwater and other process waters to meet either discharge compliance or water recycle goals.

### WHAT IS WWIX SERVICE?

WWIX service is a proven and flexible technology using portable tanks of IX resin or specific adsorptive media selected to achieve customer treatment goals while minimizing the liability associated with on-site storage and handling of chemicals and wastes. In operation, Evoqua's nationwide service network delivers fresh WWIX tanks to the customers' facility for use in removing the specific targeted contaminants. Once exhausted, the WWIX tanks are removed and replaced with fresh tanks. The exhausted tanks are returned to Evoqua's RCRA-permitted processing facility where the media is removed and tanks are cleaned, decontaminated, and refilled for the next use. The spent media is treated, contaminants are removed and recovered, and the media is regenerated and reused or recovered.

In addition to WWIX media and tanks, Evoqua provides laboratory treatability testing, WWIX system design, installation and transportation support services to help customers address their wastewater treatment challenges. Evoqua owns and operates the regeneration facility, located in Roseville, Minnesota, which accepts both hazardous and nonhazardous waste IX resins and adsorptive media. The facility personnel have the experience, expertise and equipment necessary to safely and compliantly handle and manage the documentation, transportation, regeneration, recovery and/or disposal of the spent IX resins and adsorptive media which helps minimize the customer's liability.

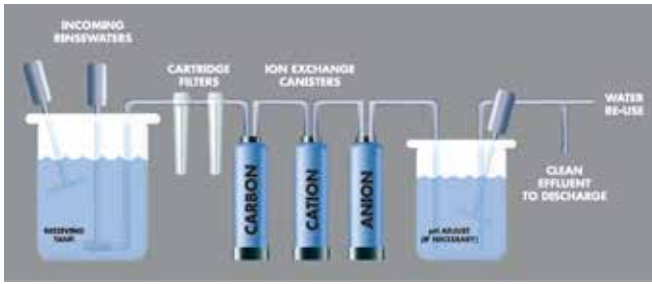
### EVERY APPLICATION HAS UNIQUE REQUIREMENTS

Each potential treatment application is evaluated to determine the WWIX system configuration that best meets the treatment goals. WWIX media and system components are selected based on the application process chemistry, specific discharge or reuse quality required, available manpower and space/access limitations. WWIX treatment systems are flexible – if treatment needs, volumes or process chemistries change, WWIX media types and/or tank sizes can be easily reconfigured to accommodate the new process conditions.



### TYPICAL APPLICATIONS/ MARKETS

- Aerospace
- Anodizing
- Battery manufacturing
- Boiler/cooling tower blowdown
- Circuit board assembly
- Circuit board manufacturing
- EDM
- Groundwater remediation
- Heating/cooling loops
- Magnetic/digital media production
- Metal finishing/electroplating/coating
- Microelectronics
- Parts washing
- Solar panel manufacturing
- Telecommunications
- More



Typical WWIX configuration for water recovery.

## WHY CHOOSE WWIX SERVICE FROM EVOQUA?

Evoqua delivers cost-effective, reliable systems to meet our customer’s requirements for quality, safety and environmental compliance. WWIX is a service-based approach that integrates equipment and service option combinations to minimize your capital investments and reduces overall space requirements. When used for reuse/recycle, WWIX treatment reduces the cost of make-up water and minimizes the amount of water discharged. In discharge compliance applications, WWIX provides a proven and flexible treatment solution to meet ever-changing discharge limits.

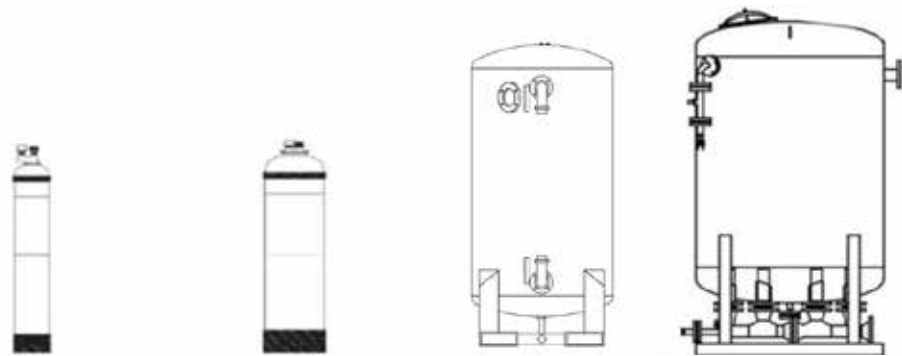
## TYPICAL CONTAMINANTS REMOVED

Arsenic	Lead
Boron	Mercury
Cadmium	Molybdenum
Chromium III	Nickel
Chromium VI	Palladium
Copper	Silver
Cyanide	Zinc
Gold	Others

Total Dissolved Solids (TDS)

## BENEFITS OF EVOQUA’S WWIX SOLUTION

- RCRA-permitted treatment facility
- Exceptional safety and compliance record
- Pre- and post-sale technical support
- Flexibility to add or remove treatment/recycle capacity as your business grows or compliance limits change
- Minimize the need for handling and on-site storage of chemicals and wastes
- Reduces maintenance and installation requirements



Rated Media Capacity (ft <sup>3</sup> )	1.2	3.6	30	60
Flow Rate (gpm) Min - Max	1 - 3	2 - 10	15 - 75	25 - 150
Dimensions (in), Diameter x Height	8 x 48	14 x 50	36 x 78	48 x 97



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Photo of Evoqua service technician.