

## Johnson Screens Sets Water Treatment Facility Design Standards with the Triton® Underdrain

**In the face of emerging water treatment technology, Johnson Screens paves the way for the Richard Miller Water Treatment Plant**

### Background

In October 1992, the Robert Miller Water Treatment Plant in Cincinnati, Ohio first began its operations. The facility was revolutionary for the time in that it was among the first in the country to employ Granular Activated Carbon (GAC) water treatment.

This filtration technique has since achieved preferred status for its ability to effectively remove organic chemicals, PFAS, and other potential harmful particulates from drinking water.



### Challenge

The challenge with GAC filtration is that the filtration media must be replaced regularly to maintain adequate performance. The media must be allowed to move freely, and additionally should be washed from below the bed to achieve this.

Not many solutions are available that can simultaneously accomplish direct media retention, prevention of plugging and sticking, while also minimizing pressure drops when implemented as part of a facility design like the Robert Miller plant.

### Solution

The Johnson Screens Triton Underdrain is the ideal solution for this application. No other underdrain solution in the industry offers as high a level of design flexibility while maintaining high distribution efficiency during backwash cycles.

The Robert Miller plant's state of the art design featured twelve 65' x 30' GAC contactor basins, the bottoms of each being lined with Triton Underdrains. A unique sloped floor design with a central eductor system was constructed to facilitate GAC media removal.

### Results

The Tritons in combination with the GAC media had the intended effect, and each of the twelve basins at the Robert Miller plant is used to treat up to 11,000,000 gallons of water a day.

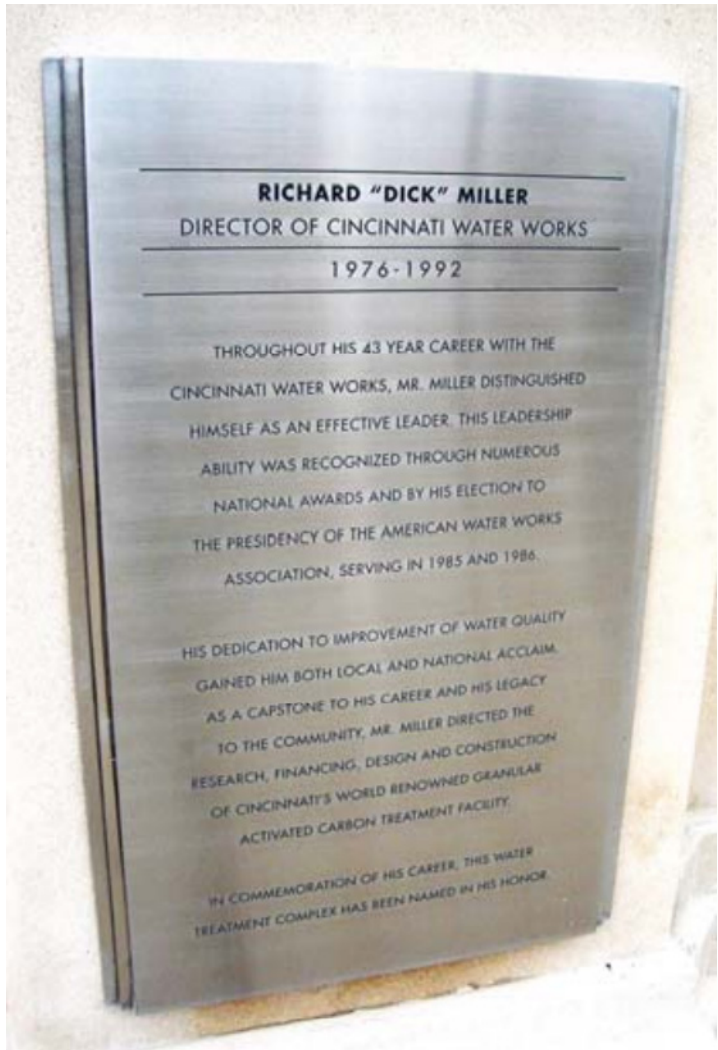
Since its implementation at the Robert Miller plant in 1992, the sloped floor/central eductor design has become the benchmark for GAC facilities and has been formally endorsed by the American Water Works Association (AWWA) as the best available technology in GAC design.

## Triton Underdrains Help Solve Difficult and Costly Filter Bed Issues

If you are considering a plant upgrade or new facility that will need new underdrains please let us or our local representatives know so we can show you how the Triton can add value to your project. We can also put you in touch with any of the Olney folks if you would like to talk to them directly about their Triton experiences.

Exceptional performance as a filter underdrain system utilizing Johnson Screens' world-renowned Vee-Wire® screen technology. Available in stainless steel and in PVC, Triton® underdrains offer maximum surface area to optimize filtration efficiency with the lowest headloss and backwash pump power consumption.

Triton underdrains arrive at the project site fully assembled and require no grouting, special handling or special equipment. With a simple installation and the low headloss, Triton underdrains are less expensive to install, operate and maintain.



### Johnson Screens Water Well Screens

North and South America  
Phone +1 651 636 3900  
info.us@johnsonscreens.com

Europe, Middle East & Africa  
Phone +3 3 23 75 05 42  
info.fr@johnsonscreens.com

Asia Pacific  
Phone +61 7 3867 5555  
info.au@johnsonscreens.com

[johnsonscreens.com](http://johnsonscreens.com)

© 2025 Aqseptence Group, Inc. All rights reserved. Aqseptence Group, Inc. assumes no liability for possible errors in catalogs, brochures and other printed material. The technical data in this brochure is subject to change and for illustrative purposes only and should not be applied as published to your individual case. Aqseptence Group reserves the right to alter its products without notice. Any reproduction, distribution, display or use of this information in whole or in part without written authorization of Aqseptence Group is strictly prohibited.

22-IAS-0027-v1-5-Eng