



Vanox® POU system for point-of-use ultrapure water treatment systems

Evoqua introduces a method superior to traditional ozone or peroxide-based processes for removing total organic carbon (TOC) in a point-of-use (POU) system. This microelectronic/semiconductor treatment system provides ultrapure water that meets or exceeds the International Technology Roadmap for Semiconductors (ITRS).

Our proprietary advanced oxidation process—used in the Vanox® POU system—can consistently reduce TOC to 0.5 parts per billion (ppb) and treat seasonal organic carbon variations in feed water. This is important because TOC elevations above 1.0 ppb can directly affect the manufacturing process, shown to significantly impact product yields. Many immersion lithography tools require low organic content for warranty but their impact on process performance cannot be understated. The repeat orders for Vanox POU systems by nearly every factory they are placed in should be an indicator of how these tools can pay for themselves.

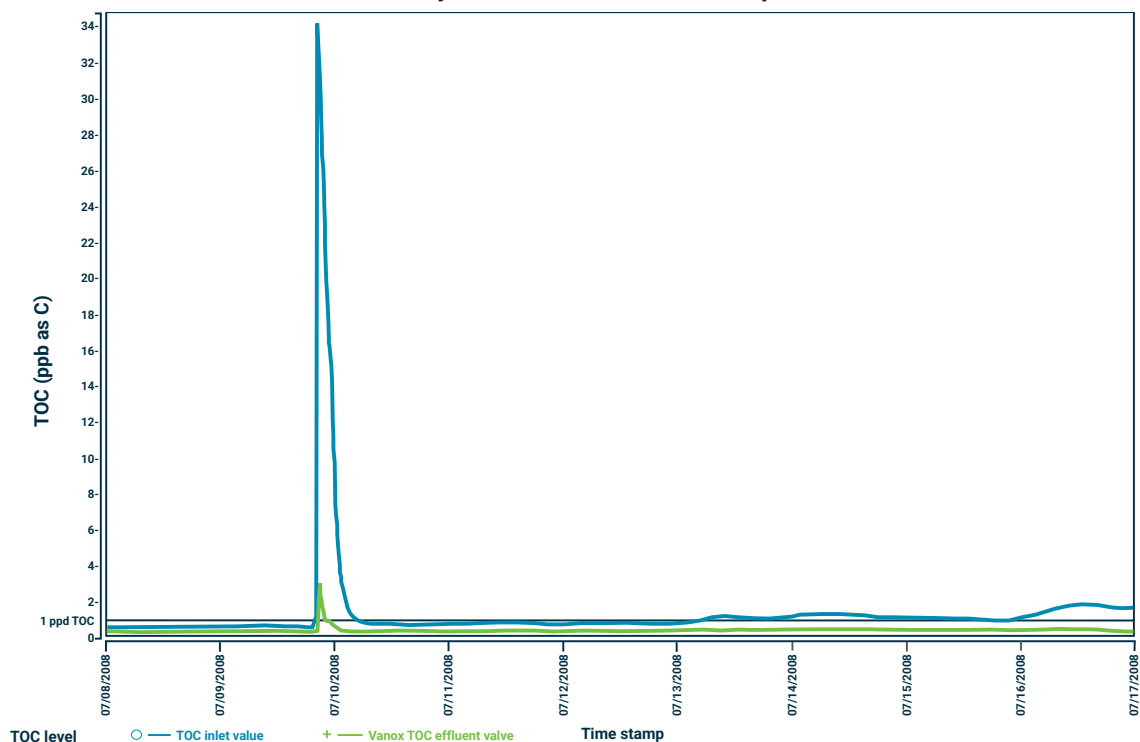
The Vanox POU system removes and/or controls urea and IPA, the primary organics that can require a more elaborate treatment. These difficult to control organics have been proven to impact yield and device performance especially at the most demanding process steps. THM (Trihalomethane), such as chloroform, is generated as a by-product from the use of chlorine in municipal water treatment and is readily controlled.

In addition to TOC reduction, the platform exceeds the ITRS specifications for particle reduction less than 100 units per liter at 0.05 microns, critically stable temperature controls, low trace metal and gas removal. Each of these parameters have been proven to provide stability for process control that only the Vanox POU platform can offer.

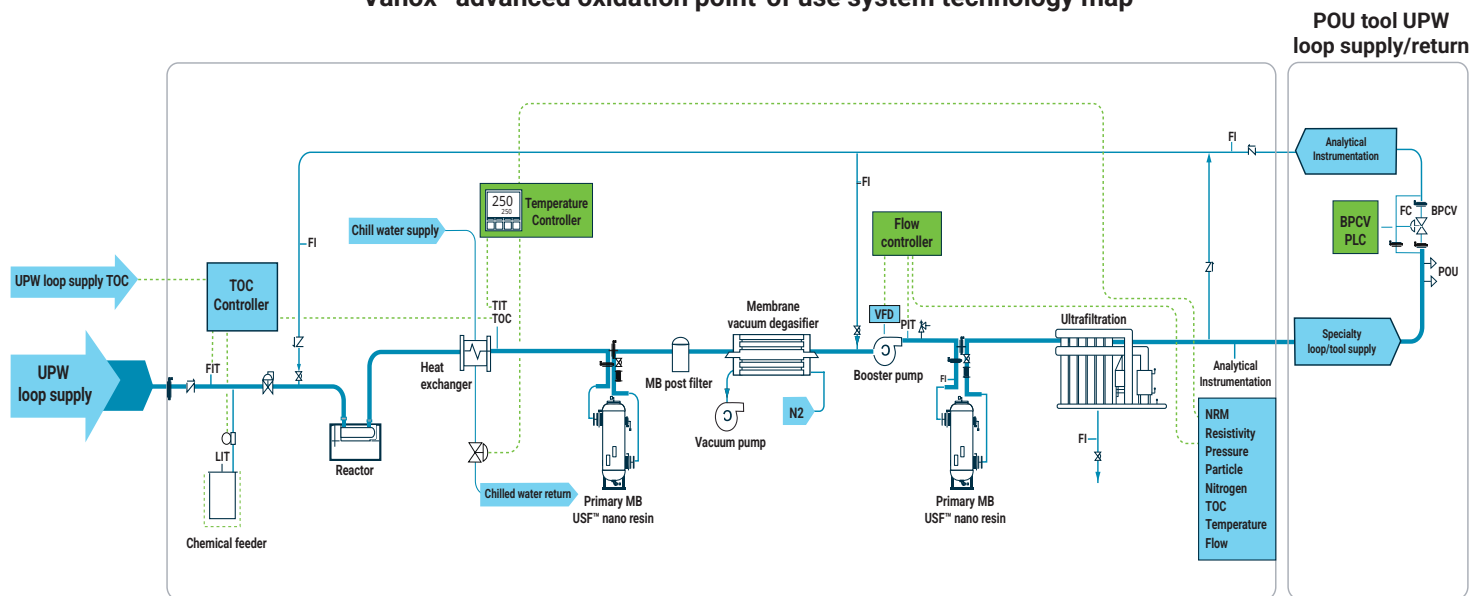


The fully redundant (n+1) designed Vanox POU system offers 365/24 uptime and is efficient. The Vanox family of platforms ramps to meet the incoming demand required preserving power, capital costs and chemical. By utilizing a suite of analytical measurement tools the system offers continuous process control and access to streaming process data for constant tracking of the system and environmental parameters that it is responding to.

Vanox® system TOC reduction example



Vanox® advanced oxidation point-of use system technology map



Legend

BPCV PLC	Back pressure control valve programmable logic controller
FC	Fail close
FI	Flow indicator
FIT	Flow indicating transmitter
HX	Heat exchanger
LIT	Level indication transmitter

PIT	Pressure indicating transmitter
POU	Point of use
TIT	Temperature indicating transmitter
TOC	Total organic carbon
VFD	Variable frequency drive

Consistent process control

- Reliable TOC reduction
- Reduced particle count
- Low metal contaminants
- Consistent temperature control

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