Pyxis® VoluCheck Kit

PTSA is a colorless fluorescent dye used for determining water volume for open & closed recirculating systems. The VoluCheck PTSA System Volume Verification Kit comprises a laminated calculation & instruction sheet, Quantity 10 - 0.45 micron syringe filters & the following pre-weighted PTSA solutions: Our handhelds should be used for measurement of the PTSA residual.

Kit Name	Bottles (Size)	Vol Treated per Bottle	System Vol Range
VoluCheck 1K	10 (2oz.)	One bottle to 1,000gal > 100ppb PTSA increase	1,000–10,000 US Gallons
VoluCheck 10K	10 (4oz.)	One bottle to 10,000gal > 100ppb PTSA increase	10,000–10,0000 US Gallons
VoluCheck 100K	4 (16oz.)	One bottle to 100,000gal > 100ppb PTSA increase	100,000–400,000 US Gallons

Application Details

The PTSA volume verification method is suitable in most recirculating water systems. Closed systems treated with high levels of nitrite (>500ppm) or containing high level suspended solids (>100NTU) should be pre-flushed before using PTSA sizing method to accurately determine the system volume & eliminate any interferences. System flushing until nitrite residual is below 100ppm or turbidity is below 40NTU is recommended. Our SP-350 handheld can be used to check if the water is suitable for the method.

STEP 1

Use the SP-350 or SP-710 to measure the PTSA background. Fill the handheld sample cell with the system water. Record the initial background reading as ppb PTSA. If the water is heavily colored or turbid, filter the water with the 0.45 micron syringe filter.

STEP 2

Make a rough estimate of the system volume range to determine which PTSA solution bottle should be added.

STEP 3

Add the first bottle from your VoluCheck kit to the system. Let the system recirculate and mix for 30 minutes *(if the system recirculation rate is low and has many stagnant areas, allow for longer mixing time)*. If necessary, add second or more full bottles to achieve the ideal target PTSA concentration in the range of 80–260ppb. Record the total PTSA solution added in Ounces (oz.) and the final PTSA concentration. Calculate system volume.

VoluCheck 1K Kit Formula

Volume (US gal) = (Ounces Added x 50,000) / (PTSA Final - PTSA Background)

VoluCheck 10K Kit Formula

Volume (US gal) = (Ounces Added x 167,000) / (PTSA Final - PTSA Background)

VoluCheck 100K Kit Formula

Volume (US gal) = (Ounces Added x 625,000) / (PTSA Final - PTSA Background)

Tips

1. If the system is already treated with a PTSA product, you can still use Volu-Check if the baseline PTSA level is less than 140ppb. If not, consider flushing the system to reduce baseline PTSA residual.
2. This PTSA sizing method is not suitable for systems treated wtih Quaternary Amines or other Cationic Biocides & Polymers such as Bellacide 355.
3. Up to 2ppm Free Chlorine will not affect PTSA reading.
4. Suitable for chilled and hot (<200 ºF) water systems.
5. PTSA loss by system demand is uncommon. If a stable reading cannot be established in 6 hours, check if fresh makeup water is being added due to unknown leaks.
6. Reaching a stable plateau reading slowly may indicate massive stagnant sections.
7. If volume is greater than 400,000 gallons, additional VoluCheck 100K kits will be necessary.