

Mass Flow Controllers for Ammonia Delivery in Water Treatment

Are you using the right mass flow controllers on your water treatment plant ammonia panel metering system?

In water treatment plants (WTP) ammoniators are critical in the chlorination disinfection process. The addition of ammonia is a common municipal water treatment method that ensures public water supplies are clean as possible for human consumption. However, handling ammonia gas and properly dispersing it throughout your process can be difficult. The key to ammonia delivery in a large treatment plant that also maintains chlorine residual is to have a dry gas. If moisture or condensation is present in the ammonia system then corrosive sub-products are formed and will attack the meter components and seal materials. Making sure that the correct meter is installed, including specific material selection for ammonia service is paramount in preventing unplanned downtime.

If your plant is doing any type of system improvements that include a functional anhydrous ammonia storage system and ammonia delivery system then selecting the correct mass flow meter/controller is necessary. This includes selecting the correct material of construction and optimal meter placement in the ammoniator system. Mass flow controllers and meters should be installed at high points in the process rather than at the bottom where moisture can collect.

When the ammonia gas contains even a small bit of moisture, condensation in ammonia process lines produces gas sub-products that will corrode 316 stainless steel and the soft good seals in the mass flow controller/meter. Taking the time upfront to choose the right mass flow controllers, filters, and regulators can help you to avoid unnecessary downtime due to corrosion damage.

We have years of experience working in the water and wastewater treatment industry assisting WTP end user sites correctly specify the right equipment for this critical application— including the correct mass flow meters, valves, rotameters, gas filters, and piping constraints. We've found that mass flow controllers from Brooks instruments can be a great choice when paired with the correct regulators and filters. Brooks meters provide reliability, repeatability, accuracy, and ensure process integrity. They also offer a quick response time of less than one second and the low

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flow capability necessary for ammonia delivery system applications.

Cross Process Solutions has worked with Brooks Instruments for years and can help with installation, calibration, troubleshooting, and training. We can also repair, clean, recalibrate, and rebuild back to new with original OEM parts. In addition, we have a team of experienced process engineers who can help with any needed control system upgrades. We are certified system integrators for VTSCADA and can help you make any needed changes to your SCADA Architecture. Whether you need short-term help or are interested in a service contract, our team is here to support your operation.

If you are interested in learning more about how Cross can help reduce the risk of downtime and improve the efficiency of your water treatment plant, contact us today.