

Precision Gas Flow Control in Biotechnology



Due to our experience we realize that most bio reactors are used for very critical and delicate processes where mass flow controllers need to be reliable, repeatable and flexible.

The quantities of fermentation gases strongly influence the mass transfer coefficient and there is no better way to precisely control gas flows than with thermal mass flow controllers from Vögtlin.

Bio reactors can be used for very critical and delicate processes where **mass flow controllers** need to be **reliable, repeatable and flexible**. It does not matter if you use perfusion, sparging, or immersed silicone tubing for your oxygenation, the amount of dissolved oxygen needs to be carefully controlled to get a perfect and repeatable pH control.

Your fermentation gases like CO and H₂ quantities strongly influence your mass transfer coefficient and there is no better way than to precisely control your gas flows than with mass flow controllers.

The Vögtlin mass flow instruments guarantee flexibility due to:

- » Turndown of over 1 : 100 (application dependent)
- » Up to 10 different programmed gases in every mass flow meter
- » Strong valve that can handle a wide range of inlet and outlet pressures

Especially the **large turndown** helps to cover huge gas mix ranges with less mass flow controllers and it simplifies systems and reduces costs. Most likely you already have a Vögtlin mass flow controller in your bio reactor, since **Vögtlin is the preferred supplier of most large reactor system manufacturers**. Most modern systems replaced the traditional VA-meters (Rotameters) with MFCs. Besides the better control, you now have the ability to automate the process and record the gas flow electronically for future reference.

Vögtlin delivers simple stand-alone solutions for bench-top systems or IP67 (NEMA6) and EX-certified units that can be installed in a lab where regular wash-downs with high pressure waterjet cleaners are required. Control can be done in many different ways: we offer complete gas mixing systems and stand-alone units that communicate with Modbus, Profibus and analog signals. Other options include VB, C++, Labview or ready-to-use data collection programs. Units are available from the smallest SCCM flow range up to 450 SLPM. For system manufacturers, Vögtlin develops and manufactures complete OEM solutions.

Contact one of our local experts today and learn how Vögtlin can help you get the best flow solution!



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