

# APPLICATION NOTE A062-GP99 - AERATION

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## AERATION

**Bronkhorst offers mass flow meters and controllers up to 5000 l/min Air equivalent. In aeration applications up to 50% of the MASS-STREAM flow measurement and control instruments are sold with a multi-functional display which offers a wide range of additional options.**

This application note introduces aeration, presenting several ideas for using our instruments in different industrial sectors. Aeration is a process which circulates, mixes or dissolves air, oxygen, carbon dioxide or other gases in a liquid or substance.

The process of aeration is applied in food and beverage markets, waste water treatment, as well as in fish tanks and fish farms. Examples are oxygen level control in beer brewing and winemaking to allow fermentation. Also milk, sparkling water and other carbonated drinks, like cola, need a throughflow of gases to remove odors or to add CO<sub>2</sub>. Similar to the use of air pumps in a fish aquarium, industrial gas flow control is used to aerate ponds to grow fish or algae.



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### Application requirements

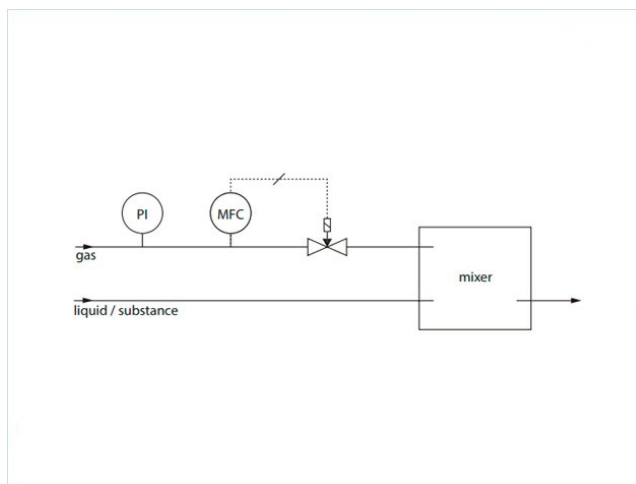
- Robustness
- High repeatability
- Easy to check actual gas flow
- Gas consumption monitoring
- Ingress protection class IP65 rugged and waterproof housing

### Industrial sectors

- Food and beverage
- Beer brewing and wine making
- Production of carbonated drinks
- Bioreactors and fermenters
- Waste water treatment
- Fish and algae farms
- ...

## Optional features

- Multi-functional display
- Additional interface
- Up to 8 calibration curves in one instrument
- Pressure rating P1 up to 20 bar(g)
- Compression type fittings



General flow scheme for flow control in aeration

## Recommended Products



**MASS-STREAM D-6310 MFM**

Min. flow 0,01...0,2 l/min  
Max. flow 0,1...2 l/min  
Pressure rating up to 20 bar  
Rugged sensor and housing (IP65)  
Optional integrated TFT display



**MASS-STREAM D-6371/004BI MFC**

Min. flow 2...100 l/min  
Max. flow 20...1000 l/min  
Pressure rating up to 10 bar  
Rugged sensor and housing (IP65)  
Optional integrated TFT display



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