



- Precise gas and/or vapor mixing
- Stable flow rate control

- Digital presentation of flow rates in cm^3/min (g/h)
- Completely automated setup

- Digital mass flow controllers
- Easy to use, accurate and reliable

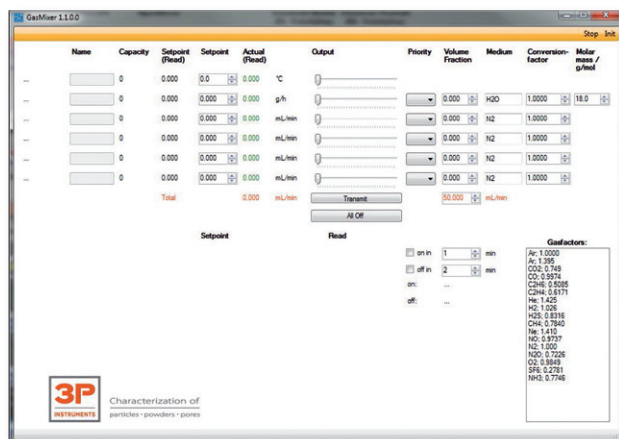
ACCURATE GAS BLENDING AND FLOW CONTROL



Characterization of
particles • powders • pores

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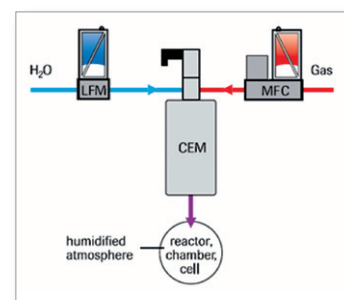
Continuous flow adsorption measurements for chemisorption, temperature programmed reactions (TPx) and BET surface area, require precise gas and/or vapor mixing and stable flow rate control. For this purpose, 3P Instruments offers different models of gas-/vapor mixers, each with high precision digital mass flow controllers. The flow rate of each channel may be varied by the operator, allowing the relative concentration of the mixture to be easily selected and maintained by a Windows software.



Applications

- Chemisorption analysis
- Temperature programmed reactions (TPx)
- Vapor ad-/desorption analysis (pyridine, water, etc.)
- BET surface area
- Breakthrough analysis

The gasMixer eliminates the need for many tanks of pre-mixed gases. Furthermore, it allows to blend a liquid by a carrier gas stream. Adsorbates (active) and carrier gases can be easily mixed to desired concentrations. The flow rates are maintained constant throughout the measurement. The digital presentation of flow rates provides an easy selection and confirmation.



Model Overview

Model	Channels	Available Configuration
gasMixer 2/3/4	2x/3x/4x Gas	0.5–20 ml/min 1–50 ml/min 2–100 ml/min 4–200 ml/min
gasMixer 2.1	2x Gas, 1x Liquid	Gas: 0.5–20 ml/min 1–50 ml/min 2–100 ml/min 4–200 ml/min Liquid: 0.04–2 g/h
gasMixer 3.1	3x Gas, 1x Liquid	
gasMixer 4.1	4x Gas, 1x Liquid	

Specifications

	Gas Mass Flow Controller	Liquid Mass Flow Controller and Evaporator
Accuracy	0.5 % full scale 0.1 % reading	2 % full scale
Repeatability	< 0.2 % reading	0.2 % reading
Calibration	Air, Nitrogen, or others on request	Water, others on request
Gas Supply Pressure	0.7 – 1.4 bar	0.7 – 1.4 bar
Fittings	Kalrez 6375 Stainless Steel SS 316	Kalrez 6375 Stainless Steel SS 316
Heater	–	200 °C
Interface	Software controlled via Flow-Bus or RS232	Software controlled via Flow-Bus or RS232