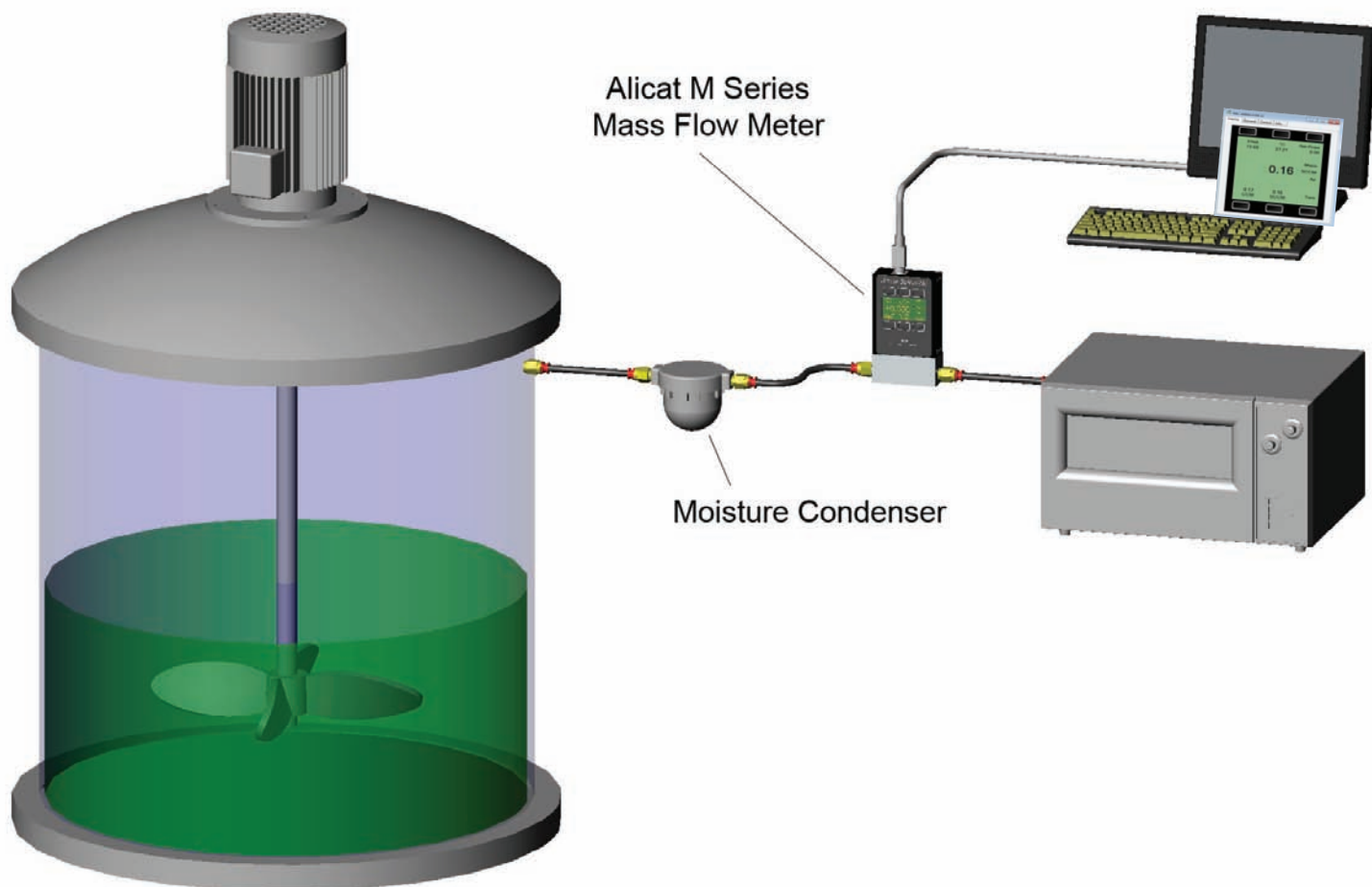


## Bioreactor Outgassing

Research projects involving isolated chambers with decomposing organic components often use rotometers. The gas is released from the chamber and metered into a gas analyzer to determine the actual gas constituents.

The diagram demonstrates how an Alicat micro-flow mass meter (MFM) can be used instead of a rotometer to gain substantial improvements in device accuracy and automation. The Alicat MFM is set for methane gas calibration. The MFM reports the totalized gas flow to the PC, which incorporates this data with the analyzer's calculations.



The actual gas being released from the chamber is not pure methane, but a number of gases mixed with methane. Viscosity calculations have indicated that the total flow accuracy will not exceed  $\pm 2\%$  full scale. The MFM's high operating range of 1 – 100% and digital communication ability, results in a test solution that is highly repeatable with simplified data collection