Using a Constant Pressure Method on two Instruments Producing Different Flow Rates- Tips & Suggestions

Suggestion: Most HPLC Methods use constant Flow Rate instead of Constant Pressure. The problem with Constant Pressure Methods is that every LC system is Different and if two Instruments use the same Pressure stated in such a Method, they may still result in different Volumetric Flow Rates.

This is generally NOT desirable as the Void Volume Time, Retention Times, and so forth will be affected by the Flow Rate. For example, one system might have smaller ID system Tubing than another, which would contribute to a higher Pressure. Contaminant problems such as Particulate Matter in the LC System can also make one Instrument give a higher Pressure than another.

The phenomenon is of course not limited to different instruments but also different Columns on the same Instrument. Even if the Columns are the same dimensions but are two different stationary Phases, different pressures can still result.