

### *Measuring Mass Flow from Peristaltic Pumps*

#### **TESTA Analytical Solutions e.K**

reports how its real time flowmeter can be used to determine average flow rate as well as peak values of pulsation, thereby enabling selection of the most appropriate setting for any peristaltic pump application.



#### **Benefiting**

from their affordability, ease-of-use, and flexibility – peristaltic pumps are used for a wide range of applications ranging from simple solvent transfer to more complex flow chemistries and lab scale reactions.

#### **Carlo Dessy**

– Technical Director of TESTA Analytical commented “As simple and dependable as peristaltic pumps are, they do however come with drawbacks intrinsic to their design and principle of operation. The flow rate of a peristaltic pump cannot be determined just by the physical dimensions of the peristaltic wheel and tubing and its speed of rotation. Other factors including the viscosity of the transported liquid, flow pulsations, back pressure and aging of the pump tubing are known to have a significant influence on obtained flow rate.”

#### **He added**

“While simple applications like solvent transfer may not require a constant and known flow rate. More complex applications, such as reagent mixing for lab scale reactions and flow chemistries demand an accurate measure of flow rate to obtain reproducible and accurate experimental results. In independent testing by a major pharmaceutical company, our real-time flowmeter has been shown to be a valuable tool to improve global performance of systems equipped with peristaltic pumps by supplying fast and accurate values of flow rate and average flow rate. This data enables easy calculation of delivered quantities (**mass flow**) of reagent and the velocity of their introduction into the reactor. Also, the high sensitivity of our flowmeter has been shown to provide early detection of tube aging and loss of performance, therefore helping avoid unnecessary peristaltic pump failure, costly downtime, and loss of expensive reagents.”

**Compact in size,**

and conveniently powered via a USB connection, the TESTA Analytical real time liquid flowmeter uses a thermal flow sensor that is not only extremely accurate, sensitive, and high-resolution – but it also offers the advantage of being non-invasive. As the sensor does not interfere with the measurement it can operate over a wide dynamic range and has been demonstrated to be the perfect real-time liquid flow monitoring tool for a growing range of applications.



**For further information**

on the real-time flowmeter please visit <https://www.testa-analytical.com/flowmeter-request.html> or contact Testa Analytical Solutions on +49-30-864-24076 / [info@testa-analytical.com](mailto:info@testa-analytical.com).

**TESTA Analytical Solutions**

is a leading specialist supplier of liquid chromatography instruments and detectors. Drawing upon over 30-years' experience, TESTA Analytical Solutions has established itself as a respected creator and supplier of top quality, innovative, high performance chromatography instrument kits, and detectors with OEM clients around the world.

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