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## **Optimal results in flow cytometry**

### **Pump of HNP Mikrosysteme ensures a constant sheath flow**

Flow cytometry is a highly exact measurement method for the analysis and quantification of cells and particles. The cells to be detected are transported to the measuring cell using a liquid system consisting of sample liquid and sheath flow. The sheath flow carries the sample into a microchannel and separates the cells so that they pass the measuring cell one by one. Hydrodynamic focusing of individual cells is achieved only with the aid of a continuous and precise sheath flow. The speed of the sheath flow determines the speed of the cells and must be constant. Even small deviations lead to measurement errors.

On the question, as such deviations can be prevented, says Dr. Dorothee M. Runge, molecular biologist and active in technical sales at HNP Mikrosysteme: „This can succeed with a precise and dynamic pump. Usually we are using a low pressure pump, like the mzs-2921. We can go back on a broad selection of materials and will than adapt the wetted parts according to customer specifications."

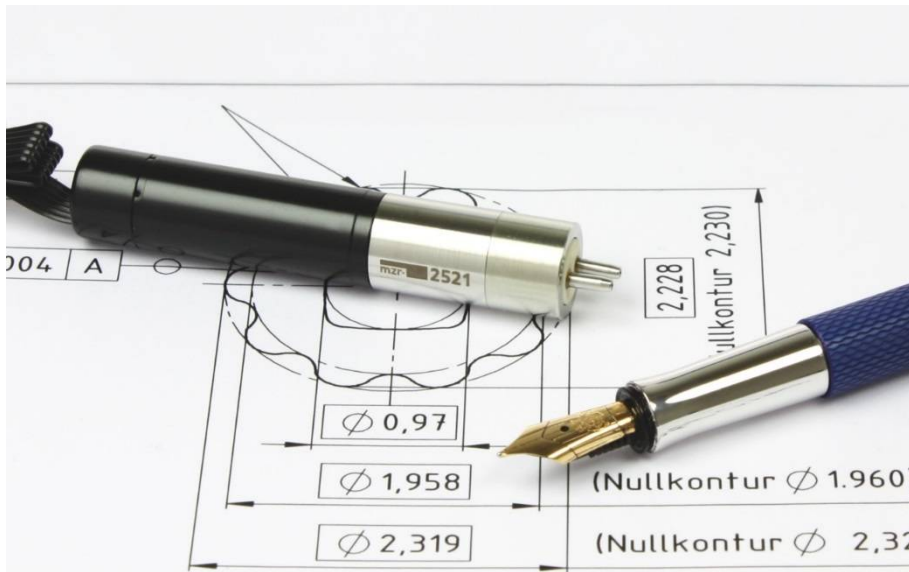
Micro annular gear pumps are characterized by low pulse and low shear delivery, minimal dead volume and a long service life. Because of their low weight and compact design, they are ideally suited for integration in analytical instruments. Due to chemical resistant materials used for mzs-pumps, a chemical sterilization is possible. Beside the delivery of the sheath flow these pumps are also used for cell and particle suspensions.

Flow cytometry has applications in a number of fields, including cell and molecular biology, pathology, immunology, plant biology and medicine, especially in transplantation, hematology, prenatal diagnosis, genetics and sperm sorting for sex preselection.

### **HNP Mikrosysteme**

German company HNP Mikrosysteme GmbH develops, manufactures and markets pumps worldwide which does small amounts of liquids fast and accurately. Beside several applications at plant engineering, chemical processing and pharmaceutical industry, mzs-pumps are used in the field of life science and analytical instrumentation.

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Pump mzt-2521 works accurately in the microliter to milliliter range and is often integrated in analytical devices.

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