

Vario-Dynamic Diaphragm Pump

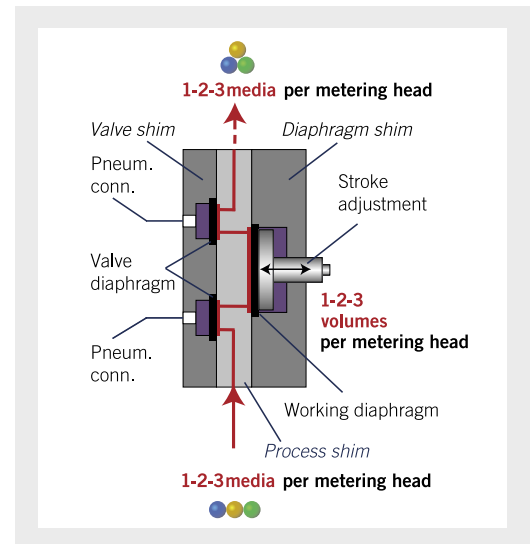
The innovation

The patented, extremely compact, one or multi-channel peristaltic metering unit uses a pneumatic diaphragm drive, a three-part base body, positively controlled intake and delivery valves and an integrated cubic capacity adaptation for the self-priming micro-precision removal, discharge and metering of one or more substances at a programmable clock speed. For each substance, discharge rates can be individually controlled directly at the location of metering.

The dynamic cubic capacity adaptation not only facilitates exact calibration and

application-specific differentiation of the discharge rates in the process, but also the optional pre-mixing of the substances to be metered/dosed. The peripheral control unit allows exact tuning/setting of the unit's/pump's working parameter.

The (advantageous) combination of construction-conditioned minimal manufacturing costs, multi-variability and metering accuracy provide whole new possibilities for the economical design of efficient metering processes.



Advantages at a glance

- Cost-efficient compact design (injection moulded, also for one-time use)
- 1 Unit : n applications (during the operating time of a cycle)
- Ability to control
 - up to four functions (removal, discharge, pre-mixing and metering)
 - different media (gasses or liquids)
 - specific volumetric flow-rates per medium
 - cycle times
- Best media utilisation due to construction-conditioned, highly reproducible accuracy of metering
- No moving mechanics, very long service life, lowest operating and maintenance costs
- Easy handling and cleaning
- Freely selectable product-touching material(s)
- Self-priming metering against pressure as well as into the vacuum possible
- Position-independent operation

Technical data

- Operating pressure up to 6 bar
- Viscosity range from 1 mPa·s to 10,000 mPa·s
- Maximum volumetric bandwidth of 20ml/h to 10l/h
- Metering displacement volume from 5µl to 6ml per cycle
- Metering accuracy (reproducibility): < 1%
- Metering frequency: 40 to 60 strokes per minute
- Selectable product-contact materials
- Maximum medium temperature: < 97°C

Areas of application

- Process and analysis systems in both continuous and batch operation. Cost-efficient and highly accurate removal, discharge, pre-mixing, application, metering of small to minimum substance quantities, reaction mixtures and additives like stains, fluxing agents, detergents, solutions, concentrates, adhesives, oils, greases, paints, silicon etc.

To acquire a licence for this new technology, please don't hesitate to contact us!

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Patent status

The invention is filed internationally and partially granted. It is owned by Dritte Patentportfolio Beteiligungsgesellschaft mbH & Co. KG. The application was filed in April 2003.



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