Functional Theory

The new precision volume dispenser eco-SPRAY made by ViscoTec offers a wide range of applications for low to high viscosity spray media. The preeflow® eco-SPRAY guarantees a volumetric spray application based on the endless piston principle. The base of this new microspraying technology is still our proven rotor/stator technology. Due to a defined rotary motion of the rotor the medium in the stator is volumetrically replaced and conveyance is created. Thus a determined amount of medium is process controlled and directed to the special low flow spray chamber.

The precise nebulization and spraying can take place continuously or punctually. The revolutionary combination of the endless piston principle and the low flow spraying chamber guarantees perfect spraying of low to highly viscous media with high edge definition and lowest possible overspray.

Applications

• Dosing  • Coating  • Micronebulization
• Greasing  • Marking  • Many more...

Media

• Grease  • Ink  • Activators/Primer  • Abrasive Media
• Adhesives  • Silicones  • Highly filled Media  • Many more...

Technical Features

• Spraying of defined quantity  • Optional heating
• Viscosity independent spraying  • Easy to clean
• Regardless of primary pressure  • Controllable spray area
• Pressure-tight without valve  • Low to high viscosity media

Advantages

• Constant amount/area  • Consistent spray-image
• Uniform Coating  • Little overspray/high edge definition
• Defined volume per rotation  • High chemical resistance
• High Bracing  • Controllable round spray
• From dot to endless spraying  • Low maintenance system
• Independent regulation of media flow rate and atomizer air  • High transfer efficiency
Microspraying in Perfection!

Microspraying in Perfection!

Technical Data

| Dimension: | Length 228 mm, Ø 35 mm |
| Material infeed: | 1/8" cylindrical whitworth pipe thread DIN/ISO 228 |
| Parts with medium contact: | HD-POM/Stainless Steel/PEEK |
| Min. operating pressure: | 0 bar, self-levelling fluid |
| Max. operating pressure: | 0 to 6 bar input pressure, non-self-levelling fluid |
| Intrinsic tightness(1): | Approx. 2 bar (reference medium approx. 10 mPas at 20° C) |
| Seals: | High-molecular PE, VisChem |
| Motor: | 18 to 24 V/DC, incremental encoder, planetary gears |
| Switching frequency: | Over 100 cycles/min |
| Operating conditions: | +10° C to +40° C, air pressure 1 bar |
| Medium temperature: | +10° C to +40° C (optional with heating) |
| Medium viscosity: | Low to high viscosity media |
| Min. dosing quantity: | 50 µl |
| Volume flow(2): | 0.5 to 6.0 ml/min |
| Diameter: | 0.2 mm, 0.3 mm, 0.5 mm |
| Spraying accuracy(3): | Amount of spraying ± 1% |
| Repeatability: | > 99% |
| Atomizer air: | 0.1 to 6 bar |
| Atomizer supply: | Hose connector external diameter 4 mm (connection to the process M5) |
| Spray image: | Round spray (adjustable) |
| Spray angle: | 15 to 30° |

(1) max. dosing pressure and intrinsic tightness will decrease in direct proportion to a decrease in viscosity and increase in direct proportion to an increase in viscosity.

Consultation with the manufacturer recommended.

(2) Volume flow depends on viscosity and primary pressure.

(3) Volumetric dosing as absolute deviation in relation to one dispenser revolution. Depends on the viscosity of the dosing medium.
Microspraying in Perfection!

Standard spraying technology

Volume flow depending on compressed air pressure with two-component jets of external mixing*

Limited working field. Volume flow of air & medium are interdependent.

eco-SPRAY

Working field is free selectable. Volume flow of air & medium are independently adjustable.

Fluid distribution by comparison*

Little edge definition – high overspray.

High edge definition – defined distribution.

* Depends on viscosity and primary pressure.
Microspraying in Perfection!

eco-SPRAY

Material supply

Heating (optional)

Spraying air regulated

external signal

Switching example eco-SPRAY controller

Controller signal
starts spraying air

Controller signal
starts dispenser

Prespraying, spraying, afterspraying and pressure are customer specifically adjustable. Thereby individual spray contours are possible.