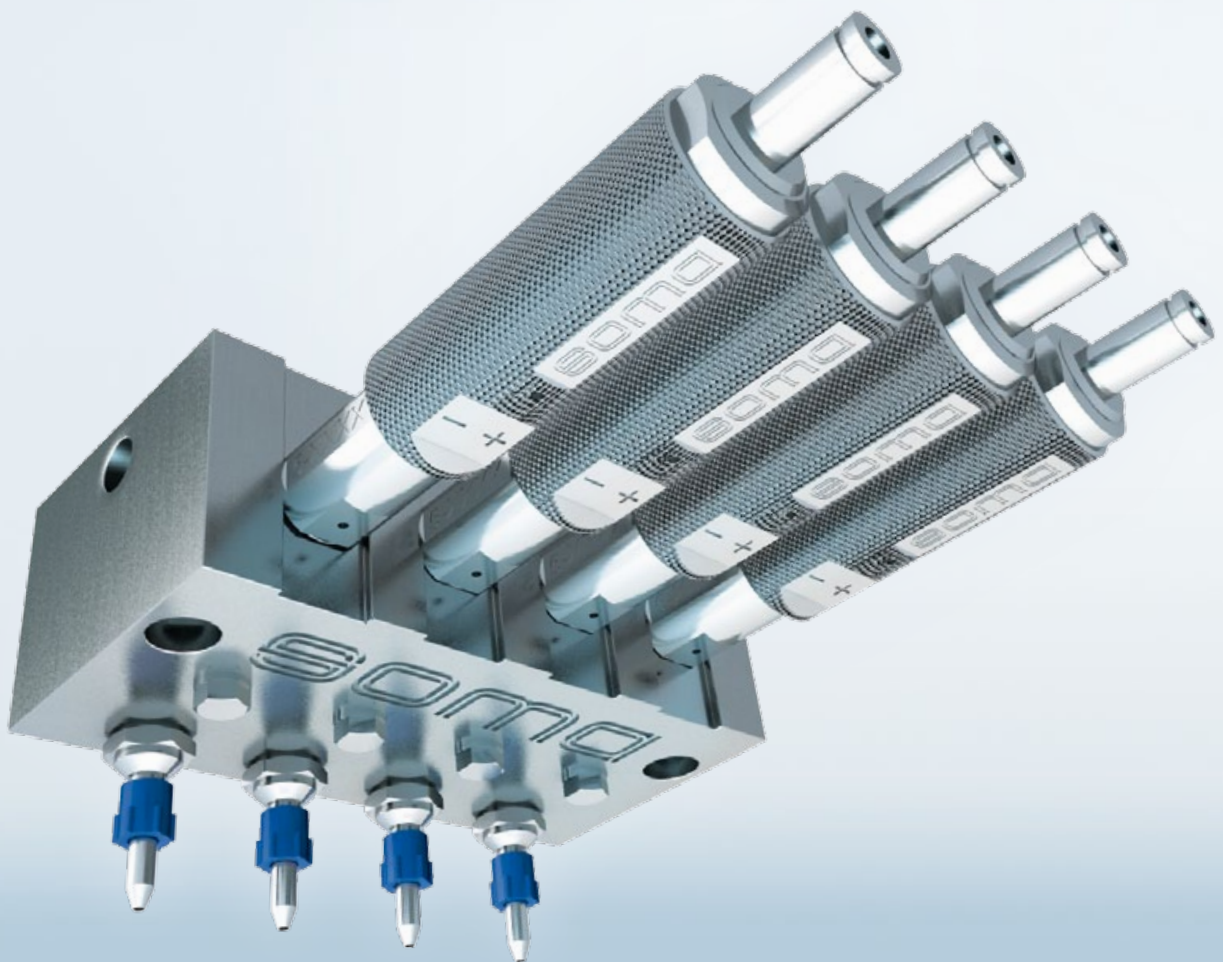


VDV – Volumetric Dosing Valve

Dosing lubricants with constant volumes:
reliable, volumetric, reproducible



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The SOMA volumetric dosing valve (VDV) was developed for use in dosing processes where the reproducible and contact dosing of precise volumes is of great importance regardless of fluctuations in primary pressure and the viscosity of the lubricant being dosed.

The VDV is a modular valve in the shape of a cartridge, designed to dose low- to high-viscosity media. It is used with a large range of lubricants, including solid lubricants.

Thanks to its modular nature, the VDV can also be combined with various valve housings to form a dosing station with a central supply of media.

The benefits at a glance

- Continuously adjustable, reproducible constant dosing volume
- High process reliability
- Low primary medium pressure to avoid the segregation of lubricants
- Option of dosing solid lubricants
- Can be combined with complete dosing stations with a central medium supply

The VDV operating principle

The medium being dosed is fed into the dosing chamber at a feed pressure of 43.5–87.0 psi (3–6 bar) via the valve connection block. A non-return seat valve with back pressure relief, integrated in the output of the VDV dosing chamber, prevents the dosing medium from escaping in an uncontrolled manner up to a pressure of 87.0 psi (6 bar).

Activated using a mono-stable 3/2-way valve, the dosing piston in the valve cartridge is subjected to pressure and thereby pushes the spring-loaded plunger into the dosing chamber without any clearance. After exceeding an initial stroke, the front surface of the dosing plunger seals the dosing chamber and drives the preset dosing volume via the spring-loaded non-return valve to the outlet aperture and on to the dosing nozzle.

The dosing volume can be continuously adjusted by hand using the rotary valve cylinder which limits the dosing piston stroke.

Monitored dosing process

In order to monitor the dosing process within highly automated systems, the VDV can monitor the dosing stroke from the movement of the non-return seal valve.

Technical data

Input pressure of medium: $P_{max} = 87.0 \text{ psi (6 bar)}$
 Compressed air supply: $P = 43.5\text{--}87.0 \text{ psi (6--3 bar)}$
 Dosing volume: $V = 5\text{--}235 \text{ mm}^3/\text{stroke}$
 Dosing frequency: $f_{max} = 2 \text{ Hz}$

