



SV 60

Micrometering valve with piezoelectric drive and sliding technology

Technical Information

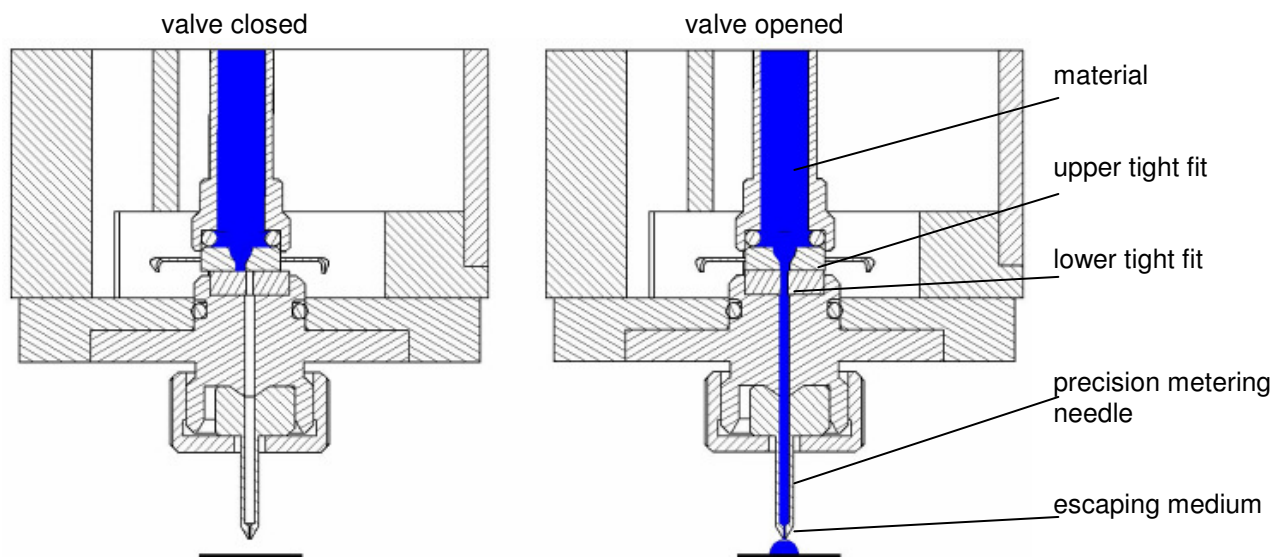
Revision 1.3

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1. Function mode

The drive of the sliding valve is realized by means of two specifically arranged piezoelectric actuators. The movement of same is imparted via a lever to the upper tight fit and by this same is moved. The movement is effected parallel to the lower tight fit whereby the central borings get congruent with each other. In case of congruent borings the media can escape through the borings and is metered. It is also possible to influence the metering mass as well as the drop diameter by means of different needle diameters. Undercuts causing gas bubbles and thus improper meterings could be reduced due to the special connecting geometry. Precision metering needles are available within an inner diameter range of 0.1 up to 1.37 mm.



The ceramic tight fit plates can be disassembled for cleaning purposes.

Due to the maintenance-free and extreme fast piezoelectric drive it is possible to achieve meterings with a frequency up to 10 Hz. The minimum metering time of 5 ms allows smallest metering quantities of up to approx. 10 nl (this value is subject to the medium).

Due to the incremental width of 10 μ s it is possible to effect a very exact setting of the metering quantity.

Due to the arrangement of the piezoelectric actuators and the resistant valve seat made from ceramics, the lifetime of the drive and the valve seat is extremely high. Maintenance and control of the valve seat is recommended after 3.000.000 metering cycles. This value depends on the medium!

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2. Technical data SV 60

dimensions (L x W x H)	154 x 50 x 30 mm (without needle)
measurable media	Pasty liquids, prior solder paste or electrical conductive adhesives
measurable viscosity range	> 10.000 mPas
stroke	1.2 mm
minimum dosage time	5 ms (one time fully open and close)
maximum dosage time:	∞ endless (permanent metering)
minimum pause time	10 ms
maximum pause time	∞ endless
metering frequency	< 10 Hz
metering accuracy	±2 % (with constant pressure and temperature)
maximum working pressure	0.6 MPa (6 bar)
ambient temperature range	+15 °C bis +45 °C
medium temperature range	Max. +60 °C
seal kit (nozzle/ nozzle)	Self-adjustable from hard ceramics, Removeable for cleaning After wear replaceable
diameter standard nozzle	400 µm, other diameters on request
maintenance and control interval seal kit	> 3,000,000 cycles (depending on the medium)
Average lifetime of the piezo drive	> 150,000,000 cycles (depending on metering frequency and temperature)
material in contact with the medium	Stainless steel 1.4305, Isolast, Viton
electrical supply	0.5 m cable with 10 pole circular connector extension cable 4.5 m optional
min. bending radius	60 mm
medium connection	Luer-Lock-connection for small cartridges
fastening possibilities at the valve body	2x hole Ø 6.2 mm 2x hole basis fit Ø 3 H7/ 5 deep
degree of protection	IP 54
explosion protection	No
storage temperature	-10 °C up to +85 °C
weight incl. connecting cable	0.38 kg
suitable drive electronic	Control unit type CON SV
suitable process electronic	PDA 1+1, PDA 2+2

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3. Important Comments Regarding Technical Information

The information regarding the medium to be metered do not lay claim to completeness. If you have some questions or need further advice, please get in contact with PICODOSTEC.

Due to the variety of the medium that can basically be metered the mentioned examples can only give a general overview which is based on the experiences of PICODOSTEC. Same are on no account a guaranteed characteristic as defined by a technical specification. This is also valid for the service life of the valve being influenced by the metered medium (e.g. fillers in the medium).

PICODOSTEC recommends to the user to check at any rate the metering properties of the medium, the resistance of the sealings used in the valve and the service life of the valve depending on the medium to be metered by means of field tests.

It is not allowed to meter medium, which cures irreversibly in the valve, like e.g. anaerobic adhesives and superglues (cyanacrylates) or materials damaging the sealing material ISOLAST or Viton.

In case you have difficulties regarding the valuation of your medium, please just get in contact with us – we will certainly give you the required support.

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4. Safety Instructions

The described electric devices and machines are equipment to be used in industrial installations.

During operation several parts of the micrometering valves type SV carry dangerous voltages and have surface temperatures of up to + 60°C. Therefore do not open on no account the casing and provide for sufficient protection against accidental contact. Repair work shall only be carried out by the qualified personnel of PICODOSTEC.

Therefore the persons in charge for the safety of this installation have to guarantee that

- unqualified personnel is not allowed to work on the devices and machines or in close proximity to same
- only qualified personnel will be instructed to work on the devices and machines
- among other things the operating manual and the other documents will always be at the disposal of these persons while effecting the corresponding work and that they will be obliged to observe these documents resolutely

Qualified personnel are persons, who – due to their training, experience and instruction as well as to their knowledge of relevant standards, regulations and rules for prevention of accidents and operating conditions – have been entitled by the person in charge for the safety of the installation to effect the required work and who are able to recognize and avoid possible dangers on this occasion. (definitions for specialists according to VDE 105 or ICE 364)

The warranty for the products of PICODOSTEC GmbH follows exclusively the current setting of our general business conditions.

These safety instructions do not lay claim to completeness.

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We scrutinized this product manual very carefully. However, we cannot guarantee that same is without faults. If you have further questions or need some advice please get in contact with:

PICO Dosiertechnik GmbH & Co. KG
Phone +49 (0)89 – 84 93 66 60
Fax +49 (0)89 – 84 93 66 66
info@picodostec.com