

DV-09

Needle Valve



Description

The DV-09 valve is an air-operated, adjustable needle valve. It is designed to apply precise, repeatable deposits from a fraction of a microliter up to continuous stripes of low to high viscosity fluids. The valve is ideal for dispensing very low viscosity materials like UV cure adhesives, silicone oils, flux, accelerators, inks, solvents, and mercury.

Specially designed, spring-loaded Teflon® needle packings compensate for wear and significantly reduce maintenance downtime. Since the needle shutoff is at the dispensing tip adapter, there is little fluid dead volume in the valve. The positive cutoff action results in a clean and sharp fluid shutoff.

The amount of fluid that flows through the DV-09 is determined by the valve open time, fluid pressure, flow control adjustment, dispense tip diameter and fluid viscosity.

Valve Operation

The DV-09 valve dispenses fluid when the input air pressure acts on the piston, retracting the needle a preset distance from the needle seat, permitting the fluid to flow from the output tip adaptor.

When air pressure to the valve is removed, the valve-mounted quick exhaust provides an outlet for air built up in the chamber. As a result, the needle quickly shifts to the closed position. This rapid on/off operation creates a positive shutoff effect at the end of the dispense cycle, ensuring clean drip-free fluid cutoff.

The DV-09 valve has a fail-safe positive shutoff independent of the air or fluid pressure. If there is a power loss or a hose becomes dislodged during use, the valve needle will automatically close, stopping the fluid flow.

Easy to Maintain

The DV-09 can be maintained by periodically purging the valve with a solvent compatible with the fluid and valve components. Simple bottom-up disassembly simplifies cleaning the individual components and replacing the needle packing in the valve chamber.

See diagrams and specifications on the back for more details.

The DV-09 Features:

- Ideal for low-viscosity fluids used for gasketing or very thin lines
- Precise, micro-deposit output
- Needle shutoff provides an even bead at the end of a dispensed line
- Adjustable fluid control
- Fast response
- Zero fluid dead volume
- Positive shutoff
- Cycle rate is 500+ per minute

DV-09 Specifications

Size:

108 x 27 mm
(4.25 x 1.06 in.)

Weight:

170 gm (6 oz.)

Fluid Inlet Thread:

1/8 NPT Female

Fluid Outlet Thread:

Male luer lock

Free-flow Area:

1.37 mm² (.002 in.²)

Maximum Fluid Pressure:

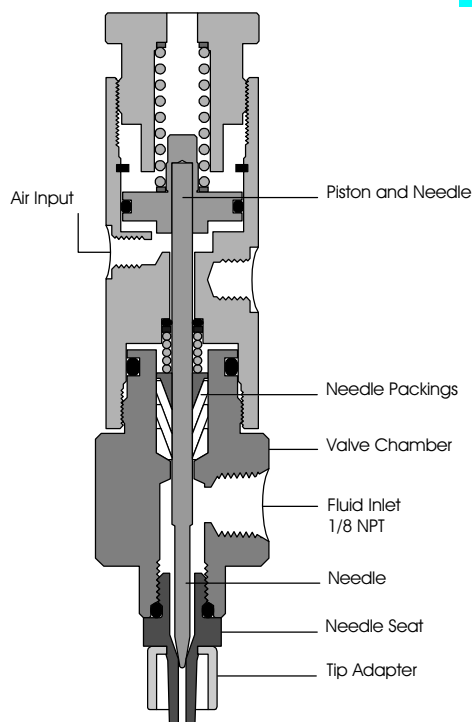
2067 kPa (300 psi) [21 bar]

Air Pressure Required:

482 kPa (70 psi) [4.8 bar]

Output Variation:

± 1.0% nominal
(viscosity dependent)



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Valve Construction

Piston and Piston Rod:

Type 303 stainless steel

Cylinder Body:

Hard-coated aluminum

Wetted Parts:

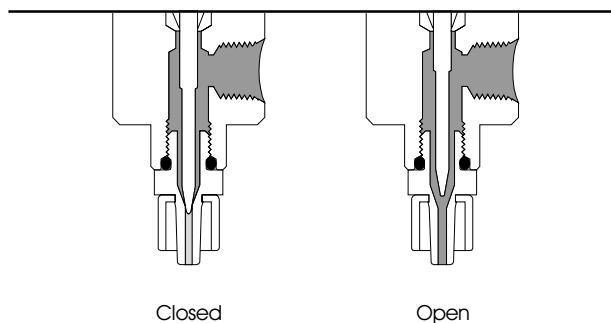
Type 303 stainless steel, Delrin,
Nylon

Valve Attachments:

Needle:
Type 303 stainless steel

Brush:

Soft nylon for low-viscosity fluids



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