The SDL-type valve is a disc slide valve with a ceramic sealing system for open/close function, for use in highly corrosive and abrasive media.

The valve is designed for extreme conditions, where high switching frequencies and a long service life are required, but dead space cannot be permitted inside the valve. Control functions can be realised using a switching frequency control system.

The medium comes into contact not only with the ceramic discs, but also with housing parts and seals. Alongside the standard solutions, other material combinations are possible, depending on operating conditions.

This slide valve type is designed for very small volume flow rates in the nominal width range from below 1 mm up to 10 mm. Pressures of up to 250 bar / 3600 psi are permitted here. The connections are designed with internal threads as standard. Other connection variants are possible.

The functional principle is based on three floating ceramic discs that seal against each other. The middle disc shifts linearly, while the two outer discs are stationary.

Opening and closing take place through the vertical displacement of the middle disc.

The valves are supplied both with a T-handle and prepared for attachment to a drive unit. All customary actuators can be used as drive units. As standard solution, the slide valves are offered with electromagnets, with linear stepping motors and with pneumatic cylinders.

The actuator is mounted by means of a yoke and adapter arrangement. Special connections are possible.

Nominal diameter range:

| DN 1 (1/4") to DN 10 (3/8") |

Sizes: SDL 2; SDL 5; SDL 10
Maximum clear width: 10 mm (3/8")

Pressure range:

- SDL 2 up to PS 250 / ANSI class 1500
- SDL 5 up to PS 160 / ANSI class 1000
- SDL 10 up to PS 100 / ANSI class 600

Overall length: Valve length depends on connection type
Options:
- Various ceramics and sealing materials
- Various housing materials
- SDL 5 and SDL 10 as control valve

Temperature range:

- Standard: -30 °C to +180 °C / -22 °F to +356 °F
- with Kalrez O-rings: up to 310 °C / 590 °F

Typical application areas:

- Dosing systems
- Spraying systems (paints + varnishes)
- Analysis technology
- General mechanical engineering

Item | Part description | Materials | Material options
--- | --- | --- | ---
01 | Sealing disc | Al₂O₃ | SSiC
02 | Stroke disc | Al₂O₃ | SSiC
03 | Stroke rod | 1.4301 | 1.4571
11 | Bearing bushing | PTFE | Stellite
23 | Connecting flange | 1.4301 | 1.4571
34 | Mounting flange | 1.4301 | 1.4571
24 | Seal | Graphite
55 | O-ring | Viton | Kalrez / silicone
56 | O-ring | Viton | Kalrez / silicone
58 | Seal | Graphite