

# Mega-One LS

Low-Pressure, Snap-Acting Manual Valves

## Shaped Handle

Oval-shaped handle quickly identifies the valve's position as being open or closed.

## Multi-Colored Handles

Various colors are available to facilitate fluid identification.

## End-Connections

Available in tube-stub, UJR (VCR® compatible), UPG, F900 compression, and IGS surface-mount. This allows great installation flexibility – both in new gas lines as well as in existing lines.

## Various Internal Options

Internal surfaces undergo an EP-Treatment as standard. UP Treatment, chrome oxide passivation, and SS316 double-melt bodies are also optionally available

## Minimal Internal Volume

1.48 cc total internal volume for the male UJR version ensures excellent gas displacement characteristics. This is less than half the internal volume of competitive valves.

## Lock-Out Tag-Out Device

Durable, compact, and foolproof, the LOTO device prevents the valve from accidental operation. May be added to valve with no modifications.

## Alloy Diaphragm

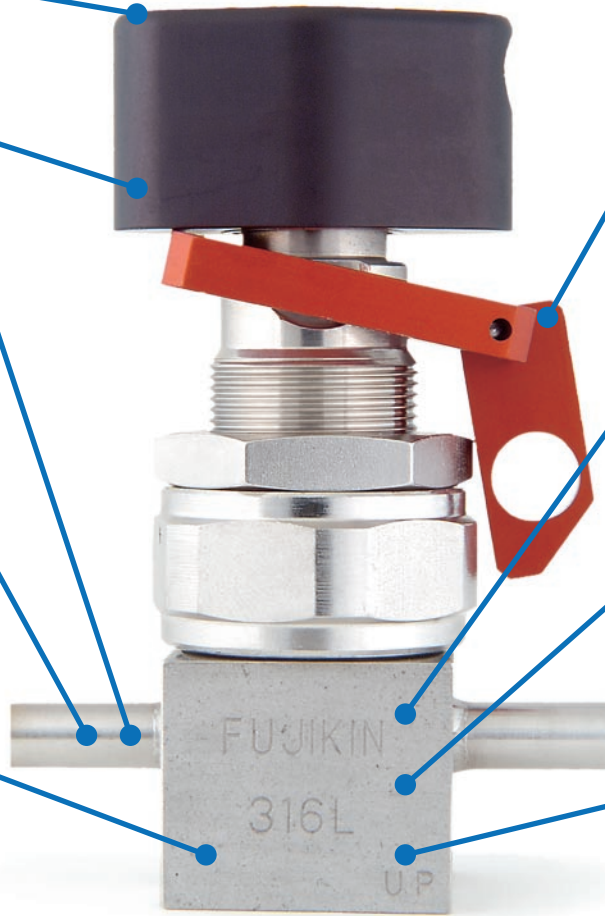
Nickel-cobalt alloy diaphragm minimizes particle generation, and provides a durable shut-off surface against the seat.

## PCTFE Seat

PCTFE is standard with polyimide and PFA as optional. The seat is fixed to ensure robust shut-off performance and minimize particle generation.

## Stringent Leakage Standards

Seat and external leakage successfully test at  $5 \times 10^{-11}$  acc/sec – which is two orders of magnitude tighter than industry standards.



### General Specifications

|                          |                              |
|--------------------------|------------------------------|
| <b>Available Sizes</b>   | 1/4", 3/8", 1/2" (tube-stub) |
| <b>Surface Finish</b>    | 7 Ra average, 10 Ra maximum  |
| <b>Tested Durability</b> | Over 20,000 cycles           |

### Materials of Construction

|                      |                     |
|----------------------|---------------------|
| <b>Body</b>          | SS 316L             |
| <b>Diaphragm</b>     | Nickel-cobalt alloy |
| <b>Standard Seat</b> | PCTFE               |
| <b>Optional Seat</b> | Polyimide, PFA      |
| <b>Handle</b>        | Nylon 6             |

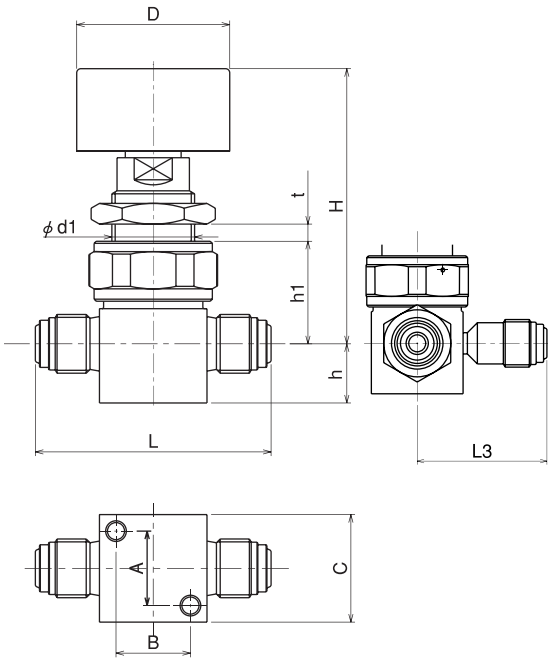
### Operating Specifications

|                               |   |
|-------------------------------|---|
| <b>Max Operating Pressure</b> | 145 psi (1 MPa) or 2,350 psi (16.2 MPa) |
| <b>Min Operating Pressure</b> | Vacuum                                  |
| <b>Temperature Range</b>      | 14 °F ~ 176 °F (-10 °C ~ 80 °C)         |

### Functional Performance

|                                     |                                  |
|-------------------------------------|----------------------------------|
| <b>Maximum Cv</b>                   | 0.25 (1/4") / 0.6 (3/8" & 1/2")  |
| <b>Leakage Across Seat (Design)</b> | $1 \times 10^{-10}$ scc/sec He   |
| <b>Leakage Across Seat (Tested)</b> | $< 5 \times 10^{-11}$ scc/sec He |
| <b>Inboard Leakage (Design)</b>     | $2 \times 10^{-10}$ scc/sec He   |
| <b>Inboard Leakage (Tested)</b>     | $< 5 \times 10^{-11}$ scc/sec He |

## Dimensions



| Part Number              | L    | L1   | L2   | L3   | h    | H    | h1   | Ød1  | t  | D  | A    | B    | C  |
|--------------------------|------|------|------|------|------|------|------|------|----|----|------|------|----|
| FUDDFL-71-6.35-NL        | 57.0 |      |      |      | 14.3 | 67.5 | 23.5 | 20.5 | 7  | 37 | 18.0 | 18.0 | 26 |
| FUDDFL-71-9.52-NL        | 76.2 |      |      |      | 11.1 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-71-6.35-UG        | 46.0 |      |      |      | 14.3 | 67.5 | 23.5 | 20.5 | 7  | 37 | 18.0 | 18.0 | 26 |
| FUDDFL-71-9.52-UG        | 57.0 |      |      |      | 11.1 | 87.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-71-6.35-UG-2      | 71.0 |      |      |      | 14.3 | 67.5 | 23.5 | 20.5 | 7  | 37 | 18.0 | 18.8 | 26 |
| FUDDFL-71-9.52-UG-2      | 86.0 |      |      |      | 12.7 | 87.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-91-6.35-NL        | 63.5 |      |      |      | 14.3 | 67.5 | 23.5 | 20.5 | 7  | 37 | 18.0 | 18.0 | 26 |
| FUDDFL-91-9.52-NL        | 80.0 |      |      |      | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-91-12.7-NL        | 85.0 |      |      |      | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-71-6.35-2-NL      | 70.6 |      |      |      | 14.3 | 67.5 | 23.5 | 20.5 | 7  | 37 | 18.0 | 18.0 | 26 |
| FUDDFL-71-9.52-2-NL      | 83.0 |      |      |      | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFLTB-71-6.35-NL      | 65.7 | 31.0 | 34.7 | 38.1 | 14.3 | 68.5 | 24.5 | 20.5 | 7  | 37 | 18.0 | 18.0 | 26 |
| FUDDFLTB-71-9.52-NL      | 79.2 | 37.7 | 41.5 | 43.1 | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFLTB-71-9.52x6.35-NL | 69.9 | 31.8 | 38.1 | 38.1 | 12.7 | 72.0 | 28.0 | 20.5 | 7  | 37 | 18.0 | 18.0 | 26 |

All dimensions in millimeters.

## Part Number Designation

### FUDDFL TB - 51 - 6.35 BW - NL - PI - UP

#### Series

**FUDDFL** Quarter-Turn Stainless Steel Direct Diaphragm Valve

#### Valve Configuration

**(Blank)** 2-Way  
**TB** 3-Port  
**CL** 2-Way, Corner Left

#### End-Connections

**2** IGS Surface-Mount  
**5** Tube-Stub  
**7** UJR / UPG  
**9** F900 Compression

#### Max Operating Pressure

**1** 1 MPa (145 psi)  
**16** 16.2 MPa (2,350 psi)

#### End-Connection Size

**6.35** 1/4"  
**9.52** 3/8"  
**12.7** 1/2"

#### Body & Internal Finish Options

**(Blank)** EP Treatment  
**UP** UP Treatment  
**PS** Cr<sub>2</sub>O<sub>3</sub> Treatment  
**FD** Fluorine Passivation  
**316LP** SS Double-Melt Body Material

#### Seat Material

**(Blank)** PCTFE  
**PI** Polyimide  
**PA** PFA

#### Diaphragm Material

**NL** Nickel-Cobalt Alloy

#### End-Connection Pattern

**(Blank)** Male UJR Both Ends  
**-2** Female UJR Both Ends  
**Male UJR Inlet**  
**-3** Female UJR Outlet  
**UG** UPG Both Ends  
**BW** Butt Weld Both Ends

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