OUR TRADE MARK
AFMO • Fujikin
Carp •

Fujikin Incorporated
Fujikin of America, Inc.
Fujikin Deutschland GmbH.

Headquarters: Kita-kenkyu Bldg., 4-4, Shibata-cho, Kita-ku, Osaka 530-8012, Japan
Phone: (81) 6-4677-7141 (Switch Board Number)
Fax: (81) 6-4675-0697

Tokyo Head Office:
2-46, Nihombashi 4-chome, Chuoku, Tokyo 103-0027, Japan
Phone: (81) 3-3273-3061 (Switch Board Number)
Fax: (81) 3-3273-3091

Overseas Operations Division:
Tokyo Office:
2-46, Nihombashi 4-chome, Chuoku, Tokyo 103-0027, Japan
Phone: (81) 3-3273-3061 (Switch Board Number)
Fax: (81) 3-3273-3091

Osaka Office:
Kita-kenkyu Bldg., 4-4, Shibata-cho, Kita-ku, Osaka 530-8012, Japan
Phone: (81) 6-6372-7141 (Switch Board Number)
Fax: (81) 6-6375-0697

U.S.A. New Jersey Office:
4 Aban Way, Little Ferry, NJ 07643, U.S.A.
Phone: (201) 661-1179
Fax: (201) 661-1137

U.S.A. West Office:
Fairfax Plaza 4677 Old Bonaire Dr., #100, Santa Clara, CA 95054, U.S.A.
Phone: (408) 966-8769
Fax: (408) 966-0072

U.S.A. Austin Office:
200E, Ben White Blvd., Suite 200 Austin, Texas 78741, U.S.A.
Phone: (512) 912-0495
Fax: (512) 912-0495

U.S.A. Oregon Office:
One World Trade Center, Suite 1500 1215SW Salmon Street, Portland, OR 97204, U.S.A.
Phone: (503) 671-1345
Fax: (503) 671-1341

Dusseldorf Office:
Leopoldstrasse 9, 40211 Dusseldorf, Germany,
Phone: (49) 211-269868
Fax: (49) 211-389090

Main Plant with Stocking & Distribution Center:
2-21, Naga, Ikeda-Shi Osaka 577-0015, Japan
Phone: (81) 6-6477-2201
Fax: (81) 6-6478-4411

Our Products

Stainless Steel Forgings, Stainless Steel Castings, Brass Forgings, Steel Forgings, Alloys, Compressor Resistant Aluminum Forgings, Gun metals/Metalene Products, Zirconium Products, Tantalum Products, Titanium Products, Fujikin Products, Plastic Products, Fine Ceramic Products, Other Special Metals, New Metal and Material Products.

--- Valves ---
- Various Types of Gate Valves
- Stainless Steel Valves (domestic patent)
- Ball valves for every ultra-high vacuum
- Male valves (international patent)
- Compact valves
- Various miniature valves
- Dismantle type "M" type control valves
- Silver valve stemvalves (domestic patent)
- Various Ball valves
- Various joints (domestic patent)

--- Precision Machinery and tools ---
- Atomic valve unit, joints etc., for the development of the universe (domestic patent)
- Valves unit, joints etc., for the development of the ocean (domestic patent)
- Valves unit, joints etc., for the development of the electronic machinery and tools (domestic patent)
- Valves unit, joints etc., for the development of the related machinery and tools for medical treatment,

--- Unit Apparatuses ---
(e.g.)
- Fuji-Telephoto, seal tape automatic winder (domestic patent)
- Provider power unit (domestic patent)
- Air Trap, FAB (international patent)
- Every StrBP (international patent)
- Sealed bell finished product (domestic patent) (Sampling tank)
- Device for the collection of water in the can (Sampling tank)
- Chemical vapour deposition system
- Anodic oxidation coating system
- Tester for valves, joints
- Medical treatment apparatus
- High pressure gas apparatus
- Air compressor (patented)
- Aerostar® (hydraulic electronics controlling system)
- Contron® (hydraulic automatic controlling system)

--- Special Products ---
- Designing and manufacturing of Special Valves, Connectors, Joins, etc.

--- Overseas Tie-up Products ---
- UTECH Hand Shrink Guns (technical tie-up products with West Germany)
- SAWMARK automatic shrink wrapping machine (technical tie-up products with West Germany)
- Putteness (technical tie-up products with U.S.A)
- Hydraulic technic oil pressure apparatus (technical tie-up products with West Germany)
- LEGRIS LF 3000-10 touch fitting (sales tie-up products with France)
- Glass float ball valves (sales tie-up products with the U.S.A)

--- Products and Services ---
- General piping components
- General service

Fujikin Incorporated
Safety & Clean Technology
Fujikin’s Class 1 cleanrooms feature cutting-edge technology throughout, and must exceed the most rigorous standards for cleanliness. Products manufactured in this environment are therefore guaranteed to meet the most stringent requirements and to be of the highest quality worldwide.
MEGA — ONE LA
Low-Pressure Pneumatically-Actuated Valves

The MEGA-ONE LA is a pneumatically-actuated diaphragm valve for ultra-pure, flammable, or toxic fluid lines for all types of semiconductor equipment and facilities. The direct diaphragm construction makes the MEGA-ONE LA an industry standard valve with superior sealing performance, remarkable durability, and compactness, while being particle-free and dead-space free.

Colored caps differentiate between normally open (blue) and normally closed (red) valves, thereby simplifying recognition.

Excellent gas displacement characteristics. (1.48cc total volume for male URG version).

All wetted surfaces undergo an EP treatment as standard. UP treatment is optional.

Standard seat material is PCTFE. Polymide/PTFE seal material is also available.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Opening Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Actuation Pressure</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4&quot;)</td>
<td>1MPa</td>
<td>-10 to 80 °C</td>
<td>14 to 176 °F</td>
<td>0.25</td>
<td>0.34 to 0.49 MPa</td>
<td>UUR, UPG, FB0, Tube Stub</td>
</tr>
<tr>
<td>9.52 (3/8&quot;)</td>
<td>146 psi</td>
<td></td>
<td>14 to 176 °F</td>
<td>0.6</td>
<td>48 to 70 psi</td>
<td></td>
</tr>
</tbody>
</table>

- All valves are full flow tested, Vacuum method results. External leakage < 5×10^-7Pa·m³/s. Seal leakage < 5×10^-7Pa·m³/s
- Demonstrate superior durability over 4 million cycles (actual test results).

<table>
<thead>
<tr>
<th>Material</th>
<th>Part</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SUS316L</td>
<td></td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Nickel-cobalt alloy</td>
<td></td>
</tr>
<tr>
<td>Seat Packing</td>
<td>PCTFE</td>
<td></td>
</tr>
<tr>
<td>Actuator</td>
<td>AS5056</td>
<td></td>
</tr>
</tbody>
</table>

### PART NUMBER DESIGNATION
Please use the part number designations below when placing an order.

FPR-UDDF[ ]-71[ ]-6.35[ ]-NL-[ ]-[ ]

- A: FPR or FPR* (optional)
- B: Normal open (open) or Normal closed (close)
- C: UP or FPR (optional)
- D: J (optional)
- E: UP or FPR (optional)
- F: Blank or 2, 3, 4 (optional)
- G: Blank or 7, 8, 9 (optional)
- H: Male UUR on both ends
- I: Female UUR on both ends
- J: UUR male inlet, Flare UUR outlet
- K: UPG end-connection
- L: Tube stub end-connection
- M: Inside 2.5"" (optional)
- N: Inside 3.5"" (optional)
- O: Inside 3.5"" (optional)
- P: End-Connection Size 8.95: 6"", 12.7: 10"", 20.3: 15"", 25.4: 20"" (part number has a 4[0] part number)
- Q: L.S. / L.S. with limit switch
- R: L.S. / L.S. with proximity sensor
- S: L.S. / L.S. with limit switch
- T: UUR / UPG end-connection
- U: Flare end-connection
- V: Tube stub end-connection
- W: Zinc or lead free

Actual shipped products may have additional designations (such as R, S) in the part number. These indicate production history and do not indicate a change in function or dimension.
**DIMENSIONS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>L</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>h</th>
<th>H</th>
<th>D</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPR-UDDF-71-0,35-NL</td>
<td>1</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td>14.3</td>
<td>75</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FPR-UDDF-71-0,35-2-NL</td>
<td>2</td>
<td>70,8</td>
<td></td>
<td></td>
<td></td>
<td>14.3</td>
<td>75</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FPR-UDDF-71-0,52-NL</td>
<td>1</td>
<td>76,2</td>
<td></td>
<td></td>
<td></td>
<td>11.1</td>
<td>75 (82)</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
</tr>
<tr>
<td>FPR-UDDF-71-0,52-2-NL</td>
<td>2</td>
<td>83</td>
<td></td>
<td></td>
<td></td>
<td>12.7</td>
<td>75 (82)</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
</tr>
<tr>
<td>FPR-UDDFTB-71-0,35-NL</td>
<td>4</td>
<td>65,7</td>
<td>31</td>
<td>34,7</td>
<td>38,1</td>
<td>14.3</td>
<td>75</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FPR-UDDFTB-71-0,52-NL</td>
<td>4</td>
<td>79,2</td>
<td>31</td>
<td>37,7</td>
<td>41</td>
<td>38,1</td>
<td>12.7</td>
<td>75 (82)</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
</tr>
<tr>
<td>FPR-UDDFTB-71-0,52x6,35-NL</td>
<td>4</td>
<td>69,9</td>
<td>31</td>
<td>31,8</td>
<td>38,1</td>
<td>12.7</td>
<td>80.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FPR-UDDF-81-0,35-NL</td>
<td>3</td>
<td>63,5</td>
<td></td>
<td></td>
<td></td>
<td>14.3</td>
<td>75</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FPR-UDDF-81-0,52-NL</td>
<td>3</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td>12.7</td>
<td>75 (82)</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
</tr>
<tr>
<td>FPR-UDDF-81-1,27-NL</td>
<td>3</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td>12.7</td>
<td>75 (82)</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
</tr>
<tr>
<td>FPR-UDDF-71-0,35U0-2</td>
<td>5</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td>14.3</td>
<td>75</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FPR-UDDF-71-0,52U0-2</td>
<td>6</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td>14.3</td>
<td>75</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FPR-UDDF-71-0,52U2-0</td>
<td>6</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td>11.1</td>
<td>75 (82)</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
</tr>
<tr>
<td>FPR-UDDF-71-0,52U2-2</td>
<td>6</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td>12.7</td>
<td>75 (82)</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
</tr>
</tbody>
</table>

( ) Brackets indicate dimensions for normally closed valves. See Figure 1 for dimension keys not shown in other Figures.

**OPTIONS**

**Block Valve**

Block valve design allows for:
- Compact tubing arrangement
- Dead-space-free configuration

In addition to our standard 3-actuator, 3-port block, we also offer custom block valves according to customer's specifications.

**Proximity Sensor**

An electrical signal confirms open or closed position of valve. The non-contact proximity sensor offers unsurpassed safety.

**Limit Switch**

An electrical signal confirms open or closed position of valve.

**Other**

Tube stub length may be ordered according to customer specifications.

**IGS Valves**

MEGA series valves are also available in 1.25” and 1.5” W-Seal for surface-mount Integrated Gas Systems.

Photos are samples of each product type.
MEGA – ONE LS

Low Pressure Switch Type Manual Valves

The MEGA-ONE LS is a quarter turn diaphragm valve for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities. Unique features include an internal spring that assures uniform sealing performance and a direct diaphragm construction that makes the MEGA-ONE LS an industry standard valve with superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance.

Various color handles are available to facilitate fluid identification.

Excellent gas displacement characteristics. *(48cc total volume for male UFL version),

All wetted surfaces undergo an EP treatment as standard. UP treatment is optional.

Standard seat material is PTFE. Polymide/PFA seal material is also available.

Highly durable nickel-cobalt alloy diaphragm.

Valve open or closed position is easily visible at a glance.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4&quot;&quot;)</td>
<td>1MPa</td>
<td>-10~+80 °C</td>
<td>14~176 °F</td>
<td>0.25</td>
<td>UFL, LPG, F900, Tube Stub</td>
</tr>
<tr>
<td>9.52 (3/8&quot;&quot;)</td>
<td>145psi</td>
<td></td>
<td></td>
<td>0.6</td>
<td></td>
</tr>
</tbody>
</table>

Additional information included: Vacuum tested, Rated leakage < 6x10^-7 Parts/sec, Seat leakage < 6x10^-5 Parts/sec, Demonstrated superior durability - over 20,000 cycles (actual test results).

**PART NUMBER DESIGNATION**

FUDDF L[----]-71.6.35[----]-NL-[----]-

Please use the part number designations below when placing an order.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

- **A**: UFL, LPG, F900, Tube Stub
- **B**: Male UFL on both ends
- **C**: Female UFL on both ends
- **D**: Male UFL female side
- **E**: Female UFL male side
- **F**: End connection
- **G**: End connection size
- **H**: 1/4MPa maximum operating pressure
- **I**: UP treatment
- **J**: End Gasket
- **K**: Polymide/PFA seal
- **L**: Tube stub connection
- **M**: UFL/LPG end connection
- **N**: F900 end connection
- **O**: Gasket
- **P**: 3/8" outlet
- **Q**: 1/8" outlet
- **R**: 1/16" outlet
- **S**: 1/32" outlet
- **T**: 1/64" outlet
- **U**: 1/128" outlet
- **V**: Gasket

Actual shipped products may have additional designations (such as NL, 80). These indicate production history and do not indicate a change in function or dimensions.
**DIMENSIONS**

**Options**

**Handle Colors**

A letter in place of "R" indicates handle color:
- Blue = B, Green = G, Yellow = Y, Red = R

**Block Valve**

Block valve design allows for:
- Compact tubing arrangement
- Dead-space free configuration

In addition to our standard 2-actuator, 3-port block, we also offer custom block valves according to customer’s specifications.

**Lock Out / Tag Out Device**

May be optionally added to valves as a safety precaution.

**Open / Closed Faceplate**

An indicating faceplate can be installed as an option to facilitate in the recognition of open or closed valve position.

**Other**

Tube stub length may be ordered according to customer specifications.

**IGS Valves**

MEGA series valves are also available in 1.125” and 1.5” W-Seal for surface-mount Integrated Gas Systems.

---

### Dimensions

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>L</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>h</th>
<th>H</th>
<th>h1</th>
<th>s1</th>
<th>t</th>
<th>D</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUDFL-71-8,35-NL</td>
<td>1</td>
<td>57</td>
<td>143.675</td>
<td>235.205</td>
<td>7</td>
<td>37</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-71-8,35-2-NL</td>
<td>2</td>
<td>70.6</td>
<td>143.675</td>
<td>235.205</td>
<td>7</td>
<td>37</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-71-8,52-NL</td>
<td>1</td>
<td>76.2</td>
<td>11.1</td>
<td>88.8</td>
<td>315</td>
<td>24.5</td>
<td>10</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-71-8,52-2-NL</td>
<td>2</td>
<td>83</td>
<td>12.7</td>
<td>88.8</td>
<td>315</td>
<td>24.5</td>
<td>10</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL71-TB71-8,35-NL</td>
<td>4</td>
<td>65.7</td>
<td>31</td>
<td>34.7</td>
<td>38</td>
<td>14.3</td>
<td>085</td>
<td>245.205</td>
<td>7</td>
<td>37</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>FUDFL71-TB71-8,52-NL</td>
<td>4</td>
<td>79.2</td>
<td>37.7</td>
<td>41.5</td>
<td>43.1</td>
<td>12.7</td>
<td>88.8</td>
<td>315</td>
<td>24.5</td>
<td>10</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
</tr>
<tr>
<td>FUDFL71-TB71-8,52x8,35NL</td>
<td>4</td>
<td>69.9</td>
<td>31.8</td>
<td>38</td>
<td>14.3</td>
<td>075</td>
<td>235.205</td>
<td>7</td>
<td>37</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-81-8,35-NL</td>
<td>3</td>
<td>83.5</td>
<td>143.675</td>
<td>235.205</td>
<td>7</td>
<td>37</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-81-8,52-NL</td>
<td>3</td>
<td>80</td>
<td>12.7</td>
<td>88.8</td>
<td>315</td>
<td>24.5</td>
<td>10</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-81-12,7-NL</td>
<td>3</td>
<td>89</td>
<td>12.7</td>
<td>88.8</td>
<td>315</td>
<td>24.5</td>
<td>10</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFLF-71-8,35UG</td>
<td>5</td>
<td>40</td>
<td>143.675</td>
<td>235.205</td>
<td>7</td>
<td>37</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-71-8,35UG-2</td>
<td>2</td>
<td>71</td>
<td>143.675</td>
<td>235.205</td>
<td>7</td>
<td>37</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-71-8,52UG</td>
<td>5</td>
<td>57</td>
<td>11.1</td>
<td>87.6</td>
<td>315</td>
<td>24.5</td>
<td>10</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUDFL-71-8,52UG-2</td>
<td>8</td>
<td>88</td>
<td>12.7</td>
<td>87.6</td>
<td>315</td>
<td>24.5</td>
<td>10</td>
<td>50</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See Figure 1 for dimension keys not shown in other Figures.*
MEGA — ONE LM

Low-Pressure Manual Valve

The MEGA-ONE LM offers manual operation for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities. Direct diaphragm construction makes the MEGA-ONE LM an industry standard valve with superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance.

Various color handles are available to facilitate fluid identification.

Valve open or closed position is easily visible at a glance.

Excellent gas displacement characteristics. (1.486 ccc total volume for male UR version).

Highly durable nickel-cobalt alloy diaphragm.

All wetted surfaces undergo an EIP treatment as standard. UP treatment is optional.

Standard seat material is PCTFE. Polymide/PTFE seal material is also available.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4&quot;)</td>
<td>1MPa</td>
<td>-10 to 80 °C</td>
<td>14°C to 176°F</td>
<td>0.3</td>
<td>UIR, UPG, F901, Tube Stub</td>
</tr>
<tr>
<td>3.52 (3/8&quot;)</td>
<td>145 psi</td>
<td>14°C to 176°F</td>
<td>0.65</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Values are indicated based on external leakage. External leakage < 5 x 10^-7 cm³/min. Seal leakage < 5 x 10^-7 cm³/min.

*Demonstrated superior durability - over 20,000 cycles (actual test results).

<table>
<thead>
<tr>
<th>Material</th>
<th>Part</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SL5316L</td>
<td></td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Nickel-cobalt alloy</td>
<td></td>
</tr>
<tr>
<td>Seal Packing</td>
<td>PCTFE</td>
<td></td>
</tr>
<tr>
<td>Handle</td>
<td>AS7058</td>
<td></td>
</tr>
</tbody>
</table>

### PART NUMBER DESIGNATION

FUDDF [____-71G-6.35[____-NL-____]

Please use the part number designations below when placing an order.

- **A**: Standard seat material is PCTFE. Polymide/PTFE seal material is also available.
- **B**: Added only for 3-port valves. C (C): A + C, B + C.
- **C**: 1 MPa maximum operating pressure.
- **D**: UIR/UPG end connection.
- **E**: F901 end connection.
- **F**: Tubing end connection.
- **G**: Polyimide/PFA seal.*
- **H**: UP treatment.
- **I**: OdG treatment.
- **J**: Flange passivation.

*Optional, may be ordered separately.
### OPTIONS

**Handle Colors**

A letter in place of "?” indicates handle color.
- Blue=B, Green=G, Yellow=Y, Red=R

**Block Valve**

Block valve design allows for:
- Compact tubing arrangement
- Dead-space free configuration

In addition to our standard 2-actuator, 3-port block, we also offer custom block valves according to customer's specifications.

### 3-Port Distribution Valve

Used for facility bulk gas lines, and can support all line sizes.

**Other**

Tube stub length may be ordered according to customer specifications.

**Part Number**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>L</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>H</th>
<th>H1</th>
<th>h1</th>
<th>g1</th>
<th>t</th>
<th>D</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUO0F71G6.35-NL</td>
<td>1</td>
<td>57</td>
<td>14.3</td>
<td>62</td>
<td>23.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71G6.35-2NL</td>
<td>2</td>
<td>70.6</td>
<td>14.3</td>
<td>62</td>
<td>24.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71G8.52-NL</td>
<td>1</td>
<td>76.2</td>
<td>11.1</td>
<td>71.4</td>
<td>31.5</td>
<td>20.5</td>
<td>5.5</td>
<td>40</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71G8.52-2NL</td>
<td>2</td>
<td>83</td>
<td>12.7</td>
<td>71.4</td>
<td>31.5</td>
<td>20.5</td>
<td>5.5</td>
<td>40</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71B-71G6.35-NL</td>
<td>4</td>
<td>57.3</td>
<td>14.3</td>
<td>63</td>
<td>24.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71B-71G8.52-NL</td>
<td>4</td>
<td>79.2</td>
<td>12.7</td>
<td>71.4</td>
<td>31.5</td>
<td>20.5</td>
<td>5.5</td>
<td>40</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71B-71G6.35-2NL</td>
<td>4</td>
<td>69.9</td>
<td>12.7</td>
<td>66.5</td>
<td>24.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71G6.35-NL</td>
<td>3</td>
<td>83.5</td>
<td>14.3</td>
<td>62</td>
<td>23.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71G8.52-NL</td>
<td>3</td>
<td>80</td>
<td>12.7</td>
<td>71.4</td>
<td>31.5</td>
<td>20.5</td>
<td>5.5</td>
<td>40</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71G8.52-2NL</td>
<td>3</td>
<td>89</td>
<td>12.7</td>
<td>66.5</td>
<td>23.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71B-71G6.35UG</td>
<td>5</td>
<td>40</td>
<td>14.3</td>
<td>62</td>
<td>23.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71B-71G8.52UG</td>
<td>6</td>
<td>71</td>
<td>14.3</td>
<td>62</td>
<td>23.8</td>
<td>16.5</td>
<td>5.5</td>
<td>40</td>
<td>18</td>
<td>18</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71B-71G8.52UG2</td>
<td>5</td>
<td>57</td>
<td>11.1</td>
<td>71.4</td>
<td>31.5</td>
<td>20.5</td>
<td>5.5</td>
<td>40</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUO0F71B-71G8.52UG2</td>
<td>6</td>
<td>88</td>
<td>12.7</td>
<td>71.4</td>
<td>31.5</td>
<td>20.5</td>
<td>5.5</td>
<td>40</td>
<td>20.2</td>
<td>20.2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See Figure 1 for dimension keys not shown in other figures.
MEGA — ONE HQ

High-Pressure Manual Valve

The MEGA-ONE HQ is a quarter-turn, open/closed valve for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities. Direct diaphragm construction makes the MEGA-ONE HQ an industry standard valve with superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance.

Valve open or closed position is easily visible at a glance.

Highly durable nickel-cobalt alloy diaphragm.

Excellent gas displacement characteristics, (1.93cc total volume for male URE version).

All wetted surfaces undergo an EP treatment as standard. UP treatment is optional.

Standard seat material is PTFE. Polymide seat material is also available.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4&quot;)</td>
<td>16.2 MPa</td>
<td>-10~40°C</td>
<td>0.1</td>
<td>UH, LPG, F901</td>
<td>Tube Seat</td>
</tr>
<tr>
<td>9.52 (3/8&quot;)</td>
<td>2,350 psi</td>
<td>-14~104°F</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Nominal volume flow rate, Vacuum method results: External Leakage < 1 mm³/Min, Seat Leakage < 1 mm³/Min.*

*Demonstrated superior durability - over 20,000 cycles (actual test results).*

### MATERIALS

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
<th>Temperature/Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SUS316L</td>
<td></td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Nickel-cobalt alloy</td>
<td></td>
</tr>
<tr>
<td>Seal Packing</td>
<td>PTFE</td>
<td></td>
</tr>
<tr>
<td>Handle</td>
<td>Nylon 66</td>
<td></td>
</tr>
</tbody>
</table>

### PART NUMBER DESIGNATION

Please use the part number designations below when placing an order.

**FUDDF L[□□]-716G-6.35[□□]-[□□-□□]

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>P</td>
<td>UP-treated*</td>
<td>P5</td>
<td>CrN-treated*</td>
<td>F.D</td>
<td>Plasma-paint*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Polymide seat"*  

**Blank:** Male URE on both ends  
**C:** Female URE on both ends  
**J:** URE male/Inlet Female URE outlet  
**K:** URS/URI end-connection  
**L:** BUT weld*  

**End-Connection Size**  
**A:** 16mm, 14mm  
**B:** 12.7, 10mm  
**C:** 8mm, 6mm  
**D:** 6.35, 5mm  
**F:** 4mm  
**G:** 3mm  
**H:** 1.6mm  
**I:** 1.1mm  
**J:** 0.6mm  
**K:** 0.3mm  
**L:** 0.1mm  

**Open/Closed Indicator**  
**A:** 1  
**B:** 0  

**Open/Closed Indicator**  

**Optional part in order:**  
**G:** Added only for pump valves  
**C:** Used only for gate valve  

*Standard stainless steel diaphragm valve*  

*Actual shipped products may have additional designations (such as #6, #8): in the part number. These indicate production history and do not indicate a change in function or dimensions.*
**DIMENSIONS**

**OPTIONS**

**High-Pressure Gas Certification**

Safety is assured for special high-pressure and toxic gas lines. This valve is tested and approved by a Japanese Government Agency for various high-pressure applications. The valve couplings may also be certified and approved in the same manner. Specific customer specifications may also be accommodated.

**Other**

Tube stub length may be ordered according to customer specifications.

---

**Part Number**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>L</th>
<th>H</th>
<th>h1</th>
<th>t</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>d1</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUDDFL-718G-6,35</td>
<td>1</td>
<td>58.7</td>
<td>67</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>RUDDFL-718G-6,35-2</td>
<td>2</td>
<td>76.2</td>
<td>70.5</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>28</td>
<td>50</td>
<td>19.2</td>
</tr>
<tr>
<td>RUDDFL-718G-8,62</td>
<td>3</td>
<td>74</td>
<td>67</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>28</td>
<td>50</td>
<td>19.2</td>
</tr>
<tr>
<td>RUDDFL-718G-6,35W</td>
<td>4</td>
<td>48</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>28</td>
<td>50</td>
<td>19.2</td>
</tr>
<tr>
<td>RUDDFL-718G-6,35UG</td>
<td>5</td>
<td>71</td>
<td>67</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>28</td>
<td>50</td>
<td>19.2</td>
</tr>
<tr>
<td>RUDDFL-718G-6,35UG-2</td>
<td>6</td>
<td>48</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>28</td>
<td>50</td>
<td>19.2</td>
</tr>
<tr>
<td>RUDDFL-718G-9,52UG</td>
<td>7</td>
<td>50</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>28</td>
<td>50</td>
<td>19.2</td>
</tr>
</tbody>
</table>

*See Figures 1 for dimension keys not shown in other Figures.*
MEGA—ONE HM

High-Pressure Round Handle Manual Valve

The MEGA-ONE HM is a manual operation diaphragm valve for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities.

Direct diaphragm construction makes the MEGA-ONE HM an industry standard valve with superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance.

Valve open or closed position is easily visible at a glance.

Highly durable nickel-cobalt alloy diaphragm.

Excellent gas displacement characteristics. (1.39cc total volume for male UIR version),

All wetted surfaces undergo an EP treatment as standard. UP treatment is optional.

Standard seal material is PCTFE. Polyamide seal material is also available.

**Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4&quot;)</td>
<td>16.2 MPa</td>
<td>10~40 °C</td>
<td>140~104 °F</td>
<td>0.1</td>
<td>UIR, UPG, F9001, Tube Stub</td>
</tr>
<tr>
<td>3.52 (3/8&quot;)</td>
<td>2,350 psi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Materials:

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
<th>Temperature/Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SUS316L</td>
<td></td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Nickel-cobalt alloy</td>
<td></td>
</tr>
<tr>
<td>Seal Packing</td>
<td>PCTFE</td>
<td></td>
</tr>
<tr>
<td>Handle</td>
<td>AS056B</td>
<td></td>
</tr>
</tbody>
</table>

**Part Number Designation**

FUDDF [ ]-716G-6.35[ ]-[]-[]

Please use the part number designations below when placing an order.

- **A**: Stainless steel direct diaphragm valve
- **B**: Added only for 3-port valve
- **C**: Added only for 3-port valve
- **D**: Added only for 3-port valve
- **E**: Open/Close Indicator
- **F**: Connection Size
- **G**: Blank: Male UIR on both ends
- **H**: Female UIR on both ends
- **I**: UP (U/P) Treatment
- **J**: EP (E/P) Treatment
- **K**: Polyamide seal

*Optional or made to order, Actual shipped products may have additional designations (such as #4, #8) in the part number. These indicate production history and do not indicate a change in function or dimensions.
### Dimensions

**Figure 1**

**Figure 2**

**Figure 3**

**Figure 4**

**Figure 5**

### Options

**High-Pressure Gas Certification**

Safety is assured for special high-pressure and toxic gas lines. This valve is tested and approved by a Japanese Government Agency for various high-pressure applications. The valve couplings may also be certified and approved in the same manner. Specific customer specifications may also be accommodated.

**FUJDF-5160-4.35W**

Tube stub length may be ordered according to customer specifications.

### Table

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>L</th>
<th>H</th>
<th>h1</th>
<th>t</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>d1</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUJDF-7160-0.35</td>
<td>1</td>
<td>58.7</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>FUJDF-7160-0.35-2</td>
<td>2</td>
<td>76.2</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>FUJDF-7160-0.52</td>
<td>1</td>
<td>76.2</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>FUJDF-5160-4.35W</td>
<td>3</td>
<td>76.2</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>FUJDF-7160-0.35U6</td>
<td>4</td>
<td>48.7</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>FUJDF-7160-0.35U6-2</td>
<td>5</td>
<td>71</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>FUJDF-7160-0.52U6</td>
<td>4</td>
<td>50</td>
<td>75.2</td>
<td>11.1</td>
<td>32.5</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>50</td>
</tr>
</tbody>
</table>

*See Figures 1 for dimension keys not shown in other Figures.*
MEGA-MINI LA
Compact Low-Pressure Pneumatically-Actuated Valve

The MEGA-MINI LA offers pneumatic operation for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities.

Direct diaphragm construction makes the MEGA-MINI LA an industry standard valve with superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance.

Colored caps differentiate between normally open (blue) and normally closed (red) valves, thereby simplifying recognition.

Small (315mm) actuator offers space savings without sacrificing performance.

The actuator features a unique rotation mechanism, allowing for actuation pressure to be supplied from any desired direction for both normally open and normally closed valves.

Excellent gas displacement characteristics (0.84cc total volume for male UGR version).

All wetted surfaces undergo an EP treatment as standard. UP treatment is optional.

Highly durable nickel-cobalt alloy diaphragm.

Standard seat material is PCTFE. Polymide/FPA seat material is also available.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Flow Capacity</th>
<th>Actuation Pressure</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4”)</td>
<td>1MPa</td>
<td>145 psi</td>
<td>-10°~80°C</td>
<td>0.1</td>
<td>0.39~0.59 MPa</td>
<td>Tube Sub</td>
</tr>
</tbody>
</table>

*Note: Valves are factory tested, Vacuum method: 5x10⁻⁶ Torr/Min. Seal leakage: <5x10⁻⁹ Torr/min. Demonstrated superior durability: over 4 million cycles (actual test results).

### MATERIALS

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
<th>Temperature/Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SUS316L</td>
<td>-65°~125°C</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Nickel-cobalt alloy</td>
<td>-40°~120°C</td>
</tr>
<tr>
<td>Seal Packing</td>
<td>PCTFE</td>
<td>-50°~150°C</td>
</tr>
<tr>
<td>Actuator</td>
<td>AS056</td>
<td>-60°~180°C</td>
</tr>
</tbody>
</table>

### PART NUMBER DESIGNATION

Please use the part number designations below when placing an order:

FPR-SD[□□]-71[□□]-6.35[□□]-[□□]

A B C D E F G H I J

- P: Glass treatment
- F: Fluorine passivation
- T: Polymide seat
- P: PA
- A: PFA seat

- Black: Male UGR on both ends
- 2: Female UGR on both ends
- 3: UGR male/PA/Female UGR sub
- U/S: UPD end connection

- B: 60° C outlet head valve
- C: 60° C outlet head valve

- E: 1MPa maximum operating pressure
- F: STG (Standard)
- S: With proximity sensor
- L: With limit switch

- G: With limit switch

- H: Tube end connection
- I: Tube end connection

- J: Tube end connection

*Optional or made to order.

Actual shipped products may have additional designations (such as #1, #2, etc.) in the part number. These indicate production history and do not indicate a change in function or dimensions.
### OPTIONS

#### Block Valve
Block valve design allows for:
- Compact tubing arrangement
- Dead-space free configuration
In addition to our standard 2-actuator, 3-port block, we also offer custom block valves according to customer’s specifications.

#### Dual-Flow Valve
Allows for switching between maximum flow and a user-selectable reduced flow with one valve.

#### Proximity Sensor
An electrical signal confirms open or closed position of valve. The non-contact proximity sensor offers unsurpassed safety.

#### Limit Switch
An electrical signal confirms open or closed position of valve.

#### Other
A variety of configurations are possible.

#### IGS Valves
MEGA series valves are also available in 1.125” and 1.5” W-Seal for surface-mount, integrated gas systems.

---

### DIMENSIONS

**Figure 1**

**Figure 2**

**Figure 3**

**Figure 4**

**Figure 5**

**Figure 6**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>D</th>
<th>L</th>
<th>H</th>
<th>h</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPR-PD-51-1-35</td>
<td>1</td>
<td>35</td>
<td>52</td>
<td>50.5</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPR-PD-51-1-35-2</td>
<td>2</td>
<td>35</td>
<td>66</td>
<td>50.5</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPR-PD-51-1-35B</td>
<td>3</td>
<td>35</td>
<td>56</td>
<td>50.5</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPR-PD-51-1-35B-F</td>
<td>4</td>
<td>35</td>
<td>56.4</td>
<td>50.5</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPR-PD-51-1-35U</td>
<td>5</td>
<td>35</td>
<td>51</td>
<td>50.5</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPR-PD-51-1-35U-2</td>
<td>6</td>
<td>35</td>
<td>66</td>
<td>50.5</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See Figure 1 for dimension keys not shown in other figures.*

---

---

---

---

---

---
**MEGA-MINI HA**

**Compact High-Pressure Pneumatically Actuated Valve**

The MEGA-MINI HA offers pneumatic operation for high-pressure ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities. Direct diaphragm construction makes the MEGA-MINI HA an industry standard valve with superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Actuation Pressure</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.35 (1/4&quot;)</td>
<td>20.5 MPa</td>
<td>-10~90°C</td>
<td>0.05</td>
<td>0.39~0.59 MPa</td>
<td>UPR, UPG, FB06, Tube Sub</td>
</tr>
</tbody>
</table>

- All valves are factory tested. Vacuum methods result: External leakage < 5 x 10⁻⁶ L/min (cfm). Seal leakage < 5 x 10⁻⁶ L/min (cfm).
- Demonstrated superior durability over 400,000 cycles (actual test results).

<table>
<thead>
<tr>
<th>Material</th>
<th>Part</th>
<th>Temperature/Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Body</td>
<td>SUS316L</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Nickel-cobalt alloy</td>
<td></td>
</tr>
<tr>
<td>Seal Packing</td>
<td>PCTFE</td>
<td></td>
</tr>
<tr>
<td>Actuator</td>
<td>AS056</td>
<td></td>
</tr>
</tbody>
</table>

**PART NUMBER DESIGNATION**

FPR-SD[□□□□-7] 21-6.35[□□□□]-316LP-[□□□□]

- A: F P : Normal: open
- B: F P R : Normal: closed
- C: 2.1: 26.5 MPa maximum operating pressure
- D: 7: UPR / UPG end connection
- E: T 9: Added seal for stainless valves
- F: 2-way: 2-way valve only
- G: 3-way: 3-way valve
- H: 4-way: 4-way valve
- I: 5-way: 5-way valve
- L: Polyimide seal
- M: End connection
- N: End connection
- P: End connection

Actual shipped products may have additional designations (such as A, B) in the part number. These indicate production history and do not indicate a change in function or dimensions.
**DIMENSIONS**

**OPTIONS**

**Block Valve**
- Block valve design allows for:
  - Compact tubing arrangement
  - Dead-space free configuration
- In addition to our standard 2-actuator, 3-port block, we also offer custom block valves according to customer's specifications.

**High-Pressure Gas Certification**
Safety is assured for special high-pressure and toxic gas lines. This valve is tested and approved by a Japanese Government Agency for various high-pressure applications. The valve couplings may also be certified and approved in the same manner. Specific customer specifications may also be accommodated.

**Limit Switch**
- An electrical signal confirms open or closed position of valve.

**Other**
- A variety of configurations are possible.
MEGA – M LV

All-Metal Direct Diaphragm Flow Control Valve

The MEGA-M LV is a highly-accurate flow control valve for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities.

All-metal direct diaphragm construction is free of plastic materials and offers superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance. A short-stroke coupled with a unique micrometer control has made the MEGA-M LV an industry standard valve by which all others are compared for precise manual control.

Micrometer handle utilizes a unique design to enable precise control.

Excellent gas displacement characteristics, (1.38 cc total volume for male UGR version).

All wetted surfaces undergo a UP treatment as standard.

The use of a metal seal allows for all wetted surfaces to be metallic.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Outer Diameter</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4”)</td>
<td>1MPa (140 psi)</td>
<td>10 to 150 °C</td>
<td>14 to 302 °F</td>
<td>0.2</td>
<td>6.5</td>
<td>UGR, UPD, UPD, Tube Sub</td>
</tr>
</tbody>
</table>

Materials

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SUS316L</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Nickel-cobalt alloy</td>
</tr>
<tr>
<td>Handle</td>
<td>A0506B</td>
</tr>
</tbody>
</table>

Temperature/Pressure Rating

<table>
<thead>
<tr>
<th>Temperature/Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40 to 120 °C</td>
</tr>
</tbody>
</table>

Part Number Designation

FUDDF M-71M-6.35[ ][ ][ ]

Please use the part number designations below when placing an order:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS</td>
<td>CoCr treatment*</td>
<td>F3</td>
<td>Flow characteristic*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blank</td>
<td>CoCr2</td>
<td>Blank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Male UGR on both ends</td>
<td>U0</td>
<td>Male UGR or both ends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.W.</td>
<td>UPD end-connection</td>
<td>F.3 Connection</td>
<td>UPD + UPD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Micrometer handle</td>
<td>1</td>
<td>1 MPa maximum operating pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UGR</td>
<td>UGR end-connection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Metal Seat

Stainless steel direct diaphragm valve

Actual shipped products may have additional designations (such as #6, #8) in the part number. These indicate production history and do not indicate a change in function or dimensions.

* Optional, made to order.
**DIMENSIONS**

Figure 1

![Diagram of dimensions](image)

Figure 2

![Diagram of dimensions](image)

Figure 3

![Diagram of dimensions](image)

Figure 4

![Diagram of dimensions](image)

**OPTIONS**

**Fixed Position Cap**

FUDPM71-MG0.35

Prevents inadvertent change of setting.

**IGS Valves**

MEGA series valves are also available in 1.125" and 1.5" W.

Seal for surface-mount Integrated Gas Systems.

---

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>D</th>
<th>L</th>
<th>H</th>
<th>h</th>
<th>t</th>
<th>h1</th>
<th>d1</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUDPM-71M-6.35</td>
<td>1</td>
<td>25</td>
<td>57</td>
<td>105</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FUDPM-71M-6.35-2</td>
<td>2</td>
<td>25</td>
<td>70.6</td>
<td>105</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FUDPM-71M-6.35UG</td>
<td>3</td>
<td>25</td>
<td>46</td>
<td>105</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FUDPM-71M-6.35UG-2</td>
<td>4</td>
<td>25</td>
<td>71</td>
<td>105</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
</tbody>
</table>

(Unit : mm)

*See Figure 1 for dimension keys not shown in other Figures.*
MEGA — M LM

All-Metal Direct Diaphragm Valve

The MEGA-M LM is a stop valve for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities. All-metal direct diaphragm construction is free of plastic materials and offers superior sealing performance, remarkable durability, compactness, and particle and dead-space free performance.

Valve open or closed position is easily visible at a glance.

Excellent gas displacement characteristics, (1.38 cc total volume for male LUR version).

All-wetted surfaces undergo a UP treatment as standard.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Nominal Diameter</th>
<th>Maximum Operating Pressure</th>
<th>Fluid Temperature Range</th>
<th>Maximum Cv</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 (1/4&quot;)</td>
<td>1 MPa</td>
<td>140 psi</td>
<td>-10 to 150 °C</td>
<td>0.3</td>
<td>UPL, UP3</td>
</tr>
<tr>
<td>8.89 (5/16&quot;)</td>
<td>3.52 (3/8&quot;)</td>
<td>14 to 302 °F</td>
<td></td>
<td>0.65</td>
<td>Tube still</td>
</tr>
</tbody>
</table>

Materials

- Body: SUS316L
- Diaphragm: Nickel-cobalt alloy
- Handle: A5056

Temperature/Pressure Rating

<table>
<thead>
<tr>
<th>Temperature</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PART NUMBER DESIGNATION

Please use the part number designations below when placing an order.

FUDDF M-71G-6.35[---][---]

- **A**: Stainless steel direct diaphragm valve
- **B**: Metal seat
- **C**: UP3/UPG end-connection
- **D**: 1 MPa maximum operating pressure
- **E**: Open/closed indicator
- **F**: Male LUR on both ends
- **G**: UP3/UPG end-connection
- **H**: P5: Crude treatment
- **P**: Male UP3/UPG end-connection

Actual shipped products may have additional designations (such as A8, B3) in the part number. These indicate production history and do not indicate a change in function or dimensions.
**DIMENSIONS**

**Figure 1**

**Figure 2**

**Figure 3**

**Figure 4**

---

**OPTIONS**

**Handle Colors**

A letter in place of "#" indicates handle color:
- Blue=B, Green=G, Yellow=Y, Red=R

---

**High-Temperature**

An all-metal actuator allows for use in services up to 100°C.

---

**Temperature/Pressure-Rating**

---

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Figure</th>
<th>D</th>
<th>L</th>
<th>H</th>
<th>h</th>
<th>t</th>
<th>h1</th>
<th>d1</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUDPM-71G-6,3S</td>
<td>1</td>
<td>40</td>
<td>57</td>
<td>62</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FUDPM-71G-6,3S-2</td>
<td>2</td>
<td>40</td>
<td>70.6</td>
<td>62</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FUDPM-71G-6,3SG</td>
<td>3</td>
<td>40</td>
<td>46</td>
<td>62</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>FUDPM-71G-6,3SG-2</td>
<td>4</td>
<td>40</td>
<td>71</td>
<td>62</td>
<td>14.3</td>
<td>5.5</td>
<td>23.8</td>
<td>16.5</td>
<td>18</td>
<td>18</td>
<td>26</td>
</tr>
</tbody>
</table>

*Units: mm*

*See Figure 1 for dimension keys not shown in other Figures.*
MEGA — ONE LC
Diaphragm Check Valve

The MEGA-ONE LC is a diaphragm check valve for ultra-pure, flammable, or toxic fluid lines in various types of semiconductor manufacturing equipment and facilities. By utilizing a diaphragm construction, the effective surface area is larger, and therefore operates effectively even at low flows and/or low differential pressures. Additionally, shut-off at extremely low pressures is also assured.

The elimination of internal springs and sliding components results in particle-free operation.

All wetted surfaces undergo a UP treatment as standard.

FPM is the standard seat material. Chloroprene rubber, silicon rubber, ethylene-propylene rubber and Kalrez® seat materials are optionally available.

The valve seat and diaphragm are structurally combined.

Highly durable stainless steel diaphragm.

Eliminating springs and/or sliding parts results in particle-free operation.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
<th>Temperature/Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SUS316L</td>
<td></td>
</tr>
<tr>
<td>Diaphragm</td>
<td>SUS316L</td>
<td></td>
</tr>
<tr>
<td>Seal Packing</td>
<td>FPM*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100°F / 38°C</td>
</tr>
</tbody>
</table>

*Chloroprene, silicone, ethylene-propylene, and Kalrez® optionally available.

**PART NUMBER DESIGNATION**

FUCDF-71-6.35

**DIMENSIONS**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUCDF-71-6.35</td>
<td>38</td>
<td>55.4</td>
</tr>
</tbody>
</table>

**OPTIONS**

**IGS Diaphragm Check Valve**
Fujikin Integrated Gas system check valves are included in the MEGA series.
SUPPLEMENTARY INFORMATION

1. Products with ULTRA EXTREME PURE (UP) Special Internal Treatment
   By utilizing a special polishing technology to first remove work-affected and work-hardened layers from the metal surfaces, UP treated products attain an exceedingly pure metal surface having an extremely uniform passivated film. The surface roughness is kept below 0.7 mm/Ra with an average roughness being 0.1mm or less. Additionally, final cleaning is performed in a Class 1 cleanroom to completely remove particles and impurities, and to assure a thoroughly clean product.
   The UP treatment is compatible with Hastelloy® and other corrosion resistant materials. The UP treatment is standard on the MEGA-MINI and MEGA-M series products, and is optionally available on MEGA-ONE series products.

2. Products with CroCo Treatment (CRPS)
   100% CroCo treated products have a CroCo film - passivation layer - formed on the stainless steel surface through a special base layer treatment and heat treatment. This offers:
   1. Superior corrosion resistance as compared to halogen-based gases,
   2. Less outgassing of moisture, etc., with the excellent dry-down characteristics of the material, equipment start-up time can be shortened,
   3. Non-catalytic behavior is observed with hydrogen compound gases - such as BH4 and BH3 - which decompose at low temperatures through surface catalytic effect. This enables stable delivery to the point of use,

3. Products with BK Treatment (CRPB)
   A BK treatment involves heat-treating the mirror-finish stainless steel surface under an inert gas environment. Components that undergo a BK treatment are imparted with a high Cr concentration layer on the uppermost surface. Products that undergo a BK treatment are more corrosion resistant, evidence less outgassing, and have excellent dry-down characteristics.

4. Products with Fluorine Passivation (FP)
   FP products are given a chemically stable fluorine passivation layer by causing a reaction between the stainless steel surface and F2 gas when heat treatment is applied. Recent advancements in microfabrication technology and the increased use of excimer laser steppers has required an increase in F2 use as well. Since F2 gas is extremely reactive - and will react with stainless steel surfaces - it will get consumed and therefore affect the F2 concentration. This, in turn, affects the oscillation frequency of the excimer laser.

SEAT MATERIALS

1. PTFE (polytetrafluoroethylene)
   Standard seal material on MEGA-ONE series and MEGA-MINI series products.

2. P (polyimide), PA (PFA)
   A recommended option for non-standard temperatures and fluids.

BODY AND DIAPHRAGM MATERIALS

Hastelloy®
For services that require exceptional corrosion resistance, Hastelloy C-276® bodies and diaphragms may be specified as an optional material.

PROXIMITY SENSORS AND LIMIT SWITCHES

When open or closed position verification is required on pneumatically actuated valves, proximity sensors or limit switches that output an electrical signal to an external unit are optionally available. Values with a limit switch may be substituted for proximity sensor valves.

HANDLE COLORS

Handles may be specified in a wide variety of optional colors.

Hastelloy® is a registered trademark of Haynes International.
IMPORTANT NOTICE:
The product data in this catalogues was obtained under specific test conditions that may vary substantially from actual site conditions and/or customer needs.
Each purchaser or other user of Fujikin products must rely solely on its system design engineering(s) when selecting Fujikin products for a particular system and when determining the suitability of any system in which a Fujikin product is to be installed.

FUJIKIN SHALL BEAR NO LIABILITY AS TO PRODUCT SELECTION CRITERIA OR DECISIONS, NOR SHALL FUJIKIN BE LIABLE AS TO ANY PRODUCT WHICH HAS BEEN DAMAGED, INCLUDING DIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LOST PROFITS OR INCOME), BY MISUSE, IMPROPER HANDLING OR ACCIDENT, OR SERVICED OR MODIFIED BY ANYONE OTHER THAN FUJIKIN, OR SUBJECTED TO USE INVOLVING CONDITIONS OR COMBINATIONS OF CONDITIONS THAT IS NOT COMPATIBLE WITH THAT PARTICULAR FUJIKIN PRODUCT.