

FINE series PURE **MEGA** series



FPR-UDDF-71-6.35-NL

FPR-SD-71-6.35

Safety & Clean Technology

Fujikin Incorporated

MEGA-ONE LA

MEGA-ONE LS

MEGA-ONE LM

MEGA-ONE HQ

MEGA-ONE HM

MEGA-MINI LA

MEGA-MINI HA

MEGA-M LV

MEGA-M LM

MEGA-ONE LC



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.

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MEGA series

MEGA-ONE

MEGA-ONE LA3
(Pneumatically-Actuated Valves)
MEGA-ONE LS7
(1/4 Turn Switch Valve)
MEGA-ONE LM11
(Round-Handle Valve with Indicator)
MEGA-ONE HQ15
(1/4 Turn High-Pressure Switch Valve)
MEGA-ONE HM19
(Round-Handle High-Pressure Valve with Indicator)

MEGA-MINI

MEGA-MINI LA23
(Compact Pneumatically-Actuated Valve)
MEGA-MINI HA27
(Compact Pneumatically-Actuated High-Pressure Valve)

MEGA-M

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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.

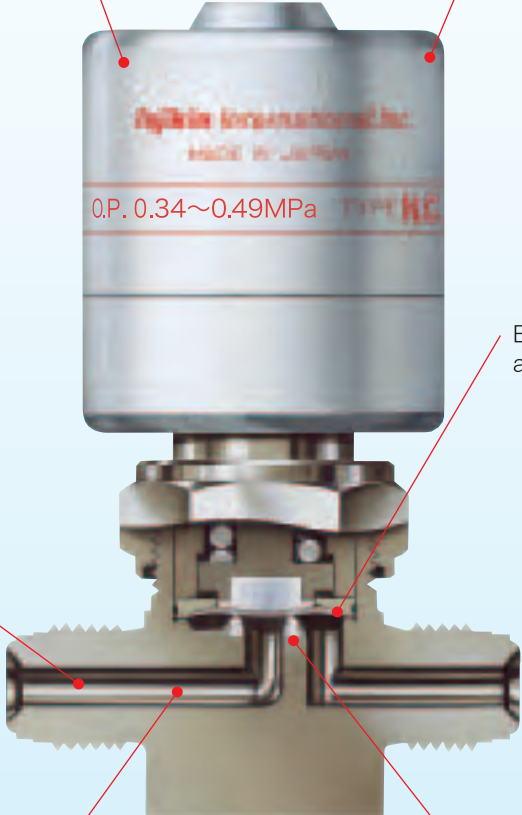
The actuator features a unique rotation mechanism, allowing for actuation pressure to be supplied from any desired direction for both normally open and normally closed valves.

Extremely-durable nickel-cobalt alloy diaphragm

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

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

Standard seat material is PCTFE. Polyimide/PFA seat material is also available.



N.O.

N.C.

0.P. 0.34~0.49MPa

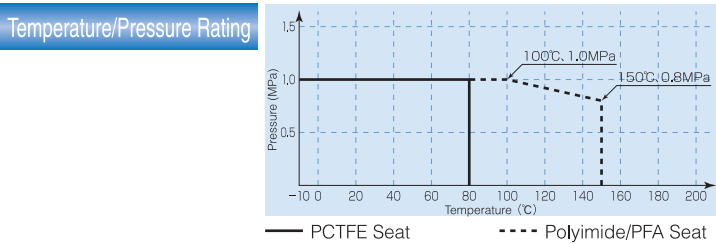
SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Actuation Pressure | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|--------------------|-----------------|
| | 6.35 (1/4") | 1MPa | −10~80 °C | 0.25 | 0.34~0.49 MPa | UJR, UPG, F900, |
| | 9.52 (3/8") | 145 psi | 14~176 °F | 0.6 | 48~70 psi | Tube Stub |

●All valves are helium leak tested. Vacuum method/results: External leakage: < 5x10⁻¹² Pa·m³/sec. Seat leakage: < 5x10⁻¹² Pa·m³/sec

●Demonstrated superior durability - over 4 million cycles (actual test results).

| Materials | Part | Material |
|-----------|--------------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Seat Packing | PCTFE |
| | Actuator | A5056 |



PART NUMBER DESIGNATION

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

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

| | | | | | | | | | |
|--|--|--|--|-------------------------------------|--|--|---|--|---|
| A | B | C | D | E | F | G | H | I | J |
| F P : Normally open F P R : Normally closed | Stainless steel direct diaphragm valve | T B : Added only for 3-port valves C L : 2-way, corner left valve | 7 : UJR / UPG end-connection, 9 : F900 end-connection 5 : Tube stub end-connection | 1 : 1MPa maximum operating pressure | R S 2 : With proximity sensor* L S : With limit switch* | End-Connection Size 6.35 : 1/4" ^{OD} 9.52 : 3/8" ^{OD} 12.7 : 1/2" ^{OD} (UJR connections have a 9.52 port diameter) | Blank : Male UJR on both ends — 2 : Female UJR on both ends — 3 : UJR male inlet / Female UJR outlet U G : UPG end-connection B W : Butt weld | P I : Polyimide seat* P A : PFA seat* | U P : UP treatment* P S : Cr ₂ O ₃ treatment* F D : Fluorine passivation* |

* Optional or made to order.

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

Figure 1

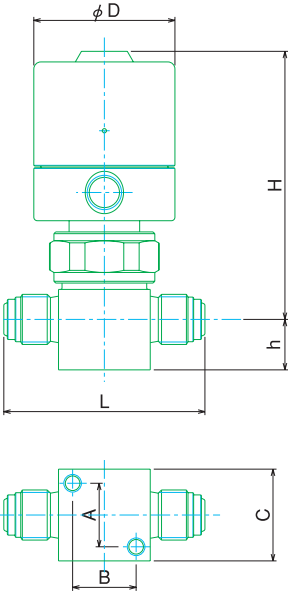


Figure 2

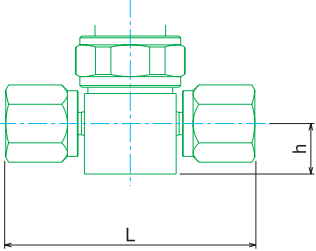


Figure 3

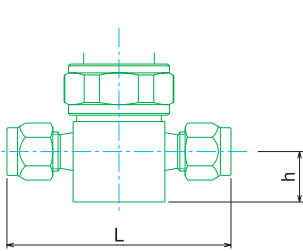


Figure 4

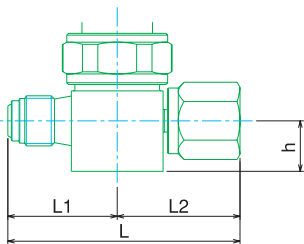


Figure 5

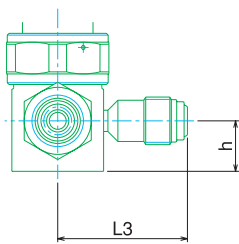
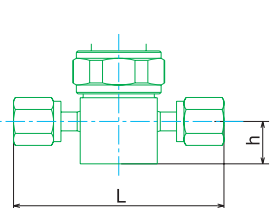
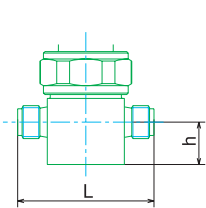


Figure 6



(Unit : mm)

| Part Number | Figure | L | L1 | L2 | L3 | h | H | D | A | B | C |
|------------------------------|--------|------|------|------|------|------|-----------|----|------|------|----|
| FP(R)-UDDF-71-6.35-NL | 1 | 57 | | | | 14.3 | 75 | 40 | 18 | 18 | 26 |
| FP(R)-UDDF-71-6.35-2-NL | 2 | 70.6 | | | | 14.3 | 75 | 40 | 18 | 18 | 26 |
| FP(R)-UDDF-71-9.52-NL | 1 | 76.2 | | | | 11.1 | 87.5 (82) | 50 | 20.2 | 20.2 | 35 |
| FP(R)-UDDF-71-9.52-2-NL | 2 | 83 | | | | 12.7 | 87.5 (82) | 50 | 20.2 | 20.2 | 35 |
| FP(R)-UDDFTB-71-6.35-NL | 4 | 65.7 | 31 | 34.7 | 38.1 | 14.3 | 76 | 40 | 18 | 18 | 26 |
| FP(R)-UDDFTB-71-9.52-NL | 4 | 79.2 | 37.7 | 41.5 | 43.1 | 12.7 | 87.5 (82) | 50 | 20.2 | 20.2 | 35 |
| FP(R)-UDDFTB-71-9.52×6.35-NL | 4 | 69.9 | 31.8 | 38.1 | 38.1 | 12.7 | 80.5 | 40 | 18 | 18 | 26 |
| FP(R)-UDDF-91-6.35-NL | 3 | 63.5 | | | | 14.3 | 75 | 40 | 18 | 18 | 26 |
| FP(R)-UDDF-91-9.52-NL | 3 | 80 | | | | 12.7 | 87.5 (82) | 50 | 20.2 | 20.2 | 35 |
| FP(R)-UDDF-91-12.7-NL | 3 | 85 | | | | 12.7 | 87.5 (82) | 50 | 20.2 | 20.2 | 35 |
| FP(R)-UDDF-71-6.35UG | 5 | 46 | | | | 14.3 | 75 | 40 | 18 | 18 | 26 |
| FP(R)-UDDF-71-6.35UG-2 | 6 | 71 | | | | 14.3 | 75 | 40 | 18 | 18 | 26 |
| FP(R)-UDDF-71-9.52UG | 5 | 57 | | | | 11.1 | 87.5 (82) | 50 | 20.2 | 20.2 | 35 |
| FP(R)-UDDF-71-9.52UG-2 | 6 | 86 | | | | 12.7 | 87.5 (82) | 50 | 20.2 | 20.2 | 35 |

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

OPTIONS

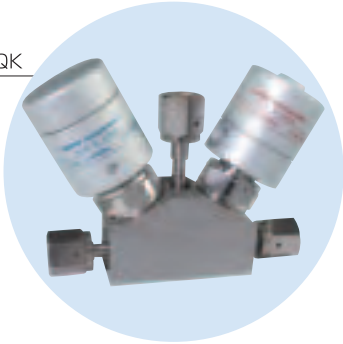
Block Valve

FBDV-6.35-2B3-316LP-AQK

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.



Proximity Sensor

FPR-UDDF-71RS2-9.52

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



Limit Switch

FPR-UDDF-71LS-6.35-NL

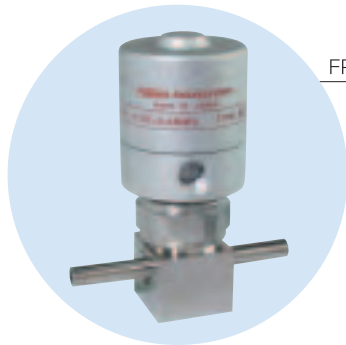
An electrical signal confirms open or closed position of valve.



Other

FPR-UDDF-51-6.35BW-NL-KAG

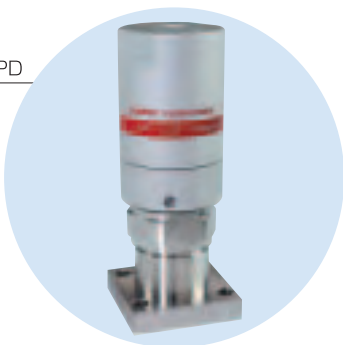
Tube stub length may be ordered according to customer specifications.



IGS Valves

FPR-UDDFA-21-6.35UGF-APD

MEGA series valves are also available in 1.125" 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.

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

Open Closed

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

Highly durable nickel-cobalt alloy diaphragm,

Standard seat material is PCTFE. Polyimide/PFA seat material is also available.

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

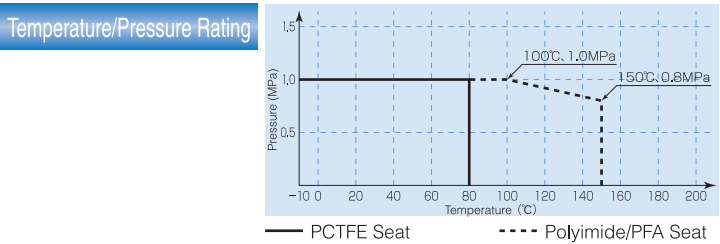
SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|---------------------------|
| | 6.35 (1/4") | 1MPa | −10~80 °C | 0.25 | UJR, UPG, F900, Tube Stub |
| | 9.52 (3/8") | 145 psi | 14~176 °F | 0.6 | |

●All valves are helium leak tested. Vacuum method results: External Leakage < 5x10⁻¹² Pa•m³/sec. Seat Leakage: < 5x10⁻¹² Pa•m³/sec

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

| Materials | Part | Material |
|-----------|--------------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Seat Packing | PCTFE |
| | Handle | Nylon 6 |



PART NUMBER DESIGNATION

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

FUDDF L[]-71-6.35[]-NL-[]-[]

A Stainless steel direct diaphragm valve

B L : Quarter turn handle

C T B : Added only for 3-port valves
C L : 2-way, corner left valve

D 7 : UJR / UPG end-connection,
9 : F900 end-connection
5 : Tube stub end-connection

E 1 : 1MPa maximum operating pressure

F End-Connection Size
6.35 : 1/4" OD
9.52 : 3/8" OD
12.7 : 1/2" OD (UJR connections have a 9.52 port diameter)

G Blank : Male UJR on both ends
— 2 : Female UJR on both ends
— 3 : UJR male inlet / Female UJR outlet
U G : UPG end-connection
B W : Butt weld

H P I : Polyimide seat*
P A : PFA seat*

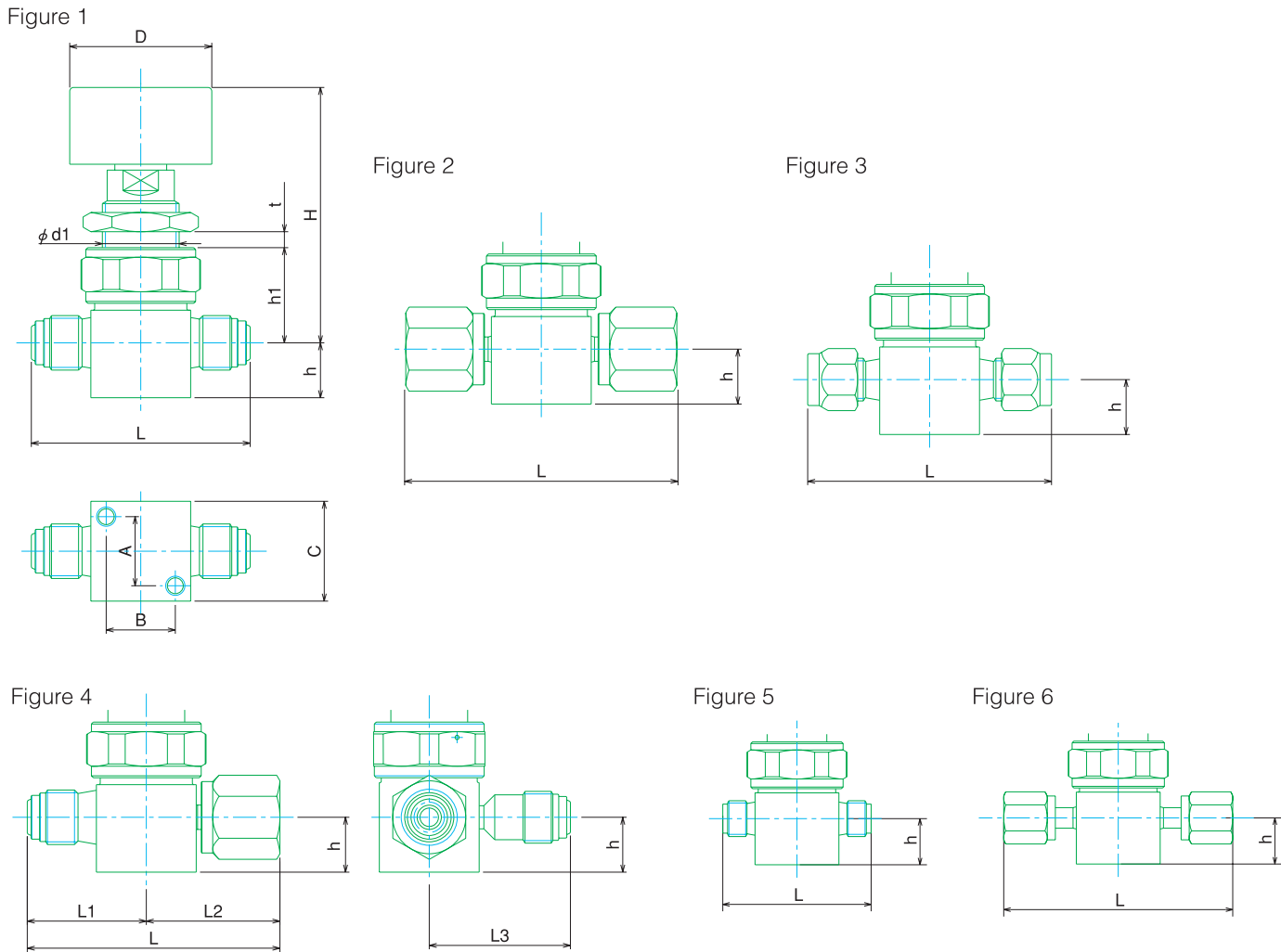
I U P : UP treatment*
P S : Cr₂O₃ treatment*
F D : Fluorine passivation*

* Optional or made to order.

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



| (Unit : mm) | | | | | | | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|------|----|----|------|------|----|
| Part Number | Figure | L | L1 | L2 | L3 | h | H | h1 | d1 | t | D | A | B | C |
| FUDDFL-71-6.35-NL | 1 | 57 | | | | 14.3 | 67.5 | 23.5 | 20.5 | 7 | 37 | 18 | 18 | 26 |
| FUDDFL-71-6.35-2-NL | 2 | 70.6 | | | | 14.3 | 67.5 | 23.5 | 20.5 | 7 | 37 | 18 | 18 | 26 |
| FUDDFL-71-9.52-NL | 1 | 76.2 | | | | 11.1 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-71-9.52-2-NL | 2 | 83 | | | | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFLTB-71-6.35-NL | 4 | 65.7 | 31 | 34.7 | 38.1 | 14.3 | 68.5 | 24.5 | 20.5 | 7 | 37 | 18 | 18 | 26 |
| FUDDFLTB-71-9.52-NL | 4 | 79.2 | 37.7 | 41.5 | 43.1 | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFLTB-71-9.52×6.35-NL | 4 | 69.9 | 31.8 | 38.1 | 38.1 | 12.7 | 72 | 28 | 20.5 | 7 | 37 | 18 | 18 | 26 |
| FUDDFL-91-6.35-NL | 3 | 63.5 | | | | 14.3 | 67.5 | 23.5 | 20.5 | 7 | 37 | 18 | 18 | 26 |
| FUDDFL-91-9.52-NL | 3 | 80 | | | | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-91-12.7-NL | 3 | 85 | | | | 12.7 | 88.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-71-6.35UG | 5 | 46 | | | | 14.3 | 67.5 | 23.5 | 20.5 | 7 | 37 | 18 | 18 | 26 |
| FUDDFL-71-6.35UG-2 | 6 | 71 | | | | 14.3 | 67.5 | 23.5 | 20.5 | 7 | 37 | 18 | 18 | 26 |
| FUDDFL-71-9.52UG | 5 | 57 | | | | 11.1 | 87.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |
| FUDDFL-71-9.52UG-2 | 6 | 86 | | | | 12.7 | 87.8 | 31.5 | 24.5 | 10 | 50 | 20.2 | 20.2 | 35 |

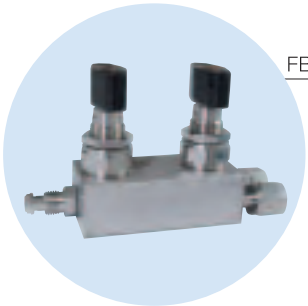
※ See Figure 1 for dimension keys not shown in other Figures.

OPTIONS

Handle Colors

GT-HL-FDDFL-※

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



FBDL-6.35-OB3-2P-EJH

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

HL-C-FUDDFL-71L-6.35

May be optionally added to valves as a safety precaution.



GT-IP-FUDDFL

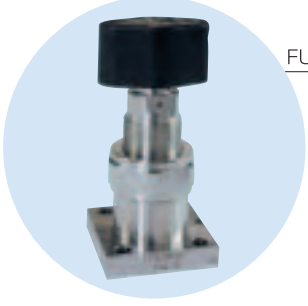
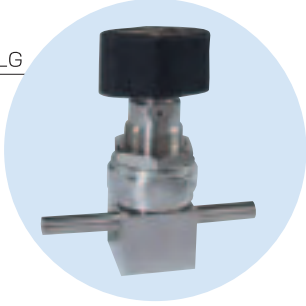
Open / Closed Faceplate

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

Other

FUDDFL-51-6.35BW-KLG

Tube stub length may be ordered according to customer specifications.



FUDDFL-21-6.35UGF-APD

IGS Valves

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

Photos are samples of each product type.



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.

Open Closed

Highly durable nickel-cobalt alloy diaphragm,

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

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

Standard seat material is PCTFE. Polyimide/PFA seat material is also available.

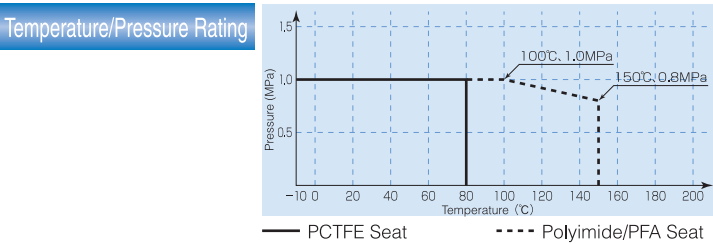
MEGA — ONE LM

SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|---------------------------|
| | 6.35 (1/4") | 1MPa | −10~80 °C | 0.3 | UJR, UPG, F900, Tube Stub |
| | 9.52 (3/8") | 145 psi | 14~176 °F | 0.65 | |

● All valves are helium leak tested. Vacuum method results: External Leakage < 5x10⁻¹² Pa•m³/sec. Seat Leakage: < 5x10⁻¹² Pa•m³/sec
● Demonstrated superior durability - over 20,000 cycles (actual test results).

| Materials | Part | Material |
|-----------|--------------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Seat Packing | PCTFE |
| | Handle | A5056B |



PART NUMBER DESIGNATION

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

FUDDF [] - 7 1 G - 6.35 [] - NL - [] []

A Stainless steel direct diaphragm valve

B T B : Added only for 3-port valves
C L : 2-way, corner left valve

C 7 : UJR / UPG end-connection,
9 : F900 end-connection
5 : Tube stub end-connection

D 1 : 1MPa maximum operating pressure

E G : Open/Closed Indicator

F End-Connection Size
6.35 : 1/4" ^{OD}
9.52 : 3/8" ^{OD}
12.7 : 1/2" ^{OD} (UJR connections have a 9.52 port diameter)

G Blank : Male UJR on both ends
2 : Female UJR on both ends
3 : UJR male inlet / Female UJR outlet
UG : UPG end-connection
BW : Butt weld

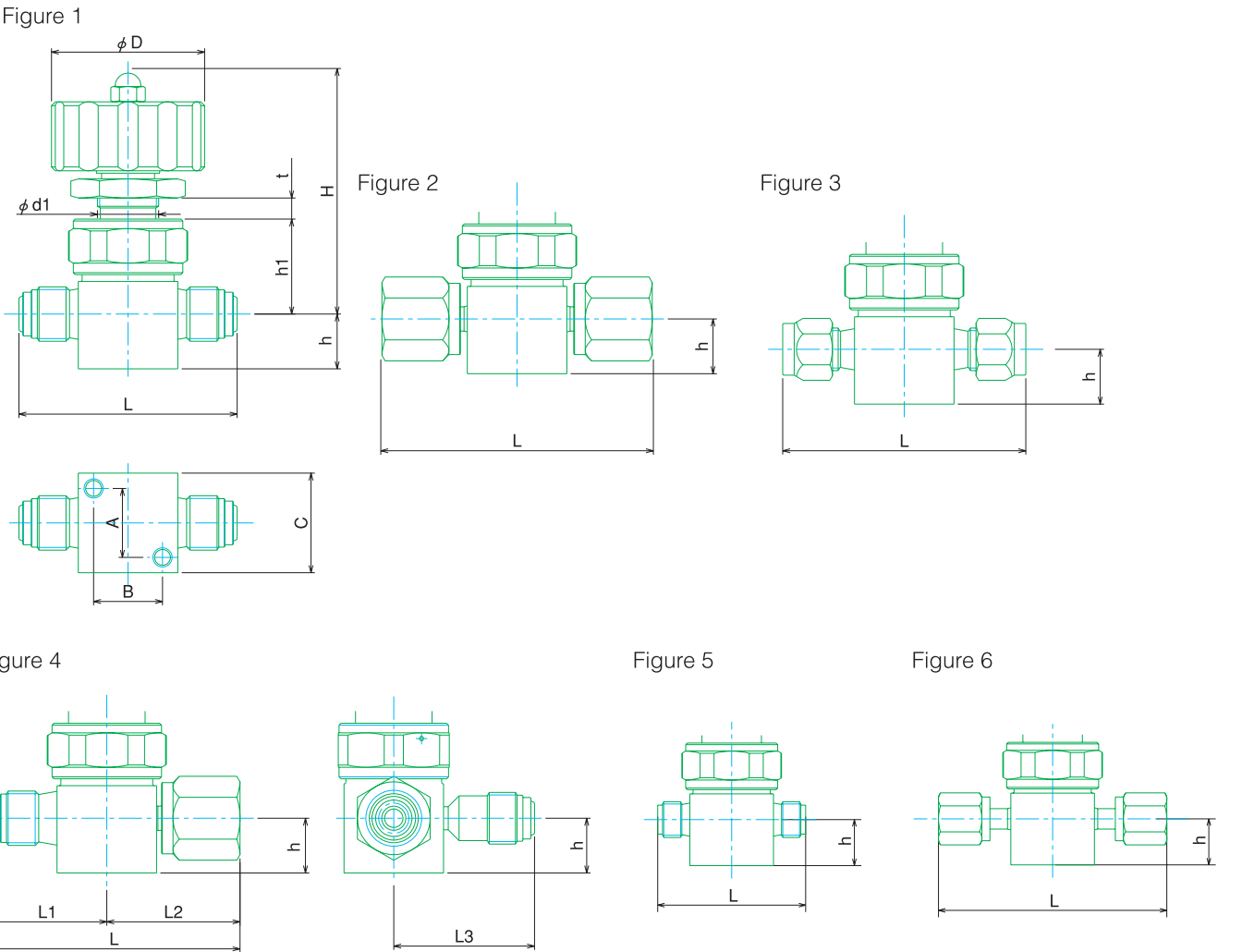
H P I : Polyimide seat*
P A : PFA seat*

I UP : UP treatment*
P S : Cr₂O₃ treatment*
F D : Fluorine passivation*

* Optional or made to order.



DIMENSIONS



| (Unit : mm) | | | | | | | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|------|-----|----|------|------|----|
| Part Number | Figure | L | L1 | L2 | L3 | h | H | h1 | d1 | t | D | A | B | C |
| FUDDF-71G-6.35-NL | 1 | 57 | | | | 14.3 | 62 | 23.8 | 16.5 | 5.5 | 40 | 18 | 18 | 26 |
| FUDDF-71G-6.35-2-NL | 2 | 70.6 | | | | 14.3 | 62 | 24.8 | 16.5 | 5.5 | 40 | 18 | 18 | 26 |
| FUDDF-71G-9.52-NL | 1 | 76.2 | | | | 11.1 | 71.4 | 31.5 | 20.5 | 5.5 | 40 | 20.2 | 20.2 | 35 |
| FUDDF-71G-9.52-2-NL | 2 | 83 | | | | 12.7 | 71.4 | 31.5 | 20.5 | 5.5 | 40 | 20.2 | 20.2 | 35 |
| FUDDFTB-71G-6.35-NL | 4 | 65.7 | 31 | 34.7 | 38.1 | 14.3 | 63 | 24.8 | 16.5 | 5.5 | 40 | 18 | 18 | 26 |
| FUDDFTB-71G-9.52-NL | 4 | 79.2 | 37.7 | 41.5 | 43.1 | 12.7 | 71.4 | 31.5 | 20.5 | 5.5 | 40 | 20.2 | 20.2 | 35 |
| FUDDFTB-71G-9.52×6.35-NL | 4 | 69.9 | 31.8 | 38.1 | 38.1 | 12.7 | 66.5 | 24.8 | 16.5 | 5.5 | 40 | 18 | 18 | 26 |
| FUDDF-91G-6.35-NL | 3 | 63.5 | | | | 14.3 | 62 | 23.8 | 16.5 | 5.5 | 40 | 18 | 18 | 26 |
| FUDDF-91G-9.52-NL | 3 | 80 | | | | 12.7 | 71.4 | 31.5 | 20.5 | 5.5 | 40 | 20.2 | 20.2 | 35 |
| FUDDF-91G-12.7-NL | 3 | 85 | | | | 12.7 | 71.4 | 31.5 | 20.5 | 5.5 | 40 | 20.2 | 20.2 | 35 |
| FUDDF-71G-6.35UG | 5 | 46 | | | | 14.3 | 62 | 23.8 | 16.5 | 5.5 | 40 | 18 | 18 | 26 |
| FUDDF-71G-6.35UG-2 | 6 | 71 | | | | 14.3 | 62 | 23.8 | 16.5 | 5.5 | 40 | 18 | 18 | 26 |
| FUDDF-71G-9.52UG | 5 | 57 | | | | 11.1 | 71.4 | 31.5 | 20.5 | 5.5 | 40 | 20.2 | 20.2 | 35 |
| FUDDF-71G-9.52UG-2 | 6 | 86 | | | | 12.7 | 71.4 | 31.5 | 20.5 | 5.5 | 40 | 20.2 | 20.2 | 35 |

※ See Figure 1 for dimension keys not shown in other Figures.

OPTIONS

Handle Colors

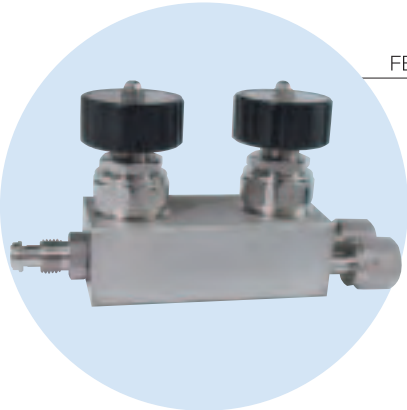
GT-HL-FUDDF-※

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



Block Valve

FBDL-6.35-0B3-2P-CJL



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

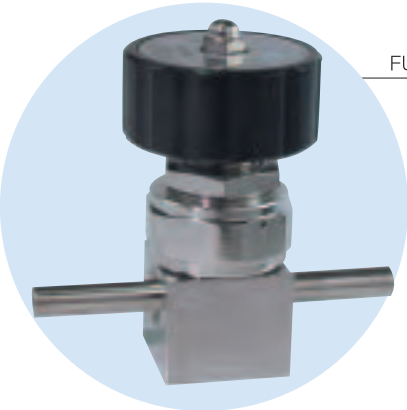
FUDDFTB-51G-12.7×9.52JR-NL-FHZ

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



Other

FUDDF-51G-6.35BW-KAG



Tube stub length may be ordered according to customer specifications.

Photos are samples of each product type.

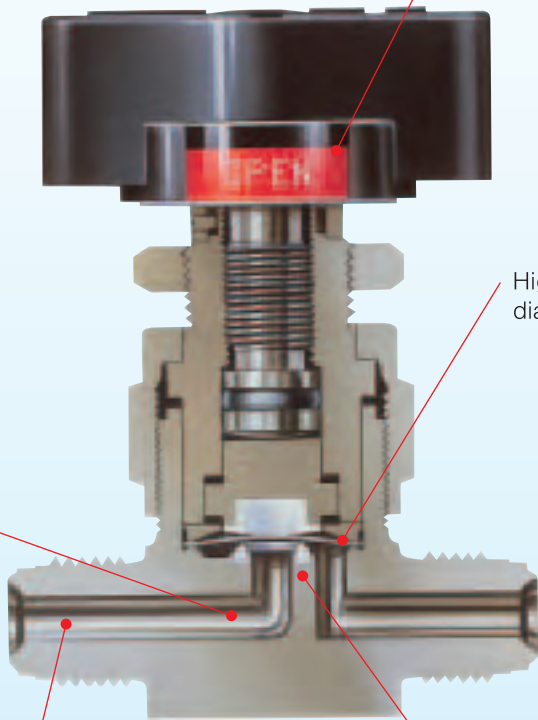


MEGA — ONE HQ

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.

Open Closed

Highly durable nickel-cobalt alloy diaphragm,

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

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

Standard seat material is PCTFE. Polyimide seat material is also available.

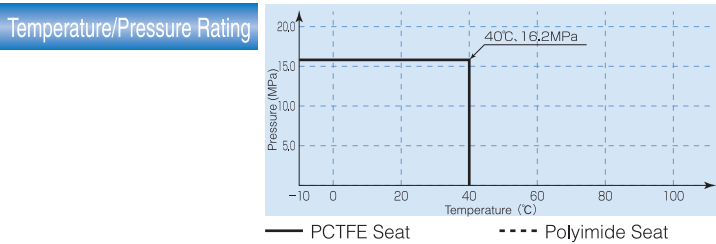
SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|---------------------------|
| | 6.35 (1/4") | 16.2 MPa | −10~40 °C | 0.1 | UJR, UPG, F900, Tube Stub |
| | 9.52 (3/8") | 2,350 psi | 14~104 °F | | |

● All valves are helium leak tested. Vacuum method results: External Leakage < 5x10⁻¹² Pa•m³/sec. Seat Leakage: < 5x10⁻¹² Pa•m³/sec

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

| Materials | Part | Material |
|-----------|--------------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Seat Packing | PCTFE |
| | Handle | Nylon 66 |



PART NUMBER DESIGNATION

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

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

A

B

C

D

E

F

G

H

I

J

UP : UP treatment*
PS : Cr₂O₃ treatment*
FD : Fluorine passivation*

P I : Polyimide seat*

Blank : Male UJR on both ends
— 2 : Female UJR on both ends
— 3 : UJR male inlet / Female UJR outlet
UG : UPG end-connection
BW : Butt weld*

End-Connection Size
6.35 : 1/4" ^{OD}
9.52 : 3/8" ^{OD}
12.7 : 1/2" ^{OD} (UJR connections have a 9.52 port diameter)

G : Open/Closed Indicator

1 6 : 16.2MPa maximum operating pressure

7 : UJR / UPG end-connection,
9 : F900 end-connection*
5 : Tube stub end-connection*

T B : Added only for 3-port valves*
C L : 2-way, corner left valve

L : Quarter-turn open/closed type handle

Stainless steel direct diaphragm valve

* Optional or made to order.



DIMENSIONS

Figure 1

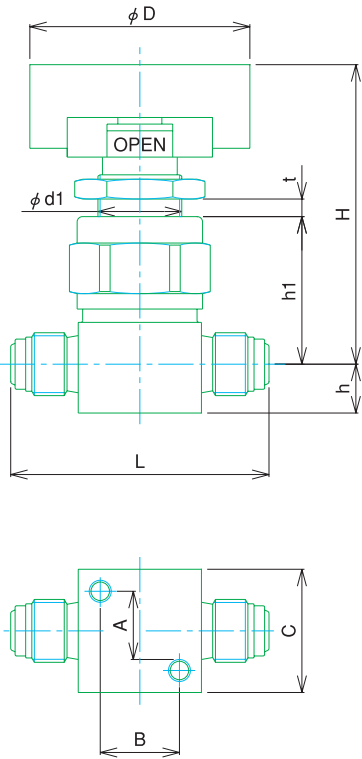


Figure 2

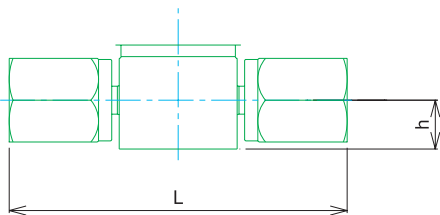


Figure 3

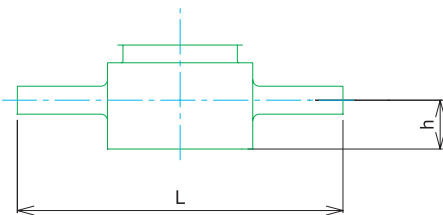


Figure 4

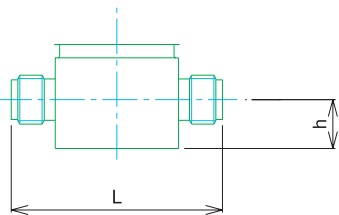
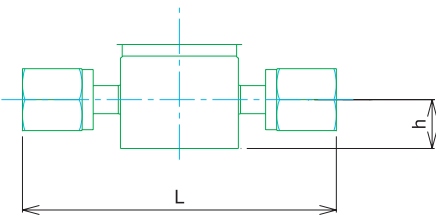


Figure 5



| Part Number | Figure | (Unit : mm) | | | | | | | | | |
|----------------------|--------|-------------|------|------|------|---|----|----|----|----|------|
| | | L | H | h | h1 | t | A | B | C | D | d1 |
| FUDDFL-716G-6.35 | 1 | 58.7 | 67 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDFL-716G-6.35-2 | 2 | 76.2 | 67 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDFL-716G-9.52 | 1 | 76.2 | 70.5 | 11.1 | 36 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDFL-516G-6.35BW | 3 | 74 | 67 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDFL-716G-6.35UG | 4 | 48 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUUDFL-716G-6.35UG-2 | 5 | 71 | 67 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDFL-716G-9.52UG | 4 | 50 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |

※ See Figure 1 for dimension keys not shown in other Figures.

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.



FUDDFL-516G-6.35BW-DUE

Other

Tube stub length may be ordered according to customer specifications.

Photos are samples of each product type.

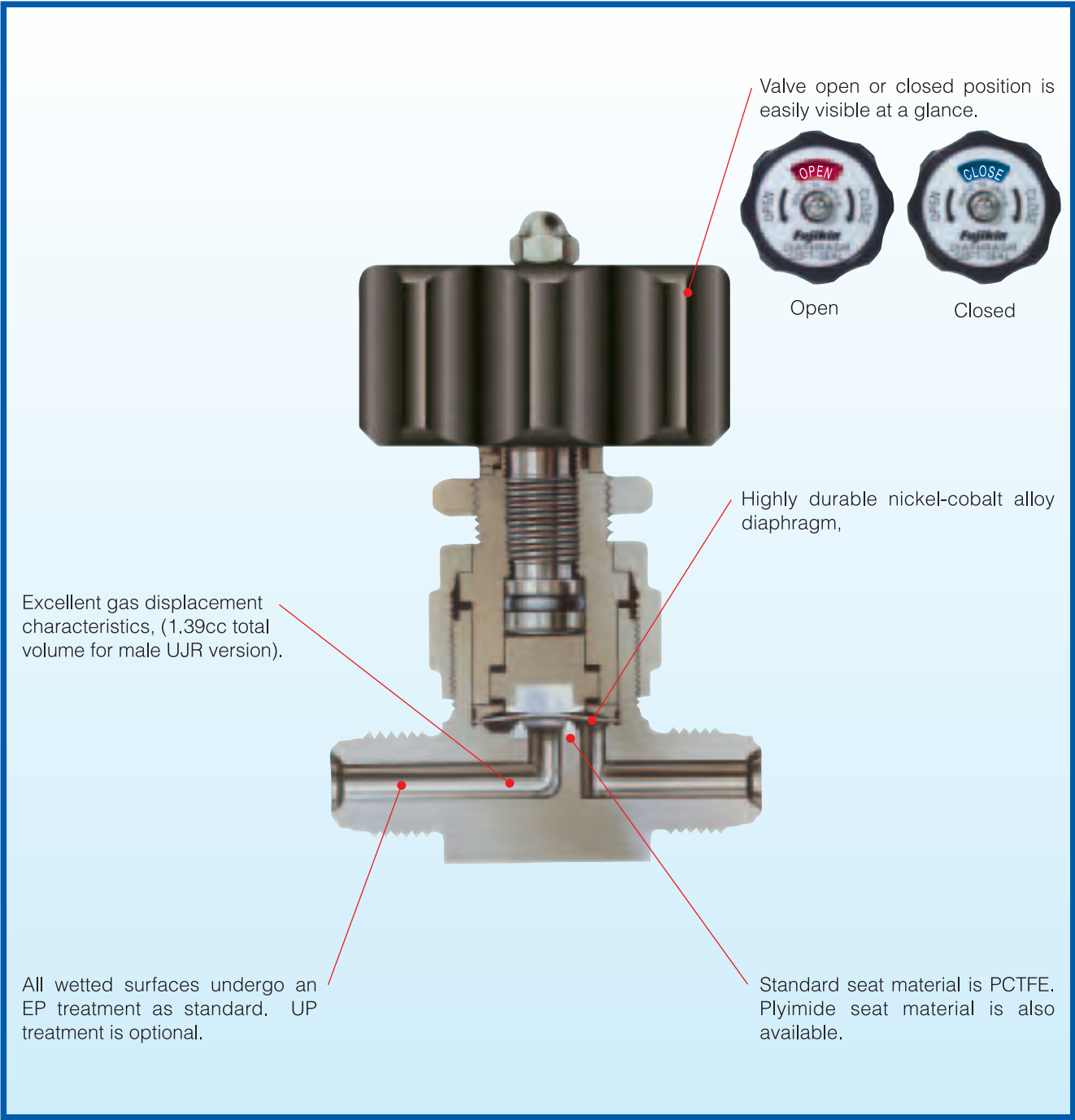


MEGA — ONE HM

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.



MEGA — ONE HM

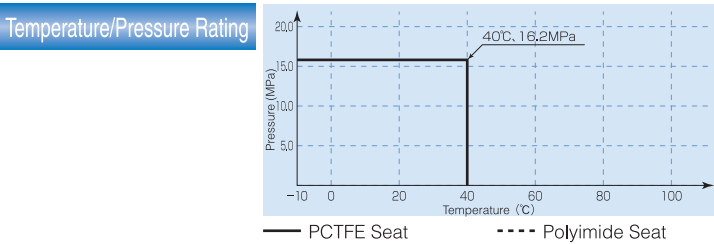
SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|---------------------------|
| | 6.35 (1/4") | 16.2 MPa | −10~40 °C | 0.1 | UJR, UPG, F900, Tube Stub |
| | 9.52 (3/8") | 2,350 psi | 14~104 °F | | |

● All valves are helium leak tested. Vacuum method results: External Leakage < 5x10⁻¹² Pa•m³/sec. Seat Leakage: < 5x10⁻¹² Pa•m³/sec

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

| Materials | Part | Material |
|-----------|--------------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Seat Packing | PCTFE |
| | Handle | A5056B |



PART NUMBER DESIGNATION

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

FUDDF **-716G** **-6.35**

| A | B | C | D | E | F | G | H | I |
|--|---|--|--|---------------------------|--|--|-----------------------|---|
| Stainless steel direct diaphragm valve | T B : Added only for 3-port valves* C L : 2-way, corner left valve | 7 : UJR / UPG end-connection, 9 : F900 end-connection* 5 : Tube stub end-connection* | 1 6 : 16.2MPa maximum operating pressure | G : Open/Closed Indicator | End-Connection Size 6.35 : 1/4" ^{OD} 9.52 : 3/8" ^{OD} 12.7 : 1/2" ^{OD} (UJR connections have a 9.52 port diameter) | Blank : Male UJR on both ends — 2 : Female UJR on both ends — 3 : UJR male inlet / Female UJR outlet U G : UPG end-connection B W : Butt weld* | P I : Polyimide seat* | U P : UP treatment* P S : Cr ₂ O ₃ treatment* F D : Fluorine passivation* |

* Optional or made to order.

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

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

FUDDF-516G-6.35BW

Tube stub length may be ordered according to customer specifications.



Figure 1

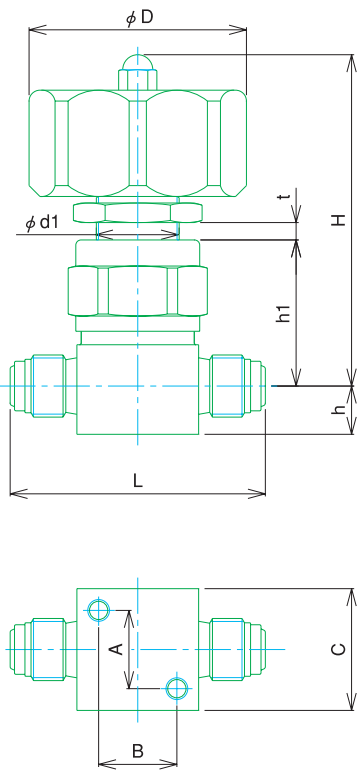


Figure 2

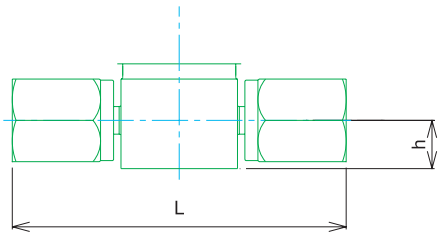


Figure 3

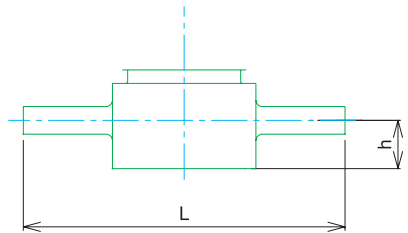


Figure 4

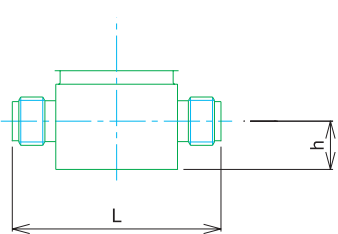
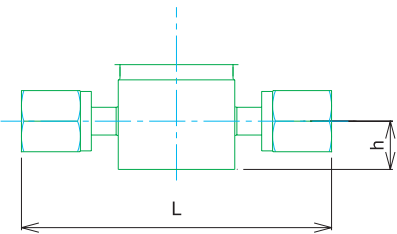


Figure 5



| (Unit : mm) | | | | | | | | | | | |
|---------------------|--------|------|------|------|------|---|----|----|----|----|------|
| Part Number | Figure | L | H | h | h1 | t | A | B | C | D | d1 |
| FUDDF-716G-6.35 | 1 | 58.7 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDF-716G-6.35-2 | 2 | 76.2 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDF-716G-9.52 | 1 | 76.2 | 78.7 | 11.1 | 36 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDF-516G-6.35BW | 3 | 76.2 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDF-716G-6.35UG | 4 | 48 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDF-716G-6.35UG-2 | 5 | 71 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |
| FUDDF-716G-9.52UG | 4 | 50 | 75.2 | 11.1 | 32.5 | 4 | 18 | 18 | 28 | 50 | 19.2 |

※ See Figure 1 for dimension keys not shown in other Figures.

Photos are samples of each product type.



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 $\phi 35\text{mm}$ 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 UJR 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. Polyimide/PFA seat material is also available.

Fujikin Incorporated MADE IN JAPAN
O.P. 0.39~0.59MPa TYPE N.C.

MEGA-MINI LA

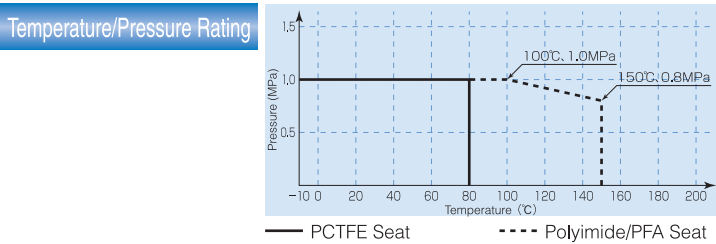
SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Actuation Pressure | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|----------------------------|---------------------------|
| | 6.35 (1/4") | 1MPa 145 psi | -10~80 °C 14~176 °F | 0.1 | 0.39~0.59 MPa 56~86 psi | UJR, UPG, F900, Tube Stub |

● All valves are helium leak tested. Vacuum method/results: External leakage: $< 5 \times 10^{-12} \text{ Pa} \cdot \text{m}^3/\text{sec}$. Seat leakage: $< 5 \times 10^{-12} \text{ Pa} \cdot \text{m}^3/\text{sec}$

● Demonstrated superior durability - over 4 million cycles (actual test results).

| Materials | Part | Material |
|-----------|--------------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Seat Packing | PCTFE |
| | Actuator | A5056 |



PART NUMBER DESIGNATION

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

FPR-SD []-71 []-6.35 []-[]-[]

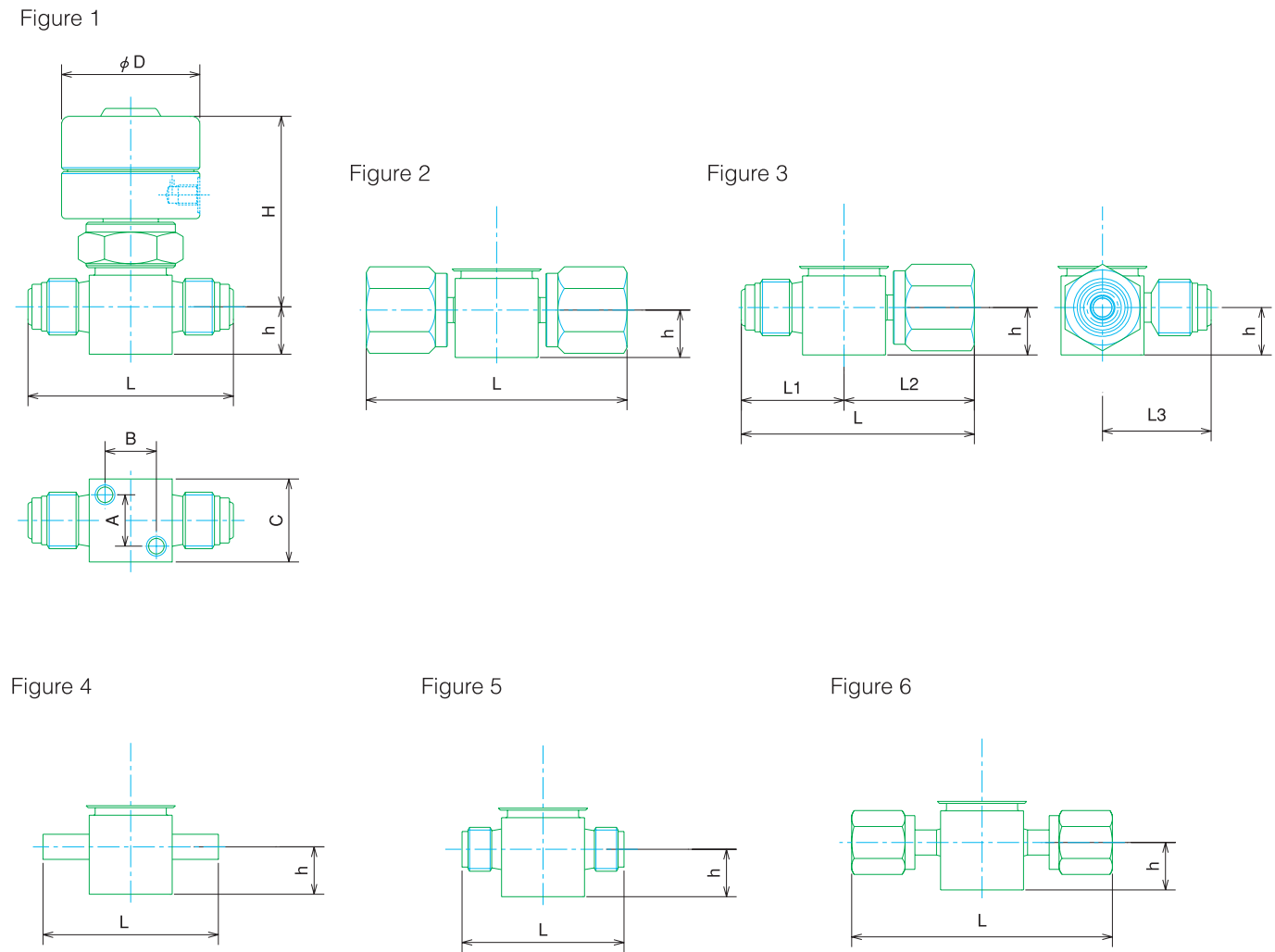
| | | | | | | | | | |
|--|--|--|--|-------------------------------------|--|---------------------------------------|--|--|--|
| A | B | C | D | E | F | G | H | I | J |
| F P : Normally open F P R : Normally closed | Stainless steel compact direct diaphragm valve | T B : Added only for 3-port valves C L : 2-way, corner left valve | 7 : UJR / UPG end-connection, 5 : Tube stub end-connection* | 1 : 1MPa maximum operating pressure | R S 2 : With proximity sensor* L S : With limit switch* | End-Connection Size 6.35 : 1/4" OD | Blank : Male UJR on both ends 2 : Female UJR on both ends 3 : UJR male inlet / Female UJR outlet U G : UPG end-connection B W : Butt weld* | P I : Polyimide seat* P A : PFA seat* | P S : Cr ₂ O ₃ treatment* F D : Fluorine passivation* |

* Optional or made to order.

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



(Unit : mm)

| Part Number | Figure | D | L | H | h | A | B | C | L1 | L2 | L3 |
|------------------------|--------|----|------|------|----|----|----|----|----|----|------|
| FP(R)-SD-71-6.35 | 1 | 35 | 52 | 50.5 | 12 | 13 | 13 | 21 | | | |
| FP(R)-SD-71-6.35-2 | 2 | 35 | 66 | 50.5 | 12 | 13 | 13 | 21 | | | |
| FP(R)-SDTB-71-6.35 | 3 | 35 | 59 | 50.5 | 12 | 13 | 13 | 21 | 26 | 33 | 27.5 |
| FP(R)-SD-51-6.35BW-FFL | 4 | 35 | 44.4 | 50.5 | 12 | 13 | 13 | 21 | | | |
| FP(R)-SD-71-6.35UG | 5 | 35 | 41 | 50.5 | 12 | 13 | 13 | 21 | | | |
| FP(R)-SD-71-6.35UG-2 | 6 | 35 | 66 | 50.5 | 12 | 13 | 13 | 21 | | | |

※ See Figure 1 for dimension keys not shown in other Figures.

OPTIONS

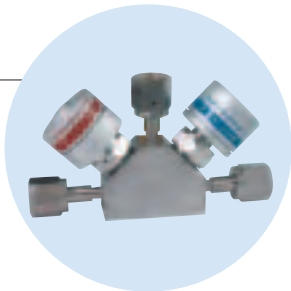
Block Valve

FBSDV-6.35-2B3-BGB

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

FPR-SD-71SS2-6.35

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



Proximity Sensor

FPR-SD-71RS2-6.35

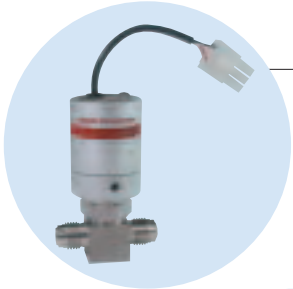
An electrical signal confirms open or closed position of valve. The non-contact proximity sensor offers unsurpassed safety.



Limit Switch

FPR-SD-71LS-6.35

An electrical signal confirms open or closed position of valve.



Other

A variety of configurations are possible.



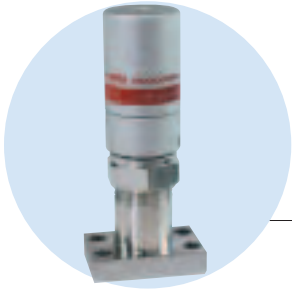
FPR-SD-51-6.35-FFL



FPR-SDCR-71-6.35-ANU



FPR-SDXR-71-6.35-2



FPR-SDA-21-6.35UGF-APD

IGS Valves

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

Photos are samples of each product type.



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.

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

Unique actuator design results in a highly-compact pneumatic valve for high-pressure applications.

Excellent gas displacement characteristics, (0.92cc total volume for male UJR version).

Highly durable nickel-cobalt alloy diaphragm,

All wetted surfaces undergo a UP treatment as standard.

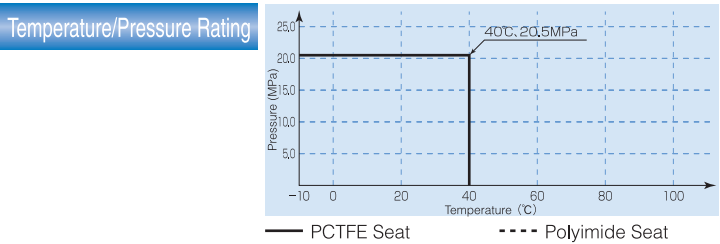
Standard seat material is PCTFE. Polyimide seat material is also available.

SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Actuation Pressure | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|----------------------------|------------------------------|
| | 6.35 (1/4") | 20.5 MPa 2,973 psi | -10~40 °C 14~104 °F | 0.05 | 0.39~0.59 MPa 56~86 psi | UJR, UPG, F900, Tube Stub |

- All valves are helium leak tested. Vacuum method/results: External leakage: < 5x10⁻¹² Pa·m³/sec. Seat leakage: < 5x10⁻¹² Pa·m³/sec
- Demonstrated superior durability - over 400,000 cycles (actual test results).

| Materials | Part | Material |
|-----------|--------------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Seat Packing | PCTFE |
| | Actuator | A5056 |



PART NUMBER DESIGNATION

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

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

| | | | | | | | | |
|-----------------------|--|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | I |
| P I : Polyimide seat* | | | | | | | | |
| | | | | | | G | Blank : Male UJR on both ends - 2 : Female UJR on both ends UG : UPG end-connection BW : Butt weld | |
| | | | | | | F | End-Connection Size 6.35 : 1/4" ^{OD} | |
| | | | | | | E | 2 1 : 20.5 MPa maximum operating pressure | |
| | | | | | | D | 7 : UJR / UPG end-connection, 5 : Tube stub end-connection | |
| | | | | | | C | T B : Added only for 3-port valves C L : 2-way, corner left valve | |
| | | | | | | B | Stainless steel compact direct diaphragm valve | |
| A | F P : Normally open F P R : Normally closed | | | | | | | |

* Optional or made to order.

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

Figure 1

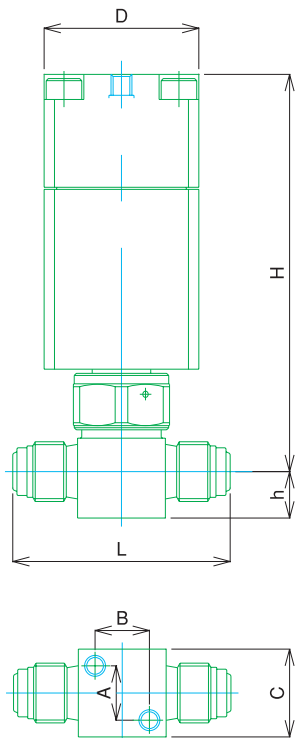


Figure 2

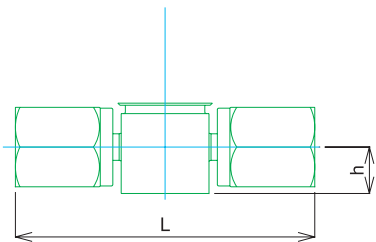


Figure 3

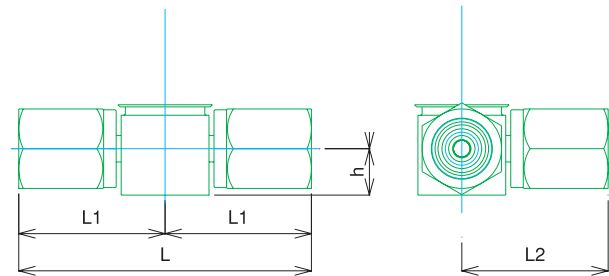


Figure 4

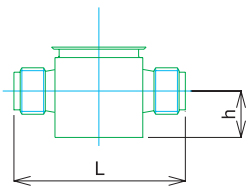


Figure 5

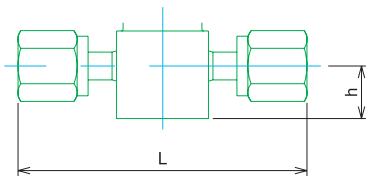
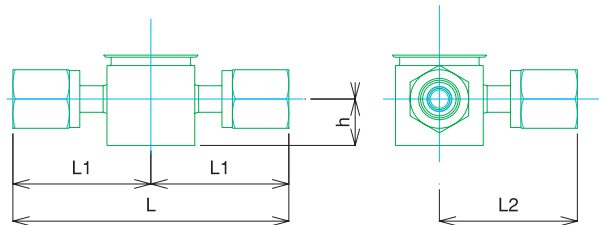


Figure 6



OPTIONS

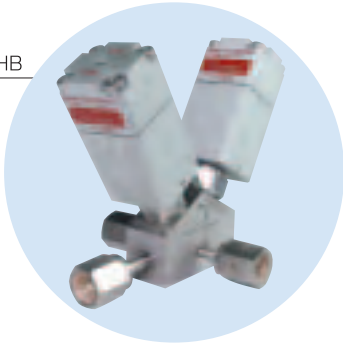
Block Valve

FBSDV-721-6.35-2B3-316LP-BHB

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

FPR-SD-721LS-6.35-316LP

An electrical signal confirms open or closed position of valve.



Other

FPR-SD-521-6.35BW-316LP-FFL

A variety of configurations are possible.



| Part Number | Figure | (Unit : mm) | | | | | | | | |
|--------------------------|--------|-------------|----|------|----|----|----|----|------|------|
| | | L | H | h | A | B | C | D | L1 | L2 |
| FPR-SD-721-6.35-316LP | 1 | 52 | 95 | 11.1 | 13 | 13 | 21 | 37 | | |
| FPR-SD-721-6.35-2-316LP | 2 | 71.6 | 95 | 11.1 | 13 | 13 | 21 | 37 | | |
| FP-SDTB-721-6.35-2-316LP | 3 | 71.6 | 95 | 11.1 | 13 | 13 | 21 | 37 | 35.8 | 35.8 |
| FPR-SD-721-6.35UG | 4 | 41 | 95 | 11.1 | 13 | 13 | 21 | 37 | | |
| FPR-SD-721-6.35UG-2 | 5 | 66 | 95 | 11.1 | 13 | 13 | 21 | 37 | | |
| FPR-SDTB-721-6.35UG-2 | 6 | 66 | 95 | 11.1 | 13 | 13 | 21 | 37 | 33 | 33 |

※ See Figure 1 for dimension keys not shown in other Figures.

Photos are samples of each product type.



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.

Cv Curve
FUDDFM-71M-6.35

Handle Rotations

Cv Value

Cv Curve
FUDDFM-71M-6.35-S

Handle Rotations

Cv Value

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

Micrometer handle utilizes a unique design to enable precise control.

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

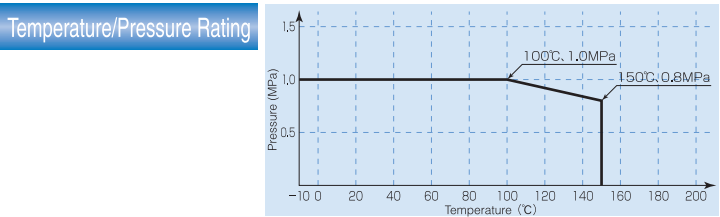
All wetted surfaces undergo a UP treatment as standard.

SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Orifice Diameter | Connection |
|---------------|------------------|----------------------------|-------------------------|-------------|------------------|------------------------------|
| | 6.35 (1/4") | 1MPa 145 psi | −10~150 °C 14~302 °F | 0.2 0.03 | 4.5 1.0 | UJR, UPG, F900, Tube Stub |

- All valves are helium leak tested. Vacuum method/results: External leakage: $< 5 \times 10^{-12}$ Pa·m³/sec. Seat leakage: $< 1/100$ of rated Cv
- Demonstrated superior durability - over 1,000 cycles (actual test results).

| Materials | Part | Material |
|-----------|-----------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Handle | A5056B |



PART NUMBER DESIGNATION

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

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

| | | | | | | | | |
|--|------------|------------------------------|--------------------------------------|-----------------------|--|--|-------------------------------|--|
| A | B | C | D | E | F | G | H | I |
| Stainless steel direct diaphragm valve | Metal Seat | 7 : UJR / UPG end-connection | 1 : 1 MPa maximum operating pressure | M : Micrometer handle | End-Connection Size 6.35 : 1/4" ^{OD} | Blank : Male UJR on both ends 2 : Female UJR on both ends UG : UPG end-connection BW : Butt weld* | Blank : Cv-0.2 S : Cv-0.03 | P S : Cr ₂ O ₃ treatment* F D : Fluorine passivation* |

* Optional or made to order.

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

Figure 1

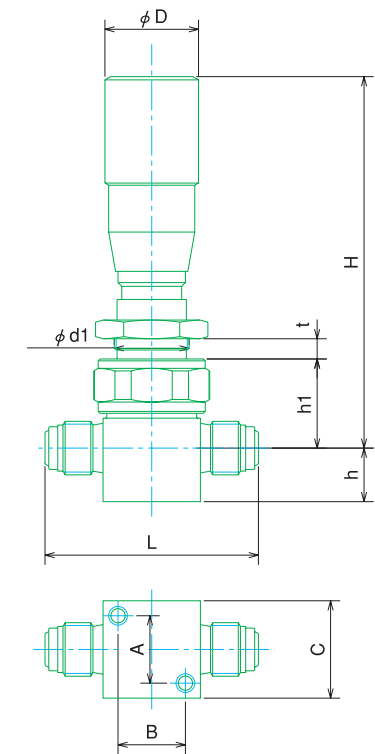


Figure 2

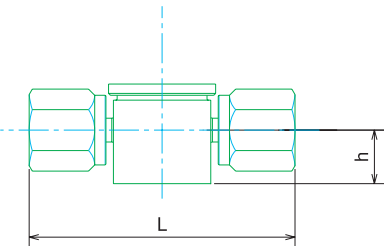


Figure 3

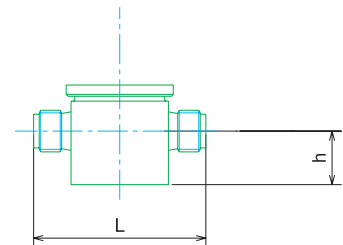
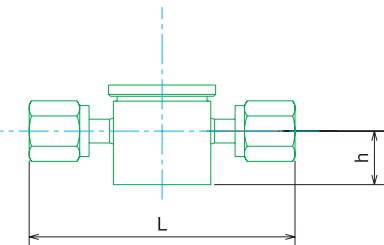


Figure 4



(Unit : mm)

| Part Number | Figure | D | L | H | h | t | h1 | d1 | A | B | C |
|---------------------|--------|----|------|-----|------|-----|------|------|----|----|----|
| FUDDFM-71M-6.35 | 1 | 25 | 57 | 105 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |
| FUDDFM-71M-6.35-2 | 2 | 25 | 70.6 | 105 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |
| FUDDFM-71M-6.35UG | 3 | 25 | 46 | 105 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |
| FUDDFM-71M-6.35UG-2 | 4 | 25 | 71 | 105 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |

※ See Figure 1 for dimension keys not shown in other Figures.

OPTIONS

Fixed Position Cap

FUDDFM-71MC-6.35

Prevents inadvertent change of setting.



IGS Valves

FUSDM-21M-6.35-UGF-APD

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



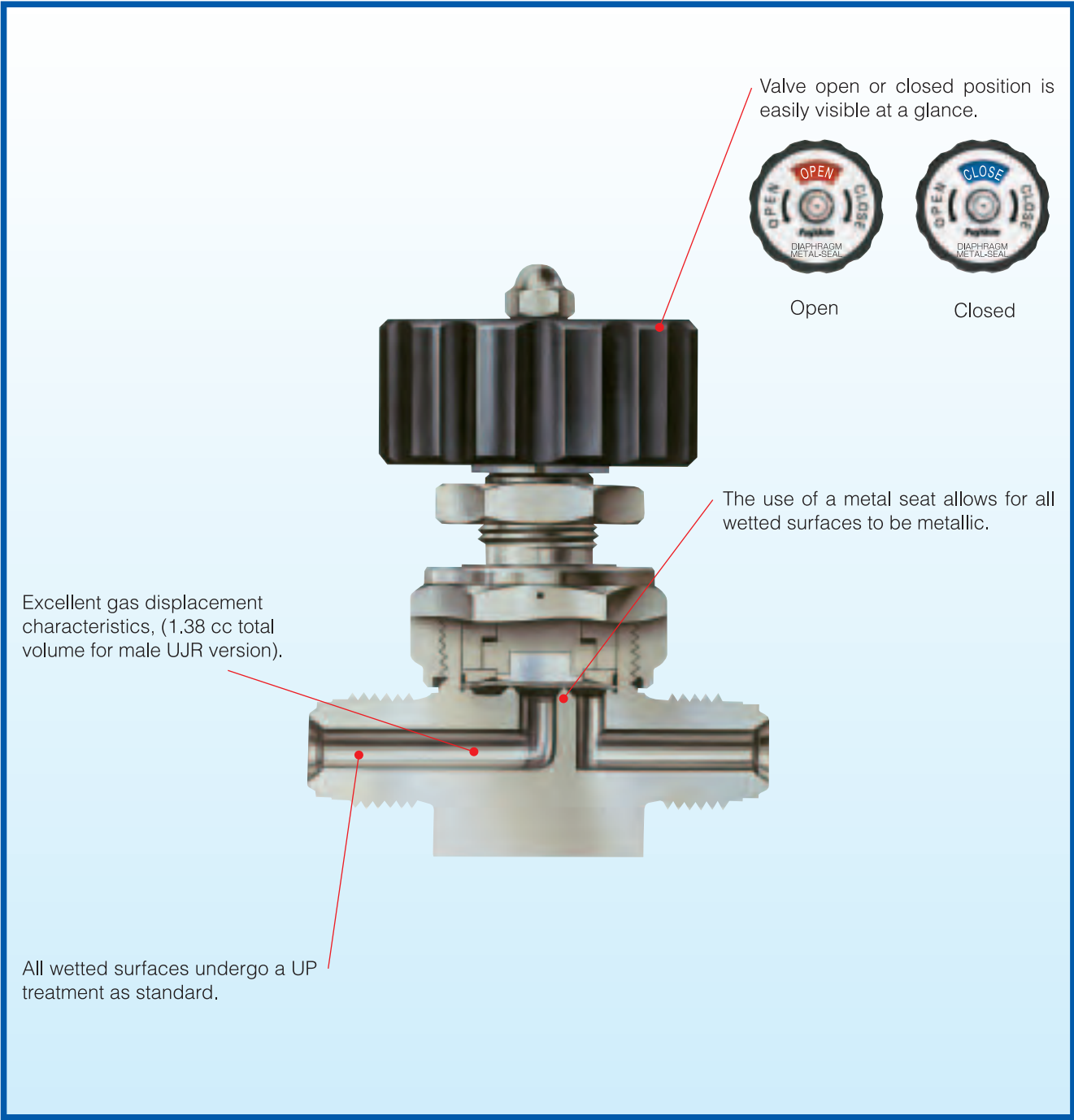


MEGA — M LM

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.



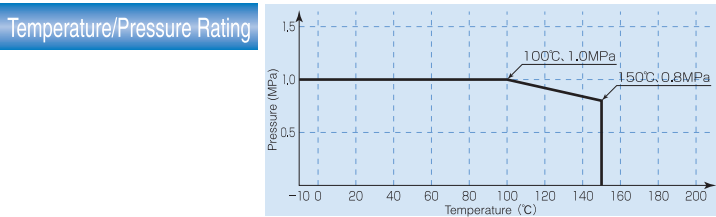
SPECIFICATIONS

| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Connection |
|---------------|------------------|----------------------------|-------------------------|------------|------------|
| | 6.35 (1/4") | 1MPa | −10~150 °C | 0.3 | UJR, UPG |
| | 9.52 (3/8") | 145 psi | 14~302 °F | 0.65 | Tube Stub |

●All valves are helium leak tested. Vacuum method/results: External leakage: < 5x10⁻¹² Pa•m³/sec. Seat leakage: <1/100 of rated Cv

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

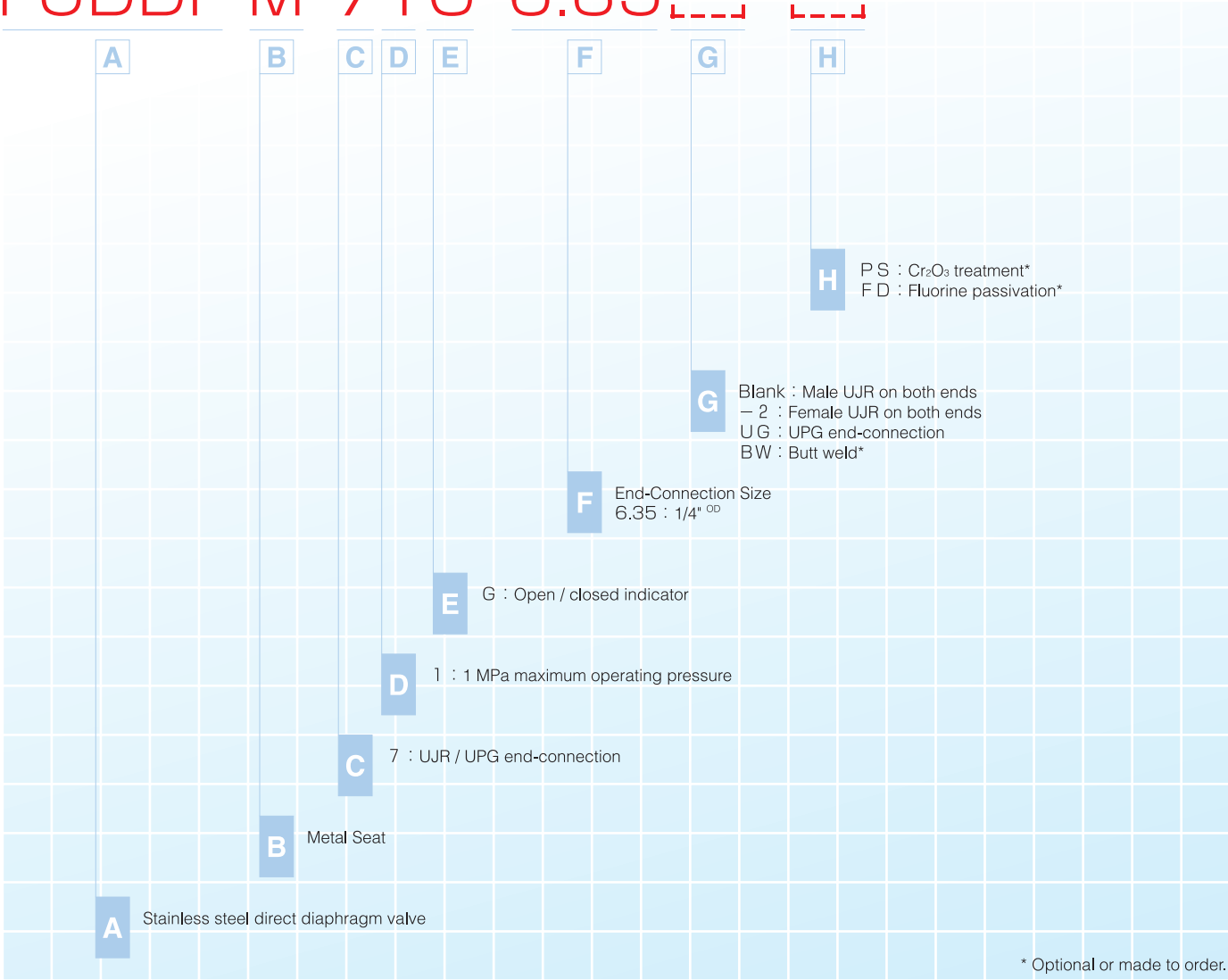
| Materials | Part | Material |
|-----------|-----------|---------------------|
| | Body | SUS316L |
| | Diaphragm | Nickel-cobalt alloy |
| | Handle | A5056 |



PART NUMBER DESIGNATION

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

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



* Optional or made to order.

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

Figure 1

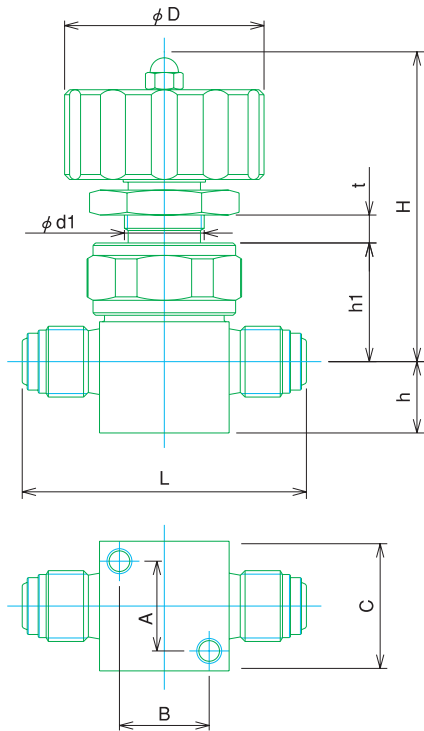


Figure 2

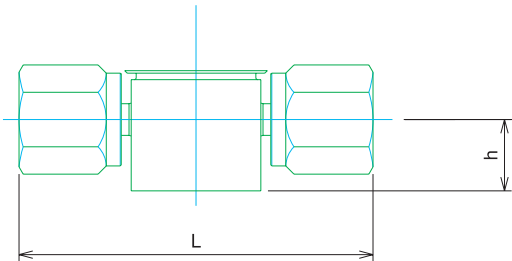


Figure 3

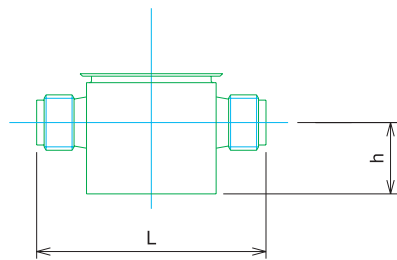
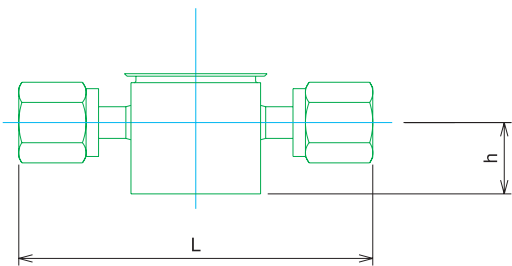


Figure 4



(Unit : mm)

| Part Number | Figure | D | L | H | h | t | h1 | d1 | A | B | C |
|---------------------|--------|----|------|----|------|-----|------|------|----|----|----|
| FUDDFM-71G-6.35 | 1 | 40 | 57 | 62 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |
| FUDDFM-71G-6.35-2 | 2 | 40 | 70.6 | 62 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |
| FUDDFM-71G-6.35UG | 3 | 40 | 46 | 62 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |
| FUDDFM-71G-6.35UG-2 | 4 | 40 | 71 | 62 | 14.3 | 5.5 | 23.8 | 16.5 | 18 | 18 | 26 |

※ See Figure 1 for dimension keys not shown in other Figures.

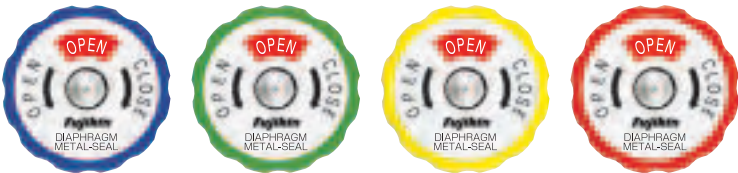
OPTIONS

Handle Colors

GT-HL-FUDDFM-※

A letter in place of "※" indicates
handle color:

Blue=B、Green=G、Yellow=Y、Red=R

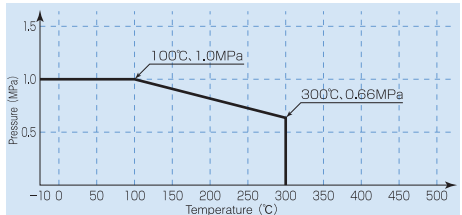


FWBR-71-6.35

High-Temperature

An all-metal actuator allows for use in services up to 300 °C.

Temperature/Pressure Rating



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.

Highly durable stainless steel diaphragm.

The valve seat and diaphragm are structurally combined.

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

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

Diaphragm (receives pressure)

Disk

Normal Flow

Normal Operation

Reverse Operation

Seat

SPECIFICATIONS

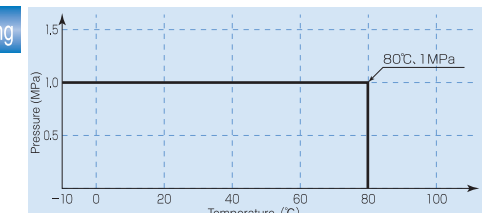
| Specification | Nominal Diameter | Maximum Operating Pressure | Fluid Temperature Range | Maximum Cv | Cracking Pressure | Back Pressure | Connection |
|---------------|------------------|----------------------------|-------------------------|---|---------------------|---------------------|------------|
| | 6.35 (1/4") | 1MPa 145 psi | -10~80 °C 14~176 °F | 0.2 (0.0294 MPa maximum pressure loss) | 2.26KPa 0.33 psi | 0.01MPa 1.45 psi | UJR, UPG |

- All valves are helium leak tested. Vacuum method/results: External leakage: < 5x10⁻¹² Pa·m³/sec. Seat leakage: <1/100 of rated Cv
- Demonstrated superior durability - over 100,000 cycles (actual test results).

| Materials | Part | Material |
|-----------|--------------|----------|
| | Body | SUS316L |
| | Diaphragm | SUS316L |
| | Seat Packing | FPM* |

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

Temperature/Pressure Rating



PART NUMBER DESIGNATION

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

FUCDF-71-6.35 []-[]

A

B

C

D

E

F

CR : Chloroprene rubber
SI : Silicon rubber
ER : Ethylene-propylene rubber
KA : Kalrez®
(Select an appropriate material to match temperature and fluid type.)

UG : UPG end-connection

End-Connection Size
6.35 : 1/4^{OD}

1 : 1MPa maximum operating pressure

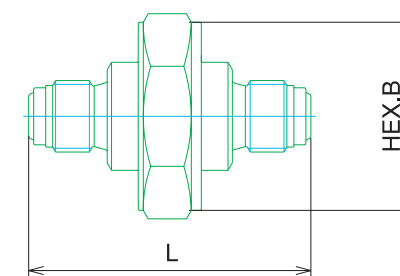
7 : UJR / UPG end connections

Stainless steel direct check valve

* Optional or made to order.

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



| Part Number | B | L |
|---------------|----|------|
| FUCDF-71-6.35 | 38 | 56.4 |

Kalrez® is a registered trademark of DuPont Dow Elastomers

OPTIONS

IGS Diaphragm Check Valve

Fujikin Integrated Gas system check valves are included in the MEGA series.



FUCDF-21-6.35UGF-AKH



SUPPLEMENTARY INFORMATION

Inner Surface Treatment

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 Ry, 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 Cr2O3 Treatment (CRPS)

100% Cr2O3 treated products have a Cr2O3 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 SiH4 and B2H6 - which decompose at low temperatures through surface catalytic effect. This enables stable delivery to the point of use.

3. Products with BK Treatment (CRPX)

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 upper-most 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 micro-fabrication 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. PCTFE (polytetrafluoroethylene)

Standard seat material on MEGA-ONE series and MEGA-MINI series products.

2. PI (polyimide)、PA (PFA)

A recommended option for non-standard temeratures and fluids.

BODY AND DIAPHRAGM MATERIALS

Hastelloy®

For services that require exceptional corrosion resistance, Hastelloy C-22® 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. Valves 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.

MEGA SERIES COMPARISON TABLE

| | | MEGA-ONE | | | | | MEGA-MINI | | MEGA-M | | MEGA-ONE |
|-------------------------|-------------------------------------|----------|-----|-----|----|----|-----------|----|--------|----|----------|
| | | LA | LS | LM | HQ | HM | LA | HA | LV | LM | LC |
| PRESSURE TYPE | High-Pressure | | | | ● | ● | | ● | | | |
| | High-Pressure (Japan Certification) | | | | ▲ | ▲ | | ▲ | | | |
| NOMINAL DIAMETER | 6.35 (1/4") | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | 9.52 (3/8") | ● | ● | ● | ● | ● | ● | | | ● | |
| | 12.7 (1/2") | ▲※1 | ▲※1 | ▲※1 | | | | | | | |
| CONNECTION | UJR | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | UPG | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | F900 | ● | ● | ● | ▲ | ▲ | | | | | |
| | Tube Stub | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| INNER SURFACE TREATMENT | EP | ● | ● | ● | ● | ● | | | | | |
| | UP | ▲ | ▲ | ▲ | ▲ | ▲ | ● | ● | ● | ● | ● |
| | CRPX | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| | CRPS | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| | FD | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| BODY MATERIAL | SUS316L | ● | ● | ● | ● | ● | ● | | ▲ | ▲ | ● |
| | SUS316L (Double-Melt) | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ● | ● | ● | |
| | Hastelloy® | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| DIAPHRAGM MATERIAL | Nickel-Cobalt Alloy | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Hastelloy® | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | | | |
| SEAT MATERIAL | PCTFE | ● | ● | ● | ● | ● | ● | ● | | | ※2 |
| | PI | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | | | |
| | PA | ▲ | ▲ | ▲ | | | ▲ | | | | |
| OTHER | Proximity Sensor | ▲ | | | | | ▲ | | | | |
| | Limit Switch | ▲ | | | | | ▲ | ▲ | | | |
| | Handle Color | | ▲ | ▲ | | | | | | ▲ | |

● : Standard Option

▲ : Optional

※1 : Installed only when F900 is selected as the end-connection.

※2 : FPM (fluoro rubber) is standard seat material; chloroprene rubber, silicon rubber, ethylene-propylene rubber and Kalrez® may be optionally specified.