

NEW



FINE series PURE

NEW MEGA® series



FPR-NSD-721-6.35-316LP

FPR-ND-71-6.35

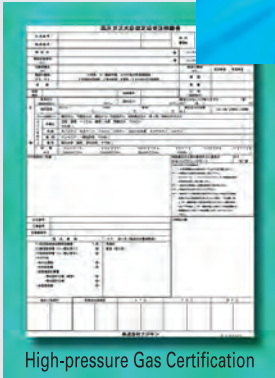
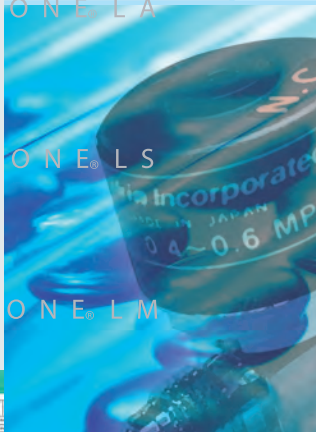


FUND-71G-6.35

NEW MEGA-ONE[®] LA

NEW MEGA-ONE[®] LS

NEW MEGA-ONE[®] LM



NEW MEGA-MINI[®] LA

NEW MEGA-MINI[®] HA

NEW MEGA-MINI[®] HM

NEW MEGA-MINI[®] HQ

Fujikin's Class 1 cleanrooms feature cutting-edge technology throughout, and must achieve the most rigorous standards of cleanliness. Products manufactured in this environment are guaranteed to meet the most stringent requirements and to be of the highest quality.





INDEX

NEW MEGA Series

NEW MEGA-ONE®

NEW MEGA - ONE® LA	3
(Pneumatically-actuated Valves)	
NEW MEGA - ONE® LS	7
(1/4 Turn Switch Valves)	
NEW MEGA - ONE® LM	11
(Round-handled Valve with Indicator)	

NEW MEGA-MINI

NEW MEGA - MINI LA	15
(Compact Pneumatically-actuated Valves)	
NEW MEGA - MINI HA	19
(Compact High Pressure Pneumatically-actuated Valves)	
NEW MEGA - MINI HM	23
(Round-handled Valve with Indicator)	

OPTIONS

Additional Information	27
Comparison Table	28
Part Number Designation	29
(Configuration / Flow Direction / Fittings)	
Order Form	33

NEW MEGA-ONE® LA

New Low-pressure Pneumatically-actuated Valves

The NEW 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 NEW MEGA-ONE® LA an industry standard valve with superior sealing performance, remarkable durability and compactness, and particle- and dead-space-free performance.

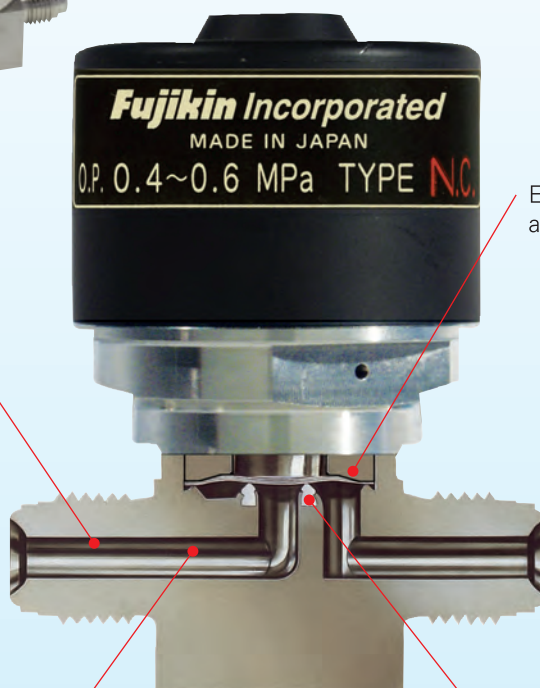
This valve has the same performance as the MEGA-ONE® LA, but is more compact.

Color-coded labels differentiate between normally open (blue) and normally closed (red) valves, thereby simplifying identification.



- The simplified actuator design makes it more compact.
- Durability of over 4 million cycles (ø6.35)

Excellent gas displacement characteristics.
(1.48cc total volume for the male 6.35 UJR version.)



Extremely durable nickel-cobalt alloy diaphragm

EP treatment is standard for all wetted surfaces.
UP treatment is optional.

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



Specifications and Materials

Specifications	Nominal Diameter	Maximum Operating Pressure	Fluid Temperature Range	Actuation Pressure	Supply Air Connection	End Connection
	6.35	1 MPa	-10 to 80°C	0.4 to 0.6 MPa	M5×0.8	UJR, UPG, F900, tube stub
	9.52 & 12.7					

- Theoretical leak rate: External leak: $< 5 \times 10^{-12}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-12}$ Pa·m³/sec
- Tested leak rate: External leak: $< 5 \times 10^{-10}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-10}$ Pa·m³/sec
- Durability of over 4 million cycles (ø6.35), and over 2 million cycles (ø9.52), respectively, under test conditions.

- All valves are helium leak tested.
- * Depends on the configuration of the body.

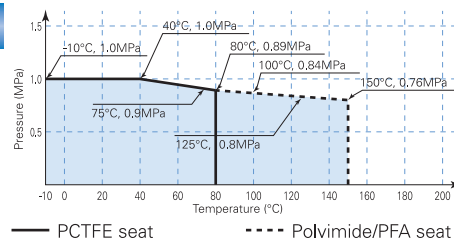
Materials	Part	Material
	Body*	SUS316L
	Diaphragm	Nickel-cobalt alloy
	Seat	PCTFE (standard)
	Actuator	Aluminum alloy (alumite coated)

* The product is also available in SUS316L double-melt.

*1 Wetted component.

Consult with Fujikin for use outside the specification range.

Temperature/Pressure Rating



Part Number Designation

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

FPR-ND[]-71-6.35[]-[]-[]

A	B	C	D	E	F	G	H	I	J
FP: Normally open FPR: Normally closed	Stainless steel direct diaphragm valve	TB: 3-way valve* CL: 2-way, corner left valve*	7: UJR/UPG end connection 9: F900 end connection 5: Tube stub end connection*	1: 1 MPa maximum operating pressure	End Connection Size 6.35: 1/4"OD 9.52: 3/8"OD 12.7: 1/2"OD (UJR connections have a 9.52mm port diameter.)*	Blank: Male UJR on both ends UG: UPG end connection BW: Butt weld *	-2: Female UJR on both ends* -3: Male UJR inlet / Female UJR outlet*	Blank: PCTFE seat PI: Polyimide seat* PA: PFA seat*	J UP: UP treatment*

* Optional or made-to-order.

Actual shipped items 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

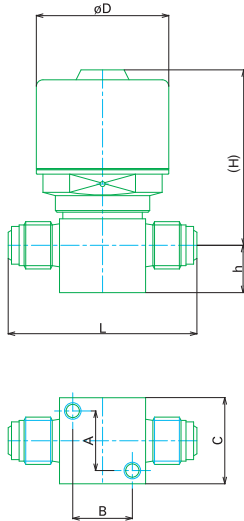


Figure 2

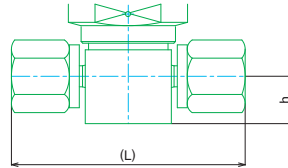


Figure 3

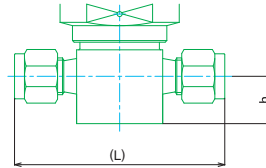


Figure 4

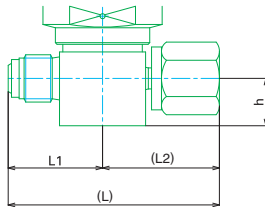


Figure 5

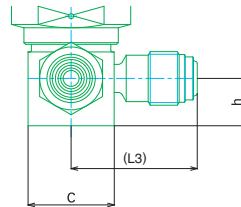
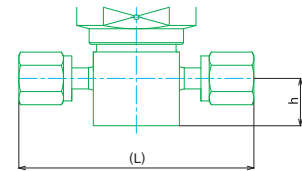


Figure 6



(Units: mm)

Part number	Figure	L	L1	L2	L3	h	H	D	A	B	C	Max. Cv value*1
FP(R)-ND-71-6.35	1	57				14.3	53	40	18	18	26	0.3
FP(R)-ND-71-6.35-2	2	70.6				14.3	53	40	18	18	26	0.25
FP(R)-ND-71-9.52	1	76.2				11.1	67.5	55	20.2	20.2	35	0.65
FP(R)-ND-71-9.52-2	2	83				12.7	67.5	55	20.2	20.2	35	0.65
FP(R)-NDTB-71-6.35 *2	4	65.7	31	34.7	38.1	14.3	54	40	18	18	26	0.25
FP(R)-NDTB-71-9.52 *2	4	79.2	37.7	41.5	43.1	12.7	67.5	55	20.2	20.2	35	0.65
FP(R)-NDTB-71-9.52x6.35 *2	4	69.9	31.8	38.1	38.1	12.7	57.5	40	18	18	26	0.25
FP(R)-ND-91-6.35	3	62				14.3	53	40	18	18	26	0.3
FP(R)-ND-91-9.52	3	80				12.7	67.5	55	20.2	20.2	35	0.65
FP(R)-ND-91-12.7	3	86				12.7	67.5	55	20.2	20.2	35	0.65
FP(R)-ND-71-6.35UG	5	46				14.3	53	40	18	18	26	0.3
FP(R)-ND-71-6.35UG-2	6	71				14.3	53	40	18	18	26	0.25
FP(R)-ND-71-9.52UG	5	57				11.1	67.5	55	20.2	20.2	35	0.65
FP(R)-ND-71-9.52UG-2	6	86				12.7	67.5	55	20.2	20.2	35	0.65
FP(R)-ND-71-12.7UG	5	61				11.1	67.5	55	20.2	20.2	35	0.65
FP(R)-ND-71-12.7UG-2	6	92				12.7	67.5	55	20.2	20.2	35	0.65

*1 At 20°C, with nitrogen gas

*2 Made-to-order product. For shorter lead times, we recommend selecting the coupling type.

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



OPTIONS

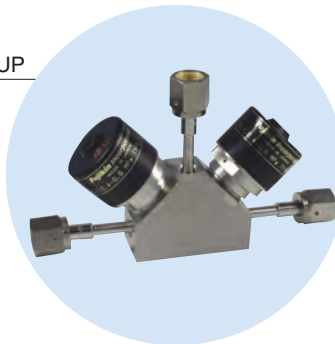
Block Valve

FBNDV-6.35-2B3-DGO-UP

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 customers' specifications.



FPR-ND-51-6.35BW-AWE

Other

When using tube stub for the end connection, production is possible for any tube length.

Proximity Sensor

FPR-UDDF-71RS2-9.52-NL#A

An electrical signal confirms the open or closed position of the valve.
(MEGA Series)



FPR-UDDF-71LS-6.35-NL#A

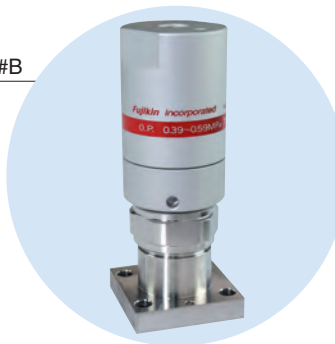
Limit Switch

An electrical signal confirms the open or closed position of the valve.
(MEGA Series)

IGS Valves

FPR-UDDFA-21-6.35UGF-APD #B

MEGA Series valves are available for surface-mount Integrated Gas Systems.
(MEGA Series)



The photos on this page depict examples of each product type.

NEW MEGA-ONE® LS

New Low-pressure Switching Manual Valves

The NEW MEGA-ONE® LS is a quarter turn diaphragm valve for ultra-pure, flammable, or toxic fluid lines in semiconductor manufacturing equipment and facilities.

Unique features include an internal spring that assures uniform sealing performance and a direct diaphragm construction that makes the NEW MEGA-ONE® LS an industry standard valve with superior sealing performance, remarkable durability, compactness, and particle- and dead-space-free performance. This valve's redesigned handle increases ease of use.

- Valve open or closed position is visible at a glance.
- User-friendly handle.
- Durability of over 20,000 cycles.

Other handle colors are available.

Panel mount model available.

Excellent gas displacement characteristics.
(1.48cc total volume for the male 6.35 UJR version.)

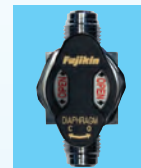
EP treatment is standard for all wetted surfaces.
UP treatment is optional.

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

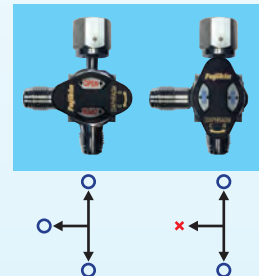
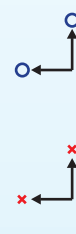
1. Accurate valve position indicator

OPEN

CLOSED

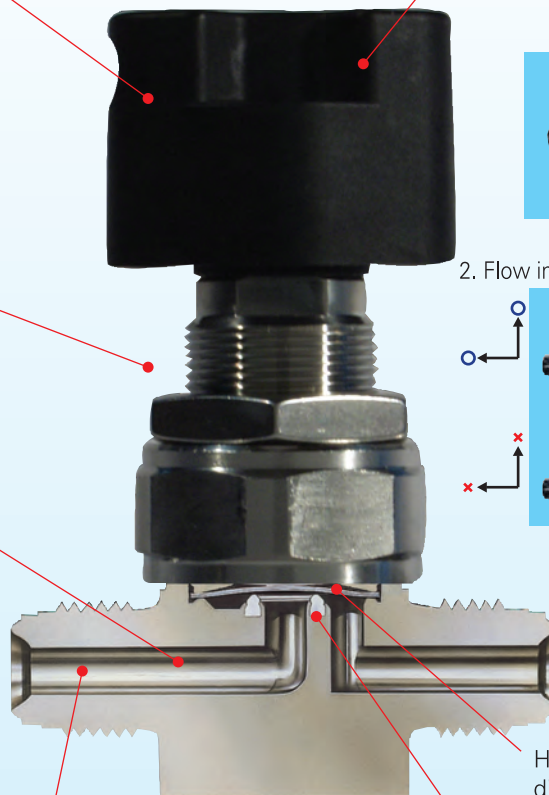


2. Flow indicators prevent misoperation.



Highly durable nickel-cobalt alloy diaphragm.

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





Specifications and Materials

Specifications	Nominal Diameter	Maximum Operating Pressure	Fluid Temperature Range	End Connection
	6.35	1 MPa	-10 to 80°C	UJR, UPG, F900, tube stub
	9.52 & 12.7			

- Theoretical leak rate: External leak: $< 5 \times 10^{-12}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-12}$ Pa·m³/sec
- Tested leak rate: External leak: $< 5 \times 10^{-10}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-10}$ Pa·m³/sec
- * Depends on the configuration of the body.

- All valves are helium leak tested.
- Durability of over 20,000 cycles under test conditions.

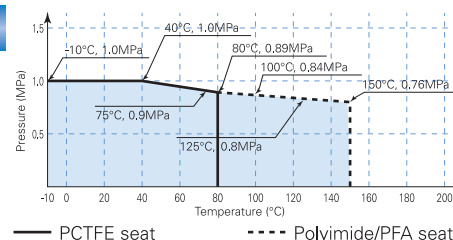
Materials	Part	Material
	Body*	SUS316L
	Diaphragm	Nickel-cobalt alloy
	Seat Packing	PCTFE (standard)
	Handle	Nylon 6

* The product is also available in SUS316L double-melt.

*1 Wetted component.

Consult with Fujikin for use outside the specification range.

Temperature/Pressure Rating



Part Number Designation

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

FUND L **-71G** **-6.35**

A	B	C	D	E	F	G	H	I	J	K
Stainless steel direct diaphragm valve	L: Quarter turn handle	TB: 3-way valve* CL: 2-way, corner left valve*	7: UJR/UPG end connection 9: F900 end connection 5: Tube stub end connection*	1: 1 MPa 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 9.52mm port diameter.) *	Blank: Male UJR on both ends UG: UPG end connection BW: Butt weld*	-2: Female UJR on both ends* -3: Male UJR inlet / Female UJR outlet *	Blank: PCTFE seat PI: Polyimide seat* PA: PFA seat*	UP: UP treatment*

* Optional or made-to-order.

Actual shipped items 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

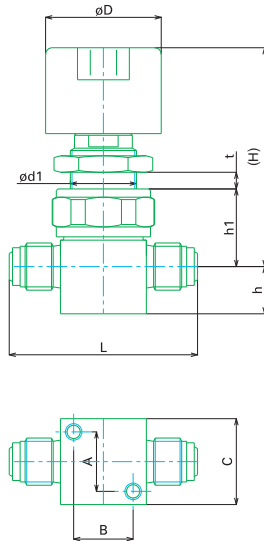


Figure 2

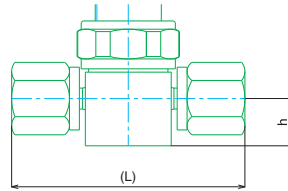


Figure 3

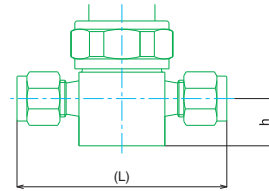


Figure 4

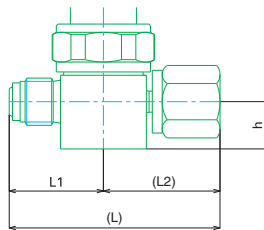


Figure 5

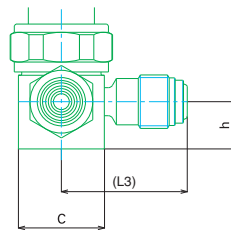
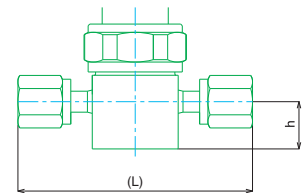


Figure 6



(Units: mm)

Part number	Figure	L	L1	L2	L3	h	H	h1	d1	t	D	A	B	C	Max. Cv value*1
FUNDL-71G-6.35	1	57				14.3	66.3	23.5	20.5	7	35	18	18	26	0.3
FUNDL-71G-6.35-2	2	70.6				14.3	66.3	23.5	20.5	7	35	18	18	26	0.25
FUNDL-71G-9.52	1	76.2				11.1	85.3	31.5	24.5	10	46	20.2	20.2	35	0.65
FUNDL-71G-9.52-2	2	83				12.7	85.3	31.5	24.5	10	46	20.2	20.2	35	0.65
FUNDLTB-71G-6.35 *2	4	65.7	31	34.7	38.1	14.3	67.3	24.5	20.5	7	35	18	18	26	0.25
FUNDLTB-71G-9.52 *2	4	79.2	37.7	41.5	43.1	12.7	87.5	31.5	24.5	10	46	20.2	20.2	35	0.65
FUNDLTB-71G-9.52x6.35 *2	4	69.9	31.8	38.1	38.1	12.7	70.8	28	20.5	7	35	18	18	26	0.25
FUNDL-91G-6.35	3	62				14.3	66.3	23.5	20.5	7	35	18	18	26	0.3
FUNDL-91G-9.52	3	80				12.7	85.3	31.5	24.5	10	46	20.2	20.2	35	0.65
FUNDL-91G-12.7	3	86				12.7	85.3	31.5	24.5	10	46	20.2	20.2	35	0.65
FUNDL-71G-6.35UG	5	46				14.3	66.3	23.5	20.5	7	35	18	18	26	0.3
FUNDL-71G-6.35UG-2	6	71				14.3	66.3	23.5	20.5	7	35	18	18	26	0.25
FUNDL-71G-9.52UG	5	57				11.1	85.3	31.5	24.5	10	46	20.2	20.2	35	0.65
FUNDL-71G-9.52UG-2	6	86				12.7	85.3	31.5	24.5	10	46	20.2	20.2	35	0.65

*1 At 20°C, with nitrogen gas

*2 Made-to-order product. For shorter lead times, we recommend selecting the coupling type.

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

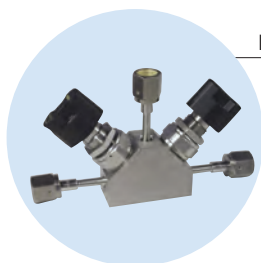


OPTIONS

Handle Colors GT(HANDLE)FUNDL-6.35-*

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

Blue=B, Green=G, Yellow=Y, and Red=R



FBNDV-6.35-0B3-2SD-***-UP

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 customers' specifications.

Toggle Valve

FUNSDBCK-21G-6.35UGC

The handle for this valve can be toggled with a single touch. This option is ideal for valves that are opened and closed frequently.



Integrated Lock-out / Tag-out (LOTO) Valve FUNDL-21GT-6.35UGF

This option may be selected as a safety precaution. This valve incorporates an open/close indicator into the LOTO device.



FUDDFL-21-6.35UGF-APD

IGS Valves

MEGA Series valves are available for surface-mount Integrated Gas Systems. (MEGA Series)

NEW MEGA-ONE® LM

New Low-pressure Manual Valve

The NEW MEGA-ONE® LM offers manual operation for ultra-pure, flammable, or toxic fluid lines in semiconductor manufacturing equipment and facilities.

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

This valve has the same performance as the MEGA-ONE® LM, but is more compact.

● Efficient and compact

Other handle colors are available.

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



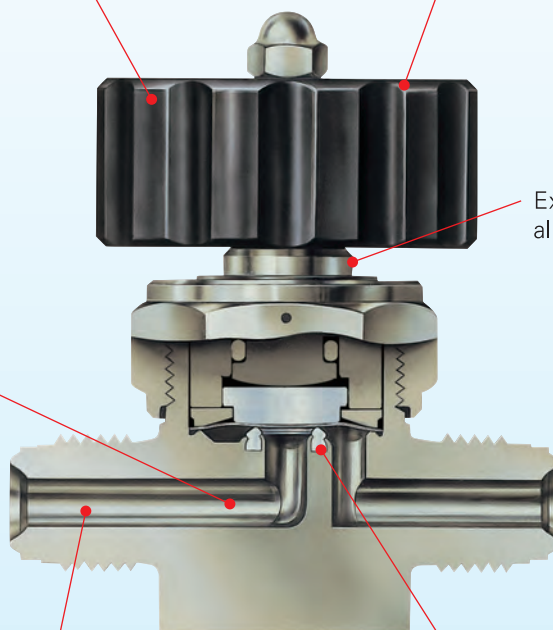
Open



Closed

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

Extremely durable nickel-cobalt alloy diaphragm



EP treatment is standard for all wetted surfaces.
UP treatment is optional.

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



Specifications and Materials

Specifications	Nominal Diameter	Maximum Operating Pressure	Fluid Temperature Range	End Connection
	6.35	1 MPa	-10 to 80°C	UJR, UPG, F900, tube stub
	9.52 & 12.7			

- Theoretical leak rate: External leak: $< 5 \times 10^{-12}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-12}$ Pa·m³/sec
- Tested leak rate: External leak: $< 5 \times 10^{-10}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-10}$ Pa·m³/sec
- * Depends on the configuration of the body.

- All valves are helium leak tested.
- Durability of over 100,000 cycles under test conditions.

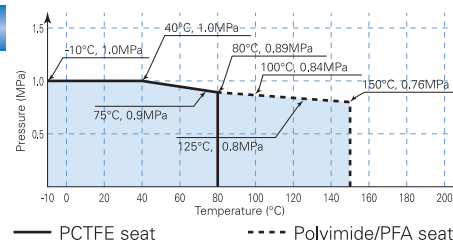
Materials	Part	Material
	Body*	SUS316L
	Diaphragm	Nickel-cobalt alloy
	Seat Packing	PCTFE (standard)
	Handle	ADC12

* The product is also available in SUS316L double-melt.

*1 Wetted component.

Consult with Fujikin for use outside the specification range.

Temperature/Pressure Rating



Part Number Designation

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

FUND **-71G** **-6.35**

A	B	C	D	E	F	G	H	I	J
Stainless steel direct diaphragm valve	XB: 4-way valve* TB: 3-way valve* CL: 2-way, corner left valve*	7: UJR/UPG end connection 9: F900 end connection 5: Tube stub end connection*	1: 1 MPa 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 9.52mm port diameter.)*	Blank: Male UJR on both ends UG: UPG end connection BW: Butt weld*	-2: Female UJR on both ends* -3: Male UJR inlet / Female UJR outlet*	Blank: PCTFE seat PI: Polyimide seat* PA: PFA seat*	UP: UP treatment*

* Optional or made-to-order.

Actual shipped items 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

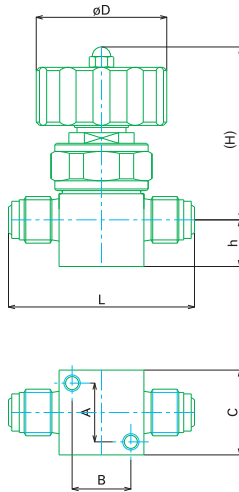


Figure 2

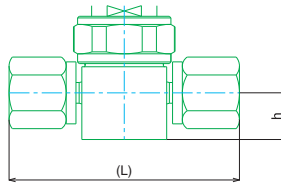


Figure 3

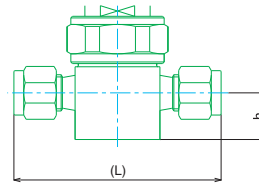


Figure 4

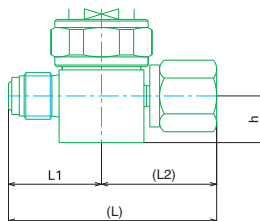


Figure 5

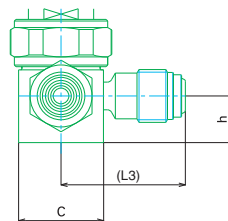
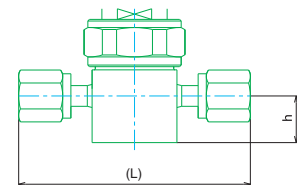


Figure 6



Part number	Figure	(Units: mm)										
		L	L1	L2	L3	h	H	D	A	B	C	Max. Cv value*1
FUND-71G-6.35	1	57				14.3	53	40	18	18	26	0.3
FUND-71G-6.35-2	2	70.6				14.3	53	40	18	18	26	0.25
FUND-71G-9.52	1	76.2				11.1	60.8	40	20.2	20.2	35	0.65
FUND-71G-9.52-2	2	83				12.7	60.8	40	20.2	20.2	35	0.65
FUNDTB-71G-6.35*2	4	65.7	31	34.7	38.1	14.3	54	40	18	18	26	0.25
FUNDTB-71G-9.52*2	4	79.2	37.7	41.5	43.1	12.7	60.8	40	20.2	20.2	35	0.65
FUNDTB-71G-9.52x6.35*2	4	69.9	31.8	38.1	38.1	12.7	57.5	40	18	18	26	0.25
FUND-91G-6.35	3	62				14.3	53	40	18	18	26	0.3
FUND-91G-9.52	3	80				12.7	60.8	40	20.2	20.2	35	0.65
FUND-91G-12.7	3	86				12.7	60.8	40	20.2	20.2	35	0.65
FUND-71G-6.35UG	5	46				14.3	53	40	18	18	26	0.3
FUND-71G-6.35UG-2	6	71				14.3	53	40	18	18	26	0.25
FUND-71G-9.52UG	5	57				11.1	60.8	40	20.2	20.2	35	0.65
FUND-71G-9.52UG-2	6	86				12.7	60.8	40	20.2	20.2	35	0.65
FUND-71G-12.7UG	5	61				11.1	60.8	40	20.2	20.2	35	0.7
FUND-71G-12.7UG-2	6	92				12.7	60.8	40	20.2	20.2	35	0.65

*1 At 20°C, with nitrogen gas

*2 Made-to-order product. For shorter lead times, we recommend selecting the coupling type.

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



OPTIONS

Handle Colors GT(HANDLE)/FUND-6.35*

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



FBNDL-6.35-0B3-2P-CJL-UP

Block Valve

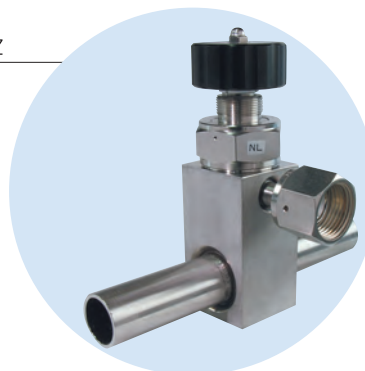
Block valve design allows for:

- 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 customers' specifications.

3-Port Distribution Valve FUNDTB-51G-12.7×9.52JR-FHZ

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



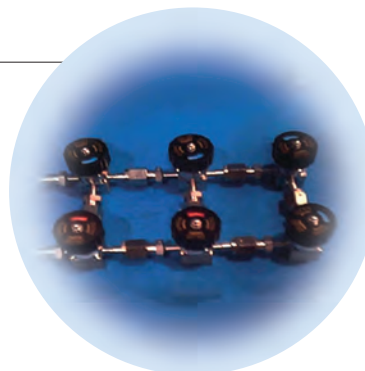
FUND-51G-6.35BW-AWE

Other

If tube stub end connection are used as connection fittings, part can be fabricated in any tube length.

Combination 3-way Corner Valve

Compared to the conventional block valve, the combination 3-way corner valve offers a shorter delivery time and reduced cost.



The photos on this page depict examples of each product type.

NEW MEGA-MINI LA

New Compact Low-pressure Pneumatically-actuated Valve

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

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

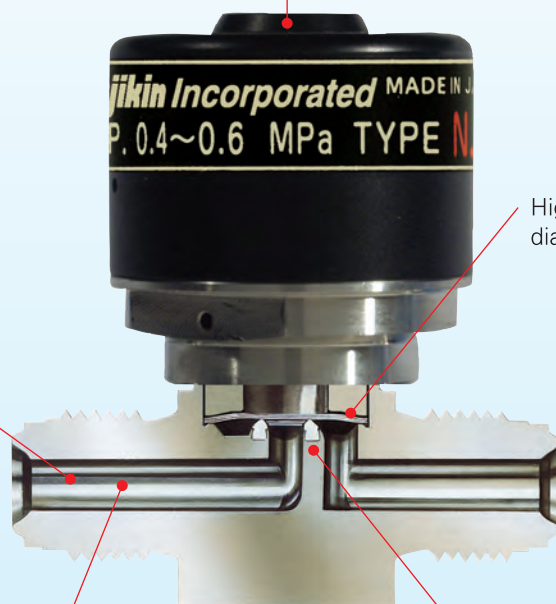
This valve has the same performance as the MEGA-MINI LA, but is more compact.

Color-coded labels differentiate between normally open (blue) and normally closed (red) valves, thereby simplifying identification.



- The simplified actuator design makes it more compact.
- Durability of over 4 million cycles.

Compact Ø35 actuator offers space savings without sacrificing performance.



Highly durable nickel-cobalt alloy diaphragm.

Excellent gas displacement characteristics.
(0.84cc total volume for the 6.35 male UJR version.)

EP treatment is standard for all wetted surfaces.
UP treatment is optional.

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



Specifications and Materials

Specifications	Nominal Diameter	Maximum Operating Pressure	Fluid Temperature Range	Actuation Pressure	Supply Air Connection	End Connection
	3.2	1 MPa	-10 to 80°C	0.4 to 0.6 MPa	M5×0.8	UJR, UPG, tube stub
	6.35					

● Theoretical leak rate: External leak: $< 5 \times 10^{-12}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-12}$ Pa·m³/sec
 ● Tested leak rate: External leak: $< 5 \times 10^{-10}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-10}$ Pa·m³/sec
 * Depends on the configuration of the body.

● All valves are helium leak tested.
 ● Durability of over 4 million cycles under test conditions.

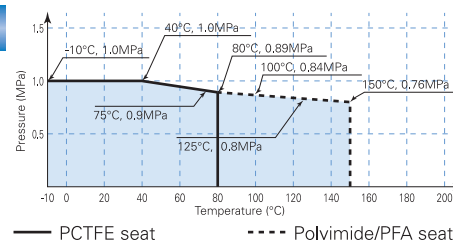
Materials	Part	Material
	Body*	SUS316L
	Diaphragm	Nickel-cobalt alloy
	Seat Packing	PCTFE (standard)
	Actuator	Aluminum alloy (alumite coated)

* The product is also available in SUS316L double-melt.

*1 Wetted component.

Consult with Fujikin for use outside the specification range.

Temperature/Pressure Rating



Part Number Designation

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

FPR-NSD -71-6.35 - -

A	B	C	D	E	F	G	H	I	J
FP: Normally open FPR: Normally closed	Stainless steel compact direct diaphragm valve	TB: 3-way valve* CL: 2-way, corner left valve*	7: UJR/UPG end connection 5: Tube stub end connection*	1: 1 MPa maximum operating pressure	End Connection Size 3.2: 1/8"OD 6.35: 1/4"OD	Blank: Male UJR on both ends UG: UPG end connection BW: Butt weld*	-2: Female UJR on both ends* -3: Male UJR inlet / Female UJR outlet*	Blank: PCTFE seat PI: Polyimide seat* PA: PFA seat*	J: UP treatment*

* Optional or made-to-order.

Actual shipped items 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

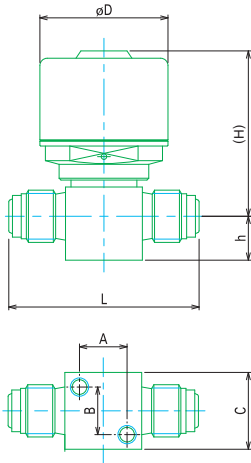


Figure 2

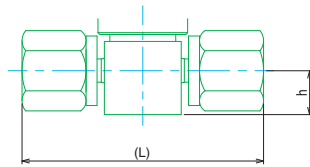


Figure 3

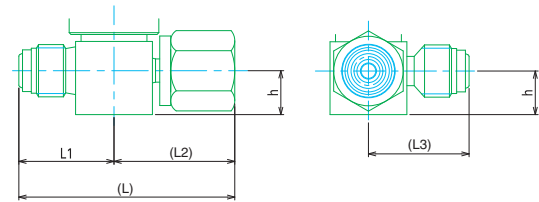


Figure 4

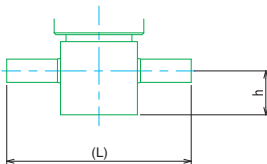


Figure 5

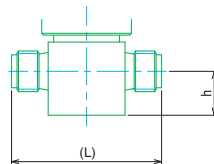
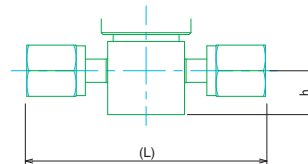


Figure 6



(Units: mm)

Part number	Figure	L	L1	L2	L3	h	H	D	A	B	C	Max. Cv value*1
FP(R)-NSD-71-6.35	1	52				12	45.2	35	13	13	21	0.1
FP(R)-NSD-71-6.35-2	2	66				12	45.2	35	13	13	21	0.1
FP(R)-NSDTB-71-6.35*2	3	59	26	33	27.5	12	45.2	35	13	13	21	0.1
FP(R)-NSD-51-6.35BW-AWE	4	51				12	45.2	35	13	13	21	0.1
FP(R)-NSD-71-6.35UG	5	41				12	45.2	35	13	13	21	0.1
FP(R)-NSD-71-6.35UG-2	6	66				12	45.2	35	13	13	21	0.1
FP(R)-NSD-71-3.2UG	5	41				12	45.2	35	13	13	21	0.05
FP(R)-NSD-71-3.2UG-2	6	67				12	45.2	35	13	13	21	0.05

*1 At 20°C, with nitrogen gas

*2 Made-to-order product. For shorter lead times, we recommend selecting the coupling type.

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

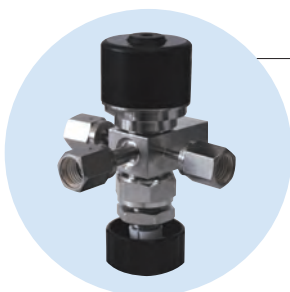


OPTIONS

1/8" UPG Automatic Valve

FPR-NSD-71-3.2UG

Ideal for low-volume lines. Dead-space-free 1/8" UPG end connection.



FBNSDW-3.2UG-1B3-000

1/8" UPG 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 customers' specifications.

Proximity Sensor

FPR-SD-71RS2-6.35 #A

An electrical signal confirms the open or closed position of the valve.

The non-contact proximity sensor offers unsurpassed safety.
(MEGA Series)



FPR-SD-71LS-6.35 #A

Limit Switch

An electrical signal confirms the open or closed position of the valve.
(MEGA Series)

IGS Valves

FPR-SDA-21-6.35UGF-APD #B

MEGA Series valves are available for surface-mount Integrated Gas Systems.
(MEGA Series)



The photos on this page depict examples of each product type.

NEW MEGA-MINI HA

New Compact High-pressure Pneumatically-actuated Valve

The NEW MEGA-MINI HA offers pneumatic operation for ultra-pure, flammable, or toxic fluid lines in semiconductor manufacturing equipment and facilities.

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

This valve has the same performance as the MEGA-MINI HA, but is more compact.

- The simplified actuator design makes it more compact.
- Durability of over 400,000 cycles.
- Valves with **high-pressure gas certification** available.





Specifications and Materials

Specifications	Nominal Diameter	Maximum Operating Pressure	Fluid Temperature Range	Actuation Pressure	Supply Air Connection	End Connection
	3.2	20.5 MPa	-10 to 40°C	0.4 to 0.6 MPa	M5×0.8	UJR, UPG, tube stub
	6.35					

● Theoretical leak rate: External leak: $< 5 \times 10^{-12}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-12}$ Pa·m³/sec
 ● Tested leak rate: External leak: $< 5 \times 10^{-10}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-10}$ Pa·m³/sec
 * Depends on the configuration of the body.

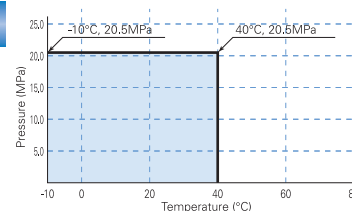
● All valves are helium leak tested.
 ● Durability of over 400,000 cycles under test conditions.

Materials	Part	Material
	Body *	SUS316L (double-melt)
	Diaphragm *	Nickel-cobalt alloy
	Seat Packing *	PCTFE (standard)
	Actuator	Aluminum alloy (alumite coated)

* Wetted component.

Consult with Fujikin for use outside the specification range.

Temperature/Pressure Rating



— PCTFE/Polyimide seat

Part Number Designation

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

FPR-NSD **-7** **21-6.35** **-316LP-**

A	B	C	D	E	F	G	H	I
A	B	C	D	E	F	G	H	I
Blank: PCTFE seat PI: Polyimide seat*								
H -2: Female UJR on both ends -3: Male UJR inlet / Female UJR outlet								
G Blank: Male UJR on both ends UG: UPG end connection BW: Butt weld								
F End Connection Size 3.2: 1/8"OD 6.35: 1/4"OD								
E 21: 20.5 MPa maximum operating pressure								
D 7: UJR/UPG end connection 5: Tube stub end connection								
C TB: 3-way valve* TL (TR): left (right) 3-way valve* CL (CR): 2-way, corner left (right) valve*								
B Stainless steel compact direct diaphragm valve								
A FPR: Normally closed								

* Optional or made-to-order.

Actual shipped items 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

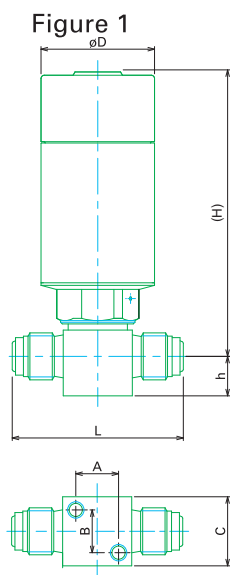


Figure 2

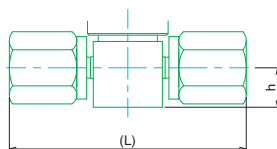


Figure 3

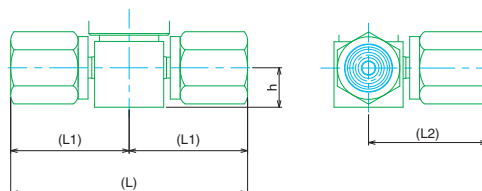


Figure 4

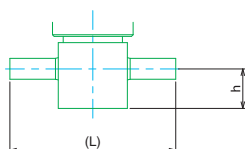


Figure 5

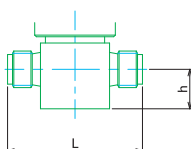
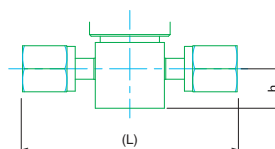


Figure 6



(Units: mm)

Part number	Figure	L	L1	L2	h	H	D	A	B	C	Max. Cv value*
FPR-NSD-721-6.35-316LP	1	52	-	-	11.1	87.1	34	13	13	21	0.1
FPR-NSD-721-6.35-2-316LP	2	71.6	-	-	11.1	87.1	34	13	13	21	0.1
FPR-NSDTB-721-6.35-2-316LP	3	71.6	35.8	35.8	11.1	87.1	34	13	13	21	0.1
FPR-NSD-521-6.35BW-316LP-AWE	4	51	-	-	11.1	87.1	34	13	13	21	0.1
FPR-NSD-721-6.35UG	5	41	-	-	11.1	87.1	34	13	13	21	0.1
FPR-NSD-721-6.35UG-2	6	66	-	-	11.1	87.1	34	13	13	21	0.1
FPR-NSD-721-3.2UG	5	41	-	-	11.1	87.1	34	13	13	21	0.05
FPR-NSD-721-3.2UG-2	6	67	-	-	11.1	87.1	34	13	13	21	0.05

* At 20°C, with nitrogen gas

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 the Japanese government agency that regulates high-pressure applications. The valve couplings (N-II) can also be certified and approved in the same manner.

Specific customer specifications may also be accommodated.

Use the order specification for recognized high-pressure gas products on page 33 to place orders.



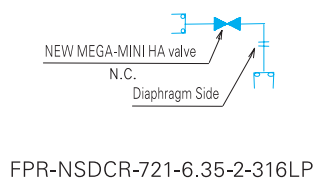
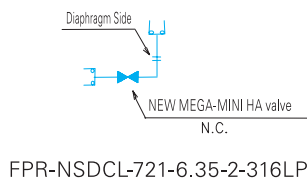
The photos on this page depict examples of each product type.



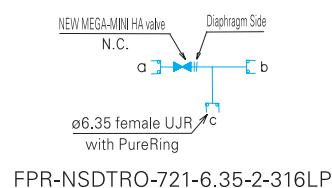
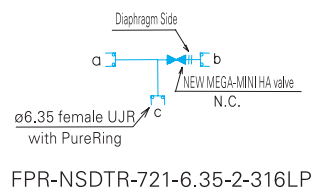
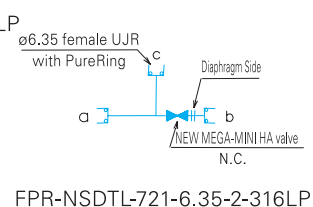
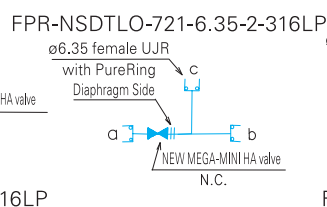
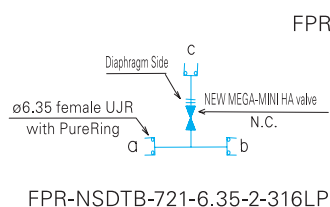
Standard Configurations

* Flow Diagrams (top view)

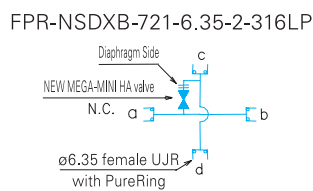
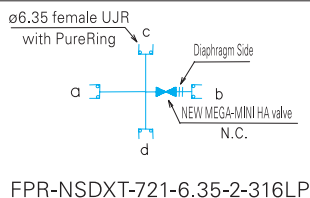
Corner Valves



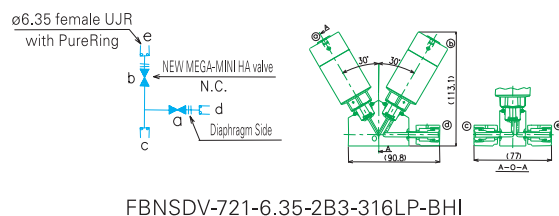
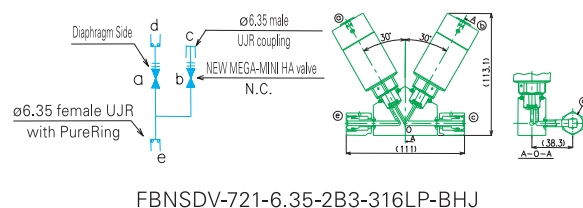
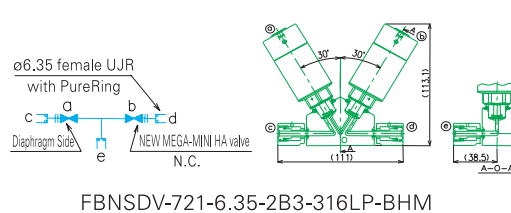
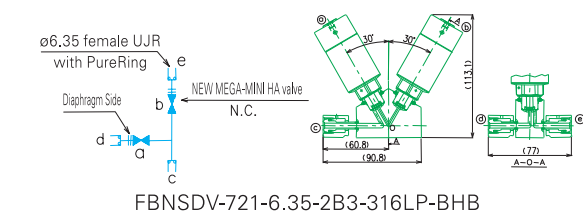
3-way Valves



4-way Valves



Block Valves



* A variety of configurations are possible. Please contact Fujikin for more information.

NEW MEGA-MINI HM

New Compact High-pressure Manual Valve

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

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





Specifications and Materials

Specifications	Nominal Diameter	Maximum Operating Pressure	Fluid Temperature Range	End Connection
	6.35	20.5 MPa	-10 to 40°C	UJR, UPG, tube stub

● Theoretical leak rate: External leak: $< 5 \times 10^{-12}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-12}$ Pa·m³/sec
 ● Tested leak rate: External leak: $< 5 \times 10^{-10}$ Pa·m³/sec. Seat leak: $< 5 \times 10^{-10}$ Pa·m³/sec
 * Depends on the configuration of the body.

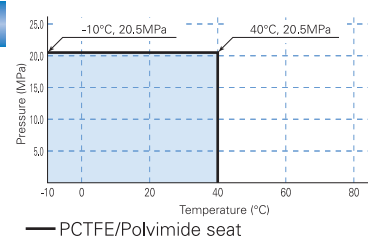
● All valves are helium leak tested.
 ● Durability over 20,000 cycles under test conditions.

Materials	Part	Material
	Body *	SUS316L (double-melt)
	Diaphragm *	Nickel-cobalt alloy
	Seat Packing *	PCTFE (standard)
	Handle	ADC12

* Wetted component.

Consult with Fujikin for use outside the specification range.

Temperature/Pressure Rating



Part Number Designation

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

FUNSD **-7 21G-6.35** **-316LP-**

A

B

C

D

E

F

G

H

I

Blank: PCTFE seat
PI: Polyimide seat*

H -2: Female UJR on both ends
-3: Male UJR inlet / Female UJR outlet

G Blank: Male UJR on both ends
UG: UPG end connection
BW: Butt weld

F End Connection Size
6.35: 1/4"OD

E G: Open/closed indicator

D 21: 20.5 MPa maximum operating pressure

C 7: UJR/UPG end connection
5: Tube stub end connection

B TB: 3-way valve*
TL (TR): left (right) 3-way valve*
CL (CR): 2-way, corner left (right) valve*

A Stainless steel direct diaphragm valve
FUNSD: Round handle

* Optional or made-to-order.

Actual shipped items 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

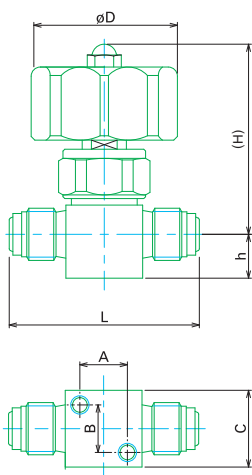


Figure 2

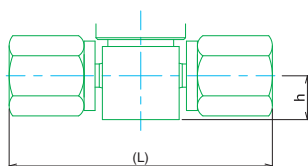


Figure 3

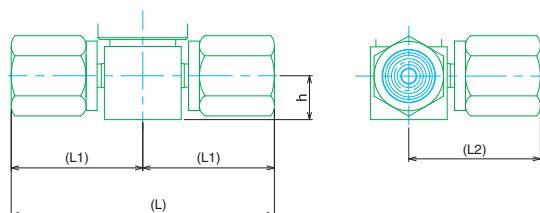


Figure 4

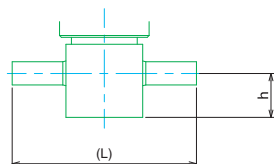


Figure 5

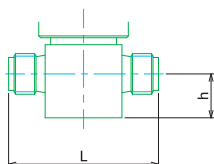
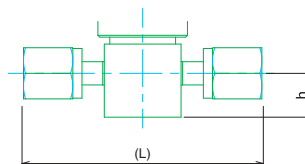


Figure 6



(Units: mm)

Part number	Figure	L	L1	L2	h	H	D	A	B	C	Max. Cv value*
FUNSD-721G-6.35-316LP #A	1	52	-	-	11.1	52.3	40	13	13	21	0.1
FUNSD-721G-6.35-2-316LP #A	2	71.6	-	-	11.1	52.3	40	13	13	21	0.1
FUNSDTB-721G-6.35-2-316LP #A	3	71.6	35.8	35.8	11.1	52.3	40	13	13	21	0.1
FUNSD-521G-6.35BW-316LP-AWE #A	4	51	-	-	11.1	52.3	40	13	13	21	0.1
FUNSD-721G-6.35UG #A	5	41	-	-	11.1	52.3	40	13	13	21	0.1
FUNSD-721G-6.35UG-2 #A	6	66	-	-	11.1	52.3	40	13	13	21	0.1

* At 20°C, with nitrogen gas

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 the Japanese government agency that regulates high-pressure applications. The valve couplings (N-II) can also be certified and approved in the same manner.

Specific customer specifications may also be accommodated.

Use the order specification for recognized high-pressure gas products on page 33 to place orders.



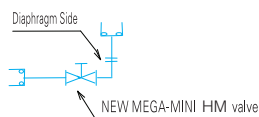
The photos on this page depict examples of each product type.



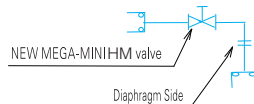
Standard Configurations

* Flow Diagrams (top view)

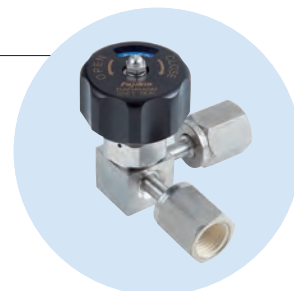
Corner Valves



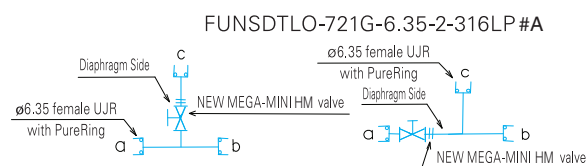
FUNSDCL-721G-6.35-2-316LP #A



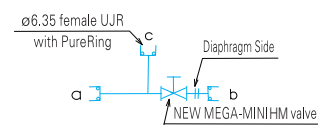
FUNSDCR-721G-6.35-2-316LP #A



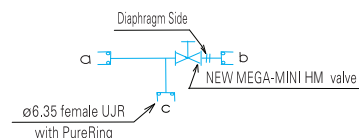
3-way Valves



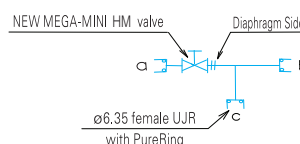
FUNSDTB-721G-6.35-2-316LP #A



FUNSDTL-721G-6.35-2-316LP #A

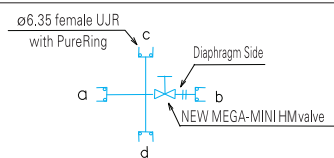


FUNSDTR-721G-6.35-2-316LP #A

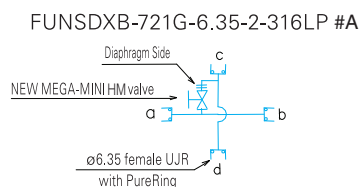


FUNSDTRO-721G-6.35-2-316LP #A

4-way Valves



FUNSDXT-721G-6.35-2-316LP #A



FUNSDXB-721G-6.35-2-316LP #A



* A variety of configurations are possible. Please contact Fujikin for more information.

Additional Information

● Inner Surface Treatment

ULTRA EXTREME PURE (UP treatment), a special inner surface treatment

UP-treated products feature an exceptionally pure metallic surface created by a special polishing technology that removes machining-altered and work-hardened layers and forms a uniform, passive film. The surface roughness satisfies Ra 0.1 μm or less. Final cleaning is performed in a Class 1 cleanroom to ensure complete removal of particles and impurities for an extremely clean product.

UP treatment can also be used with highly corrosion-resistant materials such as Hastelloy.

UP treatment is standard for the MEGA®-MINI and MEGA®-M series and available as an option for the MEGA®-ONE and NEW MEGA® series.

● Seat Material

1. PCTFE (Polychlorotrifluoroethylene)

Standard seat material in the MEGA-ONE®, MEGA-MINI and NEW MEGA Series products.

2. PI (Polyimide) and PA (PFA)

A recommended option for non-standard temperatures and fluids.

● Permeation Leak across the Seat

Soft-sealing valves with resin seats may experience permeation leak, whereby gas diffuses through the resin. The degree to which leakage occurs varies according to factors such as the type of gas used, the fluid pressure, and the type of resin in the seat. Monitor accordingly. For more information, please contact Fujikin.

● Body and Diaphragm Material

Hastelloy®

For services that require exceptional corrosion resistance, Hastelloy C-22 may be specified as an optional material for valve bodies and diaphragms. (Please refer to the table on p.28.)

● Proximity Sensors and Limit Switches

When verification of open or closed position 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. (Please refer to the table on p.28.)

● Handle Colors

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



NEW MEGA SERIES COMPARISON TABLE

		NEW MEGA-ONE®			NEW MEGA-MINI		
		LA	LS	LM	LA	HA	HM
Pressure Type	High Pressure					●	●
	High Pressure (Japan Certification)					▲	▲
Nominal Diameter	3.2				●	▲	▲
	6.35	●	●	●	●	●	●
	9.52	●	●	●			
	12.7	▲*	▲*	▲*			
Connection	UJR	●	●	●	●	●	●
	UPG	●	●	●	●	●	●
	F900	●	●	●			
	Tube Stub	▲	▲	▲	▲	▲	▲
Inner Surface Treatment	EP	●	●	●	●		
	UP	▲	▲	▲	▲	●	●
Body Material	SUS316L	●	●	●	●		
	SUS316L (Double-melt)	▲	▲	▲	▲	●	●
	Hastelloy®	▲	▲	▲	▲	▲	▲
Diaphragm Material	Nickel-cobalt Alloy	●	●	●	●	●	●
	Hastelloy®	▲	▲	▲	—	—	—
Seat Material	PCTFE	●	●	●	●	●	●
	PI	▲	▲	▲	▲	▲	▲
	PA	▲	▲	▲	▲		
Other	Proximity Sensor		▲				
	Limit Switch						
	Handle Color		▲	▲			▲

● : Standard feature

▲ : Optional

* : Standard only when F900 is selected as the end connection.

Part Number Designation

The part number varies according to valve configuration, flow direction, and end connections.

2-way Valves

Example : FPR-ND-71-6.35[A]

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		





Corner Valves

Example : FPR-NDCL-71-6.35 A

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		

Example : FPR-NDCR-71-6.35 A

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		



Part Number Designation

The part number varies according to valve configuration, flow direction, and end connections.

3-way Valves

Example : FPR-NSDTB-71-6.35 A

Example : FPR-NSDTR-71-6.35 A

Example : FPR-NSDTL-71-6.35 A

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		
-5		
-6		
-7		
-8		

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		
-5		
-6		
-7		
-8		

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		
-5		
-6		
-7		
-8		



Example : FPR-NSDTRO-71-6.35 A

Example : FPR-NSDTLO-71-6.35 A

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		
-5		
-6		
-7		
-8		

A	Configuration (top view)	Flow Diagram (top view)
No Designation		
-2		
-3		
-4		
-5		
-6		
-7		
-8		

Valves with High-pressure Gas Certification Specifications

Please confirm the latest version of the quality control execution plan (for high-pressure gas certification).

Name (Type)	Globe Valve, Ball Valve, Check Valve, Control Valve, W-ring Fitting, Metal Gasket Fitting, Strainer, Other()			Appending document		
Welding	Welded Not Welded					
Customer				Code No.		
End User *1				Code No.		
Target System Name *2				To be eligible for inspection, it must be conducted within three years of the date of testing indicated on the Certificate of Authorized Testing Personnel for performance inspections, or within one year for safety inspections. Exercise care when storing spare units.		
Equipment Category *3 *4	N: Valves, N-II: Fittings, O: Other F: Reciprocating compressor, Z: Combined equipment, M: Tubing, E: Other pressure vessel			Delivery Date		
Product Number				Quantity		
Additions to Product Number			Drawing No.	End Connection Size		
Specifications	Normal Pressure (Maximum Operating Pressure)	MPa		Will this be used in vacuum conditions *3 Yes () No (Pa)		
	Design Temperature *5	MIN. °C	MAX. °C	Normal °C	State of High-pressure Gas *3	Gaseous, Liquefied, Dissolved
	Type of Gas *3	Toxic, Flammable, Toxic and Flammable, Special High-pressure, Gases other than toxic, flammable, or special types				
	Name of Gas *3	Non-toxic Air, Nitrogen, Helium, Oxygen, Hydrogen, Carbon dioxide, Argon Other ()				
		Special Monosilane, Phosphine, Arsine, Diborane, Hydrogen selenide, Monogermane, Disilane				
		Toxic/flammmable Ammonia, Carbon monoxide, Other ()				
		Toxic Chlorine				
	Material *3	SUS316 or SUSF316	SUS304 or SUSF304	SUS316L or SUSF316L	SCS14 Other ()	C3604B C3771B
	Other Special Specifications:			Valve used for toxic gas (special high-pressure gas) has a leak port? *3 Yes / No		
				Notes: (Fill in all items within bold lines.) *1: Enter the name of the product's end user. If the product will be delivered via a set/apparatus maker, please include their names also. *2: Enter the name of high-pressure gas system or processing equipment, etc. *3: Circle the one that applies. *4: Valves with threaded fittings to be used in high-pressure gas equipment for toxic gases (as per the General Provision, Article 2-2) are subject to identification as one of the following categories: N (valves) or N-II (fittings). If applicable, circle both N and N-II. (Circle only Z (combined equipment) if within the specification range of Z (combined equipment)). *5: The design pressure entered on the Certificate of Authorized Testing Personnel generally represents the maximum pressure at which the unit can be used at the recorded design temperature. This design pressure is also listed on the Wall Thickness Strength Calculation Sheet for reference.		
Order No.						
Project No.						
Spec. No.						
Documents Submitted		*3 Destination (Products & Documents)		Comments from Factory Personnel:		
(1) Test Report (Authorized Tester)	Copies	Sales Office		•Conditions for wall thickness strength calculations		
(2) Test Certificate	Copies	Send directly to:		Design pressure: MPa		
(3) Instruction Manual (N-II only)	Copies			Design temperature: °C		
(4) Other						
·Delivery Specifications	Copies					
·Material certificate	Copies					
·Wall thickness strength calculation sheet	Copies					
·Inspection procedure sheet	Copies					
Seal of Approval	Sales Representative		Q C D		T D C	
					P C D	

[illegible]

