

NEW

CAT:No.710-02E-B

FINE series PURE

# Adjustable Dual Flow Valves

KIWAMI

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The Height of  
Excellence



FPR-ND-71SS2-9.52



FPR-NSD-71SS2-6.35

It came to be able to perform valve travel adjustment  
for setting up a small flow.

*Excellent, Ultimate, Fine, Clean & Safe Technology*

**Fujikin** Incorporated

# Adjustable Dual Flow Valves

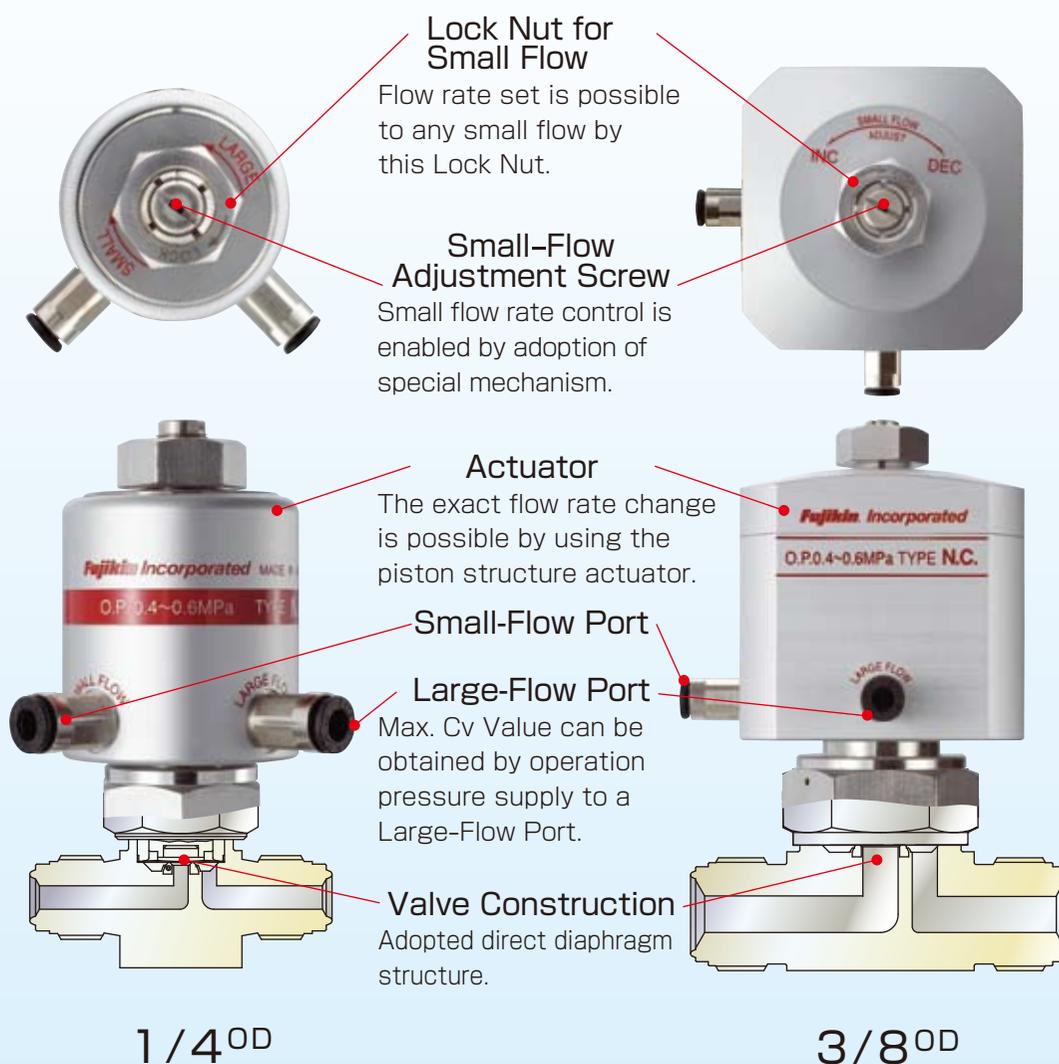
Adjustable Dual Flow Valves application is to minimize the particle movement due to drastic introduction of fluid into the chamber.

It is developed mainly for semiconductor process equipment.

By switching a small flow and a large flow, it is possible to go up chamber internal pressure smoothly.

Moreover, by the conventional Dual Flow Valve, adjustment correspondence with the difficult actual use line is possible.

- Adjustable from Small Flow Rate to Max. Cv Value
- Compact Design
- High durability (High life)



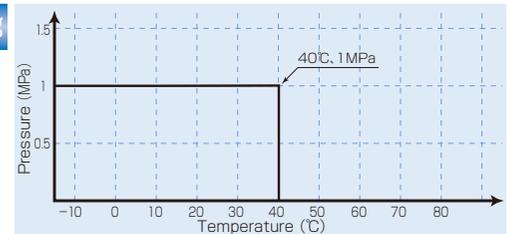


## Specifications

Valves	Nominal Size	Maximum Operating Pressure	Fluid Temperature Range	Max Cv Value* (With N <sub>2</sub> gas at 20°C)	Actuation Pressure	End Connection
	6.35	1MPa	-10~+40°C	0.1	0.4~0.6MPa	UJR, UPG® F900
	9.52			0.6		

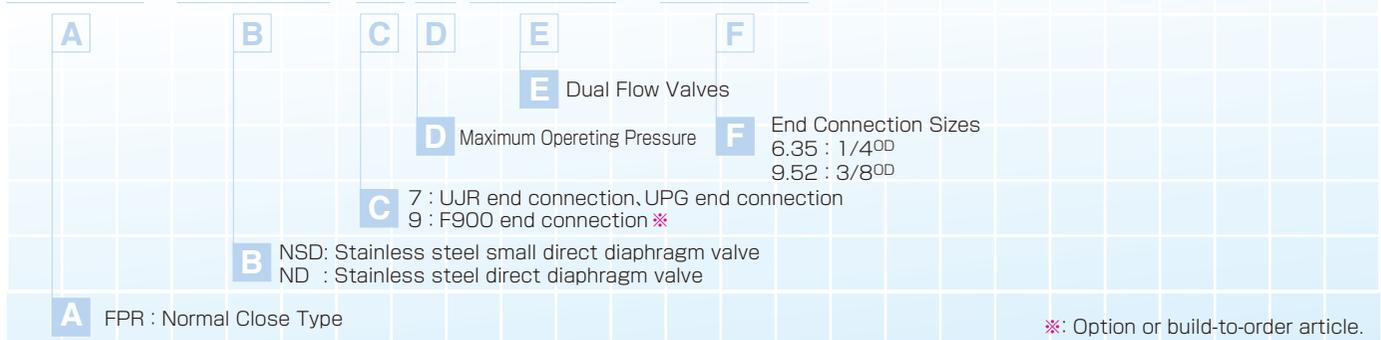
- Actual leak rate: External leak:  $5 \times 10^{-12}$  Pa·m<sup>3</sup>/sec or less, Seat leak:  $5 \times 10^{-12}$  Pa·m<sup>3</sup>/sec or less
  - Tested leak rate: External leak:  $5 \times 10^{-10}$  Pa·m<sup>3</sup>/sec or less, Seat leak:  $5 \times 10^{-10}$  Pa·m<sup>3</sup>/sec or less
  - All valves are Helium leak tested.
  - Excellent Durability: 1 milion cycles or more.
- \*: Depends on the body end connection and size.

Temperature.-Pressure Rating



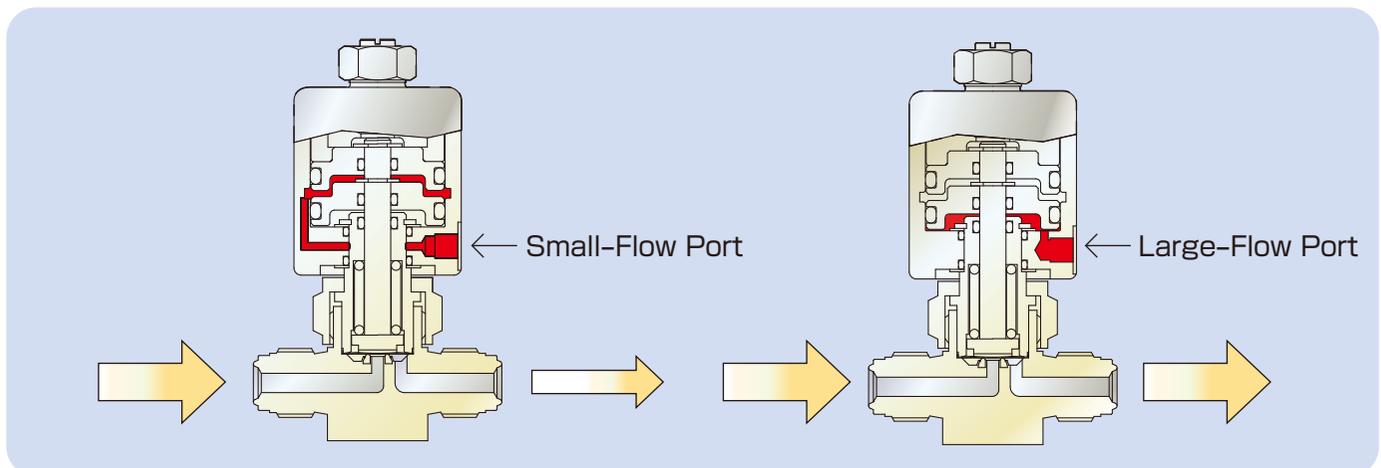
## Part Number Designation

FPR-NSD-71SS2-6.35  
FPR-ND -71SS2-9.52



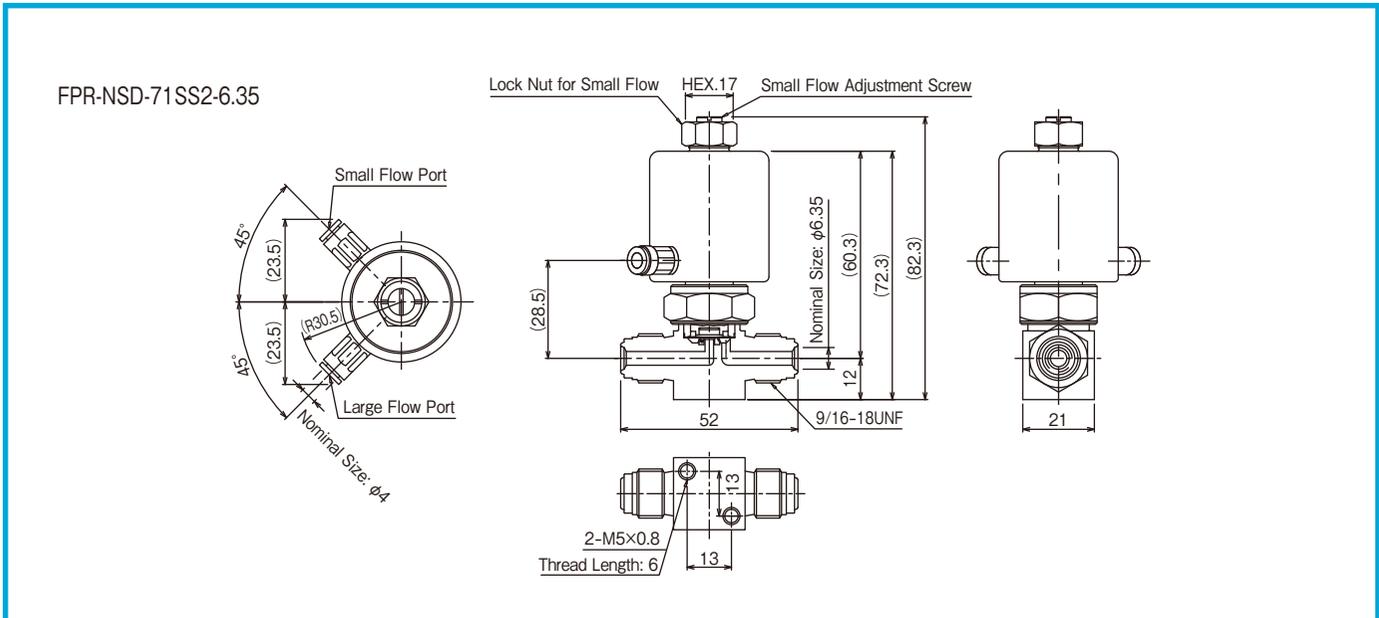
It may be written as #A and #B on the end of ordering number at the time of product shipment. #A and #B show the history of a product and do not show the change on a function on a size. Cv Value may be changed with seat material, end connection of Body and fluid temperature.

## Operating Principle

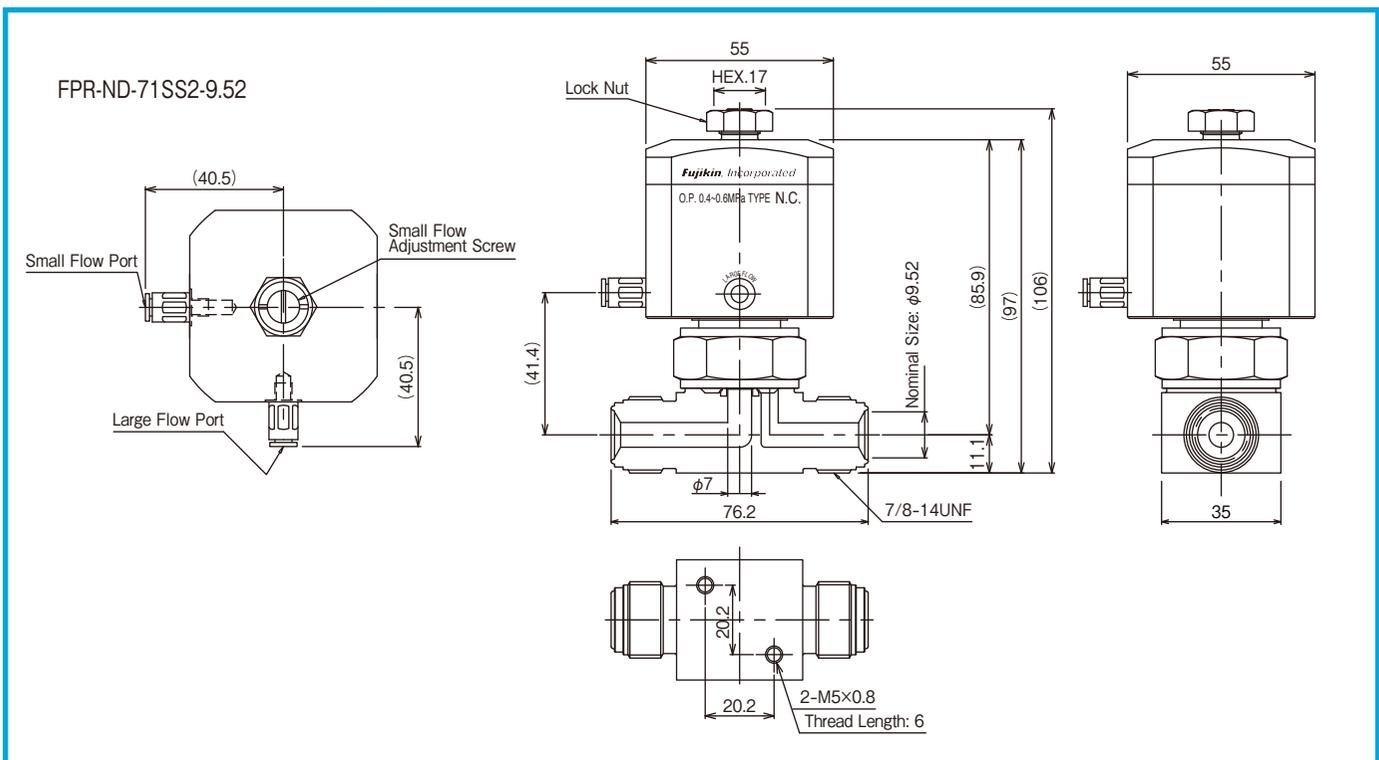


## Dimensions (Unit: mm)

### Nominal Diameter 6.35



### Nominal Diameter 9.52



Same Face-To-Face Dimension as MEGA<sup>®</sup>-ONE, NEW MEGA<sup>®</sup>-ONE  
Upgrade of the existing lines is easily possible.



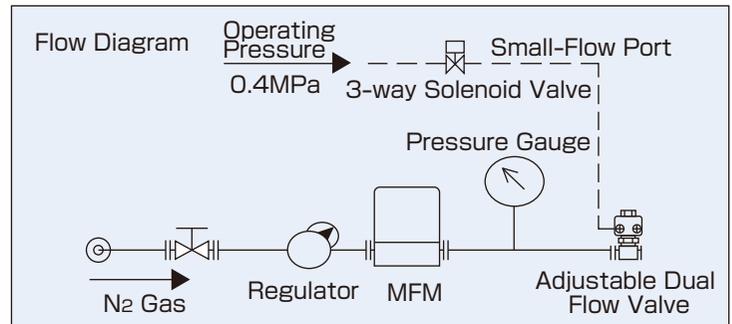
## Performance(Reference Data) Relation between rotation angle of the Small-Flow Adjustment Screw and Cv Value(Experimental value)

### Test Conditions

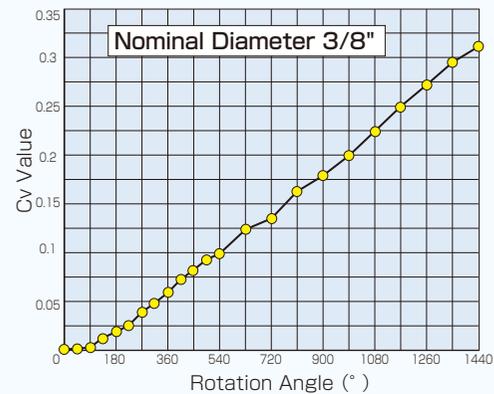
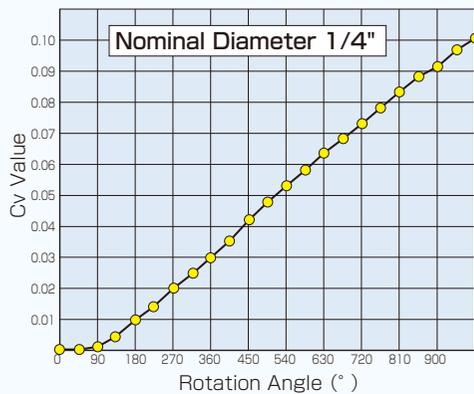
Test Fluid	N <sub>2</sub> Gas
Test Fluid Temperature	Room Temperature
Test Pressure	Inlet Pressure: 0.01MPa
	Outlet Pressure: Atmosphere
Operating Pressure	0.4MPa

### Test Procedure

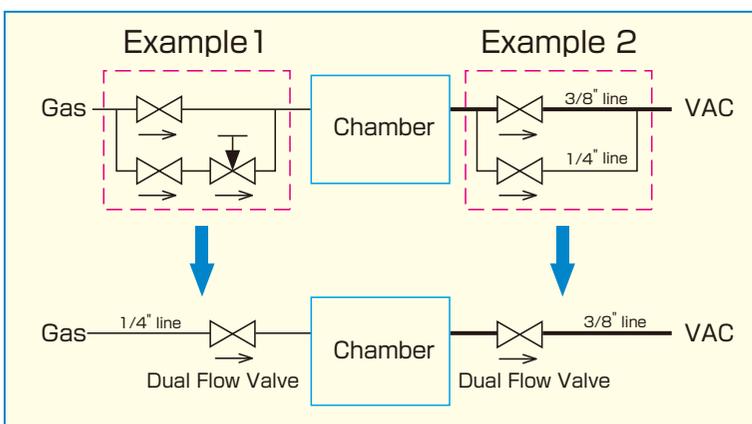
1. Turn the Small-Flow Adjustment Screw for clockwise until slow flow rate becomes zero.
2. Determine zero point at zero flow rate, from this zero point, turn the Small-Flow Adjustment Screw 45° then lock by anti-clockwise.
3. Measure the flow rate.
4. Calculate from measurement result.
5. It examines by turning the Small-Flow Adjustment Screw every 45 degrees counter-clockwise in the above-mentioned procedure of 2-4.



### Relation between rotation angle of the Small-Flow Adjustment Screw and Cv Value



## How to use Adjustable Dual Flow Valves



### Example 1

Avoid particle rise (due to the sudden flow) to the chamber. You can just use this Adjustable Dual Flow Valve instead of using two on-off valves and a needle valve.

### Example 2

It reduces the sudden exhaustion to the chamber at the beginning of vacuum suction process. You can just use this Adjustable Dual Flow Valves, instead of using a 1/4 valve and a 3/8 valve.

By using this Adjustable Dual Flow Valves as shown above, we can promise to offer total cost merit by shortening your design and assembly time and realizing compact space around the equipment.

**Fujikin**<sup>®</sup>



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**Fujikin<sup>®</sup> Carp<sup>®</sup> Group**



The Year 2005  
The 1st Monozukuri (manufacturing)  
Nippon Grand Awards  
: Excellence Prize

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