

# Mega-Mini HA

Compact, High-Pressure, Pneumatically-Actuated Valves



### Color Text Marking

Color text printing on the actuator allows for quick differentiation between normally-open (blue) or normally-closed (red) valves.

### End-Connections

Available in tube-stub, UJR (VCR® compatible), and UPG end-configurations. This allows for flexible designs in new gas lines as well as installation in existing lines without costly modifications.

### Ultra-Smooth Internal Finish

All internal surfaces undergo a UP Treatment as standard, resulting in a surface finish of 2 Ra average, 5 Ra maximum.

### Minimal Internal Volume

0.92 cc total internal volume for the male UJR version ensures excellent gas displacement characteristics. This is 3 times less than the internal volume of competitive valves!

### Space-Saving Actuator

Our unique actuator design is a compact 1.46" (37 mm) width, and offers superior performance in a highly compact size.

### Alloy Diaphragm

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

### PCTFE Seat

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

### Stringent Leakage Standards

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

## General Specifications

<b>Available Sizes</b>	1/4"
<b>Surface Finish</b>	2 Ra average, 5 Ra maximum
<b>Tested Durability</b>	Over 400,000 cycles

## Materials of Construction

<b>Body</b>	SS 316L
<b>Diaphragm</b>	Nickel-cobalt alloy
<b>Standard Seat</b>	PCTFE
<b>Optional Seat</b>	Polyimide
<b>Actuator</b>	Aluminum alloy

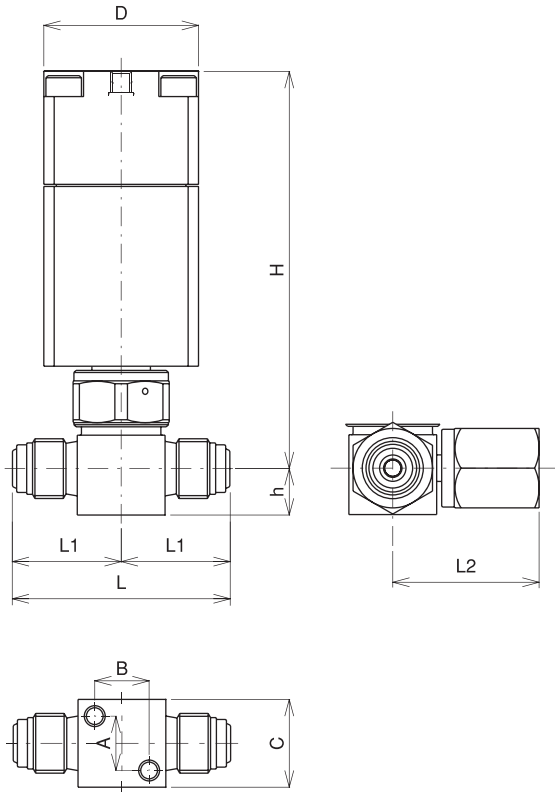
## Operating Specifications

<b>Max Operating Pressure</b>	2,973 psi (20.5 MPa)
<b>Min Operating Pressure</b>	Vacuum
<b>Temperature Range</b>	14 °F ~ 104 °F (-10 °C ~ 40 °C)

## Functional Performance

<b>Maximum Cv</b>	0.05
<b>Leakage Across Seat (Design)</b>	$1 \times 10^{-10}$ scc/sec He
<b>Leakage Across Seat (Tested)</b>	$< 5 \times 10^{-11}$ scc/sec He
<b>Inboard Leakage (Design)</b>	$2 \times 10^{-10}$ scc/sec He
<b>Inboard Leakage (Tested)</b>	$< 5 \times 10^{-11}$ scc/sec He

## Dimensions



Part Number	L	L1	L2	h	H	D	A	B	C
FPR-SD-721-6.35UG	41.0			11.1	95	37	13	13	21
FPR-SD-721-6.35UG-2	66.0			11.1	95	37	13	13	21
FPR-SD-721-6.35-316LP	52.0			11.1	95	37	13	13	21
FPR-SD-721-6.35-2-316LP	71.6			11.1	95	37	13	13	21
FPR-SDTB-721-6.35UG-2	66.0	33	33	11.1	95	37	13	13	21
FP-SDTB-721-6.35-2-316LP	71.6	35.8	35.8	11.1	95	37	13	13	21

All dimensions in millimeters.

## Part Number Designation

### FPR - SD TB - 5 21 - 6.35 BW - 316LP - PI - FD

#### Operation

**FP** Normally Open  
**FPR** Normally Closed

#### Series

**SD** Stainless Steel Compact Direct Diaphragm Valve

#### Valve Configuration

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

#### End-Connections

**5** Tube-Stub  
**7** UJR / UPG

#### Max Operating Pressure

**21** 20.5 MPa (2,973 psi)

#### Internal Treatment

**(Blank)** EP Treatment  
**PS** Cr<sub>2</sub>O<sub>3</sub> Treatment  
**FD** Fluorine Passivation

#### Seat Material

**(Blank)** PCTFE  
**PI** Polyimide

#### Body Material

**316LP** Double-Melt SS316

#### End-Connection Pattern

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

#### End-Connection Size

**6.35** 1/4"

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