

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 5×10^{-11} acc/sec – which is two orders of magnitude tighter than industry standards.

General Specifications

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

Materials of Construction

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

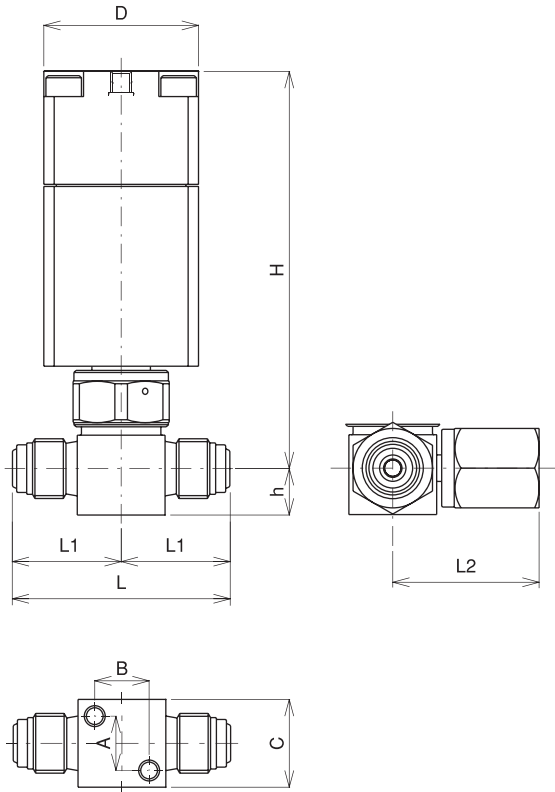
Operating Specifications

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

Functional Performance

Maximum Cv	0.05
Leakage Across Seat (Design)	1×10^{-10} scc/sec He
Leakage Across Seat (Tested)	$< 5 \times 10^{-11}$ scc/sec He
Inboard Leakage (Design)	2×10^{-10} scc/sec He
Inboard Leakage (Tested)	$< 5 \times 10^{-11}$ 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 Cr₂O₃ 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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