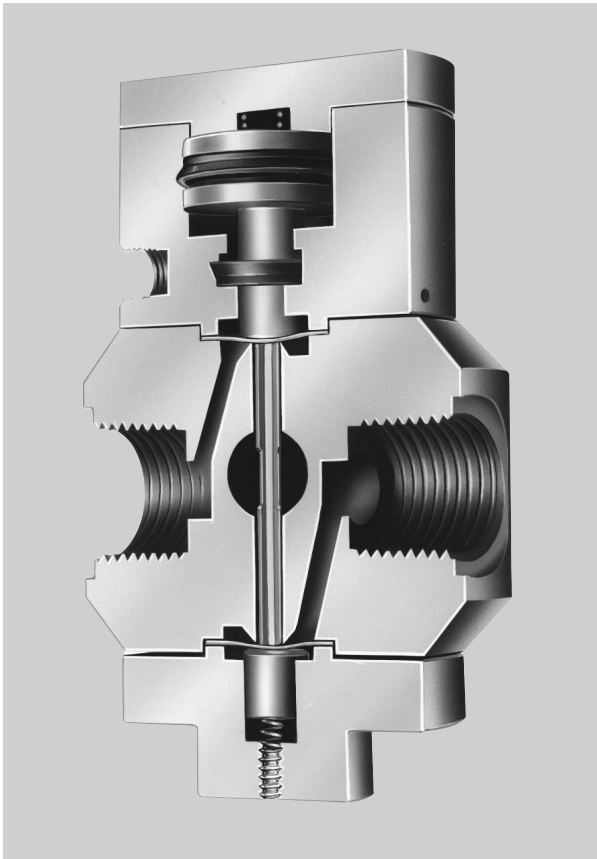


Chemical Resistant Three-Way Air-Operated Valves 1/4" and 1/2" Sizes – Pressures to 50 PSI Miniature Series



Features:

- Double diaphragm construction.
- Compact design.
- Built of rugged thermoplastics with no wetted metals.
- Non-sticking design with bubble-tight sealing.
- Each valve is individually tested.

Application:

Series TUCA three-way air-operated valves are used to divert flow from a common inlet to either of two outlets. They can also be used in reverse to feed flows from two lines into a common outlet; however, this reverse application can only be used with inlet pressures less than 15 PSI (1,0 Bar). They are commonly recommended for handling corrosive or ultra-pure liquids.

Materials of Construction:

These valves are constructed of PVC (Grade 1, Type 1), Natural Polypropylene (PP), Teflon® (TF) and PVDF (PF). All are available with Viton or EPDM seals. Some components in Polypro and Teflon models are built of PVDF for strength. Stainless steel fasteners are standard and are not in wetted areas. For other seals or body materials, consult factory.

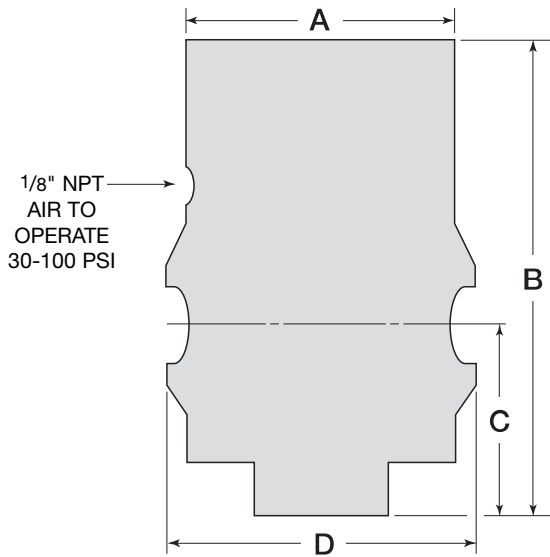
Design:

The Series TUCA air-operated valve has an air piston with a lower and upper diaphragm separating the liquid from opposing springs. An internal shaft between the diaphragms shifts the valve position. There is no metal in the liquid section of the valve. Cycle tests have been successfully run to 500,000 cycles under laboratory conditions. Field performance may vary.

Operation:

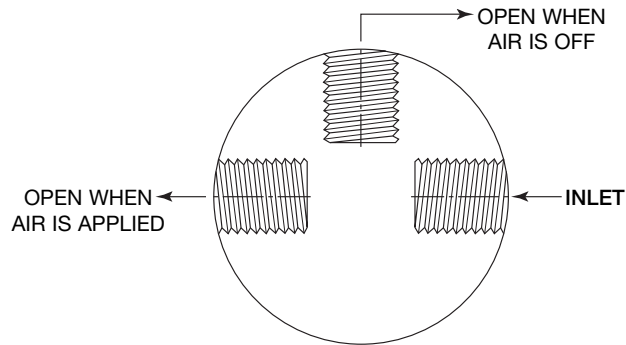
A three-way solenoid air valve is used to control the flow of air pressure under the air piston to divert the flow from the normally-open port to the normally-closed port. When the air pressure is removed the main valve spring reverses the above. For maximum cycle life, a filter and lubricator should be installed in the air line.

THREE-WAY AIR-OPERATED MINIATURE VALVES



SERIES TUCA DIMENSIONS								
Size	In.	A mm	In.	B mm	In.	C mm	In.	D mm
1/4	2	50.8	3 ³ / ₄	95.3	1 ³ / ₄	44.5	2	51.0
1/2	2	50.8	4 ¹ / ₄	108.0	1 ³ / ₄	44.5	2 ¹ / ₂	64.0

FLOW PATTERN (Top View of Valve Shown)



MATERIALS / TEMPERATURES vs. PRESSURES												
Material	Maximum Temperature Rating		Maximum Inlet Pressures at Below Temperatures									
			75°F PSI	24°C Bars	140°F PSI	82°C Bars	180°F PSI	82°C Bars	220°F PSI	105°C Bars	284°F PSI	140°C Bars
PVC	140°F	60°C	50	3,45	25	1,72	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
PP	180°F	82°C	50	3,45	25	1,72	10	0,70	N.R.	N.R.	N.R.	N.R.
Teflon	284°F	140°C	50	3,45	50	3,45	50	3,45	25	1,72	10	0,7
PVDF	284°F	140°C	50	3,45	50	3,45	50	3,45	25	1,72	10	0,7

N.R. = Not Recommended

SPECIFICATIONS AND MODEL NUMBERS

Pipe Size	Orifice Size In. mm		C _v Factor	Maximum Inlet Pressure PSI Bars		Maximum Back Pressure PSI Bars		Part Number with Viton Seals			
								PVC	Natural Polypro	PVDF	TEFLON
1/4	1/4	6.35	.4	50	3,45	22	1,50	TUCA025V-PV	TUCA025V-PP	TUCA025V-PF	TUCA025V-TF
1/2	1/4	6.35	.4	50	3,45	22	1,50	TUCA050V-PV	TUCA050V-PP	TUCA050V-PF	TUCA050V-TF

NOTE: For EPDM change "V" to "EP"

Authorized Distributor:

Aetna Plastics Corp. 1702 St. Clair Ave. Cleveland, Ohio 44114 • Tel: 800-634-3074
216-781-4421 • Fax: 216-781-4474 • sales@aetnaplastics.com • www.aetnaplastics.com