

Chemical Resistant Three - Way Air Operated Valves

1/8" — 1/2" Sizes With Pressure To 50 PSI Miniature Series

FEATURES:

- Double diaphragm construction.
- Compact design.
- All wetted parts are plastic.
- Non-sticking design with bubble-tight sealing.

APPLICATION:

Series TUCA three-way air operated valves are used to divert flows 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 recommended for handling corrosive or ultra pure liquids.

MATERIALS OF CONSTRUCTION:

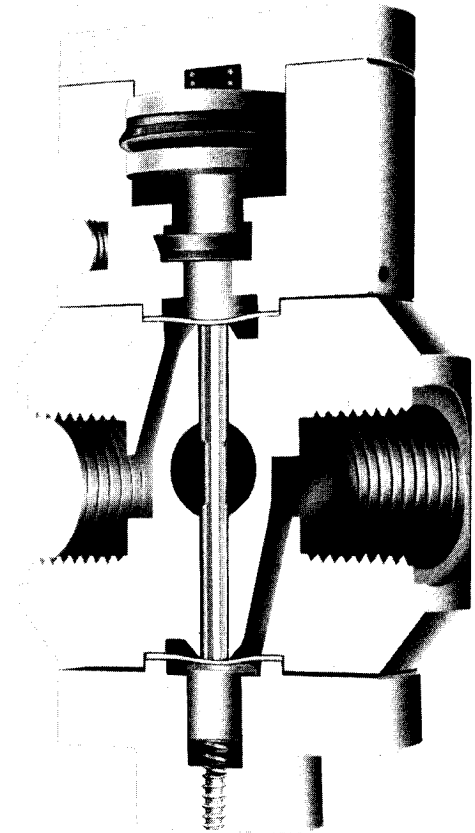
These valves are constructed of PVC (polyvinyl chloride), PP (natural polypropylene), TF (Teflon®) or PF (PVDF) with Viton®, ethylene propylene or Buna-N. Stainless steel fasteners are standard and are not in wetted areas.

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.

OPERATION:

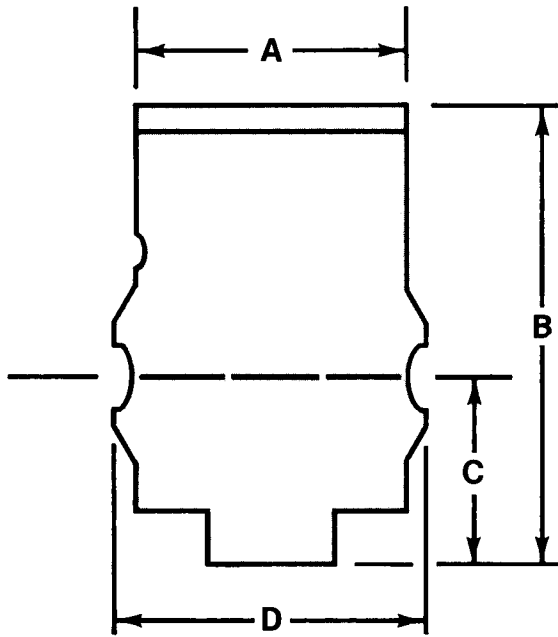
A three-way solenoid air valve is used to control the flow of air pressure under the air piston to divert the flow from the normally open port to the normally closed port. When the air pressure is removed the main valve spring reverses the above. For maximum cycle life a filter and lubricator should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



Series TUCA

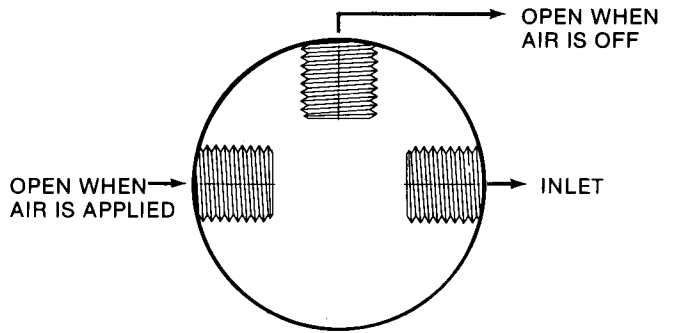
Note: Illustration shown for method of operation only.
See flow pattern diagram on reverse side.

DIMENSIONS



SERIES TUCA DIMENSIONS								
	A		B		C		D	
SIZE	in.	mm.	in.	mm.	in.	mm.	in.	mm.
1/8 & 1/4	2	50.8	3 ³ / ₄	95.3	1 ³ / ₄	44.5	2.0	51
3/8 & 1/2	2	50.8	4 ¹ / ₄	108.0	1 ³ / ₄	44.5	2.5	64

FLOW PATTERN (TOP VIEW OF VALVE SHOWN)



MATERIALS TEMPERATURE VS PRESSURE

	MAXIMUM TEMP. RATING	MAXIMUM INLET PRESSURES AT BELOW TEMPERATURES									
		75 °F(24 °C)		140 °F(60 °C)		180 °F(82 °C)		220 °F(105 °C)		284 °F(140 °F)	
		PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	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	0,70
PVDF	284 °F(140 °C)	50	3,45	50	3,45	50	3,45	25	1,72	10	0,70

N.R. (not recommended)

SERIES TUCA SPECIFICATIONS AND PART NUMBERS **

PIPE SIZE	ORIFICE SIZE		C _v FACTOR	MAX. INLET PRESSURE		MAX. BACK PRESSURE		VITON MODEL NUMBER	BUNA-N MODEL NUMBER	EPDM MODEL NUMBER
	IN.	MM.		PSI	BARS	PSI	BARS			
1/8	1/4	6.35	.4	50	3,45	22	1,50	TUCA012V	TUCA012B	TUCA012EP
1/4	1/4	6.35	.4	50	3,45	22	1,50	TUCA025V	TUCA025B	TUCA025EP
3/8	1/4	6.35	.4	50	3,45	22	1,50	TUCA037V	TUCA037B	TUCA037EP
1/2	1/4	6.35	.4	50	3,45	22	1,50	TUCA050V	TUCA050B	TUCA050EP

**These part numbers must be followed with body material code to the above part numbers i.e. PV = polyvinyl chloride, PP = natural polypropylene, TF = Teflon, PF = PVDF.
Example: TUCA012V-PV

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