

709 Series Three-Way Valves

Fractional Flow Control Valves

CRN Registration Number Available

FRACTIONAL FLOW CONTROL VALVES

The Mark 709 is a lightweight control valve for use as a mixing valve in low flow process applications. Featuring a three-way body design, it is constructed with two inlets to blend two separate flow streams into a common outlet, creating a third fluid.

Features:

- For low flow process applications requiring a three way body for mixing two separate flow sources into one common line
- Compact, lightweight design for precise control in pilot plants, R & D facilities, and low flow process applications
- With multiple spring actuators in a choice of sizes for differential pressures up to 1460 psi (100 bar)

SPECIFICATIONS

Sizes: 1/2" & 3/4" (DN15 & DN20)

End Connections

- Threaded – NPT
- Others upon request

Actuator

- 1/2" (DN15) – standard: 14M (14in²) multi-spring
- 3/4" (DN20) – 1/2" (DN15) – standard: 14M (14in²) multi-spring; optional: 35M (35in²) multi-spring

Body/Bonnet Materials

- Carbon Steel
- Stainless Steel
- Hastelloy C
- Hastelloy B
- Alloy 20
- Monel
- Titanium



MK709 SERIES THREE WAY SPECIFICATIONS (CON'T)
Trim Material

- Standard trim – 316SS stem, plug & seat

Actuator Material: Aluminum

Diaphragm Material:

- 14M Actuator: Nylon/Nitrile
- Optional 35M Actuator: Buna-N fabric reinforced

Stem Packing Material: PTFE

Bonnet/Body Seal Material: PTFE

Service: Air, gas, chemicals, oil, water

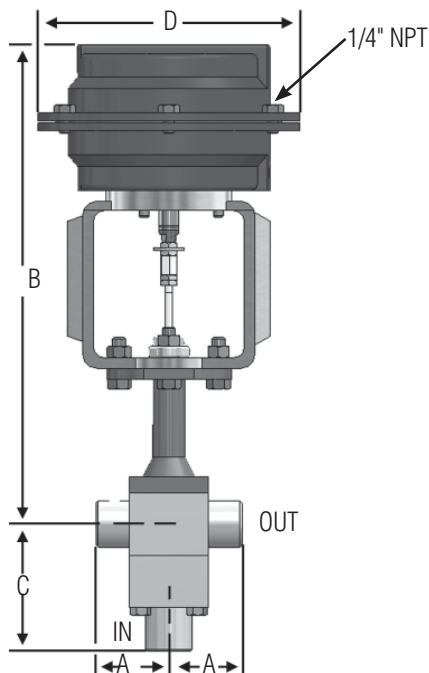
Shutoff

- Standard – Cv's 0.05 and greater: ANSI Class IV
- Optional – Cv's 0.05 and greater: ANSI Class VI (with PEEK seats)

Ranges: 3-15 (0,2-1,0) or 6-30 (0,4-2,1) psi (bar)

Valve Action

- Direct (ATC)
- Reverse (ATO)


Flow Characteristics:

- Linear/linear
- Equal percentage/equal percentage
- Others upon request

Cv (Kv) Selection

1/2" (DN15)	2.0 (1,7)	1.5 (1,3)	1.25(1,1)	
3/4" (DN20)	4.0 (3,4)	3.5 (3,0)	3.0 (2,6)	2.5 (2,2)

Maximum Allowable Δ P Ratings

Cv (Kv)	ATO 3-15	ATO 6-30	ATC3-15 @ 20 psi (1,4bar)	ATC 6-30 @ 40 psi (2,8 bar)
14M Actuator				
2.5 - 4.0 (2,2-3,4)	264 (18)	532 (37)	432 (30)	864 (60)
1.25 - 2.0 (1,1-1,7)	400 (28)	800 (55)	650 (45)	1300 (90)
35M Actuator				
2.5 - 4.0 (2,2-3,4)	440 (30)	880 (61)	707 (49)	1460 (101)

Pressure/Temperature Rating (PSI/BAR)

Temp °F (°C)	1/2" (DN15)		3/4" (DN20)	
	CS	SS	CS	SS
100 (38)	5000 (345)	5000 (345)	4000 (276)	4000 (276)
200 (93)	4299 (296)	4555 (314)	3439 (237)	3644 (251)
300 (149)	3882 (268)	4426 (305)	3106 (214)	3541 (244)
400 (204)	3569 (246)	4278 (295)	2855 (197)	3422 (236)
500 (260)	3319 (229)	4042 (279)	2655 (183)	3234 (223)

Mark 709 Series Three-Way Ends

VALVE SIZE	ACTUATOR	DIMENSIONS, INCHES				WEIGHT LBS
		A	B	C	D	
1/2"	14M	1.8	11.6	2.7	6.3	9.5
3/4"	14M	2.2	12.0	3.3	6.3	11.5
	35M	2.2	13.8	3.3	9.5	20.5

Mark 709 Series Three-Way Ends, Metric

VALVE SIZE	ACTUATOR	DIMENSIONS, MM				WEIGHT KGS
		A	B	C	D	
DN15	14M	46	295	69	160	4,3
DN20	14M	56	305	84	160	5,2
DN20	35M	56	351	84	241	9,3