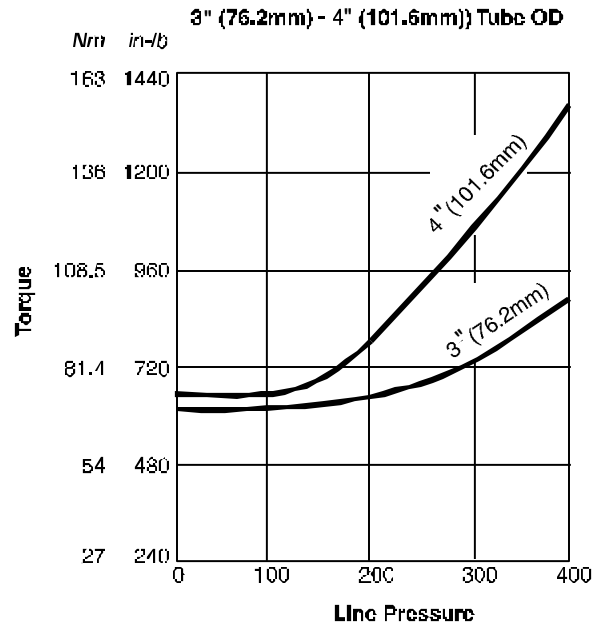
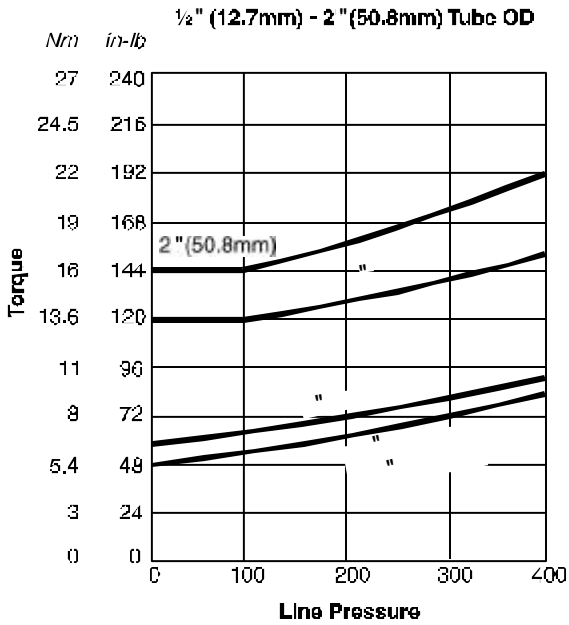
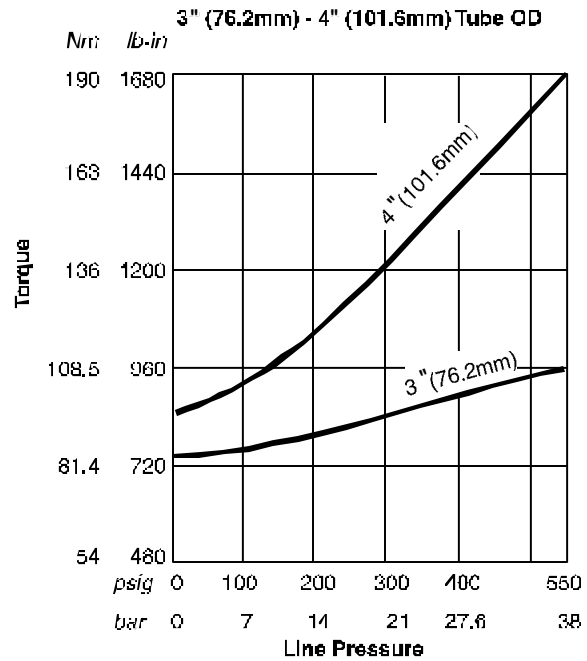
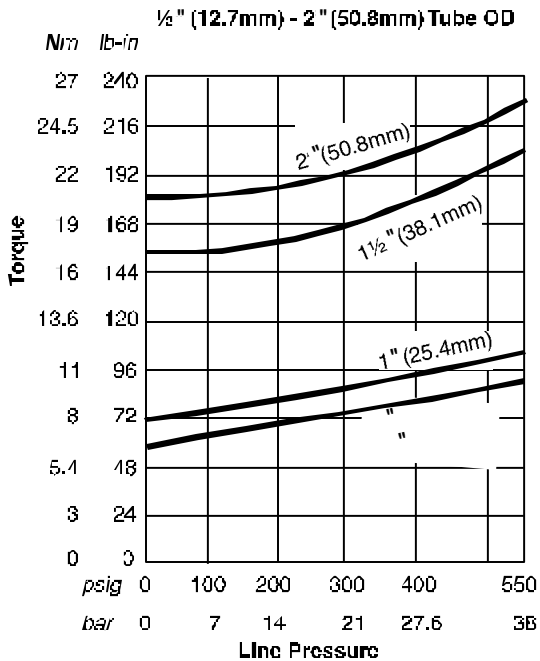


Torque vs. Pressure

Standard Seats



Encapsulated Seats



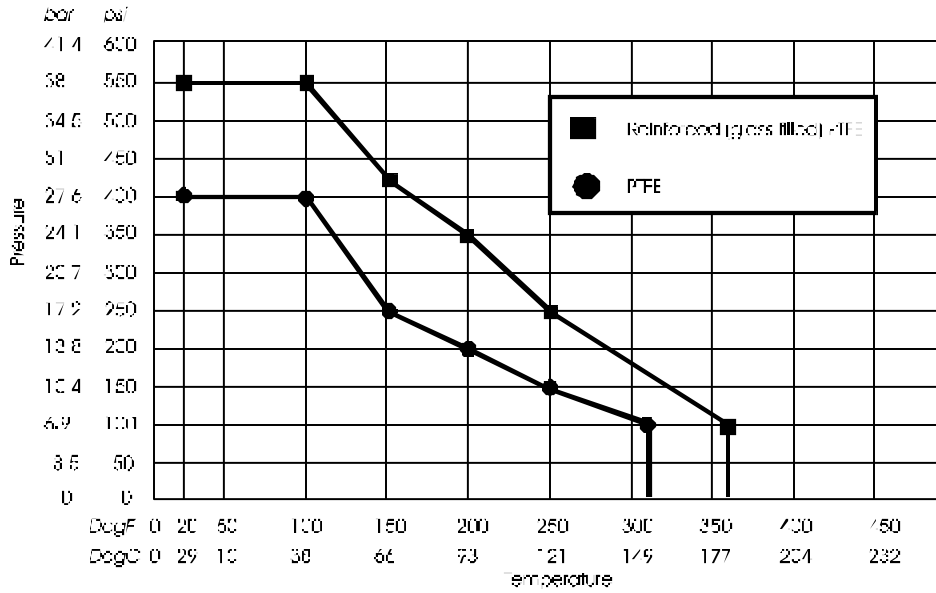
Use the charts above to determine the amount of torque required to cycle the ball valve.



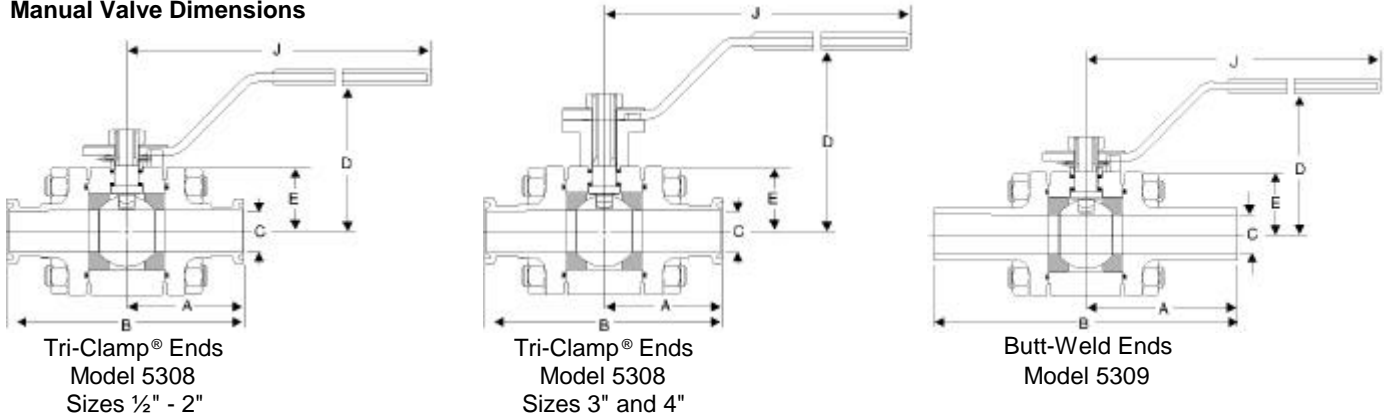
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Standard and Encapsulated Seats: Ratings - Pressure vs. Temperature



Manual Valve Dimensions



Dimensions

Model	Size		A		B		C		D		E		J		Weight (valve + handle)		
	in	mm	in	mm	in	mm	in	mm	in	mm	mm	in	mm	in	mm	lb	kg
5308 Tri-Clamp® (both ends)	1/2	12.7	1 3/4	44.5	3 1/2	88.9	3/8	9.5	2 5/16	58.7	29	1 9/64	134	5 1/4	134	2	0.9
	3/4	19.0	1 3/4	44.5	3 1/2	88.9	5/8	15.9	2 7/16	61.9	29	1 9/64	134	5 1/4	134	2	0.9
	1	25.4	1 3/4	44.5	3 1/2	88.9	27/32	21.4	2 5/16	58.7	33	1 19/64	134	5 1/4	134	3	1.4
	1 1/2	38.1	2 1/4	57.2	4 1/2	114.3	1 23/64	34.5	2 3/4	95.3	40	1 37/64	170	6 11/16	170	6	2.7
	2	50.8	2 1/2	63.5	5	127.0	1 55/64	47.2	4 1/8	104.8	55.5	2 3/16	207	8 9/64	207	10	4.5
	3	76.2	3 7/8	98.4	7 3/4	196.9	2 55/64	72.6	7	177.8	15.8	4 9/16	298.4	11 3/4	298.4	30	13.6
5309 Butt-Weld (both ends)	1/2	12.7	2 11/16	68.3	5 3/8	136.5	3/8	9.5	2 5/16	58.7	29	1 9/64	134	5 1/4	134	2	0.9
	3/4	19.0	2 13/16	71.4	5 5/8	142.9	5/8	15.9	2 7/16	61.9	29	1 9/64	134	5 1/4	134	2	0.9
	1	25.4	3 7/32	81.8	6 7/16	163.5	27/32	21.4	2 5/16	58.7	33	1 19/64	134	5 1/4	134	3	1.4
	1 1/2	38.1	3 5/8	92.1	7 1/4	184.2	1 23/64	34.5	3 3/4	95.3	40	1 37/64	170	6 11/16	170	6	2.7
	2	50.8	3 13/16	81.0	7 5/8	193.7	1 55/64	47.2	4 1/8	104.8	55.5	2 3/16	207	8 9/64	207	10	4.5

Valves with Pneumatic Actuators

Alfa Laval offers two types of pneumatic actuators, available in air-to-air or air-to-spring. Air-to-spring is available in normally-open or normally-closed models. All models are offered with epoxy-coated aluminum alloy or optional 304 stainless steel housing. Pneumatic actuator air pressure requirements are:

Air-to-Air: 25 to 100 psi (1.7 to 6.9 bar)

Air-to-Spring: 80 to 100 psi (5.5 to 6.9 bar)

Note: Air pressure requirements are dependent upon the valve scope and operating conditions.

Selection Tables for Pneumatic Actuators

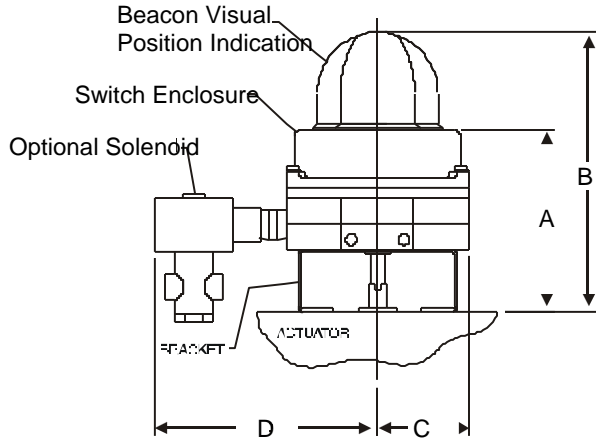
Stainless Steel			
Valve Size	Type	Air Volume Req'd	NTP Air Connector Size
1/2" or 3/4"	Air-to-Air	15.26 cu. in.	1/8"
1" or 1 1/2"	Air-to-Air	15.26 cu. in.	1/8"
2"	Air-to-Air	21.97 cu. in.	1/8"
3" or 4"	Air-to-Air	67.12 cu. in.	1/8"
1/2"	Air-to-Spring	9.15 cu. in.	1/8"
3/4", 1" or 1 1/2"	Air-to-Spring	15.26 cu. in.	1/8"
2"	Air-to-Spring	27.46 cu. in.	1/8"
3" or 4"	Air-to-Spring	86.65 cu. in.	1/4"

Aluminum			
Valve Size	Type	Air Volume Req'd	NTP Air Connector Size
1/2" or 3/4"	Air-to-Air	15.26 cu. in.	1/8"
1" or 1 1/2"	Air-to-Air	15.26 cu. in.	1/8"
2"	Air-to-Air	21.97 cu. in.	1/8"
3" or 4"	Air-to-Air	67.12 cu. in.	1/8"
1/2"	Air-to-Spring	9.15 cu. in.	1/8"
3/4" or 1"	Air-to-Spring	9.15 cu. in.	1/8"
1 1/2"	Air-to-Spring	15.26 cu. in.	1/8"
2"	Air-to-Spring	27.46 cu. in.	1/8"
3" or 4"	Air-to-Spring	86.65 cu. in.	1/4"



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Dimensions - Accord Switch Options



Model	A		B		C		D	
	in	mm	in	mm	in	mm	in	mm
NEMA 4, 4X, 7, 9 (Aluminum)	5 1/8	130.2	7 19/32	192.9	2 5/8	66.7	6 1/16	154.0
NEMA 4, 4X (Zytel)	5 1/8	130.2	7 19/32	192.9	2 5/16	58.7	4 1/16	103.2

Optional: Two mechanical or proximity switches contained within the enclosure.

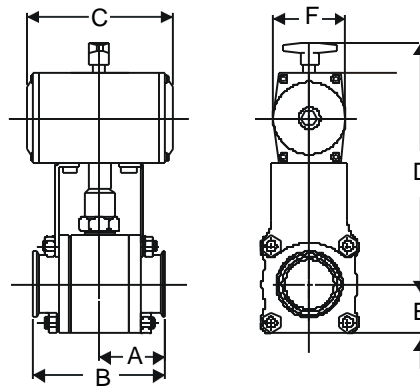
Pneumatic Actuator Options

- A. All stainless steel and non-stainless, epoxy coated aluminum alloy actuators can be furnished with a basic switch enclosure. Specify either NEMA 4 or NEMA 7. The enclosure/bracket assembly is mounted on top of the actuator.
- B. Basic switch enclosure can be furnished with optional Pharos visual indicator.
- C. 3-way and 4-way solenoids can be mounted to basic switch enclosure. All wire connections are through a terminal strip, located inside the basic switch enclosure.



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Dimensions - Valves with Pneumatic Actuators
Tri-Clamp® Connection



Air to Air Actuators (Aluminum or Stainless Steel)														
Model	Size		A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
5308 Tri-Clamp® ends	1/2	12.7	3/4	44.5	3 1/2	88.9	4 1/4	107.9	5 5/8	142.8	29/32	23.0	3	76.0
	3/4	19.0	3/4	44.5	3 1/2	88.9	4 1/4	107.9	5 11/16	144.4	31/32	24.6	3	76.0
	1	25.4	3/4	44.5	3 1/2	88.9	4 1/4	107.9	5 3/4	146.0	1 1/8	28.6	3	76.0
	1 1/2	38.1	2 1/4	57.2	4 1/2	114.3	4 1/4	107.9	6 5/8	168.0	1 1/2	38.1	3	76.0
	2	50.8	2 1/2	63.5	5	127.0	5 1/4	133.0	8	203.0	1 7/8	47.6	2 3/4	69.8
	3	76.2	3 7/8	98.4	7 3/4	196.9	8 1/32	204.0	10 7/8	276.0	2 23/32	69.1	2 15/16	100.7
	4	101.6	4	101.6	9 1/2	241.3	8 3/32	204.0	11 9/16	293.7	3 15/32	88.1	3 15/16	100.7

Air to Spring Actuators (Aluminum)														
Model	Size		A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
5308 Tri-Clamp® ends	1/2	12.7	3/4	44.5	3 1/2	88.9	4 1/4	107.9	5 5/8	142.8	29/32	23.0	3	76.0
	3/4	19.0	3/4	44.5	3 1/2	88.9	5 1/4	177.8	6 1/2	165.0	31/32	24.6	3 5/8	92.0
	1	25.4	3/4	44.5	3 1/2	88.9	5 1/4	177.8	7 3/4	196.8	1 1/8	28.6	3 5/8	92.0
	1 1/2	38.1	2 1/4	57.2	4 1/2	114.3	7	204.0	8 3/8	212.7	1 1/2	38.1	3 5/8	92.0
	2	50.8	2 1/2	63.5	5	127.0	7	204.0	8 13/16	223.8	1 7/8	47.6	3 15/16	100.7
	3	76.2	3 7/8	98.4	7 3/4	196.9	11 1/2	292.0	13 1/32	331.0	2 23/32	69.1	5 3/8	136.5
	4	101.6	4 3/4	101.6	9 1/2	241.3	11 1/2	292.0	13 3/4	349.0	3 15/32	88.1	5 3/8	136.5

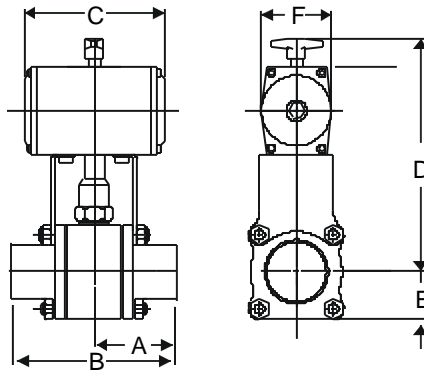
Air to Spring Actuators (Stainless Steel)														
Model	Size		A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
5308 Tri-Clamp® ends	1/2	12.7	3/4	44.5	3 1/2	88.9	4 1/4	107.9	5 5/8	142.8	29/32	23.0	3	76.0
	3/4	19.0	3/4	44.5	3 1/2	88.9	7	177.8	7 3/4	196.8	31/32	24.6	3 5/8	92.0
	1	25.4	3/4	44.5	3 1/2	88.9	7	177.8	7 3/4	196.8	1 1/8	28.6	3 5/8	92.0
	1 1/2	38.1	2 1/4	57.2	4 1/2	114.3	7	177.8	8 3/8	212.7	1 1/2	38.1	3 5/8	92.0
	2	50.8	2 1/2	63.5	5	127.0	8 1/32	204.0	9 1/8	231.8	1 7/8	47.6	3 15/16	100.7
	3	76.2	3 7/8	98.4	7 3/4	196.9	11 1/2	292.0	13 1/32	331.0	2 23/32	69.1	5 3/8	136.5
	4	101.6	4 3/4	101.6	9 1/2	241.3	11 1/2	292.0	13 3/4	349.0	3 15/32	88.1	5 3/8	136.5

Note: 3" and 4" valves do not require actuator mounting brackets.
 Body Design includes actuator mounting pad as standard.



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**Dimensions - Valves with Pneumatic Actuators
Butt-Weld Connection**



Air to Air Actuators (Aluminum or Stainless Steel)														
Model	Size		A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
5309 Weld ends	1/2	12.7	2 ¹¹ / ₁₆	68.3	5 ³ / ₈	136.5	4 ¹ / ₄	107.9	5 ⁵ / ₈	142.8	2 ⁹ / ₃₂	23.0	3	76.0
	3/4	19.0	2 ¹³ / ₁₆	71.4	5 ⁵ / ₈	142.9	7	177.8	5 ¹¹ / ₁₆	144.4	3 ¹ / ₃₂	24.6	3	76.0
	1	25.4	3 ⁷ / ₃₂	81.8	6 ¹ / ₁₆	163.5	7	177.8	5 ³ / ₄	146.0	1 ¹ / ₈	28.6	3	76.0
	1 1/2	38.1	3 ⁵ / ₈	92.1	7 ¹ / ₄	184.2	7	177.8	6 ⁵ / ₈	168.0	1 ¹ / ₂	38.1	3	76.0
	2	50.8	3 ¹³ / ₁₆	100.0	7 ⁵ / ₈	193.7	8 ¹ / ₃₂	204.0	8	203.0	1 ⁷ / ₈	47.6	2 ³ / ₄	69.8

Air to Spring Actuators (Aluminum)														
Model	Size		A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
5309 Weld ends	1/2	12.7	2 ¹¹ / ₁₆	68.3	5 ³ / ₈	136.5	4 ¹ / ₄	107.9	5 ⁵ / ₈	142.8	2 ⁹ / ₃₂	23.0	3	76.0
	3/4	19.0	2 ¹³ / ₁₆	71.4	5 ⁵ / ₈	142.9	5 ¹ / ₄	133.0	6 ¹ / ₂	165.0	3 ¹ / ₃₂	24.6	2 ³ / ₄	69.8
	1	25.4	3 ⁷ / ₃₂	81.8	6 ¹ / ₁₆	163.5	5 ¹ / ₄	133.0	7 ³ / ₄	196.8	1 ¹ / ₈	28.6	2 ³ / ₄	69.8
	1 1/2	38.1	3 ⁵ / ₈	92.1	7 ¹ / ₄	184.2	7	177.8	8 ³ / ₈	212.7	1 ¹ / ₂	38.1	3 ⁵ / ₈	92.0
	2	50.8	3 ¹³ / ₁₆	100.0	7 ⁵ / ₈	193.7	7	177.8	9 ³ / ₈	223.8	1 ⁷ / ₈	47.6	3 ⁵ / ₈	92.0

Air to Spring Actuators (Stainless Steel)														
Model	Size		A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
5309 Weld ends	1/2	12.7	2 ¹¹ / ₁₆	68.3	5 ³ / ₈	136.5	4 ¹ / ₄	107.9	5 ⁵ / ₈	142.8	2 ⁹ / ₃₂	23.0	3	76.0
	3/4	19.0	2 ¹³ / ₁₆	71.4	5 ⁵ / ₈	142.9	7	177.8	7 ³ / ₄	196.8	3 ¹ / ₃₂	24.6	3 ⁵ / ₈	92.0
	1	25.4	3 ⁷ / ₃₂	81.8	6 ¹ / ₁₆	163.5	7	177.8	7 ³ / ₄	196.8	1 ¹ / ₈	28.6	3 ⁵ / ₈	92.0
	1 1/2	38.1	3 ⁵ / ₈	92.1	7 ¹ / ₄	184.2	7	177.8	8 ³ / ₈	212.7	1 ¹ / ₂	38.1	3 ⁵ / ₈	92.0
	2	50.8	3 ¹³ / ₁₆	100.0	7 ⁵ / ₈	193.7	8 ¹ / ₃₂	204.0	9 ¹ / ₈	231.8	1 ⁷ / ₈	47.6	3 ¹⁵ / ₁₆	100.7



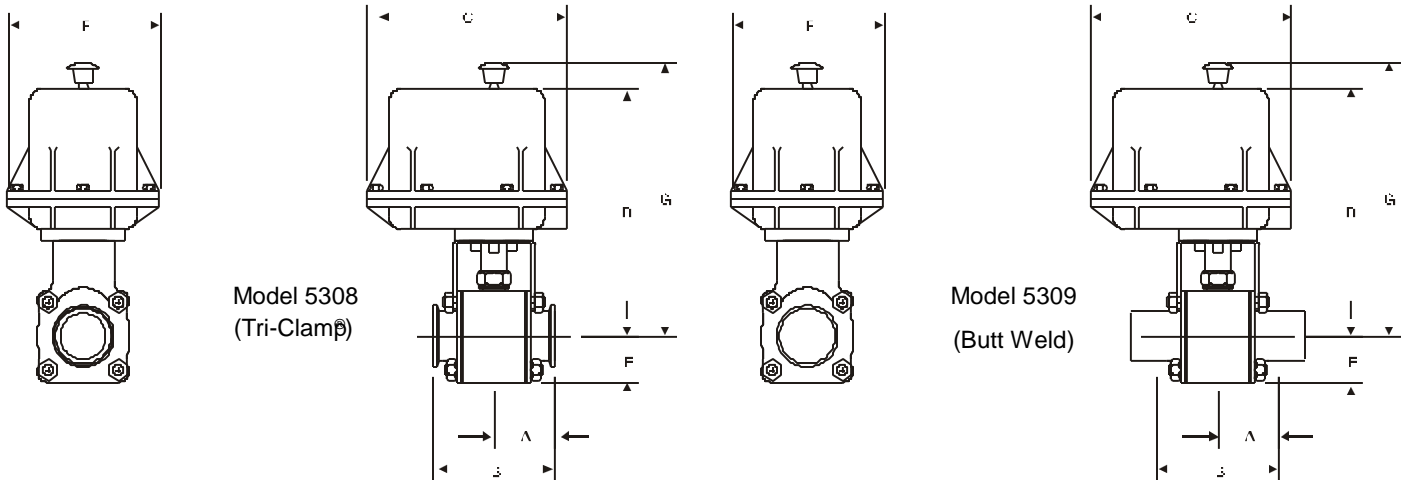
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Actuator Specifications for Valves with Electric Actuators

This high torque design actuator is furnished in NEMA 4 weatherproof design as standard. Optional, explosion proof, NEMA 7 model is available on application. Both are rated for intermittent duty, up to 100% duty cycle. Both are available in 120V 60/50 Hz or 220V 60/50 Hz. All actuators are equipped with two single pole, double throw mechanical switches.

Valve Size	Volts	Open/Close Time
1/2", 3/4", 1"	120V	10 sec.
1 1/2" or 2"	120V	10 sec.
3" or 4"	120V	7 sec.

Dimensions - Valves with Electric Actuators



Model	Size		A		B		C		D		E		F		G	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
5308 Tri-Clamp® (Both Ends)	1/2	12.7	1 3/4	44.5	3 1/2	88.9	8 1/4	210.0	8 5/8	219.0	29/32	23.0	6 1/4	159.0	9 3/4	248.0
	3/4	19.0	1 3/4	44.5	3 1/2	88.9	8 1/4	210.0	8 3/4	223.0	31/32	24.6	6 1/4	159.0	9 7/8	251.0
	1	25.4	1 3/4	44.5	3 1/2	88.9	8 1/4	210.0	9	229.0	1 1/8	28.6	6 1/4	159.0	10 1/8	258.0
	1 1/2	38.1	2 1/4	57.2	4 1/2	114.3	8 3/4	210.0	11	279.0	1 1/2	38.1	6 1/4	159.0	12 1/32	306.0
	2	50.8	2 1/2	63.5	5	127.0	8 3/4	210.0	11 7/16	291.0	1 7/8	47.6	6 1/4	159.0	12 1/2	318.0
	3	76.2	3 7/8	98.4	7 3/4	196.9	9 3/4	248.0	14 1/8	359.0	2 3/32	69.1	7 3/4	197.0	15 5/8	397.0
5309 Butt-Weld (Both Ends)	1/2	12.7	2 11/16	68.3	5 3/8	136.5	8 1/4	210.0	8 5/8	219.0	29/32	23.0	6 1/4	159.0	9 3/4	248.0
	3/4	19.0	2 13/16	71.4	5 5/8	142.9	8 1/4	210.0	8 3/4	223.0	31/32	24.6	6 1/4	159.0	9 7/8	251.0
	1	25.4	3 7/32	81.8	6 7/16	163.5	8 1/4	210.0	9	229.0	1 1/8	28.6	6 1/4	159.0	10 1/8	258.0
	1 1/2	38.1	3 5/8	92.1	7 1/4	184.2	8 1/4	210.0	11	279.0	1 1/2	38.1	6 1/4	159.0	12 1/32	306.0
	2	50.8	3 13/16	81.0	7 5/8	193.7	8 1/4	210.0	11 7/16	291.0	1 7/8	47.6	6 1/4	159.0	12 1/2	318.0
	3	76.2	4 1/2	114.3	10 1/2	266.7	9 3/4	248.0	14 1/8	359.0	2 3/32	69.1	7 3/4	197.0	15 5/8	397.0

Note: 3" and 4" valves do not require actuator mounting brackets. Body Design includes actuator mounting pad as standard.

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The information contained herein is correct at the time of issue, but may be subject to change without prior notice.

How to contact Alfa Laval
Contact details for all countries
are continually updated on our website.
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access the information direct.



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