

## Simple and Effective, The Ball Valve

### Alfa Laval 5308/5309 Series Ball Valves

#### Concept

Ball valves are ideal for applications requiring a full flow body design to minimize line turbulence and pressure drop. An encapsulated seat option is available for critical process applications requiring maximum reduction of potential for product entrapment.

#### Standard Design

The Ball valve consists of a stainless steel body that houses a rotating ball. The rotating ball is sealed in the body with a PTFE seat that either partially or fully encapsulates the ball. The valve is activated by a stainless steel handle that opens and closes the valve through a quarter turn. The valve can also be operated by an optional ¼ turn pneumatic or electric actuator. External thrust springs maintain constant pressure on the stem packing. The stem and packing design eliminate the possibility of the stem becoming dislodged or blown out.



#### TECHNICAL DATA

##### Temperature

Temperature range: . . . . . -20°C to 150°C (EPDM)

##### Pressure

Max. product pressure: . . . . . 400 kPa (40 bar)

Min. product pressure: . . . . . Full vacuum

#### PHYSICAL DATA

##### Materials

Valve body . . . . . CF3M9 (316L)

Ball & Stem . . . . . 1.4401 (316L)

Handle . . . . . 1.4301 (304)

External surface finish . . . . . Semi-bright (blasted)

Internal surface finish . . . . . Bright (polished), Ra ≤ 0.5 µm

Product wetted seals . . . . . PTFE

Actuator surface . . . . . Epoxy coated

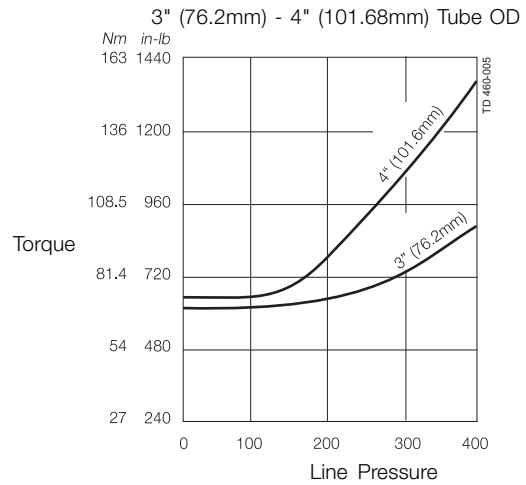
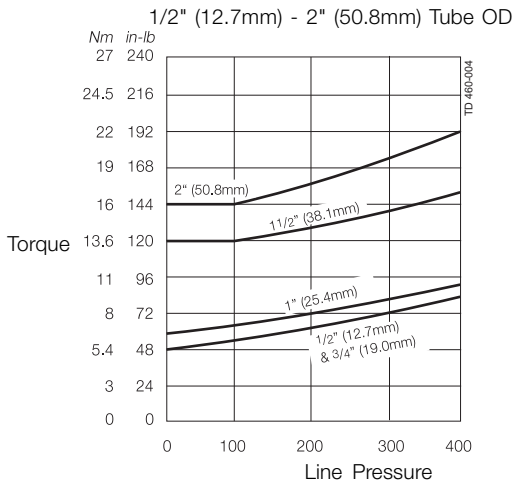
Options

Actuator Function

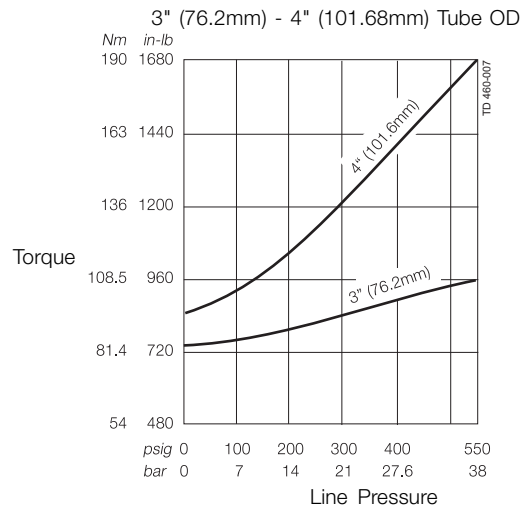
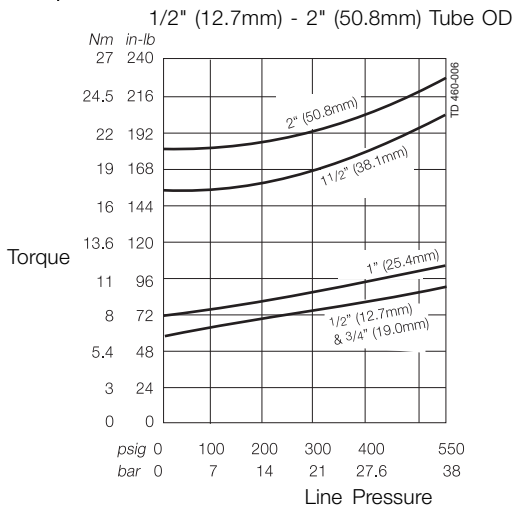
- A. Pneumatic actuator air to air
- B. Pneumatic actuator air to spring
- C. Reinforced PTFE
- D. Stainless Steel
- E. Actuator bracket, coupling and hardware
  - 1.4301 (304) stainless steel

Torque vs. Pressure

Standard Seats

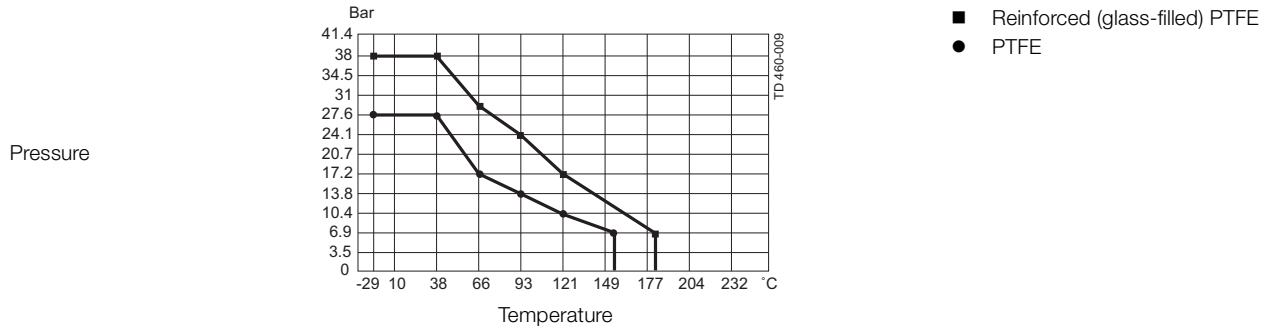


Encapsulated Seats

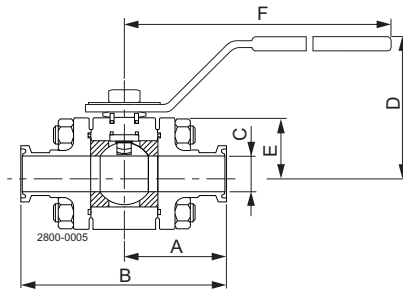


Use the charts above to determine the amount of torque required to cycle the ball valve.

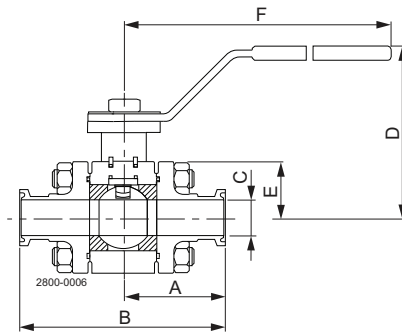
Standard and Encapsulated Seats: Ratings - Pressure vs. Temperature



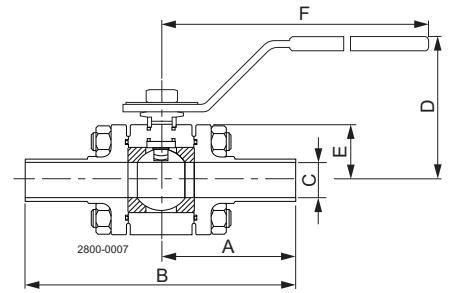
Manual Valve Dimensions



Tri-Clamp® Ends  
Model 5308  
Sizes 1/2" - 2"



Tri-Clamp® Ends  
Model 5308  
Sizes 3" and 4"



Butt-Weld Ends  
Model 5309

Model	Size	A		B		C		D		E		F		Weight (valve + handle)			
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	lb	kg		
5308 Tri-Clamp® (both ends)	1/2	12.7	317.5	44.5	1117.5	33/8	95.3	2 5/16	50.8	1 9/64	29.0	5 1/4	134	2	0.9		
	3/4	19.0	482.5	44.5	1117.5	5/8	15.9	2 7/16	61.9	1 9/64	29.0	5 1/4	134	2	0.9		
	1 1/2	25.4	645.0	44.5	1117.5	27/32	21.4	2 5/16	58.7	1 19/64	33.0	5 1/4	134	3	1.4		
	1 1/2	38.1	965.0	57.2	1451.0	1 23/64	34.5	2 3/4	95.3	1 37/64	40.0	6 11/16	170	6	2.7		
	2	50.8	1292.5	63.5	1612.5	1 56/64	47.2	4 1/8	104.8	2 3/16	55.5	8 9/64	207	10	4.5		
	3	76.2	1930.0	98.4	2500.0	2 55/64	72.6	7	177.8	4 9/16	115.5	11 3/4	298.4	30	13.6		
5309 Butt-Weld (both ends)	4	101.6	2580.0	120.7	3065.0	3 13/16	81.0	7 1/2	190.5	5 1/4	113.5	13 1/4	336.5	47	21.3		
	1/2	12.7	317.5	68.3	1730.0	5 3/8	136.5	3/8	9.5	2 5/16	58.7	1 9/64	29.0	5 1/4	134.0	2	0.9
	3/4	19.0	482.5	71.4	1810.0	5 5/8	142.9	5/8	15.9	2 7/16	61.9	1 9/64	29.0	5 1/4	134.0	2	0.9
	1	25.4	645.0	81.8	2075.0	6 7/16	163.5	27/32	21.4	2 5/16	58.7	1 19/64	33.0	5 1/4	134.0	3	1.4
	1 1/2	38.1	965.0	92.1	2340.0	7 1/4	184.2	1 23/64	34.5	3 3/4	95.3	1 37/64	40.0	6 11/16	170.0	6	2.7
2	50.8	1292.5	81.0	2057.0	7 5/8	193.7	1 55/64	47.2	4 1/8	104.8	23/16	55.5	8 9/64	207.0	10	4.5	

Hygienic ball valves  
Product code: 5272

Material: 1.4404 (316L)  
Connection: Welding ends  
Seals: EPDM

Item No.	PPL EUR	Item No.	PPL EUR	Size		Dimension (mm)		
Inch tube DN/OD		DIN tube DN		DN/OD	DN	A	B	Manually operated
9612644001	<b>841</b>	9612646037	<b>841</b>	25	25	117	93	
9612644002	<b>969</b>	9612646038	<b>969</b>	38	40	125	103	
9612644003	<b>1076</b>	9612646039	<b>1076</b>	51	50	135	113	
9612644004	<b>1291</b>	9612646040	<b>1291</b>	63.5	65	145	125	
9612644005	<b>1884</b>	9612646041	<b>1884</b>	76.1	80	156	163	
9612644006	<b>3464</b>	9612646042	<b>3464</b>	101.6	100	206	220	
<b>Air-operated - normally closed</b>								
9612644013	<b>1538</b>	9612646049	<b>1538</b>	25	25	307	93	
9612644014	<b>1667</b>	9612646050	<b>1667</b>	38	40	315	103	
9612644015	<b>1773</b>	9612646051	<b>1773</b>	51	50	324	113	
9612644016	<b>1989</b>	9612646052	<b>1989</b>	63.5	65	335	125	
9612644017	<b>2583</b>	9612646053	<b>2583</b>	76.1	80	346	163	
9612644018	<b>5462</b>	9612646054	<b>5462</b>	101.6	100	395	220	
<b>Air-operated - normally closed, prepared for ThinkTop®</b>								
9612644019	<b>1976</b>	9612646055	<b>1976</b>	25	25	344	93	
9612644020	<b>2101</b>	9612646056	<b>2101</b>	38	40	352	103	
9612644021	<b>2209</b>	9612646057	<b>2209</b>	51	50	360	113	
9612644022	<b>2426</b>	9612646058	<b>2426</b>	63.5	65	372	125	
9612644023	<b>3019</b>	9612646059	<b>3019</b>	76.1	80	382	163	
9612644024	<b>5902</b>	9612646060	<b>5902</b>	101.6	100	432	220	

Valve with Handle  
Product code: 5273

Item No.	PPL EUR	Size		Dimension						5308 Tri Clamp, PTFE Standard
		inch	mm	B		D		J		
				inch	mm	inch	mm	inch	mm	
9613830003	<b>311</b>	½"	12.7	3½	88.9	2 5/16	58.7	5¼	134.0	
9613830006	<b>338</b>	¾"	19.0	3½	88.9	2 7/16	61.9	5¼	134.0	
9613830010	<b>424</b>	1"	25.4	3½	88.9	2 5/16	58.7	5¼	134.0	
9613830014	<b>625</b>	1½"	38.1	4½	114.3	2 ¾	95.3	6 11/16	170.0	
9613830018	<b>773</b>	2"	50.8	5	127.0	4 1/8	104.8	8 9/64	207.0	
9613830021	<b>1893</b>	3"	76.2	7¾	196.9	7	177.8	11¾	298.4	
9613830024	<b>3136</b>	4"	101.6	9½	241.3	7½	190.5	13¾	336.5	
<b>5308 Tri Clamp, PTFE cavity filler</b>										
9613830001	<b>363</b>	½"	12.7	3½	88.9	2 5/16	58.7	5¼	134.0	
9613830004	<b>537</b>	¾"	19.0	3½	88.9	2 7/16	61.9	5¼	134.0	
9613830007	<b>486</b>	1"	25.4	3½	88.9	2 5/16	58.7	5¼	134.0	
9613830011	<b>667</b>	1½"	38.1	4½	114.3	2 ¾	95.3	6 11/16	170.0	
9613830015	<b>850</b>	2"	50.8	5	127.0	4 1/8	104.8	8 9/64	207.0	
9613830019	<b>2340</b>	3"	76.2	7¾	196.9	7	177.8	11¾	298.4	
9613830022	<b>3530</b>	4"	101.6	9½	241.3	7½	190.5	13¾	336.5	
<b>5308 Tri Clamp, Reinforced PTFE Standard</b>										
9613830002	<b>327</b>	½"	12.7	3½	88.9	2 5/16	58.7	5¼	134.0	
9613830005	<b>356</b>	¾"	19.0	3½	88.9	2 7/16	61.9	5¼	134.0	
9613830009	<b>455</b>	1"	25.4	3½	88.9	2 5/16	58.7	5¼	134.0	
9613830013	<b>651</b>	1½"	38.1	4½	114.3	2 ¾	95.3	6 11/16	170.0	
9613830017	<b>818</b>	2"	50.8	5	127.0	4 1/8	104.8	8 9/64	207.0	
9613830020	<b>1942</b>	3"	76.2	7¾	196.9	7	177.8	11¾	298.4	
9613830023	<b>3189</b>	4"	101.6	9½	241.3	7½	190.5	13¾	336.5	
<b>5308 Tri Clamp, Reinforced PTFE cavity filler</b>										
n/a		½"	12.7	3½	88.9	2 5/16	58.7	5¼	134.0	
n/a		¾"	19.0	3½	88.9	2 7/16	61.9	5¼	134.0	
9613830008	<b>520</b>	1"	25.4	3½	88.9	2 5/16	58.7	5¼	134.0	
9613830012	<b>698</b>	1½"	38.1	4½	114.3	2 ¾	95.3	6 11/16	170.0	
9613830016	<b>909</b>	2"	50.8	5	127.0	4 1/8	104.8	8 9/64	207.0	
n/a		3"	76.2	7¾	196.9	7	177.8	11¾	298.4	
n/a		4"	101.6	9½	241.3	7½	190.5	13¾	336.5	

Valve with Handle  
Product code: 5273

Item No.	PPL EUR	Size		Dimension						5309 Butt-Weld, PTFE Standard	
				B		D		J			
		inch	mm	inch	mm	inch	mm	inch	mm		
9613830026	<b>311</b>	½"	12.7	5 ⅜	136.5	2 ⅝	58.7	5¼	134.0		
9613830028	<b>338</b>	¾"	19.0	5 ⅝	142.9	2 ⅞	61.9	5¼	134.0		
9613830030	<b>424</b>	1"	25.4	6 ⅞	163.5	2 ⅝	58.7	5¼	134.0		
9613830032	<b>625</b>	1½"	38.1	7¼	184.2	3¼"	95.3	6 ⅞	170.0		
9613830034	<b>773</b>	2"	50.8	7 ⅝	193.7	4 ⅛	104.8	8 ⅞	207.0		
n/a		3"	76.2								
n/a		4"	101.6								
<b>5309 Butt-Weld, PTFE cavity filler</b>											
9613830025	<b>372</b>	½"	12.7	5 ⅜	136.5	2 ⅝	58.7	5¼	134.0		
9613830027	<b>537</b>	¾"	19.0	5 ⅝	142.9	2 ⅞	61.9	5¼	134.0		
9613830029	<b>486</b>	1"	25.4	6 ⅞	163.5	2 ⅝	58.7	5¼	134.0		
9613830031	<b>681</b>	1½"	38.1	7¼	184.2	3¼"	95.3	6 ⅞	170.0		
9613830033	<b>833</b>	2"	50.8	7 ⅝	193.7	4 ⅛	104.8	8 ⅞	207.0		
n/a		3"	76.2								
n/a		4"	101.6								