

spirax sarco®

BVA200 Series Pneumatic Actuator with M10S ISO, M10T ISO or M10F ISO Ball Valves

Selection tables

Ball valve and actuator tables for operating air pressure of 60, 75 or 90 psig (4, 5 or 6 barg)

Key: Light service (LS), Heavy service (HS), Double acting (D), Single acting with return spring (S), Reduced bore (RB), Full bore (FB).

Operating pressure: 60psig (4 barg)

Valves M10S ISO / M10F ISO M10T ISO	BVA actuator			
	Double acting		Single acting	
Size	LS	HS	LS	HS
1/4"RB, FB - 3/8" RB	210 D	210 D	210 S/4	210 S/4
1/2"RB - 3/8" FB	210 D	210 D	215 S/4	215 S/4
3/4"RB - 1/2" FB	210 D	210 D	215 S/4	215 S/4
1"RB - 3/4" FB	215 D	215 D	220 S/4	220 S/4
1-1/4"RB - 1" FB	215 D	220 D	220 S/4	220 S/4
1-1/2"RB - 1-1/4" FB	220 D	220 D	220 S/4	225 S/4
2"RB - 1-1/2" FB	220 D	225 D	225 S/4	230 S/4
2-1/2"RB - 2" FB	225 D	230 D	230 S/4	235 S/4

Operating pressure: 75 psig (5 barg)

Valves M10S ISO / M10F ISO M10T ISO	BVA actuator			
	Double acting		Single acting	
Size	LS	HS	LS	HS
1/4"RB, FB - 3/8" RB	210 D	210 D	210 S	210 S
1/2"RB - 3/8" FB	210 D	210 D	210 S	210 S
3/4"RB - 1/2" FB	210 D	210 D	215 S	215 S
1"RB - 3/4" FB	215 D	215 D	220 S	220 S
1-1/4"RB - 1" FB	215 D	215 D	220 S	220 S
1-1/2"RB - 1-1/4" FB	215 D	220 D	220 S	220 S
2"RB - 1-1/2" FB	220 D	220 D	225 S	225 S
2-1/2"RB - 2" FB	225 D	225 D	230 S	235 S

Operating pressure: 90 psig

Valves M10S ISO / M10F ISO M10T ISO	BVA actuator			
	Double acting		Single acting	
Size	LS	HS	LS	HS
1/4"RB, FB - 3/8"RB	210 D	210 D	210 S	210 S
1/2"RB - 3/8"FB	210 D	210 D	210 S	210 S
3/4"RB - 1/2"FB	210 D	210 D	210 S	210 S
1"RB - 3/4"FB	210 D	215 D	215 S	215 S
1-1/4"RB - 1"FB	215 D	215 D	215 S	220 S
1-1/2"RB - 1-1/4"FB	215 D	215 D	220 S	220 S
2"RB - 1-1/2"FB	220 D	220 D	220 S	225 S
2-1/2"RB - 2"FB	220 D	225 D	225 S	230S

BVL_ Linkage kit selection table

Valves M10S ISO / M10F ISO M10T ISO	BVA actuator							
	210	215	220	225	230	235	240	245
size	210	215	220	225	230	235	240	245
1/4" RB - 3/8" RB	200							
1/2" RB - 3/8" FB	200	200						
3/4" RB - 1/2" FB	200	200						
1" RB - 1" FB	202	202	203					
1-1/4" RB - 1" FB		204	205					
1-1/2" RB - 1-1/4"FB		208	209	209				
2" RB - 1-1/2" FB			210	210	210			
2-1/2" RB - 2" FB			211	211	211	216		

Conditions

Light service (LS)

- Clean, low viscosity fluid, without solids in suspension.
- Maximum saturated steam pressure 45 psig (3 barg).
- Maximum working temperature 290°F (143°C) at 150 psig (10 barg).
- Maximum differential pressure 300 psig (20 barg) at 100°F (38°C).
- Frequent operation.

Heavy service (HS)

All those applications where at least one of the above mentioned conditions is exceeded.

Example

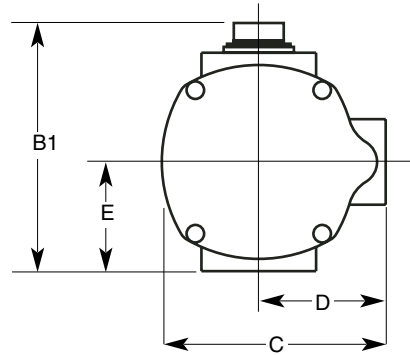
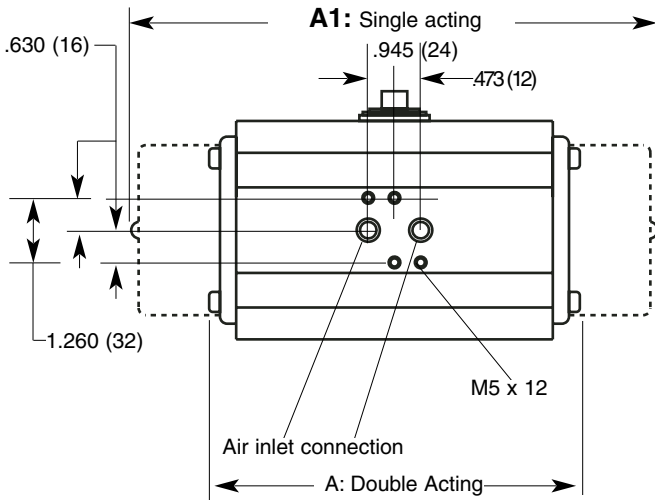
Select an actuator and linkage kit for the following application
 Valve required: 1-1/2" screwed NPT M10S2FB ISO ball valve.
 Available air pressure: 90 psig (6 barg).
 Light service, double acting actuator.

1. Select from 90 psig (6 barg) operating pressure table an actuator for a 1-1/2" FB ball valve, light service (LS), double acting: **BVA 220D**
2. Select from BVL linkage kit selection table a BVL suitable for a 1-1/2" FB ball valve and BVA 220 actuator: **BVL 210**

How to order

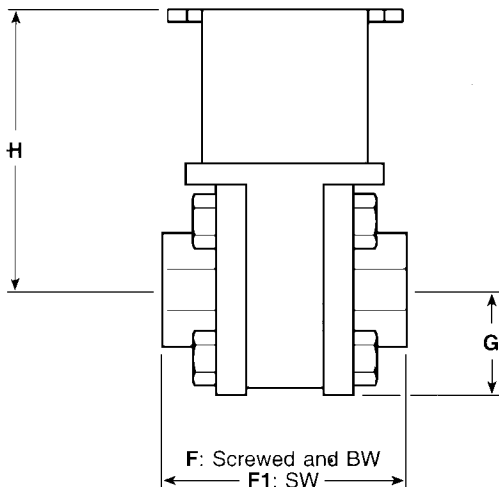
Example: 1- Spirax Sarco 1-1/2" screwed NPT M10S2FB ISO ball valve, with BVA 220D actuator and BVL 210 linkage kit, operating with 90 psig (6 barg) air pressure.

Dimensions/weights
(approximate) in inches (mm) and lbs. (kg)



BVA200 Series actuators in inches (mm)

Type	A		A1 Actuator weight lbs. (kg)		C	D	E	Double acting		Single acting	
	Double acting	Single acting	Single acting	B1				Double acting	Single acting		
BVA210	5.12 (130)	8.47 (215)	3.78 (96)	2.99 (76)	1.89 (48)	1.34 (34)	2.4 (1.1)	3.3 (1.5)			
BVA215	5.67 (144)	9.14 (232)	4.53 (115)	3.55 (90)	2.21 (56)	1.77 (45)	3.7 (1.7)	5.1 (2.3)			
BVA220	6.38 (162)	10.64 (270)	5.40 (137)	4.37 (111)	2.60 (66)	2.17 (55)	5.7 (2.6)	8.8 (4.0)			
BVA225	7.17 (182)	11.70 (297)	5.75 (146)	4.77 (121)	2.80 (71)	2.36 (60)	7.5 (3.4)	12.1 (5.5)			
BVA230	8.31 (211)	13.08 (332)	6.50 (165)	5.32 (135)	3.07 (78)	2.76 (70)	11.2 (5.1)	18.5 (8.4)			
BVA235	9.65 (245)	14.62 (371)	7.17 (182)	5.95 (151)	3.39 (86)	3.15 (80)	16.8 (7.6)	26.7 (12.1)			
BVA240	10.84 (275)	16.55 (420)	7.84 (199)	6.78 (172)	3.78 (96)	3.35 (85)	23.1 (10.5)	36.4 (16.5)			
BVA245	13.24 (336)	18.68 (474)	8.55 (217)	7.56 (192)	4.18 (106)	3.86 (98)	35.3 (16.0)	52.9 (24.0)			
BVA250	16.55 (420)	22.77 (578)	9.81 (249)	8.35 (212)	4.57 (116)	4.49 (114)	57.3 (26.0)	83.8 (38.0)			
BVA255	18.20 (462)	24.19 (614)	11.03 (280)	9.53 (242)	5.16 (131)	5.16 (131)	80.5 (36.5)	114.6 (52.0)			



Linkage kit description

BVL Linkage kit components and materials are as follows

Frame (1)	Stainless steel AISI 304
Stem adapter (1)	Stainless steel AISI 304
Frame-to-actuator screw (4)	Stainless steel Gr5
Washer (4)	Stainless steel
Frame-to-valve screw (4)	Stainless steel Gr5
Washer (4)	Stainless steel
Stem nut (1) or locking plate (1)	Stainless steel

BVL linkage kit with M10S ISO, M10T ISO or M10F ISO ball valve

Size (Valve)	Reduced bore inches (mm)			lbs (kg)	
	F	F1	G	H	Weight (Valve)
1/4"	2.36 (60)	1.93 (49)	1.02 (26)	2.96 (75)	2.0 (0.92)
3/8"	2.36 (60)	1.93 (49)	1.02 (26)	2.96 (75)	2.0 (0.92)
1/2"	2.36 (60)	1.93 (49)	1.02 (26)	2.96 (75)	2.0 (0.92)
3/4"	2.60 (66)	2.29 (58)	1.10 (28)	3.07 (78)	2.1 (0.95)
1"	3.15 (80)	3.07 (78)	1.30 (33)	3.31 (84)	3.6 (1.65)
1-1/4"	3.78 (96)	3.59 (91)	1.42 (36)	3.55 (90)	5.1 (2.30)
1-1/2"	4.02 (102)	3.78 (96)	1.62 (41)	3.66 (93)	6.7 (3.05)
2"	4.65 (118)	4.41 (112)	1.85 (47)	3.98 (101)	10.1 (4.60)
2-1/2"	5.75 (146)	5.57 (146)	2.25 (57)	5.54 (140)	17.5 (7.95)

Size (Valve)	Full bore inches (mm)			lbs (kg)	
	F	F1	G	H	Weight (Valve)
1/4"	2.36 (60)	1.93 (49)	1.02 (26)	2.96 (75)	2.0 (0.92)
3/8"	2.36 (60)	1.93 (49)	1.02 (26)	2.96 (75)	2.0 (0.92)
1/2"	2.60 (66)	2.29 (58)	1.10 (28)	3.07 (78)	2.1 (0.95)
3/4"	3.15 (80)	3.07 (78)	1.30 (33)	3.31 (84)	3.6 (1.65)
1"	3.78 (96)	3.59 (91)	1.42 (36)	3.55 (90)	5.1 (2.30)
1-1/4"	4.02 (102)	3.78 (96)	1.62 (41)	3.66 (93)	6.7 (3.05)
1-1/2"	4.65 (118)	4.41 (112)	1.85 (47)	3.98 (101)	10.1 (4.60)
2"	5.75 (146)	5.75 (146)	2.25 (57)	5.52 (140)	17.5 (7.95)