

spirax/sarco®

BVA200 Series Pneumatic Actuator with M10Si and M10Vi Ball Valves

Selection tables

How to choose:

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

Key: Light service (LS), Heavy service (HS), Double acting (D), Single acting with return spring (S).

Operating pressure: 60 psig (4 barg)

Valve M10S / M10Vi ISO Size	BVA actuator			
	Double acting		Single acting	
	LS	HS	LS	HS
1/4" RB - 3/8" RB	210D	210D	210S/4	210S/4
1/2" RB	210D	210D	215S/4	215S/4
3/4" RB - 1/2" FB	210D	210D	215S/4	215S/4
1" RB - 3/4" RB	215D	215D	220S/4	220S/4
1-1/4" RB - 1" FB	215D	220D	220S/4	220S/4
1-1/2" RB - 1-1/4" FB	220D	225D	225S/4	230S/4
2" RB - 1-1/2" FB	225D	230D	230S/4	235S/4
2-1/2" RB - 2" FB	225D	230D	230S/4	235S/4

BVL Linkage kit selection table

Valve M10S / M10Vi ISO Size	BVA actuator							
	210	215	220	225	230	235	240	245
	1/4" RB - 3/8" RB	300	300					
1/2" RB	300	300						
3/4" RB - 1/2" FB	300	300						
1" RB - 3/4" RB	302	302	303					
1-1/4" RB - 1" FB		310	311					
1-1/2" RB - 1-1/4" FB		304	305	305	305			
2" RB - 1-1/2" FB			306	306	306	307		
2-1/2" RB - 2" FB				308	308	309		

Operating pressure: 75 psig (5 barg)

Valve M10S / M10Vi ISO Size	BVA actuator			
	Double acting		Single acting	
	LS	HS	LS	HS
1/4" RB - 3/8" RB	210D	210D	210S	210S
1/2" RB	210D	210D	210S	215S
3/4" RB - 1/2" FB	210D	210D	215S	215S
1" RB - 3/4" FB	215D	215D	220S	220S
1-1/4" RB - 1" FB	215D	215D	220S	220S
1-1/2" RB - 1-1/4" FB	215D	220D	220S	225S
2" RB - 1-1/2" FB	220D	225D	230S	235S
2-1/2" RB - 2" FB	225D	230D	230S	235S

Operating pressure: 90 psig (6 barg)

Valve M10S / M10Vi ISO Size	BVA actuator			
	Double acting		Single acting	
	LS	HS	LS	HS
1/4" RB - 3/8" RB	210D	210D	210S	210S
1/2" RB	210D	210D	210S	210S
3/4" RB - 1/2" FB	210D	210D	210S	210S
1" RB - 3/4" FB	210D	215D	215S	215S
1-1/4" RB - 1" FB	215D	215D	215S	220S
1-1/2" RB - 1-1/4" FB	215D	220D	220S	225S
2" RB - 1-1/2" FB	220D	225D	225S	230S
2-1/2" RB - 2" FB	225D	225D	230S	235S

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 145 psig (10 barg).
- Maximum differential pressure 290 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 BSP M10Si2FB ISO ball valve

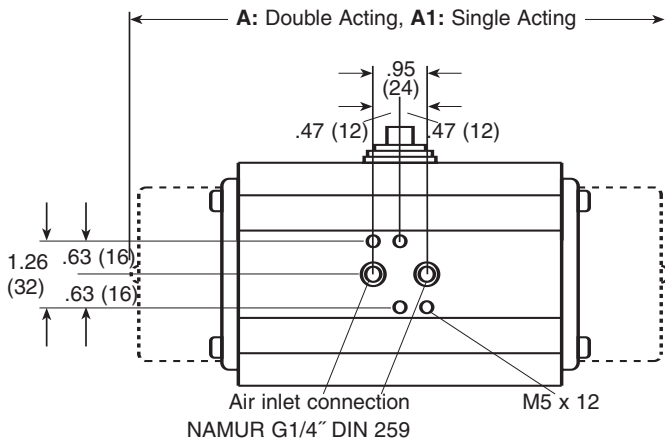
Available air pressure: 75 psig (6 barg).

Light service, double acting actuator.

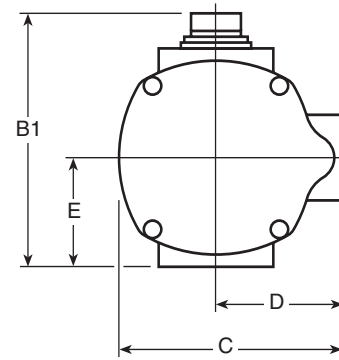
1. Select from 75 psig (6 barg) operating pressure table an actuator for a 1-1/2" FB ball valve, light service (LS), double acting:
BVA220D
2. Select from BVL linkage kit selection table a BVL suitable for a 1-1/2" FB ball valve and BVA220 actuator:
BVL236

How to order

Example: 1- Spirax Sarco 1-1/2" screwed BSP M10Si2FB ISO ball valve, with BVA220D actuator and BVL236 linkage kit, operating with 75 psig (6 barg) air pressure.

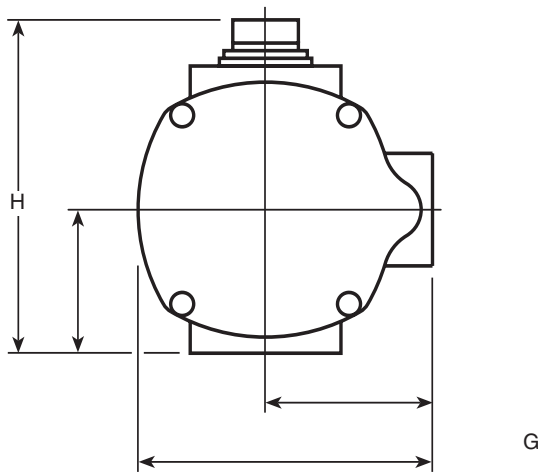


Dimensions / weights (approximate) in inches (mm) and lbs (kg)



BVA200 series actuators

Type	Actuator weight lbs		B1	C	D	E	Actuator weight lbs	
	Double acting	Single acting					Double acting	Single acting
BVA210	5.12 (130)	8.47 (215)	3.78 (96)	2.99 (76)	1.89 (48)	1.34 (34)	2.5 (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)	3.9 (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)	5.8 (2.6)	8.9 (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)	12.2 (5.5)
BVA230	8.31 (211)	13.08 (332)	6.50 (165)	5.32 (135)	3.07 (78)	2.76 (70)	11.3 (5.1)	18.6 (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)	27. (12.1)
BVA240	10.84 (275)	16.55 (420)	7.84 (199)	6.78 (172)	3.78 (96)	3.35 (85)	24. (10.5)	37. (16.5)
BVA245	13.24 (336)	18.68 (474)	8.55 (217)	7.56 (192)	4.18 (106)	3.86 (98)	36. (16.0)	53. (24.0)
BVA250	16.55 (420)	22.77 (578)	9.81 (249)	8.35 (212)	4.57 (116)	4.49 (114)	58. (26.0)	84. (38.0)
BVA255	18.20 (462)	24.19 (614)	11.03 (280)	9.54 (242)	5.16 (131)	5.16 (131)	81. (36.5)	115. (52.0)



*F: Screwed and BW
*F1: SW

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 screws (4)	Stainless steel	Gr.5
Washers (4)	Stainless steel	
Frame-to-valve screws (4)	Stainless steel	Gr.5
Washers (4)	Stainless steel	
Stem nut (1) or locking plate (1)	Stainless steel	

BVL linkage kit with M10Si and M10Vi ball valve

Reduced bore

Size (Valve)	*F	*F1	G	H	Weight (Valve)
1/4"	2.36 (60)	2.29 (58)	1.03 (26)	3.00 (75)	2.1 (0.92)
&	2.36 (60)	2.29 (58)	1.03 (26)	3.00 (75)	2.1 (0.92)
1/2"	2.36 (60)	1.93 (49)	1.03 (26)	3.00 (75)	2.1 (0.92)
3/4"	2.60 (66)	2.21 (56)	1.14 (29)	3.07 (78)	2.2 (0.95)
1"	3.15 (80)	3.07 (78)	1.30 (33)	3.31 (84)	3.7 (1.65)
1-1/4"	3.78 (96)	3.59 (91)	1.46 (37)	3.55 (90)	5.1 (2.30)
1-1/2"	4.02 (102)	3.86 (98)	1.62 (41)	3.67 (93)	6.8 (3.05)
2"	4.65 (118)	4.41 (112)	1.89 (48)	3.98 (101)	10.2 (4.60)
2-1/2"	5.75 (146)	5.71 (145)	2.25 (57)	5.52 (140)	17.6 (7.95)

Note: Weights including BVL are available upon request

Full bore

Size (Valve)	*F	*F1	G	H	Weight (Valve)
1/4"	2.36 (60)	2.29 (58)	1.03 (26)	3.00 (75)	2.1 (0.92)
&"	2.36 (60)	2.29 (58)	1.03 (26)	3.00 (75)	2.1 (0.92)
1/2"	2.60 (66)	2.40 (61)	1.14 (29)	3.07 (78)	2.2 (0.95)
3/4"	3.15 (80)	3.07 (78)	1.30 (33)	3.31 (84)	3.7 (1.65)
1"	3.78 (96)	3.74 (95)	1.46 (37)	3.55 (90)	5.1 (2.30)
1-1/4"	4.02 (102)	4.02 (102)	1.62 (41)	3.67 (93)	6.8 (3.05)
1-1/2"	4.65 (118)	4.65 (118)	1.89 (48)	3.98 (101)	10.2 (4.60)
2"	5.75 (146)	5.71 (145)	2.25 (57)	5.52 (140)	17.6 (7.95)

Note: Weights including BVL are available upon request.

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