



TI-P372-23
CH Issue 9

BVA300 Series Pneumatic Actuators for use with Spirax Sarco Ball Valves

Description

The BVA300 series are pneumatic rotary actuators which automate Spirax Sarco ball valves in a wide range of industrial applications. BVA300 actuators are provided with bi-directional travel stops that allow a rotation of 90°±5°. Linkage is made with the new BVL_X kits with extended stem.

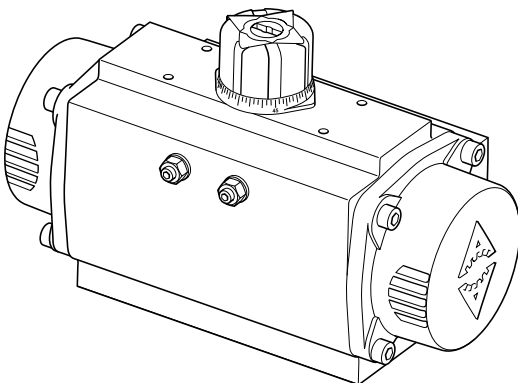
Pneumatic actuated ball valve range:

Actuators combined with:	Three-piece ball valves:	M10F ISO, M10Hi ISO, M10HPi ISO, M10HTi ISO, M10Pi ISO, M10Si ISO, M10Ti ISO, M10Vi ISO, M15i ISO, M70i ISO and M80i ISO
	Two-piece ball valves:	M31S ISO, M31V ISO, M33F ISO, M33H ISO, M33HT ISO, M33S ISO, M33T ISO and M33V ISO
	One-piece ball valves:	M21Fi ISO, M21Hi ISO, M21HTi ISO, M21Si ISO, M21Ti ISO, M21Vi ISO, M40Fi ISO, M40Hi ISO, M40HTi ISO, M40Si ISO, M40Ti ISO, M40Vi ISO and M45i ISO

BVA300 pneumatic actuator range:

For optimum actuator performance use the selection tables on pages 4 to 11.

Double acting:	310D, 315D, 320D, 325D, 330D, 335D, 340D, 345D, 350D, 355D, 357D, 360D, 365D.
Single acting (spring return):	310S, 315S, 320S, 325S, 330S, 335S, 340S, 345S, 350S, 355S, 357S, 360S, 365S.



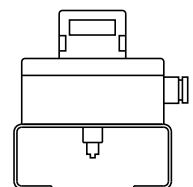
Technical data

Maximum pressure	8 bar g
Minimal pressure	3 bar g
Operating pressure range (standard)	3, 4, 5 or 6 bar g
Operating temperature range	-30°C to 100°C
Note: Other operating temperature ranges available on request.	
Operating media	Compressed air (clean and dry)
	Non corrosive gas
	Light hydraulic oil (must be compatible with 'O' rings)
Rotation 90 ±5°	Anticlockwise with port 'A' pressurised

Optional extras:

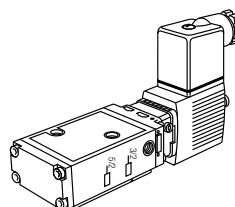
Limit switch box: a range of limit switch boxes are available to indicate ball valve position. They allow switching points to be adjustable over the full range of actuators. Boxes have IP67 protection rating as standard and are available as follows:

LSB31	Contact switches (2 x SPDT)
LSB71	Contact switches (2 x SPDT) Explosion proof Exd IIC T6
LSB32	10 - 30 Vdc 3-wire proximity sensors (2 x Autonics PS17-5DNU, NPN)
LSB72	10 - 30 Vdc 3-wire proximity sensors (2 x Autonics PS17-5DNU, NPN) Explosion proof Exd IIC T6
LSB33	8 Vdc 2-wire proximity sensors (2 x P&F NJ2-V3-N; intrinsically safe)
LSB73	8 Vdc 2-wire proximity sensors (2 x P&F NJ2-V3-N; intrinsically safe) Explosion proof Exd IIC T6
LSB34	5 - 60 Vdc 2-wire proximity sensors (2 x P&F NBB3-V3-E2)
LSB74	5 - 60 Vdc 2-wire proximity sensors (2 x P&F NBB3-V3-E2) Explosion proof Exd IIC T6



Solenoid valve: a range of Namur electrical valves with an encapsulation rating to IP65 is available for use with BVA actuators. These can be used to drive actuators with compressed air or non-corrosive gas.

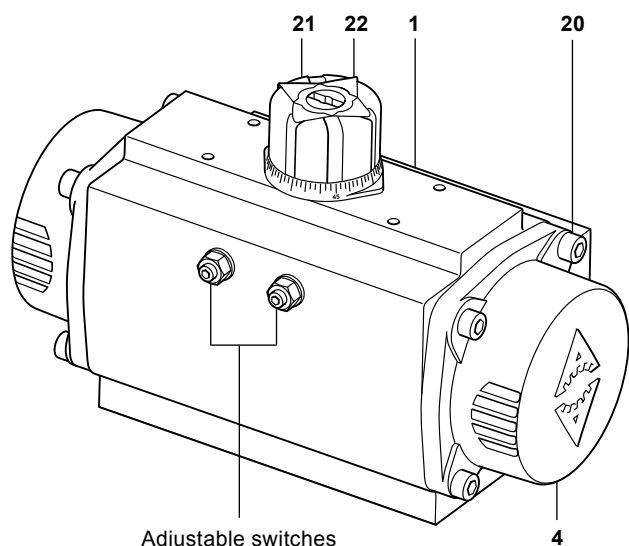
Note: Explosion proof solenoid valves are available on request.



Solenoid	Coil voltage
3/2 NAMUR for BVAS	220 Vac
	110 Vac
	24 Vac/dc
5/2 NAMUR for BVAD	220 Vac
	110 Vac
	24 Vac/dc

Materials

No	Part	Material
1	Body	Aluminium hard anodized
3	Pinion (shown clearly in the spares drawing on page 3)	Nickel plated carbon steel
4	End caps	Aluminium epoxy coated
20	Bolt	Stainless steel
21	Indicator cap	Polyamide
22	Coloured indicator	Polyamide



Typical assembly

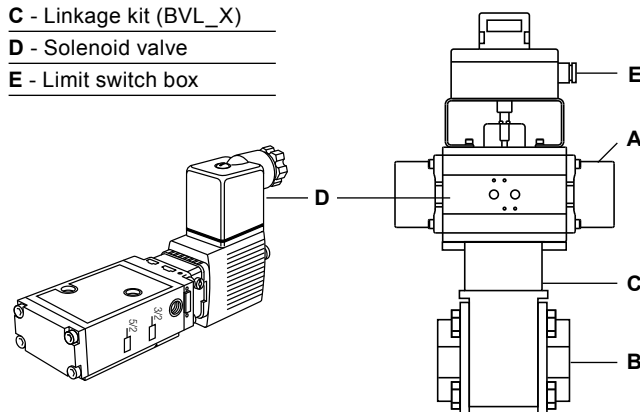
A - BVA300 series actuator

B - Spirax Sarco ball valve

C - Linkage kit (BVL_X)

D - Solenoid valve

E - Limit switch box



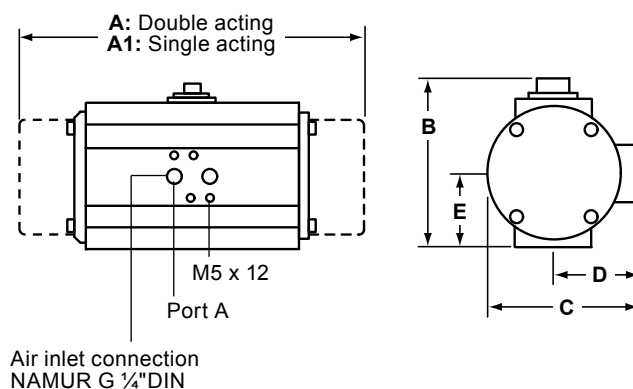
BVL_X linkage kit components and materials

Frame	Stainless steel AISI 304
Stem adapter	Stainless steel AISI 304
Frame-to-actuator screws	Stainless steel Gr. 5
Washers	Stainless steel
Frame-to-valve screws	Stainless steel Gr. 5
Stem nut	Stainless steel

Please note That the BVL_X for the M20 is made in zinc plated carbon steel.

Dimensions / weights (approximate) in mm and kg

Type	A1	A	B	C	D	E	Weights	
							Single	Double
BVA310	163	145	96	76	48	34	1.6	1.4
BVA315	195	158	115	91	56	45	2.3	2.1
BVA320	217	177	137	111	66	55	3.7	3.0
BVA325	258	196	147	122	71	60	4.8	3.8
BVA330	299	225	165	136	78	70	7.3	5.6
BVA335	349	273	182	153	86	80	10.8	8.5
BVA340	397	304	199	173	96	85	15.4	11.2
BVA345	473	372	221	192	106	98	22.2	16.9
BVA350	560	439	249	213	116	114	34.3	25.8
BVA355	601	461	280	243	131	130	46.0	32.5
BVA357	698	504	313	276	148	147	66.0	49.1
BVA360	738	518	383	356	178	177	99.9	69.6
BVA365	940	630	434	415	213	201	183.0	129.4



How to order

Note: You will need to refer to the selection tables (pages 4 to 12) before placing an order.

How to order example:

1 - Spirax Sarco BVA320S/8 actuator
1 - 3/2 NAMUR solenoid 24 Vac
1 - 303X linkage kit
1 - LSB72 limit switch box

Note: Actuated ball valves may be supplied completely assembled to suit the application.

Spare parts The spare parts available are detailed below. No other parts are supplied as spares.

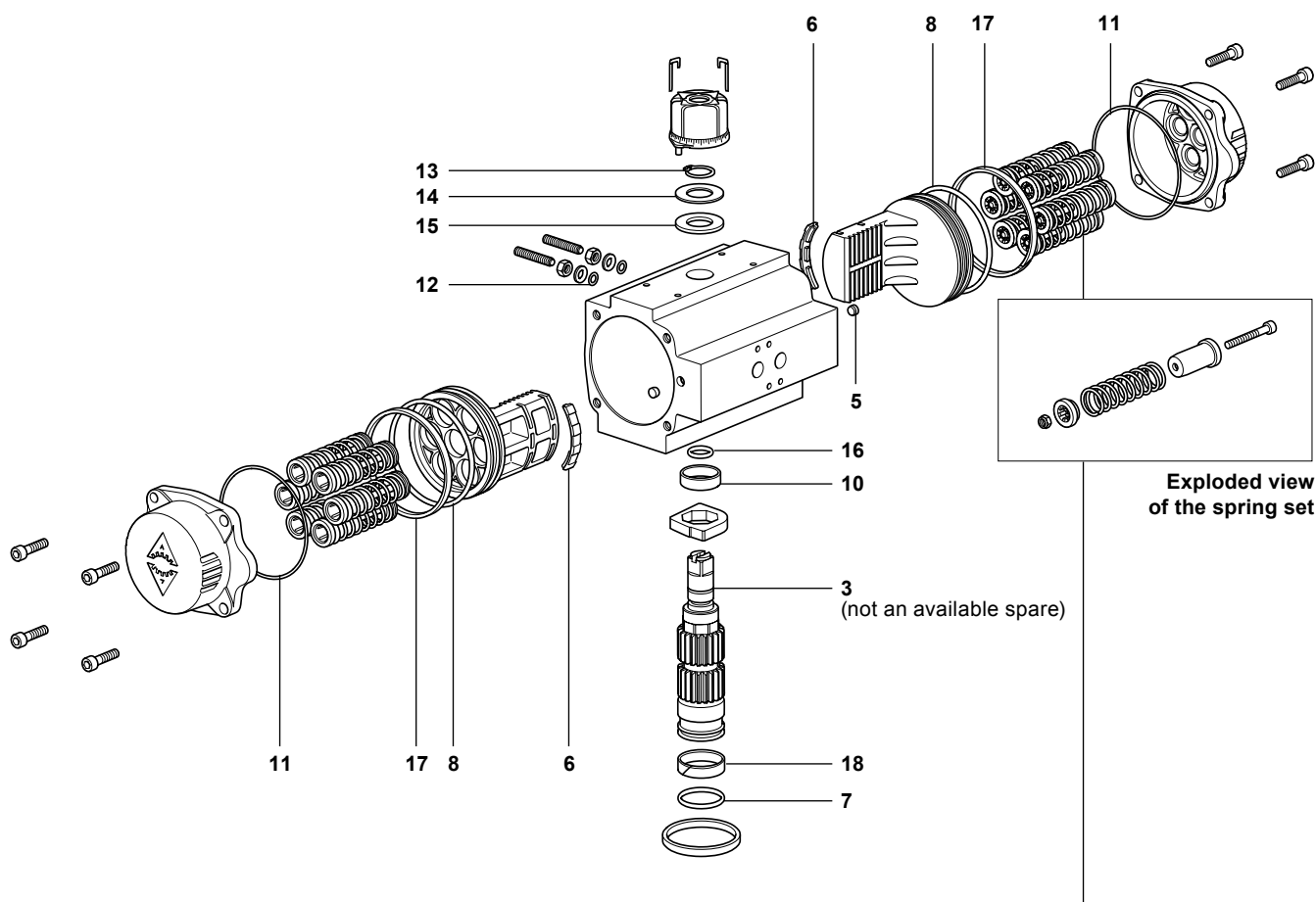
Available spares

	'O' rings set (available either in NBR, Viton or Silicon)	7, 8, 11, 12, 16
BVA300 series maintenance kit	Pinion washers	13, 14, 15
	Others	5, 6, 10, 17, 18

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the nomenclature of the pneumatic actuator that they are intended for. **Note:** all the spares mentioned above are sold together in one spare part kit.

Example: 1 - BVA300 series maintenance kit with 'O' rings in NBR for a Spirax Sarco BVA320S/08 pneumatic actuator.



Spring quantity selection

According to the available air pressure, the BVA has different spring configurations. For more details, see the Installation and Maintenance Instructions IM-P372-24.

BVA	Springs					
	S/4	S/6	S/8	S/10	S/12	S/14
310	.	.	.	.	.	.
315 - 365	.	.	.	.	.	.

Example: BVA325S/10 has 10 springs.

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for three-piece ball valves

M10Vi ISO, M10Si ISO and M10Ti ISO ball valves

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
¼" RB - ⅜" RB	310D	300X	310S/4	300X
½" RB - ⅜" FB	310D	300X	310S/4	300X
¾" RB - ½" FB	310D	300X	315S/8	300X
1" RB - ¾" FB	315D	302X	320S/8	303X
1¼" RB - 1" FB	320D	311X	325S/8	311X
1½" RB - 1¼" FB	330D	305X	340S/8	316X
2" RB - 1½" FB	330D	306X	340S/8	307X
2½" RB - 2" FB	335D	309X	340S/8	309X

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
¼" RB - ⅜" RB	310D	300X	310S/6	300X
½" RB - ⅜" FB	310D	300X	310S/6	300X
¾" RB - ½" FB	310D	300X	310S/6	300X
1" RB - ¾" FB	315D	302X	320S/12	303X
1¼" RB - 1" FB	315D	310X	320S/12	311X
1½" RB - 1¼" FB	320D	305X	330S/12	305X
2" RB - 1½" FB	325D	306X	335S/12	307X
2½" RB - 2" FB	325D	308X	335S/12	309X

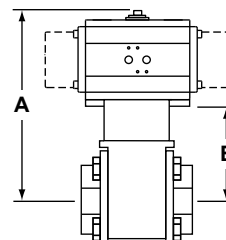
Actuator operating pressure 4 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	300X	310S/6	300X
310D	300X	310S/6	300X
310D	300X	315S/10	300X
315D	302X	320S/10	303X
315D	310X	320S/10	311X
325D	305X	335S/10	316X
325D	306X	335S/10	307X
330D	308X	340S/10	309X

Actuator operating pressure 6 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	300X	310S/8	300X
310D	300X	310S/8	300X
310D	300X	310S/8	300X
310D	302X	315S/14	302X
315D	310X	320S/14	311X
320D	305X	330S/14	305X
320D	306X	330S/14	306X
325D	308X	335S/14	309X

Dimensions * (mm)



DN	A	B
¼"	218	122
⅜"	218	122
½"	218	122
¾"	239	124
1"	266	129
1¼"	281	134
1½"	336	137
2"	342	143
2½"	356	157

* Note: The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

M10Hi ISO and M10HTi ball valves

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
¼" RB - ⅜" RB	315D	490X	320S/8	491X
½" RB - ⅜" FB	315D	490X	320S/8	491X
¾" RB - ½" FB	315D	490X	325S/8	491X
1" RB - ¾" FB	320D	493X	330S/8	493X
1¼" RB - 1" FB	325D	494X	340S/8	495X
1½" RB - 1¼" FB	330D	496X	340S/8	497X
2" RB - 1½" FB	330D	498X	340S/8	499X
2½" RB - 2" FB	335D	502X	345S/8	503X

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
¼" RB - ⅜" RB	310D	490X	315S/12	490X
½" RB - ⅜" FB	310D	490X	315S/12	490X
¾" RB - ½" FB	315D	490X	320S/12	491X
1" RB - ¾" FB	315D	492X	325S/10	493X
1¼" RB - 1" FB	320D	494X	330S/12	494X
1½" RB - 1¼" FB	325D	496X	335S/12	497X
2" RB - 1½" FB	325D	498X	335S/12	499X
2½" RB - 2" FB	330D	505X	335S/12	502X

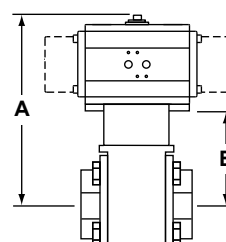
Actuator operating pressure 4 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	490X	320S/10	491X
310D	490X	320S/10	491X
315D	490X	320S/10	491X
320D	493X	325S/10	493X
325D	494X	335S/10	495X
325D	496X	335S/10	497X
330D	498X	340S/10	499X
335D	502X	340S/10	502X

Actuator operating pressure 6 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	490X	315S/14	490X
310D	490X	315S/14	490X
310D	490X	320S/14	491X
315D	492X	320S/14	493X
320D	494X	330S/14	494X
320D	496X	330S/14	496X
325D	498X	335S/14	499X
325D	505X	335S/14	502X

Dimensions * (mm)



DN	A	B
¼"	259	122
⅜"	259	122
½"	259	122
¾"	271	124
1"	294	129
1¼"	347	134
1½"	336	137
2"	342	143
2½"	378	157

* Note: The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for three-piece ball valves

M10HPi ISO ball valves

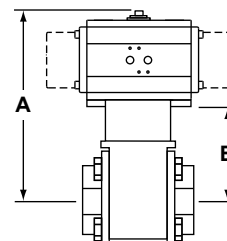
Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1/4" RB - 3/8" RB	315D	490X	320S/8	491X
1/2" RB - 3/8" FB	315D	490X	320S/8	491X
3/4" RB - 1/2" FB	315D	490X	325S/8	491X
1" RB - 3/4" FB	320D	493X	330S/8	493X
1 1/4" RB - 1" FB	325D	494X	340S/8	495X
1 1/2" RB - 1 1/4" FB	330D	496X	340S/8	497X
2" RB - 1 1/2" FB	335D	499X	345S/8	500X

Actuator operating pressure 4 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	490X	320S/10	491X
310D	490X	320S/10	491X
315D	490X	320S/10	491X
320D	493X	325S/10	493X
325D	494X	335S/10	495X
325D	496X	335S/10	497X
335D	499X	340S/10	499X

Dimensions * (mm)



Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1/4" RB - 3/8" RB	310D	490X	315S/12	490X
1/2" RB - 3/8" FB	310D	490X	315S/12	490X
3/4" RB - 1/2" FB	315D	490X	320S/12	491X
1" RB - 3/4" FB	315D	492X	325S/12	493X
1 1/4" RB - 1" FB	320D	494X	330S/12	494X
1 1/2" RB - 1 1/4" FB	325D	496X	335S/12	497X
2" RB - 1 1/2" FB	330D	498X	340S/12	499X

Actuator operating pressure 6 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	490X	315S/14	490X
310D	490X	315S/14	490X
310D	490X	320S/14	491X
315D	492X	320S/14	493X
320D	494X	330S/14	494X
320D	496X	330S/14	496X
330D	498X	340S/14	499X

DN	A	B
1/4"	259	122
3/8"	259	122
1/2"	259	122
3/4"	271	124
1"	294	129
1 1/4"	347	134
1 1/2"	336	137
2"	381	143

* Note: The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

M10Pi ISO ball valves

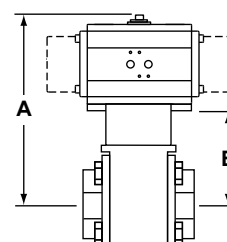
Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1/4" RB - 3/8" RB	310D	490X	310S/4	490X
1/2" RB - 3/8" FB	310D	490X	310S/4	490X
3/4" RB - 1/2" FB	310D	490X	315S/8	490X
1" RB - 3/4" FB	315D	492X	320S/8	493X
1 1/4" RB - 1" FB	320D	494X	325S/8	494X
1 1/2" RB - 1 1/4" FB	330D	496X	340S/8	497X
2" RB - 1 1/2" FB	330D	498X	340S/8	499X
2 1/2" RB - 2" FB	330D	505X	340S/8	502X

Actuator operating pressure 4 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	490X	310S/6	490X
310D	490X	310S/6	490X
310D	490X	315S/10	490X
315D	492X	320S/10	493X
315D	504X	320S/10	494X
325D	496X	335S/10	497X
325D	498X	335S/10	499X
330D	505X	340S/10	502X

Dimensions * (mm)



Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1/4" RB - 3/8" RB	310D	490X	310S/6	490X
1/2" RB - 3/8" FB	310D	490X	310S/6	490X
3/4" RB - 1/2" FB	310D	490X	310S/6	490X
1" RB - 3/4" FB	315D	492X	320S/12	493X
1 1/4" RB - 1" FB	315D	504X	320S/12	494X
1 1/2" RB - 1 1/4" FB	320D	496X	330S/12	496X
2" RB - 1 1/2" FB	325D	498X	335S/12	499X
2 1/2" RB - 2" FB	325D	505X	335S/12	502X

Actuator operating pressure 6 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	490X	310S/8	490X
310D	490X	310S/8	490X
310D	490X	310S/8	490X
310D	492X	315S/14	492X
315D	504X	320S/14	494X
320D	496X	330S/14	496X
320D	498X	330S/14	498X
325D	505X	335S/14	502X

DN	A	B
1/4"	218	122
3/8"	218	122
1/2"	218	122
3/4"	239	124
1"	266	129
1 1/4"	281	134
1 1/2"	336	137
2"	342	143
2 1/2"	356	157

* Note: The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for three-piece ball valves

M70i ISO ball valve

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
½"	315D	300X	320S/8	301X
¾"	315D	300X	325S/8	301X
1"	320D	303X	325S/8	303X
1½"	330D	306X	340S/8	307X
2"	335D	309X	345S/8	318X

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
½"	310D	300X	320S/12	301X
¾"	315D	300X	320S/12	301X
1"	315D	302X	320S/12	303X
1½"	325D	306X	335S/12	307X
2"	330D	308X	340S/12	309X

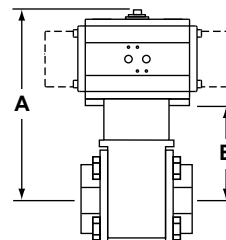
Actuator operating pressure 4 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
315D	300X	320S/10	301X
315D	300X	320S/10	301X
315D	302X	325S/10	303X
330D	306X	340S/10	307X
335D	309X	340S/10	309X

Actuator operating pressure 6 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
310D	300X	315S/14	300X
310D	300X	320S/14	301X
315D	302X	320S/14	303X
325D	306X	335S/14	307X
330D	308X	335S/14	309X

Dimensions * (mm)



DN	A	B
½"	259	122
¾"	271	124
1"	276	129
1½"	342	143
2"	378	157

* Note: The dimensions **A** and **B** represents the maximum size (mm) for the biggest recommended actuator according to each valve.

M80i ISO ball valve

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2½"	335D	481X	345S/8	482X
3"	340D	481X	345S/8	482X
4"	340D	484X	350S/8	486X

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2½"	330D	480X	340S/12	481X
3"	335D	481X	340S/12	481X
4"	335D	484X	345S/12	485X

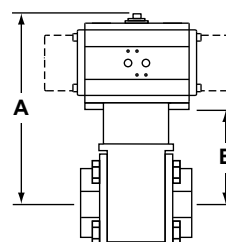
Actuator operating pressure 4 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
335D	481X	340S/10	481X
335D	481X	345S/10	482X
335D	484X	345S/10	485X

Actuator operating pressure 6 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
330D	480X	340S/14	481X
330D	480X	340S/14	481X
335D	484X	340S/14	484X

Dimensions * (mm)



DN	A	B
2½"	407	186
3"	434	213
4"	499	250

* Note: The dimensions **A** and **B** represents the maximum size (mm) for the biggest recommended actuator according to each valve.

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for two-piece ball valves

M31V ISO and M31S ISO ball valves

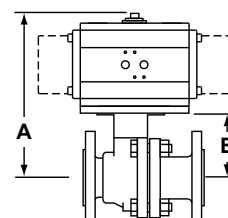
Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2"	325D	400X	335S/8	401X
2½"	330D	402X	340S/8	403X
3"	330D	402X	345S/8	404X
4"	345D	406X	355S/8	407X
6"	355D	409X	365S/8	414X
8"	360D	413X	-	-

Actuator operating pressure 4 bar g

Double acting	Single acting	Double acting	Single acting
BVA	BVL	BVA	BVL
320D	400X	330S/10	400X
325D	402X	335S/10	403X
330D	402X	340S/10	403X
340D	405X	350S/10	407X
355D	409X	360S/10	410X
355D	412X	360S/12	413X

Dimensions * (mm)



Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2"	320D	400X	330S/12	400X
2½"	320D	402X	330S/12	402X
3"	325D	402X	335S/12	403X
4"	335D	405X	350S/12	407X
6"	350D	409X	360S/12	410X
8"	355D	412X	360S/12	413X

Actuator operating pressure 6 bar g

Double acting	Single acting	Double acting	Single acting
BVA	BVL	BVA	BVL
320D	400X	330S/14	400X
320D	402X	330S/14	402X
325D	402X	335S/14	403X
335D	405X	345S/14	406X
350D	409X	360S/14	410X
350D	412X	360S/14	413X

DN	A	B
2"	340	158
2½"	371	172
3"	400	179
4"	488	208
6"	747	313
8"	731	348

* Note: The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

M33V ISO, M33S ISO, M33F and M33T ISO ball valves

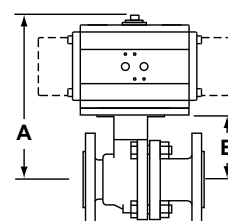
Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2"	330D	510X	340S/8	511X
2½"	335D	513X	345S/8	514X
3"	340D	513X	350S/8	526X
4"	350D	517X	360S/8	527X
6"	360D	520X	365S/8	521X
8"	365D	525X	-	-

Actuator operating pressure 4 bar g

Double acting	Single acting	Double acting	Single acting
BVA	BVL	BVA	BVL
330D	510X	335S/10	511X
335D	513X	340S/10	513X
335D	513X	345S/10	514X
345D	516X	355S/10	517X
355D	519X	360S/10	520X
360D	524X	365S/10	525X

Dimensions * (mm)



Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2"	325D	510X	335S/12	511X
2½"	330D	512X	340S/12	513X
3"	335D	513X	340S/12	513X
4"	345D	516X	355S/12	517X
6"	350D	519X	360S/12	520X
8"	360D	524X	365S/12	525X

Actuator operating pressure 6 bar g

Double acting	Single acting	Double acting	Single acting
BVA	BVL	BVA	BVL
325D	510X	335S/14	511X
330D	512X	335S/14	513X
335D	513X	340S/14	513X
345D	516X	350S/14	517X
350D	519X	360S/14	520X
360D	524X	365S/14	525X

DN	A	B
2"	356	157
2½"	390	169
3"	426	177
4"	647	264
6"	750	316
8"	785	351

* Note: The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for two-piece ball valves

M33H ISO and M33HT ISO ball valves

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2"	335D	511X	345S/8	528X
2½"	335D	513X	345S/8	514X
3"	340D	513X	350S/8	526X
4"	350D	517X	360S/8	527X
6"	360D	520X	365S/8	521X
8"	365D	525X	-	-

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
2"	330D	510X	340S/12	511X
2½"	330D	512X	340S/12	513X
3"	335D	513X	345S/12	514X
4"	345D	516X	355S/12	517X
6"	355D	519X	360S/12	520X
8"	360D	524X	365S/12	525X

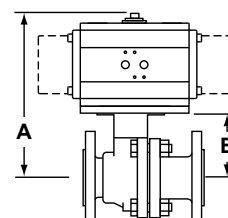
Actuator operating pressure 4 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
330D	510X	340S/10	511X
335D	513X	340S/10	513X
335D	513X	345S/10	514X
345D	516X	355S/10	517X
357D	520X	360S/10	520X
360D	524X	365S/10	525X

Actuator operating pressure 6 bar g

Double acting		Single acting	
BVA	BVL	BVA	BVL
325D	510X	335S/14	511X
325D	512X	340S/14	513X
335D	513X	340S/14	513X
345D	516X	350S/14	517X
350D	519X	360S/14	520X
360D	524X	365S/14	525X

Dimensions * (mm)



DN	A	B
2"	395	174
2½"	390	169
3"	426	177
4"	647	264
6"	750	316
8"	785	351

* **Note:** The dimensions **A** and **B** represents the maximum size (mm) for the biggest recommended actuator according to each valve.

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for one-piece ball valves

M21Hi ISO and M21HTi ISO ball valves

M40Hi ISO and M40HTi ISO ball valves

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1/2" **	315D	300X	325S/8	301X
3/4" **	315D	300X	325S/8	301X
1"	320D	303X	325S/8	303X
1 1/4"	320D	494X	330S/8	494X
1 1/2"	325D	306X	340S/8	307X
2"	330D	306X	340S/8	307X
2 1/2"	335D	511X	345S/8	528X
3"	335D	513X	345S/8	514X
4"	340D	513X	350S/8	526X
6"	350D	517X	360S/8	527X

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1/2" **	315D	300X	320S/12	301X
3/4" **	315D	300X	320S/12	301X
1"	315D	302X	320S/12	303X
1 1/4"	315D	504X	325S/12	494X
1 1/2"	320D	306X	330S/12	306X
2"	325D	306X	335S/12	307X
2 1/2"	330D	510X	340S/12	511X
3"	330D	512X	345S/12	514X
4"	335D	513X	345S/12	514X
6"	345D	516X	357S/12	527X

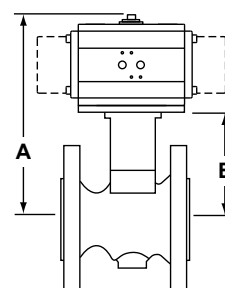
Actuator operating pressure 4 bar g

	Double acting		Single acting	
	BVA	BVL	BVA	BVL
315D	300X	320S/10	301X	
315D	300X	320S/10	301X	
315D	302X	325S/10	303X	
320D	494X	325S/10	494X	
325D	306X	335S/10	307X	
325D	306X	335S/10	307X	
335D	511X	345S/10	528X	
335D	513X	345S/10	514X	
340D	513X	350S/10	526X	
350D	517X	357S/10	527X	

Actuator operating pressure 6 bar g

	Double acting		Single acting	
	BVA	BVL	BVA	BVL
310D	300X	320S/14	301X	
310D	300X	320S/14	301X	
315D	302X	320S/14	303X	
315D	504X	325S/14	494X	
320D	306X	330S/14	306X	
320D	306X	330S/14	306X	
330D	510X	340S/14	511X	
330D	512X	340S/14	513X	
335D	513X	345S/14	514X	
345D	516X	355S/14	517X	

Dimensions * (mm)



DN	A	B
1/2"	271	124
3/4"	271	124
1"	276	129
1 1/4"	299	134
1 1/2"	337	138
2"	342	143
2 1/2"	395	174
3"	383	162
4"	426	177
6"	647	264

* **Note:** The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

** **Note:** 1/2" and 3/4" just for M21i

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for one-piece ball valves

M45i ISO ball valves

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1"	320D	303X	325 S8	303X
1¼"	320D	494X	330 S8	494X
1½"	325D	306X	340 S8	307X
2"	330D	306X	340 S8	307X
2½"	335D	511X	345 S8	528X
3"	340D	513X	345 S8	514X
4"	345D	514X	355 S8	526X
6"	345D	516X	360 S8	527X

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
1"	315D	302X	320 S12	303X
1¼"	320D	494X	325 S12	494X
1½"	320D	306X	330 S12	306X
2"	325D	306X	335 S12	307X
2½"	330D	510X	340 S12	511X
3"	335D	513X	340 S12	513X
4"	335D	513X	345 S12	514X
6"	340D	515X	355 S12	517X

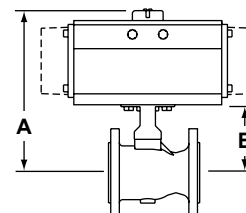
Actuator operating pressure 4 bar g

	Double acting		Single acting	
	BVA	BVL	BVA	BVL
315D	302X	325 S10	303X	
320D	494X	330 S10	494X	
325D	306X	330 S10	306X	
325D	306X	335 S10	307X	
330D	510X	340 S10	511X	
335D	513X	345 S10	514X	
340D	513X	350 S10	526X	
345D	516X	355 S10	517X	

Actuator operating pressure 6 bar g

	Double acting		Single acting	
	BVA	BVL	BVA	BVL
315D	302X	320 S14	303X	
315D	504X	325 S14	494X	
320D	306X	330 S14	306X	
320D	306X	330 S14	306X	
325D	510X	335 S14	511X	
330D	512X	340 S14	513X	
335D	513X	345 S14	514X	
340D	515X	350 S14	517X	

Dimensions * (mm)



DN	A	B
1"	276	129
1¼"	299	134
1½"	337	138
2"	342	143
2½"	378	157
3"	383	162
4"	457	177
6"	650	264

Note: The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

Selection tables

Pages 4 to 11 contain all necessary information to select the correct actuator for relevant Spirax Sarco ball valves. For valves not appearing in these tables please contact Spirax Sarco for advice.

Pneumatic actuator selection tables for one-piece ball valves

M21Ti ISO, M21Vi ISO, M21Si ISO and M21Fi ISO ball valves

M40Ti ISO, M40Vi ISO, M40Si ISO and M40Fi ISO ball valves

Actuator operating pressure 3 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
½" **	315D	300X	325S/8	301X
¾" **	315D	300X	325S/8	301X
1"	320D	303X	325S/8	303X
1¼"	320D	494X	330S/8	494X
1½"	325D	306X	340S/8	307X
2"	325D	306X	340S/8	307X
2½"	330D	510X	340S/8	511X
3"	335D	513X	345S/8	514X
4"	340D	513X	350S/8	526X
6"	340D	515X	350S/8	517X
8"	360D	520X	365S/8	521X

Actuator operating pressure 5 bar g

DN	Double acting		Single acting	
	BVA	BVL	BVA	BVL
½" **	315D	300X	320S/12	301X
¾" **	315D	300X	320S/12	301X
1"	315D	302X	320S/12	303X
1¼"	315D	504X	325S/12	494X
1½"	320D	306X	330S/12	306X
2"	320D	306X	330S/12	306X
2½"	325D	510X	335S/12	511X
3"	330D	512X	340S/12	513X
4"	335D	513X	345S/12	514X
6"	335D	515X	345S/12	516X
8"	350D	519X	360S/12	520X

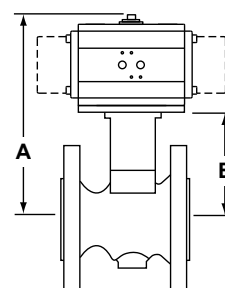
Actuator operating pressure 4 bar g

	Double acting		Single acting	
	BVA	BVL	BVA	BVL
315D	300X	320S/10	301X	
315D	300X	320S/10	301X	
315D	302X	325S/10	303X	
320D	494X	325S/10	494X	
325D	306X	330S/10	306X	
325D	306X	335S/10	307X	
325D	510X	335S/10	511X	
335D	513X	345S/10	514X	
335D	513X	345S/10	514X	
335D	515X	345S/10	516X	
355D	519X	360S/10	520X	

Actuator operating pressure 6 bar g

	Double acting		Single acting	
	BVA	BVL	BVA	BVL
310D	300X	320S/14	301X	
310D	300X	320S/14	301X	
315D	302X	320S/14	303X	
315D	504X	320S/14	494X	
320D	306X	325S/14	306X	
320D	306X	330S/14	306X	
320D	510X	330S/14	510X	
330D	512X	340S/14	513X	
330D	512X	340S/14	513X	
335D	515X	345S/14	516X	
350D	519X	360S/14	520X	

Dimensions * (mm)



DN	A	B
½"	271	124
¾"	271	124
1"	276	129
1¼"	299	134
1½"	337	138
2"	342	143
2½"	356	157
3"	383	162
4"	398	177
6"	513	264
8"	750	316

* **Note:** The dimensions A and B represents the maximum size (mm) for the biggest recommended actuator according to each valve.

** **Note:** ½" and ¾" just for M21i