

## **Diaphragm Valves**

### **Weir type & Straight through**

# Diaphragm Valves

## Why Diaphragm Valves

- **Size Range:** DN15mm (1/2") to DN400mm (12")
- Ends:** Flanged
- **Flow:** Bi-directional
- **Bore Passage:** Weir type S2K & Straight thru type Series G2K
- **Pressure Rating:** PN16, PN10 & PN6
- **Operation:** Hand wheel, Gear Box, Pneumatic & Electric Actuator.

### Features:

- Gland less & Cavity free design, 100% tight shut off.
- Straight thru bore passage for free flow.
- Rubber lined body for corrosion and abrasion resistance; No fluid contact to the body & bonnet.
- Choice of rubber linings and diaphragms to suit the fluid.
- Low pressure drop and high Co-efficient of flow (Cv).
- Field replaceable diaphragm and bonnet
- Non Rising hand wheel with sealed bonnet and travel stop arrangement.

- Weather seal O ring on the indicator cap to avoid dust entry.
- Multiple choices of flange drilling.
- Face to Face as per DIN EN558-1 Series 1 (DIN 3202F1) & Series 7 (BS:5156).
- Suitable for Bi-directional application.

### Applications:

- Minerals & Mining to handle slurries.
- Copper, Nickel, Cobalt, Gold Minding Industries.
- Phosphoric acid & Phosphate slurry up to 54% concentration @ 70°C.
- Rayon & Chlorine Bleaching Plants.
- Water & Waste Water Treatment Plants.
- Effluent Treatment Plants.
- Sugar, Steel & Fertilizer Industries.
- Power Plants.
- For choice of materials and dimensions, refer catalogues and drawings.



**Weir Type (S2K)**



**Straight Through Type (G2K)**

## Pneumatic Actuated Diaphragm Valve

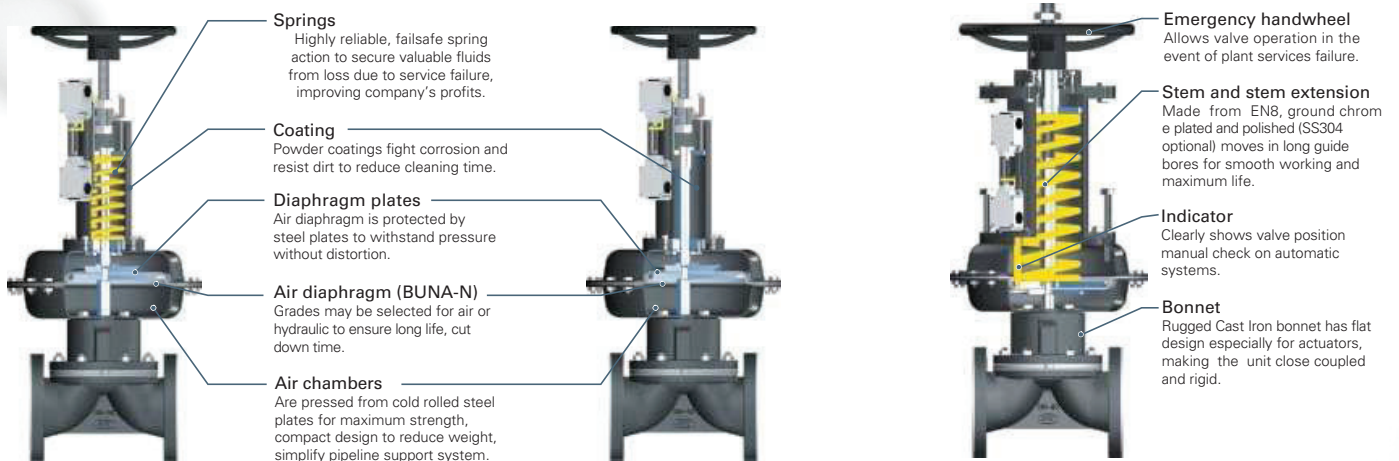
'BA' Series Pneumatic actuators - fail open, or fail close double acting models for diaphragm valves; most reliable, easy to service and low cost. Out perform ANSI/FCI 70-2 Class VI when fitted with positioners.

### Outstanding features and advantages

- Simple, highly effective design, compact and light weight.
- Safe, easy to maintain and low running costs.
- Increase processing accuracy and output; boosting your company's profits.

### Optional extras

- Adjustable open stop.
- Limit switches.
- Valve positioners.
- Solenoid valves.
- Air filter regulators.
- Air lock relays.
- Quick exhaust valves.



Direct acting actuators open the valves to allow line fluid to flow in the event of failure of air pressure to the actuators.

**Normal Use:** When the valves are normally in open position.

Double acting actuators either open or close the valves.

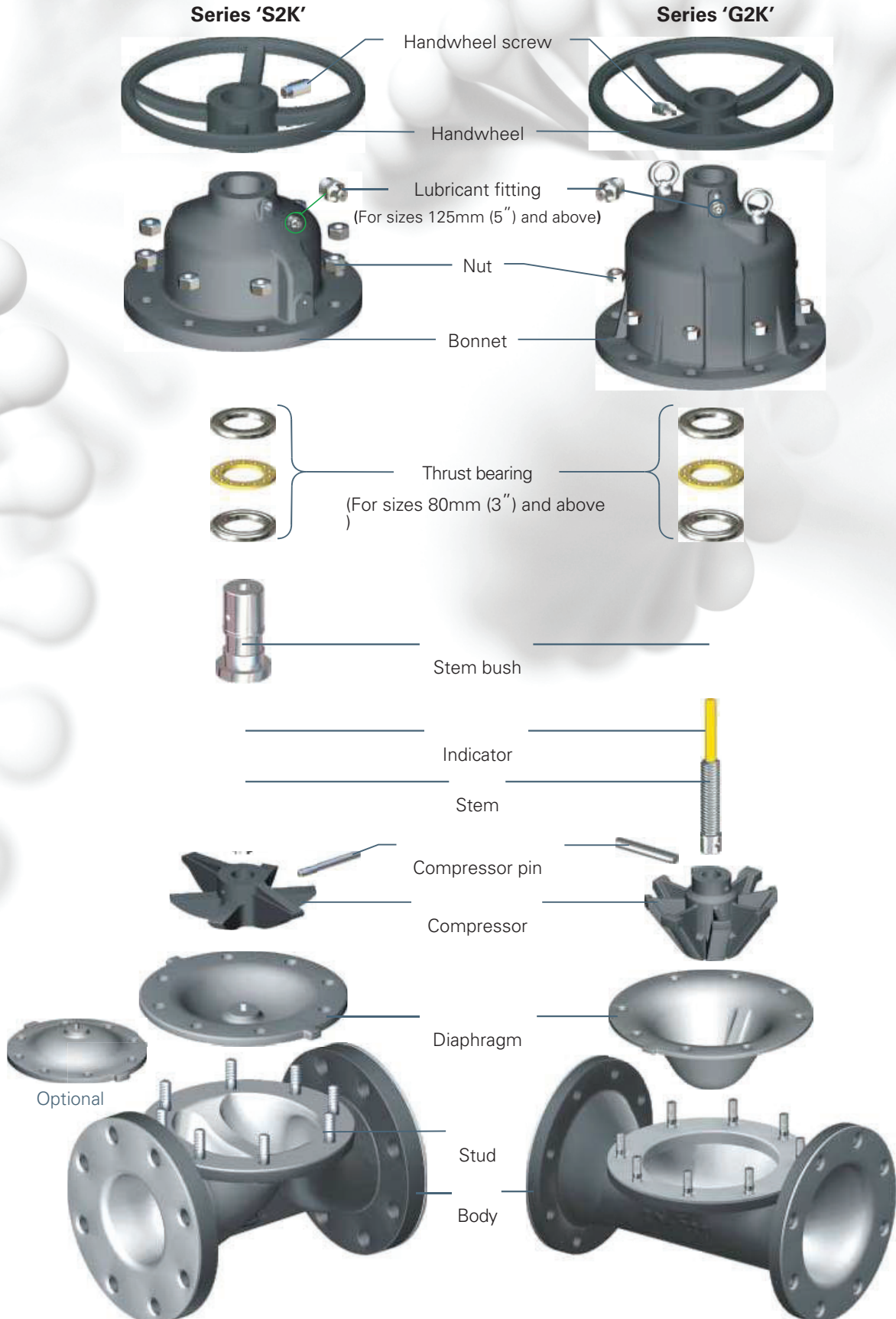
**Normal Use:** When failsafe mode are not desirable.

Reverse acting actuators close the valves against line pressure in the event of failure of air pressure to the actuators.

**Normal Use:** When the valves are normally in close position.

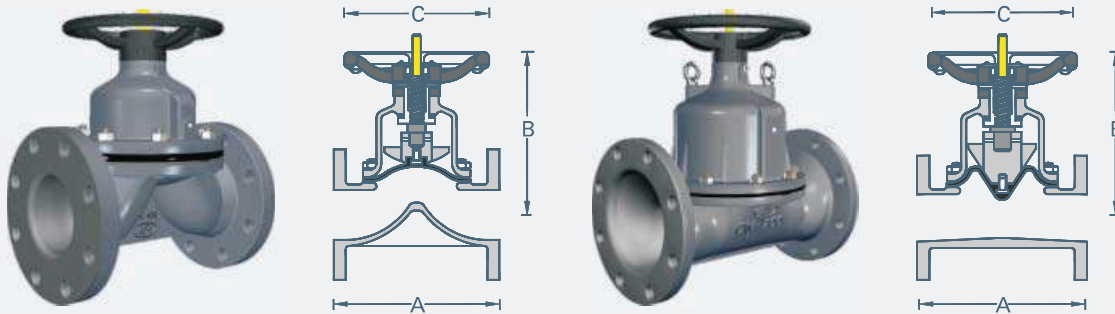
# Valve Parts

## Non Rising Handwheel



# Diaphragm Valves Non Rising Handwheel

## Series 'S2K' & 'G2K' - Flanged End



### Test Pressure in bar (psi)

	Series 'S2K'			Series 'G2K'		
Pressure rating 2)	16	10	6	10	6	
Hyd. Shell	24 (348)	15 (218)	9 (131)	15 (218)	9 (131)	Design std : BS EN 13397 Testing std : EN 12266-1
Seat	17.6 (255)	11 (160)	6.6 (96)	11 (160)	6.6 (96)	
Air Seat		5 (73)		5 (73)		

### Dimensions are in mm (inch)

Size mm (inch)	Series 'S2K' weir type				Series 'G2K' straight through type							
	A			DIN Unlined & Lined	B	C	Wt <sub>1</sub>		B	C	Wt <sub>1</sub>	
	Unlined	Rubber Lined	PFA* Lined				BS	DIN			BS	DIN
15 (½)	108 (4.3)	114 (4.5)	114 (4.5)	130 (5.1)	92 (3.6)	70 (2.8)	2.5 (5.5)	2.8 (6.2)	90 (3.5)	70 (2.8)	2.4 (5.3)	2.6 (5.7)
20 (¾)	117 (4.6)	123 (4.8)	123 (4.8)	150 (5.9)	100 (3.9)	70 (2.8)	2.6 (5.7)	3.2 (7.0)	90 (3.5)	70 (2.8)	2.8 (6.2)	3.0 (6.6)
25 (1)	127 (5.0)	133 (5.2)	133 (5.2)	160 (6.3)	114 (4.5)	100 (3.9)	3.5 (7.7)	4.2 (9.3)	112 (4.4)	100 (3.9)	4.2 (9.3)	4.6 (10.1)
32 (1¼)	146 (5.7)	152 (6.0)	152 (6.0)	180 (7.1)	115 (4.5)	100 (3.9)	4.5 (9.9)	5.5 (12.1)	112 (4.4)	100 (3.9)	4.5 (9.9)	5.5 (12.1)
40 (1½)	159 (6.3)	165 (6.5)	165 (6.5)	200 (7.9)	153 (6.0)	140 (5.5)	7.0 (15.4)	8.0 (17.6)	112 (4.4)	100 (3.9)	5.5 (12.1)	6.0 (13.2)
50 (2)	190 (7.5)	196 (7.7)	196 (7.7)	230 (9.1)	160 (6.3)	140 (5.5)	10 (22)	15 (33)	146 (5.7)	140 (5.5)	10 (22)	11 (24)
65 (2½)	216 (8.5)	222 (8.7)	222 (8.7)	290 (11.4)	180 (7.1)	180 (7.1)	15 (33)	19 (42)	177 (7.0)	180 (7.1)	15 (33)	17 (37)
80 (3)	254 (10.0)	260 (10.2)	260 (10.2)	310 (12.2)	233 (9.2)	225 (8.9)	22 (49)	26 (57)	205 (8.1)	225 (8.9)	25 (55)	28 (62)
100 (4)	305 (12.0)	313 (12.3)	311 (12.2)	350 (13.8)	256 (10.1)	225 (8.9)	37 (82)	42 (93)	244 (9.6)	225 (8.9)	32 (71)	36 (79)
125 (5)	356 (14.0)	364 (14.3)	362 (14.2)	400 (15.7)	306 (12.0)	310 (12.2)	62 (137)	68 (150)	272 (10.7)	310 (12.2)	57 (126)	64 (141)
150 (6)	406 (15.9)	414 (16.3)	412 (16.2)	480 (18.9)	368 (14.5)	368 (14.5)	91 (201)	106 (234)	433 (17.0)	368 (14.5)	66 (146)	81 (179)
200 (8)	521 (20.5)	529 (20.8)	527 (20.7)	600 (23.6)	479 (18.9)	471 (18.5)	163 (359)	185 (408)	420 (16.5)	368 (14.5)	115 (253)	135 (298)
250 (10)	635 (25.0)	645 (25.4)	641 (25.2)	730 (28.7)	585 (23.0)	587 (23.1)	240 (529)	275 (606)	545 (21.5)	587 (23.1)	180 (397)	235 (518)
300 (12)	749 (29.5)	759 (29.9)	-	850 (33.5)	689 (27.1)	690 (27.2)	418 (921)	480 (1058)	640 (25.2)	587 (23.1)	280 (617)	300 (661)
350 (14)	749 (29.5)	759 (29.9)	-	980 (38.6)	830 (32.7)	690 (27.2)	480 (1058)	550 (1212)	640 (25.2)	587 (23.1)	300 (661)	320 (706)
400 (16)	749 (29.5)	759 (29.9)	-	-	868 (34.2)	690 (27.2)	550 (1212)	-	-	-	-	-

\*Series 'S2K' only

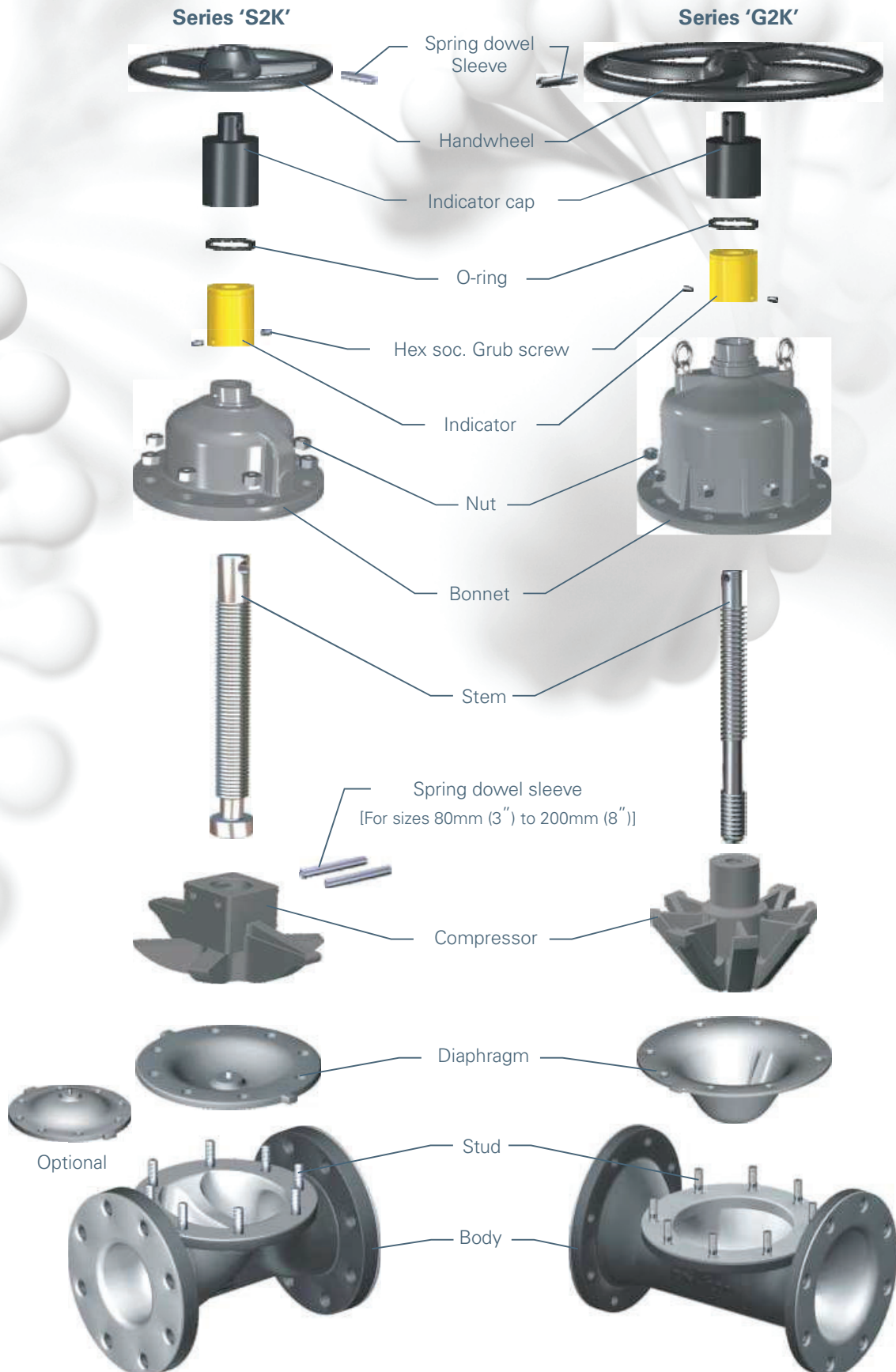
### Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M / CN7M
Body Lining	Ebonite / Natural / Butyl / Neoprene / EPDM / Nitrile, other Elastomers.
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicone / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Bushing	S G Iron EN-1563 No.EN-JS1050
Connecting studs / nuts	B7 / 2H
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyl resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'S2K' for Sizes 15mm (½") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2½") to 150mm (6") - 10 bar (145 psi), for Size 200mm (8") to 400mm (16") - 6 bar (87 psi). Series 'G2K' for Sizes 15mm (½") to 125mm (5") - 10 bar (145 psi), for Sizes 150mm (6") to 350mm (14") - 6 bar (87 psi). • Face to Face Dimension (A) for Size 350mm (14") & 400mm (16") as per 'Trillium Flow Technologies' Standard. • Valves Flanges can be drilled to suit ASME / BS / DIN / JIS. • Please Specify Working Pressure, Temperature & Service conditions. • Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc. • Other Materials not mentioned above available on request.

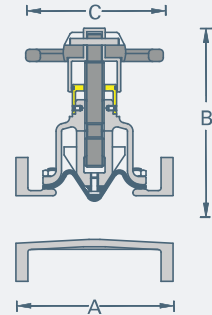
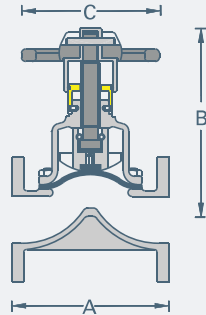
# Valve Parts

## Rising Handwheel



# Diaphragm Valves - Rising Handwheel

## Series 'S2K' & 'G2K' Flanged End



### Test Pressure in bar (psi)

Pressure rating 2)	Series 'S2K'			Series 'G2K'	
	16	10	6	10	6
Hyd. Shell	24 (348)	15 (218)	9 (131)	15 (218)	9 (131)
Seat	17.6 (255)	11 (160)	6.6 (96)	11 (160)	6.6 (96)
Air Seat		5 (73)		5 (73)	

Design std : BS EN 13397  
Testing std : EN 12266-1

### Dimensions are in mm (inch)

Size mm (inch)	Series 'S2K' weir type				Series 'G2K' straight through type								
	BS		DIN Unlined & Lined	A	B	C	Wt <sub>1</sub>			B	C	Wt <sub>1</sub>	
	Unlined	Rubber Lined					PFA* Lined	BS	DIN			MSS	BS
15 (½)	108 (4.3)	114 (4.5)	114 (4.5)	130 (5.1)	105 (4.1)	80 (3.1)	2.5 (5.5)	2.8 (6.2)	2.5 (5.5)	105 (4.1)	80 (3.1)	2.4 (5.3)	2.6 (5.7)
20 (¾)	117 (4.6)	123 (4.8)	123 (4.8)	150 (5.9)	115 (4.5)	80 (3.1)	2.6 (5.7)	3.2 (7.0)	3.0 (6.6)	115 (4.5)	80 (3.1)	2.8 (6.2)	3.0 (6.6)
25 (1)	127 (5.0)	133 (5.2)	133 (5.2)	160 (6.3)	132 (5.2)	120 (4.7)	3.5 (7.7)	4.2 (9.3)	4.0 (8.8)	135 (5.3)	120 (4.7)	4.2 (9.3)	4.6 (10.1)
32 (1¼)	146 (5.7)	152 (6.0)	152 (6.0)	180 (7.1)	140 (5.5)	120 (4.7)	4.5 (9.9)	5.5 (12.1)	5.0 (11.0)	135 (5.3)	120 (4.7)	4.5 (9.9)	5.5 (12.1)
40 (1½)	159 (6.3)	165 (6.5)	165 (6.5)	200 (7.9)	180 (7.1)	150 (5.9)	7.0 (15.4)	8.0 (17.6)	7.5 (16.5)	135 (5.3)	120 (4.7)	5.5 (12.1)	6.0 (13.2)
50 (2)	190 (7.5)	196 (7.7)	196 (7.7)	230 (9.1)	210 (8.3)	150 (5.9)	10 (22)	15 (33)	11 (24)	175 (6.9)	180 (7.1)	10 (22)	11 (24)
65 (2½)	216 (8.5)	222 (8.7)	222 (8.7)	290 (11.4)	235 (9.3)	180 (7.1)	15 (33)	19 (42)	16 (35)	200 (7.9)	180 (7.1)	16 (35)	18 (39)
80 (3)	254 (10.0)	260 (10.2)	260 (10.2)	310 (12.2)	305 (12.0)	250 (9.8)	22 (49)	26 (57)	23 (51)	260 (10.2)	250 (9.8)	25 (55)	28 (62)
100 (4)	305 (12.0)	313 (12.3)	311 (12.2)	350 (13.8)	340 (13.4)	250 (9.8)	38 (84)	43 (95)	38 (84)	275 (10.8)	250 (9.8)	33 (73)	37 (82)
125 (5)	356 (14.0)	364 (14.3)	362 (14.2)	400 (15.7)	420 (16.5)	315 (12.4)	63 (139)	69 (152)	71 (156)	340 (13.4)	315 (12.4)	57 (126)	64 (141)
150 (6)	406 (15.9)	414 (16.3)	412 (16.2)	480 (18.9)	490 (19.3)	360 (14.2)	92 (203)	107 (236)	94 (207)	440 (17.3)	360 (14.2)	67 (148)	82 (181)
200 (8)	521 (20.5)	529 (20.8)	527 (20.7)	600 (23.6)	645 (25.4)	470 (18.5)	164 (361)	186 (410)	167 (368)	495 (19.5)	470 (18.5)	116 (256)	136 (300)

\* Series 'S2K' only

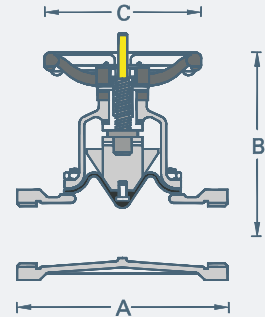
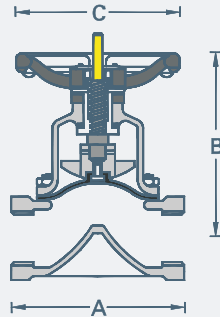
### Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024 / ASTM A395 Gr. 60-40-18 / 30% Cr. Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M
Body Lining	Ebonite / Natural / Butyl / Neoprene / EPDM / Nitrile, other Elastomers.
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicone / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Connecting studs / nuts	Steel Gr. B7 / 2H
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'S2K' for Sizes 15mm (½") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2½") to 150mm (6") - 10 bar (145 psi), for Size 200mm (8") - 6 bar (87 psi). Series 'G2K' for Sizes 15mm (½") to 125mm (5") - 10 bar (145 psi), for Sizes 150mm (6") to 200mm (8") - 6 bar (87 psi). • Halar coating also available on request. • Valves Flanges can be drilled to suit ASME / BS / DIN / JIS. • Please Specify Working Pressure, Temperature & Service conditions. • Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filtr Regulator, Positioner etc. • Other Materials not mentioned above available on request.

# Diaphragm Valves - Non Rising Handwheel

## Series 'S2K' & 'G2K' Screwed / Weld End



### Test Pressure in bar (psi)

	Series 'S2K'		Series 'G2K'
Pressure rating 2)	16	10	10
Hyd. Shell	24 (348)	15 (218)	15 (218)
Seat	17.6 (255)	11 (160)	11 (160)
Air Seat	5 (73)		5 (73)

Design std : BS EN 13397  
Testing std : EN 12266 - 1

### Dimensions are in mm (inch)

Series 'S2K' weir type

Series 'G2K' straight through type

Size mm (inch)	← A →		B	C	Wt <sub>1)</sub> SE, SWE, BWE	Screwed Ends	A	B	C	Wt <sub>1)</sub>
	SE	SE, SWE, BWE								
	CI	Alloy								
6 (¼/10 (3/8))	48 (1.9)	108 (4.3)	85 (3.3)	70 (2.8)	0.6 (1.3)	-	-	-	-	-
15 (½)	64 (2.5)	108 (4.3)	85 (3.3)	70 (2.8)	0.9 (2.0)	64 (2.5)	90 (3.5)	70 (2.8)	0.9 (2.0)	-
20 (¾)	83 (3.3)	117 (4.6)	90 (3.5)	70 (2.8)	1.5 (3.3)	83 (3.3)	90 (3.5)	70 (2.8)	1.8 (4.0)	-
25 (1)	108 (4.3)	127 (5.0)	107 (4.2)	100 (3.9)	2.1 (4.6)	108 (4.3)	112 (4.4)	100 (3.9)	3.0 (6.6)	-
32 (1¼)	121 (4.7)	146 (5.7)	115 (4.5)	100 (3.9)	3.5 (7.7)	121 (4.7)	112 (4.4)	100 (3.9)	3.2 (7.0)	-
40 (1½)	140 (5.5)	165 (6.5)	146 (5.7)	140 (5.5)	5.0 (11.0)	140 (5.5)	112 (4.4)	100 (3.9)	3.5 (7.7)	-
50 (2)	165 (6.5)	216 (8.5)	156 (6.1)	140 (5.5)	6.8 (15.0)	165 (6.5)	146 (5.7)	140 (5.5)	6.5 (14.3)	-
65 (2½)	203 (8.0)	216 (8.5)	173 (6.8)	180 (7.1)	9.6 (21.2)	203 (8.0)	177 (7.0)	180 (7.1)	10 (22.0)	-
80 (3)	254 (10.0)	282 (11.1)	227 (8.9)	225 (8.8)	18 (39.7)	254 (10.0)	205 (8.1)	225 (8.9)	21 (46.3)	-
100 (4)	-	305 (12.0)	255 (10.0)	225 (8.9)	26 (57.3)	-	-	-	-	-

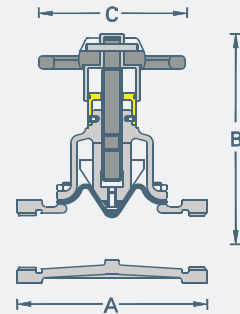
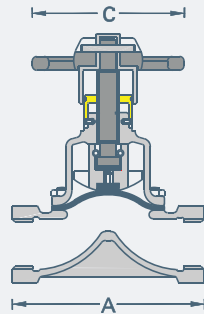
### Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicone / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Bushing	S G Iron EN-1563 No.EN-JS1050
Connecting studs / nuts	Steel Gr. B7 / 2H
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'S2K' for Sizes 6mm (¼") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2½") to 100mm (4") - 10 bar (145 psi).  
• Face to Face Dimension (A) as per 'Trillium Flow Technologies' Standard. • Standard Screwed ends to have BS : 21 (Parallel or Taper) or ASME B1.20.1 (NPT) threads. Socket Weld ends as per ASME B16.11 & Butt Weld ends as per ASME B16.25 suitable for schedule 40/40S. • Please specify Working Pressure, Temperature & Service conditions. • Valves can be Supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended type Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc. • Other Materials not mentioned above available on request.

# Diaphragm Valves - Rising Handwheel

## Series 'S2K' & 'G2K' Screwed / Weld End



### Test Pressure in bar (psi)

	Series 'S2K'		Series 'G2K'
Pressure rating 2)	16	10	10
Hyd. Shell	24 (348)	15 (218)	15 (218)
Seat	17.6 (255)	11 (160)	11 (160)
Air Seat		5 (73)	5 (73)

Design std : BS EN 13397  
Testing std : EN 12266 - 1

### Dimensions are in mm (inch)

#### Series 'S2K' weir type

#### Series 'G2K' straight through type

Size mm (inch)	← A →		B	C	Wt <sub>1</sub> SE, SWE, BWE	Screwed Ends			
	SE	SE, SWE, BWE				A	B	C	Wt <sub>1</sub>
	CI	Alloy				Screwed Ends			
15 (½)	64 (2.5)	108 (4.3)	105 (4.1)	80 (3.1)	0.9 (2.0)	64 (2.5)	105 (4.1)	80 (3.1)	0.9 (2.0)
20 (¾)	83 (3.3)	117 (4.6)	115 (4.5)	80 (3.1)	1.5 (3.3)	83 (3.3)	115 (4.5)	80 (3.1)	1.8 (4.0)
25 (1)	108 (4.3)	127 (5.0)	132 (5.2)	120 (4.7)	2.1 (4.6)	108 (4.3)	135 (5.3)	120 (4.7)	3.0 (6.6)
32 (1¼)	121 (4.7)	146 (5.7)	140 (5.5)	120 (4.7)	3.5 (7.7)	121 (4.7)	135 (5.3)	120 (4.7)	3.2 (7.0)
40 (1½)	140 (5.5)	165 (6.5)	180 (7.1)	150 (5.9)	5.0 (11.0)	140 (5.5)	135 (5.3)	120 (4.7)	3.5 (7.7)
50 (2)	165 (6.5)	216 (8.5)	210 (8.3)	150 (5.9)	6.8 (15.0)	165 (6.5)	175 (6.9)	180 (7.1)	6.5 (14.3)
65 (2½)	203 (8.0)	216 (8.5)	235 (9.3)	180 (7.1)	9.6 (21.2)	203 (8.0)	200 (7.9)	180 (7.1)	11 (24.3)
80 (3)	254 (10.0)	282 (11.1)	305 (12.0)	250 (9.8)	18 (39.7)	254 (10.0)	250 (9.8)	250 (9.8)	22 (48.5)
100 (4)	-	305 (12.0)	340 (13.4)	250 (9.8)	27 (59.5)	-	-	-	-

### Materials

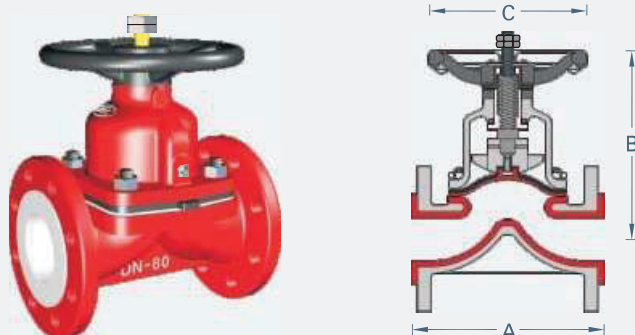
Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicone / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Connecting studs / nuts	Steel Gr. B7 / 2H
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure rating : Series 'S2K' for Sizes 6mm (¼") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2½") to 100mm (4") - 10 bar (145 psi).  
• Face to Face Dimension (A) as per 'Trillium Flow Technologies' Standard. • Standard Screwed ends to have BS : 21 (Parallel or Taper) or ASME B1.20.1 (NPT) threads. Socket Weld ends as per ASME B16.11 & Butt Weld ends as per ASME B16.25 suitable for schedule 40/40S. • Please Specify Working Pressure, Temperature & Service conditions. • Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended type Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filtre Regulator, Positioner etc. • Other Materials not mentioned above available on request.



# PFA Lined Diaphragm Valves

## With Sealed Bonnet & Travel Stop Arrangement



### Test Pressure in bar (psi)

Pressure rating 2)	PN5	PN10
Hyd. Shell	7.5 (109)	15 (218)
Seat	5 (73)	10 (145)
Air Seat	5 (73)	

Design std : BS EN 13397  
Testing std : EN 12266 - 1

### Dimensions are in mm (inch)

Size mm (inch)	A			B	C	Wt 1)
	BS	DIN	MSS SP-88			
15 (½)	114 (4.5)	130 (5.1)	108 (4.3)	92 (3.6)	70 (2.8)	2.5 (5.5)
20 (¾)	123 (4.8)	150 (5.9)	149 (5.9)	100 (3.9)	70 (2.8)	3.0 (6.6)
25 (1)	133 (5.2)	160 (6.3)	149 (5.9)	114 (4.5)	100 (3.9)	4.0 (8.8)
32 (1¼)	152 (6.0)	180 (7.1)	159 (6.3)	115 (4.5)	100 (3.9)	5.5 (12)
40 (1½)	165 (6.5)	200 (7.9)	176 (6.9)	153 (6.0)	140 (5.5)	7.5 (17)
50 (2)	196 (7.7)	230 (9.1)	202 (8.0)	160 (6.3)	140 (5.5)	11 (24)
65 (2½)	222 (8.7)	290 (11.4)	226 (8.9)	180 (7.1)	180 (7.1)	16 (35)
80 (3)	260 (10.2)	310 (12.2)	264 (10.4)	233 (9.2)	225 (8.9)	23 (51)
100 (4)	311 (12.2)	350 (13.8)	329 (13.0)	256 (10.1)	225 (8.9)	37 (82)
125 (5)	362 (14.3)	400 (15.7)	416 (16.4)	306 (12.0)	310 (12.2)	64 (141)
150 (6)	412 (16.2)	480 (18.9)	416 (16.4)	368 (14.5)	368 (14.5)	91 (201)
200 (8)	527 (20.7)	600 (23.6)	530 (20.9)	479 (18.8)	471 (18.5)	165 (364)
250 (10)	641 (25.2)	-	-	720 (28.3)	587 (23.1)	240 (529)

### Materials

Body	Ductile Iron ASTM A395 Gr. 60 - 40 - 18 / S.G. Iron EN-1563 No.EN-JS1024 Steel : ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M
Body Lining	PFA / PP
Bonnet / Compressor	Cast Iron EN-1561 No.EN-JL1040
Diaphragm	PTFE
Backup Pad	Neoprene / EPDM / Butyl / Viton
Bushing	S.G. Iron EN 1563 No.EN-JS1050
Connecting studs / nuts	Steel ASTM A193 B7 / A194 Gr. 2H
Surface Protection for Ductile Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional External Coating : Enamel Red.

1) Nett in Kg. (lbs) approx. (without obligation) • Pressure Rating : PN5 For Sizes 125mm (5") and above. • Face to Face Dimension (A) as per DIN EN 558-1. • Valves can be supplied to suit ASME/ BS/ DIN Flanges. • Please Specify Working Pressure, Temperature & Service conditions. • Valves can be supplied with auxiliary arrangements like Pad - lock, Chainwheel, Extended stem, Electrical / Pneumatic Actuators etc. • Materials not mentioned above available on Request.

# Diaphragms

## Series 'S2K' & 'G2K'

“Insist only on genuine Diaphragms”



### Typical selection and application

Grade	Material	Application	Temp range °C (°F)	Hardness In shore - A	UTS Kg/cm <sup>2</sup> (psi)	Color Code
A	Natural Rubber	Mildly acid Resistant	-30 To 80 (-22 To 176)	65 - 75	170 (2418)	White
AS	Natural Rubber (Soft)	Highly Abrasion Resistant	-30 To 80 (-22 To 176)	45 - 55	150 (2134)	White
WA	White Natural Rubber	Food & Pharmaceuticals	-10 To 80 ( 14 To 176)	55 - 65	100 (1422)	White
N	Neoprene Rubber	Diluted Acid Resistant	-25 To 95 (-13 To 203)	60 - 70	120 (1707)	Red
B	Butyl Rubber	Steam Sterilisation	-25 To 120 (-13 To 248)	60 - 70	100 (1422)	Blue
R	Nitrile Rubber	Oils and Fats	-10 To 90 (14 To 194)	65 - 75	120 (1707)	Yellow
H	Hypalon Rubber	Acid Resistant	-15 To 100 (5 To 212)	60 - 70	80 (1138)	Green
EP	Ethylene Propylene	Radio Active Materials	-30 To 150 (-22 To 302)	65 - 75	80 (1138)	Orange
V	Viton Rubber	Aromatics Chlorine	-5 To 150 (23 To 302)	70 - 80	70 (996)	Pink
S	Silicon Rubber	High Temperatures	-100 To 250 (-148 To 482)	55 - 65	70 (996)	Black
T	PTFE	All Chemicals and Food	-30 To 175 (-22 To 347)	-	-	-

### Technical data for Fluoropolymer Resin

Resin	Technical name	Trade name	Temp range °C (°F)	Melting PT °C (°F)
PFA	Per Fluoro Alkoxy	Teflon	-50 To 260 (-58 To 500)	310 (590)
PP	Poly Propylene	-	-50 To 120 (-58 To 248)	150 (302)

General Application: Highly corrosive fluids, acids, alkalies, chlorides, semiconductors, etc.

# Technical Data

Cv values	Series 'S2K' weir type		Series 'G2K' straight through type	
	Unlined	Rubber Lined	Unlined	Rubber Lined
15 (1/2)	6	5	9	7
20 (3/4)	9	6	12	10
25 (1)	16	16	37	30
32 (1 1/4)	29	23	51	42
40 (1 1/2)	48	39	75	67
50 (2)	91	59	123	105
65 (2 1/2)	102	87	234	187
80 (3)	179	131	334	263
100 (4)	252	246	591	486
125 (5)	363	334	820	730
150 (6)	556	450	1697	1275
200 (8)	1211	1012	2609	2211
250 (10)	1615	1463	4066	3457
300 (12)	2609	2112	6130	4937
350 (14)	3884	3095	10450	9965

PFA Lined Valves		Cv Values
Size mm (inch)	Break away torque value Nm (ft. lbs.)	
15 (1/2)	5.5 (4)	6
20 (3/4)	7 (5)	9
25 (1)	10 (7)	18
40 (1 1/2)	20 (15)	48
50 (2)	35 (26)	85
65 (2 1/2)	28 (21)	125
80 (3)	40 (30)	220
100 (4)	50 (37)	270
125 (5)	55 (40)	395
150 (6)	60 (44)	600
200 (8)	74 (55)	1250
250 (10)	102 (75)	1705

## Data for manual operated valves

Valve Size mm (inch)	Series 'S2K'				Series 'G2K'			
	Stem Travel	Turns Open/Close	0% Δ P		Stem Travel	Turns Open/Close	0% Δ P	
			Torque Nm (ft. lbs.)	Closing Force N (lbs.)			Torque Nm (ft. lbs.)	Closing Force N (lbs.)
6(1/4)10(3/8)	6.4 (0.25)	2.250 (0.08)	1.5 (1.1)	475 (107)	6.0 (0.23)	3.00 (0.11)	-	-
15 (1/2)	6.4 (0.25)	2.250 (0.08)	2.5 (1.8)	1235 (278)	11.4 (0.44)	4.00 (0.15)	2.3 (1.6)	1140 (257)
20(3/4)	9.5 (0.37)	3.250 (0.12)	4.2 (3.0)	2096 (472)	11.4 (0.44)	4.00 (0.15)	4.2 (3.0)	2096 (472)
25(1)	12.7 (0.50)	4.250 (0.16)	5.9 (4.2)	2936 (661)	18.5 (0.72)	6.25 (0.24)	4.9 (3.5)	2470 (556)
32 (1 1/4)	15.9 (0.62)	5.375 (0.21)	9.7 (6.9)	4805 (1081)	24.5 (0.96)	8.25 (0.32)	4.9 (3.5)	2470(556)
40 (1 1/2)	20.6 (0.81)	5.250 (0.20)	14.5 (10.6)	5421 (1220)	24.5 (0.96)	8.25 (0.32)	4.9 (3.5)	2470 (556)
50 (2)	28.6 (1.12)	7.250 (0.28)	22.8 (16.3)	8482 (1908)	34.4 (1.35)	8.75 (0.34)	16.5 (11.8)	6080 (1368)
65 (2 1/2)	34.9 (1.37)	8.750 (0.34)	30.8 (22.0)	11474 (2582)	42.9 (1.68)	10.75 (0.43)	22.8 (16.3)	9120 (2052)
80 (3)	41.3 (1.62)	8.375 (0.32)	48.8 (34.9)	18054 (4062)	53.6 (2.11)	10.75 (0.43)	34.2 (24.4)	11780 (2651)
100 (4)	54.0 (2.12)	11.000 (0.43)	74.1 (52.9)	27343 (6152)	57.8 (2.27)	11.75 (0.46)	49.4 (35.1)	17100 (3848)
125 (5)	69.8 (2.74)	14.000 (0.55)	80.2 (57.3)	29712 (6685)	95.0 (3.74)	15.00 (0.59)	72.2 (51.6)	20900 (4703)
150 (6)	79.4 (3.12)	13.250 (0.52)	137.8 (98.4)	41040 (9234)	108.0 (4.25)	18.00 (0.71)	91.2 (65.1)	26600 (5985)
200 (8)	117.5 (4.62)	19.750 (0.77)	214.7 (153.4)	64319 (14472)	159.0 (6.25)	22.75 (0.89)	142.5 (101.8)	38000 (8550)
250 (10)	142.9 (5.62)	24.000 (0.94)	218.5 (156.1)	65043 (14635)	190.5 (7.50)	27.25 (1.07)	171.0 (122.1)	45600 (10260)
300 (12)	165.1 (6.50)	23.750 (0.93)	380.0 (271.4)	87149 (19609)	190.5 (7.50)	27.25 (1.07)	209.0 (149.3)	53200 (11970)
350 (14)	225.0 (8.85)	32.250 (1.26)	499.7 (356.9)	90003 (20251)	190.5 (7.50)	27.25 (1.07)	209.0 (149.3)	53200 (11970)
400 (16)	225.0 (8.85)	32.250 (1.26)	499.7 (356.9)	90003 (20251)				

Δ P 0%- Inlet & outlet at same pressure (no differential pressure)

Δ P 100% - Inlet & outlet at differential pressure (full differential pressure), divide above torque values by 1.9

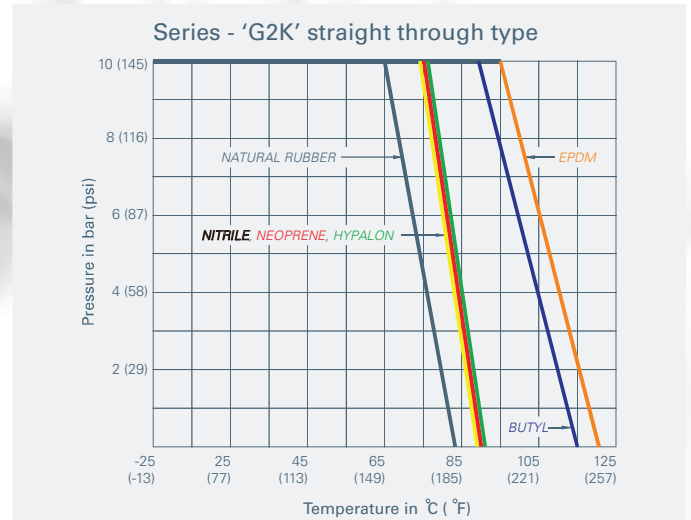
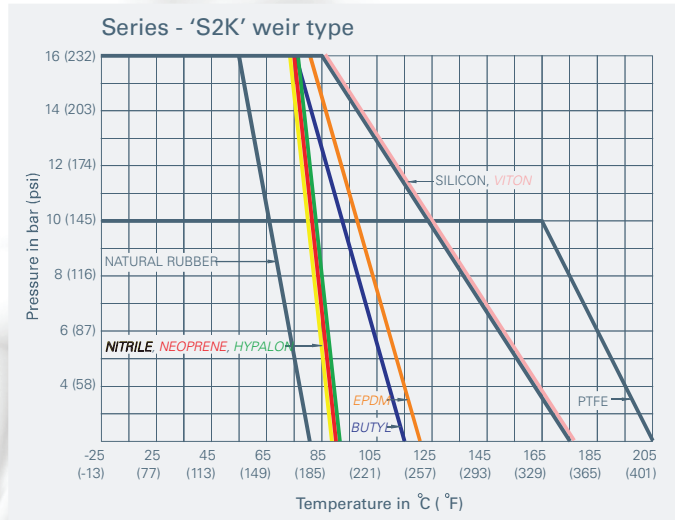
### Notes :

- Cv values are indicative & for reference only.
- Torque values are without factor of safety and are based on maximum differential pressure. Values are indicative & for reference only
- Data provided in this catalogue has been derived from a combination of testing & computational programs.
- Actual valve performance may be affected by a number of variables unique to the application.

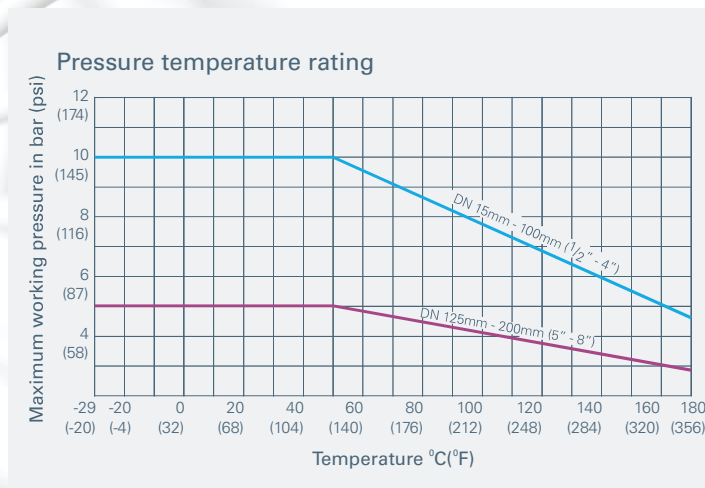
# Technical Data

## Pressure Temperature Rating

### Rubber lining elastomer diaphragm & lining

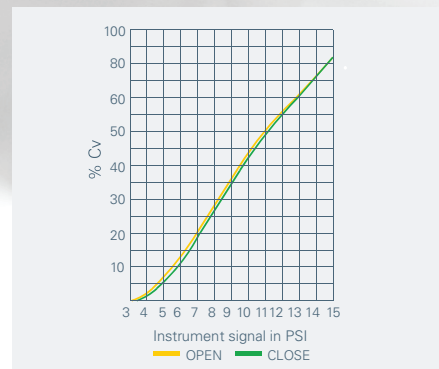


### PTFE diaphragm with PFA lining



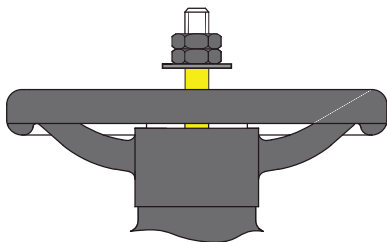
### Fine control

This hysteresis graph shows the installed characteristics of a typical 'S2K' weir type diaphragm control valve with positioner as the ability to deliver dependable, repeatable performance at a fraction of traditional control valve costs.



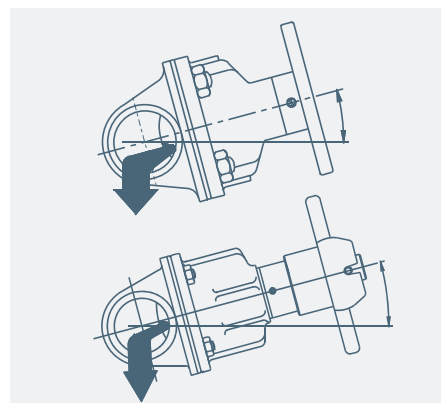
### Adjustable travel stop arrangement

Adjustable travel stop extends the life of Diaphragm by preventing the excessive thrust during valve closure.



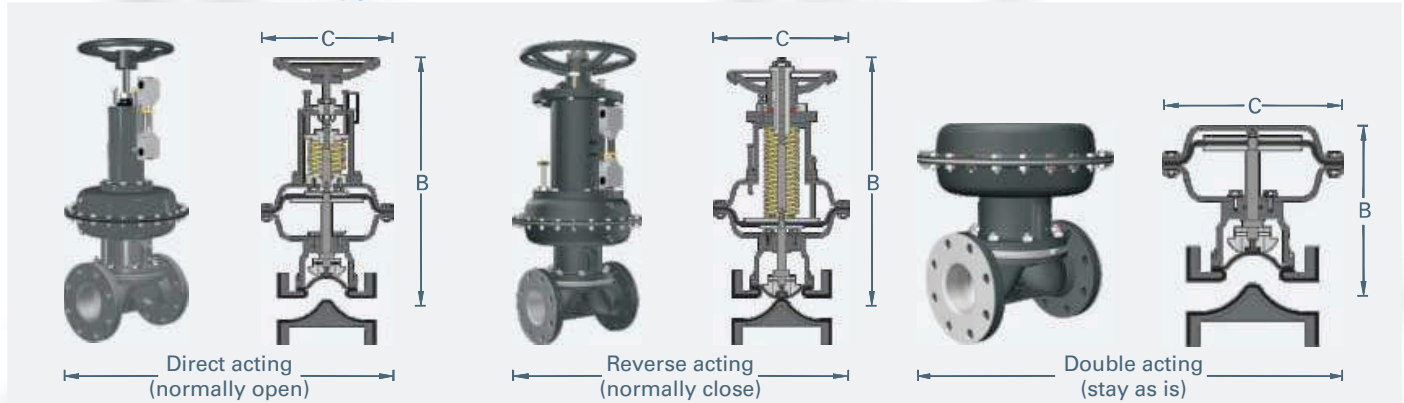
### Self - draining

Series 'S2K' Diaphragm Valves are self-draining when mounted in a vertical pipe line. When mounted in a horizontal pipe line, the optimum self draining position is when the valve stem forms an angle of approximately 15 to 30 above horizontal.



# Pneumatic Actuators

## Series 'S2K' Weir Type



### Dimensions are in mm (inch) Direct Acting (Normally Open)

Size mm (inch)	15 (½)	20 (¾)	25 (1)	40 (1½)	50 (2)	65 (2½)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)
<b>MODEL</b>	<b>C</b>	<b>B</b>										
BA 11	170 (6.7)	360 (14.2)	365 (14.4)	375 (14.8)	400 (15.7)	415 (16.3)						
BA 21	255 (10.0)			465 (18.3)	490 (19.3)	505 (19.9)	550 (21.7)	570 (22.4)	600 (23.6)	765 (30.1)		
BA 31	338 (13.3)			490 (19.3)	510 (20.1)	525 (20.7)	610 (24.0)	635 (25.0)	650 (25.6)	820 (32.3)	865 (34.1)	980 (38.6)
BA 61	415 (16.3)						735 (28.9)	755 (29.7)	775 (30.5)	840 (33.1)	935 (36.8)	1095 (43.1)
BA 71	462 (18.2)						770 (30.3)	790 (31.1)	900 (35.4)	950 (37.4)	1110 (43.7)	1145 (45.1)
BA 81	570 (22.4)							845 (33.3)	960 (37.8)	1010 (39.8)	1155 (45.5)	1195 (47.0)

### Reverse Acting (Normally Close)

Size mm (inch)	15 (½)	20 (¾)	25 (1)	40 (1½)	50 (2)	65 (2½)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)
<b>MODEL</b>	<b>B</b>											
BA 1012	170 (6.7)	395 (15.6)	405 (15.9)	415 (16.3)	445 (17.5)	470 (18.5)						
BA 2034	255 (10.0)			495 (19.5)	525 (20.7)	550 (21.7)	570 (22.4)	600 (23.6)	655 (25.8)			
BA 3034	338 (13.3)			535 (21.1)	565 (22.2)	590 (23.2)	615 (24.2)	645 (25.4)	700 (27.6)			
BA 3056	338 (13.3)			650 (25.6)	680 (26.8)	710 (28.0)	730 (28.7)	760 (29.9)	790 (31.1)	840 (33.1)	900 (35.4)	
BA 6007/BA 6056/BA 6057												
BA 6067												
BA 606B	415 (16.3)					795 (31.3)	825 (32.5)	855 (33.7)	910 (35.8)	965 (38.0)	1070 (42.1)	
BA 60AB												
BA 7007/BA 7057/BA 7067												
BA 706B	462 (18.2)					850 (33.5)	870 (34.3)	900 (35.4)	950 (37.4)	1010 (39.8)	1110 (43.7)	
BA 70AB												
BA 806B												
BA 80AB	570 (22.4)							955 (37.6)	1005 (39.6)	1065 (41.9)	1165 (45.9)	
BA 8009												
BA 80CD	570 (22.4)							1130 (44.5)	1180 (46.5)	1240 (48.8)	1340 (52.8)	1375 (54.1)
BA 8089												

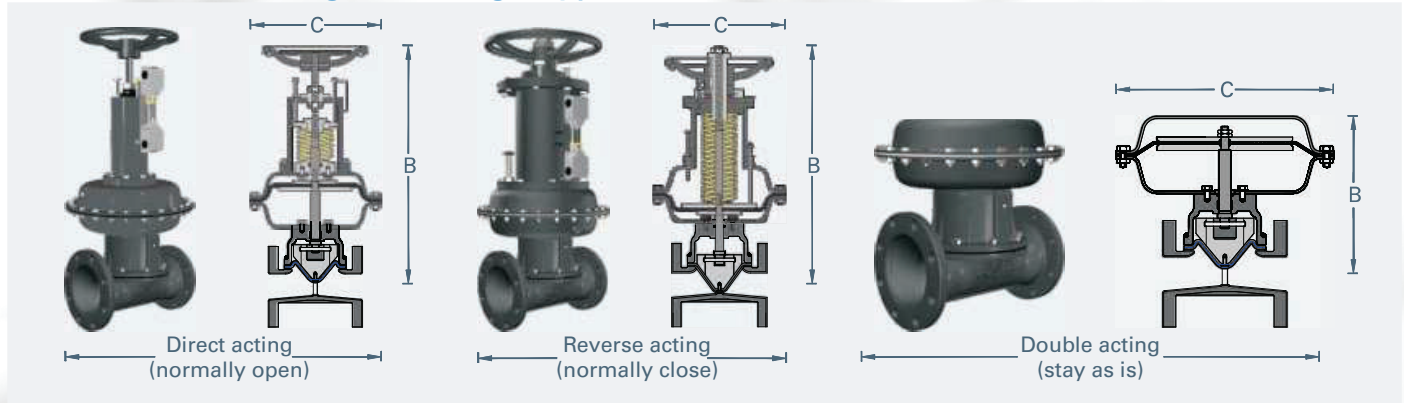
### Double Acting (Stay As Is)

Size mm (inch)	15 (½)	20 (¾)	25 (1)	40 (1½)	50 (2)	65 (2½)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)
<b>MODEL</b>	<b>C</b>	<b>B</b>										
BA 13	170 (6.7)	125 (4.9)	135 (5.3)	145 (5.7)	170 (6.7)	185 (7.3)						
BA 23	255 (10.0)			180 (7.1)	205 (8.1)	220 (8.7)	240 (9.4)	260 (10.2)	285 (11.2)	320 (12.6)		
BA 33	338 (13.3)			205 (8.1)	230 (9.1)	245 (9.6)	265 (10.4)	285 (11.2)	310 (12.2)	340 (13.4)	395 (15.6)	480 (18.9)
BA 63	415 (16.3)						290 (11.4)	310 (12.2)	335 (13.2)	365 (14.4)	415 (16.3)	500 (19.7)
BA 73	462 (18.2)						320 (12.6)	345 (13.6)	375 (14.8)	425 (16.7)	510 (20.1)	585 (23.0)
BA 83	570 (22.4)							390 (15.4)	420 (16.5)	470 (18.5)	555 (21.9)	625 (24.6)

• Dimensions indicative only; for exact data, refer individual drawings. • For actuator selection consult sales department.

# Pneumatic Actuated Diaphragm Valves

## Series 'G2K' Straight Through Type



Dimensions are in mm (inch) Direct Acting (Normally Open)

Size mm (inch)	15 (½)	20 (¾)	25 (1)	40 (1½)	50 (2)	65 (2½)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)
<b>MODEL</b>	<b>C</b>	<b>B</b>									
BA 11	170 (6.7)	355 (14.0)	360 (14.2)	375 (14.8)	375 (14.8)						
BA 21	255 (10.0)			465 (18.3)	465 (18.3)	495 (19.5)	530 (20.9)	545 (21.5)			
BA 31	338 (13.3)			490 (19.3)	490 (19.3)	520 (20.5)	595 (23.4)	605 (23.8)	640 (25.2)		
BA 61	415 (16.3)					715 (28.1)	730 (28.7)	760 (29.9)	930 (36.6)	940 (37.0)	
BA 71	462 (18.2)						745 (29.3)	775 (30.5)	950 (37.4)	960 (37.8)	1025 (40.4)
BA 81	570 (22.4)							825 (32.5)	1075 (42.3)	1085 (42.7)	1155 (45.5)

Reverse Acting (Normally Close)

Size mm (inch)	15 (½)	20 (¾)	25 (1)	40 (1½)	50 (2)	65 (2½)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)
<b>MODEL</b>	<b>B</b>										
BA 1012	170 (6.7)	395 (15.6)	400 (15.7)	410 (16.1)	410 (16.1)						
BA 2034	255 (10.0)			495 (19.5)	500 (19.7)	545 (21.5)	560 (22.0)				
BA 3034	338 (13.3)					585 (23.0)	600 (23.6)	625 (24.6)			
BA 3056	338 (13.3)					715 (28.1)	740 (29.1)	775 (30.5)			
BA 6007											
BA 6057	415 (16.3)					785 (30.9)	810 (31.9)	840 (33.1)			
BA 6067											
BA 7057											
BA 7067	462 (18.2)						855 (33.7)	885 (34.8)	1010 (39.8)	1020 (40.2)	
BA 70AB											
BA 80AB	570 (22.4)							940 (37.0)	1060 (41.7)	1070 (42.1)	1160 (45.7)
BA 80CD											
BA 8089	570 (22.4)							1115 (44.0)	1235 (48.6)	1245 (49.0)	1340 (52.8)

Double Acting (Stay As Is)

Size mm (inch)	15 (½)	20 (¾)	25 (1)	40 (1½)	50 (2)	65 (2½)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	
<b>MODEL</b>	<b>C</b>	<b>B</b>										
BA 13	170 (6.7)	135 (5.3)	140 (5.5)	155 (6.1)	155 (6.1)							
BA 23	255 (10.0)			190 (7.5)	190 (7.5)	215 (8.5)	250 (9.8)	260 (10.2)				
BA 33	338 (13.3)					240 (9.4)	275 (10.8)	285 (11.2)	320 (12.6)			
BA 63	415 (16.3)						300 (11.8)	310 (12.2)	345 (13.6)	415 (16.3)	425 (16.7)	
BA 73	462 (18.2)								355 (14.0)	435 (17.1)	445 (17.5)	625 (24.6)
BA 83	570 (22.4)									485 (19.1)	495 (19.5)	675 (26.6)

• Dimensions indicative only; for exact data, refer individual drawings. • For actuator selection consult sales department.