MODEL 206-PG / S206-PG
SINGLE CHAMBER, HYDRAULICALLY OPERATED VALVE

KEY FEATURES

- Available in globe and angle style

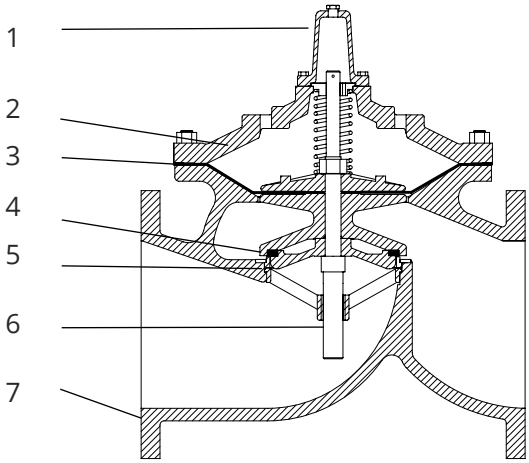
PRODUCT OVERVIEW

The 206-PG series control valve is the preferred choice for pressure reducing valves, flow control valves, relief valves and applications with lower to medium flows. This hydraulically operated valve introduces or releases water from the control chamber above the diaphragm to effectively maintain water control.

Further adapt the valve to provide control for a wide range of functions by selecting from Singer Valve's wide range of pilot and accessories options. Customize for functions like controlling pressure, flow or level or in almost limitless combinations to suit specific applications.

PRODUCT LINE DRAWING

1. Removable Stem Cap
2. ASTM A536 Ductile Iron Construction
3. Diaphragm Buna-N or EPDM
4. Buna-N or EPDM Resilient Disc
5. AISI 316 Stainless Steel Seat
6. AISI 316 Stainless Steel Stem
7. NSF 61 Fusion Bonded Epoxy Coating



ALTERNATIVE MODELS

A206-PG Angle

SELECTION

Automatic control valves operate by introducing or exhausting water from above the diaphragm at controlled rates. A pressure differential is required and is either inlet to outlet or inlet to atmosphere, depending on the application. Valves are sized to provide an appropriate pressure drop for each application. Most valves require a minimum of 10 psi / 0.7 bar pressure drop to operate. This applies mostly to valves that have the bonnet vented to downstream. With minimum of 5 psi / 0.35 bar downstream pressure, many valves can be made to open fully by venting the bonnet to atmosphere.

Singer Valve control valves are designed for use with clean potable water. Applications for other media are possible. Consult with Singer Valve.

VALVE SIZES & MATERIALS

Valve Materials		
	Standard	**Optional**
Available Sizes	Flanged	-
Globe	3 in to 48 in (80-1200 mm)	-
Angle	4 in to 8 in (100-200 mm)	-
Valve Components		
1.Valve Body, Cover	65-45-12 Ductile Iron	-
2. Seat Ring	316 Stainless Steel	-
3. Disc Retainer	B16 Brass / B62 Bronze / A536 Ductile Iron	316 Stainless Steel
4. Stem	316 Stainless Steel	-
5. Stem Nut	B16 Brass	316 Stainless Steel
6. Spring	316 Stainless Steel	-
7. Guide Bushings	B16 Brass or SAE 660 Bronze	316 Stainless Steel
8. Diaphragm	EPDM	Buna-N / Viton (limited sizes)
9. Resilient Disc	EPDM	Buna-N / Viton (limited sizes)
10. Coating	NSF61 Approved Fusion Bonded Epoxy - Thickness 10-14 mils (250-300 microns)	Consult factory
11. Fasteners	AISI 18-8 Stainless Steel	AISI 316 Stainless Steel

Careful consideration of the possibility of cavitation must be given. Anti-cavitation trim is available to control the cavitation, reduce noise and prevent damage. Refer to 106-AC (page 80) or consult with Singer Valve.

The Singer Model 206-PG single chambered valve is the basic valve used in practically every model bearing the 206 description. The pilot systems are designed to meet the functional and performance requirements of specific applications. Sizing is ultimately determined by the specific application.

AVAILABLE OPTIONS

Further customize the valve by adding any of the available options below.

MAIN VALVE OPTIONS, REFER TO PAGE 62

Position Indicators (Available for install at Singer Valve or as a field modification)

- Model X107 stem mounted position indicators
- Model X129 limit switch assembly with Single Pole Double Throw limit switch (Double Pole Double Throw optional)
- Model X156 position transmitter (4 to 20 mA)

Oxy-Nitride Stem

Internal Drop Check

External Spring Lift

Grooved Ends

Reclaimed Water

PILOTS & ACCESSORIES, REFER TO PG. 207

MATERIALS OF CONSTRUCTION

Individual components can be upgraded from ductile iron, bronze and brass to stainless steel, for most sizes. Consult with Singer Valve.

MODEL PGM

Provides a fully operational back-up system in the event of a diaphragm or pilot failure. See page 46.

ORDERING INSTRUCTIONS

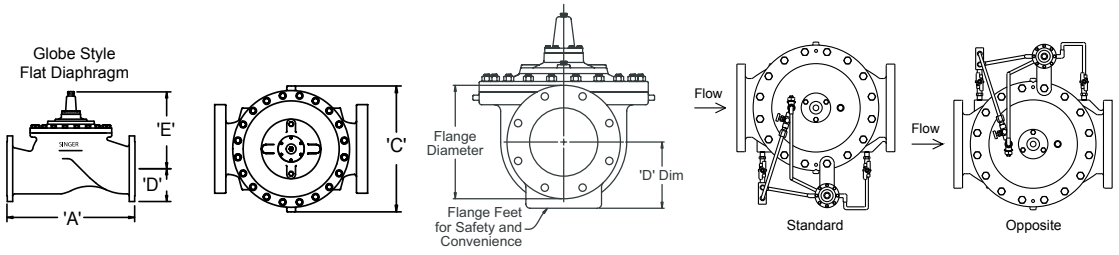
Refer to page 244 for the order form and ordering instructions.

ENGINEERING NOTES, REFER TO PAGE 242

ANSI VALVE DATA (US UNITS)

Size	DWG	Standard	Flat Diaphragm System				
Inches	**REF**	**ANSI**	**3 in**	**4 in**	**6 in**	**8 in**	**10 in**
Globe Dimensions			**All figures show in inches unless otherwise stated**				
Lay Length	A	NPT	-	-	-	-	-
Centerline to Bottom	D	NPT	-	-	-	-	-
Lay Length	A	150F	12.00	15.00	20.13	25.00	24.50
Centerline to Bottom	D	150F	4.00	4.60	5.62	6.75	8.56
Lay Length	A	300F	-	15.63	21.00	26.00	25.88
Centerline to Bottom	D	300F	-	5.00	6.34	7.50	9.31
Angle Dimensions							
Center Inlet to Discharge	B	NPT	-	-	-	-	-
Center Discharge to Inlet	F	NPT	-	-	-	-	-
Center Inlet to Discharge	B	150F	-	7.56	10.19	12.50	-
Center Discharge to Inlet	F	150F	-	5.94	6.19	9.00	-
Center Inlet to Discharge	B	300F	-	7.88	10.63	13.00	-
Center Discharge to Inlet	F	300F	-	6.25	6.81	9.50	-
Common Dimensions (Globe & Angle)							
Width	C		8.19	10.00	12.50	16.00	20.00
Height (To Stem Cap) Globe	E		7.50	9.62	10.50	14.13	18.63
Height (To Stem Cap) Angle	E		-	7.75	8.82	11.30	-
Body Port Tapping		FNPT	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug		MNPT	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping		FNPT	3/8	3/8	3/8	1/2	1/2
Valve Stroke			9/16	1-1/8	1-7/16	1-11/16	2-7/8
Displaced Bonnet Volume (Gallons)			0.02	0.1	0.2	0.6	2
Approximate Shipping Weight (Lbs)			75	100	250	500	650
Flow Capacities (USGPM) Globe & Angle							
C_v - Globe			60	150	250	505	985
C_v - Angle			-	150	250	560	-
Continuous (Globe)			300	580	1025	2300	4100
Intermittent (Globe)			373	690	1190	2700	4670
Momentary (Globe)			564	1236	2160	4800	8400
Maximum Pressure Ratings							
PSI[1]		FNPT	-	-	-	-	-
PSI		150F	250	250	250	250	250
PSI[1]		300F	400	400	400	400	400
Maximum Temperature							
Fahrenheit			180°	180°	180°	180°	180°

[1]Valves rated and stamped 400 psi as standard. Valves rated and stamped 600 psi on request.

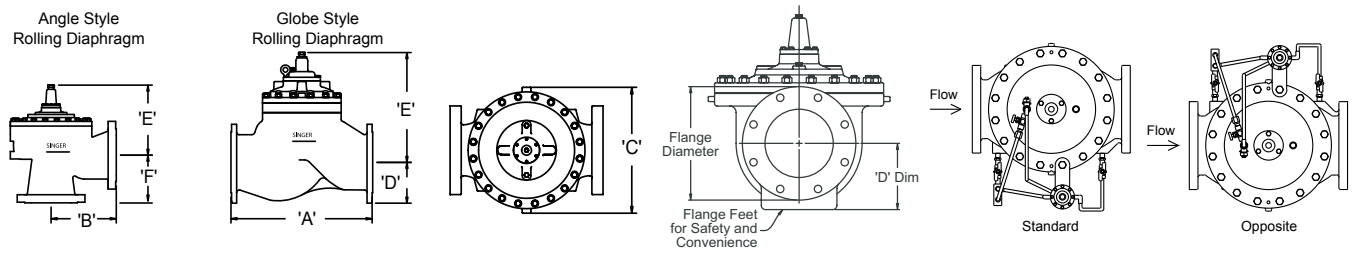


See pilot system information, page 207.
For additional Engineering notes, see page 242.

ANSI VALVE DATA (US UNITS)

Size	DWG	Standar	Rolling Diaphragm System								
Inches	REF	ANSI	12 in	16 in	18 in	20 in	24 in x 16 in	24 in x 20 in	30 in	36 in	48 in
Globe Dimensions			All figures shown in inches unless otherwise stated.								
Lay Length	A	NPT	-	-	-	-	-	-	-	-	-
Centerline to Bottom	D	NPT	-	-	-	-	-	-	-	-	-
Lay Length	A	150F	27.50	36.00	42.00	45.00	50.50	61.50	69.93	69.93	79.75
Centerline to Bottom	D	150F	9.50	11.75	12.50	13.75	16.50	17.13	20.68	23.75	30.75
Lay Length	A	300F	29.00	37.63	43.63	46.63	52.25	63.25	-	-	-
Centerline to Bottom	D	300F	10.25	12.75	14.00	15.25	18.00	19.65	-	-	-
Angle Dimensions											
Center Inlet to Discharge	B	NPT	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	NPT	-	-	-	-	-	-	-	-	-
Center Inlet to Discharge	B	150F	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	150F	-	-	-	-	-	-	-	-	-
Center Inlet to Discharge	B	300F	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	300F	-	-	-	-	-	-	-	-	-
Common Dimensions (Globe & Angle)											
Width	C		22.13	26.00	30.31	31.50	36.00	36.00	49.75	49.75	64.50
Height (To Stem Cap) Globe	E		23.31	26.75	31.38	31.38	31.38	34.46	45.75	45.75	61.00
Height (To Stem Cap) Angle	E		-	-	-	-	-	-	-	-	-
Body Port Tapping		FNPT	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Stem Cap Plug		MNPT	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Cover Port Tapping		FNPT	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Valve Stroke			3-1/4	3-3/4	4-3/4	4-3/4	4-3/4	5-9/16	6	6	9
Displaced Bonnet Volume (Gallons)			1.5	2.3	6.8	6.8	6.8	9.0	14.8	14.8	43.0
Approximate Shipping Weight (Lbs)			900	1400	2400	2600	2800	4500	6200	7000	18000
Flow Capacities (USGPM) Globe & Angle											
C_v - Globe			1550	2200	3300	3400	3500	5100	7800	8000	16340
C_v - Angle			-	-	-	-	-	-	-	-	-
Continuous (Globe)			6400	9230	16500	16500	16500	21700	33650	33800	55470
Intermittent (Globe)			7320	10470	20915	20915	20915	26000	37490	37640	69338
Momentary (Globe)			13200	19200	30000	30050	30100	39000	67490	67640	124700
Maximum Pressure Ratings											
PSI[1]		FNPT	-	-	-	-	-	-	-	-	-
PSI		150F	250	250	250	250	250	250	250	250	250
PSI[1]		300F	400	400	400	400	400	400	400	400	400
Maximum Temperature											
Fahrenheit			180°	180°	180°	180°	180°	180°	180°	180°	180°

1Valves rated and stamped 400 psi as standard. Valves rated and stamped 600 psi on request.

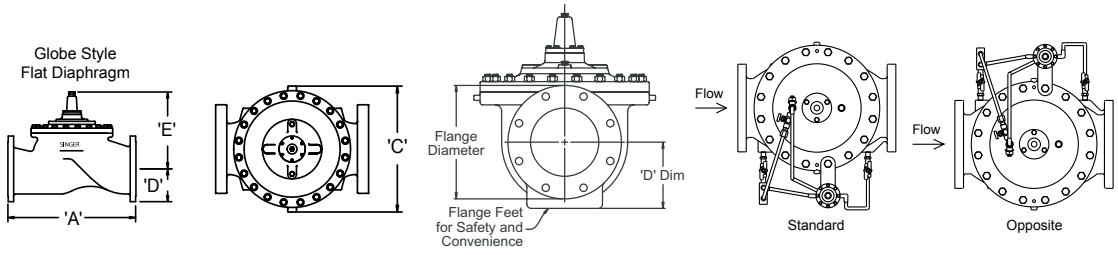


See pilot system information, page 207.
For additional Engineering notes, see page 242.

ANSI VALVE DATA (METRIC UNITS)

Size	DWG	Standard	Flat Diaphragm System				
mm	**REF**	**ANSI**	**80 mm**	**100 mm**	**150 mm**	**200 mm**	**250 mm**
Globe Dimensions			**All figures show in mm unless otherwise stated**				
Lay Length	A	FNPT	-	-	-	-	-
Centerline to Bottom	D	FNPT	-	-	-	-	-
Lay Length	A	150F	305	381	511	635	622
Centerline to Bottom	D	150F	102	117	143	171	217
Lay Length	A	300F	-	397	533	660	657
Centerline to Bottom	D	300F	-	127	161	191	236
Angle Dimensions							
Center Inlet to Discharge	B	FNPT	-	-	-	-	-
Center Discharge to Inlet	F	FNPT	-	-	-	-	-
Center Inlet to Discharge	B	150F	-	192	259	318	-
Center Discharge to Inlet	F	150F	-	151	157	229	-
Center Inlet to Discharge	B	300F	-	200	270	330	-
Center Discharge to Inlet	F	300F	-	159	173	241	-
Common Dimensions (Globe & Angle)							
Width	C		208	254	318	406	508
Height (To Stem Cap) Globe	E		191	244	267	359	473
Height (To Stem Cap) Angle	E		-	197	224	287	-
Body Port Tapping	FNPT	Inches	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug	MNPT	Inches	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping	FNPT	Inches	3/8	3/8	3/8	1/2	1/2
Valve Stroke		mm	14	29	37	43	73
Displaced Bonnet Volume (Litres)			0.1	0.3	0.8	2	6
Approximate Shipping Weight (Kilograms)			34	45	113	227	295
Flow Capacities (L/s) Globe & Angle							
K_v - Globe			14	36	60	120	230
K_v - Angle			-	36	60	133	-
Continuous (Globe)			19	37	65	145	259
Intermittent (Globe)			24	44	75	170	295
Momentary (Globe)			36	78	136	303	530
Maximum Pressure Ratings							
Bar		FNPT	-	-	-	-	-
Bar		150F	17	17	17	17	17
Bar[1]		300F	27.6	27.6	27.6	27.6	27.6
Maximum Temperature							
Celcius			82°	82°	82°	82°	82°

[1]Valves rated and stamped 27.6 bar as standard. Valves rated and stamped 41 bar on request

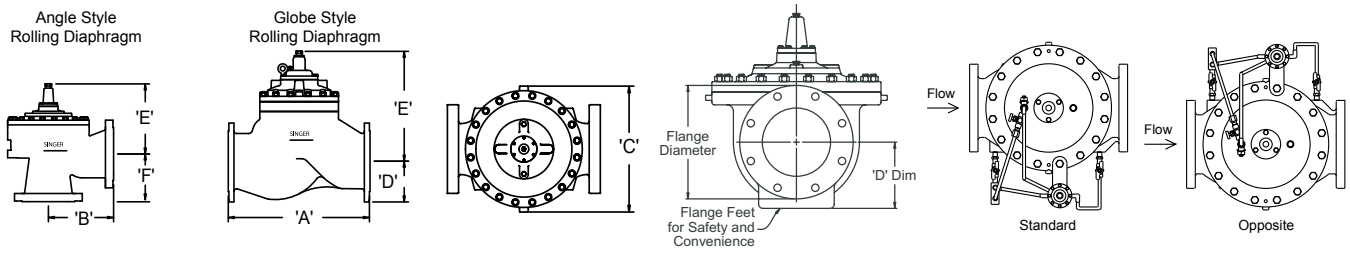


See pilot system information, page 207.
For additional Engineering notes, see page 242.

ANSI VALVE DATA (METRIC UNITS)

Size	DWG	Standard	Rolling Diaphragm System								
mm	REF	ANSI	300 mm	400 mm	450 mm	500 mm	600 x 400	600 x 500	750 mm	900 mm	1200 mm
Globe Dimensions			All figures shown in mm unless otherwise stated.								
Lay Length	A	FNPT	-	-	-	-	-	-	-	-	-
Centerline to Bottom	D	FNPT	-	-	-	-	-	-	-	-	-
Lay Length	A	150F	699	914	1067	1143	1283	1562	1776	1776	2026
Centerline to Bottom	D	150F	241	298	318	354	419	435	525	603	781
Lay Length	A	300F	737	956	1108	1184	1327	1607	-	-	-
Centerline to Bottom	D	300F	260	324	356	387	457	499	-	-	-
Angle Dimensions											
Center Inlet to Discharge	B	FNPT	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	FNPT	-	-	-	-	-	-	-	-	-
Center Inlet to Discharge	B	150F	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	150F	-	-	-	-	-	-	-	-	-
Center Inlet to Discharge	B	300F	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	300F	-	-	-	-	-	-	-	-	-
Common Dimensions (Globe & Angle)											
Width	C		562	660	795	800	914	914	1264	1264	1638
Height (To Stem Cap) Globe	E		592	679	797	797	797	875	1162	1162	1550
Height (To Stem Cap) Angle	E		-	-	-	-	-	-	-	-	-
Body Port Tapping	FNPT	Inches	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Stem Cap Plug	MNPT	Inches	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Cover Port Tapping	FNPT	Inches	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Valve Stroke		mm	83	95	120	120	120	141	150	150	229
Displaced Bonnet Volume (Litres)			6	9	26	26	26	34	56	56	163
Approximate Shipping Weight (Kilograms)			408	635	1089	1179	1270	2155	2812	3175	8165
Flow Capacities (L/s) Globe & Angle											
K_v - Globe			370	520	780	810	830	1210	1850	1870	3875
K_v - Angle			-	-	-	-	-	-	-	-	-
Continuous (Globe)			404	582	1041	1041	1041	1370	2120	2132	3500
Intermittent (Globe)			465	661	1320	1320	1320	1640	2362	2375	4375
Momentary (Globe)			833	1211	1893	1896	1899	2460	4255	4267	7867
Maximum Pressure Ratings											
Bar		FNPT	-	-	-	-		-	-	-	-
Bar		150F	17	17	17	17	17	17	17	17	17
Bar[1]		300F	27.6	27.6	27.6	27.6	27.6	27.6	27.5	27.5	-
Maximum Temperature											
Celcius			82°	82°	82°	82°	82°	82°	82°	82°	82°

[1]Valves rated and stamped 27.6 bar as standard. Valves rated and stamped 41bar on request

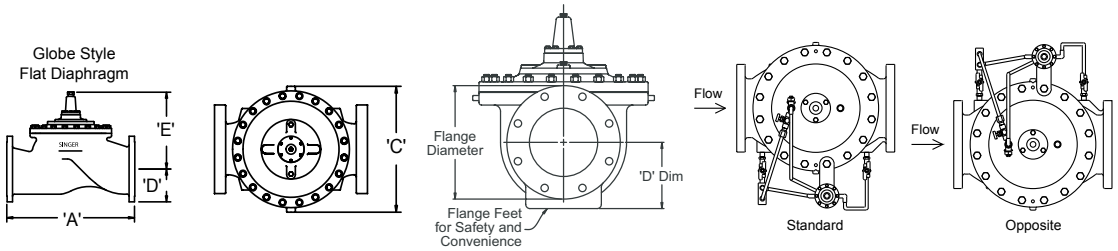


See pilot system information, page 207.
For additional Engineering notes, see page 242.

ISO VALVE DATA (METRIC UNITS)

Size	DWG	Standard	Flat Diaphragm System				
mm	REF	ISO	80 mm	100 mm	150 mm	200 mm	250 mm
Globe Dimensions		**BS4504**	**All figures show in mm unless otherwise stated**				
Lay Length	A	BSPT	-	-	-	-	-
Centerline to Bottom	D	BSPT	-	-	-	-	-
Lay Length	A	PN10 / PN16	305	381	511	635	622
Centerline to Bottom	D	PN10 / PN16	102	117	142	171	217
Lay Length	A	PN25 / PN40	-	397	533	660	657
Centerline to Bottom	D	PN25 / PN40	-	127	161	191	236
Angle Dimensions							
Center Inlet to Discharge	B	BSPT	-	-	-	-	-
Center Discharge to Inlet	F	BSPT	-	-	-	-	-
Center Inlet to Discharge	B	PN10 / PN16	-	192	259	318	-
Center Discharge to Inlet	F	PN10 / PN16	-	151	157	229	-
Center Inlet to Discharge	B	PN25 / PN40	-	200	270	330	-
Center Discharge to Inlet	F	PN25 / PN40	-	159	173	241	-
Common Dimensions (Globe & Angle)							
Width	C		208	238	318	406	508
Height (To Stem Cap) Globe	E		191	244	267	359	473
Height (To Stem Cap) Angle	E		-	197	224	287	-
Body Port Tapping	FNPT	Inches	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug	MNPT	Inches	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping	FNPT	Inches	3/8	3/8	3/8	1/2	1/2
Valve Stroke		mm	14	29	37	43	73
Displaced Bonnet Volume (Litres)			0.08	0.3	0.8	2.1	6.3
Approximate Shipping Weight (Kilograms)			34	45	113	227	295
Flow Capacities (L/s) Globe & Angle							
K_v - Globe			14	36	60	120	230
K_v - Angle			-	36	60	133	-
Continuous (Globe)			19	37	65	145	259
Intermittent (Globe)			24	44	75	170	295
Momentary (Globe)			36	78	136	303	530
Maximum Pressure Ratings							
Bar		BSPT	-	-	-	-	-
Bar		PN16	16	16	16	16	16
Bar		PN25	25	25	25	25	25
Maximum Temperature							
Celcius			82°	82°	82°	82°	82°

*Valves rated and stamped 27.6 bar as standard. Valves rated and stamped 41 bar on request

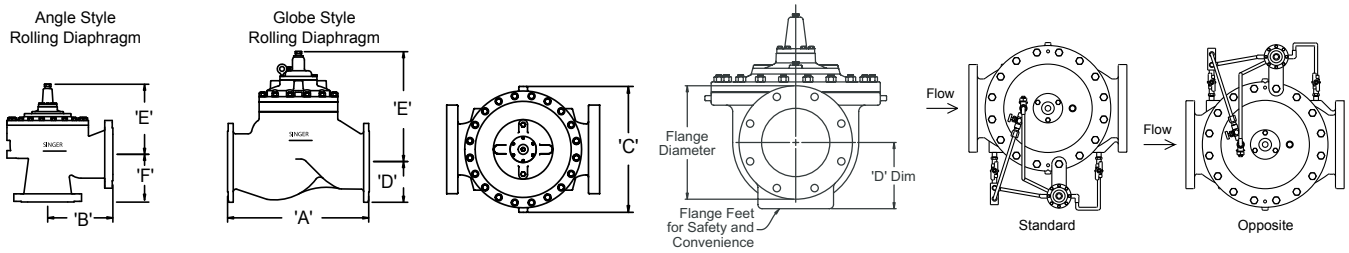


See pilot system information, page 207.
For additional Engineering notes, see page 242.

ISO VALVE DATA (METRIC UNITS)

Size	DWG	Standard	Rolling Diaphragm System											
mm	REF	ISO	200mm	250mm	300 mm	400 mm	450 mm	500 mm	600 x 400 mm	600 x 500 mm	700 mm	800 mm	900 mm	1000 mm
Globe Dimensions		BS4504	All figures shown in mm unless otherwise stated.											
Lay Length	A	BSPT	-	-	-	-	-	-	-	-	-	-	-	-
Centerline to Bottom	D	BSPT	-	-	-	-	-	-	-	-	-	-	-	-
Lay Length	A	PN10 / PN16	635	660	699	914	1067	1143	1283	1562	1607	1776	1776	1890 / 1911
Centerline to Bottom	D	PN10 / PN16	178	217	241	298	318	354	419	435	499	526	603	629 / 641
Lay Length	A	PN25 / PN40	660	695	699	956	1108	1184	1327	1607	-	-	-	1930 / ---
Centerline to Bottom	D	PN25 / PN40	197	236	241	324	356	387	457	499	-	-	-	673 / ---
Angle Dimensions														
Center Inlet to Discharge	B	BSPT	-	-	-	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	BSPT	-	-	-	-	-	-	-	-	-	-	-	-
Center Inlet to Discharge	B	PN10 / PN16	-	-	-	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	PN10 / PN16	-	-	-	-	-	-	-	-	-	-	-	-
Center Inlet to Discharge	B	PN25 / PN40	-	-	-	-	-	-	-	-	-	-	-	-
Center Discharge to Inlet	F	PN25 / PN40	-	-	-	-	-	-	-	-	-	-	-	-
Common Dimensions Globe														
Width	C		381	450	562	660	800	775	914	914	1262	1262	1262	1624
Height (To Stem Cap) Globe	E		368	480	592	679	797	797	797	875	1162	1162	1162	1550
Height (To Stem Cap) Angle	E		-	-	-	-	-	-	-	-	-	-	-	-
Body Port Tapping	FNPT	Inches	3/8	3/8	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Stem Cap Plug	MNPT	Inches	3/8	3/8	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Cover Port Tapping	FNPT	Inches	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Valve Stroke		mm	43	48	83	95	120	120	120	141	150	150	150	229
Displaced Bonnet Volume (Litres)			2	5	6	9	26	26	26	34	56	56	56	163
Approximate Shipping Weight (Kilograms)			180	324	408	635	1089	1179	1270	2155	2721	2993	3175	6350
Flow Capacities (L/s) Globe														
K_v - Globe			120	230	370	520	780	810	830	1210	1850	1870	1900	3875
K_v - Angle			-	-	-	-	-	-	-	-	-	-	-	-
Continuous (Globe)			145	259	404	582	1041	1041	1041	1370	2120	2126	2132	3500
Intermittent (Globe)			170	295	465	661	1320	1320	1320	1640	2362	2368	2375	4375
Momentary (Globe)			303	530	833	1211	1893	1896	1899	2460	4255	4261	4267	7867
Maximum Pressure Ratings														
Bar		BSPT	-	-	-	-	-	-		-	-	-	-	-
Bar		PN16	16	16	16	16	16	16	16	16	16	16	16	16
Bar		PN25	25	25	25	25	25	25	25	25	25	25	25	-
Maximum Temperature														
Celcius			82°	82°	82°	82°	82°	82°	82°	82°	82°	82°	82°	82°

*Valves rated and stamped 27.6 bar as standard. Valves rated and stamped 41 bar on request



See pilot system information, page 207.
For additional Engineering notes, see page 242.