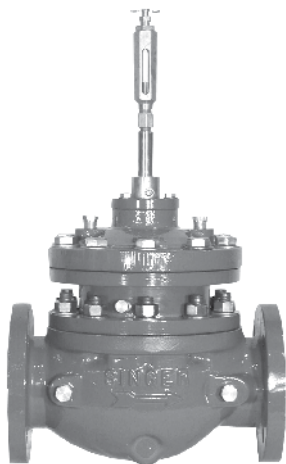


Full Port, Integral Back-Up, Dual Diaphragm Automatic Control Valve

Main Valves



106-PGM Globe

- WHEN YOU NEED EXTRA SECURITY!
- GLOBE OR ANGLE
- UNINTERRUPTED CONTROL, EVEN WITH A DIAPHRAGM OR PILOT SYSTEM FAILURE
- REMOTE ANNUNCIATION WHEN SECONDARY OPERATING SYSTEM IS TRIGGERED AVAILABLE AS OPTION
- SIMPLE CONSTRUCTION: FULL IN LINE SERVICE WITH CONVENTIONAL TOOLS

Anti-Cavitation Valves Page 82

When Ordering Please Specify

1. Catalog Model #
2. Globe or Angle Pattern
3. End Connections
4. Valve Size

For particularly sensitive applications and/or valves that are difficult to access and maintain, the Singer Model PGM provides integral back-up control and the ability to signal should the desired function move off limits. The Singer Model PGM also includes the ability to provide an independent and very positive override.

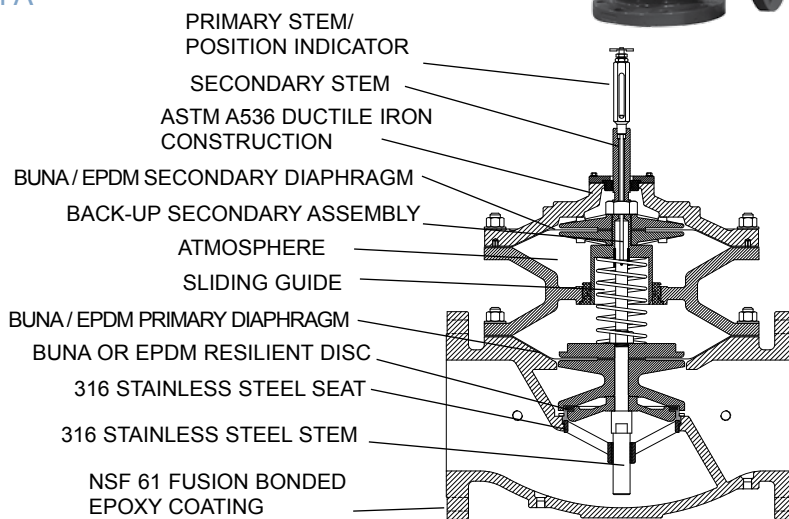
SINGER MODEL 106-PGM is a version of the standard, single chamber PG valve. The modifications provide the following features and benefits:

- Back-up diaphragm / inner valve system
- Totally self-contained.
- Back-up components are kept out of the main stream until called into operation.
- Modulating or emergency close back-up.
- Extremely positive shut-off.
- Back-up pilot system (optional - see PR-SM bulletin)
- Annunciation if controlled function goes “OFF LIMITS” with SPDT Limit Switch (optional).
- Emergency close for security breach or earthquake.

Option



106-PGM Angle

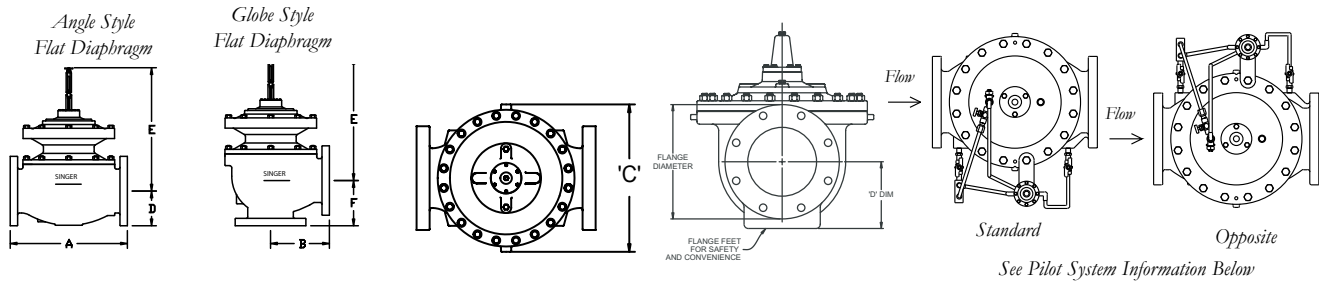


Valve Sizes & Materials:

| Valve Materials | | | |
|------------------------|---------------------------------------|----------------------------------|---------------------------------------|
| Standard | | | Optional |
| Ductile | | | |
| Available Sizes | Threaded | Flanged | |
| Globe | 3" (80mm) | 3" to 24" (80-600mm) | |
| Angle | 3" (80mm) | 3" to 12", 16" (80-300mm, 400mm) | |
| Valve Components | | | |
| 1. Valve Body, Cover | ASTM A 536 - 65/45/12 Ductile Iron | | |
| 2. Seat Ring | AISI 316 Stainless Steel | | |
| 3. Disc Retainer | B62 Bronze / A48 or A536 Ductile Iron | AISI 316 Stainless Steel | |
| 4. Stem | AISI 316 Stainless Steel | | |
| 5. Stem Nut | B16 Brass | AISI 316 Stainless Steel | |
| 6. Spring | 316 Stainless Steel | | |
| 7. Guide Bushings | B16 Brass or SAE 660 Bronze | AISI 316 Stainless Steel | |
| 8. Diaphragm | EPDM / Buna-N | | EPDM / Buna-N / Viton (limited sizes) |
| 9. Resilient Disc | EPDM | | Buna-N / Viton (limited sizes) |
| 10. Coating | NSF61 Approved Fusion Bonded Epoxy | | |
| 11. Fasteners | AISI 18-8 Stainless Steel | | AISI 316 Stainless Steel |

Model 106-PGM / 106-PGM*

*Single Rolling Diaphragm



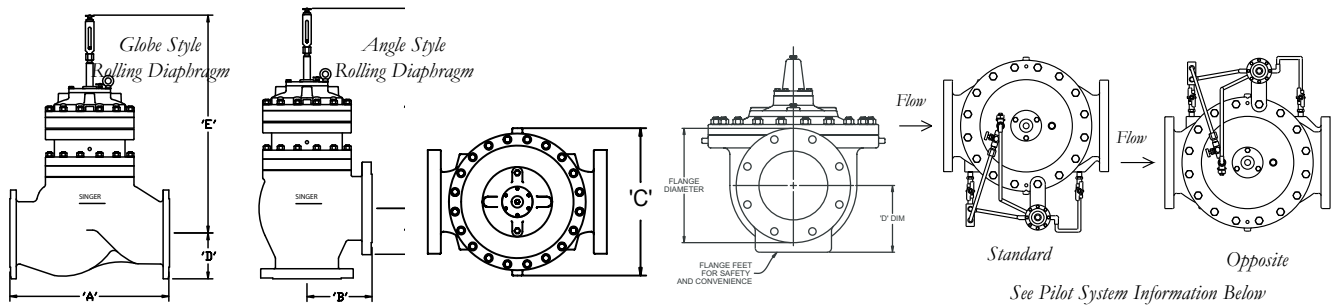
ANSI Valve Data (US Units) / see following page for additional data:

| Size | DWG | Standard | Flat Diaphragm System | | | |
|---|-----|----------|-----------------------|--------|---------|-------|
| Inches | REF | ANSI | 3" | 4" | 6" | 8" |
| All figures shown in inches unless otherwise stated | | | | | | |
| Globe Dimensions | | | | | | |
| Lay Length | A | FNPT | 13.50 | - | - | - |
| Centerline to Bottom | D | FNPT | 3.68 | - | - | - |
| Lay Length | A | 150F | 12.00 | 15.00 | 20.00 | 25.38 |
| Centerline to Bottom | D | 150F | 3.75 | 4.60 | 5.60 | 7.88 |
| Lay Length | A | 300F | 13.25 | 15.63 | 21.00 | 26.38 |
| Centerline to Bottom | D | 300F | 4.13 | 5.09 | 6.34 | 7.88 |
| Angle Dimensions | | | | | | |
| Center Inlet to Discharge | B | FNPT | 6.63 | - | - | - |
| Center Discharge to Inlet | F | FNPT | 4.63 | - | - | - |
| Center Inlet to Discharge | B | 150F | 6.06 | 7.50 | 10.00 | 12.75 |
| Center Discharge to Inlet | F | 150F | 4.06 | 5.00 | 6.00 | 8.00 |
| Center Inlet to Discharge | B | 300F | 6.43 | 7.88 | 10.50 | 13.25 |
| Center Discharge to Inlet | F | 300F | 4.43 | 5.31 | 6.50 | 8.50 |
| Common Dimensions (Globe and Angle) | | | | | | |
| Width | C | | 9.25 | 10.88 | 16.75 | 21.63 |
| Height (To Indicator) Globe | E | | 17.63 | 19.43 | 21.00 | 26.88 |
| Height (To Indicator) Angle | E | | 17.63 | 19.13 | 20.63 | 27.38 |
| Body Port Tapping | | FNPT | 3/8 | 3/8 | 3/8 | 1/2 |
| Stem Cap Plug | | MNPT | 3/8 | 3/8 | 3/8 | 3/8 |
| Cover Port Tapping | | FNPT | 3/8 | 3/8 | 1/2 | 1/2 |
| Valve Stroke | | | 1 1/8 | 1 7/16 | 1 11/16 | 2 7/8 |
| Displaced Bonnet Volume (Gallons) | | | 0.09 | 0.20 | 0.56 | 1.67 |
| Approx. Shipping Weight (Lbs.) | | | 150 | 210 | 450 | 705 |
| Capacities (USPGM) Globe & Angle | | | | | | |
| CV - Globe | | | 110 | 200 | 460 | 800 |
| CV - Angle | | | 135 | 230 | 535 | 950 |
| Continuous (Globe) | | | 460 | 800 | 1800 | 3100 |
| Intermittent (Globe) | | | 575 | 1000 | 2250 | 3875 |
| Momentary (Globe) | | | 1030 | 1800 | 4000 | 7000 |
| Maximum Pressure Ratings (Ductile Only) | | | | | | |
| PSI* | | FNPT | 400 | - | - | - |
| PSI | | 150F | 250 | 250 | 250 | 250 |
| PSI* | | 300F | 400 | 400 | 400 | 400 |
| *Valves rated and stamped 400 PSI as standard. Valves rated and stamped 600 PSI on request. | | | | | | |
| Maximum Temperature | | | | | | |
| Fahrenheit | | | 180° | 180° | 180° | 180° |

NOTES:

- Drilled as per ANSI B16.42 or threaded as per ANSI B1.20.1
- UL Approved PR-10159, 150F rated only to 175psi.
- Class 150 machined flat faced / Class 300 machined raised faced.
- UL Approved PR-10159, 300F rated only to 400psi.
- Castings based on ANSI Class 150 or Class 300 standards.
- UL-FM approved RPS-8700, 150F rated only to 200psi.
- Consult factory if working pressure exceeds 300 psi.
- UL-FM approved RPS-8700, 300F rated only to 300psi.

Add a minimum 6" (150mm) on one side, for **Pilot System**. Pilot system is installed as "standard" ("opposite" please specify). Dimensions are nominal. Allow 1/8" (3mm) for machining tolerance. Allow one to three feet for installation and maintenance clearances. Consult factory for certified dimensions. Install with stem vertical is preferred, 10" (250mm) and larger is mandatory.



See Pilot System Information Below

ANSI Valve Data (US Units) / see previous page for additional data:

| Size | DWG | Standard | Rolling Diaphragm System | | | | | | |
|--|-----|----------|--------------------------|-------|-------|-------|-----------|-----------|-------|
| Inches | REF | ANSI | 10" | 12" | 14" | 16" | 20" x 20" | 20" x 24" | 24" |
| All figures shown in inches unless otherwise stated. | | | | | | | | | |
| Globe Dimensions | | | | | | | | | |
| Lay Length | A | FNPT | - | - | - | - | - | - | - |
| Centerline to Bottom | D | FNPT | - | - | - | - | - | - | - |
| Lay Length | A | 150F | 29.75 | 34.00 | 31.00 | 41.38 | 52.00 | 67.63 | 61.50 |
| Centerline to Bottom | D | 150F | 8.56 | 9.50 | 10.50 | 11.75 | 14.44 | 17.16 | 17.13 |
| Lay Length | A | 300F | 31.12 | 35.50 | 32.50 | 43.50 | 53.62 | 69.19 | 63.25 |
| Centerline to Bottom | D | 300F | 9.31 | 10.25 | 11.50 | 12.75 | 15.75 | 17.16 | 19.65 |
| Angle Dimensions | | | | | | | | | |
| Center Inlet to Discharge | B | FNPT | - | - | - | - | - | - | - |
| Center Discharge to Inlet | F | FNPT | - | - | - | - | - | - | - |
| Center Inlet to Discharge | B | 150F | 11.50 | 13.75 | - | 18.00 | - | - | - |
| Center Discharge to Inlet | F | 150F | 12.50 | 12.50 | - | 15.69 | - | - | - |
| Center Inlet to Discharge | B | 300F | 12.19 | 14.50 | - | 18.81 | - | - | - |
| Center Discharge to Inlet | F | 300F | 13.19 | 13.25 | - | 16.50 | - | - | - |
| Common Dimensions (Globe and Angle) | | | | | | | | | |
| Width | C | | 22.13 | 26.00 | 26.00 | 32.00 | 35.25 | 49.68 | 49.68 |
| Height (To Indicator) Globe | E | | 39.38 | 44.50 | 44.63 | 52.13 | 58.00 | 61.50 | 61.50 |
| Height (To Indicator) Angle | E | | 36.00 | 41.50 | - | 49.13 | - | - | - |
| Body Port Tapping | | FNPT | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Stem Cap Plug | | MNPT | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Cover Port Tapping | | FNPT | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Valve Stroke | | | 3 1/4 | 3 3/4 | 3 3/4 | 4 3/4 | 5 9/16 | 6 | 6 |
| Displaced Bonnet Volume (Gallons) | | | 1.50 | 2.30 | 2.30 | 6.75 | 11.73 | 14.75 | 14.75 |
| Approx. Shipping Weight (Lbs.) | | | 1000 | 1365 | 1500 | 2600 | 5000 | 7300 | 7500 |
| Capacities (USPGM) Globe & Angle | | | | | | | | | |
| CV - Globe | | | 1300 | 2100 | 2575 | 3300 | 5350 | 7500 | 7600 |
| CV - Angle | | | 1400 | 2450 | - | 4000 | - | - | - |
| Continuous (Globe) | | | 4900 | 7000 | 8500 | 11000 | 17400 | 22500 | 25000 |
| Intermittent (Globe) | | | 6100 | 8800 | 11500 | 14250 | 21700 | 28080 | 31200 |
| Momentary (Globe) | | | 11000 | 16000 | 19000 | 25000 | 39000 | 50580 | 56200 |
| Maximum Pressure Ratings (Ductile Only) | | | | | | | | | |
| PSI* | | FNPT | - | - | - | - | - | - | - |
| PSI | | 150F | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| PSI* | | 300F | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| * Valves rated and stamped 400 psi as standard. Valves rated and stamped 600 psi on request. | | | | | | | | | |
| Maximum Temperature | | | | | | | | | |
| Fahrenheit | | | 180° | 180° | 180° | 180° | 180° | 180° | 180° |

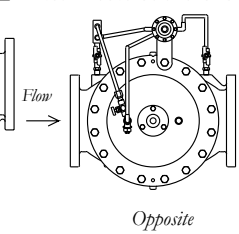
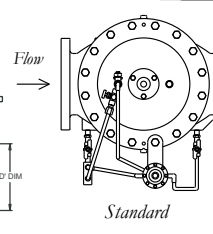
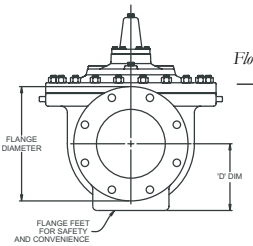
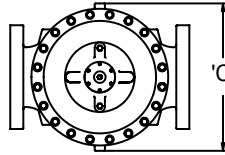
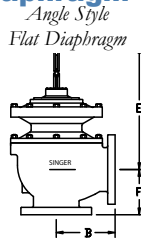
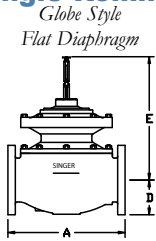
NOTES:

- Drilled as per ANSI B16.42 or threaded as per ANSI B1.20.1 • UL Approved PR-10159, 150F rated only to 175psi.
- Class 150 machined flat faced / Class 300 machined raised faced. • UL Approved PR-10159, 300F rated only to 400psi.
- Castings based on ANSI Class 150 or Class 300 standards. • UL-FM approved RPS-8700, 150F rated only to 200psi.
- Consult factory if working pressure exceeds 300 psi. • UL-FM approved RPS-8700, 300F rated only to 300psi.

Add a minimum 6" (150mm) on one side, for Pilot System. Pilot system is installed as "standard" ("opposite" please specify). Dimensions are nominal. Allow 1/8" (3mm) for machining tolerance. Allow one to three feet for installation and maintenance clearances. Consult factory for certified dimensions. Install with stem vertical is preferred. 10" (250mm) and larger is mandatory.

Model 106-PGM / 106-PGM*

*Single Rolling Diaphragm



Standard
Opposite
See Pilot System Information Below

ANSI Valve Data (Metric Units) / see following page for additional data:

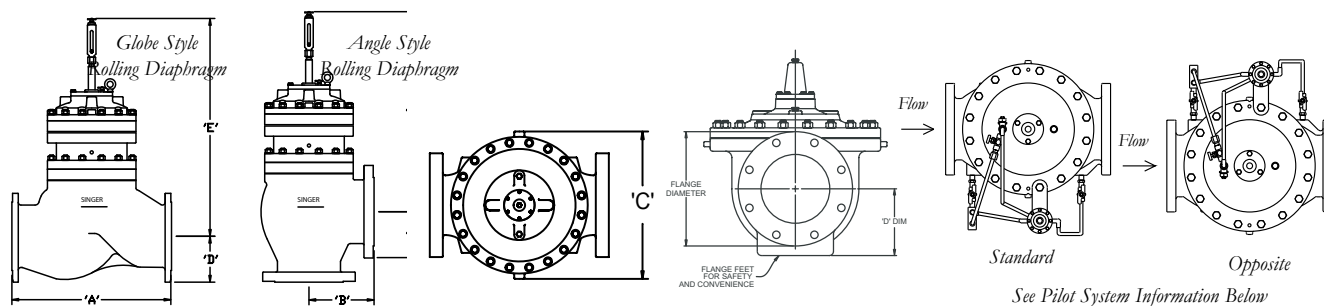
Main Valves

| Size | DWG | Standard | Flat Diaphragm System | | | |
|---|------|----------|-----------------------|------|------|-------|
| MM | REF | ANSI | 80 | 100 | 150 | 200 |
| All figures shown in mm unless otherwise stated | | | | | | |
| Globe Dimensions | | | | | | |
| Lay Length | A | FNPT | 343 | - | - | - |
| Centerline to Bottom | D | FNPT | 93 | - | - | - |
| Lay Length | A | 150F | 305 | 381 | 508 | 645 |
| Centerline to Bottom | D | 150F | 95 | 117 | 142 | 200 |
| Lay Length | A | 300F | 337 | 397 | 533 | 670 |
| Centerline to Bottom | D | 300F | 105 | 129 | 161 | 200 |
| Angle Dimensions | | | | | | |
| Center Inlet to Discharge | B | FNPT | 168 | - | - | - |
| Center Discharge to Inlet | F | FNPT | 118 | - | - | - |
| Center Inlet to Discharge | B | 150F | 154 | 191 | 254 | 324 |
| Center Discharge to Inlet | F | 150F | 103 | 127 | 152 | 203 |
| Center Inlet to Discharge | B | 300F | 163 | 200 | 267 | 337 |
| Center Discharge to Inlet | F | 300F | 113 | 135 | 165 | 216 |
| Common Dimensions (Globe & Angle) | | | | | | |
| Width | C | | 235 | 276 | 425 | 549 |
| Height (To Indicator) Globe | E | | 448 | 494 | 533 | 683 |
| Height (To Indicator) Angle | E | | 448 | 486 | 524 | 695 |
| Body Port Tapping | FNPT | Inches | 3/8 | 3/8 | 3/8 | 1/2 |
| Stem Cap Plug | MNPT | Inches | 3/8 | 3/8 | 3/8 | 3/8 |
| Cover Port Tapping | FNPT | Inches | 3/8 | 3/8 | 1/2 | 1/2 |
| Valve Stroke | | mm | 29 | 37 | 43 | 73 |
| Displaced Bonnet Volume (Litres) | | | 0.34 | 0.76 | 2.12 | 6.32 |
| Approx. Shipping Weight (Kilograms) | | | 68 | 95 | 204 | 320 |
| Capacities (L/s) (Globe & Angle) | | | | | | |
| CV- Globe | | | 2.64 | 4.80 | 11.0 | 19.2 |
| CV- Angle | | | 3.21 | 4.00 | 6.00 | 13.00 |
| Continuous (Globe) | | | 29 | 50 | 114 | 196 |
| Intermittent (Globe) | | | 36 | 63 | 142 | 244 |
| Momentary (Globe) | | | 65 | 114 | 252 | 442 |
| Maximum Pressure Ratings (Ductile Only) | | | | | | |
| Bar* | FNPT | | 27.6 | - | - | - |
| Bar | 150F | | 17 | 17 | 17 | 17 |
| Bar* | 300F | | 27.6 | 27.6 | 27.6 | 27.6 |
| * Valves rated and stamped 27.6 bar as standard. Valves rated and stamped 41 bar on request | | | | | | |
| Maximum Temperature | | | | | | |
| Celcius | | | 82° | 82° | 82° | 82° |

NOTES:

- Castings are based on ANSI Class 150 or Class 300 standards.
- ANSI Flanges drilled to ISO 2531/BS4504 PN10, 16, 25, or 40, or threaded BSPT.
- Consult the factory if working pressure exceeds 20 Bar.

Add a minimum 6" (150mm) on one side, for Pilot System. Pilot system is installed as "standard" ("opposite" please specify). Dimensions are nominal. Allow 1/8" (3mm) for machining tolerance. Allow one to three feet for installation and maintenance clearances. Consult factory for certified dimensions. Install with stem vertical is preferred. 10" (250mm) and larger is mandatory.



See Pilot System Information Below

ANSI Valve Data (Metric Units) / see previous page for additional data:

| Size | DWG | Standard | Rolling Diaphragm System | | | | | | |
|---|------|----------|--------------------------|------|------|-------|-----------|-----------|-------|
| MM | REF | ANSI | 250 | 300 | 350 | 400 | 500 x 500 | 500 x 600 | 600 |
| All figures shown in mm unless otherwise stated | | | | | | | | | |
| Globe Dimensions | | | | | | | | | |
| Lay Length | A | FNPT | - | - | - | - | - | - | - |
| Centerline to Bottom | D | FNPT | - | - | - | - | - | - | - |
| Lay Length | A | 150F | 756 | 864 | 787 | 1051 | 1321 | 1718 | 1562 |
| Centerline to Bottom | D | 150F | 217 | 241 | 267 | 298 | 367 | 436 | 435 |
| Lay Length | A | 300F | 790 | 902 | 826 | 1105 | 1362 | 1757 | 1607 |
| Centerline to Bottom | D | 300F | 236 | 260 | 292 | 324 | 400 | 436 | 499 |
| Angle Dimensions | | | | | | | | | |
| Center Inlet to Discharge | B | FNPT | - | - | - | - | - | - | - |
| Center Discharge to Inlet | F | FNPT | - | - | - | - | - | - | - |
| Center Inlet to Discharge | B | 150F | 292 | 349 | - | 457 | - | - | - |
| Center Discharge to Inlet | F | 150F | 318 | 318 | - | 399 | - | - | - |
| Center Inlet to Discharge | B | 300F | 310 | 368 | - | 478 | - | - | - |
| Center Discharge to Inlet | F | 300F | 335 | 337 | - | 419 | - | - | - |
| Common Dimensions (Globe & Angle) | | | | | | | | | |
| Width | C | | 562 | 660 | 660 | 813 | 895 | 1262 | 1262 |
| Height (To Indicator) Globe | E | | 1000 | 1130 | 1134 | 1324 | 1473 | 1562 | 1562 |
| Height (To Indicator) Angle | E | | 914 | 1054 | - | 1248 | - | - | - |
| Body Port Tapping | FNPT | Inches | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Stem Cap Plug | MNPT | Inches | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Cover Port Tapping | FNPT | Inches | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Valve Stroke | | mm | 83 | 95 | 95 | 120 | 143 | 150 | 150 |
| Displaced Bonnet Volume (Litres) | | | 5.67 | 8.69 | 8.69 | 25.55 | 44.41 | 55.83 | 55.83 |
| Approx. Shipping Weight (Kilograms) | | | 454 | 619 | 680 | 1179 | 2268 | 3311 | 3400 |
| Capacities (L/s) (Globe & Angle) | | | | | | | | | |
| CV- Globe | | | 31.2 | 50.4 | 61.8 | 79.2 | 128.5 | 180.0 | 182.4 |
| CV- Angle | | | 33.3 | 58.2 | - | 95.0 | - | - | - |
| Continuous (Globe) | | | 309 | 442 | 536 | 694 | 1098 | 1420 | 1577 |
| Intermittent (Globe) | | | 385 | 555 | 726 | 899 | 1369 | 1772 | 1968 |
| Momentary (Globe) | | | 694 | 1009 | 1199 | 1577 | 2461 | 3191 | 3546 |
| Maximum Pressure Ratings (Ductile Only) | | | | | | | | | |
| Bar* | FNPT | | - | - | - | - | - | - | - |
| Bar | 150F | | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Bar* | 300F | | 27.6 | 27.6 | 27.6 | 27.6 | 27.6 | 27.6 | 27.6 |
| * Valves rated and stamped 27.6 Bar as standard. Valves rated and stamped 41bar on request. | | | | | | | | | |
| Maximum Temperature | | | | | | | | | |
| Celcius | | | 82° | 82° | 82° | 82° | 82° | 82° | 82° |

NOTES:

- Castings are based on ANSI Class 150 or Class 300 standards.
- ANSI Flanges drilled to ISO 2531/BS4504 PN10, 16, 25, or 40, or threaded BSPT.
- Consult the factory if working pressure exceeds 20 Bar.

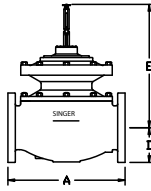
Add a minimum 6" (150mm) on one side, for Pilot System. Pilot system is installed as "standard" ("opposite" please specify). Dimensions are nominal. Allow 1/8" (3mm) for machining tolerance. Allow one to three feet for installation and maintenance clearances. Consult factory for certified dimensions. Install with stem vertical is preferred, 10" (250mm) and larger is mandatory.

Model 106-PGM / 106-PGM*

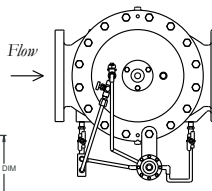
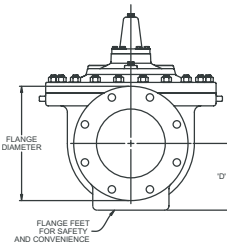
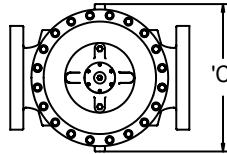
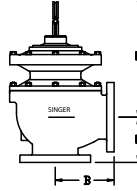
*Single Rolling Diaphragm



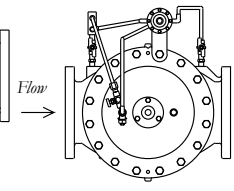
Globe Style
Flat Diaphragm



Angle Style
Flat Diaphragm



Standard



Opposite

See Pilot System Information Below

ISO Valve Data (Metric Units) / see following page for additional data:

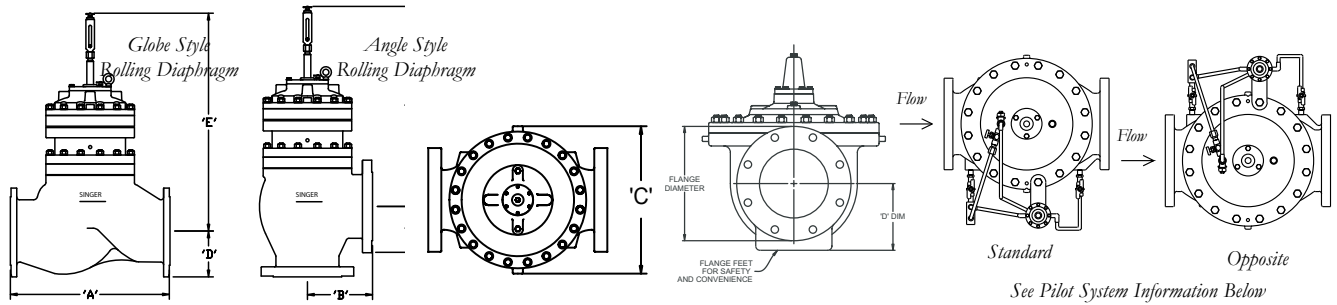
Main Valves

| Size | DWG | Standard | Flat Diaphragm System | | | |
|---|------|-----------|-----------------------|------|------|-------|
| MM | REF | ISO | 80 | 100 | 150 | 200 |
| All figures shown in mm unless otherwise stated | | | | | | |
| Globe Dimensions | | | | | | |
| Lay Length | A | BSPT | 343 | - | - | - |
| Centerline to Bottom | D | BSPT | 93 | - | - | - |
| Lay Length | A | PN10/PN16 | 318 | 381 | 508 | 645 |
| Centerline to Bottom | D | PN10/PN16 | 100 | 117 | 142 | 200 |
| Lay Length | A | PN25/PN40 | 318 | 397 | 533 | 670 |
| Centerline to Bottom | D | PN25/PN40 | 100 | 129 | 161 | 200 |
| Angle Dimensions | | | | | | |
| Center Inlet to Discharge | B | BSPT | 168 | - | - | - |
| Center Discharge to Inlet | F | BSPT | 118 | - | - | - |
| Center Inlet to Discharge | B | PN10/PN16 | 163 | 191 | 254 | 324 |
| Center Discharge to Inlet | F | PN10/PN16 | 113 | 127 | 152 | 203 |
| Center Inlet to Discharge | B | PN25/PN40 | 163 | 200 | 267 | 337 |
| Center Discharge to Inlet | F | PN25/PN40 | 113 | 135 | 165 | 216 |
| Common Dimensions (Globe and Angle) | | | | | | |
| Width | C | | 235 | 276 | 425 | 549 |
| Height (To Indicator) Globe | E | | 448 | 494 | 533 | 683 |
| Height (To Indicator) Angle | E | | 448 | 486 | 524 | 695 |
| Body Port Tapping | FNPT | Inches | 3/8 | 3/8 | 3/8 | 1/2 |
| Stem Cap Plug | MNPT | Inches | 3/8 | 3/8 | 3/8 | 3/8 |
| Cover Port Tapping | FNPT | Inches | 3/8 | 3/8 | 1/2 | 1/2 |
| Valve Stroke | | mm | 29 | 37 | 43 | 73 |
| Displaced Bonnet Volume (Litres) | | | 0.34 | 0.76 | 2.12 | 6.32 |
| Approx. Shipping Weight (Kilograms) | | | 68 | 95 | 204 | 320 |
| Capacities (L/s) Globe & Angle | | | | | | |
| CV - Globe | | | 2.64 | 4.80 | 11.0 | 19.2 |
| CV - Angle | | | 3.21 | 4.00 | 6.00 | 13.00 |
| Continuous (Globe) | | | 29 | 50 | 114 | 196 |
| Intermittent (Globe) | | | 36 | 63 | 142 | 244 |
| Momentary (Globe) | | | 65 | 114 | 252 | 442 |
| Maximum Pressure Ratings | | | | | | |
| Bar | | BSPT | 27.6 | - | - | - |
| Bar | | PN16 | 16 | 16 | 16 | 16 |
| Bar | | PN25 | 25 | 25 | 25 | 25 |
| Maximum Temperature | | | | | | |
| Celcius | | | 82° | 82° | 82° | 82° |

NOTES:

- Castings are based on ANSI Class 150 or Class 300 standards.
- ANSI Flanges drilled to ISO 2531/BS4504 PN10, 16, 25, or 40, or threaded BSPT.
- Consult the factory if working pressure exceeds 20 Bar.

Add a minimum 6" (150mm) on one side, for Pilot System. Pilot system is installed as "standard" ("opposite" please specify). Dimensions are nominal. Allow 1/8" (3mm) for machining tolerance. Allow one to three feet for installation and maintenance clearances. Consult factory for certified dimensions. Install with stem vertical is preferred. 10" (250mm) and larger is mandatory.



ISO Valve Data (Metric Units) / see previous page for additional data:

| Size | DWG | Standard | Rolling Diaphragm System | | | | | | |
|--|------|-----------|---|------|------|-------|-----------|-----------|-------|
| | | | 250 | 300 | 350 | 400 | 500 x 500 | 500 x 600 | 600 |
| MM | REF | ISO | All figures shown in mm unless otherwise stated | | | | | | |
| Globe Dimensions | | | | | | | | | |
| Lay Length | A | BSPT | - | - | - | - | - | - | - |
| Centerline to Bottom | D | BSPT | - | - | - | - | - | - | - |
| Lay Length | A | PN10/PN16 | 756 | 864 | 787 | 1051 | 1321 | 1718 | 1562 |
| Centerline to Bottom | D | PN10/PN16 | 217 | 241 | 267 | 298 | 367 | 436 | 436 |
| Lay Length | A | PN25/PN40 | 790 | 864 | 826 | 1105 | 1362 | 1757 | 1607 |
| Centerline to Bottom | D | PN25/PN40 | 243 | 241 | 292 | 324 | 400 | 436 | 499 |
| Angle Dimensions | | | | | | | | | |
| Center Inlet to Discharge | B | BSPT | - | - | - | - | - | - | - |
| Center Discharge to Inlet | F | BSPT | - | - | - | - | - | - | - |
| Center Inlet to Discharge | B | PN10/PN16 | 292 | 349 | - | 457 | - | - | - |
| Center Discharge to Inlet | F | PN10/PN16 | 318 | 318 | - | 399 | - | - | - |
| Center Inlet to Discharge | B | PN25/PN40 | 310 | 368 | - | 478 | - | - | - |
| Center Discharge to Inlet | F | PN25/PN40 | 335 | 337 | - | 419 | - | - | - |
| Common Dimensions (Globe and Angle) | | | | | | | | | |
| Width | C | | 562 | 660 | 660 | 813 | 895 | 1262 | 1262 |
| Height (To Indicator) Globe | E | | 1000 | 1130 | 1134 | 1324 | 1473 | 1562 | 1562 |
| Height (To Indicator) Angle | E | | 914 | 1054 | - | 1248 | - | - | - |
| Body Port Tapping | FNPT | Inches | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Stem Cap Plug | MNPT | Inches | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Cover Port Tapping | FNPT | Inches | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Valve Stroke | | mm | 83 | 95 | 95 | 120 | 143 | 150 | 150 |
| Displaced Bonnet Volume (Litres) | | | 5.67 | 8.69 | 8.69 | 25.55 | 44.41 | 55.83 | 55.83 |
| Approx. Shipping Weight (Kilograms) | | | 454 | 619 | 680 | 1179 | 2268 | 3311 | 3400 |
| Capacities (L/s) Globe & Angle | | | | | | | | | |
| CV - Globe | | | 31.2 | 50.4 | 61.8 | 79.2 | 128.5 | 180.0 | 182.4 |
| CV - Angle | | | 33.3 | 58.2 | - | 95.0 | - | - | - |
| Continuous (Globe) | | | 309 | 442 | 536 | 694 | 1098 | 1420 | 1577 |
| Intermittent (Globe) | | | 385 | 555 | 726 | 899 | 1369 | 1772 | 1968 |
| Momentary (Globe) | | | 694 | 1009 | 1199 | 1577 | 2461 | 3191 | 3546 |
| Maximum Pressure Ratings | | | | | | | | | |
| Bar | | BSPT | - | - | - | - | - | - | - |
| Bar | | PN16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Bar | | PN25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Maximum Temperature | | | | | | | | | |
| Celcius | | | 82° | 82° | 82° | 82° | 82° | 82° | 82° |

NOTES:

- Castings are based on ANSI Class 150 or Class 300 standards.
- ANSI Flanges drilled to ISO 2531/BS4504 PN10, 16, 25, or 40, or threaded BSPT.
- Consult the factory if working pressure exceeds 20 Bar.

Add a minimum 6" (150mm) on one side, for Pilot System. Pilot system is installed as "standard" ("opposite" please specify). Dimensions are nominal. Allow 1/8" (3mm) for machining tolerance. Allow one to three feet for installation and maintenance clearances. Consult factory for certified dimensions. Install with stem vertical is preferred, 10" (250mm) and larger is mandatory.

AVAILABLE OPTIONS

VALVE POSITION INDICATORS

- Model X129 limit switch assembly with S.P.D.T. limit switch
- Model X136M/X156 analog position transmitters (4 to 20mA)

All of which may be installed at the factory or as a field modification.

MATERIALS OF CONSTRUCTION for individual components can be upgraded from ductile iron, bronze and brass to stainless steel, for most sizes. Consult with the factory.

DELTRIN STEM SLEEVE/OXY NITRIDE STEM provides extra protection against mineral deposits. See Main Valve Options Section.

INTERNAL DROP CHECK option provides a built-in, drop check to mechanically prevent reverse flow. See Main Valve Options Section.

ANTI-CAVITATION TRIM - The model 106-PGM-AC allows very high pressure drops in one valve, while retaining the standard 106 valve features. See High Performance Section.

GROOVED ENDS - See Main Valve Options Section.

RECLAIM WATER - For Grey and Reclaim Water applications. See Main Valve Options Section.

PILOTS & ACCESSORIES - Singer Valve offers a wide range of Pilots & Accessories. See Pilots & Accessories Section.

SELECTION

The Singer Model 106-PGM incorporates a second actuator. If the primary system and/or the main valve fails then the back-up pilot system takes over. Under normal operating conditions, there is no external discharge from the PGM. In modulating applications, when the back-up pilot system operates, there is a small (less than 1 USGPM (.06 L/s)) continuous discharge that should be taken to drain.

The primary pilot function can be duplicated in the secondary pilot system to provide continuing back-up operations or the secondary system can be used for override functions. Consult with the factory with your specific application requirements.

Sizing of PGM valves is based on the same criteria as standard PG models.

SPECIFICATIONS

- Valve(s) shall be a hydraulically operated globe (angle) valve complete with an integral back-up actuator. The inner valve assembly shall be top and bottom guided by means of easily replaceable bearing bushings. In normal operation, the inner valve assembly shall be the only moving part and shall be securely mounted on a 316 stainless steel stem. The secondary system shall include a separate operating chamber and components, which will provide independent control on the primary valve. The stainless steel stem shall be provided with wrench flats on all valves 3" (80 mm) to 16" (400mm), for ease of assembly and maintenance.
- All back-up components shall remain stationary, unstressed and will not interfere with normal valve operation until required.
- Back-up operation shall be initiated by either a remote emergency close signal or the controlled function being out of normal operating limits.
- All pressure containing components shall be constructed of ASTM A536-65/45/12 ductile iron. The flanges shall be designed to ANSI Class 150 or Class 300 standards. Flange drilling to ANSI shall be standard however British, ISO and other drillings shall be available upon request.
- Valve(s) shall have a protective fusion bonded epoxy coating internally and externally. The protective fusion bonded epoxy coating shall conform to the ANSI/AWWA C116/A21.16 (current version) specification.
- Valve(s) 8" (200mm) and smaller shall provide smooth "frictionless" motion with actuation being achieved by the use of a flat style BUNA / EPDM diaphragm. They shall be constructed of nylon fabric bonded with synthetic rubber. The diaphragms shall not be used as a seating surface. No lip seals or packing may be used to seal the actuator.
- Valve(s) 10" (250mm) and larger shall provide smooth "frictionless" motion and maximum low flow stability with actuation being achieved by the use of the Singer rolling diaphragm technology. The diaphragms shall not be used as a seating surface. No lip seals or packing may be used to seal the actuator.
- Bonnets shall be accurately located to bodies utilizing locating pins. Locating pins shall eliminate corrosion resulting from the use of uncoated ductile iron to ductile iron surfaces.
- Valve(s) shall have the 316 stainless steel seat bolted in place, utilizing "Spiralock" thread tapping technology. The 316 stainless steel seat ring shall be easily replaceable without special tools.
- The valve(s) shall form a drip tight seal between the stationary stainless steel seat ring and the resilient disc, which has a rectangular cross-section and is retained by clamping on three and one half sides. The resilient disc shall be constructed of Buna or EPDM for normal service conditions.
- All external fasteners shall be 18/8 stainless steel with 18/8 washers.
- All repairs and maintenance shall be possible without removing the valve from the line. To facilitate easy removal and replacement of the inner valve assembly and to reduce unnecessary wear on the guide, the stem shall be vertical when the valve is mounted in a horizontal line.
- Each valve shall be tested prior to shipment. The standard test shall include a pressure test and a full functional, operational test when pilots and accessories are fitted to suit a particular application.