



Cat.no.:E-PS



Cat.no.:E-GGC



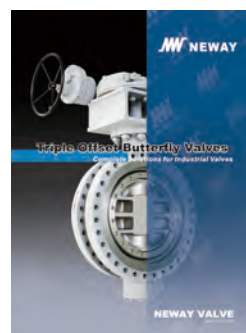
Cat.no.:E-TMBV



Cat.no.:E-FBV



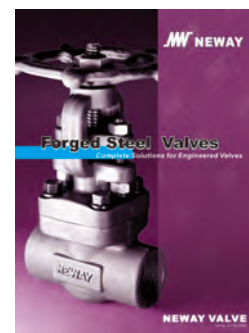
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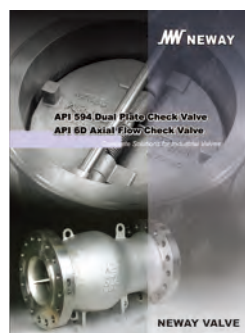
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Cat.no.:E-PLV



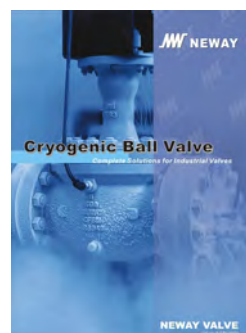
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Cat.no.:E-DAV



Cat.no.:E-CPS



Cat.no.:E-CBV

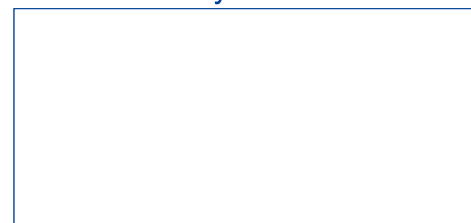


Cat.no.:E-PV

**NEWAY**  
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Cat.no.:E-FSV-2020

**NEWAY**

# Forged Steel Valves

*Complete Solutions for Engineered Valves*



**NEWAY VALVE**  
Cat.no.:E-FSV-2020

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## Complete Solutions for Industrial Valves

As a global leader of valve manufacturing, Neway(SSE:603699) is dedicated to the production, research, and development of industrial valves. Neway is committed to providing complete valve solutions to all industries through advanced engineering and innovation.

Neway's product line includes Ball, Butterfly, Gate, Globe, Check, Nuclear, Control, Subsea and Safety valves. Our high quality standards and innovative ability are recognized by many global end users and EPCs. Neway valves are utilized in a wide variety of industries and working conditions such as Refining, Chemical, Coal Chemical, Offshore(including subsea), Air Separation, LNG, Nuclear Power, Power Generation, and Pipeline Transmission applications.

## Global Facilities & Service

Neway has developed a sophisticated multi-plant management system operating one valve assembly plant, one API6A valve plant, three foundries, and one R&D center. Our Largest assembly plant was expanded in 2013, and it now covers 230,000 square meters.

Advanced software (ANSYS, FE-Safe, CF-Design, Siemens PLM and NX) is applied here at Neway for the Research & Development of products. We use SAP to control the traceability and status of all products during the manufacturing process. In order to ensure the safety, eco-friendliness, and reliability of our products, we use the most advanced fire-safe, cryogenic, high pressure, and fugitive emission test equipment.

As part of Neway's global strategy, to provide better service to our customers, we have established our overseas subsidiaries in USA, Netherlands, Italy, Singapore and Dubai along with over 80 agents and distributors worldwide.

## High Quality, High Value

Neway is dedicated to the pursuit of "Zero Defect". We maintain a quality management system that encompasses our entire operation from order entry, to final inspection. Through Neway's continuous efforts, our products have achieved industrial certificates including ISO 9001, API 6A, API 6D, CE/PED, ASME N & NPT, TA-Luft, ABS, CU-TR and Fire-Safe approvals.

## Quality Commitment

API 6D



API 6A



TA Luft



API 591



ISO 9001



ABS



Fire Safe Test Certificate

Neway recognizes the importance of valve quality for the safety and protection of personnel health and property. It is our quality commitment to focus our resources to provide our customers with first class products at a competitive price, designed, manufactured, inspected and tested in accordance with our customers CE/PED specifications and complying with all international standards. Current industrial standards do not always take into consideration the likelihood and consequences of possible deterioration in service, related to specific service fluids or the external environments in which they operate. Therefore we request that our customers communicate with our engineering department. Our valve optimization program continuously strives to provide valves that withstand deterioration in service, and ensure safety over the valves expected lifetime.

Figure Number Example:

1

①

G

②

8

③

S

④

-

M

⑤

,

C40

⑥

/

No.8

⑦

Neway valve figure numbers are designed to cover essential features. When ordering ,please show figure numbers to avoid misunderstanding of your requirements. However a detailed description must accompany any special orders.

Following descriptions provide a basic guideline in valve specification.

① Valve Size

② Valve Type

| Valve Type | Gate Valve | Globe Valve | Y Type Globe Valve | Swing Check | Piston Check | Y Type Piston Check |
|------------|------------|-------------|--------------------|-------------|--------------|---------------------|
| Symbol     | G          | GL          | GLY                | S           | P            | PY                  |

③ Valve Class

| ANSI Class | 150 | 300 | 600 | 800 | 900 | 1500 | 2500 |
|------------|-----|-----|-----|-----|-----|------|------|
| Symbol     | 1   | 3   | 6   | 8   | 9   | 15   | 25   |

④ End Connection

| End Connection | Socket Welding End | NPT Screwed End | Butt Welding End | Screwed×Socket | Raised Flange | RTJ Flange |
|----------------|--------------------|-----------------|------------------|----------------|---------------|------------|
| Symbol         | S                  | N               | B                | SN             | R             | J          |

⑤ Special Code

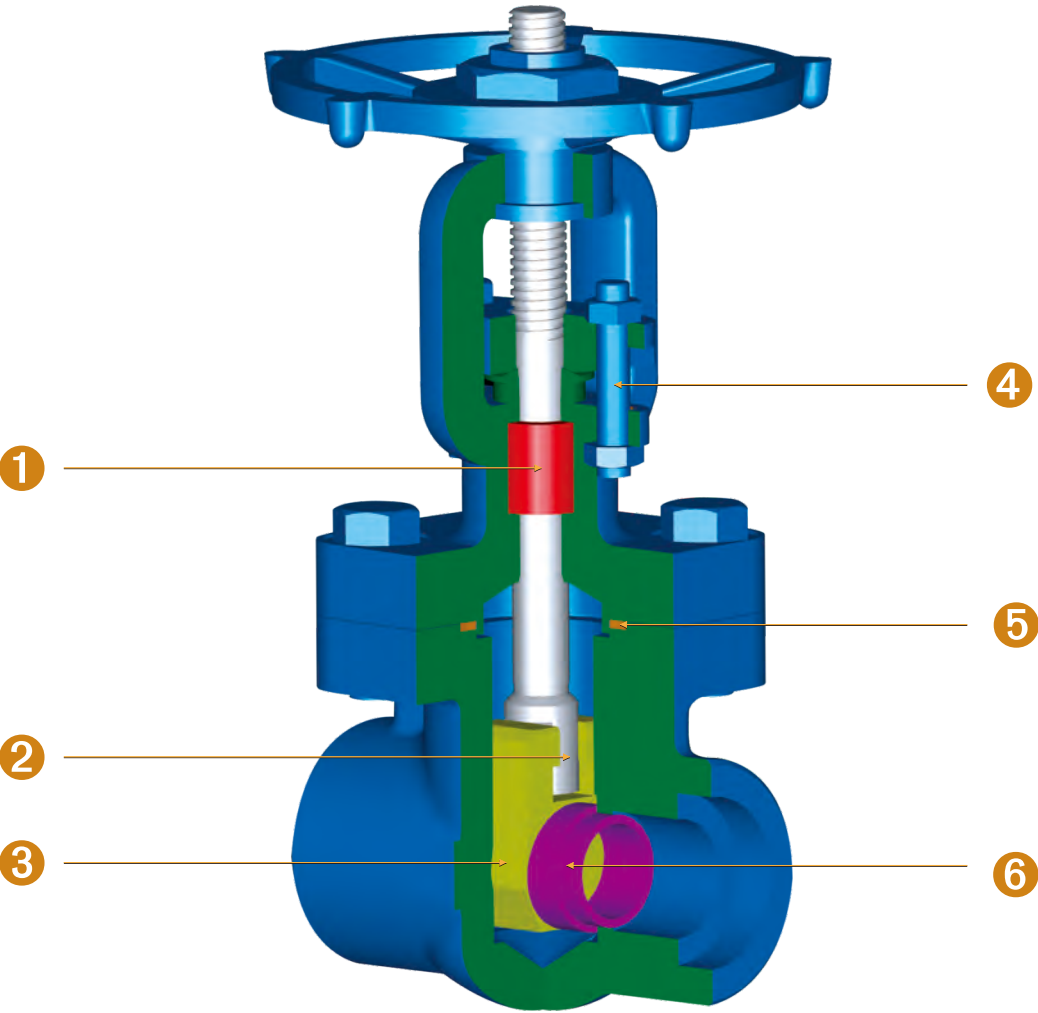
| Description | Welding bonnet | RTJ Bonnet | Full Port | Electric Actuator | Pneumatic Actuator |
|-------------|----------------|------------|-----------|-------------------|--------------------|
| Symbol      | FW             | J          | FP        | M                 | P                  |

⑥ Body Materials

| Body Materials | C40   | L70         | H41          | H42          | H43         | S40           | S41           | S42            | S43            |
|----------------|-------|-------------|--------------|--------------|-------------|---------------|---------------|----------------|----------------|
| ASTM Ref.      | A105N | A350 Gr.LF2 | A182 Gr. F11 | A182 Gr. F22 | A182 Gr. F5 | A182 Gr. F304 | A182 Gr. F316 | A182 Gr. F304L | A182 Gr. F316L |

⑦ Trim Materials

| Symbol | Disc Surface | Seat Surface | Stem Materials |
|--------|--------------|--------------|----------------|
| No.1   | 13Cr         | 13Cr         | ASTM A182-F6a  |
| No.2   | 18Cr-8Ni     | 18Cr-8Ni     | ASTM A182-F304 |
| No.5   | Hard faced   | Hard faced   | ASTM A182-F6a  |
| No.8   | 13Cr         | Hard faced   | ASTM A182-F6a  |
| No.10  | 18Cr-8Ni-Mo  | 18Cr-8Ni-Mo  | ASTM A182-F316 |
| No.12  | 18Cr-8Ni-Mo  | Hard faced   | ASTM A182-F316 |
| No.15  | 18Cr-8Ni     | Hard faced   | ASTM A182-F304 |
| No.16  | Hard faced   | Hard faced   | ASTM A182-F316 |



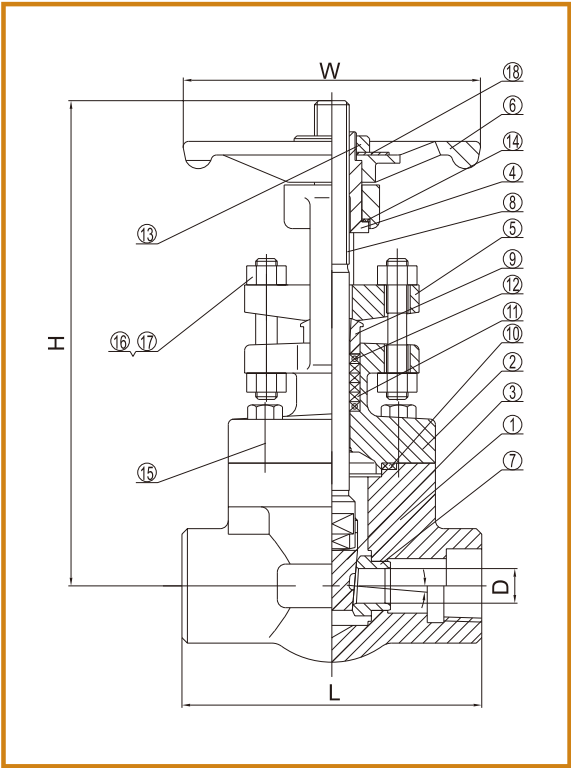
- ① A positive backseat, high quality packing material and improved stuffing box design ensure tighter stem seal.
- ② The T-head stem design provides positive disc to stem connection and ensures effective seating operation.
- ③ Fully guided solid wedge reduces wear on seating surfaces.
- ④ Stud and bolt arrangement facilitates packing maintenance.
- ⑤ Recessed Body-Bonnet Joint design captures the stainless steel spiral wound gasket ensuring body/bonnet sealing integrity.
- ⑥ Rolled-in seat design ensures tight and effective seat assembly.

Forged Steel Gate Valve

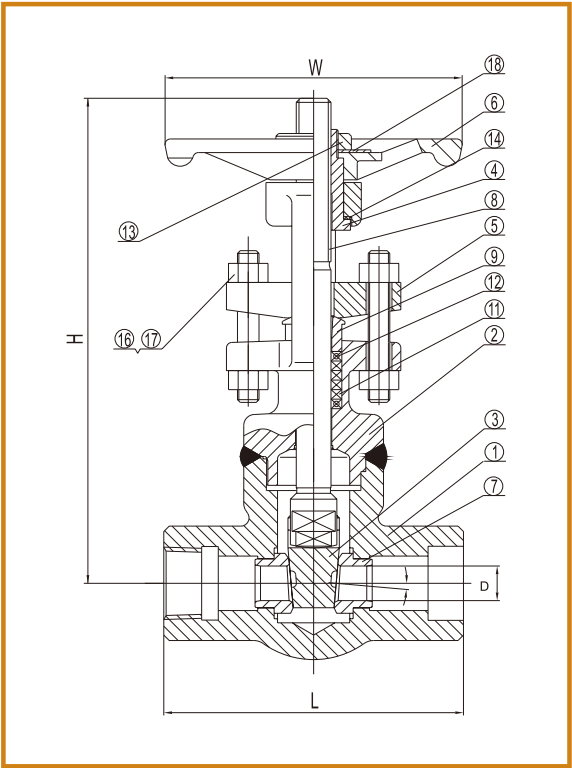
G.A. Drawing

Forged Steel Gate Valve

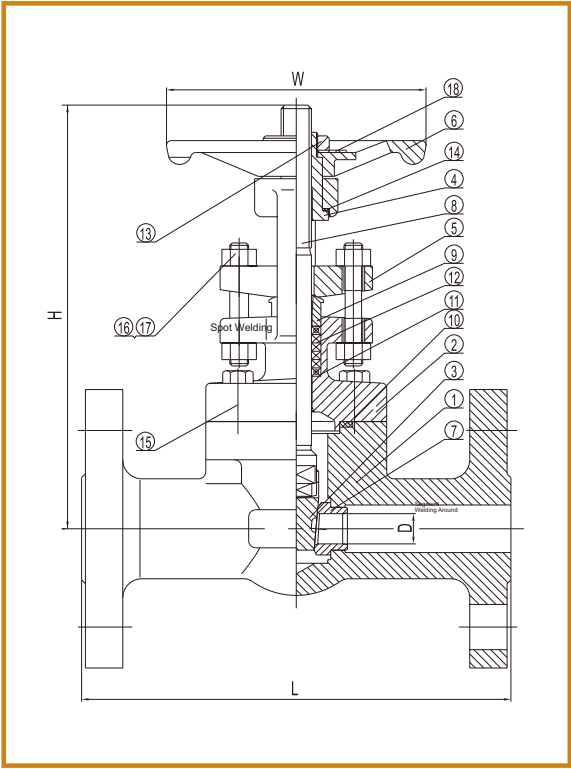
Dimensions



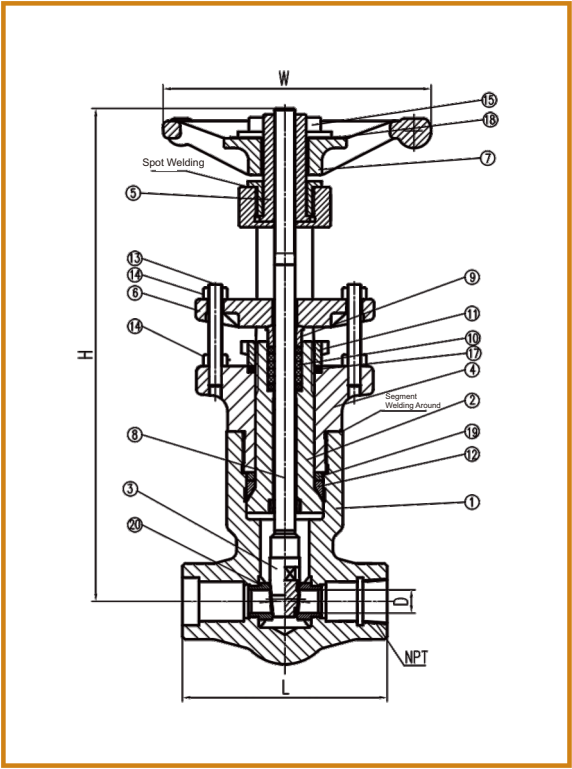
Bolted Bonnet



Welded Bonnet



Integral Flanged Ends



Pressure Seal Bonnet Connection

Material List

| NO. | Description of Parts | Material                    |                             |                                   |
|-----|----------------------|-----------------------------|-----------------------------|-----------------------------------|
|     |                      | Standard                    | High Temperature            | Stainless Steel                   |
| 1   | BODY                 | ASTM A105 N                 | ASTM A182-F11/F22           | ASTM A182-F304/F316               |
| 2   | BONNET               | ASTM A105 N                 | ASTM A182-F11/F22           | ASTM A182-F304/F316               |
| 3   | WEDGE                | ASTM A182-F6a               | ASTM A182-F6a               | ASTM A182-F304/F316               |
| 4   | STEM NUT             | ASTM A276-420               | ASTM A276-420               | ASTM A276-420                     |
| 5   | GLAND FLANGE         | ASTM A216-WCB               | ASTM A216-WCB               | ASTM A351-CF8                     |
| 6   | HANDWHEEL            | DUCTILE IRON                | DUCTILE IRON                | DUCTILE IRON                      |
| 7   | SEAT RING            | ASTM A276-410/STL.OVERLAY   | ASTM A276-410/STL.OVERLAY   | ASTM A182-F304/F316/STL.6 OVERLAY |
| 8   | STEM                 | ASTM A182-F6a               | ASTM A182-F6a               | ASTM A182-F304/F316               |
| 9   | GLAND                | ASTM A276-420               | ASTM A276-420               | ASTM A276-304/316                 |
| 10  | GASKET               | 304SS/SPIRAL WOUND GRAPHITE | 304SS/SPIRAL WOUND GRAPHITE | 304/316SS/SPIRAL WOUND GRAPHITE   |
| 11  | PACKING              | GRAPHITE                    | GRAPHITE                    | GRAPHITE                          |
| 12  | PACKING              | CARBON YARN                 | CARBON YARN                 | CARBON YARN                       |
| 13  | HANDWHEEL NUT        | CARBON STEEL                | CARBON STEEL                | ASTM A276-304                     |
| 14  | WASHER               | ASTM A276-304               | ASTM A276-304               | ASTM A276-304                     |
| 15  | STUD                 | ASTM A193-B7                | ASTM A193-B16               | ASTM A193-B8                      |
| 16  | BOLT                 | ASTM A193-B8                | ASTM A193-B8                | ASTM A193-B8                      |
| 17  | NUT                  | ASTM A194-8                 | ASTM A194-8                 | ASTM A194-8                       |
| 18  | NAME PLATE           | ASTM A276-304               | ASTM A276-304               | ASTM A276-304                     |

Class 800 Bolted Bonnet or Welded Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8               |      | 1/2 |      | 3/4  |      | 1    |      | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------------------|------|-----|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4               |      | 3/8 |      | 1/2  |      | 3/4  |      | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm                | in   | mm  | in   | mm   | in   | mm   | in   | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 76                | 2.99 | 76  | 2.99 | 86   | 3.39 | 102  | 4.02 | 118   | 4.65  | 118   | 4.65  | 132   | 5.20  |
| Bore Diameter        | D     | 9.5               | 0.37 | 9.5 | 0.37 | 12.7 | 0.50 | 17.5 | 0.69 | 23.8  | 0.94  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | Bolted Bonnet 144 | 5.68 | 144 | 5.68 | 151  | 5.95 | 178  | 7.02 | 245   | 9.65  | 247   | 9.73  | 269   | 10.58 |
|                      |       | Welded Bonnet 157 | 6.19 | 157 | 6.19 | 165  | 6.51 | 192  | 7.57 | 272   | 10.70 | 277   | 10.92 | 283   | 11.15 |
| Handwheel            | W     | 90                | 3.54 | 90  | 3.54 | 90   | 3.54 | 110  | 4.33 | 150   | 5.91  | 150   | 5.91  | 150   | 5.91  |
| Approx. Weight       | Kg/Lb | 1.5               | 3.31 | 1.5 | 3.31 | 2.0  | 4.41 | 3.0  | 6.61 | 4.0   | 8.82  | 5.5   | 12.13 | 7.5   | 16.53 |

Class 900/1500 Bolted Bonnet or Welded Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8               |      | 1/2 |      | 3/4  |      | 1   |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------------------|------|-----|------|------|------|-----|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4               |      | 3/8 |      | 1/2  |      | 3/4 |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm                | in   | mm  | in   | mm   | in   | mm  | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 90                | 3.54 | 90  | 3.54 | 104  | 4.09 | 120 | 4.72  | 130   | 5.12  | 130   | 5.12  | 150   | 5.91  |
| Bore Diameter        | D     | 6.5               | 0.26 | 9.5 | 0.37 | 12.7 | 0.50 | 16  | 0.63  | 22.5  | 0.89  | 27    | 1.06  | 35    | 1.38  |
| Center to Top (Open) | H     | Bolted Bonnet 163 | 6.41 | 163 | 6.41 | 190  | 7.47 | 225 | 8.85  | 263   | 10.33 | 264   | 10.41 | 319   | 12.57 |
|                      |       | Welded Bonnet 177 | 6.98 | 177 | 6.98 | 206  | 8.09 | 240 | 9.44  | 271   | 10.66 | 276   | 10.86 | 325   | 12.81 |
| Handwheel            | W     | 90                | 3.54 | 90  | 3.54 | 110  | 4.33 | 150 | 5.91  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | 2.5               | 5.51 | 2.5 | 5.51 | 3.5  | 7.72 | 5.5 | 12.13 | 8.0   | 17.64 | 8.5   | 18.74 | 14.5  | 31.97 |

# Forged Steel Gate Valve

## Dimensions

### Class 900/1500      Pressure Seal Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8 |    | 1/2 |      | 3/4  |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|----|-----|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4 |    | 3/8 |      | 1/2  |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in | mm  | in   | mm   | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       |     |    | 120 | 4.72 | 120  | 4.72  | 140   | 5.51  | 178   | 7.01  | 178   | 7.01  | 216   | 8.50  |
| Bore Diameter        | D     | -   | -  | 9.5 | 0.37 | 12.7 | 0.50  | 16    | 0.63  | 27    | 1.06  | 27    | 1.06  | 35    | 1.38  |
| Center to Top (Open) | H     | -   | -  | 230 | 9.06 | 294  | 11.57 | 337.5 | 13.29 | 396.5 | 15.61 | 396.5 | 15.61 | 449   | 17.68 |
| Handwheel            | W     | -   | -  | 110 | 4.33 | 110  | 4.33  | 150   | 5.91  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | -   | -  | 3.8 | 8.38 | 5.3  | 11.68 | 8.3   | 18.30 | 12.8  | 28.22 | 12.8  | 28.22 | 21.8  | 48.06 |

### Class 2500      Welded Bonnet

Regular and Full Port - ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8 |    | 1/2 |       | 3/4  |       | 1   |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|----|-----|-------|------|-------|-----|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4 |    | 3/8 |       | 1/2  |       | 3/4 |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in | mm  | in    | mm   | in    | mm  | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | -   | -  | 178 | 7.01  | 178  | 7.01  | 186 | 7.32  | 232   | 9.13  | 232   | 9.13  | 279   | 10.98 |
| Bore Diameter        | D     | -   | -  | 9.0 | 0.35  | 12.0 | 0.47  | 15  | 0.59  | 27    | 1.06  | 27    | 1.06  | 35    | 1.38  |
| Center to Top (Open) | H     | -   | -  | 295 | 11.61 | 295  | 11.61 | 345 | 13.58 | 410   | 16.14 | 410   | 16.14 | 460   | 18.11 |
| Handwheel            | W     | -   | -  | 150 | 5.91  | 150  | 5.91  | 180 | 7.09  | 250   | 9.84  | 250   | 9.84  | 350   | 13.78 |
| Approx. Weight       | Kg/Lb | -   | -  | 8.0 | 17.64 | 8.0  | 17.64 | 11  | 24.25 | 20    | 44.09 | 20    | 44.09 | 25    | 55.12 |

### Class 2500      Pressure Seal Bonnet

Regular and Full Port - ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8 |    | 1/2  |       | 3/4  |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|----|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4 |    | 3/8  |       | 1/2  |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in | mm   | in    | mm   | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | -   | -  | 178  | 7.01  | 178  | 7.01  | 186   | 7.32  | 232   | 9.13  | 232   | 9.13  | 279   | 10.98 |
| Bore Diameter        | D     | -   | -  | 9.0  | 0.35  | 12.0 | 0.47  | 15    | 0.59  | 27    | 1.06  | 27    | 1.06  | 35    | 1.38  |
| Center to Top (Open) | H     | -   | -  | 383  | 15.08 | 383  | 15.08 | 406.5 | 16.00 | 454.5 | 17.89 | 454.5 | 17.89 | 540   | 21.26 |
| Handwheel            | W     | -   | -  | 150  | 5.91  | 150  | 5.91  | 180   | 7.09  | 250   | 9.84  | 250   | 9.84  | 350   | 13.78 |
| Approx. Weight       | Kg/Lb | -   | -  | 10.0 | 22.05 | 10.0 | 22.05 | 13    | 28.66 | 21.8  | 48.06 | 21.8  | 48.06 | 28    | 61.73 |

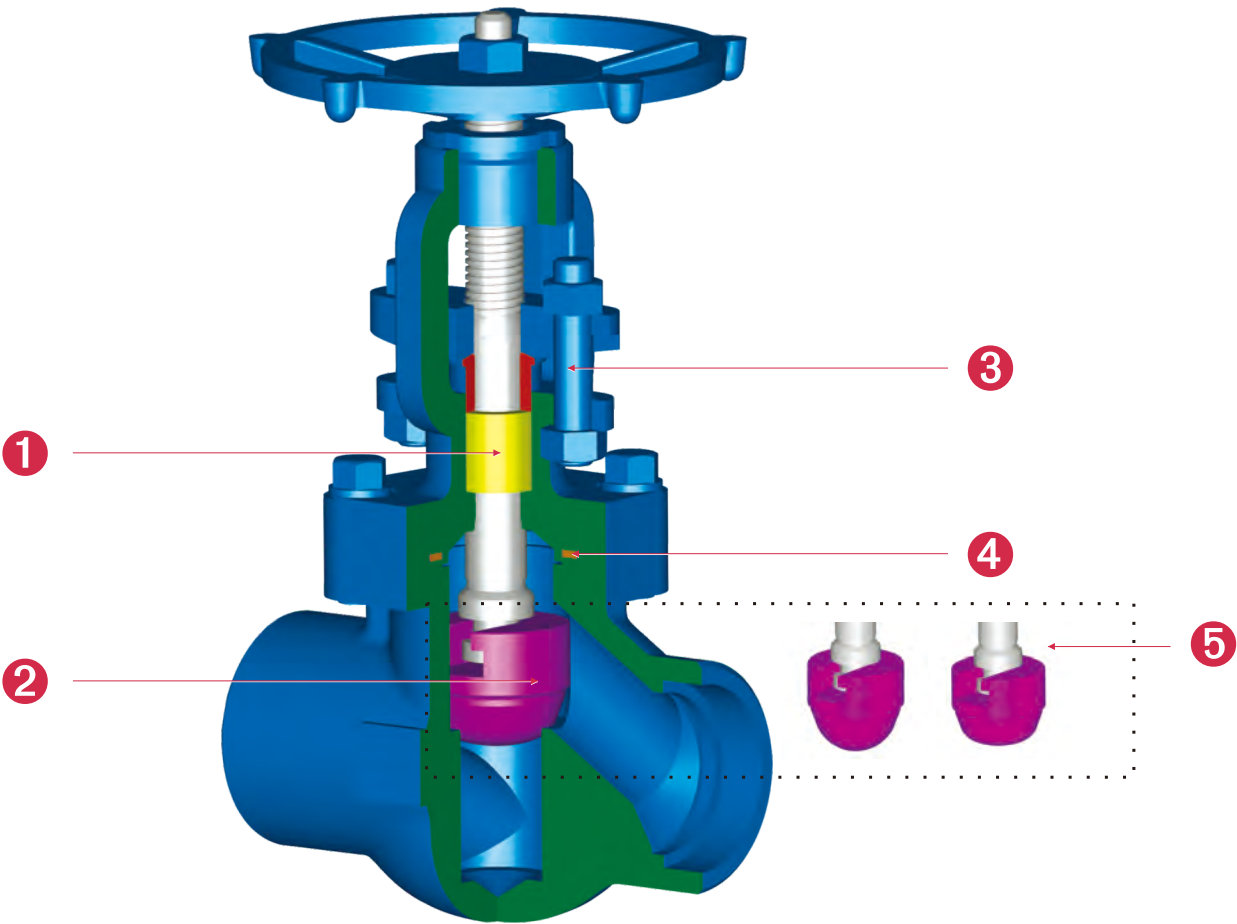
### Class 150-300-600      Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Outside Yoke & Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2  |      | 3/4   |       | 1     |       | 1-1/2 |       | 2     |       |
|----------------------|-----------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           |           |       | mm   | in   | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      | Class 150 | L     | 108  | 4.25 | 117   | 4.61  | 127   | 5     | 165   | 6.50  | 178   | 7.01  |
|                      | Class 300 | L     | 140  | 5.51 | 152   | 5.98  | 165   | 6.50  | 190   | 7.48  | 216   | 8.50  |
|                      | Class 600 | L     | 165  | 6.50 | 190   | 7.48  | 216   | 8.50  | 241   | 9.49  | 292   | 11.50 |
| Bore Diameter        |           | D     | 9.50 | 0.37 | 12.7  | 0.50  | 17.5  | 0.69  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) |           | H     | 45.5 | 5.73 | 151.8 | 5.98  | 179.7 | 7.07  | 247   | 9.72  | 268.7 | 10.58 |
| Handwheel            |           | W     | 90   | 3.54 | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 150   | 5.91  |
| Approx. Weight       | Class 150 | Kg/Lb | 3    | 6.61 | 3.8   | 8.38  | 4.8   | 10.58 | 10    | 22.05 | 15    | 33.07 |
|                      | Class 300 |       | 3.4  | 7.50 | 4.5   | 9.92  | 5.7   | 12.57 | 11.5  | 25.35 | 17    | 37.48 |
|                      | Class 600 |       | 4    | 8.82 | 5.2   | 11.46 | 6.6   | 14.55 | 12.7  | 28.00 | 18    | 39.68 |

# Forged Steel Globe Valve

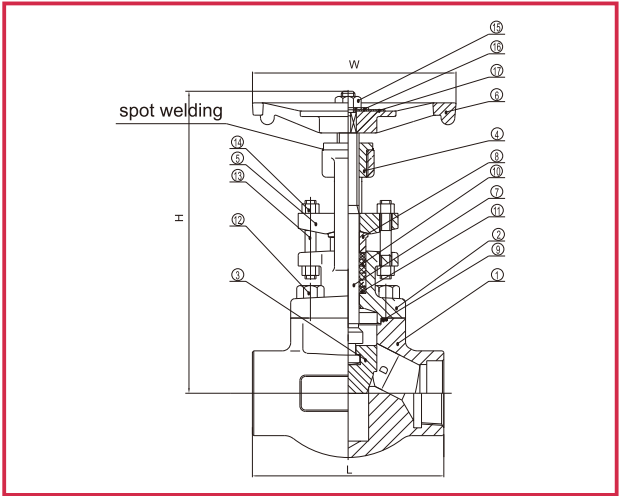
## Design Features



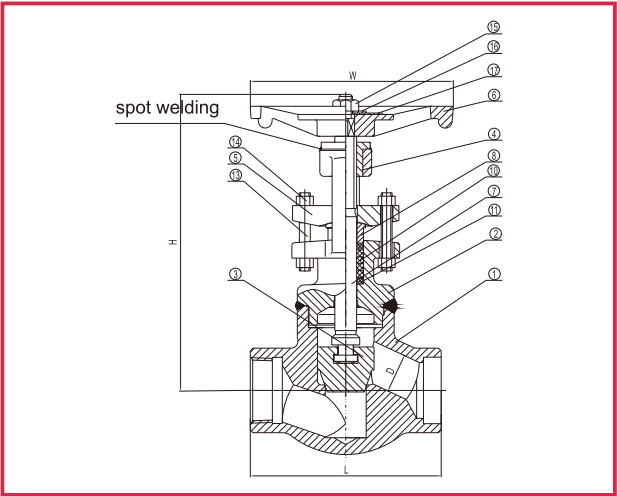
- 1 A positive backseat, high quality packing material and improved stuffing box design ensure tighter stem seal.
- 2 Fully guided solid disc ensures perfect alignment of disc and seat and reduces wear on seating surfaces.
- 3 Stud and bolt arrangement facilitates packing maintenance.
- 4 Recessed Body-Bonnet Joint design captures the stainless steel spiral wound gasket ensuring body/bonnet sealing integrity.
- 5 Plug style discs are standard; others are available upon request.

Forged Steel Globe Valve

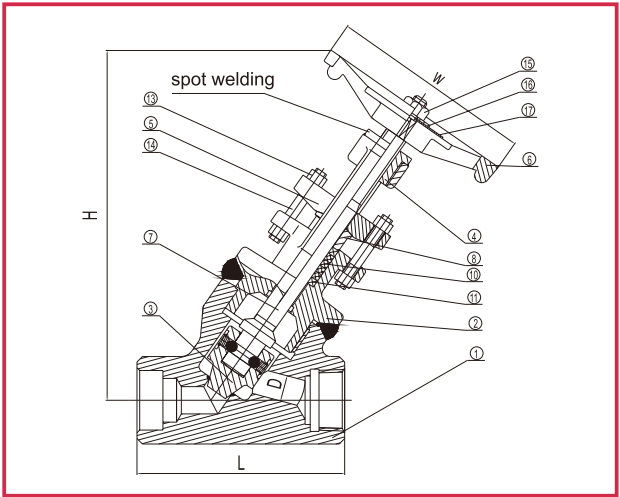
G.A. Drawing



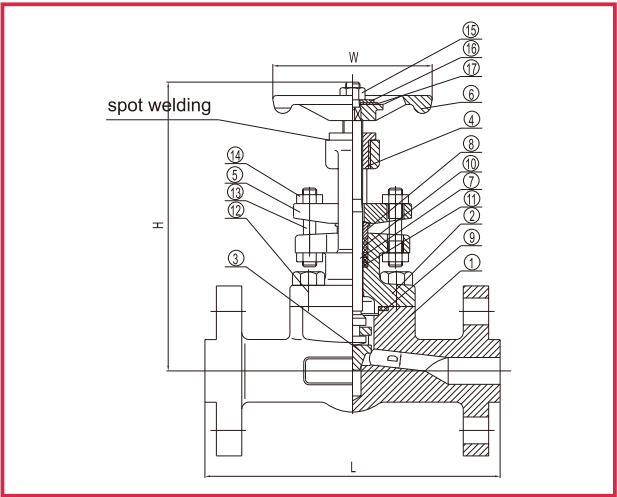
Bolted Bonnet



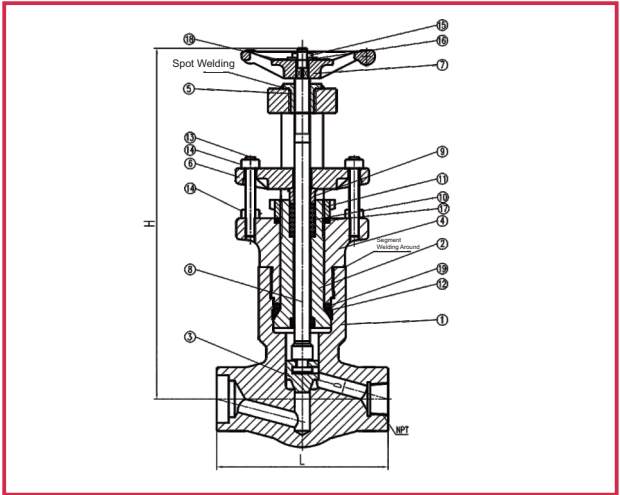
Welded Bonnet



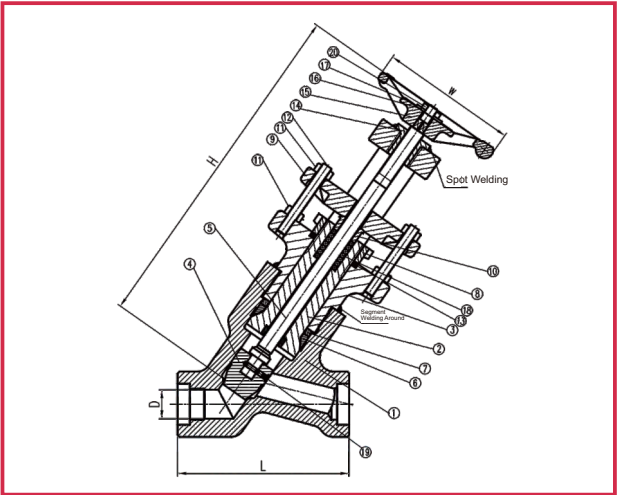
Y Pattern Welded Bonnet



Integral Flanged Ends



Pressure Seal Bonnet



Y-Pattern, Pressure Seal Bonnet

Forged Steel Globe Valve

Dimensions

Material List

| NO. | Description of Parts | Material                    |                               |                                 |
|-----|----------------------|-----------------------------|-------------------------------|---------------------------------|
|     |                      | Standard                    | High Temperature              | Stainless Steel                 |
| 1   | BODY                 | ASTM A105/STL OVERLAY       | ASTM A182-F11/F22/STL OVERLAY | ASTM A182-F304/F316/STL OVERLAY |
| 2   | BONNET               | ASTM A105                   | ASTM A182-F11/F22             | ASTM A182-F304/F316             |
| 3   | DISC                 | ASTM A182-F6a               | ASTM A182-F6a                 | ASTM A182-F304/F316             |
| 4   | STEM NUT             | ASTM A276-420               | ASTM A276-420                 | ASTM A276-420                   |
| 5   | GLAND FLANGE         | ASTM A216-WCB               | ASTM A216-WCB                 | ASTM A351-CF8                   |
| 6   | HAND WHEEL           | DUCTILE IRON                | DUCTILE IRON                  | DUCTILE IRON                    |
| 7   | STEM                 | ASTM A182-F6a               | ASTM A182-F6a                 | ASTM A182-F304/F316             |
| 8   | GLAND                | ASTM A276-420               | ASTM A276-420                 | ASTM A276-304/316L              |
| 9   | GASKET               | 304SS/SPIRAL WOUND GRAPHITE | 304SS/SPIRAL WOUND GRAPHITE   | 304/316SS/SPIRAL WOUND GRAPHITE |
| 10  | PACKING              | GRAPHITE                    | GRAPHITE                      | GRAPHITE                        |
| 11  | PACKING              | CARBON YARN                 | CARBON YARN                   | CARBON YARN                     |
| 12  | STUD                 | ASTM A193-B7                | ASTM A193-B16                 | ASTM A193-B8                    |
| 13  | BOLT                 | ASTM A193-B8                | ASTM A193-B8                  | ASTM A193-B8                    |
| 14  | NUT                  | ASTM A194-8                 | ASTM A194-8                   | ASTM A194-8                     |
| 15  | HANDWHEEL NUT        | CARBON STEEL                | CARBON STEEL                  | ASTM A276-304                   |
| 16  | HANDWHEEL WASHER     | CARBON STEEL                | CARBON STEEL                  | ASTM A276-304                   |
| 17  | NAME PLATE           | ASTM A276-304               | ASTM A276-304                 | ASTM A240-304                   |

Class 800 Bolted Bonnet or Welded Bonnet

Regular and Full Port - API602 . Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8   |      | 1/2   |      | 3/4   |      | 1     |      | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4   |      | 3/8   |      | 1/2   |      | 3/4   |      | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm    | in   | mm    | in   | mm    | in   | mm    | in   | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 76    | 2.99 | 76    | 2.99 | 86    | 3.39 | 102   | 4.02 | 140   | 5.51  | 140   | 5.51  | 170   | 6.69  |
| Bore Diameter        | D     | 6.5   | 0.26 | 9.5   | 0.37 | 12.7  | 0.50 | 17.5  | 0.69 | 23.0  | 0.91  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | 147.3 | 5.80 | 147.3 | 5.80 | 153.3 | 6.04 | 183.3 | 7.22 | 229.1 | 9.02  | 229.3 | 9.03  | 267.3 | 10.52 |
|                      |       | 150.8 | 5.94 | 150.8 | 5.94 | 166.8 | 6.57 | 206.3 | 8.12 | 270.3 | 10.64 | 281.3 | 11.07 | 350.3 | 13.79 |
| Handwheel            | W     | 90    | 3.54 | 90    | 3.54 | 90    | 3.54 | 110   | 4.33 | 150   | 5.91  | 150   | 5.91  | 150   | 5.91  |
| Approx. Weight       | Kg/Lb | 2.0   | 4.41 | 2.0   | 4.41 | 2.5   | 5.51 | 3.5   | 7.72 | 7.0   | 15.43 | 7.0   | 15.43 | 10.5  | 23.15 |

Class 900/1500 Bolted Bonnet or Welded Bonnet

Regular and Full Port - API602 . Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8   |      | 1/2   |      | 3/4   |      | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------|------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4   |      | 3/8   |      | 1/2   |      | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm    | in   | mm    | in   | mm    | in   | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 90    | 3.54 | 90    | 3.54 | 104   | 4.09 | 120   | 4.72  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Bore Diameter        | D     | 8.0   | 0.31 | 9.0   | 0.35 | 12.0  | 0.47 | 15    | 0.59  | 21    | 0.83  | 27    | 1.06  | 32    | 1.26  |
| Center to Top (Open) | H     | 165.7 | 6.52 | 165.7 | 6.52 | 191.8 | 7.55 | 226.8 | 8.93  | 278.3 | 10.96 | 280.3 | 11.04 | 312.3 | 12.30 |
|                      |       | 179.7 | 7.07 | 179.7 | 7.07 | 207.3 | 8.16 | 239.7 | 9.44  | 281.8 | 11.09 | 285.8 | 11.25 | 316.3 | 12.45 |
| Handwheel            | W     | 90    | 3.54 | 90    | 3.54 | 110   | 4.33 | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | 2.5   | 5.51 | 2.5   | 5.51 | 3.0   | 6.61 | 5.5   | 12.13 | 8.5   | 18.74 | 8.5   | 18.74 | 14.5  | 31.97 |

# Forged Steel Globe Valve

## Dimensions

### Class 900/1500      Pressure Seal Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4   |       | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 120   | 4.72  | 120   | 4.72  | 120   | 4.72  | 140   | 5.51  | 165   | 6.50  | 178   | 7.01  | 216   | 8.50  |
| Bore Diameter        | D     | 8.0   | 0.31  | 9.0   | 0.35  | 12.0  | 0.47  | 15    | 0.59  | 21    | 0.83  | 27    | 1.06  | 30    | 1.18  |
| Center to Top (Open) | H     | 285.3 | 11.23 | 285.3 | 11.23 | 285.3 | 11.23 | 340.3 | 13.40 | 395.8 | 15.58 | 395.8 | 15.58 | 446.8 | 17.59 |
| Handwheel            | W     | 150   | 5.91  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  | 200   | 7.87  | 200   | 7.87  | 250   | 9.84  |
| Approx. Weight       | Kg/Lb | 7.5   | 16.53 | 7.5   | 16.53 | 7.5   | 16.53 | 12.0  | 26.46 | 18.5  | 40.79 | 19.0  | 41.89 | 28.5  | 62.83 |

### Class 2500      Welded Bonnet

Regular and Full Port - ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8 |       | 1/2 |       | 3/4  |       | 1    |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|-------|-----|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4 |       | 3/8 |       | 1/2  |       | 3/4  |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in    | mm  | in    | mm   | in    | mm   | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 120 | 4.72  | 120 | 4.72  | 140  | 5.51  | 186  | 7.32  | 232   | 9.13  | 232   | 9.13  | 279   | 10.98 |
| Bore Diameter        | D     | 8.0 | 0.31  | 9.0 | 0.35  | 12.0 | 0.47  | 15   | 0.59  | 19    | 0.75  | 27    | 1.06  | 27    | 1.06  |
| Center to Top (Open) | H     | 205 | 8.07  | 205 | 8.07  | 260  | 10.24 | 302  | 11.89 | 340   | 13.39 | 340   | 13.39 | 390   | 15.35 |
| Handwheel            | W     | 150 | 5.91  | 150 | 5.91  | 180  | 7.09  | 200  | 7.87  | 250   | 9.84  | 250   | 9.84  | 350   | 13.78 |
| Approx. Weight       | Kg/Lb | 7.0 | 15.43 | 7.0 | 15.43 | 9.0  | 19.84 | 15.5 | 34.17 | 26    | 57.32 | 26    | 57.32 | 36    | 79.37 |

### Class 2500      Pressure Seal Bonnet

Regular and Full Port - ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 1/4   |       | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 120   | 4.72  | 120   | 4.72  | 140   | 5.51  | 186   | 7.32  | 232   | 9.13  | 232   | 9.13  | 279   | 10.98 |
| Bore Diameter        | D     | 8.0   | 0.31  | 9.0   | 0.35  | 12.0  | 0.47  | 15    | 0.59  | 19    | 0.75  | 27    | 1.06  | 27    | 1.06  |
| Center to Top (Open) | H     | 295.3 | 11.63 | 295.3 | 11.63 | 346.3 | 13.63 | 389.3 | 15.33 | 430.4 | 16.94 | 430.4 | 16.94 | 478.8 | 18.85 |
| Handwheel            | W     | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  | 200   | 7.87  | 250   | 9.84  | 250   | 9.84  | 350   | 13.78 |
| Approx. Weight       | Kg/Lb | 7.5   | 16.53 | 7.5   | 16.53 | 12.0  | 26.46 | 19.5  | 42.99 | 28    | 61.73 | 28    | 61.73 | 40    | 88.18 |

### Class 150-300-600      Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Outside Yoke & Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2   |      | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-----------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           |           | L     | mm    | in   | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |           |       | 108   | 4.25 | 117   | 4.61  | 127   | 5     | 140   | 5.51  | 165   | 6.50  | 203   | 7.99  |
|                      |           |       | 152   | 5.98 | 178   | 7.01  | 203   | 7.99  | -     | -     | 229   | 9.02  | 267   | 10.51 |
| Bore Diameter        |           | D     | 165   | 6.50 | 190   | 7.48  | 216   | 8.50  | -     | -     | 241   | 9.49  | 292   | 11.50 |
|                      |           |       | 9.50  | 0.37 | 12.7  | 0.50  | 17.5  | 0.69  | 23    | 0.91  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) |           | H     | 147.3 | 5.80 | 153.3 | 6.04  | 183.3 | 7.22  | 229.1 | 9.02  | 229.3 | 9.03  | 267.3 | 10.52 |
| Handwheel            |           | W     | 90    | 3.54 | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 150   | 5.91  | 150   | 5.91  |
| Approx. Weight       | Class 150 | Kg/Lb | 3.5   | 7.72 | 4.3   | 9.48  | 5.3   | 11.68 | 10    | 22.05 | 12    | 26.46 | 16    | 35.27 |
|                      |           |       | 4.0   | 8.82 | 4.8   | 10.58 | 6.2   | 13.67 | -     | -     | 13.5  | 29.76 | 18    | 39.68 |
|                      |           |       | 4.5   | 9.92 | 5.5   | 12.13 | 7.0   | 15.43 | -     | -     | 15    | 33.07 | 20    | 44.09 |

### Class 900/1500      Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Outside Yoke & Overall-end Flange - ASME B16.5

| Regular Port         | Size  | 1/2   |       | 3/4   |       | 1     |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           | L     | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 216   | 8.50  | 229   | 9.02  | 254   | 10.00 | 305   | 12.01 | 368   | 14.49 |
| Bore Diameter        | D     | 9.0   | 0.35  | 12.0  | 0.47  | 15.0  | 0.59  | 27.0  | 1.06  | 32.0  | 1.26  |
| Center to Top (Open) | H     | 165.7 | 6.52  | 191.8 | 7.55  | 226.8 | 8.93  | 280.3 | 11.04 | 312.3 | 12.30 |
| Handwheel            | W     | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 180   | 7.09  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | 7.0   | 15.43 | 9.0   | 19.84 | 14.5  | 31.97 | 22    | 48.50 | 40    | 88.18 |

# Forged Steel Globe Valve

## Dimensions

### Class 800      Y Pattern Welded Bonnet

Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Full Port            | Size  | 3/8 |      | 1/2 |      | 3/4 |      | 1   |       | 1-1/4 |       | 1-1/2 |       | 2    |       |
|----------------------|-------|-----|------|-----|------|-----|------|-----|-------|-------|-------|-------|-------|------|-------|
| End to End           | L     | mm  | in   | mm  | in   | mm  | in   | mm  | in    | mm    | in    | mm    | in    | mm   | in    |
|                      |       | 80  | 3.15 | 80  | 3.15 | 90  | 3.54 | 110 | 4.33  | 125   | 4.92  | 155   | 6.10  | 180  | 7.09  |
| Bore Diameter        | D     | 9.5 | 0.37 | 12  | 0.47 | 17  | 0.67 | 23  | 0.91  | 28    | 1.10  | 36    | 1.42  | 44   | 1.73  |
| Center to Top (Open) | H     | 170 | 6.69 | 170 | 6.69 | 200 | 7.87 | 242 | 9.53  | 276   | 10.87 | 295   | 11.61 | 327  | 12.87 |
| Handwheel            | W     | 90  | 3.54 | 90  | 3.54 | 110 | 4.33 | 150 | 5.91  | 150   | 5.91  | 150   | 5.91  | 180  | 7.09  |
| Approx. Weight       | Kg/Lb | 2.0 | 4.41 | 2.5 | 5.51 | 3.5 | 7.72 | 5.0 | 11.02 | 6.5   | 14.33 | 8.0   | 17.64 | 12.5 | 27.56 |

### Class 900-1500      Y Pattern Welded Bonnet

Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Full Port            | Size  | 3/8 |      | 1/2 |      | 3/4 |       | 1   |       | 1-1/4 |       | 1-1/2 |       | 2   |       |
|----------------------|-------|-----|------|-----|------|-----|-------|-----|-------|-------|-------|-------|-------|-----|-------|
| End to End           | L     | mm  | in   | mm  | in   | mm  | in    | mm  | in    | mm    | in    | mm    | in    | mm  | in    |
|                      |       | 80  | 3.15 | 90  | 3.54 | 110 | 4.33  | 125 | 4.92  | 155   | 6.10  | 180   | 7.09  | 200 | 7.87  |
| Bore Diameter        | D     | 9.5 | 0.37 | 12  | 0.47 | 15  | 0.59  | 21  | 0.83  | 27    | 1.06  | 32    | 1.26  | 38  | 1.50  |
| Center to Top (Open) | H     | 170 | 6.69 | 200 | 7.87 | 238 | 9.37  | 272 | 10.71 | 308   | 12.13 | 326   | 12.83 | 376 | 14.80 |
| Handwheel            | W     | 90  | 3.54 | 110 | 4.33 | 150 | 5.91  | 150 | 5.91  | 180   | 7.09  | 180   | 7.09  | 200 | 7.87  |
| Approx. Weight       | Kg/Lb | 2.8 | 6.17 | 4.0 | 8.82 | 5.0 | 11.02 | 7.5 | 16.53 | 9.0   | 19.84 | 13    | 28.66 | 18  | 39.68 |

### Class 2500      Y Pattern Welded Bonnet

Full Port-ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Full Port            | Size  | 3/8 |    | 1/2   |       | 3/4   |       | 1     |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           | L     | mm  | in | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | -   | -  | 110   | 4.33  | 125   | 4.92  | 180   | 7.09  | 200   | 7.87  | 230   | 9.06  |
| Bore Diameter        | D     | -   | -  | 12    | 0.47  | 15    | 0.59  | 21    | 0.83  | 28    | 1.10  | 35    | 1.38  |
| Center to Top (Open) | H     | -   | -  | 239.6 | 9.43  | 274.1 | 10.79 | 325.5 | 12.81 | 372.9 | 14.68 | 446.2 | 17.57 |
| Handwheel            | W     | -   | -  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  | 200   | 7.87  | 300   | 11.81 |
| Approx. Weight       | Kg/Lb | -   | -  | 5.5   | 12.13 | 7.5   | 16.53 | 13.5  | 29.76 | 18.5  | 40.79 | 25    | 55.12 |

### Class 900-1500      Y Pattern Pressure Seal Bonnet

Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Full Port            | Size  | 1/2 |       | 3/4 |       | 1    |       | 1-1/2 |       | 2   |       |
|----------------------|-------|-----|-------|-----|-------|------|-------|-------|-------|-----|-------|
| End to End           | L     | mm  | in    | mm  | in    | mm   | in    | mm    | in    | mm  | in    |
|                      |       | 140 | 5.51  | 140 | 5.51  | 140  | 5.51  | 178   | 7.01  | 216 | 8.50  |
| Bore Diameter        | D     | 10  | 0.39  | 15  | 0.59  | 21   | 0.83  | 32    | 1.26  | 38  | 1.50  |
| Center to Top (Open) | H     | 350 | 13.78 | 350 | 13.78 | 350  | 13.78 | 450   | 17.72 | 450 | 17.72 |
| Handwheel            | W     | 200 | 7.87  | 200 | 7.87  | 200  | 7.87  | 250   | 9.84  | 300 | 11.81 |
| Approx. Weight       | Kg/Lb | 9.0 | 19.84 | 9.5 | 20.94 | 11.5 | 25.35 | 16.5  | 36.38 | 30  | 66.14 |

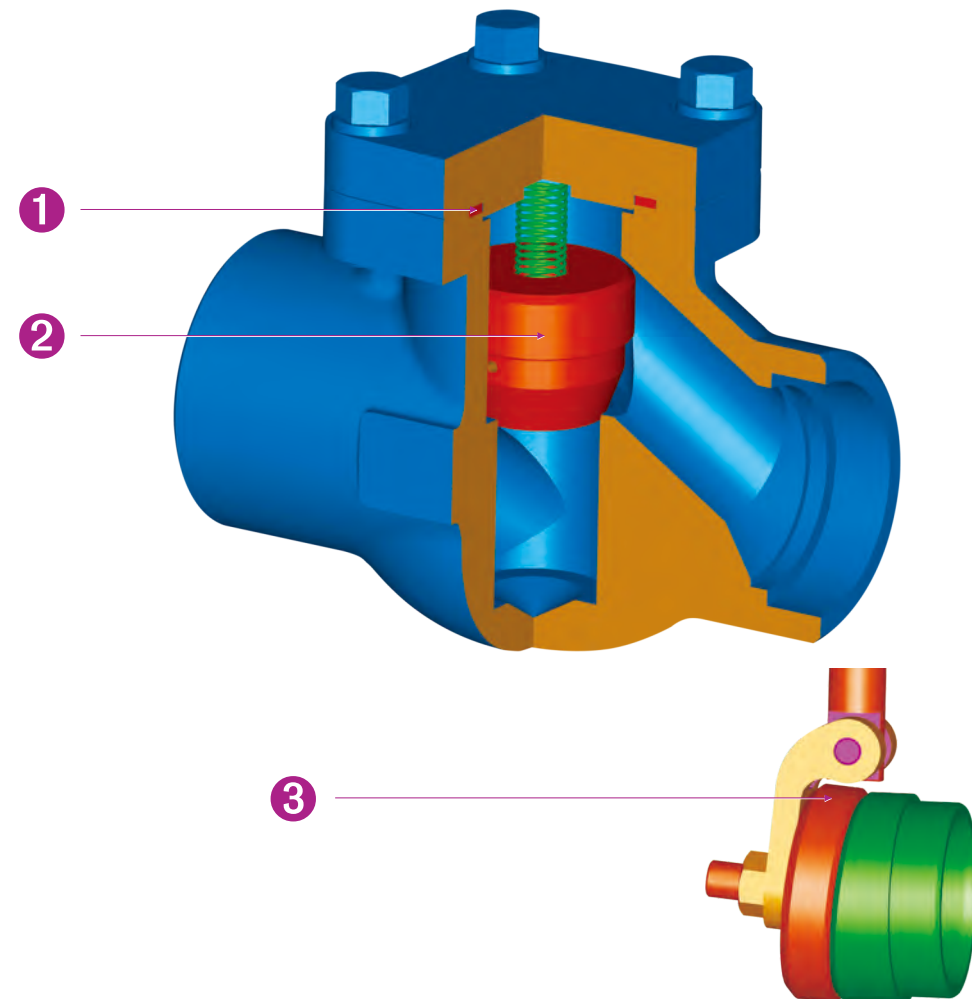
### Class 2500      Y Pattern Pressure Seal Bonnet

Full Port-ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Full Port            | Size  | 1/2 |       | 3/4 |       | 1   |       | 1-1/2 |       | 2    |       |
|----------------------|-------|-----|-------|-----|-------|-----|-------|-------|-------|------|-------|
| End to End           | L     | mm  | in    | mm  | in    | mm  | in    | mm    | in    | mm   | in    |
|                      |       | 140 | 5.51  | 178 | 7.01  | 216 | 8.50  | 216   | 8.50  | 279  | 10.98 |
| Bore Diameter        | D     | 12  | 0.47  | 15  | 0.59  | 21  | 0.83  | 28    | 1.10  | 38   | 1.50  |
| Center to Top (Open) | H     | 380 | 14.96 | 405 | 15.94 | 430 | 16.93 | 480   | 18.90 | 520  | 20.47 |
| Handwheel            | W     | 180 | 7.09  | 200 | 7.87  | 250 | 9.84  | 350   | 13.78 | 350  | 13.78 |
| Approx. Weight       | Kg/Lb | 10  | 22.05 | 13  | 28.66 | 15  | 33.07 | 25    | 55.12 | 42.5 | 93.70 |

# Forged Steel Check Valve

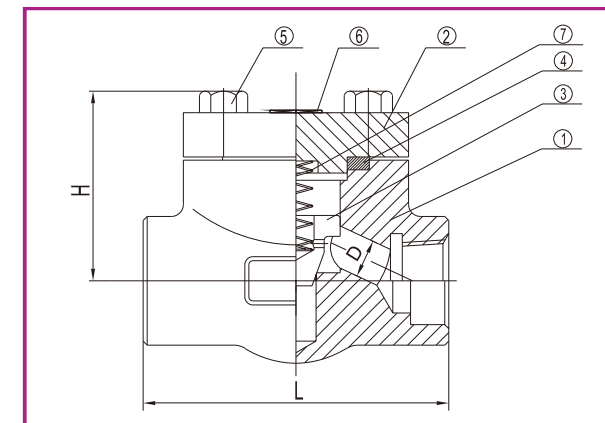
## Design Features



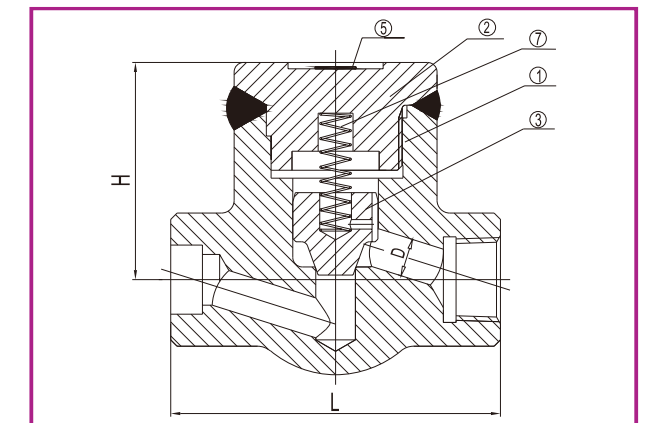
- ① Recessed Body-Bonnet Joint design captures the stainless steel spiral wound gasket ensuring body/bonnet sealing integrity.
- ② Body guided disc to ensure perfect alignment of disc and seat even under large flow conditions and high velocity.
- ③ Piston type are standard, swing disc style available are available upon request.

# Forged Steel Lifting Check Valve

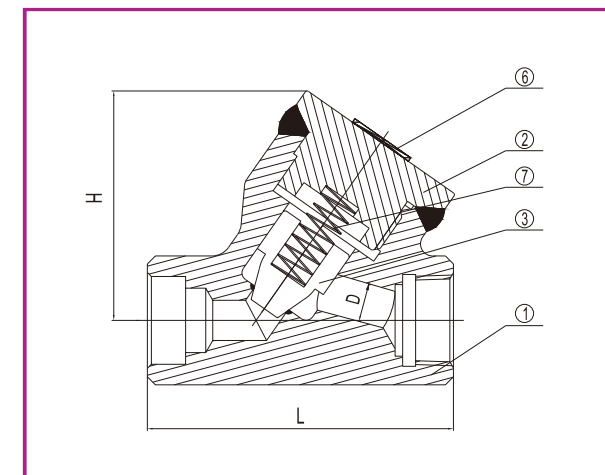
## G.A. Drawing of Piston Valve



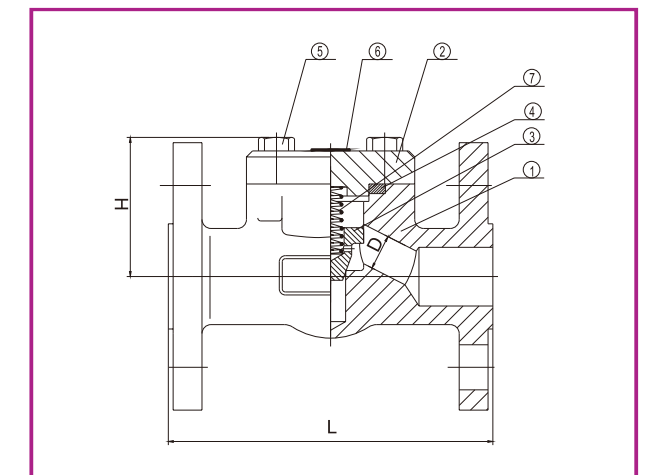
Bolted Cover



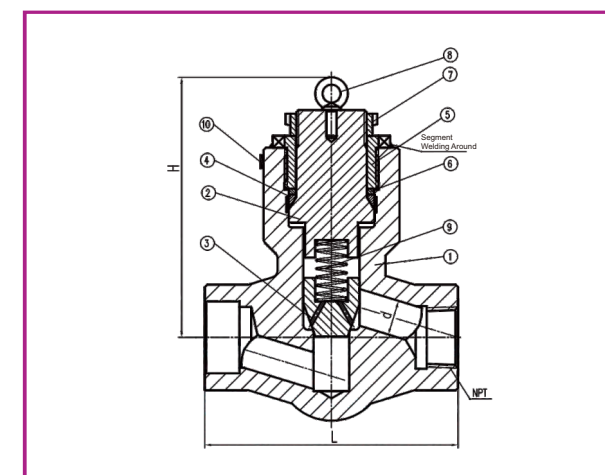
Welded Cover



Y Pattern Welded Cover



Integral Flanged Ends



Pressure Seal Bonnet Connection

Material List

| NO. | Description of Parts | Material                  |                               |                                 |
|-----|----------------------|---------------------------|-------------------------------|---------------------------------|
|     |                      | Standard                  | High Temperature              | Stainless Steel                 |
| 1   | BODY                 | ASTM A105/STL.OVERLAY     | ASTM A182-F11/F22/STL OVERLAY | ASTM A182-F304/F316/STL OVERLAY |
| 2   | BONNET               | ASTM A105                 | ASTM A182-F11/F22             | ASTM A182-F304/F316             |
| 3   | DISC                 | ASTM A182-F6a             | ASTM A182-F6a                 | ASTM A182-F304/F316             |
| 4   | GASKET               | 304 SPIRAL WOUND GRAPHITE | 304 SPIRAL WOUND GRAPHITE     | 304/316 SPIRAL WOUND GRAPHITE   |
| 5   | STUD                 | ASTM A193-B7              | ASTM A193-B16                 | ASTM A193-B8                    |
| 6   | NAME PLATE           | ASTM A276 304             | ASTM A276 304                 | ASTM A276 304                   |
| 7   | SPRING               | ASTM A276 316             | ASTM A276-316                 | ASTM A276-316                   |

Class 800 Bolted Cover or Welded Cover

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  |               | 3/8 |      | 1/2 |      | 3/4  |      | 1    |      | 1-1/4 |      | 1-1/2 |       | 2     |       |
|----------------------|-------|---------------|-----|------|-----|------|------|------|------|------|-------|------|-------|-------|-------|-------|
| Full Port            | Size  |               | 1/4 |      | 3/8 |      | 1/2  |      | 3/4  |      | 1     |      | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     |               | mm  | in   | mm  | in   | mm   | in   | mm   | in   | mm    | in   | mm    | in    | mm    | in    |
|                      |       |               | 76  | 2.99 | 76  | 2.99 | 86   | 3.39 | 102  | 4.02 | 140   | 5.51 | 140   | 5.51  | 170   | 6.69  |
| Bore Diameter        | D     |               | 6.5 | 0.26 | 9.5 | 0.37 | 12.7 | 0.50 | 17.5 | 0.69 | 23    | 0.91 | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | Bolted Bonnet | 48  | 1.89 | 48  | 1.89 | 53   | 2.09 | 64   | 2.52 | 80    | 3.15 | 80    | 3.15  | 100   | 3.94  |
|                      |       | Welded Bonnet | 49  | 1.93 | 49  | 1.93 | 58   | 2.28 | 70   | 2.76 | 96    | 3.78 | 90    | 3.54  | 125   | 4.92  |
| Approx. Weight       | Kg/Lb |               | 1   | 2.20 | 1   | 2.20 | 1.5  | 3.31 | 2    | 4.41 | 4.5   | 9.92 | 6     | 13.23 | 7.5   | 16.53 |

Class 900-1500 Bolted Cover or Welded Cover

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2           |      | 3/4  |      | 1    |      | 1-1/4 |       | 1-1/2 |       | 2     |       |      |
|----------------------|-------|---------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|
| Full Port            | Size  | 3/8           |      | 1/2  |      | 3/4  |      | 1     |       | 1-1/4 |       | 1-1/2 |       |      |
| End to End           | L     | mm            | in   | mm   | in   | mm   | in   | mm    | in    | mm    | in    | mm    | in    |      |
|                      |       | 90            | 3.54 | 104  | 4.09 | 120  | 4.72 | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |      |
| Bore Diameter        | D     | 9             | 0.35 | 12   | 0.47 | 15   | 0.59 | 21    | 0.83  | 27    | 1.06  | 32    | 1.26  |      |
| Center to Top (Open) | H     | Bolted Bonnet | 56   | 2.20 | 62   | 2.44 | 72   | 2.83  | 92.5  | 3.64  | 92.5  | 3.64  | 111   | 4.37 |
|                      |       | Welded Bonnet | 61.5 | 2.42 | 68.5 | 2.70 | 72.5 | 2.85  | 83.5  | 3.29  | 83.5  | 3.29  | 100.5 | 3.96 |
| Approx. Weight       | Kg/Lb | 1.5           | 3.31 | 2.5  | 5.51 | 4    | 8.82 | 6     | 13.23 | 8.5   | 18.74 | 14.5  | 31.97 |      |

Class 900-1500 Pressure Seal Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2 |       | 3/4 |       | 1   |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|-------|-----|-------|-----|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8 |       | 1/2 |       | 3/4 |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in    | mm  | in    | mm  | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 120 | 4.72  | 120 | 4.72  | 140 | 5.51  | 165   | 6.50  | 186   | 7.32  | 232   | 9.13  |
| Bore Diameter        | D     | 9   | 0.35  | 12  | 0.47  | 15  | 0.59  | 21    | 0.83  | 27    | 1.06  | 30    | 1.18  |
| Center to Top (Open) | H     | 188 | 7.40  | 188 | 7.40  | 196 | 7.72  | 220   | 8.66  | 220   | 8.66  | 238   | 9.37  |
| Approx. Weight       | Kg/Lb | 5   | 11.02 | 6.5 | 14.33 | 8   | 17.64 | 13.5  | 29.76 | 15    | 33.07 | 25    | 55.12 |

Class 2500 Welded Cover

Regular and Full Port - ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2 |      | 3/4 |       | 1    |       | 1-1/4 |    | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|------|-----|-------|------|-------|-------|----|-------|-------|-------|-------|
| Full Port            | Size  | 3/8 |      | 1/2 |       | 3/4  |       | 1     |    | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in   | mm  | in    | mm   | in    | mm    | in | mm    | in    | mm    | in    |
|                      |       | 120 | 4.72 | 140 | 5.51  | 186  | 7.32  | -     | -  | 232   | 9.13  | 279   | 10.98 |
| Bore Diameter        | D     | 9   | 0.35 | 12  | 0.47  | 15   | 0.59  | -     | -  | 27    | 1.06  | 27    | 1.06  |
| Center to Top (Open) | H     | 90  | 3.54 | 100 | 3.94  | 115  | 4.53  | -     | -  | 140   | 5.51  | 160   | 6.30  |
| Approx. Weight       | Kg/Lb | 3.5 | 7.72 | 5.5 | 12.13 | 10.5 | 23.15 | -     | -  | 18.5  | 40.79 | 25    | 55.12 |

Class 2500 Pressure Seal Bonnet

Regular and Full Port - ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2 |      | 3/4 |       | 1    |       | 1-1/4 |    | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|------|-----|-------|------|-------|-------|----|-------|-------|-------|-------|
| Full Port            | Size  | 3/8 |      | 1/2 |       | 3/4  |       | 1     |    | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in   | mm  | in    | mm   | in    | mm    | in | mm    | in    | mm    | in    |
|                      |       | 120 | 4.72 | 140 | 5.51  | 186  | 7.32  | -     | -  | 232   | 9.13  | 279   | 10.98 |
| Bore Diameter        | D     | 9   | 0.35 | 12  | 0.47  | 15   | 0.59  | -     | -  | 27    | 1.06  | 27    | 1.06  |
| Center to Top (Open) | H     | 172 | 6.77 | 195 | 7.68  | 214  | 8.43  | -     | -  | 241   | 9.49  | 260   | 10.24 |
| Approx. Weight       | Kg/Lb | 3.5 | 7.72 | 5.5 | 12.13 | 10.5 | 23.15 | -     | -  | 18.5  | 40.79 | 25    | 55.12 |

Class 800 Y Pattern Welded Bonnet

Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Full Port            | Size  | 3/8  |      | 1/2  |      | 3/4  |      | 1    |      | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| End to End           | L     | mm   | in   | mm   | in   | mm   | in   | mm   | in   | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 80   | 3.15 | 80   | 3.15 | 90   | 3.54 | 110  | 4.33 | 125   | 4.92  | 155   | 6.10  | 180   | 7.09  |
| Bore Diameter        | D     | 9.5  | 0.37 | 12   | 0.47 | 17   | 0.67 | 23   | 0.91 | 28    | 1.10  | 36    | 1.42  | 44    | 1.73  |
| Center to Top (Open) | H     | 68.5 | 2.70 | 68.5 | 2.70 | 78.5 | 3.09 | 89.5 | 3.52 | 105.5 | 4.15  | 123.5 | 4.86  | 147.5 | 5.81  |
| Approx. Weight       | Kg/Lb | 1    | 2.20 | 1.5  | 3.31 | 2    | 4.41 | 4.5  | 9.92 | 8     | 17.64 | 8     | 17.64 | 11    | 24.25 |

Class 900-1500 Y Pattern Welded Bonnet

Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Full Port            | Size  | 3/8  |      | 1/2  |      | 3/4  |      | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           | L     | mm   | in   | mm   | in   | mm   | in   | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 80   | 3.15 | 90   | 3.54 | 110  | 4.33 | 125   | 4.92  | 155   | 6.10  | 180   | 7.09  | 200   | 7.87  |
| Bore Diameter        | D     | 9.5  | 0.37 | 12   | 0.47 | 15   | 0.59 | 21    | 0.83  | 27    | 1.06  | 32    | 1.26  | 38    | 1.50  |
| Center to Top (Open) | H     | 71.8 | 2.83 | 82.5 | 3.25 | 84.2 | 3.31 | 104.7 | 4.12  | 121.7 | 4.79  | 143.3 | 5.64  | 155.2 | 6.11  |
| Approx. Weight       | Kg/Lb | 2    | 4.41 | 3    | 6.61 | 4.2  | 9.26 | 5.2   | 11.46 | 9.5   | 20.94 | 11    | 24.25 | 15    | 33.07 |

Class 150-300-600 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2  |      | 3/4  |      | 1    |       | 1-1/4 |       | 1-1/2 |       | 2    |       |
|----------------------|-----------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|------|-------|
| End to End           |           | L     | mm   | in   | mm   | in   | mm   | in    | mm    | in    | mm    | in    | mm   | in    |
|                      |           |       | 108  | 4.25 | 117  | 4.61 | 127  | 5     | 140   | 5.51  | 165   | 6.50  | 203  | 7.99  |
|                      |           |       | 152  | 5.98 | 178  | 7.01 | 203  | 7.99  | -     | -     | 229   | 9.02  | 267  | 10.51 |
|                      |           |       | 165  | 6.50 | 190  | 7.48 | 216  | 8.50  | -     | -     | 241   | 9.49  | 292  | 11.50 |
| Bore Diameter        |           | D     | 9.50 | 0.37 | 12.7 | 0.50 | 17.5 | 0.69  | 23    | 0.91  | 28.6  | 1.13  | 36.5 | 1.44  |
| Center to Top (Open) |           | H     | 50   | 1.97 | 54   | 2.13 | 68   | 2.68  | 78    | 3.07  | 78    | 3.07  | 96   | 3.78  |
| Approx. Weight       | Class 150 | Kg/Lb | 2.5  | 5.51 | 3.3  | 7.28 | 4.3  | 9.48  | 6.5   | 14.33 | 9     | 19.84 | 13   | 28.66 |
|                      | Class 300 |       | 3.0  | 6.61 | 3.8  | 8.38 | 5.2  | 11.46 | -     | -     | 10.5  | 23.15 | 15   | 33.07 |
|                      | Class 600 |       | 3.5  | 7.72 | 4.5  | 9.92 | 6.0  | 13.23 | -     | -     | 12    | 26.46 | 17   | 37.48 |

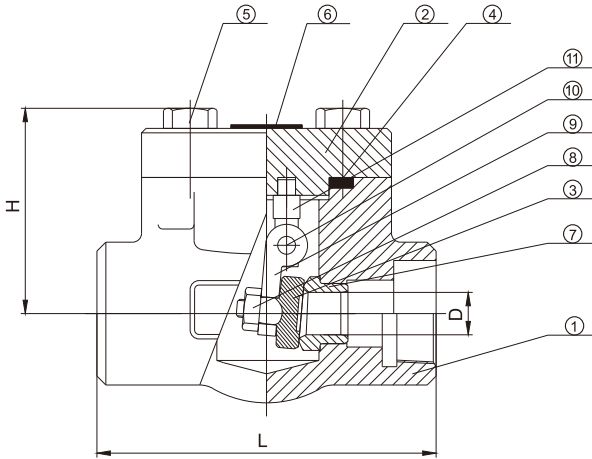
Class 900-1500 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Overall-end Flange - ASME B16.5

| Regular Port         | Size  | 1/2 |       | 3/4 |       | 1   |       | 1-1/2 |       | 2    |       |
|----------------------|-------|-----|-------|-----|-------|-----|-------|-------|-------|------|-------|
| End to End           | L     | mm  | in    | mm  | in    | mm  | in    | mm    | in    | mm   | in    |
|                      |       | 216 | 8.50  | 229 | 9.02  | 254 | 10    | 305   | 12.01 | 368  | 14.49 |
| Bore Diameter        | D     | 9   | 0.35  | 12  | 0.47  | 15  | 0.59  | 27    | 1.06  | 32   | 1.26  |
| Center to Top (Open) | H     | 53  | 2.09  | 60  | 2.36  | 70  | 2.76  | 86    | 3.39  | 105  | 4.13  |
| Approx. Weight       | Kg/Lb | 6   | 13.23 | 7.5 | 16.53 | 12  | 26.46 | 21    | 46.30 | 32.5 | 71.65 |

# Forged Steel Swing Check Valve

G.A. Drawing & Dimensions of Swing Check Valve



Bolted Cover

## Material List

| NO. | Description of Parts | Material                    |                             |                                 |
|-----|----------------------|-----------------------------|-----------------------------|---------------------------------|
|     |                      | Standard                    | High Temperature            | Stainless Steel                 |
| 1   | BODY                 | ASTM A105                   | ASTM A182-F11/F22           | ASTM A182-F304/F316             |
| 2   | BONNET               | ASTM A105                   | ASTM A182-F11/F22           | ASTM A182-F304/F316             |
| 3   | DISC                 | ASTM A182-F6a               | ASTM A182-F6a               | ASTM A182-F304/F316             |
| 4   | GASKET               | 304SS/SPIRAL WOUND GRAPHITE | 304SS/SPIRAL WOUND GRAPHITE | 304/316SS/SPIRAL WOUND GRAPHITE |
| 5   | STUD                 | ASTM A193-B7                | ASTM A193-B16               | ASTM A193-B8                    |
| 6   | NAME PLATE           | ASTM A240 304               | ASTM A240-304               | ASTM A240-304                   |
| 7   | SEAT RING            | ASTM A276-410/STL OVERLAY   | ASTM A276-410/STL OVERLAY   | ASTM A182-F304/F316/STL OVERLAY |
| 8   | DISC NUT             | ASTM A276-304               | ASTM A276-304               | ASTM A276-304/316               |
| 9   | HINGE                | ASTM A216-WCB               | ASTM A217-WC6/WC9           | ASTM A351-CF8/CF8M              |
| 10  | HINGE PIN            | ASTM A276-410               | ASTM A276-410               | ASTM A276-F304/316              |
| 11  | SUPPORT              | ASTM A105                   | ASTM A182-F11/F22           | ASTM A182-F304/F316             |

## Class 800 Bolted Bonnet

Regular and Full Port - API602. Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2  |      | 3/4  |      | 1    |      | 1-1/4 |      | 1-1/2 |       | 2     |       |
|----------------------|-------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8  |      | 1/2  |      | 3/4  |      | 1-1/4 |      | 1-1/2 |       | 1-1/2 |       |
| End to End           | L     | mm   | in   | mm   | in   | mm   | in   | mm    | in   | mm    | in    | mm    | in    |
|                      |       | 76   | 2.99 | 86   | 3.39 | 102  | 4.02 | 118   | 4.65 | 118   | 4.65  | 132   | 5.20  |
| Bore Diameter        | D     | 9.5  | 0.37 | 12.7 | 0.50 | 17.5 | 0.69 | 23.8  | 0.94 | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | 48.5 | 1.91 | 52   | 2.05 | 67   | 2.64 | 88    | 3.46 | 88    | 3.46  | 101   | 3.98  |
| Approx. Weight       | Kg/Lb | 1.5  | 3.31 | 2.3  | 5.07 | 2.8  | 6.17 | 4.0   | 8.82 | 5.7   | 12.57 | 7.7   | 16.98 |

# Forged Steel Swing Check Valve

G.A. Drawing & Dimensions of Swing Check Valve

## Class 900-1500 Bolted Bonnet

Regular and Full Port - API602. Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2  |      | 3/4  |      | 1    |      | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8  |      | 1/2  |      | 3/4  |      | 3/4   |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm   | in   | mm   | in   | mm   | in   | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 90   | 3.54 | 104  | 4.09 | 120  | 4.72 | 130   | 5.12  | 130   | 5.12  | 150   | 5.91  |
| Bore Diameter        | D     | 9.5  | 0.37 | 12.7 | 0.50 | 16   | 0.63 | 27    | 1.06  | 27    | 1.06  | 35    | 1.38  |
| Center to Top (Open) | H     | 57.5 | 2.26 | 66   | 2.60 | 78.5 | 3.09 | 106   | 4.17  | 106   | 4.17  | 129   | 5.08  |
| Approx. Weight       | Kg/Lb | 1.8  | 3.97 | 2.5  | 5.51 | 3.8  | 8.38 | 6.5   | 14.33 | 6.5   | 14.33 | 10    | 22.05 |

## Class 150-300-600 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2  |      | 3/4  |      | 1    |       | 1-1/2 |       | 2    |       |
|----------------------|-----------|-------|------|------|------|------|------|-------|-------|-------|------|-------|
| End to End           |           |       | mm   | in   | mm   | in   | mm   | in    | mm    | in    | mm   | in    |
|                      | Class 150 | L     | 108  | 4.25 | 117  | 4.61 | 127  | 5.00  | 165   | 6.50  | 203  | 7.99  |
|                      | Class 300 | L     | 152  | 5.98 | 178  | 7.01 | 216  | 8.50  | 241   | 9.49  | 267  | 10.51 |
|                      | Class 600 | L     | 165  | 6.50 | 190  | 7.48 | 216  | 8.50  | 241   | 9.49  | 292  | 11.50 |
| Bore Diameter        |           | D     | 9.50 | 0.37 | 12.7 | 0.50 | 17.5 | 0.69  | 28.6  | 1.13  | 36.5 | 1.44  |
| Center to Top (Open) |           | H     | 48.5 | 1.91 | 52   | 2.05 | 67   | 2.64  | 88    | 3.46  | 101  | 3.98  |
| Approx. Weight       | Class 150 | Kg/Lb | 2.5  | 5.51 | 3.3  | 7.28 | 4.3  | 9.48  | 9.0   | 19.84 | 13   | 28.66 |
|                      | Class 300 |       | 3.0  | 6.61 | 3.8  | 8.38 | 5.2  | 11.46 | 10.5  | 23.15 | 15   | 33.07 |
|                      | Class 600 |       | 3.5  | 7.72 | 4.5  | 9.92 | 6    | 13.23 | 12    | 26.46 | 17   | 37.48 |

## Class 2500 Welded Bonnet

Regular and Full Port - ASME B16.34. Outside Screw & Yoke - Threaded and Socket Weld Ends

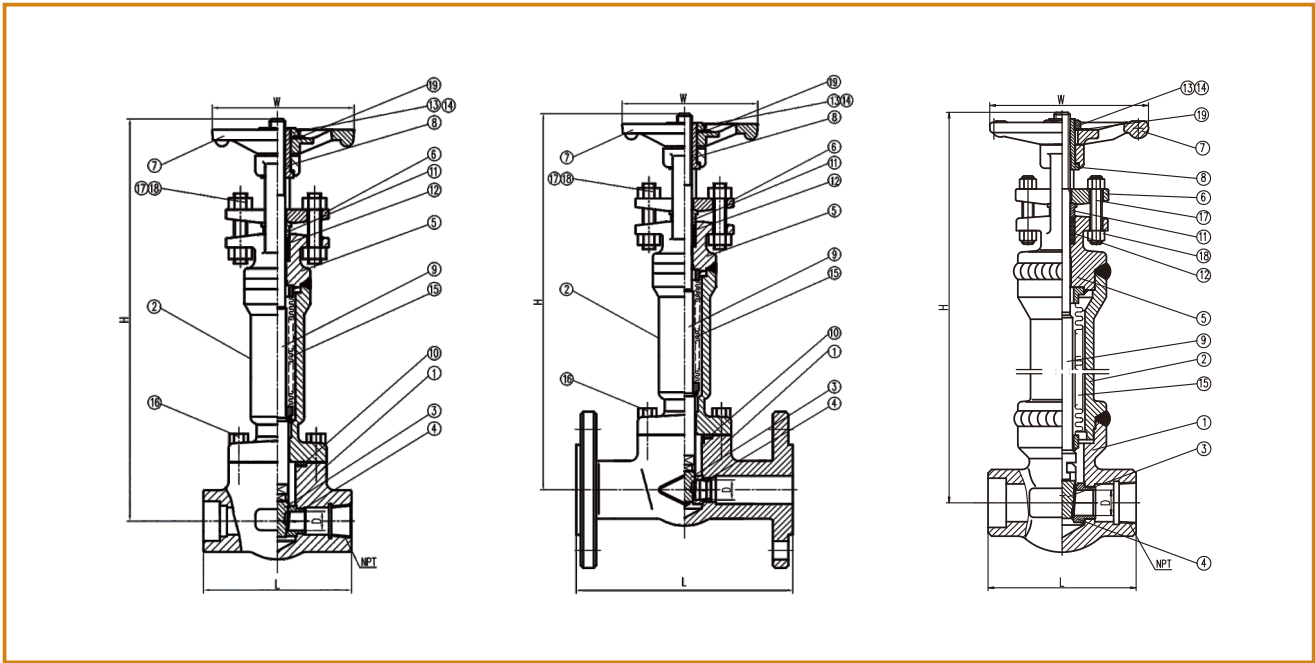
| Regular Port         | Size  | 1/2 |      | 3/4  |       | 1   |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|------|------|-------|-----|-------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8 |      | 1/2  |       | 3/4 |       | 1     |       | 1-1/4 |       |
| End to End           | L     | mm  | in   | mm   | in    | mm  | in    | mm    | in    | mm    | in    |
|                      |       | 178 | 7.01 | 178  | 7.01  | 186 | 7.32  | 232   | 9.13  | 279   | 10.98 |
| Bore Diameter        | D     | 9.0 | 0.35 | 12.0 | 0.47  | 15  | 0.59  | 27    | 1.06  | 34.5  | 1.36  |
| Center to Top (Open) | H     | 81  | 3.19 | 81   | 3.19  | 94  | 3.70  | 158   | 6.22  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | 4.5 | 9.92 | 7.5  | 16.53 | 8.0 | 17.64 | 15    | 33.07 | 19.5  | 42.99 |

# Forged Steel Bellows Gate Valve

G.A. Drawing & Dimensions of Belows Gate Valve

# Forged Steel Bellows Gate Valve

G.A. Drawing & Dimensions of Belows Gate Valve



Bolted Bonnet

Overall-end Flange

Welded Bonnet

## Material List

| NO. | Description of Parts | Material                    |                             |                                 |
|-----|----------------------|-----------------------------|-----------------------------|---------------------------------|
|     |                      | Standard                    | High Temperature            | Stainless Steel                 |
| 1   | BODY                 | ASTM A105N                  | ASTM A182 F11/F22           | ASTM A182 F304/F316             |
| 2   | BONNET               | ASTM A105N                  | ASTM A182 F11/F22           | ASTM A182 F304/F316             |
| 3   | WEDGE                | ASTM A182 F6a               | ASTM A182 F6a               | ASTM A182 F304/F316             |
| 4   | SEAT RING            | ASTM A276-410/STL.OVERLAY   | ASTM A276-410/STL.OVERLAY   | ASTM A182 F304/F316/STL.OVERLAY |
| 5   | YOKE                 | ASTM A105N                  | ASTM A182 F11/F22           | ASTM A182 F304/F316             |
| 6   | GLAND FLANGE         | ASTM A216 WCB               | ASTM A216 WCB               | ASTM A351 CF8                   |
| 7   | HANDWHEEL            | DUCTILE IRON                | DUCTILE IRON                | DUCTILE IRON                    |
| 8   | STEM NUT             | ASTM A276 420               | ASTM A276 420               | ASTM A276 420                   |
| 9   | STEM                 | ASTM A182 F6a               | ASTM A182 F6a               | ASTM A182 F304/F316             |
| 10  | GASKET               | 304SS/SPIRAL WOUND GRAPHITE | 304SS/SPIRAL WOUND GRAPHITE | 304/316SS/SPIRAL WOUND GRAPHITE |
| 11  | GLAND                | ASTM A276 420               | ASTM A276 420               | ASTM A276 304/316               |
| 12  | PACKING              | GRAPHITE                    | GRAPHITE                    | DUCTILE IRON                    |
| 13  | HANDWHEEL NUT        | CARBON STEEL                | CARBON STEEL                | ASTM A276 304                   |
| 14  | WASHER               | ASTM A276 304               | ASTM A276 304               | ASTM A276 304                   |
| 15  | BELLOWS              | ASTM A276 316Ti             | ASTM A276 316Ti             | ASTM A276 316Ti                 |
| 16  | STUD                 | ASTM A193 B7                | ASTM A193 B16               | ASTM A193 B8                    |
| 17  | STUD                 | ASTM A193 B8                | ASTM A193 B8                | ASTM A193 B8                    |
| 18  | NUT                  | ASTM A194 8                 | ASTM A194 8                 | ASTM A194 8                     |
| 19  | NAME PLATE           | ASTM A276 304               | ASTM A276 304               | ASTM A276 304                   |

## Class 800 Bolted Bonnet or Welded Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  |               | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  |               | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     |               | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       |               | 76    | 2.99  | 86    | 3.39  | 102   | 4.02  | 118   | 4.65  | 118   | 4.65  | 132   | 5.20  |
| Bore Diameter        | D     |               | 9.5   | 0.37  | 12.7  | 0.50  | 17.5  | 0.69  | 23.8  | 0.94  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | Bolted Bonnet | 329.2 | 12.96 | 353.7 | 13.93 | 425.5 | 16.75 | 577.4 | 22.73 | 577.4 | 22.73 | 712.1 | 28.04 |
|                      |       | Welded Bonnet | 289.2 | 11.39 | 319.8 | 12.59 | 372.7 | 14.67 | 533.3 | 21.00 | 533.3 | 21.00 | 700   | 27.56 |
| Handwheel            | W     |               | 90    | 3.54  | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 150   | 5.91  | 150   | 5.91  |
| Approx. Weight       | Kg/Lb |               | 3.5   | 7.72  | 4.0   | 8.82  | 5.5   | 12.13 | 8.5   | 18.74 | 8.5   | 18.74 | 16    | 35.27 |

## Class 900/1500 Welded Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2 |       | 3/4  |       | 1    |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8 |       | 1/2  |       | 3/4  |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in    | mm   | in    | mm   | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 90  | 3.54  | 104  | 4.09  | 120  | 4.72  | 130   | 5.12  | 130   | 5.12  | 150   | 5.91  |
| Bore Diameter        | D     | 9.5 | 0.37  | 12.7 | 0.50  | 16   | 0.63  | 22.5  | 0.89  | 27    | 1.06  | 35    | 1.38  |
| Center to Top (Open) | H     | 300 | 11.81 | 320  | 12.60 | 380  | 14.96 | 530   | 20.87 | 530   | 20.87 | 580   | 22.83 |
| Handwheel            | W     | 90  | 3.54  | 110  | 4.33  | 150  | 5.91  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | 5   | 11.02 | 7.5  | 16.53 | 11.5 | 25.35 | 19    | 41.89 | 19    | 41.89 | 30    | 66.14 |

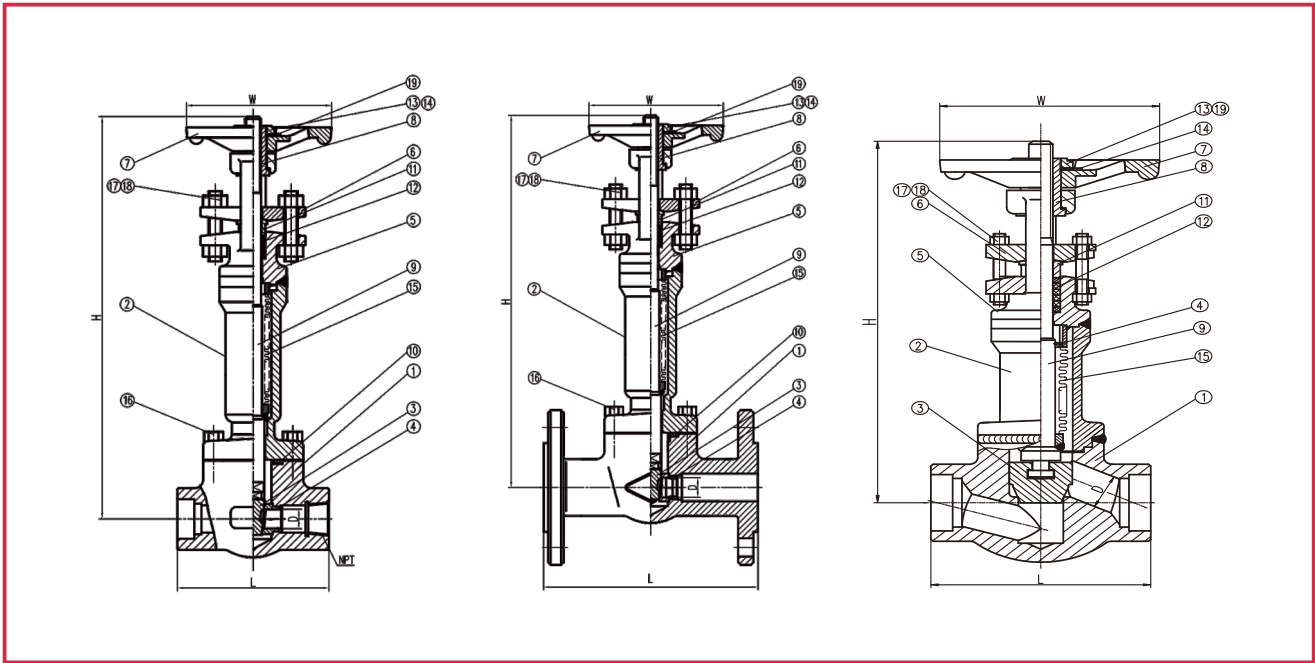
## Class 150-300-600 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Outside Yoke & Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2   |      | 3/4   |       | 1     |       | 1-1/2 |       | 2     |       |
|----------------------|-----------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           |           |       | mm    | in   | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      | Class 150 | L     | 108   | 4.25 | 117   | 4.61  | 127   | 5     | 165   | 6.50  | 178   | 7.01  |
|                      | Class 300 | L     | 140   | 5.51 | 152   | 5.98  | 165   | 6.50  | 190   | 7.48  | 216   | 8.50  |
| Bore Diameter        |           | D     | 9.50  | 0.37 | 12.7  | 0.50  | 17.5  | 0.69  | 28.6  | 1.13  | 36.5  | 1.44  |
|                      | Class 600 | L     | 165   | 6.50 | 190   | 7.48  | 216   | 8.50  | 241   | 9.49  | 292   | 11.50 |
| Center to Top (Open) |           | H     | 145.5 | 5.73 | 151.8 | 5.98  | 179.7 | 7.07  | 247   | 9.72  | 268.7 | 10.58 |
| Handwheel            |           | W     | 90    | 3.54 | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 150   | 5.91  |
| Approx. Weight       | Class 150 | Kg/Lb | 3     | 6.61 | 3.8   | 8.38  | 4.8   | 10.58 | 10    | 22.05 | 15    | 33.07 |
|                      | Class 300 |       | 3.4   | 7.50 | 4.5   | 9.92  | 5.7   | 12.57 | 11.5  | 25.35 | 17    | 37.48 |
|                      | Class 600 |       | 4     | 8.82 | 5.2   | 11.46 | 6.6   | 14.55 | 12.7  | 28.00 | 18    | 39.68 |

Forged Steel Bellows Globe Valve

G.A. Drawing & Dimensions of Bellows Globe Valve



Bolted Bonnet

Overall-end Flange

Welded Bonnet

Material List

| NO. | Description of Parts | Material                    |                               |                                 |
|-----|----------------------|-----------------------------|-------------------------------|---------------------------------|
|     |                      | Standard                    | High Temperature              | Stainless Steel                 |
| 1   | BODY                 | ASTM A105N/STL.OVERLAY      | ASTM A182 F11/F22/STL.OVERLAY | ASTM A182 F304/F316/STL.OVERLAY |
| 2   | BONNET               | ASTM A105N                  | ASTM A182 F11/F22             | ASTM A182 F304/F316             |
| 3   | DISC                 | ASTM A182 F6a               | ASTM A182 F6a                 | ASTM A182 F304/F316             |
| 4   | PIN                  | ASTM A276 304               | ASTM A276 304                 | ASTM A276 304                   |
| 5   | YOKE                 | ASTM A105N                  | ASTM A182 F11/F22             | ASTM A182 F304/F316             |
| 6   | GLAND FLANGE         | ASTM A216 WCB               | ASTM A216 WCB                 | ASTM A351 CF8                   |
| 7   | HANDWHEEL            | DUCTILE IRON                | DUCTILE IRON                  | DUCTILE IRON                    |
| 8   | STEM NUT             | ASTM A276 420               | ASTM A276 420                 | ASTM A276 420                   |
| 9   | STEM                 | ASTM A182 F6a               | ASTM A182 F6a                 | ASTM A182 F304/F316             |
| 10  | GASKET               | 304SS/SPIRAL WOUND GRAPHITE | 304SS/SPIRAL WOUND GRAPHITE   | 304/316SS/SPIRAL WOUND GRAPHITE |
| 11  | GLAND                | ASTM A276 420               | ASTM A276 420                 | ASTM A276 304/316               |
| 12  | PACKING              | GRAPHITE                    | GRAPHITE                      | DUCTILE IRON                    |
| 13  | HANDWHEEL NUT        | CARBON STEEL                | CARBON STEEL                  | ASTM A276 304                   |
| 14  | WASHER               | ASTM A276 304               | ASTM A276 304                 | ASTM A276 304                   |
| 15  | BELLOWS              | ASTM A276 316Ti             | ASTM A276 316Ti               | ASTM A276 316Ti                 |
| 16  | STUD                 | ASTM A193 B7                | ASTM A193 B16                 | ASTM A193 B8                    |
| 17  | STUD                 | ASTM A193 B8                | ASTM A193 B8                  | ASTM A193 B8                    |
| 18  | NUT                  | ASTM A194 8                 | ASTM A194 8                   | ASTM A194 8                     |
| 19  | NAME PLATE           | ASTM A276 304               | ASTM A276 304                 | ASTM A276 304                   |

Forged Steel Bellows Globe Valve

G.A. Drawing & Dimensions of Bellows Globe Valve

Class 800 Bolted Bonnet or Welded Bonnet

Regular and Full Port - API602 . Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  |               | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  |               | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     |               | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       |               | 76    | 2.99  | 86    | 3.39  | 102   | 4.02  | 140   | 5.51  | 140   | 5.51  | 170   | 6.69  |
| Bore Diameter        | D     |               | 9.5   | 0.37  | 12.7  | 0.50  | 17.5  | 0.69  | 23    | 0.91  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | Bolted Bonnet | 356.1 | 14.02 | 363.5 | 14.31 | 416.3 | 16.39 | 506.3 | 19.93 | 506.3 | 19.93 | 599.2 | 23.59 |
|                      |       | Welded Bonnet | 311.7 | 12.27 | 353.5 | 13.92 | 363.8 | 14.32 | 464.8 | 18.30 | 452.3 | 17.81 | 563.8 | 22.20 |
| Handwheel            | W     |               | 110   | 4.33  | 110   | 4.33  | 110   | 4.33  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb |               | 3.5   | 7.72  | 4.5   | 9.92  | 5.5   | 12.13 | 11    | 24.25 | 11    | 24.25 | 17.5  | 38.58 |

Class 900/1500 Welded Bonnet

Regular and Full Port - API602 . Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 90    | 3.54  | 104   | 4.09  | 120   | 4.72  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Bore Diameter        | D     | 9.0   | 0.35  | 12.0  | 0.47  | 15.0  | 0.59  | 27    | 1.06  | 27    | 1.06  | 32    | 1.26  |
| Center to Top (Open) | H     | 356.7 | 14.04 | 434.8 | 17.12 | 482.7 | 19.00 | 587.8 | 23.14 | 587.8 | 23.14 | 630   | 24.80 |
| Handwheel            | W     | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 180   | 7.09  | 180   | 7.09  | 250   | 9.84  |
| Approx. Weight       | Kg/Lb | 5.5   | 12.13 | 7.5   | 16.53 | 11.5  | 25.35 | 19    | 41.89 | 19    | 41.89 | 32    | 70.55 |

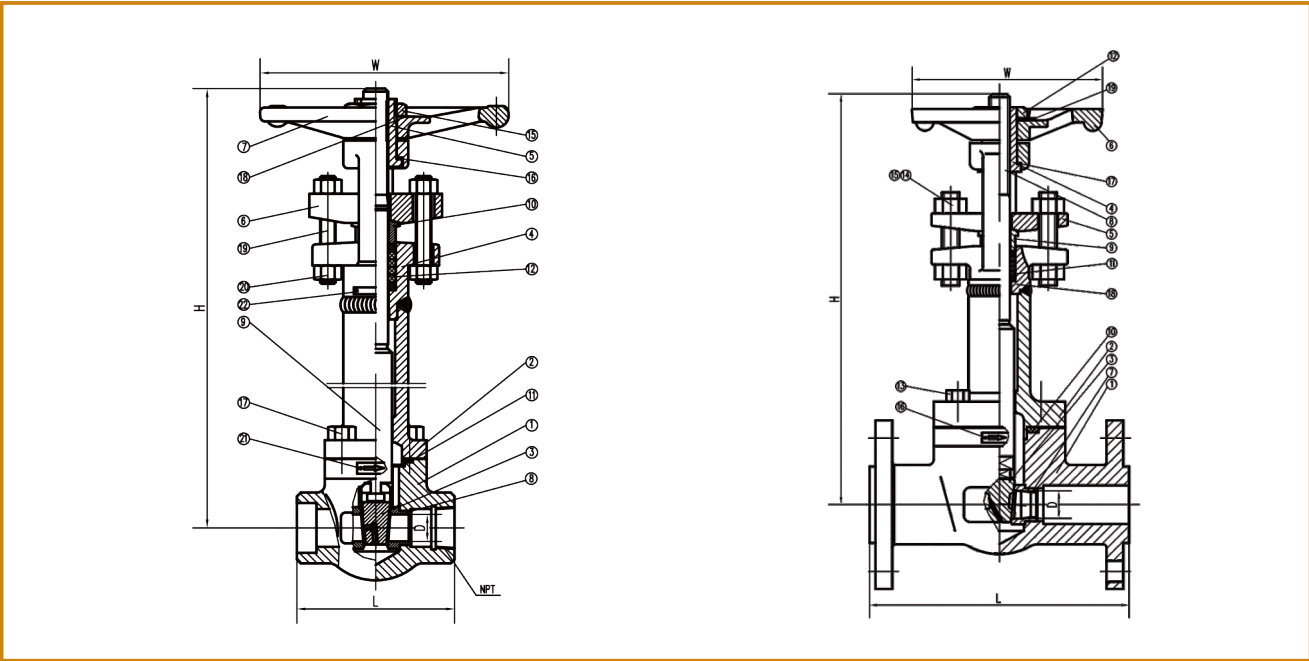
Class 150-300-600 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Outside Yoke & Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2   |       | 3/4   |       | 1     |       | 1-1/2 |       | 2     |       |
|----------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           |           |       | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      | Class 150 | L     | 108   | 4.25  | 117   | 4.61  | 127   | 5.00  | 165   | 6.50  | 203   | 7.99  |
|                      | Class 300 | L     | 152   | 5.98  | 178   | 7.01  | 203   | 7.99  | 229   | 9.02  | 267   | 10.51 |
| End to End           | Class 600 | L     | 165   | 6.50  | 190   | 7.48  | 216   | 8.50  | 241   | 9.49  | 292   | 11.50 |
|                      |           | D     | 9.50  | 0.37  | 12.7  | 0.50  | 17.5  | 0.69  | 28.6  | 1.13  | 36.5  | 1.44  |
| Bore Diameter        |           | D     | 9.50  | 0.37  | 12.7  | 0.50  | 17.5  | 0.69  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) |           | H     | 356.1 | 14.02 | 363.5 | 14.31 | 416.3 | 16.39 | 506.3 | 19.93 | 599.2 | 23.59 |
| Handwheel            |           | W     | 110   | 4.33  | 110   | 4.33  | 110   | 4.33  | 150   | 5.91  | 180   | 7.09  |
| Approx. Weight       | Class 150 | Kg/Lb | 5.5   | 12.13 | 6.0   | 13.23 | 8.5   | 18.74 | 14    | 30.86 | 21.5  | 47.40 |
|                      | Class 300 |       | 6.0   | 13.23 | 7.0   | 15.43 | 10.5  | 23.15 | 17    | 37.48 | 25    | 55.12 |
|                      | Class 600 |       | 6.5   | 14.33 | 7.5   | 16.53 | 11    | 24.25 | 18.5  | 40.79 | 26.5  | 58.42 |

Forged Steel Cryogenic Gate Valve

G.A. Drawing & Dimensions of Bellows Globe Valve



Bolted Bonnet

Overall-end Flange

Material List

| NO. | Description of Parts | Material                            |
|-----|----------------------|-------------------------------------|
|     |                      | Stainless Steel                     |
| 1   | BODY                 | ASTM A182 F304 / F316               |
| 2   | BONNET               | ASTM A182 F304 / F316               |
| 3   | BODY                 | ASTM A182 F304 / F316 / STL.OVERLAY |
| 4   | SEAT RING            | ASTM A182 F304 / F316 / STL.OVERLAY |
| 5   | YOKE                 | ASTM A182 F304 / F316 / STL.OVERLAY |
| 6   | GLAND FLANGE         | ASTM A351 CF8                       |
| 7   | HANDWHEEL            | DUCTILE IRON                        |
| 8   | STEM NUT             | BRONZE                              |
| 9   | STEM                 | ASTM A182 F304 / F316               |
| 10  | GASKET               | 304 / 316SS / SPIRAL WOUND GRAPHITE |
| 11  | GLAND                | ASTM A276 304 / 316                 |
| 12  | PACKING              | DUCTILE IRON                        |
| 13  | HANDWHEEL NUT        | ASTM A276 304                       |
| 14  | WASHER               | ASTM A276 304                       |
| 15  | WASHER               | ASTM A276 304                       |
| 16  | BOLT                 | ASTM A320 B8 CL2                    |
| 17  | STUD                 | ASTM A193 B8                        |
| 18  | NUT                  | ASTM A194 8                         |
| 19  | NAME PLATE           | ASTM A276 304                       |
| 20  | DIRECTION SIGN       | ASTM A276 304                       |

Forged Steel Cryogenic Gate Valve

G.A. Drawing & Dimensions of Bellows Globe Valve

Class 800 Bolted Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2 |       | 3/4  |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-----|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8 |       | 1/2  |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm  | in    | mm   | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 76  | 2.99  | 86   | 3.39  | 102   | 4.02  | 118   | 4.65  | 118   | 4.65  | 132   | 5.20  |
| Bore Diameter        | D     | 9.5 | 0.37  | 12.7 | 0.50  | 17.5  | 0.69  | 23.8  | 0.94  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | 403 | 15.87 | 428  | 16.85 | 470.5 | 18.52 | 499.3 | 19.66 | 503.4 | 19.82 | 549.6 | 21.64 |
| Handwheel            | W     | 90  | 3.54  | 110  | 4.33  | 150   | 5.91  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | 3   | 6.61  | 3.7  | 8.16  | 5.3   | 11.68 | 8.5   | 18.74 | 8.5   | 18.74 | 10.8  | 23.81 |

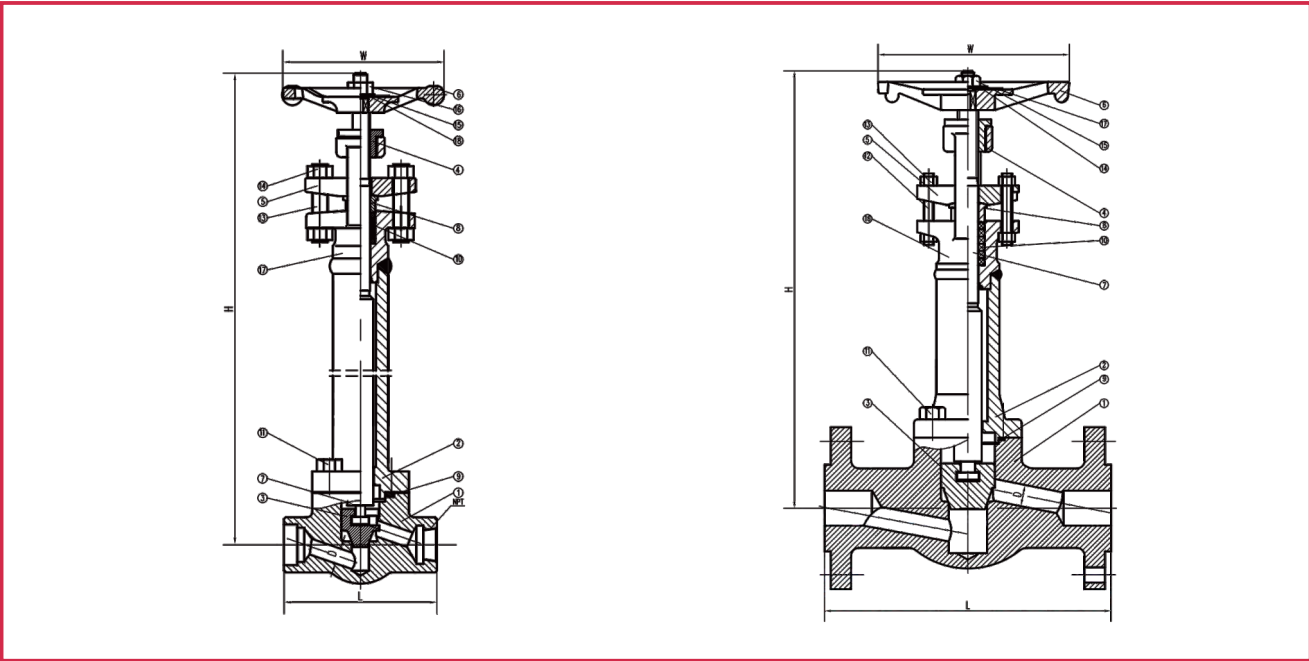
Class 150-300-600 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Outside Yoke & Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2  |       | 3/4  |       | 1     |       | 1-1/2 |       | 2     |       |
|----------------------|-----------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| End to End           |           |       | mm   | in    | mm   | in    | mm    | in    | mm    | in    | mm    | in    |
|                      | Class 150 | L     | 108  | 4.25  | 117  | 4.61  | 127   | 5     | 165   | 6.50  | 178   | 7.01  |
|                      | Class 300 | L     | 140  | 5.51  | 152  | 5.98  | 165   | 6.50  | 190   | 7.48  | 216   | 8.50  |
|                      | Class 600 | L     | 165  | 6.50  | 190  | 7.48  | 216   | 8.50  | 241   | 9.49  | 292   | 11.50 |
| Bore Diameter        |           | D     | 9.50 | 0.37  | 12.7 | 0.50  | 17.5  | 0.69  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) |           | H     | 403  | 15.87 | 428  | 16.85 | 470.5 | 18.52 | 503.4 | 19.82 | 549.6 | 21.64 |
| Handwheel            |           | W     | 90   | 3.54  | 110  | 4.33  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  |
| Approx. Weight       | Class 150 | Kg/Lb | 4.5  | 9.92  | 5.5  | 12.13 | 7     | 15.43 | 13    | 28.66 | 18.5  | 40.79 |
|                      | Class 300 |       | 5    | 11.02 | 6.2  | 13.67 | 8     | 17.64 | 12.5  | 27.56 | 20.5  | 45.19 |
|                      | Class 600 |       | 5.6  | 12.35 | 7    | 15.43 | 9     | 19.84 | 15.5  | 34.17 | 21.5  | 47.40 |

Forged Steel Cryogenic Globe Valve

G.A. Drawing & Dimensions of Bellows Globe Valve



Bolted Bonnet

Overall-end Flange

Material List

| NO. | Description of Parts | Material                            |
|-----|----------------------|-------------------------------------|
|     |                      | Stainless Steel                     |
| 1   | BODY                 | ASTM A182 F304 / F316 / STL.OVERLAY |
| 2   | BONNET               | ASTM A182 F304 / F316               |
| 3   | DISC                 | ASTM A182 F304 / F316 / STL.OVERLAY |
| 4   | STEM NUT             | BRONZE                              |
| 5   | YOKE                 | ASTM A182 F304 / F316 / STL.OVERLAY |
| 6   | GLAND FLANGE         | ASTM A351 CF8                       |
| 7   | HANDWHEEL            | DUCTILE IRON                        |
| 8   | GLAND                | ASTM A276 304 / 316                 |
| 9   | STEM                 | ASTM A182 F304 / F316               |
| 10  | GASKET               | 304 / 316SS / SPIRAL WOUND GRAPHITE |
| 11  | BOLT                 | ASTM A320 B8 CL2                    |
| 12  | PACKING              | DUCTILE IRON                        |
| 13  | HANDWHEEL NUT        | ASTM A276 304                       |
| 14  | WASHER               | ASTM A276 304                       |
| 15  | STUD                 | ASTM A193 B8                        |
| 16  | NUT                  | ASTM A194 8                         |
| 17  | NAME PLATE           | ASTM A276 304                       |
| 18  | SCREW                | ISO 3506 A1-50                      |
| 19  | DIRECTION SIGN       | ASTM A276 304                       |

Forged Steel Cryogenic Globe Valve

G.A. Drawing & Dimensions of Bellows Globe Valve

Class 800 Bolted Bonnet

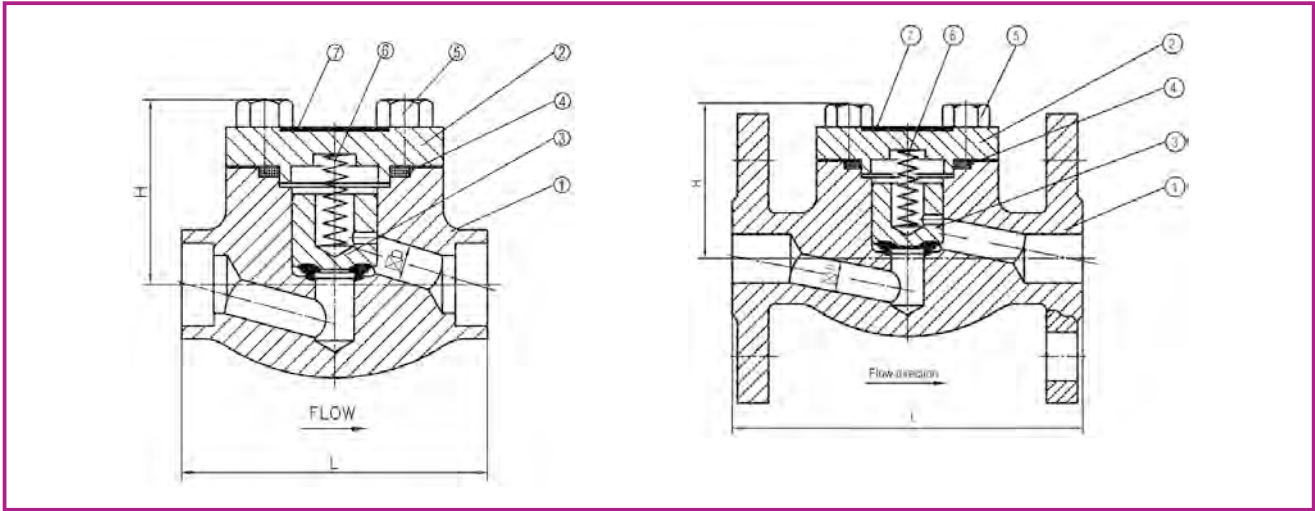
Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       | 2     |       |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Full Port            | Size  | 3/8   |       | 1/2   |       | 3/4   |       | 1     |       | 1-1/4 |       | 1-1/2 |       |
| End to End           | L     | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      |       | 76    | 2.99  | 86    | 3.39  | 102   | 4.02  | 140   | 5.51  | 140   | 5.51  | 170   | 6.69  |
| Bore Diameter        | D     | 9.5   | 0.37  | 12.7  | 0.50  | 17.5  | 0.69  | 23    | 0.91  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) | H     | 394.3 | 15.52 | 416.7 | 16.41 | 470.3 | 18.52 | 491.8 | 19.36 | 537.8 | 21.17 | 569.8 | 22.43 |
| Handwheel            | W     | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 150   | 5.91  | 180   | 7.09  | 180   | 7.09  |
| Approx. Weight       | Kg/Lb | 3     | 6.61  | 3.5   | 7.72  | 6     | 13.23 | 9     | 19.84 | 10.5  | 23.15 | 15.5  | 34.17 |

Class 150-300-600 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Outside Yoke & Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2   |       | 3/4   |       | 1     |       | 1-1/2 |       | 2     |       |
|----------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| End to End           |           |       | mm    | in    | mm    | in    | mm    | in    | mm    | in    | mm    | in    |
|                      | Class 150 | L     | 108   | 4.25  | 117   | 4.61  | 127   | 5     | 165   | 6.50  | 203   | 7.99  |
|                      | Class 300 | L     | 152   | 5.98  | 178   | 7.01  | 203   | 7.99  | 229   | 9.02  | 267   | 10.51 |
|                      | Class 600 | L     | 165   | 6.50  | 190   | 7.48  | 216   | 8.50  | 241   | 9.49  | 292   | 11.50 |
| Bore Diameter        |           | D     | 9.50  | 0.37  | 12.7  | 0.50  | 17.5  | 0.69  | 28.6  | 1.13  | 36.5  | 1.44  |
| Center to Top (Open) |           | H     | 394.3 | 15.52 | 416.7 | 16.41 | 470.3 | 18.52 | 537.8 | 21.17 | 569.8 | 22.43 |
| Handwheel            |           | W     | 90    | 3.54  | 110   | 4.33  | 150   | 5.91  | 180   | 7.09  | 180   | 7.09  |
| Approx. Weight       | Class 150 | Kg/Lb | 5     | 11.02 | 6     | 13.23 | 7.5   | 16.53 | 15    | 33.07 | 20    | 44.09 |
|                      | Class 300 |       | 5.6   | 12.35 | 7.5   | 16.53 | 8.3   | 18.30 | 16.5  | 36.38 | 22    | 48.50 |
|                      | Class 600 |       | 6.1   | 13.45 | 7.8   | 17.20 | 9.1   | 20.06 | 18    | 39.68 | 24    | 52.91 |



Material List

| NO. | Description of Parts | Material                            |
|-----|----------------------|-------------------------------------|
|     |                      | Stainless Steel                     |
| 1   | BODY                 | ASTM A182 F304 / F316 / STL.OVERLAY |
| 2   | BONNET               | ASTM A182 F304 / F316               |
| 3   | DISC                 | ASTM A182 F304 / F316 / STL.OVERLAY |
| 4   | GASKET               | 304 / 316SS / SPIRAL WOUND GRAPHITE |
| 5   | BOLT                 | ASTM A320 B8 CL2                    |
| 6   | SPRING               | INCONEL X750                        |
| 7   | NAME PLATE           | ASTM A276 304                       |

Class 800 Bolted Bonnet

Regular and Full Port - API602. Outside Screw & Yoke - Threaded and Socket Weld Ends

| Regular Port         | Size  | 1/2 |      | 3/4  |      | 1    |      | 1-1/4 |      | 1-1/2 |       | 2    |       |
|----------------------|-------|-----|------|------|------|------|------|-------|------|-------|-------|------|-------|
|                      |       | mm  | in   | mm   | in   | mm   | in   | mm    | in   | mm    | in    | mm   | in    |
| End to End           | L     | 76  | 2.99 | 86   | 3.39 | 102  | 4.02 | 140   | 5.51 | 140   | 5.51  | 170  | 6.69  |
| Bore Diameter        | D     | 9.5 | 0.37 | 12.7 | 0.50 | 17.5 | 0.69 | 23    | 0.91 | 28.6  | 1.13  | 36.5 | 1.44  |
| Center to Top (Open) | H     | 48  | 1.89 | 53   | 2.09 | 64   | 2.52 | 80    | 3.15 | 80    | 3.15  | 100  | 3.94  |
| Approx. Weight       | Kg/Lb | 1   | 2.20 | 1.5  | 3.31 | 2    | 4.41 | 4.5   | 9.92 | 6     | 13.23 | 7.5  | 16.53 |

Class 150-300-600 Overall-end Flange, Bolted Bonnet, Structure Length-ASME B16.10

Regular Port - API 602. Overall-end Flange - ASME B16.5

| Regular Port         |           | Size  | 1/2  |      | 3/4  |      | 1    |       | 1-1/2 |       | 2    |       |
|----------------------|-----------|-------|------|------|------|------|------|-------|-------|-------|------|-------|
|                      |           |       | mm   | in   | mm   | in   | mm   | in    | mm    | in    | mm   | in    |
| End to End           | Class 150 | L     | 108  | 4.25 | 117  | 4.61 | 127  | 5     | 165   | 6.50  | 203  | 7.99  |
|                      | Class 300 | L     | 152  | 5.98 | 178  | 7.01 | 203  | 7.99  | 229   | 9.02  | 267  | 10.51 |
|                      | Class 600 | L     | 165  | 6.50 | 190  | 7.48 | 216  | 8.50  | 241   | 9.49  | 292  | 11.50 |
| Bore Diameter        |           | D     | 9.50 | 0.37 | 12.7 | 0.50 | 17.5 | 0.69  | 28.6  | 1.13  | 36.5 | 1.44  |
| Center to Top (Open) |           | H     | 50   | 1.97 | 54   | 2.13 | 68   | 2.68  | 78    | 3.07  | 96   | 3.78  |
| Approx. Weight       | Class 150 | Kg/Lb | 2.5  | 5.51 | 3.3  | 7.28 | 4.3  | 9.48  | 9     | 19.84 | 13   | 28.66 |
|                      | Class 300 |       | 3    | 6.61 | 3.8  | 8.38 | 5.2  | 11.46 | 10.5  | 23.15 | 15   | 33.07 |
|                      | Class 600 |       | 3.5  | 7.72 | 4.5  | 9.92 | 6    | 13.23 | 12    | 26.46 | 17   | 37.48 |

Welded Bonnet

Threaded-in and seal-welded bonnet (see Fig 1) is the standard design for Neway welded bonnet valves. Full penetration welding is optional (see Fig 2).

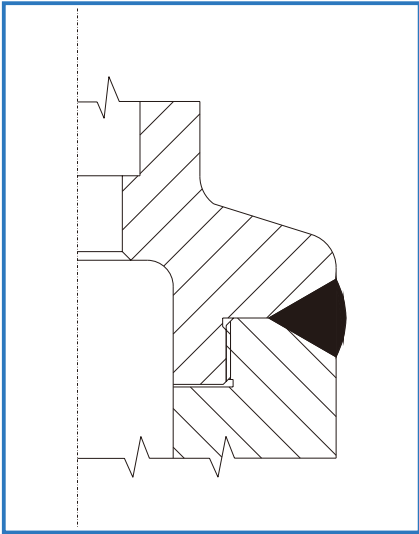


Fig.1

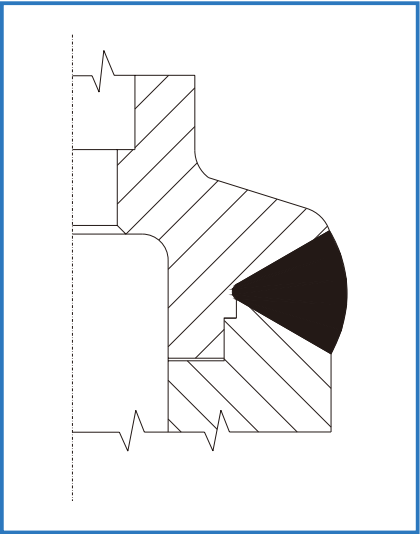


Fig.2

Gland Bolt

Neway forged steel gate and globe valves are provided with stud and nuts gland assembly (see Fig 3); eyebolts style are optional (see Fig 4).

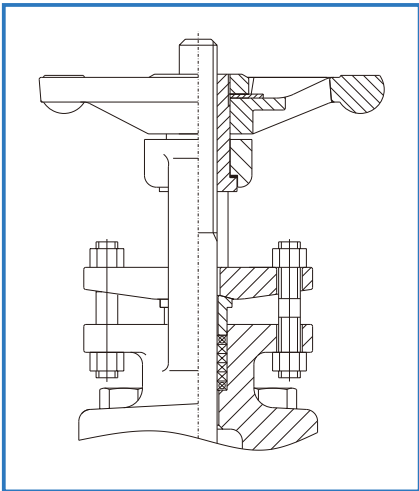


Fig.3

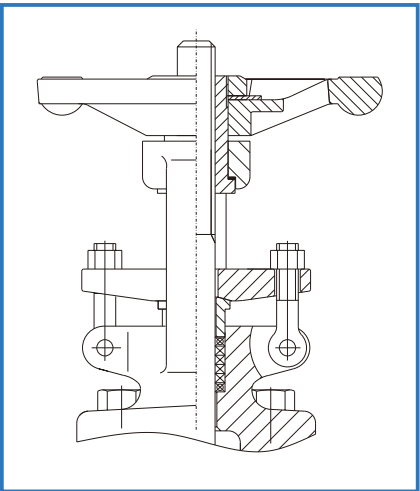


Fig.4

Bolted Bonnet

RTJ bonnet joint is the standard design for ANSI Class 1500 & 2500 valves (see Fig 5). Male to female bonnet joint is optional for ANSI Class 1500 (see Fig 6).

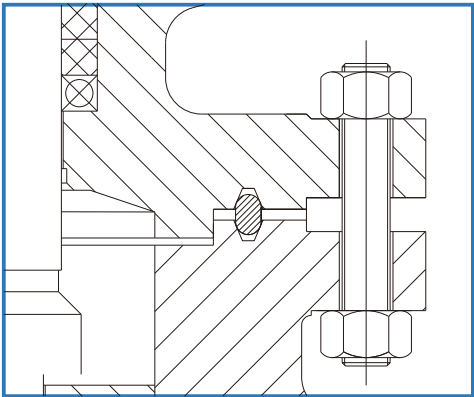


Fig.5

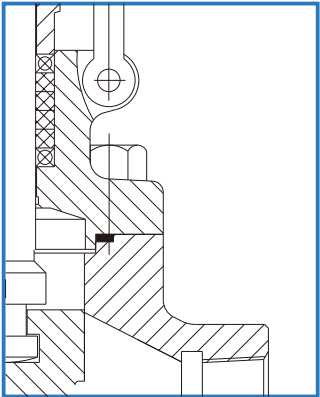


Fig.6

# Neway Factory



**NEWAY Head Office**                      Founded in 2014  
Total area: 2,295sqm  
Office area: 6,885sqm



**NEWAY Manufacturing Base**                      Founded in 2006 and expanded in 2013  
Main products: Ball Valve, Butterfly Valve, Gate Valve,  
Globe Valve, Check Valve, Control Valve  
Building area: 230,000 sqm  
Work shop: 140,061 sqm



**NEWAY Foundry (Suzhou)**                      Founded in 2008 and expanded in 2015  
Main products: Sand Casting  
Building area: 112,500 sqm  
Work shop: 98000 sqm



**NEWAY Foundry (Dafeng)**                      Founded in 2004  
Main products: Lost wax investment casting  
Building area: 46,000 sqm  
Work shop: 12,000 sqm



**NEWAY Foundry (Dafeng)**                      Founded in 2008  
Main products: Lost wax investment casting  
Building area: 40,000 sqm  
Work shop: 20,000 sqm



**NEWAY Forging (Liyang)**                      Founded in 2017  
Main products: Hammer forging, annular forging  
Office area: 3,000 sqm  
Work shop: 30,000 sqm

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# Product Warranty

Seller will replace without charge or refund the purchase price of products provided by Seller which prove to be defective in material or workmanship, provided in each case that the product is properly installed and is used in the service for which Seller recommends it and that written claim, specifying the alleged defect, is presented to the Seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with repair or replacement. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states Buyer's exclusive remedy and seller's exclusive liability.