

## AWWA C509/C515 Resilient Seated Gate Valves

Resilient Seated gate valves are used as isolation valves for a broad range of applications, including reliable and safe supply of drinking water, service and firefighting water. They are suitable for both above ground and underground installation.

### Design Features:

- ✦ Resilient Seated Gate Valves fully meet or exceed AWWA C509 and C515.
- ✦ High strength ductile iron body used for lowering the weight and improving long term durability.
- ✦ All iron parts are coated inside & outside with fusion bonded epoxy for corrosion resistance per AWWA C550.
- ✦ Stem seal design provides effective sealing against dirt and other impurities.
- ✦ Ductile iron disc is fully encapsulated in vulcanized EPDM / NBR rubber leaving no exposed metal surface. Central guides help reduce friction between wedge and body during open/close operations.
- ✦ The waterway is smooth, well rounded, and provides superior flow characteristics and venturi effect.
- ✦ Upper O-Rings are replaceable with valve fully open under operating pressure.
- ✦ ANSI B16.1 Class 125 and ANSI B16.5 Class 150 flanges are both available. Mechanical Joints connection available as option.
- ✦ NSF61 approved material available as option.



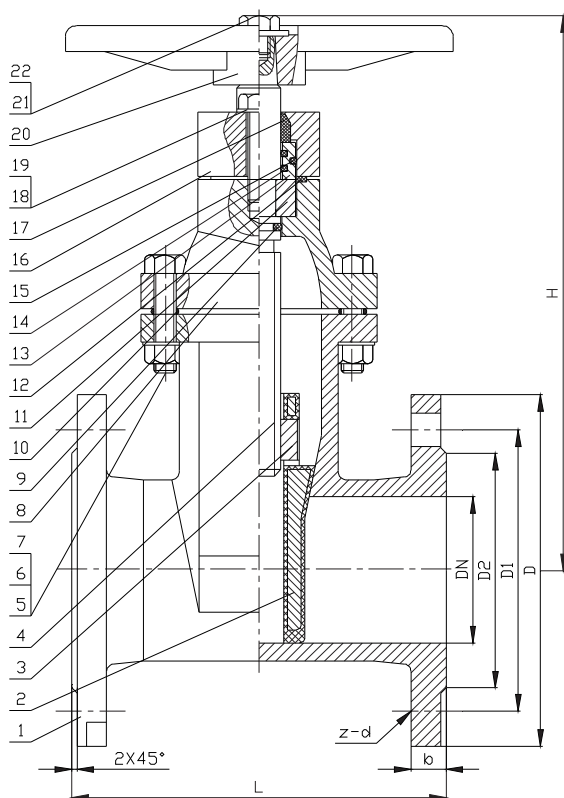
### Typical Applications:

General Water Supply, Fire Fighting, HVAC, District Cooling & Sewage System

### Technical Data:

|                      |                         |
|----------------------|-------------------------|
| Design Standard:     | AWWA C509 / C515        |
| Size Range:          | 2" – 24"                |
| Pressure Rating:     | 200 psi                 |
| Working Temperature: | -10°C – 80°C            |
| End Connection:      | ANSI B16.1 / ANSI B16.5 |
| Face-to-Face:        | AWWA C509               |
| Test & Inspection:   | AWWA C509               |

## Resilient Seat Gate Valves (Non-Rising Stem) 2" - 24"



### Parts List & Materials

| No. | Parts Name    | Materials           | Standards              |
|-----|---------------|---------------------|------------------------|
| 1   | Body          | Ductile Iron        | ASTM A536              |
| 2   | Wedge         | Ductile Iron / EPDM | ASTM A536 / ASTM D2000 |
| 3   | Stem Nut      | Bronze              | ASTM B62               |
| 4   | Stem          | Stainless Steel     | SS420                  |
| 5   | Bonnet Bolt   | Stainless Steel     | SS304                  |
| 6   | Nut           | Stainless Steel     | SS304                  |
| 7   | Washer        | Stainless Steel     | SS304                  |
| 8   | Bonnet        | Ductile Iron        | ASTM A536              |
| 9   | Gasket        | EPDM                | ASTM D2000             |
| 10  | O-Ring        | EPDM                | ASTM D2000             |
| 11  | Locating Ring | Bronze              | ASTM B62               |
| 12  | Minipad       | Teflon              | -                      |
| 13  | Seal Ring     | Bronze              | ASTM B62               |
| 14  | O-Ring        | EPDM                | ASTM D2000             |
| 15  | O-Ring        | EPDM                | ASTM D2000             |
| 16  | Gland         | Ductile Iron        | ASTM A536              |
| 17  | Dust Ring     | EPDM                | ASTM D2000             |
| 18  | Washer        | Stainless Steel     | SS304                  |
| 19  | Bolt          | Stainless Steel     | SS304                  |
| 20  | Handwheel     | Ductile Iron        | ASTM A536              |
| 21  | Nut           | Stainless Steel     | SS304                  |
| 22  | Washer        | Stainless Steel     | SS304                  |

### Main Dimensions

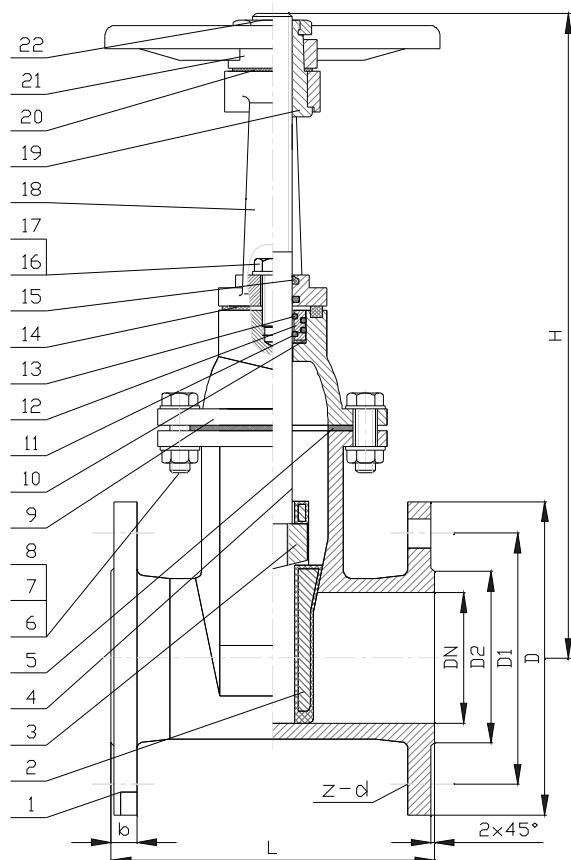
unit: inch

| NPS    | D      | D1                            | D2                            | L      | b                           | H                              | Z-d                             |
|--------|--------|-------------------------------|-------------------------------|--------|-----------------------------|--------------------------------|---------------------------------|
| 2"     | 6      | 4 <sup>3</sup> / <sub>4</sub> | 3 <sup>5</sup> / <sub>8</sub> | 7      | <sup>5</sup> / <sub>8</sub> | 10 <sup>3</sup> / <sub>8</sub> | 4 - <sup>3</sup> / <sub>4</sub> |
| 2 1/2" | 7      | 5 1/2                         | 4 1/8                         | 7 1/2  | <sup>3</sup> / <sub>4</sub> | 11 <sup>3</sup> / <sub>8</sub> | 4 - <sup>3</sup> / <sub>4</sub> |
| 3"     | 7 1/2  | 6                             | 5                             | 8      | <sup>3</sup> / <sub>4</sub> | 12 1/2                         | 4 - <sup>3</sup> / <sub>4</sub> |
| 4"     | 9      | 7 1/2                         | 6 5/8                         | 9      | 1                           | 13 7/8                         | 8 - <sup>3</sup> / <sub>4</sub> |
| 5"     | 10     | 8 1/2                         | 7 3/8                         | 10     | 1                           | 16 1/8                         | 8 - <sup>7</sup> / <sub>8</sub> |
| 6"     | 11     | 9 1/2                         | 8 1/2                         | 10 1/2 | 1                           | 17 1/2                         | 8 - <sup>7</sup> / <sub>8</sub> |
| 8"     | 13 1/2 | 11 3/4                        | 10 5/8                        | 11 1/2 | 1 1/8                       | 21 1/8                         | 8 - <sup>7</sup> / <sub>8</sub> |
| 10"    | 16     | 14 1/4                        | 12 3/4                        | 13     | 1 1/4                       | 24 1/4                         | 12 - 1                          |
| 12"    | 19     | 17                            | 15                            | 14     | 1 1/4                       | 27 3/8                         | 12 - 1                          |
| 14"    | 21     | 18 3/4                        | 16 1/4                        | 15     | 1 3/8                       | 30 3/4                         | 12 - 1 1/8                      |
| 16"    | 23 1/2 | 21 1/4                        | 18 1/2                        | 16     | 1 1/2                       | 33 3/4                         | 16 - 1 1/8                      |
| 18"    | 25     | 22 3/4                        | 21                            | 17     | 1 1/2                       | 36 3/4                         | 16 - 1 1/4                      |
| 20"    | 27 1/2 | 25                            | 23                            | 18     | 1 3/4                       | 39 3/4                         | 20 - 1 1/4                      |
| 24"    | 32     | 29 1/2                        | 27 1/4                        | 20     | 1 7/8                       | 46                             | 20 - 1 3/8                      |

unit: mm

| DN  | D   | D1    | D2  | L   | b    | H    | Z-d     |
|-----|-----|-------|-----|-----|------|------|---------|
| 50  | 152 | 120.5 | 92  | 178 | 16   | 255  | 4 - 19  |
| 65  | 178 | 139.5 | 105 | 190 | 17.5 | 280  | 4 - 19  |
| 80  | 191 | 152.5 | 127 | 203 | 19   | 310  | 4 - 19  |
| 100 | 229 | 190.5 | 157 | 229 | 24   | 340  | 8 - 19  |
| 125 | 254 | 216   | 186 | 254 | 24   | 400  | 8 - 22  |
| 150 | 279 | 241.5 | 216 | 267 | 25.5 | 435  | 8 - 22  |
| 200 | 343 | 298.5 | 270 | 292 | 29   | 525  | 8 - 22  |
| 250 | 406 | 362   | 324 | 330 | 30.5 | 605  | 12 - 25 |
| 300 | 483 | 432   | 381 | 356 | 32   | 685  | 12 - 25 |
| 350 | 533 | 476   | 413 | 381 | 35   | 770  | 12 - 29 |
| 400 | 597 | 539.5 | 470 | 406 | 37   | 845  | 16 - 29 |
| 450 | 635 | 577.9 | 533 | 432 | 39.7 | 925  | 16 - 32 |
| 500 | 699 | 635   | 584 | 457 | 43   | 1000 | 20 - 32 |
| 600 | 813 | 749.5 | 692 | 508 | 48   | 1155 | 20 - 35 |

## Resilient Seat Gate Valves (OS&Y) 2" - 24"



### Parts List & Materials

| No. | Parts Name  | Materials           | Standards        |
|-----|-------------|---------------------|------------------|
| 1   | Body        | Ductile Iron        | ASTM A536        |
| 2   | Wedge       | Ductile Iron / EPDM | ASTM A536 /D2000 |
| 3   | Wedge Nut   | Bronze              | ASTM B62         |
| 4   | Stem        | Stainless Steel     | SS420            |
| 5   | Gasket      | EPDM                | -                |
| 6   | Bolt        | Carbon Steel        | A3               |
| 7   | Nut         | Carbon Steel        | A3               |
| 8   | Washer      | Carbon Steel        | A3               |
| 9   | Bonnet      | Ductile Iron        | ASTM A536        |
| 10  | Minipad     | Teflon              | -                |
| 11  | O-Ring      | EPDM                | ASTM D2000       |
| 12  | Seal Ring   | Bronze              | ASTM B62         |
| 13  | O-Ring      | EPDM                | ASTM D2000       |
| 14  | Minipad     | Teflon              | -                |
| 15  | Dust Ring   | EPDM                | ASTM D2000       |
| 16  | Washer      | Carbon Steel        | A3               |
| 17  | Bolt        | Carbon Steel        | A3               |
| 18  | Yoke        | Ductile Iron        | ASTM A536        |
| 19  | Stem Nut    | Bronze              | ASTM B62         |
| 20  | Minipad     | Teflon              | -                |
| 21  | Handwheel   | Ductile Iron        | ASTM A536        |
| 22  | Locking Nut | Bronze              | ASTM B62         |

### Main Dimensions

unit: inch

| NPS    | D      | D1     | D2     | L      | b     | H      | Z-d        |
|--------|--------|--------|--------|--------|-------|--------|------------|
| 2"     | 6      | 4 3/4  | 3 5/8  | 7      | 5/8   | 11 3/8 | 4 - 3/4    |
| 2 1/2" | 7      | 5 1/2  | 4 1/8  | 7 1/2  | 3/4   | 13 1/8 | 4 - 3/4    |
| 3"     | 7 1/2  | 6      | 5      | 8      | 3/4   | 15 3/8 | 4 - 3/4    |
| 4"     | 9      | 7 1/2  | 6 1/8  | 9      | 1     | 17 3/4 | 8 - 3/4    |
| 5"     | 10     | 8 1/2  | 7 3/8  | 9 5/8  | 1     | 20 5/8 | 8 - 7/8    |
| 6"     | 11     | 9 1/2  | 8 1/2  | 10 1/2 | 1     | 23 3/8 | 8 - 7/8    |
| 8"     | 13 1/2 | 11 3/4 | 10 5/8 | 11 1/2 | 1 1/8 | 28 5/8 | 8 - 7/8    |
| 10"    | 16     | 14 1/4 | 12 3/4 | 13     | 1 1/4 | 33 3/8 | 12 - 1     |
| 12"    | 19     | 17     | 15     | 14     | 1 1/4 | 39 3/8 | 12 - 1     |
| 14"    | 21     | 18 3/4 | 16 1/4 | 15     | 1 3/8 | 44 1/4 | 12 - 1 1/8 |
| 16"    | 23 1/2 | 21 1/4 | 18 1/2 | 16     | 1 1/2 | 49 3/8 | 16 - 1 1/8 |
| 18"    | 25     | 22 3/4 | 21     | 17     | 1 5/8 | 54 1/2 | 16 - 1 1/4 |
| 20"    | 27 1/2 | 25     | 23     | 18     | 1 3/4 | 59 5/8 | 20 - 1 1/4 |
| 24"    | 32     | 29 1/2 | 27 1/4 | 20     | 1 7/8 | 70 7/8 | 20 - 1 3/8 |

unit: mm

| DN  | D   | D1    | D2  | L   | b    | H    | Z-d     |
|-----|-----|-------|-----|-----|------|------|---------|
| 50  | 152 | 120.5 | 92  | 178 | 16   | 329  | 4 - 19  |
| 65  | 178 | 139.5 | 105 | 190 | 17.5 | 372  | 4 - 19  |
| 80  | 191 | 152.5 | 127 | 203 | 19   | 426  | 4 - 19  |
| 100 | 229 | 190.5 | 157 | 229 | 24   | 496  | 8 - 19  |
| 125 | 254 | 216   | 186 | 245 | 24   | 576  | 8 - 22  |
| 150 | 279 | 241.5 | 216 | 267 | 25.5 | 630  | 8 - 22  |
| 200 | 343 | 298.5 | 270 | 292 | 29   | 525  | 8 - 22  |
| 250 | 406 | 362   | 324 | 330 | 30.5 | 605  | 12 - 25 |
| 300 | 483 | 432   | 381 | 356 | 32   | 685  | 12 - 25 |
| 350 | 533 | 476   | 413 | 381 | 35   | 770  | 12 - 29 |
| 400 | 597 | 539.5 | 470 | 406 | 37   | 845  | 16 - 29 |
| 450 | 635 | 577.9 | 533 | 432 | 39.7 | 925  | 16 - 32 |
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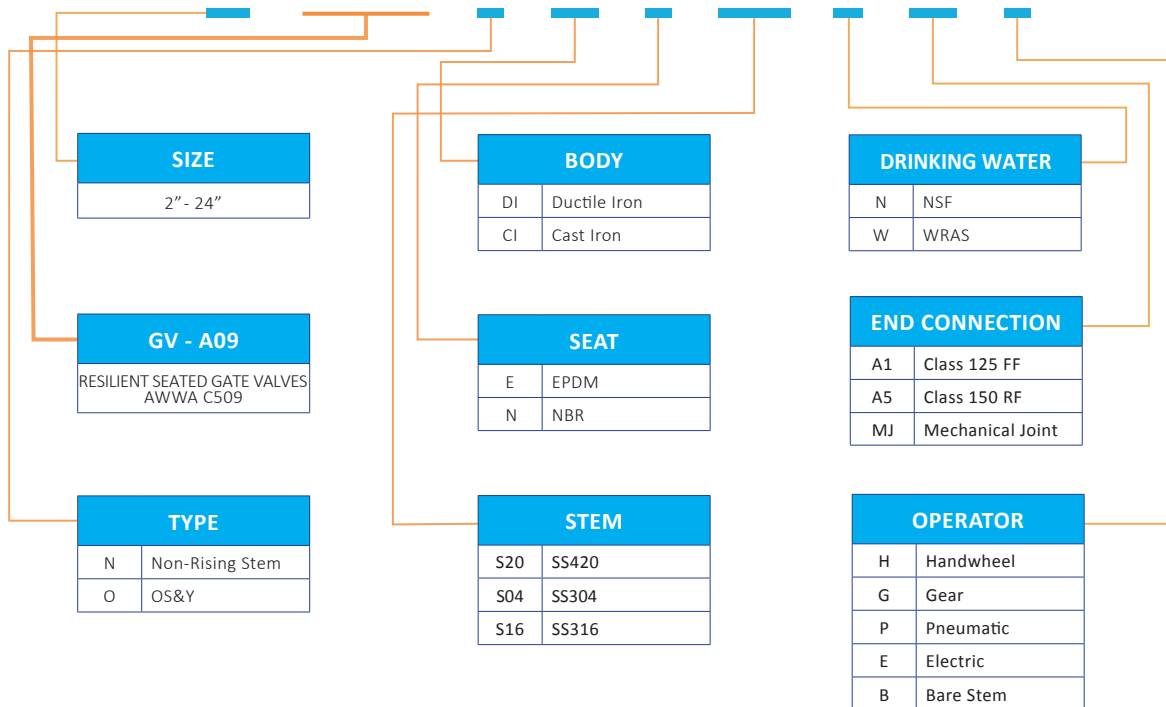
## Technical Parameters

| NPS    | DN  | Torque (N.m) <sup>*</sup> | Weight (kg) | Number of turns |
|--------|-----|---------------------------|-------------|-----------------|
| 2"     | 50  | 35                        | 14          | 7.3             |
| 2 1/2" | 65  | 50                        | 17          | 9.2             |
| 3"     | 80  | 60                        | 20          | 11              |
| 4"     | 100 | 70                        | 31          | 13.5            |
| 5"     | 125 | 100                       | 42          | 13.5            |
| 6"     | 150 | 120                       | 50          | 16              |
| 8"     | 200 | 150                       | 88          | 17.7            |
| 10"    | 250 | 170                       | 135         | 22              |
| 12"    | 300 | 200                       | 190         | 26              |
| 14"    | 350 | 250                       | 245         | 45              |
| 16"    | 400 | 270                       | 320         | 51              |
| 18"    | 450 | 300                       | 390         | 57.3            |
| 20"    | 500 | 350                       | 450         | 63.5            |
| 24"    | 600 | 400                       | 660         | 76              |

\* Not including safety factor.

## PRODUCT SELECTION

**VT - XX - GV-A09 - X - XX - X - XXX - X - XX - X**



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