

STD type/Triple offset Metal seated Butterfly Valve

Triple offset Metal seated Butterfly Valve is light in weight, easy to adjust flow, economic in cost, widely used in Water project, Power station, Building industry, Petroleum, Chemical, Steel, Paper industry, District heating, typically for high temperature and high pressure condition with clean medium such as water, steam and gas.



Standard and Scope

Size: NPS 2"~80" DN50~DN2400

Pressure Rating: Class 150~600 PN2.5~PN100

Connection: Double flange, Butt weld, Wafer type, Lug type

Material: Carbon steel, Stainless steel, Alloy, Special steel and so on

Design and Manufacture: API 609 (Cast steel), BS5155, ASME B16.34, GB/T12238, JB/T8527

Test and Inspection: API609, API598; ISO 5208, BS EN12569, GB/T13927

Face-to-Face: API609, ISO5752, BS EN558, GB/T12221

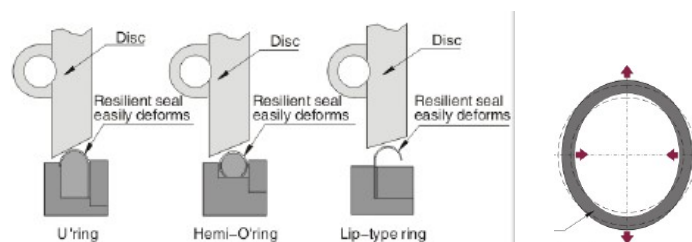
End Connection: ASME B16.5 (for NPS≤24); ASME B16.47 MSS SP-44 (for NPS>24); BS EN1092-1, GB/T9113

BW End connection: ASME B16.25

Design feature

Floating seal ring and Multilayer's seal ring

Unlike other traditional sealing structures (U type ring, O type ring, and Lip type ring), SGV triple offset metal seated butterfly valve has floating seal ring.



Traditional sealing structure has some disadvantage:

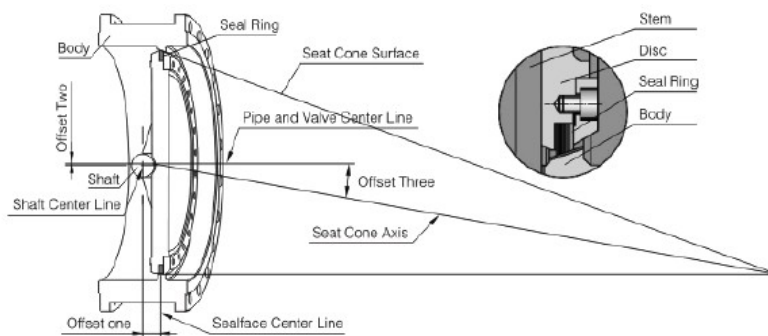
1. the seat rings are formed by press process, they have severe concentrated stress, have a potential of deformation and leakage at high temperature.

2. the seat ring is over hardened in the heat treatment and has limit elasticity and excess brittleness, thus the seat ring might be easily broke for the fatigue due to consistent squeezing by the disc or long term work in low temperature.
3. the seat ring is just suitable for small size, if the seat ring of big size made by press, shape-setting and welding process, the welding point will be a potential leakage.

SGV adopt multi layers seal ring (Flexible Graphite +Stainless steel), it is able to adjust itself by the pressure of disc when closing, so as to compensate the possible deformation or heat expansion under different working conditions. This structure avoid damage of the seal face and leads an even contact pressure ratio, means a long service life.

Three offset of Metal seated Butterfly Valve

1. offset between axis and midline of body
2. offset between axis drill and disc sealing midline
3. offset of inclined cone

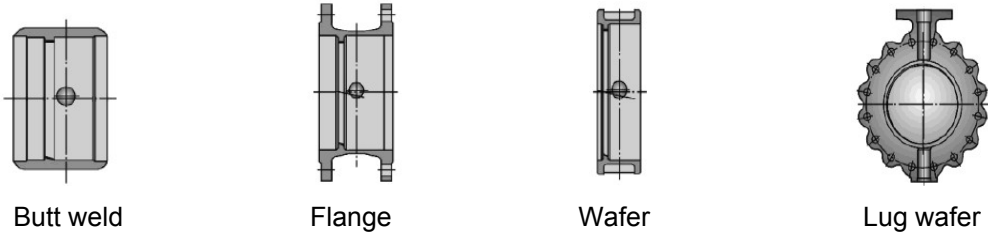


Different with traditional double eccentric butterfly valve, SGV triple offset metal seated butterfly valve is able to separate immediately when opening and seal immediately when closing. The third eccentric design reduces the friction of seat in opening start phase and enhances seal performance, especially high temperature and high pressure condition.

Other Character

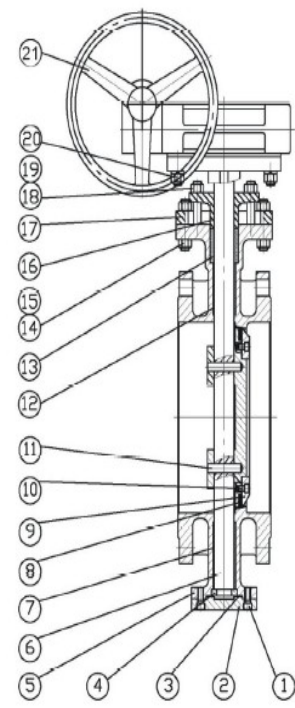
- Bi-directional (Optional), torque seal to make sure persistent bi-directional zero leakage.
- Streamlined disc, maximize flow, reduce flow resistance and save energy
- Preferred direction, the angle direction has better seal performance
- Seal ring in body (Optional)
- Anti blow out, reliable and conform to API609
- One piece body
- Fire safe, thanks to its all metal structure and leak tight performance
- The shaft and disc connected by pin
- Valve position indicator
- Adjustable/Replaceable seal ring
- Horizontal installation is suggested for big size
- ISO 5211 mounting flange (Optional)

Four mainly type body of triple eccentric metal seated butterfly valve

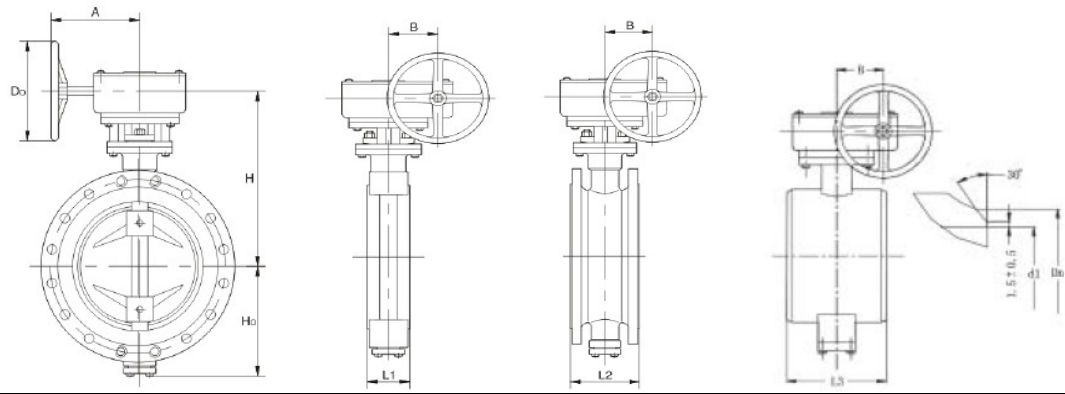


Typical Parts and Material List

| Parts No. | Part Name | Materials | | |
|-----------|----------------|--------------------|----------------|----------------|
| | | WCB | CF8 | CF8M |
| 1 | Cover | ASTM A105 | ASTM A182 F304 | ASTM A182 F316 |
| 2 | Bolt | ASTM A193 B7 | ASTM A193 B8 | ASTM A193 B8 |
| 3 | Gasket | Graphite | Graphite | Graphite |
| 4 | Split ring | ASTM A182 F6a | ASTM A182 F304 | ASTM A182 F316 |
| 5 | Body | ASTM A216 WCB+13Cr | ASTM A351 CF8 | ASTM A351 CF8M |
| 6 | Stem | ASTM A182 F6a | ASTM A182 F304 | ASTM A182 F316 |
| 7 | Bushing | Copper alloy | Copper alloy | Copper alloy |
| 8 | Sealing ring | SS+Graphite | SS+Graphite | SS+Graphite |
| 9 | Gland reatiner | ASTM A105 | ASTM A182 F304 | ASTM A182 F316 |
| 10 | Bolt | ASTM A193 B7 | ASTM A193 B8 | ASTM A193 B8 |
| 11 | Pin | ASTM A276 420 | ASTM A276 304 | ASTM A276 316 |
| 12 | Bushing | PTFE+Bronze | PTFE+Bronze | PTFE+Bronze |
| 13 | Stem Packing | Graphite | Graphite | Graphite |
| 14 | Bolt | ASTM A193 B7 | ASTM A193 B8 | ASTM A193 B8 |
| 15 | Nut | ASTM A194 2H | ASTM A194 8 | ASTM A194 8 |
| 16 | Gland flange | ASTM A216 WCB | ASTM A351 CF8 | ASTM A351 CF8M |
| 17 | Yoke | ASTM A216 WCB | ASTM A351 CF8 | ASTM A351 CF8M |
| 18 | Bolt | ASTM A193 B7 | ASTM A193 B8 | ASTM A193 B8 |
| 19 | Nut | ASTM A194 2H | ASTM A194 8 | ASTM A194 8 |
| 20 | Washer | Carbon steel | Carbon steel | Carbon steel |
| 21 | Gear | Assembly | Assembly | Assembly |



Main Outline Dimension of Tripe offset Metal seated Butterfly Valve



PN6/PN10/PN16/PN25 Flanged, Wafer, Butt-welded

STD34(6,7)H-6,10,16,25

| Nominal Size | F-t-F Dimension(mm) | | | Dimension(mm) | | Ref Dimension(mm) | | | | |
|-----------------|---------------------|-------|------|---------------|------|-------------------|------|-----|-----|-----|
| | Flange | Wafer | Weld | Butt weld end | | | | | | |
| DN | FLG-L | WF-L | BW-L | Dn | D1 | H | Ho | A | B | D0 |
| 80 | 114 | 49 | 180 | 92 | 85 | 186 | 90 | 195 | 45 | 152 |
| 100 | 127 | 56 | 190 | 114 | 105 | 217 | 100 | 195 | 45 | 152 |
| 125 | 140 | 64 | 200 | 138 | 130 | 233 | 113 | 195 | 45 | 152 |
| 150 | 140 | 70 | 210 | 159 | 152 | 307 | 150 | 325 | 66 | 305 |
| 200 | 152 | 71 | 230 | 219 | 207 | 341 | 200 | 325 | 66 | 305 |
| 250 | 165 | 76 | 250 | 274 | 258 | 390 | 231 | 315 | 78 | 305 |
| 300 | 178 | 83 | 270 | 325 | 313 | 433 | 261 | 281 | 120 | 406 |
| 350 | 190 | 92 | 290 | 377 | 365 | 470 | 298 | 281 | 120 | 406 |
| 400 | 216 | 102 | 310 | 426 | 414 | 533 | 331 | 327 | 166 | 300 |
| 450 | 222 | 114 | 330 | 478 | 466 | 564 | 369 | 327 | 166 | 300 |
| 500 | 229 | 127 | 350 | 529 | 517 | 598 | 404 | 327 | 166 | 300 |
| 600 | 267 | 154 | 390 | 630 | 614 | 702 | 473 | 502 | 216 | 400 |
| 700 | 292 | 165 | 430 | 720 | 702 | 764 | 538 | 502 | 216 | 400 |
| 800 | 318 | 190 | 470 | 820 | 802 | 836 | 615 | 502 | 216 | 400 |
| 900 | 330 | 203 | 510 | 920 | 902 | 948 | 700 | 590 | 320 | 650 |
| 1000 | 300 | 216 | 550 | 1020 | 1000 | 971 | 720 | 590 | 320 | 650 |
| 1200 | 360 | 254 | 630 | 1220 | 1200 | 1094 | 850 | 590 | 320 | 650 |
| 1400 | 390 | | 710 | 1420 | 1400 | 1197 | 965 | 590 | 320 | 650 |
| 1600 | 440 | | 790 | 1620 | 1600 | 1347 | 1092 | 700 | 425 | 650 |
| 1800 | 490 | | 870 | 1820 | 1800 | 4581 | 1216 | 700 | 425 | 650 |
| 2000 | 540 | | 950 | 2020 | 2000 | 1723 | 1332 | 700 | 425 | 650 |
| 2200 | 600 | | 1000 | 2220 | 2200 | 1844 | 1452 | 865 | 560 | 650 |

PN40/PN63/PN100 Flanged, Wafer, Butt-welded

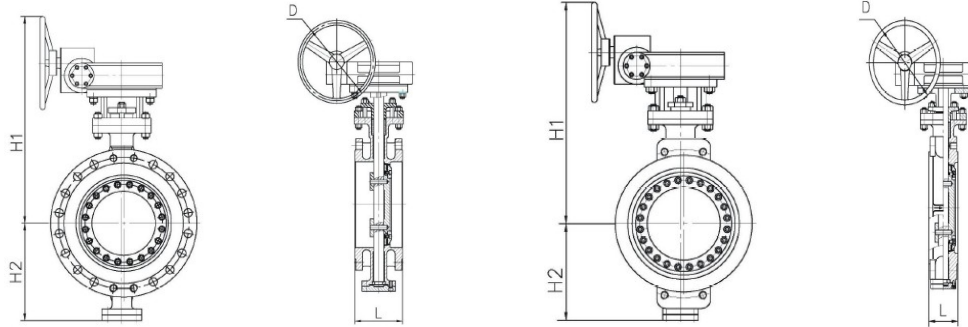
STD34(6,7)H-40,63,100

| DN | FLG-L | WF-L | BW-L | Dn | D1 | H | Ho | A | B | D0 |
|-----|-------|------|------|-----|-----|-----|-----|-----|-----|-----|
| 80 | 114 | 64 | 180 | 92 | 85 | 186 | 90 | 195 | 45 | 152 |
| 100 | 127 | 64 | 190 | 114 | 105 | 217 | 100 | 195 | 45 | 152 |
| 125 | 140 | 70 | 200 | 138 | 130 | 233 | 113 | 195 | 45 | 152 |
| 150 | 140 | 76 | 210 | 159 | 152 | 307 | 150 | 325 | 66 | 305 |
| 200 | 152 | 89 | 230 | 219 | 207 | 349 | 210 | 325 | 66 | 305 |
| 250 | 165 | 114 | 250 | 274 | 258 | 405 | 250 | 315 | 78 | 305 |
| 300 | 178 | 114 | 270 | 325 | 313 | 482 | 289 | 281 | 120 | 406 |
| 350 | 190 | 127 | 290 | 377 | 365 | 516 | 327 | 281 | 120 | 406 |
| 400 | 216 | 140 | 310 | 426 | 414 | 560 | 378 | 327 | 166 | 300 |
| 450 | 222 | 152 | 330 | 478 | 466 | 622 | 385 | 327 | 166 | 300 |
| 500 | 229 | 152 | 350 | 529 | 517 | 660 | 424 | 327 | 166 | 300 |
| 600 | 267 | 178 | 390 | 630 | 614 | 729 | 492 | 502 | 216 | 400 |

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 700 | 292 | 229 | 430 | 720 | 702 | 764 | 538 | 502 | 216 | 400 |
| 800 | 318 | 241 | 470 | 820 | 802 | 836 | 615 | 502 | 216 | 400 |
| 900 | 330 | 241 | 510 | 920 | 902 | 948 | 700 | 590 | 320 | 650 |

Class150/300 Flanged, Wafer

STD34(7)H-150,300



| Class | Nominal size | | F-t-F Dimension(mm) | | Flange Dimension(mm) | | | Wafer Dimension(mm) | | Weight(Kg) | |
|-------|--------------|------|---------------------|---------|----------------------|-----|------|---------------------|------|------------|-------|
| | NPS | DN | Flange-L | Wafer-L | H1 | H2 | D | H1 | H2 | Flange | Wafer |
| 150lb | 3 | 80 | 114 | 49 | 330 | 135 | 152 | 330 | 130 | 27 | 17 |
| | 4 | 100 | 127 | 54 | 360 | 140 | 152 | 360 | 140 | 30 | 20 |
| | 5 | 125 | 140 | 57 | 450 | 170 | 233 | 450 | 170 | 34 | 27 |
| | 6 | 150 | 140 | 57 | 475 | 190 | 305 | 475 | 175 | 50 | 31 |
| | 8 | 200 | 152 | 64 | 525 | 240 | 305 | 525 | 240 | 75 | 45 |
| | 10 | 250 | 165 | 71 | 570 | 270 | 305 | 570 | 270 | 105 | 86 |
| | 12 | 300 | 178 | 81 | 630 | 315 | 406 | 630 | 315 | 155 | 105 |
| | 14 | 350 | 190 | 92 | 675 | 345 | 406 | 675 | 345 | 190 | 135 |
| | 16 | 400 | 216 | 102 | 720 | 395 | 300 | 720 | 375 | 230 | 150 |
| | 18 | 450 | 222 | 114 | 805 | 405 | 300 | 805 | 390 | 300 | 218 |
| | 20 | 500 | 229 | 127 | 895 | 435 | 300 | 885 | 430 | 380 | 289 |
| | 24 | 600 | 267 | 154 | 950 | 500 | 400 | 940 | 470 | 490 | 407 |
| | 28 | 700 | 292 | 165 | 1030 | 520 | 400 | 1030 | 520 | 660 | 470 |
| | 32 | 800 | 318 | 190 | 1135 | 620 | 400 | 1135 | 620 | 820 | 680 |
| 36 | 900 | 330 | 203 | 1175 | 620 | 400 | 1175 | 620 | 1100 | 900 | |
| 300lb | 40 | 1000 | 410 | 216 | 1270 | 720 | 400 | 1260 | 690 | 1430 | 1000 |
| | 3 | 80 | 114 | 49 | 340 | 135 | 152 | 340 | 130 | 42 | 28 |
| | 4 | 100 | 127 | 54 | 435 | 140 | 152 | 440 | 140 | 45 | 32 |
| | 5 | 125 | 140 | 57 | 475 | 170 | 233 | 475 | 170 | 48 | 41 |
| | 6 | 150 | 140 | 57 | 510 | 220 | 305 | 510 | 175 | 80 | 47 |
| | 8 | 200 | 152 | 64 | 520 | 240 | 305 | 530 | 240 | 120 | 68 |
| | 10 | 250 | 165 | 71 | 625 | 270 | 305 | 640 | 270 | 168 | 130 |
| | 12 | 300 | 178 | 81 | 670 | 320 | 406 | 670 | 315 | 248 | 158 |
| | 14 | 350 | 190 | 92 | 765 | 370 | 406 | 765 | 345 | 304 | 216 |
| 16 | 400 | 216 | 102 | 840 | 410 | 300 | 840 | 375 | 368 | 225 | |
| 18 | 450 | 222 | 114 | 910 | 425 | 300 | 910 | 390 | 480 | 327 | |

| | | | | | | | | | | | |
|--|----|------|-----|-----|------|-----|-----|------|-----|------|------|
| | 20 | 500 | 229 | 127 | 980 | 460 | 300 | 980 | 430 | 608 | 434 |
| | 24 | 600 | 267 | 154 | 1080 | 540 | 400 | 1080 | 470 | 784 | 610 |
| | 28 | 700 | 292 | 165 | 1175 | 640 | 400 | 1175 | 520 | 1056 | 852 |
| | 32 | 800 | 318 | 190 | 1300 | 765 | 400 | 1300 | 620 | 1312 | 1010 |
| | 36 | 900 | 330 | 203 | 1380 | 820 | 400 | 1380 | 620 | 1760 | 1350 |
| | 40 | 1000 | 410 | 216 | 1460 | 890 | 400 | 1460 | 690 | 2288 | 1610 |

Torque list of Triple offset Metal Seated Butterfly Valve

(mm,Mpa,N.M)

| Size | Pressure | | | | | | | | | |
|------|----------|--------|--------|--------|--------|--------|--------|-------|-------|--------|
| | 2.5 | 6 | 10 | 16 | 20 | 25 | 40 | 50 | 64 | 110 |
| 80 | 8 | 22 | 37 | 60 | 75 | 96 | 153 | 192 | 231 | |
| 100 | 15 | 37 | 63 | 100 | 126 | 158 | 253 | 316 | 382 | |
| 125 | 23 | 55 | 94 | 151 | 190 | 240 | 405 | 505 | 677 | |
| 150 | 35 | 83 | 140 | 230 | 290 | 360 | 610 | 760 | 1280 | 2070 |
| 200 | 80 | 190 | 280 | 460 | 560 | 700 | 1160 | 1450 | 2285 | 4442 |
| 250 | 130 | 320 | 520 | 840 | 1040 | 1300 | 2150 | 2690 | 4443 | 8457 |
| 300 | 220 | 520 | 810 | 1300 | 1620 | 2020 | 3320 | 4150 | 5679 | 13827 |
| 350 | 370 | 870 | 1360 | 2180 | 2720 | 3400 | 5580 | 6970 | 12378 | 21440 |
| 400 | 520 | 1230 | 2050 | 3270 | 4090 | 5110 | 8090 | 10200 | 16406 | 26979 |
| 450 | 680 | 1630 | 2710 | 4330 | 5410 | 6760 | 11100 | 13800 | 24198 | |
| 500 | 890 | 2140 | 3580 | 5730 | 7160 | 8950 | 14400 | 17900 | 28173 | 54237 |
| 600 | 1500 | 3600 | 5780 | 9250 | 11600 | 14500 | 24200 | 30200 | 59527 | 102314 |
| 700 | 1870 | 4480 | 8120 | 13100 | 16300 | 20300 | 35200 | 43900 | | |
| 800 | 2770 | 6640 | 12100 | 19200 | 24100 | 29900 | 53100 | 66300 | | |
| 900 | 3700 | 8900 | 14900 | 26500 | 33100 | 41300 | 84500 | | | |
| 1000 | 5690 | 13400 | 22300 | 37900 | 47300 | 67600 | 118778 | | | |
| 1200 | 9410 | 22200 | 37100 | 62400 | 78100 | 10300 | | | | |
| 1400 | 14200 | 33600 | 55900 | 93900 | 128000 | 152838 | | | | |
| 1600 | 20700 | 48900 | 81400 | 15200 | 185736 | 251400 | | | | |
| 1800 | 28000 | 67100 | 117000 | 208936 | 251317 | 370000 | | | | |
| 2000 | 39600 | 94900 | 165000 | 282613 | 355448 | | | | | |
| 2200 | 51700 | 125000 | 207000 | 343261 | 443329 | | | | | |

For other size and pressure, please contact us for further information

NOTE: The material and data in this catalog is for general information. For specific performance data, proper material selection and special design, consult us freely. Although every attempt has been made to ensure correct information, Sangong reserves the right to change designs, materials or specifications without notice.