

CARBON STEEL

Carbon Steel

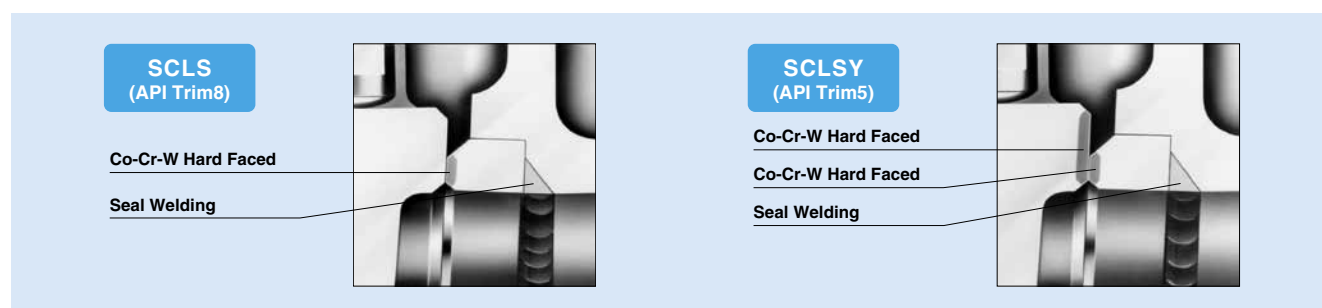
General Design Specifications

| Items | American Std. | British Std. |
|--|---------------|--|
| Shell wall thickness and general valve design | API 600 | BS 1414 (Gate valve) BS 1873 (Globe valve) BS 1868 (Check valve) |
| Pressure-temperature ratings | ASME B16.34 | BS 1560 |
| Face to face dimensions End to end dimensions | ASME B16.10 | BS 2080 |
| End flange dimensions Gasket contact facing | ASME B16.5* | BS 1560 |
| Welding end dimensions | ASME B16.25 | BS 1414 (Gate valve) BS 1873 (Globe valve) BS 1868 (Check valve) |

*MSS SP-44 for Nominal size 22" and ASME B16.47 Series B for Nominal size 26" and larger, for end flange dimensions.

Mounting of Body Seat Rings

Body seat rings of KITZ cast steel valves are mounted on the valve body by seal welding, as shown in the typical examples of gate valves illustrated below. Unless specifically requested in advance, mounting of body seat rings shall be performed at the manufacturer's discretion. Specify your own method of mounting, noting your purchase orders with the appropriate KITZ product code numbers.



For KITZ cast steel valves made of ASTM A216 WCB, the standard shell material, disc seats, and body seat rings shall be provided as follows. (Refer to Page 47 for Product Coding)

| KITZ Product Code | Standard Disc Seat | Standard Body Seat | Mounting of Body Seat Rings |
|--|---|---|-----------------------------|
| SCLS (Gate) SCJS (Globe) SCOS (Check) | F6a or WCB + 13Cr or A105 + 13Cr or CA15 | A105 + HF* or A106 Gr. B + HF* or AISI 1022 + HF* or Direct HF** | Seal Welded or Direct HF** |
| SCLSY (Gate) SCJSY (Globe) SCOSY (Check) | A105 + HF* or WCB + HF* or CA15 + HF* | A105 + HF* or A106 Gr. B + HF* or AISI 1022 + HF* or Direct HF** | Seal Welded or Direct HF** |

* Co-Cr-W Alloy deposited for hard facing.

** Co-Cr-W Alloy is directly deposited on valve body for hard facing.

KITZ Product Code 900SCJS, 900SCJSY, 1500SCJS, 1500SCJSY, 2500SCJS and 2500SCJSY globe valves employ this hard facing.

Bonnet Gasket Materials

Depending on the class ratings and servicing conditions, the following gasket materials are available for the body/bonnet flange gaskets of KITZ cast steel valves. Specify your gasket material in the purchase order.

| Gasket Material | Class | | | | | |
|--|-------|-----|-----|-----|------|------|
| | 150 | 300 | 600 | 900 | 1500 | 2500 |
| Corrugated metal with flexible graphite | ● | | | | | |
| Ring joint metal | | | ● | ● | ● | ● |
| Spiral wound metal, flexible graphite filled | | ● | | | | |
| Stainless steel inserted flexible graphite | ● | | | | | |

Please refer to our website (www.kitz.co.jp) or contact KITZ for details.

Product Coding

G- 150 SC LS6CY

5 4 1 2 3

1 ASME pressure class:
150 through 2500

2 Shell material code:
Carbon and low alloy steel are always identified as "SC"

3 Other valve specifications:

L S 6C Y

a b c b

a Valve type code:
L... Gate valve
J... Globe valve
O... Swing check valve

b Seat material/mounting:

| Code | Disc Seat Material | Body Seat Material | Type of Mounting |
|------|--------------------|--------------------|------------------|
| S□ | 13Cr | HF | Refer to Page 46 |
| S□Y | HF | HF | |

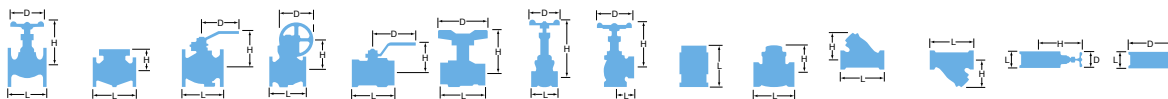
□: Special shell material code






c Special shell material:
No code is required for WCB.






4 Type of end connection:
No code is required for RF-flanged ends
W... Butt-welding ends.

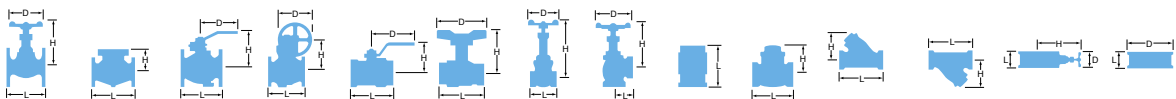
5 Type of valve operation:
No code is required for manual handwheel operation.
G ... Gear operation.
E ... Electric actuator operation.



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| TYPE | | | GATE | | | GATE | | | GATE | | | GATE | | | GLOBE | | |
|----------------|------|-----|---|------|-----|---|------|-----|---|------|-----|---|------|-----|---|-----|-----|
| Carbon Steel | | |  | | |  | | |  | | |  | | |  | | |
| FIG | | | 10SCLS | | | 20SCLS | | | 150SCLS | | | 300SCLS | | | 10SCJS | | |
| PRESSURE | | | 10K | | | 20K | | | Class 150 | | | Class 300 | | | 10K | | |
| END CONNECTION | | | JIS B2220 | | | JIS B2220 | | | ASME B16.5 | | | ASME B16.5 | | | JIS B2220 | | |
| DIMENSIONS | inch | mm | L | H | D | L | H | D | L | H | D | L | H | D | L | H | D |
| | 1½ | 40 | — | — | — | — | — | — | 165 | 385 | 200 | 190 | 413 | 200 | — | — | — |
| | 2 | 50 | 178 | 385 | 200 | 216 | 413 | 200 | 178 | 385 | 200 | 216 | 413 | 200 | 203 | 331 | 200 |
| | 2½ | 65 | 190 | 432 | 200 | 241 | 456 | 200 | 190 | 432 | 200 | 241 | 456 | 200 | 216 | 379 | 250 |
| | 3 | 80 | 203 | 509 | 250 | 283 | 530 | 250 | 203 | 509 | 250 | 283 | 530 | 250 | 241 | 389 | 250 |
| | 4 | 100 | 229 | 592 | 250 | 305 | 618 | 250 | 229 | 592 | 250 | 305 | 618 | 250 | 292 | 458 | 250 |
| | 5 | 125 | 254 | 658 | 300 | 381 | 694 | 300 | 254 | 658 | 300 | 381 | 694 | 300 | 356 | 484 | 300 |
| | 6 | 150 | 267 | 758 | 300 | 403 | 793 | 350 | 267 | 758 | 300 | 403 | 793 | 350 | 406 | 513 | 350 |
| | 8 | 200 | 292 | 958 | 350 | 419 | 1014 | 400 | 292 | 958 | 350 | 419 | 1014 | 400 | — | — | — |
| | 10 | 250 | 330 | 1162 | 400 | 457 | 1216 | 450 | 330 | 1162 | 400 | 457 | 1216 | 450 | — | — | — |
| | 12 | 300 | 356 | 1362 | 450 | 502 | 1458 | 600 | 356 | 1362 | 450 | 502 | 1458 | 600 | — | — | — |
| | 14 | 350 | 381 | 1572 | 600 | 562 | 1563 | 600 | 381 | 1572 | 600 | 562 | 1563 | 600 | — | — | — |
| | 16 | 400 | 406 | 1692 | 600 | 638 | 1766 | 680 | 406 | 1692 | 600 | 638 | 1766 | 680 | — | — | — |
| | 18 | 450 | 432 | 1888 | 600 | 914 | 1932 | 680 | 432 | 1888 | 600 | 914 | 1932 | 680 | — | — | — |
| | 20 | 500 | 457 | 2123 | 680 | 991 | 2137 | 760 | 457 | 2123 | 680 | 991 | 2137 | 760 | — | — | — |
| | 24 | 600 | 508 | 2497 | 760 | 1143 | 2542 | 910 | 508 | 2497 | 760 | 1143 | 2542 | 910 | — | — | — |
| BODY | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | |
| BONNET | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | | SCPH2 / A216 Gr.WCB | | |
| STEM | | | A182 Gr.F6A | | | A182 Gr.F6A | | | A182 Gr.F6A | | | A182 Gr.F6A | | | A182 Gr.F6A | | |
| DISC | | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | |
| | | | | | | | | | | | | | | | | | |

| TYPE | | | GLOBE | | | | | GLOBE | | | | | GLOBE | | | | | SWING CHECK | | | | | SWING CHECK | | | | |
|----------------|------|-----|---|------|-----|-----|------|---|-----|------|-----|------|---|-----|------|-----|-----|---|-----|-----|------|-----|---|--|--|--|--|
| Carbon Steel | | |  | | | | |  | | | | |  | | | | |  | | | | |  | | | | |
| FIG | | | 20SCJS / G-20SCJS | | | | | 150SCJS / G-150SCJS | | | | | 300SCJS / G-300SCJS | | | | | 10SCOS | | | | | 20SCOS | | | | |
| PRESSURE | | | 20K | | | | | Class 150 | | | | | Class 300 | | | | | 10K | | | | | 20K | | | | |
| END CONNECTION | | | JIS B2220 | | | | | JIS B2220 | | | | | JIS B2220 | | | | | JIS B2220 | | | | | JIS B2220 | | | | |
| DIMENSIONS | inch | mm | L | H | D | L | H | D | L | H | D | L | H | D | L | H | D | L | H | D | L | H | D | | | | |
| | 1½ | 40 | — | — | — | 165 | 331 | 200 | 229 | 361 | 200 | — | — | — | — | — | — | — | — | — | — | — | — | | | | |
| | 2 | 50 | 267 | 361 | 200 | 203 | 331 | 200 | 267 | 361 | 200 | 203 | 156 | 155 | 267 | 164 | 155 | 267 | 164 | 155 | 267 | 164 | 155 | | | | |
| | 2½ | 65 | 292 | 428 | 250 | 216 | 379 | 250 | 292 | 428 | 250 | 216 | 168 | 175 | 292 | 190 | 175 | 292 | 190 | 175 | 292 | 190 | 175 | | | | |
| | 3 | 80 | 318 | 436 | 250 | 241 | 389 | 250 | 318 | 436 | 250 | 241 | 185 | 185 | 318 | 205 | 185 | 318 | 205 | 185 | 318 | 205 | 185 | | | | |
| | 4 | 100 | 356 | 509 | 350 | 292 | 458 | 250 | 356 | 509 | 350 | 292 | 210 | 210 | 356 | 230 | 210 | 356 | 230 | 210 | 356 | 230 | 210 | | | | |
| | 5 | 125 | 400 | 610 | 400 | 356 | 484 | 300 | 400 | 610 | 400 | 330 | 239 | 250 | 400 | 250 | 270 | 400 | 250 | 270 | 400 | 250 | 270 | | | | |
| | 6 | 150 | 444 | 989 | 500 | 406 | 513 | 350 | 444 | 989 | 500 | 356 | 250 | 280 | 444 | 280 | 305 | 444 | 280 | 305 | 444 | 280 | 305 | | | | |
| | 8 | 200 | 559 | 1064 | 500 | 495 | 929 | 500 | 559 | 1064 | 500 | 495 | 293 | 330 | 533 | 330 | 430 | 495 | 293 | 330 | 533 | 330 | 430 | | | | |
| | 10 | 250 | 622 | 1142 | 600 | 622 | 975 | 500 | 622 | 1142 | 600 | 622 | 340 | 400 | 622 | 370 | 480 | 622 | 340 | 400 | 622 | 370 | 480 | | | | |
| | 12 | 300 | 711 | 1187 | 600 | 698 | 1049 | 500 | 711 | 1187 | 600 | 698 | 375 | 445 | 711 | 415 | 540 | 698 | 375 | 445 | 711 | 415 | 540 | | | | |
| | 14 | 350 | — | — | — | — | — | — | — | — | — | 787 | 415 | 490 | 838 | 491 | 605 | 787 | 415 | 490 | 838 | 491 | 605 | | | | |
| | 16 | 400 | — | — | — | — | — | — | — | — | — | 864 | 455 | 560 | 864 | 543 | 675 | 864 | 455 | 560 | 864 | 543 | 675 | | | | |
| | 18 | 450 | — | — | — | — | — | — | — | — | — | 978 | 508 | 620 | 978 | 584 | 730 | 978 | 508 | 620 | 978 | 584 | 730 | | | | |
| | 20 | 500 | — | — | — | — | — | — | — | — | — | 978 | 585 | 675 | 1016 | 645 | 845 | 978 | 585 | 675 | 1016 | 645 | 845 | | | | |
| 24 | 600 | — | — | — | — | — | — | — | — | — | — | 1295 | 670 | 795 | — | 865 | — | 1295 | 670 | 795 | — | 865 | — | | | | |
| BODY | | | SCPH2 / A216 Gr.WCB | | | | | SCPH2 / A216 Gr.WCB | | | | | SCPH2 / A216 Gr.WCB | | | | | SCPH2 / A216 Gr.WCB | | | | | SCPH2 / A216 Gr.WCB | | | | |
| BONNET | | | SCPH2 / A216 Gr.WCB | | | | | SCPH2 / A216 Gr.WCB | | | | | SCPH2 / A216 Gr.WCB | | | | | — | | | | | — | | | | |
| COVER | | | — | | | | | — | | | | | — | | | | | SCPH2 / A216 Gr.WCB | | | | | SCPH2 / A216 Gr.WCB | | | | |
| STEM | | | A182 Gr.F6A | | | | | A182 Gr.F6A | | | | | A182 Gr.F6A | | | | | — | | | | | — | | | | |
| HINGE PIN | | | — | | | | | — | | | | | — | | | | | A276 TYPE403 | | | | | A276 TYPE403 | | | | |
| DISC | | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | | | | A182 Gr.F6A / A216 Gr.WCB+13Cr / A105+13Cr | | | | | A182 Gr.F6A / A216 Gr.WCB+13Cr / A105+13Cr | | | | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | | | | A182 Gr.F6 / WCB+13Cr | | | | |
| | | | SIZE.6 to 12 Gear operation type | | | | | SIZE.8 to 12 Gear operation type | | | | | SIZE.6 to 12 Gear operation type | | | | | | | | | | | | | | |



| TYPE | | SWING CHECK | | | | SWING CHECK | | | |
|----------------|----|---|------|-----|-----|---|-----|-----|---|
| Carbon Steel | |  | | | |  | | | |
| FIG | | 150SCOS | | | | 300SCOS | | | |
| PRESSURE | | Class 150 | | | | Class 300 | | | |
| END CONNECTION | | JIS B2220 | | | | JIS B2220 | | | |
| DIMENSIONS | | inch | mm | L | H | D | L | H | D |
| | 1½ | 40 | 165 | 132 | 127 | 241 | 155 | 156 | |
| | 2 | 50 | 203 | 156 | 152 | 267 | 164 | 165 | |
| | 2½ | 65 | 216 | 168 | 178 | 292 | 190 | 190 | |
| | 3 | 80 | 241 | 185 | 190 | 318 | 205 | 210 | |
| | 4 | 100 | 292 | 210 | 229 | 356 | 230 | 254 | |
| | 5 | 125 | 330 | 239 | 254 | 400 | 250 | 279 | |
| | 6 | 150 | 356 | 250 | 279 | 444 | 280 | 318 | |
| | 8 | 200 | 495 | 293 | 343 | 533 | 330 | 381 | |
| | 10 | 250 | 622 | 340 | 406 | 622 | 370 | 444 | |
| | 12 | 300 | 698 | 375 | 483 | 711 | 415 | 521 | |
| | 14 | 350 | 787 | 415 | 533 | 838 | 491 | 584 | |
| | 16 | 400 | 864 | 455 | 597 | 864 | 543 | 648 | |
| | 18 | 450 | 978 | 508 | 635 | 978 | 584 | 711 | |
| | 20 | 500 | 978 | 585 | 698 | 1016 | 645 | 775 | |
| | 24 | 600 | 1295 | 670 | 813 | — | 865 | — | |
| BODY | | SCPH2 / A216 Gr.WCB | | | | SCPH2 / A216 Gr.WCB | | | |
| COVER | | SCPH2 / A216 Gr.WCB | | | | SCPH2 / A216 Gr.WCB | | | |
| HINGE PIN | | A276 TYPE403 | | | | A276 TYPE403 | | | |
| DISC | | A182 Gr.F6A / A216 Gr.WCB+13Cr | | | | A182 Gr.F6 / WCB+13Cr | | | |
| | | | | | | | | | |

Bronze & Brass

Cast Iron

Ductile Iron

Stainless Steel

Carbon Steel

Butterfly Valve

Ball Valve

Ball Valve Seat

Actuated Valve

