

**NEWASIA**  
ASIAJOINT

# BUTT-WELDING PIPE FITTINGS

(KS/JIS)용접용 관이음쇠

**CARBON STEEL**  
Product specification



**뉴아세아**  
아세아조인트

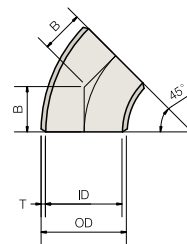
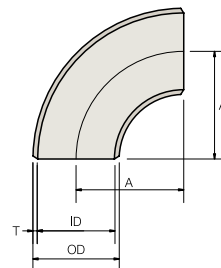
<http://www.ajs.co.kr>

● 90° Elbow (Long, Short) / 45° Elbow (Long) SPP / SGP, 7.9, STD, X-S

· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Outside<br>Diameter<br>OD | Inside<br>Diameter<br>ID | Wall<br>Thickness<br>T | Long     |          | Short    |
|-------------------------|---------------------------|--------------------------|------------------------|----------|----------|----------|
|                         |                           |                          |                        | 90°<br>A | 45°<br>B | 90°<br>A |
| 15                      | 21.7                      | 16.1                     | 2.8                    | 38.1     | 15.8     | -        |
| 20                      | 27.2                      | 21.6                     | 2.8                    | 38.1     | 15.8     | -        |
| 25                      | 34.0                      | 27.6                     | 3.2                    | 38.1     | 15.8     | 25.4     |
| 32                      | 42.7                      | 35.7                     | 3.5                    | 47.6     | 19.7     | 31.8     |
| 40                      | 48.6                      | 41.6                     | 3.5                    | 57.2     | 23.7     | 38.1     |
| 50                      | 60.5                      | 52.9                     | 3.8                    | 76.2     | 31.6     | 50.8     |
| 65                      | 76.3                      | 67.9                     | 4.2                    | 95.3     | 39.5     | 63.5     |
| 80                      | 89.1                      | 80.7                     | 4.2                    | 114.3    | 47.3     | 76.2     |
| 90                      | 101.6                     | 93.2                     | 4.2                    | 133.4    | 55.3     | 88.9     |
| 100                     | 114.3                     | 105.3                    | 4.5                    | 152.4    | 63.1     | 101.6    |
| 125                     | 139.8                     | 130.8                    | 4.5                    | 190.5    | 78.9     | 127.0    |
| 150                     | 165.2                     | 155.2                    | 5.0                    | 228.6    | 94.7     | 152.4    |
| 200                     | 216.3                     | 204.7                    | 5.8                    | 304.8    | 126.3    | 203.2    |
| 250                     | 267.4                     | 254.2                    | 6.6                    | 381.0    | 157.8    | 254.0    |
| 300                     | 318.5                     | 304.7                    | 6.9                    | 457.2    | 189.4    | 304.8    |
| 350                     | 355.6                     | 339.8                    | 7.9                    | 533.4    | 220.9    | 355.6    |
| 400                     | 406.4                     | 390.6                    | 7.9                    | 609.6    | 252.5    | 406.4    |
| 450                     | 457.2                     | 441.4                    | 7.9                    | 685.8    | 284.1    | 457.2    |
| 500                     | 508.0                     | 492.2                    | 7.9                    | 762.0    | 315.6    | 508.0    |



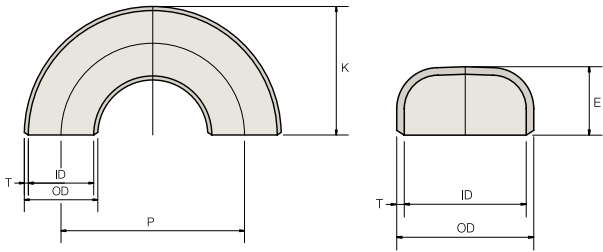
\* ASTM규격 별도 문의

· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Outside<br>Diameter<br>OD | Wall Thickness T |     |        |     |        |      | Center to Center |         |         |
|-------------------------|---------------------------|------------------|-----|--------|-----|--------|------|------------------|---------|---------|
|                         |                           | 7.9 T            |     | STD    |     | X-S    |      | Long             |         | Short   |
|                         |                           | ID               | T   | ID     | T   | ID     | T    | A (90°)          | B (45°) | A (90°) |
| 350                     | 355.6                     | 339.8            | 7.9 | 336.6  | 9.5 | 330.2  | 12.7 | 533.4            | 220.9   | 355.6   |
| 400                     | 406.4                     | 390.6            | 7.9 | 387.4  | 9.5 | 381.0  | 12.7 | 609.6            | 252.5   | 406.4   |
| 450                     | 457.2                     | 441.4            | 7.9 | 438.2  | 9.5 | 431.8  | 12.7 | 685.8            | 284.1   | 457.2   |
| 500                     | 508.0                     | 492.2            | 7.9 | 489.0  | 9.5 | 482.6  | 12.7 | 762.0            | 315.6   | 508.0   |
| 550                     | 558.8                     | 543.0            | 7.9 | 539.8  | 9.5 | 533.4  | 12.7 | 838.2            | 347.2   | 558.8   |
| 600                     | 609.6                     | 593.8            | 7.9 | 590.6  | 9.5 | 584.2  | 12.7 | 914.4            | 378.7   | 609.6   |
| 650                     | 660.4                     | 644.6            | 7.9 | 641.4  | 9.5 | 635.0  | 12.7 | 990.6            | 410.3   | 660.4   |
| 700                     | 711.2                     | 695.4            | 7.9 | 692.2  | 9.5 | 685.8  | 12.7 | 1066.8           | 441.9   | 711.2   |
| 750                     | 762.0                     | 746.2            | 7.9 | 743.0  | 9.5 | 736.6  | 12.7 | 1143.0           | 473.4   | 762.0   |
| 800                     | 812.8                     | 797.0            | 7.9 | 793.8  | 9.5 | 787.4  | 12.7 | 1219.2           | 505.0   | 812.8   |
| 850                     | 863.6                     | 847.8            | 7.9 | 844.6  | 9.5 | 838.2  | 12.7 | 1295.4           | 536.6   | 863.6   |
| 900                     | 914.4                     | 898.6            | 7.9 | 895.4  | 9.5 | 889.0  | 12.7 | 1371.6           | 568.1   | 914.4   |
| 950                     | 965.2                     | 949.4            | 7.9 | 946.2  | 9.5 | 939.8  | 12.7 | 1447.8           | 599.7   | 965.2   |
| 1000                    | 1016.0                    | 1000.2           | 7.9 | 997.0  | 9.5 | 990.6  | 12.7 | 1524.0           | 631.2   | 1016.0  |
| 1050                    | 1066.8                    | 1051.0           | 7.9 | 1047.8 | 9.5 | 1041.4 | 12.7 | 1600.2           | 662.8   | 1066.8  |
| 1100                    | 1117.6                    | 1101.8           | 7.9 | 1098.6 | 9.5 | 1092.2 | 12.7 | 1676.4           | 694.4   | 1117.6  |
| 1150                    | 1168.4                    | 1152.6           | 7.9 | 1149.4 | 9.5 | 1143.0 | 12.7 | 1752.6           | 725.9   | 1168.4  |
| 1200                    | 1219.2                    | 1203.4           | 7.9 | 1200.2 | 9.5 | 1193.8 | 12.7 | 1828.8           | 757.5   | 1219.2  |

● 180° Elbow (Long, Short) / Cap SPP / SGP



· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Outside<br>Diameter<br>OD | Inside<br>Diameter<br>ID | Wall<br>Thickness<br>T | Cap   | 180° Elbow |       |       |       |
|-------------------------|---------------------------|--------------------------|------------------------|-------|------------|-------|-------|-------|
|                         |                           |                          |                        | E     | Long       |       | Short |       |
|                         |                           |                          |                        |       | P          | K     | P     | K     |
| 15                      | 21.7                      | 16.1                     | 2.8                    | -     | 76.2       | 49.0  | -     | -     |
| 20                      | 27.2                      | 21.6                     | 2.8                    | -     | 76.2       | 51.7  | -     | -     |
| 25                      | 34.0                      | 27.6                     | 3.2                    | 38.1  | 76.2       | 55.1  | 50.8  | 42.4  |
| 32                      | 42.7                      | 35.7                     | 3.5                    | 38.1  | 95.2       | 69.0  | 63.6  | 53.2  |
| 40                      | 48.6                      | 41.6                     | 3.5                    | 38.1  | 114.4      | 81.5  | 76.2  | 62.4  |
| 50                      | 60.5                      | 52.9                     | 3.8                    | 38.1  | 152.4      | 106.5 | 101.6 | 81.1  |
| 65                      | 76.3                      | 67.9                     | 4.2                    | 38.1  | 190.6      | 133.5 | 127.0 | 101.7 |
| 80                      | 89.1                      | 80.7                     | 4.2                    | 50.8  | 228.6      | 158.9 | 152.4 | 120.8 |
| 90                      | 101.6                     | 93.2                     | 4.2                    | 63.5  | 266.8      | 184.2 | 177.8 | 139.7 |
| 100                     | 114.3                     | 105.3                    | 4.5                    | 63.5  | 304.8      | 209.6 | 203.2 | 158.8 |
| 125                     | 139.8                     | 130.8                    | 4.5                    | 76.2  | 381.0      | 260.4 | 254.0 | 196.9 |
| 150                     | 165.2                     | 155.2                    | 5.0                    | 88.9  | 457.2      | 311.2 | 304.8 | 235.0 |
| 200                     | 216.3                     | 204.7                    | 5.8                    | 101.6 | 609.6      | 413.0 | 406.4 | 311.4 |
| 250                     | 267.4                     | 254.2                    | 6.6                    | 127.0 | 762.0      | 514.7 | 508.0 | 387.7 |
| 300                     | 318.5                     | 304.7                    | 6.9                    | 152.4 | 914.4      | 616.5 | 609.6 | 464.1 |
| 350                     | 355.6                     | 339.8                    | 7.9                    | 165.1 | 1066.8     | 711.2 | 711.2 | 533.4 |
| 400                     | 406.4                     | 390.6                    | 7.9                    | 177.8 | 1219.2     | 812.8 | 812.8 | 609.6 |
| 450                     | 457.2                     | 441.4                    | 7.9                    | 203.2 | -          | -     | -     | -     |
| 500                     | 508.0                     | 492.2                    | 7.9                    | 228.6 | -          | -     | -     | -     |



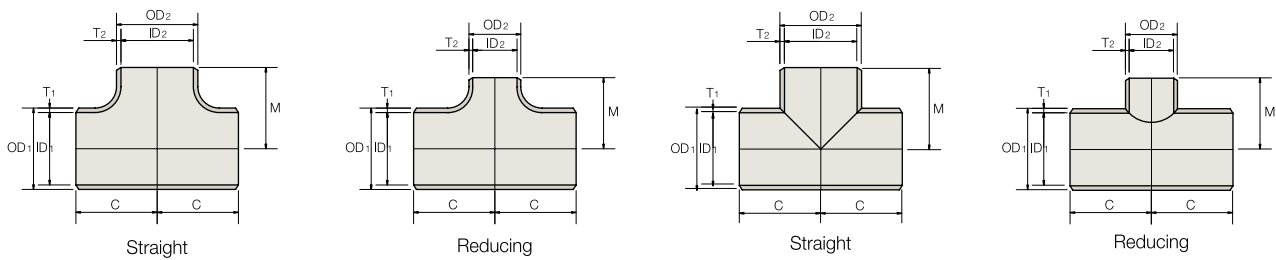
 **Tee** SPP / SGP



· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Run                                    |                                       |                                     | Outlet                                 |                                       |                                     | Center to End |       |
|-------------------------|----------------------------------------|---------------------------------------|-------------------------------------|----------------------------------------|---------------------------------------|-------------------------------------|---------------|-------|
|                         | Outside<br>Diameter<br>OD <sub>1</sub> | Inside<br>Diameter<br>ID <sub>1</sub> | Wall<br>Thickness<br>T <sub>1</sub> | Outside<br>Diameter<br>OD <sub>2</sub> | Inside<br>Diameter<br>ID <sub>2</sub> | Wall<br>Thickness<br>T <sub>2</sub> | C             | M     |
| 15X15                   | 21,7                                   | 16,1                                  | 2,8                                 | 21,7                                   | 16,1                                  | 2,8                                 | 25,4          | 25,4  |
| 20X20                   | 27,2                                   | 21,6                                  | 2,8                                 | 27,2                                   | 21,6                                  | 2,8                                 | 28,6          | 28,6  |
| 20X15                   | 27,2                                   | 21,6                                  | 2,8                                 | 21,7                                   | 16,1                                  | 2,8                                 | 28,6          | 28,6  |
| 25X25                   | 34,0                                   | 27,6                                  | 3,2                                 | 34,0                                   | 27,6                                  | 3,2                                 | 38,1          | 38,1  |
| 25X20                   | 34,0                                   | 27,6                                  | 3,2                                 | 27,2                                   | 21,6                                  | 2,8                                 | 38,1          | 38,1  |
| 25X15                   | 34,0                                   | 27,6                                  | 3,2                                 | 21,7                                   | 16,1                                  | 2,8                                 | 38,1          | 38,1  |
| 32X32                   | 42,7                                   | 35,7                                  | 3,5                                 | 42,7                                   | 35,7                                  | 3,5                                 | 47,6          | 47,6  |
| 32X25                   | 42,7                                   | 35,7                                  | 3,5                                 | 34,0                                   | 27,6                                  | 3,2                                 | 47,6          | 47,6  |
| 32X20                   | 42,7                                   | 35,7                                  | 3,5                                 | 27,2                                   | 21,6                                  | 2,8                                 | 47,6          | 47,6  |
| 32X15                   | 42,7                                   | 35,7                                  | 3,5                                 | 21,7                                   | 16,1                                  | 2,8                                 | 47,6          | 47,6  |
| 40X40                   | 48,6                                   | 41,6                                  | 3,5                                 | 48,6                                   | 41,6                                  | 3,5                                 | 57,2          | 57,2  |
| 40X32                   | 48,6                                   | 41,6                                  | 3,5                                 | 42,7                                   | 35,7                                  | 3,5                                 | 57,2          | 57,2  |
| 40X25                   | 48,6                                   | 41,6                                  | 3,5                                 | 34,0                                   | 27,6                                  | 3,2                                 | 57,2          | 57,2  |
| 40X20                   | 48,6                                   | 41,6                                  | 3,5                                 | 27,2                                   | 21,6                                  | 2,8                                 | 57,2          | 57,2  |
| 40X15                   | 48,6                                   | 41,6                                  | 3,5                                 | 21,7                                   | 16,1                                  | 2,8                                 | 57,2          | 57,2  |
| 50X50                   | 60,5                                   | 52,9                                  | 3,8                                 | 60,5                                   | 52,9                                  | 3,8                                 | 63,5          | 63,5  |
| 50X40                   | 60,5                                   | 52,9                                  | 3,8                                 | 48,6                                   | 41,6                                  | 3,5                                 | 63,5          | 60,3  |
| 50X32                   | 60,5                                   | 52,9                                  | 3,8                                 | 42,7                                   | 35,7                                  | 3,5                                 | 63,5          | 57,2  |
| 50X25                   | 60,5                                   | 52,9                                  | 3,8                                 | 34,0                                   | 27,6                                  | 3,2                                 | 63,5          | 50,8  |
| 50X20                   | 60,5                                   | 52,9                                  | 3,8                                 | 27,2                                   | 21,6                                  | 2,8                                 | 63,5          | 44,5  |
| 65X65                   | 76,3                                   | 67,9                                  | 4,2                                 | 76,3                                   | 67,9                                  | 4,2                                 | 76,2          | 76,2  |
| 65X50                   | 76,3                                   | 67,9                                  | 4,2                                 | 60,5                                   | 52,9                                  | 3,8                                 | 76,2          | 69,9  |
| 65X40                   | 76,3                                   | 67,9                                  | 4,2                                 | 48,6                                   | 41,6                                  | 3,5                                 | 76,2          | 66,7  |
| 65X32                   | 76,3                                   | 67,9                                  | 4,2                                 | 42,7                                   | 35,7                                  | 3,5                                 | 76,2          | 63,5  |
| 65X25                   | 76,3                                   | 67,9                                  | 4,2                                 | 34,0                                   | 27,6                                  | 3,2                                 | 76,2          | 57,2  |
| 80X80                   | 89,1                                   | 80,7                                  | 4,2                                 | 89,1                                   | 80,7                                  | 4,2                                 | 85,7          | 85,7  |
| 80X65                   | 89,1                                   | 80,7                                  | 4,2                                 | 76,3                                   | 67,9                                  | 4,2                                 | 85,7          | 82,6  |
| 80X50                   | 89,1                                   | 80,7                                  | 4,2                                 | 60,5                                   | 52,9                                  | 3,8                                 | 85,7          | 76,2  |
| 80X40                   | 89,1                                   | 80,7                                  | 4,2                                 | 48,6                                   | 41,6                                  | 3,5                                 | 85,7          | 73,0  |
| 80X32                   | 89,1                                   | 80,7                                  | 4,2                                 | 42,7                                   | 35,7                                  | 3,5                                 | 85,7          | 69,9  |
| 90X90                   | 101,6                                  | 93,2                                  | 4,2                                 | 101,6                                  | 93,2                                  | 4,2                                 | 95,3          | 95,3  |
| 90X80                   | 101,6                                  | 93,2                                  | 4,2                                 | 89,1                                   | 80,7                                  | 4,2                                 | 95,3          | 92,1  |
| 90X65                   | 101,6                                  | 93,2                                  | 4,2                                 | 76,3                                   | 67,9                                  | 4,2                                 | 95,3          | 88,9  |
| 90X50                   | 101,6                                  | 93,2                                  | 4,2                                 | 60,5                                   | 52,9                                  | 3,8                                 | 95,3          | 82,6  |
| 90X40                   | 101,6                                  | 93,2                                  | 4,2                                 | 48,6                                   | 41,6                                  | 3,5                                 | 95,3          | 79,4  |
| 100X100                 | 114,3                                  | 105,3                                 | 4,5                                 | 114,3                                  | 105,3                                 | 4,5                                 | 104,8         | 104,8 |
| 100X90                  | 114,3                                  | 105,3                                 | 4,5                                 | 101,6                                  | 93,2                                  | 4,2                                 | 104,8         | 101,6 |
| 100X80                  | 114,3                                  | 105,3                                 | 4,5                                 | 89,1                                   | 80,7                                  | 4,2                                 | 104,8         | 98,4  |
| 100X65                  | 114,3                                  | 105,3                                 | 4,5                                 | 76,3                                   | 67,9                                  | 4,2                                 | 104,8         | 95,3  |
| 100X50                  | 114,3                                  | 105,3                                 | 4,5                                 | 60,5                                   | 52,9                                  | 3,8                                 | 104,8         | 88,9  |
| 100X40                  | 114,3                                  | 105,3                                 | 4,5                                 | 48,6                                   | 41,6                                  | 3,5                                 | 104,8         | 85,7  |
| 125X125                 | 139,8                                  | 130,8                                 | 4,5                                 | 139,8                                  | 130,8                                 | 4,5                                 | 123,8         | 123,8 |
| 125X100                 | 139,8                                  | 130,8                                 | 4,5                                 | 114,3                                  | 105,3                                 | 4,5                                 | 123,8         | 117,5 |
| 125X90                  | 139,8                                  | 130,8                                 | 4,5                                 | 101,6                                  | 93,2                                  | 4,2                                 | 123,8         | 114,3 |
| 125X80                  | 139,8                                  | 130,8                                 | 4,5                                 | 89,1                                   | 80,7                                  | 4,2                                 | 123,8         | 111,1 |
| 125X65                  | 139,8                                  | 130,8                                 | 4,5                                 | 76,3                                   | 67,9                                  | 4,2                                 | 123,8         | 108,0 |
| 125X50                  | 139,8                                  | 130,8                                 | 4,5                                 | 60,5                                   | 52,9                                  | 3,8                                 | 123,8         | 104,8 |



· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Run                                    |                                       |                                     | Outlet                                 |                                       |                                     | Center to End |       |
|-------------------------|----------------------------------------|---------------------------------------|-------------------------------------|----------------------------------------|---------------------------------------|-------------------------------------|---------------|-------|
|                         | Outside<br>Diameter<br>OD <sub>1</sub> | Inside<br>Diameter<br>ID <sub>1</sub> | Wall<br>Thickness<br>T <sub>1</sub> | Outside<br>Diameter<br>OD <sub>2</sub> | Inside<br>Diameter<br>ID <sub>2</sub> | Wall<br>Thickness<br>T <sub>2</sub> | C             | M     |
| 150X150                 | 165.2                                  | 155.2                                 | 5.0                                 | 165.2                                  | 155.2                                 | 5.0                                 | 142.9         | 142.9 |
| 150X125                 | 165.2                                  | 155.2                                 | 5.0                                 | 139.8                                  | 130.8                                 | 4.5                                 | 142.9         | 136.5 |
| 150X100                 | 165.2                                  | 155.2                                 | 5.0                                 | 114.3                                  | 105.3                                 | 4.5                                 | 142.9         | 130.2 |
| 150X90                  | 165.2                                  | 155.2                                 | 5.0                                 | 101.6                                  | 93.2                                  | 4.2                                 | 142.9         | 127.0 |
| 150X80                  | 165.2                                  | 155.2                                 | 5.0                                 | 89.1                                   | 80.7                                  | 4.2                                 | 142.9         | 123.8 |
| 150X65                  | 165.2                                  | 155.2                                 | 5.0                                 | 76.3                                   | 67.9                                  | 4.2                                 | 142.9         | 120.7 |
| 200X200                 | 216.3                                  | 204.7                                 | 5.8                                 | 216.3                                  | 204.7                                 | 5.8                                 | 177.8         | 177.8 |
| 200X150                 | 216.3                                  | 204.7                                 | 5.8                                 | 165.2                                  | 155.2                                 | 5.0                                 | 177.8         | 168.3 |
| 200X125                 | 216.3                                  | 204.7                                 | 5.8                                 | 139.8                                  | 130.8                                 | 4.5                                 | 177.8         | 161.9 |
| 200X100                 | 216.3                                  | 204.7                                 | 5.8                                 | 114.3                                  | 105.3                                 | 4.5                                 | 177.8         | 155.6 |
| 200X90                  | 216.3                                  | 204.7                                 | 5.8                                 | 101.6                                  | 93.2                                  | 4.2                                 | 177.8         | 152.4 |
| 250X250                 | 267.4                                  | 254.2                                 | 6.6                                 | 267.4                                  | 254.2                                 | 6.6                                 | 215.9         | 215.9 |
| 250X200                 | 267.4                                  | 254.2                                 | 6.6                                 | 216.3                                  | 204.7                                 | 5.8                                 | 215.9         | 203.2 |
| 250X150                 | 267.4                                  | 254.2                                 | 6.6                                 | 165.2                                  | 155.2                                 | 5.0                                 | 215.9         | 193.7 |
| 250X125                 | 267.4                                  | 254.2                                 | 6.6                                 | 139.8                                  | 130.8                                 | 4.5                                 | 215.9         | 190.5 |
| 250X100                 | 267.4                                  | 254.2                                 | 6.6                                 | 114.3                                  | 105.3                                 | 4.5                                 | 215.9         | 184.2 |
| 300X300                 | 318.5                                  | 304.7                                 | 6.9                                 | 318.5                                  | 304.7                                 | 6.9                                 | 254.0         | 254.0 |
| 300X250                 | 318.5                                  | 304.7                                 | 6.9                                 | 267.4                                  | 254.2                                 | 6.6                                 | 254.0         | 241.3 |
| 300X200                 | 318.5                                  | 304.7                                 | 6.9                                 | 216.3                                  | 204.7                                 | 5.8                                 | 254.0         | 228.6 |
| 300X150                 | 318.5                                  | 304.7                                 | 6.9                                 | 165.2                                  | 155.2                                 | 5.0                                 | 254.0         | 219.1 |
| 300X125                 | 318.5                                  | 304.7                                 | 6.9                                 | 139.8                                  | 130.8                                 | 4.5                                 | 254.0         | 215.9 |
| 350X350                 | 355.6                                  | 339.8                                 | 7.9                                 | 355.6                                  | 339.8                                 | 7.9                                 | 279.4         | 279.4 |
| 350X300                 | 355.6                                  | 339.8                                 | 7.9                                 | 318.5                                  | 304.7                                 | 6.9                                 | 279.4         | 269.9 |
| 350X250                 | 355.6                                  | 339.8                                 | 7.9                                 | 267.4                                  | 254.2                                 | 6.6                                 | 279.4         | 257.2 |
| 350X200                 | 355.6                                  | 339.8                                 | 7.9                                 | 216.3                                  | 204.7                                 | 5.8                                 | 279.4         | 247.7 |
| 350X150                 | 355.6                                  | 339.8                                 | 7.9                                 | 165.2                                  | 155.2                                 | 5.0                                 | 279.4         | 238.1 |
| 400X400                 | 406.4                                  | 390.6                                 | 7.9                                 | 406.4                                  | 390.6                                 | 7.9                                 | 304.8         | 304.8 |
| 400X350                 | 406.4                                  | 390.6                                 | 7.9                                 | 355.6                                  | 339.8                                 | 7.9                                 | 304.8         | 304.8 |
| 400X300                 | 406.4                                  | 390.6                                 | 7.9                                 | 318.5                                  | 304.7                                 | 6.9                                 | 304.8         | 295.3 |
| 400X250                 | 406.4                                  | 390.6                                 | 7.9                                 | 267.4                                  | 254.2                                 | 6.6                                 | 304.8         | 282.6 |
| 400X200                 | 406.4                                  | 390.6                                 | 7.9                                 | 216.3                                  | 204.7                                 | 5.8                                 | 304.8         | 273.1 |
| 400X150                 | 406.4                                  | 390.6                                 | 7.9                                 | 165.2                                  | 155.2                                 | 5.0                                 | 304.8         | 263.5 |
| 450X450                 | 457.2                                  | 441.4                                 | 7.9                                 | 457.2                                  | 441.4                                 | 7.9                                 | 342.9         | 342.9 |
| 450X400                 | 457.2                                  | 441.4                                 | 7.9                                 | 406.4                                  | 390.6                                 | 7.9                                 | 342.9         | 330.2 |
| 450X350                 | 457.2                                  | 441.4                                 | 7.9                                 | 355.6                                  | 339.8                                 | 7.9                                 | 342.9         | 330.2 |
| 450X300                 | 457.2                                  | 441.4                                 | 7.9                                 | 318.5                                  | 304.7                                 | 6.9                                 | 342.9         | 320.7 |
| 450X250                 | 457.2                                  | 441.4                                 | 7.9                                 | 267.4                                  | 254.2                                 | 6.6                                 | 342.9         | 308.0 |
| 500X500                 | 508.0                                  | 492.2                                 | 7.9                                 | 508.0                                  | 492.2                                 | 7.9                                 | 381.0         | 381.0 |
| 500X450                 | 508.0                                  | 492.2                                 | 7.9                                 | 457.2                                  | 441.4                                 | 7.9                                 | 381.0         | 368.3 |
| 500X400                 | 508.0                                  | 492.2                                 | 7.9                                 | 406.4                                  | 390.6                                 | 7.9                                 | 381.0         | 355.6 |
| 500X350                 | 508.0                                  | 492.2                                 | 7.9                                 | 355.6                                  | 339.8                                 | 7.9                                 | 381.0         | 355.6 |
| 500X300                 | 508.0                                  | 492.2                                 | 7.9                                 | 318.5                                  | 304.8                                 | 6.9                                 | 381.0         | 346.1 |
| 500X250                 | 508.0                                  | 492.2                                 | 7.9                                 | 267.4                                  | 254.2                                 | 6.6                                 | 381.0         | 333.4 |
| 500X200                 | 508.0                                  | 492.2                                 | 7.9                                 | 216.3                                  | 204.7                                 | 5.8                                 | 381.0         | 323.9 |

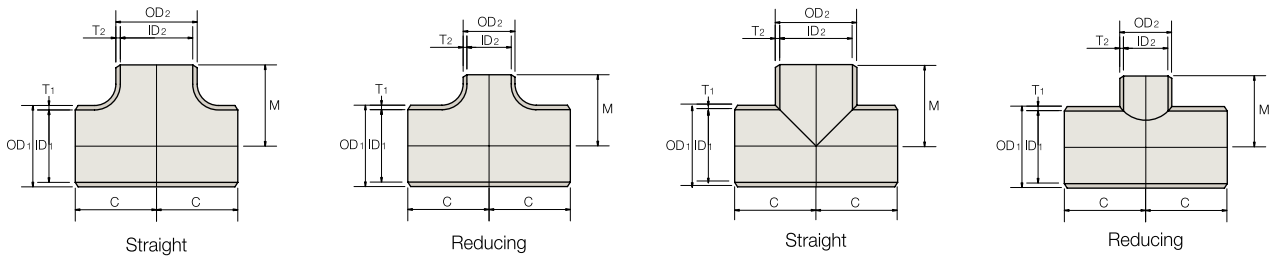
 **Tee** 7.9T, STD, X-S



• KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness |                |                |                |                |                | Center to End |       |
|-------------------------|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|-------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | 7.9T           |                | STD            |                | X-S            |                | C             | M     |
|                         |                  |                 | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |               |       |
| 350X350                 | 355.6            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 279.4         | 279.4 |
| 400X400                 | 406.4            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 304.8         | 304.8 |
| 400X350                 | 406.4            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 304.8         | 304.8 |
| 400X300                 | 406.4            | 318.5           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 304.8         | 295.3 |
| 450X450                 | 457.2            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 342.9         | 342.9 |
| 450X400                 | 457.2            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 342.9         | 330.2 |
| 450X350                 | 457.2            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 342.9         | 330.2 |
| 450X300                 | 457.2            | 318.5           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 342.9         | 320.7 |
| 500X500                 | 508.0            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 381.0         | 381.0 |
| 500X450                 | 508.0            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 381.0         | 368.3 |
| 500X400                 | 508.0            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 381.0         | 355.6 |
| 500X350                 | 508.0            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 381.0         | 355.6 |
| 500X300                 | 508.0            | 318.5           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 381.0         | 346.1 |
| 550X550                 | 558.8            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 419.1         | 419.1 |
| 550X500                 | 558.8            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 419.1         | 406.4 |
| 550X450                 | 558.8            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 419.1         | 393.7 |
| 550X400                 | 558.8            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 419.1         | 381.0 |
| 600X600                 | 609.6            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 431.8         | 431.8 |
| 600X550                 | 609.6            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 431.8         | 431.8 |
| 600X500                 | 609.6            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 431.8         | 431.8 |
| 600X450                 | 609.6            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 431.8         | 419.1 |
| 650X650                 | 660.4            | 660.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 495.3         | 495.3 |
| 650X600                 | 660.4            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 495.3         | 482.6 |
| 650X550                 | 660.4            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 495.3         | 469.9 |
| 650X500                 | 660.4            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 495.3         | 457.2 |
| 700X700                 | 711.2            | 711.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 520.7         | 520.7 |
| 700X650                 | 711.2            | 660.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 520.7         | 520.7 |
| 700X600                 | 711.2            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 520.7         | 508.0 |
| 700X550                 | 711.2            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 520.7         | 495.3 |
| 750X750                 | 762.0            | 762.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 558.8         | 558.8 |
| 750X700                 | 762.0            | 711.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 558.8         | 546.1 |
| 750X650                 | 762.0            | 660.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 558.8         | 546.1 |
| 750X600                 | 762.0            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 558.8         | 533.4 |



· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness |                |                |                |                |                | Center to End |       |
|-------------------------|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|-------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | 7.9T           |                | STD            |                | X-S            |                | C             | M     |
|                         |                  |                 | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |               |       |
| 800X800                 | 812.8            | 812.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 596.9         | 596.9 |
| 800X750                 | 812.8            | 762.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 596.9         | 584.2 |
| 800X700                 | 812.8            | 711.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 596.9         | 571.5 |
| 800X650                 | 812.8            | 660.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 596.9         | 571.5 |
| 850X850                 | 863.6            | 863.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 635.0         | 635.0 |
| 850X800                 | 863.6            | 812.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 635.0         | 622.3 |
| 850X750                 | 863.6            | 762.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 635.0         | 609.6 |
| 850X700                 | 863.6            | 711.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 635.0         | 596.9 |
| 900X900                 | 914.4            | 914.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 673.1         | 673.1 |
| 900X850                 | 914.4            | 863.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 673.1         | 660.4 |
| 900X800                 | 914.4            | 812.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 673.1         | 647.7 |
| 900X750                 | 914.4            | 762.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 673.1         | 635.0 |
| 950X950                 | 965.2            | 965.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 711.2         | 711.2 |
| 950X900                 | 965.2            | 914.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 711.2         | 711.2 |
| 950X850                 | 965.2            | 863.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 711.2         | 698.5 |
| 950X800                 | 965.2            | 812.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 711.2         | 685.8 |
| 1000X1000               | 1016.0           | 1016.0          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 749.3         | 749.3 |
| 1000X950                | 1016.0           | 965.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 749.3         | 749.3 |
| 1000X900                | 1016.0           | 914.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 749.3         | 736.6 |
| 1000X850                | 1016.0           | 863.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 749.3         | 723.9 |
| 1050X1050               | 1066.8           | 1066.8          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 762.0         | 711.2 |
| 1050X1000               | 1066.8           | 1016.0          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 762.0         | 711.2 |
| 1050X950                | 1066.8           | 965.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 762.0         | 711.2 |
| 1050X900                | 1066.8           | 914.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 762.0         | 711.2 |
| 1100X1100               | 1117.6           | 1117.6          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 812.8         | 762.0 |
| 1100X1050               | 1117.6           | 1066.8          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 812.8         | 762.0 |
| 1100X1000               | 1117.6           | 1016.0          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 812.8         | 749.3 |
| 1100X950                | 1117.6           | 965.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 812.8         | 736.6 |
| 1150X1150               | 1168.4           | 1168.4          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 850.9         | 800.1 |
| 1150X1100               | 1168.4           | 1117.6          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 850.9         | 800.1 |
| 1150X1050               | 1168.4           | 1066.8          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 850.9         | 787.4 |
| 1150X1000               | 1168.4           | 1016.0          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 850.9         | 774.7 |
| 1200X1200               | 1219.2           | 1219.2          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 889.0         | 838.2 |
| 1200X1150               | 1219.2           | 1168.4          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 889.0         | 838.2 |
| 1200X1100               | 1219.2           | 1117.6          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 889.0         | 838.2 |
| 1200X1050               | 1219.2           | 1066.8          | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 889.0         | 812.8 |

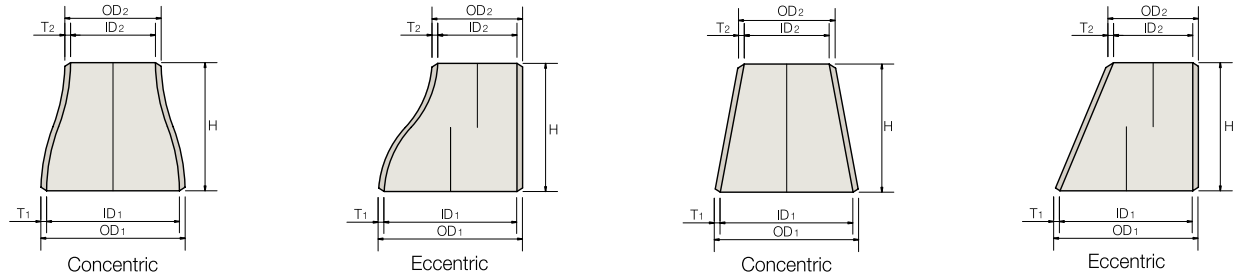
 **Reducer** SPP / SGP



· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Large End                           |                                    |                                  | Small End                           |                                    |                                  | End to End<br>H |
|-------------------------|-------------------------------------|------------------------------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------------|-----------------|
|                         | Outside<br>Diameter OD <sub>1</sub> | Inside<br>Diameter ID <sub>1</sub> | Wall<br>Thickness T <sub>1</sub> | Outside<br>Diameter OD <sub>2</sub> | Inside<br>Diameter ID <sub>2</sub> | Wall<br>Thickness T <sub>2</sub> |                 |
| 20X15                   | 27.2                                | 21.6                               | 2.8                              | 21.7                                | 16.1                               | 2.8                              | 38.1            |
| 25X20                   | 34.0                                | 27.6                               | 3.2                              | 27.2                                | 21.6                               | 2.8                              | 50.8            |
| 25X15                   | 34.0                                | 27.6                               | 3.2                              | 21.7                                | 16.1                               | 2.8                              | 50.8            |
| 32X25                   | 42.7                                | 35.7                               | 3.5                              | 34.0                                | 27.6                               | 3.2                              | 50.8            |
| 32X20                   | 42.7                                | 35.7                               | 3.5                              | 27.2                                | 21.6                               | 2.8                              | 50.8            |
| 32X15                   | 42.7                                | 35.7                               | 3.5                              | 21.7                                | 16.1                               | 2.8                              | 50.8            |
| 40X32                   | 48.6                                | 41.6                               | 3.5                              | 42.7                                | 35.7                               | 3.5                              | 63.5            |
| 40X25                   | 48.6                                | 41.6                               | 3.5                              | 34.0                                | 27.6                               | 3.2                              | 63.5            |
| 40X20                   | 48.6                                | 41.6                               | 3.5                              | 27.2                                | 21.6                               | 2.8                              | 63.5            |
| 40X15                   | 48.6                                | 41.6                               | 3.5                              | 21.7                                | 16.1                               | 2.8                              | 63.5            |
| 50X40                   | 60.5                                | 52.9                               | 3.8                              | 48.6                                | 41.6                               | 3.5                              | 76.2            |
| 50X32                   | 60.5                                | 52.9                               | 3.8                              | 42.7                                | 35.7                               | 3.5                              | 76.2            |
| 50X25                   | 60.5                                | 52.9                               | 3.8                              | 34.0                                | 27.6                               | 3.2                              | 76.2            |
| 50X20                   | 60.5                                | 52.9                               | 3.8                              | 27.2                                | 21.6                               | 2.8                              | 76.2            |
| 65X50                   | 76.3                                | 67.9                               | 4.2                              | 60.5                                | 52.9                               | 3.8                              | 88.9            |
| 65X40                   | 76.3                                | 67.9                               | 4.2                              | 48.6                                | 41.6                               | 3.5                              | 88.9            |
| 65X32                   | 76.3                                | 67.9                               | 4.2                              | 42.7                                | 35.7                               | 3.5                              | 88.9            |
| 65X25                   | 76.3                                | 67.9                               | 4.2                              | 34.0                                | 27.6                               | 3.2                              | 88.9            |
| 80X65                   | 89.1                                | 80.7                               | 4.2                              | 76.3                                | 67.9                               | 4.2                              | 88.9            |
| 80X50                   | 89.1                                | 80.7                               | 4.2                              | 60.5                                | 52.9                               | 3.8                              | 88.9            |
| 80X40                   | 89.1                                | 80.7                               | 4.2                              | 48.6                                | 41.6                               | 3.5                              | 88.9            |
| 80X32                   | 89.1                                | 80.7                               | 4.2                              | 42.7                                | 35.7                               | 3.5                              | 88.9            |
| 90X80                   | 101.6                               | 93.2                               | 4.2                              | 89.1                                | 80.7                               | 4.2                              | 101.6           |
| 90X65                   | 101.6                               | 93.2                               | 4.2                              | 76.3                                | 67.9                               | 4.2                              | 101.6           |
| 90X50                   | 101.6                               | 93.2                               | 4.2                              | 60.5                                | 52.9                               | 3.8                              | 101.6           |
| 90X40                   | 101.6                               | 93.2                               | 4.2                              | 48.6                                | 41.6                               | 3.5                              | 101.6           |
| 90X32                   | 101.6                               | 93.2                               | 4.2                              | 42.7                                | 35.7                               | 3.5                              | 101.6           |
| 100X90                  | 114.3                               | 105.3                              | 4.5                              | 101.6                               | 93.2                               | 4.2                              | 101.6           |
| 100X80                  | 114.3                               | 105.3                              | 4.5                              | 89.1                                | 80.7                               | 4.2                              | 101.6           |
| 100X65                  | 114.3                               | 105.3                              | 4.5                              | 76.3                                | 67.9                               | 4.2                              | 101.6           |
| 100X50                  | 114.3                               | 105.3                              | 4.5                              | 60.5                                | 52.9                               | 3.8                              | 101.6           |
| 100X40                  | 114.3                               | 105.3                              | 4.5                              | 48.6                                | 41.6                               | 3.5                              | 101.6           |
| 125X100                 | 139.8                               | 130.8                              | 4.5                              | 114.3                               | 105.3                              | 4.5                              | 127.0           |
| 125X90                  | 139.8                               | 130.8                              | 4.5                              | 101.6                               | 93.2                               | 4.2                              | 127.0           |
| 125X80                  | 139.8                               | 130.8                              | 4.5                              | 89.1                                | 80.7                               | 4.2                              | 127.0           |
| 125X65                  | 139.8                               | 130.8                              | 4.5                              | 76.3                                | 67.9                               | 4.2                              | 127.0           |
| 125X50                  | 139.8                               | 130.8                              | 4.5                              | 60.5                                | 52.9                               | 3.8                              | 127.0           |



· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Large End                           |                                    |                                  | Small End                           |                                    |                                  | End to End<br>H |
|-------------------------|-------------------------------------|------------------------------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------------|-----------------|
|                         | Outside<br>Diameter OD <sub>1</sub> | Inside<br>Diameter ID <sub>1</sub> | Wall<br>Thickness T <sub>1</sub> | Outside<br>Diameter OD <sub>2</sub> | Inside<br>Diameter ID <sub>2</sub> | Wall<br>Thickness T <sub>2</sub> |                 |
| 150X125                 | 165.2                               | 155.2                              | 5.0                              | 139.8                               | 130.8                              | 4.5                              | 139.7           |
| 150X100                 | 165.2                               | 155.2                              | 5.0                              | 114.3                               | 105.3                              | 4.5                              | 139.7           |
| 150X90                  | 165.2                               | 155.2                              | 5.0                              | 101.6                               | 93.2                               | 4.2                              | 139.7           |
| 150X80                  | 165.2                               | 155.2                              | 5.0                              | 89.1                                | 80.7                               | 4.2                              | 139.7           |
| 150X65                  | 165.2                               | 155.2                              | 5.8                              | 76.3                                | 67.9                               | 4.2                              | 139.7           |
| 200X150                 | 216.3                               | 204.7                              | 5.8                              | 165.2                               | 155.2                              | 5.0                              | 152.4           |
| 200X125                 | 216.3                               | 204.7                              | 5.8                              | 139.8                               | 130.8                              | 4.5                              | 152.4           |
| 200X100                 | 216.3                               | 204.7                              | 5.8                              | 114.3                               | 105.3                              | 4.5                              | 152.4           |
| 200X90                  | 216.3                               | 204.7                              | 5.8                              | 101.6                               | 93.2                               | 4.2                              | 152.4           |
| 250X200                 | 267.4                               | 254.2                              | 6.6                              | 216.3                               | 204.7                              | 5.8                              | 177.8           |
| 250X150                 | 267.4                               | 254.2                              | 6.6                              | 165.2                               | 155.2                              | 5.0                              | 177.8           |
| 250X125                 | 267.4                               | 254.2                              | 6.6                              | 139.8                               | 130.8                              | 4.5                              | 177.8           |
| 250X100                 | 267.4                               | 254.2                              | 6.6                              | 114.3                               | 105.3                              | 4.5                              | 177.8           |
| 300X250                 | 318.5                               | 304.7                              | 6.9                              | 267.4                               | 254.2                              | 6.6                              | 203.2           |
| 300X200                 | 318.5                               | 304.7                              | 6.9                              | 216.3                               | 204.7                              | 5.8                              | 203.2           |
| 300X150                 | 318.5                               | 304.7                              | 6.9                              | 165.2                               | 155.2                              | 5.0                              | 203.2           |
| 300X125                 | 318.5                               | 304.7                              | 6.9                              | 139.8                               | 130.8                              | 4.5                              | 203.2           |
| 350X300                 | 355.6                               | 339.8                              | 7.9                              | 318.5                               | 304.7                              | 6.9                              | 330.2           |
| 350X250                 | 355.6                               | 339.8                              | 7.9                              | 267.4                               | 254.2                              | 6.6                              | 330.2           |
| 350X200                 | 355.6                               | 339.8                              | 7.9                              | 216.3                               | 204.7                              | 5.8                              | 330.2           |
| 350X150                 | 355.6                               | 339.8                              | 7.9                              | 165.2                               | 155.2                              | 5.0                              | 330.2           |
| 400X350                 | 406.4                               | 390.6                              | 7.9                              | 355.6                               | 339.8                              | 7.9                              | 355.6           |
| 400X300                 | 406.4                               | 390.6                              | 7.9                              | 318.5                               | 304.7                              | 6.9                              | 355.6           |
| 400X250                 | 406.4                               | 390.6                              | 7.9                              | 267.4                               | 254.2                              | 6.6                              | 355.6           |
| 400X200                 | 406.4                               | 390.6                              | 7.9                              | 216.3                               | 204.7                              | 5.8                              | 355.6           |
| 450X400                 | 457.2                               | 441.4                              | 7.9                              | 406.4                               | 390.6                              | 7.9                              | 381.0           |
| 450X350                 | 457.2                               | 441.4                              | 7.9                              | 355.6                               | 339.8                              | 7.9                              | 381.0           |
| 450X300                 | 457.2                               | 441.4                              | 7.9                              | 318.5                               | 304.7                              | 6.9                              | 381.0           |
| 450X250                 | 457.2                               | 441.4                              | 7.9                              | 267.4                               | 254.2                              | 6.6                              | 381.0           |
| 500X450                 | 508.0                               | 492.2                              | 7.9                              | 457.2                               | 441.4                              | 7.9                              | 508.0           |
| 500X400                 | 508.0                               | 492.2                              | 7.9                              | 406.4                               | 390.6                              | 7.9                              | 508.0           |
| 500X350                 | 508.0                               | 492.2                              | 7.9                              | 355.6                               | 339.8                              | 7.9                              | 508.0           |
| 500X300                 | 508.0                               | 492.2                              | 7.9                              | 318.5                               | 304.7                              | 6.9                              | 508.0           |

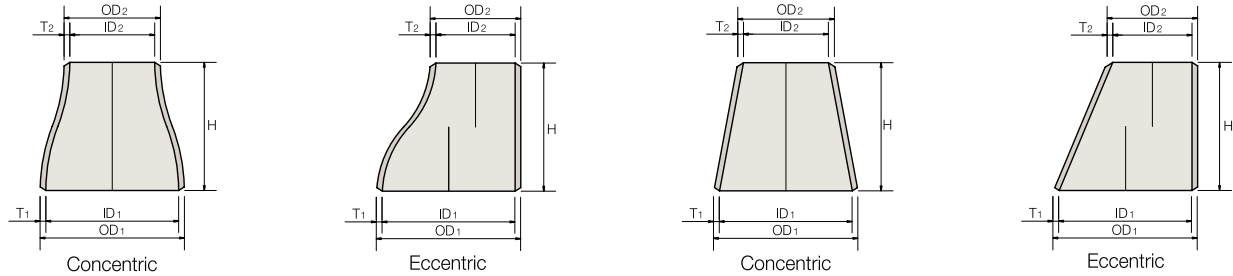
 **Reducer** 7.9T, STD, X-S



• KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness |                |                |                |                |                | End to End<br>H |
|-------------------------|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | 7.9T           |                | STD            |                | X-S            |                |                 |
|                         |                  |                 | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |                 |
| 400X350                 | 406.4            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 355.6           |
| 450X400                 | 457.2            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 381.0           |
| 450X350                 | 457.2            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 381.0           |
| 500X450                 | 508.0            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 500X400                 | 508.0            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 500X350                 | 508.0            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 550X500                 | 558.8            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 550X450                 | 558.8            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 550X400                 | 558.8            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 550X350                 | 558.8            | 355.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 600X550                 | 609.6            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 600X500                 | 609.6            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 600X450                 | 609.6            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 600X400                 | 609.6            | 406.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 508.0           |
| 650X600                 | 660.4            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 650X550                 | 660.4            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 650X500                 | 660.4            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 650X450                 | 660.4            | 457.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 700X650                 | 711.2            | 660.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 700X600                 | 711.2            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 700X550                 | 711.2            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 700X500                 | 711.2            | 508.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 750X700                 | 762.0            | 711.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 750X650                 | 762.0            | 660.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 750X600                 | 762.0            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 750X550                 | 762.0            | 558.8           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 800X750                 | 812.8            | 762.0           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 800X700                 | 812.8            | 711.2           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 800X650                 | 812.8            | 660.4           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |
| 800X600                 | 812.8            | 609.6           | 7.9            | 7.9            | 9.5            | 9.5            | 12.7           | 12.7           | 609.6           |

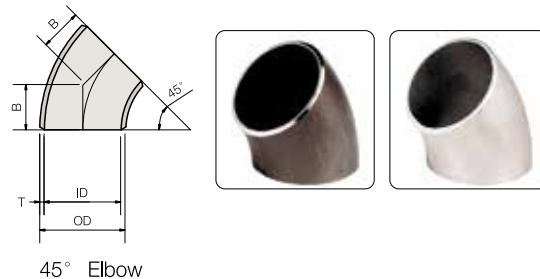
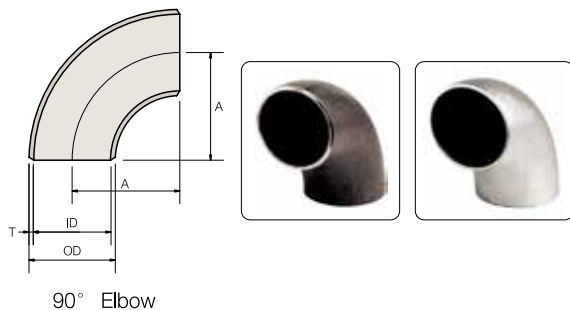


· KS B 1543 / JIS B 2311

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness |                |                |                |                |                | End to End<br>H |
|-------------------------|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | 7.9T           |                | STD            |                | X-S            |                |                 |
|                         |                  |                 | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |                 |
| 850X800                 | 863,6            | 812,8           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 850X750                 | 863,6            | 762,0           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 850X700                 | 863,6            | 711,2           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 850X650                 | 863,6            | 660,4           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 900X850                 | 914,4            | 863,6           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 900X800                 | 914,4            | 812,8           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 900X750                 | 914,4            | 762,0           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 900X700                 | 914,4            | 711,2           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 950X900                 | 965,2            | 914,4           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 950X850                 | 965,2            | 863,6           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 950X800                 | 965,2            | 812,8           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 950X750                 | 965,2            | 762,0           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1000X950                | 1016,0           | 965,2           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1000X900                | 1016,0           | 914,4           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1000X850                | 1016,0           | 863,6           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1000X800                | 1016,0           | 812,8           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1050X1000               | 1066,8           | 1016,0          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1050X950                | 1066,8           | 965,2           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1050X900                | 1066,8           | 914,4           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1050X850                | 1066,8           | 863,6           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1100X1050               | 1117,6           | 1066,8          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1100X1000               | 1117,6           | 1016,0          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1100X950                | 1117,6           | 965,2           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1100X900                | 1117,6           | 914,4           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 609,6           |
| 1150X1100               | 1168,4           | 1117,6          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |
| 1150X1050               | 1168,4           | 1066,8          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |
| 1150X1000               | 1168,4           | 1016,0          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |
| 1150X950                | 1168,4           | 965,2           | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |
| 1200X1150               | 1219,2           | 1168,4          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |
| 1200X1100               | 1219,2           | 1117,6          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |
| 1200X1050               | 1219,2           | 1066,8          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |
| 1200X1000               | 1219,2           | 1016,0          | 7,9            | 7,9            | 9,5            | 9,5            | 12,7           | 12,7           | 711,2           |

● **90° Elbow (Long, Short) / 45° Elbow (Long)** Sch40, Sch80, Sch120, Sch160



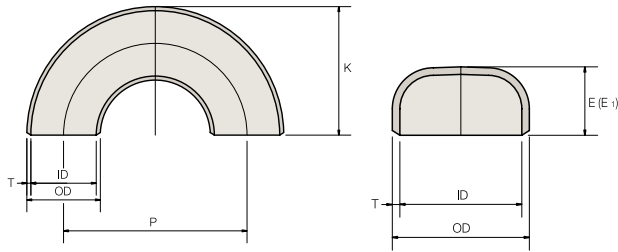
• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

| Nominal<br>Pipe<br>Size | Outside<br>Diameter<br>OD | Wall Thickness T |      |        |      |         |      |         |      | Center to Center |         |         |
|-------------------------|---------------------------|------------------|------|--------|------|---------|------|---------|------|------------------|---------|---------|
|                         |                           | Sch 40           |      | Sch 80 |      | Sch 120 |      | Sch 160 |      | Long             |         | Short   |
|                         |                           | ID               | T    | ID     | T    | ID      | T    | ID      | T    | A (90°)          | B (45°) | A (90°) |
| 15                      | 21.7                      | 16.1             | 2.8  | 14.3   | 3.7  | -       | -    | -       | -    | 38.1             | 15.8    | -       |
| 20                      | 27.2                      | 21.4             | 2.9  | 19.4   | 3.9  | -       | -    | -       | -    | 38.1             | 15.8    | -       |
| 25                      | 34.0                      | 27.2             | 3.4  | 25.0   | 4.5  | -       | -    | -       | -    | 38.1             | 15.8    | 25.4    |
| 32                      | 42.7                      | 35.5             | 3.6  | 32.9   | 4.9  | -       | -    | -       | -    | 47.6             | 19.7    | 31.8    |
| 40                      | 48.6                      | 41.2             | 3.7  | 38.4   | 5.1  | -       | -    | 34.4    | 7.1  | 57.2             | 23.7    | 38.1    |
| 50                      | 60.5                      | 52.7             | 3.9  | 49.5   | 5.5  | -       | -    | 43.1    | 8.7  | 76.2             | 31.6    | 50.8    |
| 65                      | 76.3                      | 65.9             | 5.2  | 62.3   | 7.0  | -       | -    | 57.3    | 9.5  | 95.3             | 39.5    | 63.5    |
| 80                      | 89.1                      | 78.1             | 5.5  | 73.9   | 7.6  | -       | -    | 66.9    | 11.1 | 114.3            | 47.3    | 76.2    |
| 90                      | 101.6                     | 90.2             | 5.7  | 85.4   | 8.1  | -       | -    | 76.2    | 12.7 | 133.4            | 55.3    | 88.9    |
| 100                     | 114.3                     | 102.3            | 6.0  | 97.1   | 8.6  | 92.1    | 11.1 | 87.3    | 13.5 | 152.4            | 63.1    | 101.6   |
| 125                     | 139.8                     | 126.6            | 6.6  | 120.8  | 9.5  | 114.4   | 12.7 | 108.0   | 15.9 | 190.5            | 78.9    | 127.0   |
| 150                     | 165.2                     | 151.0            | 7.1  | 143.2  | 11.0 | 136.6   | 14.3 | 128.8   | 18.2 | 228.6            | 94.7    | 152.4   |
| 200                     | 216.3                     | 199.9            | 8.2  | 190.9  | 12.7 | 179.9   | 18.2 | 170.3   | 23.0 | 304.8            | 126.3   | 203.2   |
| 250                     | 267.4                     | 248.8            | 9.3  | 237.2  | 15.1 | 224.6   | 21.4 | 210.2   | 28.6 | 381.0            | 157.8   | 254.0   |
| 300                     | 318.5                     | 297.9            | 10.3 | 283.7  | 17.4 | 267.7   | 25.4 | 251.9   | 33.3 | 457.2            | 189.4   | 304.8   |
| 350                     | 355.6                     | 333.4            | 11.1 | 317.6  | 19.0 | 300.0   | 27.8 | 284.2   | 35.7 | 533.4            | 220.9   | 355.6   |
| 400                     | 406.4                     | 381.0            | 12.7 | 363.6  | 21.4 | 344.6   | 30.9 | 325.4   | 40.5 | 609.6            | 252.5   | 406.4   |
| 450                     | 457.2                     | 428.6            | 14.3 | 409.6  | 23.8 | 387.4   | 34.9 | 366.8   | 45.2 | 685.8            | 284.1   | 457.2   |
| 500                     | 508.0                     | 477.8            | 15.1 | 455.6  | 26.2 | 431.8   | 38.1 | 408.0   | 50.0 | 762.0            | 315.6   | 508.0   |
| 550                     | 558.8                     | 528.6            | 15.1 | 501.6  | 28.6 | -       | -    | -       | -    | 838.2            | 347.2   | 558.8   |
| 600                     | 609.6                     | 574.8            | 17.4 | 547.6  | 31.0 | -       | -    | -       | -    | 914.4            | 378.7   | 609.6   |
| 650                     | 660.4                     | 625.6            | 17.4 | -      | -    | -       | -    | -       | -    | 990.6            | 410.3   | 660.4   |
| 700                     | 711.2                     | 676.4            | 17.4 | -      | -    | -       | -    | -       | -    | 1066.8           | 441.9   | 711.2   |
| 750                     | 762.0                     | 727.2            | 17.4 | -      | -    | -       | -    | -       | -    | 1143.0           | 473.4   | 762.0   |
| 800                     | 812.8                     | 778.0            | 17.4 | -      | -    | -       | -    | -       | -    | 1219.2           | 505.0   | 812.8   |
| 850                     | 863.6                     | 828.8            | 17.4 | -      | -    | -       | -    | -       | -    | 1295.4           | 536.6   | 863.6   |
| 900                     | 914.4                     | 876.4            | 19.0 | -      | -    | -       | -    | -       | -    | 1371.6           | 568.1   | 914.4   |

# 180° Elbow (Long, Short) / Cap

Sch40, Sch80, Sch120, Sch160



180° Elbow

Cap



· KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

| Nominal<br>Pipe<br>Size | Outside<br>Diameter<br>OD | Wall Thickness T |        |         |         | Cap   |       |                                   | 180° Elbow |        |        |       |
|-------------------------|---------------------------|------------------|--------|---------|---------|-------|-------|-----------------------------------|------------|--------|--------|-------|
|                         |                           | Sch 40           | Sch 80 | Sch 120 | Sch 160 | E     | E1    | Limited Wall<br>Thickness<br>Fore | Long       |        | Short  |       |
|                         |                           |                  |        |         |         |       |       |                                   | P          | K      | P      | K     |
| 15                      | 21,7                      | 2,8              | 3,7    | -       | -       | 25,4  | -     | -                                 | 76,2       | 49,0   | -      | -     |
| 20                      | 27,2                      | 2,9              | 3,9    | -       | -       | 25,4  | -     | -                                 | 76,2       | 51,7   | -      | -     |
| 25                      | 34,0                      | 3,4              | 4,5    | -       | -       | 38,1  | -     | -                                 | 76,2       | 55,1   | 50,8   | 42,4  |
| 32                      | 42,7                      | 3,6              | 4,9    | -       | -       | 38,1  | -     | -                                 | 95,2       | 69,0   | 63,6   | 53,2  |
| 40                      | 48,6                      | 3,7              | 5,1    | -       | 7,1     | 38,1  | -     | -                                 | 114,4      | 81,5   | 76,2   | 62,4  |
| 50                      | 60,5                      | 3,9              | 5,5    | -       | 8,7     | 38,1  | 44,5  | 5,5                               | 152,4      | 106,5  | 101,6  | 81,1  |
| 65                      | 76,3                      | 5,2              | 7,0    | -       | 9,5     | 38,1  | 50,8  | 7,0                               | 190,6      | 133,5  | 127,0  | 101,7 |
| 80                      | 89,1                      | 5,5              | 7,6    | -       | 11,1    | 50,8  | 63,5  | 7,6                               | 228,6      | 158,9  | 152,4  | 120,8 |
| 90                      | 101,6                     | 5,7              | 8,1    | -       | 12,7    | 63,5  | 76,2  | 8,1                               | 266,8      | 184,2  | 177,8  | 139,7 |
| 100                     | 114,3                     | 6,0              | 8,6    | 11,1    | 13,5    | 63,5  | 76,2  | 8,6                               | 304,8      | 209,6  | 203,2  | 158,8 |
| 125                     | 139,8                     | 6,6              | 9,5    | 12,7    | 15,9    | 76,2  | 88,9  | 9,5                               | 381,0      | 260,4  | 254,0  | 196,9 |
| 150                     | 165,2                     | 7,1              | 11,0   | 14,3    | 18,2    | 88,9  | 101,6 | 11,0                              | 457,2      | 311,2  | 304,8  | 235,0 |
| 200                     | 216,3                     | 8,2              | 12,7   | 18,2    | 23,0    | 101,6 | 127,0 | 12,7                              | 609,6      | 413,0  | 406,4  | 311,4 |
| 250                     | 267,4                     | 9,3              | 15,1   | 21,4    | 28,6    | 127,0 | 152,4 | 12,7                              | 762,0      | 514,7  | 508,0  | 387,7 |
| 300                     | 318,5                     | 10,3             | 17,4   | 25,4    | 33,3    | 152,4 | 177,8 | 12,7                              | 914,4      | 616,5  | 609,6  | 464,1 |
| 350                     | 355,6                     | 11,1             | 19,0   | 27,8    | 35,7    | 165,1 | 190,5 | 12,7                              | 1066,8     | 711,2  | 711,2  | 533,4 |
| 400                     | 406,4                     | 12,7             | 21,4   | 30,9    | 40,5    | 177,8 | 203,2 | 12,7                              | 1219,2     | 812,8  | 812,8  | 609,6 |
| 450                     | 457,2                     | 14,3             | 23,8   | 34,9    | 45,2    | 203,2 | 228,6 | 12,7                              | 1371,6     | 914,4  | 914,4  | 685,8 |
| 500                     | 508,0                     | 15,1             | 26,2   | 38,1    | 50,0    | 228,6 | 254,0 | 12,7                              | 1524,0     | 1016,0 | 1016,0 | 762,0 |

CARBON

 **Tee**

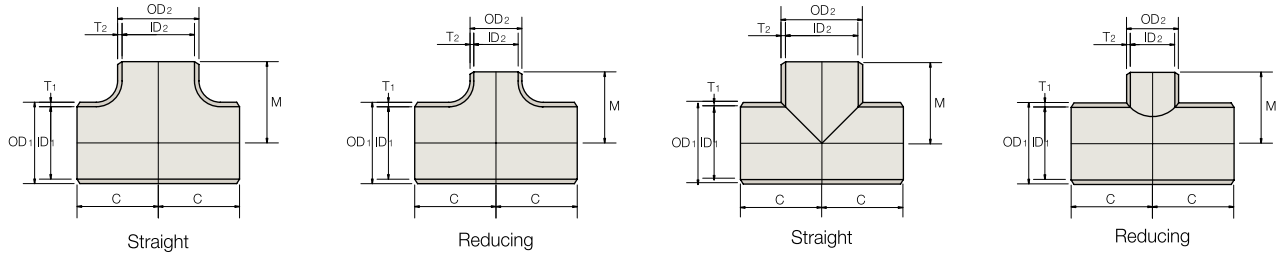
Sch40, Sch80, Sch120, Sch160



· KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness T |                |                |                |                |                |                |                | Center to End |       |
|-------------------------|------------------|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|-------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | Sch 40           |                | Sch 80         |                | Sch 120        |                | Sch 160        |                | C             | M     |
|                         |                  |                 | T <sub>1</sub>   | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |               |       |
| 15X15                   | 21.7             | 21.7            | 2.8              | 2.8            | 3.7            | 3.7            | -              | -              | -              | -              | 25.4          | 25.4  |
| 20X20                   | 27.2             | 27.2            | 2.9              | 2.9            | 3.9            | 3.9            | -              | -              | -              | -              | 28.6          | 28.6  |
| 20X15                   | 27.2             | 21.7            | 2.9              | 2.8            | 3.9            | 3.7            | -              | -              | -              | -              | 28.6          | 28.6  |
| 25X25                   | 34.0             | 34.0            | 3.4              | 3.4            | 4.5            | 4.5            | -              | -              | -              | -              | 38.1          | 38.1  |
| 25X20                   | 34.0             | 27.2            | 3.4              | 2.9            | 4.5            | 3.9            | -              | -              | -              | -              | 38.1          | 38.1  |
| 25X15                   | 34.0             | 21.7            | 3.4              | 2.8            | 4.5            | 3.7            | -              | -              | -              | -              | 38.1          | 38.1  |
| 32X32                   | 42.7             | 42.7            | 3.6              | 3.6            | 4.9            | 4.9            | -              | -              | -              | -              | 47.6          | 47.6  |
| 32X25                   | 42.7             | 34.0            | 3.6              | 3.4            | 4.9            | 4.5            | -              | -              | -              | -              | 47.6          | 47.6  |
| 32X20                   | 42.7             | 27.2            | 3.6              | 2.9            | 4.9            | 3.9            | -              | -              | -              | -              | 47.6          | 47.6  |
| 32X15                   | 42.7             | 21.7            | 3.6              | 2.8            | 4.9            | 3.7            | -              | -              | -              | -              | 47.6          | 47.6  |
| 40X40                   | 48.6             | 48.6            | 3.7              | 3.7            | 5.1            | 5.1            | -              | -              | 7.1            | 7.1            | 57.2          | 57.2  |
| 40X32                   | 48.6             | 42.7            | 3.7              | 3.6            | 5.1            | 4.9            | -              | -              | -              | -              | 57.2          | 57.2  |
| 40X25                   | 48.6             | 34.0            | 3.7              | 3.4            | 5.1            | 4.5            | -              | -              | -              | -              | 57.2          | 57.2  |
| 40X20                   | 48.6             | 27.2            | 3.7              | 2.9            | 5.1            | 3.9            | -              | -              | -              | -              | 57.2          | 57.2  |
| 40X15                   | 48.6             | 21.7            | 3.7              | 2.8            | 5.1            | 3.7            | -              | -              | -              | -              | 57.2          | 57.2  |
| 50X50                   | 60.5             | 60.5            | 3.9              | 3.9            | 5.5            | 5.5            | -              | -              | 8.7            | 8.7            | 63.5          | 63.5  |
| 50X40                   | 60.5             | 48.6            | 3.9              | 3.7            | 5.5            | 5.1            | -              | -              | 8.7            | 7.1            | 63.5          | 60.3  |
| 50X32                   | 60.5             | 42.7            | 3.9              | 3.6            | 5.5            | 4.9            | -              | -              | -              | -              | 63.5          | 57.2  |
| 50X25                   | 60.5             | 34.0            | 3.9              | 3.4            | 5.5            | 4.5            | -              | -              | -              | -              | 63.5          | 50.8  |
| 50X20                   | 60.5             | 27.2            | 3.9              | 2.9            | 5.5            | 3.9            | -              | -              | -              | -              | 63.5          | 44.5  |
| 65X65                   | 76.3             | 76.3            | 5.2              | 5.2            | 7.0            | 7.0            | -              | -              | 9.5            | 9.5            | 76.2          | 76.2  |
| 65X50                   | 76.3             | 60.5            | 5.2              | 3.9            | 7.0            | 5.5            | -              | -              | 9.5            | 8.7            | 76.2          | 69.9  |
| 65X40                   | 76.3             | 48.6            | 5.2              | 3.7            | 7.0            | 5.1            | -              | -              | 9.5            | 7.1            | 76.2          | 66.7  |
| 65X32                   | 76.3             | 42.7            | 5.2              | 3.6            | 7.0            | 4.9            | -              | -              | -              | -              | 76.2          | 63.5  |
| 65X25                   | 76.3             | 34.0            | 5.2              | 3.4            | 7.0            | 4.5            | -              | -              | -              | -              | 76.2          | 57.2  |
| 80X80                   | 89.1             | 89.1            | 5.5              | 5.5            | 7.6            | 7.6            | -              | -              | 11.1           | 11.1           | 85.7          | 85.7  |
| 80X65                   | 89.1             | 76.3            | 5.5              | 5.2            | 7.6            | 7.0            | -              | -              | 11.1           | 9.5            | 85.7          | 82.6  |
| 80X50                   | 89.1             | 60.5            | 5.5              | 3.9            | 7.6            | 5.5            | -              | -              | 11.1           | 8.7            | 85.7          | 76.2  |
| 80X40                   | 89.1             | 48.6            | 5.5              | 3.7            | 7.6            | 5.1            | -              | -              | 11.1           | 7.1            | 85.7          | 73.0  |
| 80X32                   | 89.1             | 42.7            | 5.5              | 3.6            | 7.6            | 4.9            | -              | -              | -              | -              | 85.7          | 69.9  |
| 90X90                   | 101.6            | 101.6           | 5.7              | 5.7            | 8.1            | 8.1            | -              | -              | 12.7           | 12.7           | 95.3          | 95.3  |
| 90X80                   | 101.6            | 89.1            | 5.7              | 5.5            | 8.1            | 7.6            | -              | -              | 12.7           | 11.1           | 95.3          | 92.1  |
| 90X65                   | 101.6            | 76.3            | 5.7              | 5.2            | 8.1            | 7.0            | -              | -              | 12.7           | 9.5            | 95.3          | 88.9  |
| 90X50                   | 101.6            | 60.5            | 5.7              | 3.9            | 8.1            | 5.5            | -              | -              | 12.7           | 8.7            | 95.3          | 82.6  |
| 90X40                   | 101.6            | 48.6            | 5.7              | 3.7            | 8.1            | 5.1            | -              | -              | 12.7           | 7.1            | 95.3          | 79.4  |
| 100X100                 | 114.3            | 114.3           | 6.0              | 6.0            | 8.6            | 8.6            | 11.1           | 11.1           | 13.5           | 13.5           | 104.8         | 104.8 |
| 100X90                  | 114.3            | 101.6           | 6.0              | 5.7            | 8.6            | 8.1            | -              | -              | 13.5           | 12.7           | 104.8         | 101.6 |
| 100X80                  | 114.3            | 89.1            | 6.0              | 5.5            | 8.6            | 7.6            | -              | -              | 13.5           | 11.1           | 104.8         | 98.4  |
| 100X65                  | 114.3            | 76.3            | 6.0              | 5.2            | 8.6            | 7.0            | -              | -              | 13.5           | 9.5            | 104.8         | 95.3  |
| 100X50                  | 114.3            | 60.5            | 6.0              | 3.9            | 8.6            | 5.5            | -              | -              | 13.5           | 8.7            | 104.8         | 88.9  |
| 100X40                  | 114.3            | 48.6            | 6.0              | 3.7            | 8.6            | 5.1            | -              | -              | 13.5           | 7.1            | 104.8         | 85.7  |

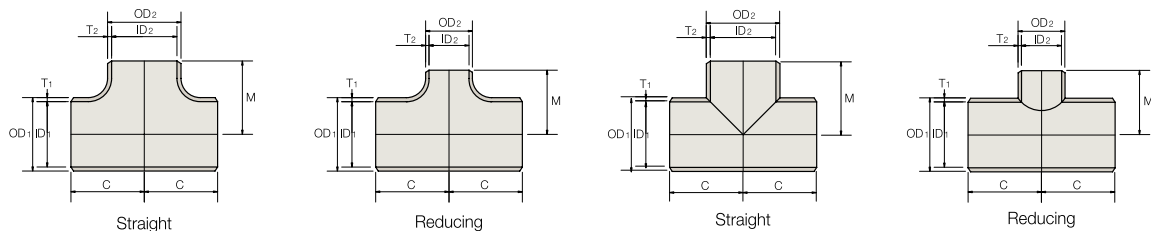


· KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness T |                |                |                |                |                |                |                | Center to End |       |
|-------------------------|------------------|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|-------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | Sch 40           |                | Sch 80         |                | Sch 120        |                | Sch 160        |                | C             | M     |
|                         |                  |                 | T <sub>1</sub>   | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |               |       |
| 125X125                 | 139.8            | 139.8           | 6.6              | 6.6            | 9.5            | 9.5            | 12.7           | 12.7           | 15.9           | 15.9           | 123.8         | 123.8 |
| 125X100                 | 139.8            | 114.3           | 6.6              | 6.0            | 9.5            | 8.6            | 12.7           | 11.1           | 15.9           | 13.5           | 123.8         | 117.5 |
| 125X90                  | 139.8            | 101.6           | 6.6              | 5.7            | 9.5            | 8.1            | -              | -              | 15.9           | 12.7           | 123.8         | 114.3 |
| 125X80                  | 139.8            | 89.1            | 6.6              | 5.5            | 9.5            | 7.6            | -              | -              | 15.9           | 11.1           | 123.8         | 111.1 |
| 125X65                  | 139.8            | 76.3            | 6.6              | 5.2            | 9.5            | 7.0            | -              | -              | 15.9           | 9.5            | 123.8         | 108.0 |
| 125X50                  | 139.8            | 60.5            | 6.6              | 3.9            | 9.5            | 5.5            | -              | -              | 15.9           | 8.7            | 123.8         | 104.8 |
| 150X150                 | 165.2            | 165.2           | 7.1              | 7.1            | 11.0           | 11.0           | 14.3           | 14.3           | 18.2           | 18.2           | 142.9         | 142.9 |
| 150X125                 | 165.2            | 139.8           | 7.1              | 6.6            | 11.0           | 9.5            | 14.3           | 12.7           | 18.2           | 15.9           | 142.9         | 136.5 |
| 150X100                 | 165.2            | 114.3           | 7.1              | 6.0            | 11.0           | 8.6            | 14.3           | 11.1           | 18.2           | 13.2           | 142.9         | 130.2 |
| 150X90                  | 165.2            | 101.6           | 7.1              | 5.7            | 11.0           | 8.1            | -              | -              | 18.2           | 12.7           | 142.9         | 127.0 |
| 150X80                  | 165.2            | 89.1            | 7.1              | 5.5            | 11.0           | 7.6            | -              | -              | 18.2           | 11.1           | 142.9         | 123.8 |
| 150X65                  | 165.2            | 76.3            | 7.1              | 5.2            | 11.0           | 7.0            | -              | -              | 18.2           | 9.5            | 142.9         | 120.7 |
| 200X200                 | 216.3            | 216.3           | 8.2              | 8.2            | 12.7           | 12.7           | 18.2           | 18.2           | 23.0           | 23.0           | 177.8         | 177.8 |
| 200X150                 | 216.3            | 165.2           | 8.2              | 7.1            | 12.7           | 11.0           | 18.2           | 14.3           | 23.0           | 18.2           | 177.8         | 168.3 |
| 200X125                 | 216.3            | 139.8           | 8.2              | 6.6            | 12.7           | 9.5            | 18.2           | 12.7           | 23.0           | 15.9           | 177.8         | 161.9 |
| 200X100                 | 216.3            | 114.3           | 8.2              | 6.0            | 12.7           | 8.6            | 18.2           | 11.1           | 23.0           | 13.5           | 177.8         | 155.6 |
| 200X90                  | 216.3            | 101.6           | 8.2              | 5.7            | 12.7           | 8.1            | -              | -              | 23.0           | 12.7           | 177.8         | 152.4 |
| 250X250                 | 267.4            | 267.4           | 9.3              | 9.3            | 15.1           | 15.1           | 21.4           | 21.4           | 28.6           | 28.6           | 215.9         | 215.9 |
| 250X200                 | 267.4            | 216.3           | 9.3              | 8.2            | 15.1           | 12.7           | 21.4           | 18.2           | 28.6           | 23.0           | 215.9         | 203.2 |
| 250X150                 | 267.4            | 165.2           | 9.3              | 7.1            | 15.1           | 11.0           | 21.4           | 14.3           | 28.6           | 18.2           | 215.9         | 193.7 |
| 250X125                 | 267.4            | 139.8           | 9.3              | 6.6            | 15.1           | 9.5            | 21.4           | 12.7           | 28.6           | 15.9           | 215.9         | 190.5 |
| 250X100                 | 267.4            | 114.3           | 9.3              | 6.0            | 15.1           | 8.6            | 21.4           | 11.1           | 28.6           | 13.5           | 215.9         | 184.2 |
| 300X300                 | 318.5            | 318.5           | 10.3             | 10.3           | 17.4           | 17.4           | 25.4           | 25.4           | 33.3           | 33.3           | 254.0         | 254.0 |
| 300X250                 | 318.5            | 267.4           | 10.3             | 9.3            | 17.4           | 15.1           | 25.4           | 21.4           | 33.3           | 28.6           | 254.0         | 241.3 |
| 300X200                 | 318.5            | 216.3           | 10.3             | 8.2            | 17.4           | 12.7           | 25.4           | 18.2           | 33.3           | 23.0           | 254.0         | 228.6 |
| 300X150                 | 318.5            | 165.2           | 10.3             | 7.1            | 17.4           | 11.0           | 25.4           | 14.3           | 33.3           | 18.2           | 254.0         | 219.1 |
| 300X125                 | 318.5            | 139.8           | 10.3             | 6.6            | 17.4           | 9.5            | 25.4           | 12.7           | 33.3           | 15.9           | 254.0         | 215.9 |
| 350X350                 | 355.6            | 355.6           | 11.1             | 11.1           | 19.0           | 19.0           | 27.8           | 27.8           | 35.7           | 35.7           | 279.4         | 279.4 |
| 350X300                 | 355.6            | 318.5           | 11.1             | 10.3           | 19.0           | 17.4           | 27.8           | 25.4           | 35.7           | 33.3           | 279.4         | 269.9 |
| 350X250                 | 355.6            | 267.4           | 11.1             | 9.3            | 19.0           | 15.1           | 27.8           | 21.4           | 35.7           | 28.6           | 279.4         | 257.2 |
| 350X200                 | 355.6            | 216.3           | 11.1             | 8.2            | 19.0           | 12.7           | 27.8           | 18.2           | 35.7           | 23.0           | 279.4         | 247.7 |
| 350X150                 | 355.6            | 165.2           | 11.1             | 7.1            | 19.0           | 11.0           | 27.8           | 14.3           | 35.7           | 18.2           | 279.4         | 238.1 |
| 400X400                 | 406.4            | 406.4           | 12.7             | 12.7           | 21.4           | 21.4           | 30.9           | 30.9           | 40.5           | 40.5           | 304.8         | 304.8 |
| 400X350                 | 406.4            | 355.6           | 12.7             | 11.1           | 21.4           | 19.0           | 30.9           | 27.8           | 40.5           | 35.7           | 304.8         | 304.8 |
| 400X300                 | 406.4            | 318.5           | 12.7             | 10.3           | 21.4           | 17.4           | 30.9           | 25.4           | 40.5           | 33.3           | 304.8         | 295.3 |
| 400X250                 | 406.4            | 267.4           | 12.7             | 9.3            | 21.4           | 15.1           | 30.9           | 21.4           | 40.5           | 28.6           | 304.8         | 282.6 |
| 400X200                 | 406.4            | 216.3           | 12.7             | 8.2            | 21.4           | 12.7           | 30.9           | 18.2           | 40.5           | 23.0           | 304.8         | 273.1 |
| 400X150                 | 406.4            | 165.2           | 12.7             | 7.1            | 21.4           | 11.0           | 30.9           | 14.3           | 40.5           | 18.2           | 304.8         | 263.5 |

**Tee** Sch40, Sch80, Sch120, Sch160



• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness T |                |                |                |                |                |                |                | Center to End |       |
|-------------------------|------------------|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|-------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | Sch 40           |                | Sch 80         |                | Sch 120        |                | Sch 160        |                | C             | M     |
|                         |                  |                 | T <sub>1</sub>   | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |               |       |
| 450X450                 | 457.2            | 457.2           | 14.3             | 14.3           | 23.8           | 23.8           | 34.9           | 34.9           | 45.2           | 45.2           | 342.9         | 342.9 |
| 450X400                 | 457.2            | 406.4           | 14.3             | 12.7           | 23.8           | 21.4           | 34.9           | 30.9           | 45.2           | 40.5           | 342.9         | 330.2 |
| 450X350                 | 457.2            | 355.6           | 14.3             | 11.1           | 23.8           | 19.0           | 34.9           | 27.8           | 45.2           | 35.7           | 342.9         | 330.2 |
| 450X300                 | 457.2            | 318.5           | 14.3             | 10.3           | 23.8           | 17.4           | 34.9           | 25.4           | 45.2           | 33.3           | 342.9         | 320.7 |
| 450X250                 | 457.2            | 267.4           | 14.3             | 9.3            | 23.8           | 15.1           | 34.9           | 21.4           | 45.2           | 28.6           | 342.9         | 308.0 |
| 450X200                 | 457.2            | 216.3           | 14.3             | 8.2            | 23.8           | 12.7           | 34.9           | 18.2           | 45.2           | 23.0           | 342.9         | 298.5 |
| 500X500                 | 508.0            | 508.0           | 15.1             | 15.1           | 26.2           | 26.2           | 38.1           | 38.1           | 50.0           | 50.0           | 381.0         | 381.0 |
| 500X450                 | 508.0            | 457.2           | 15.1             | 14.3           | 26.2           | 23.8           | 38.1           | 34.9           | 50.0           | 45.2           | 381.0         | 368.3 |
| 500X400                 | 508.0            | 406.4           | 15.1             | 12.7           | 26.2           | 21.4           | 38.1           | 30.9           | 50.0           | 40.5           | 381.0         | 355.6 |
| 500X350                 | 508.0            | 355.6           | 15.1             | 11.1           | 26.2           | 19.0           | 38.1           | 27.8           | 50.0           | 35.7           | 381.0         | 355.6 |
| 500X300                 | 508.0            | 318.5           | 15.1             | 10.3           | 26.2           | 17.4           | 38.1           | 25.4           | 50.0           | 33.3           | 381.0         | 346.1 |
| 500X250                 | 508.0            | 267.4           | 15.1             | 9.3            | 26.2           | 15.1           | 38.1           | 21.4           | 50.0           | 28.6           | 381.0         | 333.4 |
| 500X200                 | 508.0            | 216.3           | 15.1             | 8.2            | 26.2           | 12.7           | 38.1           | 18.2           | 50.0           | 23.0           | 381.0         | 323.9 |
| 550X550                 | 558.8            | 558.8           | 15.1             | 15.1           | 28.6           | 28.6           | -              | -              | -              | -              | 419.1         | 419.1 |
| 550X500                 | 558.8            | 508.0           | 15.1             | 15.1           | 28.6           | 26.2           | -              | -              | -              | -              | 419.1         | 406.4 |
| 550X450                 | 558.8            | 457.2           | 15.1             | 14.3           | 28.6           | 23.8           | -              | -              | -              | -              | 419.1         | 393.7 |
| 550X400                 | 558.8            | 406.4           | 15.1             | 12.7           | 28.6           | 21.4           | -              | -              | -              | -              | 419.1         | 381.0 |
| 600X600                 | 609.6            | 609.6           | 17.4             | 17.4           | 31.0           | 31.0           | -              | -              | -              | -              | 431.8         | 431.8 |
| 600X550                 | 609.6            | 558.8           | 17.4             | 15.1           | 31.0           | 28.6           | -              | -              | -              | -              | 431.8         | 431.8 |
| 600X500                 | 609.6            | 508.0           | 17.4             | 15.1           | 31.0           | 26.2           | -              | -              | -              | -              | 431.8         | 431.8 |
| 600X450                 | 609.6            | 457.2           | 17.4             | 14.3           | 31.0           | 23.8           | -              | -              | -              | -              | 431.8         | 419.1 |
| 650X650                 | 660.4            | 660.4           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 495.3         | 495.3 |
| 650X600                 | 660.4            | 609.6           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 495.3         | 482.6 |
| 650X550                 | 660.4            | 558.8           | 17.4             | 15.1           | -              | -              | -              | -              | -              | -              | 495.3         | 469.9 |
| 650X500                 | 660.4            | 508.0           | 17.4             | 15.1           | -              | -              | -              | -              | -              | -              | 495.3         | 457.2 |
| 700X700                 | 711.2            | 711.2           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 520.7         | 520.7 |
| 700X650                 | 711.2            | 660.4           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 520.7         | 520.7 |
| 700X600                 | 711.2            | 609.6           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 520.7         | 508.0 |
| 700X550                 | 711.2            | 558.8           | 17.4             | 15.1           | -              | -              | -              | -              | -              | -              | 520.7         | 495.3 |
| 750X750                 | 762.0            | 762.0           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 558.8         | 558.8 |
| 750X700                 | 762.0            | 711.2           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 558.8         | 546.1 |
| 750X650                 | 762.0            | 660.4           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 558.8         | 546.1 |
| 750X600                 | 762.0            | 609.6           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 558.8         | 533.4 |
| 800X800                 | 812.8            | 812.8           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 596.9         | 596.9 |
| 800X750                 | 812.8            | 762.0           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 596.9         | 584.2 |
| 800X700                 | 812.8            | 711.2           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 596.9         | 571.5 |
| 800X650                 | 812.8            | 660.4           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 596.9         | 571.5 |
| 850X850                 | 863.6            | 863.6           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 635.0         | 635.0 |
| 850X800                 | 863.6            | 812.8           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 635.0         | 622.3 |
| 850X750                 | 863.6            | 762.0           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 635.0         | 609.6 |
| 850X700                 | 863.6            | 711.2           | 17.4             | 17.4           | -              | -              | -              | -              | -              | -              | 635.0         | 596.9 |
| 900X900                 | 914.4            | 914.4           | 19.0             | 19.0           | -              | -              | -              | -              | -              | -              | 673.1         | 673.1 |
| 900X850                 | 914.4            | 863.6           | 19.0             | 17.4           | -              | -              | -              | -              | -              | -              | 673.1         | 660.4 |
| 900X800                 | 914.4            | 812.8           | 19.0             | 17.4           | -              | -              | -              | -              | -              | -              | 673.1         | 647.7 |
| 900X750                 | 914.4            | 762.0           | 19.0             | 17.4           | -              | -              | -              | -              | -              | -              | 673.1         | 635.0 |

# Reducer

Sch40, Sch80, Sch160



· KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness T |                |                |                |                |                | End to End<br>H |
|-------------------------|------------------|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | Sch 40           |                | Sch 80         |                | Sch 160        |                |                 |
|                         |                  |                 | T <sub>1</sub>   | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |                 |
| 20X15                   | 27,2             | 21,7            | 2,9              | 2,8            | 3,9            | 3,7            | -              | -              | 38,1            |
| 25X20                   | 34,0             | 27,2            | 3,4              | 2,9            | 4,5            | 3,9            | -              | -              | 50,8            |
| 25X15                   | 34,0             | 21,7            | 3,4              | 2,8            | 4,5            | 3,7            | -              | -              | 50,8            |
| 32X25                   | 42,7             | 34,0            | 3,6              | 3,4            | 4,9            | 4,5            | -              | -              | 50,8            |
| 32X20                   | 42,7             | 27,2            | 3,6              | 2,9            | 4,9            | 3,9            | -              | -              | 50,8            |
| 32X15                   | 42,7             | 21,7            | 3,6              | 2,8            | 4,9            | 3,7            | -              | -              | 50,8            |
| 40X32                   | 48,6             | 42,7            | 3,7              | 3,6            | 5,1            | 4,9            | -              | -              | 63,5            |
| 40X25                   | 48,6             | 34,0            | 3,7              | 3,4            | 5,1            | 4,5            | -              | -              | 63,5            |
| 40X20                   | 48,6             | 27,2            | 3,7              | 2,9            | 5,1            | 3,9            | -              | -              | 63,5            |
| 40X15                   | 48,6             | 21,7            | 3,7              | 2,8            | 5,1            | 3,7            | -              | -              | 63,5            |
| 50X40                   | 60,5             | 48,6            | 3,9              | 3,7            | 5,5            | 5,1            | 8,7            | 7,1            | 76,2            |
| 50X32                   | 60,5             | 42,7            | 3,9              | 3,6            | 5,5            | 4,9            | -              | -              | 76,2            |
| 50X25                   | 60,5             | 34,0            | 3,9              | 3,4            | 5,5            | 4,5            | -              | -              | 76,2            |
| 50X20                   | 60,5             | 27,2            | 3,9              | 2,9            | 5,5            | 3,9            | -              | -              | 76,2            |
| 65X50                   | 76,3             | 60,5            | 5,2              | 3,9            | 7,0            | 5,5            | 9,5            | 8,7            | 88,9            |
| 65X40                   | 76,3             | 48,6            | 5,2              | 3,7            | 7,0            | 5,1            | 9,5            | 7,1            | 88,9            |
| 65X32                   | 76,3             | 42,7            | 5,2              | 3,6            | 7,0            | 4,9            | -              | -              | 88,9            |
| 65X25                   | 76,3             | 34,0            | 5,2              | 3,4            | 7,0            | 4,5            | -              | -              | 88,9            |
| 80X65                   | 89,1             | 76,3            | 5,5              | 5,2            | 7,6            | 7,0            | 11,1           | 9,5            | 88,9            |
| 80X50                   | 89,1             | 60,5            | 5,5              | 3,9            | 7,6            | 5,5            | 11,1           | 8,7            | 88,9            |
| 80X40                   | 89,1             | 48,6            | 5,5              | 3,7            | 7,6            | 5,1            | 11,1           | 7,1            | 88,9            |
| 80X32                   | 89,1             | 42,7            | 5,5              | 3,6            | 7,6            | 4,9            | -              | -              | 88,9            |
| 90X80                   | 101,6            | 89,1            | 5,7              | 5,5            | 8,1            | 7,6            | 12,7           | 11,1           | 101,6           |
| 90X65                   | 101,6            | 76,3            | 5,7              | 5,2            | 8,1            | 7,0            | 12,7           | 9,5            | 101,6           |
| 90X50                   | 101,6            | 60,5            | 5,7              | 3,9            | 8,1            | 5,5            | 12,7           | 8,7            | 101,6           |
| 90X40                   | 101,6            | 48,6            | 5,7              | 3,7            | 8,1            | 5,1            | 12,7           | 7,1            | 101,6           |
| 90X32                   | 101,6            | 42,7            | 5,7              | 3,6            | 8,1            | 4,9            | -              | -              | 101,6           |
| 100X90                  | 114,3            | 101,6           | 6,0              | 5,7            | 8,6            | 8,1            | 13,5           | 12,7           | 101,6           |
| 100X80                  | 114,3            | 89,1            | 6,0              | 5,5            | 8,6            | 7,6            | 13,5           | 11,1           | 101,6           |
| 100X65                  | 114,3            | 76,3            | 6,0              | 5,2            | 8,6            | 7,0            | 13,5           | 9,5            | 101,6           |
| 100X50                  | 114,3            | 60,5            | 6,0              | 3,9            | 8,6            | 5,5            | 13,5           | 8,7            | 101,6           |
| 100X40                  | 114,3            | 48,6            | 6,0              | 3,7            | 8,6            | 5,1            | 13,5           | 7,1            | 101,6           |

 **Reducer** Sch40, Sch80, Sch160



· KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

| Nominal<br>Pipe<br>Size | Outside Diameter |                 | Wall Thickness T |                |                |                |                |                |                |                | End<br>to End<br>H |
|-------------------------|------------------|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------|
|                         | OD <sub>1</sub>  | OD <sub>2</sub> | Sch 40           |                | Sch 80         |                | Sch 120        |                | Sch 160        |                |                    |
|                         |                  |                 | T <sub>1</sub>   | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> | T <sub>1</sub> | T <sub>2</sub> |                    |
| 125X100                 | 139,8            | 114,3           | 6,6              | 6,0            | 9,5            | 8,6            | 12,7           | 11,1           | 15,9           | 13,5           | 127,0              |
| 125X90                  | 139,8            | 101,6           | 6,6              | 5,7            | 9,5            | 8,1            | -              | -              | 15,9           | 12,7           | 127,0              |
| 125X80                  | 139,8            | 89,1            | 6,6              | 5,5            | 9,5            | 7,6            | -              | -              | 15,9           | 11,1           | 127,0              |
| 125X65                  | 139,8            | 76,3            | 6,6              | 5,2            | 9,5            | 7,0            | -              | -              | 15,9           | 9,5            | 127,0              |
| 125X50                  | 139,8            | 60,5            | 6,6              | 3,9            | 9,5            | 5,5            | -              | -              | 15,9           | 8,7            | 127,0              |
| 150X125                 | 165,2            | 139,8           | 7,1              | 6,6            | 11,0           | 9,5            | 14,3           | 12,7           | 18,2           | 15,9           | 139,7              |
| 150X100                 | 165,2            | 114,3           | 7,1              | 6,0            | 11,0           | 8,6            | 14,3           | 11,1           | 18,2           | 13,5           | 139,7              |
| 150X90                  | 165,2            | 101,6           | 7,1              | 5,7            | 11,0           | 8,1            | -              | -              | 18,2           | 12,7           | 139,7              |
| 150X80                  | 165,2            | 89,1            | 7,1              | 5,5            | 11,0           | 7,6            | -              | -              | 18,2           | 11,1           | 139,7              |
| 150X65                  | 165,2            | 76,3            | 7,1              | 5,2            | 11,0           | 7,0            | -              | -              | 18,2           | 9,5            | 139,7              |
| 200X150                 | 216,3            | 165,2           | 8,2              | 7,1            | 12,7           | 11,0           | 18,2           | 14,3           | 23,0           | 18,2           | 152,4              |
| 200X125                 | 216,3            | 139,8           | 8,2              | 6,6            | 12,7           | 9,5            | 18,2           | 12,7           | 23,0           | 15,9           | 152,4              |
| 200X100                 | 216,3            | 114,3           | 8,2              | 6,0            | 12,7           | 8,6            | 18,2           | 11,1           | 23,0           | 13,5           | 152,4              |
| 200X90                  | 216,3            | 101,6           | 8,2              | 5,7            | 12,7           | 8,1            | -              | -              | 23,0           | 12,7           | 152,4              |
| 250X200                 | 267,4            | 216,3           | 9,3              | 8,2            | 15,1           | 12,7           | 21,4           | 18,2           | 28,6           | 23,0           | 177,8              |
| 250X150                 | 267,4            | 165,2           | 9,3              | 7,1            | 15,1           | 11,0           | 21,4           | 14,3           | 28,6           | 18,2           | 177,8              |
| 250X125                 | 267,4            | 139,8           | 9,3              | 6,6            | 15,1           | 9,5            | 21,4           | 12,7           | 28,6           | 15,9           | 177,8              |
| 250X100                 | 267,4            | 114,3           | 9,3              | 6,0            | 15,1           | 8,6            | -              | -              | 28,6           | 13,5           | 177,8              |
| 300X250                 | 318,5            | 267,4           | 10,3             | 9,3            | 17,4           | 15,1           | 25,4           | 21,4           | 33,3           | 28,6           | 203,2              |
| 300X200                 | 318,5            | 216,3           | 10,3             | 8,2            | 17,4           | 12,7           | 25,4           | 18,2           | 33,3           | 23,0           | 203,2              |
| 300X150                 | 318,5            | 165,2           | 10,3             | 7,1            | 17,4           | 11,0           | 25,4           | 14,3           | 33,3           | 18,2           | 203,2              |
| 300X125                 | 318,5            | 139,8           | 10,3             | 6,6            | 17,4           | 9,5            | 25,4           | 12,7           | 33,3           | 15,9           | 203,2              |
| 350X300                 | 355,6            | 318,5           | 11,1             | 10,3           | 19,0           | 17,4           | 27,8           | 25,4           | 35,7           | 33,3           | 330,2              |
| 350X250                 | 355,6            | 267,4           | 11,1             | 9,3            | 19,0           | 15,1           | 27,8           | 21,4           | 35,7           | 28,6           | 330,2              |
| 350X200                 | 355,6            | 216,3           | 11,1             | 8,2            | 19,0           | 12,7           | 27,8           | 18,2           | 35,7           | 23,0           | 330,2              |
| 350X150                 | 355,6            | 165,2           | 11,1             | 7,1            | 19,0           | 11,0           | 27,8           | 14,3           | 35,7           | 18,2           | 330,2              |
| 400X350                 | 406,4            | 355,6           | 12,7             | 11,1           | 21,4           | 19,0           | 30,9           | 27,8           | 40,5           | 35,7           | 355,6              |
| 400X300                 | 406,4            | 318,5           | 12,7             | 10,3           | 21,4           | 17,4           | 30,9           | 25,4           | 40,5           | 33,3           | 355,6              |
| 400X250                 | 406,4            | 267,4           | 12,7             | 9,3            | 21,4           | 15,1           | 30,9           | 21,4           | 40,5           | 28,6           | 355,6              |
| 400X200                 | 406,4            | 216,3           | 12,7             | 8,2            | 21,4           | 12,7           | 30,9           | 18,2           | 40,5           | 23,0           | 355,6              |
| 450X400                 | 457,2            | 406,4           | 14,3             | 12,7           | 23,8           | 21,4           | 34,9           | 30,9           | 45,2           | 40,5           | 381,0              |
| 450X350                 | 457,2            | 355,6           | 14,3             | 11,1           | 23,8           | 19,0           | 34,9           | 27,8           | 45,2           | 35,7           | 381,0              |
| 450X300                 | 457,2            | 318,5           | 14,3             | 10,3           | 23,8           | 17,4           | 34,9           | 25,4           | 45,2           | 33,3           | 381,0              |
| 450X250                 | 457,2            | 267,4           | 14,3             | 9,3            | 23,8           | 15,1           | 34,9           | 21,4           | 45,2           | 28,6           | 381,0              |
| 500X450                 | 508,0            | 457,2           | 15,1             | 14,3           | 26,2           | 23,8           | 38,1           | 34,9           | 50,0           | 54,2           | 508,0              |
| 500X400                 | 508,0            | 406,4           | 15,1             | 12,7           | 26,2           | 21,4           | 38,1           | 30,9           | 50,0           | 40,5           | 508,0              |
| 500X350                 | 508,0            | 355,6           | 15,1             | 11,1           | 26,2           | 19,0           | 38,1           | 27,8           | 50,0           | 35,7           | 508,0              |
| 500X300                 | 508,0            | 318,5           | 15,1             | 10,3           | 26,2           | 17,4           | 38,1           | 25,4           | 50,0           | 33,3           | 508,0              |



“ 뉴아세아는  
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