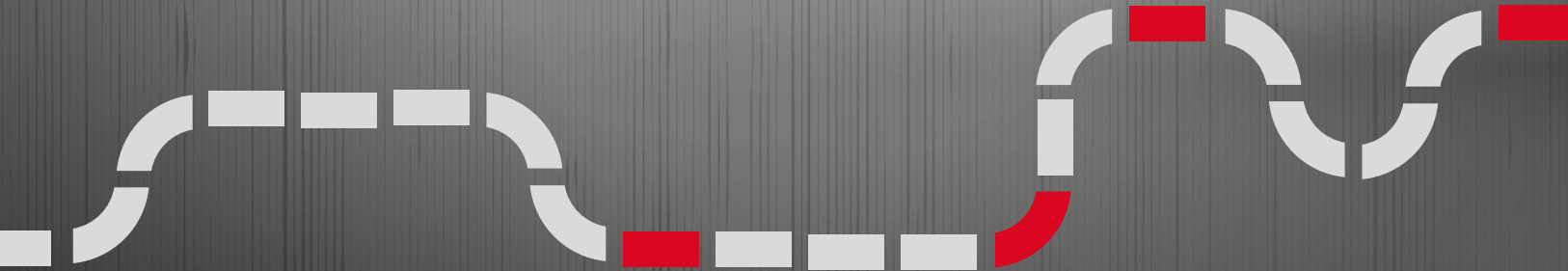




ARNOR

PIPE, VALVES, FITTINGS STEEL AND STAINLESS STEEL
TUBERIAS, VALVULAS, CONEXIONES ACERO Y ACERO INOXIDABLE



www.arnor.com.mx



INTRODUCCION

Proveedora ARNOR, S.A. de C.V. es una empresa dedicada a la comercialización de tuberías, válvulas y conexiones; audaz, ágil, responsable y dinámica. Compuesta por profesionales altamente capacitados para afrontar desafíos, llevando al máximo su capacidad para brindarle a cliente lo que busca.

Proveedora ARNOR nace en Guadalajara, Jalisco en Mayo de 1996 con el ideal de posicionarse en el mercado nacional e internacional inspirado confianza en nuestros clientes otorgando excelencia y calidad en nuestro servicio y en cada uno de sus productos.

Hemos adoptado el compromiso de satisfacer al cliente mediante una filosofía que abarca los valores de honestidad, lealtad, trabajo en equipo y puntualidad. Realmente valoramos a nuestros clientes y creemos que ellos son los que alientan a proveedora ARNOR a ser una empresa siempre a la vanguardia con el espíritu calido, dispuesta a satisfacer al 100% las necesidades del mercado.



INDICE

| | |
|---|----|
| TUBERÍA | 1 |
| VÁLVULAS ESFERA WORCESTER | 6 |
| VÁLVULAS ACERO FORJADO | 12 |
| VÁLVULAS ACERO FUNDIDO | 14 |
| VÁLVULAS DE HIERRO | 21 |
| VÁLVULAS MARIPOSA | 28 |
| VÁLVULAS BRONCE URREA | 33 |
| BRIDAS | 37 |
| CONEXIONES ALTA PRESIÓN ACERO AL CARBÓN E INOXIDABLE..... | 49 |
| CONEXIÓN SOLDABLE ACERO AL CARBÓN | 54 |
| CONEXIÓN SOLDABLE ACERO INOXIDABLE | 66 |

ACERO INOXIDABLE ASTM A-312

| Normas de fabricación | Tipo | Aplicación |
|-----------------------------------|---|-----------------------------------|
| ASTM A-312 | Normal | Usos generales |
| A-358 | Especial (5 clases) | Para alta temperatura |
| A-409 | Grandes Diámetros | Para alta temperatura |
| A-778 | Sin tratamiento Térmico | Para baja temperatura y corrosión |
| A-530 ANSI B-36, 19 B-36.10 | Requerimientos generales y dimensionamiento | |

*Aceros inoxidables: TP 304, 316 Grados L y Especiales



| Diámetro nominal piper size | | Diámetro exterior Outside diameter | | Cédula / Schedules | | | | | | | | |
|-----------------------------|---------|------------------------------------|---------|--------------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Pulg. inch. | mm. mm. | Pulg. inch. | mm. mm. | 5 S | 5 S | 10 S | 10 | 20 | 40 S | 40 | 80 S EH | 40 |
| 1/4" | 6 | 0.54 | 13.7 | | 0.049 0.38 | 0.065 0.88 | 0.065 0.88 | | 0.088 0.62 | 0.088 0.62 | 0.119 0.79 | 0.119 0.79 |
| 3/8" | 10 | 0.675 | 17.1 | | 0.049 0.38 | 0.065 0.62 | 0.065 0.62 | | 0.091 0.84 | 0.091 0.84 | 0.126 1.09 | 0.126 1.09 |
| 1/2" | 13 | 0.840 | 21.3 | 0.065 0.79 | 0.065 0.79 | 0.083 0.99 | 0.083 0.99 | | 0.109 1.25 | 0.109 1.25 | 0.147 1.61 | 0.147 1.61 |
| 3/4" | 19 | 1.050 | 26.7 | 0.065 1.01 | 0.065 1.01 | 0.083 1.26 | 0.083 1.26 | | 0.113 1.67 | 0.113 1.67 | 0.154 2.18 | 0.154 2.18 |
| 1" | 25 | 1.315 | 33.4 | 0.065 1.28 | 0.065 1.28 | 0.109 2.07 | 0.109 2.07 | | 0.133 2.48 | 0.133 2.48 | 0.179 3.21 | 0.179 3.21 |
| 1 1/4" | 32 | 1.660 | 42.2 | 0.065 1.63 | 0.065 1.63 | 0.109 2.67 | 0.109 2.67 | | 0.140 3.36 | 0.140 3.36 | 0.191 4.43 | 0.191 4.43 |
| 1 1/2" | 38 | 1.900 | 48.3 | 0.065 1.88 | 0.065 1.88 | 0.109 3.08 | 0.109 3.08 | | 0.145 4.02 | 0.145 4.02 | 0.200 5.37 | 0.200 5.37 |
| 2" | 51 | 2.375 | 60.3 | 0.065 2.37 | 0.065 2.37 | 0.109 3.9 | 0.109 3.9 | | 0.154 5.40 | 0.154 5.40 | 0.219 7.46 | 0.219 7.46 |
| 2 1/2" | 64 | 2.875 | 73.0 | 0.083 3.66 | 0.083 3.66 | 0.120 5.22 | 0.120 5.22 | | 0.203 8.57 | 0.203 8.57 | 0.276 11.33 | 0.276 11.33 |
| 3" | 76 | 3.500 | 88.9 | 0.083 4.48 | 0.083 4.48 | 0.120 6.41 | 0.120 6.41 | | 0.216 11.21 | 0.216 11.21 | 0.300 15.17 | 0.300 15.17 |
| 4" | 102 | 4.500 | 114.3 | 0.083 5.79 | 0.083 5.79 | 0.120 8.30 | 0.120 8.30 | | 0.237 15.96 | 0.237 15.96 | 0.337 22.17 | 0.337 22.17 |
| 5" | 127 | 5.563 | 141 | 0.109 9.39 | 0.109 9.39 | 0.134 11.49 | 0.134 11.49 | 0.203 17.19 | 0.258 21.63 | 0.258 21.63 | 0.375 30.75 | 0.375 30.75 |
| 6" | 152 | 6.625 | 168.3 | 0.109 11.22 | 0.109 11.22 | 0.134 13.74 | 0.134 13.74 | 0.203 20.60 | 0.280 28.07 | 0.280 28.07 | 0.432 42.28 | 0.432 42.28 |
| 8" | 203 | 8.625 | 219.1 | 0.109 14.67 | 0.109 14.67 | 0.148 19.83 | 0.148 19.83 | 0.250 33.09 | 0.322 42.25 | 0.322 42.25 | 0.500 64.21 | 0.500 64.21 |
| 10" | 254 | 10.750 | 273.1 | 0.134 22.48 | 0.134 22.48 | 0.165 27.60 | 0.165 27.60 | 0.250 41.49 | 0.365 59.91 | 0.365 59.91 | 0.500 81.01 | 0.594 95.35 |
| 12" | 305 | 12.750 | 232.9 | 0.156 31.05 | 0.165 32.82 | 0.180 35.75 | 0.180 35.75 | 0.250 49.40 | 0.375 73.34 | 0.406 79.2 | 0.500 96.82 | 0.688 131.174 |
| 14" | 356 | 14.000 | 355.6 | 0.156 34.14 | | 0.188 41.04 | 0.250 54.33 | 0.313 67.71 | 0.375 80.76 | 0.438 39.84 | 0.500 106.69 | 0.750 157.07 |
| 16" | 406 | 16.000 | 406 | 0.165 41.29 | | 0.188 46.99 | 0.250 62.23 | 0.313 77.61 | 0.375 92.61 | 0.500 122.49 | 0.500 112.49 | 0.844 202.18 |
| 18" | 457 | 18.000 | 457 | 0.165 46.51 | | 0.188 52.92 | 0.250 70.13 | 0.313 87.49 | 0.375 104.47 | 0.563 155.17 | 0.500 138.30 | 0.938 252.96 |
| 20" | 508 | 20.000 | 508 | 0.188 58.87 | | 0.219 68.47 | 0.250 78.04 | 0.375 116.32 | 0.375 116.32 | 0.594 182.20 | 0.500 154.11 | 1.031 309.12 |
| 24" | 610 | 24.000 | 610 | 0.219 82.31 | | 0.250 93.84 | 0.250 93.84 | 0.375 140.03 | 0.375 140.03 | 0.688 253.50 | 0.500 185.72 | 1.219 438.93 |

ACERO INOXIDABLE ASTM A-312

Tabla de presión de diseño

| Diámetro Nominal | Céd. | Diámetro Exterior | | Pared Espesor | | Presión de Ruptura | | Presión interior de Trabajo | | Presión de aplastamiento | | Presión exterior de Trabajo | | Preso aproximado | | |
|------------------|---------|-------------------|--------|---------------|------|--------------------|-------|-----------------------------|--------|--------------------------|--------|-----------------------------|--------|------------------|--------|---------|
| | | Pulg. | mm. | Pulg. | mm. | Pulg. | mm. | (PSI) | Kg/cm. | (PSI) | Kg/cm. | (PSI) | Kg/cm. | (PSI) | Kg/cm. | Lb/pies |
| 1/4" | 6.350 | 10 | .540 | 13.716 | .065 | 1.651 | 16980 | 1194 | 4240 | 298 | 720 | 506 | 1800 | 127 | .3297 | .490 |
| | | 40 | " | " | .088 | 2.235 | 23900 | 1680 | 5970 | 420 | 9800 | 689 | 2450 | 172 | .4248 | .632 |
| 3/8" | 9.525 | 10 | .675 | 17.145 | .065 | 1.651 | 13300 | 935 | 3320 | 233 | 5640 | 396 | 1410 | 99 | .4235 | .630 |
| | | 40 | " | " | .091 | 2.311 | 19260 | 1354 | 4810 | 338 | 8160 | 574 | 2040 | 143 | .5676 | .844 |
| | | 40 | " | " | | | | | | | | | | | | |
| 1/2" | 12.700 | 5 | .840 | 21.336 | | 1.651 | 10510 | 739 | 2630 | 185 | 4320 | 304 | 1080 | 76 | .5383 | .800 |
| | | 10 | " | " | .083 | 2.108 | 13670 | 961 | 3420 | 240 | 5800 | 408 | 1450 | 102 | .6710 | .998 |
| | | 40 | " | " | .109 | 2.768 | 18470 | 1298 | 4610 | 324 | 7800 | 548 | 1950 | 137 | .8510 | 1.266 |
| 3/4" | 19.050 | 5 | 1.050 | 26.670 | .065 | 1.651 | 8300 | 583 | 2070 | 145 | 3250 | 228 | 813 | 57 | .6838 | 1.062 |
| | | 10 | " | " | .083 | 2.108 | 10750 | 756 | 2690 | 189 | 4440 | 312 | 1110 | 78 | .8572 | 1.275 |
| | | 40 | " | " | 113 | 2.870 | 15010 | 1055 | 3750 | 264 | 6360 | 447 | 1590 | 112 | 1.131 | 1.682 |
| 1" | 25.400 | 5 | 1.315 | 33.401 | .065 | 1.651 | 6550 | 460 | 1640 | 115 | 2380 | 167 | 595 | 42 | .8678 | 1.291 |
| | | 10 | " | " | .109 | 2.768 | 11320 | 796 | 2830 | 199 | 4720 | 332 | 1180 | 83 | 1.404 | 2.088 |
| | | 40 | " | " | .133 | 3.378 | 14040 | 987 | 3510 | 247 | 6000 | 422 | 1500 | 105 | 1.679 | 2.498 |
| 1 1/4" | 31.750 | 5 | 1.600 | 42.164 | .065 | 1.651 | 5150 | 362 | 1290 | 91 | 1690 | 119 | 422 | 30 | 1.107 | 1.646 |
| | | 10 | " | " | .109 | 2.768 | 8830 | 621 | 2210 | 155 | 3520 | 247 | 881 | 62 | 1.806 | 2.686 |
| | | 40 | " | " | .140 | 3.556 | 11530 | 811 | 2880 | 202 | 4800 | 337 | 1200 | 84 | 2.273 | 3.382 |
| 1 1/2" | 38.100 | 5 | 1.900 | 48.260 | .065 | 1.651 | 4480 | 315 | 1120 | 79 | 1375 | 97 | 344 | 24 | 1.274 | 1.895 |
| | | 10 | " | " | .109 | 2.768 | 7660 | 538 | 1920 | 135 | 2960 | 208 | 741 | 52 | 2.085 | 3.102 |
| | | 40 | " | " | .145 | 3.683 | 10370 | 729 | 2590 | 182 | 4280 | 301 | 1070 | 75 | 2.718 | 4.044 |
| 2" | 50.800 | 5 | 2.375 | 60.325 | .065 | 1.651 | 3560 | 250 | 890 | 63 | 936 | 66 | 234 | 16 | 1.604 | 2.386 |
| | | 10 | " | " | .109 | 2.768 | 6060 | 426 | 1520 | 107 | 2150 | 151 | 537 | 38 | 2.638 | 3.924 |
| | | 40 | " | " | .154 | 3.911 | 8720 | 613 | 2180 | 153 | 3440 | 242 | 861 | 61 | 3.653 | 5.434 |
| 2 1/2" | 63.500 | 5 | 2.875 | 73.025 | .083 | 2.108 | 3760 | 264 | 940 | 66 | 1030 | 72 | 257 | 18 | 2.475 | 3.682 |
| | | 10 | " | " | .120 | 3.048 | 5500 | 387 | 1380 | 97 | 1870 | 131 | 468 | 33 | 3.531 | 5.253 |
| | | 40 | " | " | .203 | 5.156 | 9550 | 671 | 2390 | 168 | 3860 | 271 | 966 | 68 | 5.793 | 8.618 |
| 3" | 76.200 | 5 | 3.500 | 88.900 | .083 | 2.108 | 3080 | 217 | 770 | 54 | 712 | 50 | 178 | 13 | 3.029 | 4.506 |
| | | 10 | " | " | .120 | 3.048 | 4490 | 316 | 1120 | 79 | 1390 | 98 | 347 | 24 | 4.332 | 6.445 |
| | | 40 | " | " | .216 | 5.486 | 8270 | 581 | 2070 | 146 | 3250 | 228 | 813 | 57 | 7.576 | 11.271 |
| 4" | 101.600 | 5 | 4.500 | 114.300 | .083 | 2.108 | 2390 | 168 | 596 | 42 | 382 | 27 | 96 | 7 | 3.915 | 5.824 |
| | | 10 | " | " | .120 | 3.048 | 3470 | 244 | 867 | 61 | 394 | 63 | 224 | 16 | 5.613 | 8.351 |
| | | 40 | " | " | .237 | 6.019 | 7000 | 492 | 1750 | 123 | 2600 | 183 | 650 | 46 | 10.790 | 16.053 |
| 6" | 152.400 | 5 | 6.625 | 168.275 | .109 | 2.77 | 2130 | 150 | 531 | 37 | 270 | 19 | 68 | 5 | 7.585 | 11.290 |
| | | 10 | " | " | .134 | 3.40 | 2620 | 184 | 655 | 46 | 504 | 35 | 126 | 9 | 9.289 | 13.826 |
| | | 40 | " | " | .280 | 7.11 | 5580 | 392 | 1395 | 98 | 1915 | 135 | 479 | 34 | 18.97 | 28.234 |
| 8" | 203.200 | 5 | 8.625 | 219.075 | .109 | 2.77 | 1630 | 114 | 407 | 28 | 122 | 9 | 31 | 2 | 9.914 | 14.757 |
| | | 10 | " | " | .148 | 3.77 | 2220 | 156 | 555 | 39 | 130 | 22 | 78 | 5 | 13.40 | 19.946 |
| 10" | 254.000 | 5 | 10.750 | 273.050 | .134 | 3.40 | 1605 | 113 | 401 | 28 | 120 | 8 | 30 | 2 | 15.19 | 22.610 |
| | | 10 | " | " | .165 | 4.19 | 1980 | 139 | 495 | 35 | 220 | 15 | 55 | 4 | 18.70 | 27.835 |
| 12" | 38.100 | 5 | 12.750 | 12.750 | .156 | 3.96 | 1575 | 111 | 394 | 28 | 114 | 8 | 29 | 2 | 22.18 | 33.015 |
| | | 10 | " | " | .180 | 4.57 | 1820 | 128 | 455 | 32 | 173 | 12 | 43 | 3 | 24.20 | 36.022 |



ACERO AL CARBÓN A 53-B / A 106-B

| Diámetro Nominal Pulg. | Céd. mm. | Diámetro Exterior | | Diámetro Interior | | Espesor | | Peso Kg. x Mt. |
|---------------------------|-------------|-------------------|--------|-------------------|--------|---------|-------|-------------------|
| | | Pulg. | mm. | Pulg. | mm. | Pulg. | mm. | |
| 1/8" | 40 | 0.405" | 10.29 | 0.269" | 6.83 | 0.068" | 1.73 | 0.357 |
| | 80 | 0.405" | 10.29 | 0.215" | 5.46 | 0.095" | 2.41 | 0.461 |
| 1/4" | 40 | 0.540" | 13.72 | 0.364" | 9.25 | 0.088" | 2.24 | 0.625 |
| | 80 | 0.540" | 13.72 | 0.302" | 7.67 | 0.119" | 3.02 | 0.804 |
| 3/8" | 40 | 0.675" | 17.15 | 0.493" | 12.52 | 0.091" | 2.31 | 0.846 |
| | 80 | 0.675" | 17.15 | 0.423" | 10.74 | 0.126" | 3.20 | 1.101 |
| 1/2" | 40 | 0.840" | 21.34 | 0.622" | 15.80 | 0.109" | 2.77 | 1.265 |
| | 80 | 0.840" | 21.34 | 0.546" | 13.87 | 0.147" | 3.73 | 1.622 |
| | 160 | 0.840" | 21.34 | 0.466" | 11.84 | 0.187" | 4.75 | 1.935 |
| | XXS | 0.840" | 21.34 | 0.252" | 6.40 | 0.294" | 7.47 | 2.544 |
| 3/4" | 40 | 1.050" | 26.67 | 0.824" | 20.93 | 0.113" | 2.87 | 1.682 |
| | 80 | 1.050" | 26.67 | 0.742" | 18.85 | 0.154" | 3.91 | 2.188 |
| | 160 | 1.050" | 26.67 | 0.614" | 15.60 | 0.218" | 5.54 | 2.887 |
| | XXS | 1.050" | 26.67 | 0.434" | 11.02 | 0.308" | 7.82 | 3.631 |
| 1" | 40 | 1.315" | 33.40 | 1.049" | 26.64 | 0.133" | 3.38 | 2.500 |
| | 80 | 1.315" | 33.40 | 0.957" | 24.31 | 0.179" | 4.55 | 3.229 |
| | 160 | 1.315" | 33.40 | 0.815" | 20.70 | 0.250" | 6.35 | 4.226 |
| | XXS | 1.315" | 33.40 | 0.599" | 15.21 | 0.358" | 9.09 | 5.446 |
| 1 1/4" | 40 | 1.660" | 42.16 | 1.380" | 35.05 | 0.140" | 3.56 | 3.378 |
| | 80 | 1.660" | 42.16 | 1.278" | 32.46 | 0.191" | 4.85 | 4.464 |
| | 160 | 1.660" | 42.16 | 1.160" | 29.46 | 0.250" | 6.35 | 5.595 |
| | XXS | 1.660" | 42.16 | 0.896" | 22.76 | 0.382" | 9.70 | 7.752 |
| 1 1/2" | 40 | 1.900" | 48.26 | 1.610" | 40.89 | 0.145" | 3.68 | 4.048 |
| | 80 | 1.900" | 48.26 | 1.500" | 30.10 | 0.200" | 5.08 | 5.402 |
| | 160 | 1.900" | 48.26 | 1.338" | 33.99 | 0.281" | 7.14 | 7.232 |
| | XXS | 1.900" | 48.26 | 1.100" | 27.94 | 0.400" | 10.16 | 9.538 |
| 2" | 40 | 2.375" | 60.33 | 2.067" | 52.50 | 0.154" | 3.91 | 5.432 |
| | 80 | 2.375" | 60.33 | 1.939" | 49.25 | 0.218" | 5.54 | 7.471 |
| | 160 | 2.375" | 60.33 | 1.689" | 42.90 | 0.343" | 8.71 | 11.072 |
| | XXS | 2.375" | 60.33 | 1.503" | 38.18 | 0.436" | 11.07 | 13.437 |
| 2 1/2" | 40 | 2.875" | 73.03 | 2.469" | 62.71 | 0.203" | 5.16 | 8.616 |
| | 80 | 2.875" | 73.03 | 2.323" | 59.00 | 0.276" | 7.01 | 11.399 |
| | 160 | 2.875" | 73.03 | 2.125" | 53.98 | 0.375" | 9.53 | 14.896 |
| | XXS | 2.875" | 73.03 | 1.771" | 44.98 | 0.552" | 14.02 | 20.386 |
| 3" | 40 | 3.500" | 88.90 | 3.068" | 77.93 | 0.216" | 5.49 | 11.280 |
| | 80 | 3.500" | 88.90 | 2.900" | 73.86 | 0.300" | 7.62 | 16.254 |
| | 160 | 3.500" | 88.90 | 2.625" | 66.68 | 0.438" | 11.13 | 21.310 |
| | XXS | 3.500" | 88.90 | 2.300" | 58.42 | 0.600" | 15.24 | 27.647 |
| 3 1/2" | 40 | 4.000" | 101.60 | 3.548" | 90.12 | 0.226" | 5.74 | 13.557 |
| | 80 | 4.000" | 101.60 | 3.364" | 85.45 | 0.318" | 8.08 | 18.617 |
| | 160 | 4.000" | 101.60 | - | - | - | - | - |
| | XXS | 4.000" | 101.60 | 2.728" | 69.29 | 0.636" | 16.15 | 32.906 |
| 4" | 40 | 4.500" | 114.30 | 4.026" | 102.26 | 0.237" | 6.02 | 16.052 |
| | 80 | 4.500" | 114.30 | 3.826" | 97.18 | 0.337" | 8.56 | 22.293 |
| | 120 | 4.500" | 114.30 | 3.625" | 92.08 | 0.438" | 11.12 | 28.290 |
| | 160 | 4.500" | 114.30 | 3.428" | 87.33 | 0.531" | 13.19 | 33.498 |
| | XXS | 4.500" | 114.30 | 3.152" | 80.06 | 0.674" | 17.12 | 40.980 |
| 5" | 40 | 5.563" | 141.30 | 5.047" | 128.19 | 0.258" | 6.55 | 21.757 |
| | 80 | 5.563" | 141.30 | 4.813" | 122.25 | 0.375" | 9.53 | 30.924 |
| | 120 | 5.563" | 141.30 | 4.563" | 115.90 | 0.500" | 12.70 | 40.240 |
| | 160 | 5.563" | 141.30 | 4.313" | 109.55 | 0.625" | 15.88 | 49.050 |
| | XXS | 5.563" | 141.30 | 4.063" | 103.20 | 0.750" | 19.05 | 57.362 |



ACERO AL CARBÓN NORMA A 53-B / A 106-B

| Diámetro Nominal Pulg. | Céd. mm. | Diámetro Exterior | | Diámetro Interior | | Espesor | | Peso Kg. x Mt. | |
|---------------------------|-------------|-------------------|---------|-------------------|---------|---------|--------|-------------------|--------|
| | | Pulg. | mm. | Pulg. | mm. | Pulg. | mm. | | |
| 6" | 40 | 6.625" | 168.28 | 6.065" | 154.05 | 0.280" | 7.11 | 28.230 | |
| | 80 | 6.625" | 168.28 | 5.761" | 146.33 | 0.432" | 10.97 | 42.517 | |
| | 120 | 6.625" | 168.28 | 5.501" | 139.73 | 0.562" | 14.27 | 54.154 | |
| | 160 | 6.625" | 168.28 | 5.189" | 131.80 | 0.718" | 18.24 | 67.414 | |
| | XXS | 6.625" | 168.28 | 4.897" | 124.38 | 0.864" | 21.95 | 79.102 | |
| 8" | 20 | 8.625" | 219.08 | 8.125" | 206.38 | 0.250" | 6.35 | 33.275 | |
| | 30 | 8.625" | 219.08 | 8.071" | 205.00 | 0.277" | 7.04 | 36.758 | |
| | 40 | 8.625" | 219.08 | 7.981" | 202.72 | 0.322" | 8.18 | 38.022 | |
| | 60 | 8.625" | 219.08 | 7.813" | 198.45 | 0.406" | 10.31 | 53.038 | |
| | 80 | 8.625" | 219.08 | 7.625" | 193.68 | 0.500" | 12.70 | 64.571 | |
| | 100 | 8.625" | 219.08 | 7.439" | 188.95 | 0.593" | 15.06 | 75.703 | |
| | 120 | 8.625" | 219.08 | 7.189" | 182.60 | 0.718" | 18.24 | 90.227 | |
| | 140 | 8.625" | 219.08 | 7.001" | 177.83 | 0.812" | 20.62 | 100.838 | |
| | 160 | 8.625" | 219.08 | 6.813" | 173.05 | 0.906" | 23.01 | 111.151 | |
| | XXS | 8.625" | 219.08 | 6.875" | 174.63 | 0.875" | 22.23 | 107.761 | |
| | 10" | 20- | 10.725" | 273.05 | 10.250" | 260.35 | 0.250" | 6.35 | 41.728 |
| 30 | | 10.725" | 273.05 | 10.136" | 257.45 | 0.307" | 7.80 | 50.955 | |
| 40 | | 10.725" | 273.05 | 10.020" | 254.51 | 0.365" | 9.27 | 60.241 | |
| 60 | | 10.725" | 273.05 | 9.750" | 247.65 | 0.500" | 12.70 | 81.462 | |
| 80 | | 10.725" | 273.05 | 9.564" | 242.93 | 0.593" | 15.06 | 95.733 | |
| 100 | | 10.725" | 273.05 | 9.314" | 236.58 | 0.718" | 18.24 | 114.484 | |
| 120 | | 10.725" | 273.05 | 9.064" | 230.23 | 0.843" | 21.41 | 132.744 | |
| 140 | | 10.725" | 273.05 | 8.750" | 222.25 | 1.000" | 25.40 | 154.962 | |
| 160 | | 10.725" | 273.05 | 8.500" | 215.90 | 0.125" | 28.58 | 172.106 | |
| 12" | | 20 | 12.750" | 323.85 | 12.250" | 311.15 | 0.250" | 6.35 | 49.675 |
| | | 30 | 12.750" | 323.85 | 12.090" | 307.09 | 0.330" | 8.38 | 65.137 |
| | 40 | 12.750" | 323.85 | 11.938" | 303.23 | 0.406" | 10.31 | 79.661 | |
| | 60 | 12.750" | 323.85 | 11.626" | 295.30 | 0.562" | 14.27 | 108.874 | |
| | 80 | 12.750" | 323.85 | 11.376" | 288.95 | 0.687" | 17.45 | 131.717 | |
| | 100 | 12.750" | 323.85 | 11.064" | 281.03 | 0.843" | 21.41 | 159.531 | |
| | 120 | 12.750" | 323.85 | 10.750" | 273.05 | 1.000" | 25.40 | 186.749 | |
| | 140 | 12.750" | 323.85 | 10.500" | 266.70 | 1.125" | 28.58 | 207.866 | |
| | 160 | 12.750" | 323.85 | 10.126" | 257.20 | 1.312" | 33.32 | 238.507 | |
| | 14" | 10 | 14.0" | 355.60 | 13.500" | 342.90 | 0.250" | 6.35 | 54.630 |
| | | 20 | 14.0" | 355.60 | 13.376" | 339.75 | 0.312" | 7.92 | 37.979 |
| 30 | | 14.0" | 355.60 | 13.250" | 336.55 | 0.375" | 9.53 | 81.209 | |
| 40 | | 14.0" | 355.60 | 13.126" | 333.40 | 0.437" | 11.10 | 94.305 | |
| 60 | | 14.0" | 355.60 | 12.814" | 325.48 | 0.593" | 15.06 | 126.360 | |
| 80 | | 14.0" | 355.60 | 12.500" | 317.50 | 0.750" | 19.05 | 157.938 | |
| 100 | | 14.0" | 355.60 | 12.126" | 308.00 | 0.937" | 23.80 | 194.547 | |
| 120 | | 14.0" | 355.60 | 11.814" | 300.08 | 1.093" | 27.76 | 224.221 | |
| 140 | | 14.0" | 355.60 | 11.500" | 292.10 | 1.250" | 35.75 | 253.315 | |
| 160 | | 14.0" | 355.60 | 11.188" | 284.18 | 1.406" | 35.71 | 281.441 | |
| 16" | | 10 | 16.0" | 406.40 | 15.500" | 393.70 | 0.250" | 6.35 | 62.577 |
| | 20 | 16.0" | 406.40 | 15.376" | 390.55 | 0.312" | 7.92 | 77.920 | |
| | 30 | 16.0" | 406.40 | 15.250" | 387.35 | 0.375" | 9.35 | 93.129 | |
| | 40 | 16.0" | 406.40 | 15.000" | 381.00 | 0.500" | 12.70 | 123.175 | |
| | 60 | 16.0" | 406.40 | 14.688" | 373.08 | 0.656" | 16.66 | 159.977 | |
| | 80 | 16.0" | 406.40 | 14.314" | 363.58 | 0.843" | 21.41 | 203.074 | |
| | 100 | 16.0" | 406.40 | 13.938" | 354.03 | 1.031" | 26.19 | 245.293 | |
| | 120 | 16.0" | 406.40 | 13.564" | 344.53 | 1.218" | 30.94 | 286.158 | |
| | 140 | 16.0" | 406.40 | 13.125" | 333.38 | 1.438" | 36.53 | 332.604 | |
| | 160 | 16.0" | 406.40 | 12.814" | 325.48 | 1.593" | 40.46 | 364.763 | |

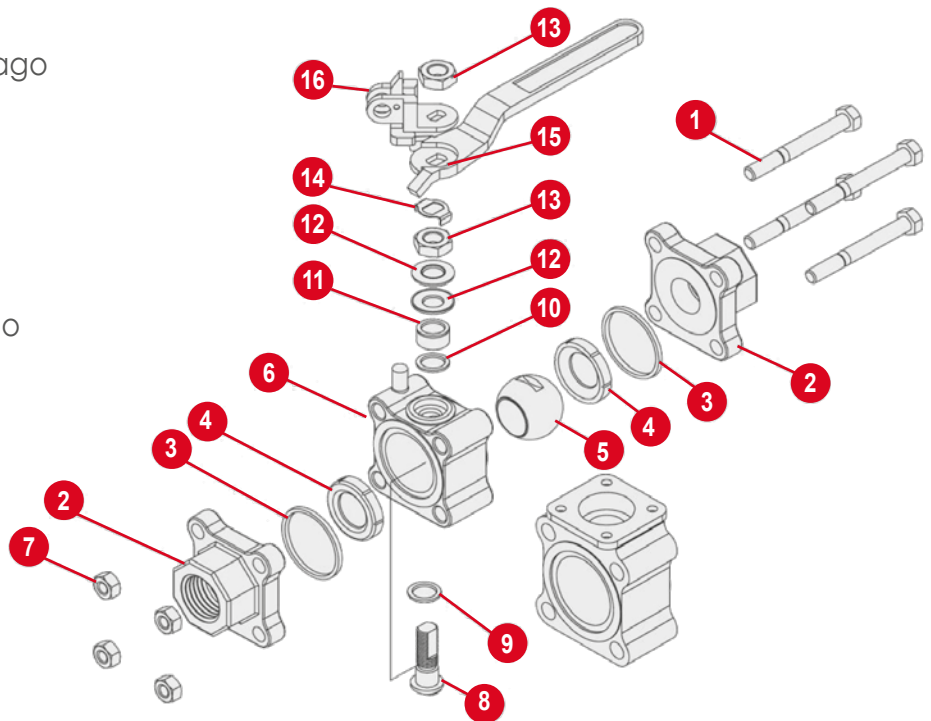
ACERO AL CARBÓN A 53-B / A 106-B

| Diámetro Nominal Pulg. | Céd. mm. | Diámetro Exterior | | Diámetro Interior | | Espesor | | Peso Kg. x Mt. |
|---------------------------|-------------|-------------------|--------|-------------------|---------|---------|--------|-------------------|
| | | Pulg. | mm. | Pulg. | mm. | Pulg. | mm. | |
| 18" | 10 | 18.0" | 457.20 | 17.500" | 444.50 | 0.250" | 6.35 | 70.524 |
| | 20 | 18.0" | 457.20 | 17.376" | 441.35 | 0.312" | 7.92 | 87.846 |
| | 30 | 18.0" | 457.20 | 17.126" | 435.00 | 0.437" | 11.10 | 122.118 |
| | 40 | 18.0" | 457.20 | 16.876" | 428.65 | 0.562" | 14.27 | 155.885 |
| | 60 | 18.0" | 457.20 | 16.500" | 419.10 | 0.750" | 19.05 | 205.619 |
| | 80 | 18.0" | 457.20 | 16.125" | 409.58 | 0.937" | 23.80 | 254.103 |
| | 100 | 18.0" | 457.20 | 15.688" | 398.48 | 1.156" | 29.36 | 309.478 |
| | 120 | 18.0" | 457.20 | 15.250" | 387.35 | 1.375" | 34.93 | 363.319 |
| | 140 | 18.0" | 457.20 | 14.876" | 377.85 | 1.562" | 39.67 | 408.098 |
| | 160 | 18.0" | 457.20 | 14.438" | 366.73 | 1.781" | 45.24 | 459.112 |
| 20" | 10 | 20.0" | 508.00 | 19.500" | 495.30 | 0.250" | 6.35 | 78.471 |
| | 20 | 20.0" | 508.00 | 19.250" | 488.95 | 0.375" | 9.53 | 116.969 |
| | 30 | 20.0" | 508.00 | 19.000" | 482.60 | 0.500" | 12.70 | 154.962 |
| | 40 | 20.0" | 508.00 | 18.814" | 477.88 | 0.593" | 15.06 | 182.910 |
| | 60 | 20.0" | 508.00 | 18.376" | 466.75 | 0.812" | 20.62 | 247.630 |
| | 80 | 20.0" | 508.00 | 17.438" | 442.93 | 1.281" | 32.54 | 381.118 |
| | 120 | 20.0" | 508.00 | 17.000" | 431.80 | 1.500" | 38.10 | 441.046 |
| | 140 | 20.0" | 508.00 | 16.500" | 419.10 | 1.750" | 44.45 | 507.611 |
| | 160 | 20.0" | 508.00 | 16.064" | 408.03 | 1.968" | 49.99 | 564.028 |
| | 24" | 10 | 24.0" | 609.60 | 23.500" | 596.90 | 0.250" | 6.35 |
| 20 | | 24.0" | 609.60 | 23.250" | 590.55 | 0.375" | 9.35 | 140.810 |
| 30 | | 24.0" | 609.60 | 22.876" | 581.05 | 0.562" | 14.27 | 209.553 |
| 40 | | 24.0" | 609.60 | 22.626" | 574.70 | 0.687" | 17.45 | 254.728 |
| 60 | | 24.0" | 609.60 | 22.064" | 560.43 | 0.968" | 24.59 | 354.346 |
| 80 | | 24.0" | 609.60 | 20.938" | 531.83 | 1.531" | 38.89 | 546.750 |
| 120 | | 24.0" | 609.60 | 20.376" | 517.55 | 1.812" | 46.02 | 639.001 |
| 140 | | 24.0" | 609.60 | 19.876" | 504.85 | 2.062" | 52.37 | 718.975 |
| 160 | | 24.0" | 609.60 | 19.314" | 490.58 | 2.343" | 59.51 | 806.493 |
| 30" | | 10 | 30.0" | 762.00 | 29.376" | 746.15 | 0.312" | 7.90 |
| | 20 | 30.0" | 762.00 | 29.000" | 736.60 | 0.500" | 12.70 | 234.430 |
| | 30 | 30.0" | 762.00 | 28.750" | 730.25 | 0.625" | 15.88 | 291.798 |

VÁLVULAS DE ESFERA WORCESTER SERIE 400

| | | Acero al Cartón • Carbon Street | | Acero Inoxidable • Stainless Steel | |
|------------------------|-------------------------------|--|--------------------------------------|--|--|
| | | ASTM A216 WCB | | ASTM A351 CF8M | |
| Válvula Valve | ANSI B 16.34 Clase • Class | Presión de Trabajo Working Pressure | Presión Maxima Max. Test Pressure | Presión de Trabajo Working Pressure | Presión Max. de P. Max. Test Pressure |
| Serie 400 • Series 400 | 400 | 990 psi | 1500 psi | 960 psi | 1450 psi |

- 1 Tornillo de cuerpo
- 2 Tapa
- 3 Sello de cuerpo
- 4 Asiento
- 5 Bola
- 6 Cuerpo
- 7 Tuerca del cuerpo
- 8 Vástago
- 9 Roldana inferior de vástago
- 10 Sello de vástago
- 11 Separador
- 12 Roldana cóncava
- 13 Tuerca de vástago
- 14 Seguro para tuerca
- 15 Maneral
- 16 Dispositivo para candado



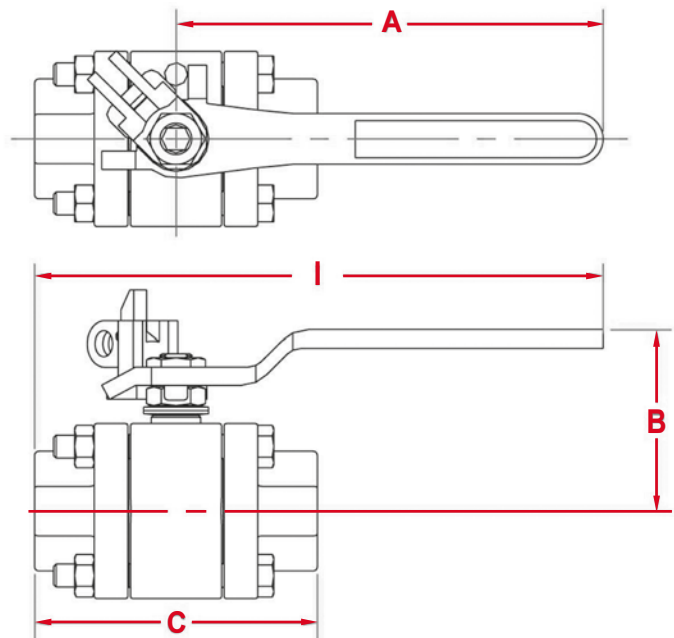
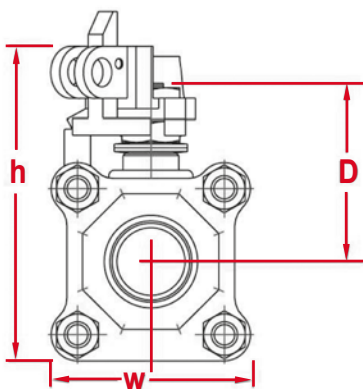
VALVULAS ESFERA WORCESTER

VÁLVULAS DE ESFERA WORCESTER SERIE 400 PASO REDUCIDO

| Medida | A | B | C | D | Paso | Peso | Weight | Largo (l) | Altura (h) | Ancho (w) |
|--------|------|------|------|------|-------|-------|--------|-----------|------------|-----------|
| | | | | | | kg. | lbs. | | | |
| 1/4 | 4.30 | 1.75 | 2.61 | 1.47 | .440 | 0.660 | 1.400 | 5.63 | 2.64 | 1.77 |
| 3/8 | 4.30 | 1.71 | 2.61 | 1.49 | .440 | 0.620 | 1.300 | 5.63 | 2.58 | 1.75 |
| 1/2 | 4.30 | 1.65 | 2.61 | 1.51 | .440 | 0.590 | 1.300 | 5.63 | 2.58 | 1.75 |
| 3/4 | 4.30 | 1.73 | 2.83 | 1.55 | .560 | 0.800 | 1.800 | 5.74 | 2.74 | 2.00 |
| 1 | 5.75 | 2.40 | 3.75 | 2.17 | .810 | 1.490 | 3.300 | 7.57 | 3.59 | 2.38 |
| 1 1/4 | 5.86 | 2.49 | 4.22 | 2.35 | 1.000 | 2.010 | 4.400 | 7.98 | 3.82 | 2.63 |
| 1 1/2 | 7.13 | 3.02 | 4.62 | 2.89 | 1.250 | 3.330 | 7.300 | 9.45 | 4.62 | 3.19 |
| 2 | 7.14 | 3.15 | 5.01 | 3.07 | 1.500 | 4.400 | 9.700 | 9.65 | 5.00 | 3.57 |

VÁLVULAS DE ESFERA WORCESTER SERIE 400 PASO COMPLETO

| Medida | A | B | C | D | Paso | Peso | Weight | Largo (l) | Altura (h) | Ancho (w) |
|--------|------|------|------|------|-------|-------|--------|-----------|------------|-----------|
| | | | | | | kg. | lbs. | | | |
| 1/4 | 4.30 | 1.71 | 2.61 | 1.47 | .440 | 0.620 | 1.400 | 5.63 | 2.58 | 1.75 |
| 3/8 | 4.30 | 1.65 | 2.61 | 1.51 | .440 | 0.590 | 1.300 | 5.63 | 2.58 | 1.75 |
| 1/2 | 4.30 | 1.73 | 2.83 | 1.55 | .560 | 0.800 | 1.800 | 5.74 | 2.74 | 2.00 |
| 3/4 | 5.75 | 2.40 | 3.75 | 2.17 | .810 | 1.490 | 3.300 | 7.57 | 3.59 | 2.38 |
| 1 | 5.86 | 2.49 | 4.22 | 2.35 | 1.000 | 2.010 | 4.400 | 7.98 | 3.82 | 2.63 |
| 1 1/4 | 7.13 | 3.02 | 4.62 | 2.89 | 1.250 | 3.330 | 7.300 | 9.45 | 4.62 | 3.19 |
| 1 1/2 | 7.14 | 3.15 | 5.01 | 3.07 | 1.500 | 4.400 | 9.700 | 9.65 | 5.00 | 3.57 |
| 2 | 7.42 | 4.84 | 5.87 | 4.68 | 2.000 | 9.910 | 12.900 | 10.36 | 7.12 | 4.55 |

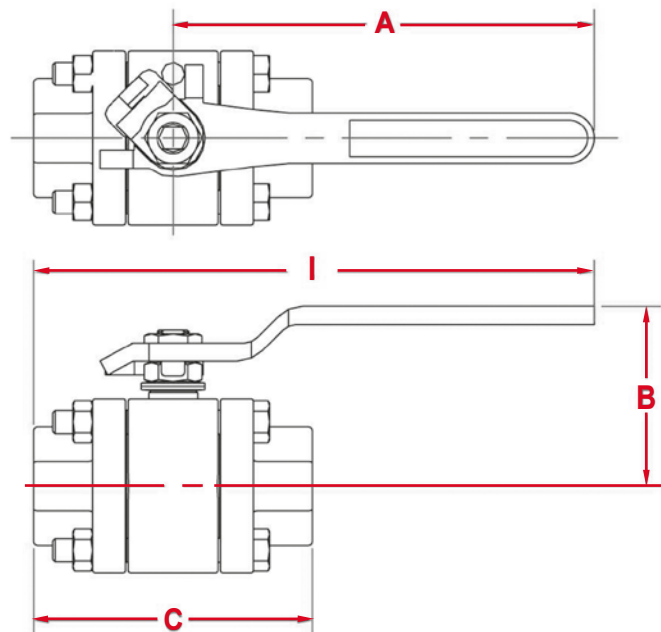
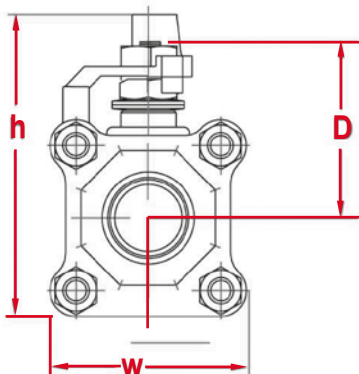


VÁLVULAS DE ESFERA WORCESTER SERIE 400 BRONCE PASO REDUCIDO

| Medida | A | B | C | D | Paso | Peso | Weight | Largo (l) | Altura (h) | Ancho (w) |
|--------|------|------|------|------|-------|-------|--------|-----------|------------|-----------|
| | | | | | | kg. | lbs. | | | |
| 1/4 | 4.30 | 1.69 | 2.61 | 1.50 | .430 | 0.630 | 1.300 | 5.56 | 2.57 | 1.79 |
| 3/8 | 4.30 | 1.75 | 2.61 | 1.50 | .450 | 0.620 | 1.300 | 5.56 | 2.65 | 1.79 |
| 1/2 | 4.30 | 1.58 | 2.61 | 1.50 | .450 | 0.590 | 1.300 | 5.56 | 2.50 | 1.79 |
| 3/4 | 4.30 | 1.87 | 2.83 | 1.50 | .560 | 0.750 | 1.600 | 5.74 | 2.72 | 2.00 |
| 1 | 5.84 | 2.21 | 3.69 | 2.19 | .810 | 1.490 | 3.200 | 7.69 | 3.58 | 2.45 |
| 1 1/4 | 5.75 | 2.76 | 4.16 | 2.35 | 1.000 | 2.010 | 4.400 | 7.81 | 3.96 | 2.63 |
| 1 1/2 | 7.00 | 3.02 | 4.56 | 2.89 | 1.250 | 2.940 | 6.480 | 9.28 | 4.51 | 3.06 |
| 2 | 7.00 | 3.21 | 4.94 | 3.13 | 1.500 | 4.010 | 8.800 | 9.52 | 5.00 | 3.48 |

VÁLVULAS DE ESFERA WORCESTER SERIE 400 BRONCE PASO COMPLETO

| Medida | A | B | C | D | Paso | Peso | Weight | Largo (l) | Altura (h) | Ancho (w) |
|--------|------|------|------|------|-------|-------|--------|-----------|------------|-----------|
| | | | | | | kg. | lbs. | | | |
| 1/4 | 4.30 | 1.75 | 2.61 | 1.50 | .450 | 0.620 | 1.300 | 5.56 | 2.56 | 1.79 |
| 3/8 | 4.30 | 1.58 | 2.61 | 1.50 | .450 | 0.590 | 1.300 | 5.56 | 2.50 | 1.79 |
| 1/2 | 4.30 | 1.87 | 2.83 | 1.50 | .560 | 0.750 | 1.600 | 5.74 | 2.72 | 2.00 |
| 3/4 | 5.84 | 2.21 | 3.69 | 2.19 | .810 | 1.490 | 3.200 | 7.69 | 3.58 | 2.45 |
| 1 | 5.75 | 2.76 | 4.16 | 2.35 | 1.000 | 2.010 | 4.400 | 7.81 | 3.96 | 2.63 |
| 1 1/4 | 7.00 | 3.02 | 4.56 | 2.89 | 1.250 | 2.940 | 6.480 | 9.28 | 4.51 | 3.06 |
| 1 1/2 | 7.00 | 3.21 | 4.94 | 3.13 | 1.500 | 4.010 | 8.800 | 9.52 | 5.00 | 3.48 |
| 2 | 7.42 | 4.84 | 5.87 | 4.68 | 2000 | 9.910 | 21.900 | 10.36 | 7.12 | 4.55 |

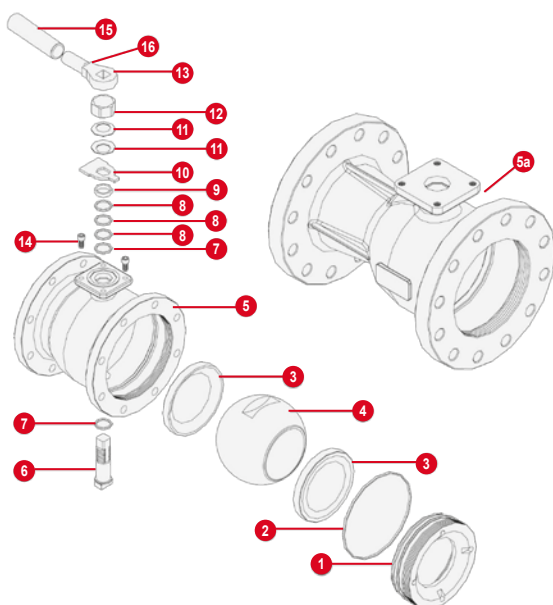
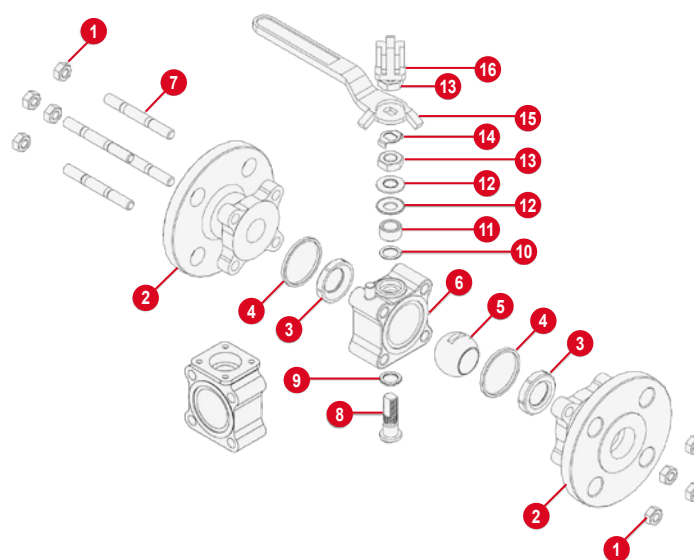


VÁLVULAS DE ESFERA BRIDADA WORCESTER

SERIE 150 Y 300

| Válvula Valve | ANSI B 16.34 Clase • Class | Acero al Carbono • Carbon Street ASTM A216 WCB | | Acero Inoxidable • Stainless Steel ASTM A351 CF8M | |
|------------------------|-------------------------------|---|--------------------------------------|--|--|
| | | Presión de Trabajo Working Pressure | Presión Máxima Max. Test Pressure | Presión de Trabajo Working Pressure | Presión Máxima de P. Max. Test Pressure |
| Serie 150 • Series 150 | 150 | 285 psi | 450 psi | 275 psi | 425 psi |
| Serie 300 • Series 300 | 300 | 740 psi | 1125 psi | 720 psi | 1100 psi |

- 1 Tuerca del cuerpo
- 2 Tapa Brida
- 3 Asiento
- 4 Sello de cuerpo
- 5 Bola
- 6 Cuerpo
- 7 Birlo del cuerpo
- 8 Vástago
- 9 Roldana inferior de vástago
- 10 Roldana superior de vástago
- 11 Separador
- 12 Roldana cóncava
- 13 Tuerca de vástago
- 14 Seguro para tuerca vástago
- 15 Maneral
- 16 Dispositivo para candado

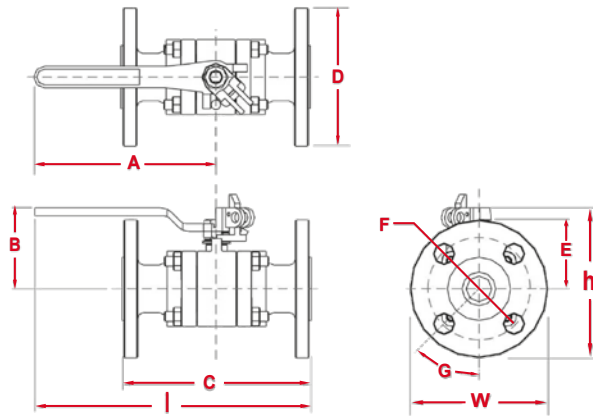


- 1 Tapón
- 2 Sello de cuerpo
- 3 Asiento
- 4 Bola
- 5 Cuerpo 150
- 5a Cuerpo 300
- 6 Vástago
- 7 Roldana de vástago
- 8 Sello de vástago
- 9 Separador
- 10 Placa tope
- 11 Roldana cóncava
- 12 Tuerca autotrabante
- 13 Maneral
- 14 Tornillo tope
- 15 Palanca
- 16 Opresor para maneral

VÁLVULAS DE ESFERA BRIDADA WORCESTER

SERIE 150 (1/2" A 2")

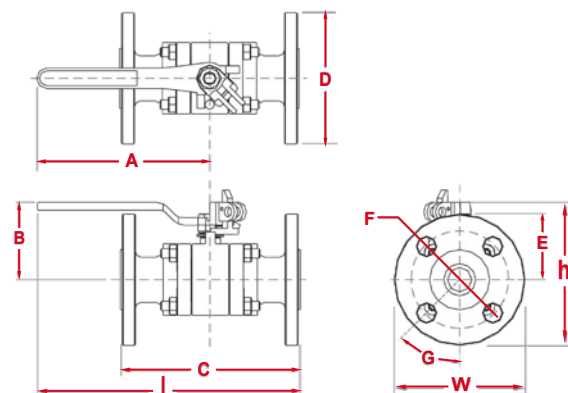
| Medida | A | B | C | D | E | F | G | Paso Bore | Peso kg. | Weight lb. | Largo l | Altura h | Ancho w |
|--------|------|------|------|------|------|------|-----|-----------|----------|------------|---------|----------|---------|
| 1/2 | 4.35 | 2.70 | 4.37 | 3.60 | 1.46 | 2.38 | 45° | .440 | 1.600 | 3.500 | 6.53 | 4.50 | 3.61 |
| 3/4 | 4.95 | 2.58 | 4.78 | 3.98 | 1.60 | 2.75 | 45° | .560 | 2.100 | 4.600 | 6.83 | 4.57 | 3.98 |
| 1 | 4.85 | 3.61 | 5.13 | 4.37 | 2.17 | 3.12 | 45° | .810 | 3.230 | 7.120 | 8.37 | 5.78 | 4.37 |
| 1 1/2 | 7.15 | 4.27 | 6.50 | 5.13 | 2.88 | 3.58 | 45° | 1.250 | 6.710 | 14.790 | 10.43 | 6.77 | 5.13 |
| 2 | 7.20 | 4.40 | 7.00 | 6.13 | 3.07 | 4.75 | 45° | 1.500 | 9.170 | 20.700 | 10.71 | 7.40 | 6.13 |



VÁLVULAS DE ESFERA BRIDADA WORCESTER

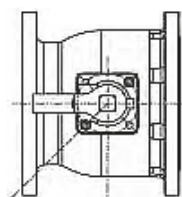
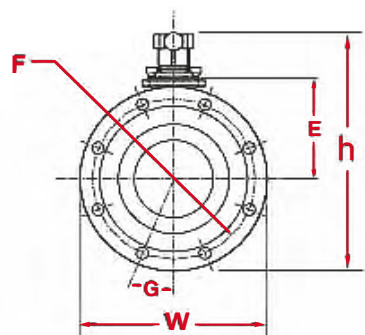
SERIE 300 (1/2" A 2")

| Medida | A | B | C | D | E | F | G | Paso Bore | Peso kg. | Weight lb. | Largo l | Altura h | Ancho w |
|--------|------|------|------|------|------|------|-----|-----------|----------|------------|---------|----------|---------|
| 1/2 | 4.25 | 2.72 | 5.54 | 3.75 | 1.46 | 2.62 | 45° | .440 | 2.060 | 4.540 | 7.00 | 4.60 | 3.75 |
| 3/4 | 4.25 | 2.78 | 6.00 | 4.62 | 1.57 | 3.25 | 45° | .560 | 3.100 | 7.000 | 7.25 | 5.34 | 4.62 |
| 1 | 5.85 | 3.45 | 6.50 | 4.88 | 2.17 | 3.50 | 45° | .810 | 4.490 | 9.900 | 9.08 | 5.90 | 4.88 |
| 1 1/2 | 7.00 | 4.27 | 7.59 | 6.12 | 2.88 | 4.47 | 45° | 1.250 | 9.600 | 21.160 | 10.81 | 7.35 | 6.12 |
| 2 | 7.12 | 4.39 | 8.50 | 6.50 | 3.07 | 5.00 | 45° | 1.500 | 11.370 | 24.070 | 11.42 | 7.64 | 6.50 |



VÁLVULAS DE ESFERA BRIDADA WORCESTER SERIE 150 y 300

Dimensiones



Serie 150 (3" a 10")

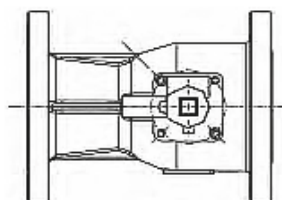
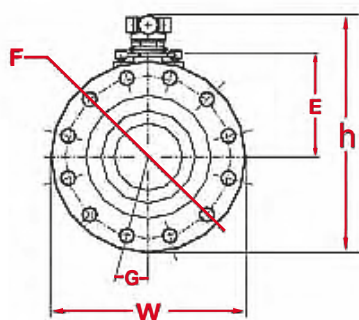
| ISO 5211 | |
|----------|-----|
| 3 | F10 |
| 4 | F10 |
| 6 | F12 |
| 8 | F12 |
| 10 | - |

Serie 150

| Medida | A | B | C | D | E | F | G | H | Paso Bore | Peso / Wight kg / lb | L | H | W |
|--------|---------|------|-------|-------|------|-------|-------|-------|-----------|-------------------------|-------|--------|-------|
| | | | | | | | | | | | Largo | Altura | Ancho |
| 3 | 3 1/4 | 3.62 | 8.00 | 6.15 | 3.88 | 6.00 | 45" | 7.50 | 2.500 | 19.000 43.600 | 8.00 | 9.80 | 7.50 |
| 4 | 3 1/4 | 3.99 | 9.00 | 6.74 | 4.48 | 7.50 | 22.5" | 9.00 | 3.250 | 30.400 67.000 | 9.00 | 11.25 | 9.00 |
| 6 | 4 11/32 | 4.21 | 10.50 | 9.192 | 6.19 | 9.50 | 22.5" | 11.00 | 4.370 | 48.200 106.200 | 10.50 | 14.67 | 11.00 |
| 8 | 4 11/32 | 5.11 | 11.50 | 10.20 | 7.28 | 11.75 | 22.5" | 13.50 | 5.680 | 77.400 170.600 | 11.50 | 16.95 | 13.50 |
| 10 | 4 | 7.12 | 13.00 | 12.84 | 9.47 | 14.00 | 15" | 16.00 | 7.370 | 122.000 268.900 | 13.00 | 20.85 | 16.00 |

Nota: Dimensiones en pulgadas +

Dimensiones



Serie 300 (3" a 8")

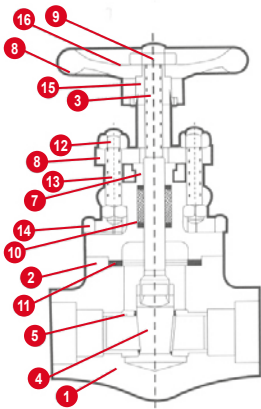
| ISO 5211 | |
|----------|-----|
| 3 | F10 |
| 4 | F10 |
| 6 | F12 |
| 8 | F12 |

Serie 300

| Medida | A | B | C | D | E | F | G | H | Paso Bore | Peso / Wight kg / lb | L | H | W |
|--------|---------|------|-------|-------|------|-------|-------|-------|-----------|-------------------------|-------|--------|-------|
| | | | | | | | | | | | Largo | Altura | Ancho |
| 3 | 3 1/4 | 4.27 | 11.12 | 6.14 | 3.88 | 6.62 | 22.5" | 8.25 | 2.500 | 23.600 52.030 | 11.12 | 10.27 | 8.26 |
| 4 | 3 1/4 | 4.27 | 12.00 | 6.75 | 4.48 | 7.88 | 22.5" | 10.00 | 3.250 | 38.00 83.700 | 12.09 | 11.75 | 10.00 |
| 6 | 4 11/32 | 5.50 | 15.88 | 9.26 | 6.19 | 10.62 | 15" | 12.50 | 4.370 | 69.00 152.140 | 15.88 | 15.50 | 12.50 |
| 8 | 4 11/32 | 8.19 | 16.50 | 10.33 | 7.43 | 13.00 | 15" | 15.00 | 5.680 | 122.000 269.010 | 16.50 | 17.83 | 15.00 |

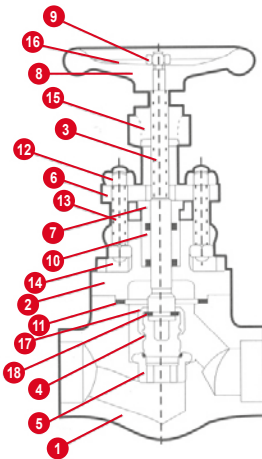
Nota: Dimensiones en pulgadas.

COMPUERTA 800 LBS.



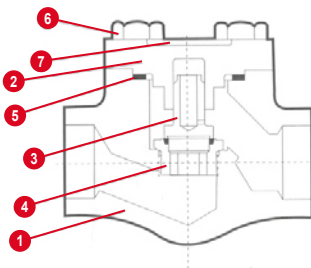
| Descripción | Material estandar | Especificación |
|----------------------------|------------------------------------|---------------------------------------|
| 1 Cuerpo | Acero forjado | ASTM A-105 |
| 2 Bonete | Acero forjado | ASTM A-105 |
| 3 Vástago | Acero inoxidable | ASTM A-276 tipo 410 |
| 4 Cuña | Acero inoxidable | ASTM A-217 CA 15 |
| 5 Asientos | Acero inoxidable + Estellite No. 6 | ASTM A-276 tipo 410 + Estellite No. 6 |
| 6 Brida prensa empaques | Acero al carbón | ASTM A-36 |
| 7 Prensa empaque | Acero al carbón | ASTM A-108 Gr 1018 |
| 8 Volante | Hierro maleable | ASTM A-536 Gr 654512 |
| 9 Tuerca de volante | Acero al carbon | ASTM A-108 Gr 1018 |
| 10 Empaque Vástago | Grafito | Comercial |
| 11 Junta | Grafito + ac inox | Comercial + ac inox 304 |
| 12 Tuerca del espárrago | Acero inoxidable | ASTM A-196 Gr 8 |
| 13 Espárrago | Acero inoxidable | ASTM A-582 Gr 416 |
| 14 Tornillo hexagonal | Acero Cr. Mo | ASTM A-193 Gr B7 |
| 15 Tuerca de Vástago | Acero inoxidable | ASTM A-582 Gr 416 |
| 16 Placa de Identificación | Lamina de aluminio | Comercial |

GLOBO 800 LBS.



| Descripción | Material estandar | Especificación |
|----------------------------|------------------------------------|--|
| 1 Cuerpo | Acero forjado | ASTM A-105 |
| 2 Bonete | Acero forjado | ASTM A-105 |
| 3 Vástago | Acero inoxidable | ASTM A-276 tipo 410 |
| 4 Disco | Acero inoxidable | ASTM A-276 tipo 410 |
| 5 Asientos | Acero inoxidable + Estellite No. 6 | ASTM A-276 tipo 410+ + Estellite No. 6 |
| 6 Brida prensa empaques | Acero al carbón | ASTM A-36 |
| 7 Prensa empaque | Acero al carbón | ASTM A-108 Gr 1018 |
| 8 Volante | Hierro maleable | ASTM A-536 Gr 654512 |
| 9 Tuerca de volante | Acero al inoxidable | ASTM A-194 Gr 8 |
| 10 Empaque vástago | Grafito | Comercial |
| 11 Junta | Grafito + ac inox | Comercial + ac inox 304 |
| 12 Tuerca del esparrago | Acero inoxidable | ASTM A-194 Gr 8 |
| 13 Esparrago | Acero inoxidable | ASTM A-582 Gr 416 |
| 14 Tornillo hexagonal | Acero Cr. Mo | ASTM A-193 Gr B7 |
| 15 Tuerca de vástago | Acero inoxidable | ASTM A-582 Gr 416 |
| 16 Placa de identificación | Lamina de aluminio | Comercial |
| 17 Tuerca del disco | Acero al carbón | ASTM A-108 Gr 1018 |
| 18 Seguro | Acero inoxidable | ASTM A-276 Tipo 304 |

RETENCIÓN 800 LBS.



| Descripción | Material estandar | Especificación |
|---------------------------|------------------------------------|---------------------------------------|
| 1 Cuerpo | Acero forjado | ASTM A-105 |
| 2 Tapa | Acero forjado | ASTM A-105 |
| 3 Pistón | Acero inoxidable | ASTM A-276 tipo 410 |
| 4 Asiento | Acero inoxidable + Estellite No. 6 | ASTM A-276 tipo 410 + Estellite No. 6 |
| 5 Junta | Grafito + ac inox | Comercial + ac inox 304 |
| 6 Tornillo hexagonal | Acero Cr. Mo | ASTM A-193 Gr. B7 |
| 7 Placa de Identificación | Lamina de aluminio | Comercial |

Compuerta 800 Lbs.

| | | | | | | | | | |
|-------------------------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|----------|
| Tamaño Paso Estándar | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | |
| Tamaño Paso Completo | | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
| A (mm.) | 84 | 84 | 84 | 91 | 113 | 121 | 121 | 130 | 165 |
| B (abierto) (mm.) | 146 | 146 | 146 | 149 | 181 | 241 | 241 | 262 | 275 |
| C (mm.) | 102 | 102 | 102 | 102 | 102 | 165 | 165 | 165 | 203 |
| D (Paso Estándar) (mm.) | 7.9 | 9.5 | 9.5 | 12.7 | 19.1 | 28.6 | 28.6 | 36.5 | 42.8 |
| Peso Aprox. Kg. (Lbs.) | 1.8 (4.0) | 1.8 (4.0) | 1.7 (3.7) | 1.9 (4.2) | 3.4 (7.5) | 7.1 (15.7) | 7.1 (15.7) | 8.3 (18.3) | 9.5 (21) |

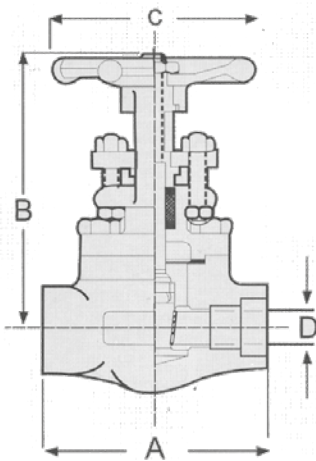
Globo 800 Lbs.

| | | | | | | | | | |
|-------------------------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|--|
| Tamaño Paso Estándar | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | |
| Tamaño Paso Completo | | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | |
| A (mm.) | 84 | 84 | 84 | 91 | 111 | 165 | 165 | 178 | |
| B (abierto) (mm.) | 151 | 151 | 1151 | 164 | 194 | 248 | 248 | 276 | |
| C (mm.) | 102 | 102 | 102 | 102 | 102 | 165 | 165 | 165 | |
| D (Paso Estándar) (mm.) | 7.9 | 7.9 | 7.9 | 12.7 | 17.5 | 28.6 | 28.6 | 34.9 | |
| Peso Aprox. Kg. (Lbs.) | 1.9 (4.2) | 1.9 (4.2) | 1.8 (4.0) | 2.1 (4.6) | 3.3 (7.3) | 7.5 (16.5) | 7.4 (16.3) | 10.9(24.0) | |

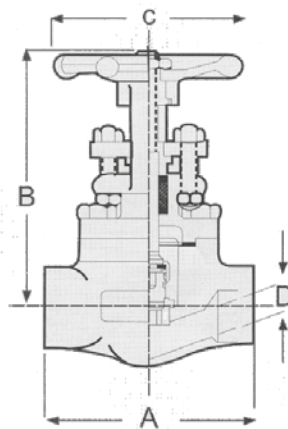
Retención 800 Lbs.

| | | | | | | | | | |
|------------------------------|---------|-----------|-----------|-----------|-----------|------------|------------|-----------|--|
| Tamaño Paso Estándar | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | |
| Tamaño Paso Completo | | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | |
| A (mm.) | 84 | 84 | 84 | 91 | 111 | 165 | 165 | 178 | |
| B (abierto) (mm.) | 47 | 47 | 47 | 55 | 69 | 103 | 103 | 119 | |
| D (Paso Estándar) (mm.) | 7.9 | 7.9 | 7.9 | 12.7 | 17.5 | 28.6 | 28.6 | 34.9 | |
| Peso Aprox. Kg. (Lbs.) (mm.) | 13(2.9) | 1.3 (2.9) | 1.2 (2.6) | 1.4 (3.1) | 2.6 (7.3) | 5.9 (13.0) | 5.9 (13.0) | 8.8(19.4) | |

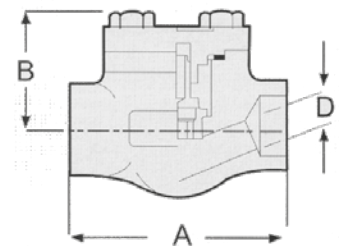
Compuerta



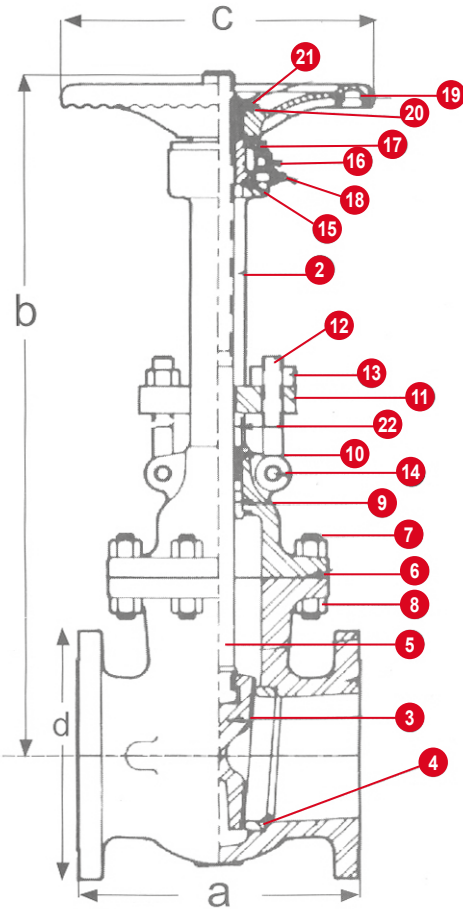
Globo



Retención



COMPUERTA 150 LBS. (2' - 6") ASTM A-216 GR WCB



| Descripción | Material estandar | Especificación ASMT |
|--------------------------------|---------------------------|---------------------|
| 1 Cuerpo | Fund. de acero al carbón | A216 GR WCB |
| 2 Bonete | Fund. de acero al carbón | A216 GR WCB |
| 3 Disco | - | - |
| 4 Anillos | - | - |
| 5 Vástago | - | - |
| 6 Junta | Acero | AISI 1010 |
| 7 Birlo | Acero aleado | A193 GRB7 |
| 8 Tuerca del birlo | Acero al carbón | A194 GR2H |
| 9 Casquillo | - | - |
| 10 Empaque | Grafito | Comercial |
| 11 Brida prensa-empaque | Acero | A36 |
| 12 Tornillo del ojo | Acero | AISI C 1045 |
| 13 Tuerca del tornillo del ojo | Acero | A307 GR B |
| 14 Perno del tornillo del ojo | Acero | Comercial |
| 15 Tuerca del vástago | Bronce, aluminio, silicio | B148 UNS C95600 |
| 16 Opresor | Acero | Comercial |
| 17 Tuerca Reten | Acero | A108 GR 1018 |
| 18 Grasera | Acero | Comercial |
| 19 Volante | Hierro maleable | A197 |
| 20 Opresor | Acero | Comercial |
| 21 Tuerca del volante | Acero cadminizado | A108 GR 1018 |
| 22 Buje prensa-empaque | Acero | A108 GR 1018 |

Dimensiones y pesos (2' - 6")

| ø N | mm pulg. | 50 | 65 | 80 | 100 | 127 | 150 |
|--------|-------------|-------------------|----------------|-----------------|------------------|-------------|-------------------|
| | | 2 | 2 1/2 | 3 | 4 | 5 | 6 |
| a(F) | mm pulg. | 177.8 7 | 190.5 7 1/2 | 203.2 8 | 228.6 9 | 254.0 10 | 266.7 10 1/2 |
| a(WE) | mm pulg. | 215.9 8 1/2 | 241.3 9 1/2 | 282.5 11 1/8 | 304.8 12 | 381.0 15 | 403.2 15 7/8 |
| b | mm pulg. | 477.8 18 13/16 | 482.6 19 | 552.5 21 3/4 | 674.7 26 9/16 | 8128 32 | 830.3 32 11/16 |
| c | mm pulg. | 203.2 8 | 177.8 7 | 254 10 | 254 10 | 304.8 12 | 304.8 12 |
| d | mm pulg. | 152.4 6 | 177.8 7 | 190.5 7 1/2 | 228.6 9 | 254.0 10 | 279.4 11 |
| PESO | mm | 19 | 30.8 | 32 | 47 | 70.0 | 73 |
| 5202F | pulg. | 42 | 68 | 71 | 104 | 154 | 161 |
| PESO | mm | 22 | 27.2 | 27 | 44 | 60.0 | 67.1 |
| 5202WE | pulg. | 48 | 60 | 60 | 97 | 132 | 148 |



COMPUERTA 150 LBS. (8" - 48") ASTM A-216 GR WCB

* Compuerta Flexible

* 36" y 48", normalmente suministradas con cajas de engranes

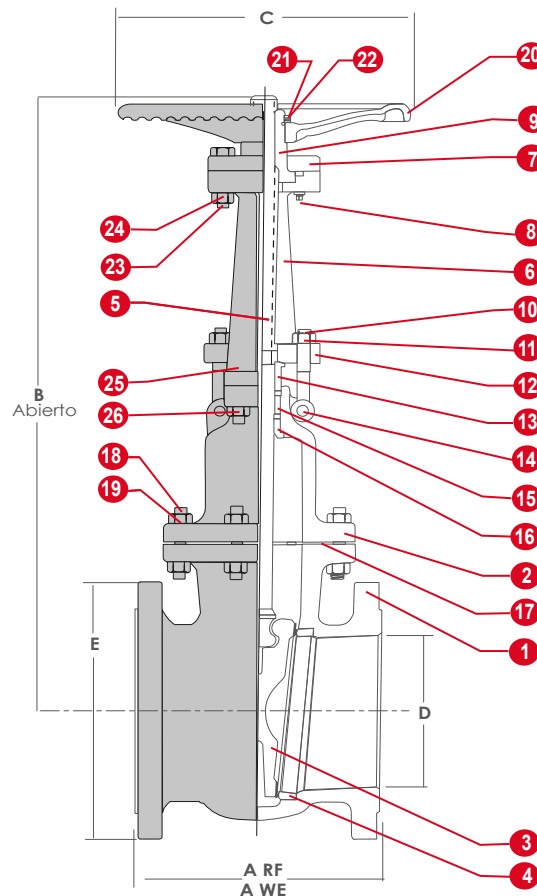
* 36" suministrada con bridas de acuerdo a MSS SP 44

espesor a ANSI B16.1 clase 125

| No. | Descripción | Material Estándar |
|-----|-------------------------|---------------------------|
| 1 | Cuerpo | ASTM A 216 GR WCB |
| 2 | Bonete | ASTM A 216 GR WCB |
| 3 | Compuerta | ASTM A 216 GR WCB+ 13% Cr |
| 4 | Asiento | ASTM A 515 GR 70+ ST 6 |
| 5 | Vástago | ASTM A 276 Tipo 410 |
| 6 | Yugo | ASTM A 216 GR WCB |
| 7 | Contrabrida | ASTM A 36 |
| 8 | Grasera | Acero Comercial |
| 9 | Tuerca Vástago | ASTM B 148 UNS C95600 |
| 10 | Tornillo de Ojo | Acero Aleado |
| 11 | Tuerca Tornillo de Ojo | ASTM A 307 |
| 12 | Brida Prensa Empaques | ASTM A 515 GR 70 |
| 13 | Buje Prensa Empaques | ASTM A 108 GR 1020 |
| 14 | Pemo Tornillo de Ojo | Acero Aleado |
| 15 | Empaque de Vástago | Grafito |
| 16 | Casquillo | ASTM A 276 Tipo 410 |
| 17 | Junta | Grafito/Inoxidable 316 |
| 18 | Espárrago | ASTM A 193 GR B7 |
| 19 | Tuerca Espárrago | ASTM A 194 GR 2H |
| 20 | Volante | ASTM A 197 |
| 21 | Tuerca Volante | ASTM A 108 GR 1020 |
| 22 | Opresor Tuerca Volante | Acero Aleado |
| 23 | Tornillo Tapa | Acero Aleado |
| 24 | Tuerca Tornillo Tapa | ASTM A 307 |
| 25 | Tornillo Yugo | Acero Aleado |
| 26 | Tuerca Tornillo Yugo | ASTM A 307 |
| 27* | Placa de identificación | Acero Inoxidable |

* No indicado

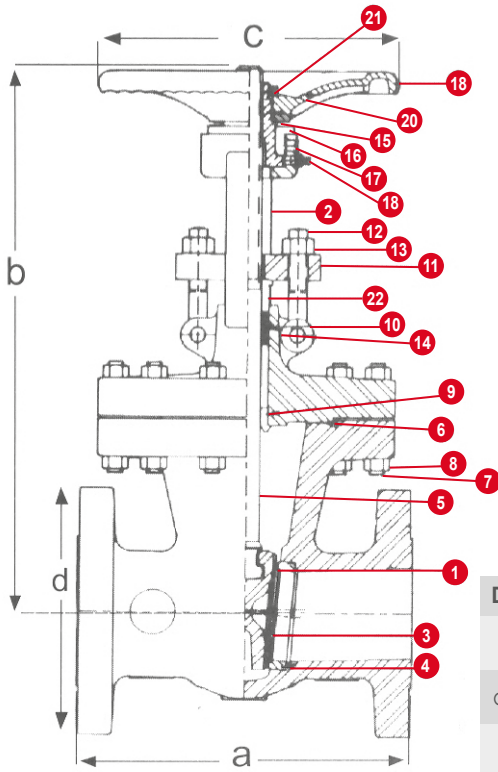
| Figura No. | Tipo de Extremo |
|------------|----------------------------|
| 5202RF | Bridados cara realizada |
| 5202RTJ | Bridados junta tipo anillo |
| 5202WE | Soldables a tope |



Dimensiones y pesos

| D Diámetro Nominal | mm pulgadas | 203 8 | 254 10 | 305 12 | 356 14 | 406 16 | 457 18 | 508 20 | 610 24 | 762 30 | 914 36 | 1219 48 |
|--------------------------|----------------|------------------|-----------------|----------------|----------------|----------------|----------------|---------------|-----------------|-----------------|-----------------|----------------|
| A (RF) | mm pulgadas | 292 11 1/2 | 330 13 | 356 14 | 381 15 | 406 16 | 432 17 | 457 18 | 508 20 | 610 24 | 711 28 | 927 36 1/2 |
| A (WE) | mm pulgadas | 419 16 1/2 | 457 18 | 502 19 3/4 | 572 22 1/2 | 610 24 | 660 26 | 711 28 | 813 32 | 762 30 | 864 34 | - |
| B | mm pulgadas | 1062 41 13/16 | 1253 49 5/16 | 1461 57 1/2 | 1638 64 1/2 | 1791 70 1/2 | 2013 79 1/4 | 2235 88 | 2680 105 1/2 | 3219 126 1/3 | 3969 156 1/4 | 6350 250 |
| C | mm pulgadas | 355.6 14 | 406.4 16 | 508 20 | 559 22 | 660 26 | 711 28 | 762 30 | 864 34 | 965 38 | 965 38 | 1168 46 |
| E | mm pulgadas | 343 13 1/2 | 406 16 | 483 19 | 533 21 | 597 23 1/2 | 635 25 | 699 27 1/2 | 813 32 | 984 38 3/4 | 1168 46 | 1511 59 1/2 |
| PESO 5202 RF | kg lb | 133 293 | 200 441 | 270 595 | 402 885 | 535 1178 | 670 1476 | 860 1894 | 942 2075 | 2145 4725 | 3890 8568 | 7050 15529 |
| PESO 5202 WE | kg lb | 128 282 | 183 403 | 264 581 | 421 927 | 555 1222 | 751 1654 | 885 1949 | 1345 2963 | 1910 4207 | 3198 7044 | - |

COMPUERTA 300 LBS. (2" - 6") ASTM A-216 GR WCB



| Descripción | Material estandar | Especificación ASMT |
|--------------------------------|---------------------------|---------------------|
| 1 Cuerpo | Fund. de acero al carbón | A216 GR WCB |
| 2 Bonete | Fund. de acero al carbón | A216 GR WCB |
| 3 Disco | - | - |
| 4 Anillos | - | - |
| 5 Vástago | - | - |
| 6 Junta | Acero | AISI 1010 |
| 7 Birlo | Acero aleado | A193 GRB7 |
| 8 Tuerca del birlo | Acero al carbón | A194 GR2H |
| 9 Casquillo | - | - |
| 10 Empaque | Grafito | Comercial |
| 11 Brida prensa-empaque | Acero | A36 |
| 12 Tornillo del ojo | Acero | AISI C 1045 |
| 13 Tuerca del tornillo del ojo | Acero | A307 GR B |
| 14 Perno del tornillo del ojo | Acero | Comercial |
| 15 Tuerca del vástago | Bronce, aluminio, silicio | B148 UNS C95600 |
| 16 Opressor | Acero | Comercial |
| 17 Tuerca Reten | Acero | A108 GR 1018 |
| 18 Grasera | Acero | Comercial |
| 19 Volante | Hierro maleable | A197 |
| 20 Opressor | Acero | Comercial |
| 21 Tuerca del volante | Acero cadminizado | A108 GR 1018 |
| 22 Buje prensa-empaque | Acero | A108 GR 1018 |

Dimensiones y pesos (2" - 6")

| ø N | mm pulg. | 50 2 | 65 2 1/2 | 80 3 | 100 4 | 127 5 | 150 6 |
|-----------|----------|-------------|-------------|--------------|------------|----------|--------------|
| a(F y WE) | mm pulg. | 215.9 8 1/2 | 241.3 9 1/2 | 282.5 11 1/8 | 304.8 12 | 381.0 15 | 403.2 15 7/8 |
| b | mm pulg. | 473 18 5/8 | 568 22 3/8 | 546 21 1/2 | 673 26 1/2 | 1549 61 | 935 36 13/16 |
| c | mm pulg. | 203.2 8 | 203.2 8 | 254 10 | 254 10 | 355.6 14 | 355.6 14 |
| d | mm pulg. | 165.1 6 1/2 | 190.5 7 1/2 | 210 8 1/4 | 254 10 | 179.4 11 | 317.5 12 1/2 |
| PESO | Kg. | 26 | 47 | 43 | 68 | 149.5 | 136 |
| 5206F | Lb. | 57 | 104 | 95 | 189 | 329 | 300 |
| PESO | Kg. | 20 | 38 | 32 | 59 | 113.2 | 124 |
| 5206WE | Lb. | 44 | 84 | 70 | 70 | 249 | 273 |



COMPUERTA 300 LBS. (8' - 42") ASTM A-216 GR WCB

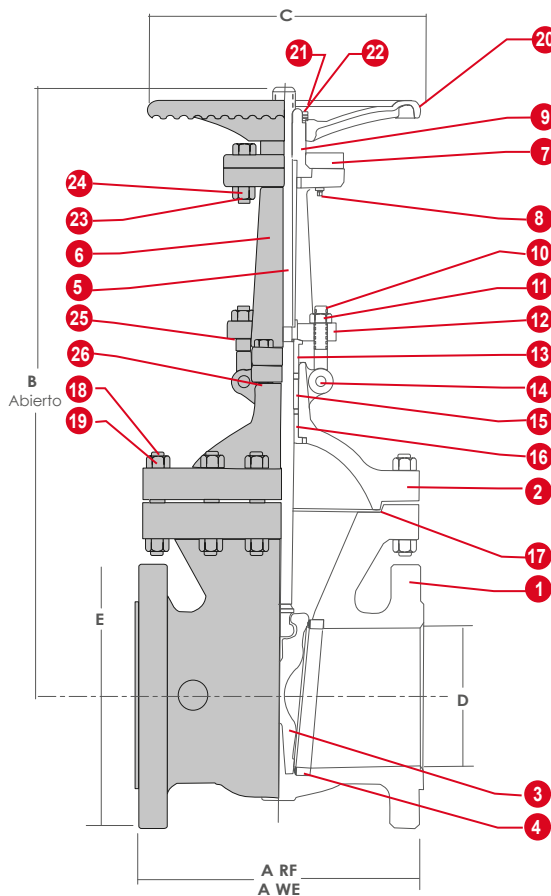
* Compuerta Flexible

* 36" y 42", normalmente suministradas con cajas de engranes

| No. | Descripción | Material Estándar |
|-----|-------------------------|--------------------------------|
| 1 | Cuerpo | ASTM A 216 GR WCB |
| 2 | Bonete | ASTM A 216 GR WCB |
| 3 | Compuerta | ASTM A 216 GR WCB+ 13% Cr |
| 4 | Asiento | ASTM A 515 GR 70+ ST 6 |
| 5 | Vástago | ASTM A 276 Tipo 410 |
| 6 | Yugo | ASTM A 216 GR WCB |
| 7 | Contrabrida | ASTM A 36 |
| 8 | Grasera | Acero Comercial |
| 9 | Tuerca Vástago | ASTM B 148 UNS C95600 |
| 10 | Tornillo de Ojo | Acero Aleado |
| 11 | Tuerca Tornillo de Ojo | ASTM A 307 |
| 12 | Brida Prensa Empaques | ASTM A 515 GR 70 |
| 13 | Buje Prensa Empaques | ASTM A 108 GR 1020 |
| 14 | Pemo Tornillo de Ojo | Acero Aleado |
| 15 | Empaque de Vástago | Grafito |
| 16 | Casquillo | ASTM A 276 Tipo 410 |
| 17 | Junta | Espiral/Inoxidable 304/Grafito |
| 18 | Espárrago | ASTM A 193 GR B7 |
| 19 | Tuerca Espárrago | ASTM A 194 GR 2H |
| 20 | Volante | ASTM A 197 |
| 21 | Tuerca Volante | ASTM A 108 GR 1020 |
| 22 | Opresor Tuerca Volante | Acero Aleado |
| 23 | Tornillo Contrabrida | Acero Aleado |
| 24 | Tuerca Tornillo Tapa | ASTM A 307 |
| 25 | Tornillo Yugo | Acero Aleado |
| 26 | Tuerca Tornillo Yugo | ASTM A 307 |
| 27* | Placa de identificación | Acero Inoxidable |

* No indicado

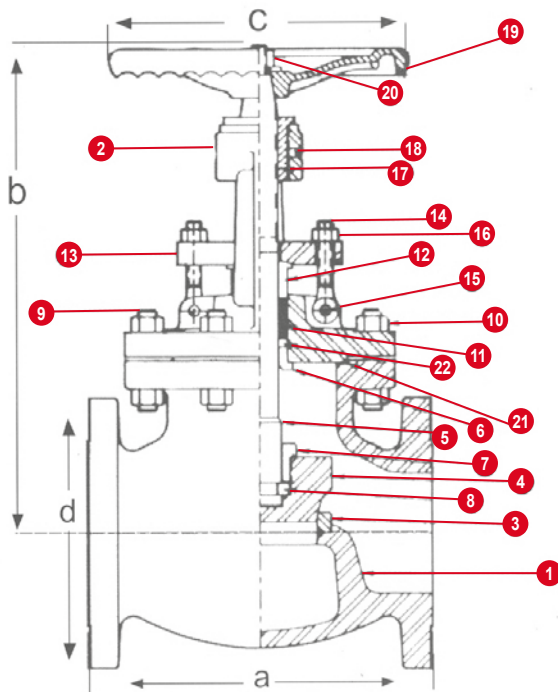
| Figura No. | Tipo de Extremo |
|------------|----------------------------|
| 5206RF | Bridados cara realzada |
| 5206RTJ | Bridados junta tipo anillo |
| 5206WE | Soldables a tope |



Dimensiones y pesos

| D Diámetro Nominal | mm pulgadas | 203 8 | 254 10 | 305 12 | 356 14 | 406 16 | 457 18 | 508 20 | 610 24 | 762 30 | 914 36 | 1067 42 |
|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|
| A (RF) y (WE) | mm pulgadas | 419 16 1/2 | 457 18 | 502 19 3/4 | 762 22.5 | 838 24 | 914 26 | 991 28 | 1143 32 | 1397 55 | 1727 68 | 2045 80 1/2 |
| B | mm pulgadas | 1083 42 5/8 | 1314 51 3/4 | 1594 62 3/4 | 1695 66 3/4 | 1873 73 3/4 | 2076 81 3/4 | 2318 91 1/4 | 2762 108 3/4 | 3664 136 3/8 | 4048 159 3/8 | 4636 182 1/2 |
| C | mm pulgadas | 406.4 16 | 508 20 | 508 20 | 660 26 | 711 28 | 864 34 | 864 34 | 864 34 | 965 38 | 914 36 | 914 36 |
| E | mm pulgadas | 381 15 | 445 17 1/2 | 521 20 1/2 | 584 23 | 648 25 1/2 | 711 28 | 775 30 1/2 | 914 36 | 1092 43 | 1270 50 | 1289 50 3/4 |
| PESO 5206 RF | kg lb | 212 467 | 343 756 | 492 1083 | 706 2000 | 989 2650 | 1260 3600 | 1756 4550 | 2600 5000 | 4900 5790 | 8805 19394 | 11045 24328 |
| PESO 5206 WE | kg lb | 195 430 | 300 661 | 407 896 | 669 1474 | 982 2164 | 1383 3046 | 1605 3535 | 1950 4295 | 4500 9912 | 7943 17496 | 10436 22987 |

Globo 150 Lbs. (2" - 20") ASTM A-216 GR WCB

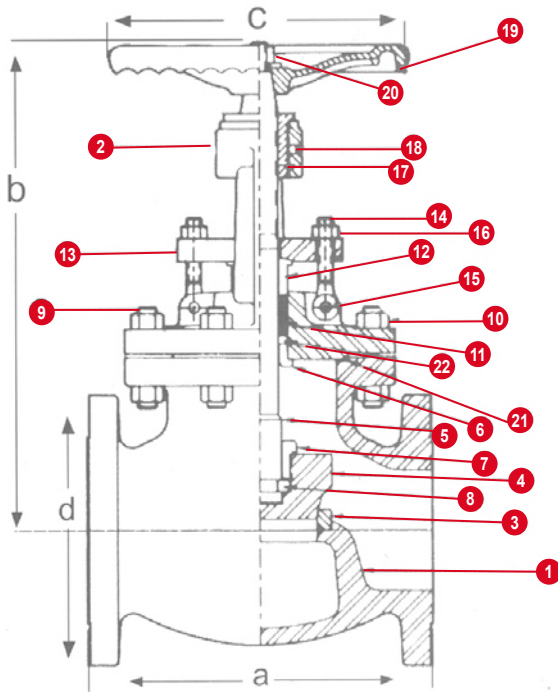


| Descripción | Material estandar | Especificación ASMT |
|--------------------------------|---------------------------|---------------------|
| 1 Cuerpo | Fund. de acero al carbón | A216 GR WCB |
| 2 Bonete | Fund. de acero al carbón | A216 GR WCB |
| 3 Anillo | - | - |
| 4 Disco | - | - |
| 5 Vástago | - | - |
| 6 Casquillo | - | - |
| 7 Tuerca de disco | - | - |
| 8 Seguro | Acero inoxidable | 216 Tipo 410 |
| 9 Birlo | Acero aleado | A193 GR B7 |
| 10 Tuerca del birlo | Acero al carbón | A194 GR 2H |
| 11 Empaque | Grafito | Comercial |
| 12 Buje prensa empaques | Acero | A108 GR 1020 |
| 13 Brida prensa empaque | Acero | AISIS GR 70 |
| 14 Tornillo del ojo | Acero | AISI C 1045 |
| 15 Perno del tornillo del ojo | Acero | Comercial |
| 16 Tuerca del tornillo del ojo | Acero | Comercial |
| 17 Tuerca del vástago | Bronce, aluminio, silicio | B148 UNS C95600 |
| 18 Opresor | Acero | Comercial |
| 19 Volante | Hierro maleable | A197 |
| 20 Tuerca del volante | Acero | Comercial |
| 21 Junta | Acero | AISI 1010 |
| 22 Separador | Acero | A108 GR 1020 |

Dimensiones y pesos (2" - 16", 20") (2" - 12")

| ø N | mm pulg. | 50 2 | 65 2 1/2 | 80 3 | 100 4 | 150 6 | 200 8 | 250 10 | 300 12 | 350 14 | 400 16 | 500 20 |
|--------------------------|------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|
| a(F y WE) | mm pulg. | 203.2 8 | 215.9 8 1/2 | 241.3 9 1/2 | 292.1 11 1/2 | 406.4 16 | 495.3 19 1/2 | 622.3 24 1/2 | 698.5 27 1/2 | 787.4 31 | 914.4 36 | 977.9 38 1/2 |
| á(F y WE) | mm pulg. | 101.6 4 | 114.3 4 1/2 | 120.6 4 3/4 | 146 5 3/4 | 203.2 8 | 247.6 9 3/4 | 311 12 1/4 | 349 13 3/4 | - | - | - |
| b | mm pulg. | 329 12 15/16 | 386 15 3/16 | 354 13 15/16 | 432 17 | 513 20 3/16 | 643 25 5/16 | 669 26 5/16 | 830 32 11/16 | 1292 50 7/8 | 1378 54 1/4 | 1502 59 1/8 |
| c | mm pulg. | 203.2 8 | 177.8 7 | 203.2 8 | 254 10 | 355.6 14 | 406.4 16 | 457 18 | 609.6 24 | 965 38 | 965 38 | 965 38 |
| d | mm pulg. | 152.4 6 | 177.8 7 | 190.2 7 1/2 | 228.6 9 | 279.4 11 | 342.9 13 1/2 | 406.4 16 | 482.6 19 | 533.4 21 | 596.9 23 1/2 | 698.5 27 1/2 |
| PESO 5275F 5278F | Kg. Lb. | 20 45 | 28 62 | 28 62 | 59 130 | 85 187 | 194 427 | 275 606 | 445 981 | 490 1080 | 900 1984 | 1500 3307 |
| PESO 5275WE 5278WE | Kg. Lb. | 15 33 | 25 55 | 21 46 | 41 90 | 63 138 | 155 341 | 233 513 | 394 868 | 425 937 | 780 1720 | 1300 2866 |

GLOBO300 LBS. (2" - 14") ASTM A216 GR WCB



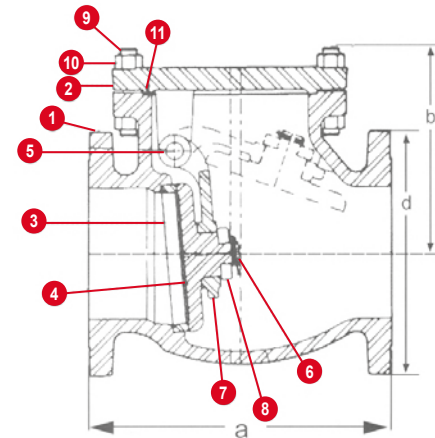
| Descripción | Material estandar | Especificación ASMT |
|--------------------------------|---------------------------|---------------------|
| 1 Cuerpo | Fund. de acero al carbón | A216 GR WCB |
| 2 Bonete | Fund. de acero al carbón | A216 GR WCB |
| 3 Anillo | - | - |
| 4 Disco | - | - |
| 5 Vástago | - | - |
| 6 Casquillo | - | - |
| 7 Tuerca de disco | - | - |
| 8 Seguro | Acero inoxidable | 216 Tipo 410 |
| 9 Birlo | Acero aleado | A193 GR B7 |
| 10 Tuerca del birlo | Acero al carbón | A194 GR 2H |
| 11 Empaque | Grafito | Comercial |
| 12 Buje prensa empaques | Acero | A108 GR 1020 |
| 13 Brida prensa empaque | Acero | AISIS GR 70 |
| 14 Tornillo del ojo | Acero | AISI C 1045 |
| 15 Perno del tornillo del ojo | Acero | Comercial |
| 16 Tuerca del tornillo del ojo | Acero | Comercial |
| 17 Tuerca del vástago | Bronce, aluminio, silicio | B148 UNS C95600 |
| 18 Opressor | Acero | Comercial |
| 19 Volante | Hierro maleable | A197 |
| 20 Tuerca del volante | Acero | Comercial |
| 21 Junta | Acero | AISI 1010 |
| 22 Separador | Acero | A108 GR 1020 |

Dimensiones y pesos (2" - 14") (2" - 12")

| ø N | mm pulg. | 50 2 | 65 1 1/2 | 80 3 | 100 4 | 150 6 | 200 8 | 250 10 | 300 12 | 350 14 |
|--------------------------|-------------|-----------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|-----------------|
| a(F y WE) | mm pulg. | 266.7 10 1/2 | 292.1 11 1/2 | 317.5 12 1/2 | 355.6 14 | 444.5 17 1/2 | 558.8 22 | 622.3 24 1/2 | 711.2 28 | 838.2 33 |
| á(F y WE) | mm pulg. | 133.3 5 1/4 | 146 5 3/4 | 158.7 6 1/4 | 177.8 7 | 222.2 8 3/4 | 279.4 11 | 311 12 1/4 | 355.6 14 | - - |
| b | mm pulg. | 360 14 3/16 | 505 19 7/8 | 418 16 7/16 | 511 20 1/8 | 621 24 7/16 | 854 33 5/8 | 1000 39 3/8 | 1180 46 7/16 | 1583 62 5/16 |
| c | mm pulg. | 254 8 | 254 10 | 254 10 | 355.6 14 | 457 18 | 660 24 | 762 30 | 965 38 | 965 38 |
| d | mm pulg. | 165.1 6 1/2 | 190.5 7 1/2 | 209.5 8 1/4 | 254 10 | 317.5 12 1/2 | 381 15 | 444.5 17 1/2 | 520.7 20 1/2 | 647.7 23 1/2 |
| PESO 5281F 5283F | Kg. Lb. | 27 60 | 50 110 | 51 112 | 78 172 | 168 370 | 305 672 | 446 983 | 860 1896 | 1100 2425 |
| PESO 5281WE 5283WE | Kg. Lb. | 22 48 | 46 101 | 40 88 | 60 132 | 148 325 | 254 558 | 381 838 | 745 1639 | 955 2101 |

RETENCIÓN 150 LBS. / 300 LBS. (2" - 24") ASTM A216 GR WCB

| Descripción | Material estandar | Especificación ASMT |
|------------------------------------|--------------------------|---------------------|
| 1 Cuerpo | Fund. de acero al carbón | A216 GR WCB |
| 2 Tapa | Fund. de acero al carbón | A216 GR WCB |
| 3 Anillo | - | - |
| 4 Disco | - | - |
| 5 Flecha | - | - |
| 6 Seguro de disco | Acero inoxidable 18-8 | Comercial |
| 7 Horquilla | Fund. de acero al carbón | A216 GR WCB |
| 8 Tuerca de disco | - | - |
| 9 Birlo | Acero aleado | A193 GR B7 |
| 10 Tuerca del birlo | Acero al carbón | A194 GR 2H |
| 11 Junta | Acero | AISI 1010 |
| 12 Tapón de cuerpo (14" y mayores) | Acero al carbón | A105 |



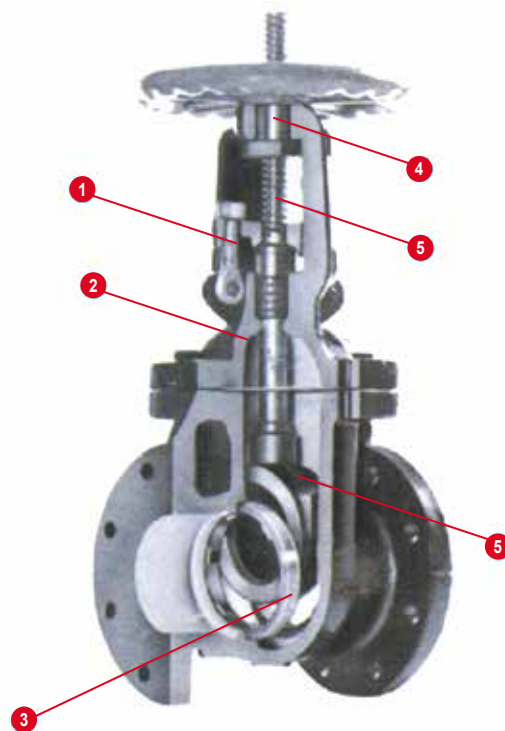
Dimensiones y pesos 150 (2" - 24")

| ø N | mm pulg. | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|-------------|----------|------------|-------------|-------------|--------------|-----------|--------------|--------------|--------------|----------|--------------|-------------|--------------|------------|
| | | 2 | 1 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
| a(F, WE) | mm pulg. | 203.2 8 | 215.9 8 1/2 | 241.3 9 1/2 | 292.1 11 1/2 | 355.6 14 | 495.3 19 1/2 | 622.3 24 1/2 | 698.5 27 1/2 | 787.4 31 | 762 30 | 838.2 33 | 914.4 36 | 1066.8 42 |
| b | mm pulg. | 134 5 9/32 | 164 6 7/16 | 162 6 3/8 | 205 8 1/16 | 238 9 3/8 | 290 11 7/16 | 349 13 3/4 | 381 15 | 457 18 | 502 19 3/4 | 573 22 9/16 | 606 23 7/8 | 702 27 5/8 |
| c | mm pulg. | 152.4 6 | 177.8 7 | 190.5 7 1/2 | 228.6 9 | 279.4 11 | 342.9 13 1/2 | 406.4 16 | 482.6 19 | 533.4 21 | 596.9 23 1/2 | 635 25 | 698.5 27 1/2 | 812.8 32 |
| PESO 5341F | Kg. Lb. | 15 33 | 23 50 | 26 57 | 36 79 | 77 170 | 152 335 | 242 533 | 350 772 | 527 1162 | 650 1433 | 950 2094 | 1150 2535 | 1596 3518 |
| PESO 5341WE | Kg. Lb. | 13 29 | 19 41 | 17 37 | 30 66 | 55 121 | 132 291 | 210 463 | 305 672 | 458 1010 | 565 1245 | 825 1819 | 1000 3748 | 1388 3060 |

Dimensiones y pesos 300 (2" - 24")

| ø N | mm pulg. | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|-------------|----------|-------------|------------|------------|-------------|------------|--------------|-------------|--------------|------------|-------------|------------|------------|------------|
| | | 2 | 1 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
| a(F, WE) | mm pulg. | 267 10 1/2 | 292 11 1/2 | 318 12 1/2 | 357 14 | 445 17 1/2 | 533 21 | 622 24 1/2 | 711 28 | 838 33 | 864 34 | 978 38 1/2 | 1016 40 | 1346 53 |
| b | mm pulg. | 144 5 11/16 | 179 7 1/16 | 184 7 1/4 | 221 8 11/16 | 260 10 1/4 | 348 13 11/16 | 395 15 9/16 | 456 17 15/16 | 524 20 5/8 | 567 22 5/16 | 597 23 1/2 | 648 25 1/2 | 797 31 3/8 |
| c | mm pulg. | 165 6 1/2 | 191 7 1/2 | 219 8 1/4 | 254 10 | 318 12 1/2 | 381 15 | 445 17 1/2 | 521 20 1/2 | 584 23 | 648 25 1/2 | 711 28 | 775 30 1/2 | 914 36 |
| PESO 5344F | Kg. Lb. | 24 53 | 38 84 | 38 84 | 52 115 | 118 260 | 209 460 | 352 776 | 542 1195 | 770 1697 | 862 1900 | 1200 2645 | 1650 3637 | 2260 4982 |
| PESO 5344WE | Kg. Lb. | 19 42 | 32 70 | 31 68 | 40 88 | 95 209 | 159 350 | 305 672 | 470 1036 | 670 1477 | 750 1653 | 1040 2293 | 1435 3164 | 1965 4332 |

COMPUERTA HIERRO 125 LBS. VÁSTAGO SALIENTE



1.- Mayor espacio para reempacar las válvulas se obtiene mediante el sistema de tornillos de ojo. Esta operación se realiza fácilmente estando la válvula de servicio.

2.- La forma y continuidad de los espesores del cuerpo y bonete evitan concentración de esfuerzos en condiciones críticas de servicio.

3.- Mayor presión del sello sin aumentar el par de cierre, se logra mediante la resistencia unidireccional de los asientos del cuerpo. Esta es otra ventaja de las válvulas.

4.- Suavidad y bajo par de operación gracias a las prioridades de baja fricción del bronce utilizando en el mecanismo operador de las válvulas.

5.- Mayor resistencia a la corrosión y mejores mecánicas caracterizan a la aleación de bronce a silicio utilizada en todos los vástagos de las válvulas.

6.- Disco sólido tipo cuña, provisto de guías cuya longitud es de dos terceras partes del diámetro nominal. Estas guías mantienen alineado el disco todo el tiempo.

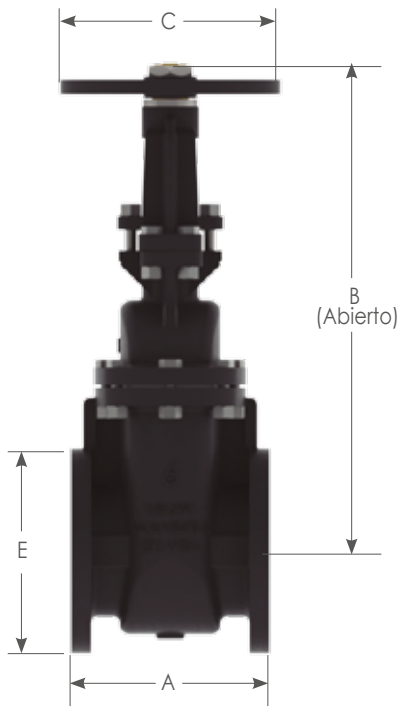
COMPUERTA HIERRO 125 LBS. VÁSTAGO SALIENTE

VÁLVULAS COMPUERTA DE HIERRO FUNDIDO TIPO OS&Y, CLASE 125

CARACTERÍSTICAS DE DISEÑO

- Diseño de acuerdo a MSS SP-70
- Clase 125
- Válvula tipo OS&Y
- Construcción de Hierro Fundido
- Diseño Atornillado
- Operación por Volante
- Dimensiones de Cara a Cara de acuerdo con ANSI B16.10
- Barrenado de Bridas de acuerdo a ANSI B16.1

| Número de Figura | Tipo de extremos |
|------------------|------------------------|
| W726F | Extremos de Cara Plana |



Dimensiones y Pesos

| D Diámetro Nominal | mm | 51 | 64 | 76 | 102 | 127 | 152 | 203 | 254 | 305 | 356 | 406 | 457 | 508 | 610 | 762 | 914 |
|--------------------------|----------------------|-------|-------|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| | pulg | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 |
| A | mm | 177.8 | 190.0 | 203.2 | 228.6 | 254.0 | 266.7 | 292.1 | 330.2 | 355.6 | 381.0 | 406.4 | 432.0 | 457.0 | 508.0 | PCR | PCR |
| | pulg | 7.00 | 7.48 | 8.00 | 9.00 | 10.00 | 10.50 | 11.50 | 13.00 | 14.00 | 15.00 | 16.00 | 17.01 | 17.99 | 20.00 | PCR | PCR |
| B (Abierto) | mm | 311 | 347 | 384 | 490 | 541 | 656 | 778 | 933 | 1102 | 1259 | 1395 | 1560 | 1708 | 1990 | PCR | PCR |
| | pulg | 12.24 | 13.66 | 15.12 | 19.29 | 21.30 | 25.83 | 30.63 | 36.73 | 43.39 | 49.57 | 54.92 | 61.42 | 67.24 | 78.35 | PCR | PCR |
| C | mm | 178 | 178 | 200 | 254 | 300 | 300 | 348 | 400 | 457 | 560 | 560 | 610 | 610 | 765 | PCR | PCR |
| | pulg | 7.01 | 7.01 | 7.87 | 10.00 | 11.81 | 11.81 | 13.70 | 15.75 | 17.99 | 22.05 | 22.05 | 24.02 | 24.02 | 30.12 | PCR | PCR |
| E | mm | 152.0 | 178.0 | 190.0 | 228.6 | 254.0 | 279.4 | 343.0 | 406.0 | 483.0 | 533.4 | 597.0 | 635.0 | 699.0 | 813.0 | PCR | PCR |
| | pulg | 5.98 | 7.01 | 7.48 | 9.00 | 10.00 | 11.00 | 13.50 | 15.98 | 19.02 | 21.00 | 23.50 | 25.00 | 27.52 | 32.01 | PCR | PCR |
| Peso | kg | 17 | 23 | 28 | 50 | 70 | 92 | 129 | 208 | 289 | 380 | 460 | 673 | 859 | 1225 | 2492 | 3682 |
| W726F | lb | 37.49 | 50.72 | 61.74 | 110.25 | 154.36 | 202.87 | 284.45 | 458.65 | 637.27 | 837.93 | 1014.33 | 1484.01 | 1894.16 | 2701.21 | 5495.04 | 8119.07 |
| Cv | Coeficiente de flujo | 241.0 | 386.0 | 556.0 | 1018.0 | 1639.0 | 2438.0 | 4486.0 | 7009.0 | 10473.0 | 14256.0 | 18619.0 | 24528.0 | 30281.0 | 43605.0 | 83444 | 120160 |

COMPUERTA HIERRO 125 LBS. VÁSTAGO SALIENTE

Características del diseño

Bonete bridado

Cuña sólida

Interiores de bronce

Interiores de hierro

Extremos roscados

Extremos bridados

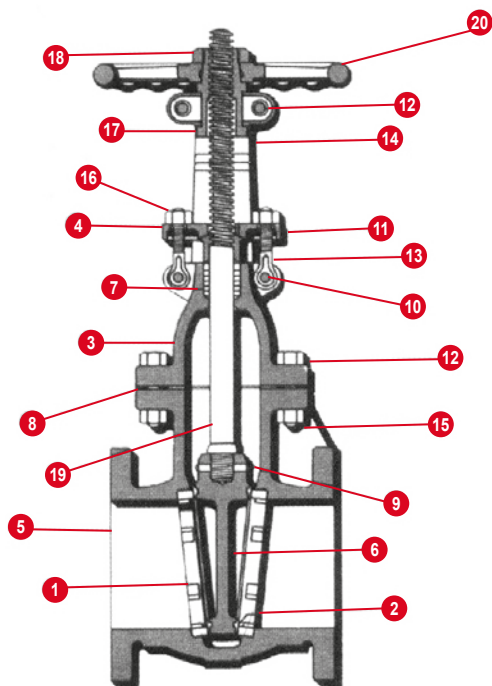
Discos totalmente guiados, minimizan desgaste y prolongan la vida de la válvula

Servicios recomendados

interiores de hierro para fluidos que ataquen al bronce

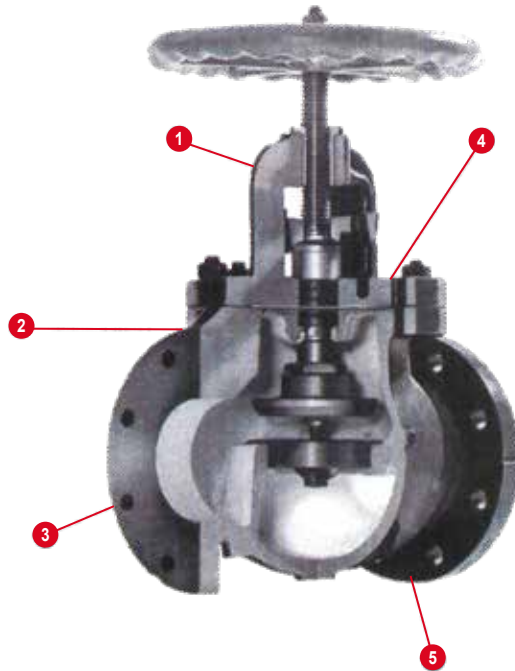
Vástagos saliente para servicios de altas temperaturas

Para límites de presión - temperatura



| No. | Descripción | Material | ASTM. |
|-----|-----------------------------|----------------------|---------------------|
| 1 | Asiento del cuerpo | Broce/Hierro | B62, A 126B |
| 2 | Asiento del disco | Bronce | B62 |
| 3 | Bonete | Hierro | A 126-B |
| 4 | Brida prensa empaques | Hierro | A 126-B |
| 5 | Cuerpo | Hierro | A 126-B |
| 6 | Disco | Broce/Hierro | B62, A 126-B |
| 7 | Empaques | Asbesto grafitado | - |
| 8 | Junta | Asbesto grafitado | - |
| 9 | Perno del disco | Latón, acero | B16, A108-1018 |
| 10 | Perno del Tornillo de ojo | Acero | A 108 - 1018 |
| 11 | Presempaques | Bronce, acero | B16, A108-1018 |
| 12 | Tornillo | Acero | A 307-B |
| 13 | Tornillo de ojo | Acero | A 307-B |
| 14 | Torre | Hierro | A 126-B |
| 15 | Tuerca | Acero | A 30/-B |
| 16 | Tuerca brida prensaempaques | Latón, acero | B16, A307-B |
| 17 | Tuerca del vástago | Broce, hierro ductil | B62, A395 |
| 18 | Tuerca del volante | Hierro | A 126-B |
| 19 | vástago | Bronce, acero | B584-875, A108-1018 |
| 20 | volante | Acero, hierro | A126-B |

VÁLVULA DE GLOBO HIERRO 125 LBS.



1.- Regulación precisa de flujo se obtiene con las válvulas debido a la rosca de una entrada, que ha sido maquinada con precisión en el vástago.

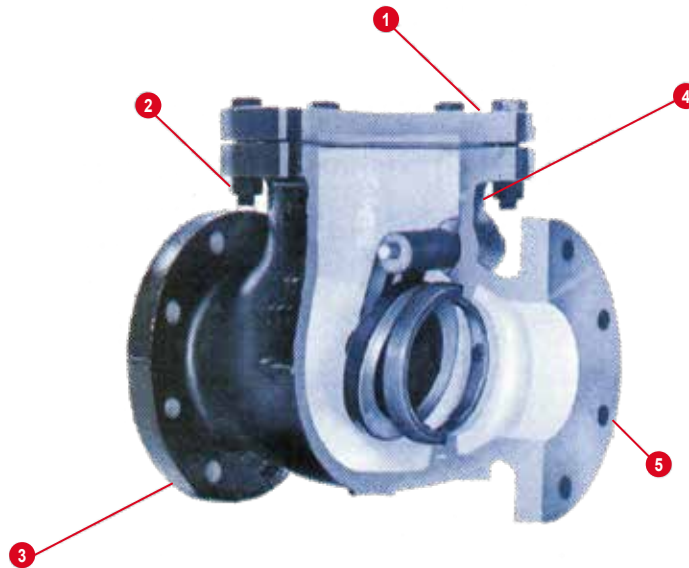
2.- Sello hermético que permite reempacar la válvula estando en servicio y totalmente abierta. El diseño y maquinado preciso del vástago y el asiento interior del bonete permite realizar esta operación con seguridad.

3.- Ajuste exacto entre los asientos debidos a que la guía del disco está alineada con el asiento del cuerpo, evitando deflexiones al vástago por causa de alta velocidad o presión de fluido.

4.- Disco de un solo material bronce o hierro se surten en las válvulas de globo cualquiera que sea su tamaño.

5.- Cierre positivo y hermético de flujo se logran mediante el disco sólido de asiento esférico de las válvulas. El diseño provee un sello durable y evitar la incrustación de sólidos en la superficie de asiento.

VÁLVULA RETENCIÓN HIERRO 125 LBS.



1.- Tapa bridada cuyos espesores y dimensiones están de acuerdo a normas internacionales aceptadas por la industria. La tortillería utilizada en las válvulas posee una alta resistencia a la tensión.

2.- Diseño robusto del disco y columpio que les da mayor resistencia a los esfuerzos causados por cambios súbitos en sentido, presión o velocidad del fluido. Las válvulas de retención son de tipo columpio y de paso completo, por lo que ocasionan una mínima caída de presión.

3.- Roscados o bridados son extremos con que se construyen las válvulas. Un amplio rango de diámetros nominales, que van desde 51 mm (2") hasta 914 mm (36") cubren una gran variedad de servicios.

4.- Ensamble preciso entre el perno y el columpio, que proporciona un funcionamiento suave de flujo. Mediante la utilización de un contrapeso se pueden variar las condiciones de operación de la válvula.

5.- Paso completo el área de flujo es siempre mayor o igual al de la tubería correspondiente ya que, en posición totalmente abierta, el disco no obstruye el paso del fluido.

RETENCIÓN HIERRO 125 LBS.

Características del diseño

Tapa bridada · Tipo columpio

Interiores de bronce

Asiento del disco sintético

interiores de hierro

Extremos roscados

Válvulas con asiento de cuerpo en bronce y asiento de disco en buna N

Servicios recomendados

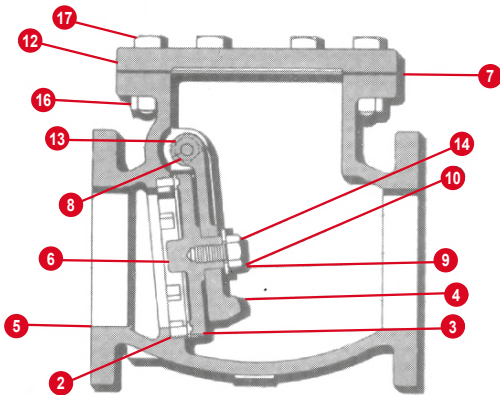
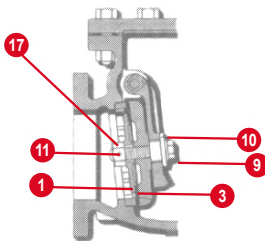
Prevenir el contraflujo con mínima caída de presión

Interiores de bronce para servicios vapor, aire, aceite o gas

Disco de Buna N proporciona cierre hermético

Puede equiparse con un contrapeso para acelerar o desacelerar el disco

Instalación en líneas horizontales o verticales



| No. | Descripción | Material | ASTM. |
|-----|---------------------|-----------------------|---------------|
| 1 | Araña | Broce | B62 |
| 2 | Asiento del cuerpo | Bronce / hierro | B62, A126-B |
| 3 | Asiento del disco | Bronce, buna | B62 |
| 4 | Columpio | Bronce, hierro | B62, A126-B |
| 5 | Cuerpo | Hierro | A 126-B |
| 6 | Disco | Bronce, hierro | A 126-B |
| 7 | Junta | Asbesto grafitado | - |
| 8 | Perno del columpio | Latón, ac. inoxidable | B16, A276-410 |
| 9 | Roldana presión | Acero | - |
| 10 | Roldana plana | Acero | - |
| 11 | Seguro | Latón | |
| 12 | Tapa | hierro | A 126-B |
| 13 | Tapón lateral | Bronce, hierro | B62, A 126-B |
| 14 | Tornillo del disco | Latón, acero | B16, A307-B |
| 15 | Tornillo de la tapa | Acero | A307-B |
| 16 | Tuerca de la tapa | Acero | A307-B |
| 17 | Tuerca del disco | Acero | B16 |

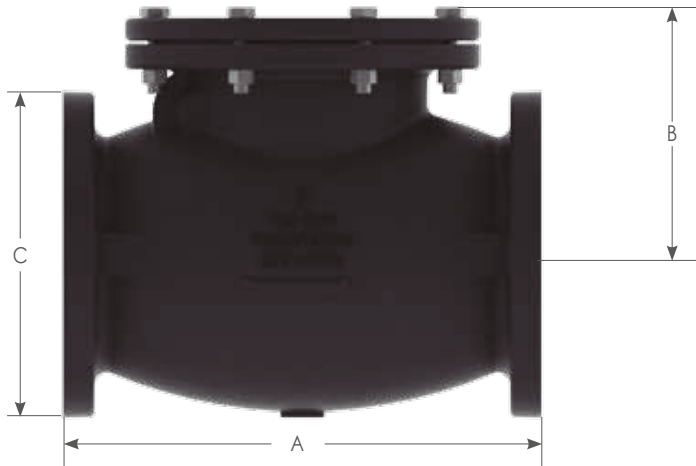
RETENCIÓN HIERRO 125 LBS.

VÁLVULAS RETENCIÓN DE HIERRO FUNDIDO, CLASE 125

CARACTERÍSTICAS DE DISEÑO

- Diseño de acuerdo a MSS SP-71
- Clase 125
- Construcción de Hierro Fundido
- Diseño atornillado.
- Dimensiones de Cara a Cara de acuerdo con ANSI B16.10
- Barrenado de Bidas de acuerdo a ANSI B16.1

| Número de Figura | Tipo de extremos |
|------------------|------------------------|
| W928F | Extremos de Cara Plana |

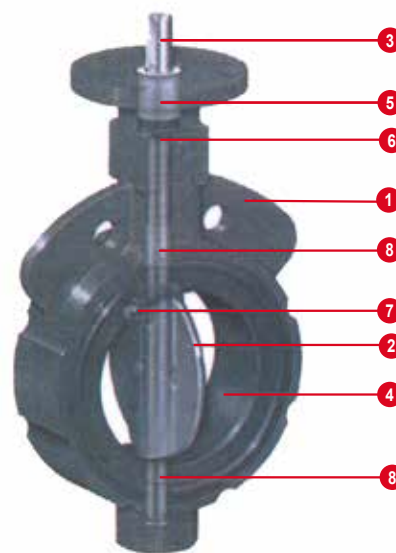


Dimensiones y Pesos

| D Diámetro Nominal | mm | 51 | 64 | 76 | 102 | 127 | 152 | 203 | 254 | 305 | 356 | 406 | 457 | 508 | 610 |
|--------------------------|--------------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| | pulg | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
| A | mm | 203.2 | 215.2 | 241.3 | 292.1 | 416.0 | 355.6 | 465.3 | 622.3 | 698.5 | 787.4 | 914.0 | 914.0 | 1016.0 | 1219.0 |
| | pulg | 8.00 | 8.47 | 9.50 | 11.50 | 16.38 | 14.00 | 18.32 | 24.50 | 27.50 | 31.00 | 35.98 | 35.98 | 79.37 | 47.99 |
| B | mm | 112 | 132 | 141 | 162 | 292 | 211 | 270 | 316 | 357 | 560 | 589 | 645 | 702 | 812 |
| | pulg | 4.41 | 5.20 | 5.55 | 6.38 | 11.50 | 8.31 | 10.63 | 12.44 | 14.06 | 22.05 | 23.19 | 25.39 | 27.64 | 31.97 |
| C | mm | 152 | 178 | 190 | 229 | 254 | 279 | 343 | 406 | 483 | 533 | 597 | 635 | 699 | 813 |
| | pulg | 5.98 | 7.01 | 7.48 | 9.00 | 10.00 | 11.00 | 13.50 | 15.98 | 19.02 | 21.00 | 23.50 | 25.00 | 27.52 | 32.01 |
| Peso W928F | kg | 12 | 18 | 21 | 37 | 56 | 72 | 123 | 201 | 291 | 419 | 542 | 656 | 902 | 1260 |
| | lb | 26.46 | 39.69 | 46.31 | 81.59 | 123.48 | 158.77 | 271.22 | 443.22 | 641.68 | 923.93 | 1195.15 | 1446.53 | 1988.97 | 2778.39 |
| Cv | Coefficiente de flujo | 75.0 | 120.0 | 173.0 | 316.0 | 509.0 | 756.0 | 1392.0 | 2175.0 | 3250.0 | 4424.0 | 5778.0 | 7611.0 | 9397.0 | 13521.0 |

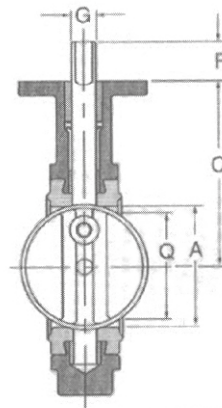
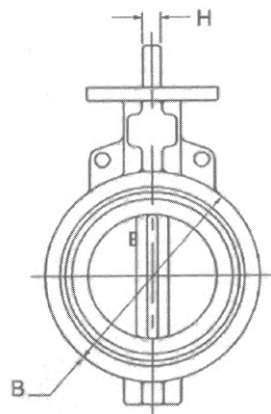
VÁLVULAS MARIPOSA (2" A 24")

| Pieza | Material estándar | Especificación del material | Materiales opcionales |
|---------------------------------------|--|--|---------------------------------------|
| 1. Cuerpo | Fundición de hierro Hierro dúctil | ASTM a 126 clases B ASTM A395 grado 60/40/18 | Acero al carbono Acero Inoxidable |
| 2. Disco | Hierro dúctil Bronce Aluminio Acero inoxidable 316 | ASTM A536 grado 65/45/12 ASTM B148 UNS C95200 grado A ASTM A743 CF8M | |
| 3. Vástagos | Aceros inoxidables 316 (2" a 12") Aceros inoxidables 18-8 (14" a 20") Aceros inoxidables 17-4 PH (24" a 36") (2" a 20") | ASTM A276 UNS S31600 ASTM A276 UNS S30400 ASTM A564 UNS S17400 ASTM A108 UNS G10450 | Acero fosfatado |
| 4. Asiento | NBR grado alimenticio (0° F a 212° F) EPDM grado alimenticio (-40° F a 250° F) | | Fluorocelastómero (FKM) NBR blanco |
| 5. Cojines de vástago superior | Poliéster (2" a 20") Bronce (24" a 36") | | |
| 6. Empaques del vástago | NBR | | |
| 7. Tapón del par de torque (2" a 12") | Acero Inoxidable 316 | ASTM A-276 UNS S31600 condición A | |
| 7. Perno de disco (14" a 20") | Acero Inoxidable 316 | ASTM F-593 Group 2 condición CW1 | |
| 7. Pasadores cónicos (24" a 36") | Acero Inoxidable 17-4 PH | ASTM A564 UNS S17400 H1075 | |
| 8. Cojinetes (2" a 12") | Metal Sinterizado | | |



VÁLVULAS MARIPOSA (2" A 24") AR 1

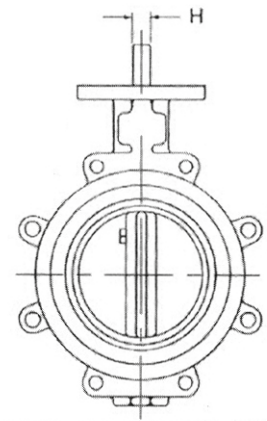
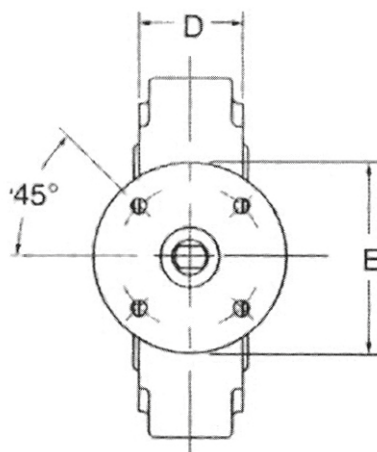
| tamaño | A | B | C | D | E | F | G | H | Q | Llave | Perforación de la placa superior | | | Peso (libras) | Código adapt. |
|--------|--------|----------|----------|---------|---|-------|-------|------|----------|-------------|----------------------------------|--------------|-------------|---------------|---------------|
| | | | | | | | | | | | Cir. pernos | No. de orif. | Diam. orif. | | |
| 2" | 2 | 4 1/8 | 5 1/2 | 1 5/8 | 4 | 1 1/4 | 9/16 | 3/8 | 1 3/8 | - | 3 1/4 | 4 | 7/16 | 6.3 | BAB |
| 2" 1/2 | 2 1/2 | 4 5/8 | 6 | 1 3/4 | 4 | 1 1/4 | 9/16 | 3/8 | 2 1/16 | - | 3 1/4 | 4 | 7/16 | 8.5 | BAB |
| 3" | 3 | 5 1/8 | 6 1/4 | 1 3/4 | 4 | 1 1/4 | 9/16 | 3/8 | 2 9/16 | - | 3 1/4 | 4 | 7/16 | 10.0 | BAB |
| 4" | 4 | 6 3/8 | 7 | 2 | 4 | 1 1/4 | 5/8 | 7/16 | 3 5/8 | - | 3 1/4 | 4 | 7/16 | 14.0 | BAC |
| 5" | 5 | 7 3/8 | 7 1/2 | 2 1/8 | 4 | 1 1/4 | 3/4 | 1/2 | 4 3/4 | - | 3 1/4 | 4 | 7/16 | 18.0 | BAD |
| 6" | 5 3/4 | 8 1/2 | 8 | 2 1/8 | 4 | 1 1/4 | 3/4 | 1/2 | 5 1/2 | - | 3 1/4 | 4 | 7/16 | 22.0 | BAD |
| 8" | 7 3/4 | 10 11/16 | 9 1/2 | 2 1/2 | 6 | 1 1/4 | 7/8 | 5/8 | 7 1/2 | - | 5 | 4 | 9/16 | 38.0 | CAE |
| 10" | 9 3/4 | 13 | 10 3/4 | 2 1/2 | 6 | 2 | 1 1/8 | - | 9 19/32 | 1/4 x 1/4 | 5 | 4 | 9/16 | 51.0 | CAF |
| 12" | 11 3/4 | 14 13/16 | 12 1/4 | 3 | 6 | 2 | 1 1/8 | - | 11 9/16 | 1/4 x 1/4 | 5 | 4 | 9/16 | 71.0 | CAF |
| 14" | 13 1/4 | 16 3/4 | 12 | 3 | 6 | 3 | 1 3/8 | - | 13 1/8 | 5/16 x 5/16 | 5 | 4 | 9/16 | 114.0 | CAG |
| 16" | 15 1/4 | 19 1/4 | 12 61/64 | 4 | 6 | 3 | 1 5/8 | - | 15 | 3/8 x 3/8 | 5 | 4 | 9/16 | 193.0 | CAH |
| 18" | 17 1/4 | 21 1/2 | 14 1/2 | 4 1/4 | 8 | 4 1/4 | 1 7/8 | - | 16 7/8 | 1/2 x 3/8 | 6 1/2 | 4 | 13/16 | 222.0 | DAJ |
| 20" | 19 1/4 | 23 3/4 | 15 7/8 | 5 | 8 | 4 1/4 | 1 7/8 | - | 18 3/4 | 1/2 x 3/8 | 6 1/2 | 4 | 13/16 | 315.0 | DAJ |
| 24" | 23 1/4 | 28 1/4 | 19 1/2 | 5 15/16 | 8 | 4 1/4 | 1 7/8 | - | 22 5/8 | 1/2 x 3/8 | 6 1/2 | 4 | 13/16 | 506.0 | DAJ |
| 30" | 29 1/4 | 34 5/8 | 23 | 6 9/16 | 8 | 4 1/4 | 2 1/4 | - | 28 11/16 | 1/2 x 3/8 | 6 1/2 | 4 | 13/16 | 610.0 | DAK |
| 30" | 29 1/4 | 34 5/8 | 23 | 6 9/16 | 8 | 4 1/4 | 2 1/4 | - | 28 11/16 | 1/2 x 3/8 | 6 1/2 | 4 | 13/16 | 610.0 | DAK |
| 36" | 35 1/4 | 41 1/4 | 27 3/4 | 7 7/8 | 8 | 5 1/4 | 2 7/8 | - | 34 1/2 | 3/4 x 1/2 | 6 1/2 | 4 | 13/16 | 1.185.0 | DAV |



VÁLVULAS MARIPOSA (2" A 24") AR 1

| tamaño | A | B | C | D | E | F | G | H | Q | Llave | Perforación de la placa superior | | | Peso (libras) | Código adapt. |
|--------|--------|----------|----------|---------|---|-------|-------|------|---------|-----------|----------------------------------|--------------|-------------|---------------|---------------|
| | | | | | | | | | | | Cir. pernos | No. de orif. | Diam. orif. | | |
| 2" | 2 | 4 1/8 | 5 1/2 | 1 5/8 | 4 | 1 1/4 | 9/16 | 3/8 | 1 3/8 | - | 3 1/4 | 4 | 7/16 | 7 | BAB |
| 2" 1/2 | 2 1/2 | 4 5/8 | 6 | 1 3/4 | 4 | 1 1/4 | 9/16 | 3/8 | 2 1/16 | - | 3 1/4 | 4 | 7/16 | 10.0 | BAB |
| 3" | 3 | 5 3/16 | 6 1/4 | 1 3/4 | 4 | 1 1/4 | 9/16 | 3/8 | 2 9/16 | - | 3 1/4 | 4 | 7/16 | 11.5 | BAB |
| 4" | 4 | 6 3/8 | 7 | 2 | 4 | 1 1/4 | 5/8 | 7/16 | 3 5/8 | - | 3 1/4 | 4 | 7/16 | 18.0 | BAC |
| 5" | 5 | 7 3/8 | 7 1/2 | 2 1/8 | 4 | 1 1/4 | 3/4 | 1/2 | 4 3/4 | - | 3 1/4 | 4 | 7/16 | 22.5 | BAD |
| 6" | 5 3/4 | 8 1/2 | 8 | 2 1/8 | 4 | 1 1/4 | 3/4 | 1/2 | 5 1/2 | - | 3 1/4 | 4 | 7/16 | 28.50 | BAD |
| 8" | 7 3/4 | 10 11/16 | 9 1/2 | 2 1/2 | 6 | 1 1/4 | 7/8 | 5/8 | 7 1/2 | - | 5 | 4 | 9/16 | 49.0 | CAE |
| 10" | 9 3/4 | 13 | 10 3/4 | 2 1/2 | 6 | 2 | 1 1/8 | - | 9 19/32 | 1/4x1/4 | 5 | 4 | 9/16 | 69.0 | CAF |
| 12" | 11 3/4 | 14 13/16 | 12 1/4 | 3 | 6 | 2 | 1 1/8 | - | 11 9/16 | 1/4x1/4 | 5 | 4 | 9/16 | 107.0 | CAF |
| 14" | 13 1/4 | 16 3/4 | 12 | 3 | 6 | 3 | 1 3/8 | - | 13 1/8 | 5/16x5/16 | 5 | 4 | 9/16 | 143.0 | CAG |
| 16" | 15 1/4 | 19 | 12 61/64 | 4 | 6 | 3 | 1 5/8 | - | 15 | 3/8x3/8 | 5 | 4 | 9/16 | 238.0 | CAH |
| 18" | 17 1/4 | 21 3/8 | 14 1/2 | 4 1/4 | 8 | 4 1/4 | 1 7/8 | - | 16 7/8 | 1/2x3/8 | 6 1/2 | 4 | 13/16 | 261.0 | DAJ |
| 20" | 19 1/4 | 23 1/2 | 15 7/8 | 5 | 8 | 4 1/4 | 1 7/8 | - | 18 3/4 | 1/2x3/8 | 6 1/2 | 4 | 13/16 | 366.0 | DAJ |
| 24" | 23 1/4 | 28 1/4 | 19 1/2 | 5 15/16 | 8 | 4 1/4 | 1 7/8 | - | 22 5/8 | 1/2x3/8 | 6 1/2 | 4 | 13/16 | 576.0 | DAJ |

| Datos de las orejas | | |
|---------------------|--------------|----------------|
| Circ. Pernos | No. de Orif. | Macho de rosca |
| 4 3/4 | 4 | 5/8 - 11 UNC |
| 5 1/2 | 4 | 5/8 - 11 UNC |
| 6 | 4 | 5/8 - 11 UNC |
| 7 1/2 | 8 | 5/8 - 11 UNC |
| 8 1/2 | 8 | 3/4 - 10 UNC |
| 9 1/2 | 8 | 3/4 - 10 UNC |
| 11 3/4 | 8 | 3/4 - 10 UNC |
| 14 1/4 | 12 | 7/8 - 9 UNC |
| 17 | 12 | 7/8 - 9 UNC |
| 18 3/4 | 12 | 1 - 8 UNC |
| 21 1/4 | 16 | 1 - 8 UNC |
| 22 3/4 | 16 | 1 1/8 - 7 UNC |
| 25 | 20 | 1 1/8 - 7 UNC |
| 29 1/2 | 20 | 1 1/4 - 7 UNC |





VÁLVULAS MARIPOSA (1" A 12" / 2" A 20") TABLA DE TORQUES (LBS-PULG.)

| tamaño | Condiciones normales | | | | Condiciones severas | | | |
|--------|----------------------|-------|-------|-------|---------------------|-------|-------|-------|
| | 0 | 50 | 100 | 150 | 0 | 50 | 100 | 150 |
| 2" | 220" | 220" | 240" | 250" | 330" | 240" | 250" | 260" |
| 2 1/2" | 270" | 280" | 290" | 300" | 405" | 410" | 420" | 430" |
| 3" | 320" | 340" | 360" | 380" | 480" | 500" | 520" | 540" |
| 4" | 480" | 510" | 540" | 570" | 720" | 750" | 780" | 810" |
| 5" | 650" | 700" | 750" | 800" | 975" | 1025" | 1075" | 1125" |
| 6" | 900" | 1000" | 1100" | 1200" | 1350" | 1450" | 1550" | 1650" |
| 8" | 1500" | 1700" | 1900" | 2100" | 2250" | 2450" | 2650" | 2850" |
| 10" | 2300" | 2600" | 2900" | 3200" | 3450" | 3750" | 4050" | 4350" |
| 12" | 3100" | 3600" | 4100" | 4600" | 4650" | 5150" | 5650" | 6150" |

Coeficiente de Flujo (Cv)

| tamaño Pulg. | Condiciones normales | | | | | | | | |
|--------------|----------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| | 10° | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| 1" | 0.07 | 0.7 | 2.8 | 4.8 | 8.3 | 13 | 24 | 42 | 69 |
| 1 1/2" | 0.16 | 16 | 6.5 | 11.4 | 20.0 | 31 | 55 | 98 | 162 |
| 2" | 0.30 | 2.7 | 10.7 | 18.7 | 32.0 | 51 | 91 | 161 | 267 |
| 2 1/2" | 0.45 | 4.5 | 18.0 | 32.0 | 54.0 | 86 | 153 | 273 | 451 |
| 3" | 0.70 | 6.9 | 27.7 | 49.0 | 83.0 | 132 | 235 | 419 | 693 |
| 4" | 1.30 | 13.1 | 52.6 | 92.0 | 158.0 | 250 | 447 | 795 | 1,314 |
| 5" | 2.10 | 21.1 | 84.3 | 148.0 | 253.0 | 400 | 717 | 1,275 | 2,108 |
| 6" | 2.80 | 27.9 | 112.0 | 195.0 | 335.0 | 530 | 848 | 1,690 | 2,790 |
| 8" | 5.20 | 52.1 | 208.0 | 365.0 | 625.0 | 990 | 1,770 | 3,150 | 5,208 |
| 10" | 8.30 | 83.1 | 332.0 | 582.0 | 997.0 | 1,580 | 2,825 | 5,025 | 3,308 |
| 12" | 12.00 | 120.0 | 481.0 | 842.0 | 1,444 | 2,286 | 4,090 | 7,275 | 12,030 |

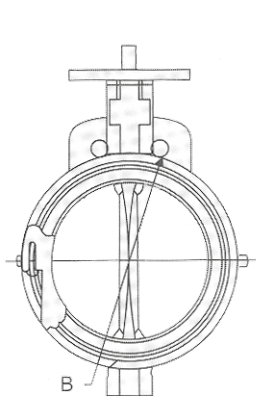


Dimensiones (Pulgadas)

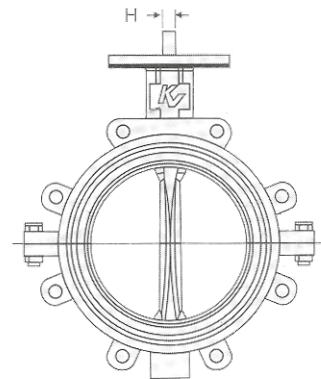
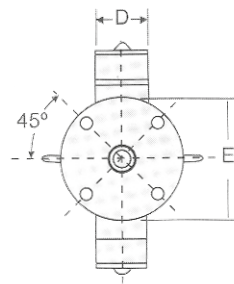
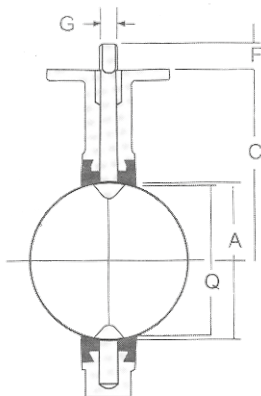
| Tamaño | A | B | C | D | E | F | G | H* | Q* | Cuña | Plato Superior | | | Peso (kgs.) | Código Adapt. |
|--------|--------|--------|---------|--------|-------|-------|-------|------|---------|---------|-----------------|--------------|------------|-------------|---------------|
| | | | | | | | | | | | Círculo Barren. | No. de hoyos | Diam. hoyo | | |
| 1" | 1 3/16 | 2 7/16 | 3 1/8 | 1 1/8 | 2 1/4 | 3/4 | 3/8 | 1/4 | 5/8 | N/A | 1 3/4 | 4 | 9/32 | 0.6 | AAA |
| 1 1/2" | 1 3/4 | 3 7/32 | 3 11/16 | 1 3/16 | 2 1/4 | 3/4 | 3/8 | 1/4 | 1 7/16 | N/A | 1 3/4 | 4 | 9/32 | 1.0 | AAA |
| 2" | 2 | 4 1/8 | 3 15/16 | 1 5/8 | 2 1/4 | 1 1/4 | 9/16 | 3/8 | 1 3/8 | N/A | 3 1/4 | 4 | 7/16 | 2.3 | BAB |
| 2 1/2" | 2 1/2 | 4 7/8 | 4 1/2 | 1 3/4 | 4 | 1 1/4 | 9/16 | 3/8 | 2 1/16 | N/A | 3 1/4 | 4 | 7/16 | 3.2 | BAB |
| 3" | 3 | 5 3/8 | 4 7/8 | 1 3/4 | 4 | 1 1/4 | 9/16 | 3/8 | 2 9/16 | N/A | 3 1/4 | 4 | 7/16 | 3.4 | BAB |
| 4" | 4 | 6 7/8 | 6 | 2 | 4 | 1 1/4 | 5/8 | 7/16 | 3 5/8 | N/A | 3 1/4 | 4 | 7/16 | 5.2 | BAC |
| 5" | 5 | 7 3/4 | 6 | 2 1/8 | 4 | 1 1/4 | 3/4 | 1/2 | 4 3/4 | N/A | 3 1/4 | 4 | 7/16 | 6.5 | BAD |
| 6" | 5 3/4 | 8 3/4 | 6 1/2 | 2 1/8 | 4 | 1 1/4 | 3/4 | 1/2 | 5 1/2 | N/A | 3 1/4 | 4 | 7/16 | 8.2 | BAD |
| 8" | 7 3/4 | 11 | 8 5/16 | 2 1/2 | 6 | 1 1/4 | 7/8 | 5/8 | 7 1/2 | N/A | 5 | 4 | 9/16 | 13.2 | CAE |
| 10" | 9 3/4 | 13 1/4 | 9 | 2 1/2 | 6 | 2 | 1 1/8 | N/A | 9 19/32 | 1/4X1/4 | 5 | 4 | 9/16 | 20.0 | CAF |
| 12" | 11 3/4 | 16 1/8 | 12 1/4 | 3 | 6 | 2 | 1 1/8 | N/A | 11 5/8 | 1/4X1/4 | 5 | 4 | 9/16 | 38.6 | CAF |

CUERPOS EN HIERRO Y HIERRO NODULAR (PULGADA)

| Tamaño | A | B | C | D | E | F | G | H* | Q* | Plato Superior | | | | Plato Orejado | | | Peso (kgs.) 990 | Peso (kgs.) 920 | Código Adapt. |
|--------|--------|----------|----------|--------|-------|-------|-------|------|---------|----------------|-----------------|--------------|-------------|-----------------|--------------|---------------------|-----------------|-----------------|---------------|
| | | | | | | | | | | Llave | Círculo Barren. | No. de orif. | Diám. orif. | Círculo barreno | No. de orif. | Tamaño del Tornillo | | | |
| 1" | 1 3/16 | 27/16 | 3 1/8 | 1 1/8 | 2 1/4 | 3/4 | 3/8 | 1/4 | 5/8 | N/A | 1 3/4 | 4 | 9/32 | N/A | N/A | N/A | 0.7 | N/A | AAA |
| 1 1/2" | 1 3/4 | 37/32 | 3 1/16 | 1 3/16 | 2 1/4 | 3/4 | 3/8 | 1/4 | 17/16 | N/A | 1 3/4 | 4 | 9/32 | N/A | N/A | N/A | 0.1 | N/A | AAA |
| 2" | 2 | 4 1/8 | 5 1/2 | 1 5/8 | 4 | 1 1/4 | 9/16 | 3/8 | 1 3/8 | N/A | 3 1/4 | 4 | 7/16 | 4 3/4 | 4 | 5/8-11 UNC | 2.7 | 3.2 | BAB |
| 2 1/2" | 2 1/2 | 4 5/8 | 6 | 1 3/4 | 4 | 1 1/4 | 9/16 | 3/8 | 2 1/16 | N/A | 3 1/4 | 4 | 7/16 | 5 1/2 | 4 | 5/8-11 UNC | 3.6 | 4.4 | BAB |
| 3" | 3 | 5 1/8 | 6 1/4 | 1 3/4 | 4 | 1 1/4 | 5/8 | 3/8 | 29/16 | N/A | 3 1/4 | 4 | 7/16 | 6 | 4 | 5/8-11 UNC | 4.1 | 4.5 | BAB |
| 4" | 4 | 6 3/8 | 7 | 2 | 4 | 1 1/4 | 3/4 | 7/16 | 3 5/8 | N/A | 3 1/4 | 4 | 7/16 | 7 1/2 | 8 | 5/8-11 UNC | 5 | 7.6 | BAC |
| 5" | 5 | 7 3/8 | 7 1/2 | 2 1/8 | 4 | 1 1/4 | 3/4 | 1/2 | 4 3/4 | N/A | 3 1/4 | 4 | 7/16 | 8 1/2 | 8 | 3/4-10 UNC | 7.0 | 10.0 | BAD |
| 6" | 5 3/4 | 8 1/2 | 8 | 2 1/8 | 4 | 1 1/4 | 7/8 | 1/2 | 5 1/2 | N/A | 3 1/4 | 4 | 7/16 | 9 1/2 | 8 | 3/4-10 UNC | 7.9 | 11.0 | BAD |
| 8" | 7 3/4 | 10 11/16 | 9 1/2 | 2 1/2 | 6 | 1 1/4 | 1 1/8 | 5/8 | 7 1/2 | N/A | 5 | 4 | 9/16 | 11 3/4 | 8 | 3/4-10 UNC | 13.6 | 19.1 | CAE |
| 10" | 9 3/4 | 13 | 10 3/4 | 2 1/2 | 6 | 2 | 1 1/8 | N/A | 9 19/32 | 1/4X1/4 | 5 | 4 | 9/16 | 14 1/4 | 12 | 7/8-9 UNC | 20.4 | 29.5 | CAF |
| 12" | 11 3/4 | 14 13/16 | 12 1/4 | 3 | 6 | 2 | 1 1/8 | N/A | 11 9/16 | 1/4X1/4 | 5 | 4 | 9/16 | 17 | 12 | 7/8-9 UNC | 35.4 | 49.0 | CAF |
| 14" | 13 1/4 | 16 7/8 | 12 | 3 | 6 | 3 | 1 3/8 | N/A | 13 1/8 | 5/16X5/16 | 5 | 4 | 9/16 | 18 3/4 | 12 | 1/8-8 UNC | 47.6 | 64.9 | CAG |
| 16" | 15 1/4 | 19 1/4 | 12 61/64 | 4 | 6 | 3 | 1 5/8 | N/A | 15 | 3/8X3/8 | 5 | 4 | 9/16 | 21 1/4 | 1 | 1/8 UNC | 81.6 | 108.0 | CAH |
| 18" | 17 3/8 | 21 1/2 | 14 1/2 | 4 1/4 | 8 | 4 1/4 | 1 7/8 | N/A | 17 | 1/2X3/8 | 6 1/2 | 4 | 13/16 | 22 3/4 | 16 | 1 1/8-7 UNC | 100.7 | 118.4 | DAJ |
| 20" | 19 3/8 | 23 3/4 | 15 7/8 | 5 | 8 | 4 1/4 | 1 7/8 | N/A | 18 7/8 | 1/2X3/8 | 6 1/2 | 4 | 13/16 | 25 | 20 | 1 1/8-7 UNC | 142.9 | 166.0 | DAJ |



Tipo Oblea 990



Tipo Orejada 920

Compuerta Roscable

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm |
|---------|----|---------|-----|--------|-----|---------|-----|--------|-----|
| 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/2 | 38 | 2 | 51 |
| 1 21/32 | 42 | 1 15/16 | 49 | 2 7/32 | 56 | 2 13/32 | 62 | 3 5/16 | 84 |
| 3 11/16 | 94 | 4 3/8 | 111 | 5 1/2 | 140 | 6 7/8 | 173 | 8 1/2 | 216 |
| 2 1/2 | 64 | 2 1/2 | 64 | 3 1/4 | 83 | 4 5/8 | 118 | 4 5/8 | 118 |
| 0.411 | | 0.745 | | 1.080 | | 1.975 | | 3.197 | |

Fig. 82



*Servicios S.W.P.
125 lbs/pulg² - 8.8 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
*Cabeza roscada
*Vástago ascendente
*Cuña sólida
*Cierre de bronce a bronce
*Extremos roscables
*Medidas de 1/2" a 2"

Compuerta Roscable

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | | |
|---------|-----|-------|-----|-------|-----|---------|-----|---------|-----|---------|-----|---------|-----|
| 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/2 | 38 | 2 | 51 | 2 1/2 | 64 | 3 | 75 |
| 2 1/2 | 63 | 2 3/4 | 70 | 3 1/8 | 79 | 3 11/16 | 93 | 4 9/16 | 116 | 4 11/16 | 119 | 5 1/4 | 133 |
| 5 13/16 | 148 | 7 1/6 | 179 | 8 1/8 | 206 | 10 3/4 | 273 | 13 1/16 | 332 | 15 3/8 | 390 | 17 3/16 | 452 |
| 3 1/4 | 82 | 3 1/4 | 82 | 3 1/4 | 82 | 4 5/8 | 117 | 5 1/4 | 133 | 6 7/8 | 175 | 6 7/8 | 175 |
| 0.854 | | 1.328 | | 1.813 | | 3.386 | | 6.362 | | 8.315 | | 11.012 | |

Fig. 29



*Servicios S.W.P.
200 lbs/pulg² - 14 kgs/cm²
550° F - 288° C
*Servicios W.O.G.
400 lbs/pulg² - 28 kgs/cm²
*Tuerca unión
*Vástago ascendente
*Cuña sólida
*Cierre de cupro-níquel a bronce
*Extremos roscables
*Medidas de 1/2" a 3"

Compuerta Roscable

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | | |
|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--------|-----|--------|-----|
| 1/4 | 6 | 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 |
| 2 3/8 | 60 | 2 5/8 | 67 | 3 1/8 | 79 | 3 1/2 | 89 | 3 7/8 | 98 | 4 1/16 | 103 | 4 9/16 | 116 |
| 5 7/8 | 149 | 6 7/8 | 175 | 8 1/8 | 206 | 9 1/2 | 241 | 11 | 279 | 12 1/2 | 317 | 15 | 381 |
| 3 1/4 | 82 | 3 1/4 | 82 | 3 1/4 | 82 | 4 5/8 | 118 | 5 1/4 | 133 | 6 7/8 | 175 | 6 7/8 | 175 |
| 0.797 | | 1.063 | | 1.704 | | 2.505 | | 3.619 | | 4.646 | | 8.089 | |

Fig. 48



*Servicios S.W.P.
350 lbs/pulg² - 24 kgs/cm²
550° F - 288° C
*Servicios W.O.G.
1000 lbs/pulg² - 70 kgs/cm²
*Tuerca unión
*Vástago ascendente
*Cuña sólida
*Cierre de cupro-níquel a bronce
*Extremos roscables
*Medidas de 1/4" a 2"

Globo Roscable

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm |
|-------|----|-------|----|-------|----|-------|----|-------|----|-------|-----|-------|-----|-------|-----|
| 1/4 | 6 | 3/8 | 10 | 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 |
| 2 1/2 | 64 | 2 1/2 | 64 | 2 1/2 | 64 | 3 1/4 | 83 | 3 1/4 | 83 | 4 5/8 | 118 | 4 5/8 | 118 | 5 1/4 | 133 |
| 0.272 | | 0.321 | | 0.403 | | 0.749 | | 1.054 | | 1.468 | | 1.900 | | 3.386 | |

Fig. 58



*Servicios S.W.P.
125 lbs/pulg² - 8.8 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
*Cabeza roscada
*Vástago ascendente
*Cierre de bronce a bronce
*de 1/4" a 1/2" disco integral
*de 3/4" a 4" disco giratorio
*Extremos roscables
*Medidas de 1/4" a 4"

Compuerta soldable

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm |
|--------|-----|-------|-----|--------|-----|-------|-----|---------|-----|---------|-----|---------|-----|---------|-----|----------|-----|
| 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 | 2 1/2 | 64 | 3 | 75 | 4 | 99 |
| 2 1/4 | 57 | 2 1/2 | 64 | 2 5/16 | 71 | 3 | 75 | 3 3/8 | 86 | 3 11/16 | 94 | 4 1/2 | 114 | 5 | 127 | 6 1/8 | 156 |
| 5 5/16 | 135 | 6 5/8 | 168 | 7 7/8 | 200 | 9 1/8 | 232 | 10 7/16 | 265 | 12 3/4 | 324 | 15 1/16 | 383 | 17 5/16 | 440 | 22 15/16 | 583 |
| 2 1/2 | 64 | 3 1/4 | 82 | 3 1/4 | 82 | 3 1/4 | 82 | 4 5/8 | 117 | 4 5/8 | 117 | 5 1/4 | 133 | 6 7/8 | 175 | 8 3/8 | 213 |
| 0.586 | | 0.871 | | 1.253 | | 1.603 | | 2.433 | | 3.640 | | 5.879 | | 8.357 | | 21.082 | |

Fig. 02



*Servicios S.W.P.
125 lbs/pulg² - 8.8 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
*Cabeza roscada
*Vástago ascendente
*Cuña sólida
*Cierre de bronce a bronce
*Extremos roscables
*Medidas de 1/2" a 4"

Compuerta soldable

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm |
|--------|-----|--------|-----|-------|-----|---------|-----|-------|-----|---------|-----|--------|-----|--------|-----|---------|-----|
| 1/4 | 6 | 1/2 | 13 | 3/4 | 32 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 | 2 1/2 | 64 | 3 | 75 |
| 1 5/16 | 49 | 2 5/16 | 59 | 2 1/2 | 64 | 2 13/16 | 71 | 3 | 76 | 3 3/8 | 86 | 3 7/8 | 98 | 4 5/16 | 109 | 4 11/16 | 119 |
| 4 9/16 | 116 | 5 5/16 | 135 | 6 5/8 | 168 | 7 7/8 | 200 | 9 1/8 | 232 | 10 7/16 | 265 | 12 3/4 | 324 | 15 | 381 | 17 1/2 | 445 |
| 2 1/2 | 64 | 2 1/2 | 64 | 3 1/4 | 83 | 3 1/4 | 83 | 3 1/4 | 83 | 4 5/8 | 118 | 4 5/8 | 118 | 6 7/8 | 133 | 6 7/8 | 175 |
| 0.453 | | 0.621 | | 0.939 | | 1.424 | | 1.884 | | 2.758 | | 4.440 | | 6.493 | | 9.590 | |

Fig. 11



*Servicios S.W.P.
150 lbs/pulg² - 10.5 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
300 lbs/pulg² - 21 kgs/cm²
*Tuerca unión
*Vástago ascendente
*Cuña sólida
*Cierre de bronce a bronce
*Extremos roscables
*Medidas de 1/4" a 3"

Compuerta roscable



Fig. 83

*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
180° F - 82° C
*Cabeza roscada
*Vástago no ascendente
*Cuña sólida
*Medidas de 1/4" a 4"

Compuerta roscable



Fig. 22

*Servicios W.O.G.
125 lbs/pulg² - 8.8 kgs/cm²
200 lbs/pulg² - 14 kgs/cm²
gas
180° F - 82° C
*Aprobada para el manejo de gas L.P. o natural
*Medidas de 1/2" a 2"

Esfera roscable de latón



Fig. 555

*Servicios S.W.P.
125 lbs/pulg² - 8.8 kgs/cm²
302° F - 150° C
1/2" a 2": 350 lbs/pulg.²
24 kgs/cm²
1 1/2" a 4": 200 lbs/pulg.²
14 kgs/cm²
*Cierre de latón a teflón
*Medidas de 1/2" a 4"

Esfera roscable de latón



Fig. 550

*Servicios S.W.P.
125 lbs/pulg² - 8.8 kgs/cm²
344° F - 173° C
*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
*Aprobada para el manejo de gas L.P. o natural
*Medidas de 1/2" a 2"

Válvula de Retención Vertical



Fig. 44N

*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
180° F - 82° C
*Extremos roscables
*Medidas de 1/2" a 1"

Válvula de Retención Vertical u Horizontal



Fig. 45N

*Servicios W.O.G.
170 lbs/pulg² - 12 kgs/cm²
180° F - 82° C
*Con resorte de acero inoxidable
*Medidas de 1/2" a 2"

Válvula de Retención Tipo Columpio



Fig. 85N

*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
180° F - 82° C
*Cierre de bronce a bronce
*Medidas de 1/2" a 2"



Retención Vertical

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | | |
|--------|----|-------|----|--------|----|-------|----|-------|----|-------|-----|--------|-----|---------|-----|--------|-----|
| 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 | 2 1/2 | 64 | 3 | 75 | 4 | 99 |
| 2 3/16 | 56 | 2 1/8 | 54 | 2 9/16 | 65 | 2 3/4 | 70 | 3 5/8 | 82 | 4 1/4 | 114 | 5 3/64 | 128 | 5 11/16 | 144 | 7 | 178 |
| 0.186 | | 0.236 | | 0.536 | | 0.619 | | 0.923 | | 1.840 | | 3.220 | | 4.323 | | 10.085 | |

Fig. 44T



*Servicios S.W.P.
125 lbs/pulg² -8.8 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
200 lbs/pulg² -14 kgs/cm²
*Retención vertical
*Cierre de teflón a bronce
*Extremos roscables
*Medidas de 1/2" a 4"

Retención Tipo Columpio

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm |
|---------|----|---------|----|--------|----|---------|-----|---------|-----|---------|-----|
| 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 |
| 2 7/16 | 62 | 2 29/32 | 74 | 3 9/16 | 74 | 4 11/16 | 106 | 4 15/32 | 114 | 5 1/4 | 133 |
| 1 11/16 | 43 | 1 7/8 | 48 | 2 5/16 | 48 | 2 11/16 | 68 | 2 15/16 | 75 | 3 25/32 | 96 |
| 0.269 | | 0.403 | | 0.700 | | 0.017 | | 1.398 | | 2.392 | |

Fig. 85T



*Servicios S.W.P.
125 lbs/pulg² -8.8 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
200 lbs/pulg² -14 kgs/cm²
*Tipo columpio
*Cierre de teflón a bronce
*Extremos roscables
*Medidas de 1/2" a 2"

Retención Tipo Columpio

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm |
|---------|----|---------|----|--------|----|---------|-----|---------|-----|---------|-----|
| 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 |
| 2 7/16 | 62 | 2 29/32 | 74 | 3 9/16 | 90 | 4 11/16 | 106 | 4 15/32 | 114 | 5 1/4 | 133 |
| 1 11/16 | 43 | 1 7/8 | 48 | 2 5/16 | 59 | 4 11/16 | 68 | 2 15/16 | 75 | 3 25/32 | 96 |
| 0.278 | | 0.399 | | 0.731 | | 1.053 | | 1.398 | | 2.397 | |

Fig. 87T



*Servicios S.W.P.
150 lbs/pulg² -10.5 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
300 lbs/pulg² -21 kgs/cm²
*Tipo columpio
*Cierre de teflón a bronce
*Extremos roscables
*Medidas de 1/2" a 2"

Compuerta Roscable

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | | |
|-------|----|-------|----|-------|----|-------|----|-------|-----|-------|-----|-------|-----|
| 1/4 | 6 | 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 |
| 2 1/8 | 54 | 2 1/2 | 63 | 3 | 76 | 3 3/4 | 95 | 1 1/4 | 108 | 5 | 127 | 6 | 152 |
| 1 1/2 | 38 | 1 3/4 | 44 | 2 1/8 | 54 | 2 1/2 | 64 | 3 | 76 | 3 1/2 | 89 | 4 1/4 | 108 |
| 0.253 | | 0.379 | | 0.619 | | 1.020 | | 1.581 | | 2.678 | | 3.778 | |

Fig. 88



*Servicios S.W.P.
300 lbs/pulg² -21 kgs/cm²
550° F - 288° C
*Servicios W.O.G.
600 lbs/pulg² -42 kgs/cm²
*Tipo columpio
*Cierre de bronce a bronce
*Extremos roscables
*Medidas de 1/4" a 2"



Retención Tipo Horizontal

| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | | |
|---------|----|--------|----|---------|----|--------|----|---------|----|---------|-----|---------|-----|--------|-----|--------|-----|--------|-----|
| 1/4 | 6 | 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 | 2 1/2 | 64 | 3 | 75 | 4 | 99 |
| 1 13/16 | 46 | 2 5/16 | 59 | 2 13/16 | 71 | 3 1/4 | 83 | 3 11/16 | 94 | 4 1/16 | 103 | 4 13/16 | 122 | 6 | 152 | 7 1/32 | 179 | 9 5/16 | 237 |
| 1 3/8 | 35 | 1 1/2 | 38 | 1 1/2 | 38 | 3 9/32 | 58 | 2 3/16 | 56 | 2 11/32 | 60 | 2 3/4 | 70 | 3 9/32 | 83 | 3 3/4 | 95 | 4 5/8 | 117 |
| 0.170 | | 0.293 | | 0.512 | | 0.815 | | 1.068 | | 1.442 | | 2.531 | | 4.212 | | 7.298 | | 15.249 | |

Fig. 03T



*Servicios S.W.P.
125 lbs/pulg² - 8.8 kgs/cm²
450° F - 204° C
*Servicios W.O.G.
200 lbs/pulg² - 14 kgs/cm²
*Retención horizontal
*Cierre de Teflón a bronce
*Extremos roscables
*Medidas de 1/4" a 4"

Esfera Roscable de Bronce

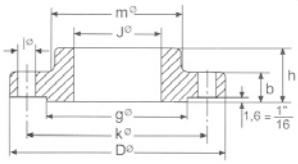
| pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm | pulg. | mm |
|--------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|-------|----|
| 1/4 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 1 1/2 | 38 | 2 | 51 | | |
| 3 1/8 | 78 | 3 7/32 | 82 | 3 1/2 | 89 | 4 | 102 | 4 3/8 | 11 | 5 13/64 | 132 | | |
| 2 3/4 | 57 | 3 1/32 | 77 | 3 3/32 | 79 | 3 5/16 | 84 | 3 7/8 | 98 | 4 3/16 | 106 | | |
| 5 | 127 | 5 | 127 | 5 | 127 | 5 | 127 | 7 3/4 | 197 | 7 3/4 | 197 | | |
| 1 9/16 | 40 | 1 47/64 | 42 | 1 47/64 | 44 | 2 1/16 | 52 | 2 11/64 | 55 | 2 9/16 | 65 | | |
| 23/32 | 18 | 2 1/32 | 52 | 2 7/32 | 56 | 2 21/32 | 67 | 3 3/16 | 81 | 3 3/4 | 95 | | |
| 1/2 | 13 | 3/4 | 19 | 1 | 25 | 1 1/4 | 32 | 2 1/2 | 38 | 2 | 51 | | |
| 0.870 | | 1.071 | | 1.280 | | 1.784 | | 2.719 | | 4.387 | | | |

Fig. 580



*Servicios S.W.P.
200 lbs/pulg² - 14 kgs/cm²
400° F - 204° C
*Servicios W.O.G.
400 lbs/pulg² - 28 kgs/cm²
*Paso completo
*Bola de bronce cromado
*Cierre de bronce a Teflón
*Extremos roscables
*Cuerpo de bronce
*Medidas de 1/4" a 4"

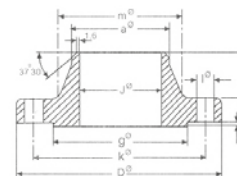
BRIDAS



BRIDAS DE ACERO AL CARBÓN ANSI 150 LBS. / SLIP - ON (S.O.)

ASME/ANSI B 16.5

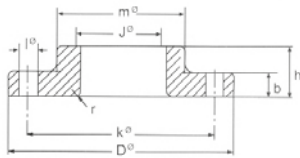
| Nominal pipe size Diámetro nominal | Flange Brida | | | | Hub Cuello | Raised face | Drilling template | | | Approx. weight |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|----------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | m mm. inches | g mm. inches | Number | l mm. inches | k mm. inches | Kg. Pounds |
| 1/2" | 88.9 3 1/2 | 22.3 0.88 | 11.1 7/16 | 15.9 5/8 | 30.2 1 3/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.5 1 |
| 3/4" | 98.4 3 7/8 | 27.7 1.09 | 12.7 1/2 | 15.9 5/8 | 38.1 1 1/2 | 42.9 1 11/16 | 4 | 15.9 5/8 | 69.8 2 3/4 | 0.9 2 |
| 1" | 107.9 4 1/4 | 34.5 1.36 | 14.3 9/16 | 17.5 11/16 | 49.2 1 15/16 | 50.8 2 | 4 | 15.9 5/8 | 79.4 3 1/8 | 0.9 2 |
| 1 1/4" | 117.5 4 5/8 | 43.2 1.70 | 15.9 5/8 | 20.6 13/16 | 58.7 2 5/16 | 63.5 2 1/2 | 4 | 15.9 5/8 | 88.9 3 1/2 | 1.4 3 |
| 1 1/2" | 127.0 5 | 49.5 1.95 | 17.5 11/16 | 22.2 7/8 | 65.1 2 9/16 | 73.0 2 7/8 | 4 | 15.9 5/8 | 98.4 3 7/8 | 1.4 3 |
| 2" | 152.4 6 | 62.0 2.44 | 19.1 3/4 | 25.4 1 | 77.8 3 1/16 | 92.1 3 5/8 | 4 | 19 3/4 | 120.6 4 3/4 | 2.3 5 |
| 2 1/2" | 177.8 7 | 74.7 2.94 | 22.2 7/8 | 28.6 1 1/8 | 90.5 3 9/16 | 104.8 4 1/8 | 4 | 19 3/4 | 139.7 5 1/2 | 3.2 7 |
| 3" | 190.5 7 1/2 | 90.7 3.57 | 23.8 15/16 | 30.2 1 3/16 | 107.9 4 1/4 | 127.0 5 | 4 | 19 3/4 | 152.4 6 | 3.6 8 |
| 3 1/2" | 215.9 8 1/2 | 103.4 4.07 | 23.8 15/16 | 31.7 1 1/4 | 122.2 4 13/16 | 139.7 5 1/2 | 8 | 19 3/4 | 177.8 7 | 5.0 11 |
| 4" | 228.6 9 | 116.1 4.57 | 23.8 15/16 | 33.3 1 5/16 | 134.9 5 5/16 | 157.2 6 3/16 | 8 | 19 3/4 | 190.5 7 1/2 | 5.9 13 |
| 5" | 254.0 10 | 143.8 5.66 | 23.8 15/16 | 36.5 1 7/16 | 163.5 6 7/16 | 185.7 7 5/16 | 8 | 22.2 7/8 | 215.9 8 1/2 | 6.8 15 |
| 6" | 279.4 11 | 170.7 6.72 | 25.4 1 | 39.7 1 9/16 | 192.1 7 9/16 | 215.9 8 1/2 | 8 | 22.2 7/8 | 241.3 9 1/2 | 8.6 19 |
| 8" | 342.9 13 1/2 | 221.5 8.72 | 28.6 1 1/8 | 44.4 1 3/4 | 246.1 9 11/16 | 269.9 10 5/8 | 8 | 22.2 7/8 | 298.4 11 3/4 | 13.6 30 |
| 10" | 406.4 16 | 276.35 10.88 | 30.2 1 3/16 | 49.2 1 15/16 | 304.8 12 | 323.8 12 3/4 | 12 | 25.4 1 | 361.9 14 1/4 | 19.5 43 |
| 12" | 482.6 19 | 327.15 13.88 | 31.8 1 1/4 | 55.6 2 3/16 | 365.1 14 3/8 | 381.0 15 | 12 | 25.4 1 | 431.8 17 | 29.0 64 |
| 14" | 533.4 21 | 359.15 14.14 | 34.9 1 3/8 | 57.1 2 1/4 | 400.0 15 3/4 | 412.7 16 1/4 | 12 | 28.6 1 1/8 | 476.2 18 3/4 | 41.0 90 |
| 16" | 596.9 23 1/2 | 410.5 16.16 | 36.5 1 7/16 | 63.5 2 1/2 | 457.2 18 | 469.9 18 1/2 | 16 | 28.6 1 1/8 | 539.7 21 1/4 | 44.5 98 |
| 18" | 635.0 25 | 461.8 18.18 | 39.7 1 9/16 | 68.3 2 11/16 | 504.8 19 7/8 | 533.4 21 | 16 | 31.7 1 1/4 | 577.8 22 3/4 | 59.0 130 |
| 20" | 698.5 27 1/2 | 513.1 20.20 | 42.9 1 11/16 | 73.0 2 7/8 | 558.8 22 | 584.2 23 | 20 | 31.7 1 1/4 | 635.0 25 | 75.0 165 |
| 22" | 749.3 29 1/2 | 564.4 22.22 | 46.0 1 13/16 | 79.4 3 1/8 | 609.6 24 | 641.2 25 1/4 | 20 | 34.9 1 3/8 | 692.1 27 1/4 | 84 185 |
| 24" | 812.8 32 | 615.95 24.25 | 47.6 1 7/8 | 82.5 3 1/4 | 663.6 26 1/8 | 692.1 27 1/4 | 20 | 34.9 1 3/8 | 749.3 29 1/2 | 99.8 220 |



BRIDAS DE ACERO AL CARBÓN ANSI 150 LBS. / WELDING NECK (W.N.)

ASME/ANSI B 16.5

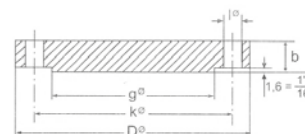
| Nominal pipe size | Flange Brida | | | | Hub Cuello | | Raised face | Drilling template | | | Approx. weight |
|-------------------|--------------------|------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|----------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | a mm. inches | m mm. inches | g mm. inches | Number | i mm. inches | k mm. inches | Pounds |
| 1/2" | 88.9 3 1/2 | 15.75 0.62 | 11.1 7/16 | 47.6 1 7/8 | 21.3 0.84 | 30.2 1 3/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.9 2 |
| 3/4" | 98.4 3 7/8 | 20.8 0.82 | 12.7 1/2 | 52.4 2 1/16 | 26.7 1.05 | 38.1 1 1/2 | 42.9 1 11/16 | 4 | 15.9 5/8 | 69.8 2 3/4 | 0.9 2 |
| 1" | 107.9 4 1/4 | 26.7 1.05 | 14.3 9/16 | 55.6 2 3/16 | 33.5 1.32 | 49.2 1 15/16 | 50.8 2 | 4 | 15.9 5/8 | 79.4 3 1/8 | 1.4 3 |
| 1 1/4" | 117.5 4 5/8 | 35.05 1.38 | 15.9 5/8 | 57.1 2 1/4 | 42.2 1.66 | 58.7 2 5/16 | 63.5 2 1/2 | 4 | 15.9 5/8 | 88.9 3 1/2 | 1.4 3 |
| 1 1/2" | 127.0 5 | 40.9 1.61 | 17.5 11/16 | 61.9 2 7/16 | 48.3 1.90 | 65.1 2 9/16 | 73.0 2 7/8 | 4 | 15.9 5/8 | 98.4 3 7/8 | 1.8 4 |
| 2" | 152.4 6 | 52.6 2.07 | 19.1 3/4 | 63.5 2 1/2 | 60.4 2.38 | 77.8 3 1/16 | 92.1 3 5/8 | 4 | 19.05 3/4 | 120.6 4 3/4 | 2.7 6 |
| 2 1/2" | 177.8 7 | 62.7 2.47 | 22.2 7/8 | 69.8 2 3/4 | 73.1 2.88 | 90.5 3 9/16 | 104.8 4 1/8 | 4 | 19.0 3/4 | 139.7 5 1/2 | 3.6 8 |
| 3" | 190.5 7 1/2 | 78.0 3.07 | 23.8 15/16 | 69.8 2 3/4 | 88.9 3.50 | 107.9 4 1/4 | 127.0 5 | 4 | 19.05 3/4 | 152.4 6 | 4.5 10 |
| 3 1/2" | 215.9 8 1/2 | 90.2 3.55 | 23.8 15/16 | 71.4 2 13/16 | 101.6 4.0 | 122.2 4 13/16 | 139.7 5 1/2 | 8 | 19.05 3/4 | 177.8 7 | 5.4 12 |
| 4" | 228.6 9 | 102.4 4.03 | 23.8 15/16 | 76.2 3 | 114.3 4.50 | 134.9 5 5/16 | 157.2 6 3/16 | 8 | 19.05 3/4 | 190.5 7 1/2 | 6.8 15 |
| 5" | 254.0 10 | 128.3 5.05 | 23.8 15/16 | 88.9 3 1/2 | 141.2 5.56 | 163.5 6 7/16 | 185.7 7 5/16 | 8 | 22.2 7/8 | 215.9 8 1/2 | 8.6 19 |
| 6" | 279.4 11 | 154.2 6.07 | 25.4 1 | 88.9 3 1/2 | 168.4 6.63 | 192.1 7 9/16 | 215.9 8 1/2 | 8 | 22.2 7/8 | 241.3 9 1/2 | 10.9 24 |
| 8" | 342.9 13 1/2 | 202.7 7.98 | 28.6 1 1/8 | 101.6 4 | 219.2 8.63 | 246.1 9 11/16 | 269.9 10 5/8 | 8 | 22.2 7/8 | 298.4 11 3/4 | 17.7 39 |
| 10" | 406.4 16 | 254.5 10.02 | 30.2 1 3/16 | 101.6 4 | 273.0 10.75 | 304.8 12 | 323.8 12 3/4 | 12 | 25.4 1 | 361.9 14 1/4 | 23.6 52 |
| 12" | 482.6 19 | 304.8 12.00 | 31.8 1 1/4 | 114.3 4 1/2 | 323.8 12.75 | 365.1 14 3/8 | 381.0 15 | 12 | 25.4 1 | 431.8 17 | 36.3 80 |
| 14" | 533.4 21 | To be specified by purchaser | 34.9 1 3/8 | 127.0 5 | 355.6 14.00 | 400.0 15 3/4 | 412.7 16 1/4 | 12 | 28.6 1 1/8 | 476.2 18 3/4 | 50.0 110 |
| 16" | 596.9 23 1/2 | | 36.5 1 7/16 | 127.0 5 | 406.4 16.00 | 457.2 18 | 469.9 18 1/2 | 16 | 28.6 1 1/8 | 539.7 21 1/4 | 64.0 140 |
| 18" | 635.0 25 | | 39.7 1 9/16 | 139.7 5 1/2 | 457.2 18.00 | 504.8 19 7/8 | 533.4 21 | 16 | 31.7 1 1/4 | 577.8 22 3/4 | 68.0 150 |
| 20" | 698.5 27 1/2 | | 42.9 1 11/16 | 144.5 5 11/16 | 508.0 20.00 | 558.8 22 | 584.2 23 | 20 | 31.7 1 1/4 | 635.0 25 | 81.6 180 |
| 22" | 749.3 29 1/2 | | 46.00 1 13/16 | 149.2 5 7/8 | 558.0 22.0 | 616 24 1/4 | 641.2 25 1/4 | 20 | 34.9 1 3/8 | 692.1 27 1/4 | 102 225 |
| 24" | 812.8 32 | | 47.6 1 7/8 | 152.4 6 | 609.6 24.00 | 663.6 26 1/8 | 692.1 27 1/4 | 20 | 34.9 1 3/8 | 749.3 29 1/2 | 118 260 |



BRIDAS DE ACERO AL CARBÓN ANSI 150 LBS. / LAP JOINT (L.J.)

ASME/ANSI B 16.5

| Nominal pipe size | Flange Brida | | | | | Hub Cuello | Drilling template | | | Approx. weight Pounds |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | r mm. inches | m mm. inches | Number | i mm. inches | k mm. inches | |
| 1/2" | 88.9 3 1/2 | 22.9 0.90 | 11.1 7/16 | 15.9 5/8 | 3.2 1/8 | 30.2 1 3/16 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.5 1 |
| 3/4" | 98.4 3 7/8 | 28.2 1.11 | 12.7 1/2 | 15.9 5/8 | 3.2 1/8 | 38.1 1 1/2 | 4 | 15.9 5/8 | 69.8 2 3/4 | 1.9 2 |
| 1" | 107.9 4 1/4 | 35.05 1.38 | 15.9 5/8 | 17.5 11/16 | 3.2 1/8 | 49.2 1 15/16 | 4 | 15.9 5/8 | 79.4 3 1/8 | 1.9 2 |
| 1 1/4" | 117.5 4 5/8 | 43.7 1.72 | 17.5 11/16 | 20.6 13/16 | 8.8 3/16 | 58.7 2 5/16 | 4 | 15.9 5/8 | 88.9 3 1/2 | 1.4 3 |
| 1 1/2" | 127.0 5 | 50.0 1.97 | 19.1 3/4 | 22.2 7/8 | 6.35 1/4 | 65.1 2 9/16 | 4 | 15.9 5/8 | 98.4 3 7/8 | 1.4 3 |
| 2" | 152.4 6 | 62.5 2.46 | 22.2 7/8 | 25.4 1 | 7.9 5/16 | 77.8 3 1/16 | 4 | 19.0 3/4 | 120.6 4 3/4 | 3.2 5 |
| 2 1/2" | 177.8 7 | 75.4 2.97 | 23.8 15/16 | 28.6 1 1/8 | 7.9 5/16 | 90.5 3 9/16 | 4 | 19.0 3/4 | 139.7 5 1/2 | 3.2 7 |
| 3" | 190.5 7 1/2 | 91.4 3.60 | 23.8 15/16 | 30.2 1 3/16 | 9.5 3/8 | 107.9 4 1/4 | 4 | 19.0 3/4 | 152.4 6 | 3.6 8 |
| 3 1/2" | 215.9 8 1/2 | 104.1 4.10 | 23.8 15/16 | 31.7 1 1/4 | 9.5 3/8 | 122.2 4 13/16 | 8 | 19.0 3/4 | 177.8 7 | 5.0 11 |
| 4" | 228.6 9 | 116.8 4.60 | 23.8 15/16 | 33.3 1 5/16 | 11.1 7/16 | 134.9 5 5/16 | 8 | 19.0 3/4 | 190.5 7 1/2 | 5.9 13 |
| 5" | 254.0 10 | 144.5 5.69 | 23.8 15/16 | 36.5 1 7/16 | 11.1 7/16 | 163.5 6 7/16 | 8 | 22.2 7/8 | 215.9 8 1/2 | 6.8 15 |
| 6" | 279.4 11 | 171.45 6.72 | 25.4 1 | 39.7 1 9/16 | 12.7 1/2 | 192.1 7 9/16 | 8 | 22.2 7/8 | 241.3 9 1/2 | 8.6 19 |
| 8" | 342.9 13 1/2 | 222.25 8.72 | 28.6 1 1/8 | 44.4 1 3/4 | 12.7 1/2 | 246.1 9 11/16 | 8 | 22.2 7/8 | 298.4 11 3/4 | 13.6 30 |
| 10" | 406.4 16 | 277.4 10.92 | 30.2 1 3/16 | 49.2 1 15/16 | 12.7 1/2 | 304.8 12 | 12 | 25.4 1 | 361.9 14 1/4 | 19.5 43 |
| 12" | 482.6 19 | 328.2 12.92 | 31.8 1 1/4 | 55.6 2 3/16 | 12.7 1/2 | 365.1 14 3/8 | 12 | 25.4 1 | 431.8 17 | 29.0 64 |
| 14" | 533.4 21 | 360.2 14.18 | 34.9 1 3/8 | 79.4 3 1/8 | 12.7 1/2 | 400.0 15 3/4 | 12 | 28.6 1 1/8 | 476.2 18 3/4 | 47.6 105 |
| 16" | 596.9 23 1/2 | 411.2 16.19 | 36.5 1 7/16 | 87.3 3 7/16 | 12.7 1/2 | 457.2 18 | 16 | 28.6 1 1/8 | 539.7 21 1/4 | 63.5 140 |
| 18" | 635.0 25 | 462.3 18.20 | 39.7 1 9/16 | 96.8 3 13/16 | 12.7 1/2 | 504.8 19 7/8 | 16 | 31.7 1 1/4 | 577.8 22 3/4 | 72.6 160 |
| 20" | 698.5 27 1/2 | 514.35 20.25 | 42.9 1 11/16 | 103.2 4 1/16 | 12.7 1/2 | 558.8 22 | 20 | 31.7 1 1/4 | 630.0 25 | 88.5 195 |
| 22" | 749.3 29 1/2 | 565.2 22.25 | 46.0 1 13/16 | 108 4 1/4 | 12.7 1/2 | 616 24 1/4 | 20 | 34.9 1 3/8 | 692.1 27 1/4 | 111.2 245 |
| 24" | 812.8 32 | 615.95 24.25 | 47.6 1 7/8 | 111.1 4 3/8 | 12.7 1/2 | 663.6 26 1/8 | 20 | 34.9 1 3/8 | 749.3 29 1/2 | 125 275 |

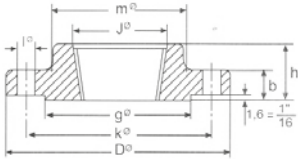


BRIDAS DE ACERO AL CARBÓN ANSI 150 LBS. / BLIND (CIEGA)

ASME/ANSI B 16.5

| Nominal pipe size | Flange Brida | | Resalte | Number | Taladros | | Approx. weight Peso Pounds |
|-------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------------------------|
| | D mm. inches | b mm. inches | g mm. inches | | i mm. inches | k mm. inches | |
| 1/2" | 88.9 3 1/2 | 11.1 1 1/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.5 1 |
| 3/4" | 98.4 3 7/8 | 12.7 1/2 | 42.9 1 11/16 | 4 | 15.9 5/8 | 69.8 2 3/4 | 0.9 2 |
| 1" | 108.0 4 1/4 | 14.3 9/16 | 50.8 2 | 4 | 15.9 5/8 | 79.4 3 1/8 | 0.9 2 |
| 1 1/4" | 117.5 4 5/8 | 15.9 5/8 | 63.5 2 1/2 | 4 | 15.9 5/8 | 88.9 3 1/2 | 1.4 3 |
| 1 1/2" | 127.0 5 | 17.5 11/16 | 73.0 2 7/8 | 4 | 15.9 5/8 | 98.4 3 7/8 | 1.8 4 |
| 2" | 152.4 6 | 19.1 3/4 | 92.1 3 5/8 | 4 | 19.0 3/4 | 120.6 4 3/4 | 2.3 5 |
| 2 1/2" | 177.8 7 | 22.2 7/8 | 104.8 4 1/8 | 4 | 19.0 3/4 | 139.7 5 1/2 | 3.2 7 |
| 3" | 190.5 7 1/2 | 23.8 15/16 | 127.0 5 | 4 | 19.0 3/4 | 152.4 6 | 4.1 9 |
| 3 1/2" | 215.9 8 1/2 | 23.8 15/16 | 139.7 5 1/2 | 8 | 19.0 3/4 | 177.8 7 | 5.9 13 |
| 4" | 228.6 9 | 23.8 15/16 | 157.2 6 3/16 | 8 | 19.0 3/4 | 190.5 7 1/2 | 7.7 17 |
| 5" | 254.0 10 | 23.8 15/16 | 185.7 7 5/16 | 8 | 22.2 7/8 | 215.9 8 1/2 | 9.1 20 |
| 6" | 279.4 11 | 25.4 1 | 215.9 8 1/2 | 8 | 22.2 7/8 | 241.3 9 1/2 | 11.8 26 |
| 8" | 342.9 13 1/2 | 28.6 1 1/8 | 215.9 8 1/2 | 8 | 22.2 7/8 | 298.4 11 3/4 | 21 46.2 |
| 10" | 406.4 16 | 30.2 1 13/16 | 323.8 12 3/4 | 12 | 25.4 1 | 361.9 14 1/4 | 31.8 70 |
| 12" | 482.6 19 | 31.8 1 1/4 | 381.0 15 | 12 | 25.4 1 | 431.8 17 | 49.9 110 |
| 14" | 533.4 21 | 34.9 1 3/8 | 412.7 16 1/4 | 12 | 28.6 1 1/8 | 476.2 18 3/4 | 63.5 140 |
| 16" | 596.9 23 1/2 | 36.5 1 7/16 | 469.9 18 1/2 | 16 | 28.6 1 1/8 | 539.7 21 1/4 | 81.6 180 |
| 18" | 635.0 25 | 39.7 1 9/16 | 533.4 21 | 16 | 31.7 1 1/4 | 577.8 22 3/4 | 99.8 220 |
| 20" | 698.5 27 1/2 | 42.9 1 11/16 | 584.2 23 | 20 | 31.7 1 1/4 | 630.0 25 | 129 285 |
| 22" | 749.3 29 1/2 | 46.0 1 13/16 | 641.2 25 1/4 | 20 | 34.9 1 3/8 | 692.1 27 1/4 | 161 355 |
| 24" | 812.8 32 | 47.6 1 7/8 | 692.1 27 1/4 | 20 | 34.9 1 3/8 | 749.3 29 1/2 | 195 430 |

BRIDAS

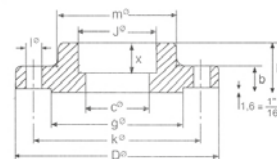


BRIDAS DE ACERO AL CARBÓN ANSI 150 LBS. / THREADED (ROSCADA)

ASME/ANSI B 16.5

| Nominal pipe size | Flange Brida | | | | Hub Cuello | Raised face | Drilling template | | | Approx. weight |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|----------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | m mm. inches | g mm. inches | Number | i mm. inches | k mm. inches | Pounds |
| 1/2" | 88.9 3 1/2 | | 11.1 7/16 | 15.9 5/8 | 30.2 1 3/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.5 1 |
| 3/4" | 98.4 3 7/8 | | 12.7 1/2 | 15.9 5/8 | 38.1 1 1/2 | 42.9 1 11/16 | 4 | 15.9 5/8 | 69.8 2 3/4 | 0.9 2 |
| 1" | 107.9 4 1/4 | | 14.3 9/16 | 17.5 11/16 | 49.2 1 15/16 | 50.8 2 | 4 | 15.9 5/8 | 79.4 3 1/8 | 0.9 2 |
| 1 1/4" | 117.5 4 5/8 | | 15.9 5/8 | 20.6 13/16 | 58.7 2 5/16 | 63.5 2 1/2 | 4 | 15.9 5/8 | 88.9 3 1/2 | 1.4 3 |
| 1 1/2" | 127.0 5 | | 17.5 11/16 | 22.2 7/8 | 65.1 2 9/16 | 73.0 2 7/8 | 4 | 15.9 5/8 | 98.4 3 7/8 | 1.5 3.3 |
| 2" | 152.4 6 | | 19.1 3/4 | 25.4 1 | 77.8 3 1/16 | 92.1 3 5/8 | 4 | 19.0 3/4 | 120.6 4 3/4 | 2.3 5.1 |
| 2 1/2" | 177.8 7 | | 22.2 7/8 | 28.6 1 1/8 | 90.5 3 9/16 | 104.8 4 1/8 | 4 | 19.0 3/4 | 139.7 5 1/2 | 3.7 8.1 |
| 3" | 190.5 7 1/2 | | 23.8 15/16 | 30.2 1 3/16 | 107.9 4 1/4 | 127.0 5 | 4 | 19.0 3/4 | 152.4 6 | 4.2 9.2 |
| 3 1/2" | 215.9 8 1/2 | | 23.8 15/16 | 31.7 1 1/4 | 122.2 4 13/16 | 139.7 5 1/2 | 8 | 19.0 3/4 | 177.8 7 | 5.3 11.7 |
| 4" | 228.6 9 | | 23.8 15/16 | 33.3 1 5/16 | 134.9 5 5/16 | 157.2 6 3/16 | 8 | 19.0 3/4 | 190.5 7 1/2 | 5.9 13 |
| 5" | 254.0 10 | | 23.8 15/16 | 36.5 1 7/16 | 163.5 6 7/16 | 185.7 7 5/16 | 8 | 22.2 7/8 | 215.9 8 1/2 | 7 15.4 |
| 6" | 279.4 11 | | 25.4 1 | 39.7 1 9/16 | 192.1 7 9/16 | 215.9 8 1/2 | 8 | 22.2 7/8 | 241.3 9 1/2 | 8.4 18.6 |
| 8" | 342.9 13 1/2 | | 28.6 1 1/8 | 44.4 1 3/4 | 246.1 9 11/16 | 269.9 10 5/8 | 8 | 22.2 7/8 | 298.4 11 3/4 | 13 28.6 |
| 10" | 406.4 16 | | 30.2 1 3/16 | 49.2 1 15/16 | 304.8 12 | 323.8 12 3/4 | 12 | 25.4 1 | 361.9 14 1/4 | 19.5 43 |
| 12" | 482.6 19 | | 31.8 1 1/4 | 55.6 2 3/16 | 365.1 14 3/8 | 381.0 15 | 12 | 25.4 1 | 431.8 17 | 29.5 64.9 |
| 14" | 533.4 21 | | 34.9 1 3/8 | 57.1 2 1/4 | 400.0 15 3/4 | 412.7 16 1/4 | 12 | 28.6 1 1/8 | 476.2 18 3/4 | 41 90 |
| 16" | 596.9 23 1/2 | | 36.5 1 7/16 | 63.5 2 1/2 | 457.2 18 | 469.9 18 1/2 | 16 | 28.6 1 1/8 | 539.7 21 1/4 | 47 103.4 |
| 18" | 635.0 25 | | 39.7 1 9/16 | 68.3 2 11/16 | 504.8 19 7/8 | 533.4 21 | 16 | 31.7 1 1/4 | 577.8 22 3/4 | 59 130 |
| 20" | 698.5 27 1/2 | | 42.9 1 11/16 | 73.0 2 7/8 | 558.8 22 | 584.2 23 | 20 | 31.7 1 1/4 | 635.0 25 | 75 165 |
| 24" | 812.8 32 | | 47 1 7/8 | 82.5 3 1/4 | 663.6 26 1/8 | 692.1 27 1/4 | 20 | 34.9 1 3/8 | 749.3 29 1/2 | 100 220 |

En las bridas THREADED 150 Lbs. no se requiere ensanche de boca

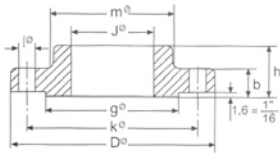


BRIDAS DE ACERO AL CARBÓN ANSI 150 LBS. / SOCKET WELD (S.W.)

ASME/ANSI B 16.5

| Nominal pipe size | Flange Brida | | | | | | Hub Cuello | Raised face | Drilling template | | | Approx. weight |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|----------------|
| | D mm. inches | C mm. inches | j mm. inches | x mm. inches | b mm. inches | h mm. inches | m mm. inches | g mm. inches | Number | i mm. inches | k mm. inches | Pounds |
| 1/4" | 88.9 3 1/2 | 9.1 0.36 | 14.7 0.58 | 9.5 3/8 | 11.1 7/16 | 15.9 5/8 | 30.2 1 3/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.3 0.7 |
| 3/8" | 88.9 3 1/2 | 12.4 0.49 | 18.3 0.72 | 9.5 3/8 | 11.1 7/16 | 15.9 5/8 | 30.2 1 3/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.4 0.8 |
| 1/2" | 88.9 3 1/2 | 15.7 0.62 | 22.35 0.88 | 9.5 3/8 | 11.1 7/16 | 15.9 5/8 | 30.2 1 3/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 60.3 2 3/8 | 0.4 0.9 |
| 3/4" | 98.4 3 7/8 | 20.8 0.82 | 27.7 1.09 | 11.1 7/16 | 12.7 1/2 | 15.9 5/8 | 38.1 1 1/2 | 42.9 1 11/16 | 4 | 15.9 5/8 | 69.8 2 3/4 | 0.7 1.5 |
| 1" | 107.9 4 1/4 | 26.7 1.05 | 34.5 1.36 | 12.7 1/2 | 14.3 9/16 | 17.5 11/16 | 49.2 1 15/16 | 50.8 2 | 4 | 15.9 5/8 | 79.4 3 1/8 | 0.9 2 |
| 1 1/4" | 117.5 4 5/8 | 35.05 1.38 | 43.2 1.70 | 14.3 9/16 | 15.9 5/8 | 20.6 13/16 | 58.7 2 5/16 | 63.5 2 1/2 | 4 | 15.9 5/8 | 88.9 3 1/2 | 1.2 2.6 |
| 1 1/2" | 127.0 5 | 40.9 1.61 | 49.5 1.95 | 15.9 5/8 | 17.5 11/16 | 22.2 7/8 | 65.1 2 9/16 | 73.0 2 7/8 | 4 | 15.9 5/8 | 98.4 3 7/8 | 1.5 3.3 |
| 2" | 152.4 6 | 52.6 2.07 | 62.0 2.44 | 17.5 11/16 | 19.1 3/4 | 25.4 1 | 77.8 2 1/16 | 92.1 3 5/8 | 4 | 19.0 3/4 | 120.6 4 3/4 | 2.3 5.1 |
| 2 1/2" | 177.8 7 | 62.7 2.47 | 74.7 2.94 | 19.05 3/4 | 22.3 7/8 | 28.6 1 1/8 | 90.5 2 9/16 | 104.8 4 1/8 | 4 | 19.0 3/4 | 139.7 5 1/2 | 3.7 8.1 |
| 3" | 190.5 7 1/2 | 78.0 3.07 | 90.7 3.57 | 20.6 13/16 | 23.8 15/16 | 30.2 1 3/16 | 107.9 4 1/4 | 127.0 5 | 4 | 19.0 3/4 | 152.4 6 | 4.2 9.2 |
| 3 1/2" | 215.9 8 1/2 | 90.2 3.55 | 103.4 4.07 | 22.2 7/8 | 23.8 15/16 | 31.7 1 1/4 | 122.2 4 13/16 | 139.7 5 1/2 | 8 | 19.0 3/4 | 177.8 7 | 5.3 11.7 |
| 4" | 228.6 9 | 102.4 4.03 | 116.1 4.57 | 23.8 15/16 | 23.8 15/16 | 33.3 1 5/16 | 134.9 5 5/16 | 157.2 6 3/16 | 8 | 19.0 3/4 | 190.5 7 1/2 | 5.9 13 |
| 5" | 254.0 10 | 128.3 5.05 | 143.8 5.66 | 23.8 15/16 | 23.8 15/16 | 36.5 1 7/16 | 134.9 5 5/16 | 185.7 7 5/16 | 8 | 22.2 7/8 | 215.9 8 1/2 | 7 15.4 |
| 6" | 279.4 11 | 154.2 6.07 | 170.7 6.72 | 27.0 1 1/16 | 25.4 1 | 39.7 1 9/16 | 192.1 7 9/16 | 215.9 8 1/2 | 8 | 22.2 7/8 | 241.3 9 1/2 | 8.4 18.5 |
| 8" | 342.9 13 1/2 | 202.7 7.98 | 221.5 8.72 | 31.7 1 1/4 | 28.6 1 1/8 | 44.4 1 3/4 | 246.1 9 11/16 | 269.9 10 5/8 | 8 | 22.2 7/8 | 298.4 11 3/4 | 13 28.6 |
| 10" | 406.4 16 | 254.5 10.02 | 276.35 10.88 | 33.3 1 15/16 | 30.2 1 3/16 | 49.2 1 15/16 | 304.8 12 | 323.8 12 3/4 | 12 | 25.4 1 | 361.9 14 1/4 | 19.5 43 |
| 12" | 482.6 19 | 304.8 12.00 | 327.15 12.88 | 39.7 1 9/16 | 31.8 1 1/4 | 55.6 2 3/16 | 365.1 14 3/8 | 381.0 15 | 12 | 25.4 1 | 431.8 17 | 29.5 64.9 |
| 14" | 533.4 21 | 336.55 13.25 | 359.15 14.14 | 41.3 1 5/8 | 34.9 1 3/8 | 57.1 2 1/4 | 400.0 15 3/4 | 412.7 16 1/4 | 12 | 28.6 1 1/8 | 476.2 18 3/4 | 41 90 |
| 16" | 596.9 23 1/2 | 387.35 15.25 | 410.5 16.16 | 44.4 1 3/4 | 36.5 1 7/16 | 63.5 2 1/2 | 457.2 18 | 469.9 18 1/2 | 16 | 28.6 1 1/8 | 539.7 21 1/4 | 44.5 98 |
| 18" | 635.0 25 | 438.15 17.25 | 461.8 18.18 | 42.2 1 15/16 | 39.7 1 9/16 | 68.3 2 11/16 | 504.8 19 7/8 | 533.4 21 | 16 | 31.7 1 1/4 | 577.8 22 3/4 | 59 130 |
| 20" | 698.5 27 1/2 | 488.95 19.25 | 513.1 20.20 | 50.0 2 1/8 | 42.9 1 7/8 | 73.0 2 7/8 | 558.8 22 | 584.2 23 | 20 | 31.7 1 1/4 | 635.0 25 | 75 165 |
| 24" | 812.8 32 | 590.55 23.25 | 615.95 24.25 | 63.5 2 1/2 | 47.6 1 7/8 | 82.5 3 1/4 | 663.6 26 1/8 | 692.1 27 1/4 | 20 | 34.9 1 3/8 | 749.3 29 1/2 | 100 220 |

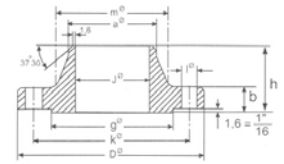
BRIDAS



BRIDAS DE ACERO AL CARBÓN ANSI 300 LBS. / SLIP - ON (S.O.)

ASME/ANSI B 16.5

| Nominal pipe size | Flange Brida | | | | Hub Cuello | Raised face | Drilling template | | | Approx. weight |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|----------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | m mm. inches | g mm. inches | Number | i mm. inches | k mm. inches | Pounds |
| 1/2" | 95.2 3 3/4 | 22.3 0.88 | 14.3 9/16 | 22.2 7/8 | 38.1 1 1/2 | 34.9 1 3/8 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.9 2 |
| 3/4" | 117.5 4 5/8 | 27.7 1.09 | 15.9 5/8 | 25.4 1 | 47.6 1 7/8 | 42.9 1 11/16 | 4 | 19.0 3/4 | 82.5 3 1/4 | 1.4 3 |
| 1" | 123.8 4 7/8 | 34.5 1.36 | 17.5 11/16 | 27.0 1 1/16 | 54.0 2 1/8 | 50.8 2 | 4 | 19.0 3/4 | 88.9 3 1/2 | 1.4 3 |
| 1 1/4" | 133.35 5 1/4 | 43.2 1.70 | 19.05 3/4 | 27.0 1 1/16 | 63.5 2 1/2 | 63.5 2 1/2 | 4 | 19.0 3/4 | 98.4 3 7/8 | 1.8 4 |
| 1 1/2" | 155.6 6 1/8 | 49.5 1.95 | 20.6 13/16 | 30.2 1 3/16 | 69.8 2 3/4 | 73.0 2 7/8 | 4 | 22.2 7/8 | 114.3 4 1/2 | 2.7 6 |
| 2" | 165.1 6 1/2 | 62.0 2.44 | 22.2 7/8 | 33.3 1 5/16 | 84.1 3 5/16 | 92.1 3 5/8 | 8 | 19.05 3/4 | 127.0 5 | 3.2 7 |
| 2 1/2" | 190.5 7 1/2 | 74.7 2.49 | 25.4 1 | 38.1 1 1/2 | 100.0 3 15/16 | 104.8 4 1/8 | 8 | 22.2 7/8 | 149.2 5 7/8 | 4.5 10 |
| 3" | 209.55 8 1/4 | 90.7 3.57 | 28.6 1 1/8 | 42.9 1 11/16 | 117.5 4 5/8 | 127.0 5 | 8 | 22.2 7/8 | 168.3 6 5/8 | 5.9 13 |
| 3 1/2" | 228.6 9 | 103.4 4.07 | 30.2 1 3/16 | 44.4 1 3/4 | 133.35 5 1/4 | 139.7 5 1/2 | 8 | 22.2 7/8 | 184.15 7 1/4 | 7.7 17 |
| 4" | 254.0 10 | 116.1 4.57 | 31.8 1 1/4 | 47.6 1 7/8 | 146.05 5 3/4 | 157.2 6 3/16 | 8 | 22.2 7/8 | 200.0 7 7/8 | 10.0 22 |
| 5" | 279.4 11 | 143.3 5.66 | 34.9 1 3/8 | 50.8 2 | 177.8 7 | 185.7 7 5/16 | 8 | 22.2 7/8 | 234.95 9 1/4 | 12.7 28 |
| 6" | 317.5 12 1/2 | 170.7 6.72 | 36.5 1 7/16 | 52.4 2 1/16 | 206.4 8 1/8 | 215.9 8 1/2 | 12 | 22.2 7/8 | 269.9 10 5/8 | 17.7 39 |
| 8" | 381.0 15 | 221.5 8.72 | 41.3 1 5/8 | 61.9 2 7/16 | 260.3 10 1/4 | 269.9 10 5/8 | 12 | 25.4 1 | 330.2 13 | 26.3 58 |
| 10" | 444.5 17 1/2 | 276.35 10.88 | 47.6 1 7/8 | 66.7 2 5/8 | 320.7 12 5/8 | 323.8 12 3/4 | 16 | 28.6 1 1/8 | 387.3 15 1/4 | 36.7 81 |
| 12" | 520.7 20 1/2 | 327.15 12.88 | 50.8 2 | 73.0 2 7/8 | 374.6 14 3/4 | 381.0 15 | 16 | 31.7 1 1/4 | 450.8 17 3/4 | 52.2 115 |
| 14" | 584.2 23 | 359.15 14.14 | 54.0 2 1/8 | 76.2 3 | 425.4 16 3/4 | 412.7 16 1/4 | 20 | 31.7 1 1/4 | 514.3 20 1/4 | 74.8 165 |
| 16" | 647.7 25 1/2 | 410.5 16.16 | 57.2 2 1/4 | 82.5 3 1/4 | 482.6 19 | 469.9 18 1/2 | 20 | 34.9 1 3/8 | 571.5 22 1/2 | 86.6 190 |
| 18" | 711.2 28 | 461.8 18.18 | 60.3 2 3/8 | 88.9 3 1/2 | 533.4 21 | 533.4 21 | 24 | 34.9 1 3/8 | 628.6 24 3/4 | 113 250 |
| 20" | 774.7 30 1/2 | 513.1 20.20 | 63.5 2 1/2 | 95.2 3 3/4 | 587.4 23 1/8 | 584.2 23 | 24 | 34.9 1 3/8 | 685.8 27 | 143 315 |
| 22" | 838.2 33 | 564.4 22.22 | 66.7 2 5/8 | 101.6 4 | 641.2 25 1/4 | 641.2 25 1/4 | 24 | 41.3 1 5/8 | 742.9 29 1/4 | 168 370 |
| 24" | 914.4 36 | 615.95 24.25 | 69.8 2 3/4 | 106.4 4 3/16 | 701.7 27 5/8 | 692.1 27 1/4 | 24 | 41.3 1 5/8 | 812.8 32 | 215 475 |

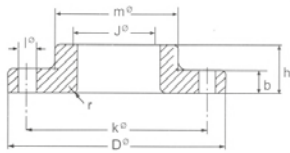


BRIDAS DE ACERO AL CARBÓN ANSI 300 LBS. / WELDING NECK (W.N.)

ASME/ANSI B 16.5

| Nominal pipe size | Flange Brida | | | | Hub Cuello | | Raised face | Drilling template | | | Approx. weight |
|-------------------|--------------------|------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|----------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | a mm. inches | m mm. inches | g mm. inches | Number | i mm. inches | k mm. inches | Pounds |
| 1/2" | 95.2 3 3/4 | 15.75 0.62 | 14.3 9/16 | 52.4 2 1/16 | 21.3 0.84 | 38.1 1 1/2 | 34.9 1 3/8 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.9 2 |
| 3/4" | 117.5 4 5/8 | 20.8 0.82 | 15.9 5/8 | 57.1 2 1/4 | 26.7 1.05 | 47.6 1 7/8 | 42.9 1 11/16 | 4 | 19.05 3/4 | 82.5 3 1/4 | 1.4 3 |
| 1" | 123.8 4 7/8 | 26.7 1.05 | 17.5 11/16 | 61.9 2 7/16 | 33.5 1.32 | 54.0 2 1/8 | 50.8 2 | 4 | 19.05 3/4 | 88.9 3 1/2 | 1.8 4 |
| 1 1/4" | 133.35 5 1/4 | 35.05 1.38 | 19.05 3/4 | 65.1 2 9/16 | 42.2 1.66 | 63.5 2 1/2 | 63.5 2 1/2 | 4 | 19.05 3/4 | 98.4 3 7/8 | 2.3 5 |
| 1 1/2" | 155.6 6 1/8 | 40.9 1.61 | 20.6 13/16 | 68.3 2 11/16 | 48.3 1.90 | 69.8 2 3/4 | 73.0 2 7/8 | 4 | 22.2 7/8 | 114.3 4 1/2 | 3.2 7 |
| 2" | 165.1 6 1/2 | 52.6 2.07 | 22.2 7/8 | 69.8 2 3/4 | 60.45 2.38 | 84.1 3 5/16 | 92.1 3 5/8 | 8 | 19.05 3/4 | 127.0 5 | 4.1 9 |
| 2 1/2" | 190.5 7 1/2 | 62.7 2.47 | 25.4 1 | 76.2 3 | 73.1 2.88 | 100.0 3 15/16 | 104.8 4 1/8 | 8 | 22.2 7/8 | 149.2 5 7/8 | 5.4 12 |
| 3" | 209.55 8 1/4 | 78.0 3.07 | 28.6 1 1/8 | 79.4 3 1/8 | 88.9 3.50 | 117.5 4 5/8 | 127.0 5 | 8 | 22.2 7/8 | 168.3 6 5/8 | 6.8 15 |
| 3 1/2" | 228.6 9 | 90.2 3.55 | 30.2 1 3/16 | 81.0 3 3/16 | 101.6 4.00 | 133.35 5 1/4 | 139.7 5 1/2 | 8 | 22.2 7/8 | 184.15 7 1/4 | 8.2 18 |
| 4" | 254.0 10 | 102.4 4.03 | 31.8 1 1/4 | 85.7 3 3/8 | 114.3 4.50 | 146.05 5 3/4 | 157.2 6 3/16 | 8 | 22.2 7/8 | 200.0 7 7/8 | 11.3 25 |
| 5" | 279.4 11 | 128.3 5.05 | 34.9 1 3/8 | 98.4 3 7/8 | 141.2 5.56 | 177.8 7 | 185.7 7 5/16 | 8 | 22.2 7/8 | 234.95 9 1/4 | 14.5 32 |
| 6" | 317.5 12 1/2 | 154.2 6.07 | 36.5 1 7/16 | 98.4 3 7/8 | 168.4 6.63 | 206.4 8 1/8 | 215.9 8 1/2 | 12 | 22.2 7/8 | 269.9 10 5/8 | 19.0 42 |
| 8" | 381.0 15 | 202.7 7.98 | 41.3 1 5/8 | 111.1 4 3/8 | 219.2 8.63 | 260.35 10 1/4 | 269.9 10 5/8 | 12 | 25.4 1 | 330.2 13 | 30.4 67 |
| 10" | 444.5 17 1/2 | 254.5 10.02 | 47.6 1 7/8 | 117.5 4 5/8 | 273.0 10.75 | 320.7 12 5/8 | 323.8 12 3/4 | 16 | 28.6 1 1/8 | 387.3 15 1/4 | 41.3 91 |
| 12" | 520.7 20 1/2 | 304.8 12.00 | 50.8 2 | 130.2 5 1/8 | 323.85 12.75 | 374.6 14 3/4 | 381.0 15 | 16 | 31.7 1 1/4 | 450.8 17 3/4 | 63.5 140 |
| 14" | 584.2 23 | To be specified by purchaser | 54.0 2 1/8 | 142.9 5 5/8 | 355.6 14.00 | 425.4 16 3/4 | 412.7 16 1/4 | 20 | 31.7 1 1/4 | 514.3 20 1/4 | 81.6 180 |
| 16" | 647.7 25 1/2 | | 57.2 2 1/4 | 146.5 5 3/4 | 406.4 16.00 | 482.6 19 | 469.9 18 1/2 | 20 | 34.9 1 3/8 | 571.5 22 1/2 | 113 250 |
| 18" | 711.2 28 | | 60.3 2 3/8 | 158.75 6 1/4 | 457.2 18.00 | 533.4 21 | 533.4 21 | 24 | 34.9 1 3/8 | 628.6 24 3/4 | 145 320 |
| 20" | 774.7 30 1/2 | | 63.5 2 1/2 | 161.9 6 3/8 | 508.0 20.00 | 587.4 23 1/8 | 584.2 23 | 24 | 34.9 1 3/8 | 685.8 27 | 181 400 |
| 22" | 838.2 33 | | 66.7 2 5/8 | 165.1 6 1/2 | 558.8 22.0 | 641.2 25 1/4 | 641.2 25 1/4 | 24 | 41.3 1 5/8 | 742.9 29 1/4 | 211 465 |
| 24" | 914.4 36 | | 69.8 2 3/4 | 168.3 6 5/8 | 609.5 24.00 | 701.7 27 5/8 | 692.1 27 1/4 | 24 | 41.3 1 5/8 | 812.8 32 | 263 580 |

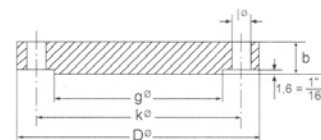
BRIDAS



BRIDAS DE ACERO AL CARBÓN ANSI 300 LBS. / LAP JOINT (L.J.)

ASME/ANSI B 16.5

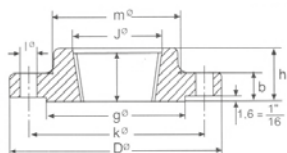
| Nominal pipe size | Flange Brida | | | | Hub Cuello | Raised face | Drilling template | | | Approx. weight |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|----------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | r mm. inches | m mm. inches | Number | i mm. inches | k mm. inches | Pounds |
| 1/2" | 95.2 3 3/4 | 22.9 0.90 | 14.3 9/16 | 22.2 7/8 | 3.2 1/8 | 38.1 1 1/2 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.9 2 |
| 3/4" | 117.5 4 5/8 | 28.2 1.11 | 15.9 5/8 | 25.4 1 | 3.2 1/8 | 47.6 1 7/8 | 4 | 19.0 3/4 | 82.5 3 1/4 | 1.4 2.4 |
| 1" | 123.8 4 7/8 | 35.05 1.38 | 17.5 11/16 | 27.0 1 1/16 | 3.2 1/8 | 54.0 2 1/8 | 4 | 19.0 3/4 | 88.9 3 1/2 | 2.4 3 |
| 1 1/4" | 133.3 5 1/4 | 43.7 1.72 | 19.05 3/4 | 27.0 1 1/16 | 4.8 3/16 | 63.5 2 1/2 | 4 | 19.0 3/4 | 98.4 3 7/8 | 1.8 4 |
| 1 1/2" | 155.6 6 1/8 | 50.0 1.97 | 20.6 13/16 | 30.2 1 3/16 | 6.35 1/4 | 69.8 2 3/4 | 4 | 22.2 7/8 | 114.3 4 1/2 | 2.7 6 |
| 2" | 165.1 6 1/2 | 62.5 2.46 | 22.2 7/8 | 33.3 1 5/16 | 7.9 5/16 | 84.1 3 5/16 | 8 | 19.0 3/4 | 127.0 5 | 3.2 7 |
| 2 1/2" | 190.5 7 1/2 | 75.4 2.97 | 25.4 1 | 38.1 1 1/2 | 7.9 5/16 | 100.0 3 15/16 | 8 | 22.2 7/8 | 149.2 5 7/8 | 4.5 10 |
| 3" | 209.5 8 1/4 | 91.4 3.60 | 28.6 1 1/8 | 42.9 1 11/16 | 9.5 3/8 | 117.5 4 5/8 | 8 | 22.2 7/8 | 168.3 6 5/8 | 5.9 13 |
| 3 1/2" | 228.6 9 | 104.1 4.10 | 30.2 1 3/16 | 44.4 1 3/4 | 9.5 3/8 | 133.35 5 1/4 | 8 | 22.2 7/8 | 184.15 7 1/4 | 7.7 17 |
| 4" | 254.0 10 | 116.8 4.60 | 31.8 1 1/4 | 47.6 1 7/8 | 11.1 7/16 | 146.05 5 3/4 | 8 | 22.2 7/8 | 200.0 7 7/8 | 10 22 |
| 5" | 279.4 11 | 144.5 5.69 | 34.9 1 3/8 | 50.8 2 | 11.1 7/16 | 177.8 7 | 8 | 22.2 7/8 | 234.9 9 1/4 | 12.7 28 |
| 6" | 317.5 12 1/2 | 171.45 6.75 | 36.5 1 7/16 | 52.4 2 1/16 | 12.7 1/2 | 206.3 8 1/8 | 12 | 22.2 7/8 | 269.9 10 5/8 | 17.7 39 |
| 8" | 381.0 15 | 222.25 8.75 | 41.3 1 5/8 | 61.9 2 7/16 | 12.7 1/2 | 269.9 10 5/8 | 12 | 25.4 1 | 330.2 13 | 26.3 58 |
| 10" | 444.5 17 1/2 | 277.4 10.92 | 47.6 1 7/8 | 95.2 3 3/4 | 12.7 1/2 | 320.7 12 5/8 | 16 | 28.6 1 1/8 | 387.3 15 1/4 | 41.3 91 |
| 12" | 520.7 20 1/2 | 328.2 12.92 | 50.8 2 | 101.6 4 | 12.7 1/2 | 374.6 14 3/4 | 16 | 31.7 1 1/4 | 450.8 17 3/4 | 63.5 140 |
| 14" | 584.2 23 | 360.2 14.18 | 54.0 2 1/8 | 111.1 4 3/4 | 12.7 1/2 | 425.4 16 3/4 | 20 | 31.7 1 1/4 | 514.3 20 3/4 | 86.2 190 |
| 16" | 647.7 25 1/2 | 411.2 16.19 | 57.2 2 1/4 | 120.65 4 3/4 | 12.7 1/2 | 482.6 19 | 20 | 34.9 1 3/8 | 571.5 22 1/2 | 113 250 |
| 18" | 711.2 28 | 462.3 18.20 | 60.3 2 3/8 | 130.2 5 1/8 | 12.7 1/2 | 533.4 21 | 24 | 34.9 1 3/8 | 628.6 24 3/4 | 134 295 |
| 20" | 774.7 30 1/2 | 514.35 20.25 | 63.5 2 1/2 | 139.7 5 1/2 | 12.7 1/2 | 587.4 23 1/8 | 24 | 34.9 1 3/8 | 685.8 27 | 268 370 |
| 22" | 838.2 33 | 565.2 22.25 | 66.7 2 5/8 | 146 5 3/4 | 12.7 1/2 | 641.2 25 1/4 | 24 | 41.3 1 5/8 | 742.9 29 1/4 | 197 435 |
| 24" | 914.4 36 | 615.95 24.25 | 69.8 2 3/4 | 152.4 6 | 12.7 1/2 | 701.7 27 5/8 | 24 | 41.3 1 5/8 | 812.8 32 | 249 550 |



BRIDAS DE ACERO AL CARBÓN ANSI 300 LBS. / BLIND (CIEGA)

ASME/ANSI B 16.5

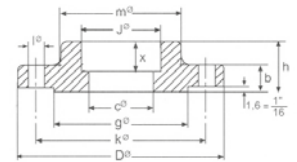
| Nominal pipe size | Flange Brida | | Resalte | | Taladros | | Approx. weight Peso Pounds |
|-------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------------------------|
| | D mm. inches | b mm. inches | g mm. inches | Number | l mm. inches | k mm. inches | |
| 1/2" | 95.2 3 3/4 | 14.3 9/16 | 34.9 1 3/8 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.9 2 |
| 3/4" | 117.5 4 5/8 | 15.9 5/8 | 42.9 1 11/16 | 4 | 19.0 3/4 | 82.5 3 1/4 | 1.4 3 |
| 1" | 123.8 4 7/8 | 17.5 11/16 | 50.8 2 | 4 | 19.9 3/4 | 88.9 3 1/2 | 1.4 3 |
| 1 1/4" | 133.3 5 1/4 | 19.0 3/4 | 63.5 2 1/2 | 4 | 19.9 3/4 | 98.4 3 7/8 | 1.8 4 |
| 1 1/2" | 155.6 6 1/8 | 20.6 13/16 | 73.0 2 7/8 | 4 | 22.2 7/8 | 114.3 4 1/2 | 2.7 6 |
| 2" | 162.1 6 1/2 | 22.2 7/8 | 92.1 3 5/8 | 8 | 19.0 3/4 | 127.0 5 | 3.6 8 |
| 2 1/2" | 190.5 7 1/2 | 25.4 1 | 104.8 4 1/8 | 8 | 22.2 7/8 | 149.2 5 7/8 | 5.4 12 |
| 3" | 209.5 8 1/4 | 28.6 1 1/8 | 127.0 5 | 8 | 22.2 7/8 | 168.3 6 5/8 | 7.3 16 |
| 3 1/2" | 228.6 9 | 30.2 1 3/16 | 139.7 5 1/2 | 8 | 22.2 7/8 | 184.1 7 1/4 | 9.5 21 |
| 4" | 254.0 10 | 31.8 1 1/4 | 157.2 6 3/16 | 8 | 22.2 7/8 | 200.0 7 7/8 | 12.2 27 |
| 5" | 279.4 11 | 34.9 1 3/8 | 185.7 7 5/16 | 8 | 22.2 7/8 | 234.9 9 1/4 | 15.9 35 |
| 6" | 317.5 12 1/2 | 36.5 1 7/16 | 215.9 8 1/2 | 12 | 22.2 7/8 | 269.9 10 5/8 | 22.7 50 |
| 8" | 381.0 15 | 41.3 1 5/8 | 269.9 10 5/8 | 12 | 25.4 1 | 330.2 13 | 37.7 81 |
| 10" | 444.5 17 1/2 | 47.6 1 7/8 | 323.8 12 3/4 | 16 | 28.6 1 1/8 | 387.3 15 1/4 | 57 125 |
| 12" | 520.7 20 1/2 | 50.8 2 | 381.0 15 | 16 | 31.7 1 1/4 | 450.8 17 3/4 | 84 181 |
| 14" | 584.2 23 | 54.0 2 1/8 | 412.7 16 1/4 | 20 | 31.7 1 1/4 | 514.3 20 3/4 | 113 250 |
| 16" | 647.7 25 1/2 | 57.2 2 1/4 | 469.9 18 1/2 | 20 | 34.9 1 3/8 | 571.5 22 1/2 | 135 295 |
| 18" | 711.2 28 | 60.3 2 3/8 | 533.4 21 | 24 | 34.9 1 3/8 | 628.6 24 3/4 | 178 392 |
| 20" | 774.7 30 1/2 | 63.5 2 1/2 | 584.2 23 | 24 | 34.9 1 3/8 | 685.8 27 | 229 505 |
| 22" | 838.2 33 | 66.7 2 5/8 | 641.2 25 1/4 | 24 | 41.3 1 5/8 | 742.9 29 1/4 | 290 640 |
| 24" | 914.4 36 | 69.8 2 3/4 | 692.1 27 1/4 | 24 | 41.3 1 5/8 | 812.8 32 | 358 790 |



BRIDAS DE ACERO AL CARBÓN ANSI 300 LBS. / THREADED (ROSCADA)

ASME/ANSI B 16.5

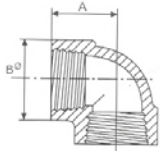
| Nominal pipe size | Flange Brida | | | | | | Raised face | Drilling template | | | Approx. weight Pounds |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------------|--------------------|---------------|--------------------|--------------------------|
| | D mm. inches | J mm. inches | b mm. inches | h mm. inches | x mm. inches | m mm. inches | | g mm. inches | Number | l mm. inches | |
| 1/2" | 95.2 3 3/4 | 23.6 0.93 | 14.3 9/16 | 22.2 7/8 | 15.9 5/8 | 38.1 1 1/2 | 34.9 1 3/8 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.9 2 |
| 3/4" | 117.5 4 5/8 | 28.95 1.14 | 15.9 5/8 | 25.4 1 | 15.9 5/8 | 47.6 1 7/8 | 42.9 1 11/16 | 4 | 19.05 3/4 | 82.5 3 1/4 | 1.4 3 |
| 1" | 123.8 4 7/8 | 35.8 1.14 | 17.5 11/16 | 27.0 1 1/16 | 17.5 11/16 | 54.0 2 1/8 | 50.8 2 | 4 | 19.05 3/4 | 88.9 3 1/2 | 1.4 3 |
| 1 1/4" | 133.35 5 1/4 | 44.45 1.75 | 19.0 3/4 | 27.0 1 1/16 | 20.6 13/16 | 63.5 2 1/2 | 63.5 2 1/2 | 4 | 19.05 3/4 | 98.4 3 7/8 | 1.9 4.2 |
| 1 1/2" | 155.6 6 1/8 | 50.56 1.99 | 20.6 13/16 | 30.2 1 3/16 | 22.2 7/8 | 69.8 2 3/4 | 73 2 7/8 | 4 | 22.2 7/8 | 114.3 4 1/2 | 2.8 6.2 |
| 2" | 165.1 6 1/2 | 63.5 2.50 | 22.2 7/8 | 33.3 1 5/16 | 28.6 1 1/8 | 84.1 3 5/16 | 92.1 3 5/8 | 8 | 19.05 3/4 | 127 5 | 3.3 7.3 |
| 2 1/2" | 190.5 7 1/2 | 76.2 3.00 | 25.4 1 | 38.1 1 1/2 | 31.7 1 1/4 | 100.0 3 15/16 | 104.8 4 1/8 | 8 | 22.2 7/8 | 149.2 5 7/8 | 4.6 10.1 |
| 3" | 209.5 8 1/4 | 92.2 3.63 | 28.6 1 1/8 | 42.9 1 11/16 | 31.7 1 1/4 | 117.5 4 5/8 | 127 5 | 8 | 22.2 7/8 | 168.3 6 5/8 | 6.3 13.91 |
| 3 1/2" | 228.6 9 | 104.9 4.13 | 30.2 1 3/16 | 44.4 1 3/4 | 36.5 1 7/16 | 133.35 5 1/4 | 139.7 5 1/2 | 8 | 22.2 7/8 | 184.15 7 1/4 | 7.8 17.2 |
| 4" | 254.0 10 | 117.6 4.63 | 31.8 1 1/4 | 47.6 1 7/8 | 36.5 1 7/16 | 146.05 5 3/4 | 157.2 6 3/16 | 8 | 22.2 7/8 | 200 7 7/8 | 10.2 22.4 |
| 5" | 279.4 11 | 144.5 5.69 | 34.9 1 3/8 | 50.8 2 | 42.9 1 11/16 | 177.8 7 | 185.7 7 5/16 | 8 | 22.2 7/8 | 234.9 9 1/4 | 12.9 28.4 |
| 6" | 317.5 12 1/2 | 171.45 6.75 | 36.5 1 7/16 | 52.4 2 1/16 | 46 2 1/16 | 206.4 8 1/8 | 215.9 8 1/2 | 12 | 22.2 7/8 | 269.9 10 5/8 | 17.7 39 |
| 8" | 381.0 15 | 222.25 8.75 | 41.3 1 5/8 | 61.9 2 7/16 | 50.8 2 | 260.35 10 1/4 | 269.9 10 5/8 | 12 | 25.4 1 | 330.2 13 | 26 57.2 |
| 10" | 444.5 17 1/2 | 276.35 10.88 | 47.6 1 7/8 | 66.7 2 5/8 | 55.6 2 3/16 | 320.7 12 5/8 | 323.8 12 3/4 | 16 | 28.6 1 1/8 | 387.3 15 1/4 | 37.5 82.5 |
| 12" | 520.7 20 1/2 | 328.7 12.94 | 50.8 2 | 73.0 2 7/8 | 60.3 2 3/8 | 374.6 14 3/4 | 381 15 | 16 | 31.7 1 1/4 | 450.8 17 3/4 | 37.5 82.5 |
| 14" | 584.2 23 | 360.4 14.19 | 54.0 2 1/8 | 76.2 3 | 63.5 2 1/2 | 425.4 16 3/4 | 412.7 16 1/4 | 20 | 31.7 1 1/4 | 514.3 20 3/4 | 74.8 190 |
| 16" | 647.7 25 1/2 | 411.2 16.19 | 57.2 2 1/4 | 82.5 3 1/4 | 68.3 2 11/16 | 482.6 19 | 469.9 18 1/2 | 20 | 34.9 1 3/8 | 571.5 22 1/2 | 86.2 165 |
| 18" | 711.2 28 | 462.0 18.19 | 60.3 2 3/8 | 88.9 3 1/2 | 69.8 2 3/4 | 533.4 21 | 533.4 21 | 24 | 34.9 1 3/8 | 628.6 24 3/4 | 113 250 |
| 20" | 774.7 30 1/2 | 512.8 20.19 | 63.5 2 1/2 | 95.2 3 3/4 | 73.0 2 7/8 | 587.4 23 1/8 | 584.2 23 | 24 | 34.9 1 3/8 | 685.8 27 | 143 315 |
| 24" | 914.4 36 | 614.4 24.19 | 69.9 2 3/4 | 106.4 4 3/16 | 82.5 3 1/4 | 701.7 27 5/8 | 692.1 27 1/4 | 24 | 41.3 1 5/8 | 812.8 32 | 215 475 |



BRIDAS DE ACERO AL CARBÓN ANSI 300 LBS. / SOCKET WELD (S.W.)

ASME/ANSI B 16.5

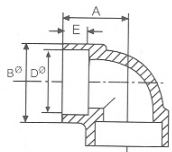
| Nominal pipe size | Flange Brida | | | | | Cuello | Resalte | | | | Approx. weight Pounds | |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------------|--------------------|
| | D mm. inches | C mm. inches | j mm. inches | x mm. inches | b mm. inches | h mm. inches | m mm. inches | g mm. inches | Number | l mm. inches | | k mm. inches |
| 1/4" | 95.2 3 3/4 | 9.1 0.36 | 14.7 0.58 | 9.5 3/8 | 14.3 9/16 | 22.2 7/8 | 38.1 1 1/2 | 34.9 1 3/8 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.5 1.1 |
| 3/8" | 95.2 3 3/4 | 12.4 0.49 | 18.3 0.72 | 9.5 3/8 | 14.3 9/16 | 22.2 7/8 | 38.1 1 1/2 | 34.9 1 3/8 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.6 1.3 |
| 1/2" | 95.2 3 3/4 | 15.7 0.62 | 22.35 0.88 | 9.5 3/8 | 14.3 9/16 | 22.2 7/8 | 38.1 1 1/2 | 34.9 1 3/8 | 4 | 15.9 5/8 | 66.7 2 5/8 | 0.7 1.5 |
| 3/4" | 117.5 4 5/8 | 20.8 0.82 | 27.7 1.09 | 11.1 7/16 | 15.9 5/8 | 25.4 1 | 47.9 1 7/8 | 42.9 1 11/16 | 4 | 19.05 3/4 | 82.5 3 1/4 | 1.2 2.6 |
| 1" | 123.8 4 7/8 | 26.7 1.05 | 34.5 1.36 | 12.7 1/2 | 17.5 11/16 | 27 1 1/16 | 54 2 1/8 | 50.8 2 | 4 | 19.05 3/4 | 88.9 3 1/2 | 1.4 3.1 |
| 1 1/4" | 133.35 5 1/4 | 35.05 1.38 | 43.2 1.70 | 14.3 9/16 | 19.05 3/4 | 27 1 1/16 | 63.5 2 1/2 | 63.5 2 1/2 | 4 | 19.05 3/4 | 98.4 3 7/8 | 1.9 4.2 |
| 1 1/2" | 155.6 6 1/8 | 40.9 1.61 | 49.5 1.95 | 15.9 5/8 | 20.6 13/16 | 30.2 1 3/16 | 69.8 2 3/4 | 73 2 7/8 | 4 | 22.2 7/8 | 114.3 4 1/2 | 2.8 6.2 |
| 2" | 165.1 6 1/2 | 52.6 2.07 | 62 2.44 | 17.5 11/16 | 22.2 7/8 | 33.3 1 5/16 | 84.1 3 5/16 | 92.1 3 5/8 | 8 | 19.05 3/4 | 127 5 | 3.3 7.3 |
| 2 1/2" | 190.5 7 1/2 | 62.7 2.47 | 74.7 2.94 | 19.05 3/4 | 25.4 1 | 38.1 1 1/2 | 100 3 15/16 | 104.8 4 1/8 | 8 | 22.2 7/8 | 149.2 5 7/8 | 4.6 10.1 |
| 3" | 209.5 8 1/4 | 78.0 3.07 | 90.7 3.57 | 20.6 13/16 | 28.6 1 1/8 | 42.9 1 11/16 | 117.5 4 5/8 | 127 5 | 8 | 22.2 7/8 | 168.3 6 5/8 | 6.3 13.9 |
| 3 1/2" | 228.6 9 | 90.2 3.55 | 103.4 4.07 | 22.2 7/8 | 30.2 1 3/16 | 44.4 1 3/4 | 133.35 5 1/4 | 139.7 5 1/2 | 8 | 22.2 7/8 | 184.15 7 1/4 | 7.8 17.2 |
| 4" | 254 10 | 102.4 4.03 | 116.1 4.57 | 23.8 15/16 | 31.8 1 1/4 | 47.6 1 7/8 | 146.05 5 3/4 | 157.2 6 3/16 | 8 | 22.2 7/8 | 200 7 7/8 | 10.2 22.4 |



Codo 90° (Roscado)

ASME/ANSI B 16.11

| NW | 3,000 Lbs. | | | 6,000 Lbs. | | |
|--------|------------|-------|----------------|------------|-------|----------------|
| | A | Bø | Weight Peso | A | Bø | Weight Peso |
| Pulg. | mm. | mm. | kg% | mm. | mm. | kg% |
| 1/4" | 24.5 | 25.5 | 14 | 28.5 | 33.5 | 30 |
| 3/8" | 28.5 | 33.5 | 27 | 33.5 | 38 | 45.5 |
| 1/2" | 33.5 | 38 | 41.5 | 38 | 46 | 72 |
| 3/4" | 38 | 46 | 65 | 44.5 | 55.5 | 115.5 |
| 1" | 44.5 | 55.5 | 103.5 | 51 | 62 | 161.5 |
| 1 1/4" | 51 | 62 | 130.5 | 60.5 | 75.5 | 267 |
| 1 1/2" | 60.5 | 75.5 | 221.5 | 63.5 | 84 | 320.5 |
| 2" | 63.5 | 84 | 247 | 86 | 110 | 794 |
| 2 1/2" | 86 | 110 | 734 | 95.5 | 120.5 | 985 |
| 3" | 95.5 | 120.5 | 778 | 114.5 | 152.5 | 1,800 |
| 4" | 114.5 | 152.5 | 1,328 | --- | --- | --- |

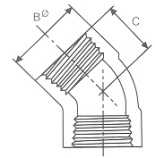


Codo 90° (SW)

ASME/ANSI B 16.11

| NW | 3,000 Lbs. | | | | | 6,000 Lbs. | | | | |
|--------|------------|-------|-------|------|----------------|------------|-------|-------|------|----------------|
| | A | Bø | Dø | E | Weight Peso | A | Bø | Dø | E | Weight Peso |
| Pulg. | mm. | mm. | mm. | mm. | kg% | mm. | mm. | mm. | mm. | kg% |
| 1/4" | 24.5 | 25.5 | 14 | 13.5 | 12 | --- | --- | --- | --- | --- |
| 3/8" | 24.5 | 25.5 | 17.5 | 11 | 10.4 | --- | --- | --- | --- | --- |
| 1/2" | 28.5 | 33.5 | 21.5 | 12.5 | 21.8 | 33.5 | 38 | 21.7 | 14.5 | 40 |
| 3/4" | 33.5 | 38 | 27.1 | 14.5 | 30.8 | 38 | 46 | 27.1 | 16 | 62.1 |
| 1" | 38 | 46 | 33.8 | 16 | 46.7 | 44.5 | 55.5 | 33.8 | 17.5 | 102.1 |
| 1 1/4" | 44.5 | 55.5 | 42.6 | 17.5 | 67.1 | 51 | 62 | 42.6 | 19 | 132.1 |
| 1 1/2" | 51 | 62 | 48.7 | 19 | 90.2 | 60.5 | 75.5 | 48.7 | 22 | 237 |
| 2" | 60.5 | 75.5 | 61.1 | 22 | 136.1 | 63.5 | 84 | 61.1 | 22 | 272.4 |
| 2 1/2" | 76 | 92 | 73.8 | 34.5 | 280 | 86 | 110 | 73.8 | 30 | 580 |
| 3" | 86 | 110 | 89.8 | 29 | 440 | 95.5 | 120.5 | 89.8 | 32 | 840 |
| 4" | 114.5 | 152.5 | 115.4 | 48 | 1,330 | 114.5 | 152.5 | 115.4 | 35 | 1,580 |

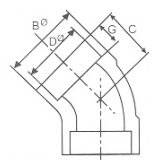
CONEXIONES DE ALTA PRESION ACERO AL CARBON E INOXIDABLE



Codo 45° (Roscado)

ASME/ANSI B 16.11

| NW | 3,000 Lbs. | | | 6,000 Lbs. | | |
|--------|------------|------|----------------|------------|------|----------------|
| | Bø | C | Weight Peso | Bø | C | Weight Peso |
| Pulg. | mm. | mm. | kg% | mm. | mm. | kg% |
| 1/4" | 25.5 | 19 | 11.5 | 38 | 25.5 | 40.5 |
| 3/8" | 38 | 25.5 | 36.5 | 38 | 25.5 | 38.5 |
| 1/2" | 38 | 25.5 | 34 | 46 | 28.5 | 61 |
| 3/4" | 46 | 28.5 | 53.5 | 55.5 | 33.5 | 102 |
| 1" | 55.5 | 33.5 | 92 | 62 | 35 | 117.5 |
| 1 1/4" | 62 | 35 | 96.5 | 75.5 | 43 | 207 |
| 1 1/2" | 75.5 | 43 | 183.5 | 84 | 43.5 | 261 |
| 2" | 84 | 43.5 | 193 | 101.5 | 52.5 | 437 |
| 2 1/2" | 101.5 | 52.5 | 346 | 120.5 | 63.5 | 700 |
| 3" | 120.5 | 63.5 | 545 | 152.5 | 79.5 | 1.416 |
| 4" | 152.5 | 79.5 | 950 | --- | --- | --- |

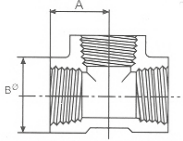


Codo 45° (SW)

ASME/ANSI B 16.11

| NW | 3,000 Lbs. | | | | | 6,000 Lbs. | | | | |
|--------|------------|------|-------|------|----------------|------------|------|-------|------|----------------|
| | Bø | C | Dø | G | Weight Peso | Bø | C | Dø | G | Weight Peso |
| Pulg. | mm. | mm. | mm. | mm. | kg% | mm. | mm. | mm. | mm. | kg% |
| 1/4" | 25.5 | 19 | 14 | 9.5 | 9.5 | --- | --- | --- | --- | --- |
| 3/8" | 25.5 | 19 | 17.5 | 11 | 9 | --- | --- | --- | --- | --- |
| 1/2" | 38 | 25.5 | 21.5 | 11 | 26 | 38 | 25.5 | 21.7 | 12.5 | 31 |
| 3/4" | 38 | 25.5 | 27.1 | 12.5 | 25 | 46 | 28.5 | 27.1 | 14.5 | 52 |
| 1" | 46 | 28.5 | 33.8 | 14.5 | 38.1 | 55.5 | 33.5 | 33.8 | 16 | 92 |
| 1 1/4" | 55.5 | 33.5 | 42.6 | 16 | 60.8 | 62 | 35 | 42.6 | 14.5 | 102 |
| 1 1/2" | 62 | 35 | 48.7 | 16 | 70.8 | 75.5 | 43 | 48.7 | 17.5 | 191.5 |
| 2" | 75.5 | 43 | 61.1 | 17.5 | 113.5 | 84 | 43.5 | 61.1 | 15 | 228.5 |
| 2 1/2" | 101.5 | 52.5 | 73.8 | 24 | 336 | 101.5 | 52.5 | 73.8 | 20.5 | 404 |
| 3" | 118 | 63.5 | 89.8 | 32 | 470 | 118 | 63.5 | 89.8 | 28.5 | 580 |
| 4" | 146 | 79.5 | 115.4 | 38 | 900 | 146 | 79.5 | 115.4 | 38 | 1,065 |

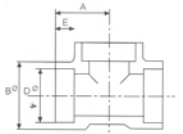
CONEXIONES DE ALTA PRESION ACERO AL CARBON E INOXIDABLE



TEE (Roscado)

ASME/ANSI B 16.11

| NW | 3,000 Lbs. | | | 6,000 Lbs. | | |
|--------|------------|-------|----------------|------------|-------|----------------|
| | A | Bø | Weight Peso | A | Bø | Weight Peso |
| Pulg. | mm. | mm. | kg% | mm. | mm. | kg% |
| 1/4" | 24.5 | 25.5 | 19.5 | 28.5 | 33.5 | 41.5 |
| 3/8" | 28.5 | 33.5 | 38 | 33.5 | 38 | 62.5 |
| 1/2" | 33.5 | 38 | 56 | 38 | 46 | 98 |
| 3/4" | 38 | 46 | 84 | 44.5 | 55.5 | 164.5 |
| 1" | 44.5 | 55.5 | 136 | 51 | 62 | 219 |
| 1 1/4" | 51 | 62 | 164.5 | 60.5 | 75.5 | 331.5 |
| 1 1/2" | 60.5 | 75.5 | 310 | 63.5 | 84 | 442.5 |
| 2" | 63.5 | 84 | 317.5 | 86 | 110 | 850 |
| 2 1/2" | 86 | 110 | 880 | 95.5 | 120.5 | 1,310 |
| 3" | 95.5 | 120.5 | 950 | 114.5 | 152.5 | 2,400 |
| 4" | 114.5 | 152.5 | 1,720 | ---- | ---- | ---- |



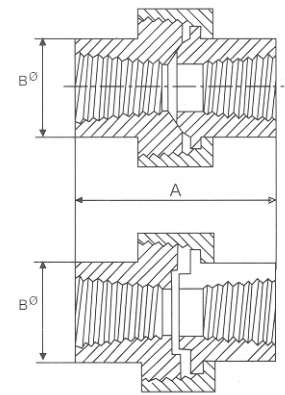
TEE (SW)

ASME/ANSI B 16.11

| NW | 3,000 Lbs. | | | | | 6,000 Lbs. | | | | |
|--------|------------|-------|-------|------|----------------|------------|-------|-------|------|----------------|
| | A | Bø | Dø | G | Weight Peso | Bø | C | Dø | G | Weight Peso |
| Pulg. | mm. | mm. | mm. | mm. | kg% | mm. | mm. | mm. | mm. | kg% |
| 1/4" | 25.5 | 25.5 | 14 | 13.5 | 15.5 | ---- | ---- | ---- | ---- | ---- |
| 3/8" | 24.5 | 25.5 | 17.5 | 11 | 14.1 | ---- | ---- | ---- | ---- | ---- |
| 1/2" | 28.5 | 33.5 | 21.7 | 12.5 | 30.8 | 33.5 | 38 | 21.7 | 14.5 | 52.6 |
| 3/4" | 33.5 | 38 | 27.1 | 14.5 | 38.6 | 38 | 46 | 27.1 | 16 | 88.1 |
| 1" | 38 | 46 | 33.8 | 16 | 60.8 | 44.5 | 55.5 | 33.8 | 17.5 | 144 |
| 1 1/4" | 44.5 | 55.5 | 42.6 | 17.5 | 93.1 | 51 | 62 | 42.6 | 19 | 179.3 |
| 1 1/2" | 51 | 62 | 48.7 | 19 | 123.8 | 60.5 | 75.5 | 48.7 | 22 | 324 |
| 2" | 60.5 | 75.5 | 61.1 | 22 | 191.1 | 63.5 | 84 | 61.1 | 22 | 350.5 |
| 2 1/2" | 76 | 92 | 73.8 | 34.5 | 370 | 86 | 110 | 73.8 | 30 | 880 |
| 3" | 86 | 110 | 89.8 | 29 | 550 | 95.5 | 120.5 | 89.8 | 32 | 1,050 |
| 4" | 114.5 | 152.5 | 115.4 | 48 | 1,900 | 114.5 | 152.5 | 115.4 | 35 | 2,220 |

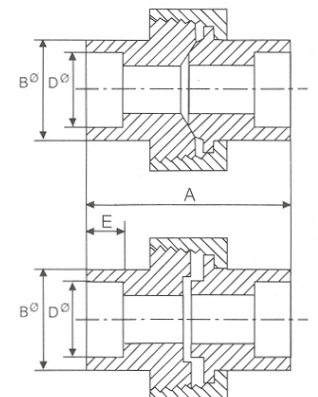
Tuerca de unión (Roscado)

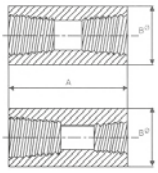
| NW | Pulg. | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
|------------|----------------------|------|------|------|------|------|--------|--------|------|
| 3,000 Lbs. | A/mm | 45 | 45 | 51 | 57 | 64 | 71 | 79 | 90 |
| | B Oct/mm | 26* | 26* | 30 | 36.5 | 44.6 | 55* | 60.5 | 73.6 |
| | Weight Peso = kg% | 14 | 20 | 35 | 42.5 | 65 | 97.5 | 125.5 | 201 |



Tuerca de unión (SW)

| NW | Pulg. | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
|------------|----------------------|------|------|------|------|------|--------|--------|------|
| 3,000 Lbs. | A/mm | 45 | 45 | 47.5 | 57 | 64 | 71 | 79 | 90 |
| | B Oct/mm | 26* | 26* | 30.7 | 36.5 | 44.6 | 55* | 60.5 | 73.6 |
| | Dø/mm | 17.5 | 17.5 | 21.7 | 27.4 | 34.1 | 42.6 | 49 | 61.1 |
| | E/mm | 11 | 11 | 13 | 14.5 | 16 | 17.5 | 19 | 22.2 |
| | Weight Peso = kg% | 22.5 | 34 | 39 | 48 | 66 | 115 | 142 | 245 |

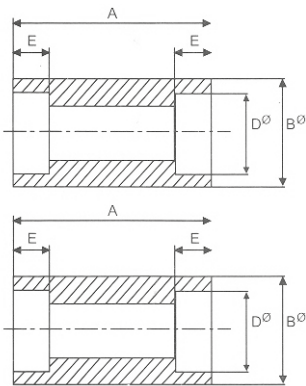




COPLE (Roscado)

ASME/ANSI B 16.11

| NW | Pulg. | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" |
|-------------------|----------------------|------|------|------|------|------|--------|--------|------|--------|-----|-------|
| 3,000 Lbs. | A/mm | 35 | 38 | 47.5 | 51 | 60.5 | 66.5 | 79 | 85.5 | 92 | 108 | 120.5 |
| | Dø/mm | 19 | 22 | 29 | 35 | 44.5 | 57 | 63.5 | 76 | 92 | 108 | 140 |
| | Weight Peso = kg% | 4.5 | 5.9 | 12.7 | 19.1 | 38.6 | 68 | 99.3 | 137 | 207 | 308 | 544 |
| 6,000 Lbs. | A/mm | 35 | 38 | 47.5 | 51 | 60.5 | 66.5 | 79.5 | 85.5 | 92 | 108 | 120.5 |
| | Dø/mm | 25.5 | 32 | 38 | 44.5 | 57 | 63.5 | 76 | 92 | 108 | 127 | 159 |
| | Weight Peso = kg% | 6.3 | 18.1 | 31.2 | 40.8 | 85.2 | 105 | 181 | 340 | 419 | 610 | 1,030 |



COPLE (SW)

ASME/ANSI B 16.11

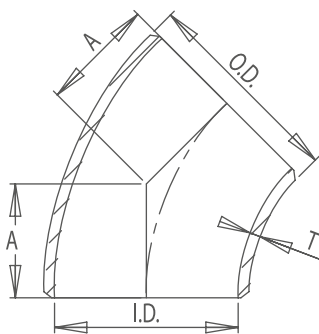
| NW | 3,000 Lbs. | | | | | 6,000 Lbs. | | | | |
|--------|------------|------|-------|------|----------------|------------|------|-------|------|----------------|
| | A | Bø | Dø | E | Weight Peso | A | Bø | Dø | E | Weight Peso |
| Pulg. | mm. | mm. | mm. | mm. | kg% | mm. | mm. | mm. | mm. | kg% |
| 1/4" | 26.5 | 22 | 14 | 10 | 5 | --- | --- | --- | --- | --- |
| 3/8" | 24.9 | 25.5 | 17.5 | 10 | 6.4 | --- | --- | --- | --- | --- |
| 1/2" | 28.2 | 31.5 | 21.5 | 10 | 12.7 | 28.2 | 38 | 21.7 | 10 | 23.2 |
| 3/4" | 34.2 | 38 | 27.1 | 13 | 18.6 | 34.2 | 44.5 | 27.1 | 13 | 32 |
| 1" | 36.2 | 44.5 | 33.8 | 13 | 26.3 | 36.2 | 57 | 33.8 | 13 | 63.6 |
| 1 1/4" | 36.2 | 57 | 42.6 | 13 | 47.7 | 36.2 | 63.5 | 42.6 | 13 | 72.2 |
| 1 1/2" | 36.2 | 63.5 | 48.7 | 13 | 56.8 | 36.2 | 76 | 48.7 | 13 | 117.2 |
| 2" | 48.6 | 76 | 61.1 | 16 | 92.2 | 48.6 | 92 | 61.1 | 16 | 207.9 |
| 2 1/2" | 47.6 | 92 | 73.8 | 16 | 140 | 47.6 | 108 | 73.8 | 16 | 280 |
| 3" | 47.6 | 108 | 89.8 | 16 | 180 | 47.6 | 127 | 89.8 | 16 | 323 |
| 4" | 53.8 | 140 | 115.4 | 19.1 | 323 | 53.8 | 159 | 115.4 | 19.1 | 622 |

CONEXIONES ACERO AL CARBÓN WPB - A 234

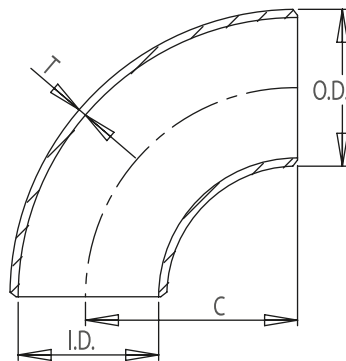
CODO 90° RADIO LARGO

| Diámetro | | Estándar | | | Reforzado | | |
|----------|----------|-------------------|------------------|---------------|-------------------|------------------|---------------|
| Nominal | Exterior | Diámetro Interior | Espesor de Pared | Peso por Kgs. | Diámetro Interior | Espesor de Pared | Peso por Kgs. |
| 1" | 1.315 | 1.049 | 0.133 | 0.18 | 0.957 | 0.179 | 0.22 |
| 1 1/4" | 1.660 | 1.380 | 0.140 | 0.25 | 1.278 | 0.191 | 0.36 |
| 1 1/2" | 1.900 | 1.610 | 0.145 | 0.36 | 1.500 | 0.200 | 0.54 |
| 2" | 2.375 | 2.067 | 0.154 | 0.73 | 1.939 | 0.218 | 0.95 |
| 2 1/2" | 2.875 | 2.469 | 0.203 | 1.45 | 2.323 | 0.276 | 1.72 |
| 3" | 3.500 | 3.068 | 0.216 | 2.18 | 2.900 | 0.300 | 2.86 |
| 4" | 4.500 | 4.026 | 0.237 | 4.04 | 3.826 | 0.337 | 5.67 |
| 5" | 5.563 | 5.047 | 0.258 | 6.85 | 4.813 | 0.375 | 9.62 |
| 6" | 6.625 | 6.065 | 0.280 | 10.89 | 5.761 | 0.432 | 15.60 |
| 8" | 8.625 | 7.981 | 0.322 | 21.70 | 7.625 | 0.500 | 32.27 |
| 10" | 10.75 | 10.02 | 0.365 | 37.86 | 9.750 | 0.500 | 50.39 |
| 12" | 12.75 | 12.00 | 0.375 | 55.84 | 11.75 | 0.500 | 71.73 |
| 14" | 14.00 | 13.25 | 0.375 | 70.37 | 13.00 | 0.500 | 97.25 |
| 16" | 16.00 | 15.25 | 0.375 | 93.52 | 15.00 | 0.500 | 122.58 |
| 18" | 18.00 | 17.25 | 0.375 | 119.00 | 17.00 | 0.500 | 158.00 |
| 20" | 20.00 | 19.25 | 0.375 | 147.00 | 19.00 | 0.500 | 194.00 |
| 24" | 24.00 | 23.25 | 0.375 | 212.00 | 23.00 | 0.500 | 282.00 |

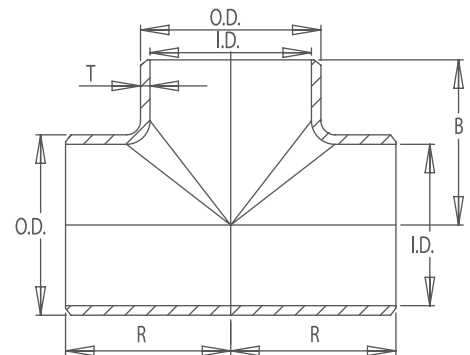
CODO 45° RADIO LARGO



CODO 90° RADIO LARGO



TEE RECTA

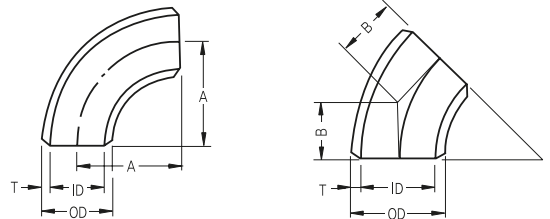


TEE (STRAIGHT)

90° Elbow (Long, Short)

45° Elbow (Long)

STD, Sch40, X-S, Sch80, Sch160, XX-S



ASME B16.9

(Unit : inch)

| Nominal Pipe Size | Outside Diameter O.D | Center to End | | | STD | | Sch40 | |
|-------------------|----------------------|---------------|-------|-------|-------|--------|-------|--------|
| | | Long | | Short | T | I.D | T | I.D |
| | | A | B | A | | | | |
| 1/2 | 0.840 | 1.50 | 0.62 | | 0.109 | 0.622 | 0.109 | 0.622 |
| 3/4 | 1.050 | 1.50 | 0.75 | | 0.113 | 0.824 | 0.113 | 0.824 |
| 1 | 1.315 | 1.50 | 0.88 | 1.00 | 0.133 | 1.049 | 0.133 | 1.049 |
| 1-1/4 | 1.660 | 1.88 | 1.00 | 1.25 | 0.140 | 1.380 | 0.140 | 1.380 |
| 1-1/2 | 1.900 | 2.25 | 1.12 | 1.50 | 0.145 | 1.610 | 0.145 | 1.610 |
| 2 | 2.375 | 3.00 | 1.38 | 2.00 | 0.154 | 2.067 | 0.154 | 2.067 |
| 2-1/2 | 2.875 | 3.75 | 1.75 | 2.50 | 0.203 | 2.469 | 0.203 | 2.469 |
| 3 | 3.500 | 4.25 | 2.00 | 3.00 | 0.216 | 3.068 | 0.216 | 3.068 |
| 3-1/2 | 4.000 | 5.25 | 2.25 | 3.50 | 0.226 | 3.548 | 0.226 | 3.548 |
| 4 | 4.500 | 6.00 | 2.50 | 4.00 | 0.237 | 4.026 | 0.237 | 4.026 |
| 5 | 5.563 | 7.50 | 3.12 | 5.00 | 0.258 | 5.047 | 0.258 | 5.047 |
| 6 | 6.625 | 9.00 | 3.75 | 6.00 | 0.280 | 6.065 | 0.280 | 6.065 |
| 8 | 8.625 | 12.00 | 5.00 | 8.00 | 0.322 | 7.981 | 0.322 | 7.981 |
| 10 | 10.750 | 15.00 | 6.25 | 10.00 | 0.365 | 10.020 | 0.365 | 10.020 |
| 12 | 12.750 | 18.00 | 7.50 | 12.00 | 0.375 | 12.000 | 0.406 | 11.938 |
| 14 | 14.000 | 21.00 | 8.75 | 14.00 | 0.375 | 13.250 | 0.438 | 13.124 |
| 16 | 16.000 | 24.00 | 10.00 | 16.00 | 0.375 | 15.250 | 0.500 | 15.000 |
| 18 | 18.000 | 27.00 | 11.25 | 18.00 | 0.375 | 17.250 | 0.562 | 16.876 |
| 20 | 20.000 | 30.00 | 12.50 | 20.00 | 0.375 | 19.250 | 0.594 | 18.812 |
| 22 | 22.000 | 33.00 | 13.50 | 22.00 | 0.375 | 21.250 | | |
| 24 | 24.000 | 36.00 | 15.00 | 24.00 | 0.375 | 23.250 | 0.688 | 22.624 |
| 26 | 26.000 | 39.00 | 16.00 | | 0.375 | 25.250 | | |
| 28 | 28.000 | 42.00 | 17.25 | | 0.375 | 27.250 | | |
| 30 | 30.000 | 45.00 | 18.50 | | 0.375 | 29.250 | | |
| 32 | 32.000 | 48.00 | 19.75 | | 0.375 | 31.250 | 0.688 | 30.624 |

| X-S | | Sch80 | | Sch160 | | XX-S | | Nominal Pipe Size |
|-------|--------|-------|--------|--------|--------|-------|--------|-------------------|
| T | I.D | T | I.D | T | I.D | T | I.D | |
| 0.147 | 0.546 | 0.147 | 0.546 | 0.188 | 0.464 | 0.294 | 0.252 | 1/2 |
| 0.154 | 0.742 | 0.154 | 0.742 | 0.219 | 0.612 | 0.308 | 0.434 | 3/4 |
| 0.179 | 0.957 | 0.179 | 0.957 | 0.250 | 0.815 | 0.358 | 0.599 | 1 |
| 0.191 | 1.278 | 0.191 | 1.278 | 0.250 | 1.160 | 0.382 | 0.896 | 1-1/4 |
| 0.200 | 1.500 | 0.200 | 1.500 | 0.281 | 1.338 | 0.400 | 1.100 | 1-1/2 |
| 0.218 | 1.939 | 0.218 | 1.939 | 0.344 | 1.687 | 0.436 | 1.503 | 2 |
| 0.276 | 2.323 | 0.276 | 2.323 | 0.375 | 2.125 | 0.552 | 1.771 | 2-1/2 |
| 0.300 | 2.900 | 0.300 | 2.900 | 0.438 | 2.624 | 0.600 | 2.800 | 3 |
| 0.318 | 3.364 | 0.318 | 3.364 | | | | | 3-1/2 |
| 0.337 | 3.826 | 0.337 | 3.826 | 0.531 | 3.438 | 0.674 | 3.152 | 4 |
| 0.375 | 4.813 | 0.375 | 4.813 | 0.625 | 4.313 | 0.750 | 4.063 | 5 |
| 0.432 | 5.761 | 0.432 | 5.761 | 0.719 | 5.187 | 0.864 | 4.897 | 6 |
| 0.500 | 7.625 | 0.500 | 7.625 | 0.906 | 6.813 | 0.875 | 6.875 | 8 |
| 0.500 | 9.750 | 0.500 | 9.750 | 1.125 | 8.500 | 1.000 | 8.750 | 10 |
| 0.500 | 11.750 | 0.688 | 11.374 | 1.312 | 10.126 | 1.000 | 10.750 | 12 |
| 0.500 | 13.000 | 0.750 | 12.500 | 1.406 | 11.188 | | | 14 |
| 0.500 | 15.000 | 0.844 | 14.312 | 1.594 | 12.812 | | | 16 |
| 0.500 | 17.000 | 0.938 | 16.124 | 1.781 | 14.438 | | | 18 |
| 0.500 | 19.000 | 1.031 | 17.938 | 1.969 | 16.062 | | | 20 |
| 0.500 | 21.000 | 1.125 | 19.750 | 2.125 | 17.750 | | | 22 |
| 0.500 | 23.000 | 1.219 | 21.562 | 2.344 | 19.312 | | | 24 |
| 0.500 | 25.000 | | | | | | | 26 |
| 0.500 | 27.000 | | | | | | | 28 |
| 0.500 | 29.000 | | | | | | | 30 |
| 0.500 | 31.000 | | | | | | | 32 |

CODO 45° RADIO LARGO

| Diámetro | | Estándar | | | Reforzado | | |
|----------|----------|-------------------|------------------|---------------|-------------------|------------------|---------------|
| Nominal | Exterior | Diámetro Interior | Espesor de Pared | Peso por Kgs. | Diámetro Interior | Espesor de Pared | Peso por Kgs. |
| 1" | 1.315 | 1.049 | 0.133 | 0.10 | 0.957 | 0.179 | 0.13 |
| 1 1/4" | 1.660 | 1.380 | 0.140 | 0.15 | 1.278 | 0.191 | 0.20 |
| 1 1/2" | 1.900 | 1.610 | 0.145 | 0.20 | 1.500 | 0.200 | 0.28 |
| 2" | 2.375 | 2.067 | 0.154 | 0.39 | 1.939 | 0.218 | 0.54 |
| 2 1/2" | 2.875 | 2.469 | 0.203 | 0.77 | 2.323 | 0.276 | 0.91 |
| 3" | 3.500 | 3.068 | 0.216 | 1.13 | 2.900 | 0.300 | 1.50 |
| 4" | 4.500 | 4.026 | 0.237 | 2.04 | 3.826 | 0.337 | 2.81 |
| 5" | 5.563 | 5.047 | 0.258 | 3.40 | 4.813 | 0.375 | 4.76 |
| 6" | 6.625 | 6.065 | 0.280 | 5.31 | 5.761 | 0.432 | 7.71 |
| 8" | 8.625 | 7.981 | 0.322 | 10.57 | 7.625 | 0.500 | 15.56 |
| 10" | 10.75 | 10.02 | 0.365 | 18.75 | 9.750 | 0.500 | 24.29 |
| 12" | 12.75 | 12.00 | 0.375 | 27.88 | 11.75 | 0.500 | 35.23 |
| 14" | 14.00 | 13.25 | 0.375 | 35.46 | 13.00 | 0.500 | 45.40 |
| 16" | 16.00 | 15.25 | 0.375 | 45.85 | 15.00 | 0.500 | 60.84 |
| 18" | 18.00 | 17.25 | 0.375 | 60.00 | 17.00 | 0.500 | 79.00 |
| 20" | 20.00 | 19.25 | 0.375 | 74.00 | 19.00 | 0.500 | 97.00 |
| 24" | 24.00 | 23.25 | 0.375 | 106.00 | 23.00 | 0.500 | 141.00 |

TEE RECTA

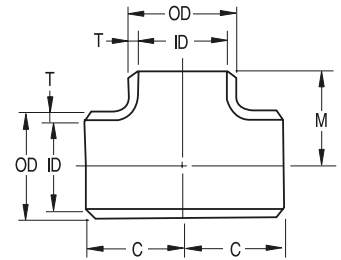
| Diámetro | | Estándar | | | Reforzado | | |
|----------|----------|-------------------|------------------|---------------|-------------------|------------------|---------------|
| Nominal | Exterior | Diámetro Interior | Espesor de Pared | Peso por Kgs. | Diámetro Interior | Espesor de Pared | Peso por Kgs. |
| 2" | 2.375 | 2.067 | 0.154 | 1.43 | 1.939 | 0.218 | 1.87 |
| 2 1/2" | 2.875 | 2.469 | 0.203 | 2.68 | 2.323 | 0.276 | 3.08 |
| 3" | 3.500 | 3.068 | 0.216 | 3.82 | 2.900 | 0.300 | 4.50 |
| 3 1/2" | 4.000 | 3.548 | 0.226 | 5.18 | 3.364 | 0.318 | 6.17 |
| 4" | 4.500 | 4.026 | 0.237 | 5.99 | 3.826 | 0.337 | 8.44 |
| 5" | 5.563 | 5.047 | 0.258 | 9.94 | 4.813 | 0.375 | 12.93 |
| 6" | 6.625 | 6.065 | 0.280 | 16.47 | 5.761 | 0.432 | 19.30 |
| 8" | 8.625 | 7.981 | 0.322 | 27.69 | 7.625 | 0.500 | 34.50 |
| 10" | 10.75 | 10.02 | 0.365 | 41.31 | 9.750 | 0.500 | 58.57 |
| 12" | 12.75 | 12.00 | 0.375 | 66.74 | 11.75 | 0.500 | 84.90 |
| 14" | 14.00 | 13.25 | 0.375 | 102.60 | 13.00 | 0.500 | 127.12 |
| 16" | 16.00 | 15.25 | 0.375 | 109.87 | 15.00 | 0.500 | 167.53 |
| 18" | 18.00 | 17.25 | 0.375 | 151.00 | 17.00 | 0.500 | 193.00 |
| 20" | 20.00 | 19.25 | 0.375 | 229.00 | 19.00 | 0.500 | 265.00 |
| 24" | 24.00 | 23.25 | 0.375 | 347.00 | 23.00 | 0.500 | 424.00 |



TEE (RECTA)

WPB - A234

STD, Sch40, X-S, Sch80, Sch160, XX-S



(Unit : inch)

ASME B16.9

| Nominal Pipe Size | Outside Diameter O.D | Center to End | | STD | | Sch40 | |
|-------------------|----------------------|---------------|----------|-------|--------|-------|--------|
| | | Run C | Outlet M | T | I.D | T | I.D |
| 36 | 36.000 | 26.50 | 26.50 | 0.375 | 35.250 | 0.750 | 34.500 |
| 38 | 38.000 | 28.00 | 28.00 | 0.375 | 37.250 | | |
| 40 | 40.000 | 29.50 | 29.50 | 0.375 | 39.250 | | |
| 42 | 42.000 | 30.00 | 28.00 | 0.375 | 41.250 | | |
| 44 | 44.000 | 32.00 | 30.00 | 0.375 | 43.250 | | |
| 46 | 46.000 | 33.50 | 31.50 | 0.375 | 45.250 | | |
| 48 | 48.000 | 35.00 | 33.00 | 0.375 | 47.250 | | |

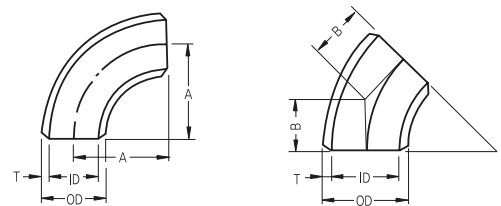
| X-S | | Sch80 | | Sch160 | | XX-S | | Nominal Pipe Size |
|-------|--------|-------|-----|--------|-----|------|-----|-------------------|
| T | I.D | T | I.D | T | I.D | T | I.D | |
| 0.500 | 35.000 | | | | | | | 36 |
| 0.500 | 37.000 | | | | | | | 38 |
| 0.500 | 39.000 | | | | | | | 40 |
| 0.500 | 41.000 | | | | | | | 42 |
| 0.500 | 43.000 | | | | | | | 44 |
| 0.500 | 45.000 | | | | | | | 46 |
| 0.500 | 47.000 | | | | | | | 48 |

- For Bevel Details See Page 356
- For Dimensional Tolerances See Page 362
- For Approx Weight See Page 394~421
- Wall Thickness Conform to ASME B 36.10M Specifications

90° Elbow (Radio Corto)

45° Elbow (Radio Largo)

STD, Sch40, X-S, Sch80, Sch160, XX-S



ASME B16.9

| Nominal Pipe Size | Outside Diameter O.D | Center to End | | | STD | | Sch40 | |
|-------------------|----------------------|---------------|-------|-------|-------|--------|-------|--------|
| | | Long | | Short | T | I.D | T | I.D |
| | | A | B | A | | | | |
| 34 | 34.000 | 51.00 | 21.00 | | 0.375 | 33.250 | 0.688 | 32.624 |
| 36 | 36.000 | 54.00 | 22.25 | | 0.375 | 35.250 | 0.750 | 34.500 |
| 38 | 38.000 | 57.00 | 23.62 | | 0.375 | 37.250 | | |
| 40 | 40.000 | 60.00 | 24.88 | | 0.375 | 39.250 | | |
| 42 | 42.000 | 63.00 | 26.00 | | 0.375 | 41.250 | | |
| 44 | 44.000 | 66.00 | 27.38 | | 0.375 | 43.250 | | |
| 46 | 46.000 | 69.00 | 28.62 | | 0.375 | 45.250 | | |
| 48 | 48.000 | 72.00 | 29.88 | | 0.375 | 47.250 | | |

| X-S | | Sch80 | | Sch160 | | XX-S | | Nominal Pipe Size |
|-------|--------|-------|-----|--------|-----|------|-----|-------------------|
| T | I.D | T | I.D | T | I.D | T | I.D | |
| 0.500 | 33.000 | | | | | | | 34 |
| 0.500 | 35.000 | | | | | | | 36 |
| 0.500 | 37.000 | | | | | | | 38 |
| 0.500 | 39.000 | | | | | | | 40 |
| 0.500 | 41.000 | | | | | | | 42 |
| 0.500 | 43.000 | | | | | | | 44 |
| 0.500 | 45.000 | | | | | | | 46 |
| 0.500 | 47.000 | | | | | | | 48 |

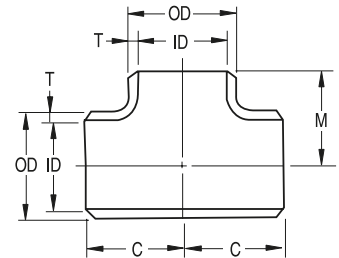
- For Bevel Details See Page 356
- For Dimensional Tolerances See Page 362
- For Approx Weight See Page 394~421
- Wall Thickness Conform to ASME B 36.10M Specifications



TEE (RECTA)

WPB - A234

STD, Sch40, X-S, Sch80, Sch160, XX-S

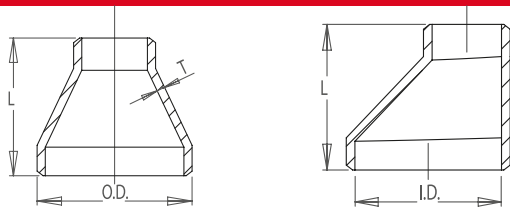


(Unit : inch)

| Nominal Pipe Size | Outside Diameter O.D | Center to End | | STD | | Sch40 | |
|-------------------|----------------------|---------------|----------|-------|--------|-------|--------|
| | | Run C | Outlet M | T | I.D | T | I.D |
| 1/2 | 0.840 | 1.00 | 1.00 | 0.109 | 0.622 | 0.109 | 0.622 |
| 3/4 | 1.050 | 1.12 | 1.12 | 0.113 | 0.824 | 0.113 | 0.824 |
| 1 | 1.315 | 1.50 | 1.50 | 0.133 | 1.049 | 0.133 | 1.049 |
| 1-1/4 | 1.660 | 1.88 | 1.88 | 0.140 | 1.380 | 0.140 | 1.380 |
| 1-1/2 | 1.900 | 2.25 | 2.25 | 0.145 | 1.610 | 0.145 | 1.610 |
| 2 | 2.375 | 2.50 | 2.50 | 0.154 | 2.067 | 0.154 | 2.067 |
| 2-1/2 | 2.875 | 3.00 | 3.00 | 0.203 | 2.469 | 0.203 | 2.469 |
| 3 | 3.500 | 3.38 | 3.38 | 0.216 | 3.068 | 0.216 | 3.068 |
| 3-1/2 | 4.000 | 3.75 | 3.75 | 0.226 | 3.548 | 0.226 | 3.548 |
| 4 | 4.500 | 4.12 | 4.12 | 0.237 | 4.026 | 0.237 | 4.026 |
| 5 | 5.563 | 4.88 | 4.88 | 0.258 | 5.047 | 0.258 | 5.047 |
| 6 | 6.625 | 5.62 | 5.62 | 0.280 | 6.065 | 0.280 | 6.065 |
| 8 | 8.625 | 7.00 | 7.00 | 0.322 | 7.981 | 0.322 | 7.981 |
| 10 | 10.750 | 8.50 | 8.50 | 0.365 | 10.020 | 0.365 | 10.020 |
| 12 | 12.750 | 10.00 | 10.00 | 0.375 | 12.000 | 0.406 | 11.938 |
| 14 | 14.000 | 11.00 | 11.00 | 0.375 | 13.250 | 0.438 | 13.124 |
| 16 | 16.000 | 12.00 | 12.00 | 0.375 | 15.250 | 0.500 | 15.000 |
| 18 | 18.000 | 13.50 | 13.50 | 0.375 | 17.250 | 0.562 | 16.876 |
| 20 | 20.000 | 15.00 | 15.00 | 0.375 | 19.250 | 0.594 | 18.812 |
| 22 | 22.000 | 16.50 | 16.50 | 0.375 | 21.250 | | |
| 24 | 24.000 | 17.00 | 17.00 | 0.375 | 23.250 | 0.688 | 22.624 |
| 26 | 26.000 | 19.50 | 19.50 | 0.375 | 25.250 | | |
| 28 | 28.000 | 20.50 | 20.50 | 0.375 | 27.250 | | |
| 30 | 30.000 | 22.00 | 22.00 | 0.375 | 29.250 | | |
| 32 | 32.000 | 23.50 | 23.50 | 0.375 | 31.250 | 0.688 | 30.624 |
| 34 | 34.000 | 25.00 | 25.00 | 0.375 | 33.250 | 0.688 | 32.624 |

| X-S | | Sch80 | | Sch160 | | XX-S | | Nominal Pipe Size |
|-------|--------|-------|--------|--------|--------|-------|--------|-------------------|
| T | I.D | T | I.D | T | I.D | T | I.D | |
| 0.147 | 0.546 | 0.147 | 0.546 | 0.188 | 0.464 | 0.294 | 0.252 | 1/2 |
| 0.154 | 0.742 | 0.154 | 0.742 | 0.219 | 0.612 | 0.308 | 0.434 | 3/4 |
| 0.179 | 0.957 | 0.179 | 0.957 | 0.250 | 0.815 | 0.358 | 0.599 | 1 |
| 0.191 | 1.278 | 0.191 | 1.278 | 0.250 | 1.160 | 0.382 | 0.896 | 1-1/4 |
| 0.200 | 1.500 | 0.200 | 1.500 | 0.281 | 1.338 | 0.400 | 1.100 | 1-1/2 |
| 0.218 | 1.939 | 0.218 | 1.939 | 0.344 | 1.687 | 0.436 | 1.503 | 2 |
| 0.276 | 2.323 | 0.276 | 2.323 | 0.375 | 2.125 | 0.552 | 1.771 | 2-1/2 |
| 0.300 | 2.900 | 0.300 | 2.900 | 0.438 | 2.624 | 0.600 | 2.300 | 3 |
| 0.318 | 3.364 | 0.318 | 3.364 | | | | | 3-1/2 |
| 0.337 | 3.826 | 0.337 | 3.826 | 0.531 | 3.438 | 0.674 | 3.152 | 4 |
| 0.375 | 4.813 | 0.375 | 4.813 | 0.625 | 4.313 | 0.750 | 4.063 | 5 |
| 0.432 | 5.761 | 0.432 | 5.761 | 0.719 | 5.187 | 0.864 | 4.897 | 6 |
| 0.500 | 7.625 | 0.500 | 7.625 | 0.906 | 6.813 | 0.875 | 6.875 | 8 |
| 0.500 | 9.750 | 0.594 | 9.562 | 1.125 | 8.500 | 1.000 | 8.750 | 10 |
| 0.500 | 11.750 | 0.688 | 11.374 | 1.312 | 10.126 | 1.000 | 10.750 | 12 |
| 0.500 | 13.000 | 0.750 | 12.500 | 1.406 | 11.188 | | | 14 |
| 0.500 | 15.000 | 0.844 | 14.312 | 1.594 | 12.812 | | | 16 |
| 0.500 | 17.000 | 0.938 | 16.124 | 1.781 | 14.438 | | | 18 |
| 0.500 | 19.000 | 1.031 | 17.938 | 1.969 | 16.062 | | | 20 |
| 0.500 | 21.000 | 1.125 | 19.750 | 2.125 | 17.750 | | | 22 |
| 0.500 | 23.000 | 1.219 | 21.562 | 2.344 | 19.312 | | | 24 |
| 0.500 | 25.000 | | | | | | | 26 |
| 0.500 | 27.000 | | | | | | | 28 |
| 0.500 | 29.000 | | | | | | | 30 |
| 0.500 | 31.000 | | | | | | | 32 |
| 0.500 | 33.000 | | | | | | | 34 |

CONEXION SOLDABLE ACERO AL CARBON

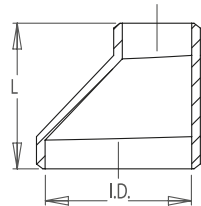
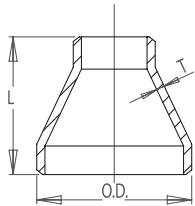


REDUCCIONES CONCENTRICAS Y EXCENTRICAS C-40

WPB - A234

| Tamaño del tubo | DIAMETRO GRANDE | | | DIAMETRO PEQUEÑO | | | Largo | Nro. de cédula del tubo | Peso aprox. en kilogramos |
|-----------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------|-------------------------|---------------------------|
| | Diámetro exterior | Diámetro interior | Espesor de la pared | Diámetro exterior | Diámetro interior | Espesor de la pared | | | |
| NPS | O.D. | I.D. | T | O.D. | I.D. | T | L | | |
| ¾ x ½ | 26.7 | 20.96 | 2.87 | 21.3 | 15.76 | 2.77 | 38 | 40 | 0.10 |
| 1 x ¾ | 33.4 | 26.64 | 3.38 | 26.7 | 20.96 | 2.87 | 51 | 40 | 0.16 |
| 1 x ½ | 33.4 | 26.64 | 3.38 | 21.3 | 15.76 | 2.77 | 51 | 40 | 0.16 |
| 1 ¼ x 1 | 42.2 | 35.08 | 3.56 | 33.4 | 26.64 | 3.38 | 51 | 40 | 0.22 |
| 1 ¼ x ¾ | 42.2 | 35.08 | 3.56 | 26.7 | 20.96 | 2.87 | 51 | 40 | 0.19 |
| 1 ¼ x ½ | 42.2 | 35.08 | 3.56 | 21.3 | 15.76 | 2.77 | 51 | 40 | 0.19 |
| 1 ½ x 1 ¼ | 48.3 | 40.94 | 3.68 | 42.2 | 35.08 | 3.56 | 64 | 40 | 0.29 |
| 1 ½ x 1 | 48.3 | 40.94 | 3.68 | 33.4 | 26.64 | 3.38 | 64 | 40 | 0.26 |
| 1 ½ x ¾ | 48.3 | 40.94 | 3.68 | 26.7 | 20.96 | 2.87 | 64 | 40 | 0.25 |
| 1 ½ x ½ | 48.3 | 40.94 | 3.68 | 21.3 | 15.76 | 2.77 | 64 | 40 | 0.25 |
| 2 x 1 ½ | 60.3 | 52.48 | 3.91 | 48.3 | 40.94 | 3.68 | 76 | 40 | 0.43 |
| 2 x 1 ¼ | 60.3 | 52.48 | 3.91 | 42.2 | 35.08 | 3.56 | 76 | 40 | 0.40 |
| 2 x 1 | 60.3 | 52.48 | 3.91 | 33.4 | 26.64 | 3.38 | 76 | 40 | 0.37 |
| 2 x ¾ | 60.3 | 52.48 | 3.91 | 26.7 | 20.96 | 2.87 | 76 | 40 | 0.34 |
| 2 ½ x 2 | 73.0 | 62.68 | 5.16 | 60.3 | 52.48 | 3.91 | 89 | 40 | 0.73 |
| 2 ½ x 1 ½ | 73.0 | 62.68 | 5.16 | 48.3 | 40.94 | 3.68 | 89 | 40 | 0.68 |
| 2 ½ x 1 ¼ | 73.0 | 62.68 | 5.16 | 42.2 | 35.08 | 3.56 | 89 | 40 | 0.64 |
| 2 ½ x 1 | 73.0 | 62.68 | 5.16 | 33.4 | 26.64 | 3.38 | 89 | 40 | 0.59 |
| 3 x 2 ½ | 88.9 | 77.92 | 5.49 | 73.0 | 62.68 | 5.16 | 89 | 40 | 1.00 |
| 3 x 2 | 88.9 | 77.92 | 5.49 | 60.3 | 52.48 | 3.91 | 89 | 40 | 0.91 |
| 3 x 1 ½ | 88.9 | 77.92 | 5.49 | 48.3 | 40.94 | 3.68 | 89 | 40 | 0.86 |
| 3 x 1 ¼ | 88.9 | 77.92 | 5.49 | 42.2 | 35.08 | 3.56 | 89 | 40 | 0.82 |
| 3 x 1 | 88.9 | 77.92 | 5.49 | 33.4 | 26.64 | 3.38 | 89 | 40 | 0.77 |
| 3 ½ x 3 | 101.6 | 90.12 | 5.74 | 88.9 | 77.92 | 5.49 | 102 | 40 | 1.27 |
| 3 ½ x 2 ½ | 101.6 | 90.12 | 5.74 | 73.0 | 62.68 | 5.16 | 102 | 40 | 1.22 |
| 3 ½ x 2 | 101.6 | 90.12 | 5.74 | 60.3 | 52.48 | 3.91 | 102 | 40 | 1.18 |
| 3 ½ x 1 ½ | 101.6 | 90.12 | 5.74 | 48.3 | 40.94 | 3.68 | 102 | 40 | 1.18 |
| 3 ½ x 1 ¼ | 101.6 | 90.12 | 5.74 | 42.2 | 35.08 | 3.56 | 102 | 40 | 1.13 |
| 4 x 3 ½ | 114.3 | 102.26 | 6.02 | 101.6 | 90.12 | 5.74 | 102 | 40 | 1.59 |
| 4 x 3 | 114.3 | 102.26 | 6.02 | 88.9 | 77.92 | 5.49 | 102 | 40 | 1.50 |
| 4 x 2 ½ | 114.3 | 102.26 | 6.02 | 73.0 | 62.68 | 5.16 | 102 | 40 | 1.45 |
| 4 x 2 | 114.3 | 102.26 | 6.02 | 60.3 | 52.48 | 3.91 | 102 | 40 | 1.41 |
| 4 x 1 ½ | 114.3 | 102.26 | 6.02 | 48.3 | 40.94 | 3.68 | 102 | 40 | 1.36 |

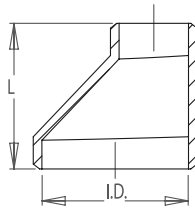
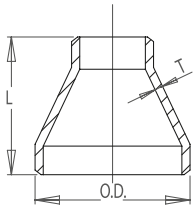
| Tamaño del tubo | DIAMETRO GRANDE | | | DIAMETRO PEQUEÑO | | | Largo | Nro. de cédula del tubo | Peso aprox. en kilogramos |
|-----------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------|-------------------------|---------------------------|
| | Diámetro exterior | Diámetro interior | Espesor de la pared | Diámetro exterior | Diámetro interior | Espesor de la pared | | | |
| NPS | O.D. | I.D. | T | O.D. | I.D. | T | L | | |
| 4 x 1 ¼ | 114.3 | 102.26 | 6.02 | 42.16 | 35.052 | 3.556 | 102 | 40 | 1.36 |
| 4 x 1 | 114.3 | 102.26 | 6.02 | 33.4 | 26.64 | 3.38 | 102 | 40 | 1.27 |
| 5 x 4 | 141.3 | 128.20 | 6.55 | 114.3 | 102.26 | 6.02 | 127 | 40 | 2.49 |
| 5 x 3 ½ | 141.3 | 128.20 | 6.55 | 101.6 | 90.12 | 5.74 | 127 | 40 | 2.40 |
| 5 x 3 | 141.3 | 128.20 | 6.55 | 88.9 | 77.92 | 5.49 | 127 | 40 | 2.31 |
| 5 x 2 ½ | 141.3 | 128.20 | 6.55 | 73.0 | 62.68 | 5.16 | 127 | 40 | 2.18 |
| 5 x 2 | 141.3 | 128.20 | 6.55 | 60.3 | 52.48 | 3.91 | 127 | 40 | 2.13 |
| 6 x 5 | 168.3 | 154.08 | 7.11 | 141.3 | 128.20 | 6.55 | 140 | 40 | 3.45 |
| 6 x 4 | 168.3 | 154.08 | 7.11 | 114.3 | 102.26 | 6.02 | 140 | 40 | 3.36 |
| 6 x 3 ½ | 168.3 | 154.08 | 7.11 | 101.6 | 90.12 | 5.74 | 140 | 40 | 3.22 |
| 6 x 3 | 168.3 | 154.08 | 7.11 | 88.9 | 77.92 | 5.49 | 140 | 40 | 3.13 |
| 6 x 2 ½ | 168.3 | 154.08 | 7.11 | 73.0 | 62.68 | 5.16 | 140 | 40 | 2.99 |
| 6 x 2 | 168.3 | 154.08 | 7.11 | 60.3 | 52.48 | 3.91 | 140 | 40 | 2.95 |
| 8 x 6 | 219.1 | 202.74 | 8.18 | 168.3 | 154.08 | 7.11 | 152 | 40 | 5.58 |
| 8 x 5 | 219.1 | 202.74 | 8.18 | 141.3 | 128.20 | 6.55 | 152 | 40 | 5.22 |
| 8 x 4 | 219.1 | 202.74 | 8.18 | 114.3 | 102.26 | 6.02 | 152 | 40 | 4.90 |
| 8 x 3 ½ | 219.1 | 202.74 | 8.18 | 101.6 | 90.12 | 5.74 | 152 | 40 | 4.81 |
| 8 x 3 | 219.1 | 202.74 | 8.18 | 88.9 | 77.92 | 5.49 | 152 | 40 | 4.45 |
| 10 x 8 | 273.0 | 254.46 | 9.27 | 219.1 | 202.74 | 8.18 | 178 | 40 | 10.02 |
| 10 x 6 | 273.0 | 254.46 | 9.27 | 168.3 | 154.08 | 7.11 | 178 | 40 | 9.39 |
| 10 x 5 | 273.0 | 254.46 | 9.27 | 141.3 | 128.20 | 6.55 | 178 | 40 | 8.85 |
| 10 x 4 | 273.0 | 254.46 | 9.27 | 114.3 | 102.26 | 6.02 | 178 | 40 | 8.35 |
| 12 x 10 | 323.8 | 304.74 | 9.53 | 273.0 | 254.46 | 9.27 | 203 | * | 14.70 |
| 12 x 8 | 323.8 | 304.74 | 9.53 | 219.1 | 202.74 | 8.18 | 203 | * | 13.83 |
| 12 x 6 | 323.8 | 304.74 | 9.53 | 168.3 | 154.08 | 7.11 | 203 | * | 13.38 |
| 12 x 5 | 323.8 | 304.74 | 9.53 | 141.3 | 128.20 | 6.55 | 203 | * | 12.61 |
| 12 x 4 | 323.8 | 304.74 | 9.53 | 114.3 | 102.26 | 6.02 | 203 | * | 11.88 |
| 14 x 12 | 355.6 | 336.54 | 9.53 | 323.8 | 304.74 | 9.53 | 330 | * | 28.62 |
| 14 x 10 | 355.6 | 336.54 | 9.53 | 273.0 | 254.46 | 9.27 | 330 | * | 27.85 |
| 14 x 8 | 355.6 | 336.54 | 9.53 | 219.1 | 202.74 | 8.18 | 330 | * | 27.22 |
| 14 x 6 | 355.6 | 336.54 | 9.53 | 168.3 | 154.08 | 7.11 | 330 | * | 26.85 |
| 16 x 14 | 406.4 | 387.34 | 9.53 | 355.6 | 336.54 | 9.53 | 356 | * | 34.20 |
| 16 x 12 | 406.4 | 387.34 | 9.53 | 323.8 | 304.74 | 9.53 | 356 | * | 32.98 |
| 16 x 10 | 406.4 | 387.34 | 9.53 | 273.0 | 254.46 | 9.27 | 356 | * | 32.25 |
| 16 x 8 | 406.4 | 387.34 | 9.53 | 219.1 | 202.74 | 8.18 | 356 | * | 31.48 |
| 16 x 6 | 406.4 | 387.34 | 9.53 | 168.3 | 154.08 | 7.11 | 356 | * | 30.57 |
| 18 x 16 | 457.0 | 437.94 | 9.53 | 406.4 | 387.34 | 9.53 | 381 | * | 39.60 |
| 18 x 14 | 457.0 | 437.94 | 9.53 | 355.6 | 336.54 | 9.53 | 381 | * | 39.01 |
| 18 x 12 | 457.0 | 437.94 | 9.53 | 323.8 | 304.74 | 9.53 | 381 | * | 38.46 |
| 18 x 10 | 457.0 | 437.94 | 9.53 | 273.0 | 254.46 | 9.27 | 381 | * | 37.97 |
| 18 x 8 | 457.0 | 437.94 | 9.53 | 219.1 | 202.74 | 8.18 | 381 | * | 37.08 |
| 20 x 18 | 508.0 | 488.94 | 9.53 | 457.0 | 437.94 | 9.53 | 508 | * | 55.79 |
| 20 x 16 | 508.0 | 488.94 | 9.53 | 406.4 | 387.34 | 9.53 | 508 | * | 54.88 |
| 20 x 14 | 508.0 | 488.94 | 9.53 | 355.6 | 336.54 | 9.53 | 508 | * | 53.98 |



REDUCCIONES CONCENTRICAS Y EXCENTRICAS

WPB - A234

| Tamaño del tubo | DIAMETRO GRANDE | | | DIAMETRO PEQUEÑO | | | Largo | Nro. de cédula del tubo | Peso aprox. en kilogramos |
|-----------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------|-------------------------|---------------------------|
| | Diámetro exterior | Diámetro interior | Espesor de la pared | Diámetro exterior | Diámetro interior | Espesor de la pared | | | |
| NPS | O.D. | I.D. | T | O.D. | I.D. | T | L | | |
| 20 x 12 | 508.0 | 488.94 | 9.53 | 323.8 | 304.74 | 9.53 | 508 | * | 53.52 |
| 20 x 10 | 508.0 | 488.94 | 9.53 | 273.0 | 254.46 | 9.27 | 508 | * | 53.07 |
| 24 x 20 | 508.0 | 488.94 | 9.53 | 508.0 | 488.94 | 9.53 | 508 | * | 70.76 |
| 24 x 18 | 610.0 | 590.94 | 9.53 | 457.0 | 437.94 | 9.53 | 508 | * | 69.40 |
| 24 x 16 | 610.0 | 590.94 | 9.53 | 406.4 | 387.34 | 9.53 | 508 | * | 68.04 |
| 24 x 14 | 610.0 | 590.94 | 9.53 | 355.6 | 336.54 | 9.53 | 508 | * | 66.68 |
| 24 x 12 | 610.0 | 590.94 | 9.53 | 323.8 | 304.74 | 9.53 | 508 | * | 65.32 |
| 24 x 10 | 610.0 | 590.94 | 9.53 | 273.0 | 254.46 | 9.27 | 508 | * | 63.96 |
| 30 x 24 | 762.0 | 742.94 | 9.53 | 610.0 | 590.94 | 9.53 | 610 | * | 142.88 |
| 30 x 20 | 762.0 | 742.94 | 9.53 | 508.0 | 488.94 | 9.53 | 610 | * | 142.88 |
| 30 x 18 | 762.0 | 742.94 | 9.53 | 457.0 | 437.94 | 9.53 | 610 | * | 142.88 |
| 36 x 30 | 914.0 | 894.94 | 9.53 | 762.0 | 742.94 | 9.53 | 610 | * | 171.91 |
| 36 x 24 | 914.0 | 894.94 | 9.53 | 610.0 | 590.94 | 9.53 | 610 | * | 171.91 |
| 36 x 20 | 914.0 | 894.94 | 9.53 | 508.0 | 488.94 | 9.53 | 610 | * | 171.91 |
| 42 x 36 | 1067.0 | 1047.94 | 9.53 | 914.0 | 894.94 | 9.53 | 610 | * | 200.94 |
| 42 x 30 | 1067.0 | 1047.94 | 9.53 | 762.0 | 742.94 | 9.53 | 610 | * | 200.94 |
| 42 x 24 | 1067.0 | 1047.94 | 9.53 | 610.0 | 590.94 | 9.53 | 610 | * | 200.94 |
| 48 x 42 | 1219.0 | 1199.94 | 9.53 | 1067.0 | 1047.94 | 9.53 | 711 | * | 238.13 |
| 48 x 36 | 1219.0 | 1199.94 | 9.53 | 914.0 | 894.94 | 9.53 | 711 | * | 238.13 |
| 48 x 30 | 1219.0 | 1199.94 | 9.53 | 762.0 | 742.94 | 9.53 | 711 | * | 238.13 |
| 48 x 24 | 1219.0 | 1200.15 | 9.53 | 609.6 | 590.55 | 9.53 | 711 | * | 238.13 |

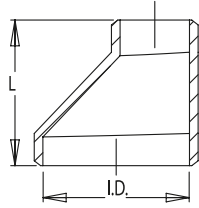
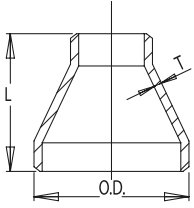


REDUCCIONES CONCENTRICAS Y EXCENTRICAS CXS

WPB - A234

| Tamaño del tubo | DIAMETRO GRANDE | | | DIAMETRO PEQUEÑO | | | Largo | Nro. de cédula del tubo | Peso aprox. en kilogramos |
|-----------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------|-------------------------|---------------------------|
| | Diámetro exterior | Diámetro interior | Espesor de la pared | Diámetro exterior | Diámetro interior | Espesor de la pared | | | |
| NPS | O.D. | I.D. | T | O.D. | I.D. | T | L | | |
| ¾ x ½ | 26.7 | 18.88 | 3.91 | 21.3 | 13.84 | 3.73 | 38 | 80 | 0.11 |
| 1 x ¾ | 33.4 | 24.30 | 4.55 | 26.7 | 18.88 | 3.91 | 51 | 80 | 0.20 |
| 1 x ½ | 33.4 | 24.30 | 4.55 | 21.3 | 13.84 | 3.73 | 51 | 80 | 0.19 |
| 1 ¼ x 1 | 42.2 | 32.50 | 4.85 | 33.4 | 24.30 | 4.55 | 51 | 80 | 0.26 |
| 1 ¼ x ¾ | 42.2 | 32.50 | 4.85 | 26.7 | 18.88 | 3.91 | 51 | 80 | 0.24 |
| 1 ¼ x ½ | 42.2 | 32.50 | 4.85 | 21.3 | 13.84 | 3.73 | 51 | 80 | 0.23 |
| 1 ½ x 1 ¼ | 48.3 | 38.14 | 5.08 | 42.2 | 32.50 | 4.85 | 64 | 80 | 0.35 |
| 1 ½ x 1 | 48.3 | 38.14 | 5.08 | 33.4 | 24.30 | 4.55 | 64 | 80 | 0.33 |
| 1 ½ x ¾ | 48.3 | 38.14 | 5.08 | 26.7 | 18.88 | 3.91 | 64 | 80 | 0.29 |
| 1 ½ x ½ | 48.3 | 38.14 | 5.08 | 21.3 | 13.84 | 3.73 | 64 | 80 | 0.29 |
| 2 x 1 ½ | 60.3 | 49.22 | 5.54 | 48.3 | 38.14 | 5.08 | 76 | 80 | 0.54 |
| 2 x 1 ¼ | 60.3 | 49.22 | 5.54 | 42.2 | 32.50 | 4.85 | 76 | 80 | 0.50 |
| 2 x 1 | 60.3 | 49.22 | 5.54 | 33.4 | 24.30 | 4.55 | 76 | 80 | 0.45 |
| 2 x ¾ | 60.3 | 49.22 | 5.54 | 26.7 | 18.88 | 3.91 | 76 | 80 | 0.43 |
| 2 ½ x 2 | 73.0 | 58.98 | 7.01 | 60.3 | 49.22 | 5.54 | 89 | 80 | 0.95 |
| 2 ½ x 1 ½ | 73.0 | 58.98 | 7.01 | 48.3 | 38.14 | 5.08 | 89 | 80 | 0.86 |
| 2 ½ x 1 ¼ | 73.0 | 58.98 | 7.01 | 42.2 | 32.50 | 4.85 | 89 | 80 | 0.77 |
| 2 ½ x 1 | 73.0 | 58.98 | 7.01 | 33.4 | 24.30 | 4.55 | 89 | 80 | 0.68 |
| 3 x 2 ½ | 88.9 | 73.66 | 7.62 | 73.0 | 58.98 | 7.01 | 89 | 80 | 1.27 |
| 3 x 2 | 88.9 | 73.66 | 7.62 | 60.3 | 49.22 | 5.54 | 89 | 80 | 1.18 |
| 3 x 1 ½ | 88.9 | 73.66 | 7.62 | 48.3 | 38.14 | 5.08 | 89 | 80 | 1.09 |
| 3 x 1 ¼ | 88.9 | 73.66 | 7.62 | 42.2 | 32.50 | 4.85 | 89 | 80 | 1.04 |
| 3 x 1 | 88.9 | 73.66 | 7.62 | 33.4 | 24.30 | 4.55 | 89 | 80 | 1.00 |
| 3 ½ x 3 | 101.6 | 85.44 | 8.08 | 88.9 | 73.66 | 7.62 | 102 | 80 | 1.68 |
| 3 ½ x 2 ½ | 101.6 | 85.44 | 8.08 | 73.0 | 58.98 | 7.01 | 102 | 80 | 1.59 |
| 3 ½ x 2 | 101.6 | 85.44 | 8.08 | 60.3 | 49.22 | 5.54 | 102 | 80 | 1.50 |
| 3 ½ x 1 ½ | 101.6 | 85.44 | 8.08 | 48.3 | 38.14 | 5.08 | 102 | 80 | 1.45 |
| 3 ½ x 1 ¼ | 101.6 | 85.44 | 8.08 | 42.2 | 32.50 | 4.85 | 102 | 80 | 1.45 |
| 4 x 3 ½ | 114.3 | 97.18 | 8.56 | 101.6 | 85.44 | 8.08 | 102 | 80 | 2.22 |
| 4 x 3 | 114.3 | 97.18 | 8.56 | 88.9 | 73.66 | 7.62 | 102 | 80 | 2.13 |
| 4 x 2 ½ | 114.3 | 97.18 | 8.56 | 73.0 | 58.98 | 7.01 | 102 | 80 | 2.09 |
| 4 x 2 | 114.3 | 97.18 | 8.56 | 60.3 | 49.22 | 5.54 | 102 | 80 | 1.95 |
| 4 x 1 ½ | 114.3 | 97.18 | 8.56 | 48.3 | 38.14 | 5.08 | 102 | 80 | 1.91 |

CONEXION SOLDABLE ACERO AL CARBON



REDUCCIONES CONCENTRICAS Y EXCENTRICAS CXS

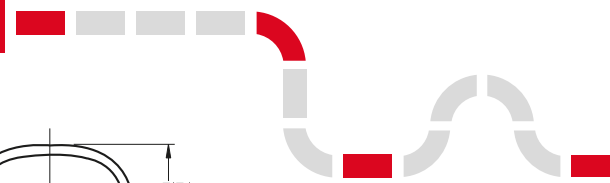
WPB - A234

| Tamaño del tubo | DIAMETRO GRANDE | | | DIAMETRO PEQUEÑO | | | Largo | Nro. de cédula del tubo | Peso aprox. en kilogramos |
|-----------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------|-------------------------|---------------------------|
| | Diámetro exterior | Diámetro interior | Espesor de la pared | Diámetro exterior | Diámetro interior | Espesor de la pared | | | |
| NPS | O.D. | I.D. | T | O.D. | I.D. | T | L | | |
| 4 x 1 ¼ | 114.3 | 97.18 | 8.56 | 42.2 | 32.50 | 4.85 | 102 | 80 | 1.86 |
| 4 x 1 | 114.3 | 97.18 | 8.56 | 33.4 | 24.30 | 4.55 | 102 | 80 | 1.81 |
| 5 x 4 | 141.3 | 122.24 | 9.53 | 114.3 | 97.18 | 8.56 | 127 | 80 | 3.40 |
| 5 x 3 ½ | 141.3 | 122.24 | 9.53 | 101.6 | 85.44 | 8.08 | 127 | 80 | 3.13 |
| 5 x 3 | 141.3 | 122.24 | 9.53 | 88.9 | 73.66 | 7.62 | 127 | 80 | 2.86 |
| 5 x 2 ½ | 141.3 | 122.24 | 9.53 | 73.0 | 58.98 | 7.01 | 127 | 80 | 2.77 |
| 5 x 2 | 141.3 | 122.24 | 9.53 | 60.3 | 49.22 | 5.54 | 127 | 80 | 2.72 |
| 6 x 5 | 168.3 | 146.36 | 10.97 | 141.3 | 122.24 | 9.53 | 140 | 80 | 5.22 |
| 6 x 4 | 168.3 | 146.36 | 10.97 | 114.3 | 97.18 | 8.56 | 140 | 80 | 4.85 |
| 6 x 3 ½ | 168.3 | 146.36 | 10.97 | 101.6 | 85.44 | 8.08 | 140 | 80 | 4.54 |
| 6 x 3 | 168.3 | 146.36 | 10.97 | 88.9 | 73.66 | 7.62 | 140 | 80 | 4.40 |
| 6 x 2 ½ | 168.3 | 146.36 | 10.97 | 73.0 | 58.98 | 7.01 | 140 | 80 | 4.13 |
| 6 x 2 | 168.3 | 146.36 | 10.97 | 60.3 | 49.22 | 5.54 | 140 | 80 | 3.90 |
| 8 x 6 | 219.1 | 193.70 | 12.70 | 168.3 | 146.36 | 10.97 | 152 | 80 | 8.53 |
| 8 x 5 | 219.1 | 193.70 | 12.70 | 141.3 | 122.24 | 9.53 | 152 | 80 | 7.98 |
| 8 x 4 | 219.1 | 193.70 | 12.70 | 114.3 | 97.18 | 8.56 | 152 | 80 | 7.71 |
| 8 x 3 ½ | 219.1 | 193.70 | 12.70 | 101.6 | 85.44 | 8.08 | 152 | 80 | 7.21 |
| 8 x 3 | 219.1 | 193.70 | 12.70 | 88.9 | 73.66 | 7.62 | 152 | 80 | 6.80 |
| 10 x 8 | 273.0 | 247.60 | 12.70 | 219.1 | 193.70 | 12.70 | 178 | * | 13.34 |
| 10 x 6 | 273.0 | 247.60 | 12.70 | 168.3 | 146.36 | 10.97 | 178 | * | 12.84 |
| 10 x 5 | 273.0 | 247.60 | 12.70 | 141.3 | 122.24 | 9.53 | 178 | * | 12.20 |
| 10 x 4 | 273.0 | 247.60 | 12.70 | 114.3 | 97.18 | 8.56 | 178 | * | 10.98 |
| 12 x 10 | 323.8 | 298.40 | 12.70 | 273.0 | 247.60 | 12.70 | 203 | * | 18.82 |
| 12 x 8 | 323.8 | 298.40 | 12.70 | 219.1 | 193.70 | 12.70 | 203 | * | 17.51 |
| 12 x 6 | 323.8 | 298.40 | 12.70 | 168.3 | 146.36 | 10.97 | 203 | * | 16.96 |
| 12 x 5 | 323.8 | 298.40 | 12.70 | 141.3 | 122.24 | 9.53 | 203 | * | 16.47 |
| 12 x 4 | 323.8 | 298.40 | 12.70 | 114.3 | 97.18 | 8.56 | 203 | * | 15.74 |
| 14 x 12 | 355.6 | 330.20 | 12.70 | 323.8 | 298.40 | 12.70 | 330 | * | 36.74 |
| 14 x 10 | 355.6 | 330.20 | 12.70 | 273.0 | 247.60 | 12.70 | 330 | * | 34.79 |
| 14 x 8 | 355.6 | 330.20 | 12.70 | 219.1 | 193.70 | 12.70 | 330 | * | 33.84 |
| 14 x 6 | 355.6 | 330.20 | 12.70 | 168.3 | 146.36 | 10.97 | 330 | * | 32.79 |
| 16 x 14 | 406.40 | 381.000 | 12.700 | 355.6 | 330.20 | 12.70 | 356 | * | 44.45 |

REDUCCIONES CONCENTRICAS Y EXCENTRICAS CXS

WPB - A234

| Tamaño del tubo | DIAMETRO GRANDE | | | DIAMETRO PEQUEÑO | | | Largo | Nro. de cédula del tubo | Peso kilogramos |
|-----------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------|-------------------------|-----------------|
| | Diámetro exterior | Diámetro interior | Espesor de la pared | Diámetro exterior | Diámetro interior | Espesor de la pared | | | |
| NPS | O.D. | I.D. | T | O.D. | I.D. | T | L | | |
| 16 x 12 | 406.4 | 381.00 | 12.70 | 323.8 | 298.40 | 12.70 | 356 | * | 43.45 |
| 16 x 10 | 406.4 | 381.00 | 12.70 | 273.0 | 247.60 | 12.70 | 356 | * | 42.32 |
| 16 x 8 | 406.4 | 381.00 | 12.70 | 219.1 | 193.70 | 12.70 | 356 | * | 41.32 |
| 16 x 6 | 406.4 | 381.00 | 12.70 | 168.3 | 146.36 | 10.97 | 356 | * | 40.73 |
| 18 x 16 | 457.0 | 431.60 | 12.70 | 406.4 | 381.00 | 12.70 | 381 | * | 53.52 |
| 18 x 14 | 457.0 | 431.60 | 12.70 | 355.6 | 330.20 | 12.70 | 381 | * | 53.07 |
| 18 x 12 | 457.0 | 431.60 | 12.70 | 323.8 | 298.40 | 12.70 | 381 | * | 52.16 |
| 18 x 10 | 457.0 | 431.60 | 12.70 | 273.0 | 247.60 | 12.70 | 381 | * | 51.26 |
| 18 x 8 | 457.0 | 431.60 | 12.70 | 219.1 | 193.70 | 12.70 | 381 | * | 45.36 |
| 20 x 18 | 508.0 | 482.60 | 12.70 | 457.0 | 431.60 | 12.70 | 508 | * | 73.48 |
| 20 x 16 | 508.0 | 482.60 | 12.70 | 406.4 | 381.00 | 12.70 | 508 | * | 72.12 |
| 20 x 14 | 508.0 | 482.60 | 12.70 | 355.6 | 330.20 | 12.70 | 508 | * | 71.21 |
| 20 x 12 | 508.0 | 482.60 | 12.70 | 323.8 | 298.40 | 12.70 | 508 | * | 70.31 |
| 20 x 10 | 508.0 | 482.60 | 12.70 | 273.0 | 247.60 | 12.70 | 508 | * | 68.95 |
| 24 x 20 | 610.0 | 584.60 | 12.70 | 508.0 | 482.60 | 12.70 | 508 | * | 91.17 |
| 24 x 18 | 610.0 | 584.60 | 12.70 | 457.0 | 431.60 | 12.70 | 508 | * | 89.36 |
| 24 x 16 | 610.0 | 584.60 | 12.70 | 406.4 | 381.00 | 12.70 | 508 | * | 88.00 |
| 24 x 14 | 610.0 | 584.60 | 12.70 | 355.6 | 330.20 | 12.70 | 508 | * | 86.18 |
| 24 x 12 | 610.0 | 584.60 | 12.70 | 323.8 | 298.40 | 12.70 | 508 | * | 85.27 |
| 24 x 10 | 610.0 | 584.60 | 12.70 | 273.0 | 247.60 | 12.70 | 508 | * | 84.37 |
| 30 x 24 | 762.0 | 736.60 | 12.70 | 610.0 | 584.60 | 12.70 | 610 | * | 142.88 |
| 30 x 20 | 762.0 | 736.60 | 12.70 | 508.0 | 482.60 | 12.70 | 610 | * | 142.88 |
| 30 x 18 | 762.0 | 736.60 | 12.70 | 457.0 | 431.60 | 12.70 | 610 | * | 142.88 |
| 36 x 30 | 914.0 | 888.60 | 12.70 | 762.0 | 736.60 | 12.70 | 610 | * | 171.91 |
| 36 x 24 | 914.0 | 888.60 | 12.70 | 610.0 | 584.60 | 12.70 | 610 | * | 171.91 |
| 36 x 20 | 914.0 | 888.60 | 12.70 | 508.0 | 482.60 | 12.70 | 610 | * | 171.91 |
| 42 x 36 | 1067.0 | 1041.60 | 12.70 | 914.0 | 888.60 | 12.70 | 610 | * | 200.94 |
| 42 x 30 | 1067.0 | 1041.60 | 12.70 | 762.0 | 736.60 | 12.70 | 610 | * | 200.94 |
| 42 x 24 | 1067.0 | 1041.60 | 12.70 | 610.0 | 584.60 | 12.70 | 610 | * | 200.94 |
| 48 x 42 | 1219.0 | 1193.60 | 12.70 | 1067.0 | 1041.60 | 12.70 | 711 | * | 238.13 |
| 48 x 36 | 1219.0 | 1193.60 | 12.70 | 914.0 | 888.60 | 12.70 | 711 | * | 238.13 |
| 48 x 30 | 1219.0 | 1193.60 | 12.70 | 762.0 | 736.60 | 12.70 | 711 | * | 238.13 |
| 48 x 24 | 1219.0 | 1193.60 | 12.70 | 610.0 | 584.60 | 12.70 | 711 | * | 238.13 |



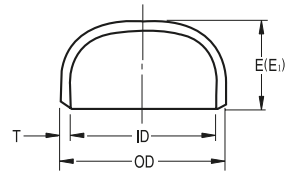
CAP

WPB - A234

STD, Sch40, X-S, Sch80, Sch160, XX-S

ASME B16.9

| Nominal Pipe Size | Outside Diameter | Length E | Limiting Thickness for Length | Length EI | STD | | Sch40 | |
|-------------------|------------------|----------|-------------------------------|-----------|-------|--------|-------|--------|
| | | | | | T | I.D. | T | I.D. |
| 1/2 | 0.840 | 1.00 | 0.18 | 1.00 | 0.109 | 0.622 | 0.109 | 0.622 |
| 3/4 | 1.050 | 1.00 | 0.15 | 1.00 | 0.113 | 0.824 | 0.113 | 0.824 |
| 1 | 1.315 | 1.50 | 0.18 | 1.50 | 0.133 | 1.049 | 0.133 | 1.049 |
| 1-1/4 | 1.660 | 1.50 | 0.19 | 1.50 | 0.140 | 1.380 | 0.140 | 1.380 |
| 1-1/2 | 1.900 | 1.50 | 0.20 | 1.50 | 0.145 | 1.610 | 0.145 | 1.610 |
| 2 | 2.375 | 1.50 | 0.22 | 1.75 | 0.154 | 2.067 | 0.154 | 2.067 |
| 2-1/2 | 2.875 | 1.50 | 0.28 | 2.00 | 0.203 | 2.469 | 0.203 | 2.469 |
| 3 | 3.500 | 2.00 | 0.30 | 2.50 | 0.216 | 3.068 | 0.216 | 3.068 |
| 3-1/2 | 4.000 | 2.50 | 0.32 | 3.00 | 0.226 | 3.548 | 0.226 | 3.548 |
| 4 | 4.500 | 2.50 | 0.34 | 3.00 | 0.237 | 4.026 | 0.237 | 4.026 |
| 5 | 5.563 | 3.00 | 0.38 | 3.50 | 0.258 | 5.047 | 0.258 | 5.047 |
| 6 | 6.625 | 3.50 | 0.43 | 4.00 | 0.280 | 6.065 | 0.280 | 6.065 |
| 8 | 8.625 | 4.00 | 0.50 | 5.00 | 0.322 | 7.981 | 0.322 | 7.981 |
| 10 | 10.750 | 5.00 | 0.50 | 6.00 | 0.365 | 10.020 | 0.365 | 10.020 |
| 12 | 12.750 | 6.00 | 0.50 | 7.00 | 0.375 | 12.000 | 0.406 | 11.938 |
| 14 | 14.000 | 6.50 | 0.50 | 7.50 | 0.375 | 13.250 | 0.438 | 13.124 |
| 16 | 16.000 | 7.00 | 0.50 | 8.00 | 0.375 | 15.250 | 0.500 | 15.000 |
| 18 | 18.000 | 8.00 | 0.50 | 9.00 | 0.375 | 17.250 | 0.562 | 16.876 |
| 20 | 20.000 | 9.00 | 0.50 | 10.00 | 0.375 | 19.250 | 0.594 | 18.812 |
| 22 | 22.000 | 10.00 | 0.50 | 10.00 | 0.375 | 21.250 | | |
| 24 | 24.000 | 10.50 | 0.50 | 12.00 | 0.375 | 23.250 | 0.688 | 22.624 |
| 26 | 26.000 | 10.50 | | | 0.375 | 25.250 | | |
| 28 | 28.000 | 10.50 | | | 0.375 | 27.250 | | |
| 30 | 30.000 | 10.50 | | | 0.375 | 29.250 | | |
| 32 | 32.000 | 10.50 | | | 0.375 | 31.250 | 0.688 | 30.624 |
| 34 | 34.000 | 10.50 | | | 0.375 | 33.250 | 0.688 | 32.624 |



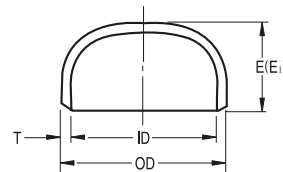
(Unit : inch)

| X-S | | Sch80 | | Sch160 | | XX-S | | Nominal Pipe Size |
|-------|--------|-------|--------|--------|--------|-------|--------|-------------------|
| T | I.D. | T | I.D. | T | I.D. | T | I.D. | |
| 0.147 | 0.546 | 0.147 | 0.546 | 0.188 | 0.464 | 0.294 | 0.252 | 1/2 |
| 0.154 | 0.742 | 0.154 | 0.742 | 0.219 | 0.612 | 0.308 | 0.434 | 3/4 |
| 0.179 | 0.957 | 0.179 | 0.957 | 0.250 | 0.815 | 0.358 | 0.599 | 1 |
| 0.191 | 1.278 | 0.191 | 1.278 | 0.250 | 1.160 | 0.382 | 0.896 | 1-1/4 |
| 0.200 | 1.500 | 0.200 | 1.500 | 0.281 | 1.338 | 0.400 | 1.100 | 1-1/2 |
| 0.218 | 1.939 | 0.218 | 1.939 | 0.344 | 1.687 | 0.436 | 1.503 | 2 |
| 0.276 | 2.323 | 0.276 | 2.323 | 0.375 | 2.125 | 0.552 | 1.771 | 2-1/2 |
| 0.300 | 2.900 | 0.300 | 2.900 | 0.438 | 3.124 | 0.600 | 2.800 | 3 |
| 0.318 | 3.364 | 0.318 | 3.364 | | | | | 3-1/2 |
| 0.337 | 3.826 | 0.337 | 3.826 | 0.531 | 3.438 | 0.674 | 3.152 | 4 |
| 0.375 | 4.813 | 0.375 | 4.813 | 0.625 | 4.313 | 0.750 | 4.063 | 5 |
| 0.432 | 5.761 | 0.432 | 5.761 | 0.719 | 5.187 | 0.864 | 4.897 | 6 |
| 0.500 | 7.625 | 0.500 | 7.625 | 0.906 | 6.813 | 0.875 | 6.875 | 8 |
| 0.500 | 9.750 | 0.594 | 9.750 | 1.125 | 8.500 | 1.000 | 8.750 | 10 |
| 0.500 | 11.750 | 0.688 | 11.374 | 1.312 | 10.126 | 1.000 | 10.750 | 12 |
| 0.500 | 13.000 | 0.750 | 12.500 | 1.406 | 11.188 | | | 14 |
| 0.500 | 15.000 | 0.844 | 14.312 | 1.594 | 12.812 | | | 16 |
| 0.500 | 17.000 | 0.938 | 16.124 | 1.781 | 14.438 | | | 18 |
| 0.500 | 19.000 | 1.031 | 17.938 | 1.969 | 16.062 | | | 20 |
| 0.500 | 21.000 | 1.125 | 19.756 | 2.125 | 17.750 | | | 22 |
| 0.500 | 23.000 | 1.218 | 21.579 | 2.344 | 19.312 | | | 24 |
| 0.500 | 25.000 | | | | | | | 26 |
| 0.500 | 27.000 | | | | | | | 28 |
| 0.500 | 29.000 | | | | | | | 30 |
| 0.500 | 31.000 | | | | | | | 32 |
| 0.500 | 33.000 | | | | | | | 34 |

STD, Sch40, X-S, Sch80, Sch160, XX-S

ASME B16.9

| Nominal Pipe Size | Outside Diameter | Length E | Limiting Thickness for Length | Length EI | STD | | Sch40 | |
|-------------------|------------------|----------|-------------------------------|-----------|-------|--------|-------|--------|
| | | | | | T | I.D. | T | I.D. |
| 36 | 36.000 | 10.50 | | | 0.375 | 35.250 | 0.750 | 34.500 |
| 38 | 38.000 | 12.00 | | | 0.375 | 37.250 | | |
| 40 | 40.000 | 12.00 | | | 0.375 | 39.250 | | |
| 42 | 42.000 | 12.00 | | | 0.375 | 41.250 | | |
| 44 | 44.000 | 13.50 | | | 0.375 | 43.250 | | |
| 46 | 46.000 | 13.50 | | | 0.375 | 45.250 | | |
| 48 | 48.000 | 13.50 | | | 0.375 | 47.250 | | |



(Unit : inch)

| X-S | | Sch80 | | Sch160 | | XX-S | | Nominal Pipe Size |
|-------|--------|-------|------|--------|------|------|------|-------------------|
| T | I.D. | T | I.D. | T | I.D. | T | I.D. | |
| 0.500 | 35.000 | | | | | | | 36 |
| 0.500 | 37.000 | | | | | | | 38 |
| 0.500 | 39.000 | | | | | | | 40 |
| 0.500 | 41.000 | | | | | | | 42 |
| 0.500 | 43.000 | | | | | | | 44 |
| 0.500 | 45.000 | | | | | | | 46 |
| 0.500 | 47.000 | | | | | | | 48 |

- For Bevel Details See Page 356
- For Dimensional Tolerances See Page 362
- For Approx Weight See Page 394~421
- Wall Thickness Conform to ASME B 36.10M Specifications

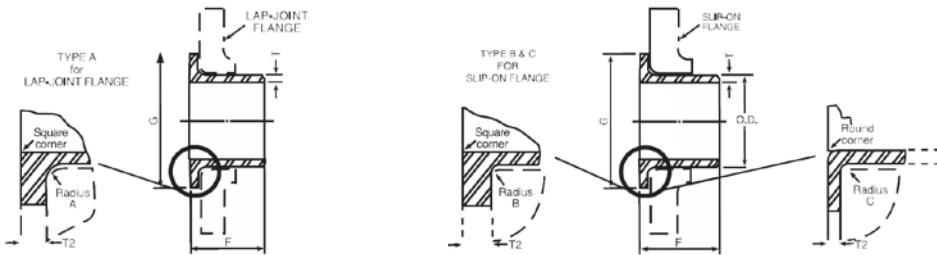


STUB END ACERO INOXIDABLE ASTM - A 403

Conexiones Soldables con y sin Costura

| | | |
|-----------------------|-----------------------------------|------------------------------|
| Normas de Fabricación | Normas de Dimensionamiento | Aplicación |
| Normas de Fabricación | MSS SP-43 ANSI B-16.5, B-16.28 | Para usos generales con Pipe |

Aceros inoxidables: TP 304, 316, Grados L y Especiales

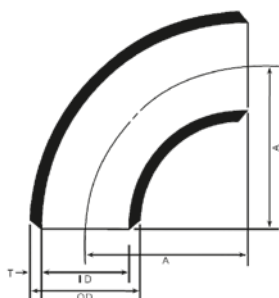


Stub ends células 5 S, 10 S y 40 S MSS

| Diámetro Nominal | Diámetro Nominal | Longitud F | Diámetro de la Ceja G | Radio de la Ceja | | Espesor Pared | | Peso Aproximado | | Espesor de la Ceja Tipo A | | Tipo C Céd. 5, 10 y 40 |
|------------------|------------------|------------|-----------------------|------------------|-------|---------------|----------|-----------------|----------|---------------------------|--------------|--|
| | | | | A nominal | B y C | Sch 10 s | Sch 40 S | Sch 10 s | Sch 40 S | Céd. 10 | Céd. 40 | |
| 1/2" | 0.84 | 2.00 | 1.38 | 0.12 | 0.03 | 0.083 | 0.019 | 0.06 | 0.08 | 0.095 2.4 | 0.109 2.8 | No menor de 87 1/2% del espesor nominal (T1) |
| 3/4" | 1.05 | 2.00 | 1.69 | 0.12 | 0.03 | 0.083 | 0.113 | 0.08 | 0.10 | 0.097 2.5 | 0.113 2.9 | |
| 1" | 1.32 | 2.00 | 2.00 | 0.12 | 0.03 | 0.109 | 0.113 | 0.13 | 0.16 | 0.120 3.0 | 0.133 3.4 | |
| 1 1/4" | 1.66 | 2.00 | 2.50 | 0.19 | 0.03 | 0.109 | 0.140 | 0.18 | 0.23 | 0.124 3.1 | 0.140 3.6 | |
| 1 1/2" | 1.9 | 2.00 | 2.88 | 0.25 | 0.03 | 0.109 | 0.145 | 0.21 | 0.28 | 0.126 3.2 | 0.145 3.7 | |
| 2" | 2.38 | 2.50 | 3.62 | 0.31 | 0.03 | 0.109 | 0.154 | 0.34 | 0.47 | 0.130 3.3 | 0.154 3.9 | |
| 2 1/2" | 2.88 | 2.50 | 4.12 | 0.31 | 0.03 | 0.120 | 0.203 | 0.45 | 0.74 | 0.156 4.0 | 0.203 5.2 | |
| 3" | 3.35 | 2.50 | 5.00 | 0.38 | 0.03 | 0.120 | 0.216 | 0.57 | 1.01 | 0.161 4.1 | 0.216 5.5 | |
| 4" | 4.5 | 3.00 | 6.19 | 0.44 | 0.03 | 0.120 | 0.237 | 0.87 | 1.68 | 0.169 4.3 | 0.237 6.0 | |
| 6" | 6.62 | 3.50 | 8.50 | 0.50 | 0.06 | 0.134 | 0.280 | 1.64 | 3.37 | 0.194 4.9 | 0.280 7.1 | |
| 8" | 8.62 | 4.00 | 10.62 | 0.50 | 0.06 | 0.148 | 0.322 | 2.65 | 5.67 | 0.218 5.5 | 0.322 8.2 | |
| 10" | 10.75 | 5.00 | 12.75 | 0.50 | 0.06 | 0.165 | 0.365 | 4.38 | 9.55 | 0.245 6.2 | 0.365 9.3 | |
| 12" | 12.75 | 6.00 | 15.00 | 0.50 | 0.06 | 0.180 | 0.375 | 6.74 | 13.80 | 0.26 6.6 | 0.375 9.5 | |

CODO 90 R.L. ACERO INOXIDABLE ASTM - A 403

| Conexiones Soldables con y sin Costura | | |
|--|----------------------------|------------------------------|
| Normas de Fabricación | Normas de Dimensionamiento | Aplicación |
| ASTM A-403 | ANSI B-16.5, B-16.28 | Para usos generales con Pipe |
| ASTM A-774 | | |
| Aceros inoxidables: TP 304, 316, Grados L y Especiales | | |



| Codos 90° Radio Largo Cédula 10 S | | | | | | | |
|-----------------------------------|------------------|--------|------------------|------------------|------|------------------|-------------|
| Diámetro Nominal | Diámetro Externo | mm. | Diámetro Interno | Espesor de pared | mm. | Centro A Extremo | Peso Aprox. |
| 1/2" | 0.840 | 21.34 | 0.674 | 0.083 | 2.11 | 1.500 | 0.06 |
| 3/4" | 1.050 | 26.67 | 0.884 | 0.083 | 2.11 | 1.125 | 0.06 |
| 1" | 1.315 | 33.40 | 1.097 | 0.109 | 2.77 | 1.500 | 0.16 |
| 1 1/4" | 1.660 | 42.16 | 1.442 | 0.109 | 2.77 | 1.875 | 0.20 |
| 1 1/2" | 1.900 | 48.26 | 1.682 | 0.109 | 2.77 | 2.250 | 0.28 |
| 2" | 2.375 | 60.33 | 2.157 | 0.109 | 2.77 | 3.000 | 0.47 |
| 2 1/2" | 2.875 | 73.03 | 2.635 | 0.120 | 3.05 | 3.750 | 0.79 |
| 3" | 3.500 | 88.90 | 3.260 | 0.120 | 3.05 | 4.500 | 1.16 |
| 4" | 4.500 | 114.30 | 4.260 | 0.120 | 3.05 | 6.000 | 2.00 |
| 6" | 6.625 | 168.28 | 6.357 | 0.134 | 3.40 | 9.000 | 4.96 |
| 8" | 8.625 | 219.08 | 8.329 | 0.148 | 3.76 | 12.000 | 9.55 |
| 10" | 10.750 | 273.05 | 10.420 | 0.165 | 4.19 | 15.000 | 16.60 |
| 12" | 12.750 | 323.85 | 12.390 | 0.180 | 4.57 | 18.000 | 25.80 |

| Codos 90° Radio Largo Cédula 40 S | | | | | | | |
|-----------------------------------|------------------|--------|------------------|------------------|------|------------------|-------------|
| Diámetro Nominal | Diámetro Externo | mm. | Diámetro Interno | Espesor de pared | mm. | Centro A Extremo | Peso Aprox. |
| 1/2" | 0.840 | 21.34 | 0.622 | 0.109 | 2.77 | 1.500 | 0.08 |
| 3/4" | 1.050 | 26.67 | 0.824 | 0.113 | 2.87 | 1.125 | 0.10 |
| 1" | 1.315 | 33.40 | 1.049 | 0.133 | 3.38 | 1.500 | 0.21 |
| 1 1/4" | 1.660 | 42.16 | 1.380 | 0.140 | 3.56 | 1.875 | 0.25 |
| 1 1/2" | 1.900 | 48.26 | 1.610 | 0.145 | 3.68 | 2.250 | 0.36 |
| 2" | 2.375 | 60.33 | 2.067 | 0.154 | 3.91 | 3.000 | 0.65 |
| 2 1/2" | 2.875 | 73.03 | 2.469 | 0.203 | 5.16 | 3.750 | 1.29 |
| 3" | 3.500 | 88.90 | 3.068 | 0.216 | 5.49 | 4.500 | 2.02 |
| 4" | 4.500 | 114.30 | 4.026 | 0.237 | 6.02 | 6.000 | 3.84 |
| 6" | 6.625 | 168.28 | 6.065 | 0.280 | 7.11 | 9.000 | 10.10 |
| 8" | 8.625 | 219.08 | 7.981 | 0.322 | 8.18 | 12.000 | 20.30 |
| 10" | 10.750 | 273.05 | 10.020 | 0.365 | 9.27 | 15.000 | 36.00 |
| 12" | 12.750 | 323.85 | 12.000 | 0.375 | 9.53 | 18.000 | 53.00 |

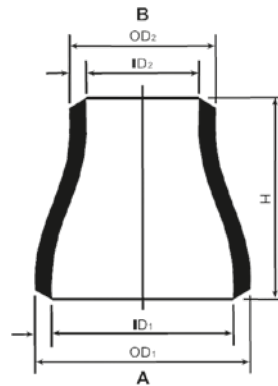
REDUCCIONES CONCENTRICAS ACERO INOXIDABLE ASTM - A 403



Reducción concéntrica, cédula 10 S

| Extremo ancho A | | | | | Extremo ancho B | | | | | |
|------------------|----------------------|--------|------------------|------|----------------------|--------|------------------|------|-------------------|-------------|
| Diámetro Nominal | Diámetro Exterior OD | mm. | Espesor de pared | mm. | Diámetro exterior OD | mm. | Espesor de pared | mm. | Extremo a extremo | Peso Aprox. |
| 3/4" x 1/2" | 1.050 | 26.67 | 0.083 | 2.11 | 0.840 | 21.34 | 0.083 | 2.11 | 1.500 | 0.04 |
| 1" x 3/4" | 1.315 | 33.40 | 0.109 | 2.77 | 1.050 | 26.67 | 0.083 | 2.11 | 2.000 | 0.10 |
| 1" x 1/2" | 1.315 | 33.40 | 0.109 | 2.77 | 0.840 | 21.34 | 0.083 | 2.11 | 2.000 | 0.09 |
| 1 1/4" x 1" | 1.660 | 42.16 | 0.109 | 2.77 | 1.315 | 33.40 | 0.109 | 2.77 | 2.000 | 0.12 |
| 1 1/4" x 3/4" | 1.660 | 42.16 | 0.109 | 2.77 | 1.050 | 26.67 | 0.083 | 2.11 | 2.000 | 0.11 |
| 1 1/4" x 1 1/4" | 1.900 | 48.26 | 0.109 | 2.77 | 1.660 | 42.16 | 0.109 | 2.77 | 2.500 | 0.18 |
| 1 1/2" x 1" | 1.900 | 48.26 | 0.109 | 2.77 | 1.315 | 33.40 | 0.109 | 2.77 | 2.000 | 0.17 |
| 1 1/2" x 3/4" | 1.900 | 48.26 | 0.109 | 2.77 | 1.050 | 26.67 | 0.083 | 2.11 | 2.500 | 0.15 |
| 1 1/2" x 1/2" | 1.900 | 48.26 | 0.109 | 2.77 | 0.840 | 21.34 | 0.083 | 2.11 | 2.500 | 0.14 |
| 2" x 1 1/2" | 2.375 | 60.33 | 0.109 | 2.77 | 1.900 | 48.26 | 0.109 | 2.77 | 3.000 | 0.27 |
| 2" x 1 1/4" | 2.375 | 60.33 | 0.109 | 2.77 | 1.660 | 42.16 | 0.109 | 2.77 | 3.000 | 0.25 |
| 2" x 1" | 2.375 | 60.33 | 0.109 | 2.77 | 1.315 | 33.40 | 0.109 | 2.77 | 3.000 | 0.23 |
| 2 1/2" x 2" | 2.875 | 73.03 | 0.120 | 3.05 | 2.375 | 60.33 | 0.109 | 2.77 | 3.500 | 0.43 |
| 2 1/2" x 1 1/2" | 2.875 | 73.03 | 0.120 | 3.05 | 1.900 | 48.26 | 0.109 | 2.77 | 3.500 | 0.39 |
| 3" x 2 1/2" | 3.500 | 88.90 | 0.120 | 3.05 | 2.875 | 73.03 | 0.120 | 3.05 | 3.500 | 0.52 |
| 3" x 2" | 3.500 | 88.90 | 0.120 | 3.05 | 2.375 | 60.33 | 0.109 | 2.77 | 3.500 | 0.48 |
| 3" x 1 1/2" | 3.500 | 88.90 | 0.120 | 3.05 | 1.900 | 48.26 | 0.109 | 2.77 | 3.500 | 0.45 |
| 4" x 3" | 4.500 | 114.30 | 0.120 | 3.05 | 3.500 | 88.90 | 0.120 | 3.05 | 4.000 | 0.76 |
| 4" x 2 1/2" | 4.500 | 114.30 | 0.120 | 3.05 | 2.875 | 73.03 | 0.120 | 3.05 | 4.000 | 0.71 |
| 4" x 2" | 4.500 | 114.30 | 0.120 | 3.05 | 2.375 | 60.33 | 0.109 | 2.77 | 4.000 | 0.67 |
| 6" x 4" | 6.625 | 168.28 | 0.134 | 3.40 | 4.500 | 114.30 | 0.120 | 3.05 | 5.500 | 1.65 |
| 8" x 6" | 8.625 | 219.08 | 0.148 | 3.76 | 6.625 | 168.28 | 0.134 | 3.40 | 6.000 | 2.72 |
| 10" x 8" | 10.750 | 273.05 | 0.165 | 4.19 | 8.625 | 219.08 | 0.148 | 3.76 | 7.000 | 4.49 |
| 10" x 6" | 10.750 | 273.05 | 0.165 | 4.19 | 6.625 | 168.28 | 0.134 | 3.40 | 7.000 | 4.14 |
| 12" x 10" | 12.750 | 323.85 | 0.180 | 4.57 | 10.750 | 273.05 | 0.165 | 4.19 | 8.000 | 6.78 |
| 12" x 8" | 12.750 | 323.85 | 0.180 | 4.57 | 8.625 | 219.08 | 0.148 | 3.76 | 8.000 | 6.31 |

REDUCCIONES CONCENTRICAS ACERO INOXIDABLE ASTM - A 403



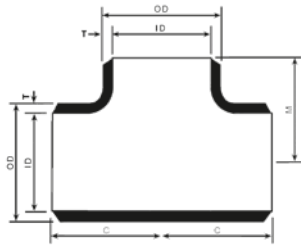
Reducción concéntrica, cédula 40 S

| Extremo ancho A | | | | | Extremo ancho B | | | | | |
|------------------|----------------------|--------|------------------|------|----------------------|--------|------------------|------|-------------------|-------------|
| Díámetro Nominal | Díámetro Exterior OD | mm. | Espesor de pared | mm. | Díámetro exterior OD | mm. | Espesor de pared | mm. | Extremo a extremo | Peso Aprox. |
| 3/4" x 1/2" | 1.050 | 26.67 | 0.113 | 2.87 | 0.840 | 21.34 | 0.109 | 2.77 | 1.500 | 0.06 |
| 1" x 3/4" | 1.315 | 33.40 | 0.133 | 3.38 | 1.050 | 26.67 | 0.133 | 2.87 | 2.000 | 0.12 |
| 1" x 1/2" | 1.315 | 33.40 | 0.133 | 3.38 | 0.840 | 21.34 | 0.109 | 2.77 | 2.000 | 0.11 |
| 1 1/4" x 1" | 1.660 | 42.16 | 0.140 | 3.56 | 1.315 | 33.40 | 0.133 | 3.38 | 2.000 | 0.16 |
| 1 1/4" x 3/4" | 1.660 | 42.16 | 0.140 | 3.56 | 1.050 | 26.67 | 0.133 | 2.87 | 2.000 | 0.14 |
| 1 1/4" x 1 1/4" | 1.900 | 48.26 | 0.145 | 3.68 | 1.660 | 42.16 | 0.140 | 3.56 | 2.500 | 0.24 |
| 1 1/2" x 1" | 1.900 | 48.26 | 0.145 | 3.68 | 1.315 | 33.40 | 0.133 | 3.38 | 2.000 | 0.22 |
| 1 1/2" x 3/4" | 1.900 | 48.26 | 0.145 | 3.68 | 1.050 | 26.67 | 0.133 | 2.87 | 2.500 | 0.20 |
| 1 1/2" x 1/2" | 1.900 | 48.26 | 0.145 | 3.68 | 0.840 | 21.34 | 0.109 | 2.77 | 2.500 | 0.18 |
| 2" x 1 1/2" | 2.375 | 60.33 | 0.154 | 3.91 | 1.900 | 48.26 | 0.145 | 3.68 | 3.000 | 0.37 |
| 2" x 1 1/4" | 2.375 | 60.33 | 0.154 | 3.91 | 1.660 | 42.16 | 0.140 | 3.56 | 3.000 | 0.35 |
| 2" x 1" | 2.375 | 60.33 | 0.154 | 3.91 | 1.315 | 33.40 | 0.133 | 3.38 | 3.000 | 0.32 |
| 2 1/2" x 2" | 2.875 | 73.03 | 0.203 | 5.16 | 2.375 | 60.33 | 0.154 | 3.91 | 3.500 | 0.72 |
| 2 1/2" x 1 1/2" | 2.875 | 73.03 | 0.203 | 5.16 | 1.900 | 48.26 | 0.145 | 3.68 | 3.500 | 0.66 |
| 3" x 2 1/2" | 3.500 | 88.90 | 0.216 | 5.49 | 2.875 | 73.03 | 0.203 | 5.16 | 3.500 | 0.93 |
| 3" x 2" | 3.500 | 88.90 | 0.216 | 5.49 | 2.375 | 60.33 | 0.154 | 3.91 | 3.500 | 0.85 |
| 3" x 1 1/2" | 3.500 | 88.90 | 0.216 | 5.49 | 1.900 | 48.26 | 0.145 | 3.68 | 3.500 | 0.78 |
| 4" x 3" | 4.500 | 114.30 | 0.237 | 6.02 | 3.500 | 88.90 | 0.216 | 5.49 | 4.000 | 1.45 |
| 4" x 2 1/2" | 4.500 | 114.30 | 0.237 | 6.02 | 2.875 | 73.03 | 0.203 | 5.16 | 4.000 | 1.37 |
| 4" x 2" | 4.500 | 114.30 | 0.237 | 6.02 | 2.375 | 60.33 | 0.154 | 3.91 | 4.000 | 1.27 |
| 6" x 4" | 6.625 | 168.28 | 0.280 | 7.11 | 4.500 | 114.30 | 0.237 | 6.02 | 5.500 | 3.30 |
| 8" x 6" | 8.625 | 219.08 | 0.322 | 8.18 | 6.625 | 168.28 | 0.280 | 7.11 | 6.000 | 5.71 |
| 10" x 8" | 10.750 | 273.05 | 0.365 | 9.27 | 8.625 | 219.08 | 0.322 | 8.18 | 7.000 | 9.58 |
| 10" x 6" | 10.750 | 273.05 | 0.365 | 9.27 | 6.625 | 168.28 | 0.280 | 7.11 | 7.000 | 8.78 |
| 12" x 10" | 12.750 | 323.85 | 0.375 | 9.53 | 10.750 | 273.05 | 0.365 | 9.27 | 8.000 | 13.60 |
| 12" x 8" | 12.750 | 323.85 | 0.375 | 9.53 | 8.625 | 219.08 | 0.322 | 8.18 | 8.000 | 12.70 |

TEE Recta Acero Inoxidable ASTM - A 403

| Conexiones Soldables con y sin Costura | | |
|--|----------------------------|------------------------------|
| Normas de Fabricación | Normas de Dimensionamiento | Aplicación |
| ASTM A-403 | ANSI B-16.5, B-16.28 | Para usos generales con Pipe |
| ASTM A-4774 | | |

Aceros inoxidables: TP 304, 316, Grados L y Especiales



TEE Cédula 10 S

| Diámetro Nominal | Diámetro Exterior OD | mm. | Diámetro interno ID | Espesor de pared | mm. | C Centro de Orilla | | Peso Aprox. |
|------------------|----------------------|--------|---------------------|------------------|------|--------------------|--------|-------------|
| | | | | | | | | |
| 1/2" | 0.840 | 21.34 | 0.674 | 0.083 | 2.11 | 1.000 | 1.000 | 0.07 |
| 3/4" | 1.050 | 26.67 | 0.884 | 0.083 | 2.11 | 1.125 | 1.125 | 0.09 |
| 1" | 1.315 | 33.40 | 1.097 | 0.109 | 2.77 | 1.500 | 1.500 | 0.20 |
| 1 1/4" | 1.660 | 42.16 | 1.442 | 0.109 | 2.77 | 1.875 | 1.875 | 0.33 |
| 1 1/2" | 1.900 | 48.26 | 1.682 | 0.109 | 2.77 | 2.250 | 2.250 | 0.46 |
| 2" | 2.375 | 60.33 | 2.157 | 0.109 | 2.77 | 2.500 | 2.500 | 0.63 |
| 2 1/2" | 2.875 | 73.03 | 2.635 | 0.120 | 3.05 | 3.000 | 3.000 | 1.01 |
| 3" | 3.500 | 88.90 | 3.260 | 0.120 | 3.05 | 3.375 | 3.375 | 1.37 |
| 4" | 4.500 | 114.30 | 4.260 | 0.120 | 3.05 | 4.125 | 4.125 | 2.15 |
| 6" | 6.625 | 168.28 | 6.357 | 0.134 | 3.40 | 5.625 | 5.625 | 4.76 |
| 8" | 8.625 | 219.08 | 8.329 | 0.148 | 3.76 | 7.000 | 7.000 | 8.46 |
| 10" | 10.750 | 273.05 | 10.420 | 0.165 | 4.19 | 8.500 | 8.500 | 14.20 |
| 12" | 12.750 | 323.85 | 12.390 | 0.180 | 4.57 | 10.000 | 10.000 | 21.60 |

TEE Cédula 10 S

| Diámetro Nominal | Diámetro Exterior OD | mm. | Diámetro interno ID | Espesor de pared | mm. | C Centro de Orilla | | Peso Aprox. |
|------------------|----------------------|--------|---------------------|------------------|------|--------------------|--------|-------------|
| | | | | | | | | |
| 1/2" | 0.840 | 21.34 | 0.622 | 0.109 | 2.77 | 1.000 | 1.000 | 0.08 |
| 3/4" | 1.050 | 26.67 | 0.824 | 0.113 | 2.87 | 1.125 | 1.125 | 0.11 |
| 1" | 1.315 | 33.40 | 1.049 | 0.133 | 3.38 | 1.500 | 1.500 | 0.24 |
| 1 1/4" | 1.660 | 42.16 | 1.380 | 0.140 | 3.56 | 1.875 | 1.875 | 0.41 |
| 1 1/2" | 1.900 | 48.26 | 1.610 | 0.145 | 3.68 | 2.250 | 2.250 | 0.60 |
| 2" | 2.375 | 60.33 | 2.067 | 0.154 | 3.91 | 2.500 | 2.500 | 0.87 |
| 2 1/2" | 2.875 | 73.03 | 2.469 | 0.203 | 5.16 | 3.000 | 3.000 | 1.66 |
| 3" | 3.500 | 88.90 | 3.068 | 0.216 | 5.49 | 3.375 | 3.375 | 1.90 |
| 4" | 4.500 | 114.30 | 4.026 | 0.237 | 6.02 | 4.125 | 4.125 | 4.13 |
| 6" | 6.625 | 168.28 | 6.065 | 0.280 | 7.11 | 5.625 | 5.625 | 9.73 |
| 8" | 8.625 | 219.08 | 7.981 | 0.322 | 8.18 | 7.000 | 7.000 | 18.00 |
| 10" | 10.750 | 273.05 | 10.020 | 0.365 | 9.27 | 8.500 | 8.500 | 30.80 |
| 12" | 12.750 | 323.85 | 12.000 | 0.375 | 9.53 | 10.000 | 10.000 | 44.30 |



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SUCURSAL

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