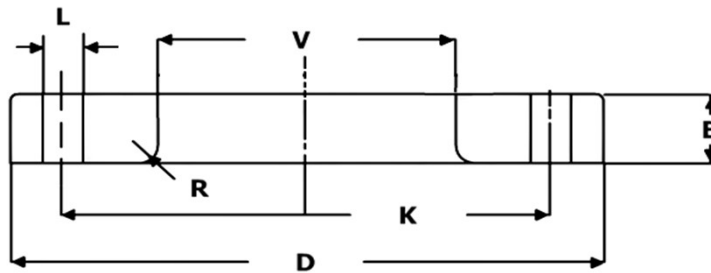


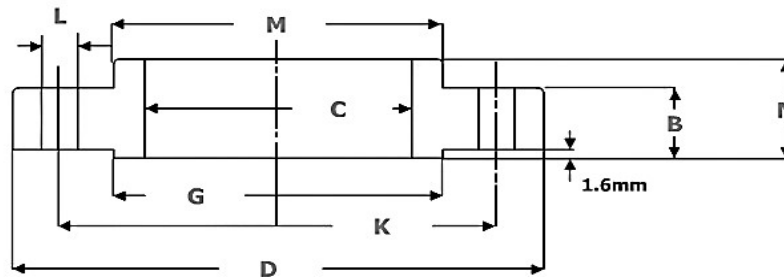
| DIÂMETRO | B | Nº FUROS | C | D | G | K | L |
|----------|-------|----------|--------|--------|--------|--------|------|
| 1/2" | 11.1 | 4 | 22.4 | 88.9 | 34.90 | 60.3 | 15.9 |
| 3/4" | 12.7 | 4 | 27.7 | 98.4 | 42.90 | 69.8 | 15.9 |
| 1" | 14.3 | 4 | 34.5 | 108.00 | 50.80 | 79.4 | 15.9 |
| 1.1/4" | 15.9 | 4 | 43.2 | 117.00 | 63.50 | 88.9 | 15.9 |
| 1.1/2" | 17.5 | 4 | 49.5 | 127.00 | 73.00 | 98.4 | 15.9 |
| 2" | 19.00 | 4 | 62.00 | 152.00 | 92.10 | 121.00 | 19.0 |
| 2.1/2" | 22.2 | 4 | 74.7 | 178.00 | 105.00 | 140.00 | 19.0 |
| 3" | 23.8 | 4 | 90.7 | 190.00 | 127.00 | 152.00 | 19.0 |
| 4" | 23.8 | 8 | 116 | 229.00 | 157.00 | 190.00 | 19.0 |
| 5" | 23.8 | 8 | 144.00 | 254.00 | 186.00 | 216.00 | 22.2 |
| 6" | 25.4 | 8 | 171.00 | 279.00 | 216.00 | 241.00 | 22.2 |
| 8" | 28.60 | 8 | 221.00 | 343.00 | 270.00 | 298.00 | 22.2 |
| 10" | 30.20 | 12 | 276.00 | 406.00 | 324.00 | 362.00 | 25.4 |
| 12" | 31.80 | 12 | 327.00 | 483.00 | 381.00 | 432.00 | 25.4 |
| 14" | 34.90 | 12 | 359.00 | 533.00 | 413.00 | 476.00 | 28.6 |
| 16" | 36.50 | 16 | 410.00 | 497.00 | 470.00 | 540.00 | 28.6 |
| 18" | 39.70 | 16 | 462.00 | 635.00 | 533.00 | 578.00 | 31.8 |
| 20" | 42.90 | 20 | 513.00 | 693.00 | 584.00 | 635.00 | 31.8 |
| 24" | 47.60 | 20 | 616.00 | 813.00 | 692.00 | 749.00 | 34.9 |

**TABELA DIMENSIONAL
FLANGE SOLTO LISO (LAP JOINT)
CLASSE 150 LBS**

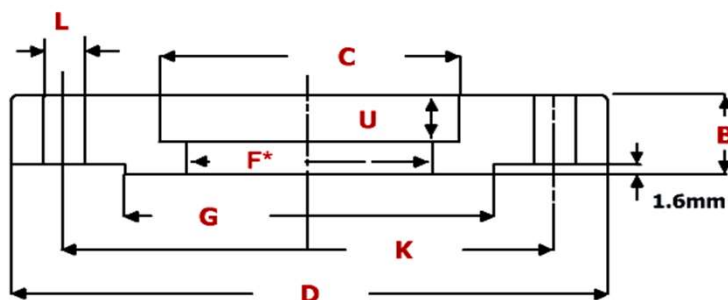
NORMA DE REFERENCIA: ANSI B16.5



| DIÂMETRO | B | Nº FUROS | V | D | K | L | R |
|----------|-------|----------|--------|--------|--------|-------|------|
| 1/2" | 11.00 | 4 | 22.9 | 88.9 | 60.3 | 15.9 | 3.18 |
| 3/4" | 12.70 | 4 | 28.2 | 98.4 | 69.8 | 15.9 | 3.18 |
| 1" | 14.20 | 4 | 35.1 | 108.00 | 79.4 | 15.9 | 3.18 |
| 1.1/4" | 15.90 | 4 | 43.7 | 117.00 | 88.9 | 15.9 | 4.76 |
| 1.1/2" | 17.50 | 4 | 50.0 | 127.00 | 98.4 | 15.9 | 6.35 |
| 2" | 19.00 | 4 | 62.5 | 152.00 | 121.0 | 19.0 | 7.94 |
| 2.1/2" | 22.20 | 4 | 75.40 | 178.00 | 140.0 | 19.0 | 7.94 |
| 3" | 23.80 | 4 | 91.4 | 190.0 | 152.0 | 19.0 | 9.52 |
| 4" | 23.80 | 8 | 117.0 | 229.0 | 190.0 | 19.0 | 11.1 |
| 5" | 23.80 | 8 | 145.0 | 254.0 | 216.0 | 22.2 | 11.1 |
| 6" | 25.40 | 8 | 171.00 | 279.00 | 241.0 | 22.2 | 12.7 |
| 8" | 28.60 | 8 | 222.00 | 343.00 | 298.00 | 22.2 | 12.7 |
| 10" | 30.20 | 12 | 277.00 | 406.00 | 362.00 | 25.4 | 12.7 |
| 12" | 31.80 | 12 | 328.00 | 483.00 | 432.00 | 25.4 | 12.7 |
| 14" | 34.90 | 12 | 360.00 | 533.00 | 476.00 | 28.60 | 12.7 |
| 16" | 36.50 | 16 | 411.00 | 597.00 | 540.00 | 28.60 | 12.7 |
| 18" | 39.70 | 16 | 462.00 | 635.00 | 578.00 | 31.80 | 12.7 |
| 20" | 42.90 | 20 | 514.00 | 693.00 | 635.00 | 31.80 | 12.7 |
| 24" | 47.60 | 20 | 616.00 | 813.00 | 749.00 | 34.90 | 12.7 |

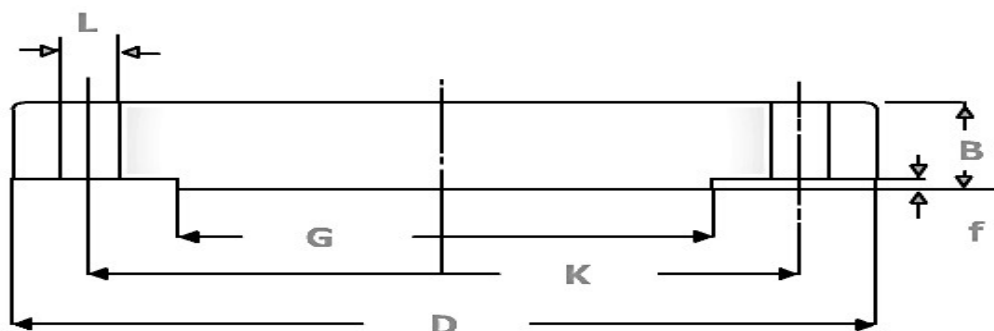


| DIÂMETRO | D | L | Nº Furos | M | C | B | N | G | K |
|----------|--------|--------|----------|--------|--------|-------|--------|--------|--------|
| 1/2' | 88.90 | 15.90 | 4 | 30.20 | 22.40 | 11.10 | 15.90 | 34.90 | 60.30 |
| 3/4" | 98.40 | 15.90 | 4 | 38.10 | 27.70 | 12.70 | 15.90 | 42.90 | 69.80 |
| 1' | 108.00 | 15.90 | 4 | 49.20 | 34.50 | 14.30 | 17.50 | 50.80 | 79.40 |
| 1.1/4" | 117.00 | 15.90 | 4 | 58.70 | 43.20 | 15.90 | 20.60 | 63.50 | 88.90 |
| 1.1/2" | 127.00 | 15.90 | 4 | 65.10 | 49.50 | 17.50 | 22.20 | 73.00 | 98.40 |
| 2" | 152.00 | 19.000 | 4 | 77.80 | 62.20 | 19.00 | 25.40 | 92.10 | 121.00 |
| 2.1/2" | 178.00 | 19.00 | 4 | 90.50 | 74.70 | 22.20 | 28.60 | 105.00 | 140.00 |
| 3" | 190.00 | 19.00 | 4 | 108.00 | 90.70 | 23.80 | 30.20 | 127.00 | 152.00 |
| 4" | 229.00 | 19.00 | 8 | 135.00 | 116.00 | 23.80 | 33.30 | 157.00 | 190.00 |
| 5" | 254.00 | 22.20 | 8 | 164.00 | 144.00 | 23.80 | 36.50 | 186.00 | 216.00 |
| 6" | 279.00 | 22.20 | 8 | 192.00 | 171.00 | 25.40 | 39.70 | 216.00 | 241.00 |
| 8" | 343.00 | 22.20 | 8 | 246.00 | 221.00 | 28.60 | 44.40 | 270.00 | 298.00 |
| 10" | 406.00 | 25.40 | 12 | 305.00 | 276.00 | 30.20 | 49.20 | 324.00 | 362.00 |
| 12" | 483.00 | 25.40 | 12 | 365.00 | 327.00 | 31.80 | 55.60 | 381.00 | 432.00 |
| 14" | 533.00 | 28.60 | 12 | 400.00 | 359.00 | 34.90 | 57.20 | 413.00 | 476.00 |
| 16' | 597.00 | 28.60 | 16 | 457.00 | 410.00 | 36.50 | 63.50 | 470.00 | 540.00 |
| 18" | 635.00 | 31.80 | 16 | 505.00 | 462.00 | 39.70 | 68.30 | 533.00 | 578.00 |
| 20" | 693.00 | 31.80 | 20 | 559.00 | 513.20 | 42.90 | 103.00 | 584.00 | 635.00 |
| 24" | 813.00 | 34.90 | 20 | 664.00 | 616.00 | 47.60 | 111.00 | 692.00 | 749.00 |

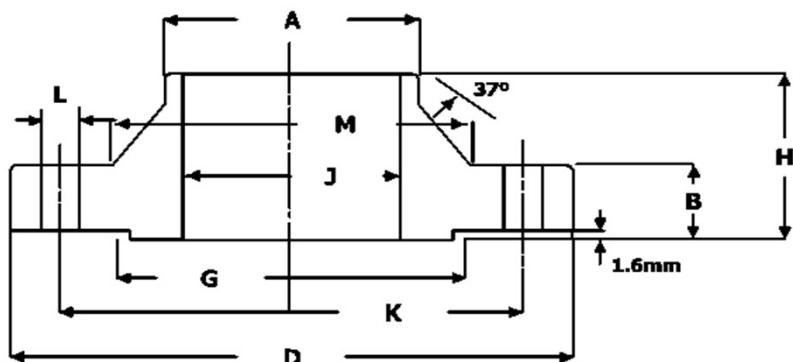


| DIÂMETRO | L | C | U | B | F* | G | K | D |
|----------|-------|--------|-------|-------|--------|--------|--------|--------|
| 1/2" | 15.90 | 22.40 | 4.72 | 11.1 | 15.00 | 34.90 | 60.3 | 88.90 |
| 3/4" | 15.90 | 27.70 | 7.90 | 12.7 | 20.00 | 42.90 | 69.80 | 98.40 |
| 1" | 15.90 | 34.50 | 9.50 | 14.3 | 25.00 | 50.80 | 79.40 | 108.00 |
| 1.1/4" | 15.90 | 43.20 | 9.60 | 15.9 | 32.00 | 63.50 | 88.90 | 117.00 |
| 1.1/2" | 15.90 | 49.20 | 11.10 | 17.50 | 40.00 | 73.00 | 98.40 | 127.00 |
| 2" | 19.00 | 62.00 | 11.10 | 19.00 | 50.00 | 92.10 | 121.00 | 152.00 |
| 2.1/2" | 19.00 | 74.70 | 12.60 | 22.20 | 63.00 | 105.00 | 140.00 | 178.00 |
| 3" | 19.00 | 90.70 | 14.20 | 23.80 | 77.00 | 127.00 | 152.00 | 190.00 |
| 4" | 19.00 | 116.00 | 14.30 | 23.80 | 100.00 | 157.00 | 190.00 | 229.00 |
| 5" | 22.20 | 144.00 | 11.10 | 23.80 | 128.00 | 186.00 | 216.00 | 254.00 |
| 6" | 22.20 | 171.00 | 12.70 | 25.40 | 155.00 | 216.00 | 241.00 | 279.00 |
| 8" | 22.20 | 221.00 | 15.90 | 28.60 | 200.00 | 270.00 | 298.00 | 343.00 |
| 10" | 25.40 | 276.00 | 14.30 | 30.20 | 250.00 | 324.00 | 362.00 | 406.00 |
| 12" | 25.40 | 327.00 | 15.90 | 31.80 | 300.00 | 381.00 | 432.00 | 483.00 |
| 14" | 28.60 | 359.00 | 19.00 | 34.90 | 350.00 | 413.00 | 476.00 | 533.00 |
| 16" | 28.60 | 410.00 | 17.40 | 36.50 | 400.00 | 470.00 | 540.00 | 597.00 |
| 18" | 31.80 | 462.00 | 20.60 | 39.70 | 450.00 | 533.00 | 578.00 | 635.00 |
| 20" | 31.80 | 513.00 | 23.90 | 42.90 | 500.00 | 584.00 | 635.00 | 693.00 |
| 24" | 34.90 | 616.00 | 28.50 | 47.60 | 600.00 | 692.00 | 749.00 | 813.00 |

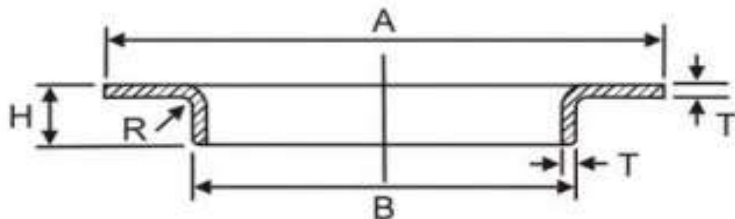
F* - PARA TUBOS SCHD 40



| DIÂMETRO | L | Nº FUROS | F | B | G | K | D |
|----------|-------|----------|-----|-------|--------|--------|--------|
| 1/2" | 15.90 | 4 | 1.6 | 11.10 | 34.90 | 60.30 | 88.90 |
| 3/4" | 15.90 | 4 | 1.6 | 12.70 | 42.90 | 69.80 | 98.40 |
| 1" | 15.90 | 4 | 1.6 | 14.30 | 50.80 | 79.40 | 108.00 |
| 1.1/4" | 15.90 | 4 | 1.6 | 15.90 | 63.50 | 88.90 | 117.00 |
| 1.1/2" | 15.90 | 4 | 1.6 | 17.50 | 73.00 | 98.40 | 127.00 |
| 2" | 19.00 | 4 | 1.6 | 19.00 | 92.10 | 121.00 | 152.00 |
| 2.1/2" | 19.00 | 4 | 1.6 | 22.20 | 105.00 | 140.00 | 178.00 |
| 3" | 19.00 | 4 | 1.6 | 23.80 | 127.00 | 152.00 | 190.00 |
| 4" | 19.00 | 8 | 1.6 | 23.80 | 157.00 | 190.00 | 229.00 |
| 5" | 22.20 | 8 | 1.6 | 23.80 | 186.00 | 216.00 | 254.00 |
| 6" | 22.20 | 8 | 1.6 | 25.40 | 216.00 | 241.00 | 279.00 |
| 8" | 22.20 | 8 | 1.6 | 28.60 | 270.00 | 298.00 | 343.00 |
| 10" | 25.40 | 12 | 1.6 | 30.20 | 324.00 | 362.00 | 406.00 |
| 12" | 25.40 | 12 | 1.6 | 31.80 | 381.00 | 432.00 | 483.00 |
| 14" | 28.60 | 12 | 1.6 | 34.90 | 413.00 | 476.00 | 533.00 |
| 16" | 28.60 | 16 | 1.6 | 36.50 | 470.00 | 540.00 | 597.00 |
| 18" | 31.80 | 16 | 1.6 | 39.70 | 533.00 | 578.00 | 635.00 |
| 20" | 31.80 | 20 | 1.6 | 42.90 | 584.00 | 635.00 | 693.00 |
| 24" | 34.90 | 20 | 1.6 | 47.60 | 692.00 | 749.00 | 813.00 |



| DIÂMETER | L | A | M | J | B | H | G | K | D |
|----------|--------|--------|--------|--------|-------|--------|--------|--------|--------|
| 1/2" | 15.90 | 21.30 | 30.20 | 15.70 | 11.10 | 47.60 | 34.90 | 60.30 | 88.90 |
| 3/4" | 15.90 | 26.70 | 38.10 | 20.80 | 12.70 | 52.40 | 42.90 | 69.80 | 98.40 |
| 1" | 15.90 | 33.50 | 49.20 | 26.70 | 14.30 | 55.60 | 50.80 | 79.40 | 108.00 |
| 1.1/4" | 15.90 | 42.20 | 58.70 | 35.10 | 15.90 | 57.20 | 63.50 | 88.90 | 117.00 |
| 1.1/2" | 15.90 | 48.30 | 65.10 | 40.90 | 17.50 | 61.90 | 73.00 | 98.40 | 127.00 |
| 2" | 19.000 | 60.50 | 77.80 | 52.60 | 19.00 | 63.50 | 92.10 | 121.00 | 152.00 |
| 2.1/2" | 19.00 | 73.20 | 90.50 | 62.70 | 22.20 | 69.80 | 105.00 | 140.00 | 178.00 |
| 3" | 19.00 | 88.90 | 108.00 | 78.00 | 23.80 | 69.80 | 127.00 | 152.00 | 190.00 |
| 4" | 19.00 | 114.00 | 135.00 | 102.00 | 23.80 | 76.20 | 157.00 | 190.00 | 229.00 |
| 5" | 22.20 | 141.00 | 164.00 | 128.00 | 23.80 | 88.90 | 186.00 | 216.00 | 254.00 |
| 6" | 22.20 | 168.00 | 192.00 | 154.00 | 25.40 | 88.90 | 216.00 | 241.00 | 279.00 |
| 8" | 22.20 | 219.00 | 246.00 | 203.00 | 28.60 | 102.00 | 270.00 | 298.00 | 343.00 |
| 10" | 25.40 | 273.00 | 305.00 | 255.00 | 30.20 | 102.00 | 324.00 | 362.00 | 406.00 |
| 12" | 25.40 | 324.00 | 365.00 | 305.00 | 31.80 | 114.00 | 381.00 | 432.00 | 483.00 |
| 14" | 28.60 | 356.00 | 400.00 | 336.50 | 34.90 | 127.00 | 413.00 | 476.00 | 533.00 |
| 16" | 28.60 | 406.00 | 457.00 | 387.00 | 36.50 | 127.00 | 470.00 | 540.00 | 597.00 |
| 18" | 31.80 | 457.00 | 505.00 | 438.00 | 39.70 | 140.00 | 533.00 | 578.00 | 635.00 |
| 20" | 31.80 | 508.00 | 559.00 | 489.00 | 42.90 | 144.00 | 584.00 | 635.00 | 693.00 |
| 24" | 34.90 | 610.00 | 664.00 | 590.50 | 47.60 | 152.00 | 692.00 | 749.00 | 813.00 |



| Ø NOMINAL | Ø MM | A (mm) | B (mm) | H (mm) | R (mm) | T - SCHD 5 (mm) | T - SCHD 10 (mm) |
|-----------|--------|--------|--------|--------|--------|-----------------|------------------|
| 1/2" | 21,30 | 44 | 21,30 | 7 | 3,0 | 1,65 | 2,11 |
| 3/4" | 26,70 | 55 | 26,70 | 8 | 3,0 | 1,65 | 2,11 |
| 1" | 33,40 | 62 | 33,40 | 10 | 3,0 | 1,65 | 2,77 |
| 1.1/4" | 42,20 | 72 | 42,20 | 12 | 4,8 | 1,65 | 2,77 |
| 1.1/2" | 48,30 | 80 | 48,30 | 12 | 6,4 | 1,65 | 2,77 |
| 2" | 60,30 | 100 | 60,30 | 14 | 7,9 | 1,65 | 2,77 |
| 2.1/2" | 73,00 | 118 | 73,00 | 14 | 7,9 | 2,11 | 3,05 |
| 3" | 88,90 | 130 | 88,90 | 15 | 9,7 | 2,11 | 3,05 |
| 4" | 114,30 | 165 | 114,30 | 18 | 11,2 | 2,11 | 3,05 |
| 5" | 141,30 | 190 | 141,30 | 20 | 11,2 | 2,77 | 3,40 |
| 6" | 168,30 | 216 | 168,30 | 24 | 12,7 | 2,77 | 3,40 |
| 8" | 219,10 | 274 | 219,10 | 26 | 12,7 | 2,77 | 3,76 |
| 10" | 273,00 | 333 | 273,00 | 26 | 12,7 | 3,40 | 4,19 |
| 12" | 323,90 | 389 | 323,90 | 28 | 12,7 | 3,96 | 4,57 |
| 14" | 355,60 | 420 | 355,60 | 30 | 12,7 | 3,96 | 4,78 |
| 16" | 406,40 | 470 | 406,40 | 30 | 12,7 | 4,20 | 4,78 |
| 18" | 457,20 | 520 | 457,20 | 30 | 12,7 | 4,20 | 4,78 |
| 20" | 508,00 | 570 | 508,00 | 30 | 12,7 | 4,78 | 5,54 |
| 24" | 609,60 | 675 | 609,60 | 30 | 12,7 | 5,54 | 6,35 |