



Bellows Material

321ss

Weld end Material
Carbon Steel

Expansion joints DN450 through DN1000 have 1mm thick liners

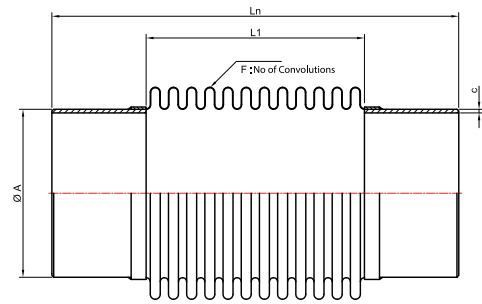
Design Pressure

2.5_{barg}

Design Temperature

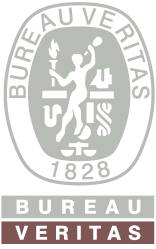
550°C

Design No
PT-001-BAL.0



| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | L1 (mm) | OD (mm) | Pipe | | |
|--------------------------|------------------------|---------------------------|--------------------|-----------------------|------------|------------|-----------|-----------|------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | | | A (mm) | c (mm) | |
| 32 | 1 1/4" | 205 | 26 | 1 | 0,3 | 105 | 52 | 42,4 | 2,6 |
| 40 | 1 1/2" | 205 | 22 | 1 | 0,3 | 105 | 60 | 48,3 | 2,6 |
| 50 | 2" | 245 | 13 | 2 | 0,3 | 120 | 78 | 60,3 | 2,9 |
| 65 | 2 1/2" | 245 | 13 | 2 | 0,3 | 120 | 96 | 76,1 | 2,9 |
| 80 | 3" | 245 | 13 | 2 | 0,3 | 120 | 110 | 88,9 | 3,2 |
| 90 | 3.5" | 245 | 13 | 2 | 0,3 | 120 | 122 | 101,6 | 3,2 |
| 100 | 4" | 245 | 11 | 2 | 0,3 | 120 | 140 | 114,3 | 3,6 |
| 125 | 5" | 245 | 11 | 2 | 0,3 | 120 | 166 | 139,7 | 3,6 |
| 150 | 6" | 245 | 9 | 2 | 0,3 | 120 | 200 | 168,3 | 4,0 |
| 175 | 7" | 245 | 9 | 2 | 0,3 | 120 | 226 | 193,7 | 4,5 |
| 200 | 8" | 245 | 9 | 2 | 0,3 | 120 | 251 | 219,1 | 4,5 |
| 250 | 10" | 245 | 9 | 2 | 0,3 | 120 | 305 | 273 | 5,0 |
| 300 | 12" | 295 | 9 | 2 | 0,3 | 145 | 361 | 323,9 | 5,6 |
| 350 | 14" | 295 | 9 | 2 | 0,3 | 145 | 393 | 355,6 | 5,6 |
| 400 | 16" | 295 | 9 | 2 | 0,3 | 145 | 443 | 406,4 | 5,6 |
| 450 | 18" | 300 | 8 | 2 | 0,4 | 176 | 509 | 457 | 8,0 |
| 500 | 20" | 340 | 9 | 2 | 0,4 | 216 | 564 | 508 | 8,0 |
| 600 | 24" | 340 | 9 | 2 | 0,4 | 216 | 669 | 609 | 10,0 |
| 700 | 28" | 380 | 6 | 2 | 0,4 | 168 | 779 | 711 | 10,0 |
| 800 | 32" | 380 | 6 | 2 | 0,4 | 180 | 888 | 812 | 10,0 |
| 900 | 36" | 380 | 5 | 2 | 0,5 | 170 | 998 | 914 | 10,0 |
| 1000 | 40" | 380 | 5 | 2 | 0,5 | 190 | 1108 | 1016 | 10,0 |

BLNC I



Bellows Material

321ss

Flange Material
Carbon Steel

Expansion joints DN450 through DN1000 have 1mm thick liners

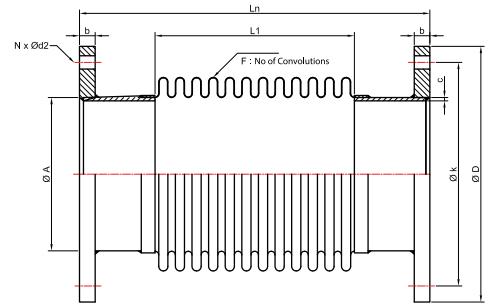
Design Pressure

2.5 barg

Design Temperature

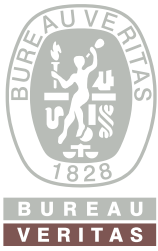
550°C

Design No
PT-007-BALF.0



| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | | | | Pipe | | Flange | | | |
|--------------------------|------------------------|---------------------------|--------------------|-----------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|--------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | L1 (mm) | OD (mm) | A (mm) | c (mm) | D (mm) | b (mm) | k (mm) | N x d2 | |
| 32 | 1 1/4" | 205 | 26 | 1 | 0,3 | 105 | 52 | 42,4 | 2,6 | 140 | 16 | 100 | 4 x 18 |
| 40 | 1 1/2" | 205 | 22 | 1 | 0,3 | 105 | 60 | 48,3 | 2,6 | 150 | 16 | 110 | 4 x 18 |
| 50 | 2" | 245 | 13 | 2 | 0,3 | 120 | 78 | 60,3 | 2,9 | 165 | 16 | 125 | 4 x 18 |
| 65 | 2 1/2" | 245 | 13 | 2 | 0,3 | 120 | 96 | 76,1 | 2,9 | 185 | 16 | 145 | 4 x 18 |
| 80 | 3" | 245 | 13 | 2 | 0,3 | 120 | 110 | 88,9 | 3,2 | 200 | 16 | 160 | 8 x 18 |
| 90 | 3.5" | 245 | 13 | 2 | 0,3 | 120 | 122 | 101,6 | 3,2 | 220 | 16 | 180 | 8 x 18 |
| 100 | 4" | 245 | 11 | 2 | 0,3 | 120 | 140 | 114,3 | 3,6 | 220 | 16 | 180 | 8 x 18 |
| 125 | 5" | 245 | 11 | 2 | 0,3 | 120 | 166 | 139,7 | 3,6 | 250 | 16 | 210 | 8 x 18 |
| 150 | 6" | 245 | 9 | 2 | 0,3 | 120 | 200 | 168,3 | 4,0 | 285 | 16 | 240 | 8 x 22 |
| 175 | 7" | 245 | 9 | 2 | 0,3 | 120 | 226 | 193,7 | 4,5 | 315 | 16 | 270 | 8 x 22 |
| 200 | 8" | 245 | 9 | 2 | 0,3 | 120 | 251 | 219,1 | 4,5 | 320 | 16 | 280 | 8 x 18 |
| 250 | 10" | 245 | 9 | 2 | 0,3 | 120 | 305 | 273 | 5,0 | 375 | 16 | 335 | 12 x 18 |
| 300 | 12" | 295 | 9 | 2 | 0,3 | 145 | 361 | 323,9 | 5,6 | 440 | 16 | 395 | 12 x 22 |
| 350 | 14" | 295 | 9 | 2 | 0,3 | 145 | 393 | 355,6 | 5,6 | 490 | 16 | 445 | 12 x 22 |
| 400 | 16" | 295 | 9 | 2 | 0,3 | 145 | 443 | 406,4 | 5,6 | 540 | 16 | 495 | 16 x 22 |
| 450 | 18" | 300 | 8 | 2 | 0,4 | 176 | 509 | 457 | 8,0 | 595 | 16 | 550 | 16 x 22 |
| 500 | 20" | 340 | 9 | 2 | 0,4 | 216 | 564 | 508 | 8,0 | 645 | 16 | 600 | 20 x 22 |
| 600 | 24" | 340 | 9 | 2 | 0,4 | 216 | 669 | 609 | 10,0 | 754 | 20 | 700 | 20 x 22 |
| 700 | 28" | 380 | 6 | 2 | 0,4 | 168 | 779 | 711 | 10,0 | 856 | 20 | 800 | 24 x 22 |
| 800 | 32" | 380 | 6 | 2 | 0,4 | 180 | 888 | 812 | 10,0 | 958 | 20 | 900 | 24 x 22 |
| 900 | 36" | 380 | 5 | 2 | 0,5 | 170 | 998 | 914 | 10,0 | 1060 | 20 | 1010 | 28 x 22 |
| 1000 | 40" | 380 | 5 | 2 | 0,5 | 190 | 1108 | 1016 | 10,0 | 1162 | 20 | 1110 | 32 x 22 |

BLNC IF



Bellows Material

321ss

Weld end Material
Carbon Steel

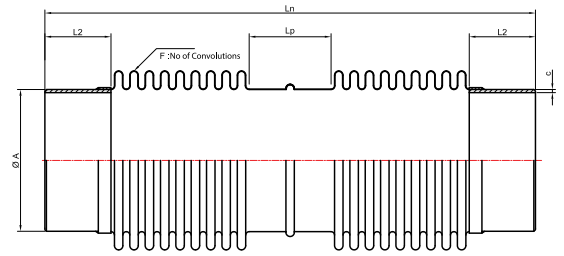
Design Pressure

2.5_{barg}

Design Temperature

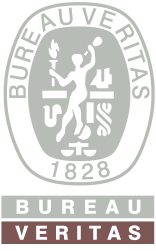
550^{°C}

Design No
PT-002-BAL2.0



| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | | Pipe | | | |
|--------------------------|---------------------|------------------------|-----------------|--------------------|---------|--------|--------|---------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | OD (mm) | A (mm) | c (mm) | L2 (mm) | Lp (mm) |
| 40 1 1/2" | 375 | 20 x 2 | 1 | 0,3 | 61 | 48,3 | 2,6 | 40 | 101 |
| 50 2" | 375 | 17 x 2 | 2 | 0,3 | 77 | 60,3 | 2,9 | 40 | 100 |
| 65 2 1/2" | 345 | 11 x 2 | 2 | 0,3 | 95 | 76,1 | 3,2 | 40 | 111 |
| 80 3" | 380 | 13 x 2 | 2 | 0,3 | 111 | 88,9 | 3,2 | 40 | 115 |
| 100 4" | 330 | 9 x 2 | 2 | 0,3 | 140 | 114,3 | 3,6 | 40 | 113 |
| 125 5" | 320 | 9 x 2 | 2 | 0,3 | 168 | 139,7 | 3,6 | 40 | 100 |
| 150 6" | 395 | 10 x 2 | 2 | 0,3 | 200 | 168,3 | 4,0 | 50 | 107 |
| 175 7" | 395 | 10 x 2 | 2 | 0,3 | 228 | 193,7 | 4,5 | 50 | 107 |
| 200 8" | 405 | 8 x 2 | 2 | 0,3 | 255 | 219,1 | 4,5 | 50 | 116 |
| 250 10" | 405 | 7 x 2 | 2 | 0,3 | 315 | 273 | 5,0 | 50 | 116 |
| 300 12" | 415 | 6 x 2 | 2 | 0,3 | 372 | 323,9 | 6,0 | 70 | 88 |
| 350 14" | 415 | 6 x 2 | 2 | 0,3 | 406 | 355,6 | 6,0 | 70 | 88 |
| 400 16" | 485 | 6 x 2 | 2 | 0,3 | 459 | 406,4 | 6,0 | 70 | 115 |
| 450 18" | 490 | 5 x 2 | 2 | 0,4 | 511 | 457 | 6,0 | 70 | 120 |
| 500 20" | 460 | 5 x 2 | 2 | 0,4 | 564 | 508 | 6,0 | 70 | 115 |

BLNC II



Bellows Material

321ss

Flange Material
Carbon Steel

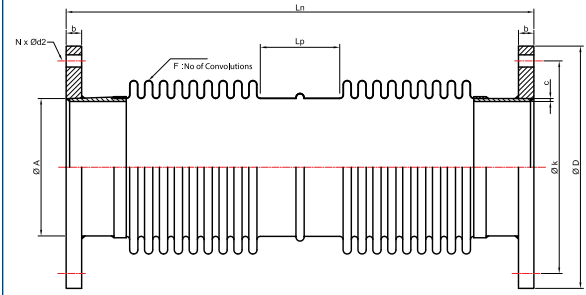
Design Pressure

2.5_{barg}

Design Temperature

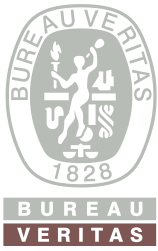
550°C

Design No
PT-008-BAL2F.0



| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | | Pipe | | | Flange | | | | |
|--------------------------|------------------------|---------------------------|--------------------|-----------------------|------------|-----------|-----------|------------|-----------|-----------|-----------|--------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | OD (mm) | A (mm) | c (mm) | Lp (mm) | D (mm) | b (mm) | k (mm) | N x d2 | |
| 40 | 1 1/2" | 375 | 20 x 2 | 1 | 0,3 | 60,5 | 48,3 | 2,6 | 101 | 150 | 16 | 110 | 4 x 18 |
| 50 | 2" | 375 | 17 x 2 | 2 | 0,3 | 77 | 60,3 | 2,9 | 100 | 165 | 16 | 125 | 4 x 18 |
| 65 | 2 1/2" | 345 | 11 x 2 | 2 | 0,3 | 95 | 76,1 | 3,2 | 111 | 185 | 16 | 145 | 4 x 18 |
| 80 | 3" | 380 | 13 x 2 | 2 | 0,3 | 111 | 88,9 | 3,2 | 115 | 200 | 16 | 160 | 8 x 18 |
| 100 | 4" | 330 | 9 x 2 | 2 | 0,3 | 140 | 114,3 | 3,6 | 113 | 220 | 16 | 180 | 8 x 18 |
| 125 | 5" | 320 | 9 x 2 | 2 | 0,3 | 168 | 139,7 | 3,6 | 100 | 250 | 16 | 210 | 8 x 18 |
| 150 | 6" | 395 | 10 x 2 | 2 | 0,3 | 200 | 168,3 | 4,0 | 107 | 285 | 16 | 240 | 8 x 22 |
| 175 | 7" | 395 | 10 x 2 | 2 | 0,3 | 228 | 193,7 | 4,5 | 107 | 315 | 16 | 270 | 8 x 22 |
| 200 | 8" | 405 | 8 x 2 | 2 | 0,3 | 255 | 219,1 | 4,5 | 116 | 320 | 16 | 280 | 8 x 18 |
| 250 | 10" | 405 | 7 x 2 | 2 | 0,3 | 315 | 273 | 5,0 | 116 | 375 | 16 | 335 | 12 x 18 |
| 300 | 12" | 415 | 6 x 2 | 2 | 0,3 | 372 | 323,9 | 6,0 | 88 | 440 | 16 | 395 | 12 x 22 |
| 350 | 14" | 415 | 6 x 2 | 2 | 0,3 | 406 | 355,6 | 6,0 | 88 | 490 | 16 | 445 | 12 x 22 |
| 400 | 16" | 485 | 6 x 2 | 2 | 0,3 | 458,5 | 406,4 | 6,0 | 115 | 540 | 16 | 495 | 16 x 22 |
| 450 | 18" | 490 | 5 x 2 | 2 | 0,4 | 511 | 457 | 6,0 | 120 | 595 | 16 | 550 | 16 x 22 |
| 500 | 20" | 460 | 5 x 2 | 2 | 0,4 | 564 | 508 | 6,0 | 115 | 645 | 16 | 600 | 20 x 22 |

BLNC IIF



Bellows Material

321ss

Weld end Material
Carbon Steel

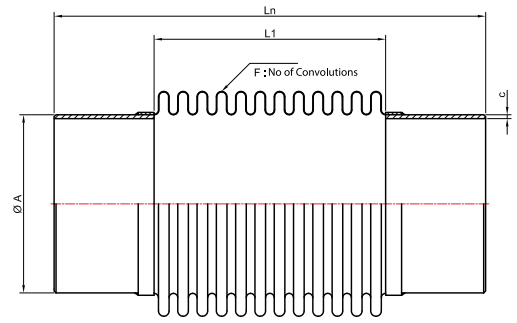
Design Pressure

2.5_{barg}

Design Temperature

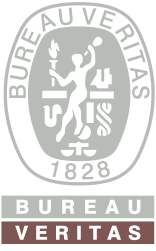
550^{°C}

Design No
PT-003-BAL3.0



| Nominal Diameter | | Length (Ln) (mm) | Bellows | | | | Pipe | | |
|------------------|-----|------------------------|---------------------------|--------------------|-----------------------|------------|------------|-----------|-----------|
| (DN) | | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | L1 (mm) | OD (mm) | A (mm) | c (mm) |
| 100 | 4" | 285 | 15 | 2 | 0,3 | 165 | 140 | 114,3 | 3,6 |
| 125 | 5" | 295 | 15 | 2 | 0,3 | 165 | 166 | 139,7 | 3,6 |
| 150 | 6" | 295 | 13 | 2 | 0,3 | 175 | 200 | 168,3 | 4,0 |
| 200 | 8" | 315 | 13 | 2 | 0,3 | 175 | 251 | 219,1 | 4,5 |
| 250 | 10" | 315 | 13 | 2 | 0,3 | 175 | 305 | 273 | 5,0 |
| 300 | 12" | 345 | 13 | 2 | 0,3 | 210 | 361 | 323,9 | 5,6 |
| 350 | 14" | 345 | 13 | 2 | 0,3 | 210 | 393 | 355,6 | 5,6 |

BLNC III



Bellows Material

321ss

Flange Material
Carbon Steel

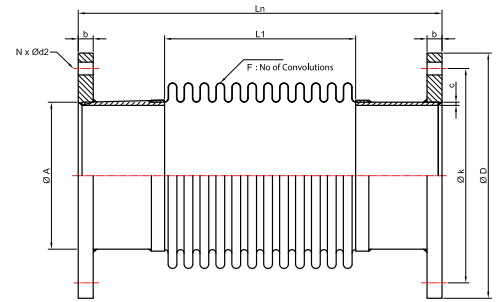
Design Pressure

2.5_{barg}

Design Temperature

550°C

Design No
PT-009-BAL3F.0



| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | | | | Pipe | | Flange | | | |
|--------------------------|------------------------|---------------------------|--------------------|-----------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|--------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | L1 (mm) | OD (mm) | A (mm) | c (mm) | D (mm) | b (mm) | k (mm) | N x d2 | |
| 100 | 4" | 285 | 15 | 2 | 0,3 | 165 | 140 | 114,3 | 3,6 | 220 | 16 | 180 | 8 x 18 |
| 125 | 5" | 295 | 15 | 2 | 0,3 | 165 | 166 | 139,7 | 3,6 | 250 | 16 | 210 | 8 x 18 |
| 150 | 6" | 295 | 13 | 2 | 0,3 | 175 | 200 | 168,3 | 4,0 | 285 | 16 | 240 | 8 x 22 |
| 200 | 8" | 315 | 13 | 2 | 0,3 | 175 | 251 | 219,1 | 4,5 | 320 | 16 | 280 | 8 x 18 |
| 250 | 10" | 315 | 13 | 2 | 0,3 | 175 | 305 | 273 | 5,0 | 375 | 16 | 335 | 12 x 18 |
| 300 | 12" | 345 | 13 | 2 | 0,3 | 210 | 361 | 323,9 | 5,6 | 440 | 16 | 395 | 12 x 22 |
| 350 | 14" | 345 | 13 | 2 | 0,3 | 210 | 393 | 355,6 | 5,6 | 490 | 16 | 445 | 12 x 22 |

BLNC III F



Bellows Material

321ss

Weld end Material
Carbon Steel

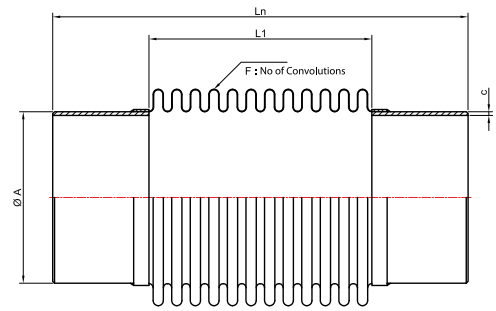
Design Pressure

2.5_{barg}

Design Temperature

550°C

Design No
PT-004-BAL4.0



| Nominal Diameter (DN) | | Length (Ln) (mm) | Bellows | | | | Pipe | | |
|--------------------------|--------|------------------------|---------------------------|--------------------|-----------------------|------------|------------|-----------|-----------|
| | | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | L1 (mm) | OD (mm) | A (mm) | c (mm) |
| 40 | 1 1/2" | 150 | 18 | 1 | 0,3 | 90 | 60 | 48,3 | 2,6 |
| 50 | 2" | 150 | 10 | 2 | 0,3 | 90 | 78 | 60,3 | 2,9 |
| 65 | 2 1/2" | 150 | 10 | 2 | 0,3 | 90 | 96 | 76,1 | 2,9 |
| 80 | 3" | 150 | 10 | 2 | 0,3 | 90 | 110 | 88,9 | 3,2 |
| 100 | 4" | 150 | 7 | 2 | 0,3 | 77 | 140 | 114,3 | 3,6 |
| 125 | 5" | 150 | 7 | 2 | 0,3 | 77 | 166 | 139,7 | 3,6 |
| 150 | 6" | 150 | 6 | 2 | 0,3 | 80 | 200 | 168,3 | 4,0 |
| 200 | 8" | 150 | 6 | 2 | 0,3 | 80 | 251 | 219,1 | 4,5 |
| 250 | 10" | 150 | 6 | 2 | 0,3 | 80 | 305 | 273 | 5,0 |
| 300 | 12" | 150 | 5 | 2 | 0,3 | 80 | 361 | 323,9 | 5,6 |

BLNC IV



Bellows Material

321ss

Flange Material
Carbon Steel

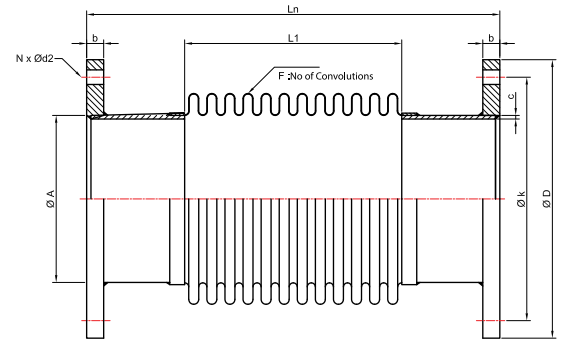
Design Pressure

2.5_{barg}

Design Temperature

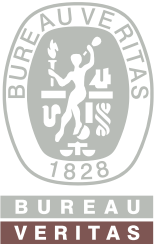
550°C

Design No
PT-004-BAL4.0



| Nominal Diameter (DN) | | Length (Ln) (mm) | Bellows | | | | Pipe | | Flange | | | | |
|-----------------------|--------|------------------|------------------------|-----------------|--------------------|---------|---------|--------|--------|--------|--------|--------|---------|
| | | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | L1 (mm) | OD (mm) | A (mm) | c (mm) | D (mm) | b (mm) | k (mm) | N x d2 |
| 40 | 1 1/2" | 150 | 18 | 1 | 0,3 | 90 | 60 | 48,3 | 2,6 | 150 | 16 | 100 | 4 x 18 |
| 50 | 2" | 150 | 10 | 2 | 0,3 | 90 | 78 | 60,3 | 2,9 | 165 | 16 | 125 | 4 x 18 |
| 65 | 2 1/2" | 150 | 10 | 2 | 0,3 | 90 | 96 | 76,1 | 2,9 | 185 | 16 | 145 | 4 x 18 |
| 80 | 3" | 150 | 10 | 2 | 0,3 | 90 | 110 | 88,9 | 3,2 | 200 | 16 | 160 | 8 x 18 |
| 100 | 4" | 150 | 7 | 2 | 0,3 | 77 | 140 | 114,3 | 3,6 | 220 | 16 | 180 | 8 x 18 |
| 125 | 5" | 150 | 7 | 2 | 0,3 | 77 | 166 | 139,7 | 3,6 | 250 | 16 | 210 | 8 x 18 |
| 150 | 6" | 150 | 6 | 2 | 0,3 | 80 | 200 | 168,3 | 4,0 | 285 | 16 | 240 | 8 x 22 |
| 200 | 8" | 150 | 6 | 2 | 0,3 | 80 | 251 | 219,1 | 4,5 | 320 | 16 | 280 | 8 x 18 |
| 250 | 10" | 150 | 6 | 2 | 0,3 | 80 | 305 | 273 | 5,0 | 375 | 16 | 335 | 12 x 18 |
| 300 | 12" | 150 | 5 | 2 | 0,3 | 80 | 361 | 323,9 | 5,6 | 440 | 16 | 395 | 12 x 22 |

BLNC IV F



Bellows Material

321ss

Weld end Material
Carbon Steel

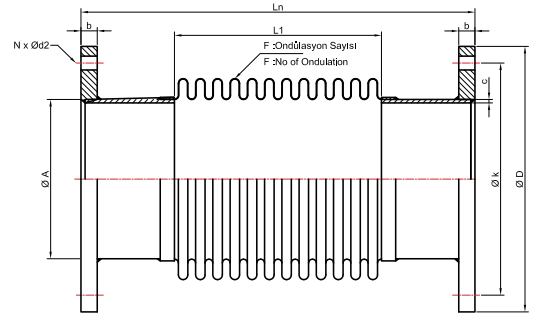
Design Pressure

2.5_{barg}

Design Temperature

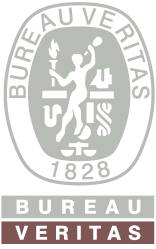
550^{°C}

Design No
PT-005-BAL5.0



| Nominal Diameter (DN) | Length (L _n) (mm) | Bellows | | | | | Pipe | | Flange | | | | |
|--------------------------|-------------------------------------|---------------------------|--------------------|-----------------------|------------------------|------------|-----------|-----------|-----------|-----------|-----------|--------------------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | L ₁ (mm) | OD (mm) | A (mm) | c (mm) | D (mm) | b (mm) | k (mm) | N x d ₂ | |
| 40 | 1 1/2" | 215 | 22 | 1 | 0,3 | 105 | 60 | 48,3 | 2,6 | 150 | 18 | 110 | 4 x 18 |
| 50 | 2" | 255 | 13 | 2 | 0,3 | 120 | 78 | 60,3 | 2,9 | 165 | 18 | 125 | 4 x 18 |
| 65 | 2 1/2" | 255 | 13 | 2 | 0,3 | 120 | 96 | 76,1 | 2,9 | 185 | 18 | 145 | 4 x 18 |
| 80 | 3" | 255 | 13 | 2 | 0,3 | 120 | 110 | 88,9 | 3,2 | 200 | 20 | 160 | 8 x 18 |
| 90 | 3.5" | 255 | 13 | 2 | 0,3 | 120 | 122 | 101,6 | 3,2 | 220 | 20 | 180 | 8 x 18 |
| 100 | 4" | 255 | 11 | 2 | 0,3 | 120 | 140 | 114,3 | 3,6 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 255 | 11 | 2 | 0,3 | 120 | 166 | 139,7 | 3,6 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 255 | 9 | 2 | 0,3 | 120 | 200 | 168,3 | 4,0 | 285 | 22 | 240 | 8 x 22 |
| 175 | 7" | 255 | 9 | 2 | 0,3 | 120 | 226 | 193,7 | 4,5 | 315 | 24 | 270 | 8 x 22 |
| 200 | 8" | 255 | 9 | 2 | 0,3 | 120 | 251 | 219,1 | 4,5 | 340 | 24 | 295 | 8 x 22 |
| 250 | 10" | 255 | 9 | 2 | 0,3 | 120 | 305 | 273 | 5 | 395 | 26 | 350 | 12 x 22 |
| 300 | 12" | 305 | 9 | 2 | 0,3 | 145 | 361 | 323,9 | 5,6 | 445 | 26 | 400 | 12 x 22 |
| 350 | 14" | 305 | 9 | 2 | 0,3 | 145 | 393 | 355,6 | 5,6 | 505 | 26 | 460 | 16 x 22 |
| 400 | 16" | 305 | 9 | 2 | 0,3 | 145 | 443 | 406,4 | 5,6 | 565 | 26 | 515 | 16 x 26 |

BLNC V



Bellows Material

321ss

Flange Material
Carbon Steel

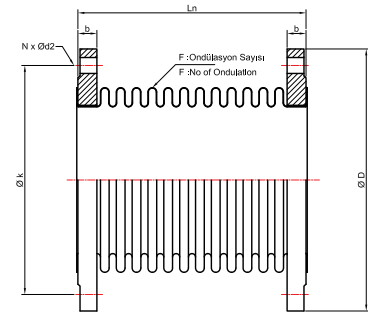
Design Pressure

16_{barg}

Design Temperature

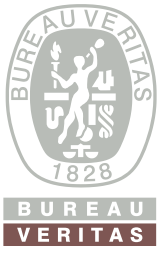
550°C

Design No
PT-006-BAL6.0



| Nominal Diameter (DN) | | Length (Ln) (mm) | Bellows | | | | Flange | | | |
|-----------------------|--------|------------------|------------------------|-----------------|--------------------|---------|--------|--------|--------|---------|
| | | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | OD (mm) | D (mm) | b (mm) | k (mm) | N x d2 |
| 40 | 1 1/2" | 130 | 20 | 1 | 0,3 | 60,5 | 150 | 16 | 110 | 4 x 18 |
| 50 | 2" | 130 | 16 | 2 | 0,3 | 77 | 165 | 18 | 125 | 4 x 18 |
| 65 | 2 1/2" | 130 | 14 | 2 | 0,3 | 95 | 185 | 18 | 145 | 4 x 18 |
| 80 | 3" | 130 | 13 | 2 | 0,3 | 111 | 200 | 20 | 160 | 8 x 18 |
| 100 | 4" | 130 | 12 | 2 | 0,3 | 140 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 130 | 12 | 2 | 0,3 | 168 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 130 | 12 | 2 | 0,4 | 200 | 285 | 22 | 240 | 8 x 22 |
| 200 | 8" | 130 | 8 | 2 | 0,4 | 255 | 340 | 24 | 295 | 12 x 22 |
| 250 | 10" | 130 | 7 | 2 | 0,4 | 315 | 395 | 26 | 355 | 12 x 26 |
| 300 | 12" | 130 | 6 | 2 | 0,4 | 372 | 460 | 28 | 410 | 12 x 26 |

BLNC VI



Bellows Material

321ss

Flange Material
Carbon Steel

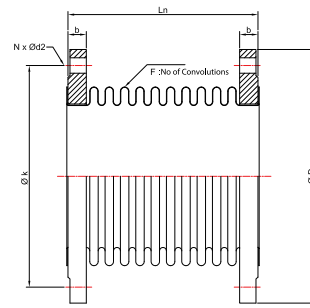
Design Pressure

16_{barg}

Design Temperature

550°C

Design No
PT-011-RF30.0
PT-012-RF60.0



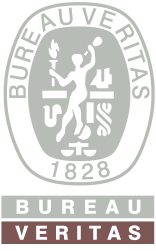
Design No: **PT-011-RF30.0**

| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | | Flange | | | | |
|--------------------------|------------------------|------------------------|-----------------|--------------------|---------|--------|--------|--------|--------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | OD (mm) | D (mm) | b (mm) | k (mm) | N x d2 | |
| 40 | 1 1/2" | 120 | 18 | 1 | 0,3 | 60,5 | 150 | 16 | 110 | 4 x 18 |
| 50 | 2" | 120 | 14 | 1 | 0,4 | 77 | 165 | 18 | 125 | 4 x 18 |
| 65 | 2 1/2" | 120 | 12 | 1 | 0,4 | 95 | 185 | 18 | 145 | 4 x 18 |
| 80 | 3" | 120 | 11 | 1 | 0,5 | 111 | 200 | 20 | 160 | 8 x 18 |
| 100 | 4" | 120 | 10 | 1 | 0,5 | 140 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 125 | 10 | 1 | 0,6 | 168 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 130 | 10 | 1 | 0,6 | 200 | 285 | 22 | 240 | 8 x 22 |
| 200 | 8" | 150 | 8 | 1 | 0,8 | 255 | 340 | 24 | 295 | 12 x 22 |
| 250 | 10" | 165 | 8 | 1 | 0,8 | 315 | 405 | 26 | 355 | 12 x 26 |
| 300 | 12" | 170 | 7 | 1 | 0,8 | 372 | 460 | 28 | 410 | 12 x 26 |

Design No: **PT-012-RF60.0**

| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | | Flange | | | | |
|--------------------------|------------------------|------------------------|-----------------|--------------------|---------|--------|--------|--------|--------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | OD (mm) | D (mm) | b (mm) | k (mm) | N x d2 | |
| 65 | 2 1/2" | 180 | 20 | 1 | 0,4 | 95 | 185 | 18 | 145 | 4 x 18 |
| 80 | 3" | 180 | 19 | 1 | 0,5 | 111 | 200 | 20 | 160 | 8 x 18 |
| 100 | 4" | 185 | 18 | 1 | 0,5 | 140 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 190 | 18 | 1 | 0,6 | 168 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 200 | 18 | 1 | 0,6 | 200 | 285 | 22 | 240 | 8 x 22 |
| 200 | 8" | 230 | 14 | 1 | 0,8 | 255 | 340 | 24 | 295 | 12 x 22 |
| 250 | 10" | 245 | 14 | 1 | 0,8 | 315 | 405 | 26 | 355 | 12 x 26 |
| 300 | 12" | 250 | 12 | 1 | 0,8 | 372 | 460 | 28 | 410 | 12 x 26 |

RF 30 AXIAL - 60 AXIAL



Bellows Material

321ss

Flange Material
Carbon Steel

Design Pressure

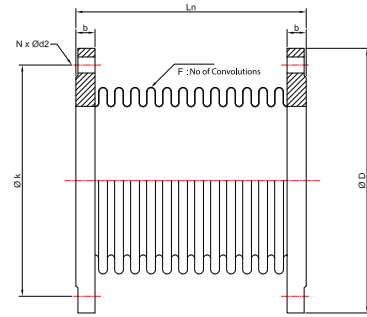
16_{barg}

Design Temperature

550°C

Design No

**PT-013-FF30.0
PT-014-FF60.0**



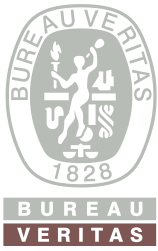
Design No: **PT-013-FF30.0**

| Nominal Diameter | | Length (Ln) (mm) | Bellows | | | | Flange | | | |
|------------------|--------|------------------------|------------------------|-----------------|--------------------|---------|--------|--------|--------|---------|
| (DN) | | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | OD (mm) | D (mm) | b (mm) | k (mm) | N x d2 |
| 40 | 1 1/2" | 120 | 18 | 1 | 0,3 | 60,5 | 150 | 16 | 110 | 4 x 18 |
| 50 | 2" | 120 | 14 | 1 | 0,4 | 77 | 165 | 18 | 125 | 4 x 18 |
| 65 | 2 1/2" | 120 | 12 | 1 | 0,4 | 95 | 185 | 18 | 145 | 4 x 18 |
| 80 | 3" | 120 | 11 | 1 | 0,5 | 111 | 200 | 20 | 160 | 8 x 18 |
| 100 | 4" | 120 | 10 | 1 | 0,5 | 140 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 125 | 10 | 1 | 0,6 | 168 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 130 | 10 | 1 | 0,6 | 200 | 285 | 22 | 240 | 8 x 22 |
| 200 | 8" | 150 | 8 | 1 | 0,8 | 255 | 340 | 24 | 295 | 12 x 22 |
| 250 | 10" | 165 | 8 | 1 | 0,8 | 315 | 405 | 26 | 355 | 12 x 26 |
| 300 | 12" | 170 | 7 | 1 | 0,8 | 372 | 460 | 28 | 410 | 12 x 26 |

Design No: **PT-014-FF60.0**

| Nominal Diameter | | Length (Ln) (mm) | Bellows | | | | Flange | | | |
|------------------|--------|------------------------|------------------------|-----------------|--------------------|---------|--------|--------|--------|---------|
| (DN) | | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | OD (mm) | D (mm) | b (mm) | k (mm) | N x d2 |
| 65 | 2 1/2" | 180 | 20 | 1 | 0,4 | 95 | 185 | 18 | 145 | 4 x 18 |
| 80 | 3" | 180 | 19 | 1 | 0,5 | 111 | 200 | 20 | 160 | 8 x 18 |
| 100 | 4" | 185 | 18 | 1 | 0,5 | 140 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 190 | 18 | 1 | 0,6 | 168 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 200 | 18 | 1 | 0,6 | 200 | 285 | 22 | 240 | 8 x 22 |
| 200 | 8" | 230 | 14 | 1 | 0,8 | 255 | 340 | 24 | 295 | 12 x 22 |
| 250 | 10" | 245 | 14 | 1 | 0,8 | 315 | 405 | 26 | 355 | 12 x 26 |
| 300 | 12" | 250 | 12 | 1 | 0,8 | 372 | 460 | 28 | 410 | 12 x 26 |

FF 30 AXIAL - 60 AXIAL



Bellows Material

321ss

Weld end Material
Carbon Steel

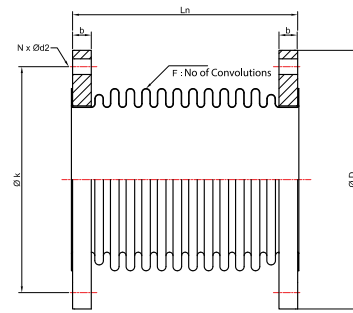
Design Pressure

2.5_{barg}

Design Temperature

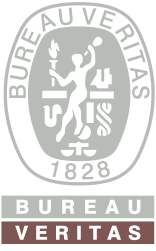
550°C

Design No
US1BU-03



| Nominal Diameter (DN) | Length (Ln) (mm) | Bellows | | | Flange | | | | |
|-----------------------|------------------|------------------------|-----------------|--------------------|--------|--------|--------|--------|---------|
| | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | D (mm) | b (mm) | k (mm) | N x d2 | |
| 80 | 3.5" | 180 | 16 | 2 | 0,3 | 200 | 20 | 160 | 8 x 18 |
| 100 | 4" | 150 | 14 | 2 | 0,3 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 185 | 13 | 2 | 0,3 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 200 | 13 | 2 | 0,3 | 285 | 22 | 240 | 8 x 22 |
| 175 | 7" | 205 | 13 | 2 | 0,3 | 315 | 22 | 270 | 8 x 22 |
| 200 | 8" | 185 | 12 | 2 | 0,3 | 320 | 16 | 280 | 8 x 18 |
| 250 | 10" | 185 | 11 | 2 | 0,4 | 375 | 16 | 335 | 12 x 18 |
| 300 | 12" | 180 | 9 | 2 | 0,4 | 440 | 16 | 395 | 12 x 22 |
| 350 | 14" | 180 | 9 | 2 | 0,4 | 490 | 16 | 445 | 12 x 22 |
| 400 | 16" | 220 | 11 | 2 | 0,4 | 540 | 16 | 495 | 16 x 22 |
| 450 | 18" | 180 | 8 | 2 | 0,4 | 595 | 16 | 550 | 16 x 22 |
| 500 | 20" | 230 | 9 | 2 | 0,4 | 645 | 16 | 600 | 20 x 22 |
| 550 | 22" | 240 | 9 | 2 | 0,4 | 703 | 20 | 650 | 20 x 22 |
| 600 | 24" | 230 | 8 | 2 | 0,4 | 754 | 20 | 700 | 20 x 22 |
| 700 | 28" | 230 | 7 | 2 | 0,4 | 856 | 20 | 800 | 24 x 22 |
| 800 | 32" | 230 | 7 | 2 | 0,5 | 958 | 20 | 900 | 24 x 22 |
| 900 | 36" | 230 | 6 | 2 | 0,5 | 1060 | 20 | 1010 | 28 x 22 |
| 1000 | 40" | 230 | 5 | 2 | 0,5 | 1162 | 20 | 1110 | 32 x 22 |
| 1100 | 44" | 230 | 5 | 2 | 0,6 | 1266 | 20 | 1210 | 32 x 22 |
| 1200 | 48" | 230 | 5 | 2 | 0,6 | 1366 | 20 | 1310 | 36 x 22 |

BLNC VIII



Bellows Material

321ss

Flange Material
Carbon Steel

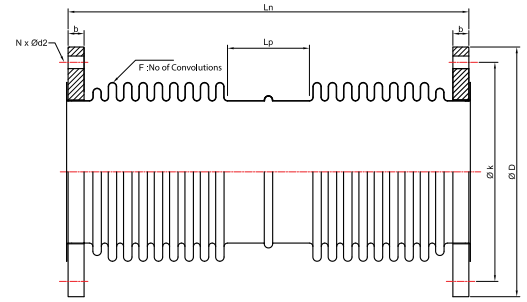
Design Pressure

2.5 barg

Design Temperature

550°C

Design No
US3BU-03



| Nominal Diameter (DN) | Length (Ln) (mm) | LP (mm) | Bellows | | | Flange | | | | |
|--------------------------|------------------------|------------|---------------------------|--------------------|-----------------------|-----------|-----------|-----------|--------|---------|
| | | | Number of Convolutions | Number of Plies | Ply Thickness (mm) | D (mm) | b (mm) | k (mm) | N x d2 | |
| 80 | 3.5" | 365 | 2 x 11 | 2 | 0,3 | 110 | 200 | 20 | 160 | 8 x 18 |
| 100 | 4" | 315 | 2 x 7 | 2 | 0,3 | 142 | 220 | 20 | 180 | 8 x 18 |
| 125 | 5" | 305 | 2 x 8 | 2 | 0,3 | 169 | 250 | 22 | 210 | 8 x 18 |
| 150 | 6" | 370 | 2 x 8 | 2 | 0,3 | 197 | 285 | 22 | 240 | 8 x 22 |
| 175 | 7" | 375 | 2 x 7 | 2 | 0,3 | 221 | 315 | 22 | 270 | 8 x 22 |
| 200 | 8" | 335 | 116 | 2 x 7 | 2 | 0,4 | 320 | 16 | 280 | 8 x 18 |
| 250 | 10" | 335 | 116 | 2 x 7 | 2 | 0,4 | 375 | 16 | 335 | 12 x 18 |
| 300 | 12" | 310 | 88 | 2 x 6 | 2 | 0,4 | 440 | 16 | 395 | 12 x 22 |
| 350 | 14" | 310 | 88 | 2 x 6 | 2 | 0,4 | 490 | 16 | 445 | 12 x 22 |
| 400 | 16" | 375 | 115 | 2 x 7 | 2 | 0,5 | 540 | 16 | 495 | 16 x 22 |
| 450 | 18" | 380 | 120 | 2 x 6 | 2 | 0,5 | 595 | 16 | 550 | 16 x 22 |
| 500 | 20" | 350 | 115 | 2 x 5 | 2 | 0,5 | 645 | 16 | 600 | 20 x 22 |
| 550 | 22" | 360 | 115 | 2 x 5 | 2 | 0,5 | 703 | 20 | 650 | 20 x 22 |
| 600 | 24" | 440 | 144 | 2 x 6 | 2 | 0,5 | 754 | 20 | 700 | 20 x 22 |
| 700 | 28" | 465 | 169 | 2 x 5 | 2 | 0,5 | 856 | 20 | 800 | 24 x 22 |
| 800 | 32" | 465 | 169 | 2 x 5 | 2 | 0,5 | 958 | 20 | 900 | 24 x 22 |
| 900 | 36" | 465 | 169 | 2 x 4 | 2 | 0,5 | 1060 | 20 | 1010 | 28 x 22 |
| 1000 | 40" | 465 | 169 | 2 x 3 | 2 | 0,5 | 1162 | 20 | 1110 | 32 x 22 |
| 1100 | 44" | 465 | 169 | 2 x 3 | 2 | 0,6 | 1266 | 20 | 1210 | 32 x 22 |
| 1200 | 48" | 465 | 169 | 2 x 3 | 2 | 0,6 | 1366 | 20 | 1310 | 36 x 22 |

BLNC IX