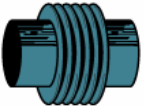
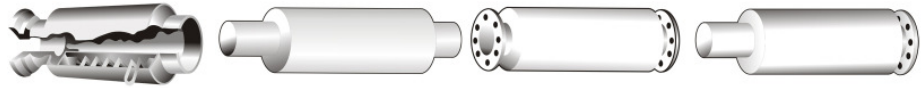


# U.S. Bellows, Inc.

## EXTERNALLY PRESSURIZED EXPANSION JOINTS



### DOUBLE X-FLEX 300# DESIGN



| S<br>I<br>Z<br>E | AXIAL<br>MOVEMENT | SPRING<br>RATE | O.A.L | WEIGHT          |              | EFF<br>AREA     | SHELL<br>O.D. | ANCHOR<br>FOOT<br>HEIGHT | ANCHOR<br>FOOT<br>TYPE |
|------------------|-------------------|----------------|-------|-----------------|--------------|-----------------|---------------|--------------------------|------------------------|
|                  |                   |                |       | FLANGED<br>ENDS | WELD<br>ENDS |                 |               |                          |                        |
|                  |                   |                |       | LB              | LB           |                 |               |                          |                        |
|                  | IN                | LB/IN          | IN    | LB              | LB           | IN <sup>2</sup> | IN            | IN                       |                        |
|                  | MM                | KG/MM          | MM    | KG              | KG           | CM <sup>2</sup> | MM            | MM                       |                        |
| 12               | 4                 | 1854           | 49    | 843             | 613          | 181.96          | 18.000        | 13.000                   | C                      |
|                  | 102               | 33.2           | 1245  | 383             | 279          | 82.71           | 457           | 330                      |                        |
|                  | 16                | 927            | 87    | 1243            | 1013         | 181.96          | 18.000        | 13.000                   |                        |
|                  | 406               | 16.6           | 2210  | 565             | 460          | 82.71           | 457           | 330                      |                        |
| 14               | 8                 | 2028           | 49    | 1000            | 670          | 213.07          | 20.000        | 14.000                   | C                      |
|                  | 203               | 36.3           | 1245  | 455             | 305          | 96.85           | 508           | 356                      |                        |
|                  | 16                | 1014           | 87    | 1446            | 1116         | 213.07          | 20.000        | 14.000                   |                        |
|                  | 406               | 18.1           | 2210  | 657             | 507          | 96.85           | 508           | 356                      |                        |
| 16               | 8                 | 1770           | 47    | 1217            | 837          | 271.60          | 24.000        | 16.000                   | D                      |
|                  | 203               | 31.7           | 1194  | 553             | 381          | 123.45          | 610           | 406                      |                        |
|                  | 16                | 885            | 83    | 1710            | 1330         | 271.60          | 24.000        | 16.000                   |                        |
|                  | 406               | 15.8           | 2108  | 777             | 605          | 123.45          | 610           | 406                      |                        |
| 18               | 8                 | 1986           | 47    | 1335            | 835          | 333.16          | 24.000        | 16.000                   | D                      |
|                  | 203               | 35.5           | 1194  | 607             | 380          | 151.44          | 610           | 406                      |                        |
|                  | 16                | 993            | 83    | 1861            | 1361         | 333.16          | 24.000        | 16.000                   |                        |
|                  | 406               | 17.8           | 2108  | 846             | 619          | 151.44          | 610           | 406                      |                        |
| 20               | 8                 | 2200           | 49    | 1841            | 1211         | 401.01          | 30.00         | 19.000                   | D                      |
|                  | 203               | 39.4           | 1245  | 837             | 550          | 182.28          | 762           | 483                      |                        |
|                  | 16                | 1100           | 85    | 2458            | 1828         | 401.01          | 30.00         | 19.000                   |                        |
|                  | 406               | 19.7           | 2159  | 1117            | 831          | 182.28          | 762           | 483                      |                        |
| 24               | 8                 | 2630           | 50    | 2095            | 1145         | 555.55          | 30.00         | 19.000                   | D                      |
|                  | 203               | 47.1           | 1270  | 952             | 520          | 252.52          | 762           | 483                      |                        |
|                  | 16                | 1315           | 86    | 2778            | 1828         | 555.55          | 30.00         | 19.000                   |                        |
|                  | 406               | 23.5           | 2184  | 1263            | 831          | 252.52          | 762           | 483                      |                        |

#### GENERAL NOTES

1. Rated life cycle at 650°F is 1000 cycles for full rated movement shown above.
2. To increase cycle life, please refer to graph on page 93.
3. Expansion joint is capable of taking 10% of rated movement as extension, with remaining 90% as axial compression.
4. Maximum test pressure: 1.5 X rated working pressure.
5. Bellows rated for 650°F: See page 31 for appropriate flange temperature/pressure ratings.
6. Maximum installation misalignment is ±1/4-inch axial and 1/16-inch lateral.

#### MATERIALS

**BELLOWS:** A240-T304. Alternate materials available upon request. Refer to page 33.  
**FLANGES:** ASTM A105.  
 300 lb ANSI B16.5 RF50.  
**PIPE:** ASTM A53/A106.  
**SHELL:** ASTM A53/A106; API-5L.  
**RINGS:** ASTM A285-C.