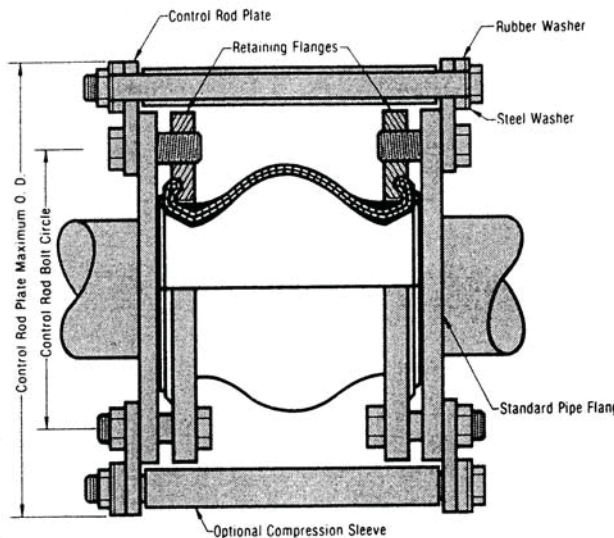


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### \*Maximum Operating Conditions

| Temperature (°F) | Maximum Pressure PSI |
|------------------|----------------------|
|                  | 12" & Smaller        |
| 170°             | UP TO 225            |
| 180°             | UP TO 220            |
| 190°             | UP TO 175            |
| 210°             | UP TO 150            |
| 200°             | UP TO 125            |
| 220°             | UP TO 100            |
| 230°             | UP TO 75             |

Contact factory for other elastomers. Not for steam applications.

| Data            | Item Number                    | 301NN0200 | 301NN0250 | 301NN0300 | 301NN0400 | 301NN0500 |
|-----------------|--------------------------------|-----------|-----------|-----------|-----------|-----------|
|                 | Number Required                |           |           |           |           |           |
| Dimensions      | EFP Style Number               | 301NN0200 | 301NN0250 | 301NN0300 | 301NN0400 | 301NN0500 |
|                 | NOMINAL                        |           |           |           |           |           |
|                 | Pipe Size-Joint I.D.           | 2.00"     | 2.00"     | 3.00"     | 4.00"     | 5.00"     |
|                 | F-Length of Joint              | 6.00"     | 6.00"     | 6.00"     | 6.00"     | 6.00"     |
|                 | G-Flange Width                 | 0.63"     | 0.71"     | 0.71"     | 0.71"     | 0.79"     |
| Bolting         | Flange/Ring O.D.               | 6.00"     | 7.00"     | 7.50"     | 9.00"     | 10.00"    |
|                 | Bolt Circle                    | 4.75"     | 5.50"     | 6.00"     | 7.50"     | 8.50"     |
|                 | Number & Hole Size             | 4 - 0.75" | 4 - 0.75" | 4 - 0.75" | 8 - 0.75" | 8 - 0.88" |
| Movements       | Axial Compression              | 0.500"    | 0.500"    | 0.500"    | 0.750"    | 0.750"    |
|                 | Axial Extension                | 0.375"    | 0.375"    | 0.375"    | 0.500"    | 0.500"    |
|                 | Lateral Deflection             | 0.500"    | 0.500"    | 0.500"    | 0.500"    | 0.500"    |
|                 | Angular Movement               | 20°       | 17°       | 14°       | 14°       | 11°       |
| Physical        | Pressure Rating <sup>(1)</sup> | 225 PSI   | 225 PSI   | 225 PSI   | 225 PSI   | 225 PSI   |
|                 | Vacuum Rating <sup>(1)</sup>   | 26 In/Hg  | 26 In/Hg  | 26 In/Hg  | 26 In/Hg  | 26 In/Hg  |
|                 | Temperature Rating             | 230 °F    | 230 °F    | 230 °F    | 230 °F    | 230 °F    |
|                 | FSA Pressure Series            | C         | C         | C         | C         | C         |
|                 | FSA Material Class             | Standard  | Standard  | Standard  | Standard  | Standard  |
| Approx. Weights | Expansion Joint                | 12.3 LBS  | 12.3 LBS  | 14.0 LBS  | 18.3 LBS  | 22.8 LBS  |
|                 | Control Unit Set (#)           | 7.6 LBS   | 7.6 LBS   | 8.3 LBS   | 7.4 LBS   | 10.4 LBS  |
|                 | Packing Crates                 | -         | -         | -         | -         | -         |
|                 | Total Approx. Wght Ea.         | 19.9 LBS  | 19.9 LBS  | 22.3 LBS  | 25.7 LBS  | 32.2 LBS  |
| Materials       | Tube Elastomer                 | NEOPRENE  | NEOPRENE  | NEOPRENE  | NEOPRENE  | NEOPRENE  |
|                 | Cover Elastomer                | NEOPRENE  | NEOPRENE  | NEOPRENE  | NEOPRENE  | NEOPRENE  |
|                 | Body Fabric                    | NYLON     | NYLON     | NYLON     | NYLON     | NYLON     |
|                 | Body Reinforcing               | FABRIC    | FABRIC    | FABRIC    | FABRIC    | FABRIC    |
|                 | Flanges                        | STEEL     | STEEL     | STEEL     | STEEL     | STEEL     |
|                 | Control Units                  | GALV STL  | GALV STL  | GALV STL  | GALV STL  | GALV STL  |

WARNING: Control units must be used to protect this part from excessive movement if piping is not properly anchored. Expansion joints may operate in pipelines or equipment carrying fluids and/or gasses at elevated temperature and pressures. Normal precautions should be taken to make sure these parts are installed correctly and inspected regularly. Precautions should be taken to protect personnel in the event of leakage or splash.



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St. Michael, MN 55376 -  
USA  
PH: 763-201-2151  
FAX: 763-201-2134

SCALE: NONE

PRINT CERTIFICATION: Certified correct as of 10/21/16 by

R. Vance, (Pres.) Subscribed & sworn to before me, on this 21st day of October, 2016  
By: \_\_\_\_\_ (Notary Public)

DWG NO:

FORM NO:

SINGLE SPHERE

APPVD BY: RV

CHECKED BY: RV

PROD. DESC:

PROP/INQ/ORD. NO:

CUSTOMER NAME:

PROJECT NAME:

CONTRACTOR:

REMARKS:

<sup>(1)</sup> PRESSURE RATING IS BASED ON 170° F. MOVEMENTS ARE NON-CONCURRENT.

SEE ATTACHED FOR  
CONTROL ROD REQUIREMENTS

HAVE CONTROL UNITS BEEN SPECIFIED/ORDERED FOR THIS INSTALLATION:  
**YES**

THE ABOVE EXPANSION JOINTS AND RELATED HARDWARE, MEET OR EXCEED THE PHYSICAL, MECHANICAL OR MATERIAL SPECIFICATIONS OF THE RUBBER EXPANSION JOINT DIV., FLUID SEALING ASSOCIATION. FOR ADDITIONAL INFORMATION, SEE THE ASSOCIATION, "TECHNICAL HANDBOOK, FIFTH EDITION", CHAPTER II, PARAGRAPH A.1. AND TABLES II, III, AND IV.

**Table 6:  
Control Units/Unanchored**

**Control Units must be installed when pressures (test • design • surge • operating) exceed rating below:**

| Pipe Size    | Series 301<br>P.S.I.G. | Series 302<br>P.S.I.G. |
|--------------|------------------------|------------------------|
| 1" thru 4"   | 180                    | 135                    |
| 5" thru 10"  | 135                    | 135                    |
| 12" thru 14" | 90                     | 90                     |
| 16" thru 24" | 45                     | 45                     |
| 30"          | 35                     | 35                     |

**Table 7:**

**Maximum Surge or Test  
Pressure of the System**

| Nominal Pipe<br>Size Expansion<br>Joint I.D.<br>Inch /(mm) |       | Number of Control Rods<br>Recommended |     |     |     |
|------------------------------------------------------------|-------|---------------------------------------|-----|-----|-----|
|                                                            |       | 2                                     | 4   | 6   | 8   |
| 1                                                          | (25)  | 949                                   | •   | •   | •   |
| 1.25                                                       | (32)  | 830                                   | •   | •   | •   |
| 1.5                                                        | (40)  | 510                                   | •   | •   | •   |
| 2                                                          | (50)  | 661                                   | •   | •   | •   |
| 2.5                                                        | (65)  | 529                                   | •   | •   | •   |
| 3                                                          | (75)  | 441                                   | •   | •   | •   |
| 4                                                          | (100) | 311                                   | 622 | •   | •   |
| 5                                                          | (125) | 235                                   | 470 | •   | •   |
| 6                                                          | (150) | 186                                   | 371 | •   | •   |
| 8                                                          | (200) | 163                                   | 326 | •   | •   |
| 10                                                         | (250) | 163                                   | 325 | 488 | •   |
| 12                                                         | (300) | 160                                   | 320 | 481 | •   |
| 14                                                         | (350) | 112                                   | 223 | 335 | •   |
| 16                                                         | (400) | 113                                   | 227 | 340 | 453 |
| 18                                                         | (450) | 94                                    | 187 | 281 | 375 |
| 20                                                         | (500) | 79                                    | 158 | 236 | 315 |
| 24                                                         | (600) | 74                                    | 147 | 221 | 294 |
| 30                                                         | (750) | 70                                    | 141 | 211 | 281 |

*Note:*

*Pressures listed above do not relate to the actual design pressure of the expansion joint products, but are the maximum surge or pressure for a specific control rod nominal pipe size.*