## INSTALLATION RECOMMENDATIONS

## **PIPING SYSTEMS**

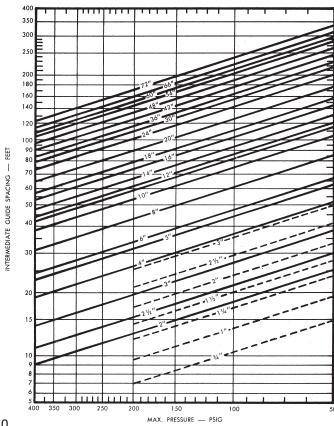
Anaconda Expansion Joints must be both **correctly selected** and **properly installed** for effective performance in service. The reactions created by pressure and movement within the piping system should be carefully considered. The deflection loads and other influencing forces, including pressure thrust, must be recognized when designing anchors and guides. The internal pressure acting on the thrust area of an Expansion Joint can cause very high anchor loads. Thrust areas of Anaconda Expansion Joints are listed in the chart below. The following precautions must be taken during installation:

- System arrangement **must not create torque** on Expansion Joints.
- Piping centerlines should be precisely aligned for axial movement.
- Lateral movement should be divided equally on each side of the normal pipe centerline wherever possible.
- Anchors must be of sufficient strength to withstand the thrust pressure of the pipe section (thrust area of the Expansion Joint x maximum pressure).
- At initial system pressurization, all pipe guides and anchors must be secure and functioning.
- Field pressure tests should be limited to 1.25 x the maximum working pressure to avoid accidental over-pressurization.
- All shipping rods must be removed.

## **BELLOWS DIMENSIONAL DATA**

| PIPE SIZE<br>IN<br>INCHES | MAX.<br>BELLOWS<br>O.D. IN<br>INCHES | THRUST<br>AREA<br>SQ. IN. | PIPE SIZE<br>IN<br>INCHES | MAX.<br>BELLOWS<br>O.D. IN<br>INCHES | THRUST<br>AREA<br>SQ. IN. |
|---------------------------|--------------------------------------|---------------------------|---------------------------|--------------------------------------|---------------------------|
| 2                         | 31/4                                 | 5.5                       | 12                        | 141/8                                | 135                       |
| 21/2                      | 3¾                                   | 7.5                       | 14                        | 161/8                                | 181                       |
| 3                         | 4%                                   | 10.5                      | 16                        | 18%                                  | 233                       |
| 3½                        | 4%                                   | 13.5                      | 18                        | 20%                                  | 289                       |
| 4                         | 5%                                   | 17                        | 20                        | 22%                                  | 347                       |
| 5                         | 6½                                   | 27                        | 24                        | 26%                                  | 492                       |
| 6                         | 75/8                                 | 37                        | 30                        | 32%                                  | 755                       |
| 8                         | 9%                                   | 62                        | 36                        | 38%                                  | 1070                      |
| 10                        | 12                                   | 97                        | 42                        | 44%                                  | 1460                      |
|                           |                                      |                           | 48                        | 50%                                  | 1885                      |

## RECOMMENDED MAXIMUM GUIDE SPACING—FOR STANDARD WEIGHT, CARBON STEEL PIPE



Recommended Maximum Spacing of Intermediate Pipe Guides for Application Involving Axial Movement Only. Values Based on Standard Weight Carbon Steel Pipe.

First pipe guide must be located within **four** pipe diameters of Expansion Joint . . . second guide must be within **four-teen** pipe diameters of first guide. See page 32.