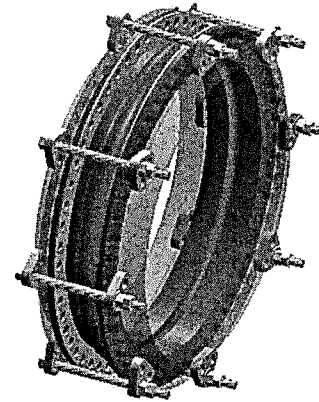
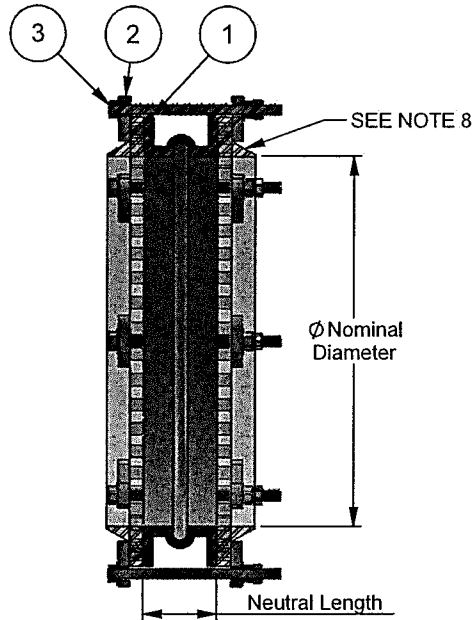


2

1



Notes:

1. Pressure rating based at 170° F (80° C) operating temperature. The pressure rating is reduced at higher temperatures.
2. Pressures shown at maximum "operating pressure". Maximum test pressure is 1.5 times "operating pressure". Burst pressure is 4 times "operating pressure".
3. The degree of angular movement is based on the maximum rated extension.
4. Torsional movement is expressed when the expansion joint is at neutral length.
5. Parts listed at 26" Hg (660mm Hg) vacuum have a design rating of 30" Hg (762mm Hg), full vacuum. Vacuum rating is based on neutral installed length, without external load. Products should not be installed "extended" for vacuum applications.
6. Spring Rates: The forces required to move the expansion joints are based on zero pressure conditions and room temperature in the pipe line.
7. Limit rods available with inboard hardware and spherical washers upon request.
8. The following are to be supplied by others: Mating Flanges, Flange Bolting, Gaskets, Sealants & consumables
9. 3D CAD Models and additional design data available at: www.tracepartsonline.net/ws/proco

Bill of Materials

| Item No. | Description | Material |
|----------|--------------------|----------------------------|
| 1 | Retaining Ring | Carbon Steel - Zinc Plated |
| 2 | Limit Rod Plate | Carbon Steel - Zinc Plated |
| 3 | Limit Rod Hardware | Carbon Steel - Zinc Plated |

| Nominal Diameter In. (mm) | Qty. | Proco Material Code | Neutral Length In. | Flange Drilling Specification | Movement Capabilities (Non-Concurrent) | | | | | Spring Rates | | | | Thrust Factor In. ² (cm ²) | Pressure Rating PSIG (Bar) | Vacuum Rating In.Hg. (mmHg) |
|---------------------------------|------|---------------------|-----------------------|-------------------------------|--|--------------------------------|-----------------------------------|--------------------------------|--------------------------------|--|--------------------------------------|---|--|---|----------------------------------|-----------------------------------|
| | | | | | Axial Compression In. (mm) | Axial Extension In. (mm) | Lateral Deflection In. (mm) | Angular Deflection Deg. (°) | Torsional Rotation Deg. (°) | Axial Compression lbs/in. (N/mm) | Axial Extension lbs/in. (N/mm) | Lateral Deflection lbs/in. (N/mm) | Angular Deflection ft-lbs/° (Nm/°) | | | |
| 60 (1500) | 1 | EE | 12.0 in. | ANSI 125/150# | 2.4 (60) | 1.2 (30) | 1.1 (28) | 2.3 | 2.0 | 4770 (835) | 6201 (1086) | 7104 (1244) | 2653 (3597) | 3297.9 (21277) | 80 (5.5) | 26 (660) |
| 66 (1650) | | BB | 12.0 in. | ANSI 125/150# | 2.4 (60) | 1.2 (30) | 1.1 (28) | 2.1 | | 5247 (919) | 6821 (1195) | 7662 (1342) | 3216 (4360) | 3936.9 (25399) | 80 (5.5) | 26 (660) |
| 68 (1700) | | BB | 12.0 in. | ANSI 125/150# | 2.4 (60) | 1.2 (30) | 1.1 (28) | 2.0 | | 5406 (947) | 7028 (1231) | 7846 (1374) | 3654 (4833) | 4162.5 (26855) | 70 (5.0) | 26 (660) |
| 72 (1800) | | BB | 12.0 in. | ANSI 125/150# | 2.4 (60) | 1.2 (30) | 1.1 (28) | 1.9 | | 5724 (1002) | 7441 (1303) | 8215 (1439) | 4261 (5777) | 4632.5 (29887) | 70 (5.0) | 26 (660) |
| 78 (1950) | | BB | 12.0 in. | ANSI 125/150# | 2.3 (57) | 1.2 (30) | 1.1 (28) | 1.8 | | 6201 (1086) | 8061 (1412) | 8926 (1563) | 5266 (7140) | 5410.6 (34907) | 85 (5.9) | 26 (660) |
| 84 (2100) | | BB | 12.0 in. | ANSI 125/150# | 2.3 (57) | 1.2 (30) | 1.1 (28) | 1.6 | | 6678 (1169) | 8681 (1520) | 9637 (1688) | 6481 (8787) | 6221.1 (40136) | 85 (5.9) | 26 (660) |
| 90 (2250) | | BB | 12.0 in. | ANSI 125/150# | 2.3 (57) | 1.2 (30) | 1.1 (28) | 1.6 | | 7155 (1253) | 9301 (1629) | 10350 (1812) | 8281 (11228) | 7088.1 (45730) | 85 (5.9) | 26 (660) |

| Proco Material Code | Cover Elastomer | Tube Elastomer | Maximum Operating Temperature |
|---------------------|------------------|------------------|-------------------------------|
| | | | °F (°C) |
| BB | CHLOROBUTYL | CHLOROBUTYL | 250 (121) |
| EE | EPDM | EPDM | 250 (121) |
| EE-NSF61 | ANSI/NSF 61 EPDM | ANSI/NSF 61 EPDM | 250 (121) |
| EQ | EPDM | FDA-EPDM | 250 (121) |
| NH | NEOPRENE | CSM | 212 (100) |
| NN | NEOPRENE | NEOPRENE | 225 (107) |
| NF | NEOPRENE | FDA-NEOPRENE | 225 (107) |
| NP | NEOPRENE | NITRILE | 212 (100) |
| NR | NEOPRENE | NATURAL RUBBER | 180 (82) |
| NG | NEOPRENE | NATURAL GUM | 180 (82) |

Elastomer Notes:

1. Expansion Joint "Cover" can be coated with CSM UV Resistant Coating.
2. All NN & NP elastomer designated joints meet the Coast Guard Requirements and conform to ASTM F1123-87 and are marked accordingly.
3. All EQ & NF elastomer designated joints branding label will be marked as "Food Grade".
4. All elastomers above are not intended for steam service
5. BB or EE are good for 300°F blower service at 20 PSI or less.
6. EE-NSF61 UL Classified Water Quality

60" through 90" Style 231: Single Wide Arch Spool Type Expansion Joint

PROCO
PROCO PRODUCTS, INC.

*The Expansion Joint
and
Check Valve People*

ADDRESS: 2431 WIGWAM DRIVE, STOCKTON, CA 95205 USA
PHONE: 209-943-6088, FAX: 209-943-0242,
WWW.PROCOPRODUCTS.COM

PROJECT NOTES:

Proco Quote 326764 MSJ

PROJECT NAME:

Jefferson Parrish

CUSTOMER:

Pipe-Tech, Inc.

| SIZE | SCALE | DRAWING No. | SHEET |
|------|-------|----------------|--------|
| A | NTS | 1-190620.1-MSJ | 1 OF 1 |

PDSS-60-90-231-17-0