

Force Balanced Flex-Tend® Flexible Expansion Joint

Force Balanced Flex-Tend® expansion joints provide seismic resilience and protection from differential settling while absorbing pressure and volume changes.



TECHNICAL GUIDE: **APF8.2**

Applications

Tank settling and other differential settling

Bridge crossings and underground to aerial transitions

Active fault crossings and liquefaction

For Ductile Iron, Steel, PVC, or HDPE pipe

Product Attributes

Ball ends

Telescopic center sections

Low contribution to mechanical thrust

Large movement ranges

Above or below ground installation

Expansion unit will NOT impart a thrust force while under internal pressure. Thrust restraint not required.

Approvals/Standards

All wetted parts coated with NSF61 Approved FBE

100% test program for all completed units

Flanges available in ANSI, AS and EN standards

Quality

NSF-61 Health and Safety Effects

The Force Balanced FLEX-TEND[®] Flexible Expansion Joint is designed to accommodate pressure induced thrust forces. Utilising an additional water chamber piston that acts in the equal and opposite direction thrust forces and volume changes are absorbed.

Design Specifications

- Constructed of ASTM AS36 Ductile Iron
- Ball ends allow up to 20 degrees of deflection
- Large movement ranges
- Above or below ground installation
- Expansion unit will NOT impart thrust force due to pressure
- No periodic maintenance required

Applications

- Tank settling and other differential settling such as vessel to vessel
- Bridge crossings and other underground to areal transitions
- Active fault crossings and liquefaction
- Near roadways and dams
- Across any unstable ground



FIG. 1 DN200 Force Balanced Flex-Tend

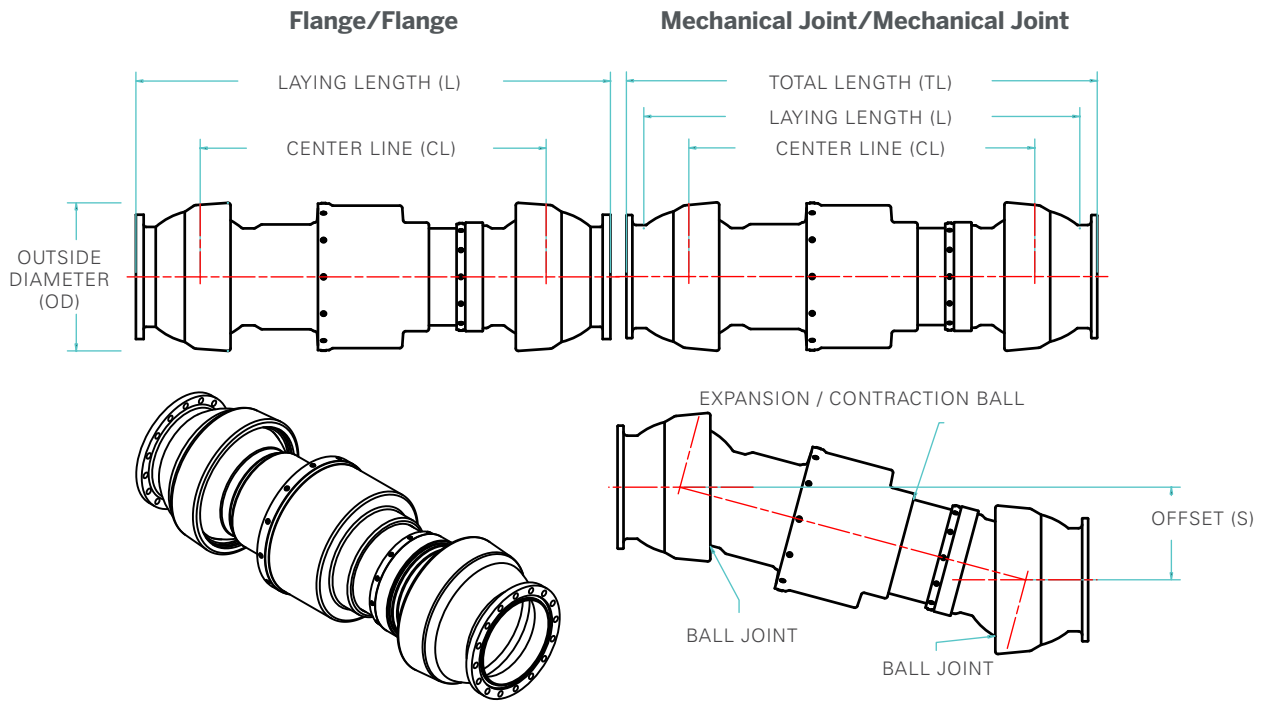


FIG. 2 Flex-Tend Force Balanced Submittal Drawing

TABLE 1 Flex-Tend Force Balanced Submittal Reference Drawing - Flange by Flange

| Nominal Pipe Size (mm) | OD (mm) | Deflection Angle per ball (degrees) | Max. Expansion (mm) | CL (mm) | S (mm) | Series Number | L (mm) | Weight (kg) |
|------------------------|---------|-------------------------------------|---------------------|---------|--------|---------------|----------------------------|-------------|
| 50 | 157.48 | 25 | 165.10 | 1135.38 | 500.38 | 4402F20B | "1236.98 (-45.72,+119.38)" | - |
| 80 | 259.08 | 20 | 203.20 | 1079.50 | 403.86 | 4403F20B | 1300.48 (-76.2,+127) | - |
| 100 | 259.08 | 20 | 203.20 | 1079.50 | 403.86 | 4404F20B | 1366.52 (ff1101.6) | 93.64 |
| 150 | 312.42 | 20 | 203.20 | 1117.60 | 419.10 | 4406F20B | 1442.72 (ff1101.6) | 143.64 |
| 200 | 378.46 | 20 | 203.20 | 1221.74 | 452.12 | 4408F20B | 1597.66 (ff1101.6) | 225.45 |
| 250 | 459.74 | 20 | 203.20 | 1285.24 | 474.98 | 4410F20B | 1701.80 (ff1101.6) | 288.64 |
| 300 | 528.32 | 20 | 203.20 | 1343.66 | 492.76 | 4412F20B | 1828.80 (ff1101.6) | 400 |
| 350 | 673.10 | 15 | 254.00 | 1658.62 | 444.50 | 4414F20B | 2324.1 (ff1127) | 803.64 |
| 400 | 673.10 | 15 | 254.00 | 1658.62 | 444.50 | 4416F20B | 2250.44 (ff1127) | 776.82 |
| 450 | 756.92 | 15 | 254.00 | 1765.30 | 472.44 | 4418F20B | 2423.16 (ff1127) | 1105.00 |
| 500 | 840.74 | 15 | 304.80 | 1905.00 | 510.54 | 4420F20B | 2420.62 (ff1152.40) | 1316.82 |
| 600 | 993.14 | 15 | 304.80 | 2075.18 | 523.24 | 4424F20B | 2816.86 (ff1152.40) | 1972.73 |

Note: Larger sizes available on request.



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March 2024

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