Twin-Sphere Rubber Joint with Floating Flanges

TWINFLEX

Excellent performance for vibration absorption, displacement absorption and high-pressure resistance.

Feature

Achievements
Having been used in more than 20 countries for over 30 years, TOZEN brand products proudly demonstrate their popularity.

Reliability
Unparalleled durability is guaranteed by the distinctive and strict design standards of TOZEN.

Quality
Manufactured in TOZEN's own factory under thorough control with ISO9001 quality management system.

Durability
Reciprocating pressure test for 20,000 cycles or above.

Applications

● This product is mainly applicable for piping systems in commercial and industrial buildings and plants.
● Applicable fluids are exclusively water including cold water, warm water, cooled water, sea water, etc.
● This product can not be used for drinking water, pool water, oil, or boiled water.

Operating Conditions and Performance
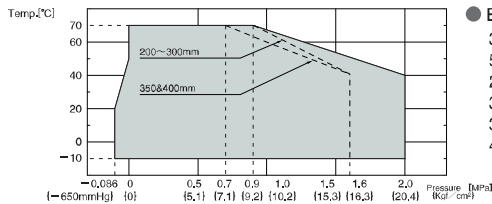
● Bursting Pressure:
32～150mm:
5.0MPa or above at normal temp.
200～300mm:
3.5MPa or above at normal temp.
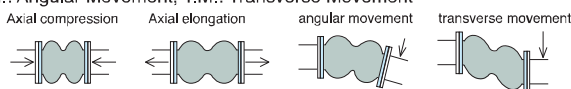350&400mm:
4.0MPa or above at normal temp.

Structure
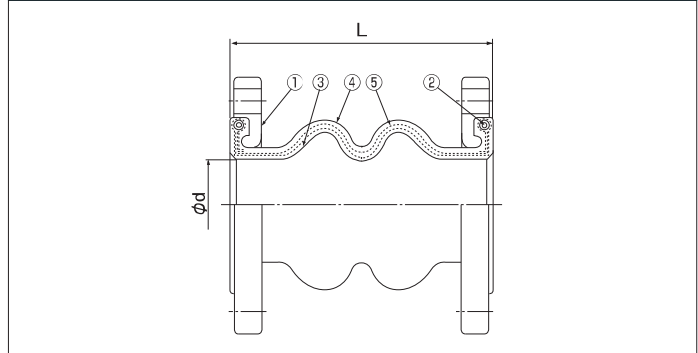
No.	Parts	Material
①	Flange	Mild Steel / Ductile Iron
②	Reinforcing Ring	Carbon Steel
③	Inner Rubber	Synthetic Rubber
④	Outer Rubber	Synthetic Rubber
⑤	Reinforcing Cord	Synthetic Fiber

● Flanges with mild steel and ductile iron in JIS10K, ANSI150, PN16 are standard. For other flanges, please consult us.
● Flange material can be changed to SUS304 and SUS316.
● Flange material for ANSI150 32mm is mild steel only.
● Flange material for 350&400mm is mild steel only.

Dimensions and Allowable Movements

Nominal Dia.		Dimension [mm]		Mass [Kg]	Allowable Movement [mm]				Installation Tolerances [mm]			
mm	inch	L	φd		T.M.	A.E.	A.C.	A.M.	T.M.	A.E.	A.C.	A.M.
32	1 1/4	175	35	2.2	20	10	20	20°	8	3	6	7.5°
40	1 1/2	175	35	2.3	20	10	20	20°	8	3	6	7.5°
50	2	175	45	3.0	20	10	20	20°	8	3	6	7.5°
65	2 1/2	175	60	3.9	20	10	20	20°	8	3	6	7.5°
80	3	175	70	4.1	20	10	20	20°	8	3	6	7.5°
100	4	225	95	5.3	25	15	30	20°	10	3	6	7.5°
125	5	225	120	7.6	25	15	30	20°	10	3	6	7.5°
150	6	225	145	11	25	15	30	20°	10	3	6	7.5°
200	8	325	195	17	30	20	40	20°	12	3	6	7.5°
250	10	325	245	24	30	20	40	20°	12	3	6	7.5°
300	12	325	290	28	30	20	40	20°	12	3	6	7.5°
350	14	250	340	35	15	15	20	15°	6	3	6	7.5°
400	16	250	390	48	15	15	20	15°	6	3	6	7.5°

·A.C.: Axial Compression, A.E.: Axial Elongation,
A.M.: Angular Movement, T.M.: Transverse Movement

Axial compression Axial elongation angular movement transverse movement

·Mass indicates only the case with JIS 10K (Ductile Iron) flanges.
However, mass for 350&400mm is with JIS 10K(Mild Steel)flange.
·Tolerances for installation are included in the allowable movements
(Allowable movements = Tolerances for installation + Operating movements).

·Please note that the information in the above table is for single movement only.
In case of complex movements, please do adjustment by using the following formula.

$$\text{C.A.E. (C.A.C.)} = \text{A.A.E.(A.A.C.)} \times \{1 - (\frac{\text{T.M.}}{\text{A.T.M}} + \frac{\text{A.M.}}{\text{A.A.M}})\}$$

C.A.E. (C.A.C.): Correct Elongation Movement (Correct Compression Movement)
A.A.E. (A.A.C.): Allowable Elongation Movement (Allowable Compression Movement)
A.T.M.: Allowable Transverse Movement
A.A.M.: Allowable Angular Movement
Example: In case of 100mm joint, if 10mm transverse movement is needed, then the correct elongation should be: $\text{C.A.E} = 15 \times \{1 - (\frac{10}{25} + \frac{0}{20})\} = 9mm$
·There is reaction force from rubber joints due to the load of the internal pressure, so during the installation, please fix the pipe tightly to ensure the joints work efficiently. In case the pipe cannot be fixed tightly, please use the control unit for the joints.

Note: The content of this catalog is subject to change without prior notice.

AGENT