TOZEN
A joint reliance

TWINFLEX

FLEXIBLE RUBBER JOINT

TWINFLEX

FLEXIBLE RUBBER JOINT

Twin-Sphere Rubber Joint with Floating Flanges

Features

●High pressure resistance

Combining the latest molding techniques and extremely tough synthetic rubber fiber, TWINFLEX can be safely used up to a maximum working pressure of 300 psi (20kgf/cm^2) and a rupture pressure of 780 psi (55kgf/cm^2).

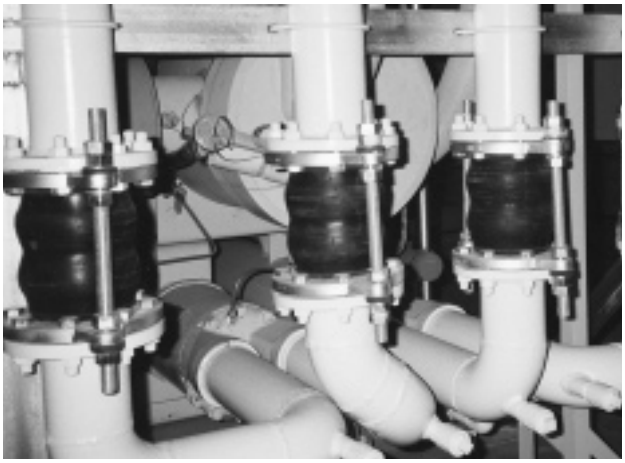
TWINFLEX can also withstand a considerable vacuum force, making it ideal for use at the suction and delivery ends of a fluid distribution system.

●Large Compression, Elongation and Angular Movement

●Fit for suction and delivery (discharge)

●Additional Features and Benefits

1) Additional gaskets and/or packing are not required.
2) Simplified installation in all piping systems using easy alignment flanges.
3) Ability to absorb considerable elongation and compression of pipes caused by temperature changes prevents piping system breaks and equipment down time.
4) Absorbs the force created by pulsating water and reduces the effect of water hammer.



Typical Applications

1) Cold and warm water pressure piping systems in commercial and industrial buildings and plants.
2) Pump and turbine piping used for power generation plants, industrial machinery and pump blowers.
3) Feed-water and drainage piping for water, waste-water, and sanitary systems.

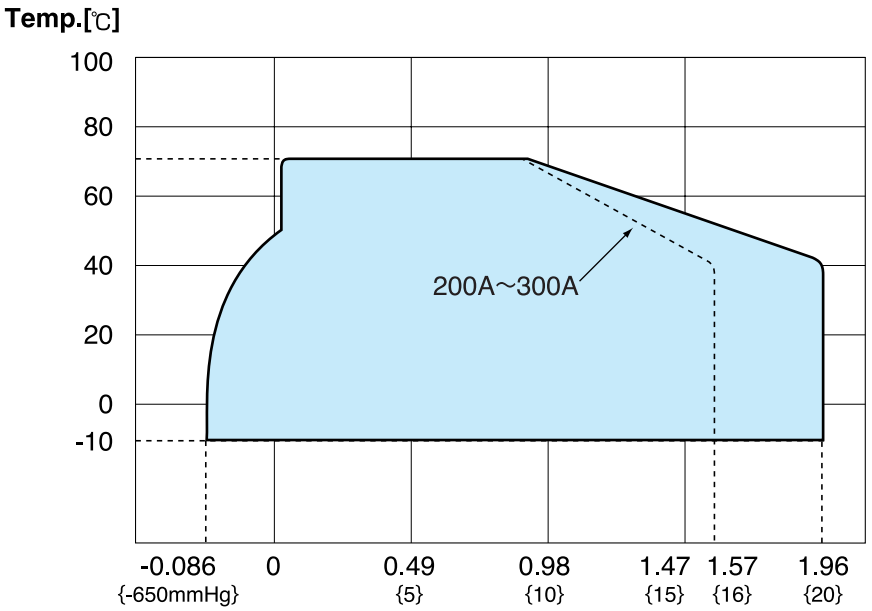
Note:TWINFLEX is not applicable for use with oil, air, gases, hot water supply lines and with pool water.

■Control Unit

Use of the Control Unit option is recommended for the following conditions:

- Adequate piping support can not be provided to counteract pressure forces.
- Whenever transverse movement is expected that may exceed design specifications.
- If there is a possibility that the joint will operate in a compression mode.

■Operating Conditions



●Nomal working pressure :

Below 150A size : Max. 20kgf/cm² at normal temp.
Over 200A size : Max. 16kgf/cm² at normal temp.

●Working tempreture :

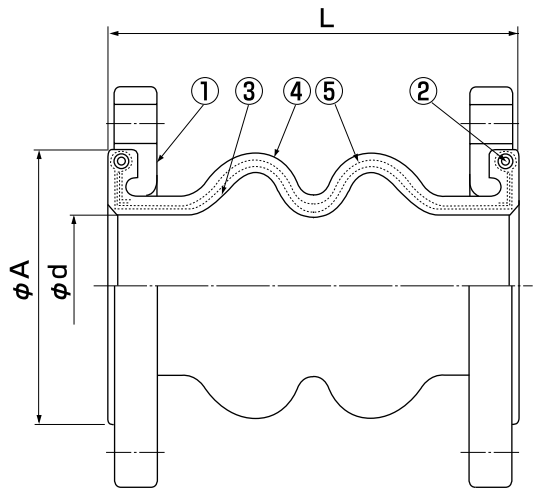
−10 to 70 deg. C.

●Bursting pressure :

55kgf/cm² (780p.s.i.) or above at normal temp.

＊ For high temp. application, please consult us.

■Construction



No.	Parts	Materials
①	Flange	Ductile Iron (FCD 450)
②	Reinforcing Ring	Carbon Steel (SWRH)
③	Inner Rubber	Synthetic Rubber
④	Outer Rubber	Synthetic Rubber
⑤	Reinforcing Cord	Synthetic Fiber

●Flanges on ANSI, BS, etc. available.
The flange material can be changed to Mild Steel, SUS304 and SUS316. Please consult us.

■Dimensions and Allowable Movements

Nominal Dia. (A)	Dimensions (mm)			Mass (kg)	Allowable Movements (mm)				Installation Tolerances (mm)			
	L	φA	φd		T.M.	A.E.	A.C.	A.M. (°)	T.M.	A.E.	A.C.	A.M. (°)
32	175	80	40	2.9	20	10	20	30	8	3	6	10
40	175	80	40	3.3	20	10	20	30	8	3	6	10
50	175	96	50	3.9	20	10	20	30	8	3	6	10
65	175	115	65	5.2	20	10	20	30	8	3	6	10
80	175	125	75	5.3	20	10	20	30	8	3	6	10
100	225	152	100	6.8	25	15	30	30	10	3	6	10
125	225	182	125	10.0	25	15	30	30	10	3	6	10
150	225	212	150	14.0	25	15	30	30	10	3	6	10
200	325	263	200	18.0	30	20	40	30	12	3	6	10
250	325	322	250	27.0	30	20	40	30	12	3	6	10
300	325	370	300	30.0	30	20	40	30	12	3	6	10

※ T.M. = Transverse Movement　　A.C. = Axial Compression
※ A.E. = Axial Elongation　　A.M. = Angular Movement

●Mass indicates only the case with JIS 10K (FCD450) flanges.
●Use the products within the given allowable movements.
●Tolerances for installation are included in the allowble movements
(Allowable movements = Tolerances for installation + Operating movements)
●Please note that information in the above table are for single movement only. In case of complex movements, some correction is required.

Notes

1. Information in the above table is for single movement only. In case of complex movement, follow the below expression.

$$C.EL(C) = A.EL(C) \times \left\{ 1 - \left(\frac{A.T.M. - T.M.}{A.T.M.} \times \frac{A.A.M. - A.M.}{A.A.M.} \right) \right\}$$

C.EL (C) = Correct Elongation (Compression)
A.EL (C) = Allowable Elongation (Compression)
A.T.M. = Allowable Transverse Movement
T.M = Transverse Movement
A.A.M. = Allowable Angular Movement
A.M. = Angular Movement

2. Install the joint according to the specified allowable dimensions.

3. Check suitability of joint to operating conditions prior to installation.

4. Prior to installation, check for cracks on the rubber body surface, especially after extended storage.

5. If there is movement in the joint, insure that the rubber joint body is not damaged by external objects.

6. Keep joint away from all sources of heat. If necessary, cover the joint with a protective sheet to restrict damage caused by welding sparks, grinding, etc.

7. Avoid contact of the rubber body with oils, fats, organic solvents (thinner, toluene, etc.), acid or alkali. Wipe immediately if rubber is contaminated with these items.

8. Secure piping before and after joint to limit elongation of the joint during operation.

CAUTION

Operating conditions and other performance data published in this catalog have been developed from our design calculation, in-house testing, field reports provided by our customers and/or published official standards or specifications. They are good only to cover typical applications as a general guildeline to users of TOZEN products introduced in this catalog.

For any specific application, users are kindly requested to contact TOZEN CORPORATION for technical advice, or to carry out their own study and evaluation for providing suitability of these products to such an application. Failure to follow this request could result in property damage and/or personal injury, for which we shall not be liable.

While this catalog has been compiled with the utmost care, we assume no responsibility for errors, impropriety or inadequacy. Any information provided in this catalog is subject to from-time-to-time change without notice for error rectification or, products discontinuation, design modification, new products introduction or any other cause that TOZEN CORPORATION considers necessary. This edition cancels all previous issues.

※ The contents of this literature are subject to change without notice.

AGENT

TOZEN CORPORATION

8-4, Asahi, Yoshikawa
Saitama 342-0008
Japan

Phone : (048)993-1035
Fax : (048)993-1018