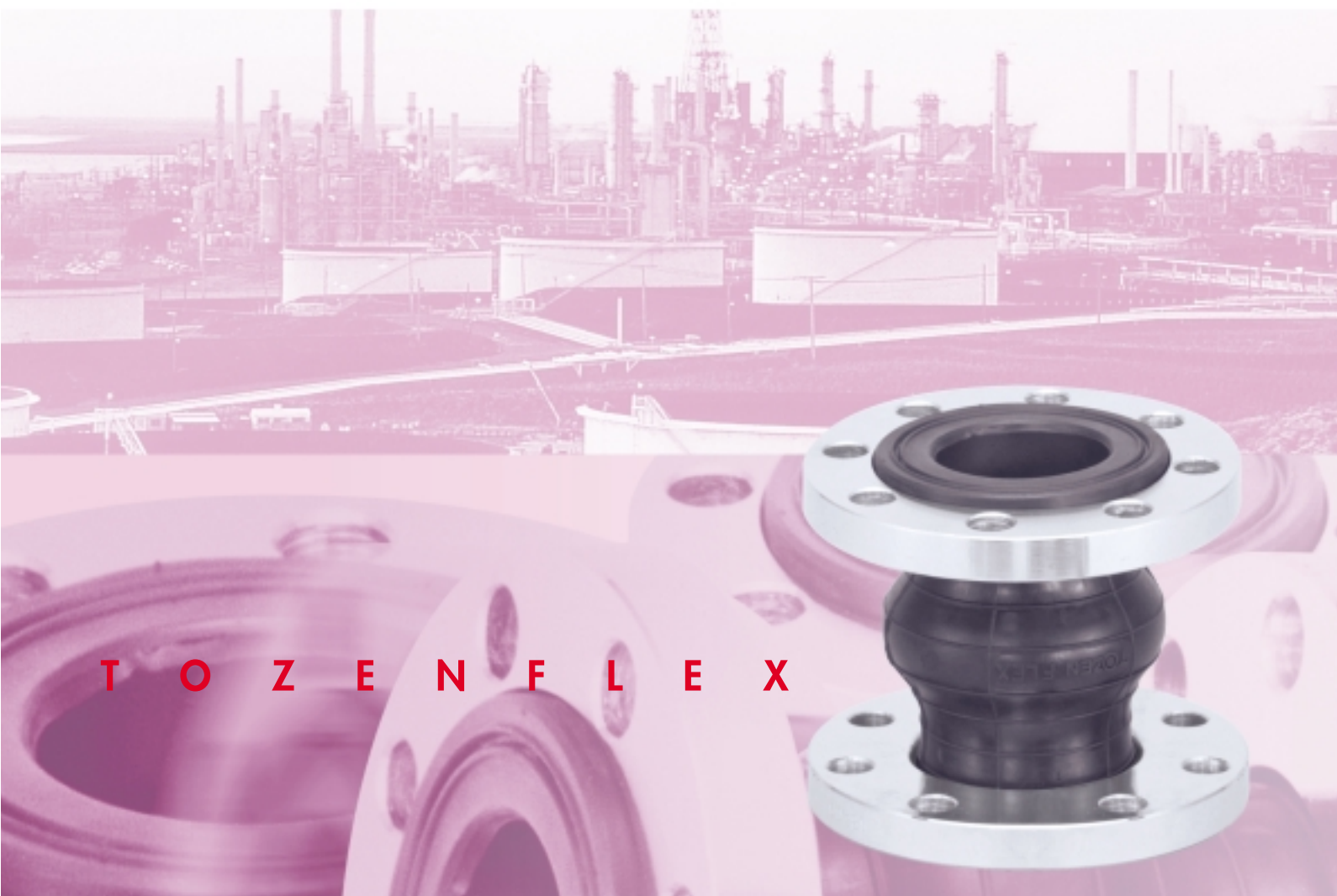


# TOZENFLEX

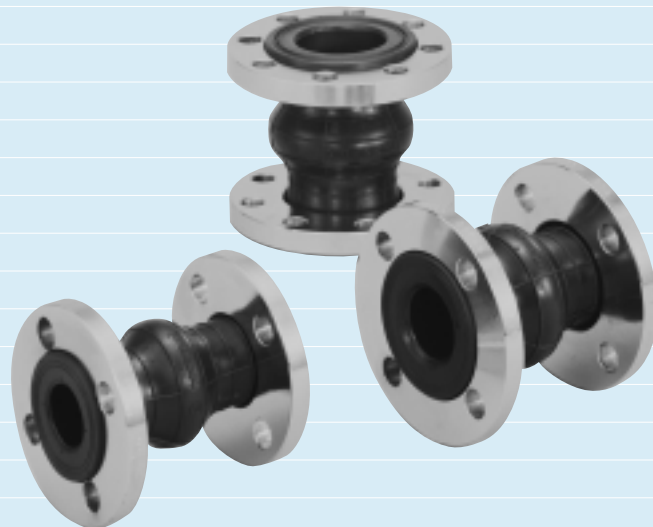
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FLEXIBLE RUBBER JOINT



# TOZENFLEX

## FLEXIBLE RUBBER JOINT



### Features

#### ● Outstanding stability and pressure resistance

Combining the latest molding techniques and extremely tough synthetic rubber fiber, TOZENFLEX can be safely used up to a maximum working pressure of 240 psi (16kgf/cm<sup>2</sup>) and a rupture pressure of 780 psi (55kgf/cm<sup>2</sup>).

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

The special spherical shape of the connector eliminates the possibility of contact with mounting bolt heads, even when expanded under pressure or in a compression condition.

#### ● Excellent Temperature Resistance

Special heat resisting synthetic rubber is used for the basic connector material to minimize deterioration from hot fluids and to provide stable performance under a wide range of operating pressures.

#### ● Superior Sound and Vibration Isolation

Specially formulated synthetic rubber effectively isolates vibration and sound propagation in all directions.

#### ● 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

TOZENFLEX, flexible rubber joints are ideal for use in piping systems in industrial plants or on construction equipment where noise and vibration isolation are critical. Additionally, the joint provides the flexibility needed to simplify alignment between pipes.

#### Examples :

- 1) Air-conditioning, heating and sanitary equipment
- 2) Industrial and process piping systems
- 3) Marine piping systems; to include: feed and discharge lines, fire and bilge pumps, etc.

- 4) Industrial ducting and piping systems
- 5) Pollution and wastewater treatment to include: raw and secondary sewage lines, sludge pumps, etc.
- 6) Power plant applications to compensate for such things as expansion and contraction on condenser lines, cooling water piping, aeration systems, etc.

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

### Applicable Fluids

- Applicable Fluids: Water, hot water, sea water, weak acid, weak alkaline, etc.

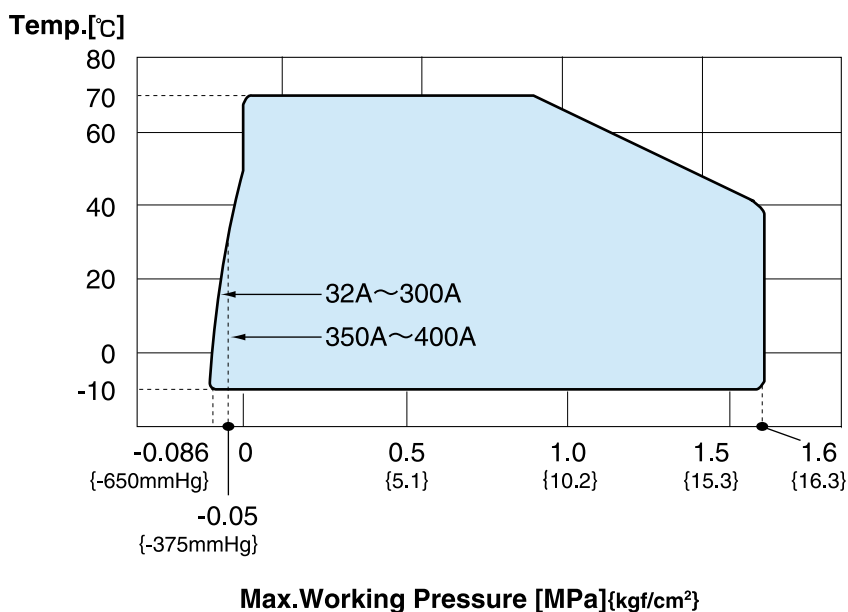
- Please refer to the graph under Operating Conditions on Page 2 for pressure and temperature specifications.

## ■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



## ■Notes

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

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

C.EL (C) = Correct Elongation (Compression)

A.EL (C) = Allowable Elongation (Compression)

A.T.M. = Allowable Transverse Movement

T.M. = Transverse Movement

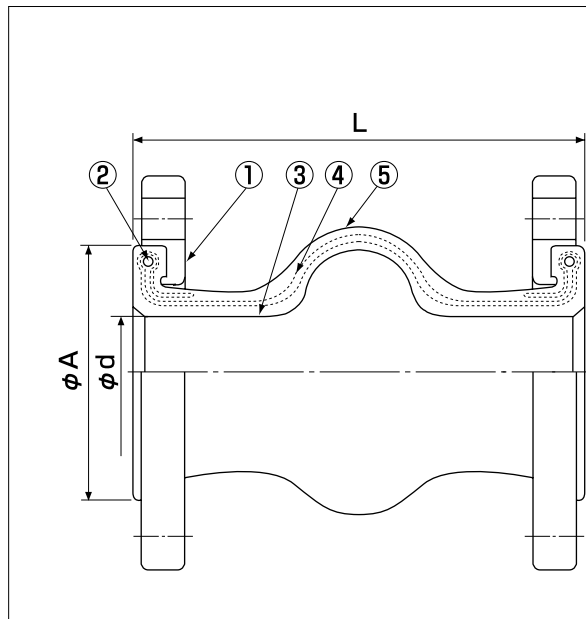
A.A.M. = Allowable Angular Movement

A.M. = Angular Movement

2. Install the joint according to the above given allowable dimensions.

3. For 350A and 400A, if the working pressure exceed 10kgf/cm², please always apply control unit to TOZENFLEX.

## Construction



No.	Parts	Materials
①	Flange	SS400 / FCD450
②	Reinforcing Ring	SWRH
③	Inner Rubber	Synthetic Rubber
④	Outer Rubber	Synthetic Rubber
⑤	Reinforcing Cord	Synthetic Fiber

- Flanges on ANSI, BS, etc. available. Please consult us.
- The products are not applicable to oil. However, it may be possible by changing the rubber material. Please consult us.
- Please use U-FLEX for hot water supply.

## Dimension 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	150	80	40	2.7	20	10	20	25	8	3	6	10
40	150	80	40	3.1	20	10	20	25	8	3	6	10
50	150	96	50	3.6	20	10	20	25	8	3	6	10
65	150	115	65	5.0	20	10	20	20	8	3	6	10
80	150	125	75	5.0	20	10	20	20	8	3	6	10
100	150	152	100	6.1	20	15	20	20	8	3	6	10
125	150	182	125	9.1	20	15	20	20	8	3	6	10
150	150	212	150	12	20	8	15	20	8	3	6	10
200	150	263	200	14	20	8	15	20	10	3	6	10
250	200	322	250	23	25	15	20	20	10	3	6	10
300	200	370	300	25	25	15	20	20	10	3	6	10
350	200	417	350	30	25	15	20	20	10	3	6	10
400	200	478	400	42	25	15	20	20	10	3	6	10

- ※ T.M. = Transverse Movement      A.C. = Axial Compression  
 ※ A.E. = Axial Elongation      A.M. = Angular Movement  
 ※ Although allowable movements are given, do not allow them for axial elongation when installing the joints for suction purpose.

- Mass indicates only the case with JIS 10K flanges.
- Use the products within the given allowable movements.
- Tolerances for installation are included in the allowable 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.
- For 350A and 400A, if the working pressure exceed 10kgf/cm<sup>2</sup>, please always apply control unit to TOZENFLEX.

■Example of Installation





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 guideline to users of TOZEN products introduced in this catalog.

For any specific application, users are kindly requested to contact TOZEN SANGYO CO., LTD. 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.

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

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