

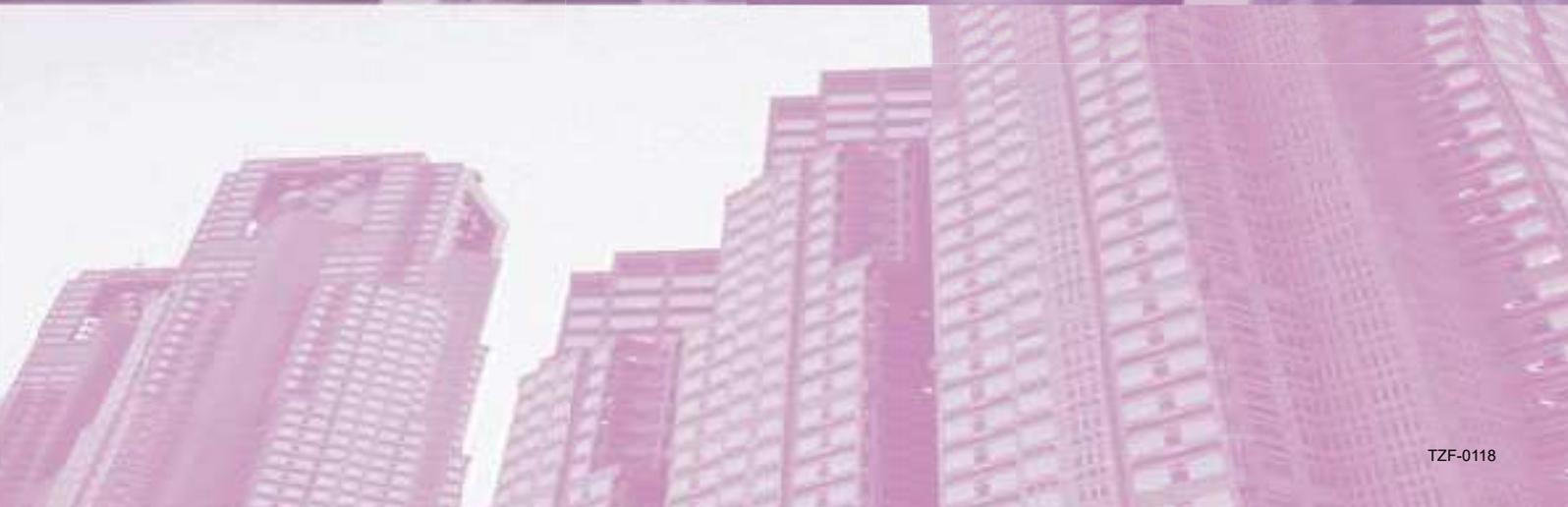
# TOZENFLEX

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FLEXIBLE RUBBER JOINT



T O Z E N F L E X



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## FLEXIBLE RUBBER JOINT



### FEATURES

● **APPLICABLE TO BOTH SUCTION AND DELIVERY (DISCHARGE) WITH ITS EXCELLENT STABILITY AND PRESSURE RESISTANCE**

With the combination of excellent moulding technique and tough chemical fiber, TOZENFLEX can be used at a bursting pressure of over 780psi (55kgf/cm<sup>2</sup>) and within max. internal pressure of 240psi (16kgf/cm<sup>2</sup>). In addition, since it can satisfactorily withstand the force of creating a vacuum of 650mmHg for 32A-300A and 375mmHg for 350A and 400A, it can be used on both delivery and suction sides. Also since its carcass is of a special spherical type, it will not come in contact with the connecting bolt heads even if it expands. This connector can be used with a sense of security even when subjected to high pressure.

● **EXCELLENT TEMPERATURE RESISTANCE**

Since this connector is made of heat resisting synthetic rubber of special composition, which is superior to natural or chloroprene rubber, its deterioration due to hot water is quite limited and it exhibits a stable pressure withstandability persistently.

● **EXCELLENT ABILITY TO ISOLATE SOUND AND VIBRATION**

The highly soft carcass effectively isolates vibration and solid sound in all directions.

● **OTHER ADVANTAGES AND EFFECTS**

- 1) Needs neither gasket nor packing.
- 2) Since flanges used are of loose fit type, they can be installed in pipes easily.
- 3) Its ability to absorb elongation and compression of pipes caused by variation in temperature prevents the piping system and equipment from breaking down.
- 4) It absorbs the pulsation of water and prevents water hammering to some extent.

### TYPICAL APPLICATIONS

This joint is applied to the piping system for construction equipment and industrial plants where noise and vibration isolation as well as alignment between pipes are required.

**Examples :**

- 1) Air-conditioning and sanitary equipment
- 2) Industrial plant equipment
- 3) Marine piping systems : Feed-water and drainage equipment, etc.
- 4) Various plant piping systems : power generation plants, chemical plants, etc.

**\*\* Please note that TOZENFLEX is not applicable to oil, circulation pump for pool water, air, gas nor hot water supply line. \*\***

### APPLICABLE FLUID

- Applicable Fluid : water, hot water, sea water, weak acid, weak alkaline, etc.
- Please apply within the operating conditions in pressure and temperature.

● **STRUCTURE**

- The inner rubber for 20&25 mm is flat type.  
For other size 32~300 mm is possible.

| No. | Parts            | Standard Materials          |
|-----|------------------|-----------------------------|
| 1   | Flange           | FCD, SS400                  |
| 2   | Reinforcing Ring | Carbon Steel (SWRH)         |
| 3   | Inner Rubber     | Synthetic Rubber(EPDM)      |
| 4   | Outer Rubber     | Synthetic Rubber(EPDM)      |
| 5   | Reinforcing Cord | Synthetic Fiber             |
| 6   | Filler           | Special High-polymer Rubber |

- Flanges JIS10K, ANSI 150 and PN16 are standard, except ANSI 150 for the size 20&32 mm are not produced.  
- Flange material can be changed to SUS304 and SUS 316  
- The products are not applicable to oil. However, it may be possible by changing the rubber material. Please consult us.

## ● Dimension and Allowable Movement

| Nominal Dia.<br>(A) | Dimension (mm) |     |     | Allowable Movement (mm) |      |      |         | Installation Tolerance (mm) |      |      |         |
|---------------------|----------------|-----|-----|-------------------------|------|------|---------|-----------------------------|------|------|---------|
|                     | L              | ØA  | Ød  | T.M.                    | A.E. | A.C. | A.M.(°) | T.M.                        | A.E. | A.C. | A.M.(°) |
| 20                  | 140            | 58  | 25  | 10                      | 5    | 10   | 15      | 4                           | 3    | 6    | 7.5     |
| 25                  | 140            | 58  | 25  | 10                      | 5    | 10   | 15      | 4                           | 3    | 6    | 7.5     |
| 32                  | 150            | 80  | 40  | 20                      | 10   | 20   | 15      | 8                           | 3    | 6    | 7.5     |
| 40                  | 150            | 80  | 40  | 20                      | 10   | 20   | 15      | 8                           | 3    | 6    | 7.5     |
| 50                  | 150            | 96  | 50  | 20                      | 10   | 20   | 15      | 8                           | 3    | 6    | 7.5     |
| 65                  | 150            | 115 | 65  | 20                      | 10   | 20   | 15      | 8                           | 3    | 6    | 7.5     |
| 80                  | 150            | 125 | 75  | 20                      | 10   | 20   | 15      | 8                           | 3    | 6    | 7.5     |
| 100                 | 150            | 152 | 100 | 20                      | 15   | 20   | 15      | 8                           | 3    | 6    | 7.5     |
| 125                 | 150            | 182 | 125 | 20                      | 15   | 20   | 15      | 8                           | 3    | 6    | 7.5     |
| 150                 | 150            | 212 | 150 | 20                      | 8    | 15   | 15      | 8                           | 3    | 6    | 7.5     |
| 200                 | 150            | 264 | 200 | 20                      | 8    | 15   | 15      | 10                          | 3    | 6    | 7.5     |
| 250                 | 200            | 324 | 250 | 25                      | 15   | 20   | 15      | 10                          | 3    | 6    | 7.5     |
| 300                 | 200            | 373 | 300 | 25                      | 15   | 20   | 15      | 10                          | 3    | 6    | 7.5     |
| 350                 | 200            | 417 | 350 | 25                      | 15   | 20   | 15      | 10                          | 3    | 6    | 7.5     |
| 400                 | 200            | 478 | 400 | 25                      | 15   | 20   | 15      | 10                          | 3    | 6    | 7.5     |

T.M. = Transverse Movement

A.E. = Axial Elongation

A.C. = Axial Compression

A.M. = Angular Movement

\*\* Although allowable movements are given, do not allow them for axial elongation when installing the joints for suction purpose. \*\*

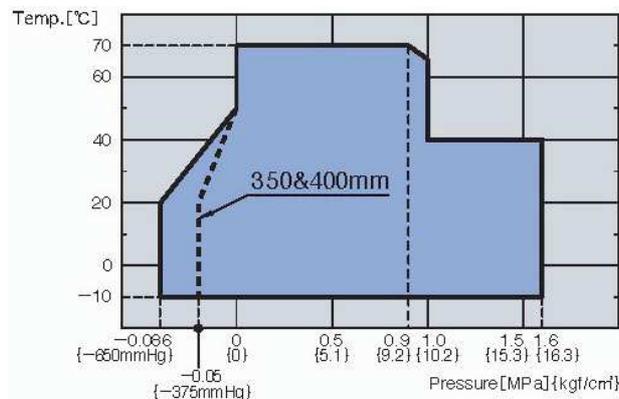
• Use the products within the given allowable movements.

• 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

## ● Operating Condition



## ● Control Unit

In case of the following conditions, control unit is recommended to use for protection of connectors.

- In case that it is hard to support reaction force (thrust) by pressure during the test operation or normal operation.
- In case that transverse movement is anticipated more than the designed movement.
- In case that the connectors are anticipated to be compressed when installation.

## ● Bursting Pressure

- 20~300 mm : 5.3 MPa or above at normal temp.
- 350 & 400 mm : 4.0 MPa or above at normal temp.

## ● Notes

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

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

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

T.M. = Transverse Movement

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

A.A.M. = Allowable Angular Movement

A.T.M. = Allowable Transverse Movement

A.M. = Angular Movement

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

## ● Example of Installation





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**TOZEN INDUSTRIAL CO., LTD.**

3388/62 18TH FLOOR, SIRINRAT BLDG.,  
RAMA IV RD., BANGKOK 10110 THAILAND  
TEL : (66) 0-2029-0100  
FAX : (66) 0-2029-0111  
URL : [www.tozen.co.th](http://www.tozen.co.th)

**TOZEN CORPORATION**

8-4, ASAHY YOSHIKAWA  
SAITAMA 342-008 JAPAN  
TEL : 048-993-1030  
FAX : 048-993-1038