

# Expansion Joints

IOSV

Synapse  
IW800  
Series

Axial  
Deflection

Axial  
Deflection

Vibration



## Synapse Series

Synapse [IW800] Series short-interface type Expansion Joints absorb vibration/thermal expansion in various types of pipes and devices in all plants and utilities etc., via their comparatively short interface (compact installation dimensions).

As the expansion part is metal, it has superior pressure resistance/heat resistance, and the series is more than capable of withstanding harsh pipe specifications.



### Low-pressure Specifications

- (Single Type), IW805w (Double Type)
- Installation within pipes is also possible.

As it is bound by welding bellows and fittings, there is no concern about leaks.

### Medium/High Pressure Specifications

- W810 "for 1MPa", IW820 "for 2MPa"
- With Reinforcing Ring, Tie Rod Bolt.
- Installation within pipes is also possible.

As it is bound by welding bellows and fittings, there is no concern about leaks.

### Features

1. **Short Interface:** The short interface makes absorption of displacement a possibility, and is also compatible with ultra-narrow pipe layouts.
2. **High Strength:** As the expansion part is metal, it can withstand ultra-high pressure specifications.
3. **Heat Resistance:** As the expansion part is metal, it can withstand ultra-high temperature specifications.

## Expansion Joints Bellows-Type Metal



### Uses

1. Absorbing vibrations in devices (pumps/blowers etc.)
2. Absorbing thermal expansion in pipes
3. Absorbing dislocation of pipes etc. due to earthquakes and land subsidence

### Specifications

Pressure: -0.1MPa (F.V) – +3MPa

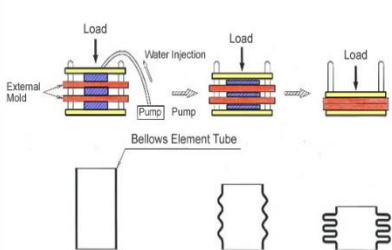
Temperature: -238°C – 700°C

Fluid: Water/Oil/Air/Exhaust Gas/Powder/Others

## Bellows

### Illustration of Bulge Hydroforming Method

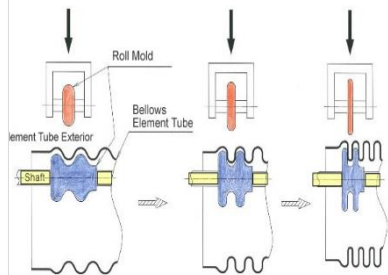
☆ Forming via Water Pressure and Press Load



Hydroforming System

### Illustration of Roll-forming Method [External Pressure Method]

☆ Forming via rotation and spinning of inside/outside roll.



Roll Forming System



## Expansion Joints Non-metal Type (Fabric)



Low-temperature Type



High-temperature Type

### Uses

1. Absorption of pipe thermal expansion
2. Absorption of pipe shift due to earthquakes and land subsidence
3. Vibration absorption for pumps, engines etc.

### Specifications

- Working Pressure: -30kPa ~ +30kPa
- Working Temperature: room temperature ~ 1200°C
- Applied Fluid: Gas/Exhaust-gas/Dust



Bulge Hydroforming Products



Dampers



Flexible Tubes



Teflon Tubes and Bellows



Autoclaves/Gloveboxes

# IOSV

IO SETIA VENTURES SDN BHD (383695-M)

67, Jalan Tiara Sentral 3,  
Nilai Utama Enterprise Park,  
71800 Nilai, Negeri Sembilan,  
MALAYSIA

Tel : +606 794 0961 / 799 6963

Fax : +606 799 7963

Email : [sales@iosv.com.my](mailto:sales@iosv.com.my)

Web : [www.iosv.com.my](http://www.iosv.com.my)