

## JV250014

**EPDM Expansion Joint**  
**Water Duty**  
**High Performance**  
**DN32-150 PN16 Flanged**  
**DN200-300 PN10 Flanged**



The JV240014 expansion joint helps to alleviate stress in systems by absorbing vibration, noise, thermal expansion, compression, lateral and angular movements in pipework.

**Suitable for duties including:-**

Water / hot water with salt solutions, chlorine solutions, esters and ketones.

**Approvals, Features & Benefits**

- DNV-GL & ABS type approved
- Suitable for marine applications
- Single sphere tube
- Synthetic fibre reinforced liner
- Swivelling flanges

**Pressure & Temperature**

Pressure range:-

DN32 - DN150: PN16\*

DN200 - DN300: PN10\*

\* Limiters may be required, see page 2

Temperature range:-

-35°C to 90°C

DN	32	40	50	65	80	100	125	150	200	250	300
L	130	130	130	130	130	130	130	130	130	130	130
ØD1	72	80	90	105	120	140	165	190	240	290	340
ØD2	77	85	95	110	125	145	170	195	245	295	345
Weight Kg	2.8	3.3	3.7	4.8	5.3	6.2	8.2	11.2	16.8	21.6	30.1

MATERIALS	
Inner Tube & Cover	EPDM (PTFE Inner Liner option, max. 6 bar & 50% reduction in movement)
Reinforcement	Synthetic fibre
Flanges	Dichromate zinc plated steel (Stainless Steel 316 option)
Brace	Carbon steel
Optional Ti Vacuum Ring (>1 bar)	Stainless Steel 316

**Maximum Movement** (can't be applied simultaneously)



Compression



Expansion



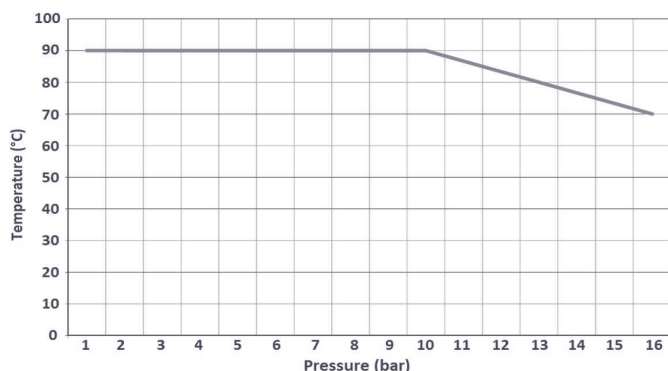
Lateral



Angular

DN	32	50	50	65	80	100	125	150	200	250	300
Compression	30	30	30	30	30	30	30	30	30	30	30
Expansion	20	20	20	20	20	20	20	20	20	20	20
Lateral	20	20	20	20	20	20	20	20	20	20	20
Angular	35°	30°	30°	30°	30°	25°	25°	15°	15°	10°	10°

**Pressure / Temperature Graph**



**Maximum Vacuum**

DN	32	40	50	65	80	100	125	150	200	250	300
Bar	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2

## Rubber Expansion Joint Installation Instructions

Rubber expansion joints are supplied ready for installation, however the following advice should be taken into consideration to ensure good performance and a prolonged service life.

### Fixed Points

An expansion joint acts as a piston on the forces arising from internal pressure. To prevent pipes from damage they should be properly anchored in order to cope with these reaction forces (Fr). The reaction force of an expansion joint is calculated by the following formula:

$$Fr = A \times P \times 0.01$$

Fr = Reaction force in kN

A = Effective cross sectional area in cm<sup>2</sup>

P = Actual pressure in bar or kp/cm<sup>2</sup>

### Installation

The swivelling fittings make installation easier and eliminate twist. The low inherent rigidity of expansion joints make for easier accommodation of installation dimensions. The expansion joints shall be easily accessible and open to regular supervision. It is recommended to let the expansion joints work in compression rather than stretching. Torsion is not permitted.

Always check the permissible movements, temperature, pressure and proper rubber quality before installation.

Expansion joints are designed for the absorption of previously specified movements under specific pressure and temperature conditions.

### The following considerations should be noted during installation :

- The route of the pipeline is straight.
- The fixed points are dimensioned so that they can absorb the reaction forces and stiffness rate that arise during use.
- The pipeline is limited by fixed points.
- The distance between expansion joint and bearing may be a maximum of 3 times the pipe diameter. Place only one expansion joint between 2 bearings.
- Each pipe elbow must be fixed by support, specially if expansion joint is mounted with limiters. Fixed bearings are necessary because expansion joint is submitted to expansion when it is under pressure.
- Expansion joint must not be painted and heat-insulated. It must be protected from bad weather and solar radiation.
- Make sure flange bolts are oriented with heads toward expansion joint body, if this is not possible, ensure that the threaded bolts project as little as possible (no more than 2-3mm) to avoid damage to the body.
- Check that the expansion joint is not subjected to the weight of the pipeline.
- The expansion joint must never be twisted.
- The life of the expansion joint can vary because of working conditions (fluids, pressure, temperature), it is necessary to check it regularly.
- Use limiters when the pressure exceeds the following values. Up to DN100 : 10 bar, DN125 to DN250 : 9 bar, DN300 to DN350 : 6 bar, DN400 to DN600 : 3 bar or when there is a risk of high pressure (pump starting) or high temperature.

### Installation should be applied in the following order :

1. Fixed points for horizontal pipework.
2. Fixed points for vertical pipework.
3. Expansion joint fitting.

### Example Layout

