

JV250013

**NBR Expansion Joint
Air & Oil Duty**

130mm Face to Face

**DN32-150 - PN16 Flanged
DN200 - PN10 Flanged**



The JVT250013 expansion joint helps to alleviate stress in air and oil systems by absorbing vibration, noise, thermal expansion, compression, lateral and angular movements in pipework.

Approvals, Features & Benefits

- Suitable for marine applications
- Single sphere NBR tube
- Nylon reinforced liner
- Swivelling flanges

Pressure & Temperature

Pressure range:-

DN32 - DN150: PN16*
DN200: PN10*

* Limiters may be required, see page 2

Temperature range:-

-10°C to 80°C

DN	32	40	50	65	80	100	125	150	200
L	130	130	130	130	130	130	130	130	130
ØD	29	36	48	63	72	92	123	144	199
ØD1	69	78	89	108	123	145	180	209	259
Weight Kg	2.9	3.2	4.2	6	6	6.9	9.3	11.3	15.7

MATERIALS

Inner Tube & Cover	NBR
Reinforcement	Nylon cord
Flanges	Galvanised steel
Brace	Hard steel

Maximum Movement (can't be applied simultaneously)



Compression



Expansion



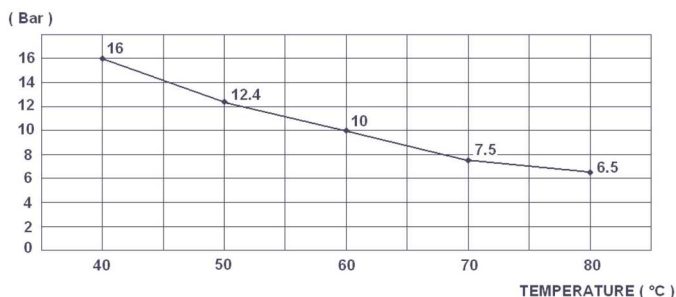
Lateral



Angular

DN	32	40	50	65	80	100	125	150	200
Compression	8	8	8	12	12	18	18	18	20
Expansion	4	4	4	6	10	10	10	10	14
Lateral	8	8	8	10	12	12	12	12	18
Angular	15°	15°	15°	15°	15°	15°	15°	15°	15°

Pressure / Temperature Graph DN32 - DN150



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 cm²

P = Actual pressure in bar or kp/cm²

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

