INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

EPDM expansion joint with swiveling flanges to absorb vibrations and noises for :

- water distribution, heating and HVAC networks (Ref.1501, 1502, 1505)
- oil, hydrocarbon, air (Ref.1503, 1506)
- drinking water (Ref.1507)

Single sphere body and floating flanges in electro galvanized carbon steel.
For linear and angular compansion.

Size :	DN32 to DN600
Connection :	Flanges PN10/16
Min Temperature :	-10°C
Max Temperature :	+100°C for EPDM, +80°C for NBR
Max Pressure :	16 Bars up to DN300
Specifications :	Absorb vibrations and noises Linear and angular compansion Single sphere tube Swiveling flanges
Materials :	Electro galvanized steel flanges

INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

SPECIFICATIONS :

- Absorb vibration, noises and expansion
- Linear and angular compansion
- Tube EPDM (EPDM marking) or NBR (NBR marking)
- Electro galvanized steel flanges PN10/16
- Expansion limiter (optional)

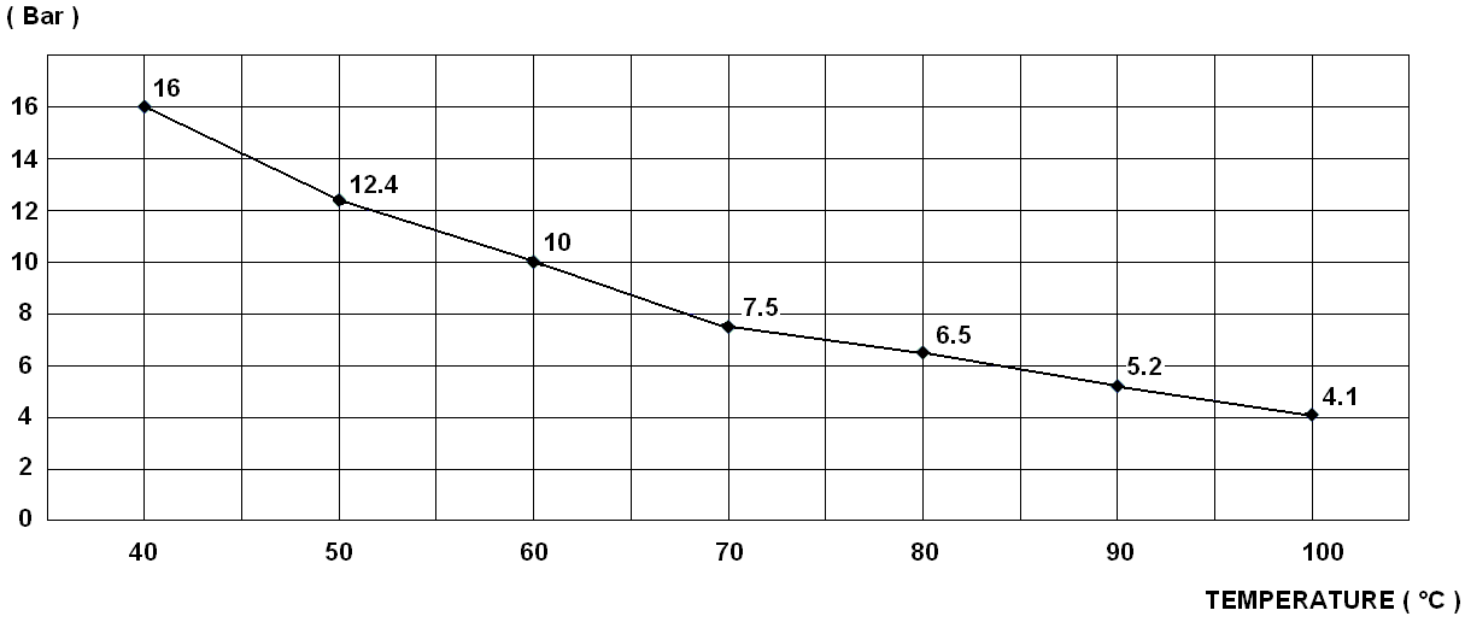
Marking example (EPDM) :

USE :

- Water distribution, heating and HVAC (for EPDM types)
- Drinking water (for types EPDM ACS Ref. 1507)
- Oil, hydrocarbon, air (for NBR types)
- Min and max Temperature Ts : - 10°C to + 100°C for EPDM types
- Min and max Temperature Ts : - 10°C to + 80°C for NBR types
- Max Pressure Ps : 16 bars up to DN300 (see graph) , 10 bars over

PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) 1501-1502-1505-1507 DN 32 – DN 300 :

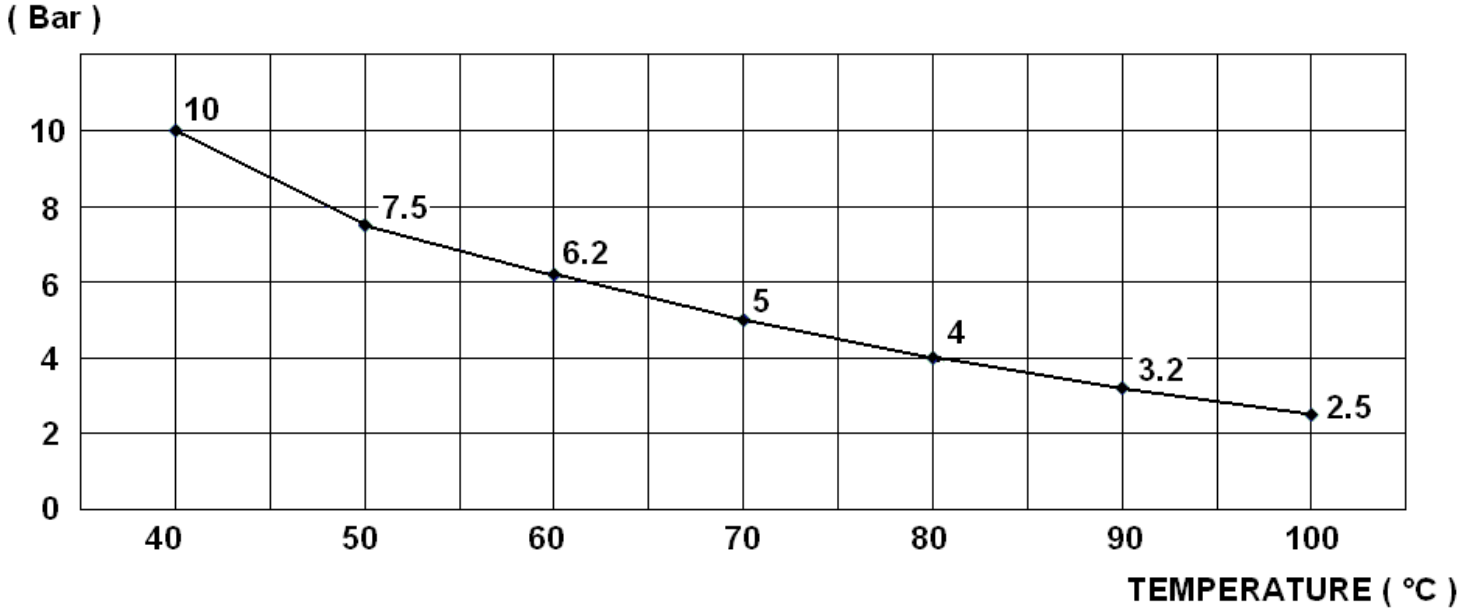
1501-1502-1505-1507 DN 32 – DN 300



INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

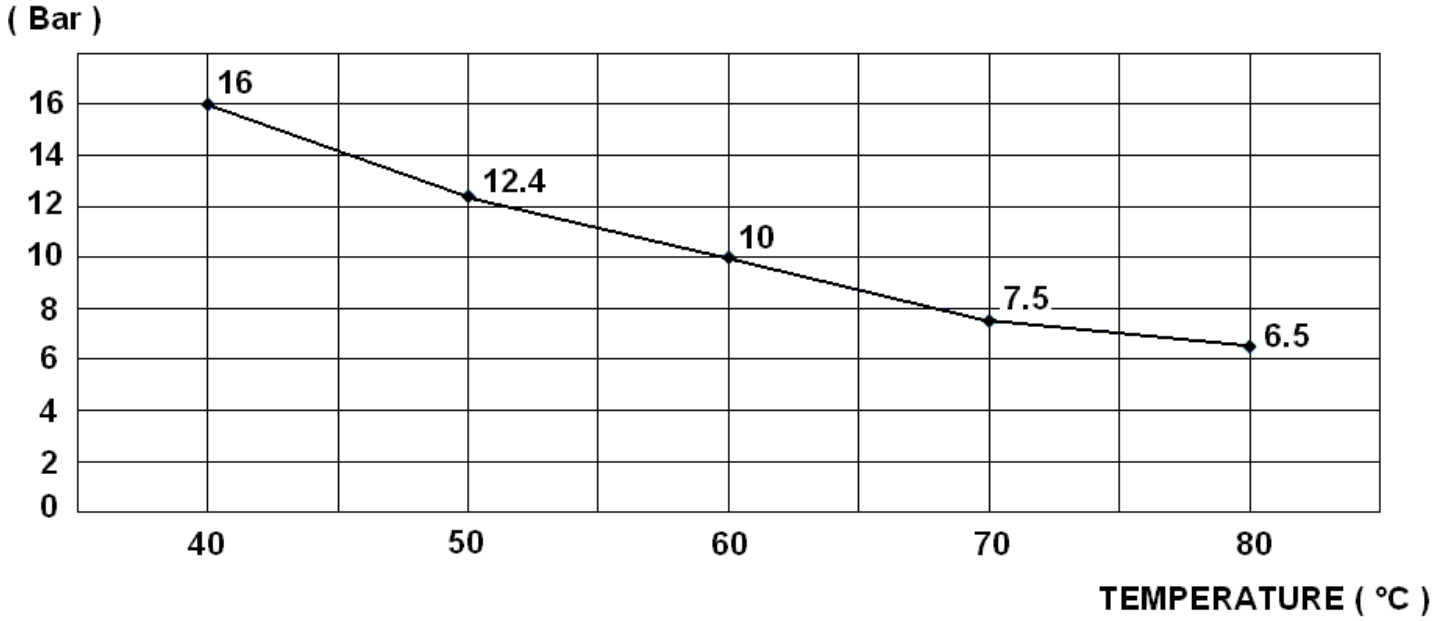
PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) 1501-1502 DN 350 – DN 600 :

1501-1502 DN 350 – DN 600



PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) 1503-1506 DN 32 – DN 200 :

1503-1506 DN 32 – DN 200



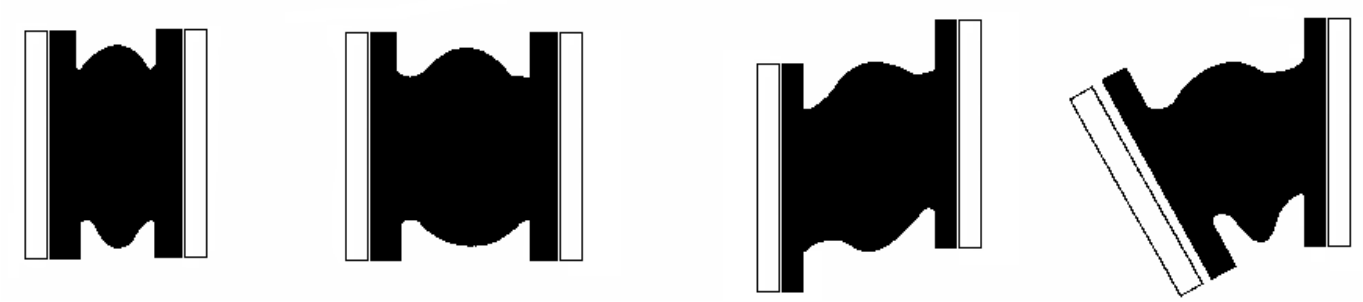
INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

RANGE :

- EPDM expansion joint with floating steel flanges PN10/16 from DN32 to DN150, PN10 over **Ref. 1501**
- EPDM expansion joint with floating steel flanges PN16 from DN200 to DN300 **Ref. 1502**
- NBR expansion joint with floating steel flanges PN10/16 from DN32 to DN150, PN10 over **Ref. 1503**
- EPDM expansion joint 130mm long with floating steel flanges PN10/16 from DN32 to DN150, PN10 over **Ref. 1505**
- NBR expansion joint 130mm long with floating steel flanges PN10/16 from DN32 to DN150, PN10 over **Ref. 1506**
- EPDM ACS expansion joint 130mm long with floating steel flanges PN10/16 from DN32 to DN150, PN10 over **Ref. 1507**
- Expansion limiter (with 2 studs and 4 plates included) PN10 from DN 32 to DN 600 **Ref. 98604**
- Expansion limiter (with 2 studs and 4 plates included) PN16 from DN200 to DN300 **Ref. 98603**
- Expansion limiter 130mm long (with 2 studs and 4 plates included) PN10 from DN32 to DN300 **Ref. 98606**

INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

MOVEMENTS (in mm) :



Compansion Expansion Lateral Angular

DN	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Compansion	8	8	8	12	12	12	16	16	20	20	20	25	25	20	20	20
Expansion	4	4	4	6	6	10	10	10	14	14	14	16	16	12	12	12
Lateral	8	8	8	10	10	12	12	12	18	18	18	18	18	18	18	18
Angular	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°

Maximum movements can't be applied together

INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

INSTALLATION INSTRUCTION :

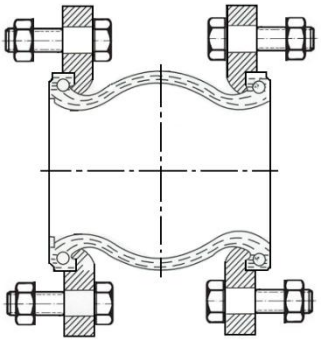
Expansion joint are designed for the absorption of previously specified movements under specific pressure and temperature conditions.
So that the maximum service life is achieved, the following items must be observed during installation.

- Prior to fitment of the compensator it must be ensured that :
  - The route of the pipeline is straight - The expansion tallies with that of the chosen compensator
  - The expansion tallies with that of The chosen compensator
  - The fixes points are dimensionned 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 compensator and bearing may be a maximum of 3 times the pipe diameter. Place only one compensator between 2 bearings.

- Each pipe elbow must be fixed by support, specially if compensator is mounted with limiters.
  Fixed bearings are necessary because compensator 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.

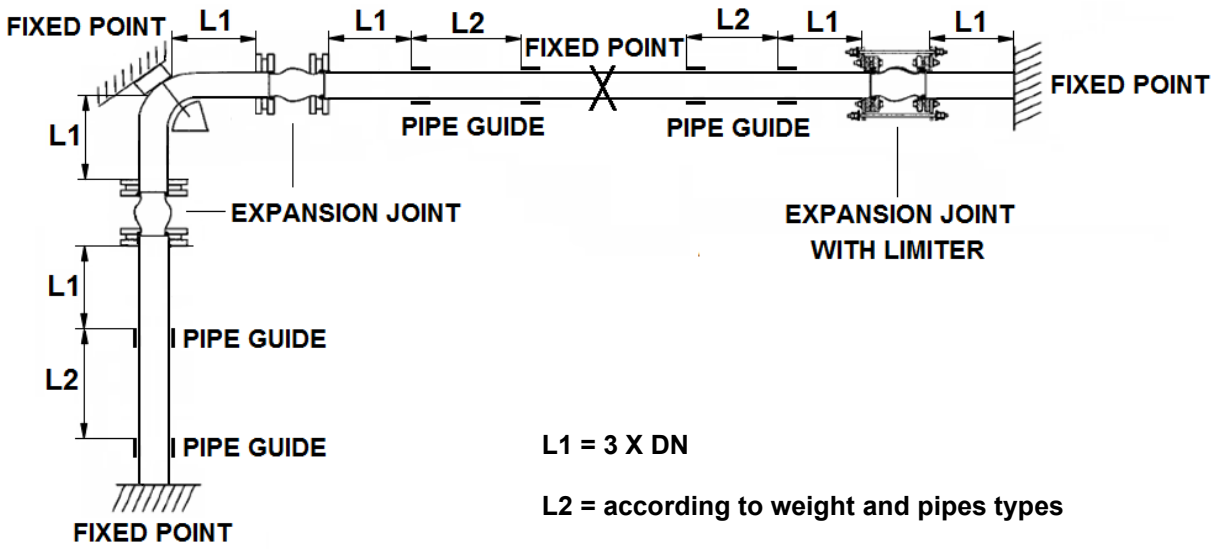
- During assembly operation, make sure screws are oriented according to the graph out below :



- Please apply the following stages order :

  a) Fixed points for above pipeline
  b) Fixed points for down pipeline
  c) Compensator mounting

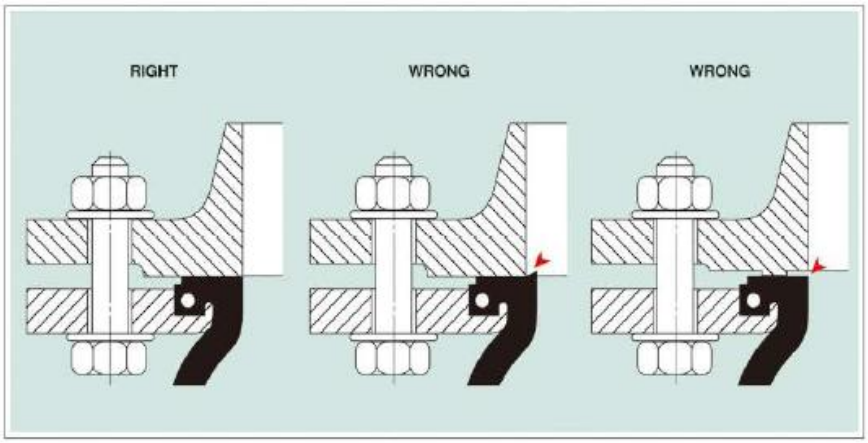
- Installation layout :



INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

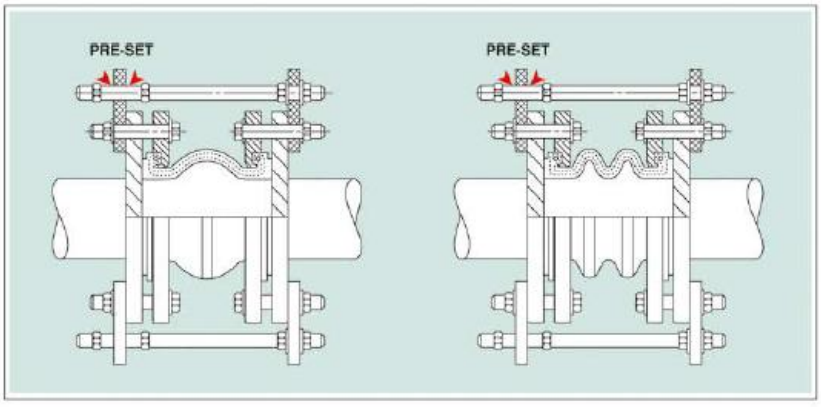
INSTALLATION INSTRUCTION (SUITE) :

- Check that the compensator is not subjected to the weight of the pipeline. The installation lenght must agree with the installation gap. The compensator must never be twisted. It is recommended that specific characteristics be observed during maintenance :
  - The compensator must never be painted or recovered by heat insulation
  - The tightness of the bolts must be checked often.
  - The flanges must be perfectly cleared



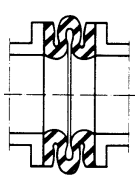
- Use limiters : When the working pressure can exceed the following values :
  - Up to DN100 : 10 bars
  - From DN125 to DN250 : 9 bars
  - From DN300 to DN350 : 6 bars
  - From DN400 to DN600 : 3 bars
  - When there is some risk of high pressure (pump starting) or high temperature.

The control rod assemblies are pre-set at the maximum Allowable expansion and/or contraction of the joint during The commissioning or operating. It is strictly recommended For unanchored / unsupported system and also spring Mounted pumps or equipments.

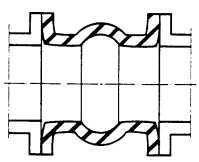


NOTA : The life of compensator can vary because of working conditions (fluids, pressure, temperature), that is why it is necessary to check it regullary.

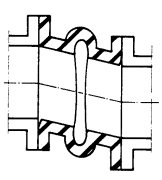
WRONG INSTALLATION :



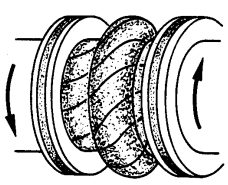
Excessive compansion



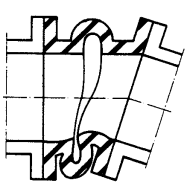
Excessive expansion



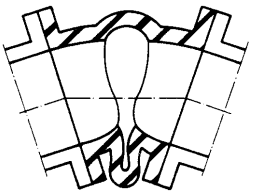
Cutting too important



Torsion



Important compansion and angular deviation



Angular deviation too important

INSTALLATION OPERATING MANUAL RUBBER EXPANSION JOINT FLANGED

MAINTENANCE :

Expansion joint are to be included in a maintenance plan.

• It must be perfectly accessible, in order to facilitate regular checks and possible dismantling.

• An external visual inspection (appearance, elasticity of the elastomers) and a check of the tightening of the flanges must be carried out every year on the anniversary date of commissioning.

• Every 3 years, internal control and inspection after dismantling the sleeves depending on the severity of the service conditions or the national regulations in force in the country.

• Every 7 years, systematic replacement of installed parts. The compensating sleeve should be replaced regularly depending on its condition and the hardening of the materials.

ADVICE : Our opinion and our advice are not guaranteed and SFERACO shall not be liable for the consequences of damages.
The customer must check the right choice of the products with the real service conditions.