

## Handling of expansion joints

Due to the very thin wall thickness of the bellows of an expansion joint, extra precautions and careful handling is required to protect the expansion joint during transportation, storing and installation.

Damages to the bellows can reduce the cycle life and pressure capacity and cause the expansion joint to fail. Therefore the instructions below must be followed.

### Storage and transportation:

- Expansion joints must always be stored in a dry clean storage area away from heavy traffic and away from corrosive and erosive media.
- Expansion joints should be stored on a flat and firm timber base.
- Expansion joints must never be dropped or bumped since dents and deep scratches can cause the bellows to fail.
- Pre-stress irons and protection cover must never be removed before installation is completed.
- Pre-stress irons must never be used to lift the expansion joint.
- Expansion joints must never be lifted by attaching chains or other lifting device directly to the bellows.
- Expansion joint must never be exposed to splatter from welding or gas cutting. If necessary, cover the expansion joint with non-flammable blanket or insulation material.
- Expansion joints must never be cleaned using detergents containing chlorides.
- Never paint the stainless steel bellows.

### Installation:

- Before installation, one must check that the bellows are free from dents and scratches, which may reduce both pressure capacity and cycle life.
- Expansion joints must never be used to take up misalignment of the pipe system that is not taken into account during design. Accordingly, the pipe system must be aligned before installation of the expansion joint.
- If flow direction is indicated on the expansion joint, be sure that the flow indicator is in the correct direction.
- If the expansion joint is with two fixed flanges, do not forcibly rotate one end for bolt alignment. Bellows are unable to sustain torsional movement unless it has been taken into account during design.
- Be sure that all fix points and guides are mounted correctly to ensure that the pipe system is moving in a predictable and controlled manner.
- Expansion joint must be protected from splatter from welding and cutting, arc strikes, etc. by using a non-flammable blanket or insulation material.

### After installation:

- A careful inspection of the expansion joint must be made after installation and before system start-up or insulation of the system.
- Pre-stress irons and bellow protections must be removed from the expansion joint before system start-up or insulation of the system and prior to pressure test.
- Remove any foreign material from the bellows before system start-up.
- A careful inspection of the complete system must be made to ensure correct installation of fix points, guides and slidings. It must be certain that the pipe system will move in a predictable and controlled manner.
- If the system is insulated, free movement of the expansion joint must be taken into account.
- Never clean expansion joints with cleaning agents containing chloride.

## Exhaust gas expansion joint

### Mounting and handling instruction

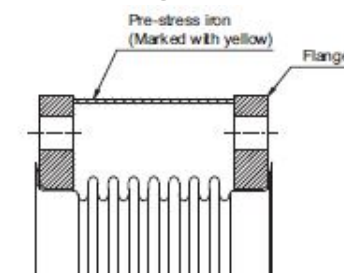


Fig. 1

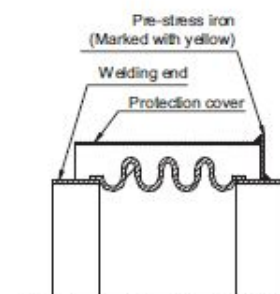


Fig. 2

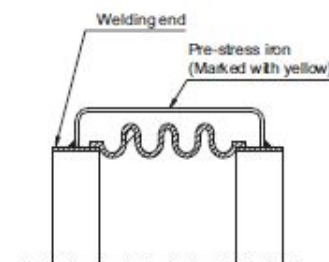


Fig. 3