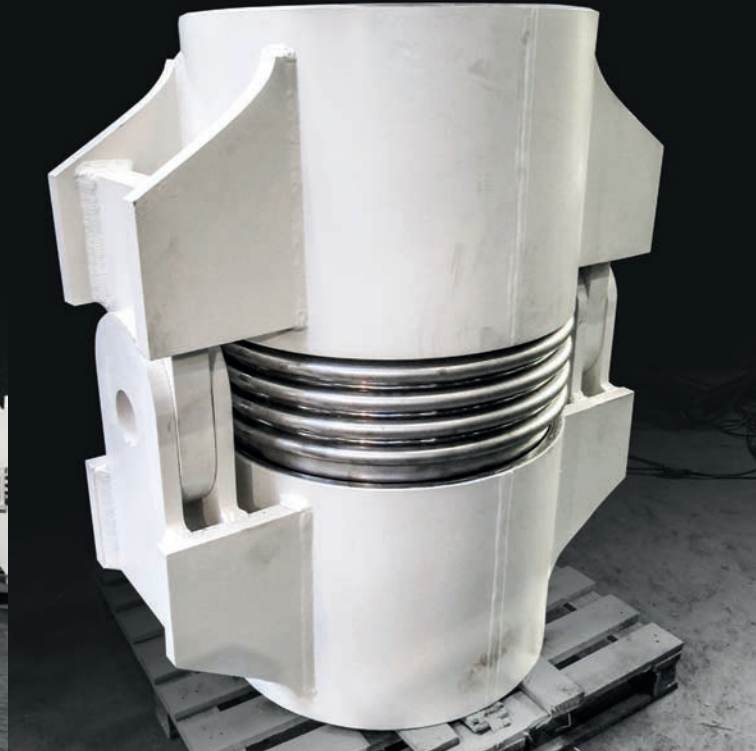




CASE STORY

CLIENT BENEFITTED BY
QUICK AND COST-EFFICIENT
REFURBISHMENT OF
EXPANSION JOINTS



In some situations it is not possible to allow external on-site teams into the plant to replace and/or refurbish an Expansion Joint. Furthermore in some situations it is not necessary to replace the entire Expansion Joint. If only the bellows are at the end of their service life and the other components are still in good working order, it is usually more economical to just replace the bellows. In some situations it is easier, faster and more efficient to demount the expansion Joint/-s and ship them to industry experts for refurbishment. This is what a German district heating pipeline owner decided to do for their 25 Expansion Joints in question.

Cost-effective solution

The Owner of the district heating pipeline had a high operating pressure, which means that the hinges and welding ends were sturdy and clearly represented the highest value in the construction. The client therefore asked

Belmans expert team whether it would be possible to reuse these parts and simply replace the worn out bellows. After inspecting and analysing the Expansion Joints at their arrival in our work shop, Belman found that the hinges and welding ends had not been damaged by corrosion after many years' operation (the Expansion Joints were about 35 years old). Belman was able to inform the client that the components were fit for reuse and simply required surface treatment.

Being able to just replace the bellows and recondition the fittings resulted in large savings for the client compared to buying brand new Expansion Joints. At the same time they saved money for external on-site crew.

The replacement

The Expansion Joints were removed during a planned shutdown and shipped to Belman. In some cases the replacement can take place on-site, if externals are allowed on-site, but in most cases it is preferable to have this carried out at the manufacturer's premises. The replacement involved dismantling the old Expansion Joints, cutting out the old bellows and removing the pins. The old

welded parts (welding ends with hinges and pins) were sandblasted and the old welds were cut off. Following this, they were ultrasonic inspected for stratification and checked for ovalization. The new bellows were welded in and the Expansion Joints were reassembled. All the old steel parts were then surface treated. Selected Expansion Joints were pressure tested at 48.8 bar (corresponding to a reaction force of over 234 tons). Finally, the Expansion Joints were packed and returned to the client for refitting.

On-site inspection or online inspection

If the customer is unsure of the required scope of a refurbishment, Belman's installation and inspection team can inspect and assess the compensators on-site and subsequently make recommendations on the required scope of the refurbishment. If no externals is not allowed on-site, Belman have many options with digital tools such as online meeting softwares. Please feel free to contact us to discuss options.

CLIENT BENEFITS

- No external crew on the plant needed
- The best and most cost-efficient solution is ensured
- Only absolutely necessary work on the Expansion Joint is made
- Experts on Expansion Joints verifies and guarantees future life time of the Expansion Joint
- Extremely short down time of the plant