

A clamshell bellows is a temporary repair solution for damaged expansion joints.

If a bellows is leaking or damaged, or if a bellows must be changed with a target to having the minimum down time, this is where a clamshell should be considered.

Our Clamshell bellows is the best solution when a quick and unexpected replacement of the bellow is necessary. Clamshell bellows is a two-piece bellow which is welded around the existing unit.

The bellows is split in half longitudinally in our works. The halves are match-marked to ensure the bellows halves are aligned correctly. The clamshell is fitted accurately in position. A purge gas is set up to minimize oxidizing of the weld to ensure a good quality weld. The clamshell halves are then welded back together.

Typical applications

- Heat Exchangers
- Pipe penetration seals on boilers

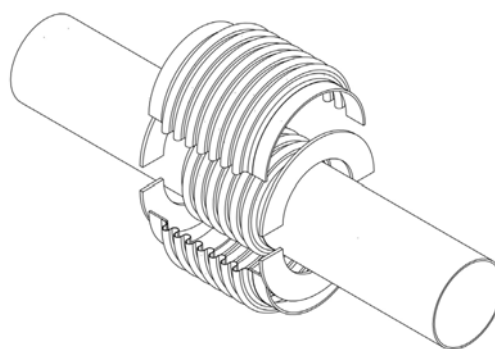
Types of Clamshell bellows:

- Over-Size Clamshell
- Same Size Clamshell

Oversize clamshell

An oversize clamshell expansion joint is the best solution to sealing a leaking bellows while keeping the plant on line. Over-size-clamshell bellows is installed on top of the current bellow while the system operates. The leaking bellows are encapsulated by adding split rings with a larger outside diameter than the leaking bellows on either side of the leaking bellows. These split rings are used to locate the new oversize bellows.

Installation/assembly is possible while the pipeline operates.



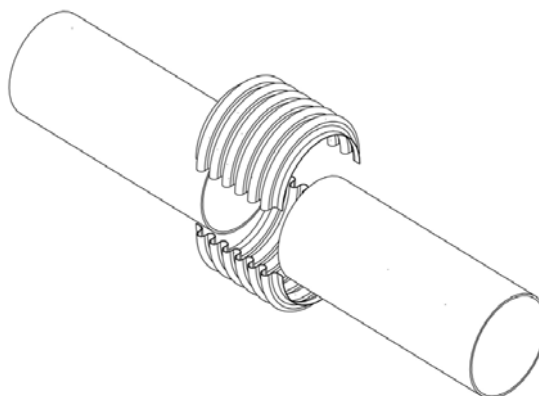
Same size clamshell

The pipe line must be shut down to install a same-size clamshell and the current bellows to be replaced is removed and discarded. The replacement bellows is manufactured, with the same diameter as the original bellows.

The pipe outside diameter where the bellows was located and welded needs to be ground smooth to obtain a weldable surface.

Reactive force and spring rate can stay as originally (for same size clamshell bellows) and for this reason re-dimensioning is unnecessary.

On heat exchangers or penetration seals on boilers internal pipes do not need to be removed.



On-site Service

We help you to get your clamshell properly installed. Clamshell are critical units that require a high level of expertise during installation.

Our offers its customers a complete field service package.

We provide skilled clamshell bellows welders to perform this welds at site. Field welds are 100 % dye penetrant tested by our qualified staff.

We provide a professional variety of site services including assembly, supervision of installation and inspection that minimize risks of unplanned shutdowns and help to avoid failures and break-downs.

