

LASER TECHNOLOGY AND EQUIPMENT FOR

MANUFACTURE OF MULTILAYER BELLOWS

PWI has developed the technology and equipment for laser welding of thin-wall pipes of stainless steel for manufacture of multilayer bellows, which carry and divide liquid and gaseous media, including aggressive ones.

Following the developed technology the bellow consists of several laser-welded thin-wall pipes (from 3 to 10 layers) of 0.15–0.20 mm thickness each. The bellow will keep working capacity in such a multi-layer bellow structure, even if one welded joint breaks in process of operation.

Development advantages:

- > reduced amount of rejects from 50 % in argon-arc welding to 0.5 % in laser welding
- > 4 times rise of productivity
- > cyclic strength, corrosion resistance and other characteristics of laser-welded multilayer bellow 1.5–4 times exceed the characteristics of single layer bellow made by argon-arc welding (depending on number of layers and bellow sizes).



Developed by PWI