



## EXPANSION JOINTS

"Flexible in steel" is the statement of competence by Witzenmann GmbH. Extensive development know-how, state-of-the-art manufacturing processes and uncompromising quality assurance guarantee that our products, known under the HYDRA brandname, can meet the highest requirements.

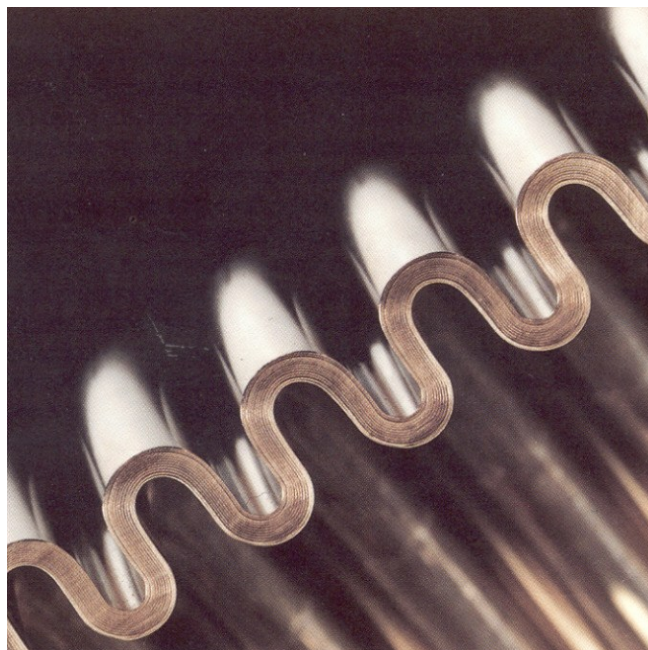
### Principle: Multi-ply design

The complete pressure-bearing wall is made of multiple thin individual layers:

The flexibility of the bellow and its resistance to pressure are increased significantly.

Low displacement forces and large movement capacity with minimum installed lengths as well as a permanent leakage control are further quality features of the multi-ply design principle.

At the same time, this structure permits the use



of different material combinations.

For example, an exceptionally high-quality, corrosion-resistant material can be used for the inner layer in contact with the medium. For more detailed information please ask.

### Axial expansion joints

High-performance standard designs with multi-ply stainless steel bellows in a wide range of dimensions from DN 15 up to DN 3000 with floating lap-joint flanges, fixed flanges or weld-ends in numerous variations:



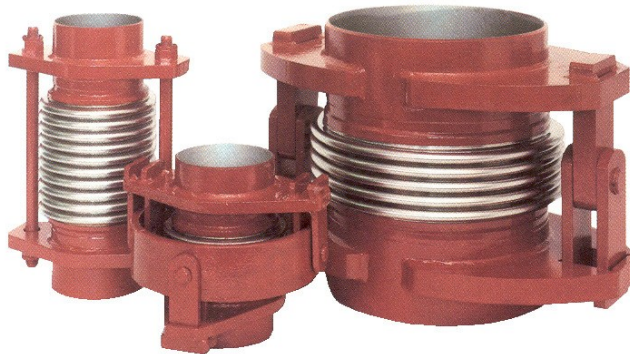
Internal sleeves, special materials, non-standard flange drilling templates. For easy, economic compensation, provided the fix point forces remain low.

## HYDRA®

### Hinged expansion joints

Standard type series of angular and lateral expansion joints with numerous variations for the compensation of plane and three-dimensional systems.

In nominal diameters up to DN 1000 and for higher pressures and large movements with low connection



forces and moments.

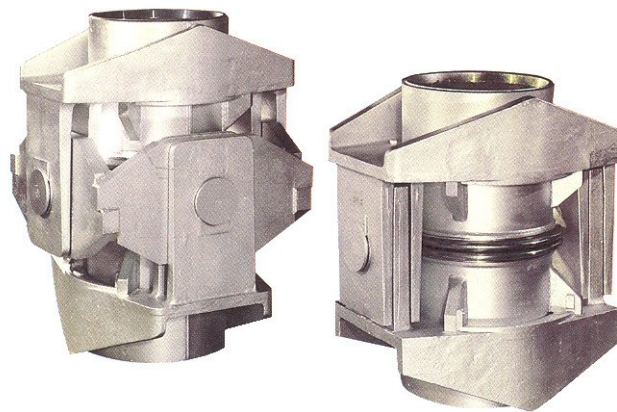
Flanges or weld-ends as connections are available. Patented anchors guarantee the function and transfer the pressure forces reliably.

Different design types permit optimum compensation - even in complex pipe systems.

### Special designs

In addition to the standard type series, we manufacture various special ranges and special programs with single- or multi-ply bellows - also in oval or rectangular form up to 12 m in diameter and for highest pressure and temperature rates.

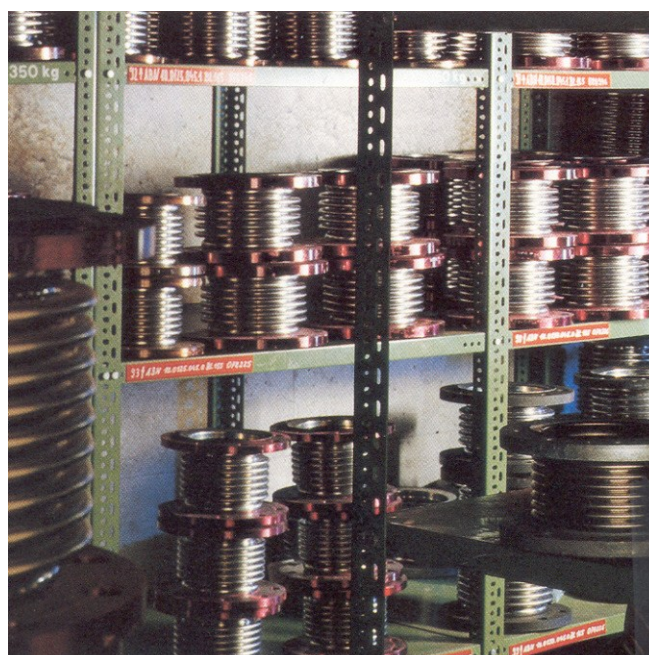
Progressive manufacturing



processes and decades of experience ensure that we can provide optimum solutions to meet all requirements in modern piping and plant construction. Our manual of expansion joint technology, which we would be pleased to send you, will give you an overview of all the services we offer.

### Service

For optimum solutions we offer not only the right products, but also complete advisory services: with qualified representatives and technicians, with whom you can discuss your requirements "on site". Our extensive stock of standard products enables us to deliver quicker.



An insight into our complete product range can be found in our Expansion Joint Manual which can be sent on your request.