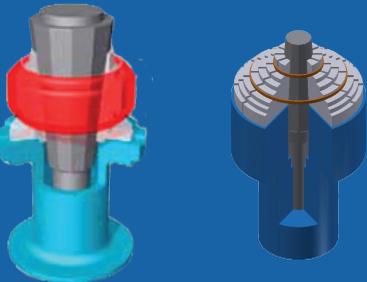
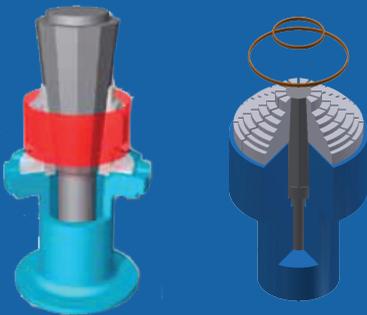
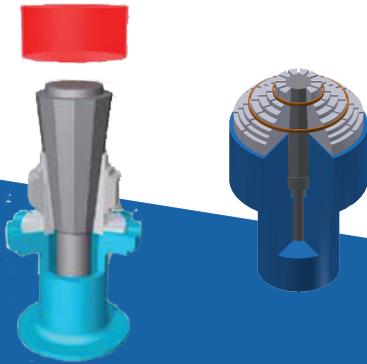


# EXPANDERS

## PROCESS



### Principle of an Expander

The part to be expanded is positioned around the collapsed dies. Cone and drawbar are in the extended position on pull type, and retracted position on push type.

As the drawbar pulls the cone down, or pushes up, the inclined surfaces of the cone force the jaws and dies outward. Outward expansion stretches the part past its yield point to the desired shape and size.

When the part reaches the desired shape and size, the drawbar/cone assembly returns, and the jaws and dies return to their original position. The part, formed and sized to close tolerances, is ready to be unloaded.

### Range of Specifications Expanding

- Tonnage: Less than 2 ton to over 3600 ton
- Diameter: 25 mm to over 8 m
- Height: 6 mm to over 5 m
- Wall Thickness: 1,5 mm to over 305 mm
- Materials: Steel, Aluminum, Nickel-based Aerospace Alloys, Titanium, Stainless Steel, etc
- Custom Ranges Available



## Pipe or Tube (Ends) Forming and Calibration

Fontijne Grotnes Expanders are widely used to form and size pipes and tubes of all dimensions in a wide variety of industries, for instance, HSAW pipes for transporting water. Using Expanders in the production process provides a perfect fit for pipe or tube ends. Calibrating pipe ends makes it easier to weld two pipes together.



## Applications

Fontijne Grotnes Expanders size pipe ends, metal bellows, slip joints and pipe fittings. These Expanders form a cylindrical or spherical pipe connection, for a seal or formed thread.

Sizing and forming pipe and tube (ends) is necessary in almost every industry, especially in the nuclear-, automotive-, pipe-, and aerospace industry where required tolerances are important and can be achieved by Fontijne Grotnes equipment.

## Benefits

Expansion is a highly accurate and repeatable forming process with a shorter cycle time than comparable forming techniques.

Fontijne Grotnes Expanders make it possible to size and form profiles in a wide range of materials.

Fontijne Grotnes has knowledge of software programs to offer simulations regarding your forming processes.

By using an Expander less material is needed and the machining time is dramatically reduced, also there is virtually no limit to the materials that can be formed or sized.

