



Pressure / Expansion vessels DDV with bladder

Description and operation

The vessel consists of a welded cylindrical steel vessel externally protected by various paint coatings. The vessel is fitted with a rubber bladder, which is attached to the upper part of the vessel.

The sieve plate at the fluid connection protects the bladder when emptying or when the vessel is filled only with gas. The damper is connected to the pressure piping by means of a connecting thread placed on the bottom of the vessel. Pressure / Expansion vessels are available in vertical execution.

The vessel has to be filled with nitrogen at a previously calculated pressure in order to compress the bladder in the vessel.

Pressure vessel

At the beginning of the pumping process, water penetrates into the bladder and compresses the gas around the bladder. With increasing pressure, the water compresses the gas, filling up to the static or dynamic pressure of the installation. As soon as the system pressure decreases, the vessel returns the stored water to the piping until the switch-on pressure of the pump is reached. The system is then again pressured to the operation pressure and the pressure vessel is loaded with the necessary water volume. This process is repeated according to the installation consumption.

Expansion vessel

At increasing temperatures, the fluid expands in the closed circuit and produces a pressure rise.

This additional volume is absorbed by the bladder which compresses the surrounding gas. As soon as the temperature drops, the volume and the pressure in the circuit decrease and the gas expands again. The liquid absorbed in the bladder is then returned to the system.

Volume range: 100 to 20'000 liter,
other volumes on request

Pressure range: Small volumes up to 100 bar,
big volumes up to 40 bar

