

1000 bar Electromechanical Burst Tester according to ASTM B353

1000 bar Electromechanical Closed Loop Burst Tester specially designed to test seamless and welded wrought zirconium and zirconium-alloy tubes and end cap welds for nuclear application according to ASTM B353.

- The electromechanical pressurization unit is integrated in the lower part of a 19" cabinet which includes also a small hydraulic pump with tank to fill the tubing and the pressurizing cylinders with the test liquid; oil with low viscosity or water.
- The pressurizing piston is driven into the cylinder with leakage free seals through a ball screw drive with backlash free reduction gear and DC-Servomotor for the perfect closed Loop Control.
- With accurate pressure and volume-change measurement
- With high resolution digital controller and specialized **DION7** application software for burst testing allows the free test programming according ASTM B 353.



w+b Materials Testing Applications

The specialized **DION7** application software for burst testing features for example as requested continuous pressure increase of $0,23 \pm 0,02$ Mpa until sample failure or until programmed max. pressure is reached, then automatic pressure release or controlled pressure decrease. It allows also to program slow triangular, trapezoidal or sinusoidal as well as pressure maintaining functions. On line monitoring of set pressure, actual and peak pressure, volume and time in numeric and graphic mode; pressure and volume verses time or pressure verses volume etc.

Continuous data acquisition and calculation of real volumetric increase of the test sample and print of the test reports as well as data storage in ASCII for data export.

The real energy (Joule) calculation of the sample is calculated trough the total test energy minus the stored energy of the system which was determined with a thick walled specimen having the same internal volume as the specimen to be tested. The stored Energy of the system at 55 Mpa is with a total volume of liquid in the high pressurisation circuit (in pressurizing cylinder, connecting pipes 3 m and sample) of 60 ml is approx. 40 Joule.

The stored energy is of course depending on the length of the connecting pipe between the pressurizing system an the specimen.

