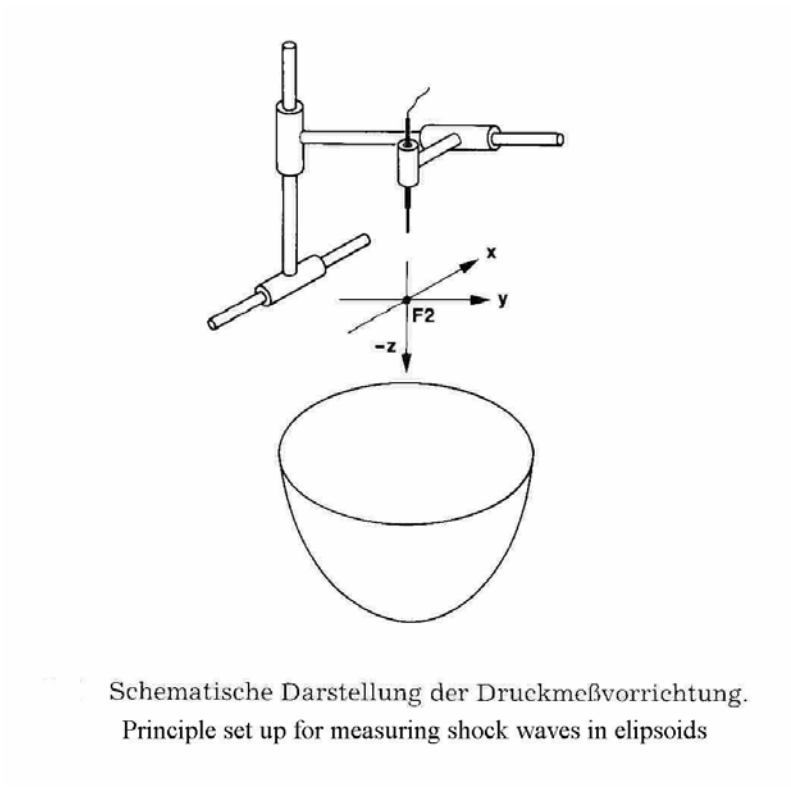
Measurement of Focusing Shock Waves in a Lithotripter

Müller-Platte Needle Probe Adjustment

The Needle Probe was exactly developed for this purpose. The probe can be mounted in the focal area and positioned by a x-y-z adjustment .



Schematische Darstellung der Druckmeßvorrichtung.
Principle set up for measuring shock waves in elipsoids

Measurement the Focusing Field of a Dornier Lithotripter

The next figure shows the pressures at different locations in the focusing field in a Dornier kidney stone lithotripter measured with the Needle Probe. The pressure focus is behind the geometrical focus due to non linearity effects.

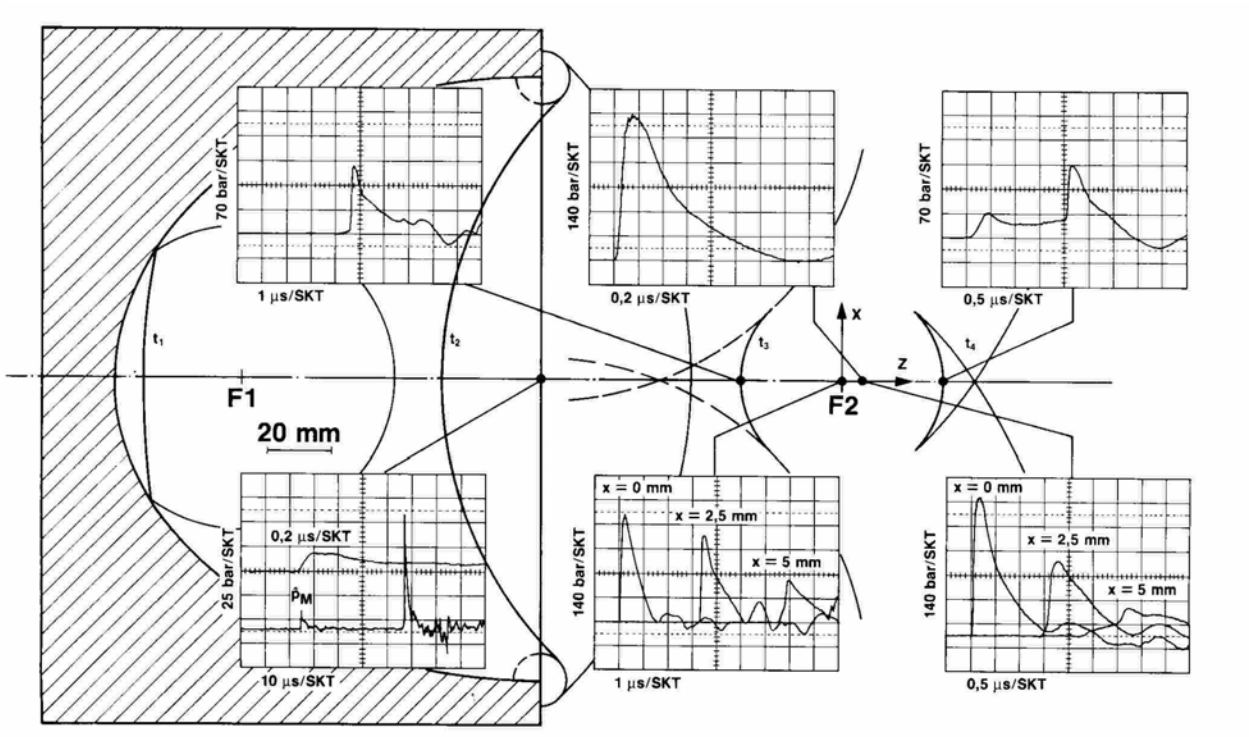
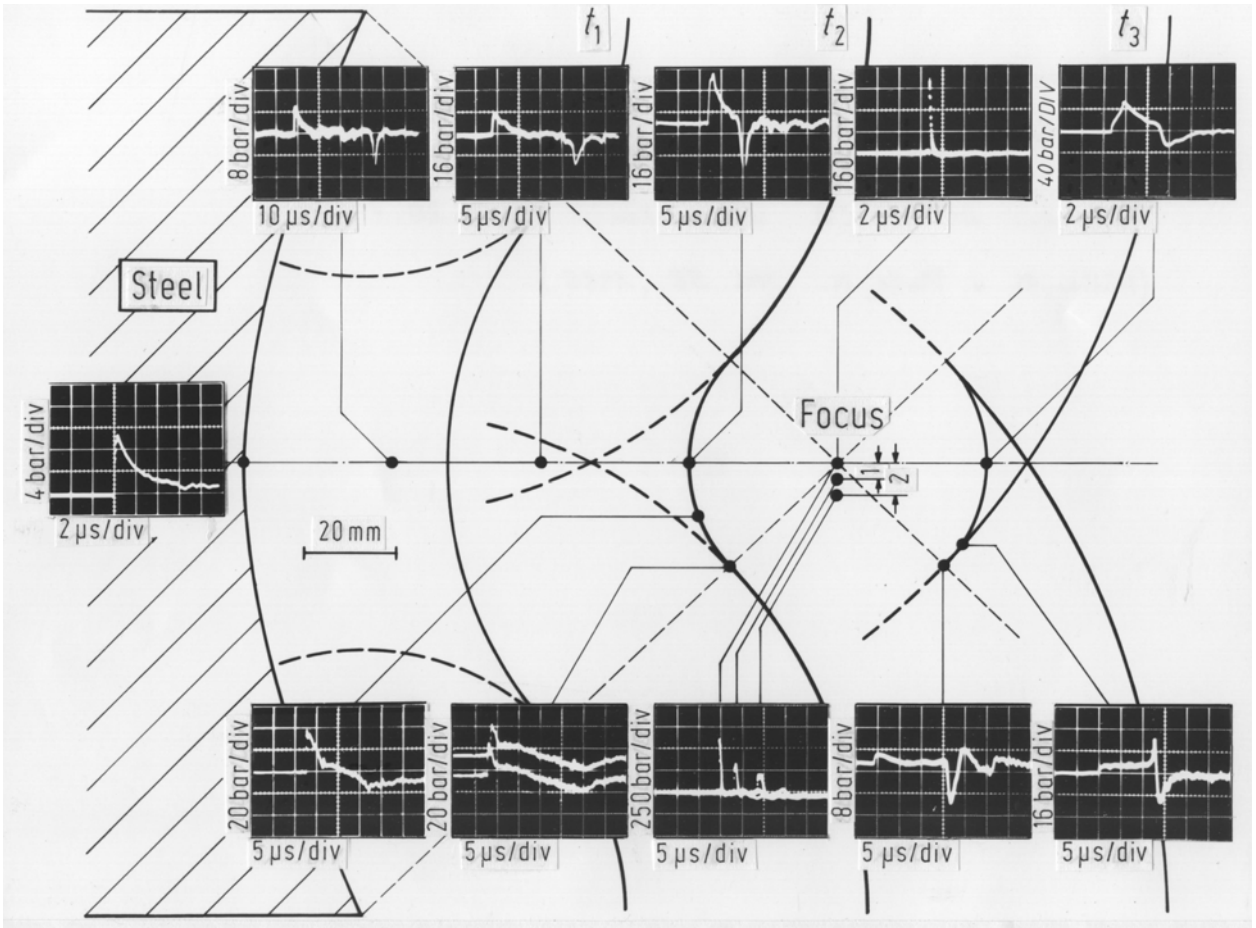


Bild 4. Druckverteilung im Mittelschnitt der rotationssymmetrischen Stoßfront während der Fokussierung durch das XL1-Ellipsoid. Dargestellt sind die Druckprofile an verschiedenen Stellen des Fokussierungsfeldes. Die durchgezogenen und gestrichelten Linien verdeutlichen beispielhaft die Lage der Stoßfronten (——) und der Expansionswellen (– – –) zu vier verschiedenen Zeitpunkten t; U = 20 kV.

Focusing Spherical Shock Waves in Water by Ellipsoidal Reflector
Pressure Distribution Measured with Müller-Platte Needleprobe in the Focus Area

Measurement the Focusing Shock Wave in a Research Ellipsoid

See the details of the measured shock wave profile and its reflections in the focusing field of a shallow ellipsoidal reflector.



——— Shock wave

- - - - - Expansion wave

Pressure Details Behind the Focus of a Kidney Stone Lithotripter Measured with the Müller-Platte Needle Probe