

the piston floated. From the known weight supported by the piston of a specified area, the pressure can be determined to an accuracy of 0.1 percent.

The tangential strain at the outside surface during the application of pressure was measured by 2 SR-4 type strain gages attached to the outside surface of the specimen at the midlength and diametrically opposed. An SR-4 strain

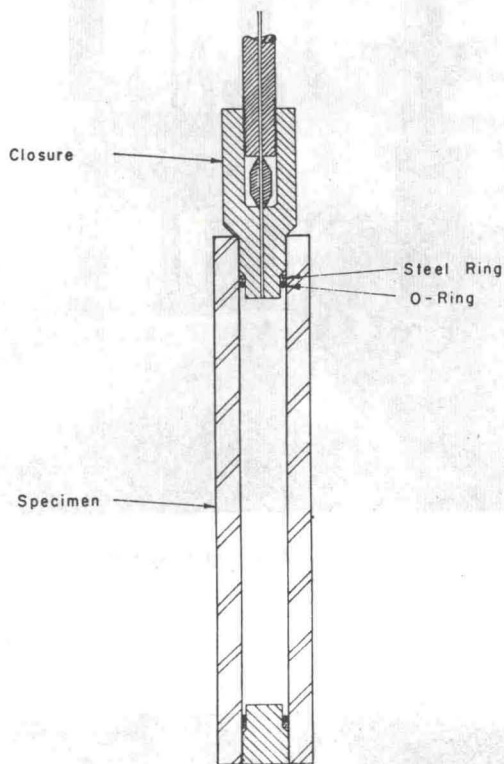


FIG. 2. Pressure seal configuration.

indicator was used on most tests for measuring the strain. A photograph of the physical strain measurement setup is shown in Fig. 4. Supplemental data was obtained using a Moseley Model 2S X-Y recorder. This recorder simultaneously measured and plotted outside surface strain and pressure. It was calibrated by the use of an accurate shunt resistance in one arm of a 4-arm bridge.

The overall experimental accuracy depended upon the Manganin cell and Wheatstone bridge in the pressure measurement system, and strain gages, SR-4 indicator, X-Y recorder and associated strain recording equipment in the strain-measurement circuit. The estimated error, including the human

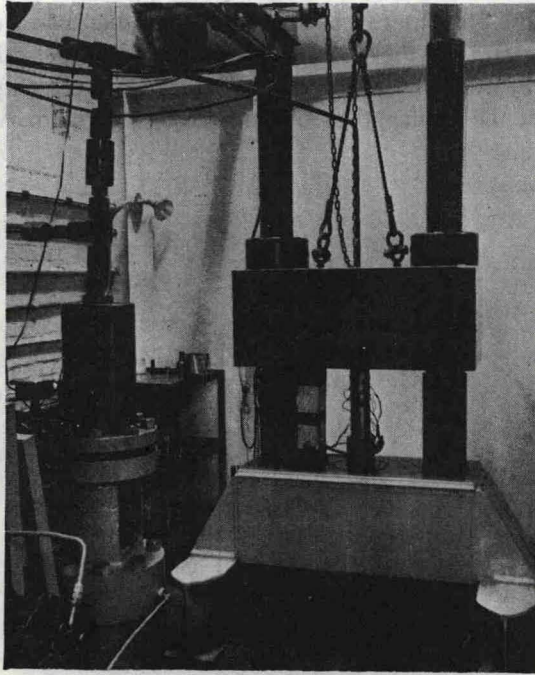


FIG. 3. 200,000 psi testing system.



FIG. 4. Pressure and strain measurement equipment.