

H. J. Hall
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TETRAHEDRAL X-RAY PRESS, 300 TON, WITH ANVIL GUIDE

for use with Westinghouse Rotating Anode Tube

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1. General - This press is designed for making "powder" x-ray diffraction measurements on a specimen subjected to high pressures simultaneously with high or low temperatures. Temperatures to about 200°C are available by circulating hot fluid from a thermostated bath (not supplied) through channels in the positioning ring. Cold fluids may be circulated through these same channels for low temperature work. Temperatures above 200°C are produced inside the sample tetrahedron by electrical resistance heating of a small furnace surrounding the specimen under study. Temperatures available by this means depend on the properties of the material used for the tetrahedral cell and on the size of the furnace. Electrical contact is made to each anvil assembly. All anvils are electrically insulated from each other and are each supplied with an electrical connector and six feet of 100 ampere flexible cable.

The x-ray press is built along the general lines of that described by J. Dean Barnett and H. Tracy Hall (Rev. Sci. Instr., 35, 175-182, 1964) with the x-ray tube mounted in Geometry B. The dimensions of the press are specifically designed to accommodate the Westinghouse high intensity, rotating anode, demountable x-ray tube.

The Tetrahedral Press is covered by H. T. Hall's U. S. Patent No. 2,918,699, assigned to Research Corporation; H. T. Hall's Anvil Guide, with patents pending, is also assigned to Research Corporation. Patents are pending on the x-ray diffraction aspects of