

The equipment consists of three basic parts: the gas compressors with purifying system, the actual equipment for study of volume and phase relationships in gaseous solutions at high pressures, and the control console.

Compression of the gas to 1000 atm was performed by an ordinary GIVD compressor. To give higher pressures, the compressed gas at 1000 atm passed through a further compressor to 5000 atm. Following compression the gas was purified from oil in an oil separator and filter.

The equipment for studying the volume and phase relationships is a system of four high pressure cylinders, appropriately interconnected and fastened to an iron frame, the whole being immersed in the thermostat. All the vessels were designed for a working pressure of 5000 atm.

A general view of the equipment, fastened to the frame, is shown in Fig. 2.

Fig. 2.

Equalizer A (Fig. 1)--a cylinder with a volume of 330 cm^3 , is used to maintain constant pressure during the experiment. In the lower part of the equalizer are located the sensor coils, the float, and the trap for the mercury of the contact-less differential manometer. Below the capillary the equalizer is filled with mercury, and joined to the second cylinder of the system--the mixer B. The mixer has the same dimensions as the equalizer, and its function is to dissolve the liquid in the compressed gas. It is equipped with an electromagnetic stirrer, brought into motion by the solenoid D, mounted on top of the mixer.