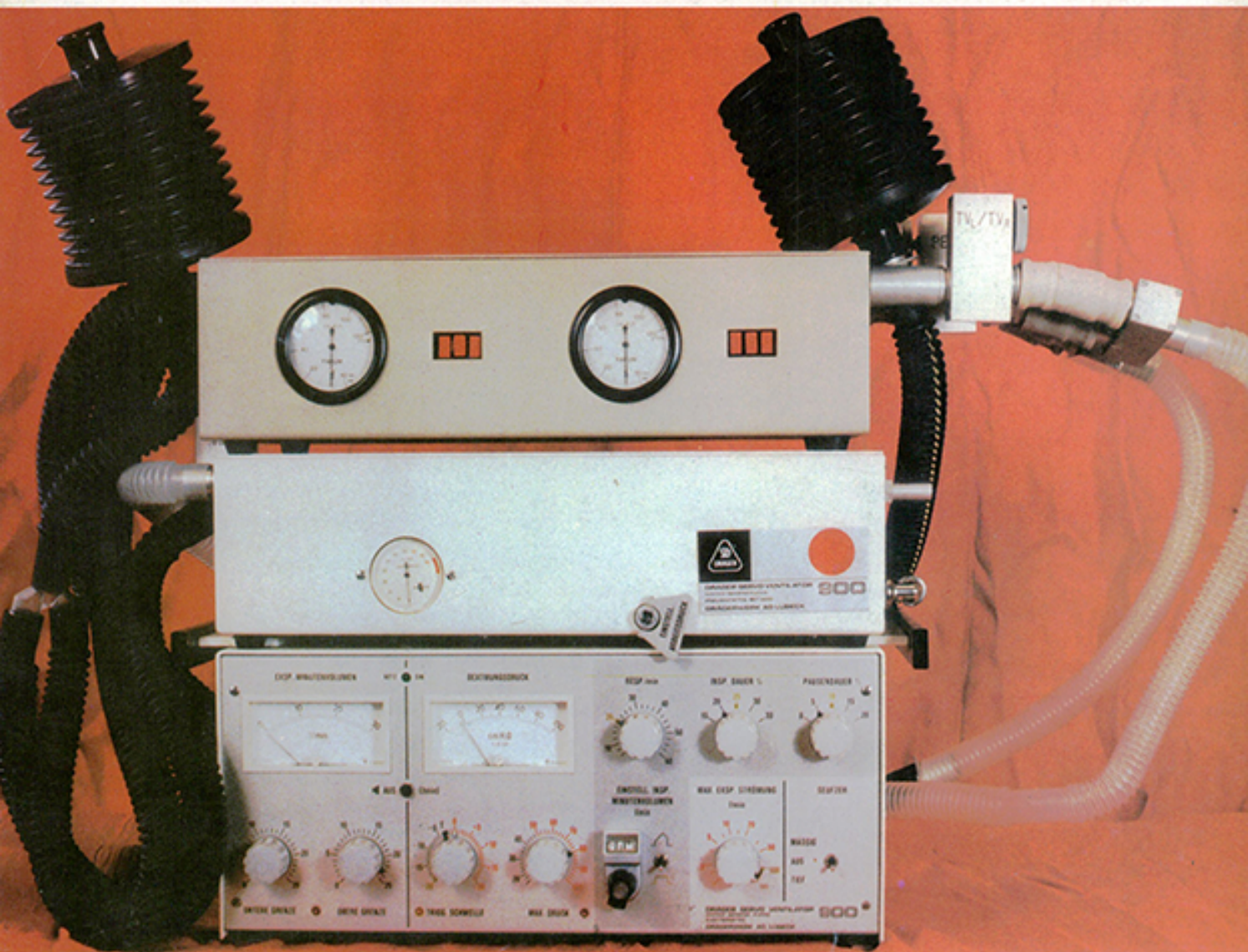




POLISH TECHNICAL REVIEW



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A laser method of sheet-metal forming

The present-day technologies of sheet-metal forming mostly rely upon applying external forces to some shaping tools (dies, rollers etc.). Professor Henryk Frąckiewicz from the Polish Academy of Sciences, Warsaw has designed a method of laser beam shaping of sheet-metal. This technology does not require applying external forces and dispenses with costly shaping tools. The new method makes it possible to form very hard and brittle materials. For details see p. 2.

Spraying of service life increasing coatings

The annual outlays for the development of the technology of spraying coatings on machine elements amount to more than 1 thousand million US dollars per year in the world. The sprayed coatings increase the service life of machines even up to 60 years. The relevant studies are carried out in Poland, among other centres, by the Low-temperature Plasma Spraying Technology Department at the Technical University of Częstochowa. The results of research conducted at this university are discussed in article on p. 5.

Equipment for depositing titanium nitride layers

Titanium nitride layers deposited on cutting tools contribute to an increase of hardness, a reduction of the friction coefficient and a modification of the mechanical properties of these tools. A group of workers at Wrocław Technical University has developed a technology of depositing these layers and has built a special equipment for this purpose. This equipment whose production has been already started is designed chiefly for use in toolmaker's shops of medium- and large-sized mechanical engineering plants. It makes possible to deposit protective layers on tools of different shapes. See article on p. 8.

A small-sized tearing machine

The growing production of textile products results in an increased amount of textile fabric wastes. A small-sized tearing machine has been designed by the BEFAMATEX Research and Development Centre for Wool Spinning Mill Machinery, Bielsko-Biala. The modular design of the tearing machine makes it possible to form sets depending on actual production technology requirements. These machines are widely exported and highly appreciated by their users. See article on p. 11.

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Front cover photo: Controller for synchronized differential ventilation of the lungs developed by the Institute of Biocybernetics and Biomedical Engineering, Polish Academy of Sciences in Warsaw

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