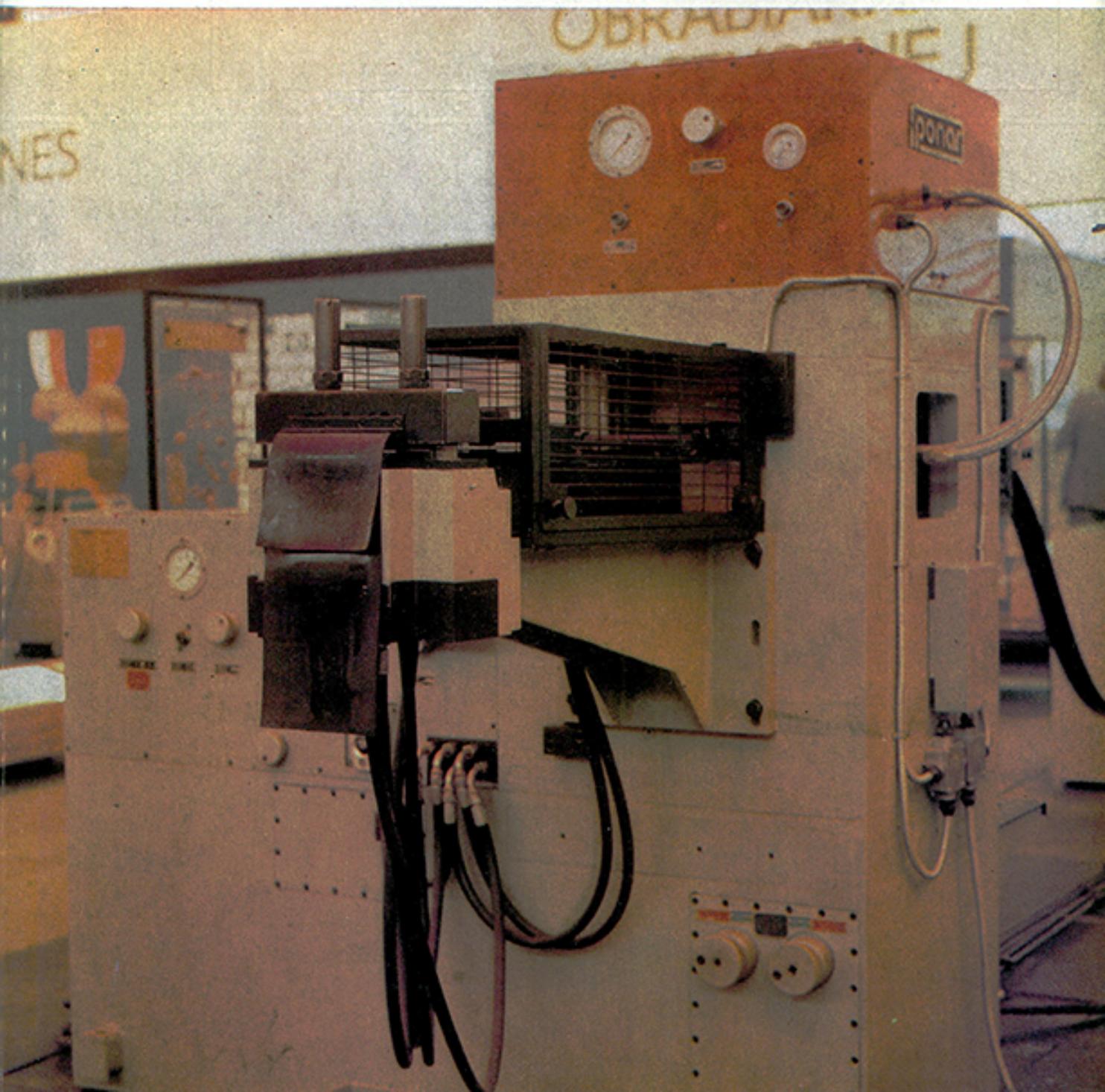




POLISH TECHNICAL REVIEW



4-5

80-81/1976



POLISH TECHNICAL REVIEW

PUBLISHERS OF TECHNICAL PERIODICALS FOR THE CENTRAL TECHNICAL ORGANIZATION (NOT)
00-950 Warsaw · ul. Czackiego 3/5 · P.O.B. 1004 · Tel.: 39-11-99 · Issued in English, French and German

CONTENTS

MACHINE BUILDING INDUSTRY

The achievements and prospects of the machine building industry in Poland . . . 2

MACHINE TOOLS

Automatic hydraulic precision blanking presses . . . 5

N/C Lathes . . . 7

N/C Vertical machining centre . . . 9

ELECTRICAL ENGINEERING

Diesel power plants . . . 10

Generator for heating trains . . . 12

ELECTRONICS

Fibre length histogram recorder . . . 13

Logic circuits analyser . . . 15

Pulse turn-on thyristor tester . . . 16

Radioisotope probe . . . 16

CHEMISTRY

Export of chemical factories and sugar plants 18

Phenol refining . . . 19

The fourth sulphuric acid plant . . . 20

BUILDING INDUSTRY

Non-rolled roofings . . . 22

Hydraulic articulated loader . . . 24

FARMING MACHINERY

Sugar beet harvester . . . 25

NEW DEVELOPMENTS

New developments in the Institute of Precision Mechanics . . . 27

New developments from the establishments of the Polish Academy of Sciences . . . 28

ECONOMIC SURVEY . . . 4, 23, 30, 31

IN BRIEF . . . 11, 14, 17

INDEX TO ADVERTISEMENTS . . . 31, 32

Editor's note

In no 2/76 of POLISH TECHNICAL REVIEW, the name of the author of the article on p. 3 entitled "Machines for foundation work" should read Bogusław Szewczyk and not Bronisław Szewczyk as erroneously stated. We express our apologies for this mistake both to the author and to our readers. Ed.

Automatic Hydraulic Presses

The HYDOMAT Automatic Press and Die Factory has designed and produced two types of automatic hydraulic presses for precision blanking of metal parts. These are triple-action presses with a table underdrive. Hydraulic systems have been used for both control and drive which is a novelty on the world scale. The presses allow for high precision blanking of parts of any intricate shape. There is no need for any finishing treatment. The presses find application in serial and mass production in the precision, motor-car, electric engineering and other industries.

Generator for heating trains

The rectifier heating generator developed at the Institute of Electrical Engineering in Warsaw is designed to heat trains hauled by diesel-electric locomotives, not supplied with electric energy from the electric traction line. The generator substitutes electric heating for steam heating thus improving the comfort of travelling, simplifying the operation, servicing and control of heating. The design and operational parameters make this generator a unique, so far unknown machine of this type. In 1974, the authors of the design were awarded a Class I prize at the competition for "Master of Technology".

Phenol refining

An installation for phenol refining of an annual output of 30,000 to 35,000 tons of refined phenol has been erected at the Mazowieckie Refining and Petrochemical Works. The original Polish method applied consists in a catalytic refining on a ionite bed. It allows for removal from phenol of a number of harmful substances including mesityl oxide, benzofuranes and alpha-methylstyrene. The purified product contains 70-80 ppm admixtures. Its moisture content does not exceed 0.03 per cent by weight. The melting point is above 40.8°C.

Editorial Board: B. Dowejko, F. Drecki, S. Grzegowski (Chairman), S. Katarzyński, F. Kubiczek, Z. Makomski, J. Kostera, S. Werewka, A. Hanftwurcel

Editorial staff: A. Hanftwurcel (editor-in-chief), J.L. Toeplitz (Assistant editor), S. Hilscher, E. Karska, Z. Schellenberg, A. Witkowski

English version: E. Karska,

Translations: P. Dytko, H. Stepień, J. Łuczaj

Graphic Layout: F. Barącz

Technical editor: A. Dzielwulsko-Kijas

Advertising section: T. Pachnowski

Cover photo: Automatic hydraulic press for precision blanking PAN-63 protected by patents in all the industrially developed countries (see article on page 5)

Photos: inside the issue: PHOTO Mendoza, PHOTO "Vision" (Manta - Equador), Bogumił Próchno, Bogusław Witkowski

Subscription orders should be addressed to the "Ars Polona-Ruch", 00-950 Warsaw, P.O.B.1001, Krakowskie Przedmieście 7 or to one of the representatives of this firm abroad.

The annual subscription rate (12 issues) amounts to US\$ 12.- or the equivalent in other currencies. In the socialist countries, catalogue prices of the local distribution centres apply.

Printing office: ŁDA Zakład Nr 2 Typo Zam. 443/76

INDEX No 37325/36915