Table Of Contents

DEVELOPMENTS IN FUNDAMENTAL VACUUM TECHNOLOGY

Permeation Problems in High Vacuum-Francis J. Norton	47
Some Studies of the Diffusion of Hydrogen Through Palladium—P. A. Silberg and C. H. Bachman	52
A Simplified Method of Calculating Pressure Drop in Vacuum Piping- R. B. Lawrence	55
Gas Flow in Capillaries of Non-Circular Cross Section-C. H. Bachman and P. A. Silberg	63
The Dependence of Ionization Gauge Sensitivity on Electrode Geometry- J. J. Kinsella	65
Ultra-High Vacuum Technology-D. Alpert	69
Design and Properties of the Modified Bayard-Alpert Gauge- Wayne B. Nottingham	76
Recent Applications of Low Density Flow Visualization-G. J. Maslach	81
A Course in Vacuum Technology-C. H. Bachman	87
The High Vacuum Evaporation of Water*—K. C. D. Hickman * A conference paper not intended for CVT publication. The work is described in two articles in the July 1954 issue of Industrial and Engineering Chemistry. (Vol. 46 No. 7)	

VACUUM SYSTEMS APPLICATION AND PROCESSES

A Metallurgist's Challenge to the Vacuum Engineer—H, A. Saller and R. F. Dickerson	89
The Application of Vacuum Techniques in Melting Metals and Alloys- James H. Moore	92
Design of Vacuum Furnaces-G. J. Crites	97
Vacuum Techniques in Electrostatic Particle Accelerators-A. John Gale1	00
Vacuum Systems and Techniques in the Lamp and Electronic Tube Industries— Wilfred G. Matheson	04
Applications of the "In-line" Exhaust PrincipleH. Glynn Warren1	09
Recent Developments in Vacuum Coating-J. G. Seiter1	16
Factors Influencing the Calibration and Application of "Standard Leaks"— T. W. Moller1	21
Vacuum Freeze-Drying-Dr. Earl W. Flosdorf1	27

STANDARDS AND NOMENCLATURE

A report on Recommended Standard Nomenclature in High
Vacuum Technology by B. B. Dayton and Committee132