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Streamline, or Laminar Flow; 1.5.4 Molecular Flow; 1.5.5 Flow Relationships; Chapter 1.6. Conductance; 1.6.1 Conductance; 1.6.2 Conductances in Parallel; 1.6.3 Conductances in Series Chapter 1.7. Flow Calculations 1.7.1 Equations for Viscous Flow; 1.7.2 Equations for Molecular Flow; 1.7.3 Knudsen's Formulation; 1.7.4 Clausing Factors; Chapter 1.8. Surface Physics and Its Relation to Vacuum Science; 1.8.1 Physical Adsorption or "Adsorption"; 1.8.2 Chemisorption; 1.8.3 Sticking Coefficient; 1.8.4 Surface Area; 1.8.5 Surface Adsorption Isotherms; 1.8.6 Capillary Action; 1.8.7 Condensation; 1.8.8 Desorption Phenomena; 1.8.9 Thermal Desorption; 1.8.10 Photoactivation; 1.8.11 Ultrasonic Desorption; 1.8.12 Electron- and Ion-Stimulated Desorption 1.8.13 Gas Release from Surfaces References; Part 2: Creation of Vacuum; Chapter 2.1. Technology of Vacuum Pumps - An Overview; 2.1.1 Vacuum Pump Function Basics; 2.1.2 Gas Transport: Throughput; 2.1.3 Performance Parameters; 2.1.4 Pumping Speed; 2.1.5 Pumpdown Time; 2.1.6 Ultimate Pressure; 2.1.7 Forevacuum and High-Vacuum Pumping; 2.1.8 Pump System Relationships; 2.1.9 Crossover from Rough to High-Vacuum Pumps; 2.1.10 Pumping System Design; References; Chapter 2.2. Diaphragm Pumps; 2.2.1 Introduction: Basics and Operating Principle; 2.2.2 State-of-the-Art Design and Manufacturing 2.2.3 Performance and Technical Data 2.2.4 Modular Concept for Specific Application Setups: Standalone Operation; 2.2.5 Diaphragm Pumps as Backing and Auxiliary Pumps in Vacuum Systems; References; Chapter 2.3. Vacuum Blowers; 2.3.1 Introduction; 2.3.2 Equipment Description; 2.3.3 Blower Operating Principle; 2.3.4 Blower Pumping Efficiency; 2.3.5 Blower Pumping Speed Calculations; 2.3.6 Power Requirements; 2.3.7 Temperature Considerations; 2.3.8 Flow and Compression Ratio Control Mechanisms; 2.3.9 Liquid-Sealed Blowers; 2.3.10 Selected System Arrangements Chapter 2.4. Vacuum Jet Pumps (Diffusion Pumps)

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## Sommario/riassunto

The Handbook of Vacuum Technology consists of the latest innovations in vacuum science and technology with a strong orientation towards the vacuum practitioner. It covers many of the new vacuum pumps, materials, equipment, and applications. It also details the design and maintenance of modern vacuum systems. The authors are well known experts in their individual fields with the emphasis on performance, limitations, and applications rather than theory. There are many useful tables, charts, and figures that will be of use to the practitioner. Key Features\* User oriented with man

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