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Autore	Kister Henry Z
Titolo	Distillation Diagnostics : An Engineer's Guidebook
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ISBN	9781119640158 1119640156 9781119640165 1119640164 9781119640127 1119640121
Edizione	[1st ed.]
Descrizione fisica	1 online resource (584 pages)
Disciplina	665.5/32
Soggetti	Distillation Distillation apparatus - Maintenance and repair
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Troubleshooting Steps -- Troubleshooting for Flood -- Efficiency Testing and Separation Troubleshooting -- Diagnosing Packed Tower Maldistribution -- Qualitative Gamma Scans Troubleshooting: the Basic Diagnostics Workhorse -- Advanced Radioactive Techniques for Distillation Troubleshooting -- Thermal and Energy Troubleshooting -- Point of Transition Troubleshooting: You Do Not Need an Expert, You Need a Sketch -- Making the Most of Field Data to Analyze Events and Test Theories -- Troubleshooting by Inspection.
Sommario/riassunto	Thorough guide on how to use various diagnostic techniques to troubleshoot problems in distillation columns Distillation Diagnostics familiarizes the reader with the multitude of tools available for diagnosing distillation and absorption tower problems and provides the reader with application guidelines derived from 40+ years of real-world experiences of the author. The book describes the capabilities, strengths and limitations of each tool, provides guidance on how to apply these tools to get the most insight and to test theories and ideas,

shares the experience of how to correctly interpret the results provided by each technique, and guides the reader to a multitude of additional testing that they can perform to bring them closer to a correct diagnosis and an effective fix. Each technique is illustrated with real case studies and an extensive "dos and don'ts" list. Written by a global authority on distillation diagnostics and troubleshooting known as 'The Tower Doctor' by many in the field, Distillation Diagnostics includes information on: * Possible solutions to the growing distillation failure rate despite the tremendous recent advances in distillation technologies * Time-tested tools and techniques for correctly diagnosing distillation problems to provide simple low-cost fixes instead of unnecessary wasteful solutions, thus eliminating waste and dramatically reducing CAPEX, energy consumption and carbon footprint * Combining the various diagnostic techniques to discard wrong theories and narrow in on the correct root cause and proper solution for various tower malfunctions * Diagnosing flooding, foaming, plugging, weeping, maldistribution, channeling, distributor and collector overflows, low efficiencies, feeds and draws bottlenecks, assembly mishaps, tower internals damage, high base level issues, reactions in towers, contaminants, internal and external leaks, startup and/or shutdown difficulties * Correctly interpreting gamma scan, thermal scan, and pressure drop data * Getting the most out of testing techniques such as gamma scanning, neutron backscatter, wall temperature surveys, pressure drop measurements, column testing, sketching points of transition, collecting data for simulations, conducting mass and energy balances, analyzing operating charts, and in-situ water testing * Turnaround tower inspections: what to look for * Advanced gamma scanning and thermal scanning techniques and when to apply * The "doctor and patient" troubleshooting strategy, which often constitutes the most effective, most systematic, and least expensive course of action * Things to remember when formulating and testing theories, such as the balance between theory, data, the laws of physics, and chemistry Distillation Diagnostics is a timely, essential reference on the subject for plant managers and operators, production and startup supervisors, and chemical, process, and design engineers.