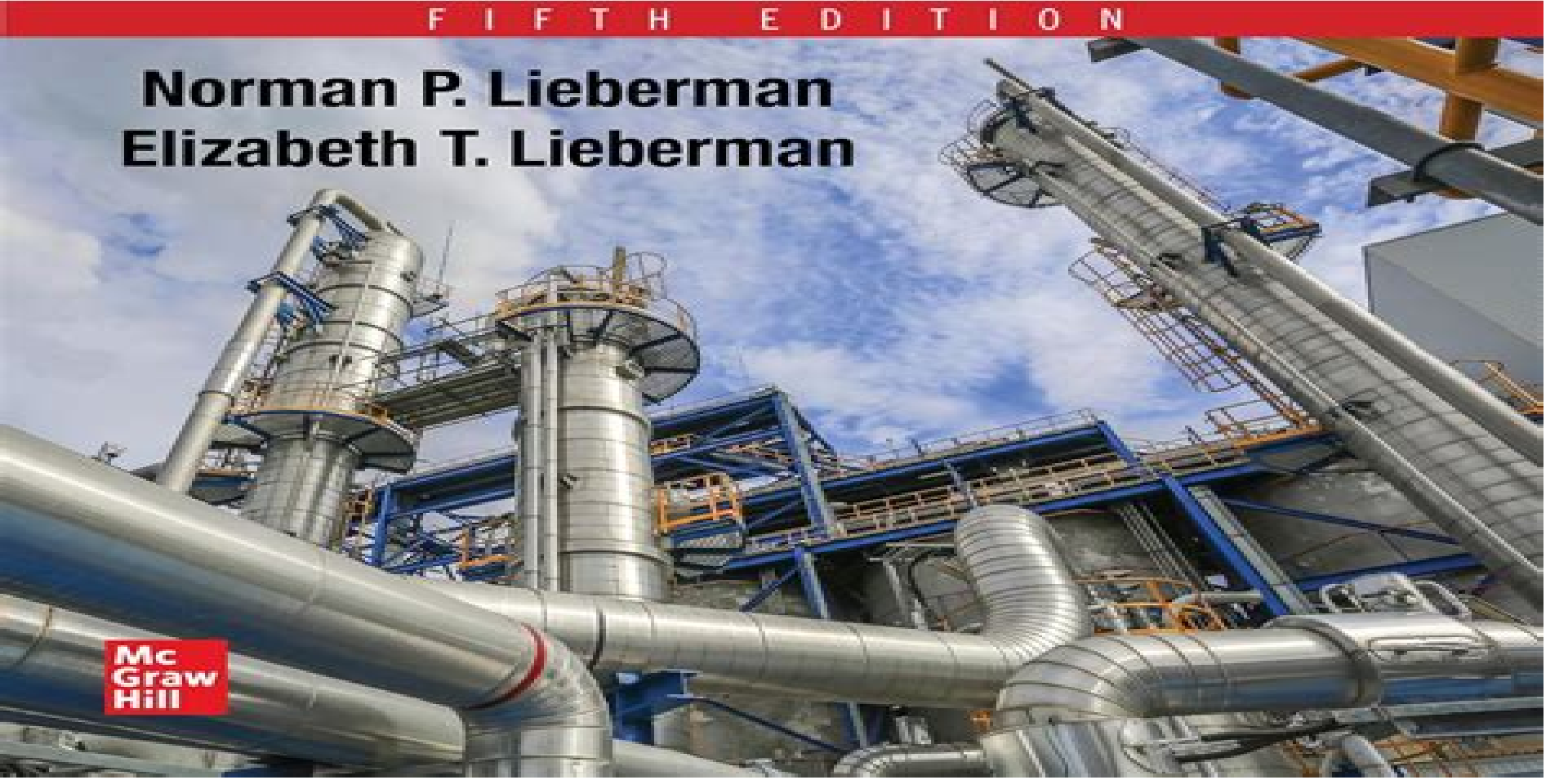


A WORKING GUIDE TO PROCESS EQUIPMENT

F I F T H E D I T I O N

**Norman P. Lieberman
Elizabeth T. Lieberman**

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A Working Guide To Process Equipment

Judd E. Hollander



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Petroleum Refining Design and Applications Handbook, Volume 1 A. Kayode Coker, 2018-07-31 There is a renaissance that is occurring in chemical and process engineering and it is crucial for today's scientists engineers technicians and operators to stay current With so many changes over the last few decades in equipment and processes petroleum refining is almost a living document constantly needing updating With no new refineries being built companies are spending their capital re tooling and adding on to existing plants Refineries are like small cities today as they grow bigger and bigger and more and more complex A huge percentage of a refinery can be changed literally from year to year to account for the type of crude being refined or to integrate new equipment or processes This book is the most up to date and comprehensive coverage of the most significant and recent changes to petroleum refining presenting the state of the art to the engineer scientist or student Useful as a textbook this is also an excellent handy go to reference for the veteran engineer a volume no chemical or process engineering library should be without Written by one of the world's foremost authorities this book sets the standard for the industry and is an integral part of the petroleum refining renaissance It is truly a must have for any practicing engineer or student in this area Troubleshooting Vacuum Systems Norman P.

Lieberman, 2012-12-27 Vacuum systems are in wide spread use in the petrochemical plants petroleum refineries and power generation plants The existing texts on this subject are theoretical in nature and only deal with how the equipment functions when in good mechanical conditions from the viewpoint of the equipment vendor Also the existing texts fail to consider the interaction of the vacuum system with the process equipment it serves and the variability of the motive steam conditions change in cooling water temperature condenser fouling and erosion of the ejectors Here are some of the many questions answered in this groundbreaking volume Why does my first stage jet make a surging sound during hot weather Why does the vacuum suddenly break I've seen moisture condensing on the jet's body What's causing that Why do I have to steam out the drain legs from our condensers Superheated steam is making our vacuum worse Is this normal How can I locate and measure air leaks Reducing the steam pressure to my jets improves vacuum But why I can't pull the pre condenser bundle The shell side is fouling What should I do We're not getting our normal horsepower from our steam turbine Could this be a jet problem Raising the seal drum level improves vacuum Is there an explanation for this Our turbine exhaust steam pressure to our surface condenser has doubled in the last two years What should we do Restricting cooling water flow from our elevated

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