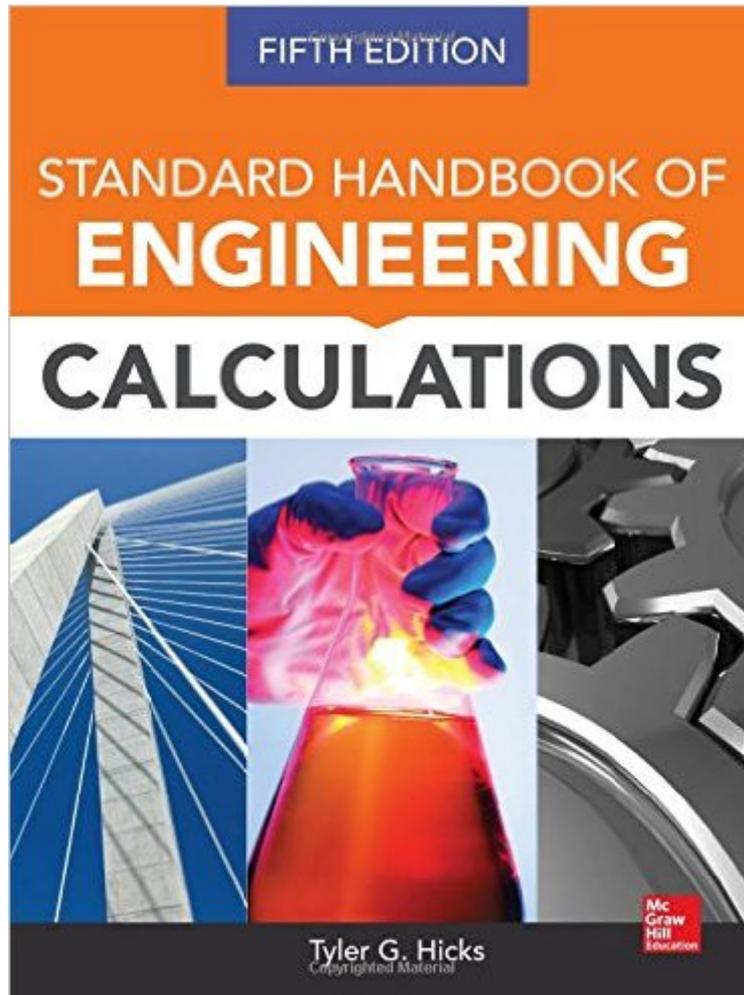


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# Standard Handbook Of Engineering Calculations, Fifth Edition



## Synopsis

**MORE THAN 5000 ESSENTIAL, UP-TO-DATE CALCULATIONS FOR ENGINEERS** Thoroughly revised with the latest data, methods, and code, the new edition of this practical resource contains more than 5000 specific, step-by-step calculation procedures for solving both common and uncommon engineering problems quickly and easily. The calculations presented provide safe, usable results for the majority of situations faced by practicing engineers worldwide. The book fully describes each problem, includes numbered calculation procedures, provides workedout problems, and offers related calculations in most instances. This is an essential on-the-job manual as well as a handy reference for engineering licensing exam preparation. Includes NEW calculation procedures for: Load and resistance factor design (LRFD) Solar heating loads Geothermal energy engineering Transformer efficiency Thermodynamic analysis of a Linde system Design of a chlorination system for wastewater disinfection Determination of ground-level pollutant concentration And many more

Standard Handbook of Engineering Calculations, Fifth Edition, features detailed, time-saving calculations for: Civil and structural engineering Architectural engineering Mechanical engineering Electrical engineering Chemical and process plant engineering Water and wastewater engineering Environmental engineering

## Book Information

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## Customer Reviews

This is a necessary text for all engineers. Such textbooks are highly useful in establishing standards for mundane calculations performed in many branches of engineering. I just recently replaced my

first edition of this book with the newest so that I would have access to the new environmental engineer calculations added. The book is now divided into civil, mechanical, architectural, and chemical engineering. If you can't find what you need, the safest bet is to check out the mechanical section next. In my opinion, the mechanical section is far too large and it is time to abandon the division of this book by degrees. I would divide it up by task; this would require simplifying the table of contents and an expansion of the index but then who really uses a TOC with a handbook? Why do I use the word mundane? You won't find complicated calculation procedures here, nor will you find a lot of selection criteria information. What I mean is a table ranking technology. A good example of this is the series of books by Coulson and Richardson on chemical engineering. In that series, under drying, for example, all the technology is ranked according to product dryness, particle sizes, etc.. None of this is presented here. What makes this book useful is that it presents a procedure understandable to junior engineers and clients for solving a particular problem such as calculating a slab thickness or the size of a ventilation duct. This book is a must-have if you are a consultant, contractor, or just want an understanding of a basic engineering calculation. If this review was helpful, please add your vote.

An essential reference and work tool for any engineer, student or technician, this handbook contains more than 5000 calculation procedures that will show, anybody and anyone working with engineering applications, quick and easy calculations formulas and procedures to solve most engineering problems encountered in the industries and in class. Using a "cookbook" format, this book presents detailed "recipes" that describe the problem to be solved; step-by-step procedures to be followed; a worked out example of the typical problem; and (in most cases) presents cross-referenced related calculations. Truly a most have. I am an Electronics Engineer, but I work as an Instrumentation, Automation and Process Safety and Control Engineer for the Process Industries. As a result I have been involved with Chemical and Mechanical Engineering issues in a day to day basis. This handy reference has proven most useful and time saving when in need of a specific formula, or shortcut.

Mr. Hicks has done a wonderful job in compiling equations, however, he has missed the practical applications in compressed air and vacuum systems. I initially used his theoretical position on calculating pressure drop in pipe for compressed air. His position seems reasonable and logical until you compare the results with practical applications. Ingersoll-Rand, the air compressor manufacturer, published tables of pressure drop versus pipe sizes, delivery pressures and ACFM.

Further ASPE has published a data book which leads the engineer into an empirical equation for calculating pressure loss in compressed air piping. The results with both Ingersoll-Rand and ASPE agree. Using Mr. Hicks' theoretical approach drives the pipe size much larger than needed and therefore the cost of the project. My suggestion is that Mr. Hicks contact I-R and ASPE to incorporate their empirical approach to sizing pipe for compressed air and vacuum systems.

spine was creased a bit more than I'd like in a second hand book however, great content, very clean and well loved, was great value

To: Lost in Air respectfully submit, that you need to appreciate Mr. Hicks' position. He has provided a conservative approach that will work in almost every situation. The empirical approach that you advocate may well work in most situations but I'll bet there is little margin built in for contingencies. True, your solution may cost less, which is important. But will the low-margin, low cost solution still work 1 or 2 years from now or will the pipe size be too small to allow for degradation/changes? Customer repeat business must be a consideration, too. I'm not trying to be confrontational, and I understand what you're saying. But you have to appreciate the position that Mr. Hicks must take in such a handbook, and he takes the only logical one, which is to be on the conservative side. People doing more than a couple of these calculations in a year in fact should consult more in-depth material, as you did. Regards, David R. Debo, P.E.

Good

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