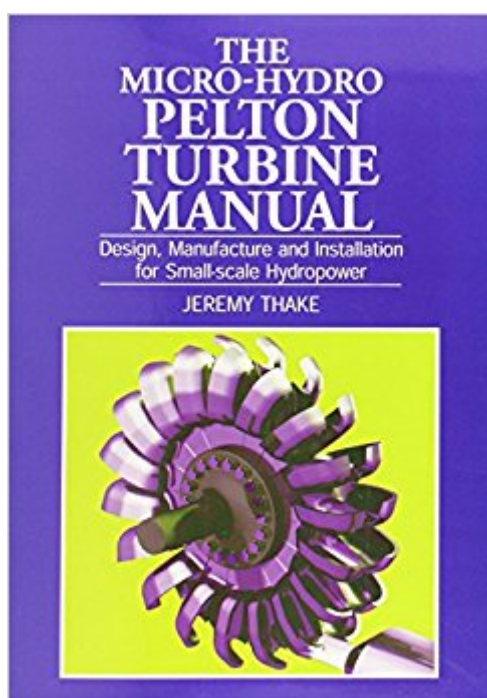


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# The Micro-Hydro Pelton Turbine Manual: Design, Manufacture And Installation For Small-Scale Hydro-Power



## Synopsis

Micro-hydro is a useful way of providing power to houses, workshops or villages that need an independent supply. For many remote areas beyond the reach of a national grid, micro-hydro is the only economic option. Where flow is limited, but high heads are available, the Pelton wheel is one of the most useful turbines. The "Micro-hydro Pelton Turbine Manual" is written to enable the reader to design and manufacture Pelton turbines with capacities from a few hundred watts to around 100kw, though much of the information is relevant for larger units too. Aimed at readers with a general engineering workshop background, the emphasis is on simple technology, so that the turbines can be made in small workshops with basic engineering facilities. More advanced processes are discussed for those with access to better manufacturing facilities. As well as detailing all the important aspects of design, the book covers basic theory, turbine selection, manufacture, installation, testing and problem-solving. The manual is well illustrated and contains many comprehensive appendices, which include manufacturing reference information and the derivation of equations used.

## Book Information

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## Customer Reviews

Jeremy Thake , a mechanical design engineer, has worked for a technology organization, DCS, in Nepal for six years in micro-hydro systems. He currently works for a renewable energy consultancy, IT Power.

Very good technical manual, would appear to cover every aspect of micro-hydro design and installation. Not exactly a DIY book, more for the serious engineer.

This is wonderful information - and well put together. There's just two things that hold me back from giving it four stars. It's presented with how to info - the trouble is 1. no one But someone already in the field will have access to the equipment to use this book(so we would hope they already know). 2. You need basic engineering knowledge to understand it. It would probably be a great textbook... so it would seem that's where this book should be marketed. If you're interested in hydro-power for your own home you'll want something less technical and hands on and more about the various different types of micro-hydro out there. Great book - great info - just don't know what the market should be - if you don't have access to a plant that builds these the info here will be like reading how to's for knee replacement surgery - even if you read it you won't be performing it unless you're a doctor. Consider it a textbook - then decide if you want to buy.

Very good book if you are planning on designing or building the turbine.

Excellent discussions, tips, formulas, and suggestions for anybody considering a micro-hydro project. Specifically written for pelton turbine construction, but a "must have" on the bookshelf for general information and applications.

The Micro Hydro Pelton Turbine manual has been very helpful for me.I was consulting a manufacturer in Indonesia and I was able to design for him a total Pelton turbine with the help is this bookI designed:- the bucket- the pelton wheel- the main shaftI determined that the size of the shaft was mainly determined by the fatigue life.This book is very practical and gives just the simple mathematics you need.A fine book. Ik left a copy of the book with my client

This us probably the most practical book on a technical subject I have ever read. It has the engineering data to make the calculations if desired, but also provides fairly optimized designs for examples too. It goes thru the whole process of design, construction and installation of an impulse turbine generator and the equipment to operate it, like the nozzles and speed regulators.It is titled micro, but much of the book is about what I would consider medium sized installations (maybe they are not in industry). It does not disregard tiny sub-1KW turbines though (what I call micro). The

information applies universally for the most part. If you are looking to build or install an impulse turbine, this is a must have reference.

This book is Awesome. With it you can design and build your own Pelton Turbine. You can basically use the book to create sketches, and send them in for quotes from foundries and fab shops. I think every turbine manufacturer wishes this book didn't exist. I am an engineer who builds small hydro power projects for a living (typically in the 5 MW size range) and this book still even helps for that size (eg trying to convince a client to buy a 5 nozzle turbine instead of six, etc) If you want to build any project using anything larger than those tiny micro turbine for sale (eg the water baby or harris turbine Co), you need this book.

This book is written for the engineer or technician who is trying to set up a hydrogeneration plant using the Pelton Turbine design. Shows how to build from scratch, gives parametric drawings that cover all major components and gives you the data that is required to size your turbine correctly with the available water and fall. For the person that only wants to get a general overview of a Pelton turbine installation, they can skip the tech part and still get an excellent appraisal of their situation and potential, even if they want only to know how to order the equipment from a manufacturer, it will show what to look for and the alternatives that you can search for. Excellent buy for anyone looking to install a Pelton Turbine

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