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ACKNOWLEDGMENTS

This author would like to express his sincere appreciation to the following companies[1] who have graciously granted their permission to allow their company's name, product's name (s) and/or pictures of their fine products to be included in this book.

Arkla-Servel: Arkla Industries was one of the first manufacturers to produce a gas-fired, air-cooled, absorption cycle chiller in the late 1960's, and their chiller is the only gas-fired chiller which is still being manufactured and currently marketed (new owner, see Robur).

Bell & Gossett: (Morton Grove, Illinois) B&G is a division of ITT® Fluid Technology Corporation and they manufacture many, many great products for hydronic applied systems. I have used B&G products for many, many years with great success and satisfaction. B&G also just happens to have one of the finest distributors, in and for the state of Michigan.
(www.bellgossett.com) (www.mcdonnellmiller.com)

Bryant Corporation: Bryant® was the first manufacturer to produce and market a gas-fired, air-cooled, absorption cycle chiller in the early 1960's. Bryant® a division of the Carrier Corporation is also well know for being a manufacturer and leader of many other fine HVAC products. (www.bryant.com)

Cooling Technologies: Cooltec is an up and coming manufacturer of a new line of gas-fired, air-cooled, absorption cycle chillers. I have had the pleasure of doing some consulting work for this fine company. (www.coolingtechnologies.com)

Dow Chemical Company: (Midland, Michigan) Dow is a leading manufacturer of exceptional HVAC heat transfer fluids (antifreezes). I have used Dow's products for almost 30 years now and I know of no better product. (www.dow.com)

Griswold Controls: (Irvine, California) Griswold manufactures many fine controls and valves for hydronic applied systems, including specialty flow control devices and flow valves. I have used Griswold's products with great success. (www.griswoldcontrols.com)

1- PLEASE NOTE: Even though these companies have granted their permission for inclusion in this book, this does not necessarily mean, or imply, that any of them indorse the content of this book, or that they necessarily agree/disagree with the book's contents. I, the sole author of this book, take full responsibility for this book's content. The good content, the bad content, the questionable content, and maybe even a few smiles which may be developed at some point during your reading.

ACKNOWLEDGMENTS

Honeywell International, Inc.: (Freeport, Illinois) Honeywell is a major leading manufacturer in and for the HVAC Industry. I have used many, many of Honeywell's great controls over the years and they have provided exceptional operation and performance. I just love their solid state staging control. (www.honeywell.com)

LASCO Fittings, Inc.: (Brownsville, Tennessee) Lasco is a manufacturer of fine PVC Piping and Fittings which are highly applicable for chilled water systems. I want to personally thank Lasco, because I finally have a good friction chart for PVC. (www.lascofittings.com)

Magic Aire®: (Wichita Falls, Texas) Magic Aire is a division of United Electric Company, LP. Magic Aire also manufacturers an exceptional line of fan coils, air handlers, a-coils and horizontal coils. I just love their roof top air handler which is typical roof curbing adaptable. (www.magicaire.com)

Multi-aqua®: (Miramar, Florida) Multi-aqua manufacturers a line of electric chillers and some really, really neat and aesthetic pleasing fan coil systems (don't forget the remote control). To me, this neat product is really addressing our future's needs. (www.multiaqua.com)

Peterson Equipment Co, Inc.: (Carrollton, Texas) Peterson is the manufacturer of those really neat Pete's Plugs®. Yes, those in-expensive, time saving devices which allow for easy pressure/temperature readings.

Robur Corporation: (Evansville, Indiana) Robur is the current owner and manufacturer of the Servel line of gas-fired, air-cooled, absorption cycle chillers, which were first produced by Arkla-Servel. (www.robur.com)

Servel™: Servel is the registered brand name being used by the Dometic Corporation (a line of gas-fired refrigerators) and the Robur Corporation.

Wessels Company: (Greenwood, Indiana) Wessels is the manufacturer of those really neat stand-alone, auto-fill systems for using with water/antifreeze fluid systems. They also manufacture many other products for the hydronic industry. (www.westank.com)

Williams, "THE COMFORT PRODUCTS PEOPLE": (Colton, California) Williams is a major manufacturer of fine fan coils and air handlers. A really neat concept for some of their fan coils which I have seen, is their approach to serviceability and maintenance for their products. (www.williamscomfortprod.com)

ACKNOWLEDGMENTS

Photos, Illustrations & Drawings: Unless otherwise noted, all photos, illustrations and drawings have been taken by and produced by the author of this book.

SPECIAL THANK YOU:
This author would like to personally thank the;

Hydronawanchie Tribe and the **Radiawaturchie Tribe,**

for a really neat night of sweet dreams.

Final Comment:

Hug Your Enemies,
Kiss Your Friends,
Tell Someone, You Love Them,
Daily.

It Is ....
The Little Things in Life
That Count !

JIT PRODUCTIONS

Many times, a writing of words,
is nothing more than
Life's frustrations,
which vanish in death.

Yet, at other times,
these same words,
may find their way to stand,
the test of times.

At least I shall rest in peace,
assured of but one truth,
I shall have accomplished one !

R A D I A N T C O O L I N G:

Radiant cooling has been successfully used for some years now, but it has also been limited in its use and desirability due to a moisture factor, a room's dew point. Almost every person has experienced the effects of radiant cooling, having entered a cement block building or a large cement floor area following a cool night. Radiant cooling has been applied more by ceiling devices, than it has by floor devices. Floor moisture issues can be a double hazard issue; 1- creating potential slippery conditions due to moisture production, and 2- creating damaging issues for any product being used on the floor.

The secret to a successful radiant cooling system, is to keep a radiant device a few degrees warmer than the dew point of the room. This will prohibit the production of condensation on the device and its side affects. The down side is the managing of the chilled water's temperature. New radiant products being developed for chilled water cooling purposes, are also incorporating moisture sensors to change and adjust the water's temperature to prevent condensation.

Even if radiant cooling is possible and/or desired, some type of humidity control must also be used. This typically means a standard forced-air cooling system. On the plus side, and in conjunction with a radiant cooling system, this forced-air system does not need to be sized as is typically done for a standard forced-air cooling only system. A supplemental system can be down sized to address only the added humidity control conditions.

In Chapter 2, page 12, I provided you with several Web Sites where you may search out information on radiant cooling systems and its logic. Some of these systems have just recently entered the market place and I am sure there will be many more to come. Chilled water cooling systems being forced-air applied and/or radiant applied, has the highest potential for offering you and your customers, the same comfort and efficiency which radiant heating systems are renowned for.

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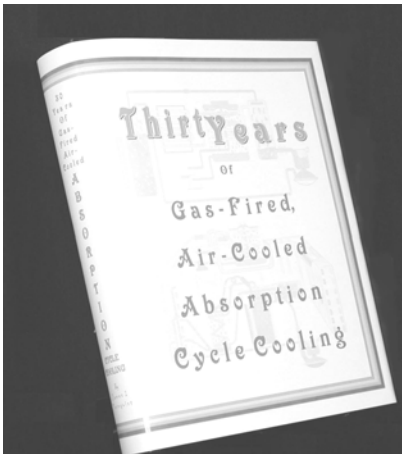
MORE BOOKS BY - J. ISRAEL TURNQUIST



THIRTY YEARS OF GAS-FIRED, AIR-COOLED, ABSORPTION CYCLE COOLING

This author had a first hand introduction to this new cooling technology, when it was introduced in the late 1960's. The original technology and equipment design would last for approximately 30 years, when in 1999, a new higher efficiency technology and design was introduced. This author worked with and on this equipment for over 30 years, being first involved with its installation, servicing, repairing and maintenance. The author then devoted his time to selling, designing and engineering cooling systems for this equipment and his dealer/contractor network.

This book (520 pages), covers this equipment's (Servel Gas-Fired, Air-Cooled, Chillers & Chiller-Heaters) first 30 years of existence, providing anything and everything, anyone might care to know or learn. From the absorption cooling cycle, to equipment manufacturing, to designing and engineering systems. The book also contains many chapters covering installation, servicing, repairing and maintenance.

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