

Applied Instrumentation in the Process Industries

**Volume III
Second Edition
Engineering Data and Resource Material**

**W.G. Andrew
H.B. Williams**

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**Applied Instrumentation in the Process Industries
Volume III: Engineering Data and Resource Material**

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Preface

The third volume of *Applied Instrumentation In The Process Industries*, "Engineering Data and Resource Material," is yet another unique addition to the instrument field. It is filled with the type of information that is a necessary part of the activities of people involved in instrument application, engineering, design, and operation.

It begins with a thorough treatment of problems associated with fluid flow. Physical properties of fluids are discussed, and the nature of liquid and compressible fluid flows are treated clearly and concisely. This section alone makes the volume a worthy addition to a technical library.

Also provided are charts, tables, nomographs, formulas and symbols that instrument people need in performing their work. This information is arranged topically and indexed for easy reference. There is an abundance of information on the physical properties of fluids, flow data, conversion data, mathematical functions, piping information, and electrical data that are essential to instrument engineering.

Other features included in Volume 3 are: (1) a listing of formulas needed for the many calculations that must be made from time to time in engineering work. Many of them are used infrequently and may be forgotten. They are listed topically for easy reference. (2) Typical installation details for many instrument devices that many people will find useful in the preparation of standards and in daily work. (3) Calculation examples that are extremely helpful to novices in the industry. These include fluid flow problems, orifice calculations, control valve and relief valve calculations and other problems that confront the average instrument engineer. These calculations involve the use of charts, tables, etc., given in other sections of the volume.

This volume has under one cover the information that the average instrument engineer must ordinarily use many sources to obtain.

Acknowledgments

Any technical book draws material from a large number of sources. Although many of these are referenced in the text, it is not feasible to include all the contributors to whom the authors are indebted. Data and information were furnished by many industrial companies.

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Appreciation is extended particularly to M.J. Sandefur for an incisive treatise on computer system projects, and to B.J. Ormand and K.G. Rhea for time spent in reviewing and

criticizing many chapters and sections of the manuscript. Others who contributed in this area include L. Ashley, W.E. DeLong, D.M. Dudney, L.C. Hoffman, T.E. Lasseter, and J.G. Royle.

In addition, the authors are deeply appreciative to S.I.P., Inc. and its staff in provided the environment and materials for producing this work.

On the second edition: Mr. H.B. Williams gives his profound appreciation to all who have assisted in preparing this revised text—those who have contributed technical information; those who have typed and proofread; those who willingly provided illustrations, suggestions, and encouragement; and to all who have, by their confidence, inspired this effort.

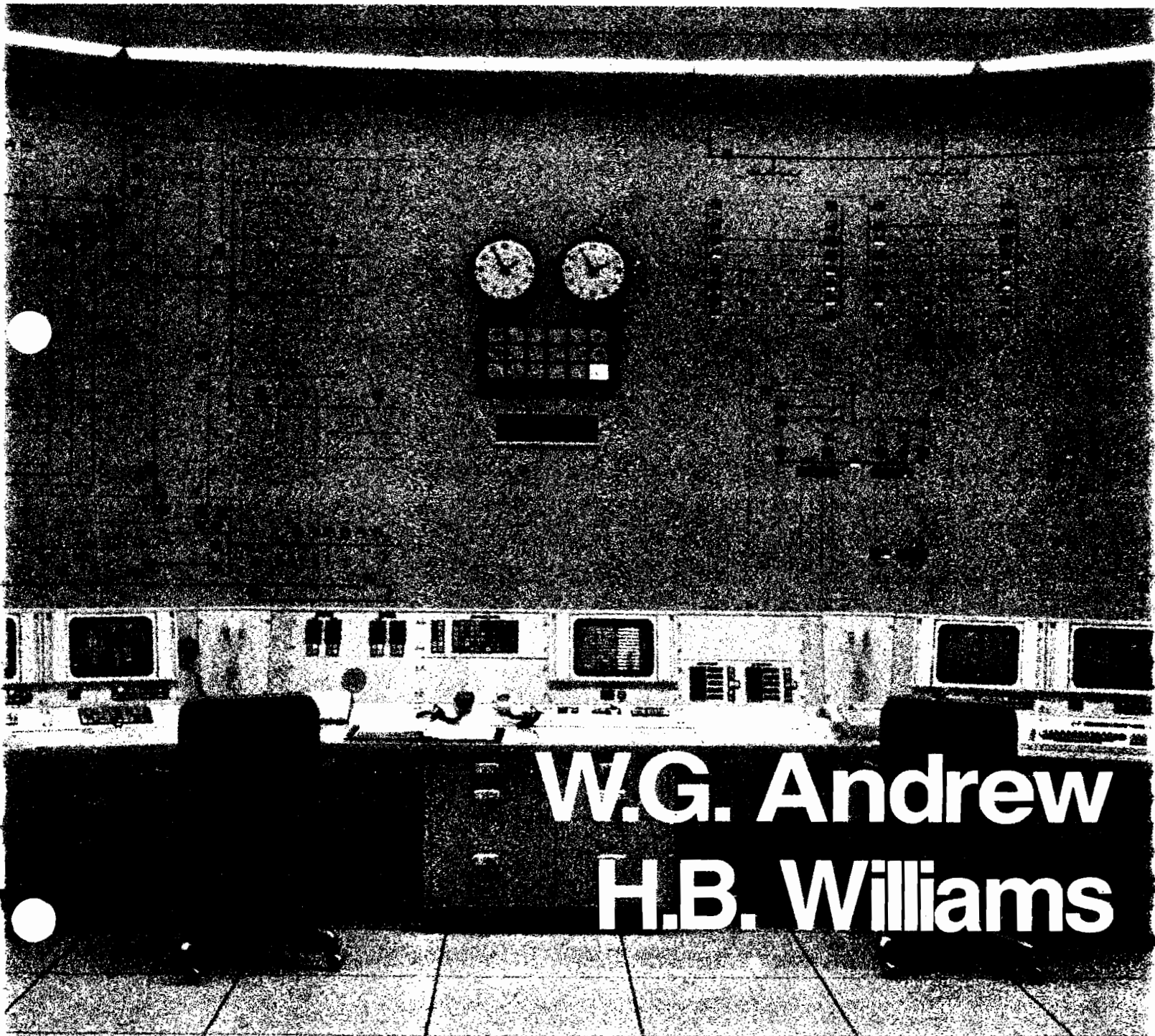
Dedication

**To my wife Betty, and children, Karen, Debbie, and Mark,
for their patience and understanding**

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and Resource Material

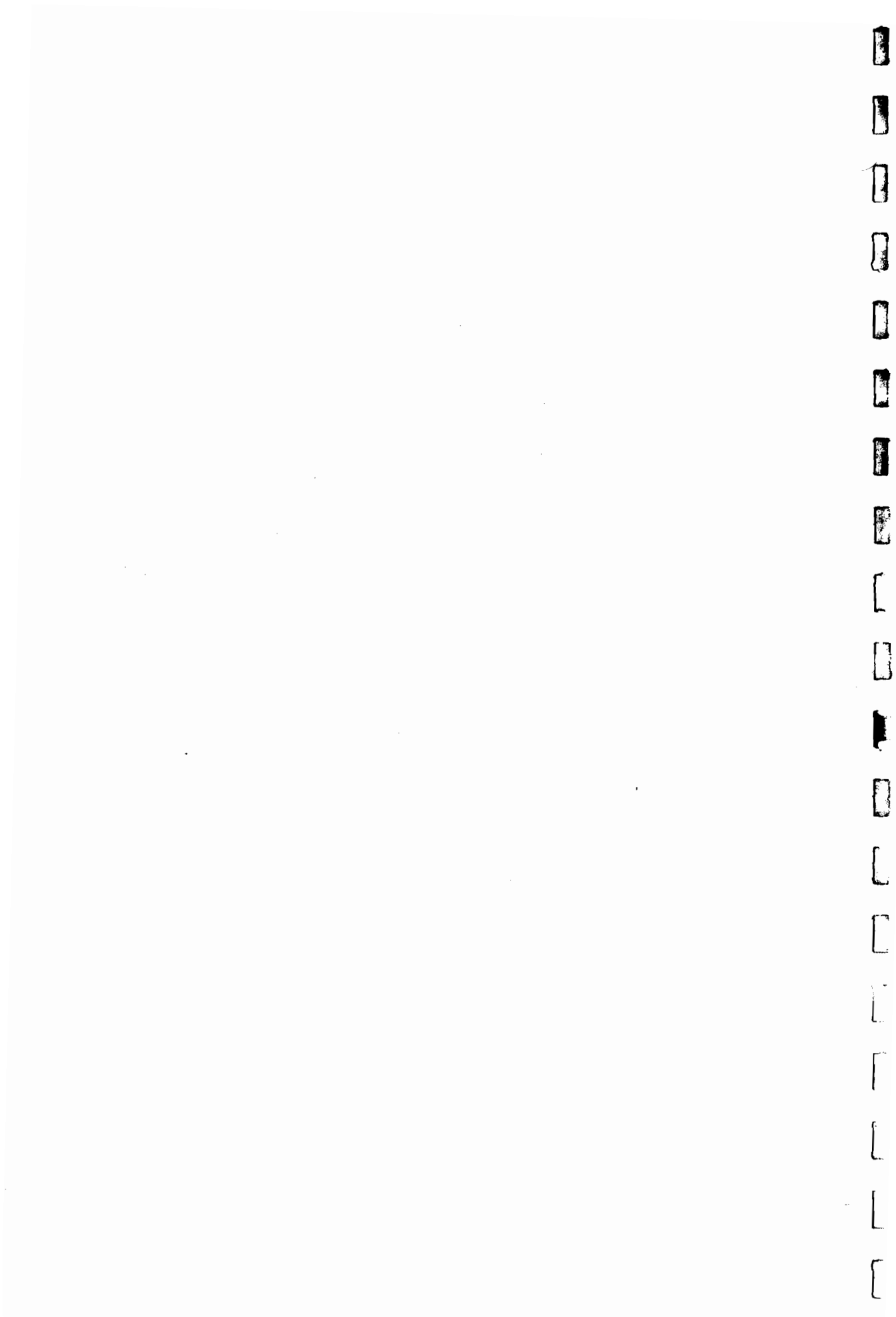


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