

Flowmeters for System Applications

A Designer Checklist

Prepared by **ITA Technical Committee, Design Subcommittee, Task Force on Flowmeters**

Prepared under the Direction of

ITA's Design Subcommittee

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Instrumentation Testing Association

Abstract

This designer checklist presents flowmeter application, design, and installation procedures and practices for various liquid flow measurement meters. This publication was originally developed by ITA members prior to 1990, published in 1991, and updated in 1999 by ITA's staff and Technical Committee, Design Subcommittee, Task Force on Flowmeters.

Chapter 1 provides an introduction to liquid flow measurement and the various meters available for specified applications. The remaining chapters focus on discussing the application, design, and installation of Area/Velocity, Coriolis Mass, Doppler, Magnetic, Orifice Plates, Parshall Flumes, Pitot Tubes, Propeller, Thermal, Transit Time, Velocity Profiling (Pulse Doppler), Venturi, Vortex Shedding, Wedge, and Weirs flow measuring devices.

Appendix A provides references, Appendix B provides a manufacturer resource listing, and Appendix C provides designer checklist forms.

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ITA's Technical Committee, Design Subcommittee was developed by the ITA Board to originate and produce designer checklists to address the needs of ITA membership. These reports are intended to provide application, design, and installation information through a review of technical practices and detailed procedures that research and experience have shown to be functional and practical.

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Tel: (702) 568-1445 Fax: (702) 568-1446

Internet: <http://www.instrument.org>

Preface

The purpose of this publication is to present application, design, and installation procedures and practices for various liquid flow measurement devices.

Readers of this report are responsible for determining which parameters are of most importance to their application in order to select the most suitable flow measurement device for their respective application and to develop the most suitable design and installation procedures. It is also emphasized that a complete assessment of the information presented herein requires that the report be read in its entirety.

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