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M33

Flowmeters in Water Supply

Third Edition



American Water Works
Association

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**American Water Works
Association**

Manual of Water Supply Practices — M33, Third Edition

Flowmeters in Water Supply

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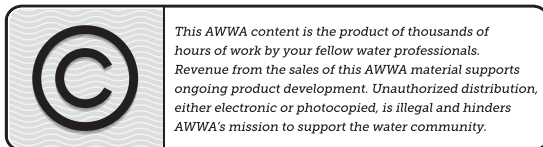
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Foreword



This manual provides information about the most common large flowmeters used in water treatment and in custody-transfer applications. Information on other meters can be obtained from AWWA Manual M6, *Water Meters—Selection, Installation, Testing, and Maintenance*. The flowmeters discussed in this manual include the Venturi, modified Venturi, orifice plate, electromagnetic (mag), turbine and propeller, transit-time ultrasonic, vortex, averaging Pitot, and averaging insertable electromagnetic (mag). The discussion of these meters covers basic theory, installation, maintenance, and advantages and disadvantages. General concepts applicable to flowmeters are also discussed, including flow characteristics, installation and performance issues, communications, information and signal outputs, and flowmeter selection.

The manual can be used as a bridge to other literature on flowmeters, to prepare the reader for further investigations into instrumentation design and applications. The Bibliography lists excellent information sources. For additional information, the reader should acquire the relevant manuals from the meter manufacturers. These manuals contain comprehensive information on meter specifications, theory, sizing, handling, installation, power and wiring, operation, maintenance, troubleshooting, and parts.

While this manual attempts to include recommended practice in the use of flowmeters, it is not intended as an AWWA standard.

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