

March 19, 2007

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SUBJECT 327A

OUTLINE OF INVESTIGATION

FOR

INFERENTIAL TYPE RESIDENTIAL WATER FLOW METERS

Issue Number 2

March 19, 2007

Summary of Topics

This new issue of Subject 327A, Outline of Investigation for Inferential Type Residential Water Flow Meters is being issued to editorially correct the aging formulas.

The UL Foreword is no longer located within the UL Standard. For information concerning the use and application of the requirements contained in this Standard, the current version of the UL Foreword is located on ULStandardsInfoNet at: <http://ulstandardsinfo.net/ulforeword.html>

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INTRODUCTION

1 Scope

1.1 These requirements cover the construction and performance of inferential type residential water flowmeters intended for use on cold water supplies when:

- a) Connected directly to residential sprinkler fire protection systems; or
- b) Connected to combined domestic plumbing and residential sprinkler fire protection service (multipurpose fire protection system) when installed as specified in the Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, NFPA 13D.

2 Components

2.1 Except as indicated in 2.2, a component of a product covered by this Outline of Investigation shall comply with the requirements for that component.

2.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this Outline of Investigation; or
- b) Is superseded by a requirement in this Outline of Investigation.

2.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

3 Units of Measurement

3.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

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4 Undated References

4.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

5 Glossary

5.1 For the purpose of these requirements, the following definitions apply.

5.2 INFERENTIAL FLOW METER – A water volume measuring device where the flow volume is based on the approximately linear and direct relationship between the rotational velocity of a multi-vane rotary device (impeller), and the rate of water flow through the meter. These meters include turbine, single jet and multi-jet types.

5.3 MULTI-JET TYPE FLOW METER – A type of "turbine type flow meter" that passes water through several tangential orifices around the circumference of a cylindrical measuring chamber creating several jets that are directed onto the impeller vanes mounted on a vertical spindle, causing the impeller to rotate, and exits the measuring chamber through another set of tangential orifices positioned at a different level in the measuring chamber.

5.4 SINGLE JET TYPE FLOW METER – A type of a "turbine type flow meter" having one large opening at the inlet that gradually reduces in diameter, creating a stream or "jet" of water that is directed onto the impeller vanes mounted on a vertical spindle within a cylindrical cavity, causing the impeller to rotate.

5.5 TURBINE TYPE FLOW METER – A water volume measuring device that passes 100 percent of the water through a single chamber where a multi-vane rotary device (impeller) is driven by the water flow striking the vanes, to indicate the volume that passes through the device.

CONSTRUCTION

6 General

6.1 Meters shall be equipped with integral strainers or shall be provided with strainers as part of the meter assembly. Integral strainer assemblies shall comply with the requirements for Strainers, Section 10 and strainers equipped as part of the meter assembly shall be Listed for Fire Protection Service.

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