



Member of the FM Global Group

Examination Standard for Low Water Level Limit Controls for Boilers

Class Number 7710

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Foreword

This standard is intended to verify that the products and services described will meet stated conditions of performance, safety and quality useful to the ends of property conservation. The purpose of this standard is to present the criteria for examination of various types of products and services.

Examination in accordance with this standard shall demonstrate compliance and verify that quality control in manufacturing shall ensure a consistent and reliable product.

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1. INTRODUCTION

1.1. Purpose

- 1.1.1. This standard states testing and certification requirements for low water level limit controls for boilers.
- 1.1.2. Testing and certification criteria may include, but are not limited to, performance requirements, marking requirements, examination of manufacturing facility(ies), audit of quality assurance procedures, and a surveillance program.

1.2. Scope

- 1.2.1. This standard sets performance requirements for low water level controls used on boilers and feedwater vessels to protect against abnormal (below minimum safe) water level. They are intended to operate electrical contacts to provide an alarm and burner shutdown in the event of loss of primary water level. Low water level conditions may result in boiler destruction by overheating.
- 1.2.2. A high pressure low water level limit control is a device consisting of a sensor, alarm, and trip functions for use at an operating pressure of 250 psi (1725 kPa) or greater. A typical application of this control is its installation on a steam drum to sense drop in water level below the normal operating water level.
- 1.2.3. A low pressure low water level limit control is generally similar to the high pressure control except for lower maximum operating pressure. It may incorporate a time delay(s) which is activated when the water drops to the trip point before shutting off boiler firing.
- 1.2.4. The requirements of this standard shall be used to measure and describe the performance of low water level limit controls in response to exposure from heat, pressure, etc., under controlled laboratory conditions. The results of these controlled exposures shall not be used to describe or appraise actual exposure conditions, since such conditions will vary widely.

1.3. Basis for Requirements

- 1.3.1. The requirements of this standard are based on experience, research and testing, and/or the standards of other organizations. The advice of manufacturers, users, trade associations, jurisdictions and/or loss control specialists was also considered.
- 1.3.2. The requirements of this standard reflect tests and practices used to examine characteristics of low water level limit controls for the purpose of obtaining certification. Low water level limit controls having characteristics not anticipated by this standard may be certified if performance equal, or superior, to that required by this standard is demonstrated.