

1151 Boston-Providence Turnpike
 P.O. Box 9102
 Norwood, MA 02062 USA
 T: (781) 762-4300 F: (781) 762-9375

APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation (herein called Factory Mutual Research) and **The Viking Corporation, Hastings, MI 49058**

(herein called the Client). The Client is making a product or providing a service known and described as:

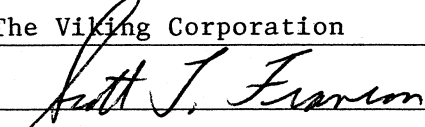
**MODEL VK530, VK532 AND VK608
 BULB TYPE AUTOMATIC SPRINKLERS WITH A
 NOMINAL DISCHARGE COEFFICIENT OF 11.2
 GAL/MIN/(PSI)^{1/2} WITH A MODIFIED FRAME DESIGN**

This product or service has been examined by Factory Mutual Research as described in a report bearing

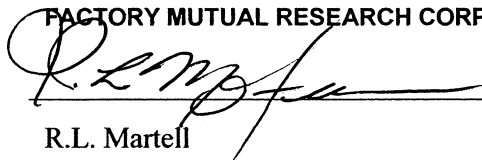
Job Identification **3009334** dated **May 16, 2001.**

In consideration of Factory Mutual Research Approval of the product or service, the Client is authorized to indicate such Approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The Client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by a separate Agreement with Factory Mutual Research.
2. The Client shall use the Factory Mutual Research Approval Mark on the product, but shall not use this mark on any other product unless such other product is covered by separate Agreement with Factory Mutual Research.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual Research except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual Research may distribute the referenced report and related information within FM Global.

The Viking Corporation
 _____ Client

 _____ Signature
 Scott T. Franson
 _____ Name
 Director, Sprinkler Division
 _____ Title
 210 N. Industrial Park Rd

 Hastings MI 49058
 _____ Address
 June 28, 2001
 _____ Date

FACTORY MUTUAL RESEARCH CORPORATION

 _____ Signature
 R.L. Martell
 _____ Name
 Asst. V.P. – Approvals Division
 _____ Title
 6-5-01
 _____ Date

**MODEL VK608
3 MM BULB TYPE
ECLH ELO CONTROL-MODE (DENSITY/AREA)
PENDENT
QUICK RESPONSE
AUTOMATIC SPRINKLERS WITH
A NOMINAL DISCHARGE COEFFICIENT OF
11.2 GAL/MIN/(PSI)^{1/2}
BRASS, CHROME, AND PAINTED FINISHES
IN NOMINAL TEMPERATURE RATINGS OF
135,155, AND 175°F
(57, 68, AND 79°C)
10 APRIL 2001**

from

**THE VIKING CORPORATION
210 NORTH INDUSTRIAL PARK ROAD
HASTINGS, MICHIGAN 49058**

I INTRODUCTION

- 1.1 The Viking Corporation requested an Approval examination of their Model VK608, 3 mm bulb type, ECLH ELO, control-mode (density/area), pendent, quick response, automatic sprinklers with a nominal discharge coefficient of 11.2 gal/min/(psi)^{1/2} in brass, chrome, and painted finishes, in nominal temperature ratings of 135, 155, and 175°F (57, 68, and 79°C).
- 1.2 This Report is limited to the examination of the sprinkler in accordance with the standards listed below as described in Section II of this Report.
- 1.3 This Report may be freely reproduced only in it's entirety and without modification.
- 1.4 **Standards**

Title	Class Number	Date
Automatic Sprinklers for Fire Protection	Series 2000	May 1998

- 1.5 **Listing:** The sprinkler will appear in the Approval Guide as follows;

Automatic Sprinklers, Control Mode (Density/Area)

Nominal Discharge Coefficient of 11.2 gal/min/(psi) *, Extended Coverage-Light Hazard (ECLH), K11.2, Pendent, Quick Response (Class 2020)

The Viking Corp 210 N Industrial Park Rd Hastings MI 49058

Model VK608, Pendent, 3 mm, K11.2, 3/4 in. NPT, Brass, Chrome, Painted, 135°, 155°, 175° (57°, 68°, 79°C).

Automatic Sprinklers, Control Mode (Specific Application)

Nominal Discharge Coefficient of 11.2 gal/min/(psi) *, Extended Coverage-Light Hazard (ECLH), K11.2, Flush, Recessed and Concealed Types, Quick Response (Class 2020)

The Viking Corp 210 N Industrial Park Rd Hastings MI 49058

Model VK608, Pendent, 3 mm, K11.2, 3/4 in. NPT, Brass, Chrome, Painted, 135°, 155° (57°, 68°C).

II DESCRIPTION

- 2.1 The Viking Corporation Model VK608 automatic sprinklers utilize a 3 mm bulb type heat activated element which ruptures within a predetermined temperature band, allowing water to flow at a specified rate and in a particular distribution pattern for a given supplied water pressure. The sprinklers are designed for use in automatic sprinkler fire protection systems as a means of fire control and are rated for 175 psi (1207 kPa) maximum system pressure. This model is further described in the attached manufacturer's drawings.
- 2.2 The sprinklers were evaluated for Approval under this examination in accordance with the following list only:

Model	Style	Element	Response	Application
VK608	Pendent	3 mm bulb type	Quick	ECLH
VK608	Recessed Pendent	3 mm bulb type	Quick	ECLH

- 2.3 The scope of this examination is limited to the Model VK608 sprinklers. These sprinkler frames are otherwise identical to the currently Approved Model VK530 automatic sprinklers which are further described in the following Approval Reports:

Job Identification	Date	Description
2X0A9.AH	29 January 1997	Model M ELO Bulb-Type Standard Upright, Extra Large Orifice Automatic Sprinklers with a Plain Bronze Finish, 3/4 in. NPT Threaded Connection and 5 mm Bulb in Nominal Temperature Ratings of 155, 175, 200 and 286°F (68, 79, 93 and 141°C)

IX CONCLUSION

The sprinkler described in Section II meet Factory Mutual Research requirements. Approval is effective when the Approval Agreement is signed by The Viking Corporation and received by Factory Mutual Research.

EXAMINATION AND TESTING BY: Hydraulics Laboratory Personnel

PROJECT DATA RECORD: J.I. 3006875

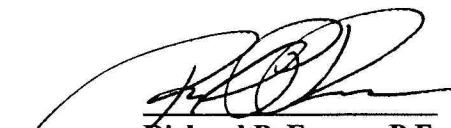
ORIGINAL TEST DATA: J.I. 2X0A9.AH

ATTACHMENTS: Manufacturer's Drawings, Material Specification Sheet, Appendix Tables, Data Tables

REPORT BY:

REPORT REVIEWED BY:


Jeffrey Kimball
Engineer
Hydraulics Section


Richard P. Ferron, P.E.
Engineering Specialist
Hydraulics Section