



NOT to be distributed outside of FMGlobal except by CUSTOMER.

# APPROVAL REPORT

**SAND CAST FRAME, BULB TYPE, PENDENT AND UPRIGHT, STANDARD AND QUICK RESPONSE AUTOMATIC SPRINKLERS (VARIOUS MODELS) WITH NOMINAL DISCHARGE COEFFICIENTS OF 2.8 AND 5.6 GAL/MIN/(PSI)<sup>1/2</sup> IN PLAIN BRASS, CHROME, AND POLYESTER COATED FINISHES (MODIFICATION)**

**Prepared for:**

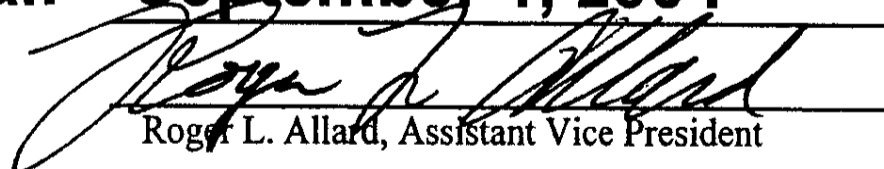
**The Viking Corporation  
210 N. Industrial Park Rd.  
Hastings, MI 49058**

**Project ID: 3020603**

**Class: 2016**

**Date of Approval: September 1, 2004**

**Authorized by:**

  
Roger L. Allard, Assistant Vice President

FM Approvals  
1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, MA 02062



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# APPROVAL REPORT

**MODEL VK202 AND VK352  
BULB TYPE CONTROL-MODE (DENSITY/AREA)  
PENDENT AUTOMATIC SPRINKLERS WITH A  
NOMINAL DISCHARGE COEFFICIENT OF 8.0  
GAL/MIN/(PSI)<sup>1/2</sup> WITH ALTERNATE PIPCAP  
ASSEMBLIES**

**Prepared for:**


**The Viking Corporation  
210 North Industrial Park Road  
Hastings, MI 49058**

**Project ID: 3018611**

**Class: 2001**

**Date of Approval: 19 April 2004**

**Authorized by:**

  
\_\_\_\_\_  
Roger L. Allard, Group Manager - Hydraulics

FM Approvals  
1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, MA 02062



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# APPROVAL REPORT

**MODEL VK003, VK102, VK104 AND VK202  
WITH 5 MM JOB BULB TYPE STANDARD RESPONSE  
AUTOMATIC SPRINKLERS WITH A NOMINAL  
DISCHARGE COEFFICIENT OF 2.8, 5.6 AND 8.0  
GAL/MIN/(PSI)<sup>1/2</sup> WITH THE MODEL E-1 ESCUTCHEON**

**Prepared for:**

**The Viking Corporation  
210 N. Industrial Park Road  
Hastings, Michigan 49058**

**Project ID. 3005949  
Class 2015  
Date: 9 August 2002**

FM Approvals  
1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, MA 02062

An  Enterprise

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# APPROVAL REPORT

**MODEL VK100, VK102, VK200, VK202, VK300, VK302,  
VK350 AND VK352, BULB TYPE  
STANDARD AND QUICK RESPONSE  
AUTOMATIC SPRINKLERS WITH A NOMINAL  
DISCHARGE COEFFICIENT OF 5.6 AND 8.0  
GAL/MIN/(PSI)<sup>1/2</sup> (MODIFICATION)**

**Prepared for:**

**The Viking Corporation  
210 N. Industrial Park Road  
Hastings, Michigan 49058**

**Project ID. 3007385  
Class 2016  
Date: 13 May 2002**

NOT to be distributed outside of FMGlobal except by CUSTOMER.

# APPROVAL REPORT

**MODEL VK102, VK202, VK302 AND VK352  
BULB TYPE CONTROL-MODE (DENSITY/AREA)  
PENDENT AND RECESSED PENDENT STANDARD  
AND QUICK RESPONSE AUTOMATIC SPRINKLERS  
WITH NOMINAL DISCHARGE COEFFICIENTS OF 5.6  
AND K8.0 GAL/MIN/(PSI)<sup>1/2</sup> WITH A NEW DEFLECTOR**

**Prepared for:**

**The Viking Corporation  
210 North Industrial Park Road  
Hastings, MI 49058**

**Project ID. 3008841  
Class 2017  
Date: 25 February 2002**

Factory Mutual Research Corporation  
1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, MA 02062

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# APPROVAL REPORT

**MODEL VK003, VK102, VK202, VK302, VK352  
BULB TYPE RECESSED PENDENT  
AUTOMATIC SPRINKLERS WITH THE MODEL E-2  
THREADED ADJUSTABLE ESCUTCHEON**

**Prepared for:**

**The Viking Corporation  
210 North Industrial Park Road  
Hastings, MI 49058**

**Project ID. 3012247  
Class 2015  
Date: 18 December 2001**

Factory Mutual Research Corporation  
1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, MA 02062

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 VK300, VK100 AND VK108  
CONTROL-MODE (DENSITY/AREA)  
UPRIGHT AUTOMATIC SPRINKLERS WITH A  
NOMINAL DISCHARGE COEFFICIENT OF  
5.6 GAL/MIN/(PSI)<sup>1/2</sup> IN A POLYESTER COATED FINISH**

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

Job Identification **3006951**

dated **March 28, 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  
*Scott T. Franson*  
Signature  
Scott T. Franson  
Name  
Director, Sprinkler Division  
Title  
210 N. Industrial Park Rd  
Address  
Hastings, MI 49058  
May 7, 2001  
Date

**FACTORY MUTUAL RESEARCH CORPORATION**  
*R.L. Martell*  
Signature  
R.L. Martell  
Name  
Asst. V.P. - Approvals Division  
Title  
4-16-01  
Date

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

**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:

**VIKING MODEL VK202, VK206 AND VK352  
CONTROL-MODE (DENSITY/AREA) PENDENT  
AUTOMATIC SPRINKLERS WITH A NOMINAL  
DISCHARGE COEFFICIENT OF 8.0 GAL/MIN/(PSI)<sup>1/2</sup>  
(MODIFICATION)**

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

Job Identification **3009236** dated **December 27, 2000.**

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  
*Scott Franson* Signature  
Scott T. Franson Name  
Director, Sprinkler Division Title  
210 N. Industrial Park Rd  
Hastings MI 49058 Address  
January 23, 2001 Date

**FACTORY MUTUAL RESEARCH CORPORATION**  
*R.L. Martell* Signature  
R.L. Martell Name  
Asst. V.P. - Approvals Division Title  
January 10, 2001 Date



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:

**MODELS VK100, VK102, VK108, VK110, VK300, VK302, VK550 AND  
VK556  
BULB AND FUSIBLE TYPE  
CONTROL-MODEL (DENSITY/AREA)  
UPRIGHT, PENDENT, RECESSED PENDENT, AND RACK STORAGE  
UPRIGHT  
STANDARD AND QUICK RESPONSE  
AUTOMATIC SPRINKLERS WITH  
A NOMINAL DISCHARGE COEFFICIENT OF 5.6 GAL/MIN/(PSD)<sup>1/2</sup>  
(MODIFICATION)**

This product or service has been examined by Factory Mutual Research as described in a report bearing Job Identification **3008096** dated **October 13, 2000.**

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.

\_\_\_\_\_  
 Scott J. Franzen Client  
 \_\_\_\_\_  
 Signature  
 \_\_\_\_\_  
 Name  
 \_\_\_\_\_  
 Title  
 \_\_\_\_\_  
 Address  
 \_\_\_\_\_  
 November 17, 2000 Date  
 \_\_\_\_\_  
 Date

**FACTORY MUTUAL RESEARCH CORPORATION**  
 \_\_\_\_\_  
 Signature  
 R.L. Martell Name  
 Asst. V.P. – Approvals Division Name  
 \_\_\_\_\_  
 Title  
 November 10, 2000 Date  
 \_\_\_\_\_  
 Date

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 M  
 BULB TYPE AND FUSIBLE TYPE  
 CONTROL-MODE (DENSITY/AREA)  
 PENDENT AND RECESSED PENDENT  
 STANDARD AND QUICK RESPONSE  
 AUTOMATIC SPRINKLERS WITH  
 A NOMINAL DISCHARGE COEFFICIENT OF 5.6 GAL/MIN/(PSI) ½  
 WITH POLYESTER COATED FINISH**

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

Job Identification **3005717**

dated **February 9, 2000.**

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

FACTORY MUTUAL RESEARCH CORPORATION

*Peter W. Thomas* Client  
Signature  
 Peter W. Thomas Name  
 Vice President, Research & Development Title  
 210 N. Industrial Park Rd Title  
 Hastings, MI 49058 Address  
 March 6, 2000 Date

*R.L. Martell* Signature  
 R.L. Martell Name  
 Asst. V.P. – Approvals Division Title  
 February 25, 2000 Date

FACTORY MUTUAL



Factory Mutual Research Corporation  
Hydraulics Laboratory  
743A Reynolds Road  
West Glocester, Rhode Island 02814  
Telephone: (401) 567-0590  
Fax: (401) 567-0599

**APPROVAL AGREEMENT**

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), and **Sprinkler Viking SA, L-4562 Differdange/Niedercorn, Luxembourg** (herein called the Client). The Client is making a product or providing a service known and described as:

**SPRINKLER VIKING  
MODEL M  
BULB TYPE NOMINAL 1/2 AND 17/32 IN. ORIFICE UPRIGHT AND  
PENDENT STANDARD RESPONSE AUTOMATIC SPRINKLERS WITH  
5MM BULB IN NOMINAL TEMPERATURE RATINGS OF 135, 155, 175,  
200, 286 AND 360°F (57, 68, 79, 93, 141 AND 182°C)**

This product or service has been examined by FMRC as described in the report bearing Job Identification **1D8A6.AH**, dated **March 16, 1998**.

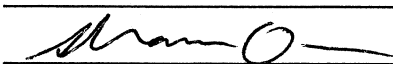
In consideration of FMRC Approval of the product or service the Client is authorized to indicate such approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement.

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 separate agreement with FMRC.
2. The Client shall use the FMRC 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 FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

**THE VIKING CORPORATION**

\_\_\_\_\_  
Client

  
\_\_\_\_\_  
Signature

**SHAWN ORR**  
\_\_\_\_\_  
Name

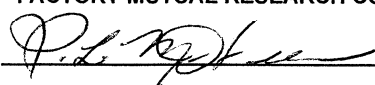
**PROJECT ENGINEER**  
\_\_\_\_\_  
Title

**210 NORTH INDUSTRIAL PARK ROAD**  
**HASTINGS MI 49058**  
\_\_\_\_\_  
Address

**MAY 1, 1998**  
\_\_\_\_\_  
Date

**FACTORY MUTUAL RESEARCH CORPORATION**

\_\_\_\_\_  
Signature

  
\_\_\_\_\_  
Signature

**R. L. Martell**  
\_\_\_\_\_  
Name

**Asst. V.P. - Approvals Division**  
\_\_\_\_\_  
Title

**April 17, 1998**  
\_\_\_\_\_  
Date

FACTORY MUTUAL



Factory Mutual Research Corporation  
Hydraulics Laboratory  
743A Reynolds Road  
West Glocester, Rhode Island 02814  
Telephone: (401) 567-0590  
Fax: (401) 567-0599

**APPROVAL AGREEMENT**

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), 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:


**THE VIKING CORPORATION  
MODEL M  
BULB-TYPE NOMINAL 1/2IN. AND 17/32 IN. ORIFICE  
UPRIGHT AND PENDENT STANDARD RESPONSE  
AUTOMATIC SPRINKLERS WITH A 5 MM BULB  
IN A NOMINAL TEMPERATURE RATING OF 500°F (260°C)**


This product or service has been examined by FMRC as described in the report bearing Job Identification **1D5A4.AH**, dated **January 7, 1998**

In consideration of FMRC 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 separate agreement with FMRC.
2. The Client shall use the FMRC 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 FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

The Viking Corporation  
 \_\_\_\_\_ Client  
  
 \_\_\_\_\_ Signature  
 Shawn Orr  
 \_\_\_\_\_ Name  
 Project Engineer  
 \_\_\_\_\_ Title  
 210 N. Industrial Park Rd.  
 \_\_\_\_\_  
 Hastings, MI 49058  
 \_\_\_\_\_ Address  
 February 3, 1998  
 \_\_\_\_\_ Date

FACTORY MUTUAL RESEARCH CORPORATION  
  
 \_\_\_\_\_ Signature  
 R. L. Martell  
 \_\_\_\_\_ Name  
 Asst. V.P. - Approvals Division  
 \_\_\_\_\_ Title  
 January 19, 1998  
 \_\_\_\_\_ Date

FACTORY MUTUAL



Factory Mutual Research Corporation  
Hydraulics Laboratory  
743A Reynolds Road  
West Glocester, Rhode Island 02814  
Telephone: (401) 567-0590  
Fax: (401) 567-0599

**APPROVAL AGREEMENT**

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), 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:

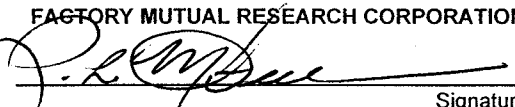
**VIKING CORPORATION  
MODEL M  
BULB TYPE NOMINAL 1/2 IN. AND 17/32 IN. ORIFICE UPRIGHT AND  
PENDENT AUTOMATIC SPRINKLERS WITH A 5 MM BULB IN  
NOMINAL TEMPERATURE RATINGS OF 135, 155, 175, 200 286 AND  
360°F (57, 68, 79, 93, 141 AND 182°C)  
(MODIFICATION)**

This product or service has been examined by FMRC as described in the report bearing Job Identification **0D2A6.AH**, dated **October 1, 1997**

In consideration of FMRC 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 separate agreement with FMRC.
2. The Client shall use the FMRC 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 FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

_____	Client	<b>FACTORY MUTUAL RESEARCH CORPORATION</b>	
_____	Signature		Signature
_____	Name	R. L. Martell	Name
_____	Title	Asst. V.P. - Approvals Division	Title
_____	Address	October 10, 1997	Date
_____	Date		



# Factory Mutual Research

1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, Massachusetts 02062  
Telephone (617) 762-4300  
Telex 92-4415

## APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called FMRC), and The Viking Corporation, Hastings, Michigan 49058 (herein called the Client). The Client is making a product or providing a service known and described as:

MODEL M

FUSIBLE AND BULB TYPE PENDENT AUTOMATIC SPRINKELRS

IN VARIOUS TEMPERATURE RATINGS

(MODIFICATION)

This product or service has been examined by FMRC as described in the report bearing Job Identification 1V1A0.AH, dated August 1, 1991

In consideration of FMRC 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 separate agreement with FMRC.
2. The Client shall use the FMRC 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 FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

THE VIKING CORPORATION

---

*Peter W. Thomas* Client

---

Peter W. Thomas Signature

---

Director, Research & Development Name

---

210 N. Industrial Park Rd. Title

---

Hastings, MI 49058 Address

---

September 6, 1991 Date

---

FACTORY MUTUAL RESEARCH CORPORATION

---

*John Rennie* Signature

---

John Rennie Name

---

Vice President Title

---

August 29, 1991 Date

---



# Factory Mutual Research

1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, Massachusetts 02062  
Telephone (617) 762-4300  
Telex 92-4415

## APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called Factory Mutual), 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 M

BULB TYPE NOMINAL 1/2 IN. ORIFICE

UPRIGHT SPRINKLERS W/ALTERNATE DEFLECTOR (L.O.)

135°, 155°, 175°, 200°, 286°, AND 360°F

(57°, 68°, 79°, 93°, 141°, AND 182°C)

This product or service has been examined by Factory Mutual as described in the report bearing Job Identification 1Q2A1.AH, dated September 6, 1989

In consideration of Factory Mutual 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 separate agreement with Factory Mutual.
2. The Client shall use the Factory Mutual 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.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

\_\_\_\_\_  
Client  
Peter W. Thorne  
Signature  
\_\_\_\_\_  
Name  
\_\_\_\_\_  
Title  
\_\_\_\_\_  
Address  
\_\_\_\_\_  
Date

### FACTORY MUTUAL RESEARCH CORPORATION

\_\_\_\_\_  
Signature  
R. L. Martell  
Name  
Asst. V. P. - Approvals Division  
Title  
October 20, 1989  
Date



# Factory Mutual Research

1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, Massachusetts 02062  
Telephone (617) 762-4300  
Telex 92-4415

## APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called Factory Mutual), 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 M

BULB TYPE, AUTOMATIC SPRINKLER

17/32 IN. NOMINAL ORIFICE

(MODIFICATION)

This product or service has been examined by Factory Mutual as described in the report bearing Job Identification 1QOA5.AH, dated September 29, 1988

In consideration of Factory Mutual 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 separate agreement with Factory Mutual.
2. The Client shall use the Factory Mutual 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.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

		<b>FACTORY MUTUAL RESEARCH CORPORATION</b>	
_____	Client	_____	Signature
<i>Peter Thomas</i>		<i>[Signature]</i>	
_____	Signature	R. L. Martell	Signature
_____	Name	Asst. V.P. - Approvals Division	Name
_____	Title	January 24, 1989	Title
_____	Address	_____	Date
_____	Date		

COPY - ORIGINAL RETURNED  
21-109



8/26/88



# Factory Mutual Research

1151 Boston-Providence Turnpike  
P.O. Box 9102  
Norwood, Massachusetts 02062  
Telephone (617) 762-4300  
Telex 92-4415

## APPROVAL AGREEMENT

The Agreement is made by and between Factory Mutual Research Corporation, (herein called Factory Mutual), 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 M  
BULB TYPE, AUTOMATIC SPRINKLER  
1/2 AND 3/8 IN. NOMINAL ORIFICES  
(MODIFICATION)

This product or service has been examined by Factory Mutual as described in the report bearing Job Identification 1P4A6.AH, dated July 12, 1988

In consideration of Factory Mutual 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 separate agreement with Factory Mutual.
2. The Client shall use the Factory Mutual 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.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual except in its entirety without any change, deletion or addition thereto. The Client agrees that Factory Mutual may distribute the referenced report and related information within the Factory Mutual System.

(SEE OVER)

\_\_\_\_\_  
Client  
*Pete W. Thomas*  
\_\_\_\_\_  
Signature  
\_\_\_\_\_  
Name  
\_\_\_\_\_  
Title  
\_\_\_\_\_  
Address  
\_\_\_\_\_  
Date

**FACTORY MUTUAL RESEARCH CORPORATION**  
\_\_\_\_\_  
*R. L. Martell*  
R. L. Martell Signature  
\_\_\_\_\_  
Asst. V.P. - Approvals Division Name  
\_\_\_\_\_  
August 22, 1988 Title  
\_\_\_\_\_  
Date



# Factory Mutual Research

1151 Boston-Providence Turnpike  
P.O. Box 688  
Norwood, Massachusetts 02062  
Telephone (617) 762-4300  
Telex 92-4415

## APPROVAL AGREEMENT

This Agreement is made by and between Factory Mutual Research Corporation, (herein called Factory Mutual), and The Viking Corporation, Hastings, Michigan 49058 (herein called the Client). The Client is making a product or providing a service known and described as:

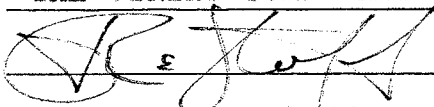
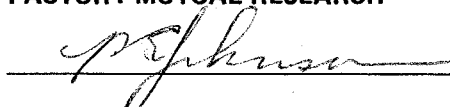
MODEL M  
BULB TYPE UPRIGHT & PENDENT LARGE ORIFICE SPRINKLERS  
WITH 1/2 AND 3/4 IN. NPT (12.7 AND 19.1 mm) THREADED CONNECTIONS  
BRONZE, CHROMIUM PLATED AND LEAD COATED  
IN TEMPERATURE RATINGS  
OF  
135, 155, 175, 200, 286, 360°F (57, 68, 79, 93, 141, 182°C)  
WAX COATED AND WAX OVER LEAD COATED  
IN TEMPERATURE RATINGS  
OF  
135, 155, 175, 200°F (57, 68, 79, 93°C)

This product or service has been examined by Factory Mutual as described in the report bearing Job Identification **1C3A6.AH**, dated **April 8, 1982**

In consideration of Factory Mutual 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 separate agreement with Factory Mutual.
2. The Client shall use the Factory Mutual 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.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual except in its entirety without any change, deletion or addition thereto.

(SEE OVER)

<b>THE VIKING CORPORATION</b>	<b>FACTORY MUTUAL RESEARCH</b>
	
Client	Signature
Signature	Signature
<b>James G. Retzloff</b>	<b>P. E. Johnson</b>
Name	Name
<del>Vice Pres. - Design &amp; Development</del>	<b>V.P. &amp; Mgr. - Approvals Division</b>
Title	Title
<b>210 N. Industrial Park Rd.</b>	<b>May 24, 1982</b>
<b>Hastings, MI 49058</b>	Date
Address	Date
<del>May 26, 1982</del>	
Date	



# Factory Mutual Research

1151 Boston-Providence Turnpike  
Norwood, Massachusetts 02062  
Telephone (617) 762-4300  
Telex 92-4415

## APPROVAL AGREEMENT

This agreement is made by and between Factory Mutual Research Corporation, (herein called Factory Mutual), and **The Viking Corporation, Hastings, Michigan 49058** (herein called the Client). The Client is making a product or providing a service known and described as:

### MODEL M

### BULB TYPE UPRIGHT & PENDENT STANDARD SPRINKLERS

### IN TEMPERATURE RATINGS

### OF

**135, 155, 175, 200, 286 AND 360°F (57, 68, 79, 93, 141 AND 182°C)**

This product or service has been examined by Factory Mutual as described in the report bearing Job Identification **1C3A7.AH**, dated **January 27, 1982**

In consideration of Factory Mutual Approval of the product or service the Client is authorized to indicate such approval, as stated by the above report, and it is agreed that:

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 separate agreement with Factory Mutual.
2. The Client shall use the Factory Mutual 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.
3. The Client shall not use, reproduce or distribute the above referenced report by Factory Mutual except in its entirety without any change, deletion or addition thereto.
4. The Client shall assume full responsibility for the design, material, workmanship and operation of the product or the quality of the service rendered and agrees to hold harmless and indemnify Factory Mutual from any claims and liability to the Client or others for any kind or type of injury or damage, including without limitation, loss of earnings or profits, caused by or in any way connected with any of the services rendered by Factory Mutual, or arising out of any defect, accident, damage or injury related to the product or service herein.
5. The Client shall manufacture the product or provide the service as approved by Factory Mutual and no changes of any nature shall be made in the product or service unless notice of the proposed change has been given and written authorization obtained from Factory Mutual. Client agrees to make full and immediate written disclosure to Factory Mutual of all information concerning any defect in or potential hazard of the product or service herein. Failure of the foregoing may result in suspension or withdrawal of Factory Mutual Approval.



# Certificate of Compliance

## Automatic Control Mode Sprinklers for Fire Protection

This certificate is issued for the following equipment:

Model	K	Type	Resp.	Element	NPT (in.)	Finishes	Temperature Ratings °F (°C)
VK102	5.6	Pendent	SR	5 mm	1/2	Brass, Chrome, Polyester, Wax	135°, 155°, 175°, 200°, 212°, 286°, 360°, 500°F (57°, 68°, 79°, 93°, 100°, 141°, 182°, 260°C)
VK102*	5.6	Recessed Pendent	SR	5 mm	1/2	Brass, Chrome, Polyester	155°, 175°, 200°F (68°, 79°, 93°C)
VK102	5.6	Concealed Pendent	SR	5 mm	1/2	Brass	155°, 175°, 200°F (68°, 79°, 93°C)
VK102	5.6	Rack Storage Pendent	SR	5 mm	1/2	Brass	135°, 155°, 175°, 200°, 286°, 360°F (57°, 68°, 79°, 93°, 141°, 182°C)

\* With Viking E-1 or E-2 Recessed Escutcheon

Manufactured by: The Viking Corp, 210 N Industrial Park Rd, Hastings, Michigan 49058

Manufacturing Location: The Viking Corp, 210 N Industrial Park Rd, Hastings, Michigan 49058 and  
The Viking Corp, 11305 James St, Holland, MI 49424

FM Approvals confirms that the items have been found to comply with the following standard:

FM Approvals Standard 2000 (March 2006)

Project Identifier: 3026351

Date of Approval: May 5, 2009

A handwritten signature in black ink, appearing to read 'Richard B. Dunne', is written over a horizontal line.

Richard B. Dunne  
Group Manager - Hydraulics

May 8, 2009  
Date



Member of the FM Global Group



# Certificate of Compliance

## Automatic Control Mode Sprinklers for Fire Protection

This certificate is issued for the following equipment:

Model	K	Type	Resp.	Element	NPT (in.)	Finishes	Temperature Ratings °F (°C)
VK202	8.0	Pendent	SR	5 mm	1/2, 3/4	Brass, Chrome	135°, 155°, 175°, 200°, 286°, 360°, 500°F (57°, 68°, 79°, 93°, 141°, 182°, 260°C)
VK202	8.0	Pendent	SR	5 mm	1/2, 3/4	Wax	135°, 155°, 175°, 200°F (57°, 68°, 79°, 93°C)
VK202	8.0	Recessed Pendent	SR	5 mm	1/2, 3/4	Brass, Chrome	135°, 155°, 175°, 200°F (57°, 68°, 79°, 93°C)
VK202	8.0	Concealed Pendent	SR	5 mm	3/4	Brass	155°, 175°, 200°F (68°, 79°, 93°C)
VK202	8.0	Rack Storage Pendent	SR	5 mm	3/4	Brass	135°, 155°, 175°, 200°, 286°, 360°F (57°, 68°, 79°, 93°, 141°, 182°C)

Manufactured by: The Viking Corp, 210 N Industrial Park Rd, Hastings, Michigan 49058

Manufacturing Location: The Viking Corp, 210 N Industrial Park Rd, Hastings, Michigan 49058 and  
The Viking Corp, 11305 James St, Holland, MI 49424

FM Approvals confirms that the items have been found to comply with the following standard:

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Project Identifier: 3026351 Date of Approval: May 5, 2009

Richard B. Dunne  
Group Manager - Hydraulics

May 8, 2009  
Date



Member of the FM Global Group