1. DESCRIPTION
The Viking Spring Loaded In-Line Check Valve is a general purpose rubber-faced check valve approved for use in fire-service systems.
The Spring Loaded In-Line Check Valve is manufactured with a brass body, brass seat, and a rubber-faced clapper assembly.
The valve may be installed vertically or horizontally. For availability of threaded and grooved-grooved options, refer to Table 1. A tapped opening (with plug) is provided on the outlet chamber of the valve for system drain.
The 1-1/2" and 2" check valves should be installed on the outlet riser of the 1-1/2" and 2" deluge valve when installing a listed and approved preaction system. Refer to preaction data pages for current riser schematic.

FEATURES
1. Low friction loss.
2. Rated to 250 psi (17.2 bar) water working pressure.
3. Can be installed vertically or horizontally.
4. ½" NPT drain connection above the clapper.
5. 1 PSI cracking pressure

2. LISTINGS AND APPROVALS
Refer to Table 1

3. TECHNICAL DATA
Specifications
Pressure Rating - 250 psi (17.2 bar) water working pressure
Factory tested - Hydrostatically to 500 psi (34.5 bar).
Standard threaded connections - NPT
Standard grooved connections - ANSI/AWWA C606-87
Tapped Bosses - One 3/4" (19 mm) NPT:
Material Standards
Refer to Figure 1
Ordering Information
Refer to Table 1
Manufactured 2002 -

4. INSTALLATION
The Spring Loaded In-Line Check Valve must be installed in an area not subject to physical damage. When corrosive atmospheres and/or contaminated water supplies are present, it is the owner's responsibility to verify compatibility with the Check Valve and associated equipment.
Prior to installing the valve, thoroughly flush the water supply piping to verify that no foreign matter is present.
The Check Valve may be installed in the vertical or horizontal position in line with the directional flow arrow.

Table 1

<table>
<thead>
<tr>
<th>Model</th>
<th>Size Valve</th>
<th>Connection Type</th>
<th>Cv Factor</th>
<th>Friction Loss*</th>
<th>Shipping Weight</th>
<th>Part No.</th>
<th>Approvals</th>
</tr>
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<tbody>
<tr>
<td>K-1</td>
<td>1-1/2&quot;</td>
<td>Threaded</td>
<td>57</td>
<td>7</td>
<td>4 lbs</td>
<td>10659</td>
<td>cULus¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FM²</td>
</tr>
<tr>
<td>K-1</td>
<td>2&quot;</td>
<td>Threaded</td>
<td>105</td>
<td>8</td>
<td>5.5 lbs</td>
<td>10667</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>L-1</td>
<td>1-1/2&quot;</td>
<td>Groove</td>
<td>68</td>
<td>5</td>
<td>4.5 lbs</td>
<td>11054</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>L-1</td>
<td>2&quot;</td>
<td>Groove</td>
<td>102</td>
<td>8</td>
<td>6 lbs</td>
<td>11059</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Expressed in equivalent length of schedule 40 pipe based on Hazen & Williams formula: C=120
¹cULus Guide No. - HMER
²FM Category - Single Check Valves

For piping with grooved connections, the grooved-inlet/grooved-outlet style Spring Loaded In-Line Check Valve may be installed with listed grooved couplings of the appropriate pressure rating.

Viking Technical Data may be found on The Viking Corporation’s Web site at http://www.vikingcorp.com.
The Web site may include a more recent edition of this Technical Data Page.

WARNING: Cancer and Reproductive Harm- www.P65Warnings.ca.gov

Replaces Form F_042815 Rev. November 1, 2006 (Added P65 Warning.)
Hydrostatic Test:
The Check Valve is manufactured and listed for use at a maximum water working pressure of 250 psi (17.2 bar). The valve is factory tested at 500 psi (34.5 bar). Check Valves may be hydrostatically tested at 300 psi (20.7 bar) and/or 50 psi (3.4 bar) above the normal water working pressure, for limited periods of time (two hours), for the purpose of acceptance by the Authority Having Jurisdiction. If air testing is required, do not exceed 60 psi (4.1 bar) air pressure.

5. OPERATION (Refer to Figure 1 or Figure 2)
Flow through the Viking Spring Loaded In-Line Check Valve lifts the rubber-gasketed clapper (4 and 5) off the seat (7) to enter the sprinkler piping. When flow through the valve stops, the spring loaded clapper (4) closes quickly. The rubber gasket (5) forms a tight seal against the brass water seat (7), trapping pressure above the clapper and preventing reverse flow from sprinkler piping.

6. INSPECTIONS, TESTS AND MAINTENANCE
NOTICE: THE OWNER IS RESPONSIBLE FOR MAINTAINING THE FIRE-PROTECTION SYSTEM AND DEVICES IN PROPER OPERATING CONDITION.
The Viking Spring Loaded In-Line Check Valve must be kept free of foreign matter, freezing conditions (when used on wet systems), corrosive atmospheres, contaminated water supplies, and any condition that could impair its operation or damage the device. It is imperative that the system be inspected and tested on a regular basis. The frequency of the inspections may vary due to contaminated water supplies, corrosive water supplies, and corrosive atmospheres. For minimum maintenance and inspection requirements, refer to NFPA 25. In addition, the Authority Having Jurisdiction may have additional maintenance, testing, and inspection requirements which must be followed.

WARNING: ANY SYSTEM MAINTENANCE WHICH INVOLVES PLACING A CONTROL VALVE OR DETECTION SYSTEM OUT OF SERVICE MAY ELIMINATE THE FIRE-PROTECTION CAPABILITIES OF THAT SYSTEM. PRIOR TO PROCEEDING, NOTIFY ALL THE AUTHORITY HAVING JURISDICTION. CONSIDERATION SHOULD BE GIVEN TO EMPLOYMENT OF A FIRE PATROL IN THE AFFECTED AREAS.

A. Five-Year Internal Inspection (Refer to Figure 1 or 2)
Internal inspection of Check Valves is recommended every five years unless inspections and tests indicate more frequent inspections are required.
1. Notify the Authority Having Jurisdiction, remote station alarm monitors, and those in the area affected that the system will be taken out of service. Consideration should be given to employment of a fire patrol in the affected areas.
2. Close the water supply Main Control Valve, placing the system out of service.
3. Open the main drain. If necessary, open the system test valve to vent and completely drain the system.
4. Remove necessary fittings and/or piping to allow visual inspection.
5. Inspect the water seat (7). Wipe away all contaminants, dirt, and mineral deposits. Do not use solvents or abrasives.
6. Inspect the clapper for debris. Test the clapper (4) for freedom of movement.

CAUTION: NEVER APPLY ANY LUBRICANT TO SEATS, GASKETS, OR ANY INTERNAL OPERATING PARTS OF THE VALVE. PETROLEUM-BASED GREASE OR OIL WILL DAMAGE RUBBER COMPONENTS AND MAY PREVENT PROPER OPERATION.

B. Valve Maintenance (Refer to Figure 1 or 2)
1. Perform steps 1 through 5 of paragraph 10-A FIVE-YEAR INTERNAL INSPECTION.
2. To remove clapper rubber (5):
   a. Use proper wrench and disassemble valve from system piping.
   b. Inspect the clapper and rubber from inlet end. If the clapper rubber shows signs of wear, such as cracking, cuts, or excessively deep grooves where the rubber contacts the water seat, replace the valve.

7. AVAILABILITY
The Viking Check Valve and Accessories are available through a network of domestic and international distributors. See the Viking Corp. Web site for closest distributor or contact The Viking Corporation.

8. GUARANTEES
For details of warranty, refer to Viking’s current list price schedule or contact Viking directly.
### TECHNICAL DATA

**SPRING LOADED IN-LINE CHECK VALVE**

1-1/2" & 2" MODELS K-1 & L-1

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services 877-384-5464 Fax: 269-945-4495 Email: techsvcs@vikingcorp.com

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#### Item No. Description Material No. Req’d.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body, Threaded or Grooved</td>
<td>Brass, ASTM C-83600</td>
</tr>
<tr>
<td>2</td>
<td>Guide Pin</td>
<td>UNS-S30300 Stainless Steel</td>
</tr>
<tr>
<td>3</td>
<td>Spring</td>
<td>302 Stainless Steel</td>
</tr>
<tr>
<td>4</td>
<td>Clapper, (2&quot; valve)</td>
<td>UNS-C46400 Naval Brass</td>
</tr>
<tr>
<td></td>
<td>Clapper, (1-1/2&quot; valve)</td>
<td>UNS-C83600 Naval Brass</td>
</tr>
<tr>
<td>5</td>
<td>Seat Rubber</td>
<td>EPDM, ASTM D2000</td>
</tr>
<tr>
<td>6</td>
<td>O-ring</td>
<td>Buna-N</td>
</tr>
<tr>
<td>7</td>
<td>Seat</td>
<td>Brass, ASTM C-83600</td>
</tr>
<tr>
<td>8</td>
<td>Data Plate</td>
<td>Aluminum Etched</td>
</tr>
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<td>9</td>
<td>Bushing, Guide Rod</td>
<td>Stainless Steel, Type 17-4</td>
</tr>
<tr>
<td>10</td>
<td>3/4&quot; Pipe Plug</td>
<td>Brass</td>
</tr>
</tbody>
</table>

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No replacement parts available. Replace complete valve.

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Fig. 1a: **1-1/2" NPT Threaded Spring Loaded In-Line Check Valve with 3/4" NPT Drain Connection**

Fig. 1b: **2" NPT Threaded Spring Loaded In-Line Check Valve with 3/4" NPT Drain Connection**

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Fig. 1a: **Threaded**

Fig. 1b: **Grooved**

Figure 2: Model L-1 & K-1 Check Valve Trim Chart

<table>
<thead>
<tr>
<th>Trim Type</th>
<th>Galvanized</th>
<th>Brass</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/2” &amp; 2”</td>
<td>12960</td>
<td>12960-1</td>
</tr>
</tbody>
</table>

Remove pipe plug at assembly.