1. DESCRIPTION
The Viking Vertical Pilot Deluge System is a simple pilot control system that utilizes a straight through Model J-1 Flow Control Valve, operated with a solenoid valve. The flow control valve is a quick opening, differential diaphragm flood valve with a spring-loaded floating clapper. It is held closed by water pressure trapped in the priming chamber; keeping the outlet chamber and downstream piping dry. The solenoid valve is a normally closed control valve that energizes open upon receiving power applied to the solenoid coil. When the pilot control system operates, pressure is released from the priming chamber of the flow control valve. This opens the clapper to allow water to flow into the piping. The solenoid operated flow control valve can be remotely operated for on-off applications.

Features:
1. Simple design with easy installation and maintenance
2. Designed for remote resetting and activation
3. Flow control valve-field replaceable diaphragm and seat rubbers

2. LISTINGS AND APPROVALS:

- cULus Listed: Guide No. VLFT

3. TECHNICAL DATA

Flow Control Valve Specifications:
- Maximum Working Water Pressure: 250 PSI (17.4 bar)
- Factory tested: to 500 psi (34.5 bar)
- Valve differential: 2:1 (priming chamber to inlet chamber)
- Color of valve: Red
- Friction loss and C<sub>v</sub> Factor: Refer to Table 1.

Flow Control Valve Material Standards:
- Main Valve Body and Cover: Ductile Iron, Grade 65-45-12, Brass UNS-C84400 or UNS-C83600
- Main Trim Material Standards:
  - Nipples and fittings: Galvanized steel
  - Drain Tube: 7" (177.8 mm) copper tube

Flexible Hose Specifications and Material Standards:
- 3/8" ID Stainless Steel braided corrugated tube
- Lengths: 18" (457 mm) for the 3" (DN80) valve, 24" (610 mm) for the 4" (DN100) valve, 31" (787 mm) for the 6" (DN150) valve, and 37" (940 mm) for the 8" (DN200) valve +/- 1/2" (12.7 mm).
- NOTE: 1-1/2" (38.1 mm) minimum bend radius

Solenoid Valve Specifications:
- NEMA 1,2,3,3S,4,4X general purpose, watertight
- 24 VDC, Wattage: 9.0 DC, DC Current: 338mA
- Operating Pressure: Max. 250 psi (17.2 bar), Min. 5 psi (0.35 bar)
- Coil: Class H, Continuous Duty
- Maximum ambient temperature: 130 °F (54 °C)
- C<sub>v</sub> Factor: 4.0

Solenoid Valve Material Standards:
- Body: Brass
- Seals and Discs: Buna N
- Core Tube: 305 Stainless Steel
- Core and Plugnut: 430F Stainless Steel
- Springs: 302 Stainless Steel

Ordering Information:
- Part Numbers: Refer to Table 1.
- Replacement Solenoid Valve Part Number: 11601

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Friction Loss*</th>
<th>C&lt;sub&gt;v&lt;/sub&gt; Factor*</th>
<th>Part Nos. (Galvanized**)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot; (DN80)</td>
<td>22 ft. (6.7 m)</td>
<td>198</td>
<td>17354</td>
</tr>
<tr>
<td>4&quot; (DN100)</td>
<td>21 ft. (6.4 m)</td>
<td>416</td>
<td>17355</td>
</tr>
<tr>
<td>6&quot; (DN150)</td>
<td>39 ft. (11.9 m)</td>
<td>884</td>
<td>17356</td>
</tr>
<tr>
<td>8&quot; (DN200)</td>
<td>57 ft. (17.4 m)</td>
<td>1500</td>
<td>17357</td>
</tr>
</tbody>
</table>

Available since 2011.

**Standard Trim consists of galvanized nipples and fittings.

Q = C<sub>v</sub> \* \sqrt{\frac{\Delta P}{S}}

Q = Flow
C<sub>v</sub> = Flow Factor (GPM/1 PSI \Delta P)
\Delta P = Pressure Loss through Valve
S = Specific Gravity of Fluid
The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

3" - 8" (DN80 - DN200) VERTICAL SOLENOID OPERATED FLOW CONTROL VALVE
Maximum 250 PSI WWP

Figure 2

GENERAL NOTES:
- VALVE MUST BE TRIMMED AS SHOWN, ANY DEVIATION FROM TRIM SIZE OR ARRANGEMENT MAY AFFECT THE PROPER OPERATION OF THE VALVE.
- ALL PIPE 3/4" (20) AND SMALLER SHALL BE GALVANIZED STEEL.
- DIMENSIONS IN PARENTHESES ARE MILLIMETER AND MAY BE APPROXIMATIONS.

FLEXIBLE HOSE, 3/8" ID STAINLESS STEEL BRAIDED CORRUGATED TUBE WITHOUT ADAPTERS, LENGTHS 18" (457), 24" (610), 30" (762) OR 36" (914) +/- 1/2" (12.7) FOR 3", 4", 6", OR 8" VALVE SIZES RESPECTIVELY. NOTE: 1-1/2" (38.1) MINIMUM BEND RADIUS

NOTE: LONG SECTION OF TUBE DOWN ON THE 3" & 4" (DN80 & DN100) VALVES.
SHORT SECTION OF TUBE DOWN ON THE 6" & 8" (DN150 & DN200) VALVES.