1. DESCRIPTION
The Viking Horizontal 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 \( C_v \) 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" and 4" (DN80 and DN100) valves, 24" (610 mm) for the 6" (DN150) valve, and 31" (787 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)

\( C_v \) 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

Q = \( C_v \sqrt{\frac{\Delta P}{S}} \)

Q = Flow
\( C_v \) = Flow Factor (GPM/1 PSI \( \Delta P \))
\( \Delta P \) = Pressure Loss through Valve
S = Specific Gravity of Fluid

Table 1: Part Numbers

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Friction Loss*</th>
<th>( C_v ) 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>17363  17359  89 mm</td>
</tr>
<tr>
<td>4&quot; (DN100)</td>
<td>21 ft. (6.4 m)</td>
<td>416</td>
<td>17364  17360 114 mm</td>
</tr>
<tr>
<td>6&quot; (DN150)</td>
<td>39 ft. (11.9 m)</td>
<td>884</td>
<td>17365  17361 168 mm</td>
</tr>
<tr>
<td>8&quot; (DN200)</td>
<td>57 ft. (17.4 m)</td>
<td>1500</td>
<td>17366  17362 219 mm</td>
</tr>
</tbody>
</table>

* Values are for the flow control valve only. Friction loss is expressed in equivalent length of Schedule 40 pipe based on Hazen & Williams C = 120.

**Standard Trim consists of galvanized nipples and fittings.
TECHNICAL DATA

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

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Figure 2

FLEXIBLE HOSE, 3/8” ID STAINLESS STEEL BRAIDED, CORRUGATED TUBE WITHOUT ADAPTERS.
LENGTHS: 18’ (547) FOR 3” & 4” (DN80 & DN100) VALVES, 24’ (730) FOR THE 6” (DN150) VALVE, AND 31’ (947) FOR THE 8” (DN200) VALVE
4” = 1/2” (127)
NOTE: 1-1/2” (381) MINIMUM BEND RADIUS

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” (25) AND SMALLER SHALL BE GALVANIZED STEEL.
- DIMENSIONS IN PARENTHESES ARE MILLIMETER AND MAY BE APPROXIMATIONS.

FOR THE 3” VALVE: 3/4” PLUG
FOR 4”, 6”, & 8” VALVES: 1” PLUG

FOR THE 3” VALVE: 1-1/4” PLUG
FOR 4”, 6”, & 8” VALVES: 2” PLUG*

* QUANTITY IS 2 FOR THE 8” VALVE SIZE