



VNIV.EX643 - Sprinklers, Automatic and Open

Sprinklers, Automatic and Open

VIKING CORP

210 INDUSTRIAL PARK DR
HASTINGS, MI 49058-9706 United States

EX643

Sprinkler Identification Numbers (SIN) VK100, VK102, VK104, VK116, VK118, VK120, VK122, VK124, VK130, VK132, VK150, VK152, VK154, VK156, VK158, VK160, VK162, VK163, VK164, VK166, VK172, VK173, VK174, VK176, VK177, VK178, VK180, VK181, VK182, VK184, VK186, VK188, VK190, VK192, VK194, VK196, VK200, VK202, VK2503, VK2523, VK2543, VK2753, VK2773, VK2793, VK300, VK301, VK302, VK303, VK305, VK310, VK312, VK315, VK317, VK319, VK325, VK327, VK329, VK331, VK333, VK338, VK339, VK340, VK342, VK344, VK350, VK352, VK354, VK360, VK377, VK461, VK4611, VK462, VK4621, VK463, VK464, VK465, VK4651, VK492, VK4921, VK530, VK531, VK532, VK534, VK536, VK538, VK540, VK550, VK552, VK556, VK558, VK560, VK562, VK566, VK570, VK572, VK580, VK600, VK602, VK604, VK605, VK606, VK608, VK610, VK612, VK614, VK616, VK617, VK618, VK630, VK632, VK634, VK638, VK660, VK693, VK694, VK695, VK696, VK697, VK681, VK682, VK683, VK684, VK685, VK686, VK690, VK900, VK1001, VK1021, VK1181, VK1201, VK1202, VK2001, VK2002, VK2021, VK2022, VK3001, VK3021, VK3101, VK3501, VK3502, VK3521, VK3522, VK3541 and VK3542 glass bulb type. Decorative sprinklers identified by unpainted or plated pip cap or compression screw.

SIN VK006, VK008, VK108, VK110, VK112, VK204, VK206, VK307, VK311, VK316, VK318, VK320, VK326, VK328, VK330, VK332, VK334, VK341, VK343, VK346, VK351, VK353, VK355, VK533, VK535, VK537, VK551, VK567, VK567, VK595, VK601, VK603, VK609, VK611, VK613, VK615, VK901 fusible link type sprinklers. Decorative sprinklers identified by unpainted or plated pip cap or compression screw.

SIN VK282, VK2843, VK286, VK2883, VK290, VK2923, VK368, VK469, VK481, VK592, VK636, VK680 fusible link type sprinklers. Decorative sprinklers identified by unplated or painted area on the fusible link.

SIN VK426, VK427, VK650, VK651, and VK478 fusible element type sprinkler. Decorative sprinklers identified by unplated or painted area on the fusible element.

**UPRIGHT AND PENDENT STANDARD SPRAY SPRINKLERS
NOMINAL 5.6 K - FACTOR**

| SIN | Response Type | Type | System Working Pressure, psig | Temp Rating, °F |
|--------|---------------|---------|-------------------------------|-----------------------------------|
| VK302 | QR | Pendent | 175 | 135, 155, 175, 200, 286 |
| VK317 | QR | Pendent | 250 | 135, 155, 175, 200, 286 |
| VK318 | QR | Pendent | 250 | 165, 205, 280 |
| VK300 | QR | Upright | 175 | 135, 155, 175, 200, 286 |
| VK315 | QR | Upright | 250 | 135, 155, 175, 200, 286 |
| VK316 | QR | Upright | 250 | 165, 205, 280 |
| VK303 | QR | Pendent | 175 | 165, 205, 280 |
| VK301 | QR | Upright | 175 | 165, 205, 280 |
| VK3001 | QR | Upright | 250 | 135, 155, 175, 200, 286 |
| VK3021 | QR | Pendent | 250 | 135, 155, 175, 200, 286 |
| VK102 | SR | Pendent | 175 | 135, 155, 175, 200, 286, 360, 500 |
| VK110 | SR | Pendent | 175 | 165, 220, 286, 360 |
| VK132 | SR | Pendent | 175 | 135, 155, 175, 200, 286, 360 |

| | | | | |
|--------|----|---------|-----|-----------------------------------|
| VK124 | SR | Pendent | 250 | 135, 155, 175, 200, 286, 360, 500 |
| VK100 | SR | Upright | 175 | 135, 155, 175, 200, 286, 360, 500 |
| VK108 | SR | Upright | 175 | 165, 220, 286, 360 |
| VK130 | SR | Upright | 175 | 135, 155, 175, 200, 286, 360 |
| VK122 | SR | Pendent | 250 | 135, 155, 175, 200, 286, 360, 500 |
| VK1001 | SR | Upright | 250 | 135, 155, 175, 200, 286, 360 |
| VK1021 | SR | Pendent | 250 | 135, 155, 175, 200, 286, 360 |

NOMINAL 1.4 TO 4.2 K - FACTOR

| SIN | Response Type | Type | Nom K-Factor | System Working Pressure, psig | Temp Rating, °F |
|-------|---------------|---------|--------------|-------------------------------|-------------------------|
| VK329 | QR | Pendent | 2.8 | 175 | 135, 155, 175, 200, 286 |
| VK330 | QR | Pendent | 2.8 | 175 | 165, 205, 286 |
| VK342 | QR | Pendent | 2.8 | 250 | 135, 155, 175, 200, 286 |
| VK343 | QR | Pendent | 2.8 | 250 | 165, 205, 280 |
| VK331 | QR | Pendent | 4.2 | 175 | 165, 205, 286 |
| VK332 | QR | Pendent | 4.2 | 175 | 165, 205, 280 |
| VK325 | QR | Upright | 2.8 | 175 | 135, 155, 175, 200, 286 |
| VK326 | QR | Upright | 2.8 | 175 | 165, 205, 280 |
| VK340 | QR | Upright | 2.8 | 250 | 135, 155, 175, 200, 286 |
| VK341 | QR | Upright | 2.8 | 250 | 165, 205, 280 |
| VK327 | QR | Upright | 4.2 | 175 | 135, 155, 175, 200, 286 |
| VK328 | QR | Upright | 4.2 | 175 | 165, 205, 280 |
| VK008 | SR | Pendent | 4.2 | 175 | 165, 220, 286, 360 |
| VK006 | SR | Upright | 4.2 | 175 | 165, 220, 286, 360 |

NOMINAL 8.0 K - FACTOR

| SIN | Response Type | Type | Inlet Thread NPT | System Working Pressure, psig | Temp Rating, °F |
|--------|---------------|---------|------------------|-------------------------------|-------------------------|
| VK352 | QR | Pendent | 1/2, 3/4 | 175 | 135, 155, 175, 200, 286 |
| VK353 | QR | Pendent | 1/2, 3/4 | 175 | 165, 205, 280 |
| VK350 | QR | Upright | 1/2, 3/4 | 175 | 135, 155, 175, 200, 286 |
| VK351 | QR | Upright | 1/2, 3/4 | 175 | 165, 205, 280 |
| VK3501 | QR | Upright | 3/4 | 175 | 135, 155, 175, 200, 286 |

| | | | | | |
|--------|----|---------|----------|-----|-----------------------------------|
| VK3502 | QR | Upright | 1/2 | 175 | 135, 155, 175, 200, 286 |
| VK3521 | QR | Pendent | 3/4 | 175 | 135, 155, 175, 200, 286 |
| VK3522 | QR | Pendent | 1/2 | 175 | 135, 155, 175, 200, 286 |
| VK202 | SR | Pendent | 1/2, 3/4 | 175 | 135, 155, 175, 200, 286, 360, 500 |
| VK206 | SR | Pendent | 1/2, 3/4 | 175 | 165, 220, 286, 360 |
| VK200 | SR | Upright | 1/2, 3/4 | 175 | 135, 155, 175, 200, 286, 360, 500 |
| VK204 | SR | Upright | 1/2, 3/4 | 175 | 165, 220, 286, 360 |
| VK2001 | SR | Upright | 3/4 | 175 | 135, 155, 175, 200, 286, 360 |
| VK2002 | SR | Upright | 1/2 | 175 | 135, 155, 175, 200, 286, 360 |
| VK2021 | SR | Pendent | 3/4 | 175 | 135, 155, 175, 200, 286, 360 |
| VK2022 | SR | Pendent | 1/2 | 175 | 135, 155, 175, 200, 286, 360 |
| VK368 | SR | Pendent | 3/4 | 175 | 165, 205 |

STANDARD SIDEWALL SPRAY SPRINKLERS

| SIN | Response Type | Type | Nom K-Factor | System Working Pressure, psig | Temp Rating, °F |
|-----------|---------------|-----------|--------------|-------------------------------|------------------------------|
| VK412+ | QR | Flush HSW | 5.6 | 175 | 165 |
| VK333 | QR | HSW | 2.8 | 175 | 135, 155, 175, 200, 286 |
| VK334 | QR | HSW | 2.8 | 175 | 165, 205, 280 |
| VK307+ | QR | HSW | 5.6 | 175 | 165, 205, 280 |
| VK319+ | QR | HSW | 5.6 | 250 | 135, 155, 175, 200, 286 |
| VK320+ | QR | HSW | 5.6 | 250 | 165, 205, 280 |
| VK344 | QR | HSW | 2.8 | 175 | 135, 155, 175, 200, 286 |
| VK346 | QR | HSW | 2.8 | 250 | 165, 205, 280 |
| VK305+, * | QR | HSW | 5.6 | 175 | 135, 155, 175, 200, 286 |
| VK104+ | SR | HSW | 5.6 | 175 | 135, 155, 175, 200, 286, 360 |
| VK116+, * | SR | HSW | 5.6 | 250 | 135, 155, 175, 200, 286, 360 |
| VK112+ | SR | HSW | 5.6 | 175 | 165, 220, 286, 360 |
| VK360+, * | QR | HSW | 8.0 | 175 | 135, 155, 175, 200 |

+ Installed 4 to 12 in. below ceiling.

* For light and ordinary hazard occupancies.

FLUSH, RECESSED AND CONCEALED SPRINKLERS

| SIN | Response Type | Type | Nom K-Factor | System Working Pressure, psig | Temp Rating, °F |
|-----|---------------|------|--------------|-------------------------------|-----------------|
|-----|---------------|------|--------------|-------------------------------|-----------------|

| | | | | | Cover | Sprinkler |
|---------------|----|------------------------------------|-----|-----|-------------|----------------------------|
| VK462# (b) | QR | Conc. Pendent | 5.6 | 175 | 135, 165 | 155, 175, 200 |
| VK492#(a) | SR | Conc. Pendent | 5.6 | 175 | 135, 165 | 155, 175, 200 |
| VK463 | QR | Conc. Pendent | 5.6 | 250 | 135, 165 | 155, 175, 200 |
| VK464(a) | SR | Conc. Pendent | 8.0 | 175 | 135, 165 | 155, 175, 200 |
| VK464 | QR | Conc. Pendent | 8.0 | 175 | 135, 165 | 155, 175, 200 |
| VK465# | QR | Conc. Pendent | 4.2 | 175 | 135, 165 | 155, 175, 200 |
| VK333 | QR | Rec. HSW | 2.8 | 175 | — | 135, 155, 175, 200, 286 |
| VK334 | QR | Rec. HSW | 2.8 | 175 | — | 165, 205, 280 |
| VK344 | QR | Rec. HSW | 2.8 | 250 | — | 135, 155, 175, 200, 286 |
| VK346 | QR | Rec. HSW | 2.8 | 250 | — | 165, 205, 280 |
| VK307 | QR | Rec. HSW | 5.6 | 175 | — | 165, 205, 280 |
| VK329 | QR | Rec. Pendent | 2.8 | 175 | — | 135, 155, 175, 200 |
| VK330 | QR | Rec. Pendent | 2.8 | 175 | — | 165, 205, 280 |
| VK342 | QR | Rec. Pendent | 2.8 | 250 | — | 135, 155, 175, 200 |
| VK343 | QR | Rec. Pendent | 2.8 | 250 | — | 165, 205, 280 |
| VK302** | QR | Rec. Pendent, Concealed Pendent | 5.6 | 175 | — | 135, 155, 175, 200 |
| VK317** | QR | Rec. Pendent | 5.6 | 250 | — | 155, 175, 200, 286 |
| VK318** | QR | Rec. Pendent | 5.6 | 250 | — | 165, 205, 280 |
| VK303 | QR | Rec. Pendent | 5.6 | 175 | — | 165, 205, 280 |
| VK352 | QR | Rec. Pendent, Concealed Pendent | 8.0 | 175 | — | 135, 155, 175, 200 |
| VK353 | QR | Rec. Pendent, Concealed Pendent | 8.0 | 175 | — | 165, 205, 280 |
| VK331 | QR | Rec. Pendent | 4.2 | 175 | — | 135, 155, 175, 200 |
| VK332 | QR | Rec. Pendent | 4.2 | 175 | — | 165, 205, 280 |
| VK3021 | QR | Rec. Pendent | 5.6 | 250 | - | 135, 155, 175, 200, 286 |
| VK3521 | QR | Rec. Pendent | 8.0 | 175 | - | 135, 155, 175, 200, 286 |

| | | | | | | |
|-----------|----|---------------------------------|------|-----|----------|-------------------------|
| VK3522 | QR | Rec. Pendent | 8.0 | 175 | - | 135, 155, 175, 200, 286 |
| VK401 | SR | Flush Pendent | 5.6 | 175 | — | 165, 220 |
| VK104 | SR | Rec. HSW | 5.6 | 175 | — | 135, 155, 175, 200 |
| VK116+ | SR | Rec. HSW | 5.6 | 175 | — | 155, 175, 200, 286, 360 |
| VK112+ | SR | Rec. HSW | 5.6 | 175 | — | 165, 200 |
| VK008 | SR | Rec. Pendent | 4.2 | 175 | — | 165, 220 |
| VK102 | SR | Rec. Pendent, Concealed Pendent | 5.6 | 175 | — | 135, 155, 175, 200 |
| VK110 | SR | Rec. Pendent | 5.6 | 175 | — | 165, 220 |
| VK202 | SR | Rec. Pendent, Concealed Pendent | 8.0 | 175 | — | 135, 155, 175, 200 |
| VK206 | SR | Rec. Pendent | 8.0 | 175 | — | 135, 155, 175, 200 |
| VK461# | QR | Conc. Pendent | 2.8 | 175 | 135, 165 | 155, 175, 200 |
| VK360+ | QR | Rec. HSW | 8.0 | 175 | — | 135, 155, 175, 200 |
| VK469(b) | QR | Conc. Pendent | 11.2 | 175 | 135, 165 | 165 |
| VK469(b) | QR | Conc. Pendent | 11.2 | 175 | 165 | 205 |
| VK481+ | QR | Concealed HSW | 5.6 | 175 | 135, 165 | 165, 205, 220 |
| VK478 | QR | Flush Pendent | 5.6 | 175 | — | 165, 205 |
| VK426 | QR | Flush Pendent | 5.6 | 175 | — | 165, 205 |
| VK427+ | QR | Flush HSW | 5.6 | 175 | — | 165, 205 |
| VK1021 | SR | Rec. Pendent | 5.6 | 250 | — | 135, 155, 175, 200, 286 |
| VK2021 | SR | Rec. Pendent | 8.0 | 175 | — | 135, 155, 175, 200, 286 |
| VK2022 | SR | Rec. Pendent | 8.0 | 175 | — | 135, 155, 175, 200, 286 |
| VK4621(b) | QR | Conc. Pendent | 5.6 | 250 | 135,165 | 155, 175, 200 |
| VK4921(a) | SR | Conc. Pendent | 5.6 | 250 | 135,165 | 155, 175, 200 |
| VK4651 | QR | Conc. Pendent | 4.2 | 175 | 135,165 | 155, 175, 200 |
| VK4611 | QR | Conc. Pendent | 2.8 | 175 | 135,165 | 155, 175, 200 |

+ Installed 4 to 12 in. below ceiling.

** Available with 1/2 or 3/4 in. N.P.T.

May utilize a 1 in. adjustable feature with 1 in. male or female threads.

(a) May utilize a gasket/seal ring on the cover plate.

(b) May utilize a gasket/seal ring on the cover plate.

DRY SPRINKLERS

| SIN | Response Type | Type | Max Length, In. | System Working Pressure, psig | Nom K-Factor | Temp Rating, °F |
|------------|----------------------|-------------------|------------------------|--------------------------------------|---------------------|-------------------------|
| VK178 | QR | HSW | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK174 | QR | HSW | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK176 | QR | Pendent | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK172 | QR | Pendent | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK182 | QR | Rec. HSW | 48 | 175 | 5.6 | 135, 155, 175, 200 |
| VK180 | QR | Rec. Pendent | 48 | 175 | 5.6 | 135, 155, 175, 200 |
| VK184 | QR | Upright | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK156 | SR | HSW | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK152 | SR | HSW | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK154 | SR | Pendent | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK150 | SR | Pendent | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK162 | SR | Rec. HSW | 48 | 175 | 5.6 | 135, 155, 175, 200 |
| VK163 | SR | Rec. Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200 |
| VK164 | SR | Rec. Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200 |
| VK166 | SR | Rec. Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200 |
| VK158 | SR | Rec. Pendent | 48 | 175 | 5.6 | 135, 155, 175, 200 |
| VK160 | SR | Upright | 48 | 175 | 5.6 | 135, 155, 175, 200, 286 |
| VK190# | SR | Concealed Pendent | 48 | 175 | 5.6 | 155, 175, 200 |
| VK192# | SR | Concealed Pendent | 48 | 175 | 8.0 | 155, 175, 200 |
| VK194# | QR | Concealed Pendent | 48 | 175 | 5.6 | 155, 175, 200 |
| VK163 | SR | Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK164 | SR | Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK166 | SR | Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK173 | QR | Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK177 | QR | Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK181 | QR | Rec Pendent | 48 | 175 | 8.0 | 135, 155, 175, 200 |
| VK2753+ | QR | HSW | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK2773+ | QR | HSW | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK2793+ | QR | Rec HSW | 48 | 175 | 8.0 | 135, 155, 175, 200 |

| | | | | | | |
|---------|----|---------------|----|-----|-----|-------------------------|
| VK2503+ | SR | HSW | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK2523+ | SR | HSW | 48 | 175 | 8.0 | 135, 155, 175, 200, 286 |
| VK2543+ | SR | Rec HSW | 48 | 175 | 8.0 | 135, 155, 175, 200 |
| VK282 | QR | Pendent | 48 | 175 | 8.0 | 165, 205, 280 |
| VK2843+ | QR | HSW | 48 | 175 | 8.0 | 165, 205, 280 |
| VK286 | QR | Pendent | 48 | 175 | 8.0 | 165, 205, 280 |
| VK2883+ | QR | HSW | 48 | 175 | 8.0 | 165, 205, 280 |
| VK290 | QR | Rec Pendent | 48 | 175 | 8.0 | 165, 205, 280 |
| VK2923+ | QR | Rec HSW | 48 | 175 | 8.0 | 165, 205, 280 |
| VK482 | QR | Flush Pendent | 48 | 175 | 5.6 | 165, 205 |
| VK483 | SR | Flush Pendent | 48 | 175 | 5.6 | 286 |

Utilizes 135 or 165°F coverplate

+ Installed 4 to 12 in. below ceiling.

CONVENTIONAL (OLD STYLE) SPRINKLERS

| SIN | Response Type | Nom K-Factor | Temp Rating, °F |
|--------|---------------|--------------|------------------------------|
| VK310 | QR | 5.6 | 135, 155, 175, 200, 286, 360 |
| VK311 | QR | 5.6 | 165, 205, 280 |
| VK312 | QR | 5.6 | 135, 155, 175, 200, 286, 360 |
| VK354 | QR | 8.0 | 135, 155, 175, 200, 286, 360 |
| VK355 | QR | 8.0 | 165, 205, 280 |
| VK118 | SR | 5.6 | 135, 155, 175, 200, 286, 360 |
| VK120 | SR | 8.0 | 135, 155, 175, 200, 286, 360 |
| VK1181 | SR | 5.6 | 135, 155, 175, 200, 286, 360 |
| VK1201 | SR | 8.0 | 135, 155, 175, 200, 286, 360 |
| VK1202 | SR | 8.0 | 135, 155, 175, 200, 286, 360 |
| VK3101 | QR | 5.6 | 135, 155, 175, 200, 286 |
| VK3541 | QR | 8.0 | 135, 155, 175, 200, 286 |
| VK3542 | QR | 8.0 | 135, 155, 175, 200, 286 |

STANDARD RESPONSE - (SR) - EXTENDED COVERAGE SPRINKLERS - LIGHT HAZARD

| SIN | Type | Max Width (A) Ft | Max Length (B) Ft | Min Flow GPM | Nom K-Factor | Distance Below Ceiling In. | System Operating Pressure, psig | Temp Rating, °F |
|-----|------|------------------|-------------------|--------------|--------------|----------------------------|---------------------------------|-----------------|
|-----|------|------------------|-------------------|--------------|--------------|----------------------------|---------------------------------|-----------------|

| | | | | | | | | |
|---------|-----------------------|----|----|----|------|---------|-----|------------|
| VK186 | Dry Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 155, 175 |
| VK616* | Conc. Pendent | 18 | 18 | 33 | 8.0 | — | 175 | 155 |
| VK616* | Conc. Pendent | 20 | 20 | 40 | 8.0 | — | 175 | 155 |
| VK605** | HSW, Rec. HSW | 16 | 20 | 32 | 5.6 | 6 to 12 | 175 | 155 |
| VK609** | HSW, Rec. HSW | 16 | 20 | 32 | 5.6 | 6 to 12 | 175 | 165 |
| VK605 | HSW, Rec. HSW | 16 | 16 | 26 | 5.6 | 6 to 12 | 175 | 155 |
| VK605 | HSW, Rec. HSW | 16 | 18 | 29 | 5.6 | 6 to 12 | 175 | 155 |
| VK609 | HSW, Rec. HSW | 16 | 18 | 29 | 5.6 | 6 to 12 | 175 | 205 |
| VK612 | HSW, Rec. HSW | 16 | 16 | 26 | 5.6 | 6 to 12 | 250 | 155 |
| VK612 | HSW, Rec. HSW | 16 | 18 | 29 | 5.6 | 6 to 12 | 250 | 155 |
| VK613 | HSW, Rec. HSW | 16 | 18 | 29 | 5.6 | 6 to 12 | 250 | 205 |
| VK612 | HSW, Rec. HSW | 16 | 20 | 32 | 5.6 | 6 to 12 | 250 | 155 |
| VK613 | HSW, Rec. HSW | 16 | 20 | 32 | 5.6 | 6 to 12 | 250 | 165, 205 |
| VK600 | Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 155, 175 |
| VK601 | Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 165, 205 |
| VK603 | Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 165, 205 |
| VK604 | Pendent, Rec. Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 155, 175** |
| VK610** | EC Pendent | 18 | 18 | 33 | 5.6 | — | 250 | 155 |
| VK611** | EC Pendent | 18 | 18 | 33 | 5.6 | — | 250 | 165 |
| VK610 | EC Pendent | 20 | 20 | 40 | 5.6 | — | 250 | 155, 175** |
| VK611 | EC Pendent | 20 | 20 | 40 | 5.6 | — | 250 | 165** |
| VK602 | Pendent, Rec. Pendent | 20 | 20 | 40 | 8.0 | — | 175 | 155, 175 |
| VK608 | Pendent, Rec. Pendent | 20 | 20 | 40 | 11.2 | — | 175 | 155 |
| VK617 | Pendent, Rec. Pendent | 20 | 20 | 40 | 11.2 | — | 175 | 165 |
| VK188 | Rec. Dry HSW | 16 | 20 | 32 | 5.6 | 4 to 6 | 175 | 155, 175 |
| VK186 | Rec. Dry Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 155, 175 |
| VK196* | Dry Concealed Pendent | 18 | 18 | 33 | 5.6 | — | 175 | 155 |
| VK196* | Dry Concealed Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 155 |
| VK614* | Domed Conc. Pendent | 18 | 18 | 33 | 5.6 | — | 175 | 155 |
| VK614* | Domed Conc. Pendent | 20 | 20 | 40 | 5.6 | — | 175 | 155 |
| VK618* | ELO Conc. Pendent | 18 | 18 | 33 | 11.2 | — | 175 | 155 |
| VK618* | ELO Conc. Pendent | 20 | 20 | 40 | 11.2 | — | 175 | 155 |

* Utilizes 135°F coverplate.

Utilizes 165°F coverplate.

** Utilizes E-1 escutcheon only.

+ Available with 1/2 or 3/4 in. N.P.T.

(A) Dimension of wall on which sprinkler is installed.

(B) Dimension perpendicular to wall on which sprinkler is installed.

QUICK RESPONSE (QR) - EXTENDED COVERAGE SPRINKLERS - LIGHT HAZARD

| SIN | Type | Max Width (A) Ft | Max Length (B) Ft | Min Flow GPM | Nom K-Factor | Maximum Ceiling Incline In./Ft | Distance Below Ceiling In. | Temp Rating, °F |
|------------------------|---------------|------------------|-------------------|--------------|--------------|--------------------------------|----------------------------|-----------------|
| Sloped Ceilings | | | | | | | | |
| VK605+ | HSW, Rec. HSW | 16 | 16 | 26 | 5.6 | 4/12 | 4 to 6 | 155 |
| VK609+ | HSW, Rec. HSW | 16 | 16 | 26 | 5.6 | 4/12 | 4 to 6 | 165, 205 |
| VK605+ | HSW, Rec. HSW | 16 | 18 | 29 | 5.6 | 4/12 | 4 to 6 | 155 |
| VK609+ | HSW, Rec. HSW | 16 | 18 | 29 | 5.6 | 4/12 | 4 to 6 | 165 |
| VK605+ | HSW, Rec. HSW | 16 | 20 | 32 | 5.6 | 4/12 | 4 to 6 | 135, 175 |

+ For use below smooth, flat, sloped ceilings with pitches between 2/12 to 4/12 (in./in.) at the minimum flow rates specified. The calculation to determine the design area in accordance with NFPA 13 shall not be credited for the quick response feature and not be debited for installation with slopes with pitches greater than 2/12 (in./in.).

QUICK RESPONSE (QR) - EXTENDED COVERAGE SPRINKLERS - LIGHT HAZARD

| SIN | Type | Max Width (A) Ft | Max Length (B) Ft | Min Flow GPM | System Working Pressure, psig | Nom K-Factor | Distance Below Ceiling In. | Temp Rating, °F |
|---|---------------------------|------------------|-------------------|--------------|-------------------------------|--------------|----------------------------|-----------------|
| Smooth Horizontal Ceilings (Pitches Not Greater Than 2/12 in./in.) | | | | | | | | |
| VK188 | Dry HSW | 16 | 16 | 26 | 175 | 5.6 | 4 to 6 | 155, 175 |
| VK650 | Flush Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 165, 205 |
| VK651 | Flush HSW | 16 | 16 | 26 | 175 | 5.6 | — | 165, 205 |
| VK616* | Conc. Pendent | 16 | 16 | 26 | 175 | 8.0 | — | 135, 155 |
| VK616# | Conc. Pendent | 16 | 16 | 26 | 175 | 8.0 | — | 175 |
| VK616* | Conc. Pendent | 18 | 18 | 33 | 175 | 8.0 | — | 135 |
| VK616# | Conc. Pendent | 18 | 18 | 33 | 175 | 8.0 | — | 175 |
| VK616* | Conc. Pendent | 20 | 20 | 40 | 175 | 8.0 | — | 135 |
| VK616# | Conc. Pendent | 20 | 20 | 40 | 175 | 8.0 | — | 175 |
| VK188 | Dry HSW | 16 | 18 | 29 | 175 | 5.6 | 4 to 6 | 155, 175 |
| VK188 | Dry HSW | 16 | 20 | 32 | 175 | 5.6 | 4 to 6 | 155, 175 |
| VK186 | Dry Pendent, Rec. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 155, 175 |
| VK186 | Dry Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 155, 175 |

| | | | | | | | | |
|---------|-----------------------|----|----|----|-----|------|---------|---------------|
| VK605 | HSW, Rec. HSW | 16 | 16 | 26 | 175 | 5.6 | 6 to 12 | 155 |
| VK609 | HSW, Rec. HSW | 16 | 16 | 26 | 175 | 5.6 | 6 to 12 | 165, 205 |
| VK612 | HSW, Rec. HSW | 16 | 16 | 26 | 250 | 5.6 | 6 to 12 | 155 |
| VK613 | HSW, Rec. HSW | 16 | 16 | 26 | 250 | 5.6 | 6 to 12 | 165, 205 |
| VK605 | HSW, Rec. HSW | 16 | 18 | 29 | 175 | 5.6 | 6 to 12 | 155 |
| VK609 | HSW, Rec. HSW | 16 | 18 | 29 | 175 | 5.6 | 6 to 12 | 165 |
| VK612 | HSW, Rec. HSW | 16 | 18 | 29 | 250 | 5.6 | 6 to 12 | 155 |
| VK613 | HSW, Rec. HSW | 16 | 18 | 29 | 250 | 5.6 | 6 to 12 | 165 |
| VK605 | HSW, Rec. HSW | 16 | 20 | 32 | 175 | 5.6 | 6 to 12 | 135, 175 |
| VK612 | HSW, Rec. HSW | 16 | 20 | 32 | 250 | 5.6 | 6 to 12 | 135, 175 |
| VK606** | HSW, Rec. HSW | 16 | 16 | 26 | 175 | 8.0 | 4 to 12 | 135, 155, 175 |
| VK606** | HSW, Rec. HSW | 16 | 18 | 29 | 175 | 8.0 | 4 to 12 | 135, 155, 175 |
| VK606** | HSW, Rec. HSW | 16 | 20 | 32 | 175 | 8.0 | 4 to 12 | 135,155,175 |
| VK606** | HSW, Rec. HSW | 16 | 22 | 36 | 175 | 8.0 | 4 to 6 | 135, 155, 175 |
| VK606** | HSW, Rec. HSW | 16 | 22 | 38 | 175 | 8.0 | 6 to 12 | 135, 155, 175 |
| VK600 | Pendent | 20 | 20 | 40 | 175 | 5.6 | — | 135 |
| VK602 | Pendent | 20 | 20 | 40 | 175 | 8.0 | — | 135 |
| VK600 | Pendent, Rec. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 135, 155, 175 |
| VK601 | Pendent, Rec. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 165, 205 |
| VK603 | Pendent, Rec. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 165, 205 |
| VK604 | Pendent, Rec. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 135, 155, 175 |
| VK600 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 135, 155, 175 |
| VK601 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 165 |
| VK603 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 165 |
| VK604 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 135, 155, 175 |
| VK604 | Pendent, Rec. Pendent | 20 | 20 | 40 | 175 | 5.6 | — | 135, 175 |
| VK602 | Pendent, Rec. Pendent | 16 | 16 | 26 | 175 | 8.0 | — | 135, 155, 175 |
| VK602 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 8.0 | — | 135, 155, 175 |
| VK608 | Pendent, Rec. Pendent | 16 | 16 | 30 | 175 | 11.2 | — | 135, 155, 175 |
| VK608 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 11.2 | — | 135, 155, 175 |
| VK608 | Pendent, Rec. Pendent | 20 | 20 | 40 | 175 | 11.2 | — | 135, 175 |
| VK617 | Pendent, Rec. Pendent | 16 | 16 | 30 | 175 | 11.2 | — | 165, 212 |
| VK617 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 11.2 | — | 165, 212 |

| | | | | | | | | |
|---------|-----------------------|----|----|----|-----|------|---------|---------------|
| VK617 | Pendent, Rec. Pendent | 20 | 20 | 40 | 175 | 11.2 | — | 165, 212 |
| VK196* | Dry Concealed Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 135, 155 |
| VK196# | Dry Concealed Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 175 |
| VK196* | Dry Concealed Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 135 |
| VK196# | Dry Concealed Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 175 |
| VK196* | Dry Concealed Pendent | 20 | 20 | 40 | 175 | 5.6 | — | 135 |
| VK196# | Dry Concealed Pendent | 20 | 20 | 40 | 175 | 5.6 | — | 175 |
| VK614* | Domed Conc. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 135, 155 |
| VK614# | Domed Conc. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 175 |
| VK614* | Domed Conc. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 135 |
| VK614# | Domed Conc. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 175 |
| VK614* | Domed Conc. Pendent | 20 | 20 | 40 | 175 | 5.6 | — | 135 |
| VK614# | Domed Conc. Pendent | 20 | 20 | 40 | 175 | 5.6 | — | 175 |
| VK618* | ELO Conc. Pendent | 16 | 16 | 30 | 175 | 11.2 | — | 135, 155 |
| VK618# | ELO Conc. Pendent | 16 | 16 | 30 | 175 | 11.2 | — | 175 |
| VK618* | ELO Conc. Pendent | 18 | 18 | 33 | 175 | 11.2 | — | 135 |
| VK618# | ELO Conc. Pendent | 18 | 18 | 33 | 175 | 11.2 | — | 175 |
| VK618* | ELO Conc. Pendent | 20 | 20 | 40 | 175 | 11.2 | — | 135 |
| VK618 | ELO Conc. Pendent | 20 | 20 | 40 | 175 | 11.2 | — | 175 |
| VK630 | HSW, Recessed HSW | 14 | 24 | 34 | 175 | 8.0 | 4 to 6 | 135, 155, 175 |
| VK630* | Concealed HSW | 14 | 24 | 34 | 175 | 8.0 | 4 to 6 | 135 |
| VK630 | HSW, Recessed HSW | 14 | 24 | 36 | 175 | 8.0 | 6 to 12 | 135, 155, 175 |
| VK630* | Concealed HSW | 14 | 24 | 36 | 175 | 8.0 | 6 to 12 | 135 |
| VK630 | HSW, Recessed HSW | 14 | 26 | 38 | 175 | 8.0 | 4 to 6 | 135, 175 |
| VK630* | Concealed HSW | 14 | 26 | 39 | 175 | 8.0 | 4 to 6 | 135 |
| VK630 | HSW, Recessed HSW | 14 | 26 | 46 | 175 | 8.0 | 6 to 12 | 135, 175 |
| VK630#* | Concealed HSW | 14 | 26 | 46 | 175 | 8.0 | 6 to 12 | 135, 175 |
| VK630 | HSW, Recessed HSW | 16 | 16 | 26 | 175 | 8.0 | 4 to 12 | 135, 155, 175 |
| VK630#* | Concealed HSW | 16 | 16 | 26 | 175 | 8.0 | 4 to 12 | 135, 175 |
| VK630 | HSW, Recessed HSW | 16 | 18 | 29 | 175 | 8.0 | 4 to 12 | 135, 155, 175 |
| VK630#* | Concealed HSW | 16 | 18 | 29 | 175 | 8.0 | 4 to 12 | 135, 175 |
| VK630 | HSW, Recessed HSW | 16 | 20 | 32 | 175 | 8.0 | 4 to 12 | 135, 155, 175 |
| VK630#* | Concealed HSW | 16 | 20 | 32 | 175 | 8.0 | 4 to 12 | 135, 175 |

| | | | | | | | | |
|----------|-----------------------|----|----|----|-----|------|---------|--------------------|
| VK630 | HSW, Recessed HSW | 16 | 22 | 36 | 175 | 8.0 | 4 to 12 | 135, 175 |
| VK630* | Concealed HSW | 16 | 22 | 36 | 175 | 8.0 | 4 to 12 | 135 |
| VK630 | HSW, Recessed HSW | 16 | 24 | 39 | 175 | 8.0 | 4 to 12 | 135, 175 |
| VK630* | Concealed HSW | 16 | 24 | 39 | 175 | 8.0 | 4 to 12 | 135 |
| VK630 | HSW, Recessed HSW | 18 | 18 | 33 | 175 | 8.0 | 4 to 12 | 135, 175 |
| VK630* | Concealed HSW | 18 | 18 | 33 | 175 | 8.0 | 4 to 12 | 135 |
| VK630 | HSW, Recessed HSW | 18 | 20 | 36 | 175 | 8.0 | 4 to 12 | 135, 175 |
| VK630* | Concealed HSW | 18 | 20 | 36 | 175 | 8.0 | 4 to 12 | 135 |
| VK630 | HSW, Recessed HSW | 18 | 22 | 40 | 175 | 8.0 | 4 to 12 | 135, 175 |
| VK630* | Concealed HSW | 18 | 22 | 40 | 175 | 8.0 | 4 to 12 | 135 |
| VK632*# | Conc. Pendent | 16 | 16 | 26 | 175 | 5.6 | — | 135, 155, 175, 200 |
| VK632*# | Conc. Pendent | 18 | 18 | 33 | 175 | 5.6 | — | 135, 155, 175, 200 |
| VK632*# | Conc. Pendent | 20 | 20 | 40 | 175 | 5.6 | — | 135, 175 |
| VK634*# | Conc. Pendent | 16 | 16 | 26 | 175 | 8.0 | — | 135, 155, 175, 200 |
| VK634*# | Conc. Pendent | 18 | 18 | 33 | 175 | 8.0 | — | 135, 155, 175, 200 |
| VK634*# | Conc. Pendent | 20 | 20 | 40 | 175 | 8.0 | — | 135, 175 |
| VK636\$# | Conc. Pendent | 16 | 16 | 30 | 175 | 11.2 | — | 165 |
| VK636# | Conc. Pendent | 16 | 16 | 30 | 175 | 11.2 | — | 205 |
| VK636\$# | Conc. Pendent | 18 | 18 | 33 | 175 | 11.2 | — | 165 |
| VK636# | Conc. Pendent | 18 | 18 | 33 | 175 | 11.2 | — | 205 |
| VK636\$# | Conc. Pendent | 20 | 20 | 40 | 175 | 11.2 | — | 165 |
| VK636# | Conc. Pendent | 20 | 20 | 40 | 175 | 11.2 | — | 205 |
| VK532 | Upright | 16 | 16 | 30 | 175 | 11.2 | — | 135, 155, 175 |
| VK532 | Upright | 18 | 18 | 33 | 175 | 11.2 | — | 135, 155, 175 |
| VK532 | Upright | 20 | 20 | 40 | 175 | 11.2 | — | 135, 175 |
| VK534 | Pendent, Rec. Pendent | 16 | 16 | 30 | 175 | 11.2 | — | 135, 155, 175 |
| VK534 | Pendent, Rec. Pendent | 18 | 18 | 33 | 175 | 11.2 | — | 135, 155, 175 |
| VK534 | Pendent, Rec. Pendent | 20 | 20 | 40 | 175 | 11.2 | — | 135, 175 |
| VK680* | Concealed HSW | 14 | 22 | 31 | 175 | 8.0 | 4 to 12 | 165 |
| VK680* | Concealed HSW | 14 | 24 | 34 | 175 | 8.0 | 4 to 6 | 165 |
| VK680* | Concealed HSW | 14 | 24 | 35 | 175 | 8.0 | 6 to 12 | 165 |

| | | | | | | | | |
|---------|-------------------|----|----|----|-----|-----|---------|--------------------|
| VK680* | Concealed HSW | 16 | 16 | 26 | 175 | 8.0 | 4 to 12 | 165 |
| VK680* | Concealed HSW | 16 | 18 | 29 | 175 | 8.0 | 4 to 12 | 165 |
| VK680* | Concealed HSW | 16 | 20 | 32 | 175 | 8.0 | 4 to 12 | 165 |
| VK680* | Concealed HSW | 16 | 22 | 36 | 175 | 8.0 | 4 to 12 | 165 |
| VK680* | Concealed HSW | 16 | 24 | 39 | 175 | 8.0 | 4 to 6 | 165 |
| VK680* | Concealed HSW | 16 | 24 | 40 | 175 | 8.0 | 6 to 12 | 165 |
| VK680* | Concealed HSW | 18 | 18 | 33 | 175 | 8.0 | 4 to 12 | 165 |
| VK680* | Concealed HSW | 18 | 20 | 36 | 175 | 8.0 | 4 to 12 | 165 |
| VK680* | Concealed HSW | 18 | 22 | 40 | 175 | 8.0 | 4 to 12 | 165 |
| VK638 | HSW, Recessed HSW | 28 | 12 | 34 | 175 | 8.0 | 4 to 12 | 135, 155, 175, 200 |
| VK638*# | Concealed HSW | 28 | 12 | 34 | 175 | 8.0 | 4 to 12 | 135, 155, 175, 200 |
| VK638 | HSW, Recessed HSW | 28 | 14 | 40 | 175 | 8.0 | 4 to 12 | 135, 155, 175, 200 |
| VK638*# | Concealed HSW | 28 | 14 | 40 | 175 | 8.0 | 4 to 12 | 135, 155, 175, 200 |

++ Available with 1/2 or 3/4 in. N.P.T.

\$ Utilizes 133°F cover plate.

* Utilizes 135°F cover plate.

Utilizes 165°F coverplate.

** Model F1 escutcheon only.

(A) Dimension of wall on which sprinkler is installed.

(B) Dimension perpendicular to wall on which sprinkler is installed.

STANDARD RESPONSE (SR) - EXTENDED COVERAGE SPRINKLERS - ORDINARY HAZARD

| SIN | Type | Max Width x Length Ft x Ft | Ordinary Hazard Group | Min | Nom K-Factor | Temp Rating, °F |
|--------|--------------|----------------------------------|-----------------------------|-------------------------------|-----------------|--------------------|
| | | | | Sprinkler Flow Rate GPM | | |
| VK534+ | Pendent | 16 x 16 | 1 | 39 | 11.2 | 155, 175, 200, 286 |
| VK534+ | Pendent | 16 x 16 | 2 | 51 | 11.2 | 155, 175, 200, 286 |
| VK534+ | Pendent | 18 x 18 | 1 | 49 | 11.2 | 155, 175, 200, 286 |
| VK534+ | Pendent | 18 x 18 | 2 | 65 | 11.2 | 155, 175, 200, 286 |
| VK534+ | Pendent | 20 x 20 | 1 | 60 | 11.2 | 155, 175, 200, 286 |
| VK534+ | Pendent | 20 x 20 | 2 | 80 | 11.2 | 155, 175, 200, 286 |
| VK534+ | Rec. Pendent | 16 x 16 | 1 | 39 | 11.2 | 155, 175, 200 |
| VK534+ | Rec. Pendent | 16 x 16 | 2 | 51 | 11.2 | 155, 175, 200 |
| VK534+ | Rec. Pendent | 18 x 18 | 1 | 49 | 11.2 | 155, 175, 200 |

| | | | | | | |
|--------|--------------|---------|---|----|------|--------------------|
| VK534+ | Rec. Pendent | 18 x 18 | 2 | 65 | 11.2 | 155, 175, 200 |
| VK534+ | Rec. Pendent | 20 x 20 | 1 | 60 | 11.2 | 155, 175, 200 |
| VK534+ | Rec. Pendent | 20 x 20 | 2 | 80 | 11.2 | 155, 175, 200 |
| VK537+ | Pendent | 16 x 16 | 1 | 39 | 11.2 | 165, 205 |
| VK537+ | Pendent | 16 x 16 | 2 | 51 | 11.2 | 165, 205 |
| VK537+ | Pendent | 18 x 18 | 1 | 49 | 11.2 | 165, 205 |
| VK537+ | Pendent | 18 x 18 | 2 | 65 | 11.2 | 165, 205 |
| VK537+ | Pendent | 20 x 20 | 1 | 60 | 11.2 | 165, 205 |
| VK537+ | Pendent | 20 x 20 | 2 | 80 | 11.2 | 165, 205 |
| VK537+ | Rec. Pendent | 16 x 16 | 1 | 39 | 11.2 | 165, 205 |
| VK537+ | Rec. Pendent | 16 x 16 | 2 | 51 | 11.2 | 165, 205 |
| VK537+ | Rec. Pendent | 18 x 18 | 1 | 49 | 11.2 | 165, 205 |
| VK537+ | Rec. Pendent | 18 x 18 | 2 | 65 | 11.2 | 165, 205 |
| VK537+ | Rec. Pendent | 20 x 20 | 1 | 60 | 11.2 | 165, 205 |
| VK537+ | Rec. Pendent | 20 x 20 | 2 | 80 | 11.2 | 165, 205 |
| VK532+ | Upright | 16 x 16 | 1 | 38 | 11.2 | 155, 175, 200, 286 |
| VK532+ | Upright | 16 x 16 | 2 | 51 | 11.2 | 155, 175, 200, 286 |
| VK532+ | Upright | 18 x 18 | 1 | 49 | 11.2 | 155, 175, 200, 286 |
| VK532+ | Upright | 18 x 18 | 2 | 65 | 11.2 | 155, 175, 200, 286 |
| VK532+ | Upright | 20 x 20 | 1 | 60 | 11.2 | 155, 175, 200, 286 |
| VK532+ | Upright | 20 x 20 | 2 | 80 | 11.2 | 155, 175, 200, 286 |
| VK535+ | Upright | 16 x 16 | 1 | 38 | 11.2 | 165, 205 |
| VK535+ | Upright | 16 x 16 | 2 | 51 | 11.2 | 165, 205 |
| VK535+ | Upright | 18 x 18 | 1 | 49 | 11.2 | 165, 205 |
| VK535+ | Upright | 18 x 18 | 2 | 65 | 11.2 | 165, 205 |
| VK535+ | Upright | 20 x 20 | 1 | 60 | 11.2 | 165, 205 |
| VK535+ | Upright | 20 x 20 | 2 | 80 | 11.2 | 165, 205 |
| VK570+ | Upright | 16 x 16 | 1 | 39 | 14.0 | 155, 175, 200, 286 |
| VK570+ | Upright | 16 x 16 | 2 | 51 | 14.0 | 155, 175, 200, 286 |
| VK570+ | Upright | 18 x 18 | 1 | 49 | 14.0 | 155, 175, 200, 286 |
| VK570+ | Upright | 18 x 18 | 2 | 65 | 14.0 | 155, 175, 200, 286 |
| VK570+ | Upright | 20 x 20 | 1 | 60 | 14.0 | 155, 175, 200, 286 |
| VK570+ | Upright | 20 x 20 | 2 | 80 | 14.0 | 155, 175, 200, 286 |

| | | | | | | |
|--------|--------------|---------|---|----|------|--------------------|
| VK572+ | Pendent | 16 x 16 | 1 | 39 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Pendent | 16 x 16 | 2 | 51 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Pendent | 18 x 18 | 1 | 49 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Pendent | 18 x 18 | 2 | 65 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Pendent | 20 x 20 | 1 | 60 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Pendent | 20 x 20 | 2 | 80 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Rec. Pendent | 16 x 16 | 1 | 39 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Rec. Pendent | 16 x 16 | 2 | 51 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Rec. Pendent | 18 x 18 | 1 | 49 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Rec. Pendent | 18 x 18 | 2 | 65 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Rec. Pendent | 20 x 20 | 1 | 60 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Rec. Pendent | 20 x 20 | 2 | 80 | 14.0 | 155, 175, 200, 286 |

+ These sprinklers are suitable for installation below noncombustible obstructed construction as describe in NFPA-13.

QUICK RESPONSE (QR) - EXTENDED COVERAGE SPRINKLERS - ORDINARY HAZARD

| SIN | Type | Max Width x Length Ft x Ft | Ordinary Hazard Group | Min Sprinkler Flow Rate GPM | Nom K-Factor | Temp Rating, °F |
|--------|-----------------------|----------------------------------|-----------------------------|-----------------------------------|-----------------|--------------------|
| VK534+ | Pendent, Rec. Pendent | 14 x 14 | 1 | 30 | 11.2 | 155 |
| VK534+ | Pendent, Rec. Pendent | 14 x 14 | 2 | 39 | 11.2 | 155 |
| VK537+ | Pendent | 14 x 14 | 1 | 30 | 11.2 | 165, 205 |
| VK537+ | Pendent | 14 x 14 | 2 | 39 | 11.2 | 165, 205 |
| VK537+ | Pendent, Rec. Pendent | 14 x 14 | 1 | 30 | 11.2 | 155 |
| VK537+ | Pendent, Rec. Pendent | 14 x 14 | 2 | 39 | 11.2 | 155 |
| VK532+ | Upright | 14 x 14 | 1 | 30 | 11.2 | 155 |
| VK532+ | Upright | 14 x 14 | 2 | 39 | 11.2 | 155 |
| VK535+ | Upright | 14 x 14 | 1 | 30 | 11.2 | 165, 205 |
| VK535+ | Upright | 14 x 14 | 2 | 39 | 11.2 | 165, 205 |
| VK570+ | Upright | 14 x 14 | 1 | 39 | 14.0 | 155, 175, 200, 286 |
| VK570+ | Upright | 14 x 14 | 2 | 39 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Pendent, Rec. Pendent | 14 x 14 | 1 | 39 | 14.0 | 155, 175, 200, 286 |
| VK572+ | Pendent, Rec. Pendent | 14 x 14 | 2 | 39 | 14.0 | 155, 175, 200, 286 |
| VK538 | Concealed Pendent | 14 x 14 | 1 | 30 | 11.2 | 165 |
| VK538 | Concealed Pendent | 14 x 14 | 2 | 39 | 11.2 | 165 |
| VK538 | Concealed Pendent | 16 x 16 | 1 | 39 | 11.2 | 165 |

| | | | | | | |
|-------|-------------------|---------|---|----|------|-----|
| VK538 | Concealed Pendent | 16 x 16 | 2 | 51 | 11.2 | 165 |
| VK538 | Concealed Pendent | 18 x 18 | 1 | 49 | 11.2 | 165 |
| VK538 | Concealed Pendent | 18 x 18 | 2 | 65 | 11.2 | 165 |
| VK538 | Concealed Pendent | 20 x 20 | 1 | 60 | 11.2 | 165 |
| VK538 | Concealed Pendent | 20 x 20 | 2 | 80 | 11.2 | 165 |

+ These sprinklers are suitable for installation below noncombustible obstructed construction as described in NFPA-13.

CORROSION RESISTANT SPRINKLERS

| SIN | Type | Nom K-Factor | Coating Type | Temp Rating, °F |
|-------|---------|-----------------|----------------------------------|--------------------------------------|
| VK333 | HSW | 2.8 | Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK329 | Pendent | 2.8 | Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK007 | Pendent | 2.8 | Wax | 160, 220 |
| VK331 | Pendent | 4.2 | Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK008 | Pendent | 4.2 | Wax | 160, 220 |
| VK132 | Pendent | 5.6 | None | 135, 155, 175, 200, 286, 360, 500 |
| VK132 | Pendent | 5.6 | Wax | 155, 200 |
| VK102 | Pendent | 5.6 | Nickel Teflon, Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK302 | Pendent | 5.6 | Nickel Teflon, Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK110 | Pendent | 5.6 | Wax | 160, 220 |
| VK102 | Pendent | 5.6 | Wax | 135, 155, 175, 200 |
| VK202 | Pendent | 8.0 | Nickel Teflon, Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK352 | Pendent | 8.0 | Nickel Teflon, Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK206 | Pendent | 8.0 | Wax | 160, 220 |
| VK202 | Pendent | 8.0 | Wax | 135, 155, 175, 200 |
| VK325 | Upright | 2.8 | Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK006 | Upright | 4.2 | Teflon, Polyester | 160, 220, 286, 360 |
| VK008 | Upright | 4.2 | Teflon, Polyester | 160, 220, 286, 360 |
| VK327 | Upright | 4.2 | Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK006 | Upright | 4.2 | Wax | 160, 220 |
| VK130 | Upright | 5.6 | None | 135, 155, 175, 200, 286, 360, 500 |
| VK130 | Upright | 5.6 | Wax | 155, 200 |
| VK108 | Upright | 5.6 | Teflon, Polyester | 160, 220, 286, 360 |
| VK110 | Upright | 5.6 | Teflon, Polyester | 160, 220, 286, 360 |

| | | | | |
|-------|-----------------|------|----------------------------------|-------------------------|
| VK100 | Upright | 5.6 | Nickel Teflon, Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK300 | Upright | 5.6 | Nickel Teflon, Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK108 | Upright | 5.6 | Wax | 160, 220 |
| VK100 | Upright | 5.6 | Wax | 135, 155, 175, 200 |
| VK204 | Upright | 8.0 | Teflon, Polyester | 160, 220, 286, 360 |
| VK206 | Upright | 8.0 | Teflon, Polyester | 160, 220, 286, 360 |
| VK350 | Upright | 8.0 | Nickel Teflon, Teflon, Polyester | 135, 155, 175, 200, 286 |
| VK204 | Upright | 8.0 | Wax | 160, 220 |
| VK200 | Upright | 8.0 | Nickel Teflon, Wax | 135, 155, 175, 200 |
| VK368 | Pendent | 8.0 | Stainless Steel | 165, 205 |
| VK530 | Upright | 11.2 | Teflon, Polyester, Nickel Teflon | 155, 175, 200, 286 |
| VK531 | Upright | 11.2 | Nickel Teflon | 155, 175, 200, 286 |
| VK532 | Upright | 11.2 | Nickel Teflon | 155, 175, 200, 286 |
| VK534 | Pendent | 11.2 | Nickel Teflon | 155, 175, 200, 286 |
| VK536 | Pendent | 11.2 | Nickel Teflon, Polyester | 155, 175, 200, 286 |
| VK530 | Upright | 11.2 | Wax | 155, 175, 200 |
| VK338 | Upright | 5.6 | None | 155, 175, 200 |
| VK339 | Pendent | 5.6 | None | 155, 175, 200 |
| VK150 | Dry Pendent | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK152 | Dry HSW | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK154 | Dry Pendent | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK156 | Dry HSW | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK158 | Dry Rec Pendent | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK160 | Dry Upright | 5.6 | Polyester | 135, 155, 175, 200, 286 |
| VK162 | Dry Rec HSW | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK163 | Dry Pendent | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK163 | Dry Rec Pendent | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK164 | Dry Pendent | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK164 | Dry Rec Pendent | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK166 | Dry Pendent | 8.0 | Polyester | 135, 155, 175, 200, 286 |
| VK166 | Dry Rec Pendent | 8.0 | Polyester | 135, 155, 175, 200 |
| VK172 | Dry Pendent | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK173 | Dry Pendent | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |

| | | | | |
|---------|-----------------------|------|--------------------------|------------------------------|
| VK174 | Dry HSW | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK176 | Dry Pendent | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK177 | Dry Pendent | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK178 | Dry HSW | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK180 | Dry Rec Pendent | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK181 | Dry Rec Pendent | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK182 | Dry Rec HSW | 5.6 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK184 | Dry Upright | 5.6 | Polyester | 135, 155, 175, 200, 286 |
| VK186 | Dry pendent | 5.6 | Polyester, Nickel Teflon | 155, 175 |
| VK186 | Dry Rec Pendent | 5.6 | Polyester | 155, 175 |
| VK188 | Dry HSW | 5.6 | Polyester | 155, 175 |
| VK188 | Dry Rec HSW | 5.6 | Polyester | 155, 175 |
| VK2503+ | Dry HSW | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK2523+ | Dry HSW | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK2543+ | Dry Rec HSW | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK2753+ | Dry HSW | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK2773+ | Dry HSW | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200, 286 |
| VK2793+ | Dry Rec HSW | 8.0 | Polyester, Nickel Teflon | 135, 155, 175, 200 |
| VK116 | Horizontal Sidewall | 5.6 | Nickel Teflon | 135, 155, 175, 200, 286, 360 |
| VK570 | Upright | 14.0 | Nickel Teflon | 155, 175, 200, 286 |
| VK572 | Pendent | 11.2 | Nickel Teflon | 155, 175, 200, 286 |
| VK608 | Pendent | 11.2 | Nickel Teflon | 135, 155, 175 |
| VK630 | Horizontal Sidewall | 8.0 | Nickel Teflon | 135, 155, 175 |
| VK196 | Dry Concealed Pendent | 5.6 | Nickel Teflon | 135, 155, 175 |
| VK377 | Pendent | 11.2 | Nickel Teflon, Polyester | 155, 175, 200, 286 |
| VK305 | Horizontal Sidewall | 8 | Nickel Teflon | 135, 155, 175, 200, 286 |
| VK319 | Horizontal Sidewall | 8 | Nickel Teflon | 135, 155, 175, 200, 286 |

+ Installed 4 to 12 in. below ceiling.

HIGH TEMPERATURE, WAX COATED SPRINKLERS

| SIN | Response Type | Type | Nom K-Factor | Max Ambient Temp, °F | Sprinkler Temp Rating, °F |
|-------|---------------|------|--------------|----------------------|---------------------------|
| VK102 | Pendent | 5.6 | 150 | 150 | 286 |

| | | | | | |
|-------|---------|------|-----|-----|-----|
| VK202 | Pendent | 8.0 | 150 | 150 | 286 |
| VK100 | Upright | 5.6 | 150 | 150 | 286 |
| VK200 | Upright | 8.0 | 150 | 150 | 286 |
| VK530 | Upright | 11.2 | 150 | 150 | 286 |

INTERMEDIATE LEVEL SPRINKLERS

| SIN | Response Type | Type | Nom K-Factor | Temp Rating, °F |
|-----------|---------------|---------|--------------|------------------------------|
| VK302+ | QR | Pendent | 5.6 | 135, 155, 175, 200, 286 |
| VK317+ | QR | Pendent | 5.6 | 135, 155, 175, 200, 286 |
| VK352+, * | QR | Pendent | 8.0 | 135, 155, 175, 200, 286 |
| VK551 | QR | Upright | 5.6 | 165, 205, 280 |
| VK556+ | QR | Upright | 5.6 | 135, 155, 175, 200, 286 |
| VK558+ | QR | Upright | 5.6 | 135, 155, 175, 200, 286 |
| VK566+, * | QR | Upright | 8.0 | 135, 155, 175, 200, 286 |
| VK567 | QR | Upright | 8.0 | 165, 205, 280 |
| VK102+ | SR | Pendent | 5.6 | 135, 155, 175, 200, 286 |
| VK110+ | SR | Pendent | 5.6 | 165, 220, 286 |
| VK202+, * | SR | Pendent | 8.0 | 135, 155, 175, 200, 286 |
| VK206+, * | SR | Pendent | 8.0 | 165, 220, 286 |
| VK550+ | SR | Upright | 5.6 | 135, 155, 175, 200, 286 |
| VK552+ | SR | Upright | 5.6 | 165, 220, 286 |
| VK560+, * | SR | Upright | 8.0 | 135, 155, 175, 200, 286 |
| VK562+, * | SR | Upright | 8.0 | 165, 220, 286 |
| VK301# | QR | Upright | 5.6 | 165, 205, 280 |
| VK303# | QR | Pendent | 5.6 | 165, 205, 280 |
| VK3021\$ | QR | Pendent | 5.6 | 135, 155, 175, 200, 286 |
| VK1021\$ | SR | Pendent | 5.6 | 135, 155, 175, 200, 286, 360 |
| VK3522\$ | QR | Pendent | 8.0 | 135, 155, 175, 200, 286 |
| VK2022\$ | SR | Pendent | 8.0 | 135, 155, 175, 200, 286, 360 |
| VK3521\$ | QR | Pendent | 8.0 | 135, 155, 175, 200, 286 |
| VK2021\$ | SR | Pendent | 8.0 | 135, 155, 175, 200, 286, 360 |
| VK3001\$ | QR | Upright | 5.6 | 135, 155, 175, 200, 286 |
| VK1001\$ | SR | Upright | 5.6 | 135, 155, 175, 200, 286, 360 |

| | | | | |
|----------|----|---------|-----|------------------------------|
| VK3502\$ | QR | Upright | 8.0 | 135, 155, 175, 200, 286 |
| VK2002\$ | SR | Upright | 8.0 | 135, 155, 175, 200, 286, 360 |
| VK3501\$ | QR | Upright | 8.0 | 135, 155, 175, 200, 286 |
| VK2001\$ | SR | Upright | 8.0 | 135, 155, 175, 200, 286, 360 |

+ May use Model B-1 guard (upright) or Model C-1 guard (pendent).

* Available with 1/2 or 3/4 in. N.P.T.

May use Model D-1 guard

\$ May use Model XT1 guard

SPRINKLERS FOR STORAGE PROTECTION (CONTROL MODE DENSITY AREA)

| SIN | Response Type | Type | Nom K-Factor | Temp Rating, °F |
|-------|---------------|---------|--------------|--------------------|
| VK531 | QR | Upright | 11.2 | 155, 175, 200, 286 |
| VK533 | QR | Upright | 11.2 | 165, 205, 280 |
| VK530 | SR | Upright | 11.2 | 155, 175, 200, 286 |
| VK580 | SR | Upright | 16.8 | 155, 175, 200, 286 |
| VK377 | QR | Pendent | 11.2 | 155, 175, 200, 286 |
| VK536 | SR | Pendent | 11.2 | 155, 175, 200, 286 |

SPRINKLERS FOR STORAGE PROTECTION (CONTROL MODE SPECIFIC APPLICATION)

| SIN | Response Type | Type | Nom K-Factor | Temp Rating, °F |
|-------|---------------|---------|--------------|--------------------|
| VK540 | SR | Upright | 11.2 | 155, 175, 200, 286 |
| VK592 | SR | Pendent | 19.6 | 160, 205 |

EXTENDED COVERAGE SPRINKLERS FOR STORAGE PROTECTION (AREA/DENSITY)

| SIN | Max Width x Length, ft x ft | Type | Nom K-Factor | Temp Rating, °F |
|--------|-----------------------------|---------|--------------|-----------------|
| VK595 | 14 x 14 | Upright | 25.2 | 165, 214 |
| VK526@ | 14 x 14 | Pendent | 28.0 | 165, 205 |

@ These sprinklers have not been investigated for use as a Control Mode Specific Application (CMSA) sprinkler in accordance with NFPA 13.

SPECIFIC APPLICATION SPRINKLERS

Concealed Space Sprinklers

Height of Space, In.

| SIN | Response Type | Type | Min | Max | Max Coverage Area, Ft ² | Nom K-Factor | Temp Rating, °F |
|-----------|---------------|---------|-----|-----|------------------------------------|--------------|-----------------|
| VK900+ ** | QR | Upright | 12 | 36 | 144 | 4.2 | 175 |

| | | | | | | | |
|-------------|----|---------|----|-----|-----|-----|----------|
| VK900++ ** | QR | Upright | 6* | 54 | 144 | 4.2 | 175 |
| VK901+ ** | QR | Upright | 12 | 36 | 144 | 4.2 | 205 |
| VK901++ ** | QR | Upright | 6* | 54 | 144 | 4.2 | 205 |
| VK696% | QR | Upright | 6 | 480 | 120 | 4.2 | 200 |
| VK697% | QR | Upright | 6 | 480 | 120 | 5.6 | 200 |
| VK950+** | QR | Upright | 12 | 60 | 256 | 5.6 | 175, 200 |
| VK950+ +**a | QR | Upright | 6* | 84 | 256 | 5.6 | 175, 200 |

* Minimum distance between upper and lower joists.

** May be used for dry pipe systems using steel pipe only.

+ For use in light hazard flat concealed spaces incorporating noncombustible or wood truss construction. The Manufacturers Installation and Design Parameter Instructions should be consulted for specific installation parameters, obstruction criteria and hydraulic design requirements.

++ For use in combustible solid wood and composite wood joist construction when designed with baffles at 1000 Ft². The Manufacturers Installation and Design Parameter Instructions should be consulted for specific installation parameters, obstruction criteria and hydraulic design requirements.

% For use in attic areas outside the scope of application for the V-BB and V-SD sprinklers.

a- For use in combustible solid wood joists. The Manufacturers Installation and Design Parameter Instructions should be consulted for specific installation parameters, obstruction criteria and hydraulic design requirements.

SPECIFIC APPLICATION SPRINKLERS

Attic Sprinklers

| SIN | Response Type | Fire Risk | Roof Pitch, in./in. | Max Width, ft | Max Length, ft | Min Flow Rate, gpm | Nom K-Factor | Temp Rating, °F |
|-------|---------------|-----------|---------------------|---------------|----------------|--------------------|--------------|-----------------|
| VK690 | QR | \$ | 2 1/2 to 6/12 | 8 | 24 | 20 | 5.6 | 200 |
| VK660 | QR | ++ | 4/12 to 12/12 | 6 | 20 | 24 | 5.6 | 200 |
| VK660 | QR | ++ | 4/12 to 12/12 | 6 | 28 | 34 | 5.6 | 200 |
| VK693 | QR | ++ | 4/12 to 7/12 | 6 | 30 | 24 | 5.6 | 200 |
| VK693 | QR | ++ | 4/12 to 7/12 | 6 | 40 | 36 | 5.6 | 200 |
| VK694 | QR | ++ | 7/12 to 10/12 | 6 | 30 | 24 | 5.6 | 200 |
| VK694 | QR | ++ | 7/12 to 10/12 | 6 | 40 | 35 | 5.6 | 200 |
| VK695 | QR | ++ | 10/12 to 12/12 | 6 | 30 | 24 | 5.6 | 200 |
| VK695 | QR | ++ | 10/12 to 12/12 | 6 | 40 | 35 | 5.6 | 200 |
| VK681 | QR | ++ | 4/12 to 7/12 | 6 | 60 | 38 | 8.0 | 200 |
| VK682 | QR | ++ | 7/12 to 10/12 | 6 | 60 | 38 | 8.0 | 200 |
| VK683 | QR | ++ | 10/12 to 12/12 | 6 | 60 | 38 | 8.0 | 200 |
| VK684 | QR | ++ | 4/12 to 7/12 | 6 | 40 | 24 | 5.6 | 200 |
| VK685 | QR | ++ | 7/12 to 10/12 | 6 | 40 | 24 | 5.6 | 200 |
| VK686 | QR | ++ | 10/12 to 12/12 | 6 | 40 | 24 | 5.6 | 200 |

++ For protection of light hazard attic spaces of wood truss or open wood joist construction with saddle-type roofs in buildings 20 to 60 ft. in width and not exceeding a protection area of 400 sq. ft. per sprinkler when installed in accordance with the Manufacturer's Installation and Design Parameter Instructions.

\$ - For protection of light hazard attic spaces of wood truss or open wood joist construction with saddle-type roofs in buildings 24 to 72 ft. in width and not exceeding a protection area of 400 sq. ft. per sprinkler when installed in accordance with the Manufacturer's Installation and Design Parameter Instructions.

Window Sprinklers

| SIN | Response Type | Fire Risk | Type | Nom K-Factor | Distance Between Sprinklers, Ft | Min Flow Rate, gpm | Temp Rating, °F |
|-------|---------------|-----------|------|--------------|---------------------------------|--------------------|-----------------|
| VK960 | QR | * | VSW | 5.6 | 6 to 12 | 15 | 155, 200 |
| VK960 | QR | * | VSW | 5.6 | + | 15 | 155, 200 |
| VK962 | QR | * | HSW | 5.6 | 6 to 8 | 20 | 155, 200 |
| VK962 | QR | * | HSW | 5.6 | ++ | 20 | 155, 200 |

*For use on heat-strengthened or tempered glass windows without horizontal mullions having a maximum height of 13 ft. Combustibles must be maintained at a minimum distance of 2 in. from the glass. This may be accomplished by use of a 3 ft. pony wall or any other method acceptable to the authority having jurisdiction when installed in accordance with the manufacturer's installation and design parameter instructions.

+ Located between Mullions and not greater than 12 ft apart.

++ Located between Mullions and not greater than 8 ft apart.

Authorities having jurisdiction shall be consulted to determine the hydraulic requirements for each installation.

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