HOT SPRINGS NATIONAL PARK

(HOSP 245945)

FIRE SUPPRESSION SYSTEM (NFPA 13D)
AND
SINGLE STATION ALARMS
QUARTERS 70A/B AND 71A/B

Fire Alarm and Carbon Monoxide Alarm
Equipment Data
&
Fire Suppression System
Equipment Data

Product data for reference only. Not intended to be sole sourced.

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•Reliable Residential Riser Manifold
•Ames 200B Backflow Preventer
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•Viking CK486 Residential Horizontal Sidewall

Product data for reference only. Not intended to be sole sourced.

Fire Alarm and Carbon Monoxide Alarm Equipment Data

BRK®

THE PROFESSIONAL STANDARD

HARDWIRE

Smoke Alarm with LED Strobe

AC POWERED SMOKE ALARM WITH STROBE LIGHT
& 10-YEAR SEALED BATTERY BACKUP

SM110LED-AC

CAT. 1046726

LED 177 CANDELA STROBE LIGHT

INTEGRATED SMOKE ALARM AND STROBE LIGHT

10-YEAR SEALED BATTERY BACKUP

LED 177 CANDELA STROBE LIGHT
Powerful LED strobe light provides effective visual warning to hearing impaired residents. When multiple BRK units are interconnected, strobes flash in unison.

INTEGRATED SMOKE ALARM AND STROBE LIGHT
One device includes both a strobe light and smoke alarm.

10-YEAR SEALED BATTERY BACKUP
Sealed lithium battery backup for continuous protection during power outages.

1HZ FLASH RATE
60 flashes per minute rate meets ANSI 117.1, NFPA 72 and UL 1638 requirements for visual signal devices.

PRECISION DETECTION™
Advanced Sensing Technology

LIMITED 10 YEAR WARRANTY

Conforms to UL STD 217 & UL STD 1638
Helps reduce nuisance cooking alarms.

PHOTOELECTRIC

Intertek 3055574
MODEL SM110LED-AC

ARCHITECTURAL AND ENGINEERING SPECS

The smoke alarm shall be a BRK Model SM110LED-AC and shall provide at a minimum the following features and functions:

1. A photoelectric smoke sensing chamber.
2. A 177 candela LED strobe light. The Smart Strobe shall have separate flash patterns to distinguish between smoke/heat and carbon monoxide dangers. When multiple units installed, strobe flash patterns will synchronize.
3. Powered by 120V AC, 60Hz and have a sealed 10 year lithium battery backup for alarm and a solid state piezo horn rated at 85dB at 10 ft and be capable of self-restoring.
4. A visual green LED power-on indicator to confirm unit is receiving power or is in alarm.
5. A full function test button should check all alarm functions by simulating a smoke condition, causing the unit to alarm.
6. Two Latching features: Alarm Latch to easily identify initiating alarm after alarm condition has subsided. Low battery latch: to visually identify which unit is in low battery condition. Two Silence Features: Alarm Silence to temporarily silence nuisance alarms. Low Battery Silence to silence low battery chirp for up to 8 hours.
7. The unit shall be capable of operating between 40°F (4°C) and 100°F (38°C) and relative humidity between 10% and 90%.
8. The unit shall have a plug in connector and be capable of interconnection of up to 18 alarms, 12 of which can be smoke alarms.
9. The unit meets the applicable requirements of UL217, UL1638, ANSI 117.1, CSFM, NFPA 72, NFPA 101 and the ICC.

INSTALLATION OF ALARM

Installation of this smoke alarm should be performed by a qualified electrician in accordance with the National Electrical Code NFPA 70, NFPA 72 and any other applicable codes or standards in a manner acceptable to the authority having jurisdiction. The interconnect wire should be a maximum of 1000 ft. and rated at least 300V.

TECHNICAL SPECS

Alarm Dimensions:	5.28" Dia. x 2.31" H
Weight:	0.68 lb
Operating Voltage:	120V AC 60Hz
Battery:	3V Lithium
Temperature Range:	40°F (4.4°C) to 100°F (37.8°C)
Humidity Range:	10% to 95% relative humidity (RH)
Audio Alarm:	85dB at 10 feet
Test/Silence:	Electronically simulates smoke condition, causing the unit to alarm. Press and hold test/ silence button.
Alarm Reset:	Automatic when smoke clears
Interconnections:	Up to 18 units of First Alert or BRK Smoke, CO and Heat Alarms. Maximum of 12 smoke alarms. See user's manual.
Smoke Sensor:	Photoelectric
Indicator Lights/Sounds:	
AC Power:	Constant Green
DC Power:	Flashes Green every minute
Smoke Alarm:	3 Beeps, Flashes Red
Latching Alarm:	Flashes Red 2 sec. on / 2 sec. off after alarm
Low Battery / End of Life:	5 "Chirps" every Minute – Replace Alarm
Malfunction:	3 "Chirps" every Minute – Replace Alarm
Listing:	Certified to UL217 & UL1638

FROM resideo
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BRK THE PROFESSIONAL STANDARD | FIRST ALERT

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brkelectronics.com

BRK®
THE PROFESSIONAL STANDARD

HARDWIRE

Smoke + Carbon Monoxide Alarm with LED Strobe

AC POWERED SMOKE + CARBON MONOXIDE ALARM
WITH STROBE LIGHT & 10-YEAR SEALED BATTERY BACKUP

SMCO110LED-AC

CAT. 1046789

LED 177 CANDELA STROBE LIGHT

INTEGRATED COMBINATION ALARM AND STROBE LIGHT

10-YEAR SEALED BATTERY BACKUP

LED 177 CANDELA STROBE LIGHT
Powerful LED strobe light provides effective visual warning to hearing impaired residents. When multiple BRK units are interconnected, strobes flash in unison.

INTEGRATED COMBINATION ALARM AND STROBE LIGHT
One device includes both a strobe light and combination smoke & CO alarm.

10-YEAR SEALED BATTERY BACKUP
Sealed lithium battery backup for continuous protection during power outages.

1HZ FLASH RATE
60 flashes per minute rate meets ANSI 117.1, NFPA 72 and UL 1638 requirements for visual signal devices.

PRECISION DETECTION™
Advanced Sensing Technology

LIMITED 10 YEAR WARRANTY

Conforms to UL STD 217 UL STD 2034 & UL STD 1638
Helps reduce nuisance cooking alarms.

PHOTOELECTRIC

Intertek
3055574
MODEL SMCO110LED-AC

ARCHITECTURAL AND ENGINEERING SPECS

The smoke alarm shall be a BRK Model SMCO110LED-AC and shall provide at a minimum the following features and functions:

1. A photoelectric smoke sensing chamber and electrochemical carbon monoxide sensor.
2. A 177 candela LED strobe light. The Smart Strobe shall have separate flash patterns to distinguish between smoke/heat and carbon monoxide dangers. When multiple units installed, strobe flash patterns will synchronize.
3. Powered by 120V AC, 60Hz and have a sealed 10 year lithium battery backup for alarm and a solid state piezo horn rated at 85dB at 10 ft and be capable of self-restoring.
4. A visual green LED power-on indicator to confirm unit is receiving power or is in alarm.
5. A test button should check alarm function.
6. Two Latching features: Alarm Latch to easily identify initiating alarm after alarm condition has subsided. Low battery latch: to visually identify which unit is in low battery or end of life condition. Two Silence Features: Alarm Silence to temporarily silence nuisance alarms. End of Life: Silence alarm for 8 hours.
7. The unit shall be capable of operating between 40°F (4°C) and 100°F (38°C) and relative humidity between 10% and 95%.
8. The unit shall have a plug in connector and be capable of interconnection of up to 18 units with smoke, heat, CO alarms and relays, of which 12 can be smoke alarms.
9. The unit meets the applicable requirements of UL217, UL2034, UL1638, ANSI 117.1, CSFM, NFPA 72, NFPA 101 and the ICC.

INSTALLATION OF ALARM

Installation of this smoke alarm should be performed by a qualified electrician in accordance with the National Electrical Code NFPA 70, NFPA 72 and any other applicable codes or standards in a manner acceptable to the authority having jurisdiction. The interconnect wire should be a maximum of 1000 ft. and rated at least 300V.

TECHNICAL SPECS

Alarm Dimensions:	5.28" Dia. x 2.31" H
Weight:	0.68 lb
Operating Voltage:	120V AC 60Hz
Battery:	3V Lithium
Temperature Range:	40°F (4.4°C) to 100°F (37.8°C)
Humidity Range:	10% to 95% relative humidity (RH)
Audio Alarm:	85dB at 10 feet
Test/Silence:	Electronically simulates smoke condition, causing the unit to alarm. Press and hold test/ silence button.
Alarm Reset:	Automatic when smoke clears
Interconnections:	Up to 18 units of First Alert or BRK Smoke, CO and Heat Alarms. Maximum of 12 smoke alarms. See user's manual.
Smoke Sensor:	Photoelectric
Indicator Lights/Sounds:	
AC Power:	Constant Green
DC Power:	Flashes Green every minute
Smoke Alarm:	3 Beeps, Flashes Red
CO Alarm:	4 Beeps, Flashes Red
Latching Alarm:	Flashes Red 2 sec. on / 2 sec. off after alarm
Low Battery / End of Life:	5 "Chirps" every Minute – Replace Alarm
Malfunction:	3 "Chirps" every Minute – Replace Alarm
Listing:	Certified to UL217, UL2034 & UL1638

FROM
resideo
www.resideo.com

BRK® THE PROFESSIONAL STANDARD | FIRST ALERT

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brkelectronics.com

Fire Suppression System
Equipment Data

VIKING Plastics

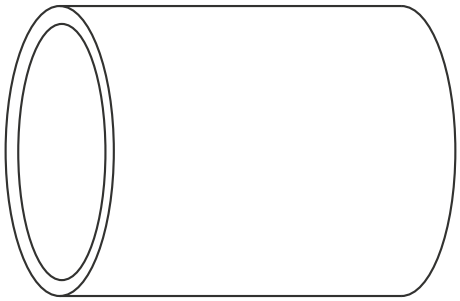
VIKING SupplyNet®

BlazeMaster® CPVC Pipe

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 3″ (DN80) pipe diameters, with a Standard Dimension Ratio (SDR) of 13.5 as specified in ASTM F442.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Hazen-Williams C Value :** 150
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :**
  - Meets NFPA 13, 13R and 13D standards for light hazard occupancies. Pipe meets or exceeds ASTM F442.
  - Approved for National Sanitation Foundation (NSF) potable water services
  - CPVC Pipe from Viking SupplyNet complies to NSF cell class 23547 (demonstrated highest structural properties).
  - Meets LPC Sprinkler Rules requirements



FM APPROVED · c UL us LISTED · LPCB* · WRAS · NSF

* LPCB Approved up to and including 2″

BlazeMaster® CPVC Pipe

Physical Data

Nominal Pipe Size		Actual Outside Diameter		Average I.D. (inch / mm)	Weight per 15′ (4.6m) length (lb / kg)	Length (ft / m)	Approvals	Part Number
inch	metric	inch	mm					
3/4″	DN20	**1.050**	26,670	**0.874** / 22,199	**2.52** / 1,14	**15** / 4,6	cULus, FM, LPCB*, WRAS, NSF	34PIPE
1″	DN25	**1.315**	33,401	**1.101** / 27,965	**3.93** / 1,78	**15** / 4,6		1PIPE
1 1/4″	DN32	**1.660**	42,164	**1.394** / 35,408	**6.27** / 2,84	**15** / 4,6		114PIPE
1 1/2″	DN40	**1.900**	48,260	**1.598** / 40,589	**8.22** / 3,73	**15** / 4,6		112PIPE
2″	DN50	**2.375**	60,325	**2.003** / 50,876	**12.89** / 5,85	**15** / 4,6		2PIPE
2 1/2″	DN65	**2.875**	73,000	**2.423** / 61,500	**18.86** / 8,55	**15** / 4,6		212PIPE
3″	DN80	**3.500**	88,900	**2.950** / 74,900	**28.01** / 12,71	**15** / 4,6		3PIPE
Nominal Pipe Size		**Actual Outside Diameter**		**Average I.D. (inch / mm)**	**Weight per 10′ (3,05m) length (lb / kg)**	**Length (ft / m)**	**Approvals**	**Part Number**
inch	metric	inch	mm					
3/4″	DN20	**1.050**	26,670	**0.874** / 22,199	**1.68** / 0,76	**10** / 3,05	cULus, FM, LPCB*, WRAS, NSF	34PIPE10
1″	DN25	**1.315**	33,401	**1.101** / 27,965	**2.62** / 1,19	**10** / 3,05		1PIPE10
1 1/4″	DN32	**1.660**	42,164	**1.394** / 35,408	**4.18** / 1,90	**10** / 3,05		114PIPE10
1 1/2″	DN40	**1.900**	48,260	**1.598** / 40,589	**5.48** / 2,49	**10** / 3,05		112PIPE10
2″	DN50	**2.375**	60,325	**2.003** / 50,876	**8.59** / 3.90	**10** / 3,05		2PIPE10
2 1/2″	DN65	**2.875**	73,000	**2.423** / 61,500	**12.57** / 5,70	**10** / 3,05		212PIPE10
3″	DN80	**3.500**	88,900	**2.950** / 74,900	**18.67** / 8,47	**10** / 3,05		3PIPE10

Note: CPVC Pipe is produced in SDR 13.5 Dimensions in accordance with ASTM F442. Standard Dimension Ratio is the ratio of the outside pipe diameter to the wall thickness of the pipe.
* Approved up to and includng 2″

IMPORTANT: Installers should receive thorough hands-on training in the proper methods of assembly and installation of CPVC products. On-site training is available at no charge from Viking SupplyNet. Participants in the training program will receive a special card acknowledging their attendance. In addition to receiving proper training, installers must always consult the Manufacturer's Design and Installation Guide before any installation project is commenced.

21-05-2013 Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)

BlazeMaster® is manufactured for Viking SupplyNet by Viking Plastics, Inc. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

BlazeMaster® CPVC Pipe

BlazeMaster® CPVC Pipe

Product Specifications

Corrosion resistance CPVC fire sprinkler pipe, when installed in strict accordance with the manufacturer's design and installation instructions, are UL and C-UL Listed by Underwriters Laboratories for use in the following:

- Light Hazard occupancies as defined in the Standard for Installation of Sprinkler Systems, NFPA 13.
- Residential occupancies up to and including four stories in height as defined by NFPA 13R.
- Residential occupancies as defined in the Standard for Sprinkler Systems in One and Two Family Dwellings, NFPA13D.
- Installation of private fire service mains and their appurtenances, NFPA 24.

CPVC fire sprinkler pipe from Viking SupplyNet shall be employed in wet pipe systems only and are not listed for outdoor use. CPVC pipe must never be used in a system using compressed air or other gases.

CPVC pipe from Viking SupplyNet also carries the following enhanced listings and approvals:

- According to UL Listed (UL 1821)
  - Can be flush at return air plenums
  - Mechanical cut-in tee & crosses concealed with Grinnell figure 730 fittings
  - Mechanical cut-in tee & crosses exposed with Grinnell figure 730 fittings
  - Exposed system risers NFPA 13D, 13R
  - Exposed basement NFPA 13D (solid wood joist)
  - Extended coverage (exposed)
    - 20′ spacing on pendent in lieu of 15′
    - 18′ spacing on sidewall in lieu of 14′
  - Use with combustible concealed sprinklers
  - Tyco attic sprinkler head (to protect the floor below)
  - Tyco attic sprinkler head with wet system piping (feed main and ridge installation)
  - Exposed sidewall sprinkler Listing for exposed pipe & fittings
    - 24′ extended coverage sidewall sprinkler, 12″ drop, 155°F sprinkler head
    - 18′ extended coverage sidewall sprinkler, 12″ drop, 165°F sprinkler head
    - 16′ extended coverage sidewall sprinkler, 12″ drop, 175°F sprinkler head
    - 14′ standard coverage sidewall sprinkler, 12″ drop, 200°F sprinkler head
- Factory Mutual Approved*
  - Factory Mutual Approval exposed
  - Factory Mutual Approval above drop-in ceilings
  - Factory Mutual Approval exposed w/ Soffi-Steel soffiting covering system
- LPCB Approval
- WRAS Approval

The above data is based on UL and FM reported Listings and Approvals as of 11/30/05. New and enhanced listings and approvals are being pursued. Always check with the appropriate Listing and Approval agency for details on current listing parameters.
CPVC pipe also meets all applicable standards for pressure rated application as required in ANSI-NSF Standard 14 and complies with ANSI-NSF Standard 61 for health effects and are marked with the NSF-pw end us marking. Viking Plastics CPVC Pipe is manufactured from WRAS approved Blazemaster® compound

All CPVC fire sprinkler pipe shall be Listed by Underwriters Laboratories for wet pipe systems, and shall carry a rated working pressure of 175 psi @ 150ºF (12 bar @ 66°C). The FM Approval is limited to use in wet pipe fire protection sprinkler systems for light hazard occupancies in both concealed and exposed applications with certain restrictions.

Piping must always be installed in strict accordance to the manufacturer's System Design and Installation Manual, including product storage and handling, joining methods, supporting and bracing, expansion and contraction allowance and testing, etc. National Fire Protection Association (NFPA) Standards 13, 13D, and 13R or LPC Sprinkler Rules Technical Bulletins, must be referenced for design and installation requirements in conjunction with the installation instructions.

All CPVC fire sprinkler pipe from Viking SupplyNet is manufactured in the USA by an ISO 9001 certified manufacturer. All CPVC pipe shall be packaged immediately after its manufacture to prevent damage and shall be stored indoors after production, at the manufacturing site, until shipped from the factory. The pipe shall bear the logo of the listing agencies, and shall carry the National Sanitation Foundation (NSF) seal of approval for potable water applications.

CPVC products are intended for use in areas where the maximum ambient temperature does not exceed 150ºF (66°C). If the ambient temperature is expected to exceed this limitation, refer to the manufacturer's System Design and Installation Manual for additional information on methods to reduce the pipe exposure temperatures. CPVC pipe is not intended to be installed in outdoor applications. CPVC pipe is intended to beused in wet pipe systems only and have not been investigated for use in dry pipe systems. Special installation and design criteria relative to pipe hanger spacings, piping and sprinkler restraint, sprinkler temperature rating, piping locations, testing procedures and friction loss characteristics are specified in the manufacturer's installation instructions provided with the pipe. The manufacturer's installation instructions should be reviewed and the Authority Having Jurisdiction consulted before installation.

21-05-2013 Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)

BlazeMaster® is manufactured for Viking SupplyNet by Viking Plastics, Inc. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

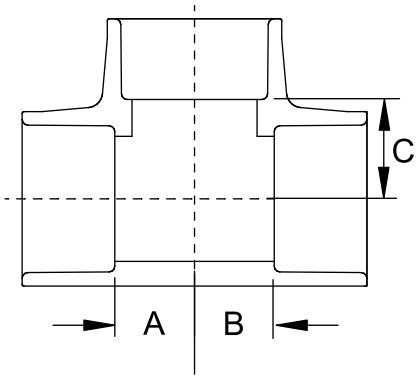
Reducing Tee

Socket x Socket x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** See table below.
- **Environmental Specifications :** Indoor use only.
  Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable.
  These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF APPROVED WRAS MATERIAL ** LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Reducing Tee - Socket x Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)			Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B	C		
3/4″ x 3/4″ x 1″	DN20 x DN20 x DN25	/ 0.70	/ 0.70	/ 0.73	0.15 / 0.068	V5011R-102
1″ x 3/4″ x 3/4″	DN25 x DN20 x DN20	/ 0.74	/ 0.80	/ 0.84	0.15 / 0.068	V5011R-125
1″ x 3/4″ x 1″	DN25 x DN20 x DN25	/ 0.74	/ 0.91	/ 0.73	0.22 / 0.100	V5011R-126
1″ x 1″ x 3/4″	DN25 x DN25 x DN20	/ 0.61	/ 0.61	/ 0.94	0.13 / 0.059	V5011R-131
1 1/4″ x 1″ x 3/4″	DN32 x DN25 x DN20	/ 0.74	/ 0.60	/ 0.89	0.20 / 0.091	V5011R-157
1 1/4″ x 1″ x 1″	DN32 x DN25 x DN25	/ 0.90	/ 0.71	/ 0.89	0.24 / 0.110	V5011R-158
1 1/4″ x 1″ x 1 1/4″	DN32 x DN25 x DN32	/ 1.00	/ 0.91	/ 0.87	0.28 / 0.130	V5011R-159
1 1/4″ x 1 1/4″ x 3/4″	DN32 x DN32 x DN20	/ 0.60	/ 0.60	/ 0.89	0.21 / 0.095	V5011R-167
1 1/4″ x 1 1/4″ x 1″	DN32 x DN32 x DN25	/ 0.72	/ 0.72	/ 0.89	0.13 / 0.059	V5011R-168
1 1/4″ x 1 1/4″ x 1 1/2″	DN32 x DN32 x DN40	/ 1.00	/ 1.00	/ 0.88	0.42 / 0.191	V5011R-169
1 1/2″ x 1 1/4″ x 3/4″	DN40 x DN32 x DN20	/ 0.76	/ 0.62	/ 1.02	0.35 / 0.159	V5011R-201
1 1/2″ x 1 1/4″ x 1″	DN40 x DN32 x DN25	/ 0.88	/ 0.74	/ 1.01	0.39 / 0.177	V5011R-202
1 1/2″ x 1 1/2″ x 3/4″	DN40 x DN40 x DN20	/ 0.76	/ 0.76	/ 1.31	0.48 / 0.172	V5011R-210
1 1/2″ x 1 1/2″ x 1″	DN40 x DN40 x DN25	/ 0.77	/ 0.77	/ 1.29	0.52 / 0.236	V5011R-211
1 1/2″ x 1 1/2″ x 1 1/4″	DN40 x DN40 x DN32	/ 0.87	/ 0.87	/ 1.04	0.47 / 0.213	V5011R-212
1 1/2″ x 1 1/2″ x 2″	DN40 x DN40 x DN50	/ 1.30	/ 1.29	/ 1.14	0.67 / 0.304	V5011R-213
2″ x 2″ x 3/4″	DN50 x DN50 x DN20	/ 0.67	/ 0.67	/ 1.56	0.65 / 0.295	V5011R-248
2″ x 2″ x 1″	DN50 x DN50 x DN25	/ 0.77	/ 0.77	/ 1.55	0.69 / 0.313	V5011R-249
2″ x 2″ x 1 1/2″	DN50 x DN50 x DN40	/ 1.04	/ 1.04	/ 1.29	0.83 / 0.376	V5011R-251
2 1/2″ x 2 1/2″ x 1″	DN65 x DN65 x DN25	/ 1.53	/ 1.53	/ 2.59	1.87 / 0.848	V5011R-289
2 1/2″ x 2 1/2″ x 1 1/4″	DN65 x DN65 x DN32	/ 1.53	/ 1.53	/ 2.47	1.90 / 0.862	V5011R-290
2 1/2″ x 2 1/2″ x 1 1/2″	DN65 x DN65 x DN40	/ 1.53	/ 1.53	/ 2.08	1.86 / 0.844	V5011R-291
3″ x 3″ x 2″	DN80 x DN80 x DN50	/ 1.34	/ 1.34	/ 1.82	1.73 / 0.785	V5011R-338
3″ x 3″ x 2 1/2″	DN80 x DN80 x DN65	/ 1.84	/ 1.84	/ 2.55	2.90 / 1.320	V5011R-339

Refer to the "CPVC Equal Tee" datapage or manufacturer's installation instructions for friction loss information.

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

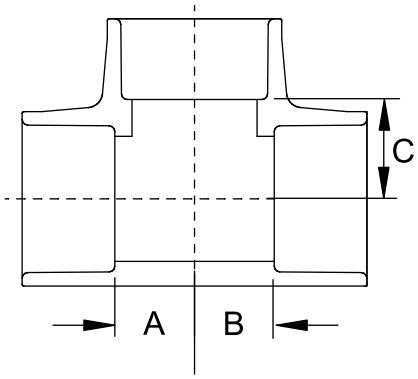
Equal Tee

Socket x Socket x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 3″ (DN80) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF ** WRAS * LPCB

* LPCB Approved up to and including 2″
** Approval pending.

Equal Tee - Socket x Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)			Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B	C		
3/4″	DN20	/ 0.56	/ 0.56	/ 0.56	0.09 / 0.04	V5011-007
1″	DN25	/ 0.69	/ 0.69	/ 0.69	0.15 / 0.07	V5011-010
1 1/4″	DN32	/ 0.89	/ 0.89	/ 0.89	0.30 / 0.14	V5011-012
1 1/2″	DN40	/ 1.06	/ 1.06	/ 1.06	0.73 / 0.33	V5011-015
2″	DN50	/ 1.27	/ 1.27	/ 1.27	1.05 / 0.48	V5011-020
2 1/2″	DN65	/ 1.53	/ 1.53	/ 1.53	1.59 / 0.72	V5011-025
3″	DN80	/ 1.84	/ 1.84	/ 1.84	2.38 / 1.10	V5011-030

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)

21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

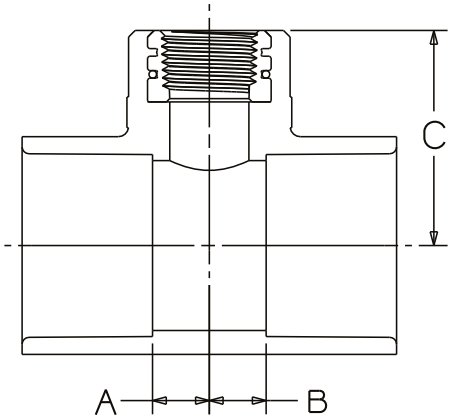
Sprinkler Head Tee (Metal Thread Insert)

Socket x Socket x NPT Thread

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** See table below.
- **Environmental Specifications :** Indoor use only.
  Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 1 female threaded NPT outlet.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.5 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF ** WRAS LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Sprinkler Head Tee (Metal Thread Insert) - Socket x Socket x NPT Thread

Physical Data

Nominal Pipe Size		Dimensions (inch)			Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B	C		
3/4″ x 3/4″ x 1/2″	DN20 x DN20 x DN15	/ 0.42	/ 0.42	/ 1.60	0.22 / 0.100	V5012SBI-101
1″ x 3/4″ x 1/2″	DN25 x DN20 x DN15	/ 0.43	/ 0.83	/ 1.69	0.27 / 0.125	V5012RSBI-124
1″ x 1″ x 1/2″	DN25 x DN25 x DN15	/ 0.42	/ 0.42	/ 1.76	0.28 / 0.127	V5012SBI-130
1″ x 1″ x 1″	DN25 x DN25 x DN25	/ 0.83	/ 0.83	/ 1.48	0.43 / 0.195	V5012SBI-010
1 1/4″ x 1″ x 1/2″	DN32 x DN25 x DN15	/ 0.51	/ 0.63	/ 1.94	0.33 / 0.149	V5012RSBI-156
1 1/4″ x 1 1/4″ x 1/2″	DN32 x DN32 x DN15	/ 0.51	/ 0.51	/ 1.95	0.33 / 0.149	V5012SBI-166
1 1/2″ x 1 1/4″ x 1/2″	DN40 x DN32 x DN15	/ 0.45	/ 0.67	/ 2.13	0.47 / 0.213	V5012RSBI-199
1 1/2″ x 1 1/2″ x 1/2″	DN40 x DN40 x DN15	/ 0.45	/ 0.45	/ 2.13	0.47 / 0.213	V5012SBI-209
2″ x 1 1/2″ x 1/2″	DN50 x DN40 x DN15	/ 0.62	/ 0.82	/ 2.38	0.58 / 0.263	V5012RSBI-237
2″ x 2″ x 1/2″	DN50 x DN50 x DN15	/ 0.50	/ 0.50	/ 1.68	0.58 / 0.263	V5012SBI-247

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

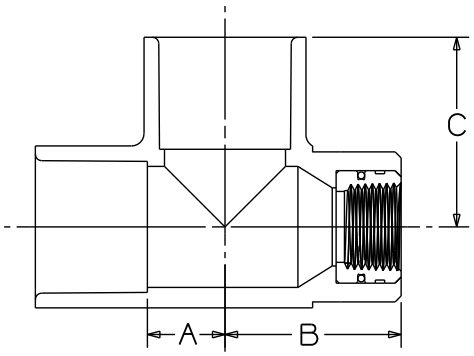
Sprinkler Head Tee (Metal Thread Insert)

Socket x NPT Thread x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 1″ (DN25) x $^{1}/_{2}$″ (DN15) x 1″ (DN25)
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 1 female threaded NPT outlet.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes $^{3}/_{4}$″ (DN20) through 1$^{1}/_{4}$″ (DN32) and in Schedule 80 for sizes 1$^{1}/_{2}$″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL
  Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED · c UL us · NSF · APPROVED MATERIAL WRAS ** · LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Sprinkler Head Tee (Metal Thread Insert) - Socket x NPT Thread x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)			Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B	C		
1″ x $^{1}/_{2}$″ x 1″	DN25 x DN15 x DN25	/	/	/	**0.25** / 0.113	V5012RSBI-122

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
$^{3}/_{4}$″	DN20	**1** / 0.3	**3** / 0.9	**7** / 2.1	**1** / 0.3	**1** / 0.3
1″	DN25	**1** / 0.3	**5** / 1.5	**7** / 2.1	**1** / 0.3	**1** / 0.3
1$^{1}/_{4}$″	DN32	**1** / 0.3	**6** / 1.8	**8** / 2.4	**2** / 0.6	**1** / 0.3
1$^{1}/_{2}$″	DN40	**1** / 0.3	**8** / 2.4	**9** / 2.7	**2** / 0.6	**1** / 0.3
2″	DN50	**1** / 0.3	**10** / 3.1	**11** / 3.4	**2** / 0.6	**1** / 0.3
2$^{1}/_{2}$″	DN65	**2** / 0.6	**12** / 3.7	**12** / 3.7	**3** / 0.9	**2** / 0.6
3″	DN80	**2** / 0.6	**15** / 4.6	**13** / 4.0	**4** / 1.2	**2** / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

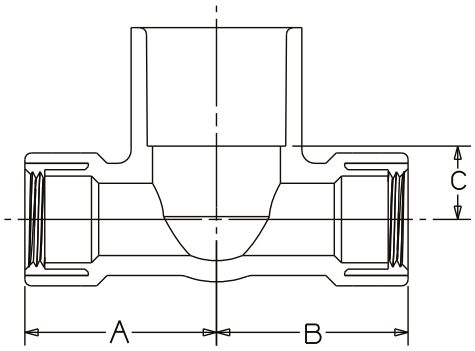
Sprinkler Head Tee - Sidewall (Metal Thread Inserts)

NPT Thread x NPT Thread x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 1/2″ (DN15) pipe run with 1″ (DN25) outlet.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 2 female threaded NPT inlets.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF ** WRAS * LPCB

* LPCB Approved up to and including 2″
** Approval pending.

Sprinkler Head Tee - Sidewall (Metal Thread Inserts) - NPT x NPT x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)			Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B	C		
1/2″ x 1/2″ x 1″	DN15 x DN15 x DN25	/ 1.18	/ 1.18	/ 0.62	0.48 / 0.217	V501133SBIS-075

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

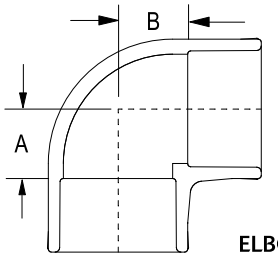
90° Elbow & Reducing 90° Elbow

Socket x Socket

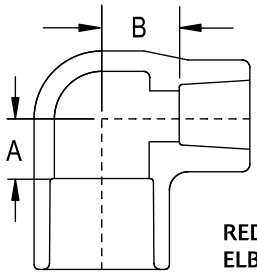
CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** See tables below.
- **Environmental Specifications :** Indoor use only.
  Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



ELBOW



REDUCING ELBOW

* LPCB Approved up to and including 2″
** Approval pending.

90° Elbow - Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)		Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B		
3/4″	DN20	/ 0.56	/ 0.56	0.06 / 0.022	V5007-007
1″	DN25	/ 0.69	/ 0.69	0.09 / 0.034	V5007-010
1 1/4″	DN32	/ 0.91	/ 0.91	0.16 / 0.059	V5007-012
1 1/2″	DN40	/ 1.06	/ 1.06	0.50 / 0.187	V5007-015
2″	DN50	/ 1.24	/ 1.24	0.70 / 0.261	V5007-020
2 1/2″	DN65	/ 1.50	/ 1.50	1.16 / 0.433	V5007-025
3″	DN80	/ 1.81	/ 1.81	1.82 / 0.679	V5007-030

Reducing 90° Elbow - Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)		Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B		
1″ x 3/4″	DN25 x DN32	/ 0.61	/ 0.75	0.12 / 0.045	V5007R-131

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

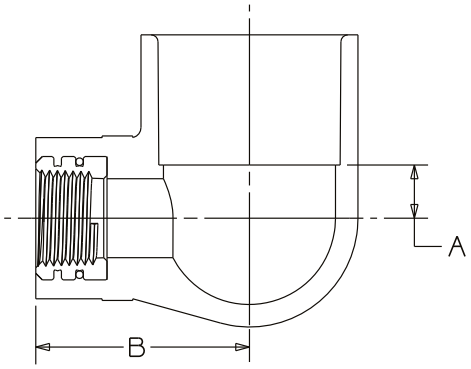
Sprinkler Head 90° Elbow (Metal Thread Insert)

Socket x NPT Thread

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 1 1/4″ (DN32) run, 1/2″ (DN15) and 3/4″ (DN20) outlet.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 1 female threaded NPT outlet.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF WRAS ** LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Sprinkler Head 90° Elbow (Metal Thread Insert) - Socket x NPT Thread

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)		Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B		
3/4″ x 1/2″	DN20 x DN15	/ 0.56	/ 1.62	0.22 / 0.099	V50073SBI-101
1″ x 1/2″	DN25 x DN15	/ 0.50	/ 1.75	0.27 / 0.122	V50073SBI-130
1″ x 3/4″	DN25 x DN20	/ 0.59	/ 1.88	0.27 / 0.122	V50073SBI-131
1 1/4″ x 1/2″	DN32 x DN15	/ 0.48	/ 1.95	1.86 / 0.844	V50073SBI-166

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

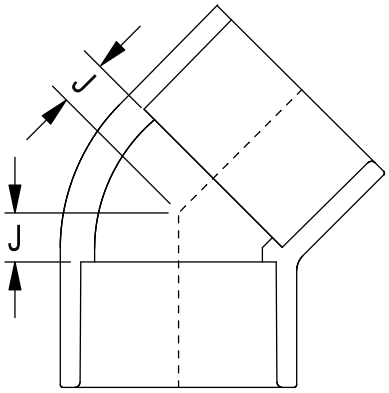
45° Elbow

Socket x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 3″ (DN80) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL
  Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF ** WRAS * LPCB

* LPCB Approved up to and including 2″
** Approval pending.

45° Elbow - Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	J		
3/4″	DN20	/ 0.32	0.06 / 0.027	V5006-007
1″	DN25	/ 0.39	0.12 / 0.054	V5006-010
1 1/4″	DN32	/ 0.48	0.17 / 0.0794	V5006-012
1 1/2″	DN40	/ 0.47	0.41 / 0.190	V5006-015
2″	DN50	/ 0.58	0.62 / 0.280	V5006-020
2 1/2″	DN65	/ 0.65	0.93 / 0.420	V5006-025
3″	DN80	/ 0.76	1.39 / 0.630	V5006-030

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

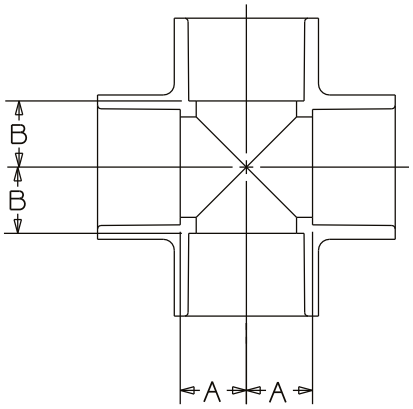
Cross & Reducing Cross

Socket x Socket x Socket x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** See tables below.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED · c UL us · NSF · WRAS ** · LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Cross - Socket x Socket x Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)		Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B		
3/4″	DN20	/ 0.60	/ 0.60	0.13 / 0.059	V5035-007
1″	DN25	/ 0.74	/ 0.74	0.25 / 0.113	V5035-010
1 1/4″	DN32	/ 0.90	/ 0.90	0.35 / 0.159	V5035-012
1 1/2″	DN40	/ 1.23	/ 1.23	0.69 / 0.313	V5035-015
2″	DN50	/ 1.53	/ 1.53	1.02 / 0.463	V5035-020
2 1/2″	DN65	/ 1.75	/ 1.75	1.70 / 0.771	V5035-025

Reducing Cross - Socket x Socket x Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)		Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B		
1″ x 1″ x 3/4″ x 3/4″	DN25 x DN25 x DN20 x DN20	/ 0.60	/ 0.72	0.18 / 0.082	V5035-131

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

21-05-2013 Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

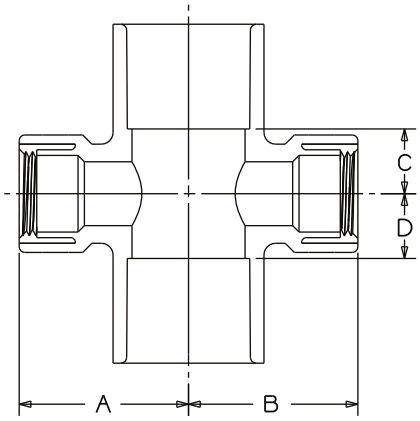
Sprinkler Head Cross - Sidewall (Metal Thread Inserts)

Socket x Socket x NPT Thread x NPT Thread

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** See table below
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 2 female threaded NPT outlets.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF WRAS ** LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Sprinkler Head Cross - Sidewall (Metal Thread Inserts) - Soc x Soc x NPT x NPT

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)				Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	B	C	D		
1″ x 1″ x 1/2″ x 1/2″	DN25 x DN25 x DN15 x DN15	/ 1.18	/ 1.18	/ 0.62	/ 0.62	0.46 / 0.209	V50353SBIS-130

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

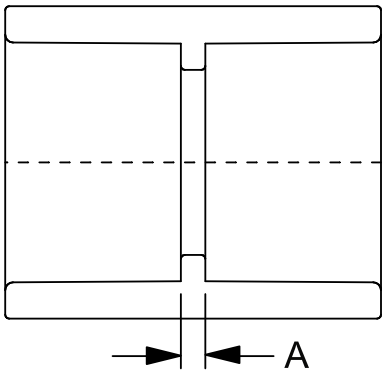
Coupling

Socket x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 3″ (DN80) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF WRAS ** LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Coupling - Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
3/4″	DN20	/ 0.10	0.05 / 0.023	V5001-007
1″	DN25	/ 0.09	0.08 / 0.036	V5001-010
1 1/4″	DN32	/ 0.10	0.13 / 0.059	V5001-012
1 1/2″	DN40	/ 0.24	0.37 / 0.168	V5001-015
2″	DN50	/ 0.19	0.52 / 0.236	V5001-020
2 1/2″	DN65	/ 0.13	0.68 / 0.308	V5001-025
3″	DN80	/ 0.16	1.05 / 0.476	V5001-030

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

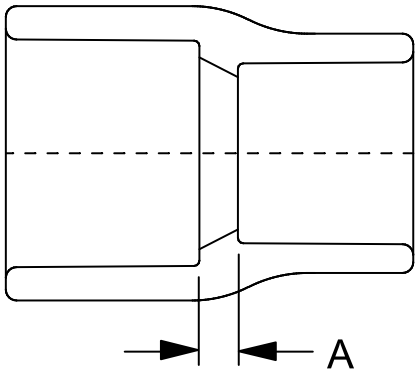
Reducer Coupling

Socket x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 1″ (DN25) through 2 1/2″ (DN65) inlet, 3/4″ (DN20) through 2″ outlet.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF ** WRAS * LPCB

* LPCB Approved up to and including 2″
** Approval pending.

Reducer Coupling - Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
1″ x 3/4″	DN25 x DN20	/ 0.29	0.07 / 0.032	V5001R-131
1 1/4″ x 1″	DN32 x DN25	/ 0.35	0.12 / 0.054	V5001R-168
1 1/2″ x 3/4″	DN40 x DN20	/ 1.02	0.31 / 0.140	V5001R-210
1 1/2″ x 1″	DN40 x DN25	/ 0.88	0.33 / 0.150	V5001R-211
1 1/2″ x 1 1/4″	DN40 x DN32	/ 0.76	0.50 / 0.230	V5001R-212
2″ x 1″	DN50 x DN25	/ 0.97	0.44 / 0.200	V5001R-249
2″ x 1 1/2″	DN50 x DN40	/ 0.46	0.50 / 0.230	V5001R-251

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

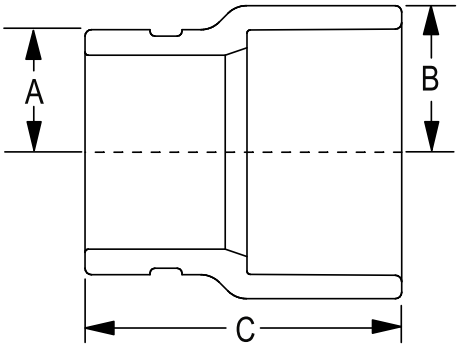
Coupling Adapter

Socket x Groove

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 1 1/4″ (DN32) through 3″ (DN80) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED · c UL us · NSF · WRAS ** · LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Coupling Adapter - Socket x Groove

Physical Data

Nominal Pipe Size		K	Dimensions (mm / inch)			Approx. Weight	Part Number
inch	metric	(in./mm)	A	B	C	(lbs. / kgs.)	
1 1/4″	DN32	1.66 / **42,2**	**/ 0.83**	**/ 1.04**	**/ 2.98**	**0.17** / 0.077	V5001G-012
1 1/2″	DN40	1.90 / **48,3**	**/ 0.95**	**/ 1.17**	**/ 3.15**	**0.20** / 0.091	V5001G-015
2″	DN50	2.375 / **60,3**	**/ 1.18**	**/ 1.43**	**/ 3.37**	**0.30** / 0.136	V5001G-020
2 1/2″	DN65	2.875 / **73,0**	**/ 1.43**	**/ 1.74**	**/ 3.66**	**0.52** / 0.236	V5001G-025
3″	DN80	3.50 / **88,9**	**/ 3.50**	--	--	**0.72** / 0.327	V5001G-030

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	**1** / 0.3	**3** / 0.9	**7** / 2.1	**1** / 0.3	**1** / 0.3
1″	DN25	**1** / 0.3	**5** / 1.5	**7** / 2.1	**1** / 0.3	**1** / 0.3
1 1/4″	DN32	**1** / 0.3	**6** / 1.8	**8** / 2.4	**2** / 0.6	**1** / 0.3
1 1/2″	DN40	**1** / 0.3	**8** / 2.4	**9** / 2.7	**2** / 0.6	**1** / 0.3
2″	DN50	**1** / 0.3	**10** / 3.1	**11** / 3.4	**2** / 0.6	**1** / 0.3
2 1/2″	DN65	**2** / 0.6	**12** / 3.7	**12** / 3.7	**3** / 0.9	**2** / 0.6
3″	DN80	**2** / 0.6	**15** / 4.6	**13** / 4.0	**4** / 1.2	**2** / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

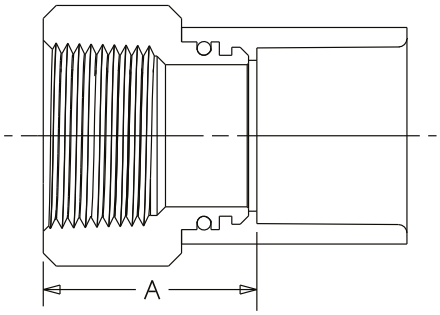
Female Adapter (Metal Thread Insert)

Socket x NPT Thread

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 2″ (DN50) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 1 female threaded NPT outlet. Note : 4235-012BS & 4235-015BS female threaded BSP.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF APPROVED WRAS MATERIAL ** LPCB *

* LPCB Approved up to and including 2″
** Approval pending.

Female Adapter (Metal Thread Insert) - Socket x NPT Thread

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
3/4″	DN20	/ 1.19	0.28 / 0.127	V5003BI-007
1″	DN25	/ 1.59	0.63 / 0.286	V5003BIBSP-010
1 1/4″	DN32	/ 1.97	1.07 / 0.485	V5003BIBSP-012
1 1/2″	DN40	/ 1.98	1.33 / 0.603	V5003BIBSP-015
2″	DN50	/ 1.99	2.00 / 0.907	V5003BIBSP-020

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 21-05-2013 (Changed WRAS Logo and added note regarding fittings)
15-07-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

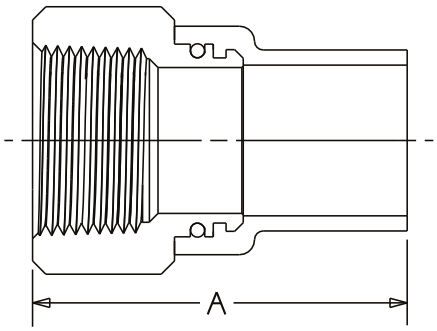
Female Adapter - (Metal Thread Insert)

Spigot x NPT Thread

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** Female Adapter : 3/4″ (DN20) and 1″ (DN25) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C) at 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar)
- **Threaded Connections :** 1 female threaded NPT outlet.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439
  (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



FM APPROVED c UL us NSF ** WRAS * LPCB

* LPCB Approved up to and including 2″
** Approval pending.

Female Adapter - (Metal Thread Insert) - Spigot x NPT Thread

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
3/4″	DN20	/ 2.00	0.28 / 0.127	V50032BI-007
1″	DN25	/ 2.72	0.61 / 0.277	V50032BI-010

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)

21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

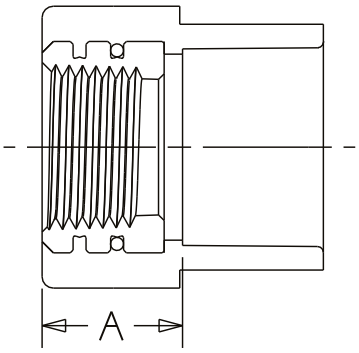
Sprinkler Head Adapter - Female (Metal Thread Insert)

Socket x NPT Thread

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) pipe run x 1/2″ (DN15) outlet, 1″ (DN25) pipe run x 1/2″ (DN15) outlet and 1″ (DN25) pipe run x 3/4″ (DN20) outlet.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 1 female threaded NPT outlet.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



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* LPCB Approved up to and including 2″
** Approval pending.

Sprinkler Head Adapter - Female (Metal Thread Insert) - Socket x NPT Thread

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
3/4″ x 1/2″	DN20 x DN15	/ 0.75	0.18 / 0.082	V5003SBI-101
1″ x 1/2″	DN25 x DN15	/ 0.76	0.21 / 0.095	V5003SBI-130
1″ x 3/4″	DN25 x DN20	/ 0.95	0.18 / 0.082	V5003SBI-131

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

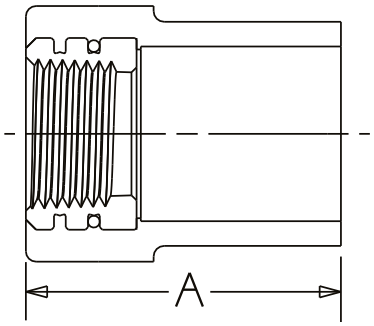
Sprinkler Head Adapter - (Metal Thread Insert)

Spigot x NPT Thread

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) and 1″ (DN25) pipe run, 1/2″ (DN15) outlet.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Threaded Connections :** 1 female threaded NPT outlet.
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



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* LPCB Approved up to and including 2″
** Approval pending.

Sprinkler Head Adapter - (Metal Thread Insert) - Spigot x NPT Thread

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
3/4″ x 1/2″	DN20 x DN15	/ 1.50	0.19 / 0.086	V50032SBI-101
1″ x 1/2″	DN25 x DN15	/ 1.85	0.18 / 0.082	V50032SBI-130

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

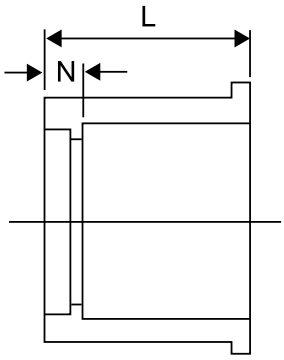
Reducer Bushing

Spigot x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 1″ (DN25) through 3″ (DN80) inlet, 3/4″ (DN20) through 2 1/2″ (DN65) outlet.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



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* LPCB Approved up to and including 2″
** Approval pending.

Reducer Bushing - Spigot x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)		Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	L	N		
1″ x 3/4″	DN25 x DN20	/ 1.28	/ 0.27	**0.05** / 0.023	V5018-131
1 1/4″ x 3/4″	DN32 x DN20	/ 1.41	/ 0.27	**0.05** / 0.023	V5018-167
1 1/4″ x 1″	DN32 x DN25	/ 1.41	/ 0.40	**0.06** / 0.027	V5018-168
1 1/2″ x 3/4″	DN40 x DN20	/ 1.53	/ 0.27	**0.08** / 0.036	V5018-210
1 1/2″ x 1″	DN40 x DN25	/ 1.53	/ 0.40	**0.09** / 0.041	V5018-211
1 1/2″ x 1 1/4″	DN40 x DN32	/ 1.53	/ 0.40	**0.10** / 0.045	V5018-212
2″ x 3/4″	DN50 x DN20	/ 1.66	/ 0.65	**0.20** / 0.091	V5018-248
2″ x 1″	DN50 x DN25	/ 1.66	/ 0.27	**0.22** / 0.100	V5018-249
2″ x 1 1/4″	DN50 x DN32	/ 1.66	/ 0.40	**0.24** / 0.109	V5018-250
2″ x 1 1/2″	DN50 x DN40	/ 1.66	/ 0.52	**0.25** / 0.113	V5018-251
2 1/2″ x 1 1/4″	DN65 x DN32	/ 1.94	/ 0.55	**0.27** / 0.122	V5018-290
2 1/2″ x 1 1/2″	DN65 x DN40	/ 1.94	/ 0.68	**0.31** / 0.141	V5018-291
2 1/2″ x 2″	DN65 x DN50	/ 1.94	/ 0.80	**0.31** / 0.141	V5018-292
3″ x 2″	DN80 x DN50	/ 2.42	/ 0.64	**0.48** / 0.218	V5018-338
3″ x 2 1/2″	DN80 x DN65	/ 2.42	/ 0.91	**0.64** / 0.290	V5018-339

Refer to the "CPVC Equal Tee" datapage or manufacturer's installation instructions for friction loss information.

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)

21-05-2013

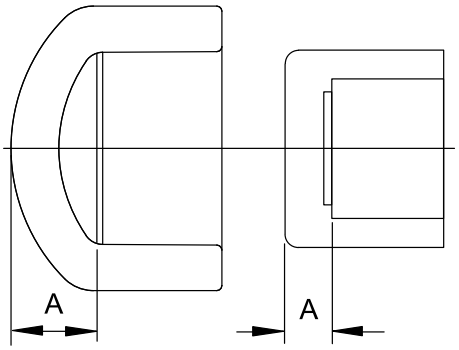
Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

Cap

Socket

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 3″ (DN80) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



* LPCB Approved up to and including 2″
** Approval pending.

Cap - Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
3/4″	DN20	/ 0.31	**0.08** / 0.036	V5017-007
1″	DN25	/ 0.38	**0.14** / 0.064	V5017-010
1 1/4″	DN32	/ 0.40	**0.20** / 0.091	V5017-012
1 1/2″	DN40	/ 0.41	**0.26** / 0.118	V5017-015
2″	DN50	/ 0.42	**0.38** / 0.172	V5017-020
2 1/2″	DN65	/ 0.57	**0.57** / 0.259	V5017-025
3″	DN80	/ 1.26	**0.87** / 0.395	V5017-030

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

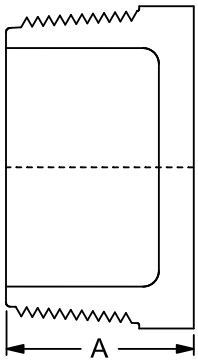
Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

Test Plug

NPT Thread

Technical Features

- **Sizes Available (Nominal) :** 1/2″ (DN15) pipe diameter.
- **Environmental Specifications :** Indoor use only.
  Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** For pressure testing only
- **Threaded Connections :** Threaded NPT
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. This product is FM Approved for pressure testing only.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



* LPCB Approved up to and including 2″
** Approval pending.

Test Plug - Thread

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)	Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A		
1/2″	DN15	/ 1.06	0.03 / 0.014	V450-005

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

VIKING SupplyNet®

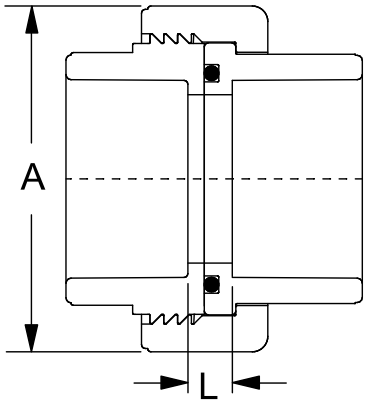
Union

Socket x Socket

CPVC Pipe & Fittings

Technical Features

- **Sizes Available (Nominal) :** 3/4″ (DN20) through 2″ (DN50) pipe diameters.
- **Environmental Specifications :** Indoor use only. Maximum Ambient Temperature : 150°F (65°C)
- **Pressure Data :** Working Pressure : 175 PSI (12.1 bar) at 150°F (65°C)
- **Specifications :** For use with listed CPVC fire sprinkler pipe produced in Standard Dimension Ratio (SDR) 13.5, as specified in ASTM F442.
  CPVC Fire Sprinkler Fittings are produced in Schedule 40 and Schedule 80 dimensions for sizes 3/4″ (DN20) through 1 1/4″ (DN32) and in Schedule 80 for sizes 1 1/2″ (DN40) through 3″ (DN80), in accordance with ASTM F437 (Schedule 80 Threaded Fittings), ASTM F438 (Socket type Schedule 40) and ASTM F439 (Schedule 80 Fittings), as applicable. These products are UL Listed and FM Approved for a rated working pressure of 175 psi (12.1 bar) at 150°F (65°C) for sprinkler service.
  Approved for National Sanitation Foundation (NSF) potable water services and complies with WRAS requirements for cold water use.



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* LPCB Approved up to and including 2″
** Approval pending.

Union - Socket x Socket

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)		Approx. Weight (lbs. / kgs.)	Part Number
inch	metric	A	L		
3/4″	DN20	/ 2.46	/ 0.43	0.27 / 0.122	V5033E-007
1″	DN25	/ 2.70	/ 0.43	0.40 / 0.181	V5033E-010
1 1/4″	DN32	/ 3.31	/ 0.79	0.87 / 0.395	V5033E-012
1 1/2″	DN40	/ 3.58	/ 0.80	0.93 / 0.422	V5033E-015
2″	DN50	/ 3.82	/ 0.80	1.83 / 0.830	V5033E-020
2 1/2″	DN65	/ 4.74	/ 0.93	3.47 / 1.574	V5033E-025
3″	DN80	/ 5.05	/ 1.42	3.95 / 1.792	V5033E-030

CPVC Fittings

Allowances for Friction Loss in Fittings

Nominal Pipe Size		Equivalent Feet / Meters of Pipe				
inch	metric	Tee Run	Tee Branch	90° Elbow	45° Elbow	Coupling
3/4″	DN20	1 / 0.3	3 / 0.9	7 / 2.1	1 / 0.3	1 / 0.3
1″	DN25	1 / 0.3	5 / 1.5	7 / 2.1	1 / 0.3	1 / 0.3
1 1/4″	DN32	1 / 0.3	6 / 1.8	8 / 2.4	2 / 0.6	1 / 0.3
1 1/2″	DN40	1 / 0.3	8 / 2.4	9 / 2.7	2 / 0.6	1 / 0.3
2″	DN50	1 / 0.3	10 / 3.1	11 / 3.4	2 / 0.6	1 / 0.3
2 1/2″	DN65	2 / 0.6	12 / 3.7	12 / 3.7	3 / 0.9	2 / 0.6
3″	DN80	2 / 0.6	15 / 4.6	13 / 4.0	4 / 1.2	2 / 0.6

Datasheet updates the version of 2008-08-12 (Changed WRAS Logo and added note regarding fittings)
21-05-2013

Manufactured for Viking SupplyNet by Nibco Incorporated. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

Streamline®
Tube • Fittings • Valves

COPPER TUBE FOR PLUMBING AND MECHANICAL APPLICATIONS

Job Name _____ **Contractor** _____

Job Location _____ **Wholesaler** _____

Engineer _____ **Streamline® Rep** _____

Product Description:

Streamline® Copper Tube for use in plumbing and mechanical applications. Available sizes (Type K, L, M, & DWV) ranging from ¼" to 8" in diameter. All tube shall be manufactured in the United States.

Material:

Streamline® Copper Tube is manufactured from UNS C12200 grade of copper.

Key Specifications:

Streamline® Copper Tube (Type K, L, M) shall conform to the NSF/ANSI/CAN 61 Annex G requirements and is manufactured to meet ASTM B88. Copper drainage tube (DWV) is made to meet ASTM B306. Copper refrigeration coils, ACR/Nitrogenized straight lengths and line sets are made to meet the chemical, mechanical, cleanness and eddy current testing requirements of the applicable specifications of ASTM B280. Coils are manufactured to 060 temper, and straight lengths are manufactured to H58 temper.

Installation:

Installations shall comply with the latest applicable building codes for the local jurisdiction. For detailed installation instructions, consult the Copper Developement Association at copper.org.

References:

C12200	99.9% Pure Copper (can be used for potable water)
NSF/ANSI/CAN 61 Annex G	Safe Drinking Water Act (third party certification)
ASTM B88	Seamless Copper Water and Gas Tube (Type K, L, M)
ASTM B280	Seamless Copper Tube for Air Conditioning and Refrigerants
ASTM B306	Seamless Drainage Tube Code (DWV)
NSF/ANSI 372	Safe Drinking Water (Lead Content)

Copper [tube or fitting] UNS C12000 has been evaluated by NSF International to NSF/ANSI/CAN 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.

MADE IN USA

A BRAND OF MUELLER INDUSTRIES

COPPER TUBE DATA

Streamline® Copper Tube sets the standard for quality, consistency and service in the plumbing industries. With a full line of copper tube products to support most all plumbing supply and DWV applications, Streamline® Copper Tube is available in all common types including Type K, Type L, Type M and DWV. Each piece of tube is incised marked and color coded for easy, long lasting identity. Manufactured in accordance with applicable standards, our ongoing commitment to quality continues to make Streamline® Copper Tube the preferred and specified brand of industry professionals.

TYPE K — **RATED WORKING PRESSURE (PSIG)**

NOM. DIA.	WT/FT	FT/BNDL	150°F	200°F	300°F	400°F
1/4	0.145	500	913	860	842	537
3/8	0.269	500	960	904	885	565
1/2	0.344	500	758	713	698	446
5/8	0.418	200	626	589	577	368
3/4	0.641	200	724	682	668	426
1	0.839	100	557	524	513	327
1 1/4	1.04	100	452	425	416	266
1 1/2	1.36	100	420	396	387	247
2	2.06	–	370	348	341	217
2 1/2	2.93	–	338	319	312	199
3	4.00	–	328	308	302	193
3 1/2	5.12	–	311	293	286	183
4	6.51	–	306	288	282	180
5	9.67	–	293	276	270	172
6	13.90	–	295	277	271	173
8	25.90	–	314	295	289	184

TYPE L

1/4	0.126	500	775	729	714	456
3/8	0.198	500	662	623	610	389
1/2	0.285	500	613	577	565	361
5/8	0.362	200	537	505	495	316
3/4	0.455	200	495	466	456	291
1	0.655	100	420	395	387	247
1 1/4	0.884	100	373	351	344	219
1 1/2	1.14	100	347	327	320	204
2	1.75	–	309	291	285	182
2 1/2	2.48	–	285	269	263	168
3	3.33	–	270	254	248	159
3 1/2	4.29	–	258	243	238	152
4	5.38	–	249	235	230	147
5	7.61	–	229	215	211	135
6	10.2	–	213	201	196	125
8	19.3	–	230	216	212	135

Tables give computed allowable stress for annealed copper tube at indicated temperature to provide worst case scenario. System designer should account for fitting and joining methodology to determine actual system ratings.

COPPER TUBE DATA

TYPE M **RATED WORKING PRESSURE (PSIG)**

NOM. DIA.	WT/FT	FT/BNDL	150°F	200°F	300°F	400°F
3/8	0.145	500	485	456	447	285
1/2	0.204	500	420	395	387	247
3/4	0.328	200	346	326	319	204
1	0.465	100	286	270	264	169
1 1/4	0.682	100	287	271	265	169
1 1/2	0.94	100	282	265	259	166
2	1.46	-	254	239	234	149
2 1/2	2.03	-	233	219	215	137
3	2.68	-	215	203	199	127
3 1/2	3.58	-	214	202	197	126
4	4.66	-	213	201	197	126
5	6.66	-	198	186	182	116
6	8.92	-	186	175	171	109
8	16.5	-	195	183	180	115

TYPE DWV

NOM. DIA	WT/FT	FT/BNDL	150°F	200°F	300°F	400°F
1 1/4	0.65	100	280	269	258	165
1 1/2	0.809	100	249	240	230	147
2	1.07	-	185	178	170	109
3	1.69	-	135	130	125	80
4	2.87	-	127	122	117	75
5	4.43	-	129	124	119	76
6	6.1	-	126	121	116	74
8	10.6	-	124	119	114	73

Table give computed allowable stress for annealed copper tube at indicated temperature to provide designers for worst case scenario. System designer should account for fitting and joining methodology to determine actual system ratings.

TECHNICAL DATA

Values of allowable internal working pressure for copper tube in service are based on the formula from ANSI B31, Standard Code for Pressure Piping:

$$P = \frac{2\ S\ tm}{D\ max - 0.8\ tm}$$

P = Allowable Pressure
S = Allowable stress
T = Wall thickness
D Max = Outside Diameter

@150°F S = 5100 PSIG annealed
@ 200°F S= 4800PSIG annealed
@ 300°F S= 4700 PSIG annealed
@ 400°F S= 3000 PSIG annealed

All ratings listed for types K, L, M, DWV and refrigeration service tube in the preceding charts are calculated for tube in the annealed condition. These values should be used when soldering, brazing or welding is employed for joining components in a system. While the ratings for hard drawn tube are substantially higher, they should only be used for systems using properly designed flare or compression mechanical joints, since joining by any heating process might anneal (soften) the tube.

In designing a system, careful consideration should also be given to joint ratings as well as those of the components.

COPPER TUBE AND SOLDER TYPE FITTINGS

1. Cut tube square with the cutter or fine hack saw (32 tooth blade is recommended). Remove Burr.

2. Clean outside end of copper tube thoroughly with sand cloth or sandpaper equal depth of fitting. Leave no dark spots.

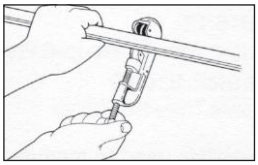
3. Clean inside of fitting carefully to tube stop with wire brush. Note: Sand cloth or sandpaper may also be used.

4. Using a brush, apply light uniform coat of soldering flux to the outside of the tube and inside of the fitting.

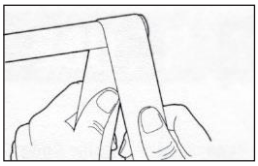
5. Slip tube into fitting to tube stop. Turn tube back and forth once or twice to distribute flux evenly.

6. Apply heat uniformly around the fitting with torch. When solder melts upon contact with heated fitting, the proper soldering temperature has been reached. Remove flame and feed solder slightly off center at the bottom of the joint. Proceed across the bottom of the fitting and up to the top center position. Return to the starting point, and then proceed up the incomplete side to the top, again, overlapping the solder metal. Wipe off surplus solder with a piece of cloth.

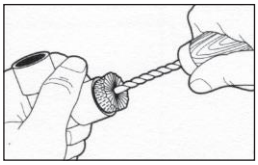
CAUTION: No not overheat the joint or direct the flame into the face of the fitting cup. Overheating could burn the flux, which will destroy its effectiveness and the solder will not enter the joint properly.



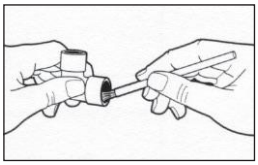
1. Cut tube to length & remove burr with file or scraper.



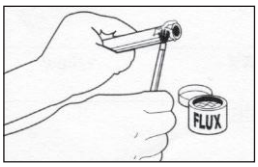
2. Clean outside of tube with sandpaper or sand cloth.



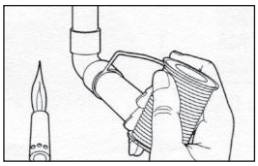
3. Clean inside of fitting with wire brush, sand cloth or sandpaper.



4. Apply flux thoroughly to inside of fitting.



5. Apply flux thoroughly to outside of tube - assemble tube and fitting.



6. Apply heat with torch. When solder melts upon contact with heated fitting, the proper temp for soldering has been reached. Remove flame & feed solder to the joint at one or two points until a ring of solder appears at the end of the fitting.

COPPER PRESS FITTINGS FOR PLUMBING AND MECHANICAL APPLICATIONS

JOB NAME _____ **CONTRACTOR** _____

JOB LOCATION _____ **WHOLESALER** _____

ENGINEER _____ **STREAMLINE® REP** _____

PRODUCT DESCRIPTION:

Streamline® PRS Copper Press Fittings are for use in plumbing or mechanical applications. Available sizes ranging from 1/2" to 4" in diameter. Product is designed to join ASTM B88 (Types K, L, M) hard-drawn copper tube (1/2″ to 4″) and soft copper tube (1/2″ to 1-1/4").

Integral leak detection feature helps identify unpressed connections prior to putting the system in operation.

Streamline® PRS Copper Press Fittings mechanical press fittings are compatible with most common pressing tools and jaws.

50 – Year Limited Warranty

MATERIAL:

Components in a Streamline® PRS Copper Press Fittings are: UNS C12200 Copper / C69300 low-lead brass for the body, EPDM o-ring, silicone o-ring lubrication, and stainless steel grip ring with a nylon spacer (2-1/2"-4" only).

KEY SPECIFICATIONS:

Streamline® PRS Copper Press Fittings shall conform to material requirements of ASME B16.22, ASME B16.51, or ASME B16.18. Performance criteria of Streamline® PRS Copper Press Fittings shall conform to IAPMO PS-117 or ASME B16.51.

INSTALLATION:

Streamline® PRS Copper Press Fittings are approved for installations in both above and below ground applications, as allowed by local code. Product installation shall comply with the latest applicable building codes for the local jurisdiction and manufacturer's instructions.

REFERENCES:

NSF/ANSI 61	Drinking Water System Components
NSF/ANSI 372	Lead Content Compliance
IAPMO PS-117	Press and Nail Connection
ASME B16.51	Copper and Copper Alloy Press-Connect Pressure Fittings
UPC	Uniform Plumbing Code
CSA	Canada NSF/ANSI 61 and NSF/ANSI 372 Compliant
ABS	American Bureau of Shipping

UNDERGROUND BURIAL:

Streamline® PRS Copper Press Fittings are approved for installations in both above and below ground applications, as allowed by local code. Product installation shall comply with the latest applicable building codes for the local jurisdiction and manufacturer's instructions.

SEAL LUBRICATION:

If additional seal lubrication is required, silicon or non-petroleum based lubricants must be used. Do not use any type of oil lubrication.

DIELECTRIC UNION INSTALLATION – JOINING DISSIMILAR METALS:

Dielectric unions are only intended for use in the connection of copper to galvanized or bare carbon steel or other ferrous alloys as appropriate. Insulating components within the dielectric union prevent these dissimilar metals from making physical contact, which provides substantial corrosion protection. Dielectric unions are not necessary for integrating stainless steel components into copper water systems as quality stainless alloys are already compatible with copper and copper alloys. This is why stainless steel balls can be used in brass ball valves with no adverse effects. Failure to follow appropriate means for isolating dissimilar metals can lead to rapid corrosion and serious system issues.

Mueller Streamline Co. • 150 Schilling Blvd., Suite 201, Collierville, TN 38017 • **800.348.8464** • www.muellerstreamline.com • November 2022

TOOLS & INSTALLATION GUIDELINES

TOOL & JAW COMPATIBILITY

1/2" — 1"

NIBCO Mini Tool w/ Mini Jaws

Rothenberger Compact Tool w/Compact Jaws

1/2" — 1-1/4"

Milwaukee M12 Tool w/ Compact CTS Jaws

REMS Mini Tool w/ Mini Jaws

Ridgid Compact Tools w/ Compact Jaws

Klauke MAP Tool w/ Mini Jaws

1/2" — 2"

Milwaukee M18 Tool w/ Standard CTS Jaws

NIBCO Standard Tool w/ Standard Jaws

REMS Standard Tools w/ Standard Jaws

Ridgid Standard Tools w/ Standard Jaws

Rothenberger Standard Tools w/ Standard Jaws

Klauke UPA Tool w/ Standard Jaws

DeWalt 20V Max Tool w/Standard Jaws

Hilti Press Tool NPR 32-A22

2-1/2" — 4"

Milwaukee M18 FORCE LOGIC™ Tools w/ Rings & Ring Jaw

REMS Standard Tools w/ Rings & Z5 Adapter Tong

Ridgid Standard Tools w/ Rings & V2 Actuator Jaw

DeWalt 20V Max Tool w/ Rings and Actuator

Hilti Press Rings & Actuator

DISTANCE BETWEEN JOINTS PRESSING NEAR AN EXISTING PRESS CONNECTION

MINIMUM DISTANCE BETWEEN STREAMLINE PRS™ JOINTS		
TUBE DIAMETER	MINIMUM DISTANCE REQUIRED	
NOMINAL INCH	INCH	MM
1/2″	—	—
3/4″	—	—
1″	—	—
1-1/4″	7/16″	10
1-1/2″	5/8″	15
2″	3/4″	20
2-1/2″	5/8″	15
3″	5/8″	15
4″	5/8″	15

SOLDERING OR BRAZING NEAR AN EXISTING PRESS CONNECTION

The installer should take precautions to keep the press connection cool. These methods may include:

1) wrapping the press connection with a cold wet cloth,
2) fabricating solder connections prior to installing the press fitting, or
3) applying spray-type cooling gels.

TUBE DIAMETER NOMINAL INCH	SOLDERING		BRAZING	
	MINIMUM DISTANCE		MINIMUM DISTANCE	
	INCH	MM	INCH	MM
1/2″	1-1/2″	38	4-1/2″	114
3/4″	2-1/4″	57	6-3/4″	172
1″	3″	76	9″	229
1-1/4″	3-3/4″	95	11-1/4″	286
1-1/2″	4-1/2″	114	13-1/2″	343
2″	6″	153	18″	457
2-1/2″	7-1/2″	191	22-1/2″	572
3″	9″	229	27″	686
4″	12″	305	36″	915

PRESSING NEAR AN EXISTING SOLDERED OR BRAZED CONNECTION

The installer should ensure there is no residual solder or other debris on the tubing to be inserted into the Streamline® PRS Copper Press Fitting.

TUBE DIAMETER NOMINAL INCH	MINIMUM DISTANCE	
	INCH	MM
1/2″	1/4″	7
3/4″	1/4″	7
1″	7/16″	11
1-1/4″	7/16″	11
1-1/2″	5/8″	16
2″	3/4″	19
2-1/2″	1/4″	7
3″	1/4″	7
4″	1/4″	7

Tool & Jaw Compatibility

	NIBCO Mini Jaws (PC-1 M, PC-2M, PC-3M)	Rothenberger Compact Jaws V/SV	RIGID ProPress Compact Pressing Jaws	Milwaukee M12 CTS Pressing Jaws	NIBCO Mini Jaws	Rigid C1 Compact Jaws	RIGID ProPress V1 Kit	Klauke Mini Jaws	Milwaukee M18 Standard CTS Jaws	Standard Hilti Press Jaws	NIBCO Press System Standard Pressing Jaws	REMS Standard Pressing Jaws	RIGID ProPress Standard Pressing Jaws	Rothenberger Standard Pressing Jaws	Dewalt Standard Jaws	Klauke Standard Jaws	Milwaukee M18 Rings & Ring Jaws	REMS Rings & Z5 Adapter Tong	RIGID XL-C Rings & V2 Actuator	Hilti Press Rings & Actuator
	1/2" - 1"			1/2" - 1 -1/4"					1/2" - 2"								2 1/2" - 4"			
NIBCO Mini Tool PC-20M	X																			
NIBCO Mini Tool PC-10M	X																			
Rothenberger Compact		X																		
Milwaukee M12 FORCE LOGIC Tool				X																
REMS Mini-Press ACC					X															
RIGID 100-B Compact			X			X														
RIGID RP 210-B Compact			X			X														
RIGID RP 200-B			X			X														
Klauke MAP 215 Tool								X												
Milwaukee M18 FORCE LOGIC Tool									X								X			
NIBCO Standard PC-280 Tool											X									
NIBCO Standard PC-100 Tool											X									
REMS Akku-Press												X						X		
REMS Power-Press												X						X		
Rigid RP 320-E							X						X							
RIGID RP 330-B							X						X						X	
RIGID CT400							X						X							
RIGID RP 330-C							X						X						X	
RIGID RP 340													X						X	
Rothenberger ROMAX Pressliner														X						
Rothenberger ROMAX AC ECO														X						
Dewalt 20V MAX Press Tool															X					
Klauke UPA Tool																X				
Hilti Press Tool NPR 32-A22										X										X

Tool & Jaw Compatibility

MILWAUKEE		
TOOL		CAPACITY
M12 FORCE LOGIC Press Tool (2473-20)		1/2″– 1-1/4″
M18 FORCE LOGIC Press Tool (2773-20)		1/2″– 4″
M18 FORCE LOGIC Long Throw Press Tool (2773-20L)		1/2″– 4″
JAW	SERIES	CAPACITY
M12 Compact CTS Jaws	49-16-2450	1/2″
	49-16-2451	3/4″
	49-16-2452	1″
	49-16-2453	1-1/4″
M18 Standard CTS Jaws	49-16-2650	1/2″
	49-16-2651	3/4″
	49-16-2652	1″
	49-16-2653	1-1/4″
	49-16-2654	1-1/2″
	49-16-2655	2″
M18 Rings and Jaws	49-16-2656	2-1/2″
	49-16-2657	3″
	49-16-2658	4″
	49-16-2659	Ring Jaw

DEWALT		
TOOL		CAPACITY
20V MAX Press Tool (DCE200M2)		1/2″– 4″
JAW	SERIES	CAPACITY
Standard Jaws	DCE200012	1/2″
	DCE200034	3/4″
	DCE200100	1″
	DCE200114	1-1/4″
	DCE200112	1-1/2″
	DCE200200	2″

RIGID		
TOOL		CAPACITY
RP 240 Press Tool (57413)		1/2″– 1-1/4″
RP 241 Press Tool (57383)		1/2″– 1-1/4″
RP 340 Press Tool (43348)		1/2″– 4″
RP 210-B Press Tool*		1/2″– 1-1/4″
RP 330-B Press Tool*		1/2″– 4″
RP 330-C Press Tool		1/2″– 4″
JAW	SERIES	CAPACITY
Compact Series Jaws	16958	1/2″
	16963	3/4″
	16978	1″
	31228	1-1/4″
Standard Series Jaws	76652	1/2″
	76657	3/4″
	76662	1″
	76667	1-1/4″
	76672	1-1/2″
	76677	2″
Press Rings	27998	1/2″
	28003	3/4″
	28008	1″
	28013	1-1/4″
	28018	1-1/2″
	28023	2″
	20543	2-1/2″
	20548	3″
	20553	4″
	28033	V1 Actuator
	26163	C1 Actuator
	21878	V2 Actuator

NIBCO		
TOOL		CAPACITY
Mini Press Tool (PC-20M)		1/2″– 1-1/4″
Press Tool (PC-280)		1/2″– 2″
JAW	SERIES	CAPACITY
Mini Jaws	PC-1M	1/2″
	PC-2M	3/4″
	PC-3M	1′
Standard Jaws	PC-10S	1/2″
	PC-11S	3/4″
	PC-12S	1″
	PC-13S	1-1/4″
	PC-14S	1-1/2″
	PC-15S	2″

REMS		
TOOL		CAPACITY
Mini Press ACC (578012)		3/8″ – 1″
Akku-Press (571013/4)		3/8″ – 4″
Power Press (572010/110)		3/8″ – 4″
JAW	SERIES	CAPACITY
Mini Press Tongs	578566	1/2″
	578568	3/4″
	578570	1″
	578606	1-1/4″
Standard Size Press Tongs	571770	1/2″
	5741775	3/4″
	571780	1″
	571785	1-1/4″
	571790	1 1/2″
	571795	2″
Press Rings	572819R	2 1/2″
	572820R	3″
	572821R	4″
	572802RX	Adapter Tong 25

STANLEY-VIRAX*		
JAW	SERIES	CAPACITY
Copper Inserts	252933	1/2″
	252934	3/4″
	252935	1′
Standard Jaws	253291	1/2″
	253292	3/4″
	253293	1″
	253294	1-1/4″
	253295	1-1/2″
	253296	2″

ROTHENBERGER		
JAW	SERIES	CAPACITY
Mini Jaws	15031V	1/2″
	15032V	3/4″
	15033V	1″
Standard Jaws	15222X	1/2″
	15223X	3/4″
	15224X	1″
	15225X	1-1/4″
	15226X	1-1/2″
	15227X	2″

HILTI		
TOOL		CAPACITY
Hilti Pipe Press Tool NPR 32-A22		1/2″– 4″
JAW	SERIES	CAPACITY
Hilti Standard Press Jaw	2217399	1/2”
	2217417	3/4”
	2217411	1”
	2217397	1 1/4”
	2217412	1 1/2”
	2217398	2”
Hilti Press Rings and Actuator	2217413	2 1/2”
	2217414	3”
	2217396	4”
	2228526	Actuator

No longer offered

APPROVED APPLICATIONS FOR 1/2" TO 4" STREAMLINE® PRS COPPER PRESS FITTINGS:

Types of Service	Comments	Pressure	Temperature	Compatible with EPDM Seal
FLUIDS/WATER POTABLE				
Hot and Cold Water	—	300 PSI	32°F to 250°F	√
Rainwater / Grey Water	—	300 PSI	-20°F to 250°F	√
Hydronic Heating	Up to 50% Ethylene Glycol or Propylene Glycol solution	300 PSI	-20°F to 250°F	√
Cooling Water	Up to 50% Ethylene Glycol or Propylene Glycol solution	300 PSI	-20°F to 250°F	√
Low-Pressure Steam	—	UP TO 5 PSI	248°F	√
FUEL, OIL AND LUBRICANT				
Ethanol	Pure Grain Alcohol	200 PSI	—	√
NON-MEDICAL GASES				
Compressed Air	Less than 25mg/m^3 oil content	200 PSI	Up to 140°F	√
Oxygen - O_2 (non medical)	Keep oil and fat free/non-liquid O_2	140 PSI	Up to 140°F	√
Nitrogen - N_2	—	200 PSI	Up to 140°F	√
Argon	Welding Use	200 PSI	Up to 140°F	√
Hydrogen - H_2	—	125 PSI	Up to 140°F	√
Vacuum	—	Max 29.2 inches of Mercury	Up to 140°F	√
Carbon Dioxide - CO_2	Dry	200 PSI	Up to 140°F	√

TESTING INSTRUCTIONS FOR STREAMLINE® PRS COPPER PRESS FITTINGS:

Low-pressure air or water testing can be useful to assist in identifying any un-pressed connections. Leak testing with air can be dangerous at high pressures. When testing with compressed air the proper pressure range is 5 PSI to 15 PSI maximum. When testing with water the proper pressure range is 15 PSI to 50 PSI maximum. Following a successful leak test, the system may be pressure tested with air – recommended at 200 PSI up to a maximum 450 PSI – or with water – recommended at 200 PSI up to a maximum of 450 PSI – as required by local code requirements or project specifications.

SPECIFICATION LANGUAGE:

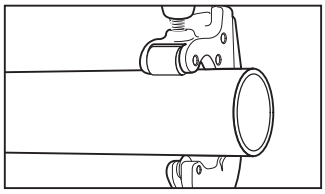
Press Fitting: Shall conform to material requirements of ASME B16.22, ASME B16.51, or ASME B16.18. Performance criteria of mechanical pressed copper fittings shall conform to IAPMO PS-117 or ASME B16.51

a. Operating pressure: 300 PSI CWP Max
b. Temperature range: -20°F to 250°F
c. EPDM sealing element, factory installed

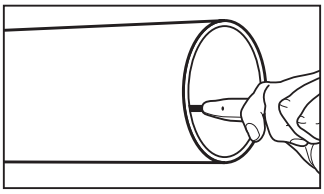
-OR-

Mechanical pressed copper fittings. Jointing piping similar to Mueller Industries Streamline PRS™, Viega ProPress, or approved equal may be used.

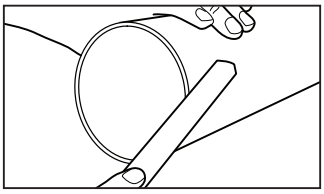
Installation Instructions (1/2" - 2")



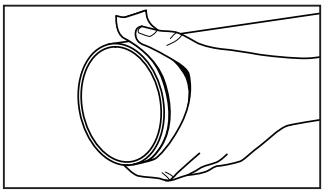
1. Cut tube square using a tube cutter or fine tooth saw.



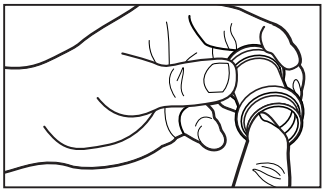
2. Deburr tube ID using a deburring tool.



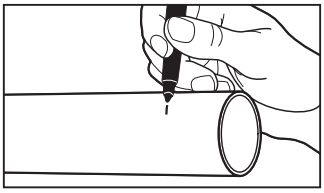
3. Deburr tube OD using half round file.



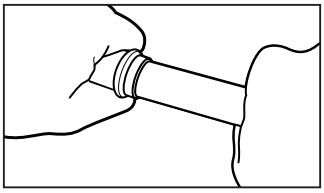
4. Sand tube OD with sand cloth. Tube surface should be free of indentation, scratches, & deformations.



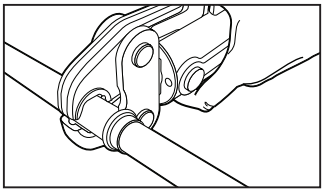
5. Check fitting bead to ensure seal is present. Do not use any type of oil lubrication.



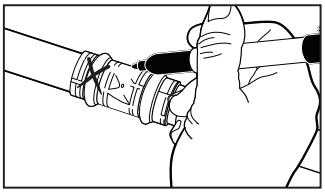
6. Mark tube to proper fitting insertion depth (see Insertion Depth Chart below).



7. Turn slightly while sliding press fitting onto tube. Slide all the way to insertion mark & make contact with stop.



8. Place press tool at a right angle over fitting bead. Start the pressing process. Please see specific tool manufacturer for tool instruction.

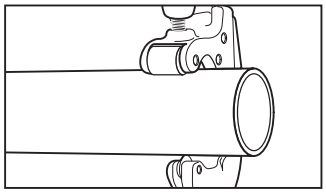


9. Mark joint site with an "X" once crimping process is complete to verify that the connection has been pressed.

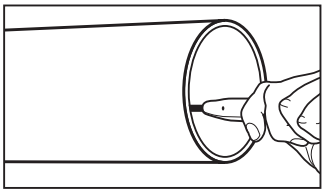
Streamline® PRS Copper Press Fittings Insertion Depth Chart (1/2" - 2")						
Tube Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Insertion Depth	3/4"	7/8"	7/8"	1"	1-7/16"	1-9/16"

Streamline® PRS Copper Press Fittings must be connected with approved press tool. Please see specific tool manufacturer for tool instruction.

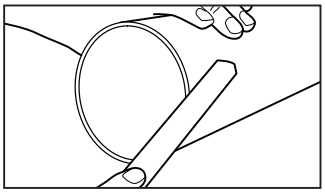
Installation Instructions (2-1/2" - 4")



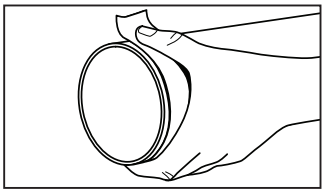
1. Cut tube square using a tube cutter or fine tooth saw.



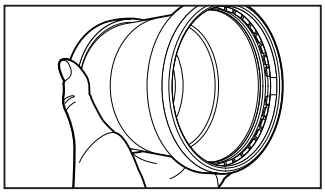
2. Deburr tube ID using a deburring tool.



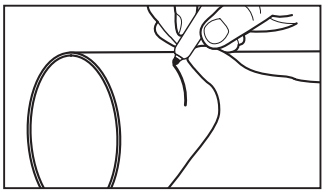
3. Deburr tube OD using half round file.



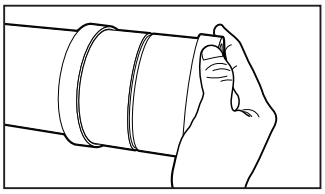
4. Sand tube OD with sand cloth. Tube surface should be free of indentation, scratches, & deformations.



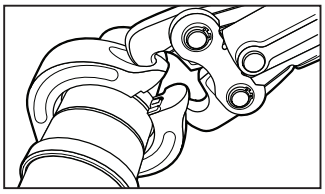
5. Check fitting ends to ensure seal, grip ring and nylon spacer are present. Do not use any type of oil lubrication.



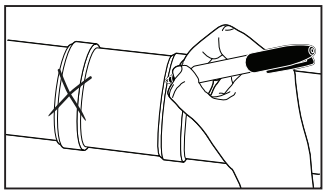
6. Mark tube to proper fitting insertion depth (see Insertion Depth Chart below).



7. Turn slightly while sliding press fitting onto tube. Slide all the way to insertion mark & make contact with stop.



8. Place press-ring at a right angle over fitting bead & check for proper engagement. Start the pressing process. See specific tool manufacturer for tool instruction.

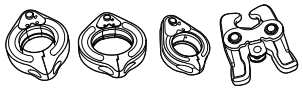


9. Mark joint site with an "X" once crimping process is complete to verify that the connection has been pressed.

Streamline® PRS Copper Press Fittings Insertion Depth Chart (2-1/2" - 4")			
Tube Size	2-1/2"	3"	4"
Insertion Depth	1-3/4"	1-7/8"	2-1/8"

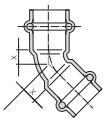
WARNING

Failure to follow all instructions could affect joint/system integrity and may lead to property damage. Call Customer Service at 1-800-FITTING if you have any questions or need assistance.



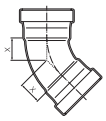
Large diameter (2-1/2" – 4") Streamline® PRS Copper Press Fittings must be connected with approved press tool and press-rings. Please see specific tool manufacturer for tool instruction.

45° ELBOW • SMALL
P x P



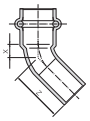
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 03026	1/2"	0.28	0.10	10	77607
PF 03034	3/4"	0.37	0.15	10	77023
PF 03044	1"	0.45	0.21	5	77028
PF 03050	1-1/4"	0.51	0.30	1	77033
PF 03055	1-1/2"	0.59	0.58	1	77038
PF 03059	2"	0.79	0.82	1	77043

45° ELBOW • LARGE
P x P



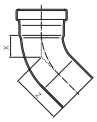
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 03063	2-1/2"	1.30	1.74	1	20653
PF 03067	3"	1.57	2.27	1	20658
PF 03073	4"	2.07	4.11	1	20663

45° ELBOW • STREET • SMALL
FTG x P



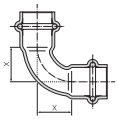
Item No.	Diameter	X	Z	Wgt.	Inner	Viega No.
PF 03326	1/2"	0.28	1.10	0.09	10	77637
PF 03334	3/4"	0.37	1.32	0.15	10	77053
PF 03344	1"	0.45	1.44	0.20	5	77058
PF 03350	1-1/4"	0.51	1.67	0.28	1	77063
PF 03355	1-1/2"	0.59	2.13	0.56	1	77068
PF 03359	2"	0.79	2.48	0.80	1	77073

45° ELBOW • STREET • LARGE
FTG x P



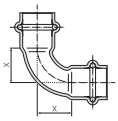
Item No.	Diameter	X	Z	Wgt.	Inner	Viega No.
PF 03363	2-1/2"	1.30	3.23	1.57	1	20668
PF 03368	3"	1.57	3.50	2.32	1	20673
PF 03373	4"	2.07	4.59	3.96	1	20678

90° ELBOW • SHORT RADIUS • SMALL
P x P



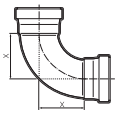
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 02722	1/2"	0.75	0.12	10	77317
PF 01634	3/4''	0.75	0.18	10	77022
PF 01647	1''	1.22	0.28	5	77027
PF 02084	1-1/4''	1.22	0.35	1	77032
PF 02085	1-1/2''	1.24	0.63	1	77037
PF 02086	2''	2.05	1.07	1	77042

90° ELBOW • LONG RADIUS • SMALL
P x P



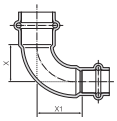
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 02722	1/2"	0.75	0.12	10	77317
PF 02734	3/4"	1.30	0.20	10	-
PF 02747	1"	1.30	0.29	5	-
PF 02055	1-1/4"	1.65	0.40	1	-
PF 02063	1-1/2"	2.01	0.79	1	-
PF 02072	2"	2.52	1.21	1	-

90° ELBOW • LONG RADIUS • LARGE
P x P



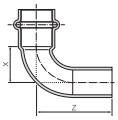
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 02082	2-1/2"	2.99	2.10	1	20623
PF 02092	3"	3.58	3.09	1	20628
PF 02095	4"	4.74	5.62	1	20633

90° ELBOW • LONG RADIUS • REDUCING • SMALL
P x P



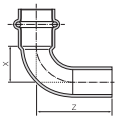
Item No.	Diameter	X	X1	Wgt.	Inner	Viega No.
PF 02736	3/4" x 1/2"	1.02	1.26	0.19	15	77325
PF 02749	1" x 3/4"	1.30	1.54	0.30	10	77330

90° ELBOW • SHORT RADIUS • STREET • SMALL
FTG x P



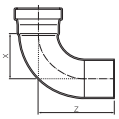
Item No.	Diameter	X	Z	Wgt.	Inner	Viega No.
PF 01654	3/4"	0.75	2.01	0.16	10	77052
PF 02344	1"	1.22	2.28	0.27	5	77057
PF 02384	1-1/4"	1.22	2.84	0.35	1	77062
PF 02385	1-1/2"	1.24	3.52	0.64	1	77067
PF 02386	2"	2.05	4.15	1.05	1	77072

90° ELBOW • LONG RADIUS • STREET • SMALL
FTG x P



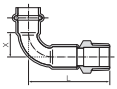
Item No.	Diameter	X	Z	Wgt.	Inner	Viega No.
PF 02822	1/2"	0.75	1.57	0.11	10	77347
PF 02834	3/4"	1.02	2.01	0.19	10	-
PF 02847	1"	1.30	2.28	0.27	5	-
PF 02350	1-1/4"	1.65	2.83	0.41	1	-
PF 02355	1-1/2"	2.01	3.52	0.76	1	-
PF 02359	2"	2.52	4.15	1.16	1	-

90° ELBOW • LONG RADIUS • STREET • LARGE
FTG x P



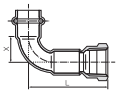
Item No.	Diameter	X	Z	Wgt.	Inner	Viega No.
PF 02363	2-1/2"	2.99	5.00	2.05	1	20638
PF 02368	3"	3.58	5.58	3.04	1	20643
PF 02395	4"	4.74	7.05	5.70	1	20648

90° ELBOW • MALE • SMALL
P x MPT



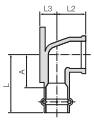
Item No.	Diameter	L	X	Wgt.	Inner	Viega No.
PF 01506	1/2"	2.82	0.75	0.23	5	-
PF 01531	3/4"	3.36	1.02	0.39	5	-
PF 01558	1"	3.76	1.30	0.60	1	-
PF 01593	1-1/4"	4.41	1.65	0.81	1	-
PF 01631	1-1/2"	5.22	2.01	1.42	1	-
PF 01679	2"	5.98	2.52	2.12	1	-

90° ELBOW • FEMALE • SMALL
P x FPT



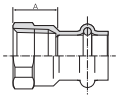
Item No.	Diameter	L	X	Wgt.	Inner	Viega No.
PF 01507	1/2"	2.65	0.75	0.23	5	79525
PF 01532	3/4"	3.24	1.02	0.37	5	79540
PF 01559	1"	3.57	1.30	0.55	1	79550
PF 01594	1-1/4"	4.13	1.65	0.74	1	79560
PF 01632	1-1/2"	4.95	2.01	1.34	1	79565
PF 01680	2"	5.67	2.52	1.98	1	79570

90° ELBOW • DROP EAR • SMALL
P x FPT



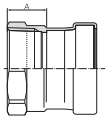
Item No.	Diameter	A	L	L2	L3	Wgt.	Inner	Viega No.
PF 01508	1/2"	0.88	1.63	0.76	0.75	0.25	5	79190
PF 02581	3/4"	1.09	2.00	1.25	0.87	0.44	5	79195

ADAPTER • FEMALE • SMALL
P x FPT



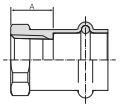
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01231	1/2"	0.70	0.10	10	79300
PF 01246	3/4"	0.87	0.17	10	79315
PF 01263	1"	0.89	0.25	10	79330
PF 01271	1-1/4"	0.96	0.35	1	79350
PF 01279	1-1/2"	1.02	0.53	1	79365
PF 01287	2"	1.06	0.78	1	79370

ADAPTER • FEMALE • LARGE
P x FPT



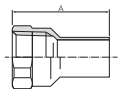
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01296	2-1/2"	1.30	1.25	1	20819
PF 01297	3"	1.54	1.85	1	20829

ADAPTER • FEMALE • REDUCING • SMALL
P x FPT



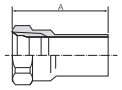
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01232	1/2" x 3/8"	0.53	0.07	10	79295
PF 01230	1/2" x 3/4"	0.98	0.15	10	79305
PF 01247	3/4" x 1/2"	0.71	0.17	10	79310
PF 01265	1" x 1/2"	0.73	0.29	10	79320
PF 01264	1" x 3/4"	0.71	0.22	10	79325
PF 01261	1" x 1-1/4"	1.40	0.46	10	79335
PF 01272	1-1/4" x 1"	0.85	0.29	1	79345
PF 01270	1-1/4" x 1-1/2"	1.56	0.62	1	79355
PF 01280	1-1/2" x 1-1/4"	0.94	0.46	1	79360

ADAPTER • FEMALE • STREET • SMALL
FTG x FPT



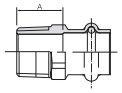
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 15310	1/2"	1.59	0.09	5	79430
PF 01546	3/4"	1.90	0.15	5	79445
PF 01563	1"	1.96	0.23	1	79450
PF 01571	1-1/4"	2.17	0.32	1	79465
PF 01579	1-1/2"	2.63	0.49	1	79470
PF 01587	2"	2.84	0.75	1	79475

ADAPTER • FEMALE • STREET • REDUCING • SMALL
FTG x FPT



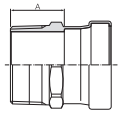
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01534	1/2" x 3/4"	1.87	0.15	5	79435
PF 01547	3/4" x 1/2"	1.81	0.15	5	79440
PF 01564	1" x 3/4"	1.77	0.15	5	-

ADAPTER • MALE • SMALL
P x MPT



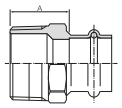
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01131	1/2"	0.89	0.11	10	79215
PF 01146	3/4"	0.89	0.19	10	79230
PF 01163	1"	1.06	0.28	10	79245
PF 01171	1-1/4"	0.99	0.37	1	79260
PF 01179	1-1/2"	1.19	0.63	1	79275
PF 01187	2"	1.28	0.90	1	79290

ADAPTER • MALE • LARGE
P x MPT



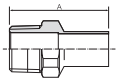
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01196	2-1/2"	1.97	1.62	1	20823
PF 01199	3"	2.11	2.23	1	20828
PF 01150	4"	2.32	3.83	1	20838

ADAPTER • MALE • REDUCING • SMALL
P x MPT



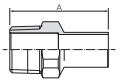
ITEM NO.	Diameter	A	Wgt.	Inner	Viega No.
PF 01132	1/2" x 3/8"	0.71	0.09	10	79210
PF 01130	1/2" x 3/4"	0.97	0.19	10	79220
PF 01147	3/4" x 1/2"	0.90	0.17	10	79225
PF 01145	3/4" x 1"	1.20	0.30	10	79235
PF 01164	1" x 3/4"	0.92	0.24	10	79240
PF 01162	1" x 1-1/4"	1.23	0.45	10	79250
PF 01172	1-1/4" x 1"	1.10	0.35	1	79255
PF 01170	1-1/4" x 1-1/2"	1.30	0.59	1	79265
PF 01180	1-1/2" x 1-1/4"	1.19	0.59	1	79270
PF 01178	1-1/2" x 2"	1.75	1.01	1	79280
PF 01188	2" x 1-1/2"	1.42	0.92	1	79285

ADAPTER • MALE • STREET • SMALL
FTG x MPT



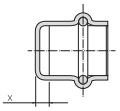
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01431	1/2"	1.75	0.10	5	79380
PF 01446	3/4"	2.02	0.17	5	79395
PF 01463	1"	2.15	0.27	5	79405
PF 01471	1-1/4"	2.44	0.41	1	79410
PF 01479	1-1/2"	2.90	0.59	1	79415
PF 01487	2"	3.15	0.89	1	79420

ADAPTER • MALE • STREET • REDUCING • SMALL
FTG x MPT



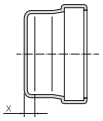
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01434	1/2" x 3/4"	2.05	0.18	5	79385
PF 01447	3/4" x 1/2"	1.95	0.16	5	79390
PF 01464	1" x 3/4"	2.03	0.20	5	79400

CAP • SMALL
P



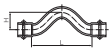
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 07007	1/2"	0.10	0.05	10	77712
PF 07009	3/4"	0.11	0.08	10	77717
PF 07011	1"	0.11	0.10	5	77722
PF 07012	1-1/4"	0.11	0.15	1	77727
PF 07013	1-1/2"	0.12	0.28	1	77732
PF 07014	2"	0.13	0.41	1	77737

CAP • LARGE
P



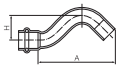
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 07015	2-1/2"	0.33	0.68	1	20833
PF 07016	3"	0.33	0.97	1	20843
PF 07018	4"	0.39	1.68	1	20848

COUPLING • CROSS OVER • SMALL
P x P



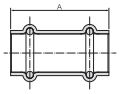
Item No.	Diameter	H	L	Wgt.	Inner	Viega No.
PF 02535	1/2"	0.94	3.33	0.21	10	77742
PF 02583	3/4"	1.28	4.84	0.39	10	77747

COUPLING • CROSS OVER • STREET • SMALL
FTG x P



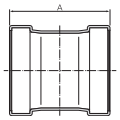
Item No.	Diameter	A	H	Wgt.	Inner	Viega No.
PF 12535	1/2"	3.78	0.94	0.15	10	-
PF 12583	3/4"	5.31	1.28	0.31	10	-

COUPLING • NO STOP • SMALL
P x P



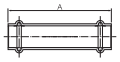
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01903	1/2"	1.50	0.08	10	78172
PF 01905	3/4"	1.81	0.13	10	78177
PF 01906	1"	1.81	0.16	5	78182
PF 01907	1-1/4"	2.05	0.22	1	78187
PF 01908	1-1/2"	2.83	0.46	1	78192
PF 01909	2"	3.15	0.61	1	78197

COUPLING • NO STOP • LARGE
P x P



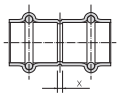
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01910	2-1/2"	3.54	1.09	1	20743
PF 01911	3"	3.86	1.45	1	20748
PF 01913	4"	4.49	2.43	1	20753

COUPLING • NO STOP • EXTENDED • SMALL
P x P



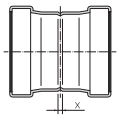
Item No.	Diameter	A	Wgt.	Inner	Viega No.
PF 01950	1/2"	2.95	0.13	5	79005
PF 01952	3/4"	3.41	0.20	5	79010
PF 01955	1"	3.94	0.30	5	79015
PF 01956	1-1/4"	4.13	0.38	1	79020
PF 01957	1-1/2"	4.72	0.70	1	79025
PF 01958	2"	5.31	0.95	1	79030

COUPLING • STAKED STOP • SMALL
P x P



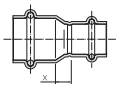
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 10145	1/2"	0.08	0.08	10	78047
PF 10146	3/4"	0.08	0.13	10	78052
PF 10147	1"	0.08	0.16	5	78057
PF 10148	1-1/4"	0.08	0.22	1	78062
PF 10149	1-1/2"	0.08	0.46	1	78067
PF 10150	2"	0.08	0.61	1	78072

COUPLING • STAKED STOP • LARGE
P x P



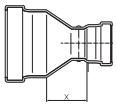
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 10151	2-1/2"	0.16	1.09	1	20728
PF 10152	3"	0.16	1.45	1	20733
PF 10154	4"	0.16	2.43	1	20738

COUPLING • REDUCING • SMALL
P x P



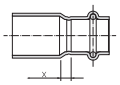
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 01036	3/4" x 1/2"	0.33	0.12	10	78147
PF 01051	1" x 1/2"	0.53	0.16	10	15603
PF 01049	1" x 3/4"	0.30	0.18	10	78152
PF 01060	1-1/4" x 1/2"	0.71	0.21	1	-
PF 01058	1-1/4" x 3/4"	0.51	0.24	1	15593
PF 01056	1-1/4" x 1"	0.31	0.23	1	78157
PF 01069	1-1/2" x 1/2"	0.91	0.37	1	-
PF 01067	1-1/2" x 3/4"	0.69	0.39	1	18473
PF 01065	1-1/2" x 1"	0.49	0.38	1	15588
PF 01064	1-1/2" x 1-1/4"	0.37	0.39	1	78162
PF 01079	2" x 1/2"	1.28	0.55	1	-
PF 01077	2" x 3/4"	1.10	0.55	1	18468
PF 01075	2" x 1"	0.81	0.47	1	15608
PF 01074	2" x 1-1/4"	0.73	0.55	1	22328
PF 01073	2" x 1-1/2"	0.51	0.64	1	78167

COUPLING • REDUCING • LARGE
P x P



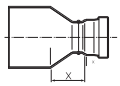
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 01086	2-1/2" x 1"	1.54	0.87	1	20685
PF 01085	2-1/2" x 1-1/4"	1.65	0.88	1	20690
PF 01084	2-1/2" x 1-1/2"	1.50	1.00	1	20695
PF 01083	2-1/2" x 2"	1.12	1.04	1	20700
PF 01095	3" x 1-1/2"	1.83	1.26	1	20705
PF 01094	3" x 2"	1.50	1.29	1	20710
PF 01093	3" x 2-1/2"	1.14	1.43	1	20715
PF 10111	4" x 2"	2.24	2.08	1	20720
PF 10110	4" x 2-1/2"	1.93	2.19	1	20725
PF 10109	4" x 3"	1.54	2.33	1	20730

FITTING REDUCER • SMALL
FTG x P



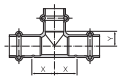
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 01326	3/4" x 1/2"	0.20	0.11	10	78077
PF 01339	1" x 1/2"	0.41	0.13	10	78082
PF 01337	1" x 3/4"	0.24	0.15	10	78087
PF 01347	1-1/4" x 1/2"	0.59	0.17	5	22333
PF 01345	1-1/4" x 3/4"	0.47	0.20	5	78092
PF 01343	1-1/4" x 1"	0.24	0.19	5	78097
PF 01355	1-1/2" x 1/2"	0.79	0.27	5	79850
PF 01353	1-1/2" x 3/4"	0.61	0.28	1	14543
PF 01351	1-1/2" x 1"	0.43	0.30	1	78102
PF 01350	1-1/2" x 1-1/4"	0.26	0.29	1	78107
PF 01364	2" x 1/2"	1.16	0.45	1	79855
PF 01362	2" x 3/4"	0.97	0.46	1	79860
PF 01360	2" x 1"	0.79	0.46	1	78112
PF 01359	2" x 1-1/4"	0.61	0.46	1	78117
PF 01358	2" x 1-1/2"	0.43	0.55	1	78122

FITTING REDUCER • LARGE
FTG x P



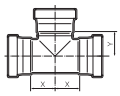
Item No.	Diameter	X	Wgt.	Inner	Viega No.
PF 01370	2-1/2" x 1"	1.36	0.67	1	20814
PF 01369	2-1/2" x 1-1/4"	1.52	0.68	1	20815
PF 01368	2-1/2" x 1-1/2"	1.32	0.80	1	20813
PF 01367	2-1/2" x 2"	0.94	0.84	1	20758
PF 01379	3" x 1-1/4"	1.91	0.97	1	20817
PF 01378	3" x 1-1/2"	1.71	1.08	1	20818
PF 01377	3" x 2"	1.32	1.11	1	20763
PF 01376	3" x 2-1/2"	0.98	1.35	1	20768
PF 01389	4" x 2"	2.11	1.93	1	20773
PF 01388	4" x 2-1/2"	1.75	2.07	1	20778
PF 01387	4" x 3"	1.42	2.25	1	20783

TEE • SMALL
P x P x P



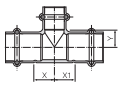
Item No.	Diameter	X	Y	Wgt.	Inner	Viega No.
PF 04006	1/2"	0.67	0.49	0.21	10	77377
PF 04031	3/4"	0.81	0.55	0.35	10	77387
PF 04048	1"	0.89	0.79	0.51	5	77412
PF 04068	1-1/4"	0.96	0.83	0.66	1	77442
PF 04084	1-1/2"	1.10	1.10	1.22	1	77457
PF 40102	2"	1.30	1.34	1.73	1	77477

TEE • LARGE
P x P x P



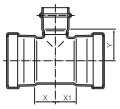
Item No.	Diameter	X	Y	Wgt.	Inner	Viega No.
PF 40123	2-1/2"	1.73	1.81	2.49	1	20683
PF 40152	3"	2.01	2.11	3.47	1	20693
PF 40200	4"	2.58	2.68	6.15	1	20708

TEE • REDUCING • SMALL
P x P x P



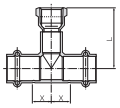
Item No.	Diameter	X	X1	Y	Wgt.	Inner	Viega No.
PF 04047	1/2" x 1/2" x 3/4"	0.83	0.83	0.55	0.32	10	77382
PF 04067	1/2" x 1/2" x 1"	2.28	2.28	0.80	0.72	5	15493
PF 04043	3/4" x 1/2" x 1/2"	0.61	0.77	0.55	0.28	10	77392
PF 04041	3/4" x 1/2" x 3/4"	0.81	0.89	0.55	0.33	5	77397
PF 04033	3/4" x 3/4" x 1/2"	0.61	0.61	0.55	0.29	10	77402
PF 04065	3/4" x 3/4" x 1"	2.11	2.11	0.79	0.77	5	77407
PF 04062	1" x 1/2" x 3/4"	0.81	1.00	0.71	0.44	5	22263
PF 04061	1" x 1/2" x 1"	0.89	1.22	0.79	0.48	5	94767
PF 04058	1" x 3/4" x 1/2"	0.69	0.77	0.79	0.51	5	77417
PF 04056	1" x 3/4" x 3/4"	0.81	0.96	0.71	0.43	5	77422
PF 04055	1" x 3/4" x 1"	0.89	1.10	0.80	0.48	5	77427
PF 04051	1" x 1" x 1/2"	0.69	0.69	0.79	0.41	5	77432
PF 04049	1" x 1" x 3/4"	0.81	0.81	0.71	0.45	5	77437
PF 04082	1" x 1" x 1-1/4"	2.42	2.42	0.83	1.02	1	15488
PF 04083	1-1/4" x 1/2" x 1-1/4"	0.96	2.66	0.83	0.81	1	22253
PF 04081	1-1/4" x 3/4" x 1/2"	0.47	2.05	0.83	0.65	1	22243
PF 04080	1-1/4" x 3/4" x 3/4"	0.61	2.19	0.83	0.73	1	22258
PF 04079	1-1/4" x 3/4" x 1"	0.69	2.26	0.83	0.78	1	22268
PF 04078	1-1/4" x 3/4" x 1-1/4"	0.96	2.54	0.83	0.85	1	22248
PF 04076	1-1/4" x 1" x 1/2"	0.47	1.81	0.83	0.65	1	22238
PF 04075	1-1/4" x 1" x 3/4"	0.61	1.95	0.83	0.70	1	94762
PF 04074	1-1/4" x 1" x 1"	0.69	2.03	0.83	0.75	1	14568
PF 04073	1-1/4" x 1" x 1-1/4"	0.96	2.30	0.83	0.84	1	-
PF 04071	1-1/4" x 1-1/4" x 1/2"	0.47	0.47	0.83	0.45	1	94757
PF 04070	1-1/4" x 1-1/4" x 3/4"	0.61	0.61	0.83	0.50	1	77452
PF 04069	1-1/4" x 1-1/4" x 1"	0.69	0.69	0.83	0.57	1	77447
PF 40244	1-1/2" x 1/2" x 1-1/2"	1.10	3.39	1.10	1.48	1	-
PF 40238	1-1/2" x 3/4" x 3/4"	0.63	2.74	1.10	1.04	1	-
PF 04098	1-1/2" x 1" x 3/4"	0.63	2.56	1.10	1.08	1	79660
PF 04097	1-1/2" x 1" x 1"	0.75	2.68	1.10	1.15	1	15458
PF 04095	1-1/2" x 1" x 1-1/2"	1.10	3.03	1.10	1.46	1	15463
PF 04093	1-1/2" x 1-1/4" x 3/4"	0.63	2.38	1.10	1.11	1	22233
PF 04092	1-1/2" x 1-1/4" x 1"	0.75	2.50	1.10	1.18	1	15453
PF 04091	1-1/2" x 1-1/4" x 1-1/4"	0.96	2.72	1.16	1.24	1	15483
PF 04088	1-1/2" x 1-1/2" x 1/2"	0.47	0.47	1.08	0.75	1	15448
PF 04087	1-1/2" x 1-1/2" x 3/4"	0.63	0.63	1.10	0.84	1	77462
PF 04086	1-1/2" x 1-1/2" x 1"	0.75	0.75	1.10	0.92	1	77467
PF 04085	1-1/2" x 1-1/2" x 1-1/4"	0.96	0.96	1.16	1.06	1	77472
PF 40249	2" x 1/2" x 2"	1.30	4.11	1.34	2.11	1	-
PF 40248	2" x 3/4" x 2"	1.30	3.92	1.34	2.12	1	-
PF 40247	2" x 1" x 1"	3.29	0.85	1.34	1.61	1	-
PF 40245	2" x 1" x 2"	1.30	3.74	1.34	2.09	1	-
PF 40117	2" x 1-1/4" x 1-1/4"	0.89	3.15	1.34	1.73	1	15518
PF 40113	2" x 1-1/2" x 3/4"	0.75	2.83	1.34	1.70	1	15513
PF 40112	2" x 1-1/2" x 1"	0.85	2.93	1.34	1.73	1	15498
PF 40111	2" x 1-1/2" x 1-1/4"	0.89	2.97	1.34	1.83	1	15508
PF 40110	2" x 1-1/2" x 1-1/2"	1.08	3.17	1.34	1.97	1	15503
PF 40109	2" x 1-1/2" x 2"	1.30	3.39	1.34	2.19	1	22228
PF 40107	2" x 2" x 1/2"	0.49	0.49	1.26	0.99	1	15538
PF 40106	2" x 2" x 3/4"	0.75	0.75	1.34	1.20	1	94777
PF 40105	2" x 2" x 1"	0.85	0.85	1.34	1.28	1	94772
PF 40104	2" x 2" x 1-1/4"	0.89	0.89	1.34	1.33	1	77487
PF 40103	2" x 2" x 1-1/2"	1.08	1.08	1.34	1.53	1	77482

TEE • REDUCING • LARGE
P x P x P



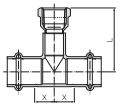
Item No.	Diameter	X	X1	Y	Wgt.	Inner	Viega No.
PF 40222	2-1/2" x 3/4" x 2-1/2"	1.73	5.20	1.81	3.34	1	20684
PF 40221	2-1/2" x 1" x 2-1/2"	1.73	5.06	1.81	3.33	1	20689
PF 40220	2-1/2" x 1-1/4" x	1.73	5.22	1.81	3.35	1	20694
PF 40138	2-1/2" x 1-1/2" x 2"	1.59	4.90	1.83	3.10	1	-
PF 40137	2-1/2" x 1-1/2" x	1.73	5.04	1.81	3.47	1	20699
PF 40135	2-1/2" x 2" x 3/4"	0.98	3.90	1.56	2.54	1	20704
PF 40134	2-1/2" x 2" x 1"	1.10	4.02	1.59	2.60	1	20709
PF 40132	2-1/2" x 2" x 1-1/2"	1.34	4.29	1.83	2.89	1	22283
PF 40131	2-1/2" x 2" x 2"	1.59	4.53	1.83	3.06	1	22278
PF 40130	2-1/2" x 2" x 2-1/2"	1.73	4.65	1.81	3.43	1	20714
PF 40129	2-1/2" x 2-1/2" x 1/2"	0.87	0.87	1.52	1.52	1	22303
PF 40128	2-1/2" x 2-1/2" x 3/4"	0.98	0.98	1.56	1.64	1	22298
PF 40127	2-1/2" x 2-1/2" x 1"	1.10	1.10	1.59	1.70	1	22293
PF 40126	2-1/2" x 2-1/2" x 1-1/4"	1.24	1.24	1.83	1.79	1	22288
PF 40125	2-1/2" x 2-1/2" x 1-1/2"	1.34	1.34	1.83	1.92	1	20803
PF 40124	2-1/2" x 2-1/2" x 2"	1.59	1.59	1.83	2.13	1	20688
PF 40179	3" x 3/4" x 3"	2.01	6.00	2.11	4.68	1	20719
PF 40178	3" x 1" x 3"	2.01	5.81	2.11	4.68	1	20724
PF 40181	3" x 1-1/4" x 3"	2.01	6.06	2.11	4.69	1	20729
PF 40174	3" x 1-1/2" x 3"	2.01	5.85	2.11	4.72	1	20727
PF 40164	3" x 2" x 2"	1.61	5.06	2.09	4.12	1	20732
PF 40165	3" x 2" x 2-1/2"	1.77	5.22	2.07	4.38	1	20734
PF 40167	3" x 2" x 3"	2.01	5.45	2.11	4.75	1	20739
PF 40157	3" x 2-1/2" x 2"	4.72	1.61	2.09	4.24	1	20744
PF 40158	3" x 2-1/2" x 2-1/2"	1.77	4.88	2.07	4.60	1	20749
PF 40159	3" x 2-1/2" x 3"	2.01	5.12	2.11	4.95	1	20754
PF 40145	3" x 3" x 1/2"	0.87	0.87	1.79	2.07	1	20759
PF 40146	3" x 3" x 3/4"	1.00	1.00	1.80	2.14	1	22323
PF 40147	3" x 3" x 1"	1.10	1.10	1.85	2.23	1	22308
PF 40148	3" x 3" x 1-1/4"	1.24	1.24	2.09	2.33	1	22313
PF 40149	3" x 3" x 1-1/2"	1.34	1.34	2.09	2.55	1	20798
PF 40150	3" x 3" x 2"	1.61	1.61	2.09	2.75	1	20698
PF 40151	3" x 3" x 2-1/2"	1.77	1.77	2.07	3.09	1	20703
PF 40204	4" x 3" x 2"	5.49	1.63	2.66	6.97	1	20774
PF 40206	4" x 3" x 3"	2.11	5.96	2.70	7.85	1	20784
PF 40191	4" x 4" x 1/2"	0.87	0.87	2.42	3.41	1	20788
PF 40192	4" x 4" x 3/4"	1.02	1.02	2.39	3.48	1	20793
PF 40193	4" x 4" x 1"	1.14	1.14	2.38	3.60	1	20794
PF 40194	4" x 4" x 1-1/4"	1.28	1.28	2.66	3.83	1	20795
PF 40195	4" x 4" x 1-1/2"	1.38	1.38	2.66	4.00	1	20808
PF 40196	4" x 4" x 2"	1.63	1.63	2.66	4.25	1	20713
PF 40197	4" x 4" x 2-1/2"	1.87	1.87	2.64	4.74	1	20718
PF 40198	4" x 4" x 3"	2.11	2.11	2.70	5.15	1	20723

TEE • FEMALE • SMALL
P x P x FPT



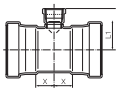
Item No.	Diameter		L	X	Wgt.	Inner	Viega No.
PF 01512	1/2"		1.04	0.57	0.24	5	79580
PF 01538	3/4"		1.18	.708	0.32	5	79595
PF 01569	1"		2.75	0.89	0.74	5	-
PF 01607	1-1/4"		3.04	0.96	0.94	1	-
PF 01644	1-1/2"		3.90	1.10	1.64	1	-

TEE • FEMALE • REDUCING • SMALL
P x P x FPT



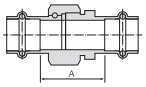
Item No.	Diameter		L	X	Wgt.	Inner	Viega No.
PF 02577	3/4" x 3/4" x 1/4"		1.89	0.61	0.36	5	79585
PF 01539	3/4" x 3/4" x 1/2"		1.18	.590	0.39	5	79590
PF 01570	1" x 1" x 1/2"		2.37	0.69	0.47	5	79760
PF 01572	1" x 1" x 3/4"		2.61	0.81	0.60	5	79765
PF 01613	1-1/4" x 1-1/4" x 1/2"		2.41	0.47	0.56	1	79770
PF 02654	1-1/4" x 1-1/4" x 3/4"		2.72	0.61	0.69	1	79775
PF 01645	1-1/2" x 1-1/2" x 1/2"		2.67	0.47	0.83	1	79780
PF 02673	1-1/2" x 1-1/2" x 3/4"		3.00	0.63	0.95	1	79785
PF 01699	2" x 2" x 1/2"		2.85	0.49	1.06	1	79790
PF 02706	2" x 2" x 3/4"		3.24	0.75	1.28	1	79795

TEE • FEMALE • REDUCING • LARGE
P x P x FPT



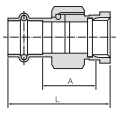
Item No.	Diameter		L1	X	Wgt.	Inner	Viega No.
PF 02727	2-1/2" x 2-1/2" x 3/4"		2.37	0.98	1.67	1	20883
PF 02718	3" x 3" x 3/4"		2.61	1.00	2.27	1	20893
PF 02729	4" x 4" x 3/4"		3.20	1.02	3.55	1	20873

UNION • SMALL
P x P



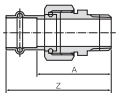
Item No.	Diameter		A	L	Wgt.	Inner	Viega No.
PF 08003	1/2"		1.38	2.87	0.31	1	79125
PF 08004	3/4"		1.31	3.22	0.48	1	79130
PF 08005	1"		1.91	3.27	0.73	1	79135
PF 11205	1-1/4"		1.92	3.27	0.93	1	79140
PF 11206	1-1/2"		1.59	3.27	1.20	1	79145
PF 11207	2"		1.37	3.27	1.92	1	79150

UNION • FEMALE • SMALL
P x FPT



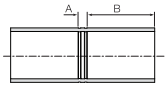
Item No.	Diameter		A	L	Wgt.	Inner	Viega No.
PF 11422	1/2"		0.90	2.05	0.21	1	79700
PF 11423	3/4"		0.90	2.86	0.43	1	79705
PF 11424	1"		0.83	2.82	0.62	1	79710
PF 11425	1-1/4"		1.20	3.06	0.84	1	79715
PF 11426	1-1/2"		1.69	3.03	1.04	1	79720
PF 11427	2"		1.50	3.24	1.52	1	79725

UNION • MALE • SMALL
P x MPT



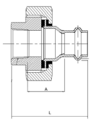
Item No.	Diameter		A	Z	Wgt.	Inner	Viega No.
PF 11210	1/2"		1.67	2.78	0.28	1	79730
PF 11211	3/4"		1.77	3.38	0.49	1	79735
PF 11212	1"		2.20	3.76	0.77	1	79740
PF 11213	1-1/4"		2.20	3.80	1.01	1	79745
PF 11214	1-1/2"		2.87	3.77	1.32	1	79750
PF 11215	2"		2.56	4.56	1.97	1	79755

SHORTCUTS™
FTG X FTG



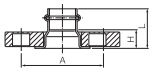
Item No.	Diameter	Wgt.	Inner	Dimensions (Inch)	
				A	B
SC04001	1/2"	0.04	10	0.12	0.83
SC06001	3/4"	0.10	10	0.12	1.05
SC10001	1"	0.13	10	0.12	1.01
SC12001	1-1/4"	0.22	5	0.43	1.16
SC14001	1-1/2"	0.38	5	0.62	1.52
SC20001	2"	0.64	5	0.75	1.64
SC24001	2-1/2"	0.95	1	0.62	1.80
SC30001	3"	1.41	1	0.62	1.99
SC40001	4"	2.56	1	0.62	2.27

UNION • DIELECTRIC • SMALL
P x FPT



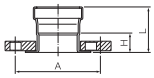
Item No.	Diameter		A	L	Wgt.	Inner	Viega No.
PF 11503	1/2"		1.20	2.48	0.76	1	79155
PF 11504	3/4"		1.22	2.68	0.91	1	79160
PF 11505	1"		1.10	2.70	1.24	1	79165
PF 11506	1-1/4"		1.20	2.91	1.23	1	79170
PF 11507	1-1/2"		1.32	3.47	2.17	1	79175
PF 11508	2"		1.44	3.79	2.89	1	79180

FLANGE • SMALL
P x FLANGE



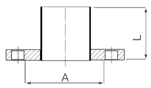
Item No.	Diameter	A	H	L	Wgt.	Inner	Viega No.
PF 02933	1"	3.11	1.78	2.68	2.34	1	79680
PF 03806	1-1/4"	3.50	1.80	2.82	2.94	1	79685
PF 03907	1-1/2"	3.88	1.78	3.19	3.13	1	79690
PF 02980	2"	4.76	1.86	3.44	4.50	1	79695

FLANGE • LARGE
P x FLANGE



Item No.	Diameter	A	H	L	Wgt.	Inner	Viega No.
PF 02746	2-1/2"	5.51	1.57	3.26	6.29	1	20853
PF 02802	3"	6.30	1.38	3.23	7.53	1	20858
PF 01940	4"	7.28	1.51	3.68	11.76	1	20863

FLANGE • LARGE
FTG x FLANGE



Item No.	Diameter		A	L	Wgt.	Inner	Viega No.
PF 12980	2"		4.75	6.00	6.50	1	-
PF 12746	2-1/2"		5.50	6.00	7.40	1	-
PF 12802	3"		6.00	6.00	8.50	1	-
PF 11940	4"		7.50	6.00	12.70	1	-

Residential Riser

cULus Listed
175psi (12 bar) rated

Features

- Stainless Steel body construction
- Factory assembled and tested
- Vertical or horizontal installation
- Optional mounting bracket

Approvals & Listings

- Listed by Underwriters Laboratories Inc. and Underwriters Laboratories of Canada (cULus)

Product Description

The Reliable Residential Riser is UL Listed wet-pipe sprinkler system riser assembly consisting of a stainless steel body, waterflow switch, pressure gage, and drain. Triggering flow for the waterflow switch is 10 gpm (38 LPM). The Residential Riser is intended for use in NFPA 13D and 13R systems, and is offered in 1”, 1 1/2”, and 2” sizes. The product is available with a variety of end configurations (see table A below), and a choice of drain trims including a three position (off/test/drain) valve with several orifice choices. Optional pressure relief valve kits are also available. The Residential Riser can be wall mounted using the cast-in lugs or stud mounted using the optional support bracket (See Fig. 2).

Installation

The Reliable Residential Riser should be installed in accordance with NFPA 13, NFPA 13D, or NFPA 13R, as well as the requirements of any authorities having jurisdiction. Failure to follow installation instructions may void the warranty and listing of the valve. Connect the riser manifold to the supply piping and system piping using a non-hardening pipe joint compound or joint sealant tape for threaded connections. Ensure proper direction of flow using the flow arrow cast into the manifold. The one-inch (1”) drain should be piped to a location that will avoid damage to property and injury to personnel.

Shown: 2” threaded version with Model TD Test and Drain valve trim, optional Model A Pressure Relief valve kit, and optional locking handle kit (padlock not provided)

Maintenance

The owner is responsible for maintaining the fire protection system in proper operating condition. Any system maintenance or testing that involves placing a control valve or detection/control system out of service may eliminate the fire protection that is provided by the fire protection system. Notify any required authorities having jurisdiction and implement appropriate precautions prior to proceeding.

When required, the Reliable Residential Riser and associated equipment shall periodically be given a thorough inspection and test. NFPA 25, “Inspection, Testing and Maintenance of Water Based Fire Protection Systems,” provides minimum maintenance requirements. Replace any components found to be corroded, damaged, or worn. Increase the frequency of inspections when the valve is exposed to corrosive conditions or chemicals that could impact the valve materials.

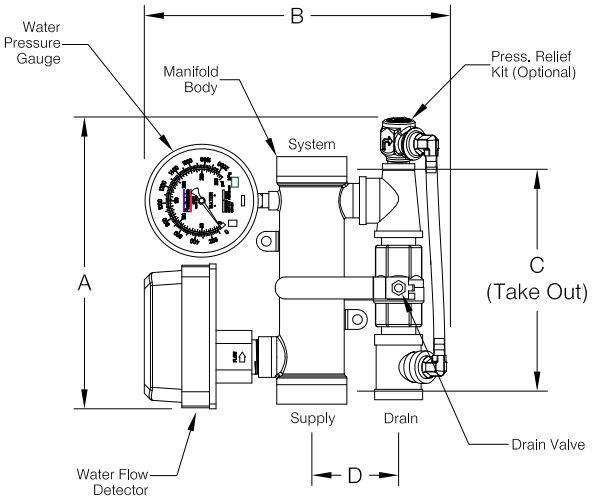
Table A

Nominal Size	Available End Connection
1” (25mm)	Male or Female NPT
1-1/2” (40mm)	Female NPT or Grooved Ends
2” (50mm)	Female NPT

Residential Riser Assemblies

Figure 1

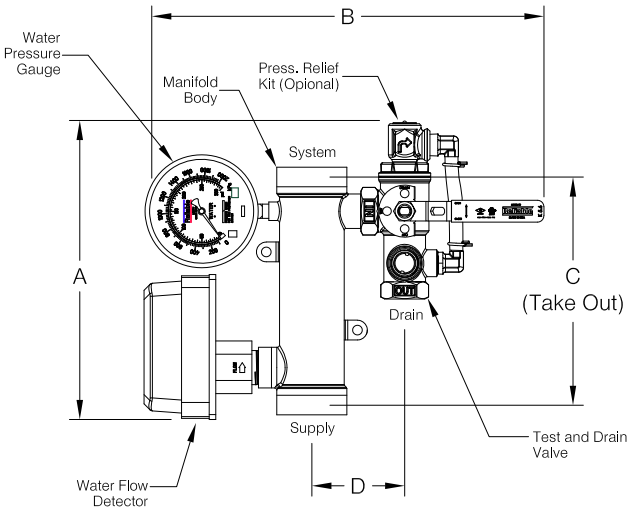
Basic Assembly with Ball Valve Drain
(Shown with Optional Pressure Relief Kit)



Note: Drain tees are plugged when pressure relief kit is not used.

425FG01A

Basic Assembly with Test and Drain Valve
(Shown with Optional Pressure Relief Kit)



Note: Test and Drain valve outlets are plugged when pressure relief kit is not used.

Dimensions and Weight

Table B

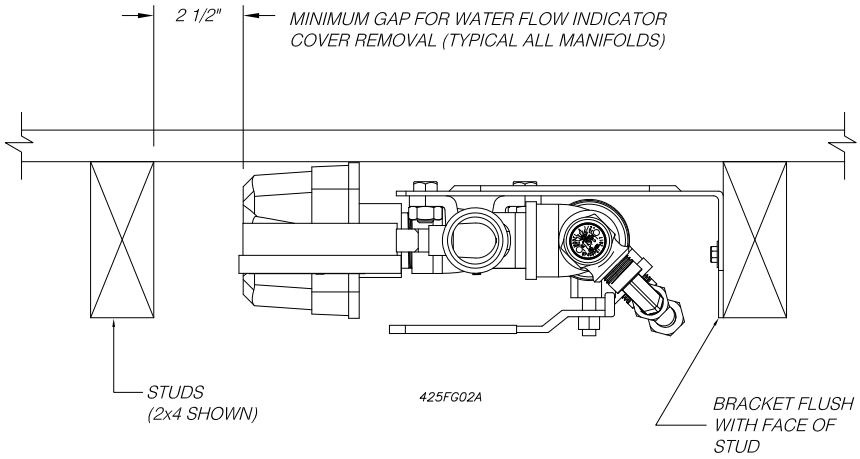
Manifold Size	Basic Assembly with Ball Drain Valve				
	A in (mm)	B in (mm)	C in (mm)	D in (mm)	Weight lbs (kg)
Threaded Female NPT 1 (25)	11-1/4 (286)	11 (279)	8-1/4 (210)	2-3/4 (70)	7.3 (3.32)
Threaded Male NPT 1 (25)		11 (279)	8-1/4 (210)	2-3/4 (70)	7.3 (3.32)
Threaded Female NPT 1-1/2 (40)		11-1/2 (292)	8-1/4 (210)	3 (76)	8.3 (3.77)
Threaded Female NPT 2 (50)		11-3/4 (298)	8-1/4 (210)	3-1/4 (83)	8.8 (4.00)
Grooved Ends 1-1/2 (40)		11-1/2 (292)	9-1/2 (241)	3 (76)	8.3 (3.77)

Dimensions and Weight

Table C

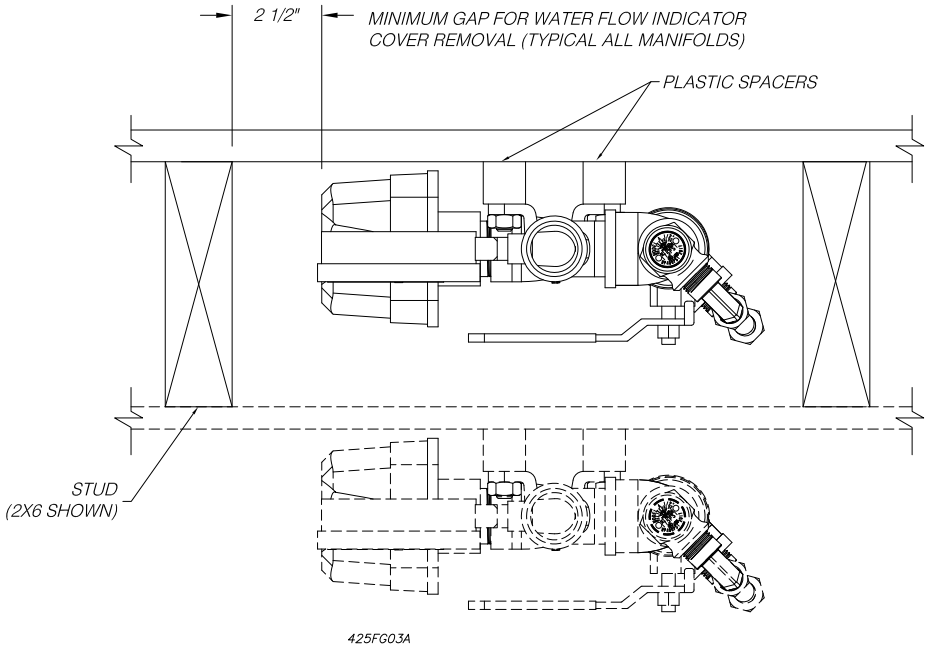
Manifold Size	Basic Assembly with Test & Drain Valve				
	A in (mm)	B in (mm)	C in (mm)	D in (mm)	Weight lbs (kg)
Threaded Female NPT 1 (25)	11-1/2 (292)	14-1/2 (368)	8-1/4 (210)	3-1/4 (83)	9.0 (4.09)
Threaded Male NPT 1 (25)		14-1/2 (368)	8-1/4 (210)	3-1/4 (83)	9.0 (4.09)
Threaded Female NPT 1-1/2 (40)		15 (381)	8-1/4 (210)	3-1/2 (89)	9.7 (4.41)
Threaded Female NPT 2 (50)		15-1/2 (394)	8-1/4 (210)	3-3/4 (95)	10.5 (477)
Grooved Ends 1-1/2 (40)		15 (381)	9-1/2 (241)	3-1/2 (89)	9.7 (4.41)

Support Bracket Mount **Figure 2**



ACCESS PANEL NOT SHOWN OR PROVIDED

Recessed or Flush Mounted **Figure 3**



ACCESS PANEL NOT SHOWN OR PROVIDED FOR RECESSED INSTALLATION

Guarantee

For Reliable Automatic Sprinkler, Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com

Ordering Information

Specify:

Reliable Residential Riser

Size: [1”] [1-1/2”] [2”]

End Connections: See Table A

Drain: [Ball Valve] [K2.8 TD] [K4.2 TD] [K5.6 TD]

Relief Valve Kit: [175psi] [185psi] [Adjustable]

Optional Support Bracket **Figure 4**

PN 6899190001 (Order Separately)

Residential Riser Part Number **Figure 5**

6A XX 0 R P YY Z

Riser Manifold Size & End Connections XX	Drain Valve YY	Pressure Relief Kit Z
00 = 1” Threaded Female NPT	00 = Ball Valve	0 = None
01 = 1” Threaded Female Metric	01 = RASCO Test & Drain (K2.8)	1 = 175 psi (12.1 bar)
02 = 1” Threaded Male NPT	02 = RASCO Test & Drain (K4.2)	2 = 185 psi (12.8 bar)
03 = 1-1/2” Threaded Female NPT	03 = RASCO Test & Drain (K5.6)	A = Adjustable
04 = 1-1/2” Threaded Female Metric		
05 = 1-1/2” Grooved End		
06 = 2” Threaded Female NPT		
07 = 2” Threaded Female Metric		

Example: P/N 6A020RP031 = 1” Threaded Male NPT End Connection with RASCO Test & Drain (K5.6), and 175 psi Pressure Relief Kit.

Note: The water flow switch for the 1-1/2” and 2” stainless steel manifold uses a non-standard, special paddle. The water flow switch is only available from Reliable. When replacing water flow switch, order part number 96556923.

P/N 9999970348

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

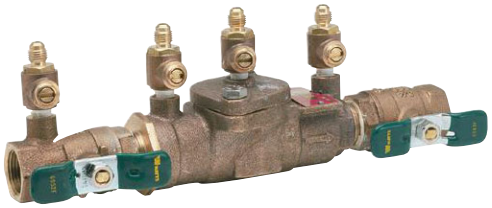
Series 2000B

Double Check Valve Assemblies

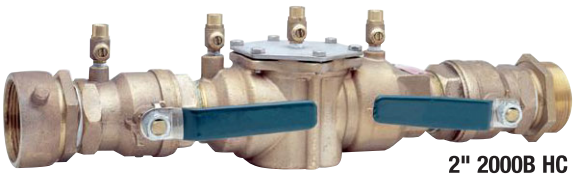
Sizes: ½" – 2"

Series 2000B Double Check Valve Assemblies are designed to protect drinking water supplies for dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-health-hazard non-potable service applications such as irrigation, fire line, or industrial processing.

These valves meet the requirements of ASSE Std. 1015 and AWWA Std. C510 and are approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



¾" 2000B (20mm)



2" 2000B HC (50mm)

Features

- Ease of maintenance with only one cover
- Top entry
- Replaceable seats and seat discs
- Modular construction
- Compact design
- ½" – 2" Cast bronze body construction
- Top mounted ball valve test cocks
- Low pressure drop
- No special tools required
- ½" – 1" have tee handles

Specifications

A Double Check Valve Assembly shall be installed at each noted location. The assembly shall consist of two positive seating check modules with captured springs and rubber seat discs. The check module seats and seat discs shall be replaceable. Service of all internal components shall be through a single access cover secured with stainless steel bolts.

The assembly shall also include two resilient seated isolation valves and four top mounted, resilient seated test cocks. The assembly shall meet the requirements of ASSE Std. 1015 and AWWA Std. C510. Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. Assembly shall be an Ames Fire & Waterworks Series 2000B.

⚠ WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Ames Fire & Waterworks product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Ames Fire & Waterworks Technical Service. Ames Fire & Waterworks reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Ames Fire & Waterworks products previously or subsequently sold.

AMES FIRE & WATERWORKS

A WATTS Brand

Available Models

Suffix:

B -	Quarter turn ball valves
LBV -	less ball valves
SH -	stainless steel ball valve handles
HC -	2½" inlet/outlet fire hydrant fitting (2" valve)

Pressure — Temperature

Temperature Range: 33°F – 140°F (0.5°C – 60°C)

Maximum Working Pressure: 175psi (12.1 bar)

Standards

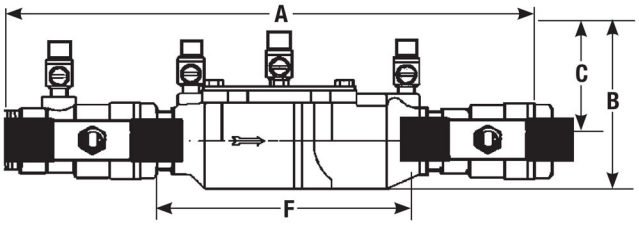
AWWA Std. C510, IAPMO PS31

Approvals

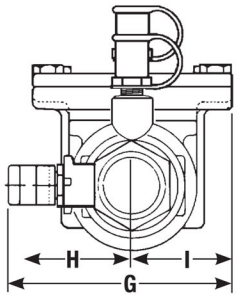
1015 B64.5 ¾" - 2" (LBV Models Only)

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. (Excluding all LBV Models)
- Horizontal and vertical "flow up" approval on all sizes.

Dimensions – Weights



Suffix HC — Fire Hydrant Fittings dimension "A" = 23½" (594mm)

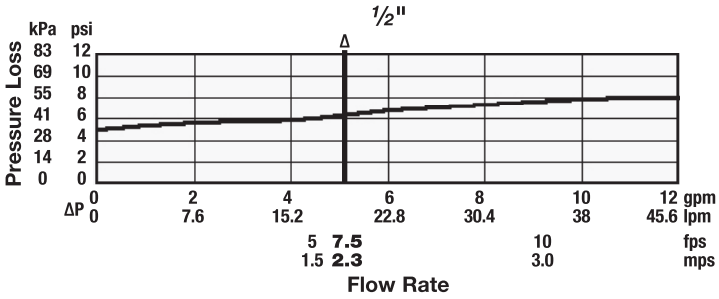


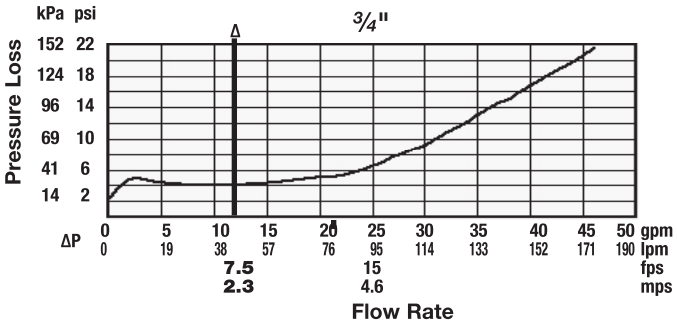
SIZE	DIMENSIONS														WEIGHT	
	A		B		C		F		G		H		I			
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs.*	*kgs.*
½	10	254	4⅝	117	2 7/16	62	5	127	3⅜	85	2 5/16	59	2 1/16	52	4.5	2
¾	11⅛	282	4	102	3⅛	79	6 3/16	157	3 7/16	87	2⅛	54	1 5/16	33	5	2.3
1	13¼	337	5⅛	130	4	102	7½	191	3⅜	85	11 1/16	43	11 1/16	43	12	5.4
1¼	16⅜	416	5	127	3 5/16	84	9½	241	5	127	3	76	2	50	15	6.8
1½	16¾	425	4⅞	124	3½	89	9¾	248	5 13/16	148	3⅛	79	2 11/16	68	15.86	7.2
2	19½	495	6¼	159	4	102	13⅜	340	6⅛	156	3 7/16	87	2 11/16	68	25.75	11.7

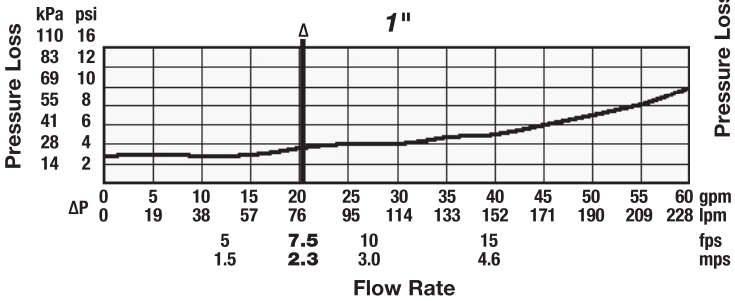
Strainer sold separately

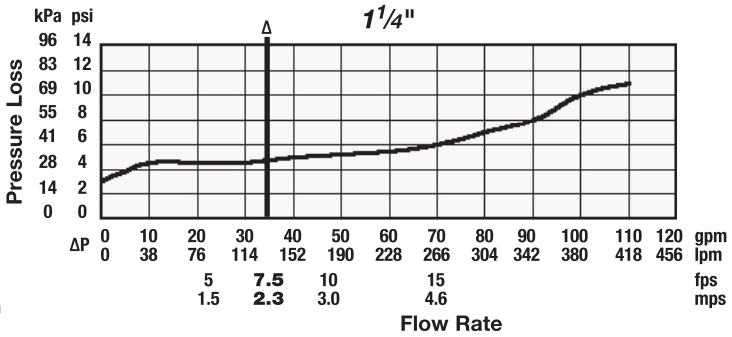
Capacities

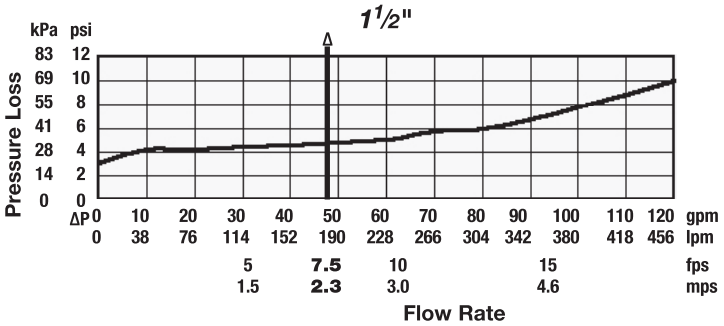
As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California lab tests. ΔTypical maximum system flow rate (7.5 feet/sec., 2.3 meters/sec.)

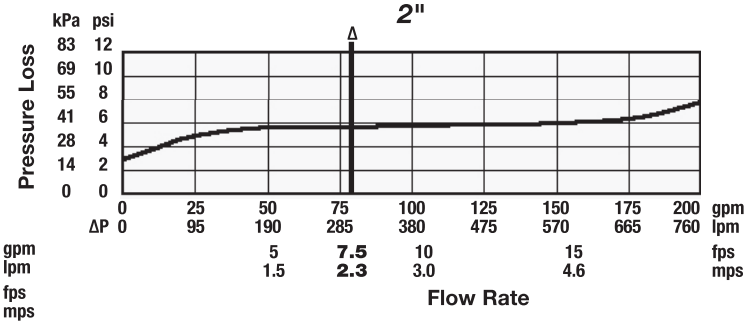












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USA: Control Valves T: (713) 943-0688 • F: (713) 944-9445 • AmesFireWater.com
Canada: T: (905) 332-4090 • F: (905) 332-7068 • AmesFireWater.ca
Latin America: T: (52) 81-1001-8600 • AmesFireWater.com

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Worldwide Contacts | www.tyco-fire.com

Model RSV-1 Residential Shut-Off Valve, Dual-Purpose Water Supply, Domestic and Fire Sprinkler System

IMPORTANT
Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Scan the QR code or enter the URL in a web browser to access the most up-to-date electronic version of this document. Data rates may apply.

docs.jci.com/tycofire/tfp982

General Description

The TYCO Model RSV-1 Residential Shut-Off Valves are intended for use in dual-purpose residential water supply piping that serves both domestic and residential fire protection sprinkler system needs. The 1 Inch (DN25) Valve is intended for NFPA 13D system needs, whereas the 2 Inch (DN50) Valve is intended for systems designed in accordance with either NFPA 13, 13D, or 13R.

When a fire sprinkler operates, the Model RSV-1 Residential Shut-Off Valve automatically diverts the available water supply to the fire sprinkler system. Consequently, when the Model RSV-1 Valve is utilized, the system designer does not need to add the domestic flow demand to the fire sprinkler system flow demand, as would otherwise be required by NFPA 13D or 13R.

Consider use of the Model RSV-1 Residential Shut-Off Valve when either the water supply cannot adequately provide for both the domestic design demand and the fire sprinkler flow demand, or it is necessary to increase the effectiveness of the fire sprinkler system by automatically diverting the domestic flow.

The Model RSV-1 Residential Shut-Off Valve maximizes the effective use of an existing water supply. Therefore, in areas with limited water supplies, it may eliminate the need to add costly pumps, pressurized reservoirs, or electrically operated domestic shut-off valves. The Model RSV-1 Valve has a built-in check valve in the fire sprinkler system outlet that eliminates the need for a separate check valve. Also, the Model RSV-1 Valve automatically resets, thereby eliminating the need for valve disassembly after a fire sprinkler system test or operation.

NOTICE

The Model RSV-1 Residential Shut-Off Valves described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the integrity of this device.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

Certified to NSF/ANSI 61-G & 372

Technical Data

Approvals
UL and C-UL Listed
Certified to all requirements of NSF/ANSI 61, Annex G and NSF/ANSI 372

Note: *The 1 Inch (DN25) Model RSV-1 Residential Shut-Off Valve is suitable for use in water supply arrangements for residential fire sprinkler systems designed per NFPA 13D.*

Note: *The 2 Inch (DN50) Model RSV-1 Residential Shut-Off Valve is suitable for use in water supply arrangements for residential fire sprinkler systems designed per NFPA 13, 13D, or 13R.*

Maximum Pressure
175 psi (12,1 bar)

Weight
1 Inch (DN25): 11 lbs. (5 kg)
2 Inch (DN50): 29 lbs. (11 kg)

Pressure Loss
Refer to Graphs A and B

Patents
2 Inch (DN50) Model RSV-1 Valve Patent Pending

Physical Characteristics

1 Inch (DN25) Valve

Body	Stainless Steel
Top and Bottom Cover	Stainless Steel
Upper Cap	Stainless Steel
Bottom Seal	Stainless Steel
Piston	Plastic*
Differential Ring	Plastic*
Sleeve	Plastic*
Upper and Lower Seals	EPDM
O-Rings	Buna-N
Piston Spring	Stainless Steel
Piston Screws	Stainless Steel
Cap Screw	Stainless Steel

2 Inch (DN50) Valve

Body and Cover	Stainless Steel
Piston Insert	Stainless Steel
Bottom Seal	Stainless Steel
Piston Cover	Plastic*
Insert Sleeve	Plastic*
Piston Seal	EPDM
O-Rings	EPDM
Piston Spring	Stainless Steel
Piston Nut	Stainless Steel
Retainer Ring	Stainless Steel

* Glass Reinforced Polyphenylene Oxide

Design Criteria

The TYCO Model RSV-1 Residential Shut-Off Valve must be installed vertically with the Water Supply Port at the bottom, the Fire Sprinkler Port at the top, and the Domestic Port at the side (Ref. Figures 4 and 5). Figure 1 shows the typical installation arrangement. Refer to the Installation section for additional design considerations.

Water Supply Requirements

1 Inch (DN25) Valve

In order for the 1 Inch (DN25) Model RSV-1 Valve to operate automatically upon sprinkler operation, the fire sprinkler system from the water main to the most hydraulically remote sprinkler must be designed to provide a minimum single sprinkler flow of 12.5 GPM (47,3 LPM) when the supply pressure at the main is at its minimum expected value.

The minimum single sprinkler flow rate of 12.5 GPM (47,3 LPM), required for use with the 1 Inch (DN25) Model RSV-1 Valve, does not take precedence over any more hydraulically demanding single sprinkler flow rate specified for the residential sprinklers in use.

When performing hydraulic design calculations for the fire sprinkler system, you need not account for the trickle flow through the 1 Inch (DN25) Model RSV-1 Valve By-Pass Restriction into the domestic system.

For the 1 Inch (DN25) Model RSV-1 Valve, the maximum water supply service line is 1 inch (DN25).

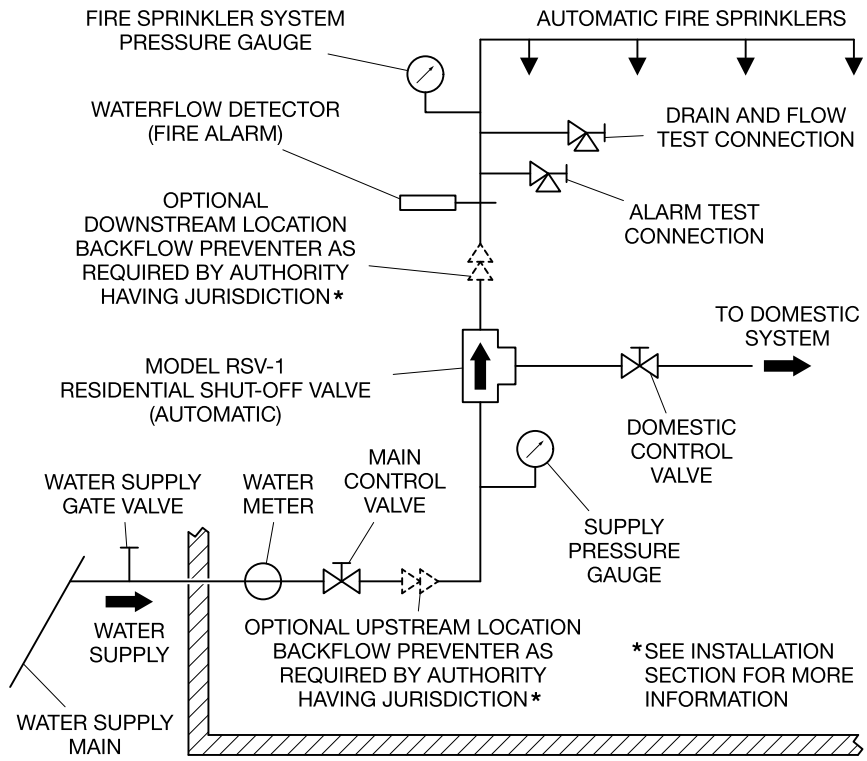


FIGURE 1
MODEL RSV-1 RESIDENTIAL SHUT-OFF VALVE
TYPICAL INSTALLATION ARRANGEMENT

2 Inch (DN50) Valve

In order for the 2 Inch (DN50) Model RSV-1 Valve to operate automatically at sprinkler activation, the fire sprinkler system from the water supply main to the most hydraulically remote sprinkler must be designed to provide a minimum single sprinkler flow of 8 GPM (30,5 LPM) when the water supply pressure at the water supply main is at its minimum expected value.

The minimum single sprinkler flow rate of 8 GPM (30,5 LPM), required for use with the 2 Inch (DN50) Model RSV-1 Valve, does not take precedence over any more hydraulically demanding single sprinkler flow rate specified for the residential sprinklers in use.

Operating Principles

When a fire sprinkler activates during domestic usage, the TYCO Model RSV-1 Residential Shut-Off Valve automatically diverts flow to the domestic system and diverts the available water supply to the fire sprinkler system, thereby eliminating a reduced flow condition in the sprinkler system that might otherwise be caused by possible significant domestic water usage.

When the Model RSV-1 Valve is in the normal standby position as shown in Figures 4 and 5, the Piston Assembly, assisted by its Spring, is in the down position. With the Piston Assembly in the down position, the Fire Sprinkler Seal permits the Model RSV-1 Valve to perform as a conventional check valve. Also, with the Piston Assembly in the down position, water is available on demand through the Domestic Flow Passage and out the Domestic Port.

Upon operation and with a minimum design water flow (e.g., 12.5 GPM (47,3 LPM) for the 1 inch Valve or 8 GPM (30,5 LPM) for the 2 Inch Valve) to the automatic residential fire sprinkler system, the Piston Assembly moves upward. With the Piston Assembly in the up position, any water flow to the Domestic Port is diverted to the Fire Sprinkler Port.

The contours of the Piston Assembly are specifically configured to minimize its upward movement except under the level of sustained fire sprinkler system flow resulting from operation of one or more fire sprinklers. However, because most fire sprinkler systems contain air pockets, the Piston Assembly tends to move momentarily upward when there is a surge in supply pressure.

The momentary opening and re-closing of the Piston Assembly at the Fire Sprinkler Line Seal traps a portion of the pressure increase within the fire sprinkler system. Trapped pressure increases within the fire sprinkler system help to prevent a subsequent surge in the supply pressure from causing the water-flow detector to signal a false alarm.

As indicated above, domestic system usage can reduce the pressure available to the fire sprinkler system. However, when utilizing the Model RSV-1 Valve, you do not need to include additional hydraulic flow of the domestic system, when otherwise required by NFPA standards (NFPA 13D or 13R), to determine the minimum possible residual (flowing) pressure available to the fire sprinkler system.

For operation of the Model RSV-1 Residential Shut-Off Valve, you need only design the fire sprinkler system from the water supply main to the most hydraulically remote sprinkler. Domestic flow does not require consideration. As long as the single sprinkler flow is equal to or greater than 12.5 GPM (47,3 LPM) for the 1 Inch Valve or 8 GPM (30,5 LPM) for the 2 Inch Valve when the supply pressure at the main is at its minimum expected value, the Model RSV-1 Valve automatically diverts the domestic flow.

After the Piston Assembly has moved to the full up position, only a small amount of water is permitted to trickle through the Internal By-Pass Restriction to the Domestic Port (Ref. Figures 4 and 5). The trickle flow through the Internal By-Pass Restriction permits the Model RSV-1 Valve to reset automatically after a sprinkler operation or test without draining the fire sprinkler system.

When the Domestic Control Valve is closed, the Internal By-Pass Restriction allows the Supply and Domestic Port pressures to equalize and the Piston Assembly to move back down to the standby position.

When using the 1 inch RSV-1, the maximum flow rate through the Internal By-Pass Restriction, when the Model RSV-1 Valve is in the operated position, is no greater than 0.25 GPM (0,9 LPM) for a typical residual (flowing) pressure of 40 psi (2,8 bar) at the inlet. Consequently, when performing hydraulic design calculations for the fire sprinkler system, you do not need to consider trickle flow through the Model RSV-1 Valve Internal By-Pass Restriction into the domestic system.

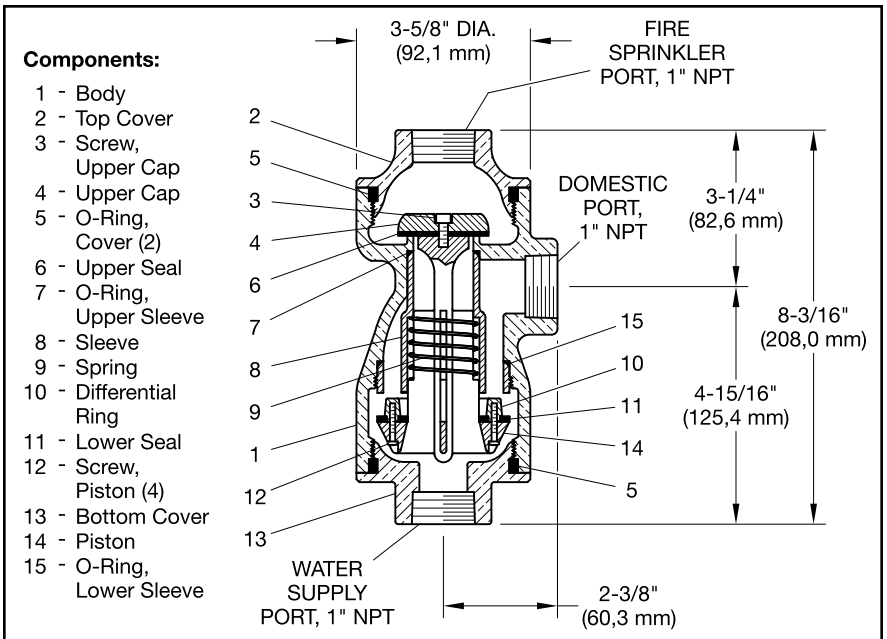


FIGURE 2
1 INCH (DN25) MODEL RSV-1 RESIDENTIAL SHUT-OFF VALVE ASSEMBLY AND DIMENSIONS

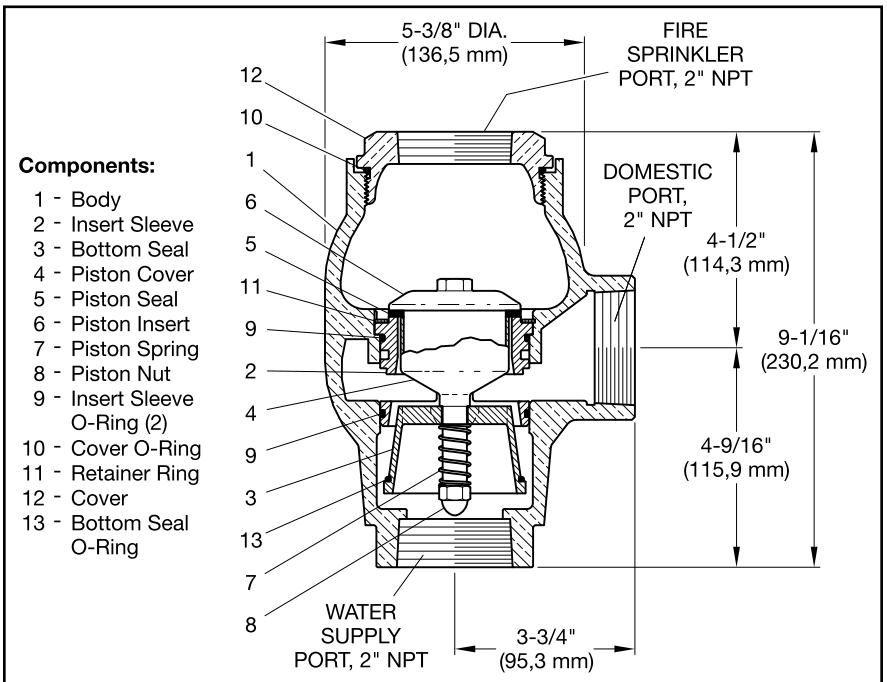
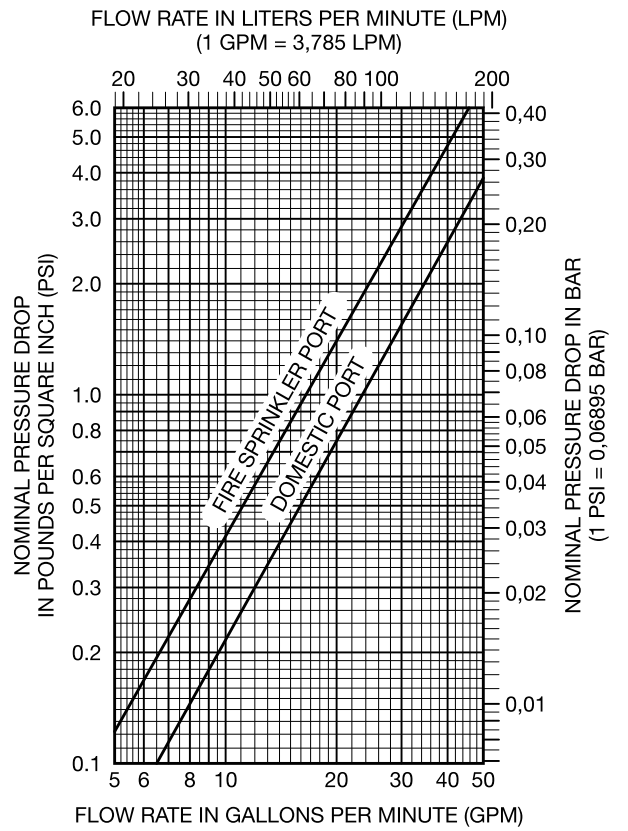
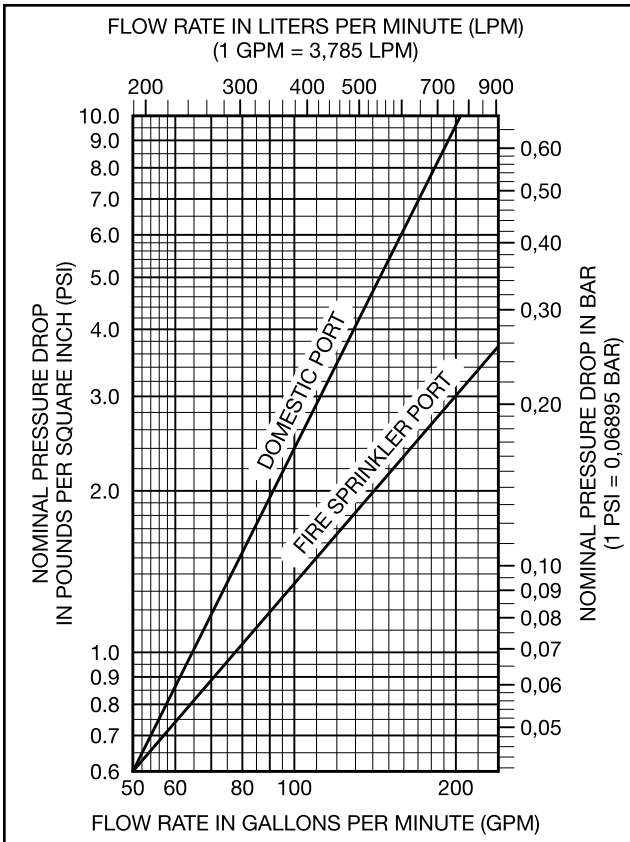


FIGURE 3
2 INCH (DN50) MODEL RSV-1 RESIDENTIAL SHUT-OFF VALVE ASSEMBLY AND DIMENSIONS

When using the 2 inch RSV-1, the maximum flow rate through the Internal By-Pass Restriction, when the Model RSV-1 Valve is in the operated position, is no greater than 1.5 GPM (5,7 LPM) for a typical residual (flowing) pressure of 40 psi (2,8 bar) at the inlet. Consequently, when performing hydraulic design calculations for the fire sprinkler system, a 1.5 GPM (5,7 LPM) flow demand is required to be added at the RSV-1 and calculated back to the source.



GRAPH A
1 INCH (DN25) MODEL RSV-1 VALVE
RESIDENTIAL SHUT-OFF VALVE
NOMINAL PRESSURE LOSS VS. FLOW



GRAPH B
2 INCH (DN50) MODEL RSV-1 VALVE
RESIDENTIAL SHUT-OFF VALVE
NOMINAL PRESSURE LOSS VERSUS FLOW

Installation

Figure 1 illustrates a typical installation arrangement using the TYCO Model RSV-1 Residential Shut-Off Valve. The arrangement may need to be modified to meet the requirements of the authority having jurisdiction. However, the Model RSV-1 Valve must be installed in accordance with this section.

General Instructions
A fire sprinkler water supply connection to a public water supply is usually subject to local regulations concerning metering and backflow prevention requirements. Consult with the local water authorities concerning local requirements that may apply to the arrangement of these components in the fire sprinkler system water supply.

For the 1 Inch (DN25) Valve, the maximum water supply service line is 1 Inch (DN25).

Note: *A backflow preventer may be installed in proximity to the RSV-1 valve in either upstream or downstream sprinkler supply branch locations, see Figure 1. A bypass loop is not required.*

Step 1. Ensure that the water supply to the Model RSV-1 Valve is free of contaminants and particles of a size greater than 1/8 inch (3,2 mm).

Step 2. Install the Model RSV-1 Valve vertically with the Supply Port at the bottom, the Fire Sprinkler Port at the top, and the Domestic Port at the side. Ensure that the arrows cast on the Body point in the direction of flow.

A suitable clamp along the water supply riser piping is recommended to provide support for the weight of the Model RSV-1 Valve.

Step 3. Place a Domestic Control Valve between the Model RSV-1 Valve and the domestic system. Position the inlet to the Domestic Control Valve within 12 inches of the Domestic Port of the Model RSV-1 Valve.

Step 4. The Drain and Flow Test Connection (Ref. Figure 1) is recommended to be a minimum 1/2 inch (DN15) size for systems per NFPA 13D, and it must be a minimum 1 inch (DN25) size for systems per NFPA 13R.

Step 5. Install an Alarm Test Connection with a test orifice equal to or less than the smallest K-factor sprinkler in the system downstream of the Waterflow Detector.

Step 6. Apply pipe-thread sealant sparingly only to the male pipe threads that are to be assembled to the three ports of the Model RSV-1 Valve. The use of a non-hardening pipe-thread sealant such as TEFLON is recommended.

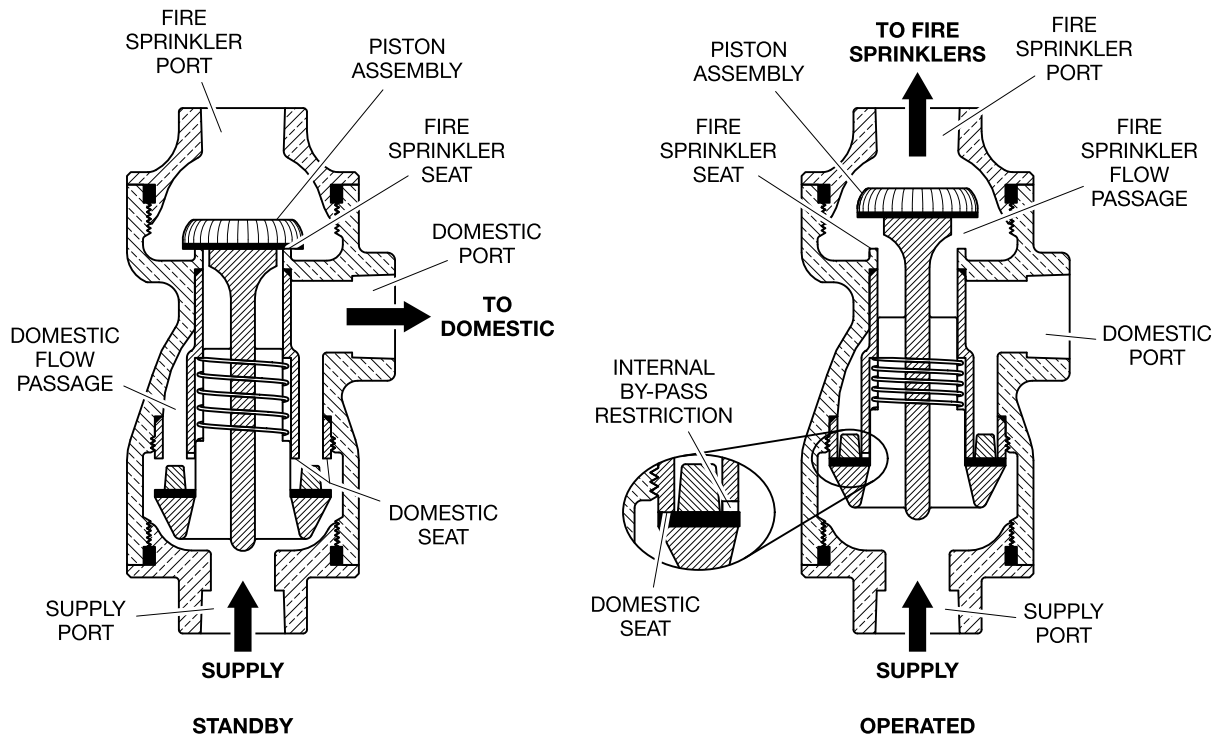


FIGURE 4
1 INCH (DN25) MODEL RSV-1 RESIDENTIAL SHUT-OFF VALVE
STANDBY AND OPERATED CONDITIONS

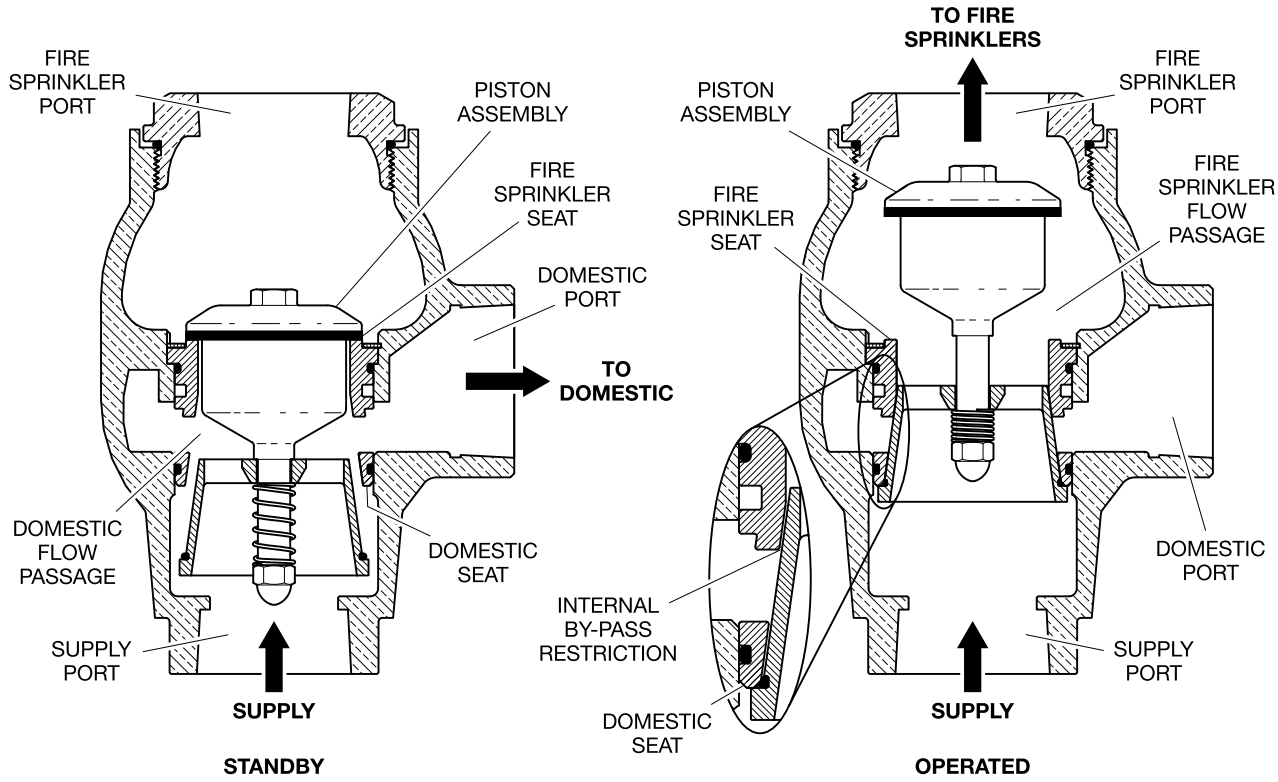


FIGURE 5
2 INCH (DN50) MODEL RSV-1 VALVE RESIDENTIAL SHUT-OFF VALVE
STANDBY AND OPERATED CONDITIONS

Valve Setting Procedure

Perform steps 1 through 9 when initially filling the fire sprinkler and domestic system piping with water or after a fire sprinkler operation (Ref. Figure 1).

Step 1. Close the Main Control Valve.

Step 2. Close the Domestic Control Valve and all water outlets in the domestic piping system.

Step 3. In addition to the Drain and Flow Test Connection in the fire sprinkler system, close all drain valves and replace all operated sprinklers as necessary.

Step 4. Partially open the Main Control Valve until the sound of flowing water just begins, then leave the Main Control Valve in the partially open position.

Step 5. After the fire sprinkler system pressure gauge indicates approximately the same pressure as the supply pressure gauge, fully open the Main Control Valve.

Step 6. Open the highest elevation outlet on the domestic system.

Step 7. Partially open the Domestic Control Valve until the sound of flowing water begins. Allow the domestic piping to fill slowly with water.

Step 8. Close the highest elevation water outlet on the domestic system when unaerated water begins to flow.

Step 9. Completely open the Domestic Control Valve, then check that the domestic system is properly pressurized by verifying that at least three water outlets in the domestic system can flow full at the same time.

- If the water outlets flow fully, the Model RSV-1 Valve is set and ready for service. Close the water outlets on the domestic system.
- If the water outlets do not flow fully, re-close the Domestic Control Valve, wait a minimum of ten seconds, and ensure that there is no flow from the fire sprinkler system piping. Reopen the Domestic Control Valve, then recheck that the water outlets are flowing fully.

Care and Maintenance

The following inspection procedure for the TYCO Model RSV-1 Residential Shut-Off Valve must be performed as indicated, in addition to any specific requirements of the NFPA. Any impairment must be immediately corrected.

Before closing a fire protection system control valve for inspection or maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this action.

Make no attempt to repair any Model RSV-1 Valve component in the field. The Model RSV-1 Valve is not field-repairable. If malfunction occurs, the entire unit must be replaced.

The operational test and flow test procedures result in operation of the associated alarms, as well as an interruption of the domestic water supply service. You must notify the owner, building occupants, and the fire department, central station, or other signal station to which the alarms are connected.

After placing a fire protection system in service, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any authority having jurisdiction. Contact the installing contractor or product manufacturer regarding any questions.

Automatic sprinkler systems should be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes and standards.

Operation Test Procedure
Step 1. Fully open two or three water outlets in the domestic piping system.

Step 2. To simulate a sprinkler operation, open the Alarm Test Connection of the fire sprinkler system.

Step 3. Verify that any alarms are operating and that the flow from the domestic water outlets decreases to no more than a trickle.

Step 4. Reset the Model RSV-1 Valve in accordance with the Valve Setting Procedure described in this data sheet.

Flow Test Procedure
Step A. While there is no water flowing in the domestic system, completely open the Drain and Flow Test Connection.

Step B. While water is flowing, record the pressure reading on the fire sprinkler system pressure gauge and then compare this reading to previous readings.

If there is a significant decrease in pressure since the last time the pressure reading was taken and this decrease is not due to a normally expected drop in the water supply pressure, an impairment may exist that should be immediately identified and corrected.

Step C. Close the Drain and Flow Test Connection to allow the Model RSV-1 Valve to reset automatically. Automatic resetting occurs within ten seconds.

Step D. After waiting ten seconds, completely open at least three water outlets in the domestic system and allow these outlets to flow simultaneously.

If the water outlets flow fully, the Model RSV-1 Valve is set and ready for service. Close the water outlets on the domestic system.

If the water outlets do not flow fully, close the Domestic Control Valve and verify that there is no flow from the fire sprinkler system piping, such as at the Inspector's Test Connection. Wait a minimum of ten seconds. Re-open the Domestic Control Valve and then recheck that the domestic system water outlets are flowing full.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

Valves with NPT Connections
Specify: 1 Inch NPT (DN25) Model RSV-1 Residential Shut-Off Valve, P/N 52-540-1-011

Specify: 2 Inch NPT (DN50) Model RSV-1 Residential Shut-Off Valve, P/N 52-540-1-012

1467 Elmwood Avenue, Cranston, RI 02910 | Telephone +1-401-781-8220

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Johnson Controls

VIKING®	TECHNICAL DATA	FREEDOM® RESIDENTIAL UPRIGHT SPRINKLER VK467 (K4.9)

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
Visit the Viking website for the latest edition of this technical data page: www.vikinggroupinc.com

1. DESCRIPTION

Viking Freedom® Residential Upright Sprinkler VK467 is a small, thermosensitive, glass-bulb residential sprinkler. It is available in several different finishes and temperature ratings that meet varying design requirements. The Electroless Nickel PTFE (ENT) coating has been investigated for installation in corrosive atmospheres and is C-UL-US-EU Listed as corrosion-resistant, which is also indicated in the Approval Chart. The orifice design, with a K-Factor of 4.9 (70.6 metric†), allows efficient use of available water supplies for the hydraulically designed fire-protection system. The glass bulb operating element and special deflector characteristics meet the challenges of residential sprinkler standards.

2. LISTINGS AND APPROVALS

UL Listed (C-UL-US-EU): Category VKKW

Refer to the Approval Chart design criteria for C-UL-US-EU Listing requirements, which must be followed.

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

3. TECHNICAL DATA

Specifications:
Available since 2014.
Minimum Operating Pressure: refer to the Approval Chart.
Maximum Working Pressure: 175 psi (12 bar). Factory tested hydrostatically to 500 psi (34.5 bar).
Thread size: 1/2” (13 mm) NPT
Nominal K-Factor: 4.9 U.S. (70.6 metric†)
†Metric K-factor shown is in Bar. When pressure is measured in kPa, divide the metric K-factor by 10.0.
Glass-bulb fluid temperature rated to -65 °F (-55 °C)
Overall Length: 2-1/4” (56 mm)

Material Standards:
Frame Casting: brass UNS-C84400 or QM brass
Deflector: brass UNS-C23000
Bulb: glass, nominal 3 mm diameter
Belleville Spring Sealing Assembly: nickel alloy, coated on both sides with Polytetrafluoroethylene (PTFE) tape
Pip Cap and Insert Assembly: copper UNS-C11000 and stainless steel UNS-S30400
Compression Screw: brass UNS-C36000
For ENT coated sprinklers: Belleville spring - exposed, screw and pip cap - ENT-plated.

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TABLE 1: ORDERING INFORMATION

Instructions: Using the sprinkler base part number,
(1) add the suffix for the desired Finish
(2) add the suffix for the desired Temperature Rating.

Sprinkler Base Part No.[1]	Size		1: Finishes		2: Temperature Ratings				
	NPT Inch	BSPT mm	Description	Suffix	Nominal Rating[2]	Bulb Color	Hazard Classification	Max. Ambient Ceiling Temperature[3]	Suffix
19154	1/2	--	Brass	A	155 °F (68 °C)	Red	Ordinary	100 °F (38 °C)	B
	--	15	Chrome	F	175 °F (79 °C)	Yellow	Intermediate	150 °F (65 °C)	D
	--	15	White Polyester [4]	M-/W					
			Black Polyester [4]	M-/B					
			ENT [4,5]	JN					

Example: 19154AB = VK467 with a brass finish and 155 °F (68 °C) temperature rating. This sprinkler is to be installed into an area with a maximum ambient temperature of 100 °F (38 °C). This means that if the area will experience temperatures above the maximum ambient rating, you shall use a higher temperature-rated sprinkler.

Corrosion-Resistant Coatings

- White polyester and black polyester in all temperature ratings.
- ENT[5] in all temperature ratings.

Accessories

Sprinkler Wrenches (see Figure 1):

A. Standard wrench: Part No. 21475M/B (available since 2017) (Also refer to Viking's website.)

Footnotes

[1] To order the sprinkler VK467: first add the appropriate suffix for the sprinkler finish and then add the appropriate suffix for the temperature rating to the sprinkler base part number.

[2] The sprinkler temperature rating is stamped on the deflector.

[3] Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other Authority Having Jurisdiction requirements. Refer to specific installation standards.

[4] Sprinklers with ENT, white polyester, and black polyester finishes are C-UL-US-EU Listed as corrosion-resistant.

[5] The ENT coating has passed the standard corrosion test required by the approving agencies indicated in the approval chart. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For ENT coated sprinklers, the waterway is coated. Note that the spring is exposed on sprinklers with ENT coating.

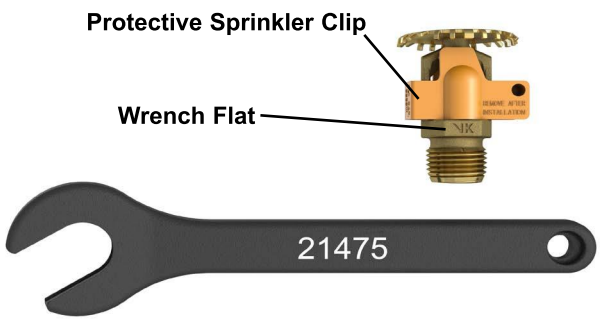

Figure 1: **Standard Sprinkler Wrench 21475M/B**

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
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A. Six-head capacity: Part No. 01724A (available since 1971)
B. Twelve-head capacity: Part No. 01725A (available since 1971)

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the glass bulb's heat-sensitive liquid expands, causing the glass to shatter. When the glass shatters, the pip cap and the sealing spring assembly are released. Water then flows through the sprinkler orifice and strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS, AND MAINTENANCE

Refer to NFPA 25 for inspection, testing, and maintenance requirements.

7. AVAILABILITY

The Viking Model VK467 Sprinkler is available through a network of domestic and international distributors. See The Viking Corporation website for the closest distributor, or contact The Viking Corporation.

8. GUARANTEE

For warranty details, refer to Viking's current price schedule list or contact Viking directly.

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Approval Chart
Viking VK467, 4.9 K-Factor Residential Upright Sprinkler

For systems designed to NFPA 13D or NFPA 13R. For systems designed to NFPA 13, refer to the design criteria. For Ceiling types refer to NFPA 13, 13R or 13D 2013 Editions

Sprinkler Base Part Number[1]	SIN	NPT Thread Size		Nominal K-Factor		Maximum Water Working Pressure	Overall Length	
		Inches	mm	U.S.	metric[2]		Inches	mm
19154	VK467	1/2	13	5	71	175 psi (12 bar)	2-1/4	56

Max. Coverage Area[4] Ft.X Ft. (m X m)	Ordinary Temp Rating (155 °F/68 °C)		Intermediate Temp Rating (175 °F/79 °C)		Deflector to Ceiling	Installation Type	Listings and Approvals[3]		Minimum Spacing Ft. (m)
	Flow[4] GPM (L/min)	Pressure[4] PSI (bar)	Flow[4] GPM (L/min)	Pressure[4] PSI (bar)			c UL[5] us EU	NSF	
12 X 12 (3.7 X 3.7)	14 (53.0)	8.16 (0.56)	14 (53.0)	8.16 (0.56)	3 - 5 inches	Upright	See footnote 6 and 7.	See footnote 7.	9 (2.74)
14 X 14 (4.3 X 4.3)	14 (53.0)	8.16 (0.56)	14 (53.0)	8.16 (0.56)					
16 X 16 (4.9 X 4.9)	16 (60.6)	10.66 (0.73)	16 (60.6)	10.66 (0.73)					
12 X 12 (3.7 X 3.7)	15 (56.8)	9.37 (0.65)	15 (56.8)	9.37 (0.65)	5 - 10 inches				
14 X 14 (4.3 X 4.3)	15 (56.8)	9.37 (0.65)	15 (56.8)	9.37 (0.65)					
16 X 16 (4.9 X 4.9)	18 (68.1)	13.49 (0.93)	18 (68.1)	13.49 (0.93)					
12 X 12 (3.7 X 3.7)	15 (56.8)	9.37 (0.65)	--	--	1 to 3 inch-es below 14 inch beams				
14 X 14 (4.3 X 4.3)	15 (56.8)	9.37 (0.65)	--	--					
16 X 16 (4.9 X 4.9)	18 (68.1)	13.49 (0.93)	--	--					

Footnotes

[1] Part number shown is the base part number. For complete part number, refer to Viking's current price schedule.

[2] The metric K-factor shown is for when pressure is measured in Bar. When pressure is measured in kPa, be sure to divide the metric K-factor by 10.0.

[3] This chart shows the listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals. Refer also to Design Criteria.

[4] For areas of coverage smaller than shown, use the "Flow" and "Pressure" for the next larger area listed. Flows and pressures listed are per sprinkler. The distance from sprinklers to walls shall not exceed one-half the sprinkler spacing indicated for the minimum "Flow" and "Pressure" used.

[5] Listed by Underwriter's Laboratories, Inc. for use in the U.S., Canada, and European Union.

[6] Approved finishes: Brass, Chrome, White Polyester, and Black Polyester. Other paint colors are available upon request with the same C-UL-US-EU listings as the standard finish colors.

[7] Sprinklers with ENT, white polyester, and black polyester finishes are C-UL-US-EU Listed as corrosion-resistant.

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DESIGN CRITERIA

(Also refer to the Approval Chart.)

UL Listing Requirements (C-UL-US-EU):

When using Viking's residential Upright Sprinkler VK467 for systems designed to NFPA 13D or NFPA 13R, apply the listed areas of coverage and minimum water supply requirements shown in the Approval Chart.

For systems designed to NFPA 13: The number of design sprinklers is to be the four contiguous and most hydraulically demanding sprinklers. The minimum required discharge from each of the four sprinklers is to be the greater of the following:

- The flow rates given in the Approval Chart for NFPA 13D and NFPA13R applications for each listed area of coverage, **or**
- Calculated based on a minimum discharge of 0.1 gpm/sq. ft. over the "design area," in accordance with sections 8.5.2.1 or 8.6.2.1 of NFPA 13.
- Minimum distance between residential sprinklers: 9 ft. (2.74 m).

BEAM CEILING GUIDELINES

C-UL-US-EU Listed for installation in residential occupancies with beam ceilings (with horizontal ceilings only).
Refer to the Approval Chart for sprinkler areas of coverage and hydraulic design.

Sprinkler Location: Locate sprinklers on the underside of the beams (not in the bays or pockets formed by the beams). Refer to Figure 2. The vertical distance from the sprinkler deflector to the bottom of the primary beam must be between 1" and 3" (25 to 75 mm). The horizontal distance from the centerline of the sprinkler to the primary beam cannot be more than 2" (50 mm) (Figure 2).

Beam Position: Directly attached to the underside of a combustible or non-combustible smooth ceiling of any height.

Beam Size and Shape (Cross section):

- Depth: Maximum 14" (350 mm) for primary beams. Secondary beam depth cannot be greater than the primary beam.
- Width: Unlimited.
- Beam Shape: Rectangular to circular.

Beam Types: Combustible or non-combustible, solid surface, solid or hollow core.

Beam Spacing:

A. For primary beams, the distance from the wall to the center of the nearest primary beam must be at least 3'-4" (1.0 m), and not more than one-half the listed sprinkler spacing. **Note**: Sprinklers may not be required to be located in the first beam nearest the wall. Center-to-center distance between primary beams is to be a maximum of 16 ft (4.9 m). Refer to Figure 3A.
B. When beam pockets created by the primary beams exceed 20 ft (6.1 m) in length, secondary beams are required as follows (also refer to Figure 3B):
   1. Secondary beam depth must be equal to primary beam depth.
   2. Secondary beams must be placed so that the bays formed by the primary beams do not exceed 20 ft (6.1 m) in length.
C. When primary beam spans do not exceed 20 ft (6.1 m), secondary beams (not required) may have any distance from wall to nearest secondary beam and any distance center to center between secondary beams. Refer to Figure 3C.

Also:

When primary beam spans exceed 20ft (6.1 m) an alternate protection scheme for the compartment would be to calculate all the sprinklers in the compartment. Refer to Figure 5.

- More stringent design requirement.
- Secondary beams or baffles would not be required for a compartment space design.
- The minimum required discharge from each sprinkler would utilize flow rates given in the Approval Chart for NFPA 13D and NFPA13R applications

Lintels: Must be present over doorways exiting the compartment. Lintel height must be whichever is greatest: at least 8" (200 mm) or at least the depth of the primary beams.

Beam and Soffit Arrangements: If a soffit is installed, beams may be arranged within the soffit. The cross section of the soffit may be any size, provided it does not create an obstruction to water distribution per the obstruction rules of NFPA 13 for residential sprinklers. Where there is a soffit, beam spacing from the wall is to be measured from the face of the soffit rather than the wall. Refer to Figure 3D. **NOTE:** The sprinkler area of coverage is to be measured from the wall.

Definitions:

- Primary beams: The main beams that run primarily in one direction.
- Secondary beams: The beams that run perpendicular to the main beams.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No.s F_080190, F_080814, and F_080415 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA and any other similar Authorities Having Jurisdiction, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable. Final approval and acceptance of all residential sprinkler installations must be obtained from the Authorities Having Jurisdiction.

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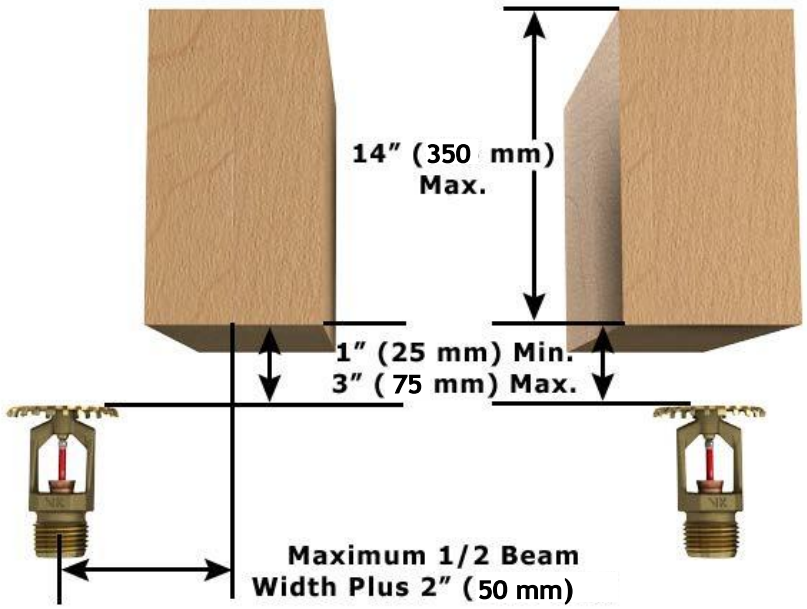

Figure 2: Sprinkler Positioning Under Primary Beams

Figure 3: Sprinkler Positioning Under Primary Beams

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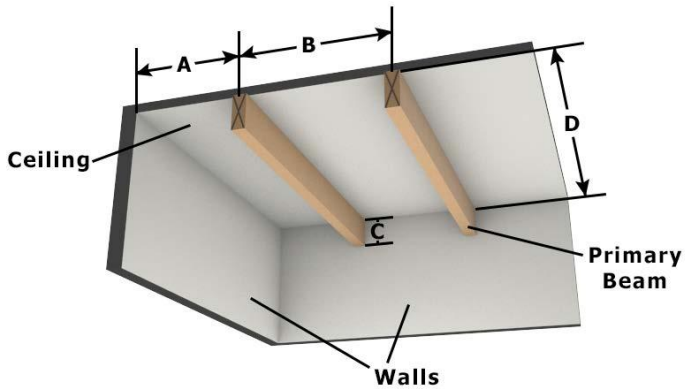
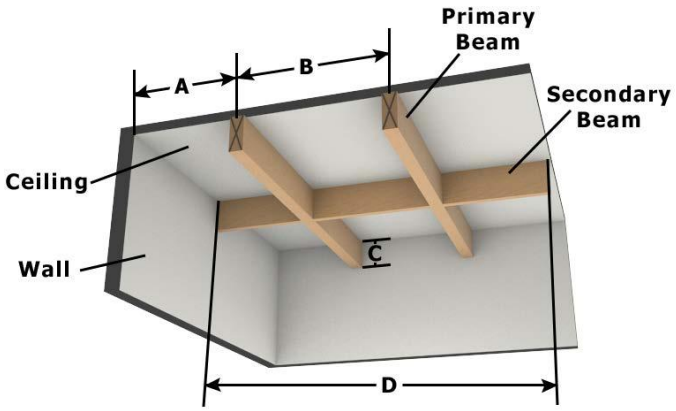


All dimensions are measured to wall faces and to centerlines of beams.

A = Distance from wall to nearest primary beam:
Minimum: 3 ft 4 in (1.0 m).
Maximum: No more than 1/2 listed sprinkler spacing.
B = Spacing between primary beams: 16 ft (4.9 m) maximum
C = Beam depth: 14” (350 mm) maximum
D = Beam span: 20 ft (6.1 m) maximum

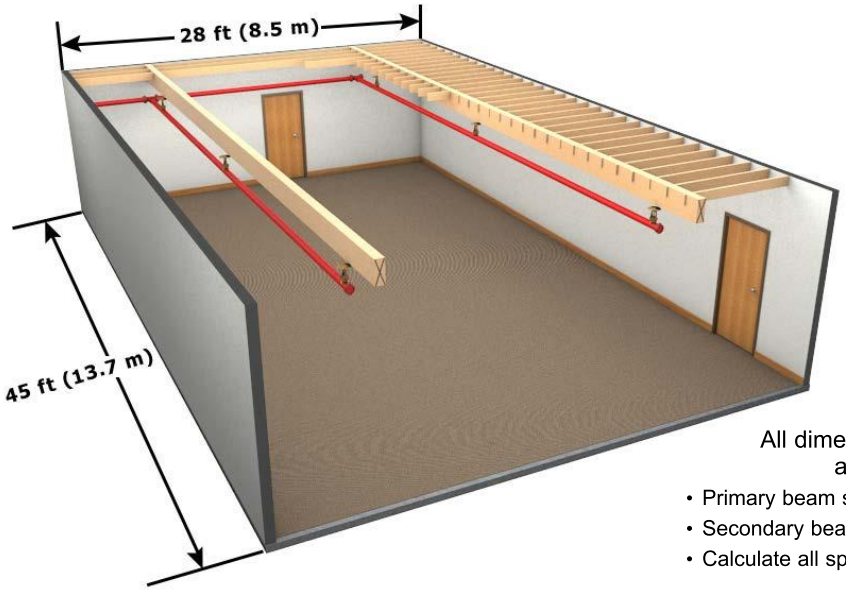
Figure 4A: Primary Beam Spans up to 20 ft (6.1 m)



All dimensions are measured to wall faces and to centerlines of beams.

A = Distance from wall to nearest primary beam:
Minimum: 3 ft 4 in (1.0 m).
Maximum: No more than 1/2 listed sprinkler spacing.
B = Spacing between primary beams: 16 ft (4.9 m) maximum
C = Beam depth: 14” (350 mm) maximum
D = 20 ft (6.1 m) maximum for secondary beams that are to be equal in depth for primary beams and that are required so that primary beam pockets do not exceed 20 ft (6.1 m).

Figure 4B: Primary Beam Spans over 20 ft (6.1 m)



EXAMPLE

All dimensions are measured to wall faces and to centerlines of beams.

- Primary beam spans exceeding 20 ft (6.1 m)
- Secondary beams or baffles not required
- Calculate all sprinklers in compartment
  (Above example 6 sprinklers)

Figure 5: Alternate Entire Compartment Protection Scheme Example

VIKING

BULLETIN

CARE AND HANDLING OF SPRINKLERS

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

SPRINKLERS ARE FRAGILE - HANDLE WITH CARE!

General Handling and Storage:

- Store sprinklers in a cool, dry place.
- Protect sprinklers during storage, transport, handling, and after installation.
- Use the original shipping containers. DO NOT place sprinklers loose in boxes, bins, or buckets.
- Keep sprinklers separated at all times. DO NOT allow metal parts to contact sprinkler operating elements.

For Pre-Assembled Drops:

- Protect sprinklers during handling and after installation.
- For recessed assemblies, use the protective sprinkler cap (Viking Part Number 10364).

Sprinklers with Protective Shields or Caps:

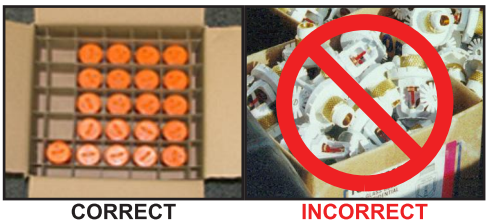
- DO NOT remove shields or caps until after sprinkler installation and there no longer is potential for mechanical damage to the sprinkler operating elements.
- **Sprinkler shields or caps MUST be removed BEFORE placing the system in service!**
- Remove the sprinkler shield by carefully pulling it apart where it is snapped together.
- Remove the cap by turning it slightly and pulling it off the sprinkler.

Sprinkler Installation:

- DO NOT use the sprinkler deflector or operating element to start or thread the sprinkler into a fitting.
- **Use only the designated sprinkler head wrench!** Refer to the current sprinkler technical data page to determine the correct wrench for the model of sprinkler used.
- DO NOT install sprinklers onto piping at the floor level.
- Install sprinklers after the piping is in place to prevent mechanical damage.
- DO NOT allow impacts such as hammer blows directly to sprinklers or to fittings, pipe, or couplings in close proximity to sprinklers. Sprinklers can be damaged from direct or indirect impacts.
- DO NOT attempt to remove drywall, paint, etc., from sprinklers.
- **Take care not to over-tighten the sprinkler and/or damage its operating parts!**

  Maximum Torque:
  1/2" NPT: 14 ft-lbs. (19.0 N-m)
  3/4" NPT: 20 ft-lbs. (27.1 N-m)
  1" NPT: 30 ft-lbs. (40.7 N-m)

CORRECT (Original container used) | **INCORRECT** (Placed loose in box)



CORRECT (Protected with caps) | **INCORRECT** (Protective caps not used)

CORRECT (Piping is in place at the ceiling) | **INCORRECT** (Sprinkler at floor level)

CORRECT (Special installation wrenches) | **INCORRECT** (Designated wrench not used)

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

⚠ WARNING

Any sprinkler with a loss of liquid from the glass bulb or damage to the fusible element should be destroyed. Never install sprinklers that have been dropped, damaged, or exposed to temperatures exceeding the maximum ambient temperature allowed. Sprinklers that have been painted in the field must be replaced per NFPA 13. Protect sprinklers from paint and paint overspray in accordance with the installation standards. Do not clean sprinklers with soap and water, ammonia, or any other cleaning fluid. Do not use adhesives or solvents on sprinklers or their operating elements.

Refer to the appropriate technical data page and NFPA standards for complete care, handling, installation, and maintenance instructions. For additional product and system information Viking data pages and installation instructions are available on the Viking Web site at www.vikinggroupinc.com.

VIKING | BULLETIN | CARE AND HANDLING OF SPRINKLERS

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

PROTECTIVE SPRINKLER SHIELDS AND CAPS

General Handling and Storage:

Many Viking sprinklers are available with a plastic protective cap or shield temporarily covering the operating elements. The snap-on shields and caps are factory installed and are intended to help protect the operating elements from mechanical damage during shipping, storage, and installation. NOTE: It is still necessary to follow the care and handling instructions on the appropriate sprinkler technical data sheets* when installing sprinklers with bulb shields or caps.

WHEN TO REMOVE THE SHIELDS AND CAPS:

NOTE: SHIELDS AND CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!

Remove the shield or cap from the sprinkler only after checking all of the following:

- The sprinkler has been installed*.
- The wall or ceiling finish work is completed where the sprinkler is installed and there no longer is a potential for mechanical damage to the sprinkler operating elements.

SHIELDS AND CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!

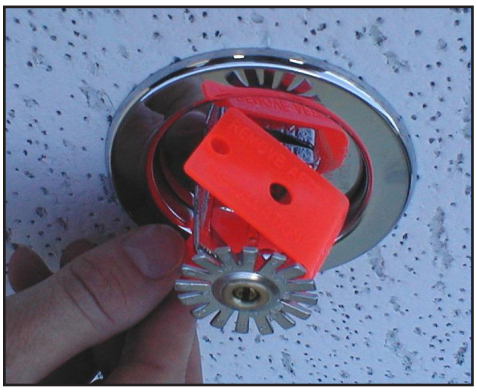


Figure 1: Sprinkler shield being removed from a pendent sprinkler.

Figure 2: Sprinkler cap being removed from a pendent sprinkler.

Figure 3: Sprinkler cap being removed from and upright sprinkler.

HOW TO REMOVE SHIELDS AND CAPS:

No tools are necessary to remove the shields or caps from sprinklers. DO NOT use any sharp objects to remove them! **Take care not to cause mechanical damage to sprinklers when removing the shields or caps.** When removing caps from fusible element sprinklers, use care to prevent dislodging ejector springs or damaging fusible elements. NOTE: Squeezing the sprinkler cap excessively could damage sprinkler fusible elements.

- To remove the shield, simply pull the ends of the shield apart where it is snapped together. Refer to Figure 1.
- To remove the cap, turn it slightly and pull it off the sprinkler. Refer to Figures 2 and 3.

NOTICE Refer to the current sprinkler technical data page to determine the correct sprinkler wrench for the model of sprinkler used.

WARNING Never install sprinklers that have been dropped, damaged, or exposed to temperatures in excess of the maximum ambient temperature allowed.

*** Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at www.vikinggroupinc.com.**

VIKING	BULLETIN	CARE AND HANDLING OF SPRINKLERS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
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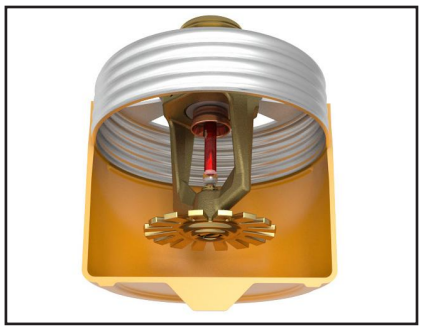
CAUTION CONCEALED COVER ASSEMBLIES ARE FRAGILE!
TO ASSURE SATISFACTORY PERFORMANCE OF THE PRODUCT, HANDLE WITH CARE.



Concealed Sprinkler and Adapter Assembly with Protective Cap

Concealed Sprinkler and Adapter Assembly (Protective Cap Removed)

Cover Plate Assembly (Pendent Cover 12381 shown)

GENERAL HANDLING AND STORAGE INSTRUCTIONS:

- Do not store in temperatures exceeding 100 °F (38 °C). Avoid direct sunlight and confined areas subject to heat.
- Protect sprinklers and cover assemblies during storage, transport, handling, and after installation.
  -- Use original shipping containers.
  -- Do not place sprinklers or cover assemblies loose in boxes, bins, or buckets.
- Keep the sprinkler bodies covered with the protective sprinkler cap any time the sprinklers are shipped or handled, during testing of the system, and while ceiling finish work is being completed.
- Use only the designated Viking recessed sprinkler wrench (refer to the appropriate sprinkler data page) to install these sprinklers. **NOTE:** The protective cap is temporarily removed during installation and then placed back on the sprinkler for protection until finish work is completed.
- Do not over-tighten the sprinklers into fittings during installation.
- Do not use the sprinkler deflector to start or thread the sprinklers into fittings during installation.
- Do not attempt to remove drywall, paint, etc., from the sprinklers.
- Remove the plastic protective cap from the sprinkler before attaching the cover plate assembly. **PROTECTIVE CAPS <u>MUST</u> BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!**

Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at www.vikinggroupinc.com.

VIKING

BULLETIN

CARE AND HANDLING OF SPRINKLERS

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

USE THE FOLLOWING PRECAUTIONS WHEN HANDLING WAX-COATED SPRINKLERS

Many of Viking's sprinklers are available with factory-applied wax coating for corrosion resistance. These sprinklers MUST receive appropriate care and handling to avoid damaging the wax coating and to assure satisfactory performance of the product.

General Handling and Storage of Wax-Coated Sprinklers:

- Store the sprinklers in a cool, dry place (in temperatures below the maximum ambient temperature allowed for the sprinkler temperature rating. Refer to Table 1 below.)
- Store containers of wax-coated sprinklers separate from other sprinklers.
- Protect the sprinklers during storage, transport, handling, and after installation.
- Use original shipping containers.
- Do not place sprinklers in loose boxes, bins, or buckets.

Installation of Wax-Coated Sprinklers:

Use only the special sprinkler head wrench designed for installing wax-coated Viking sprinklers (any other wrench may damage the unit).

- Take care not to crack the wax coating on the units.
- For touching up the wax coating after installation, wax is available from Viking in bar form. Refer to Table 1 below. The coating MUST be repaired after sprinkler installation to protect the corrosion-resistant properties of the sprinkler.
- Use care when locating sprinklers near fixtures that can generate heat. Do not install sprinklers where they would be exposed to temperatures exceeding the maximum recommended ambient temperature for the temperature rating used.
- Inspect the coated sprinklers frequently soon after installation to verify the integrity of the corrosion resistant coating. Thereafter, inspect representative samples of the coated sprinklers in accordance with NFPA 25. Close up visual inspections are necessary to determine whether the sprinklers are being affected by corrosive conditions.

TABLE 1

Sprinkler Temperature Rating (Fusing Point)	Wax Part Number	Wax Melting Point	Maximum Ambient Ceiling Temperature[1]	Wax Color
155 °F (68 °C) / 165 °F (74 °C)	02568A	148 °F (64 °C)	100 °F (38 °C)	Light Brown
175 °F (79 °C)	04146A	161 °F (71 °C)	150 °F (65 °C)	Brown
200 °F (93 °C)	04146A	161 °F (71 °C)	150 °F (65 °C)	Brown
220 °F (104 °C)	02569A	170 °F (76 °C)	150 °F (65 °C)	Dark Brown
286 °F (141 °C)	02569A	170 °F (76 °C)	150 °F (65 °C)	Dark Brown

[1] Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

WARNING Never install sprinklers that have been dropped, damaged, or exposed to temperatures in excess of the maximum ambient temperature allowed.

Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at www.vikinggroupinc.com.

VIKING | TECHNICAL DATA | SPRINKLER OVERVIEW

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

1. DESCRIPTION

Viking fire sprinklers consist of a threaded frame with a specific waterway or orifice size and a deflector for distributing water in a specified pattern. A closed or sealed sprinkler refers to a complete assembly, including the thermosensitive operating element. An open sprinkler does not use an operating element and is open at all times. The distribution of water is intended to extinguish a fire or to control its spread.

Viking sprinklers are available in several models and styles. Refer to specific sprinkler technical data pages for available styles, finishes, temperature ratings, thread sizes, and nominal K-Factors for the particular model selected.

2. LISTINGS AND APPROVALS

Refer to the Approval Charts on the appropriate sprinkler technical data page(s) and/or approval agency listings.

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

3. TECHNICAL DATA

Pressure Ratings:

Maximum allowable water working pressure is 175 psig (12 Bar) unless rated and specified for high water working pressure [250 psig (17.2 bar)].

Sprinkler Identification:

Viking sprinklers are identified and marked with the word “Viking”, the sprinkler identification number (SIN) consisting of “VK” plus a three digit number*, the model letter, and the year of manufacture.

Available Finishes:

Viking sprinklers are available in several decorative finishes. Some models are available with corrosion-resistant coatings or are fabricated from non-corrosive material. Refer to the sprinkler technical data page for additional information.

Available Temperature Ratings:

Viking sprinklers are available in several temperature ratings that relate to a specific temperature classification. Applicable installation rules mandate the use and limitations of each temperature classification. In selecting the appropriate temperature classification, the maximum expected ceiling temperature must be known. When there is doubt as to the maximum temperature at the sprinkler location, a maximum-reading thermometer should be used to determine the temperature under conditions that would show the highest readings to be expected. In addition, recognized installation rules may require a higher temperature classification, depending upon sprinkler location, occupancy classification, commodity classification, storage height, and other hazards. In all cases, the maximum expected ceiling temperature dictates the lowest allowable temperature classification. Sprinklers located immediately adjacent to a heat source may require a higher temperature rating.

K-Factors:

Viking sprinklers are available in several orifice sizes with related K-Factors. The orifice is a tapered waterway and, therefore, the K-Factor given is nominal. Nominal U.S. K-Factors are provided in accordance with the 1999 edition of NFPA 13, Section 3-2.3. Refer to the specific data page for appropriate K-Factor information.

Available Styles:

Viking sprinklers are available for installation in several positions as indicated by a stamping on the deflector. The deflector style dictates the appropriate installation position of the sprinkler; it breaks the solid stream of water issuing from the sprinkler orifice to form a specific spray pattern. The following list indicates the various styles and identification of Viking sprinklers.

UPRIGHT SPRINKLER: A sprinkler intended to be installed with the deflector above the frame so water flows upward through the orifice, striking the deflector and forming an umbrella-shaped spray pattern downward. Marked “SSU” (Standard Sprinkler Upright) or “UPRIGHT” on the deflector.

PENDENT SPRINKLER: A sprinkler intended to be oriented with the deflector below the frame so water flows downward through the orifice, striking the deflector and forming an umbrella-shaped spray pattern downward. Marked “SSP” (Standard Sprinkler Pendent) or “PENDENT” on the deflector.

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

CONVENTIONAL SPRINKLER: An “old style” sprinkler intended to be installed with the deflector in either the upright or pendent position. The deflector provides a spherical type pattern with 40 to 60 percent of the water initially directed downward and a proportion directed upward. Must be installed in accordance with installation rules for conventional or old style sprinklers. DO NOT USE AS A REPLACEMENT FOR STANDARD SPRAY SPRINKLERS. Marked “C U/P” (Conventional Upright/Pendent) on the deflector.

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VERTICAL SIDEWALL (VSW) SPRINKLER: A sprinkler intended for installation near the wall and ceiling. The deflector provides a water spray pattern outward in a quarter-spherical pattern and can be installed in the upright or pendent position with the flow arrow in the direction of discharge. Marked “SIDEWALL” on the deflector with an arrow and the word “FLOW”. (Note: Some vertical sidewall sprinklers can only be installed in the upright or pendent position—in this case, the sprinkler will also be marked “UPRIGHT” or “PENDENT”.)

HORIZONTAL SIDEWALL (HSW) SPRINKLER: A sprinkler intended for installation near the wall and ceiling. The special deflector provides a water spray pattern outward in a quarter-spherical pattern. Most of the water is directed away from the nearby wall with a small portion directed at the wall behind the sprinkler. The top of the deflector is oriented parallel with the ceiling or roof. The flow arrows point in the direction of discharge. Marked “SIDEWALL” and “TOP” with an arrow and the word “FLOW”.

EXTENDED COVERAGE (EC) SPRINKLER: A spray sprinkler designed to discharge water over an area having the maximum dimensions indicated in the individual listings. Maximum area of coverage, minimum flow rate, orifice size, and nominal K-Factor are specified in the individual listings. EC sprinklers are intended for Light-Hazard occupancies with smooth, flat, horizontal ceilings unless otherwise specified. In addition to the above markings, the sprinkler is marked “EC”.

QUICK RESPONSE (QR) SPRINKLER: A spray sprinkler with a fast- actuating operating element. The use of quick response sprinklers may be limited due to occupancy and hazard. Refer to the Authority Having Jurisdiction (AHJ) prior to installing.

QUICK RESPONSE EXTENDED COVERAGE (QREC) SPRINKLER: A spray sprinkler designed to discharge water over an area having the maximum dimensions indicated in the individual listing. This is a sprinkler with an operating element that meets the criteria for quick response. QREC sprinklers are only intended for Light Hazard occupancies. The sprinkler is marked “QREC”.

FLUSH SPRINKLER: A decorative spray sprinkler intended for installation with a concealed piping system. The unit is mounted flush with the ceiling or wall, with the fusible link exposed. Upon actuation, the deflector extends beyond the ceiling or wall to distribute water discharge. The sprinkler is marked “SSP”, “PEND”, or “SIDEWALL” and “TOP”.

CONCEALED SPRINKLER: A decorative spray sprinkler intended for installation with a concealed piping system. The sprinkler is hidden from view by a cover plate installed flush with the ceiling or wall. During fire conditions, the cover plate detaches, and upon sprinkler actuation, the deflector extends beyond the ceiling or wall to distribute water discharge. The sprinkler is marked “SSP”, “PEND”, or “SIDEWALL” and “TOP”.

RECESSED SPRINKLER: A spray sprinkler assembly intended for installation with a concealed piping system. The assembly consists of a sprinkler installed in a decorative adjustable recessed escutcheon that minimizes the protrusion of the sprinkler beyond the ceiling or wall without adversely affecting the sprinkler distribution or sensitivity. Refer to the appropriate technical data page for allowable sprinkler models, temperature ratings, and occupancy classifications. DO NOT RECESS ANY SPRINKLER NOT LISTED FOR USE WITH THE ESCUTCHEON.

CORROSION-RESISTANT SPRINKLER: A special service sprinkler with non-corrosive protective coatings, or that is fabricated from non-corrosive material, for use in atmospheres that would normally corrode sprinklers.

DRY SPRINKLER: A special-service sprinkler intended for installation on dry pipe systems or wet pipe systems where the sprinkler is subject to freezing temperatures. The unit consists of a sprinkler permanently secured to an extension nipple with a sealed inlet end to prevent water from entering the nipple until the sprinkler operates. The unit MUST be installed in a tee fitting. Dry upright sprinklers are marked with the “B” dimension [distance from the face of the fitting (tee) to the top of the deflector]. Dry pendent and sidewall sprinklers are marked with the “A” dimension [the distance from the face of fitting (tee) to the finished surface of the ceiling or wall].

LARGE DROP SPRINKLER: A type of special application sprinkler used to provide fire control of specific high-challenge fire hazards. Large drop sprinklers are designed to produce an umbrella-shaped spray pattern downward with a higher percentage of “large” water droplets than standard spray sprinklers. The sprinkler has an extra-large orifice with a nominal K-Factor of 11.2. Marked “HIGH CHALLENGE” and “UPRIGHT”.

EARLY SUPPRESSION FAST-RESPONSE (ESFR) SPRINKLER: A sprinkler intended to provide fire suppression of specific high-challenge fire hazards through the use of a fast response fusible link, 14.0, 16.8, or 25.2 nominal K-Factor, and special deflector. ESFR sprinklers are designed to produce high-momentum water droplets in a hemispherical pattern below the deflector. This permits penetration of the fire plume and direct wetting of the burning fuel surface while cooling the atmosphere early in the development of a high-challenge fire. Marked “ESFR” and “UPRIGHT” or “PEND”.

INTERMEDIATE LEVEL/RACK STORAGE SPRINKLER: A standard spray sprinkler assembly designed to protect its operating element from the spray of sprinklers installed at higher elevations. The assembly consists of a standard or large orifice upright or pendent sprinkler with an integral upright or pendent water shield and guard assembly. Use only those sprinklers that have been tested and listed for use with the assembly. Refer to the technical data page for allowable sprinkler models.

RESIDENTIAL SPRINKLER: A sprinkler intended for use in the following occupancies: one- and two-family dwellings with the fire protection sprinkler system installed in accordance with NFPA 13D; residential occupancies up to four stories in height with the fire protection system installed in accordance with NFPA 13R; and where allowed by the Authority Having Jurisdiction in residential portions of any occupancy with the fire protection system installed in accordance with NFPA 13.

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Residential sprinklers have a unique distribution pattern and utilize a “fast response” heat sensitive operating element. They enhance survivability in the room of fire origin and are designed to provide a life safety environment for a minimum of ten minutes. For this reason, residential sprinklers must not be used to replace standard sprinklers unless tested for and approved by the Authority Having Jurisdiction. In addition to standard markings, the unit is identified as “RESIDENTIAL SPRINKLER” or “RES”.

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

Refer to the appropriate sprinkler technical data page(s).

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking sprinklers are available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking’s current list price schedule or contact Viking directly.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers and the appropriate sprinkler general care, installation, and maintenance guide. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable. The sprinkler technical data page may contain installation requirements specific for the sprinkler model selected. The use of certain types of sprinklers may be limited due to occupancy and hazard. Refer to the Authority Having Jurisdiction prior to installation.

VIKING

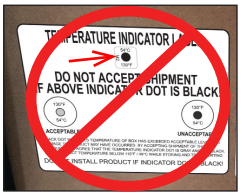
BULLETIN

BEST PRACTICES FOR RESIDENTIAL SPRINKLER HANDLING & INSTALLATION

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
Visit the Viking website for the latest edition of this technical data page.

SPRINKLERS ARE FRAGILE - HANDLE WITH CARE!

- Always keep sprinklers in a cool dry place.
- Protect sprinklers during storage, transport and handling as well as before, during and after installation. Refer to Viking's Care and Handling of Sprinklers Bulletin Form No. F_091699[2].
- Proper transit, storage and installation of sprinklers in a high-heat environment is a must. Care should be taken to prevent sprinklers from being exposed to ambient heat conditions in excess of those referenced in installation standards.
- Do not stage or store sprinklers on the job site in advance in a non-conditioned space prior to installation.
- Keep sprinklers in the original packaging and check temperature indicators on box label prior to installation. If the indicator has turned black, DO NOT install any product contained in the box. Refer to Viking product return policies.
- Temperatures exceeding the maximum ambient temperature of the sprinkler temperature-rating during storage, transport, handling and installation must be avoided.
- Per NFPA standards 13, 13R, and 13D, sprinklers installed where maximum ambient temperatures are at or over 101 °F (38 °C) through 150 °F (66 °C) shall be intermediate temperature-rated sprinklers. Additionally, if sprinklers are installed in an unventilated concealed space under an uninsulated roof or in an unventilated attic, they shall be of intermediate temperature classification.
- Sprinklers installed where ambient temperatures are at or below 100 °F (38 °C) may be either ordinary or intermediate temperature-rated sprinklers. Refer to NFPA standards 13R 6.2.3.1 and 13D 7.5.6.1.
- Rough-in of sprinkler piping during hot weather conditions should not include the installation of sprinklers unless reasonable ambient temperatures can be maintained. Ambient temperatures that are considered when choosing the temperature rating for a sprinkler should take into account the range of ambient temperatures that are expected from installation through establishment and maintenance of temperature in a conditioned space. Appropriate insulation may be considered. **Example**: An ordinary temperature sprinkler should not be exposed to maximum ambient temperature higher than 100 °F (38 °C) or more. Refer to NFPA 13, Table 6.2.5.1, NFPA 13R, 6.2.3.1 and NFPA 13D, 7.5.6.1.
- CPVC fire sprinkler products exposed to high ambient temperatures (e.g. installed in unventilated, concealed spaces such as attics) should be insulated to maintain a cooler environment. Refer to Viking Plastics Installation and Design Manual, Form No. F_080712[2], for care and handling procedures.
- Protect all sprinklers and connecting CPVC piping in attic spaces and unvented concealed spaces from excessive heat exposure above 100 °F (38 °C). To separate excessive attic heat, properly tent and fully insulate all pipe in unconditioned spaces.
- Pressure relief valves should be installed on wet sprinkler systems where there is a risk of over-pressurization of a checked water supply, due to thermal expansion. Refer to NFPA 13, 7.1.2.1 and NFPA 13D, A.5.2.2.2.
- Fire sprinkler systems should be installed per current referenced editions of building codes and installation standards adopted in the jurisdiction where work is being performed.



INCORRECT
(Heat exposure)

INCORRECT
(Unconditioned at rough-in)

INCORRECT
(Exposed piping)

INCORRECT
(No pressure relief valve)

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

[1]Hot weather condition is defined as temperatures that can reach the maximum ambient temperature-rating of the sprinkler.
[2]Clicking on blue hyperlink will open referenced document.

⚠ WARNING

Any sprinkler with a loss of liquid from the glass bulb or damage to the fusible element should be destroyed. Never install sprinklers that have been dropped, damaged, or exposed to temperatures exceeding the maximum ambient temperature allowed. Sprinklers that have been painted in the field must be replaced per NFPA 13. Protect sprinklers from paint and paint overspray in accordance with the installation standards. Do not clean sprinklers with soap and water, ammonia, or any other cleaning fluid. Do not use adhesives or solvents on sprinklers or their operating elements.

Refer to the appropriate technical data page and NFPA standards for complete care, handling, installation, and maintenance instructions. For additional product and system information Viking data pages and installation instructions are available on the Viking Web site at www.vikinggroupinc.com.

VIKING®	BULLETIN	REGULATORY AND HEALTH WARNINGS

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
Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

1. DESCRIPTION

Regulatory and Health Warnings applying to materials used in the manufacture and construction of fire protection products are provided herin as they relate to legally mandated jurisdictional regions.

⚠ WARNING
STATE OF CALIFORNIA, USA Installing or servicing fire protection products such as sprinklers, valves, piping etc. can expose you to chemicals including, but not limited to, lead, nickel, butadiene, titaninum dioxide, chromium, carbon black, and acrylonitrile which are known to the State of California to cause cancer or birth defects or other reproductive harm.
For more information, go to **www.P65Warnings.ca.gov**

2. WARRANTY TERMS AND CONDITIONS

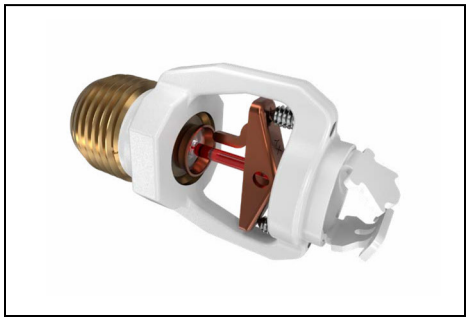
For details of warranty, refer to Viking's current list price schedule at **www.vikinggroupinc.com** or contact Viking directly.

VIKING®	TECHNICAL DATA	FREEDOM® RESIDENTIAL HORIZONTAL SIDEWALL SPRINKLER VK486 (K4.0)

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
Visit the Viking website for the latest edition of this technical data page: www.vikinggroupinc.com

1. DESCRIPTION

Viking Freedom® Residential Horizontal Sidewall Sprinkler VK486 is a small, thermosensitive, glass-bulb residential sprinkler that is available in several different finishes and temperature ratings to meet varying design requirements. The Electroless Nickel PTFE (ENT) coating has been investigated for installation in corrosive atmospheres and is C-UL-US-EU Listed as corrosion-resistant, as indicated in the Approval Chart below. The sprinkler orifice design, with a K-Factor of 4.0 (57.7 metric†), allows efficient use of available water supplies for the hydraulically designed fire-protection system. The glass bulb operating element and special deflector characteristics meet the challenges of residential sprinkler standards.



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

2. LISTINGS AND APPROVALS

UL Listed (C-UL-US-EU): Category VKKW

VdS Approved

Refer to the Approval Chart and Design Criteria for C-UL-US-EU Listing requirements that must be followed.

3. TECHNICAL DATA

Specifications:
Available since 2011.
Minimum Operating Pressure: Refer to the Approval Chart.
Maximum Working Pressure: 175 psi (12 bar). Factory tested hydrostatically to 500 psi (34.5 bar).
Thread size: 1/2” (15 mm) NPT
Nominal K-Factor: 4.0 U.S. (57.7 metric†)

† Metric K-factor measurement shown is in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Glass-bulb fluid temperature rated to -65 °F (-55 °C)
Overall Length: 2-7/16” (62 mm)
Covered by the following US Patent numbers: 7,854,269 and 7,712,218

Material Standards:
Frame Casting: QM Brass and Brass UNS-C84400
Deflector: Phosphor Bronze UNS-C51000
Bulb: Glass, nominal 3 mm diameter
Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
Compression Screws: 18-8 Stainless Steel
Yoke: Phosphor Bronze UNS-C51000

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the glass to shatter, releasing the yoke, pip cap, and sealing spring assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking Sprinkler VK486 is available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking’s current list price schedule or contact Viking directly.

VIKING®	TECHNICAL DATA	FREEDOM® RESIDENTIAL HORIZONTAL SIDEWALL SPRINKLER VK486 (K4.0)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
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Visit the Viking website for the latest edition of this technical data page: www.vikinggroupinc.com

TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating[1]	Maximum Ambient Ceiling Temperature[2]	Bulb Color
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow

Sprinkler Finishes: Brass, Chrome, white polyester[3], and black polyester[3].

Footnotes

[1] The sprinkler temperature rating is stamped on the deflector.

[2] Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

[3] Sprinklers with ENT, White Polyester, and Black Polyester finishes are C-UL-US-EU Listed as corrosion resistant.

Ordering Instructions

1. Choose a sprinkler base part number with the required thread size and listing or approval (refer to the approval chart).
2. Add the suffix for the desired finish.
3. Add the suffix for the desired temperature rating.

EXAMPLE: 17315AB-TQ = VK486 with brass finish and 155 °F (66 °C) nominal temperature rating. This sprinkler is to be installed into an InstaSeal® fitting in an area with a maximum ambient temperature of 100 °F (38 °C).

NOTE: *The "TQ" suffix for the part number below indicates a special protective cap (Figure 2-B) intended for use with InstaSeal® fittings. When ordering sprinklers with TQ suffixes in combination with InstaSeal fittings, refer to Form No. F_021323 for installation instructions.*

Sprinkler Base Part Number	
Part Number*	**Thread Size**
17315XX-TQ	1/2" NPT

Temperature Ratings			
Temperature Rating	**Bulb Color**	**Maximum Ambient Ceiling Temperature**	**Suffix**
155 °F (68 °C)	Red	100 °F (38 °C)	B
175 °F (79 °C)	Yellow	150 °F (66 °C)	D

*** Where "X" is shown in the base part number, enter the desired suffix for temperature rating (EXAMPLE: 17315AB-TQ)**

Accessories
Standard Wrench: Part no. 21475M/B
Recessed wrench: Part no. 13655W/B (requires a 1/2" wrench not available from Viking)
Sprinkler Cabinet: Part no. 01724A (up to 6 sprinklers) or 01725A (up to 12 sprinklers)

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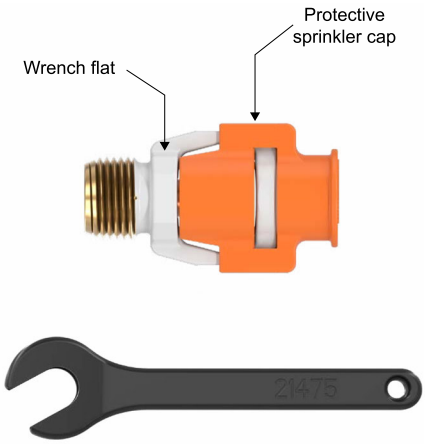

Figure 1:
Sprinkler with Torque Assist Cap

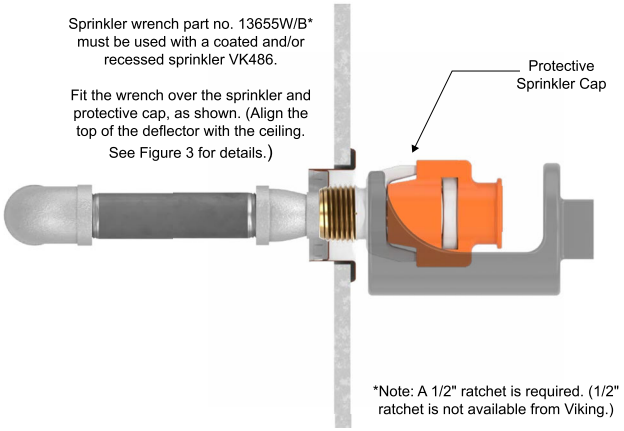

Figure 2:
Recessed Sprinkler VK486 with Torque Assist Cap

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TECHNICAL DATA

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Approval Chart
Viking VK486, 4.0 K-Factor Residential Horizontal Sidewall Sprinkler

For systems designed to NFPA 13D or NFPA 13R. For systems designed to NFPA 13, refer to the design criteria. For Ceiling types refer to current Editions of NFPA 13, 13R or 13D

Sprinkler Base Part Number [1]	SIN	NPT Thread Size		Nominal K-Factor		Maximum Water Working Pressure	Overall Length	
		Inches	mm	U.S.	metric [2]		Inches	mm
17315XX-TQ	VK486	1/2	15	4.0	57.7	175 psi (12 bar)	2-7/16	62

Max. Coverage Area [3] Width X Length Ft. X Ft. (m X m)	Max. Spacing Ft. (m)	Ordinary Temp Rating (155 °F/68 °C)		Intermediate Temp Rating (175 °F/79 °C)		Top of Deflector to Ceiling	Installation Type	Listings and Approvals [4]		Minimum Spacing Ft. (m)
		Flow [3] GPM (L/min)	Pressure [3] PSI (bar)	Flow [3] GPM (L/min)	Pressure [3] PSI (bar)			C-UL-US-EU [5]	VdS	
12 X 12 (3.7 X 3.7)	12 (3.7)	11 (41.7)	7.6 (0.52)	11 (41.7)	7.6 (0.52)	4 to 6 inches	Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1, E-2, E-3, or G-1 recessed escutcheon	See footnotes 6 and 7.	See footnote 6.	8 (2.4)
14 X 14 (4.3 X 4.3)	14 (4.3)	12 (45.5)	9 (0.62)	12 (45.5)	9 (0.62)					
16 X 16 (4.9 X 4.9)	16 (4.9)	13 (49.3)	10.6 (0.73)	13 (49.3)	10.6 (0.73)					
16 X 18 (4.9 X 5.5)	16 (4.9)	16 (60.6)	16 (1.10)	16 (60.6)	16 (1.10)					
16 X 20 (4.9 X 6.1)	16 (4.9)	22 (83.3)	30.3 (2.09)	22 (83.3)	30.3 (2.09)					
16 X 22 (4.9 X 6.7)	16 (4.9)	24 (90.8)	36 (2.48)	24 (90.8)	36 (2.48)					
18 X 18 (5.5 X 5.5)	18 (5.5)	18 (68.1)	20.3 (1.40)	19 (71.9)	22.6 (1.60)					
18 X 20 (5.5 X 6.1)	18 (5.5)	22 (83.3)	30.3 (2.09)	22 (83.3)	30.3 (2.09)					
20 X 20 (6.1 X 6.1)	20 (6.1)	22 (83.3)	30.3 (2.09)	22 (83.3)	30.3 (2.09)					
12 X 12 (3.7 X 3.7)	12 (3.7)	12 (45.5)	9 (0.62)	12 (45.5)	9 (0.62)	6 to 12 inches				
14 X 14 (4.3 X 4.3)	14 (4.3)	12 (45.5)	9 (0.62)	13 (49.3)	10.6 (0.73)					
16 X 16 (4.9 X 4.9)	16 (4.9)	14 (53.0)	12.3 (0.84)	14 (53.0)	12.3 (0.84)					
16 X 18 (4.9 X 5.5)	16 (4.9)	16 (60.6)	16 (1.10)	16 (60.6)	16 (1.10)					
16 X 20 (4.9 X 6.1)	16 (4.9)	23 (87.1)	33.1 (2.28)	23 (87.1)	33.1 (2.28)					
16 X 22 (4.9 X 6.7)	16 (4.9)	26 (98.4)	42.3 (2.91)	26 (98.4)	42.3 (2.91)					
18 X 18 (5.5 X 5.5)	18 (5.5)	18 (68.1)	20.3 (1.40)	19 (71.9)	22.6 (1.60)					
18 X 20 (5.5 X 6.1)	18 (5.5)	23 (87.1)	33.1 (2.28)	23 (87.1)	33.1 (2.28)					
20 X 20 (6.1 X 6.1)	20 (6.1)	24 (90.8)	36 (2.48)	24 (90.8)	36 (2.48)					

Footnotes

[1] Part number shown is the base part number. For complete part number, refer to Viking's current price schedule.

[2] Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

[3] For areas of coverage smaller than shown, use the "Flow" and "Pressure" for the next larger area listed. Flows and pressures listed are per sprinkler. The distance from sprinklers to walls shall not exceed one-half the sprinkler spacing indicated for the minimum "Flow" and "Pressure" used.

[4] This chart shows the listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals. Refer also to Design Criteria.

[5] Listed by Underwriter's Laboratories, Inc. for use in the U.S., Canada, and European Union.

[6] Approved Finishes are: brass, chrome, white polyester, and black polyester. Other paint colors are available on request with the same C-UL-US-EU listings as the standard finish colors

[7] Approved finish is Electroless Nickel PTFE (ENT). Sprinklers with ENT, White Polyester, and black polyester finishes are C-UL-US-EU Listed as corrosion-resistant. ENT is available with standard surface-mounted escutcheons or the Micromatic Model E-1 recessed escutcheon.

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DESIGN CRITERIA

(Also refer to the Approval Chart.)

UL Listing Requirements (C-UL-US-EU):

When using Viking Residential Horizontal Sidewall Sprinkler VK486 for systems designed to NFPA 13D or NFPA 13R, apply the listed areas of coverage and minimum water supply requirements shown in the Approval Chart.

For systems designed to NFPA 13: The number of design sprinklers is to be the four contiguous most hydraulically demanding sprinklers. The minimum required discharge from each of the four sprinklers is to be the greater of the following:

- The flow rates given in the Approval Chart for NFPA 13D and NFPA 13R applications for each listed area of coverage, **or**
- Calculated based on a minimum discharge of 0.1 gpm/sq. ft. over the “design area” in accordance with sections 8.5.2.1 or 8.6.2.1.2 of NFPA 13.
- Minimum distance between residential sprinklers: 8 ft. (2.4 m).
- The VK486 horizontal sidewall sprinkler deflector shall be located a minimum of 1-1/4“ (31.8 mm) and a maximum of 6” (152 mm) from the wall on which it is installed.

DEFLECTOR POSITION: Install sprinkler VK486 with the leading edge of the deflector oriented parallel to the ceiling and the sprinkler frame arms oriented perpendicular to the ceiling (see Figure 4). **THE TOP SURFACE OF THE DEFLECTOR IS MARKED “TOP”.** The sprinkler must be oriented as shown in Figure 3 below.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080190, F_080814, and F_080415 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA and any other similar Authorities Having Jurisdiction, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable. Final approval and acceptance of all residential sprinkler installations must be obtained from the Authorities Having Jurisdiction.

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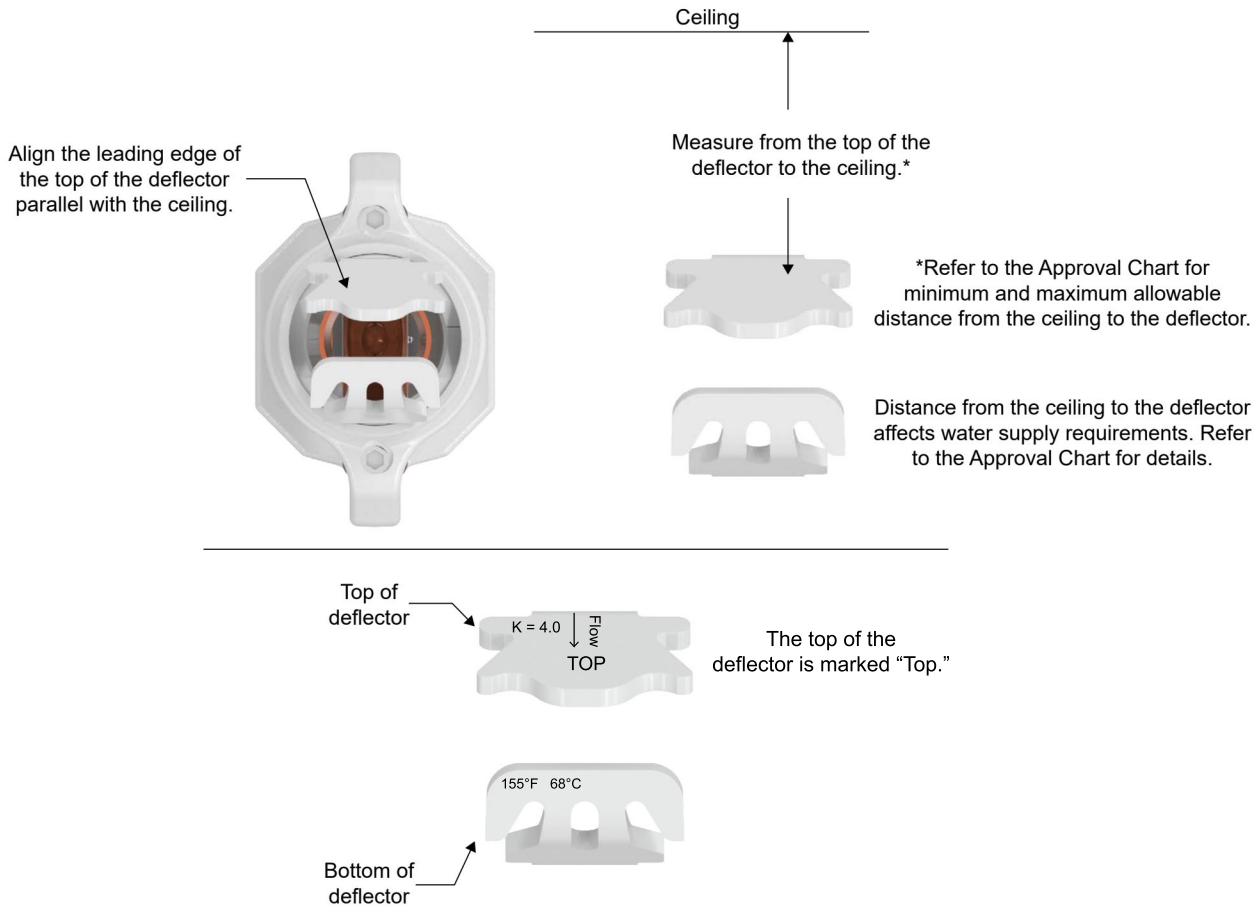

Figure 3:
Correct Orientation of the Deflector

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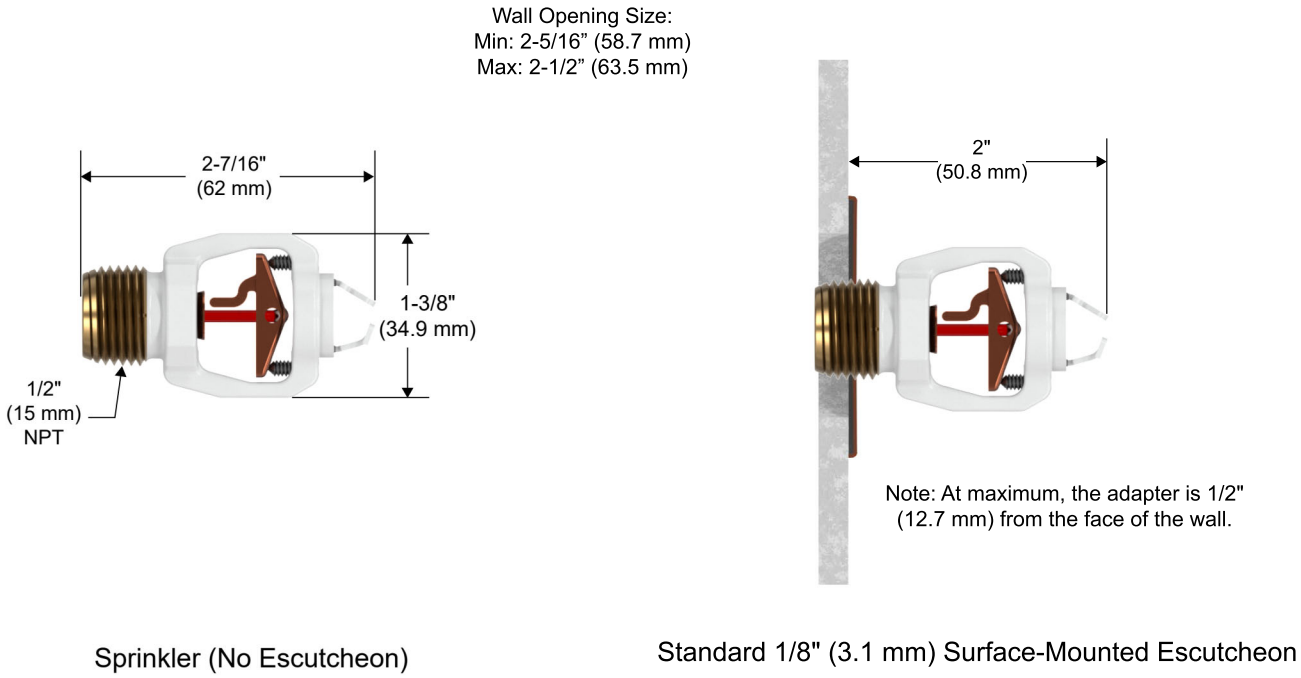

Figure 4:
Sprinkler VK486 Dimensions with a Standard Escutcheon

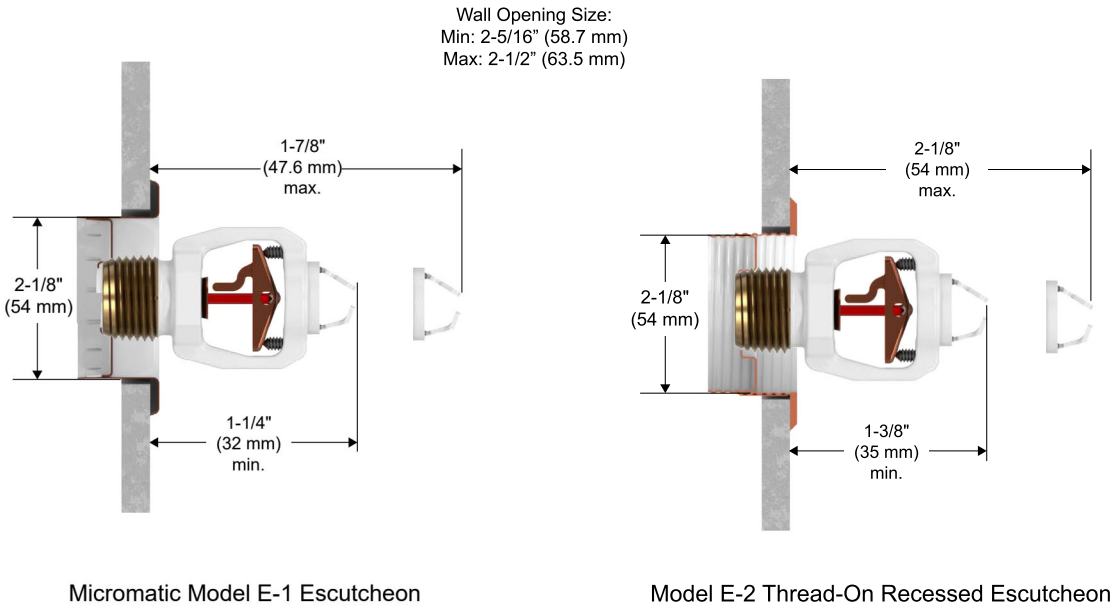

Figure 5:
Sprinkler VK486 Dimensions with the Model E-1 and E-2 Recessed Escutcheons

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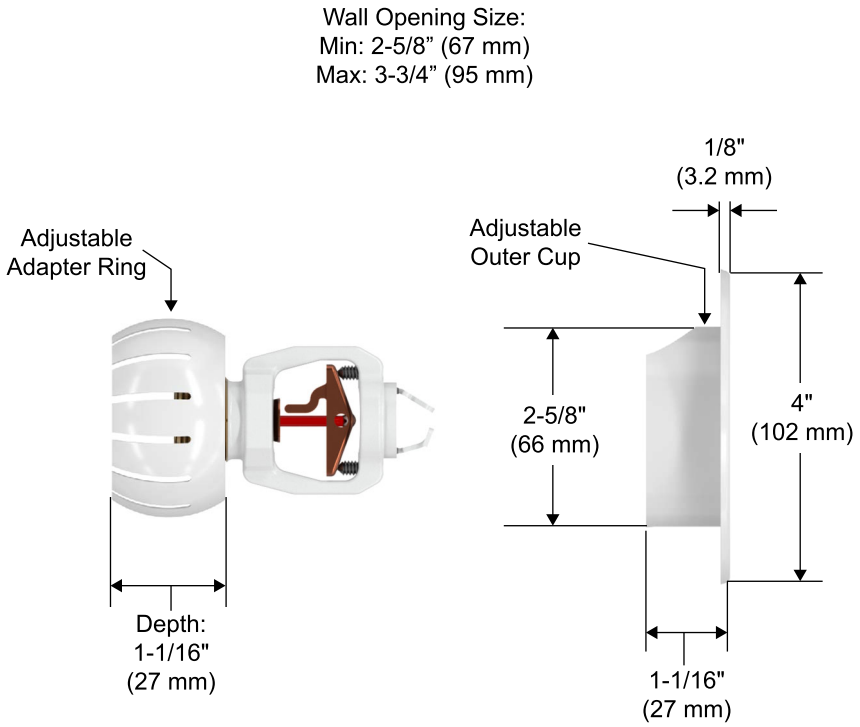

Figure 6: Sprinkler VK486 Dimensions with the Model G-1 Escutcheon

VIKING®	BULLETIN	REGULATORY AND HEALTH WARNINGS

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1. DESCRIPTION

Regulatory and Health Warnings applying to materials used in the manufacture and construction of fire protection products are provided herin as they relate to legally mandated jurisdictional regions.

⚠ WARNING
STATE OF CALIFORNIA, USA Installing or servicing fire protection products such as sprinklers, valves, piping etc. can expose you to chemicals including, but not limited to, lead, nickel, butadiene, titaninum dioxide, chromium, carbon black, and acrylonitrile which are known to the State of California to cause cancer or birth defects or other reproductive harm.
For more information, go to **www.P65Warnings.ca.gov**

2. WARRANTY TERMS AND CONDITIONS

For details of warranty, refer to Viking's current list price schedule at **www.vikinggroupinc.com** or contact Viking directly.