



Specifications subject to change without notice.

| Ordering Information | | | |
|----------------------|-------|-----------|-------------|
| Nominal Pipe Size | | Model | Part Number |
| 2" | DN50 | VSR-2 | 1144402 |
| 2 1/2" | DN65 | VSR-2 1/2 | 1144425 |
| 3" | DN80 | VSR-3 | 1144403 |
| 3 1/2" | - | VSR-3 1/2 | 1144435 |
| 4" | DN100 | VSR-4 | 1144404 |
| 5" | - | VSR-5 | 1144405 |
| 6" | DN150 | VSR-6 | 1144406 |
| 8" | DN200 | VSR-8 | 1144408 |

Optional: Cover Tamper Switch Kit, stock no. 0090148

Replaceable Components: Retard/Switch Assembly, stock no. 1029030

UL, CUL and CSFM Listed, FM Approved, LPCB Approved, For CE Marked (EN12259-5) / VdS Approved model use VSR-EU

Service Pressure: 450 PSI (31 BAR) - UL

Flow Sensitivity Range for Signal:

4-10 GPM (15-38 LPM) - UL

Maximum Surge: 18 FPS (5.5 m/s)

Contact Ratings: Two sets of SPDT (Form C)

10.0 Amps at 125/250VAC

2.0 Amps at 30VDC Resistive

10 mAmps min. at 24VDC

Conduit Entrances: Two knockouts provided for 1/2" conduit.

Individual switch compartments suitable for dissimilar voltages.

Environmental Specifications:

- NEMA 4/IP54 Rated Enclosure suitable for indoor or outdoor use with factory installed gasket and die-cast housing when used with appropriate conduit fitting.
- Temperature Range: 40°F - 120°F, (4.5°C - 49°C) - UL
- Non-corrosive sleeve factory installed in saddle.

Service Use:

Automatic Sprinkler

NFPA-13

One or two family dwelling

NFPA-13D

Residential occupancy up to four stories

NFPA-13R

National Fire Alarm Code

NFPA-72

⚠ WARNING

- Installation must be performed by qualified personnel and in accordance with all national and local codes and ordinances.
- Shock hazard. Disconnect power source before servicing. Serious injury or death could result.
- Risk of explosion. Not for use in hazardous locations. Serious injury or death could result.

CAUTION

Waterflow switches that are monitoring wet pipe sprinkler systems shall not be used as the sole initiating device to discharge AFFF, deluge, or chemical suppression systems. Waterflow switches used for this application may result in unintended discharges caused by surges, trapped air, or short retard times.

General Information

The Model VSR is a vane type waterflow switch for use on wet sprinkler systems. It is UL Listed and FM Approved for use on steel pipe; schedules 10 through 40, sizes 2" thru 8" (50 mm thru 200 mm). LPC approved sizes are 2" thru 8" (50 mm thru 200 mm). See Ordering Information chart.

The VSR may also be used as a sectional waterflow detector on large systems. The VSR contains two single pole, double throw, snap action switches and an adjustable, instantly recycling pneumatic retard. The switches are actuated when a flow of 10 GPM (38 LPM) or more occurs downstream of the device. The flow condition must exist for a period of time necessary to overcome the selected retard period.

Enclosure

The VSR switches and retard device are enclosed in a general purpose, die-cast housing. The cover is held in place with two tamper resistant screws which require a special key for removal. A field installable cover tamper switch is available as an option which may be used to indicate unauthorized removal of the cover. See bulletin number 5401103 for installation instructions of this switch.

Installation (see Fig. 1)

These devices may be mounted on horizontal or vertical pipe. On horizontal pipe they shall be installed on the top side of the pipe where they will be accessible. The device should not be installed within 6" (15 cm) of a fitting which changes the direction of the waterflow or within 24" (60 cm) of a valve or drain.

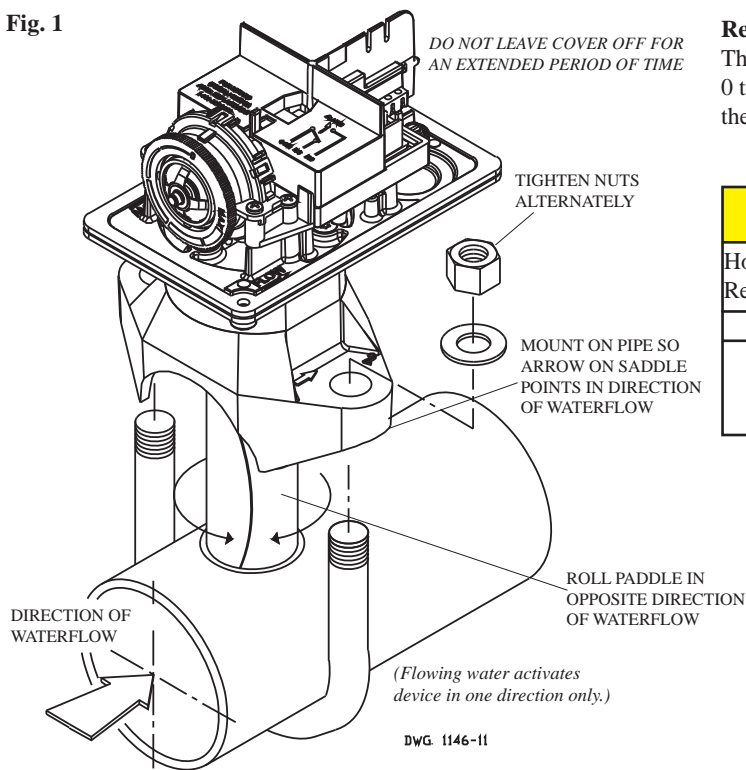
NOTE: Do not leave cover off for an extended period of time.

Drain the system and drill a hole in the pipe using a hole saw in a slow speed drill (see Fig. 1). Clean the inside pipe of all growth or other material for a distance equal to the pipe diameter on either side of the hole. Roll the vane so that it may be inserted into the hole; do not bend or crease it. Insert the vane so that the arrow on the saddle points in the direction of the waterflow. Take care not to damage the non-corrosive bushing in the saddle. The bushing should fit inside the hole in the pipe. Install the saddle strap and tighten nuts alternately to required torque (see the chart in Fig. 1). The vane must not rub the inside of the pipe or bind in any way.

CAUTION

Do not trim the paddle. Failure to follow these instructions may prevent the device from operating and will void the warranty.

Fig. 1

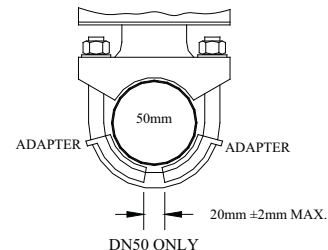


Retard Adjustment

The delay can be adjusted by rotating the retard adjustment knob from 0 to the max setting (60-90 seconds). The time delay should be set at the minimum required to prevent false alarms

CAUTION

Hole must be drilled perpendicular to the pipe and vertically centered. Refer to the Compatible Pipe/Installation Requirements chart for size.



USE (2) 5180162 ADAPTERS AS SHOWN ABOVE

DWG# 1146-1F

Compatible Pipe/ Installation Requirements

| Model | Nominal Pipe Size | | Nominal Pipe O.D. | | Pipe Wall Thickness | | | | | | | | Hole Size | | U-Bolt Nuts Torque | |
|-----------|-------------------|-------|-------------------|-------|---------------------|------|------------------|------|---------------|-----|----------|-----|--------------------|------------|--------------------|-----|
| | inch | mm | inch | mm | Schedule 10 (UL) | | Schedule 40 (UL) | | BS-1387 (LPC) | | DN (VDS) | | inch | mm | ft-lb | n-m |
| VSR-2 | 2 | DN50 | 2.375 | 60.3 | 0.109 | 2.77 | 0.154 | 3.91 | 0.142 | 3.6 | 0.091 | 2.3 | 1.25 + .125/-0.062 | 33.0 ± 2.0 | 20 | 27 |
| VSR-2 1/2 | 2.5 | - | 2.875 | 73.0 | 0.120 | 3.05 | 0.203 | 5.16 | - | - | - | - | | | | |
| VSR-2 1/2 | - | DN65 | 3.000 | 76.1 | - | - | - | - | 0.142 | 3.6 | 0.102 | 2.6 | | | | |
| VSR-3 | 3 | DN80 | 3.500 | 88.9 | 0.120 | 3.05 | 0.216 | 5.49 | 0.157 | 4.0 | 0.114 | 2.9 | 2.00 ± .125 | 50.8 ± 2.0 | | |
| VSR-3 1/2 | 3.5 | - | 4.000 | 101.6 | 0.120 | 3.05 | 0.226 | 5.74 | - | - | - | - | | | | |
| VSR-4 | 4 | DN100 | 4.500 | 114.3 | 0.120 | 3.05 | 0.237 | 6.02 | 0.177 | 4.5 | 0.126 | 3.2 | | | | |
| VSR-5 | 5 | - | 5.563 | 141.3 | 0.134 | 3.40 | 0.258 | 6.55 | - | - | - | - | | | | |
| VSR-6 | 6 | DN150 | 6.625 | 168.3 | 0.134 | 3.40 | 0.280 | 7.11 | 0.197 | 5.0 | 0.157 | 4.0 | | | | |
| VSR-8 | 8 | DN200 | 8.625 | 219.1 | 0.148 | 3.76 | 0.322 | 8.18 | 0.248 | 6.3 | 0.177 | 4.5 | | | | |

NOTE: For copper or plastic pipe use Model VSR-CF.

