

# Installation

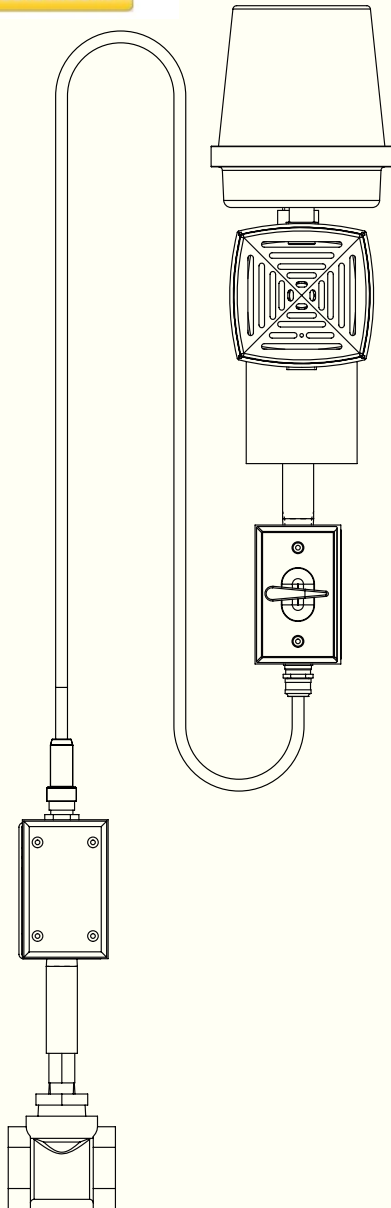
**S19-320B (6' cable)**

**S19-320E (12' cable)**

**Flow Switch Alarm System with  
120/24VAC Transformer**

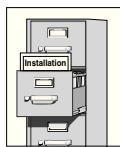
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[Bradley S19-320 Flow Switch Alarm System](#)  
[Bradley S19-320B Flow Switch Alarm System](#)  
[Bradley S19-320C Flow Switch Alarm System](#)  
[Bradley S19-320E Flow Switch Alarm System](#)

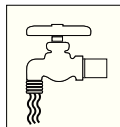
## IMPORTANT



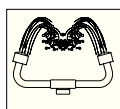
Read this installation manual completely to ensure proper installation, then file it with the owner or maintenance department. Compliance and conformity to drain requirements and other local codes and ordinances is the responsibility of the installer.



Separate parts from packaging and make sure all parts are accounted for before discarding any packaging material. If any parts are missing, do not begin installation until you obtain the missing parts.



Flush the water supply lines before beginning installation and after installation is complete. Test the unit for leaks and adequate water flow. Main water supply to the eyewash should be "ON" at all times. Provisions shall be made to prevent unauthorized shutoff.



The ANSI Z358.1 standard requires an uninterrupted supply of flushing fluid. Bradley plumbed emergency fixtures require a minimum of 30 psi (0.21 MPa) flowing pressure. Flushing fluid should be tepid per ANSI Z358.1.



The inspection and testing results of this equipment should be recorded weekly to verify proper operation. This equipment should be inspected annually to ensure compliance with ANSI Z358.1.



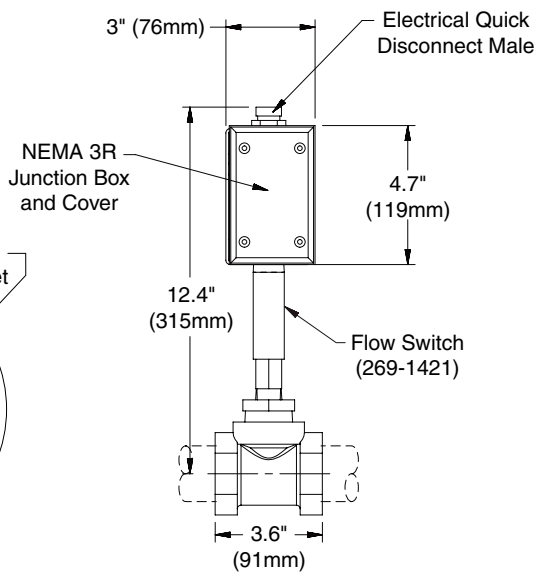
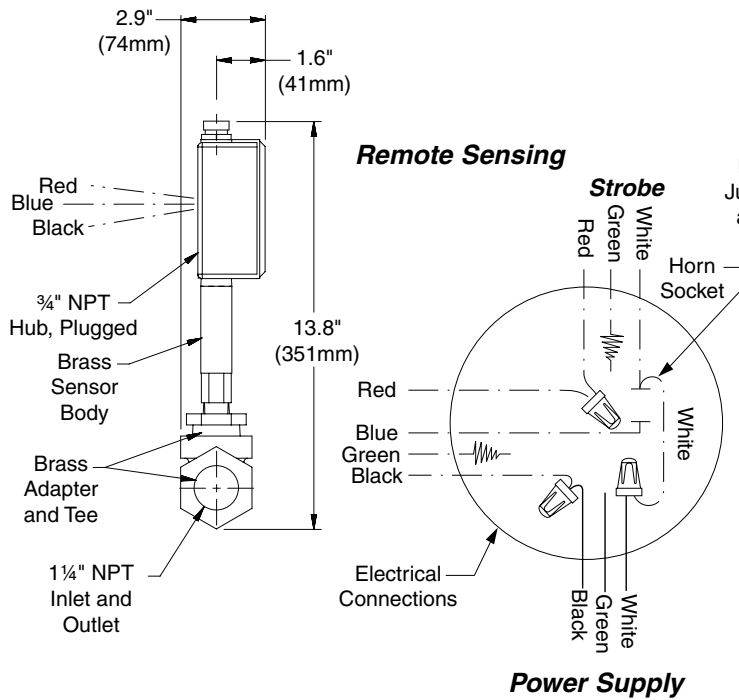
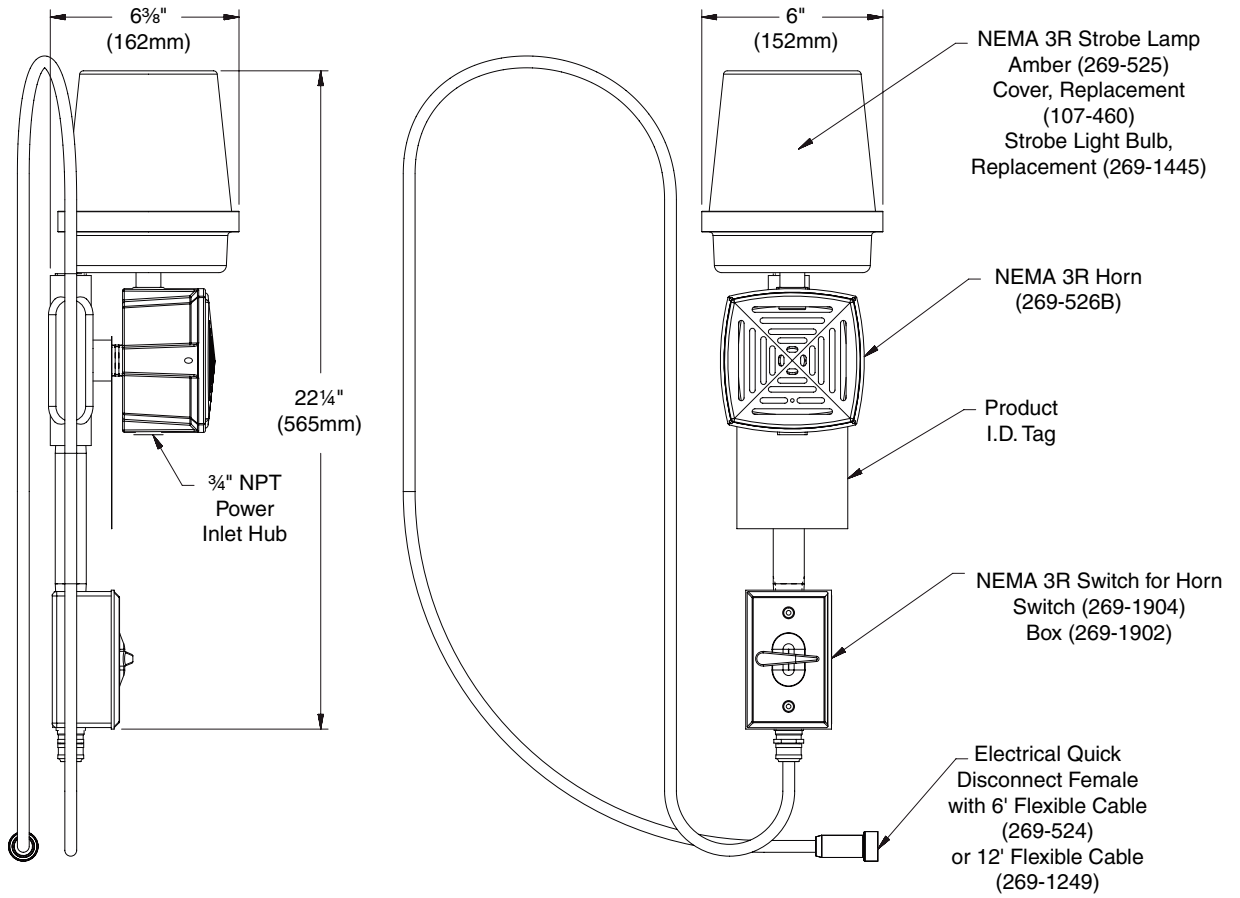
Workers who may come in contact with potentially hazardous materials should be trained regarding the placement and proper operation of emergency equipment per ANSI Z358.1.



Power should be supplied to the alarm system transformer by no larger than a 120 volt AC, 15 amp branch circuit with a dedicated circuit breaker or fuse and should not supply power to any other device. Compliance and conformity to local codes and ordinances is the responsibility of the installer.



# S19-320B and S19-320E Components



**IMPORTANT!**

**System is prewired. Installer connects ONLY ground black and white wires!**

## Installation

### Supplies Required:

- Teflon tape or pipe sealant
- Black, white and green AWG 14 wire to connect alarm to electric power supply
- 1/2" conduit and 1/2" x 3/4" adapter bushing for electric power supply wiring

### Step 1: Install the flow switch in the water supply line



The flow switch will attach to the mounted alarm via a 6-foot waterproof cable. Keep the location for mounting the alarm in mind when choosing the flow switch location.

1. Choose a location for mounting the flow switch in a horizontal run of the water supply line. The inlet and outlet ports of the flow switch must be a minimum of 6 inches from any tees or elbows in the water supply line.
2. Mount the flow switch assembly in the water supply line.
  - The switch body must be in the vertical position with the water pipe horizontal.
  - The water flow must be in the direction marked by the arrow on the flow switch body.
  - Use teflon tape or pipe sealant (supplied by installer) on all water pipe connections.

### Step 2: Mount alarm assembly to unit



Point the alarm speaker in the direction from which help is most likely to come.

1. Choose a location for mounting the alarm assembly. The alarm should be mounted at least 7 feet above ground level for best visibility.
  - The alarm may be mounted directly to the drench shower piping using the supplied U-bolts and nuts.
  - The alarm can also be bolted to a flat surface such as a wall (hardware for this type of installation is NOT supplied).

### Step 3: Connect alarm to flow switch

1. Connect the flow switch to the alarm by plugging the prewired cable into the socket provided in the flow switch junction box. The plug and socket have an alignment pin and groove which makes for error-free hook-up.

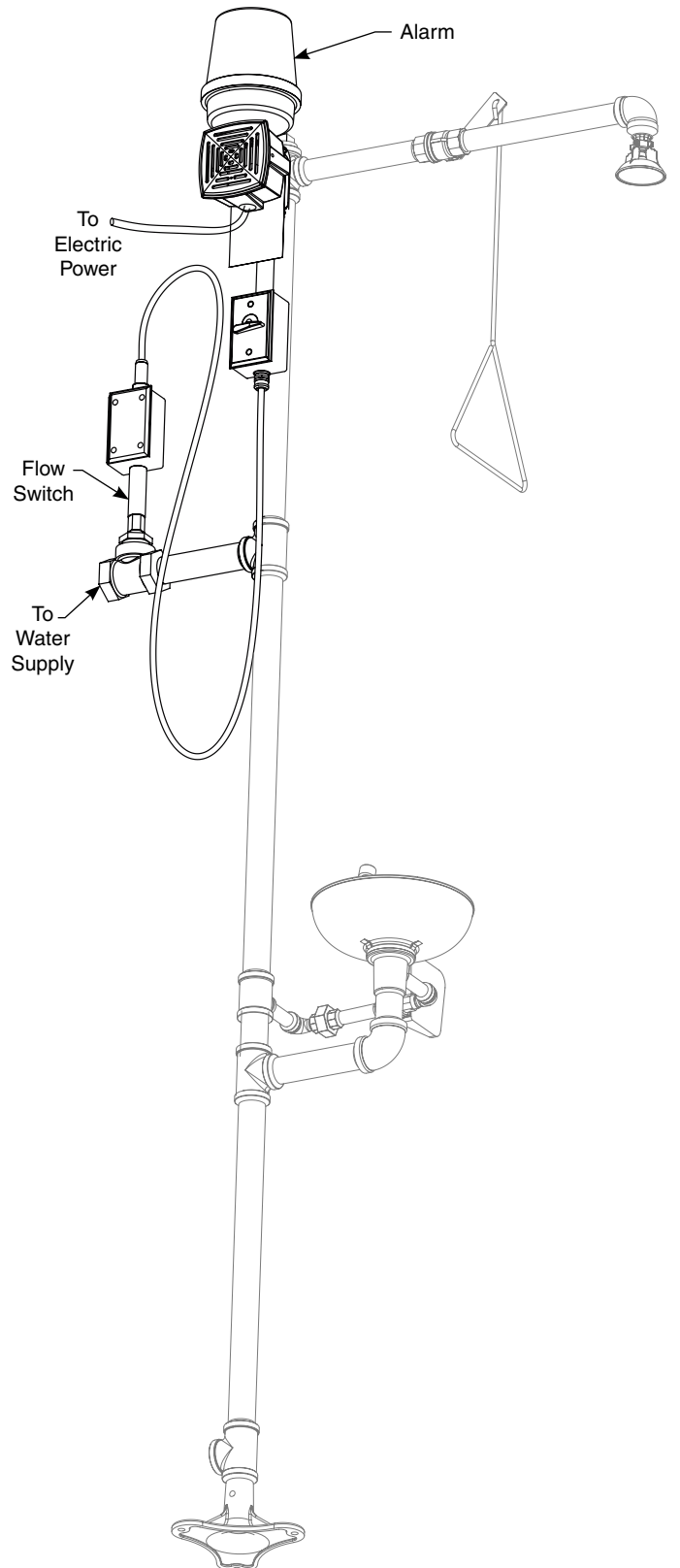


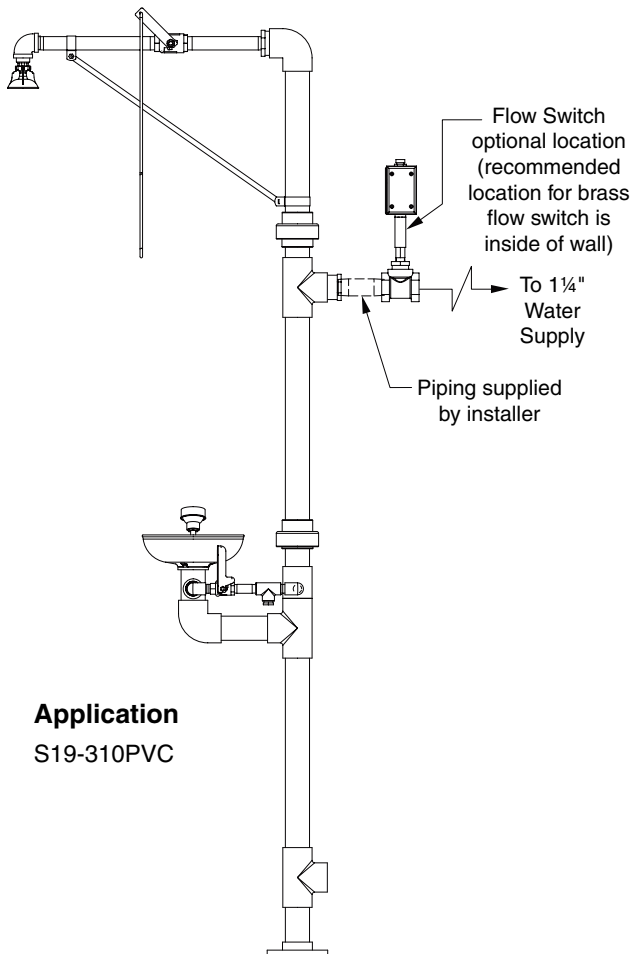
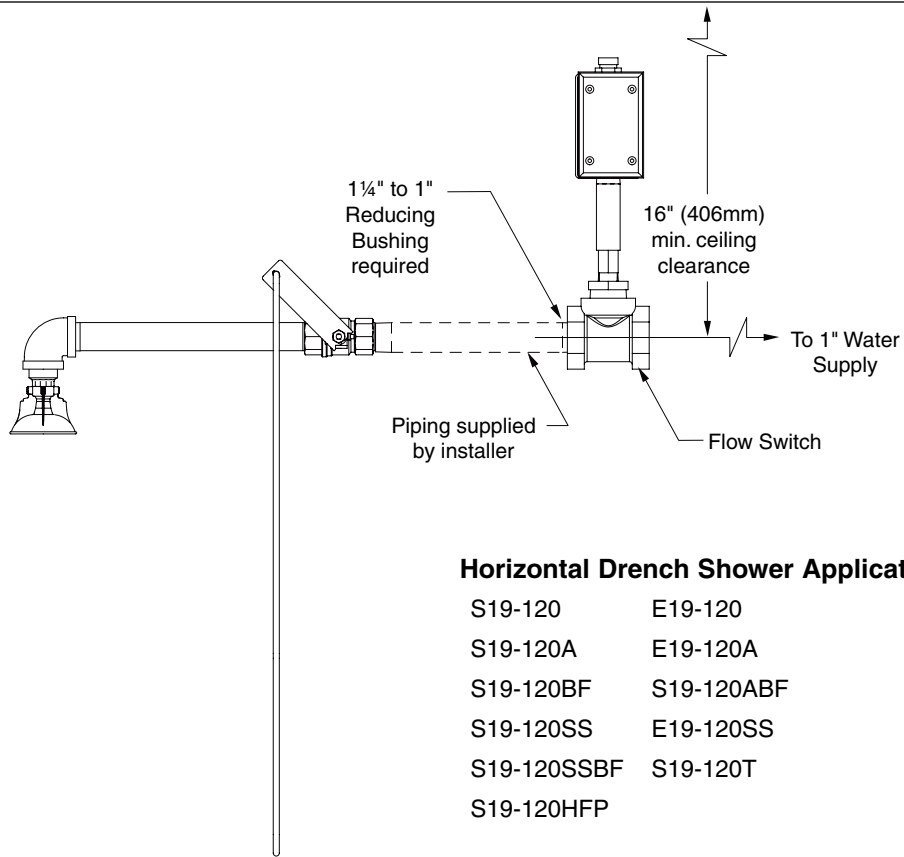
To prevent water condensation from dripping onto the flow switch, make sure the cable is not taut.

2. Tighten the locking collar on the female cable socket by rotating it clockwise after plugging in. This makes a good watertight connection.

### Step 4: Complete electrical supply connections

1. Connect the 24 volt AC power to the Alarm System using the 14 AWG customer-supplied power cable. Test the alarm system.





## Test The Alarm System



*Testing the alarm for the first time using the drench shower may expose the flow switch to an unnecessary water hammer since the downstream piping may be empty of water. The flow switch is designed to withstand such a water hammer, but using the smaller eyewash flow is recommended.*

1. Apply power to the alarm branch circuit. The alarm should remain in the "OFF" position.
2. Make sure the alarm horn cut-out switch is in the "ON" position. This switch is located on the PVC tee beneath the alarm.
3. Open the eyewash valve. The alarm should sound and the strobe light flash shortly after water flows from the system.
4. Use the alarm horn cut-off switch to silence the horn. Flipping the switch down one or two clicks (either the horizontal or DOWN position will work) should shut off the horn but allow the strobe light to keep flashing.
5. Shut off the eyewash flow valve. The strobe light should stop flashing.
6. Reset the alarm horn cut-off switch to its uppermost "ON" position.
7. Repeat the tests in procedures 1-6 above, this time using the drench shower only.

## Troubleshooting

1. If the alarm (horn and strobe light) does not operate when water flows:
  - Check to make sure the circuit breaker or fuse is supplying power to the alarm.
  - Check to make sure the direction of water flow corresponds to the arrow on the flow switch body.
  - Check to make sure the water flow is sufficient (2.4 gallons per minute is required).
  - Check all electrical connections, including the power supply and the quick-connect cable from the alarm to the flow switch.

## Strobe flashtube replacement

1. Loosen the locking band and remove the clear plastic dust cover from the top of the strobe light.
2. Loosen (but do not remove) the three screws holding the amber dome in place. Rotate the dome slightly clockwise and remove the dome.
3. Remove the flashtube assembly by simply unplugging it from the top of the strobe light.
4. Replace the flashtube assembly with a new one BUT avoid touching the flashtube glass with your fingers. Be sure the flashtube assembly is firmly plugged into the socket.
5. Reattach and tighten the amber dome.
6. Reattach and tighten the clear dust cover.
7. Test the alarm as described in "Test the Alarm System."

## Alarm system maintenance

The Bradley Alarm System is designed to be virtually maintenance free. An occasional damp cloth wiping of the clear dust cover is all that is needed to ensure maximum visual attention-getting ability.

The alarm horn is factory-set at the loudest possible sound level, 103 decibels at 10 feet. This sound level will attract attention in shop areas with loud background noise levels or at large distances outdoors. If the alarm is used in a more quiet environment or over shorter distances, the sound level is easily adjustable to lower levels (down to 78 decibels at 10 feet) with a simple external adjustment.

- Use 1/16" Allen wrench to adjust the sound to the appropriate alerting level. The adjusting hex screw is located on the front centerline of the horn grille about an inch from the bottom. Turning the hex screw clockwise quiets the horn.

## Remote Sensing Option

If remote sensing is wanted, remove the pipe plug from the back of the junction box. Connect the extra black wire (common to both switch arrangements) and the blue wire (normally open switch arrangement) or red wire (normally closed switch arrangement) to your application per local electrical codes. The switch is rated at 5 amps at 120 volts and is isolated from the contacts used by the alarm system. Your connection should be water tight.