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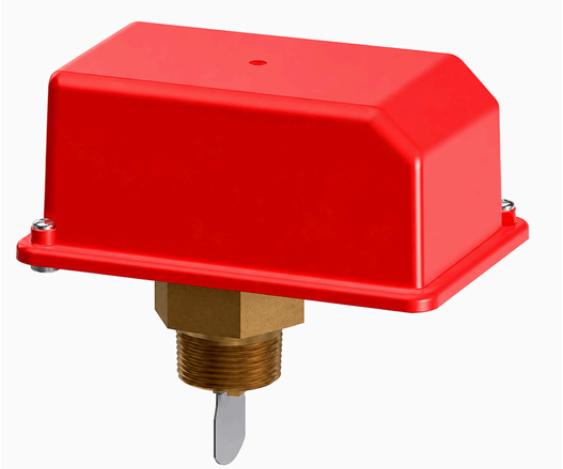
FM APPROVED

# Water Flow Detectors

**Model : BT-WFDT**

## Description:

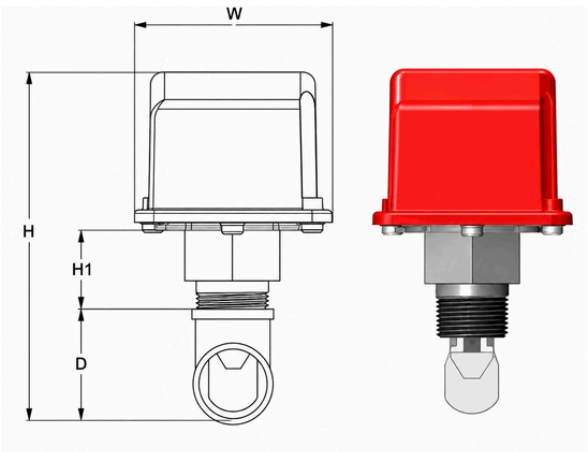
The WFDT is a vane-type waterflow detector intended for wet sprinkler systems. FM Approved for steel-pipe (schedule 10 through 40) installations, it is offered in sizes from 25 mm to 50 mm. Suitable for mounting on 1", 14", 1½" and 2" Ferrous / Brass Tees. The unit features a non-corrosive vane insert and an enclosure suitable for both indoor and outdoor installation. Fitted with an adjustable pneumatic retard, the device contains two single-pole, double-throw snap-action switches that operate when downstream flow is in range of 15 to 37.5 LPM (4-10 GPM), provided the flow continues long enough to clear the preset retard period.



## Specifications :

| | |
|---|---|
| **Maximum Working Pressure** | 450 psi |
| **Temperature Range** | 4.5 °C to 49 °C (40 °F to 120 °F) |
| **Maximum Surge** | 18 FPS (5.5 m/s) |
| **Electrical Ratings** | Two sets of SPDT (Form C)<br>10.1 Amps at 125/250 VAC<br>2.0 Amps at 24 VDC |
| **Enclosure Rating** | NEMA 4- suitable for indoor/outdoor use |
| **Cover Material** | Aluminum Die-casting. |
| **Approvals** | FM 1042 Approved |

| Order Code | Pipe Size | | W | | H | | H1 | | D (Depth) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | in | DN | in | mm | in | mm | in | mm | in | mm |
| BT-WFDT-025 | 1 | 25 | 3.75 | 95.3 | 6.64 | 168.7 | 1.48 | 37.5 | 2.12 | 54 |
| BT-WFDT-032 | 1¼ | 32 | 3.75 | 95.3 | 6.98 | 177.3 | 1.48 | 37.5 | 2.46 | 62.5 |
| BT-WFDT-040 | 1½ | 40 | 3.75 | 95.3 | 7.23 | 183.7 | 1.48 | 37.5 | 2.71 | 69 |
| BT-WFDT-050 | 2 | 50 | 3.75 | 95.3 | 7.75 | 196.9 | 1.48 | 37.5 | 3.22 | 82 |




## Installation :

The BT-WFDT Tap Water Flow Detector can be installed on horizontal or vertical pipes. For horizontal pipes, install the detector on the top of the pipe. Do not install it within 150 mm (6") of a fitting that changes the direction of water flow or within 600 mm (24") of a valve or drain. Select the correct paddle for the pipe size and T-piece type as shown in the table. Refer to Fig. 2 for paddle replacement instructions. The detector is fitted with a 1" NPT male thread for installation into a T-piece. Refer to Fig. 1 for the correct T-piece size and installation method. Use no more than three wraps of PTFE tape.

Fit the detector into the T-piece as shown in Fig. 1 and ensure it is aligned with the direction of water flow.
The vane must move freely and must not touch the inside of the T-piece. Check that the stem moves freely by hand.
Note: Do not leave the cover removed for an extended period.

**Retard Adjustment**

The delay can be adjusted from 0 to 90 seconds using the retard adjustment knob. The factory setting is Position 2, providing an approximate delay of 30 seconds. Set the delay to the minimum time required to prevent false alarms.


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**Figure 1**

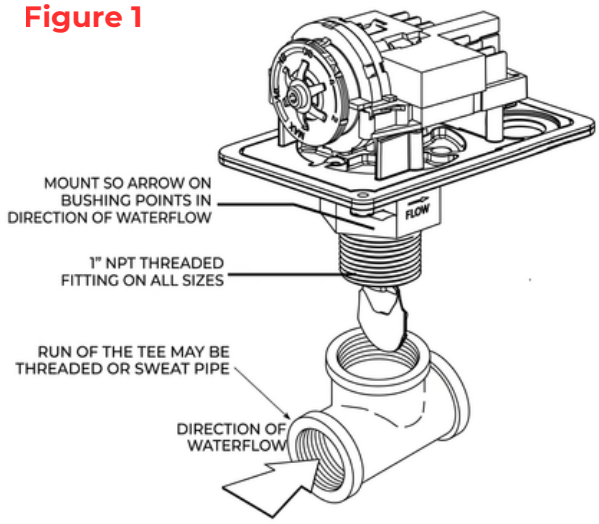
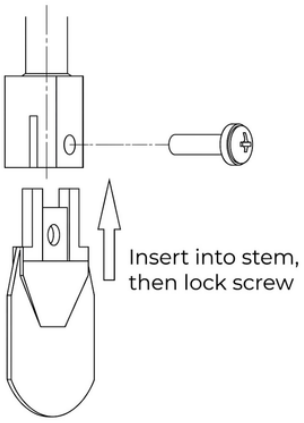


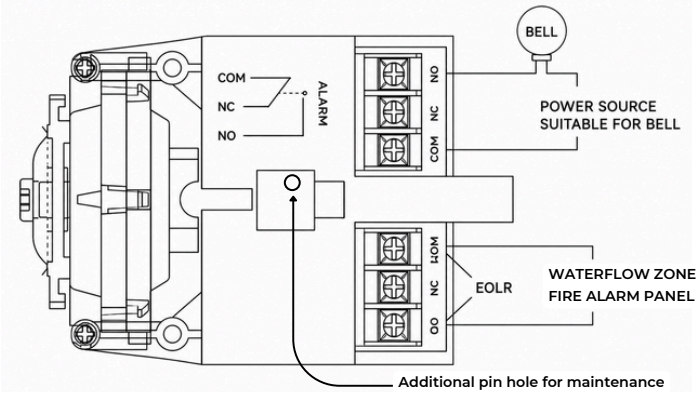

**Figure 2**




## Field Typical Electrical Connections:

**Note:**

The BT-WFDT Water Flow Detector is fitted with two switches. One switch can be used for connection to a central monitoring, proprietary, or remote signalling system. The second switch can be used to operate a local device or visual indicator.




This additional pin hole allows the supplied wrench to be inserted and temporarily disable the device during maintenance, preventing false alarms. When the wrench is inserted, the red cover cannot be reinstalled, providing a visual indication that the device is out of service.

## Inspection and Testing:

The BT-WFDT Water Flow Detector and its monitoring system should be inspected and tested in accordance with applicable NFPA standards and local authority requirements. The manufacturer recommends testing at least quarterly, or more frequently if required. Where fitted, always use the inspector's test valve when testing the device. If the system does not provide a means to test the operation of the flow detector, the use of the BT-WFDT Water Flow Detector is not recommended.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