

Accuflow™ T-Tap Solid State Waterflow Detectors



Models Available

AFDT	Water Flow Detector
AFDTH	Water Flow Detector
AFDTA	Water Flow Detector (ULC/Candian)
AFDTHA	Water Flow Detector (ULC/Candian)

Replacement Parts

WFDW	Cover wrench
546-9000	Cover tamper switch kit
WFDN4	Gasket kit
PRK9	Paddle Kit
AFDPCBRK	Retard PCB kit

AFDT



AFDT (cover removed)



Product Overview

Solid state retard assures precise timing accuracy

Designed for use with 1" NPT connections

Dipswitch selections simplify retard settings

Non-polarized, two-wire design allows connection to a local bell and conventional or addressable systems

Terminals accommodate up to 12 AWG wire

Synchronized switches activate both the alarm panel and local bell simultaneously

Field-replaceable retard assembly

System Sensor's Accuflow™ T-Tap series is a new line of solid state waterflow detectors designed for primary signaling in residential systems and branch line signaling. These models fit 1" NPT tees including: 1", 1-1/4" and 1-1/2" NPT threaded ferrous and brass tees; 1", 1-1/4", 1-1/2" and 2" copper sweat tees; 1" CPVC tees; and 1-1/2" polybutylene tees. For 2" cast and malleable threaded tees use 2" paddle (P02-0023-000) provided.

Robust Construction. The Accuflow AFDT model consists of a rugged enclosure for indoor and outdoor use. Like all System Sensor waterflow detectors, Accuflow models operate across a wide temperature range, from 32°F to 120°F (0°C to 49°C).

Reliable Performance. Accuflow detectors incorporate a solid state retard to ensure consistently accurate timing. Designed for use within conventional and addressable fire alarm systems, Accuflow detectors include connections for both the panel or addressable module, as well as a local bell or notification device.

False Alarm Immunity. The solid state circuitry of the Accuflow series provides greater timing accuracy over traditional mechanical retard designs. This accuracy minimizes the risk of false alarms created by pressure surges or air trapped within the sprinkler system.

Simplified Operation. Accuflow detectors are designed to simplify installation. Wired like traditional waterflow detectors, the Accuflow series does not require the installer to run an additional third wire. Two conduit openings permit easy attachment to the local alarm system.



Engineering Specification

T-Tap style waterflow detector with a solid state retard shall be an Accuflow™ Series model number _____ manufactured by System Sensor. Waterflow detector shall be installed on a tee that has a 1" NPT branch including: 1". 1-1/4", or 1-1/2" threaded ferrous or brass tee; 1-2" copper sweat tee; 1" CPVC tee; or 1-1/2" polybutylene tee as designated on the drawings and/or specified herein. For 2" cast and malleable threaded tees use 2" paddle (P02-0023-000) provided. Detector shall mount on any clear pipe span of the appropriate size, either in a vertical or horizontal run at least 6" from any fittings or valves which may change water direction, flow rate, or pipe diameter, or no closer than 24" from a valve or drain. For 2" cast and malleable threaded tees use 2" paddle (P02-0023-000) provided. Detectors shall have a sensitivity in the range of 4 to 10 gallons per minute and a static pressure rating of 250 psi. The detector shall respond to water flow in the specified direction after a preset time delay. The delay mechanism shall be a solid state unit which is field-adjustable via a dipswitch. The actuation mechanism shall include a polyethylene vane inserted through the tee fitting and connected by a mechanical linkage to the delay mechanism. Outputs shall consist of one SPDT switch (Form C contact) and one SPST switch (normally open) for wiring to an alarm panel or addressable control module and/or bell or notification device. Two conduit entrances (one of which is a knockout type) for standard fittings of commonly used electrical conduit shall be provided on the detectors. A grounding provision shall be provided. AFDT housing shall be NEMA 4 rated by Underwriters Laboratories for indoor/outdoor use. All other models shall be rated for indoor use.

Standard Specifications

Static Pressure Rating

250 PSI

Triggering Threshold Bandwidth (Flow Rate)

4 - 10 GPM

Maximum Surge

18 Feet Per Second (FPS)

Compatible Pipe

Threaded ferrous and brass tees, copper sweat tees, CPVC tees, and polybutylene tees

Overall Dimensions Installed

AFDT: 4.5"H x 3.75"W x 6.7"L
(11.4cm H x 9.5cm W x 17cm L)
AFDTH: 4.5"H x 3.55"W x 6.7"L
(11.4cm H x 9cm W x 17cm L)

Contact Ratings

One SPDT (Form C)
One SPST (normally open)
0.6 A @ 125 VAC
2.0 A @ 30 VDC

Voltage Range

8.4 - 35 V (DC-FWR)
108 - 132 VAC

Current Draw

300 microamps @ 12/24 VDC or FWR
400 microamps @ 120 VAC

Compatibility

The Accuflow and Accuflow Low Flow detectors may receive power and operate on a two-wire initiating zone of a fire alarm control panel. When determining compatibility of these devices, the standby operating voltage of the control panel must be between 8.5 and 35 volts. In the standby mode, each Accuflow and Accuflow Low Flow detector acts as a shot across the initiating zone. **For two wire conventional fire alarm control panels, not more than 5 waterflow detectors may be connected to a single initiating zone.** The maximum retard/reset time of the waterflow detector plus the initiating zone shall not exceed 90 seconds.

For two wire addressable control panels, the number of waterflow detectors connected to the panel's signaling line circuit shall be limited by the circuit's current capacity.

Conduit Entrances

Two openings for 1/2" conduit, one open, one knock-out type

Operating Temperature Range

32°F - 120°F (0°C to 49°C)

Enclosure Rating

AFDT: UL Indoor/outdoor rated - NEMA 4
All others: Indoor rated

Cover Tamper Switch

Optional, part no. 546-9000

Shipping Weight

2.5 lbs. (1.13 kg)

Service Use

Automatic Sprinkler: NFPA-13
One or Two Family Dwelling: NFPA-13D
Residential Occupancies up to 4 stories: NFPA-13R
National Fire Alarm Code: NFPA-72

Retard Settings

0 - 90 seconds, in increments of 15 seconds

Warranty

3 years

Ordering Information

Model Number	Description	Replacement Part Number	Description
AFDT*	Waterflow Detector, Fits 1", 1-1/4", 1-1/2" ferrous and brass threaded tees; 1", 1-1/4", 1-1/2", 2" copper sweat tees; 1" CPVC tees; and 1-1/2" polybutylene tees	560-9000	Cover tamper switch kit
		WFDW	Tamper proof wrench for cover
		WFDN4	Gasket kit
AFDTH*	Waterflow Detector, Fits 1", 1-1/4", 1-1/2" ferrous and brass threaded tees; 1", 1-1/4", 1-1/2", 2" copper sweat tees; 1" CPVC tees; and 1-1/2" polybutylene tees	PRK9	Paddle kit - 12 paddles
		AFDPCBRK	Retard PCB kit

*ULC version designated with "A" suffix (AFDTA, AFDTHA).

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