

# WFD Series Waterflow Detector



UL Models	ULC/Canadian Models
WFD20	WFD20A
WFD25	WFD25A
WFD30-2	WFD30-2A
WFD35	WFD35A
WFD40	WFD40A
WFD50	WFD50A
WFD60	WFD60A
WFD80	WFD80A

### Replacement Parts

A3008-00	Retard Mechanism
A77-01-02	Terminal Block
546-7000	Cover Tamper Switch Kit
WFDW	Cover Wrench
WFDN4	Replacement gasket kit



### Product Overview

**New WFD30-2 models install in 2" hole sizes**

**UL models are NEMA 4 rated**

**Sealed retard mechanism assures that the retard is not contaminated by dust and dirt when the cover is removed**

**Visual switch activation permits installer to accurately set retard under noisy conditions**

**Rugged, dual SPDT switches are enclosed in a durable terminal block**

**Accommodates up to 12 AWG wire**

**100% synchronization activates both alarm panel and local bell simultaneously**

**System Sensor's WFD series is compatible with schedule 10 through 40 steel pipe, sizes 2" through 8", and can be mounted in a vertical or horizontal position.**

**Robust Construction.** The WFD series consists of a rugged, NEMA 4 rated enclosure. Designed for both indoor and outdoor use, the WFD series operates across a wide temperature range, from 32°F to 120°F.

**Reliable Performance.** UL listed models are equipped with tamper resistant cover screws to prevent unauthorized entry. Inside, two sets of SPDT (Form C) synchronized switches are enclosed in a durable terminal block to assure reliable performance.

**False Alarm Immunity.** The WFD series incorporates a mechanical retard feature, which minimizes the risk of false alarm due to pressure surges or air trapped in the sprinkler system. In addition, the mechanical retard's unique sealed design is immune to dust and other contaminants.

**Simplified Operation.** The WFD series is designed to simplify installation. Two conduit openings permit easy attachment to the local alarm system. The retard mechanism and dual SPDT switches are field-replaceable.



## Engineering Specifications

Vane-type waterflow detectors shall be installed on system piping as designated on the drawing and/or as specified herein. Detectors shall mount on any clear pipe span of the appropriate nominal size, either a vertical upflow or horizontal run, at least 6" from any fittings which may change water direction, flow rate, or pipe diameter or no closer than 24" from a valve or drain. Detectors shall have a sensitivity in the range of 4 to 10 gallons per minute and a static pressure rating of 450 psi\* for 2" - 8" pipes. The detector shall respond to waterflow in the specified direction after a preset time delay which is field adjustable. The delay mechanism shall be a sealed mechanical pneumatic unit with visual indication of actuation. The actuation mechanism shall include a polyethylene vane inserted through a hole in the pipe and connected by a mechanical linkage to the delay mechanism. Outputs shall consist of dual SPDT switches (Form C contacts). Two conduit entrances for standard fittings of commonly used electrical conduit shall be provided on the detectors. A grounding provision is provided. Unless noted, enclosures shall be NEMA 4 listed by Underwriters Laboratories Inc. All detectors shall be listed by Underwriters Laboratories Inc. for indoor or outdoor use.

## Standard Specifications

### Static Pressure Rating

450 PSI\*

### Triggering Threshold Bandwidth (Flow Rate)

4-10 GPM

### Maximum Surge

18 Feet Per Second (FPS)

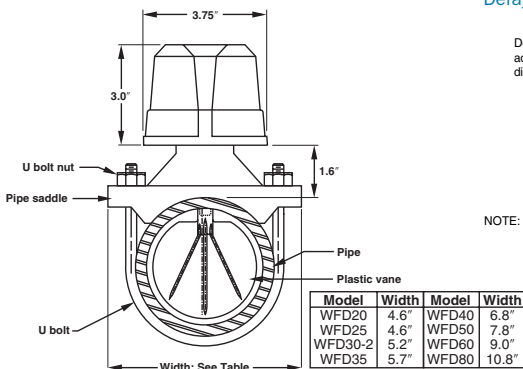
### Compatible Pipe:

Steel water pipe, schedule 10 through 40

### Contact Ratings

Two sets of SPDT (Form C)  
10.0 A, 1/2 HP @ 125/250 VAC  
2.5 A @ 6/12/24 VDC

### Overall Dimensions Installed:



### Conduit Entrances

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

### Operating Temperature Range

32°F to 120°F (0°C to 49°C)

### Enclosure Rating\*

NEMA 4 – suitable for indoor/outdoor use

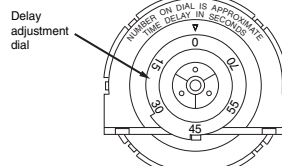
### Cover Tamper Switch

Standard with ULC models  
Optional for UL models, part no. 546-7000

### Shipping Weight

WFD20: 4.2 lbs.      WFD40: 5.2 lbs.  
WFD25: 4.3 lbs.      WFD50: 6.3 lbs.  
WFD30-2: 4.5 lbs.    WFD60: 6.8 lbs.  
WFD35: 4.7 lbs.      WFD80: 7.5 lbs.

### Delay Adjustment Dial:



NOTE: Retard time may exceed 90 seconds. Adjust and verify that time does not exceed 90 seconds.

### Service Use

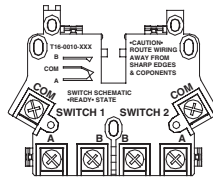
Automatic Sprinkler: NFPA-13  
One or Two Family Dwelling: NFPA 13D  
Residential Occupancies up to 4 Stories: NFPA 13R  
National Fire Alarm Code: NFPA-72

### Warranty

3 Years

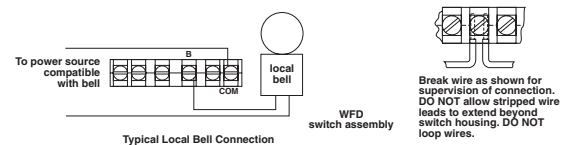
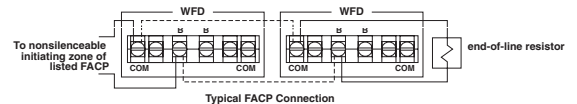
### U.S. Patent Numbers

3,845,259  
4,782,333  
5,213,205



NOTE: Common and B connections will close when vane is deflected, i.e., when water is flowing. Dual switches permit applications to be combined on a single detector.

CONTACT RATINGS	
125/250 VAC:	10 AMPS
24 VDC	2.5 AMPS



Break wire as shown for supervision of connection. DO NOT allow stripped wire leads to extend beyond switch housing. DO NOT loop wires.

## Ordering Information

UL Model Numbers	ULC/Canadian Model Numbers	Pipe Size	Hole Size	Part Number	Description
WFD20	WFD20A	2"	1 1/4"	A3008-00	Retard mechanism
WFD25	WFD25A	2 1/2"	1 1/4"	A77-01-02	Terminal block
WFD30-2	WFD30-2A	3"	2"	546-7000	Tamper proof switch kit
WFD35	WFD35A	3 1/2"	1 1/4"	WFDW	Tamper proof wrench for cover
WFD40	WFD40A	4"	2"	WFDN4	Gasket kit
WFD50	WFD50A	5"	2"		
WFD60*	WFD60A	6"	2"		
WFD80*	WFD80A	8"	2"		

\*Maximum pressure rating 400 psi as approved by Factory Mutual.