

# WFDEXP Explosion Proof Waterflow Detector



**Models Available**

WFD20EXP	WFD40EXP
WFD25EXP	WFD50EXP
WFD30-2EXP	WFD60EXP
WFD35EXP	WFD80EXP

**Replacement Parts**

A77-01-02	Terminal Block
A3008-00	Retard Mechanism
WFDRK	Hardware Kit



**Product Overview**

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

**Designed and approved to operate in hazardous locations**

**NEMA 4 enclosure rating**

**Sensitivity setting spring mechanism located outside of explosion environment**

**Sealed retard mechanism**

**Visual switch activation**

**Synchronized activation circuit**

**Field-replaceable terminal block and retard mechanism**

**Only one conduit entrance required for hook-up**

**System Sensor's WFDEXP series is designed to handle extreme conditions. These units are ideal for installation in hazardous locations classified as follows:**

- Class I, Groups B, C, D, Division 1 & 2
- Class II, Groups E, F, G, Division 1 & 2
- Class III, Division 1 & 2

**Robust Construction.** The WFDEXP series consists of a rugged, NEMA 4 rated cast aluminum housing. Designed for both indoor and outdoor use, the WFDEXP series operates across a wide temperature range, from 32°F to 160°F. Inside, two sets of SPDT (Form C) synchronized switches are enclosed in a rugged terminal block, to assure reliable performance.

**Reliable Performance.** The WFDEXP series offers unique features that assure greater operational reliability. By housing the spring mechanism separately from the explosion environment, the sensitivity of the adjustment spring and the detector is protected at all times. Adding to the WFDEXP's reliability is its sealed retard mechanism, which prevents contamination by dust and dirt when the cover is removed.

**Simplified Operation.** Like all System Sensor waterflow detectors, the WFDEXP series is designed to ease installation. With its visible switch activation, the WFDEXP's retard timing can be verified, even during noisy conditions.



## Engineering Specifications

Vane-type explosion proof waterflow detectors shall be installed on system piping on the drawing and/or as specified herein. Detectors shall be mounted in hazardous locations classified as: Class I, Div. 1 and 2, Groups B, C, D; or Class II, Div. 1 and 2, Groups E, F, G; or Class III, Div. 1 and 2. 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 (one of which is a knockout type) for standard fittings of commonly used electrical conduit shall be provided on the detectors. A grounding provision is provided. 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

**Hazardous Locations Classifications**  
Class I, Div 1 and 2, Groups B, C, D  
Class II, Div 1 and 2, Groups E, F, G  
Class III, Div 1 and 2

**Static Pressure Rating**  
450 psi (max)

**Triggered Threshold Bandwidth (Flow Rate)**  
4 to 10 GPM

**Maximum Surge**  
18 Feet per Second (FPS)

**Contact Ratings**  
Two sets of SPDT (Form C)  
10.0 A @ 125/250 VAC  
2.5 A @ 24 VDC

**Compatible Pipe**  
Steel water pipe, schedule 10 through 40

**Weight**

WFD20EXP	10.6 lbs.
WFD25EXP	10.7 lbs.
WFD30-2EXP	10.9 lbs.
WFD40EXP	11.5 lbs.
WFD50EXP	12.1 lbs.
WFD60EXP	12.5 lbs.
WFD80EXP	13.5 lbs.

**Conduit Entrances**  
Two openings for ½" conduit

**Operating Temperature Range**  
32°F to 120°F (0°C to 49°C)

**Enclosure Rating**  
NEMA 4 – suitable for indoor/outdoor use

**Overall Dimensions**  
6"H x 9"L x 6.5"W

**Service Use**  
Automatic Sprinkler: NFPA-13  
National Fire Alarm Code: NFPA-72

**Warranty**  
3 years

**U.S. Patent Nos.**  
5,213,205; 4,782,333; 3,845,259

### Ordering Information

Model Number	Pipe Size	Hole Size
WFD20EXP	2"	1¼"
WFD25EXP	2½"	1¼"
WFD30-2EXP	3"	2"
WFD35EXP	3½"	1¼"
WFD40EXP	4"	2"
WFD50EXP	5"	2"
WFD60EXP	6"	2"
WFD80EXP	8"	2"

Part Number	Description
A3008-0	Replacement Retard Mechanism for all sizes 2"-8"
A77-01-02	Replacement Terminal Block
WFDRK	Replacement Hardware Kit (contains tamper screws, wrench, and conduit plug)

### System Sensor Sales and Service

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	<b>System Sensor Europe</b> Ph: 44.1403.276500 Fx: 44.1403.276501	<b>System Sensor in Singapore</b> Ph: 65.273.2230 Fx: 65.273.2610	<b>System Sensor – Australia</b> Ph: 613.54.281.142 Fx: 613.54.281.172	<b>System Sensor – Russia</b> Ph: 70.95.937.7982 Fx: 70.95.937.7983