WFDEXP Explosion Proof Waterflow Detector

SYSTEM SENSOR®

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

UL LISTED E200116

ULC C169

MEA approved 44-00-E

FM APPROVED 3006195

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 32ºF to 160ºF. 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 × 9″L × 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)

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