

WF DEN Series Waterflow Detector

The System Sensor WF DEN series is compatible with pipe diameters ranging from 50mm through 200mm and can be mounted in a vertical or horizontal position.



The new **WF DEN Series** waterflow detectors from **System Sensor** consists of a rugged, IP56-rated enclosure that is more damage resistant than previous metal designs. The waterflow detector is designed for both indoor and outdoor use, with the widest available temperature range, from 0°C to 68°C (32°F to 55°F).

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 with new layout designed to make wiring easy with wire ready terminals, COM terminals are on a different elevation, large barrier between switches and easy to read raised textured lettering all make wiring easy. An optional cover tamper switch is available, securely snaps into place, no tools required.

The WF DEN series incorporates a mechanical time delay feature, which minimizes the risk of false alarm due to pressure surges or air trapped in the fire sprinkler system. The larger and easy to turn timer dial makes setting the waterflow detector easy with high contrast pad printed markings and three tabs to help with turning.

The WF DEN series is designed for accuracy and repeatability. The detector also offers improved performance during vibration in riser applications where detectors are exposed to a large in rush of water.

REF: SI111_072020_REV0



Para prevenir roturas, accidentes o daños severos, NO USAR este producto fuera de los límites técnicos y sus aplicaciones. Las normas locales pueden regular el uso de este producto.

To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may regulate the use of this product.

AQL PROTECCION

Carretera N-340 Km 1245, 3 Nave B-5 Polígono industrial El Pla 08750 Molins de Rei, Barcelona (España)
Tel. (+34) 936800376 * Whatsap pedidos: 660781482 * www.aqlproteccion.com * aql@aqlproteccion.com

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FEATURES:

- *Compliant with Construction Products Regulation.*
- *New directional cover allows installers and inspectors to easily see the direction of flow.*
- *European models are IP56 rated.*
- *New cover provides a better seal, is lighter weight, not painted and corrosion resistant.*
- *Sealed retard mechanism immune to dust and other contaminants*
- *Less exposed metal reduces shock hazard, plastic cover acts as insulator and is resistant to arcing.*
- *Visual switch activation.*
- *Audible switch activation (73 dBA).*
- *Field-replaceable timer/switch assembly.*
- *Accommodates up to 12 AWG wire.*
- *100 percent synchronization activates both alarm panel and local bell or horn strobe.*
- *Tamper-resistant cover screws.*
- *Improved water sealing*
- *Reduced product weight*
- *Wire-ready terminals*
- *Improved wiring with new terminal block layout*
- *Snap-in optional cover tamper switch*
- *Timer repeatability*
- *Dial accuracy*

AGENCY LISTINGS

VdS CE



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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 15 cm (6 in) from any fittings that may change water direction, flow rate, or pipe diameter or no closer than 61 cm (24 in) from a valve or drain. The detector shall respond to waterflow in the specified direction after a preset time delay that is field adjustable. The delay mechanism shall be a sealed mechanical pneumatic unit with visual and audible indication of actuation. The actuation mechanism shall include a ethylene vinyl acetate 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 IP56-rated. All detectors shall be Factory Mutual for indoor or outdoor use.

Standard Specifications

- Static Pressure Rating:
LPC: 17.25 BAR (250 PSI).
VdS: PN16 (16 BAR, 232 PSI).
- Maximum Surge:
18 Feet Per Second (FPS).
- Conduit Entrances:
Two openings 22.2 mm (.875 in.) diameter.
NEMA 4 rated plugs.
- Contact Ratings:
Two sets of SPDT (Form C).
10.0 A, ½ HP @ 125/250 VAC.
2.5 A @ 6/12/24 VDC.
- Operating Temperature Range:
32°F to 120°F (0°C to 49°C).
- Enclosure Rating*:
IP56.
- Cover Tamper Switch:
Standard with ULC models, optional for UL and European models, part no. CTS.
- Warranty:
3 Years.

Compatible Pipe

| MODEL | Ref. Pipe Size mm (inch) | Triggering Flow Rate | Nominal Pipe O.D.(mm) | | Wall Thickness (mm) | |
|----------------|-----------------------------|----------------------|-----------------------|-------|---------------------|-----------|
| | | | LPC | VdS | LPC | VdS |
| WFD20EN | 50 (2) | 47 | 60,3 | 60,3 | 3,6 | 2,3 / 2,9 |
| WFD25EN | 65 (2 1/2) | 49 | 76,0 | 76,1 | 3,6 | 2,6 / 2,9 |
| WFD30EN | 80 (3) | 47 | 88,8 | 88,9 | 4,0 | 2,9 / 3,2 |
| WFD40EN | 100 (4) | 53 | 114,1 | 114,3 | 4,5 | 3,2 / 3,6 |
| WFD60EN | 150 (6) | 55 | 165,1 | 168,3 | 5,0 | 4,0 / 4,5 |
| WFD80EN | 200 (8) | 64 | 219,1 | 219,1 | 6,3 | 4,5 / 5,9 |

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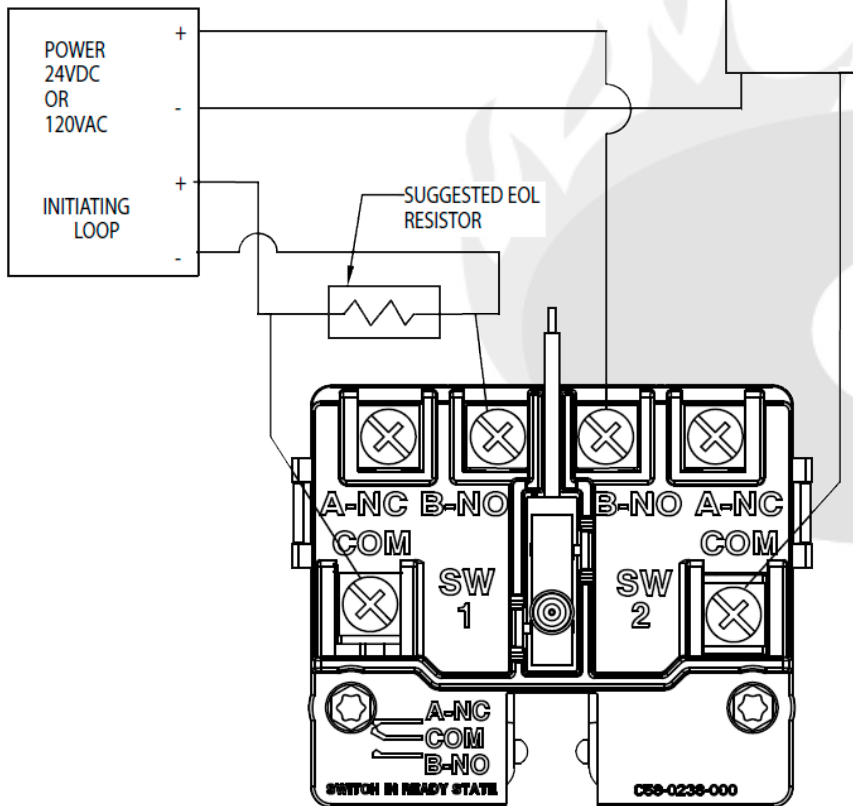
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WF DEN FIELD WIRING DIAGRAM

UL-LISTED
COMPATIBLE
CONTROL PANEL

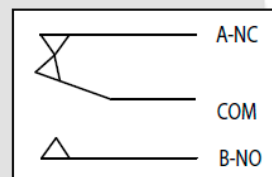
SSM24-X
SSV120-X



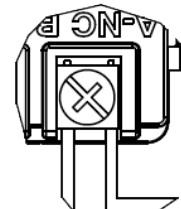
NOTE: COMMON AND B-NO CONNECTIONS WILL CLOSE WHEN VANE IS DEFLECTED, I.E., WHEN WATER IS FLOWING. DUAL SWITCHES PERMIT APPLICATIONS TO BE COMBINED ON A SINGLE DETECTOR.

| CONTACT RATINGS | |
|-----------------|----------|
| 125/250 VAC | 10 AMPS |
| 24 VDC | 2.5 AMPS |

SCHEMATIC OF INDIVIDUAL SWITCH IN "NO WATERFLOW" CONDITION



BREAK WIRE AS SHOWN FOR SUPERVISION OF CONNECTION. DO NOT ALLOW STRIPPED WIRE LEADS TO EXTEND BEYOND SWITCH HOUSING. DO NOT LOOP WIRES.



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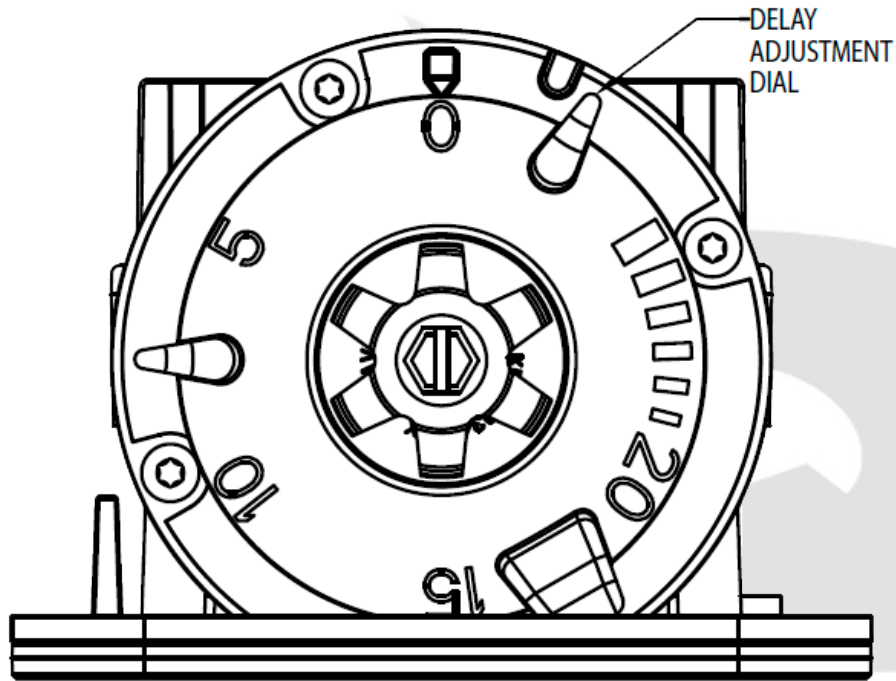
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NOTE: NUMBER ON DIAL IS APPROXIMATE TIME DELAY IN SECONDS.

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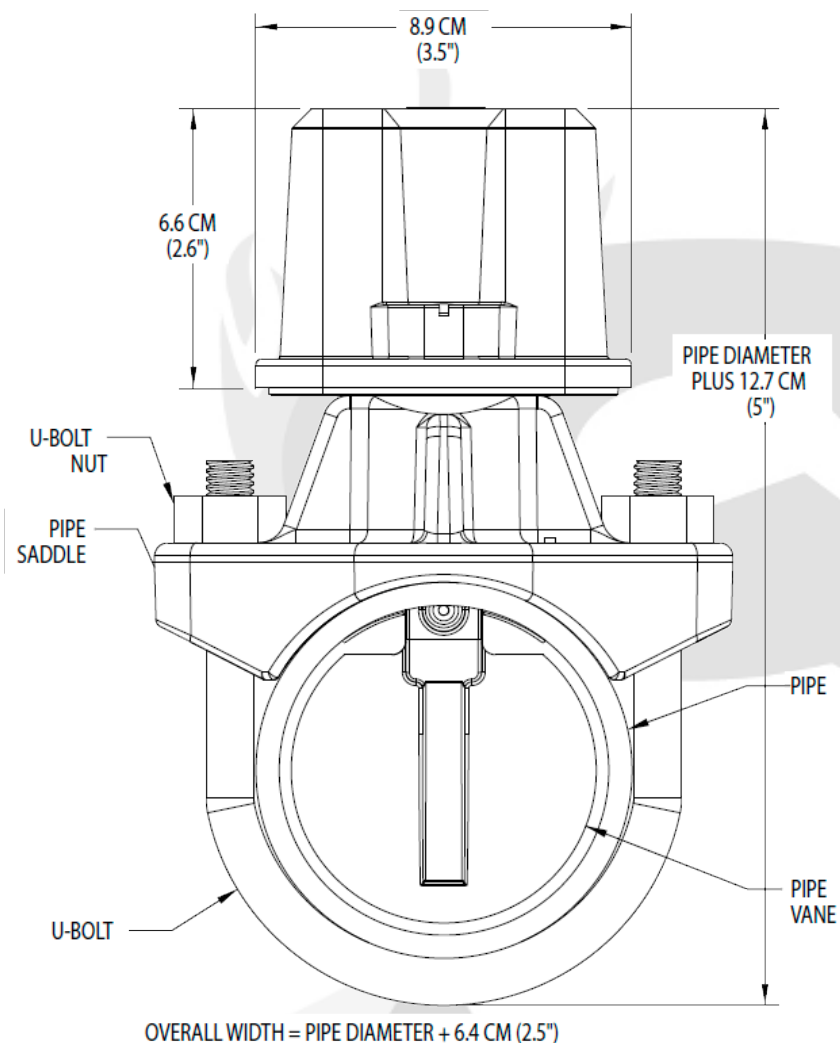
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OVERALL DIMENSIONS, INSTALLED



| UL MODEL | Pipe Size mm (inch) | Hole sizes mm (inch) | Torque Setting |
|----------------|-------------------------------|----------------------|-----------------------------------|
| WFD20EN | 50 (2) | 31,8 (1 1/4) | 40,7 - 47,5 NT-M (30 - 35 FT-LBS) |
| WFD25EN | 65 (2 1/2) | 31,8 (1 1/4) | 40,7 - 47,5 NT-M (30 - 35 FT-LBS) |
| WFD30EN | 80 (3) | 50,8 (2) | 61,6 - 67,8 NT-M (45 - 50 FT-LBS) |
| WFD40EN | 100 (4) | 50,8 (2) | 61,6 - 67,8 NT-M (45 - 50 FT-LBS) |
| WFD60EN | 150 (6) | 50,8 (2) | 61,6 - 67,8 NT-M (45 - 50 FT-LBS) |
| WFD80EN | 200 (8) | 50,8 (2) | 61,6 - 67,8 NT-M (45 - 50 FT-LBS) |
| Accessories | | | |
| CTS | Tamper-proof switch kit | | |
| WFDW | Tamper-proof wrench for cover | | |

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

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