

### Datasheet - Installation & Maintenance Instructions

Static Pressure Rating:	31 Bar (450PSI)
Operating Temperature:	4.5°C - 50°C (40°F - 120°F)
Triggering Flow Rate:	Min. 10 USgal/m 38L/m
Compatible Pipe:	Steel Pipe (Schedule 10-40)
Contact Ratings:	10.0 Amps at 125/250 VAC
	2.5 Amps at 6/ 12/ 24 VDC



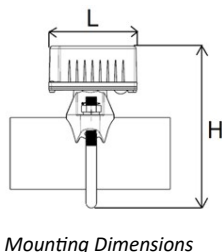
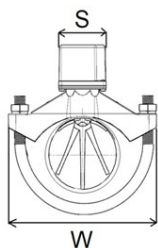
Table.1: Specifications

Model	Nominal Pipe Size		Nopinal Pipe O.D.		Pipe Wall Thickness				Hole Size		U-Bolt Nuts Torque	
					Schedule 10 (UL)		Schedule 40 (UL)					
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	ft-lb	N-m
Y-3003	2	DN50	2.375	60.3	0.109	2.77	0.154	3.91	1.25±	32.0	20	27
	2.5	DN65	3.000	73&76.1	0.120	3.05	0.203	5.16	0.1	±2		
	3	DN80	3.500	88.9	0.120	3.05	0.216	5.49	2.00 ± 0.1	50.8 ± 2		
	4	DN100	4.500	114.3	0.120	3.05	0.237	6.02				
	5	DN125	5.563	141.3	0.134	3.40	0.258	6.55				
	6	DN150	6.625	168.3	0.134	3.40	0.280	7.11				
	8	DN200	8.625	219.1	0.148	3.76	0.322	8.18				

Table.2: Compatible Pipe/ Installation Requirements

### IMPORTANT !

This document contents crucial information about installation and maintenance of the vane-type waterflow switch product. The document must be read carefully before the installment and it is required by NFPA 72 to maintain a copy on the installation site.



Mounting Dimensions

NOMINAL PIPE SIZE (inch)		L (mm)	H (mm)	S (mm)	W (mm)
DN 50	2	158	187	87	125
DN 65	2.5	158	205	87	125
DN 80	3	158	220	87	1'46
DN 100	4	158	245	87	168
DN 125	5	158	275	87	220
DN 150	6	158	300	87	230
DN 200	8	158	365	87	275

### CAUTION !

- The product is a vane-type waterflow switch for use in wet-pipe fire sprinkler systems only. Waterflow switches shall not be used as the sole initiating device in preaction systems as it may result in unintended discharges caused by trapped air, surge or short retard time.
- Waterflow switches are only to be used on steel pipe systems. It is not recommended to use on copper pipes as mounting bolts may collapse the pipe by clamping forces.
- Do not trim the paddle. Misappliance of the instructions provided may result in an inoperative product and will void the warranty.

## WARNING

- Installation must be performed by in accordance with all national and local codes and ordinances.
- Shock Hazard. Disconnect power source before servicing. Serious injury or death could result.
- Risk of explosion. Not for use in hazardous locations. Serious injury or death could result.

### General Information

The product contains two SPDT switches and an adjustable, instantly recycling pneumatic retard mechanism. The waterflow switch is actuated when a waterflow of 10GPM or more occurs downstream of the device for a period of time necessary to overcome the selected retard period.

### Installation Guidelines

Installation must be carried out by qualified personnel in accordance with NFPA standards (such as NFPA 72, 13& 25) and local regulations. The device must be properly installed, tested and maintained by guidance of this very document; otherwise the manufacturer cannot be held responsible for improperly operated devices.

- Device must be installed on top of a horizontal run pipe (red cover upside) and the flow direction marks on the device must match the direction of flow in the pipe. Otherwise, the product will not operate. (see Fig.1)
- Installer and maintainer must keep in mind that without the red protective cover and conduit entrance sealed properly, the device is not protected from external effects such as dust and water. Manufacturer cannot be held responsible for water/dust damaged devices caused by improper sealing and/or use in extreme bad conditions.
- Mounting place should have adequate clearance for installation and space for putting the cover on and off.
- Mount the device at least 6" distant from a fitting that changes the direction of the flow and at least 24" distant from a valve or drain.
- Do not leave cover off for an extended period of time in any situation.
- The installation line of the device must be equipped with a strainer. The water in the line must be clean water.

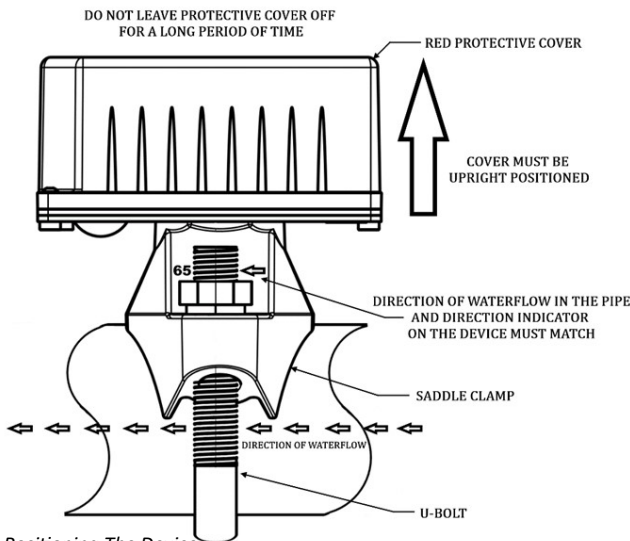


Fig.1: Positioning The Device

### Installation.:

- 1- Drain the system
- 2- Drill a hole on the pipe by proper measures on table.2, using a hole saw in a slow speed drill. The hole must be centered as shown in Fig.2 otherwise vane will bind against the inside wall of the pipe.

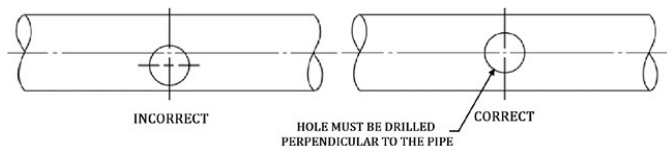


Fig.2: Drilling The Mounting Hole

- 3- Clean the hole from burrs and make certain that any shavings or pieces from drilling operation does not remain in the pipe. If used, clean the cutting lubricant from outside of the pipe.
- 4- Carefully roll the vane in opposite direction of the waterflow (see Fig.3) so it may be inserted into the hole. Do not bend or crease it. Seat the saddle firmly to the gasket, be sure that the locating boss goes into the hole.
- 5- Install the U-bolt and tighten nuts alternately to required torque stated in *table.2*
- 6- Remove the cover with the tamper resistant wrench provided and check if the vane binding against the pipe or not by actuating the lever manually. The vane must be freely moving without any binding before proceeding installation.
- 7- Two separate switches can be used as one signaling a remote fire control panel and the other for alarming a local bell. (see Fig.4) Wire the switches in desired combination by utilizing the electrical conduit entrance.

### **WARNING**

Do not loop the wires around the terminal; use clamping plates instead. Do not strip wire beyond terminal block as it may reason electric shock hazard. Break wire as shown in *fig.5*.

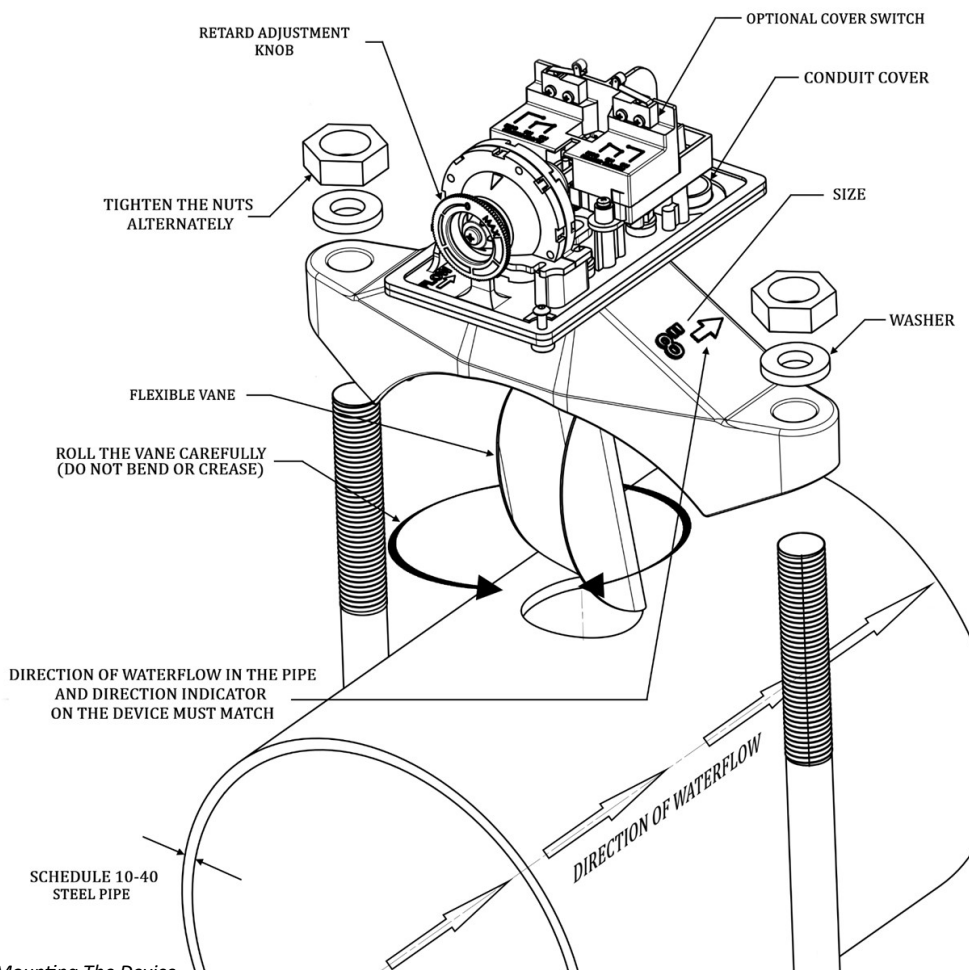
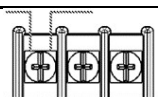


Fig.3: Mounting The Device

- 8- Check if desired signals are received from the product.
- 9- The delay can be adjusted by rotating the retard adjustment knob (see *Fig.3*) from 0 to MAX (50-90 seconds).  
Time delay must be set for the minimum required in order to prevent false alarms.
- 10- Put on the protective red cover and secure it by tamper proof screws.

#### Maintenance:

There is no maintenance required, only periodic testing and inspection. Inspect the switches monthly. If leaks are found, replace the switch immediately.

#### Testing:

The frequency and testing for the switch and its associated protective monitoring system shall be in accordance with applicable NFPA Codes and standards the authority having jurisdiction locally.

Open the inspector's test valve and time how long it takes the switch to indicate the flow. It shall not exceed 90 seconds to activate, in a minimum flow of 10GPM. (Periodic testing shall not be executed by pushing the vane or rod manually.)

### NOTICE

- Always notify a central station monitoring waterflow alarms before repairing, maintaining or testing the devices
- Advise the person responsible for testing of the fire protection system that this system must be tested in accordance with the testing instructions.

#### Removal of Waterflow Switch:

- 1- Drain the system.
- 2- Turn off electrical power to the switch then disconnect wiring.
- 3- Loosen nuts and remove U-bolts.
- 4- Gently lift the saddle far enough to get your fingers under it. Grab and roll the vane so it will fit through the hole while continuing to lift the switch.

