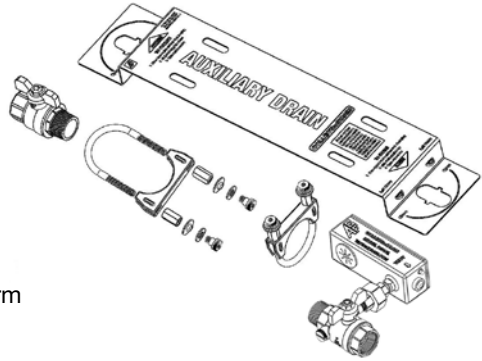


COLLECT_{AND}DRAIN Model 5100K Assembly Instructions

COLLECT_{AND}DRAIN Model 5100K Field Assembly Kit includes:

- (1) Model 5100BV-SP 1" NPT Ball Valve with Side Ports
- (1) Model 5100BV 1" NPT Ball Valve
- (2) U-bolt
- (2) Saddle
- (4) 3/4" x 5/16"-18 Coupling Nut
- (4) 3/8" Nylon Flange Bushing
- (1) Anti-Trip Plate
- (4) 3/8" Nylon Washer
- (4) 5/16"-18 Socket Head Cap Screw
- (2) Ball Valve Handle
- (2) Valve Handle Lock Nut
- (1) Model 5100AL Water Detection Alarm
- (1) 1/4" NPT Close Nipple
- (1) 1/4" NPT Union



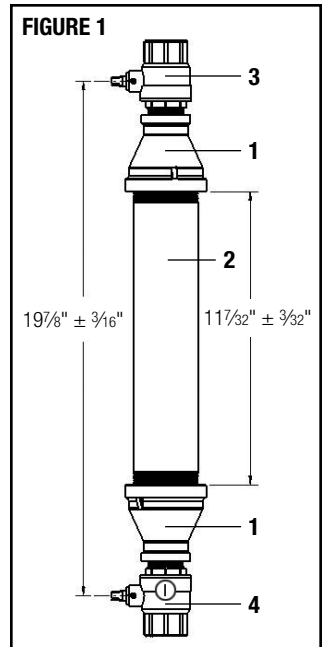
The following items are not included in the COLLECT_{AND}DRAIN Model 5100K Field Assembly Kit but are necessary to complete the assembly:

- (2) 2" x 1" Reducer
- (1) 2" x 12 1/2" Nipple
- (1) 1" Plug or Nipple and Cap

Valve and Pipe Assembly

NOTE: Many factors, such as initial pipe nipple length, the way the threads are cut on the nipple, the depth of the threads cut into the reducers, the type of sealant used, the size of the wrench and the strength of the assembler can affect the final assembled length. For the 5100K it is recommended that a 2" nipple, 12 1/2" long be used for this assembly and that the male threads be cut to ASTM standards.

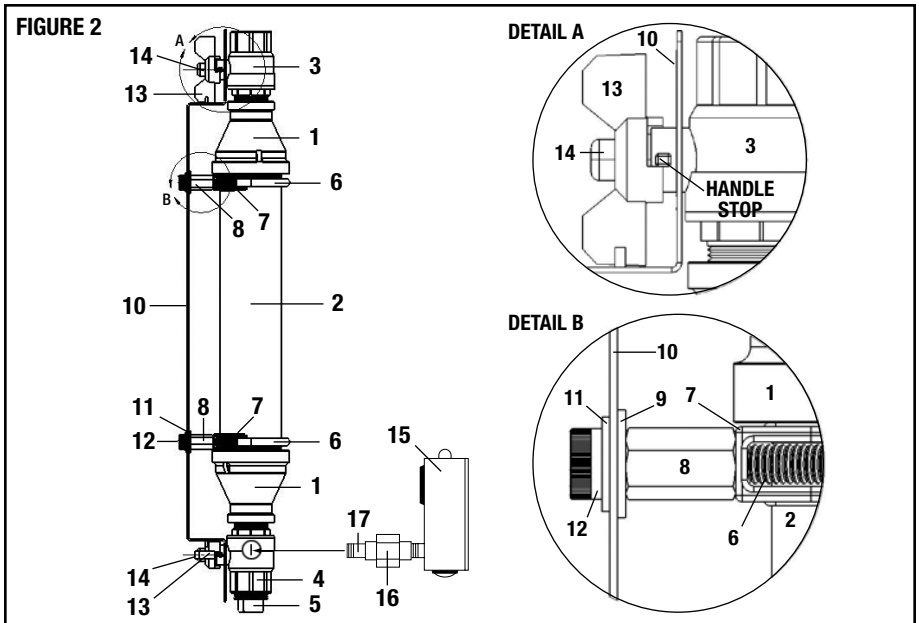
1. Auxiliary drain is to be assembled to comply with NFPA 13 8.16.2.5.3.5 (2010 Edition).
2. Pipe fittings per ANSI B.16, pipe threads and installation of pipe fittings per ANSI B1.20.1. The use of a pipe thread sealant is suggested. The use of Teflon® tape to obtain seal is not recommended.
3. Assemble reducers (Items 1) onto a 2" x 12 1/2" galvanized pipe nipple (Item 2) to a dimension between reducers of 11 1/4" ± 1/16". See Figure 1.
4. Assemble ball valves M5100BV (Item 3) and M5100BV-SP (Item 4) to the reducers. See Figure 1. Tighten ball valves so that stems are in alignment and such that a center of stem to center of stem dimension of 19 7/8" ± 1/8" is achieved.



Anti-Trip Plate Assembly

1. Loosely attach the U-bolts (Items 6) and saddles (Items 7) to the 2" nipple (Item

- 2) with coupling nuts (Items 8). Slide the U-bolts to opposite ends of the nipple (against the reducers), and snug the coupling nuts (Items 8) lightly so that U-bolts with saddles may still be adjusted. See Figure 2.
2. Attach anti-trip plate (Item 10) to valve and pipe assembly with labeling facing outward. Ensure valve ends of anti-trip plate are below handle stops. See Figure 2, Detail A.
3. Fasten the anti-trip plate to the coupling nuts as shown in Figure 2, Detail B.
 - a. Place the flange bushings (Items 9) behind the anti-trip plate atop the coupling nuts (Items 8).
 - b. Place washers (Items 11) on the front surface of the anti-trip plate (Item 10) over each flange bushing (Item 9).
 - c. Thread the screws (Items 12) through the washers (Items 11), anti-trip plate (Item 10), and flange bushings (Items 9) and into coupling nuts (Items 8).
 - d. Adjust the U-bolts (Items 6) so that the anti-trip plate (Item 10) moves freely through its full range of motion.
4. Attach one valve handle (Item 13) to drain side (lower) valve with valve handle lock nut (Item 14). Thread 1" plug (Item 5) into drain side valve.
5. Close drain side valve. Slide anti-trip plate down tight to drain side valve handle.
6. Attach remaining valve handle (Item 13) to system side (upper) valve with valve handle lock nut (Item 14).
7. Open system side valve.
8. Thread M5100AL (Item 15) to ¼" NPT union (Item 16) and then thread union to ¼" NPT nipple (Item 17). Install to either side port of M5100BV-SP (Item 4). Refer to Operator's Manual for battery installation.
9. The COLLECT_{AND}DRAIN assembly is ready for installation. Refer to Operator's Manual for operation and maintenance instructions.



COLLECT_{AN}DRAIN

Model 5100A

Anti-Trip Auxiliary Drain and Condensation Collection Assembly with
Battery Powered Water Detection Alarm for Dry Pipe and Preaction
Fire Sprinkler Systems

Operator's Manual

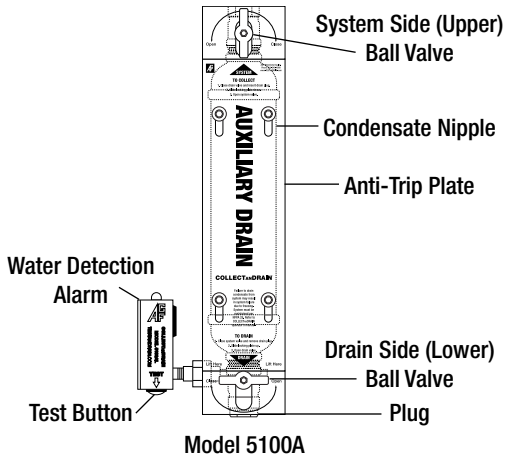


AGF Manufacturing Inc.
100 Quaker Lane, Malvern, PA 19355

Phone: 610-240-4900

Fax: 610-240-4906

www.testandrain.com



Installation Instructions

To Install in an Existing System

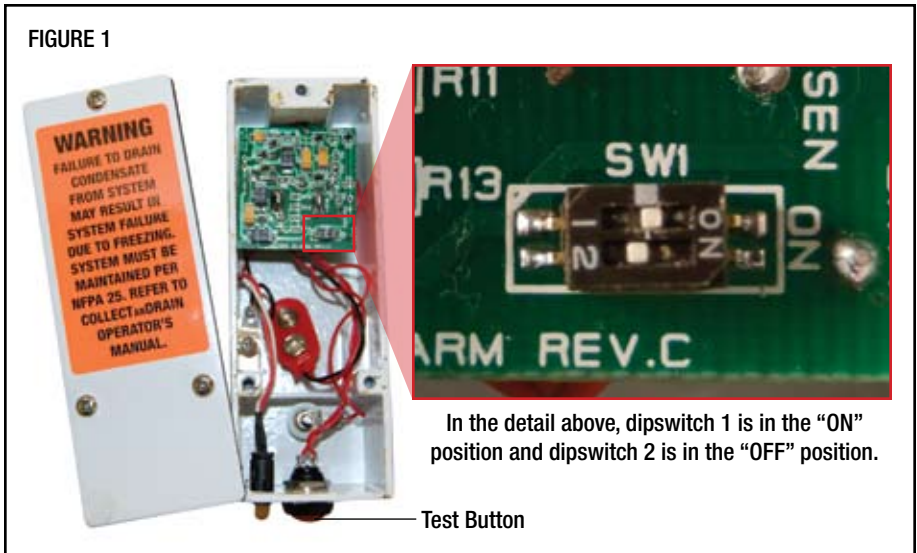
For adding additional installations see NFPA 13 Chapters 24 and 26 and NFPA 25 Chapter 14.

1. Isolate branch line or zone where COLLECTANDRAIN is to be installed.
2. Relieve air pressure from branch line.
3. Remove existing auxiliary drain / condensation collection assembly.
4. Install assembled COLLECTANDRAIN by attaching the system side (upper) ball valve in accordance with NFPA 13 8.16.2.5 and 8.16.2.5.3 in regards to low point drains.
5. To activate system remove 3 screws holding back cover of M5100AL water detection alarm housing, ensure dipswitch #1 and #2 (see Figure 1) are in the "OFF" position, install 9 volt battery (lithium recommended) onto battery posts, position dipswitch #1 to "ON" position, replace cover. (Follow same procedure when replacing battery)
6. Confirm that system side (upper) valve is in the open position and ready to collect condensation and that the drain side (lower) valve is closed and the valve plug is tight.
7. Return system back to normal operating conditions.

To Install in a New System

1. Install assembled COLLECTANDRAIN by attaching the system side (upper) ball valve in accordance with NFPA 13 8.16.2.5 and 8.16.2.5.3 in regards to low point drains.
2. To bring system online and activate water detection feature remove 3 screws holding back cover of M5100AL water detection alarm housing, **ensure dipswitch #1 and #2 (see Figure 1) are in the "OFF" position,**

- install 9 volt battery (lithium recommended) onto battery posts, position dipswitch #1 to “ON” position, replace cover. **(Follow same procedure when replacing battery)**
3. Confirm that system side (upper) valve is in the open position and ready to collect condensation and that the drain side (lower) valve is closed and the valve plug is tight.
 4. Activate system for normal operating conditions.



Operation and Maintenance

WARNING: The COLLECT_{AND}DRAIN is designed to prevent the accidental tripping of a dry valve by requiring that the valves of a condensation collector be operated in the correct manner and sequence. The addition of the M5100AL water detection alarm will alert to the presence of water in the COLLECT_{AND}DRAIN. COLLECT_{AND}DRAIN is not designed to prevent freezing or automatically drain condensation from the system. Failure to drain condensation from system may result in catastrophic system failure due to freezing. System must be maintained per NFPA 25 4.6, 4.6A and 4.1.

To Collect Condensate per NFPA 25 A.12.4.3.3.3

The normal setting of the COLLECT_{AND}DRAIN assembly is to have the system side (upper) valve be in the “open” position (valve tee handle in line with COLLECT_{AND}DRAIN assembly) and the drain side (lower) valve be in the “closed” position (valve tee handle perpendicular with COLLECT_{AND}DRAIN assembly). The 1" plug should be threaded into outlet of the drain side (lower) valve. The Anti-Trip Plate should be at its lowest position and, if equipped, the anti-tamper lock should be installed.

NOTE: The Model 5100A Water Detection Alarm box is equipped with a dipswitch designed to silence the alarm during periods of the year that the system is not at risk of freezing and that the accumulation of condensation within the piping system will not put the system at risk of catastrophic failure. **It is the responsibility of the building's owner to ensure that the system has been drained of condensation, that the dipswitch has been put into the "ON" position and that the battery is capable of activating the alarm each year prior to the system being exposed to freezing conditions.** The M5100AL Water Detection Alarm box is equipped with a "test" button to confirm that the water probe and battery are functioning properly. **It is the responsibility of the building's owner to ensure that the water probe and battery are working correctly by instigating a regularly scheduled battery replacement schedule and regularly scheduled integrity testing.**

Failure to conduct regularly scheduled testing and battery maintenance could result in catastrophic system failure due to freezing.

The presence of even a small amount of water in the condensate nipple will activate the blinking red light and beeping sound of the water detection alarm, signaling the need for system maintenance. The COLLECT_{AND}DRAIN must be drained completely to silence the alarm.

To Drain Condensate per NFPA 25 A.12.4.3.3.3

1. Close the system side (upper) valve and remove drain plug.
2. Slide the anti-trip plate to its highest position.
3. Open the drain side (lower) valve and drain the accumulated water.
4. Once the water has been drained, close the drain side (lower) valve and slide the anti-trip plate to its lowest position.
5. Open the system side (upper) valve and allow time for additional water to accumulate.
6. Repeat the process until all of the accumulated water has been drained.
7. Once all water has been drained, return the COLLECT_{AND}DRAIN to the "COLLECT" position by closing the drain side (lower) valve, put new Teflon[®] tape on 1" plug and reinstall into outlet of drain side (lower) valve, slide the Anti-Trip plate to its lowest position and open the system side (upper) valve, reinstall anti-tamper lock if equipped.

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