

MODEL UMC FAQ'S

QUESTION 1:

Aren't you required to provide a test orifice that is equal to the smallest orifice sprinkler on the system? Your test orifice in the Test & Drain Valve is only available with a 2.8 K-factor. What about all of the other K-Factors? Other manufacturers provide multiple options for test orifice K-Factors.

ANSWER:

NFPA 13 2016 Edition

8.17.4 System Connections.

8.17.4.1* Wet Pipe Systems.

8.17.4.1.1 An alarm test connection not less than 1 in. (25 mm) in diameter, terminating in a smooth bore corrosion resistant orifice, giving a flow equal to or less than one sprinkler of a type having the smallest K-factor installed on the particular system, shall be provided to test each waterflow alarm device for each system.

The below is the original Rejected Proposal for the 2007 edition of NFPA 13 regarding test orifices smaller than the smallest K-Factor sprinkler on a system.

13-362 Log #721 AUT-SSI **Final Action: Reject**
(8.16.4.2.1)

SUBMITTER: Roger Wilkins, Tyco Fire Products
RECOMMENDATION: Revise as follows:
An alarm test connection not less than 1 in. (25.4 m) in diameter, terminating in a smooth bore corrosion-resistant orifice, giving a flow equivalent to equal to or less than one sprinkler of a type having the smallest orifice installed on the particular system, shall be provided to test each waterflow alarm device for each system.
SUBSTANTIATION: There is no reason to prohibit a smaller test orifice.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The intent is to flow water through an orifice which represents the smallest sprinkler in a sprinkler system, this is to sound an alarm created by the flow of water through the smallest orifice.
NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 28 Negative: 1
BALLOT NOT RETURNED: 1 AMAR
EXPLANATION OF NEGATIVE:
KEEPING: I believe that this proposal should have been Accepted. I agree with the submitter that if the alarm on a wet pipe system can be activated with a smaller orifice, a larger one should not be mandated.

Below is from the NFPA Committee Meeting for the Report on Comments (ROC) phase for the 2007 edition of NFPA 13 overturning the Rejection from the proposal stage.

Report on Comments A2006 — Copyright, NFPA

13-222 Log #149 AUT-SSI **Final Action: Accept**
(8.16.4.2.1)

Submitter: Larry Keeping, Vipond Fire Protection
Comment on Proposal No: 13-362
Recommendation: Reconsider Proposal 13-362 and accept.
Substantiation: The submitter of 13-318 is correct. On a wet pipe system, if the alarms can be activated by an orifice that is smaller than those installed in the system, there is no cause to require a larger one, just for the sake of matching the sprinklers.
On many projects, such as ESFR warehouses, some systems may have a few ½ in. orifice sprinklers, for the protection of the small electrical/mechanical rooms, plant washrooms, etc., whereas a neighboring and very similar system may have only ESFR sprinklers. Under the current requirement, the first system would be fitted an orifice equivalent to the ½ in. orifice sprinklers, which are very common and inexpensive. Correspondingly, the adjoining system would be required to use an expensive and not so readily available test orifice that is equivalent to an ESFR sprinkler. This is inequitable, if the first system is satisfactory with the ½ in test orifice, it should be equally acceptable to employ one on the adjoining system.
Committee Meeting Action: Accept
Number Eligible to Vote: 29
Ballot Results: Affirmative: 29

QUESTION 2:

Won't the flow switch respond more quickly to a test orifice with a larger K-Factor?

ANSWER:

The response time will likely be no different with a 2.8K test orifice and a larger K-Factor test orifice. Flow Switch sensitivity is required to provide an alarm at greater than 4 gpm flowing but less than 10 gpm. They are not to activate on flows less than 4 gpm. The switch contacts change state when this 4 to 10 gpm threshold is met. While a larger K-factor test orifice will result in a higher flow rate at the available pressure, a 2.8K orifice will likewise experience greater than 4 to 10 gpm flow at the available pressure at the floor control assembly. Therefore, there would be no difference in time of Flow Switch contacts switching state. The set delay within the flow switch would then dictate when the alarm is sounded.

QUESTION 3:

I have looked at both the Potter and System Sensor Flow Switch Data Sheets and they state that a flow switch must be mounted on the top of horizontal piping. Your flow switch for the smaller sized UMC's results in the flow switch being mounted on the side of the horizontal manifold. How can this be?

ANSWER:

See letter from Potter Below,



Potter Electric Signal Company/2081 Craig Road/St. Louis, Missouri 63146-4161/800-325-3936/314-878-4321/FAX: 314-878-7264

08/26/08

To Whom It May Concern:

Potter's literature states that VSR series waterflow switches should be installed on the top side of a horizontal pipe. The reason for this requirement is to prevent debris from the pipe from falling down into the throat area of the flowswitch.

The flowswitch can be mounted anywhere on the top half or top 180 degrees of the pipe. It does not need to be mounted at top dead center. Usually 45 degrees off top dead center resolves most clearance issues but up to 90 degrees off center is acceptable.

Regards,

Mike Henke CET
Sprinkler Product Manager

QUESTION 4:

Why would I install this UMC which has an integral check valve? I am not required to install a check valve on my floor control assemblies.

ANSWER:

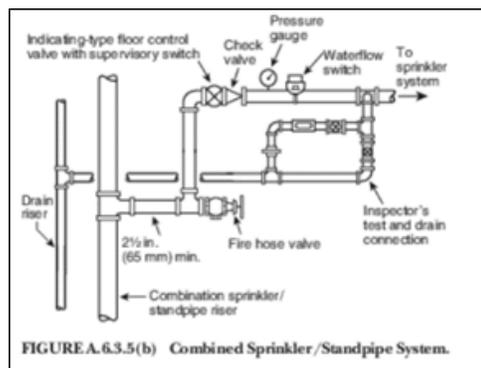
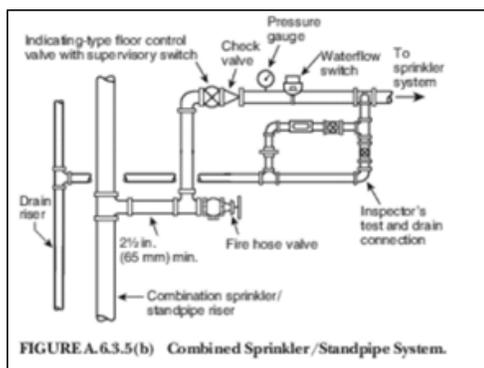
Beginning in the 2003 edition of NFPA 14 NFPA 14 (Standard for the Installation of Standpipe and Hose Systems), check valves for floor control assemblies became mandated. It was further clarified in the 2007 edition (See below). The instance where a check valve is not required is when a Listed Pressure Reducing Control Valve is installed which has been dual Listed as a check valve. For these situations, we are planning to offer a "UM" manifold which does not include the integrated check valve.

NFPA 14 – 2007 Edition (Also 2010 Edition)

6.3.5* Control Valves and Check Valves on Combined (Standpipe/Sprinkler) Systems.

6.3.5.1 Each connection from a standpipe that is part of a combined system to a sprinkler system shall have an individual control valve and check valve of the same size as the connection.

6.3.5.2 A listed pressure-regulating device that prevents backflow shall be considered a check valve, and an additional check valve shall not be required.



The 2007 edition of NFPA 13 contained wording of a required check valve in section 8.16.1.1.3 as well as section 8.17.5.2.2(1). There were different interpretations of these sections however. The intent was clarified in Section 8.16.1.5 of the 2013 edition (See below).

8.16.1.5 Floor Control Valve Assemblies.

8.16.1.5.1* Multistory buildings exceeding two stories in height shall be provided with a floor control valve, check valve, main drain valve, and flow switch for isolation, control, and annunciation of water flow on each floor level.

8.16.1.5.2 The floor control valve, check valve, main drain valve, and flow switch required by 8.16.1.6.3 shall not be required where sprinklers on the top level of a multistory building are supplied by piping on the floor below.

8.16.1.5.3 The floor control valve, check valve, main drain valve, and flow switch required by 8.16.1.6.3 shall not be required where the total area of all floors combined does not exceed the system protection area limitations of 8.2.1.

QUESTION 5:

NFPA 13 requires a pressure gauge above and below check valves. Why does the UMC only have both gauges provided on the 4" and 6" sizes only and just one gauge (after the check valve clapper) on the smaller sizes?

ANSWER:

The NFPA requirement for gauges both before and after a check valve contains an exception to this rule. This exception essentially states that floor control assemblies of combined systems do not require the gauge below (before) the check valve. For this reason, Globe has not included a second gauge on the 1-1/4", 1-1/2", 2", 2-1/2", and 3" UMC's as these sizes are most likely to be used in multi-level building floor control assemblies whereas the 4" and 6" sizes are most likely to be used in individual system risers which are not subject to this exception (See below). A plugged gauge port has nevertheless been provided below the check valve should a gauge be desired to be installed.

7.1.1.2 Pressure gauges shall be installed above and below each alarm check valve or system riser check valve where such devices are present.

7.1.1.2.1 Pressure gauges below check valves required by 8.17.5.2.2(1) shall not be required.

8.17.5.2.2* The following restrictions shall apply:

(1) Each connection from a standpipe that is part of a combined system to a sprinkler system shall have an individual control valve and check valve of the same size as the connection.

QUESTION 6:

Your UMC comes with a pressure relief valve, but isn't it true that pressure relief valves are only required on wet gridded systems?

ANSWER:

Up until the 2007 edition of NFPA 13, pressure relief valves were only required on wet systems that were gridded. In the 2010 edition of NFPA 13, this requirement was changed to require a minimum 1/2" Listed pressure relief valve on all wet systems (Section 7.1.2.1).

QUESTION 7:

Why do you offer a Left Handed or Right Handed version?

ANSWER:

When a floor control assembly is installed off of a Standpipe, the Standpipe may be located at the intersection of two adjacent walls (in the corner) in many cases. This results in the Standpipe possibly being in the left corner or right corner of the space. When coming off horizontally from the Standpipe, with water flow from left-to-right or from right-to-left, it is critical to allow for the Test & Drain to be located below the UMC, as well as for the handhole cover of the UMC Check Valve to be facing forward and not against the wall where the UMC is installed along.



QUESTION 8:

Can I order a Right Handed configuration and change it to a Left Handed in the field without voiding my listing?

ANSWER:

Yes, while Globe offers separate part numbers to order a preassembled Left-Hand" or "Right-Hand" version, we have also provided "mirrored ports" so that the Test & Drain may be relocated in the field to the opposing Test & Drain port. This does not void any Listings.

QUESTION 9:

Can I order without the made-on Globe Butterfly Valve and if so, does this void my Listing?

ANSWER:

Yes, Globe offers separate part numbers to order a preassembled with or without a factory assembled Butterfly Valve. The use of any Listed/Approved BFV is acceptable. This does not void any Listings.

QUESTION 10:

Can I order a UMC without the adjustable relief valve?

ANSWER:

The UMC has been engineered and Listed to meet the most recent NFPA 13 requirements for floor control assemblies. The requirement for a Listed pressure relief valve were implemented in the 2010 edition of NFPA 13. While a relief valve can be installed anywhere on the system after a check valve, Globe has provided this on the UMC for convenience and has pre-piped to drain. The UMC cannot be ordered without this relief valve.

QUESTION 11:

I have looked at both the Potter and System Sensor Flow Switch Data Sheets and they state that a flow switch must not be installed within 24" of a valve. Your flow Switch is much closer than this. Why are you able to do this?

ANSWER:

See letter below from Potter,



QUESTION 12:

Your UMC is different than what I am used to seeing, with the Flow Switch below the check valve. Is this allowed?

ANSWER:

There are no restrictions or limitations with regard to the location of a flow switch being on the upstream side of a check valve by either NFPA or the Listing agencies. This configuration has been tested and Listed by Underwriters Laboratories as well as Approved by Factory Mutual.

With today's abundance of available "Riser Manifolds" offered by numerous companies, the flow switches attached to these "Riser Manifolds" typically result in them being located downstream of the separate check valve since the drain valve is also a component of the "Riser Manifold". The presence of the drain valve on these manifolds, results in the manifold (and therefore the flow switch) having to be installed downstream (after) the separate check valve. This allows the system piping to be drained from the drain valve. The UMC complete floor control assembly is configured in such a manner that the Test & Drain Valve is downstream (after) the integral check valve clapper while the Flow Switch is upstream (before) the check valve clapper. This allows for flow switch testing as well as system drainage.

QUESTION 13:

Won't the Flow Switch being below the check valve result in false flow signals upon water surges that would not be seen if the flow switch were on the system side of the check valve?

ANSWER:

There is no greater likelihood of a false flow signal with the UMC flow switch location upstream of the check than would be with the typical current downstream location of flow switches installed on risers with or without a riser check valve and/or a Backflow Preventer upstream of the riser.

One expressed concern is that the flow switch being on the supply side of the check valve will expose the switch to water supply "surges" that it might not experience were it located on the system side of the check valve. The thinking being if on the system side of the check valve, the check valve may serve to "lock" in higher pressure which minimizes the chances of the switch being exposed to future surges. The flow switch requires a constant steady flow rate to operate. As the check valve stores any higher pressure increases or fluctuations, it eliminates any further flow or movement of water downstream of the check valve. In order for the flow switch to operate, a constant flow or movement of water at a rate of 4 to 10 gpm is required. The "slug" or section of water around the flow switch paddle physically cannot flow anywhere as the check valve clapper is "locked" in place by the higher pressure. The only water movement that the flow switch may see would be drainage back to the source. The flow switch does not operate on flow towards the source, only flow towards the sprinklers.

