Home Fire Sprinkler Display Guide

A COMPLETE GUIDE TO BUILDING AND USING A NFPA 13D DISPLAY TO EDUCATE YOUR COMMUNITY

USE THIS KIT TO CUSTOMIZE THE HOME FIRE SPRINKLER DISPLAY TO MATCH THE REQUIREMENTS IN YOUR JURISDICTION.
Home Fire Sprinkler Display Guide

TABLE OF CONTENTS

INTRODUCTION ................................................................. 3
DISPLAY MATERIALS YOU’LL NEED ...................................... 4
FRAME CONSTRUCTION OVERVIEW ...................................... 5
FRAMING ........................................................................ 6
ATTACHING THE COMPONENTS ........................................... 7-9
SPRINKLER FITTING .......................................................... 10
MOUNTING THE RISERPACK .............................................. 11-12
ASSEMBLING THE SPRINKLER PIPING ................................. 13-16
FINISHING ....................................................................... 17-19
SIGNAGE INSTALLATION ..................................................... 20
USING YOUR HOME FIRE SPRINKLER DISPLAY ..................... 21-22
The Home Fire Sprinkler Display Kit contains instructions for building a portable display that shows the inner workings of an NFPA 13D home fire sprinkler system and various sprinkler options. It can be customized to match local system requirements. Refer to page 16 for ideas on using the display to improve home fire sprinkler awareness in your community.

The display can be constructed by personnel with moderate to good carpentry skills. Riser installation should only be done by a qualified home fire sprinkler installer.

The nonprofit Home Fire Sprinkler Coalition (HFSC) is a 501(c)(3) charitable educational organization and the leading resource for independent, noncommercial information about residential fire sprinklers. HFSC was formed in 1996 in response to the tremendous need to inform the public about the life-saving value of home fire sprinkler protection.

Development of this kit was funded through a grant from State Farm. HFSC thanks AGF Manufacturing and the Northern Illinois Fire Sprinkler Advisory Board for technical assistance.
**Tools Needed:**
- Drill with Drive Bit Matching the Screws
- Speed Square
- Miter Saw
- 12” Adjustable Wrench
- #2 Philips Screwdriver
- Tape Measure
- Clamps
- Circular Saw
- Hole Saw – 2¼"
- Hole Saw – 1¾"

**Optional Tools:**
- Drill with ¼” Bit for Pre-Drilling Holes
- Corner Clamp
- Straps
- Jig Saw

**Materials:**
1. 4x8 Sheet of ½” Dry Wall or Azek (Azek Recommended)
2. #8 Screws, 3” and 1½” Lg.
3. 8’ 2x4
4. 8’ 2x6
5. Casters under 4” in total height McMaster-Carr P/N: 2407T74 or equivalent
6. ½” PVC Pipe, 4’ Long
7. 1” Copper Pipe, 3’ Long
Construction of the display frame starts with cutting the individual components to the correct length and angles. The components are then assembled into a Short Wall, Long Wall, and the Ceiling. Finally, the three pieces are assembled into the display frame.

In addition, there are flat panels that simulate the home’s drywall. These panels can be either square cut or curved cut depending on preference.

Optional HVAC duct work can be added, particularly if the mounting of a fire sprinkler alarm is to be demonstrated.
Support Wall (Short Wall)

Cut List:

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>2</td>
<td>2x4</td>
<td>Plates – 32” Lg.</td>
</tr>
<tr>
<td>#2</td>
<td>4</td>
<td>2x4</td>
<td>Studs – 65½” Lg.</td>
</tr>
</tbody>
</table>

**Step 1:** Using the measurements in Fig. 1, mark the stud locations on the top and bottom plates.

**Step 2:** Following Fig. 1 measurements, lay out the plates and studs.

*NOTE: When laying out make sure the studs are on the proper side of their measurement lines.*

**Step 3:** Using two 3” screws at every joint, attach the studs to the plates.

*NOTE: To ensure each joint is square, use a corner clamp or speed square (as shown).*

Component Wall (Long Wall)

Cut List:

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#3</td>
<td>2</td>
<td>2x6</td>
<td>Plates – 44½” Lg.</td>
</tr>
<tr>
<td>#4</td>
<td>4</td>
<td>2x6</td>
<td>Studs – 65½” Lg.</td>
</tr>
</tbody>
</table>

**Step 1:** Using the measurements in Fig. 2, mark the stud locations on the top and bottom plates.

**Step 2:** Following Fig. 2 measurements, lay out plates and studs.

*NOTE: When laying out make sure the studs are on the proper side of their measurement lines.*

**Step 3:** Using two 3” screws at every joint, attach the studs to the plates.

*NOTE: To ensure each joint is square, use a corner clamp or speed square.*
### Attaching the Component Wall (Long Wall) to the Support Wall (Short)

**Cut List:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty.</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#5</td>
<td>1</td>
<td>2x6</td>
<td>Support with 59° &amp; 31° Angles* – 51(\frac{3}{16})” Lg.</td>
</tr>
</tbody>
</table>

**Step 1:** Referring to Fig. 3, butt the Component Wall (Long) up against the Support Wall (Short) at a 90° angle and secure using 3” screws.

**Step 2:** Attach the Support (Item #5) using two 3” screws at each joint.

### Ceiling

**Cut List:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty.</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#6</td>
<td>2</td>
<td>2x6</td>
<td>Joist – 29” Lg.</td>
</tr>
<tr>
<td>#7</td>
<td>1</td>
<td>2x6</td>
<td>Plate – 4” Lg.</td>
</tr>
<tr>
<td>#8</td>
<td>1</td>
<td>2x6</td>
<td>Plate – 48” Lg.</td>
</tr>
<tr>
<td>#9</td>
<td>1</td>
<td>2x6</td>
<td>Joist – 14(\frac{1}{16})” Lg. with 65° Angle*</td>
</tr>
<tr>
<td>#10</td>
<td>1</td>
<td>2x6</td>
<td>Joist – 21(\frac{3}{16})” Lg. with 65° Angle*</td>
</tr>
<tr>
<td>#11</td>
<td>1</td>
<td>2x6</td>
<td>Joist – 9(\frac{3}{4})” Lg. with 58° Angle*</td>
</tr>
<tr>
<td>#12</td>
<td>1</td>
<td>2x6</td>
<td>Plate – 48(\frac{5}{8})” Lg. with 58° &amp; 65° Angles*</td>
</tr>
</tbody>
</table>

**Fig. 3**

**Step 1:** Following Fig. 4, assemble the perimeter of the ceiling (Items #6, #7, #8, #11, & #12). Then, secure outer joists to the plates using two 3” screws at every joint.

**NOTE:** Pre-drilling pilot holes for the screws is recommended at locations marked on Fig. 4 (marked in red).

*A table saw is recommended for the angle cuts.*
Step 2: Attach the inner joist (Item #6) with two 3” screws at each joint. This will help square the ceiling frame.

*NOTE: A Strap, shown in Fig. 5, can also be used to help keep the frame square.*

Step 3: To figure out the location for the ceiling’s inner joists (Items #9 & #10, shown in Fig. 4) so they’ll align with the Component Wall’s studs, measure the distance of the Component Wall’s studs from outer stud in.

Step 4: Mark the location for the inner joists by measuring from the outer joist in. Then, attach the inner joists to the ceiling using two 3” screws at each joint.

### Attaching the Ceiling to the Component and Support Walls

**Step 1:** Place the ceiling on top of the Component and Support Walls.

*NOTE: If needed, use a strap to pull the walls square before finishing assembly (Fig. 5).*

**Step 2:** Using 3” screws attach the ceiling to the walls by drilling up through the wall plates into the ceiling plates.

### Attaching the Casters

**Step 1:** Flip the frame onto the component wall and attach a Caster to each corner using 1¾” screws (Fig. 6).

*NOTE: If Locking Casters are used ensure lock can be accessed before attaching to frame.*
ATTACHING THE COMPONENTS cont'd

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY.</th>
<th>DESCRIPTION</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>STUD, 2 X 4</td>
<td>32&quot;</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>STUD, 2 X 4</td>
<td>65 1/2&quot;</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>STUD, 2 X 6</td>
<td>44 1/2&quot;</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>STUD, 2 X 6</td>
<td>65 1/2&quot;</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>STUD, 2 X 6</td>
<td>29&quot;</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>STUD, 2 X 6</td>
<td>4&quot;</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>STUD, 2 X 6</td>
<td>48&quot;</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>STUD, 2 X 6</td>
<td>14 1/16&quot;</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>STUD, 2 X 6</td>
<td>21 9/16&quot;</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>STUD, 2 X 6</td>
<td>9 3/4&quot;</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>STUD, 2 X 6</td>
<td>48 5/8&quot;</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>STUD, 2 X 4</td>
<td>51 13/16&quot;</td>
</tr>
</tbody>
</table>

~CONFIDENTIAL~
THIS DRAWING AND ALL ASSOCIATED DOCUMENTATION IS THE CONFIDENTIAL PROPERTY OF AGF MANUFACTURING, INC. AND DUPLICATION IN PART OR WHOLE WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF AGF IS STRICTLY PROHIBITED.

AGF Manufacturing, Inc.
100 Quaker Lane
Malvern, PA 19355
Ph. 610-240-4900
Fax 610-240-4906
www.testandrain.com
SPRINKLER FITTING

NOTE: All connections will be dry fit. No glue is required. **DO NOT** drill ahead of time. Drill holes as you progress to ensure proper alignment.

IMPORTANT: Actual pipe lengths may vary from the chart depending on your stud placement. Measure and cut CPVC pipe based on measurements as you progress.

Cut List:

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty.</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 3¾” Lg.</td>
</tr>
<tr>
<td>#2</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 7½” Lg.</td>
</tr>
<tr>
<td>#3</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 4¼” Lg.</td>
</tr>
<tr>
<td>#4</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 8½” Lg.</td>
</tr>
<tr>
<td>#5</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 7½” Lg.</td>
</tr>
<tr>
<td>#6</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 6¼” Lg.</td>
</tr>
<tr>
<td>#7</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 5½” Lg.</td>
</tr>
<tr>
<td>#8</td>
<td>1</td>
<td>CPVC</td>
<td>Pipe – 7¾” Lg.</td>
</tr>
</tbody>
</table>

Home Fire Sprinkler

Protect What You Value Most

HomeFireSprinkler.org
Mounting the RiserPACK and Backflow Preventer

**Step 1:** Attach the RiserPACK to the Backflow Preventer.  
*NOTE: Align so the gauge of the RiserPACK and the valve handles of the Backflow Preventer will face out of the stud cavity.*

**Step 2:** Bend the flanges of the bracket on the outer most mark so the bracket is 2½” deep. Then, attach the bracket 12½” from the top of the stud cavity using 1¾” screws.

**Step 3:** Using the pipe clamp and screws provided, attach the RiserPACK and the Backflow Preventer to the bracket so their centerline is 5½” away from the right stud.
**Step 4:** Attach a copper pipe adapter to the bottom of the Backflow Preventer and use an adjustable wrench to tighten.

**Step 5:** Attach the ¾” PVC adapter to the drain valve on the side of the RiserPACK and use an adjustable wrench to tighten.

**Step 6:** Measure from the copper pipe adapter on the bottom of the Backflow Preventer to the wall plate and cut a piece of copper pipe to length. Then, measure from the PVC adapter on the RiserPACK drain valve to the wall plate and cut a piece of PVC to length.

**Step 7:** Drill two holes in a scrap piece of 2x4 so the copper pipe and PVC pipe lengths will fit inside.

**Step 8:** Attach the copper and PVC pipe lengths to their respective adapters and fit inside holes on scrap piece of 2x4. Attach scrap 2x4 to wall plate using two 3” screws. 

*NOTE: This will help stabilize the display.*
**ASSEMBLING THE SPRINKLER PIPING**

**Step 1:** Attach the CPVC to NPT adapter to the top of the RisersPack and tighten using an adjustable wrench.

**Step 2:** Fit Pipe #1 into the CPVC adapter on the top of the RisersPack.

**Step 3:** Fit a 90° elbow onto Pipe #1 and direct it to the right. Using the elbow as a guide, drill a 1¾” hole into the stud it faces.  
*NOTE: Its center should be 4½” from the top wall plate and 1¾” from the front of the stud.*

**Step 4:** Fit Pipe #2 into the elbow through the hole in the stud.

**Step 5:** Fit a “T” onto the end of Pipe #2 with the branch of the “T” facing up.

**Step 6:** Fit Pipe #3 into the horizontal end of the “T” fitting.

**Step 7:** Fit a “T” with threaded branch onto the end of Pipe #3 with the threaded branch facing out of the stud cavity.

**Step 8:** Drill a 1¾” hole through the next stud using the horizontal pipe as a guide. Insert Pipe #4 through the hole and into the “T” fitting. *NOTE: Make sure the pipe is level.*

**Step 9:** Fit a 90° elbow onto the end of Pipe #4 and direct it up.

**Step 10:** Using the “T” at the end of Pipe #2 as a guide, drill a 1¾” hole into the wall plate above it. Then, fit Pipe #5 through the wall plate and into the “T” fitting.  
*NOTE: Its center should be 2½” from the joist and 1¾” from the front of the plate.*

**Step 11:** Fit a 90° elbow onto the top of Pipe #5 facing into the display.

**Step 12:** Fit Pipe #6 into the elbow fitting.  
*NOTE: The center of Pipe #6 should be about 2” from the bottom of the joist. If not, adjust the elbow or the length of Pipe #5 to ensure it is at the proper height.*
Step 13: Secure Pipe #6 to the joist using a metal pipe bracket and two 1¾” screws.  

NOTE: Make sure the Pipe #6 is level.

Step 14: Fit a threaded 90° elbow onto the end of Pipe #6.

Step 15: Using the elbow on the end of Pipe #4 as a guide, drill a 1¾” hole into the wall plate above it. Then, fit Pipe #7 through the wall plate and into the elbow fitting. NOTE: Its center should be 2¼” from the joist and 1¾” from the wall plate.

Step 16: Fit an 90° elbow onto the end of Pipe #7 with the outlet facing into the display.

Step 17: Fit Pipe #8 into the elbow. NOTE: The center of Pipe #8 should be 3¼” from the bottom of the joist. If not, adjust the elbow fitting or the length of Pipe #7 to ensure it is at the proper height.

Step 18: Secure Pipe #8 to the joist using a metal pipe bracket and two 1¾” screws.

Step 19: Fit a threaded 90° elbow onto the end of Pipe #8.
## ASSEMBLING THE SPRINKLER PIPING cont’d

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VENDOR PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.*</th>
<th>Total for Kits (Qty. 5)</th>
<th>AGF STOCK</th>
<th>MIN. NEEDED for 5 Kits</th>
<th>VENDOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1PIPE</td>
<td>PIPE, 1”, CPVC</td>
<td>(5) 16’</td>
<td>(25) 16’</td>
<td>40</td>
<td>40’</td>
<td>Viking</td>
</tr>
<tr>
<td>2</td>
<td>007M1QT</td>
<td>VALVE, DOUBLE CHECK</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>Watts</td>
</tr>
<tr>
<td>3</td>
<td>06419AM/W</td>
<td>ESCUTCHEON, ADJUSTABLE, 1/2”</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>4</td>
<td>13642MA/W</td>
<td>COVER, CONCEALED, LARGE, WHITE</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>5</td>
<td>5030361-010</td>
<td>ADAPTER, 1” FNPT X CPVC</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>6</td>
<td>5007</td>
<td>ELBOW, 90, 1”, CPVC</td>
<td>4</td>
<td>20</td>
<td>20</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>7</td>
<td>5007-3-S-BI</td>
<td>ELBOW, SPRINKLER, 1/2”, CPVC</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>8</td>
<td>5011</td>
<td>TEE, 1”, CPVC</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>9</td>
<td>5012-S-BI</td>
<td>TEE, SPRINKLER, CPVC</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>10</td>
<td>8025</td>
<td>KIT, M8000, STUD MOUNT, 16”</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>11</td>
<td>810xD</td>
<td>M8000 1” Residential RiserPACK NO ORIFICE ADPTER</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td></td>
<td>AGF</td>
</tr>
<tr>
<td>12</td>
<td>VK468</td>
<td>SPRINKLER, PENDENT, RESIDENTIAL</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>13</td>
<td>VK486</td>
<td>SPRINKLER, SIDEWALL, RESIDENTIAL</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>14</td>
<td>VK494</td>
<td>SPRINKLER, CONCEALED, RESIDENTIAL</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Viking</td>
</tr>
<tr>
<td>15</td>
<td>AGF-T160.03</td>
<td>ADAPTER, 1/2” PVC X 3/4” MNPT</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Homedepot</td>
</tr>
<tr>
<td>16</td>
<td>AGF-T160.04</td>
<td>ADAPTER, 1” F COPPER PIPE X 1” MNPT</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td></td>
<td>Homedepot</td>
</tr>
<tr>
<td>17</td>
<td>1750070</td>
<td>BELL, AC POWER</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>Potter</td>
</tr>
<tr>
<td>18</td>
<td>Mounting Accessories for Signaling Devices</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>Potter</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>26270</td>
<td>CONNECTOR, ELECTRICAL, SET SCREW, 1/2”</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Homedepot/ Halexco</td>
</tr>
<tr>
<td>20</td>
<td>91109</td>
<td>CONNECTOR, ELECTRICAL, 90, 1/2”</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>Homedepot/ Halexco</td>
</tr>
<tr>
<td>21</td>
<td>673021</td>
<td>CABLE, ARMORED BUILDING</td>
<td>24”</td>
<td>120”</td>
<td>120</td>
<td>0</td>
<td>McMaster-Carr</td>
</tr>
<tr>
<td>22</td>
<td>3311662</td>
<td>STRAP, STANDOFF, PIPE, 1”</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>McMaster-Carr/ Caddy</td>
</tr>
<tr>
<td>23</td>
<td>HEX KEY, FLOW SWITCH</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>POTTER</td>
</tr>
</tbody>
</table>

* Quantity for Each Kit
ASSEMBLING THE SPRINKLER PIPING

ITEM | PART NUMBER | DESCRIPTION | QTY.
--- | --- | --- | ---
1 | PIPE | PIPE, 1", CPVC, 3-3/4" Lg. | 1
2 | PIPE | PIPE, 1", CPVC, 7-1/2" Lg. | 1
3 | PIPE | PIPE, 1", CPVC, 4-1/4" Lg. | 1
4 | PIPE | PIPE, 1", CPVC, 8-1/2" Lg. | 1
5 | PIPE | PIPE, 1", CPVC, 7-1/2" Lg. | 1
6 | PIPE | PIPE, 1", CPVC, 6-1/4" Lg. | 1
7 | PIPE | PIPE, 1", CPVC, 5-1/2" Lg. | 1
8 | PIPE | PIPE, 1", CPVC, 7-3/4" Lg. | 1
9 | 007M1QT | VALVE, DOUBLE CHECK | 1
10 | 06419AM/W | ESCUTCHEON, ADJUSTABLE, 1/2" (NOT SHOWN) | 2
11 | 13642MA/W | COVER, CONCEALED, LARGE, WHITE (NOT SHOWN) | 1
12 | 5003BI-010 | ADAPTER, 1" FNPT X CPVC | 1
13 | 5007 | ELBOW, 90°, 1", CPVC | 4
14 | 5007-3-5-BI | ELBOW, SPRINKLER, 1/2", CPVC | 2
15 | 5011 | TEE, 1", CPVC | 1
16 | 5012-5-BI | TEE, SPRINKLER, CPVC | 1
17 | 8025 | KIT, MB8000, STUD MOUNT, 16" | 1
18 | 810XD | M8000 1" Residential RiserPACK Threaded | 1
19 | VK468 | SPRINKLER, PENDENT, RESIDENTIAL | 1
20 | VK468 | SPRINKLER, SIDEWALL, RESIDENTIAL | 1
21 | VK494 | SPRINKLER, CONCEALED, RESIDENTIAL | 1
22 | AGF-T166.03 | ADAPTER, 1/2" PVC X 3/4" MNPT | 1
23 | AGF-T166.04 | ADAPTER, 1" F COPPER PIPE X 1" MNPT | 1

UNLESS OTHERWISE SPECIFIED
- DIMENSIONS ARE IN INCHES
- SURFACE FINISH IN µin Ra
- ANGLES ±1°
- REMOVE ALL SHARP EDGES, 0.010 MAX

~CONFIDENTIAL~
THIS DRAWING AND ALL ASSOCIATED DOCUMENTATION IS THE CONFIDENTIAL PROPERTY OF AGF MANUFACTURING, INC. AND DUPLICATION IN PART OR WHOLE WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF AGF IS STRICTLY PROHIBITED.

AGF Manufacturing, Inc.
100 Quaker Lane
Malvern, PA 19355
Ph. 610-240-4900
Fax 610-240-4906
www.testandrain.com
**FINISHING**

**IMPORTANT:** Cut list can be made from a single 4’ x 8’ sheet (see image).

Cut List:

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty.</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>1</td>
<td>Azek or Drywall</td>
<td>Sheet – 19½” x 44&quot;</td>
</tr>
<tr>
<td>#2</td>
<td>1</td>
<td>Azek or Drywall</td>
<td>Sheet – 26½” x 66½&quot;</td>
</tr>
<tr>
<td>#3</td>
<td>1</td>
<td>Azek or Drywall</td>
<td>Sheet – 17½” x 33½&quot;</td>
</tr>
<tr>
<td>#4</td>
<td>1</td>
<td>Azek or Drywall</td>
<td>Sheet – 10½” x 31½&quot;</td>
</tr>
<tr>
<td>#5</td>
<td>1</td>
<td>Azek or Drywall</td>
<td>Sheet – 16½” x 10½&quot;</td>
</tr>
</tbody>
</table>

**NOTE:** Test fit all panels using clamps.
Ceiling Panels

**Step 1:** Make sure Panels #4 & #5 are centered under the threaded elbows for the sprinkler heads, and leave 3” between the back wall and Panels #4 & #5 so the piping can be seen. **NOTE:** On Panel #4 mark the portion that hangs over so you can trim it later.

**Step 2:** Locate where the sprinkler heads will come through Panel #4, and drill holes using a 2¼” hole saw. Then, trim the panel and attach it to the joists using 1¾” screws.

**Step 3:** Attach Panel #5 to the joists using 1¾” screws.

Support Wall (Short) Panel

**Step 1:** Attach Panel #2 using 1¾” screws.

Component Wall (Long) Panels

**Step 1:** Attach Panel #1 to the bottom of the component wall using 1¾” screws.

**Step 2:** Clamp Panel #3 to the center stud cavity, and mark the location of the sprinkler head. Then, drill a hole using a 2¼” hole saw. Trim the top of Panel #3 so the horizontal piping is visible and there is a 1” border around the hole for the sprinkler head. Then, attach Panel #3 using 1¾” screws. **NOTE:** Make sure the sprinkler’s hole is centered over the threaded “T” fitting.

**Step 3:** Attach the small portion of the escutcheon to the pendant and the side wall sprinkler.

**Step 4:** Hand tighten the sprinklers into the locations indicated.

A. Pendant
B. Concealed
C. Sidewall (Make sure it’s level)

**Step 5:** Install the second part of escutcheon over the pendant and sidewall sprinkler and install the concealed sprinkler head cover.
Bell Installation

**Step 1:** Remove the bell from the black mounting box by un-threading the center screw. Then, attach the black mounting box to the red junction box using the screws provided.

**Step 2:** Mount the box to the stud between the RISERPACK and the sprinkler head located in the ceiling using two 1¾” screws.

**Step 3:** Attach the bell to the mounting box.

**Step 4:** Remove the red cover from the flow switch on the RISERPACK using the anti-tamper allen key and attach conduit elbow to housing.

**Step 5:** Thread the conduit fitting into the bell box, and tighten one end of the conduit into the fitting.

**Step 6:** Run the conduit from bell box to the flow switch, and cut the conduit to length. Then, tighten conduit into the fitting on the flow switch.

**Step 7:** Replace the flow switch cover.
SIGNAGE INSTALLATION

Place the signs on the appropriate components using zip ties or double stick tape. Local fire departments can create and post their own sign that includes their contact information: Fire Department name and logo, address, phone number, email address, website address, QR Code, etc.

Sign List:
• Concealed Pendant Sprinkler
• Concealed Sidewall Sprinkler
• Pendant Fire Sprinkler
• Sidewall Sprinkler
• 6” Inside Alarm Bell (NFPA 13D Option)
• Spare Fire Sprinkler Box (optional)
• Water Flow Switch (NFPA 13D Option)
• Fire Sprinkler Pipe
• Inspector Test Valve
• HVAC Duct Work (optional)
• Backflow Preventer (NFPA 13D Option)
• Sump Pump
• Floor Drain
• Pressure Gauge
• Control Valve
• Underground Water Supply
• Potable Water Supply
• Water Meter
Now that you’ve assembled your display, it’s time to plan how you’ll use it. The display is portable and it works with a wide range of audiences and many types of events. Here are some examples:

COMMUNITY EVENTS
- State Fair
- Home Shows and Building Trade Shows
- Fire Prevention Week Activities
- Safety Fair
- Fire Station Open Houses

SCHOOL ACTIVITIES
- Vocational-technical high school competitions
- Parent-Teacher conferences
- Safety Day

HOMEBUILDERS
- Partner with a homebuilder who offers sprinklers as a way to educate during open houses.
- Bring the display to area chapter meetings of your local homebuilders’ association to accompany your presentation.

MUNICIPAL ACTIVITIES
- Present the display at the Building Department so homebuilders can see it when they bring plans in for approval.
- Get on the agenda of your Planning and Zoning Boards and bring the display to explain the value of trade ups to encourage sprinklering of new developments.
- Present the display at your Town/Village Hall.
- Share the display during Town/Village meetings, elections, and other public events.

USE THE DISPLAY TO EDUCATE OTHER PROFESSIONALS AT THEIR OFFICES AND MEETINGS
- Insurance agents
- Real Estate agents
- Water suppliers

OTHER FIRE DEPARTMENTS
The portability of this display is one of its best features. If there are other departments near your jurisdiction, offer to share your display when they have public education opportunities in their jurisdictions.

EVALUATE THE DISPLAY’S EFFECTIVENESS
It’s important to know whether public education work is effective and to make changes to improve it. Evaluation is also essential in order to obtain municipal and grant funding. Pre- and post-tests give you a quick answer to how much your audience learned after their exposure to the Display. Using these tests is an easy way to help you determine how well the display meets your educational goals. You can modify these sample test questions based on your audience and the purpose for using the display. Please share your evaluation results with HFSC so we can improve the resources we create and offer to the fire service.
SAMPLE PRE- AND POST-TEST
1. Do you have fire sprinklers installed at home? Yes/No
2. Would you buy a home with fire sprinklers installed? Yes/No/Maybe
3. True or False: Home fire sprinklers are triggered by the smoke alarm.
4. True or False: If fire breaks out, all the fire sprinklers flow water at once.
5. True or False: Home fire sprinklers work automatically, preventing flashover and controlling the heat, smoke and flames until the fire department arrives.

MEDIA
When you bring the display to a public event, inform your local media ahead of time to encourage coverage of this public safety activity. Let them know that you will be providing a unique hands-on educational resource for the event’s audience. Be sure to mention that the Display makes a great visual backdrop for print and television.

GET LOCAL HELP FOR YOUR DISPLAY
If your jurisdiction doesn’t have the budget to purchase the construction materials, reach out to businesses and groups for funding. Be sure to publicly thank your sponsors during events, in local media coverage, and you may want to post the names and logos of your sponsors on the side of the display.

HERE ARE SOME IDEAS:

Sprinkler Contractors
You’ll need to partner with a sprinkler contractor experienced in NFPA 13D installations to build the Display. They may also be able to help you acquire the sprinkler components by sharing their industry contacts.

Lumberyards/Big Box Stores
Call the manager at your local retailer and request to meet him/her at the store. Bring the list of tools and construction materials and be prepared to explain what the display is and how it can be used to conduct life safety education in your community. Ask the manager if there are any tools or materials that the store can donate to support this permanent public safety resource. Offer store name and logo recognition in return for their support.

Insurance Companies
If your local residential property insurers offer a discount for homes protected by fire sprinklers, contact area offices to request a donation and/or participation in your educational events. (Note: State Farm is HFSC’s sponsor for this display but you can work with any home insurer.)