



# **LK Systems Manifold Selection MagiCAD Plugin**

User guide

03/09/2020

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## 1 Chapter 1. General

### 1.1 About this document

This document contains instructions on using *LK Systems Manifolds MagiCAD plugin*. LK Systems Manifolds MagiCAD plug-in allows inserting of LK Systems potable water manifolds, heating/cooling manifolds, floor heating manifolds and cabinets to the MagiCAD drawing.

### 1.2 Installing the software

#### 1.2.1 Required third-party software

LK Systems Manifolds MagiCAD plugin works with the following MagiCAD for AutoCAD versions

- MagiCAD 2020 and AutoCAD 2015–2020
- MagiCAD 2021 and AutoCAD 2017–2021

#### 1.2.2 Installation

1. Download the setup file from MagiCAD portal.  
<https://portal.magicad.com/download/ProductSearch?searchStr=LK&categoryId=3>
2. Install the LK Systems Manifolds MagiCAD plug-in.

Administrator privileges are recommended for installation.

**Note if you have several AutoCAD versions on your workstation:**

Before you run the installation program, start MagiCAD to make sure that *LK Systems Manifolds MagiCAD Plugin* installs on the same AutoCAD platform as MagiCAD.

### 1.3 Starting the program

Before you start using *LK Systems Manifolds MagiCAD plug-in*, (re)-start MagiCAD and open a Heating and piping project.

In most cases the plug-in is automatically loaded and is ready to be used once AutoCAD is started next time after installing the plug-in. Sometimes this is not automatic in AutoCAD and plug-in CUI file needs to be loaded manually.

Run **CUILOAD** command in AutoCAD, and browse the customization file from following directory:

Directory for cui/cuix-file is by default for

**Win7:**            *C:\Users\All Users\LK Systems Manifolds MagiCAD plugin* or

*C:\ProgramData\LK Systems Manifolds MagiCAD plugin*

**Win8/Win8.1:** *C:\ProgramData\LK Systems Manifolds MagiCAD plugin*

The CUILOAD steps are required only if AutoCAD does not load CUI/CUIX automatically.

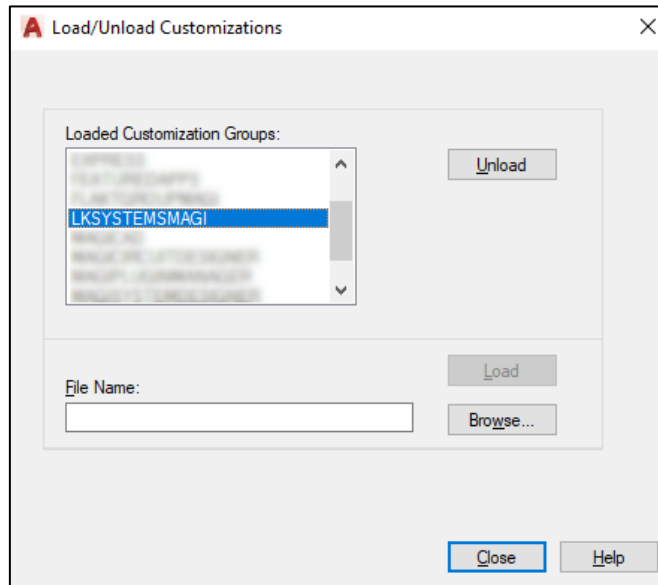


Figure 1 AutoCAD Load/Unload Customizations dialog

When you click *Load*, the *LK Systems Manifolds* ribbon button and toolbar will be loaded.

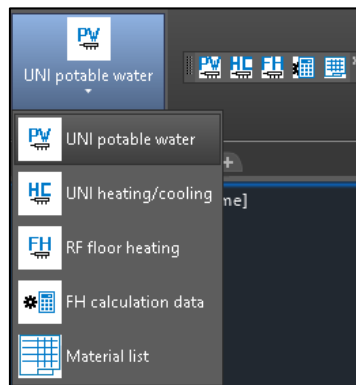
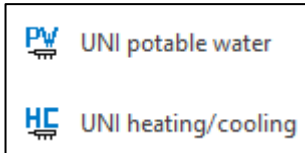


Figure 2 LK Systems Manifolds Ribbon button / Toolbar functions.

## 2 Chapter 2. Functions

### 2.1 LK Systems Manifolds MagiCAD Plugin

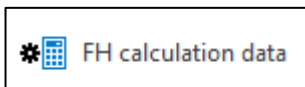
Plug-in contains the following functions:



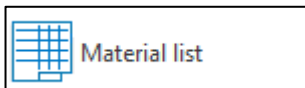
Open the LK Systems Manifolds Potable water or LK Systems Manifolds Heating/Cooling web page and insert new LK Systems UNI manifolds to the MagiCAD drawing.



Open the LK Systems Manifolds Floor heating web page and insert new LK Systems Floor heating manifolds to the MagiCAD drawing.

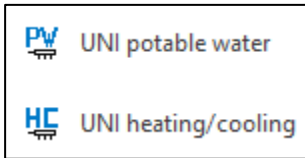


Open the dialog where user may edit the floor heating manifold data.



Copy to clipboard and export the list of materials from the selected LK Systems manifolds.

## 2.2 Insert UNI manifold



Click the UNI Potable water or UNI Heating/Cooling button on AutoCAD LK Systems Manifolds Ribbon/Toolbar.

Follow these steps for Inserting LK Systems UNI manifold to the MagiCAD drawing:

1. Add products to Cold potable water / Supply manifold / Lower manifold and Hot potable water / Return manifold / Upper manifolds by repeating the following steps
  - 1.1. Select appropriate manifold type.
  - 1.2. Select appropriate manifold from the list of products of selected manifold type.
  - 1.3. Specify size and type of outlet connections.
  - 1.4. Press Add button to add manifold to supply or return to manifold. The product on the top of the list will be most left in the manifold.

2. Select feed pipe position and possible ball valve for the manifold.
  - If the feed pipe is not straight and valve is not selected - the angle would be a part of the manifold as on a picture below.
  - If the feed pipe is not straight and a valve selected - the angle on a picture below is just a schematic and angle valve will be inserted.
3. Cabinet and cabinet's frame can be removed if needed.
4. Enter the number of accessories for the manifolds. For the automatically generated accessories the amount is read-only.
5. Select the MagiCAD system for the manifolds.
6. Select pipe series for the pipes if manifold valves are selected
7. Enter the installation height.
8. Enter the user code for MagiCAD.
9. Enter description for MagiCAD and material list.
10. Press Install button to install the manifold or cancel to close the dialog.



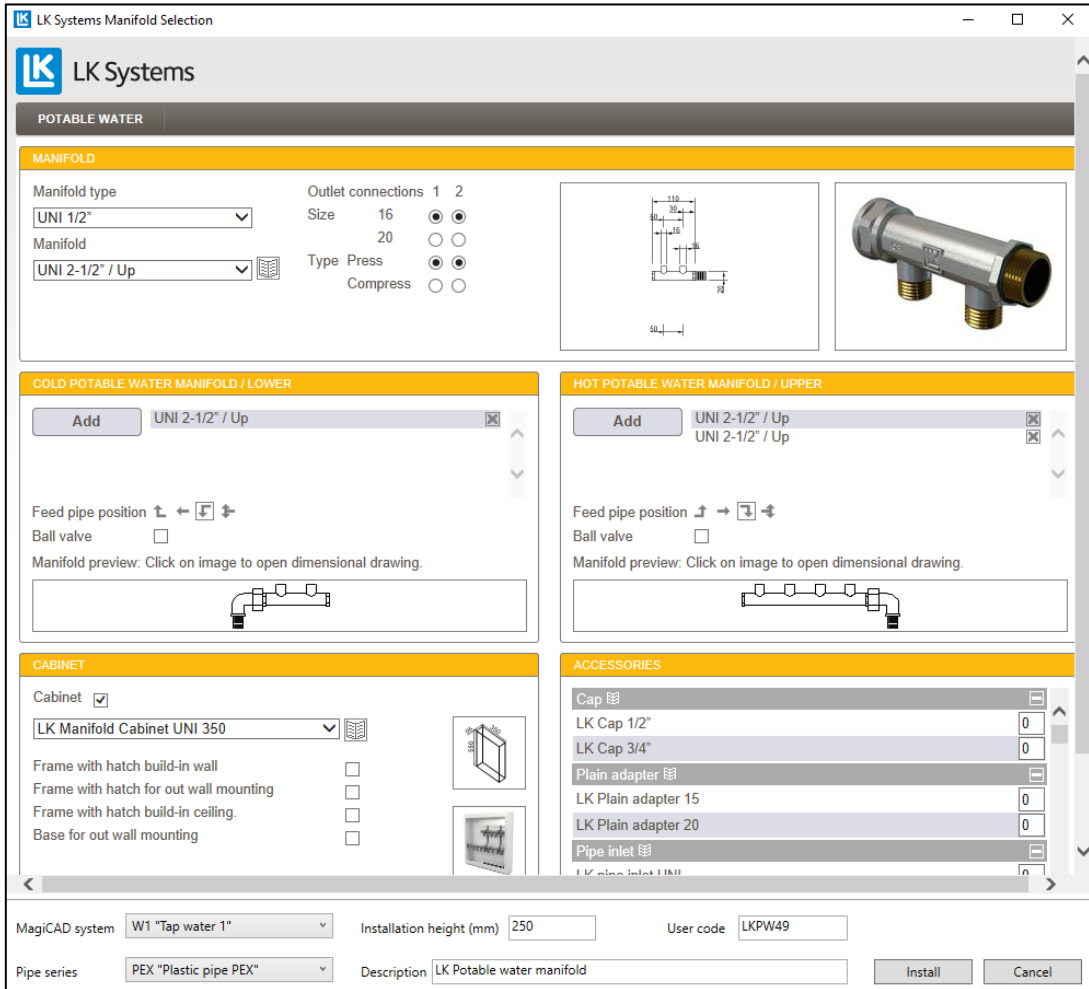


Figure 3 LK Systems plugin potable water manifolds web UI

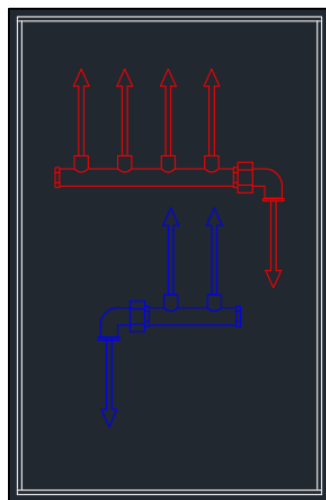


Figure 4 Selected potable water manifold and cabinet in MagiCAD / AutoCAD

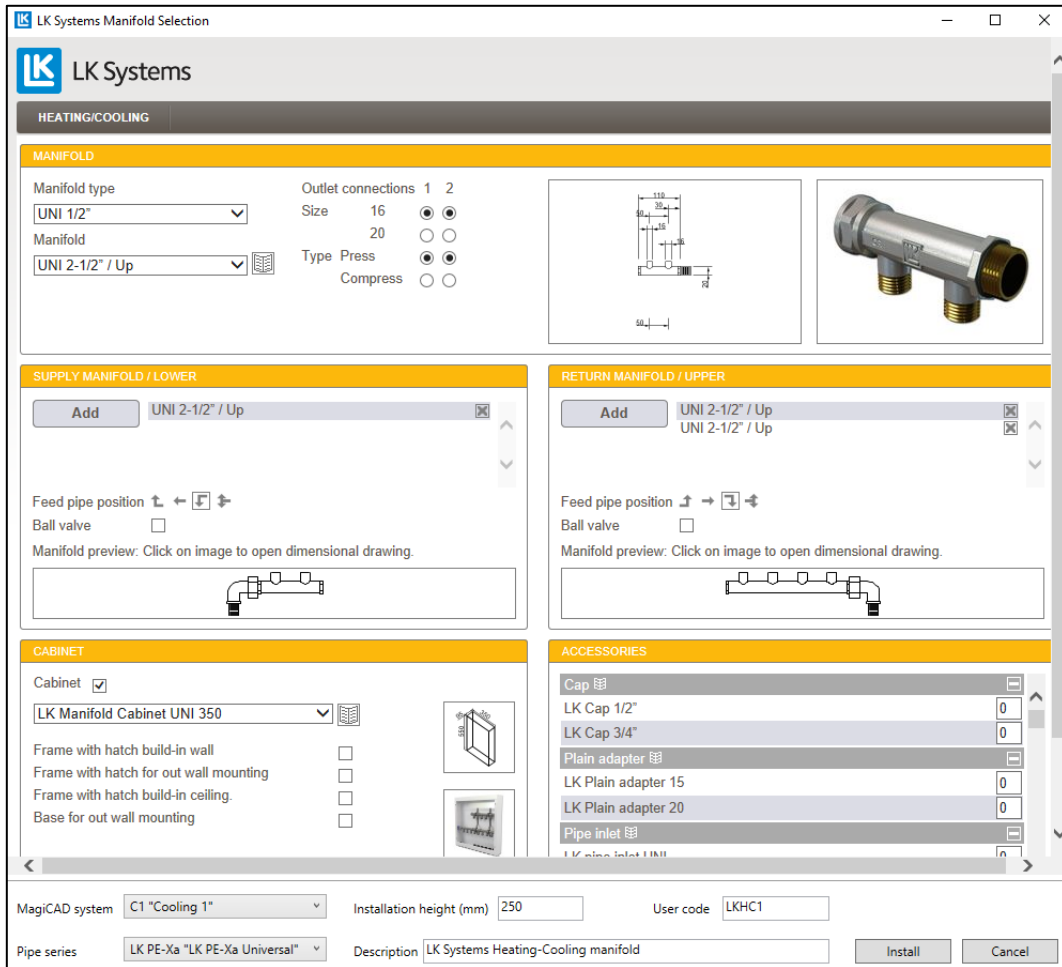


Figure 5 LK Systems heating / cooling manifolds web UI

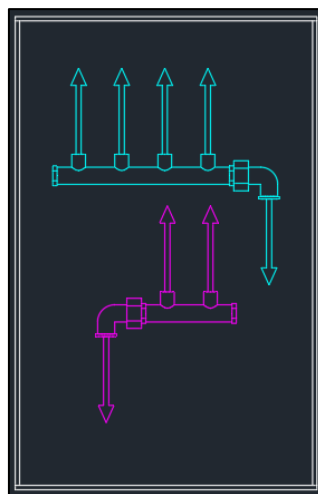
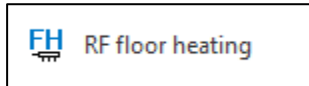


Figure 6 LK Systems heating / cooling manifold and cabinet in AutoCAD / MagiCAD

## 2.3 Insert Floor Heating Manifold



Click the RF Floor heating button on AutoCAD LK Systems Manifolds Ribbon/Toolbar.  
Follow these steps for Inserting LK Systems RF floor heating manifold to the MagiCAD drawing:

1. Select appropriate manifold type
2. Select the size of outlet dimension.
3. Select LK Manifold Shunt VS or Flow or Return ball valves.
4. Select feed pipe position.
5. Cabinet can be removed if necessary.
6. The base for the Cabinet can be selected if the Cabinet is selected.
7. Enter the number of accessories for the manifolds. For the automatically generated accessories the amount is read-only.
8. Select the MagiCAD system for the supply and return sides.
9. Select pipe series for the pipes if manifold valves are selected.
10. Enter the installation height.
11. Enter the user code for MagiCAD.
12. Enter description for MagiCAD and material list.
13. Press Install button to install the manifold or cancel to close the dialog.
14. Input Flow and Pressure drop for manifold. You may also select if manifold will use system temperature difference or input different one.

Note that there are no connections for supply/return floor heating pipes.

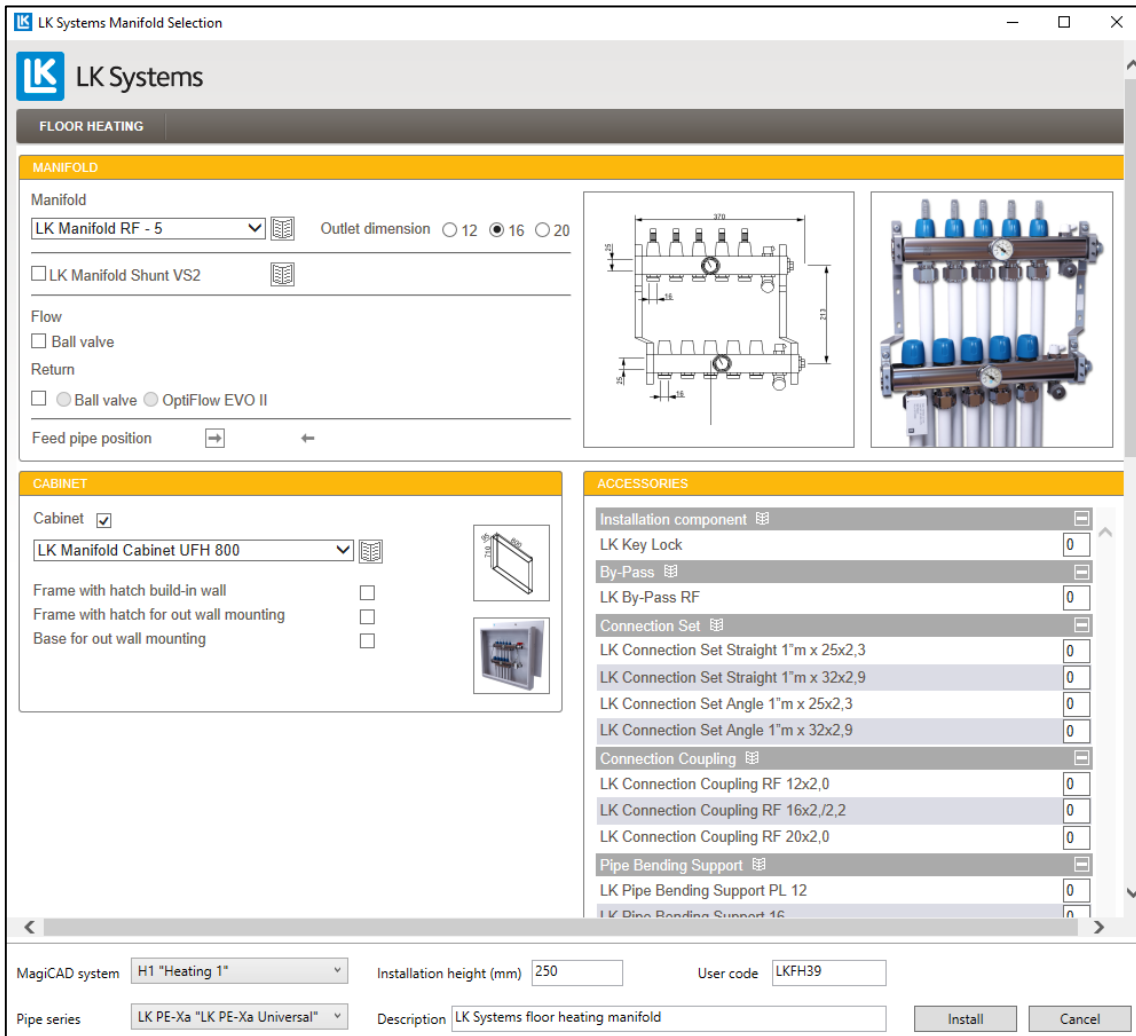


Figure 7 LK Systems floor heating manifolds web UI

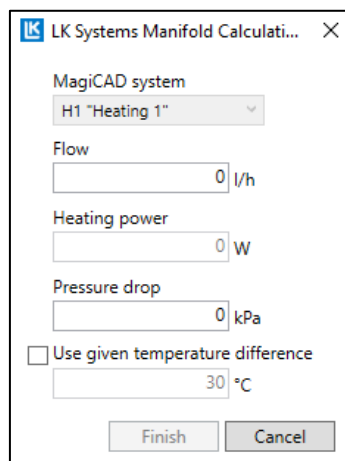


Figure 8 LK Systems plugin dialog for floor heating manifolds

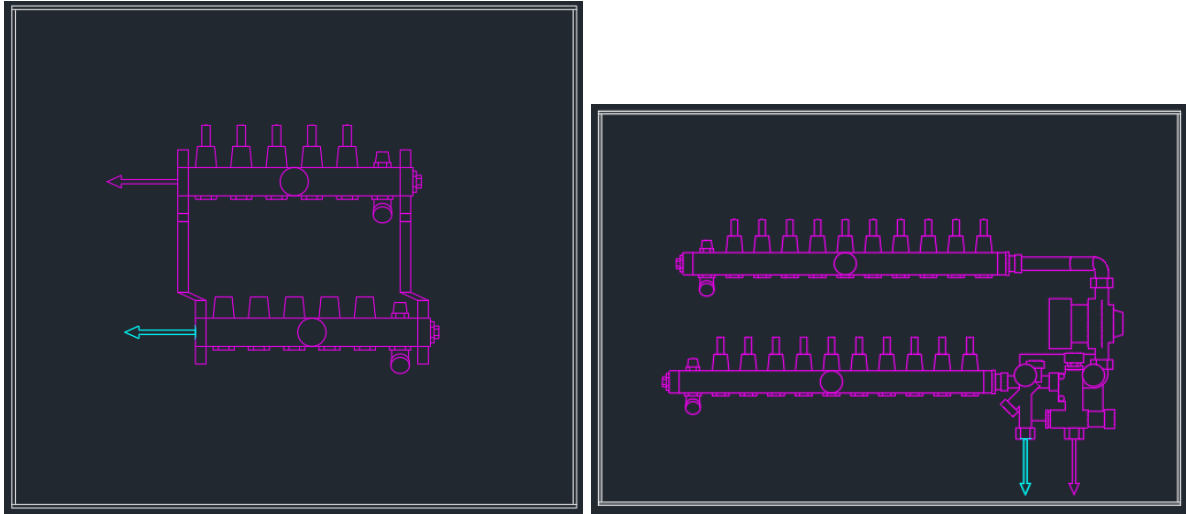
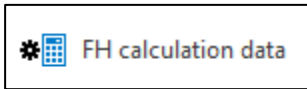
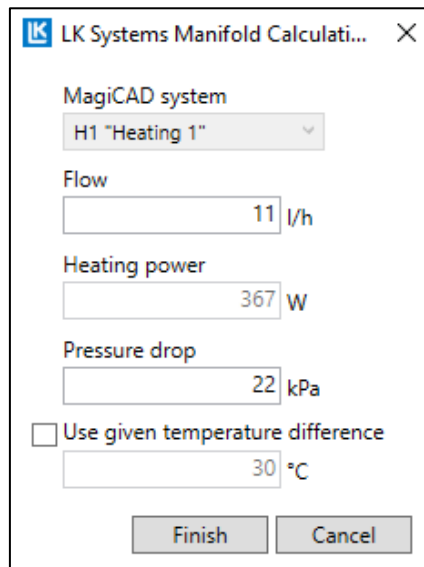


Figure 9 LK Systems RF - 10 and RF - 10 shunt manifolds and cabinets in AutoCAD / MagiCAD

## 2.4 FH Calculation data



Click the FH calculation data button on AutoCAD LK Systems Manifolds Ribbon/Toolbar and select then floor heating manifold in drawing. Easy to check values and change those.

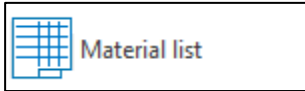


The dialog box, titled "LK Systems Manifold Calculati...", contains the following fields and controls:

- MagiCAD system:** A dropdown menu showing "H1 'Heating 1'".
- Flow:** A text input field containing "11" with the unit "l/h".
- Heating power:** A text input field containing "367" with the unit "W".
- Pressure drop:** A text input field containing "22" with the unit "kPa".
- Use given temperature difference:** An unchecked checkbox.
- Temperature difference:** A text input field containing "30" with the unit "°C".
- Buttons:** "Finish" and "Cancel" buttons at the bottom.

Figure 10 LK Systems floor heating manifolds calculation data dialog

## 2.5 Material list



Click the Material list button on AutoCAD LK Systems Manifolds Ribbon/Toolbar.

Select the manifolds to export to material list.

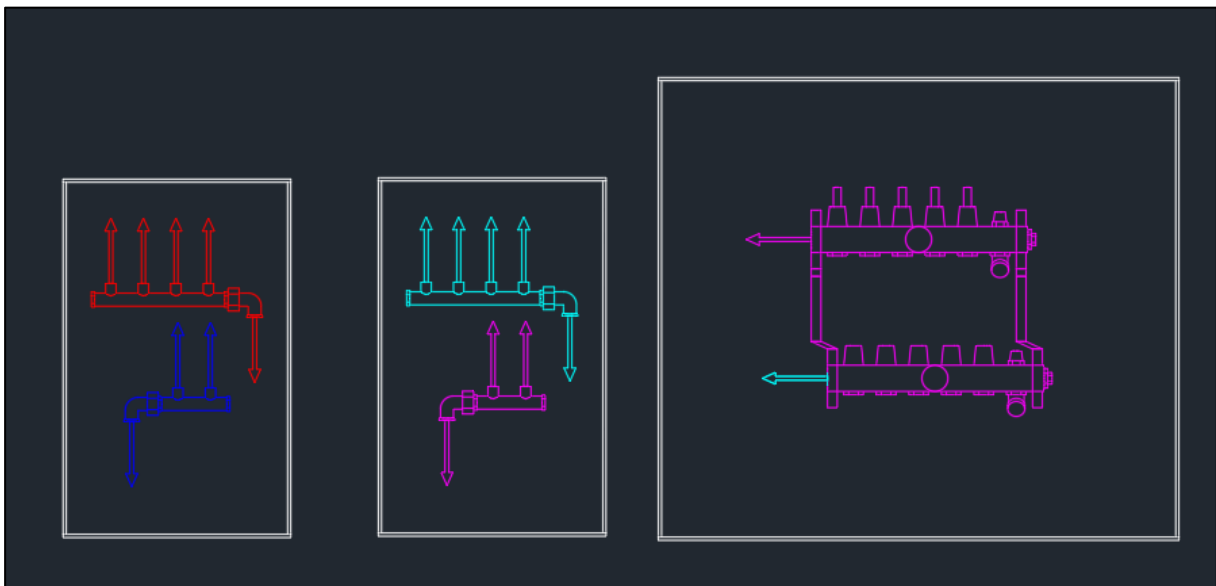


Figure 11 LK Systems manifolds to be selected for list of materials

Press Enter when all the manifolds are selected.

If LK Systems manifolds were found in selected entities, "LK Material list is copied to clipboard" message will appear. If LK Systems Manifolds were not found in selected entities, "No LK manifolds selected" message will appear.

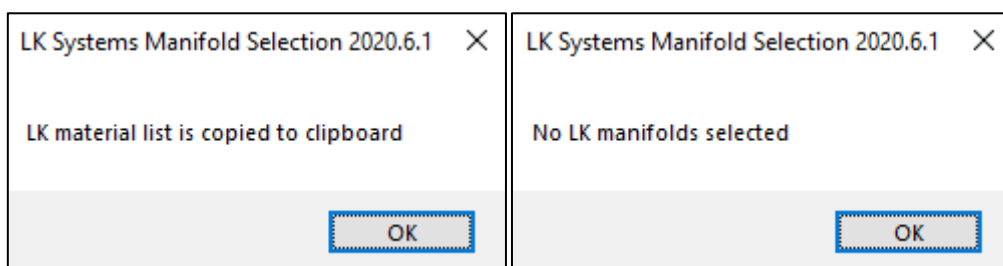


Figure 12 Material list copy dialog and Manifolds not selected dialog

Exported material list can be pasted to Microsoft Excel.

	A	B	C	D	E	F
1	Description	RSK	NRF	Product	Quantity	
2	LK Systems floor heating manifold	241 93 53	8363961	LK Manifold RF - 5	1	
3	LK Systems floor heating manifold	243 46 83	8364801	LK Manifold Cabinet UFH 800	1	
4	LK Systems Heating-Cooling manifold	187 06 88	8364401	UNI 2-1/2"	3	
5	LK Systems Heating-Cooling manifold	188 13 15	5051694	LK Manifold Cabinet UNI 350	1	
6	LK Systems Heating-Cooling manifold	187 66 08	5051218	LK Press Connection 1/2" x AX16	6	
7	LK Systems Heating-Cooling manifold	187 06 86	8364408	LK End cap 3/4"	2	
8	LK Potable water manifold	187 06 88	8364401	UNI 2-1/2"	3	
9	LK Potable water manifold	188 13 15	5051694	LK Manifold Cabinet UNI 350	1	
10	LK Potable water manifold	187 66 08	5051218	LK Press Connection 1/2" x AX16	6	
11	LK Potable water manifold	187 06 86	8364408	LK End cap 3/4"	2	
12						
13						
14						

Figure 13 LK Systems manifold material list pasted in MS Excel