LK Systems Manifold Selection MagiCAD Plugin

User guide

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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 2024 and AutoCAD 2021–2024
- MagiCAD 2025 and AutoCAD 2021–2025

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.



| A Load/Unload Customizations | | × |
|------------------------------|--------------------------|----|
| | | |
| | | |
| Loaded Customization Groups: | | |
| ^ | <u>U</u> nload | |
| LKSYSTEMSMAGI | | |
| | | |
| | | |
| <u>F</u> ile Name: | Load | |
| | Bro <u>w</u> se | |
| | | |
| | | |
| | <u>C</u> lose <u>H</u> e | lp |

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 is 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.



| K Systems Manifold Selection | - 🗆 X |
|--|---|
| K Systems | ^ |
| POTABLE WATER | |
| MANIFOLD | |
| Manifold type Outlet connections 1 2 UNI 1/2" Size 16 ● ● Manifold 20 ○ Type Press ● UNI 2-1/2" / Up Image: Compress ○ | |
| | |
| COLD POTABLE WATER MANIFOLD / LOWER Add UNI 2-1/2" / Up | HOT POTABLE WATER MANIFOLD / UPPER |
| Feed pipe position t + F + Ball valve Manifold preview: Click on image to open dimensional drawing. | Feed pipe position 1 → 3 4 Ball valve □ Manifold preview: Click on image to open dimensional drawing. |
| CABINET | ACCESSORIES |
| Cabinet Cabinet Cabinet UNI 350 Frame with hatch build-in wall Frame with hatch build-in wall | Cap 명 LK Cap 1/2* 0 LK Cap 3/4* 0 Plain adapter 명 |
| Frame with hatch build-in ceiling. Base for out wall mounting | LK Plain adapter 15 0 LK Plain adapter 20 0 Pipe inlet 19 0 |
| MagiCAD system W1 "Tap water 1" VInstallation height (mm) 250 | User code LKPW49 |
| Pipe series PEX "Plastic pipe PEX" Description LK Potable water m | anifold Install Cancel |

Figure 3 LK Systems plugin potable water manifolds web UI



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



| K Systems Manifold Selection | – 🗆 X |
|--|---|
| K Systems | ^ |
| HEATING/COOLING | |
| MANIFOLD Manifold type Outlet connections 1 2 | |
| UNI 1/2" ∨ Size 16 ● Manifold 20 ○ ○ | |
| UNI 2-1/2" / Up VIII Type Press O Compress O | |
| | 904I |
| SUPPLY MANIFOLD / LOWER | RETURN MANIFOLD / UPPER |
| Add UNI 2-1/2" / Up | Add UNI 2-1/2" / Up X UNI 2-1/2" / Up X |
| ~ | × |
| Feed pipe position 1 ← F ∓ Ball valve | Feed pipe position ⊥ → ⊥ ◀ Ball valve |
| Manifold preview: Click on image to open dimensional drawing. | Manifold preview: Click on image to open dimensional drawing. |
| F | |
| CABINET | |
| Cabinet 🖂 | Can 🕅 📃 |
| LK Manifold Cabinet UNI 350 V | LK Cap 1/2" |
| Frame with hatch build-in wall | LK Cap 3/4" 0 |
| Frame with hatch for out wall mounting | Plain adapter ⊛ IK Plain adapter 15 0 |
| Frame with hatch build-in ceiling. | LK Plain adapter 20 0 |
| | Pipe inlet B |
| ManiCAD system C1 "Cooling 1" Y Installation bright (mm) 250 | liter code IKHC1 |
| installadon height (mm) 23 | |
| Pipe series LK PE-Xa "LK PE-Xa Universal" Description LK Systems Heating | ng-Cooling manifold Install Cancel |

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.



| K Systems Manifold Selection | _ | | × |
|--|---|-------------|---|
| IK LK Sustans | | | ^ |
| LK Systems | | | |
| FLOOR HEATING | | | |
| MANIFOLD | | | |
| Manifold | | | 1 |
| LK Manifold RF - 5 V Dutlet dimension 0 12 • 16 0 20 | | | |
| LK Manifold Shunt VS2 | | F PT | |
| Flow | | | |
| Ball valve | | | |
| Return | | | |
| Ball valve OptiFlow EVO II | | 6 | |
| Feed pipe position | Per a | | |
| | | | _ |
| CABINET | ACCESSORIES | | |
| Cabinet 🗸 | Installation component 😫 | | ~ |
| LK Manifold Cabinet UFH 800 🗸 | LK Key Lock | 0 | |
| Frame with hatch build-in wall | By-Pass ⊯ | | |
| Frame with hatch for out wall mounting | LK By-Pass RF | 0 | |
| Base for out wall mounting | Connection Set 😆 | | |
| | LK Connection Set Straight 1"m x 20x2,5 | 0 | |
| | LK Connection Set Angle 1"m x 25x2,3 | 0 | |
| | LK Connection Set Angle 1"m x 20x2,9 | 0 | |
| | Connection Counting 8 | | |
| | LK Connection Coupling RF 12x2.0 | 0 | |
| | LK Connection Coupling RF 16x2./2.2 | 0 | |
| | LK Connection Coupling RF 20x2,0 | 0 | |
| | Pipe Bending Support 🗐 | | |
| | LK Pipe Bending Support PL 12 | 0 | ~ |
| | I & Dina Randing Sunnart 16 | | |
| ManiCAD system H1 "Heating 1" Installation beingst (mm) 250 | User code IKEH39 | | |
| installation neight (mm) | User code | | |
| Pipe series LK PE-Xa "LK PE-Xa Universal" V Description LK Systems floor hea | ting manifold Install | Cancel | |

Figure 7 LK Systems floor heating manifolds web UI

| \rm LK Systems Manifold Calculati 🛛 🗙 |
|---------------------------------------|
| MagiCAD system |
| H1 "Heating 1" |
| Flow |
| 0 l/h |
| Heating power |
| 0 W |
| Pressure drop |
| 0 kPa |
| Use given temperature difference |
| 30 °C |
| Finish Cancel |

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.

| K Systems Manifold Calculati X |
|----------------------------------|
| MagiCAD system |
| H1 "Heating 1" |
| Flow |
| 11 l/h |
| Heating power |
| 367 W |
| Pressure drop |
| 22 kPa |
| Use given temperature difference |
| 30 °C |
| Finish Cancel |

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 ware not found in selected entities, "No LK manifolds selected" message will appear.

| LK Systems Manifold Selection 2020.6.1 $$ $	imes$ | LK Systems Manifold Selection 2020.6.1 $$ $	imes$ |
|---|---|
| LK material list is copied to clipboard | No LK manifolds selected |
| ОК | ОК |

Figure 12 Material list copy dialog and Manifolds not selected dialog



Exported material list can be pasted to Microsoft Excel.

| | A | В | с | D | E | F | |
|----|-------------------------------------|-----------|---------|---------------------------------|----------|---|--|
| 1 | Description | RSK | NRF | Product | Quantity | | |
| 2 | LK Systems floor heating manifold | 241 93 53 | 8363961 | LK Manifold RF - 5 | 1 | | |
| З | 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