



Enclosure design guide for standalone signage products

43UH5N	43UH7N
49UH5N	49UH7N
55UH5N	55UH7N
65UH5N	65UH7N

When installing the product, please first follow the official instructions provided in the Owner's Manual.

This installation guide is for reference only to provide additional information during an enclosure installation.

Some of the contents provided in the guide may differ from the product and may be changed without prior notice if necessary for product improvement.

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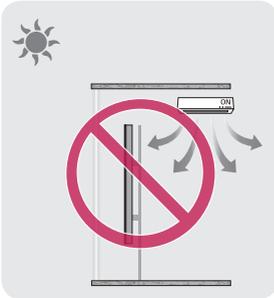
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INSTALLATION INFORMATION

Precautions

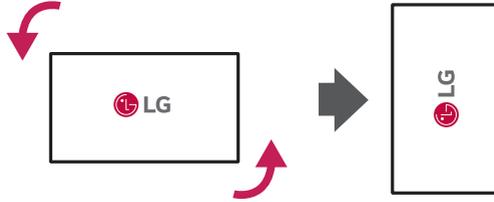
- This guideline is provided for reference purpose to provide additional enclosure installation information for standalone indoor signage.
- This signage product is for indoor use only. Any malfunction or defect due to use in an outdoor environment (direct sunlight, rain, snow, dust etc.) is not covered by the warranty.
- The ambient temperature of the signage product should always be maintained at 0 ~ 40 °C and the same applies when designing the enclosure. If this is not followed, malfunction or failure of the product may occur, which is not covered by the warranty.
- When manufacturing an additional enclosure, it is highly recommended to go through a review process with LG engineers with the drawings. The SI (system integrator) partners must inspect and test certain items to determine enclosure performance after installation is complete.
- Failure to follow the instructions may result in defects. In addition, the LGE is not responsible for any performance degradation or defects caused by lack of material/component quality, installation process and timely maintenance etc. when installing an additional enclosure by the SI partner.



Rotation and Tilting

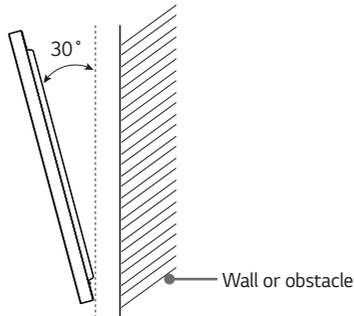
Rotation

To install in a portrait layout, rotate the screen 90 degrees counterclockwise while viewing it from the front.(90 degrees clockwise from the back)



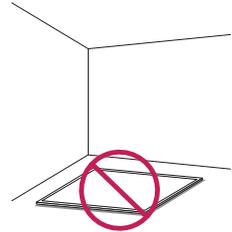
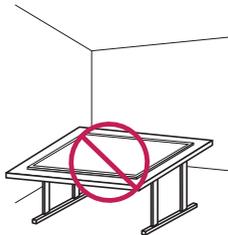
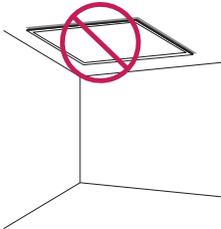
Tilting

To install in a tilted position, do not install it at an angle exceeding 30 degrees.



CAUTION

- Do not install the signage product on the ceiling, table or floor.

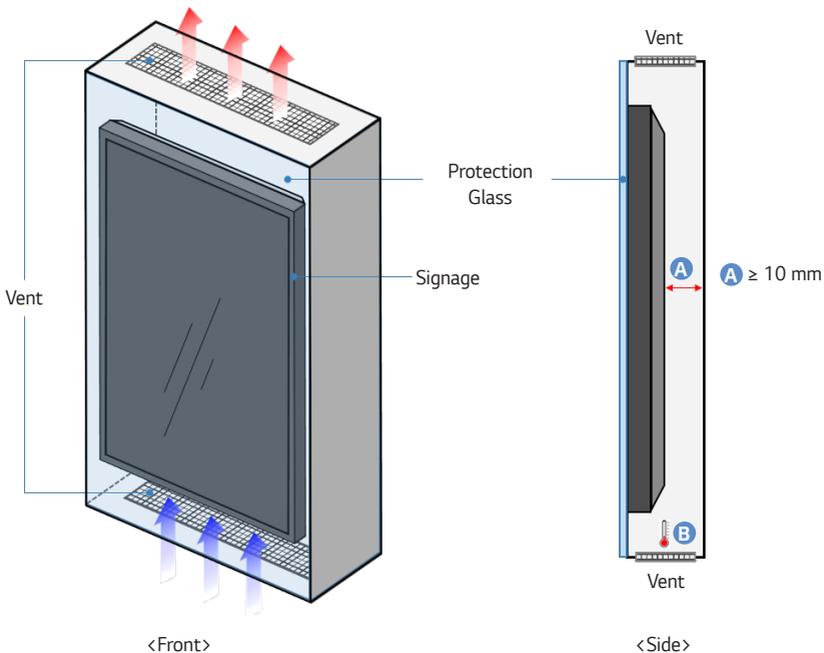


INSTALLATION TYPE

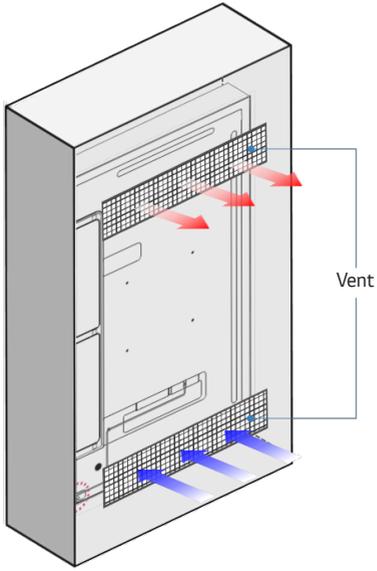
One-sided Enclosure

- When installing one-sided enclosure, check the location of the IR sensor(with illuminance sensor) and Wifi/Bluetooth module of the signage model. If they are not exposed enough to the outside, the sensor may not work or the screen may become dark.
- We do not recommend installing a filter in the enclosure ventilation hole. It may become blocked or affect air circulation when used for a long time.
- The ventilation hole of the signage product must not be blocked by structures inside the enclosure or surrounding structures.
- To maintain proper airflow, the enclosure requires a minimum ventilation hole area and the ambient temperature(**B**) of the signage within the enclosure must be maintained at 0 ~ 40 °C. For this, we recommend reviewing the enclosure manufacturing design drawing with LG engineers.
- The ventilation hole should be at the top/bottom of the enclosure and see the example below.
- The ventilation hole type is recommended to be grid or mesh and for additional information, please refer to the attached page.

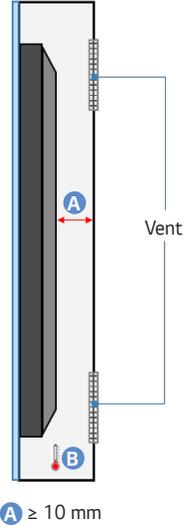
Example 1



Example 2



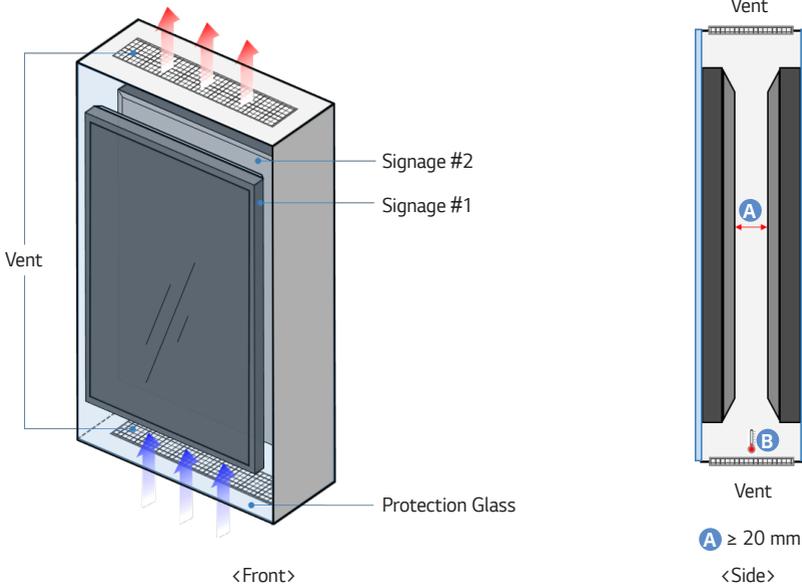
<Front>



<Side>

Double-sided Enclosure

- When installing one-sided enclosure, check the location of the IR sensor(with illuminance sensor) and Wifi/Bluetooth module of the signage model. If they are not exposed enough to the outside, the sensor may not work or the screen may become dark.
- We do not recommend installing a filter in the enclosure ventilation hole. It may become blocked or affect air circulation when used for a long time.
- The ventilation hole of the signage product must not be blocked by structures inside the enclosure or surrounding structures.
- To maintain proper airflow, the enclosure requires a minimum ventilation hole area and a minimum distance between products. At this time, the ambient temperature(**B**) of the signage within the enclosure must be maintained at 0 ~ 40 °C. For this, we recommend reviewing the enclosure manufacturing design drawing with LG engineers.
- The ventilation hole should be at the top/bottom of the enclosure and see the example below.
- The ventilation hole type is recommended to be grid or mesh and for additional information, please refer to the attached page.

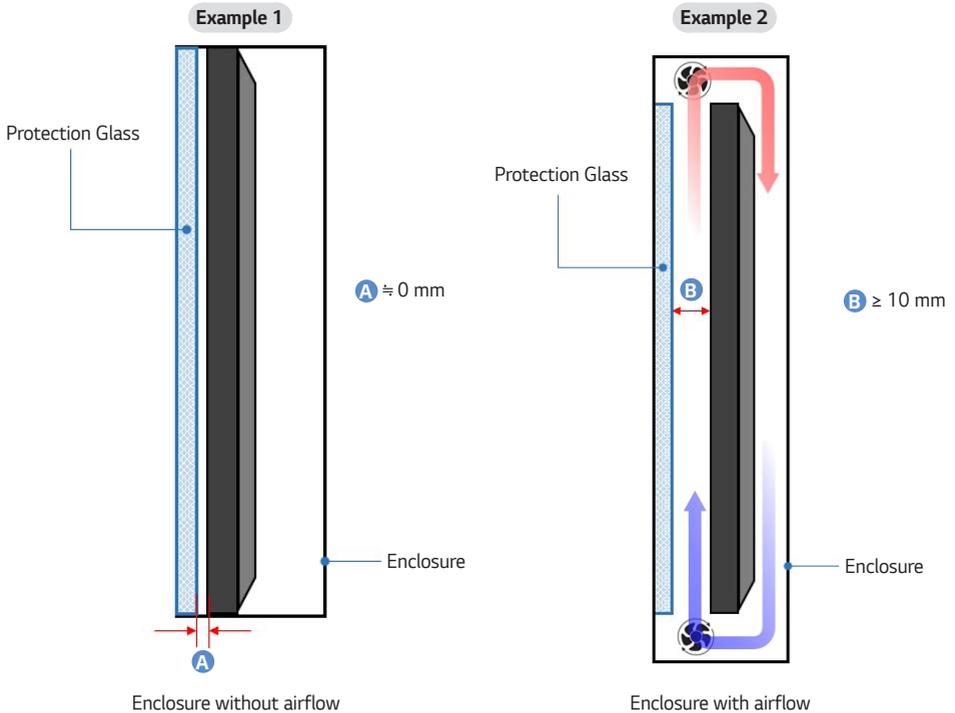


When applying additional protective glass

- Basically, we don't recommend installing additional protective glass on the front of the signage product and you do, we strongly recommend that you go through an LG engineer review process.
- When applying protective glass, check the following.
 - Example 1)
If there is no airflow in front of the panel inside the enclosure, it is recommended to minimize the distance from the front of the panel.
 - Example 2)
If there is airflow through the front of the panel inside the enclosure, check the minimum distance from the front of the panel.

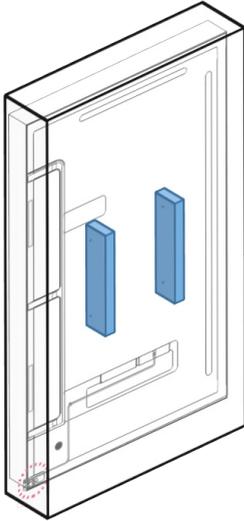
CAUTION

- Since the temperature of the panel increase slightly when applying protective glass, it is necessary to check the temperature after manufacturing the enclosure.

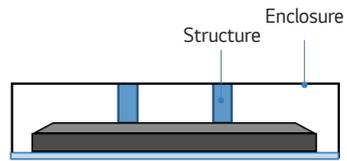


How to install a fixed structure in an enclosure

- When installing fixed structures in an enclosure, proper airflow design is required.
 - Bar type is recommended to minimize contact between the fixed structure and the product.
 - Considering the location and size of the fixed structure, sufficient space must be secured within the enclosure and airflow must not be blocked.



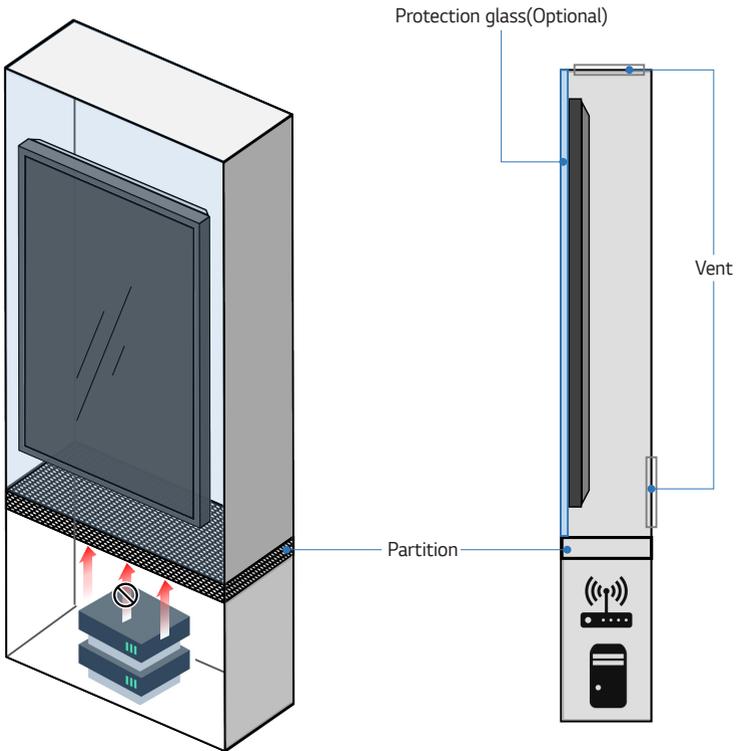
Back view of enclosure unit



Top view of enclosure unit

Installing with an additional heat source equipment in an enclosure

- When connecting and installing an additional external device, make sure that the heat generated by the external device does not leak into the display compartment for minimal heat exchange between display compartment and the external device compartment.
 - Example) when installing partitions, there should be no air flow between the heating device compartment and the display compartment, only cables should be allowed to pass between installed partitions.
- The ambient temperature of the display product must not be affected by external additional devices.



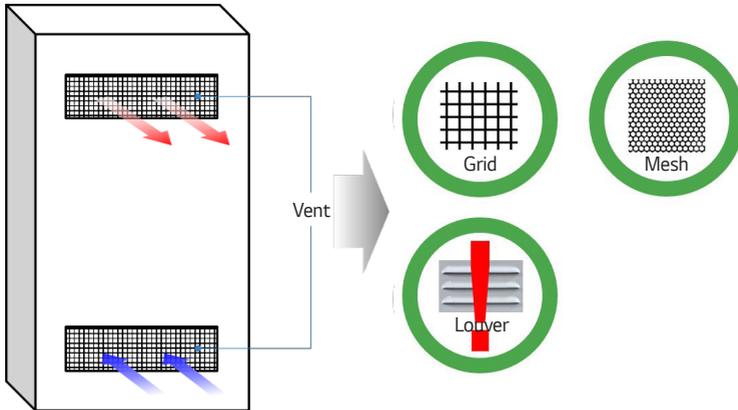
APPENDIX

Ventilation hole type

- Follow the guide below when installing the signage unit inside the enclosure.
- The ventilation opening rate of the air inlet and outlet of the enclosure must be 50 % or more.
- Grid or mesh type is recommended for the air inlet and outlet type.

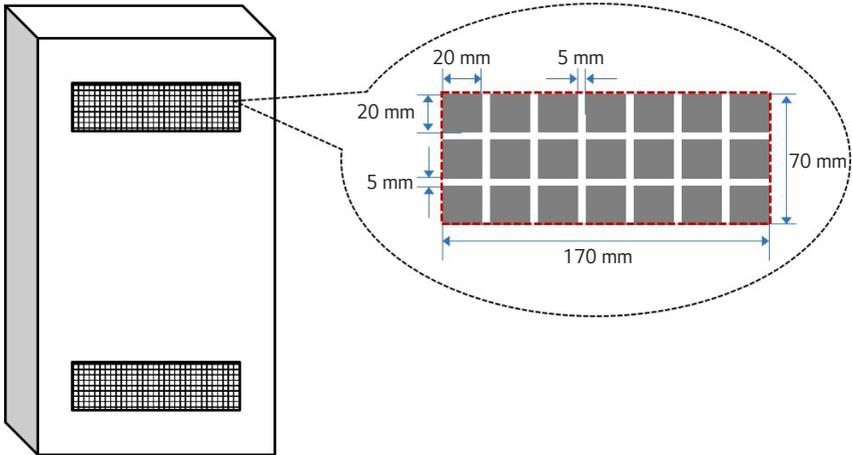
CAUTION

- Louver type is not recommended due to limited ventilation. To apply the louver type, be sure to apply it after reviewing it through the LG engineer.



Ventilation hole size

- When installing as an enclosure, the opening area must be satisfied when designing the air inlet and outlet. If the recommended ventilation area and ratio are not met, malfunction or failure of the product may occur.
- It is recommended to place the air inlet and outlet in the same location as the signage unit.
- When installing both sides, the opening area must be increased by the number of units installed.
- Please refer to the following for how to calculate the ventilation opening rate of the enclosure.



Example

 Total area of the ventilation: $170 \times 70 = 11,900 \text{ mm}^2$

 Total open area of the ventilation holes: $20 \times 20 \times 21 = 8,400 \text{ mm}^2$

► Ventilation opening ratio: $\frac{\text{Total open area of the ventilation holes}}{\text{Total area of the ventilation}} = \frac{8,400 \text{ mm}^2}{11,900 \text{ mm}^2} \times 100 = 71 \%$

■ Revision History

Rev	Contents	Date	Remarks
1.0	Release	24Y. SEP	



The model and serial number of the product are located on the back and on one side of the product. Record them below in case you ever need service.

MODEL _____

SERIAL NO. _____

Temporary noise is normal when powering ON or OFF this device.