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(54) **AIR CONDITIONER OUTDOOR UNIT AND OUTDOOR UNIT DIVISION PLATE OF AIR CONDITIONER OUTDOOR UNIT**

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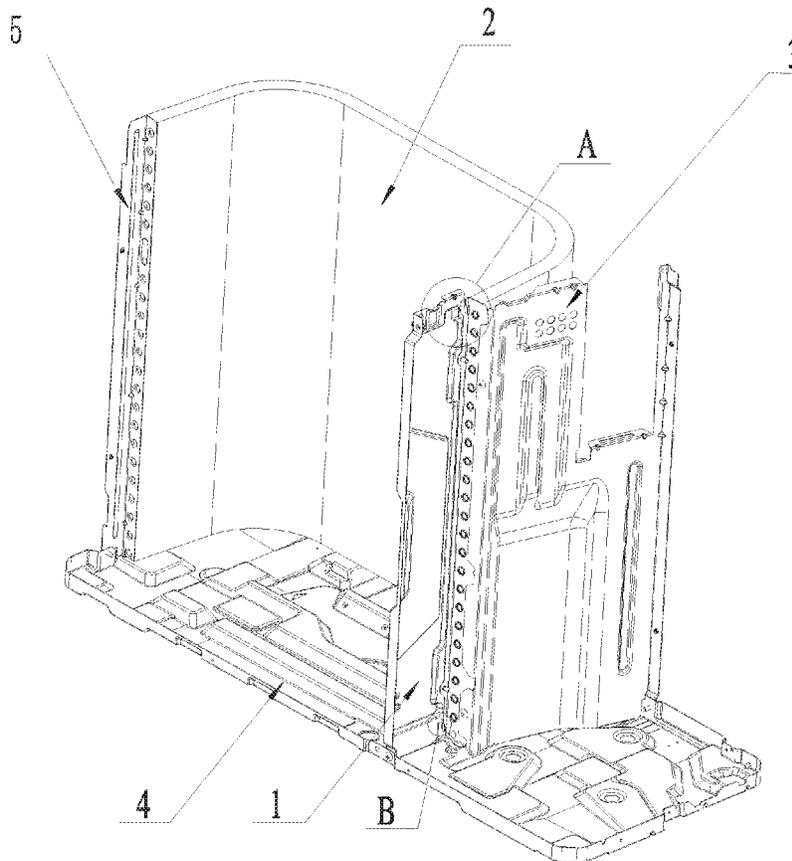
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(57) **ABSTRACT**

Provided are an air conditioner outdoor unit and an outdoor unit division plate (1) of the air conditioner outdoor unit. The outdoor unit division plate (1) of the air conditioner outdoor unit has a first side edge connected with a side folded edge of a C-type condenser (2) near a compressor, and a second side edge aligning with an edge of a base (4) of the air conditioner outdoor unit.



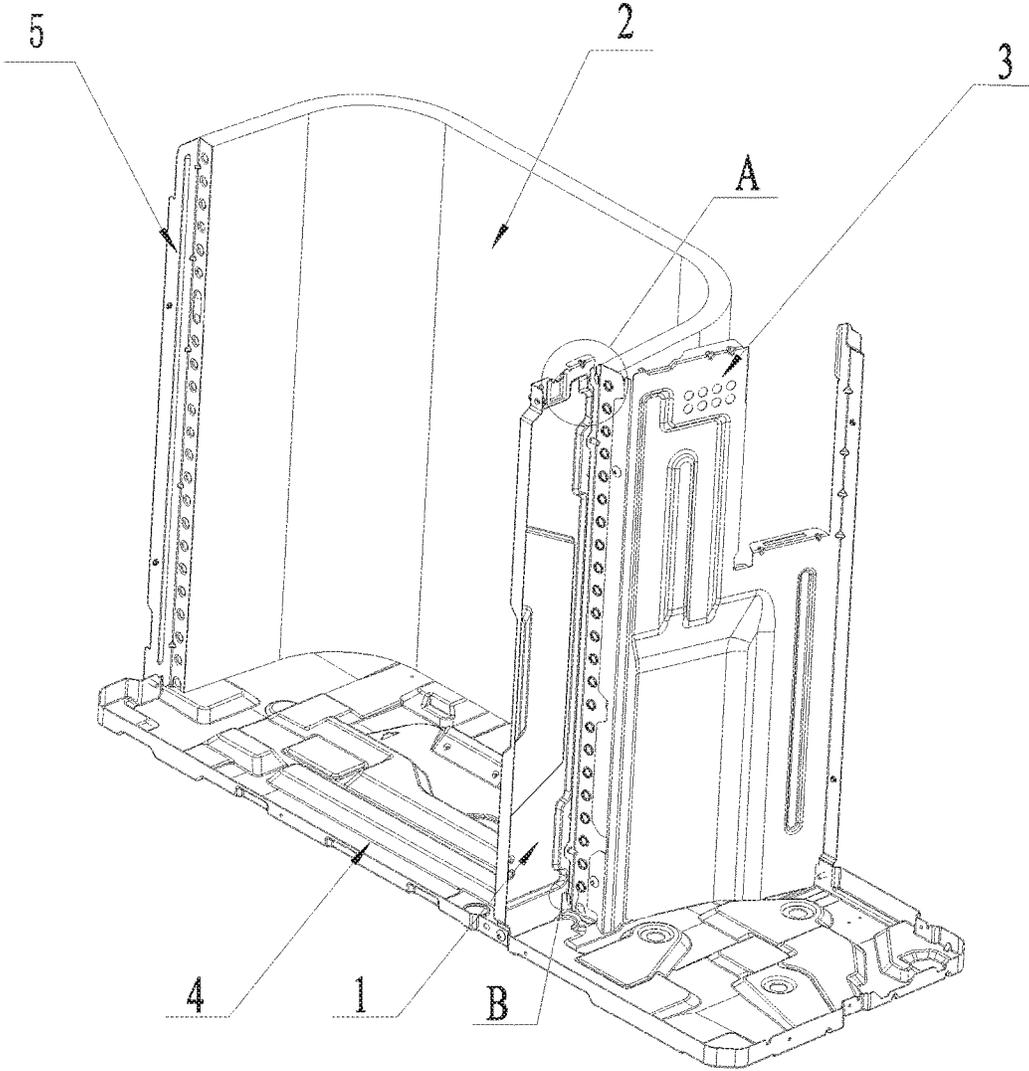


Fig. 1

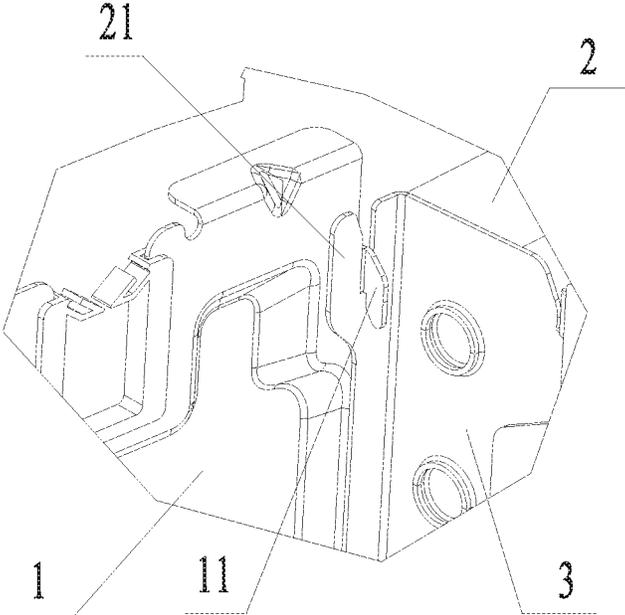


Fig. 2

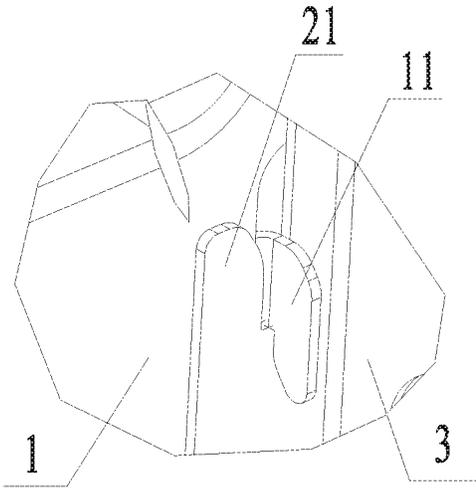


Fig. 3

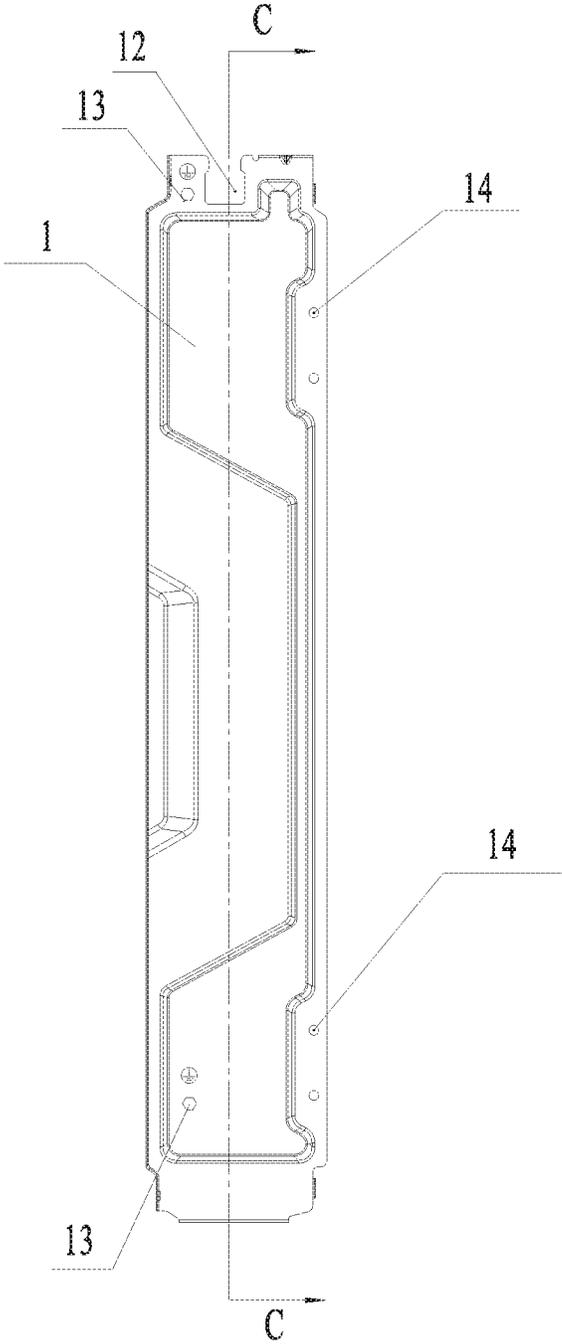


Fig. 4

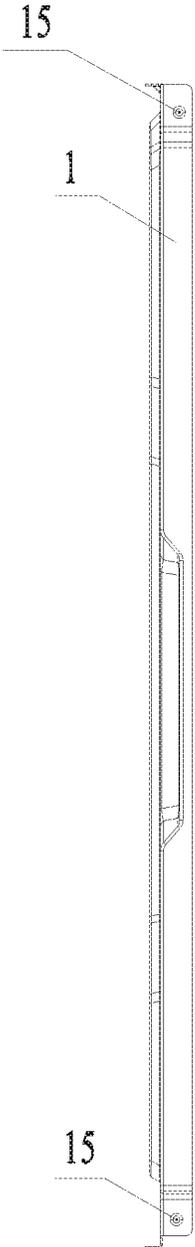


Fig. 5

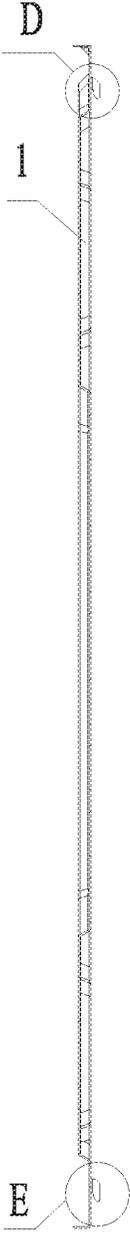


Fig. 6

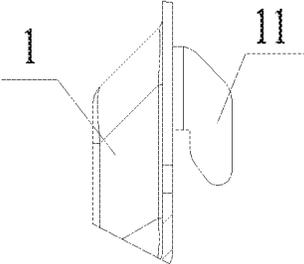


Fig. 7

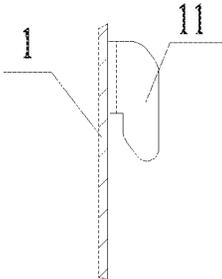


Fig. 8

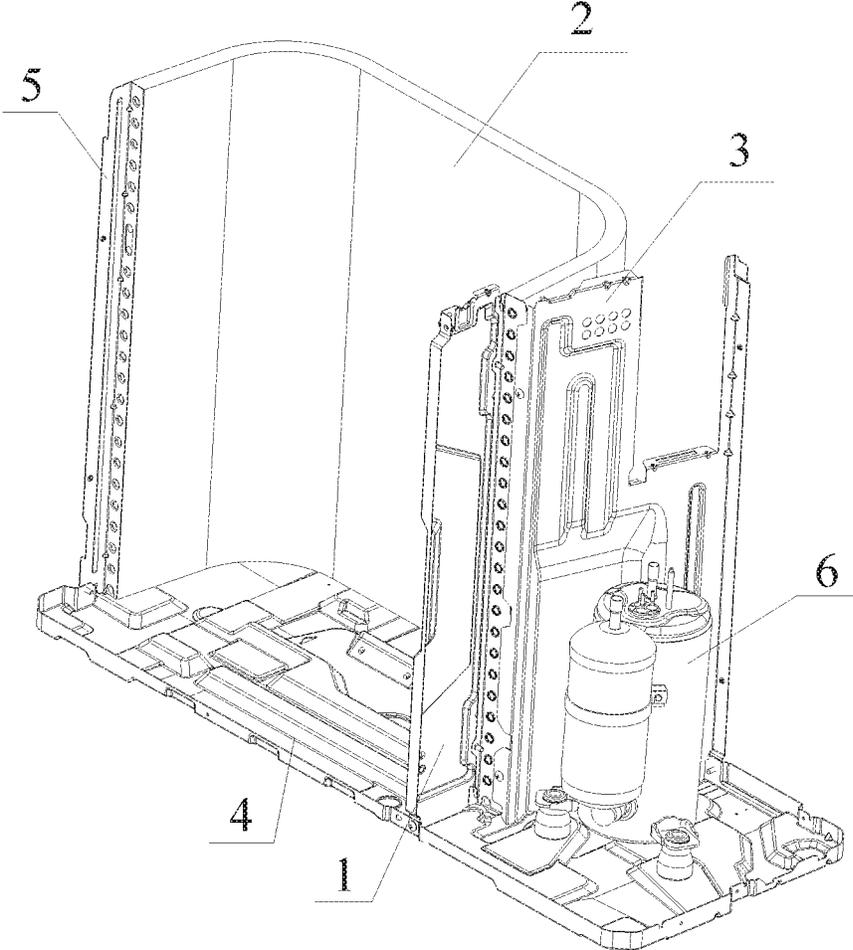


Fig. 9

AIR CONDITIONER OUTDOOR UNIT AND OUTDOOR UNIT DIVISION PLATE OF AIR CONDITIONER OUTDOOR UNIT

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims benefit of China Patent Application No. 201610087652.2, filed on Feb. 16, 2016 and entitled “Air conditioner outdoor unit and outdoor unit division plate of air conditioner outdoor unit”, the contents of which are hereby incorporated by reference in its entirety.

TECHNICAL FIELD

[0002] The present disclosure relates to a technical field of refrigeration devices, and more particularly to an air conditioner outdoor unit and an outdoor unit division plate of the air conditioner outdoor unit.

BACKGROUND

[0003] In related air conditioner outdoor units, L-type condensers are generally used, i.e., there are two heat exchange surfaces. An angle is provided between the heat exchange surfaces. In order to improve the performance of air conditioner outdoor units, more and more C-type condensers are used in outdoor units. The C-type condenser has three heat exchange surfaces with an angle between two adjacent heat exchange surfaces, and a space surrounded by three heat exchange surfaces is provided in a middle of the C-type condenser.

[0004] However, a side folded edge of the C-type condenser near a compressor is limited by a pipeline and cannot extend to an edge of a base. A space where the C-type condenser is located and a compressor chamber where the compressor is located are connected at this position, so that sealing of the compressor chamber cannot be guaranteed.

[0005] Therefore, how to improve a sealing property of a compressor chamber is a problem that needs to be urgently solved by those skilled in the art.

SUMMARY

[0006] In view of this, some embodiments of the present disclosure provide an outdoor unit division plate, intended to improve a sealing property of a compressor chamber. Some embodiments of the present disclosure also provide an air conditioner outdoor unit having the above-mentioned outdoor unit division plate.

[0007] To this end, some embodiments of the present disclosure provide the following technical solutions:

[0008] An outdoor unit division plate is provided. The outdoor unit division plate includes a first side edge used for connecting with a side folded edge of a C-type condenser close to a compressor, and further includes a second side edge used for aligning with an edge of a base of an air conditioner outdoor unit.

[0009] In an exemplary embodiment, the outdoor unit division plate further includes a line passage groove provided at an end portion of the outdoor unit division plate and used for allowing a line to pass through.

[0010] In an exemplary embodiment, the outdoor unit division plate further includes an elastic sealing member provided in the line passage groove and used for wrapping the line.

[0011] In an exemplary embodiment, the second side edge is a bending edge, and a fixing hole connected with a casing of the outdoor unit is provided on the bending edge.

[0012] In an exemplary embodiment, the outdoor unit division plate further includes a ground screw hole for mounting a ground line.

[0013] In an exemplary embodiment, a concave-convex structure is provided on the outdoor unit division plate.

[0014] Some embodiments of the present disclosure also provide an air conditioner outdoor unit, including a C-type condenser, a compressor and a base, and further including an outdoor unit division plate according to the above descriptions.

[0015] A first side edge of the outdoor unit division plate is connected with a first side folded edge of the C-type condenser close to the compressor, and a second side edge of the outdoor unit division plate aligns with an edge of the base.

[0016] In an exemplary embodiment, a mounting hole in screw connection with the first side folded edge is provided on the first side edge of the outdoor unit division plate.

[0017] The outdoor unit division plate is provided on one side of the first side folded edge away from the compressor.

[0018] In an exemplary embodiment, a hook is provided on the first side edge, and a groove matched with the hook is provided on the first side folded edge.

[0019] In an exemplary embodiment, an opening of the groove is a “V”-shaped opening.

[0020] As can be seen from the above-mentioned technical solutions, the first side edge of the outdoor unit division plate provided in some embodiments of the present disclosure is connected with the side folded edge of the C-type condenser near the compressor, and the second side edge aligns with an edge of the base of the air conditioner outdoor unit, so as to make up for the structure that the side folded edge of the C-type condenser cannot extend to the edge of the base. The seal effect of a compressor chamber where the compressor is located is improved, and the waterproof and dustproof effects of the compressor are further improved, so that the use safety is improved, and the noise leakage of the compressor is reduced, thereby reducing noise.

[0021] Some embodiments of the present disclosure also provide an air conditioner outdoor unit having the above-mentioned outdoor unit division plate. Because the above-mentioned outdoor unit division plate has the above-mentioned technical effects, the air conditioner outdoor unit having the above-mentioned outdoor unit division plate should also have the above-mentioned technical effects, which will not be described one by one here.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] In order to more clearly explain the technical solutions in the embodiments of the present disclosure or the conventional art, the drawings to be used in the description of the embodiments or the conventional art will be briefly described below. Obviously, the drawings in the following description are only some embodiments of the present disclosure, and for those skilled in the art, other drawings may also be obtained based on these drawings without any creative work.

[0023] FIG. 1 is a schematic structural view of an air conditioner outdoor unit according to an embodiment of the present disclosure;

[0024] FIG. 2 is a schematic local enlarged view of an A part in FIG. 1;

[0025] FIG. 3 is a schematic local enlarged view of a B part in FIG. 1;

[0026] FIG. 4 is a schematic front view of an outdoor unit division plate according to an embodiment of the present disclosure;

[0027] FIG. 5 is a schematic left view of an outdoor unit division plate according to an embodiment of the present disclosure;

[0028] FIG. 6 is a schematic sectional view of a C-C surface section in FIG. 4;

[0029] FIG. 7 is a schematic local enlarged view of a D part in FIG. 6; and

[0030] FIG. 8 is a schematic local enlarged view of a B part in FIG. 6.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0031] The present disclosure discloses an outdoor unit partition, intended to improve the sealing property of a compressor chamber. The present disclosure also provides an air conditioner outdoor unit having the above-mentioned outdoor unit partition.

[0032] The following clearly and completely describes the technical solutions in the embodiments of the present disclosure with reference to the accompanying drawings in the embodiments of the present disclosure. Apparently, the described embodiments are merely some but not all of the embodiments of the present disclosure. All other embodiments obtained by a person of ordinary skill in the art based on the embodiments of the present disclosure without creative efforts shall fall within the scope of protection of the present disclosure.

[0033] Referring to FIG. 1, FIG. 1 is a schematic structural view of an air conditioner outdoor unit according to an embodiment of the present disclosure.

[0034] The embodiment of the present disclosure provides an outdoor unit division plate. The outdoor unit division plate has a first side edge and a second side edge. The first side edge is used for connecting with a side folded edge of a C-type condenser 2 close to a compressor, and the second side edge is used for aligning with an edge of a base of an air conditioner outdoor unit.

[0035] The first side edge of the outdoor unit partition provided in an exemplary embodiment of the present disclosure is connected with a side folded edge of the C-type condenser 2 near the compressor, and the second side edge aligns with the edge of the base of the air conditioner outdoor unit, so as to make up for the structure that the side folded edge of the C-type condenser 2 cannot extend to an edge of the base. The seal effect of a compressor chamber where the compressor is located is improved, and the waterproof and dustproof effects of the compressor are further improved, so that the use safety is improved, and the noise leakage of the compressor is reduced, thereby reducing noise.

[0036] In an exemplary embodiment, the outdoor unit division plate further includes a line passage groove 12 provided at an end portion of the outdoor unit division plate 1 and configured to avoid a line. By providing the line passage groove 12, line arrangement is facilitated. The line

passage groove may be set as a line passage hole, and the line passes through the line passage hole when not assembled.

[0037] An elastic sealing member can also be assembled in the line passage groove 12. The elastic sealing member wraps the line. An outer wall of the elastic sealing member is matched with an inner wall of the line passage groove 12. The line passage groove 12 can be sealed by means of an elastic deformation of the elastic sealing member, thereby improving the sealing effect.

[0038] As shown in FIG. 5, in order to improve the mounting positioning effect of the outdoor unit division plate, the second side edge is a bending edge, and a fixing hole 15 connected with a casing of the outdoor unit is provided on the bending edge. In a mounting process, the second side edge is in screw connection with the casing of the outdoor unit through the fixing hole 15 provided on the second side edge. The exemplary component of the second side edge in connection with the casing of the outdoor unit can be a panel, a rear panel or a side panel of the casing of the outdoor unit, and only needs to be corresponding to a mounting position of the C-type condenser 2 in the casing of the outdoor unit.

[0039] The outdoor unit division plate further includes a ground screw hole 13 for mounting a ground line. By means of connection between the ground screw hole 13 and the ground line, the use safety is improved.

[0040] As shown in FIG. 4, a concave-convex structure is provided on the outdoor unit division plate. That is, the outdoor unit division plate is not flat-shaped. The outdoor unit division plate is provided with the concave-convex structure, which improves the strength of the outdoor unit division plate.

[0041] The embodiment of the present disclosure also provides an air conditioner outdoor unit, including an outdoor unit division plate 1 according to some embodiments of the above descriptions. Because the above-mentioned outdoor unit division plate 1 has the above-mentioned technical effects, the air conditioner outdoor unit having the above-mentioned outdoor unit division plate should also have the same technical effects, which will not be described one by one here.

[0042] As shown in FIG. 1, in the present embodiment, the air conditioner outdoor unit includes a C-type condenser 2, a compressor (not shown) and a base 4. A first side edge of the outdoor unit division plate 1 is connected with a first side folded edge of the C-type condenser 2 near the compressor, and a second side edge of the outdoor unit division plate 1 aligns with an edge of the base. Wherein, a large division plate 3 is connected with a side folded edge of the C-type condenser 2 close to the compressor, the large division plate 3 away from an opening of the C-type condenser 2, and the outdoor unit division plate 1 is arranged along the opening of the C-type condenser 2. The outdoor unit division plate 1, the large division plate 3 and a casing of the outdoor unit surround a compressor chamber for mounting the compressor. The other side edge of the C-type condenser 2 is provided with a connecting plate 5 in order to improve the mounting stability of the C-type condenser 2.

[0043] As shown in FIG. 2 and FIG. 4, a mounting hole 14 in screw connection with the first side folded edge is provided on the first side edge of the outdoor unit division plate 1, and the outdoor unit division plate 1 is located on one side of the first side folded edge away from the com-

pressor. Through the above arrangement, in a process of mounting the outdoor unit division plate **1** and the C-type condenser **2** oppositely, no operation of mounting screws by the compressor chamber is required, it is only necessary to mount screws in a space of the C-type condenser **2**, and the screws only need to sequentially pass through the outdoor unit division plate **1** and the first side folded edge of the C-type condenser **2**, which facilitates the operation of screw mounting.

[0044] As shown in FIG. 2 and FIG. 3, a hook **11** is provided on the first side edge, and a groove **21** matched with the hook **11** is provided on the first side folded edge. When the outdoor unit division plate **1** and the C-type condenser **2** are mounted oppositely, the hook **11** is first hung in the groove **21**, and then a screw passes through the mounting hole **14** to mount and connect the outdoor unit division plate **1** and the C-type condenser **2**. By providing the hook **11** and the groove **21**, the opposite mounting operation of the outdoor unit division plate **1** and the C-type condenser **2** is further facilitated.

[0045] It is also possible to provide only the structure of the hook **11** and the groove **21** without providing the mounting hole **14**. It is also possible to provide only the mounting hole **14** without providing the hook **11** and the groove **21**, which will not be described in detail herein and are all within the scope of protection.

[0046] As shown in FIG. 6, FIG. 7 and FIG. 8, there are two hooks **11** provided at two ends of the first side edge respectively. Two grooves **21** in one-to-one correspondence to the two hooks **11** are provided on the first side folded edge. By providing the hooks **11** at the two ends of the first side edge respectively, the positioning accuracy and stability of the outdoor unit division plate **1** relative to the C-type condenser **2** are improved.

[0047] In an exemplary embodiment, an opening of the groove **21** is a “V”-shaped opening. A larger end of the opening of the groove **21** is upward, thereby facilitating a connection fit between the hook **11** and the groove **21**.

[0048] Each embodiment in this specification is described in a progressive manner, and each embodiment focuses on the differences from other embodiments. The same or similar parts among the embodiments can be referred to each other.

[0049] The above description of the disclosed embodiments enables those skilled in the art to implement or use the present disclosure. Various modifications to these embodiments will be readily apparent to those skilled in the art, and the general principles defined herein may be implemented in other embodiments without departing from the spirit or scope of the present disclosure. Thus, the present disclosure will not be limited to these embodiments shown herein but will be consistent with the widest scope consistent with the principles and novel features disclosed herein.

What is claimed is:

1. An outdoor unit division plate, comprising a first side edge used for connecting with a side folded edge of a C-type condenser **(2)** close to a compressor, and further comprising a second side edge used for aligning with an edge of a base of an outdoor unit of an air conditioner.

2. The outdoor unit division plate as claimed in claim **1**, further comprising a line passage groove **(12)** provided at an end portion of the outdoor unit division plate **(1)** and used for allowing a line to pass through.

3. The outdoor unit division plate as claimed in claim **2**, further comprising an elastic sealing member provided in the line passage groove **(12)** and used for wrapping the line.

4. The outdoor unit division plate as claimed in claim **1**, wherein the second side edge is a bending edge, and a fixing hole **(15)** connected with a casing of the outdoor unit is provided on the bending edge.

5. The outdoor unit division plate as claimed in claim **1**, further comprising a ground screw hole **(13)** for mounting a ground line.

6. The outdoor unit division plate as claimed in claim **1**, wherein a concave-convex structure is provided on the outdoor unit division plate.

7. An air conditioner outdoor unit, comprising a C-type condenser **(2)**, a compressor **(6)** and a base **(4)**, and further comprising an outdoor unit division plate **(1)** as claimed in claim **1**, wherein

a first side edge of the outdoor unit division plate **(1)** is connected with a first side folded edge of the C-type condenser **(2)** close to the compressor, and a second side edge of the outdoor unit division plate **(1)** aligns with an edge of the base.

8. The air conditioner outdoor unit as claimed in claim **7**, wherein a mounting hole **(14)** in screw connection with the first side folded edge is provided on the first side edge of the outdoor unit division plate **(1)**; and

the outdoor unit division plate **(1)** is provided on one side of the first side folded edge away from the compressor.

9. The air conditioner outdoor unit as claimed in claim **7**, wherein a hook **(11)** is provided on the first side edge, and a groove **(21)** matched with the hook **(11)** is provided on the first side folded edge.

10. The air conditioner outdoor unit as claimed in claim **9**, wherein an opening of the groove **(21)** is a “V”-shaped opening.

11. The outdoor unit division plate as claimed in claim **2**, wherein a concave-convex structure is provided on the outdoor unit division plate.

12. The outdoor unit division plate as claimed in claim **3**, wherein a concave-convex structure is provided on the outdoor unit division plate.

13. The outdoor unit division plate as claimed in claim **4**, wherein a concave-convex structure is provided on the outdoor unit division plate.

14. The outdoor unit division plate as claimed in claim **5**, wherein a concave-convex structure is provided on the outdoor unit division plate.

15. An air conditioner outdoor unit, comprising a C-type condenser **(2)**, a compressor and a base **(4)**, and further comprising an outdoor unit division plate **(1)** as claimed in claim **2**, wherein

a first side edge of the outdoor unit division plate **(1)** is connected with a first side folded edge of the C-type condenser **(2)** close to the compressor, and a second side edge of the outdoor unit division plate **(1)** aligns with an edge of the base.

16. An air conditioner outdoor unit, comprising a C-type condenser **(2)**, a compressor and a base **(4)**, and further comprising an outdoor unit division plate **(1)** as claimed in claim **3**, wherein

a first side edge of the outdoor unit division plate **(1)** is connected with a first side folded edge of the C-type

condenser (2) close to the compressor, and a second side edge of the outdoor unit division plate (1) aligns with an edge of the base.

17. An air conditioner outdoor unit, comprising a C-type condenser (2), a compressor and a base (4), and further comprising an outdoor unit division plate (1) as claimed in claim 4, wherein

a first side edge of the outdoor unit division plate (1) is connected with a first side folded edge of the C-type condenser (2) close to the compressor, and a second side edge of the outdoor unit division plate (1) aligns with an edge of the base.

18. An air conditioner outdoor unit, comprising a C-type condenser (2), a compressor and a base (4), and further comprising an outdoor unit division plate (1) as claimed in claim 5, wherein

a first side edge of the outdoor unit division plate (1) is connected with a first side folded edge of the C-type condenser (2) close to the compressor, and a second side edge of the outdoor unit division plate (1) aligns with an edge of the base.

19. An air conditioner outdoor unit, comprising a C-type condenser (2), a compressor and a base (4), and further comprising an outdoor unit division plate (1) as claimed in claim 6, wherein

a first side edge of the outdoor unit division plate (1) is connected with a first side folded edge of the C-type condenser (2) close to the compressor, and a second side edge of the outdoor unit division plate (1) aligns with an edge of the base.

* * * * *