

PEDESTAL ASSEMBLY, PEDESTAL DEVICE AND LAUNDRY PROCESSING APPARATUS

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is based on and claims the priority of the Chinese patent application No. 202210556574.1, filed on May 17, 2022, and the Chinese patent application No. 202221205231.2, filed on May 17, 2022, the disclosures of which are incorporated herein by reference in their entirety.

TECHNICAL FIELD

[0002] The present application belongs to the cleaning technical field, in particular relates to a pedestal assembly, a pedestal device and a laundry processing apparatus.

BACKGROUND

[0003] In related art, a cleaning robot can be equipped with a base station, a high column is arranged on a rear side of the base station and a dust removal system is provided in the column. Functions such as dust removal, charging, and storage for the cleaning robot are achieved through the base station. However, the base station occupies a large indoor space due to its large volume.

SUMMARY

[0004] In view of above, embodiments of the present application are intended to provide a pedestal assembly, a pedestal device and a laundry processing apparatus which can be integrated with a laundry processor.

- [0005] Embodiments of the present application provide a pedestal assembly for a laundry processing apparatus, including a base and a dust collecting component.
- [0006] The base includes an accommodation space for accommodating a cleaning robot. The accommodation space is provided with a dust collecting port.
- [0007] The dust collecting component includes a dust collecting container communicated with the dust collecting port. The dust collecting container is arranged on any one of lateral sides of the accommodation space.
- [0008] In some implementations, the accommodation space is defined by an accommodation cavity, the dust collecting container is arranged outside the accommodation cavity, and the dust collecting port is arranged on a sidewall of the accommodation cavity.
- [0009] In some implementations, a height of the dust collecting container is less than or equal to a height of a top surface of the base.
- [0010] In some implementations, the dust collecting container includes a dust collecting housing, and a filter element being arranged in the dust collecting housing in a drawable manner. The filter element is configured to filter and accommodate impurities in a gas flow. A drawing port for drawing the filter element is provided on a front side of the dust collecting housing.
- [0011] In some implementations, the dust collecting component includes a dust collecting tube, and the dust collecting port is communicated with an internal space of the dust collecting container by the dust collecting tube.
- [0012] In some implementations, the dust collecting container is positioned at a right side of the accommodation cavity, and is spaced apart from the accommodation cavity, and the dust collecting tube is arranged in a spacing between the dust collecting container and the accommodation cavity.
- [0013] In some implementations, the dust collecting component includes a dust collecting motor disposed behind the dust collecting container.

- [0014] In some implementations, an air return port is arranged on a sidewall of the accommodation cavity, and the dust collecting component includes an air return tube, wherein the air return port is communicated with an air outlet of the dust collecting motor through the air return tube.
- [0015] In some implementations, the dust collecting container is arranged on a right side of the base, the air return port is arranged at a left-rear corner of the sidewall of the accommodation cavity, and the air return tube bypasses the base from a rear of the base and is connected to the air return port.
- [0016] In some implementations, the pedestal assembly includes a drying component. The drying component includes a fan and a drying channel. The fan is arranged horizontally on the top surface of the base. An air inlet is provided on a rear sidewall of the accommodation cavity. The air inlet is communicated with an air outlet on a rear end of the fan through the drying channel.
- [0017] In some implementations, charging terminals are provided on the rear sidewall of the accommodation cavity, and there are two drying channels. The two drying channels are arranged side by side in a left-right direction. The charging terminals are located between the two drying channels.
- [0018] In some implementations, a cleaning tank is provided in a bottom wall of the accommodation space. The pedestal assembly includes a water inlet component including: a water inlet passage for supplying water to the cleaning tank, and a water inlet valve and a pressure relief container which are disposed on the water inlet passage. The water inlet valve is positioned upstream of the pressure relief container.
- [0019] In some implementations, the pedestal assembly includes a detergent dispensing device disposed at a top of the base. A liquid outlet of the detergent dispensing device is communicated with the pressure relief container so as to pump detergent into the pressure relief container.
- [0020] In some implementations, the water inlet valve and the pressure relief container are arranged at the top of the base on a left-rear side of the base, and the water inlet valve, the pressure relief container and the detergent dispensing device are arranged

successively in a line from rear to front.

[0021] In some implementations, a cleaning tank is provided in a bottom wall of the accommodation space. The pedestal assembly includes a water drainage component which includes a pump body and a water drainage channel communicated with the cleaning tank, and a water inlet end of the water drainage channel extends into the cleaning tank from top to bottom and sucks liquid in the cleaning tank upwards under an effect of the pump body.

[0022] In some implementations, the pump body is a water drainage pump, the water drainage component includes a water storage container disposed upstream of the water drainage pump. The pedestal assembly includes a water inlet component. The water inlet component includes a branch passage and a water inlet passage for supplying water to the cleaning tank. The water inlet passage is communicated with the water storage container through the branch passage.

[0023] In some implementations, the water drainage component is positioned on a right-rear side of the base, the water drainage pump is positioned on a right side of the water storage container, and a water outlet of the water drainage pump is oriented towards a rear of the base.

[0024] Embodiments of the present application provide a pedestal device including a support frame for supporting a laundry processor and a pedestal assembly according to any one of the embodiments in the present application. The pedestal assembly is disposed within the support frame.

[0025] Embodiments of the present application provide a laundry processing apparatus including a laundry processor and a pedestal assembly according to any one of the embodiments in the present application.

[0026] A lower part of the laundry processor includes a mounting cavity in which the pedestal assembly is disposed.

[0027] Embodiments of the present application provide a laundry processing apparatus including a laundry processor and a pedestal device according to any one of the

embodiments in the present application.

[0028] The pedestal device is arranged below the laundry processor, and the laundry processor is supported on the support frame.

[0029] According to the pedestal assembly in the embodiments of the present application, the dust collecting container and the accommodation space are arranged side by side in a lateral direction, that is, the dust collecting container is not located above the base, which is thus beneficial to reduce a size of the pedestal assembly in the up-down direction, allowing a flat design of the pedestal assembly, so as to facilitate the integration of the pedestal assembly under the laundry processor.

[0030] In the related art, the dust collecting container is located above the accommodation space. During a dust discharging process, large impurities in an area cannot be sucked upward into the dust collecting container due to their high gravities, resulting in that the dust discharging is incomplete and the impurities remain in the dust collecting tube, which may further lead to a blockage of the dust collecting tube.

[0031] In the embodiments of the present application, since that the dust collecting container and the accommodation space are arranged side by side in the lateral direction, the impurities move substantially horizontally from the dust collecting port into the dust collecting container during a dust discharging process, without needing to overcome the gravities of the impurities through the negative pressure, therefore the impurities can smoothly enter into the dust collecting container and the dust discharging is more complete.

BRIEF DESCRIPTION OF THE DRAWINGS

[0032] FIG. 1 is a schematic view of a laundry processing apparatus according to an embodiment of the present application;

[0033] FIG. 2 is a schematic view of a cooperation between a pedestal device according to an embodiment of the present application and a cleaning robot;

- [0034] FIG. 3 is a schematic view of the structure shown in FIG. 2 from another perspective;
- [0035] FIG. 4 is a top view of FIG. 3;
- [0036] FIG. 5 is a schematic view of a pedestal assembly according to an embodiment of the present application;
- [0037] FIG. 6 is a schematic view of the structure shown in FIG. 5 from another perspective;
- [0038] FIG. 7 is a schematic view of the structure shown in FIG. 5 in which an air return tube and a drying component are omitted;
- [0039] FIG. 8 is a schematic view of the structure shown in FIG. 7 from another perspective;
- [0040] FIG. 9 is a schematic view of a cooperation between the structure shown in FIG. 8 and a drying component;
- [0041] FIG. 10 is schematic view of the structure shown in FIG. 5 from another perspective, in which a base, and the drying component and a detergent dispensing component arranged on the base are omitted;
- [0042] FIG. 11 is a simplified schematic view of a pedestal assembly according to an embodiment of the present application; and
- [0043] FIG. 12 is a simplified schematic view of a pedestal assembly according to another embodiment of the present application.

DETAILED DESCRIPTION

- [0044] Implementations of the present application are further described in detail below with reference to the drawings and embodiments. The following embodiments are used to illustrate the present application, but should not be used to limit the scope of the

present application.

[0045] In the description of embodiments of the present application, the terms “first”, “second”, “third” are merely used for the purpose of description, and should not be interpreted to indicate or imply relative importance.

[0046] Embodiments of the present application provide a pedestal assembly 100 for a laundry processing apparatus.

[0047] Embodiments of the present application provide a laundry processing apparatus, with reference to FIG. 1, including a laundry processor 4000 and a pedestal assembly 100 of any one of embodiments of the present application. The pedestal assembly 100 is arranged below the laundry processor 4000.

[0048] The pedestal assembly 100 includes a base 1 including an accommodation space for accommodating a cleaning robot 3000.

[0049] The cleaning robot 3000 can be configured to automatically clean dust, hair and the like on the floor. In a case that a mop is provided on the cleaning robot 3000, the cleaning robot 3000 can mop the floor after cleaning the floor. Functions of the pedestal assembly 100 in embodiments of the present application include, but are not limited to, charging, removing dust, cleaning, drying and disinfection of the cleaning robot 3000.

[0050] As an example, the cleaning robot 3000 includes a first communication module, and the pedestal assembly 100 includes a second communication module. The cleaning robot 3000 and the pedestal assembly 100 can be communicated with each other through the first communication module and the second communication module. For example, when the cleaning robot 3000 needs removing dust or charging, a wireless communication can be performed between the first communication module and the second communication module, such that the cleaning robot 3000 can return to the accommodation cavity 11 by itself. As an example, the first communication module and the second communication module may include, but are not limited to, one or more of following wireless data communication modules: a Bluetooth module, a Wireless Fidelity (WIFI) module, a 4th Generation /5th Generation (4G/5G) communication module, or an infrared module, etc.

[0051] The laundry processor 4000 can include many forms, such as a washing machine, a dehydrator, a dryer, a washer-dryer, etc. A specific application scenario of the laundry processor 4000 does not cause limitation to the structure of the pedestal assembly 100 of the present application.

[0052] In the embodiments of the present application, the pedestal assembly 100 is integrated under the laundry processor 4000. On the one hand, the space under the laundry processor 4000 can be used to accommodate the cleaning robot 3000, so as to reduce the indoor space occupied by the cleaning robot 3000; on the other hand, the laundry processor 4000 is positioned near a faucet and a floor drain, to facilitate water intake and water drainage. Thus, the water intake and drainage of the pedestal assembly can be accomplished conveniently by means of the existing water supplying and water draining of the laundry processor, so as to solve the problem of water supplying and draining paths of the pedestal assembly.

[0053] There is no limitation to the specific manner in which the pedestal assembly 100 is integrated under the laundry processor 4000.

[0054] For example, in some embodiments, a mounting cavity, in which the pedestal assembly is disposed, is provided in a lower portion of the laundry processor. In this embodiment, the mounting cavity is provided in the original laundry processor 4000 for installing the pedestal assembly 100.

[0055] In other embodiments, with reference to FIG. 1, the laundry processing apparatus includes a support frame 200 for supporting the laundry processor 4000. An installation space 200a, in which the pedestal assembly 100 is disposed, is defined within the support frame 200. The support frame 200 and the pedestal assembly 100 form the pedestal device 1000. The laundry processor 4000 is supported on the support frame 200. The pedestal device 1000 and the laundry processor 4000 can be used separately or in combination.

[0056] Support frame 200 needs to bear a total weight of the laundry processor 4000, and thus needs to have enough strength.

[0057] In some embodiments, the laundry processor 4000 and the support frame 200

can be joined in a non-detachable manner, such as welding, riveting, etc.

[0058] In other embodiments, the laundry processor 4000 can be detachably mounted on the support frame 200.

[0059] In this embodiment, during transportation, the laundry processor 4000 and the pedestal device 1000 can be packed separately and transported separately to reduce a packaging size. The pedestal device 1000 can be used as an optional accessory, which can be assembled or not assembled on the laundry processor 4000 according to the user's choice, and the pedestal device 1000 itself does not affect the independent use of the laundry processor 4000, thus improving the choice flexibility for the user.

[0060] As an example, with reference to FIG. 6, the accommodation space is provided with a dust collecting port 12 for docking with a dust discharging port of a dust storage space of the cleaning robot 3000. Specifically, when the cleaning robot 3000 returns to the accommodation cavity 11, the dust collecting port 12 docks with the dust discharging port of the dust storage space of the cleaning robot 3000, such that the dust collecting port 12 is communicated with the dust storage space.

[0061] The pedestal assembly 100 includes a dust collecting component 2 (see FIG. 6). With reference to FIGS. 5, 8, 9 and 10, the dust collecting component 2 includes a dust collecting motor 23 and a dust collecting container 22. The dust collecting container 22 is arranged on any one of lateral sides of the accommodation space and communicates with the dust collecting port 12. The dust collecting motor 23 is configured to generate a negative pressure in an internal space of the dust collecting container 22.

[0062] When the dust collecting motor 23 is operated, a negative pressure is generated in the internal space of the dust collecting container 22, such that a negative pressure environment is also formed in the dust collecting port 12. Therefore, impurities within the dust storage space of the cleaning robot 3000 are sucked into the dust collecting container 22 under an effect of negative pressure, so as to realize automatic dust discharging of the cleaning robot 3000, without the need for users to manually remove dust from the cleaning robot 3000.

[0063] It should be noted that lateral side refers to any one of sides in a plane

perpendicular to the up-down direction, for example, a left side, a right side, a front side, a back side, etc.

[0064] According to the pedestal assembly 100 in the embodiments of the present application, the dust collecting container 22 and the accommodation space are arranged side by side in a lateral direction, that is, the dust collecting container 22 is not located above the base 1, which is beneficial to reduce a size of the pedestal assembly 100 in the up-down direction, allowing a flat design of the pedestal assembly 100, so as to facilitate the integration of the pedestal assembly 100 under the laundry processor 4000.

[0065] In the related art, the dust collecting container 22 is located above the accommodation space. During a dust discharging process, large impurities in an area cannot be sucked upward into the dust collecting container 22 due to their high gravities, resulting in incomplete dust removal and residual impurities in the pipeline, which may further lead to a blockage of the pipeline.

[0066] However, in the embodiments of the present application, since the dust collecting container 22 and the accommodation space are arranged side by side in the lateral direction, the impurities move substantially horizontally from the dust collecting port 12 to the dust collecting container 22 during the dust discharging process, without overcoming the gravities of the impurities through the negative pressure, therefore the impurities can smoothly enter the dust collecting container 22 and the dust discharging is more complete.

[0067] It should be noted that in the embodiments of the present application, the accommodation space refers to an area in the base 1 into which the cleaning robot will enter.

[0068] As an example, the accommodation space is defined by an accommodation cavity 11, the dust collecting container is arranged outside the accommodation cavity 11, and the dust collecting port 12 is arranged on a sidewall of the accommodation cavity 11. In this way, the cleaning robot and the dust collecting container are completely isolated from each other, so as to prevent the dust collecting container from scratching the cleaning robot, and to facilitate configuring a shape of the accommodation cavity 11 to

match an appearance profile of the cleaning robot.

[0069] As an example, a height of the dust collecting container 22 is less than or equal to a height of a top of the base 1. That is, the dust collecting container 22 would not additionally increase a height of the pedestal assembly 100.

[0070] In some embodiments, the dust collecting container 22 docks with the dust collecting port 12 directly, that is, the dust collecting container and the dust collecting port are jointed directly without pipeline provided therebetween.

[0071] In other embodiments, the dust collecting component 2 includes a dust collecting tube 21, by which the dust collecting port 12 is communicated with an internal space of the dust collecting container 22. In this embodiment, an arranging position of the dust collecting container 22 is adapted through a flexible bending of the dust collecting tube 21, so as to reduce the limitation of the position and structure of the dust collecting container 22 by a position of the dust collecting port 12, and to improve a design flexibility of the dust collecting container 22.

[0072] A specific shape of the dust collecting container 22 is not limited.

[0073] As an example, with reference to FIG. 6, the dust collecting container 22 includes a dust collecting housing 221, and a filter element 222 being arranged in the dust collecting housing 221 in a drawable manner. The filter element 222 is configured to filter and accommodate impurities in a gas flow entering the dust collecting housing 221, such that the impurities are intercepted within the filter element 222. The gas flow entering the dust collecting container 22 is discharged from an air outlet of the dust collecting motor 23 after being filtered by the filter element 222.

[0074] A specific type of the filter element 222 is not limited, and for example may be in the form of a dust bag or a dust cartridge.

[0075] As an example, a drawing port 22a for drawing the filter element 222 is provided on a front side of the dust collecting housing 221. The filter element 222 is pulled out from the dust collecting housing 221 or placed into the dust collecting housing 221 through the drawing port 22a.

[0076] After the filter element is used for a period of time, the user can pull out the filter element 222 for cleaning, and the filter element 222 is placed into a dust collecting cavity after cleaning. In this embodiment, the filter element 222 can be reused. Alternatively, the filter element 222 is used as a disposable item, which is discarded after being pulled out, and then a new filter element 222 is placed into the dust collecting cavity.

[0077] As an example, with reference to FIG. 6, the dust collecting container 22 and the accommodation cavity 11 are arranged side by side in a left-right direction, and the dust collecting container 22 is located on a right side of the accommodation cavity 11. In this way, it can free a large space for a left side and a rear side of the base 1, so as to arrange parts related to water supplying and water draining.

[0078] As an example, with reference to FIG. 10, the dust collecting container 22 is spaced apart from the base 1 in the left-right direction, that is, a spacing is provided between the dust collecting container 22 and the base 1 in the left-right direction, and the dust collecting tube 21 is arranged in the spacing between the dust collecting container 22 and the base 1 in the left-right direction. In this way, the dust collecting tube 21 has a short length, so that a moving path of impurities in the dust collecting tube 21 can be shortened, so as to reduce a wind resistance and improve an efficiency of the dust discharging, and further which is beneficial to reduce an assembly size of the entire dust collecting component 2.

[0079] As an example, with reference to FIGS. 7, 8, 9, and 10, the dust collecting motor 23 and the dust collecting container 22 are arranged in a front-rear direction, and the dust collecting motor 23 is disposed behind the dust collecting container 22. Specifically, an air intake port of the dust collecting housing 221 for connecting with the dust collecting tube 21 is located on a left sidewall of the dust collecting housing 221, and an air outlet of the dust collecting housing 221 for communicating with the dust collecting motor 23 is located on the rear sidewall of the dust collecting housing 221. Thus, it is possible to make full use of the space on a rear side of the dust collecting container 22 and avoid excessively increasing the size of the pedestal assembly 100 in the left-right direction. In addition, removal and installation of filter element 222 would

not be affected.

[0080] As an example, with reference to FIGS. 6 and 10, an air return port 13 for docking with the cleaning robot 3000 is arranged in a sidewall of the accommodation cavity 11. Specifically, a sidewall of the dust storage space of the cleaning robot 3000 further includes an air return interface, that is, both the air return interface and the dust discharging port are communicated with the dust storage space. The air return port 13 is configured to dock with the air return interface.

[0081] With reference to FIGS. 5 and 10, the dust collecting component 2 includes an air return tube 25, and the air return port 13 is communicated with an air outlet of the dust collecting motor 23 through the air return tube 25. When the cleaning robot 3000 has returned back to the accommodation cavity 11, the air return port 13 docks with the air return interface, and the dust collecting port 12 docks with the dust discharging port. The dust collecting tube 21, the dust collecting cavity, the air return tube 25 and the dust storage space form an air circulating path, in which the gas can circulate between the dust storage space and the dust collecting component 2. Thus, an air supplying flow rate of the dust collecting motor 23 can be increased, so as to improve an effect of dust discharging.

[0082] A specific position of the air return port 13 is not limited, for example, the air return port may be located on the rear sidewall, the left sidewall, etc.

[0083] As an example, with reference to FIGS. 6 and 10, the dust collecting container 22 is arranged on a right side of the base 1, the air return port 13 is arranged at a left-rear corner of the sidewall of the accommodation cavity 11, and the air return tube 25 bypasses the base 1 from a rear of the base and is connected to the air return port 13. In this embodiment, the air return tube 25 are arranged in a relatively smooth manner without any significant bending, so as to reduce the resistance of the gas flow in the air return tube 25 and make full use of the space behind the base 1. It should be understood that impurities such as dust pass through the dust collecting tube 21, and the gas flow is filtered during flowing through the dust collecting container 22, therefore the gas flow in the air return tube 25 basically does not carry impurities. In this embodiment, the air return tube 25 has a long length, and the dust collecting tube 21 has a short length. The dust collecting tube 21 with a short gas flow path can reduce a probability of dust

remaining in the dust collecting tube 21. The air return tube 25 could be provided with a long length, in view that the air return tube 25 is mainly passed through by the filtered airflow, which would not cause a problem that impurities are blocked and remained in the tube.

[0084] As an example, with reference to FIGS. 6, 7, 8 and 10, the pedestal assembly 100 includes charging terminals 17 provided on a rear sidewall of the accommodation cavity 11. The cleaning robot can be electrically connected to the charging terminal 17 for charging, after the cleaning robot 3000 is returned back to the accommodation cavity 11.

[0085] As an example, with reference to FIGS. 7, 8, 9, and 10, the pedestal assembly 100 includes a power module 31 electrically connected to the charging terminals 17. The power module is configured to convert incoming alternating current into direct current, and the charging terminal 17 charges the cleaning robot 3000 with direct current.

[0086] It should be understood that the dust collecting motor 23 can be directly connected to alternating current.

[0087] As an example, with reference to FIGS. 5 and 9, the pedestal assembly 100 includes a drying component 4. With Reference to FIG. 6, an air inlet 15 is provided in the rear sidewall of the accommodation cavity 11, into which a hot gas flow generated by the drying component 4 is introduced through the air inlet 15, then the mop of the cleaning robot 3000 is dried by the user.

[0088] It should be noted that the air inlet 15 is as close as possible to a lower part of the rear sidewall of the accommodation cavity 11, so as to guide the hot gas flow to the mop at a bottom of the cleaning robot 3000.

[0089] As an example, with reference to FIGS. 5 and 9, the drying component 4 includes a fan 41 and a drying channel 42. It should be noted that a heating element is provided inside the drying channel 42 or inside the fan 41 for heating air such that the gas flow discharged from the drying channel 42 is a hot gas flow.

[0090] The fan 41 is arranged horizontally on a top surface of the base 1. An air outlet

of the fan 41 is positioned at a rear end of the fan 41 and oriented towards the rear of the base 1. The air inlet 15 is communicated with the air outlet on the rear end of the fan 41 through the drying channel 42.

[0091] The expression “the fan 41 is arranged horizontally on a top surface of the base 1” means that a direction of a rotation axis of a impeller of the fan 41 is substantially along the up-down direction, the fan 41 is substantially a flat structure along an axial direction, and the flat structure is arranged horizontally on a top surface of the base 1. In this way, a size of the fan 41 in the up-down direction can be reduced, which is beneficial to a flat design of the pedestal assembly 100.

[0092] The drying channel 42, which is a substantially flat tubular structure, extends downward from the air outlet of the fan 41 and is attached conformably to the rear side surface of the base 1 to minimize a size of the drying channel 42 in the front-rear direction.

[0093] The number of the drying channel 42 is not limited, and there may be one or more drying channels.

[0094] As an example, with reference to FIG. 9, there are two drying channels 42, and there are two air inlets 15. The two air inlets 15 are configured to be staggered in the left-right direction, an upper end of each of the two drying channels 42 is connected with the air outlet of the fan 41, the other end of each of the drying channels is connected with a corresponding air inlet 15. Thus, air can be discharged to the mop of the cleaning robot 3000 in more than one direction so as to improve the drying efficiency. In addition, by means of sharing a air flow rate of the fan 41 through two drying channels 42, a flow rate within each drying channel 42 can be reduced, which contributes to a small-size design of each drying channel 42.

[0095] It should be understood that in embodiments in which an air return tube 25 is provided, the air return tube 25 is disposed behind the drying channel 42, that is, the drying channel 42 is located between the air return tube 25 and the rear side surface of the base 1.

[0096] As an example, with reference to FIG. 9, the charging terminals 17 are located

substantially in a middle region in the left-right direction of the rear sidewall of the accommodation cavity 11, and the two drying channels 42 are located on a left side and a right side of the charging terminals 17 respectively. That is, each charging terminal 17 is located between two drying channels 42, such that a space between the two drying channels 42 can be fully utilized and interference between the two drying channels 42 and the charging terminals 17 can be avoided.

[0097] As an example, with reference to FIGS. 5, 7, and 8, the pedestal assembly 100 includes a control mainboard 32 for electrically controlling electrical devices of the pedestal assembly 1000, for example, for electrically controlling the dust collecting motor 23, the fan 41, the power module 31, the charging terminals 17, etc. That is, the pedestal assembly 1000 in the embodiments of the present application can be independently controlled without being affected by the laundry processor, and it only needs to connect the control mainboard 32 to a power supply. Therefore, the pedestal assembly 1000 can work independently even if the laundry processor is not powered on and does not operate.

[0098] As an example, with reference to FIGS. 5, 7 and 8, the control mainboard 32 is provided at the top of the base 1, and the control mainboard 32 and the fan 41 are arranged side by side in the left-right direction. In this way, the space at the top of the base 1 can be fully utilized.

[0099] As an example, the control mainboard 32 is positioned on the right side of the fan 41, such that the control mainboard 32 is closer to the dust collecting motor 23 and the power module 31 so as to reduce a length of a wire between them.

[00100] As an example, with reference to FIGS. 11 and 12, a cleaning tank 16 is provided in a bottom wall of the accommodation space. Specifically, the cleaning tank 16 is provided in a bottom wall of the accommodation cavity 11. The cleaning tank 16 is configured to store a cleaning fluid, which can be tap water or a mixture of tap water and detergent. After the cleaning robot 3000 returns back to the base station, the cleaning fluid in the cleaning tank 16 can be used to clean the mop of the cleaning robot 3000.

[00101] The manner to realize a cleaning function for the mop is not limited. The

cleaning function may be realized by controlling by the cleaning robot 3000 the mop to rotate or vibrate, to contact with the water liquid in the cleaning tank 16. The cleaning function may also be realized by arranging a friction member such as a brush head in the cleaning tank and controlling the brush head to contact and rub with the mop on the cleaning robot 3000.

[00102] The pedestal assembly 100 includes a water inlet component 5 including: a water inlet passage 53 for supplying water to the cleaning tank 16, and a water inlet valve 51 positioned in the water inlet passage 53. The water inlet passage 53 is configured to introduce an external water source and directs the water flow into the cleaning tank 16.

[00103] In this embodiment, the water inlet passage 53 automatically introduces the external water source, and the user does not need to manually add water.

[00104] It should be noted that, in some embodiments, the water inlet passage 53 may be completely independent from a water inlet system of the laundry processor, i.e. the water inlet system of the laundry processor and the water inlet passage are independently connected to different faucets respectively. In other embodiments, the water inlet passage 53 and the water inlet system of the laundry processor are connected to a same faucet through an element such as a three-way tube.

[00105] In some embodiments, the water inlet valve 51 may be a flow limiting valve with a flow limiting function. That is, the water inlet valve 51 would be closed if a flow velocity of the water flow flowing through the water inlet valve 51 is greater than a predetermined value. In this way, an excessive water flow velocity can be avoided.

[00106] As an example, with reference to FIGS. 5, 7, 8, and 9, the water inlet component 5 includes a pressure relief container 52 which is disposed on the water inlet passage 53. The water inlet valve 51 is positioned upstream of the pressure relief container 52. That is, the water flow in the water inlet passage 53 firstly flows through the water inlet valve 51, then flows through the pressure relief container 52, and finally flows into the cleaning tank 16. The pressure relief container 52 can relieve pressure and buffer the flow, such that the water flow flows at an appropriate velocity, so as to avoid a water splash caused by an excessive water pressure in the water inlet passage 53.

[00107] As an example, the water inlet valve 51 and the pressure relief container 52 are both arranged on the left-rear side of the base 1, such that the water inlet valve 51 and a water inlet position of the laundry processor 4000 are located on a same side of the laundry processing apparatus in the left-right direction, which facilitates a centralized arrangement of water tubes and reduces the length of water tubes.

[00108] As an example, with reference to FIG. 6, each of the left sidewall and the right sidewall of the accommodation cavity 11 is provided with a water inlet 14. With reference to FIGS. 7 and 8, the water inlet passage 53 includes a first pipeline 531 and a second pipeline 532 that communicate with the pressure relief container 52. The first pipeline 531 bypasses the base from a right rear of the base 1 and is connected to the water inlet 14 on the right side of the base 1. The second pipeline 532 bypasses the base from a left rear of the base 1 and is connected to the water inlet 14 on the left side of the base 1. In this embodiment, multiple water inlets 14 are configured to be supplied with water at the same time, which facilitates increasing a water intake flow rate, and also facilitates supplying water to the cleaning tank 16 from multiple angles. For example, in some embodiments, water discharged from the water inlet 14 may first flush the mop and then flow into the cleaning tank 16, such that the mop may be flushed from multiple angles.

[00109] In some alternative embodiments, there may be one water inlet 14 if the water intake flow rate is not considered.

[00110] As an example, the pedestal assembly 100 includes a detergent dispensing device 6 disposed at the top of the base 1 for pumping detergent directly or indirectly into the cleaning tank 16 to enhance a cleaning effect for the mop.

[00111] A specific type of the detergent is not limited. The detergent can be laundry detergent, disinfectant, perfume, etc., which is not limited here.

[00112] As an example, with reference to FIGS. 7 and 8, the detergent dispensing device 6 includes a detergent cartridge 61 for storing the detergent and a dispensing pump 62 for sucking the detergent in the detergent cartridge 61. The dispensing pump 62 is able to automatically, quantificationally suck the detergent from the detergent cartridge

61 so as to achieve automatic dispensing.

[00113] It should be noted that in some embodiments, the detergent cartridge 61 may be a disposable device. After the detergent in the detergent cartridge 61 is used up, the detergent cartridge 61 is taken out and replaced with a new detergent cartridge 61. In other embodiments, the user may inject detergent into the detergent cartridge 61, thus the detergent cartridge 61 may be reused.

[00114] In some embodiments, the detergent pumped from the dispensing pump 62 enters the cleaning tank 16 directly and dissolves in the cleaning tank 16.

[00115] In other embodiments, a liquid outlet of the detergent dispensing device 6 communicates with the pressure relief container 52, that is, an outlet of the dispensing pump 62 communicates with the pressure relief container 52, so as to quantitatively pump the detergent to the pressure relief container 52. The detergent dissolves in the pressure relief container 52 and flows into the cleaning tank 16 along with the water in the water inlet passage 53. In this embodiment, the pressure relief container 52 not only serves to relieve pressure and buffer the water flow, but also serves to mix and dissolve the detergent. In addition, it further facilitates arranging a detergent dispensing path of the detergent dispensing device 6. Specifically, the outlet of the dispensing pump 62 can be conveniently connected to the pressure relief container 52 due to the presence of the pressure relief container 52, and the pressure relief container 52 has a relatively large size, which facilitates a connection of the dispensing pump 62, and can shorten a flow path of the detergent and reduce a flow resistance of the detergent.

[00116] As an example, the water inlet valve 51 and the pressure relief container 52 are arranged at a top of the base 1 on a left-rear side of the base, and a water inlet interface 51a of the water inlet valve 51 is located at a rear side of the water inlet valve 51 so as to be connected to the water tube from the rear of the water inlet valve 51. The water inlet valve 51, the pressure relief container 52 and the detergent dispensing device 6 are arranged successively from rear to front. For example, water inlet valve, the pressure relief container and the detergent dispensing device are arranged on the left side of the aforementioned fan 41 so as to save the installation space 200a.

[00117] A manner in which liquid in the cleaning tank 16 is discharged is not limited. For example, liquid in the cleaning tank is discharged under the effect of its own gravity.

[00118] As an example, with reference to FIGS. 11 and 12, the pedestal assembly 100 includes a water drainage component 7 which includes a pump body and a water drainage channel 72 communicated with the cleaning tank 16. A highest part of the water drainage channel 72 is higher than the cleaning tank 16. A water inlet end of the water drainage channel 72 extends into the cleaning tank 16 from top to bottom, that is, the water inlet end of the water drainage channel 72 sucks water from bottom to top, and the water drainage channel 72 sucks liquid in the cleaning tank 16 under an effect of the pump body. The liquid in the cleaning tank 16 is sucked into the water drainage channel 72 under the effect of a pressure difference and discharged through the water drainage channel 72.

[00119] It should be noted that due to a lower position of the cleaning tank itself, which is closer to the floor, and a less cleaning fluid in the cleaning tank, the liquid in the cleaning tank is difficult to be pumped out smoothly, and the water drainage effect is poor, if the water drainage pump is configured to directly suck the cleaning liquid in the cleaning tank, because the water inlet of the water drainage pump itself has a large tube diameter, and the water drainage pump functions only when the water inlet of the water drainage pump is completely covered by liquid.

[00120] In the above embodiment of the present application, therefore, the water in the cleaning tank 16 is pumped out by means of sucking from bottom to top and is discharged by the siphon effect, which can improve a water drainage effect and facilitate discharging liquid to the floor drain and the like.

[00121] In some embodiments, with reference to FIGS. 5, 7, 8, 9 and 11, the water drainage component 7 includes a water storage container 73 disposed on the water drainage channel 72. The pump body is a water drainage pump 71 located downstream of the water storage container 73. A height of the water storage container 73 is higher than that of the cleaning tank 16. The water inlet component 5 includes a branch passage 55 and a water inlet passage 53 for supplying water to the cleaning tank 16. The water inlet passage 53 is communicated with the water storage container 73 through the branch

passage 55.

[00122] That is, the water inlet component 5 can supply water to both the cleaning tank 16 and the water storage container 73. The water storage container 73 pumps the liquid in the cleaning tank 16 under the action of the pump body and discharges the liquid from the pump body.

[00123] In this embodiment, the purposes of injecting water to the water storage container 73 through the water inlet component 5 include: ensuring that there is enough water in the water storage container 73 before the water drainage pump 71 is started, and generating a pressure difference between the water storage container 73 and the cleaning tank 16 after the water drainage pump 71 is started, such that the liquid in the cleaning tank 16 can be sucked by means of the siphon effect.

[00124] It should be understood that in the embodiment in which the pressure relief container 52 is provided, the water storage container 73 is connected between an outlet of the water inlet valve 51 and the water inlet 14 of the pressure relief container 52 by means of the branch passage 55, so as to prevent the liquid in the pressure relief container 52 from entering the water storage container 73.

[00125] It should be noted that there is no limitation to the time when the water inlet component 5 intake water to the water storage container 73. For example, in some embodiments, after the water inlet valve 51 is opened, the water inlet component 5 supplies water to both the water inlet passage 53 and the branch passage 55 at a same time. At this time, the water drainage pump 71 does not operate, and when a water level in the water storage container 73 reaches a certain height, the branch passage 55 no longer is input water under the back pressure of the water storage container 73. In addition, for example, in other embodiments, a three-way valve is provided at a connection position between the branch passage 55 and the water inlet passage 53, and a flow direction of the water flow is controlled by switching the three-way valve.

[00126] As an example, the water drainage component 7 is provided on the right-rear side of the base 1, the water drainage pump 71 is positioned on a right side of the water storage container 73, and a water outlet of the water drainage pump 71 is oriented

towards a rear of the base 1. As such, the water drainage pump 71 and a water drainage port of the laundry processor 4000 are located on a same side of the laundry processing apparatus, which facilitates a centralized tube distribution and water drainage.

[00127] In other embodiments, with reference to FIG. 12, the pump body is an air pump 74. The water drainage component 7 includes an on-off valve 75 provided on the water drainage channel 72. The pedestal assembly 100 does not include the water storage container 73 as mentioned in the previous embodiment. The highest part of the water drainage channel 72 is higher than the cleaning tank 16. The water drainage channel 72 forms a siphon channel. A connection between an air pumping port of the air pump 74 and the water drainage channel 72 is located between the on-off valve 75 and the highest part of the water drainage channel 72. In this embodiment, the liquid would not enter the air pump 74.

[00128] At the beginning of water drainage, the on-off valve 75 is closed, and the air pump 74 sucks the gas in the water drainage channel 72, which results in that a portion of the water drainage channel 72 located upstream of the on-off valve 75 generates a negative pressure environment, such that liquid in the cleaning tank 16 is pumped into the water drainage channel 72 under an effect of negative pressure. After the water has passed through the highest part of the water drainage channel 72, the on-off valve 75 is opened, and the air pump 74 stops pumping. At this time, the water in the water drainage channel 72 will be continuously discharged based on the principle of siphon channel.

[00129] It should be noted that in some embodiments, the water drainage channel 72 and a water drainage pipeline of the laundry processor 4000 can drain water independently without affecting each other.

[00130] In other embodiments, the water drainage channel 72 can be connected to the water drainage pipeline of the laundry processor 4000 through a three-way tube, so as to drain water together to a position such as floor drain through the drainage line.

[00131] In the description of the present application, descriptions of reference terms “an embodiment”, “some embodiments”, “an example”, “specific example”, or “some examples” etc. mean that specific features, structures, materials, or features described

with reference to the embodiment or example are included in at least one embodiment or example of the present application. In the present application, schematic representations of the above terms are not necessarily directed to a same embodiment or example. Furthermore, the specific features, structures, materials or characterizations described may be combined in a suitable manner in one or more embodiments or examples. In addition, those skilled in the art may combine different embodiments or examples described in the present application and combine features of different embodiments or examples without contradictory.

[00132] The embodiments described above are preferred embodiments of the present application and are not intended to limit the present application. Various modifications and variations can be made to the present application by those skilled in the art. Any modification, equivalent substitute and improvement, etc. fall within the scope of the present application without departing from the spirit and principle of the present application.

CLAIMS

1. A pedestal assembly comprising:

a base comprising an accommodation space for accommodating a cleaning robot, the accommodation space being provided with a dust collecting port;

a dust collecting component comprising a dust collecting container communicated with the dust collecting port, the dust collecting container being arranged on any one of lateral sides of the accommodation space.

2. The pedestal assembly according to claim 1, wherein the accommodation space is defined by an accommodation cavity, the dust collecting container is arranged outside the accommodation cavity, and the dust collecting port is arranged on a sidewall of the accommodation cavity.

3. The pedestal assembly according to claim 1, wherein a height of the dust collecting container is less than or equal to a height of a top surface of the base.

4. The pedestal assembly according to claim 1, wherein the dust collecting container comprises a dust collecting housing, and a filter element being arranged in the dust collecting housing in a drawable manner, the filter element being configured to filter and accommodate impurities in a gas flow, wherein a drawing port for drawing the filter element is provided on a front side of the dust collecting housing.

5. The pedestal assembly according to claim 2, wherein the dust collecting component comprises a dust collecting tube, wherein the dust collecting port is communicated with an

internal space of the dust collecting container by the dust collecting tube.

6. The pedestal assembly according to claim 5, wherein the dust collecting container is positioned at a right side of the accommodation cavity, and is spaced apart from the accommodation cavity, and the dust collecting tube is arranged in a spacing between the dust collecting container and the accommodation cavity.

7. The pedestal assembly according to claim 2, wherein the dust collecting component comprises a dust collecting motor disposed behind the dust collecting container.

8. The pedestal assembly according to claim 7, wherein an air return port is arranged on a sidewall of the accommodation cavity, and the dust collecting component comprises an air return tube, wherein the air return port is communicated with an air outlet of the dust collecting motor through the air return tube.

9. The pedestal assembly according to claim 8, wherein the dust collecting container is arranged on a right side of the base, the air return port is arranged at a left-rear corner of the sidewall of the accommodation cavity, and the air return tube bypasses the base from a rear of the base and is connected to the air return port.

10. The pedestal assembly according to claim 2, comprising a drying component, the drying component comprising a fan and a drying channel, the fan being arranged horizontally on a top surface of the base, wherein an air inlet is provided on a rear sidewall of the accommodation cavity, the air inlet being communicated with an air outlet on a rear end of the fan through the drying channel.

11. The pedestal assembly according to claim 10, wherein charging terminals are provided on the rear sidewall of the accommodation cavity, and there are two drying channels, the two drying channels being arranged side by side in a left-right direction, the charging terminals being located between the two drying channels.

12. The pedestal assembly according to claim 1, wherein a cleaning tank is provided in a bottom wall of the accommodation space, and wherein the pedestal assembly comprises a water inlet component comprising: a water inlet passage for supplying water to the cleaning tank, and a water inlet valve and a pressure relief container which are disposed on the water inlet passage, the water inlet valve being positioned upstream of the pressure relief container.

13. The pedestal assembly according to claim 12, comprising a detergent dispensing device disposed at a top of the base, wherein a liquid outlet of the detergent dispensing device is communicated with the pressure relief container so as to pump a detergent into the pressure relief container.

14. The pedestal assembly according to claim 13, wherein the water inlet valve and the pressure relief container are arranged at the top of the base on a left-rear side of the base, and the water inlet valve, the pressure relief container and the detergent dispensing device are arranged successively in a line from rear to front.

15. The pedestal assembly according to claim 1, wherein a cleaning tank is provided in a bottom wall of the accommodation space, the pedestal assembly comprises a water drainage component comprising: a pump body and a water drainage channel communicated with the cleaning tank, and wherein a water inlet end of the water drainage channel extends into the cleaning tank from top to bottom and sucks liquid in the cleaning tank upwards under an effect of the pump body.

16. The pedestal assembly according to claim 15, wherein the pump body is a water drainage pump, the water drainage component comprises a water storage container disposed upstream of the water drainage pump, and the pedestal assembly comprises a water inlet component, the water inlet component comprising a branch passage and a water inlet passage for supplying water to the cleaning tank, the water inlet passage being communicated with the water storage container through the branch passage.

17. The pedestal assembly according to claim 16, wherein the water drainage component is positioned on a right-rear side of the base, the water drainage pump is positioned on a right side of the water storage container, and a water outlet of the water drainage pump is oriented towards a rear of the base.

18. A pedestal device comprising a support frame for supporting a laundry processor and a pedestal assembly according to any one of claims 1-17, the pedestal assembly being disposed within the support frame.

19. A laundry processing apparatus comprising:

a laundry processor; and

a pedestal assembly according to any one of claims 1-17, wherein a lower part of the laundry processor comprises a mounting cavity in which the pedestal assembly is disposed.

20. A laundry processing apparatus comprising:

a laundry processor; and

a pedestal device according to claim 18, wherein the pedestal device is arranged below the laundry processor, and the laundry processor is supported on the support frame.