## CLAIMS

1. A centrifuge comprising:

a casing (110) having an oil inlet (111) and an oil outlet (112);

a shaft (120) disposed in a top-bottom direction in a central part of the casing (110), the shaft guiding oil introduced through the oil inlet (111) to the central part of the casing (110);

a stand tube (130) disposed rotatable about the shaft (120), the stand tube spraying the oil flowing through the shaft (120) into the central part of the casing (110);

a rotor (140) disposed inside the casing (110) to define a space in which the oil sprayed from the stand tube (130) is received and filtered while rotating together with the stand tube (130), the rotor comprising a nozzle (141) for spraying the filtered oil into the casing (110);

a moisture outlet (113) formed in the casing (110), through which moisture separated from the oil sprayed through the nozzle (141) is discharged along with air out of the casing (110); and

an air inlet (114) formed in the casing, through which an amount of air identical to an amount of the air discharged through the moisture outlet (113) is introduced into the casing~~.~~,

wherein a flow area of the air inlet (114) is smaller than

a flow area of the moisture outlet (113).

2. The centrifuge according to claim 1, wherein the air inlet (114) is disposed at a position below the moisture outlet (113), and the air inlet (114) and the moisture outlet (113) are positioned at both sides of the rotor (140) to oppose each other.

3. The centrifuge according to claim 1, further comprising a reducer (150) disposed on an upper end of the rotor (150), the reducer having a plurality of flow holes (151), a total of flow areas of which is greater than a flow area of the moisture outlet (113), and the reducer reducing an introduction of oil scattering between the rotor (140) and the shaft (120) into the moisture outlet (113).

~~4. The centrifuge according to claim 1, wherein a flow area of the air inlet (114) is smaller than a flow area of the moisture outlet (113).~~

~~5~~ 4. A purifier system comprising:

a centrifuge (100), wherein the centrifuge comprises: a casing (110) having an oil inlet (111) and an oil outlet (112); a shaft (120) disposed in a top-bottom direction in a central part of the casing (110), the shaft guiding oil introduced through the oil inlet (111) to the central part of the casing

(110); a stand tube (130) disposed rotatable about the shaft (120), the stand tube spraying the oil flowing through the shaft (120) into the central part of the casing (110); a rotor (140) disposed inside the casing (110) to define a space in which the oil sprayed from the stand tube (130) is received and filtered while rotating together with the stand tube (130), the rotor comprising a nozzle (141) for spraying the filtered oil into the casing (110); a moisture outlet (113) formed in the casing (110), through which moisture separated from the oil sprayed through the nozzle (141) is discharged along with air out of the casing (110); and an air inlet (114) formed in the casing, through which an amount of air identical to an amount of the air discharged through the moisture outlet (113) is introduced into the casing.

a blower (200) disposed on a discharge pipe (210) extending from the casing (110), through which the air discharged through the moisture outlet (113)0 flows, the blower taking in and blowing air from the casing (110);

a moisture remover (300) connected to the discharge pipe (210) to receive the air supplied through the discharge pipe (210) and remove moisture from the received air;

circulation piping (370) connecting the moisture remover (300) to the casing (110) such that the air from which the moisture is removed by the moisture remover (300) is fed into the casing through the air inlet (114); and

a controller (400) having a function of controlling the

blower (200).

~~6~~ 5. The purifier system according to claim ~~5~~ 4, wherein the air inlet (114) is disposed at a position below the moisture outlet (113), and the air inlet (114) and the moisture outlet (113) are positioned at both sides of the rotor (140) to oppose each other.

~~7~~ 6. The purifier system according to claim ~~5~~ 4, wherein the centrifuge further comprises a reducer (150) disposed on an upper end of the rotor (140), the reducer having a plurality of flow holes (151), a total of flow areas of which is greater than a flow area of the moisture outlet (113), and the reducer reducing an introduction of oil scattering between the rotor (140) and the shaft (120) into the moisture outlet (113).

~~8~~ 7. The purifier system according to claim ~~5~~ 4, wherein a flow area of the air inlet (114) is smaller than a flow area of the moisture outlet (113).

~~9~~ 8. The purifier system according to claim ~~5~~ 4, wherein the moisture remover (300) comprises a coil (301) through which cold refrigerant or cooling water circulates, such that moisture in the air blown by the blower (200) is condensed when the air comes into contact with the coil.

~~10~~ 9. The purifier system according to claim ~~5~~ 4, wherein the moisture remover (300) comprises an eliminator (302) including a plurality of overlapping nets, each of which is formed of a plurality of fine wires, such that moisture is removed from air while the air is passing through the overlapping nets.

~~11~~ 10. The purifier system according to claim ~~5~~ 4, further comprising:

a container (330) containing condensed water produced through condensation of moisture by the moisture remover (300); and

a level sensor (340) disposed on the container (330) to detect a change in level of the condensed water,

wherein the controller (400) selectively operates the blower (200) and the moisture remover (300) based on a value of the change in the level of the condensed water detected by the level sensor (340).