

Kitchen Aspirator and Air Cleaner with Wet Filter System

- 5 This invention is related to an aspirator that uses a special wet filter to eliminate oils, grass, offensive smell and other particles in kitchens and any other spaces where aspirators are used, and emits a nice smell into the space to the environment. This system eliminates the need of
- 10 chimneys and exhaust outlets in kitchens. Furthermore, the indirect odorizing (perfuming) system emits the cleaned air with a nice smell. There are currently two types of aspirators. One intakes air, and exhausts the dirty air from a chimney. The other one is the chimney
- 15 system with activated carbon filter that holds oil and other particles in the intake air. The first system, i.e. the aspirator exhausting dirty air from a chimney, does not properly work in case of such troubles as that there is no appropriate chimney outlet, or the existing chimney is far from the aspirator, which adversely affect the air intake and discharge.
- 20 There is a possibility for the dirty air to scatter around the living space even though there is no problem in air discharge. In the activated carbon filter systems, the filter pores are clogged in a short time,
- 25 resulting in difficulty in the air intake. Moreover, it is a very hard and boring work to remove the sticky oil and other particles from the filter. This invention aims at cleaning the air by sucking the offensive smell, oil and other particles scattering around the kitchen without need to a chimney outlet
- 30 Another objective of this invention is to eliminate the need for filter replacement, as it is enough to clean the filter only by discharging the used water into the waste water system.
- In this invention, the air cleaned by the wet filter system is perfumed by an indirect odorizing system to ensure releasing fresh air with a nice smell in the living space.
- 35 Attached is a picture of the wet filter system aspirator designed to achieve the objectives of this invention.

A number has been assigned to each individual part shown in the picture, and the part descriptions are as follows:

1. Wet filter system
2. High speed intake motor
3. Special separator fan
- 5 4. Perfuming chamber
5. Intake force regulator
6. ON/OFF switch
7. Clean air grills
8. Air intake ducts
- 10 9. Air discharge ducts
10. Final paper filter cartridges
11. Water tank

The invented method and the wet filter system and air cleaning aspirator designed to apply the invention have been developed to clean
15 the airborne oil, offensive smell and other particles without any chimney and exhaust outlet, and indirectly perfume the cleaned air to release fresh air with a nice smell in the living space. This method makes it possible to clean air and release fresh perfumed air to the living space, and eliminates the need for chimney and exhaust outlets,
20 while it prevents filter clogging and intake blocking, so that no filter replacement is required.

The air cleaning aspirator with wet filter system comprises of a wet filter system (1), a high-speed intake motor (2), a special separator fan that crashes the intake air onto the water to separate oil and other particles
25 from the ambient air, and get them caught by the water while preventing the water discharge (3), intake ducts that provide a continuous airflow and strengthens air intake for an uniform air intake (8), a perfuming chamber to release a nice smell by indirectly perfuming the cleaned air (4), an intake force regulator to adjust the
30 intake force (5), air ducts for an uniform distribution of the clean perfumed air (9) and the paper filter cartridges for final filtration of the cleaned air (10).

The aspirator bottom surface has been specially designed for air intake, and provided with the air ducts (8) for a continuous airflow with regulated intake force. These ducts allow a uniform and balanced air intake from the entire surface.

The working principle of this invention is described below:

The air sucked from the intake ducts (8) specially designed to provide a strong and continuous airflow from the aspirator bottom surface through a high-speed motor (2) and separator fan with special flap (3) is crashed onto water in the water tank (11) of the wet filter system (1) by means of the strong pressure of the obtained airflow, so that the oil, smell and other particles in the intake air are caught in the water. The special separator fan (3) creates a whirling motion through the strong flow of the intake air in the water tank (11), so that the airborne oil, smell and other particles are stuck onto the water, and it is prevented to a maximum level for the water drops and particles to be discharged with the air. It is possible to place a perfume bottle upside down at a certain angle in the perfuming chamber (4) on the aspirator, by which the perfuming chemical is slowly drawn from the micro-hole in the stopper under the perfume bottle cap, and crashed onto the water surface together with the intake air, and the chemical is caught by the water, and the cleaned air is mixed with the perfuming chemical to be indirectly diffused to the living space from the clean air grills through the air discharge ducts (9). The water contaminated with oil, offensive smell and other particles is taken from the water tank (11) for discharge into the waste water system, and the tank is refilled with the city water to a certain level, so that the wet filter system (1) is easily cleaned.

The intake force regulator (5) on the aspirator is used to draw the intake air at any desired force. Three adjustments, i.e. high, medium and low, could be made by means of a controller, or a dimmer could be used for a direct linear switching from minimum level to maximum level. The cleaned and perfumed air is finally passed through the paper filter cartridges (10) before it is re-delivered to the living space from the appropriate grills (7), so that a fresh and nice smell air is given to the living space.

- 30 This aspirator could be used in such environments as households, hotels, restaurants, cafeterias, factories and industrial spaces to draw dust, oil, offensive smell and other particles, and process and perfume the air by means of the special wet filter system to supply fresh and nice smell air in the living space.

CLAIMS

Claim 1. This invention comprises of an air cleaning aspirator with wet filter system, which has been developed to remove oil, offensive smell
5 and other particles in the kitchens and other spaces, where aspirators are necessary, through a high speed intake motor (2), and lean them through a special wet filter system (1) to deliver a fresh and nice smell air into the living spaces.

10 Claim 2. This invention comprises of an aspirator system as described in the Claim No. 1, which features a special high speed intake motor (2) of the wet filter system to create a whirling motion in the water by means of the high flow of the intake air, so that the dust, oil, dirt, smell and other particles are removed and stuck in the water. The release of
15 water drops and particles from the water tank into the living space is prevented to a maximum level, and a clean and fresh air is released.

Claim 3. The aspirator with wet filter system according to the Claims 1 and 2 is characterized with a special wet filter system (1) to clean the air without need to a chimney and exhaust outlet, and indirectly
20 perfume (4) the cleaned air to release fresh and nice smell air into the living space.