

Claims**1. Humidifier cultivation and process consist of**

i. Special design pipe (6) with passage or path of the atomize mist and / or solution to the drain tank (7) and blower (4) which has for some a point such that look like crap and hole.

5 And / or,

ii. The system of humidifier apparatus is consist of for some closed path such that path is the way for the atomize mist and/or the solution and the closed path consist of at least 4 vertexes : the storage tank (1), the humidifier (3), the growing chamber (5) and the drain tank (7). Where the definition of closed path belongs to graph theory, mathematics.

10 Either i. or ii. , or both.

2. Humidifier cultivation and process in accordance with claim 1 wherein the special design pipe (6) has the suitable designations, that is, similar to the letters U, the letters J, the letters W and letter J backward.

3. Humidifier cultivation and process in accordance with claim 1 .wherein the special design
15 pipe (6) shall be considered for the pressure of the pipe in the vicinity of the boiler (4) and the pipe near the drain tank (7). The suitable pressure is the pressure in the drain tank (7) is less than the pressure in the blower (4) area.

4. Humidifier cultivation and process in accordance with claim 1 wherein the pipe which has the special design pipe (6) will be connect the blower (4) to the position before the blower (4), after
20 the blower (4), such that count from the atomize mist path from the humidifier (3) or the same area as the blower installation. And bring the atomize mist and / or solution what sticky the blower (4), the atomize mist and / or solution in the boundary to the pipe which has the special pipeline (6). The suitable area for connect the blower (4) is the position of after the blower (4) nearly.

25 5. Humidifier cultivation and process in accordance with claim 1 wherein the special design pipe (6) is also a component of the passage of the atomize mist and / or solution path between the drain tank (7) and the growing chamber (5).

6. Humidifier cultivation and process in accordance with claim 1 wherein for some a closed path such that a closed path includes the storage tank (1), the humidifier (3), the growing chamber (5)

and the drain tank (7). Can be add any devices to connected each path among the storage tank (1), the humidifier (3), the growing chamber (5) and the drain tank (7), whereas the atomize mist and / or solution can be passed and circulating until the one loop of the close path.

7. Humidifier cultivation and process in accordance with claim 1 wherein the process of
5 humidity for cultivation comprising, the solution in the storage tank (1) flows through the pump (2) to the humidifier (3) and the solution volatile to atomize mist and enter into the blower (4). The blower (4) will suck the atomize mist and blow it through the passage or , in the present invention that the passage is two pipes. The first pipe is connected to the growing chamber (5). When the atomize mist gives the humidity in the growing chamber (5), the
10 condensation of the atomize mist becomes liquid. The liquid flows through the pipe back into the humidifier (3) again. So the recycle of solution occur. The second pipe of the blower (4) is connected to the drain tank (7) through a special design pipe (6). The drain tank (7) act as the solution storage that limit the maximum and minimum volume of solution. When the solution and the atomize mist enter the drain tank (7), they accumulate to the required level. So that the
15 switch (701) and (702) transmit signal to drain the solution, that is to say, the solution level in the drain tank (7) is the maximum level. The switch (701) sends the signal to the pump (703) which carry the solution in pipe through the storage tank (1) again. As resulting, the recycle of the atomize mist and the solution is recycled back. And when the solution level of the drain tank (7) decreases to the lowest level, the switch (702) will transmit the signal to the pump (703)
20 to stop working.

8. Humidifier cultivation and process in accordance with claim 1 wherein the system of the humidifier apparatus comprising, for some the pipe such that carry the solution from the storage tank (1) through the pump (2) and to the humidifier (3) connected to the solenoid valve (305). Then goes into the tank of humidifier (302) which store the solution with maximum and
25 minimum scales for the volume of solution in the tank. When a solution enters the tank of humidifier (302), the humidity generator (301) works by bringing the solution to evaporate to the atomize mist flow in a pipe connected to the blower (4) which installed outside the humidifier (3). The tank of humidifier (302) has a pipe that connected to the growing chamber (5) two ways. That is the blower for pulling the atomize mist to the growing chamber
30 (5). And the path which has no blower is to carry the solution in the growing chamber (5) flow back to the tank of humidifier (302). When the solution in the tank of humidifier (302), up to the maximum value set, then the switch (303) acts to signal the solenoid valve (305) close. The

solution from the storage tank (1) stop flowing. When the solution in the tank of humidifier (302) decreases to the minimum scale, the switch (304) activates the solenoid valve (305) to open causes the solution from the storage tank (1) into the tank of humidifier (302).

9. Humidifier cultivation and process in accordance with any one of claim 1, 3-4, and 7-8
5 wherein the blower (4) with pressure of 1 000 mmH₂O to 1 0 mH₂O where the blower fan has either waterproof or non waterproof.

10. Humidifier cultivation and process in accordance with claim 8 wherein the tank of humidifier (302) qualify as strong, durability, resistant to the force of the blower (4), where the tank does not collapse or change shape, easy to clean, resistant to corrosion The suitable
10 materials include of, polyvinyl chloride, polyethylene, stainless steel 316L.

11. Humidifier cultivation and process in accordance with any one of claim 8 and 10 wherein the humidity generator (301) serves to change the state of the solution in the tank of humidifier (302) into the atomize mist. The suitable equipment is ultrasonic humidifier, ultrasonic head.

12. Humidifier cultivation and process in accordance with claim 11 wherein the humidity
15 generator (301) has the length of optimum frequency is 0.5-8 MHz. The length of the optimum atomize mist size is 2-8 microns.

13. Humidifier cultivation and process in accordance with any one of claim 1-8 wherein path or pipe to be a passage of cough, the atomize mist and / or solution qualify as easy to clean, resistant to corrosion suitable for internal temperature. The suitable material is polyvinyl
20 chloride, polyethylene, stainless steel 316L, stainless steel 304 and stainless steel 308.

14. Humidifier cultivation and process in accordance with claim 1 wherein at the close path, for some 2 path of the atomize mist and / or solution such that connected the humidifier (3) and the growing chamber (5) whereas at least one path through the blower (4). Or say that is at least 2 path or more in the closed path must be connected the humidifier (3) and the growing chamber
25 (5) wherein at least one path through the blower (4).

15. Humidifier cultivation and process in accordance with claim 1 wherein the growing chamber (5) has a cavity with entrance of atomize mist and / or solution at least one passage and has plants or roots or both of them.

16. Humidifier cultivation and process in accordance with claim 15 wherein the plants according
30 to this invention includes moss, mushroom and the root cutting.

17. Humidifier cultivation and process in accordance with any one of claim 1-3 wherein the suitable method to keep the pressure differentiate in the special design pipe (6), as follow: 1. To narrow the pipe diameter. 2. By installing the open valve and close valve which change the direction current. 3. By installing the flux meter of the solution with pressure monitoring
5 (Diaphragm type) which will lose pressure from the flux measurement sheet. 4. By bending pipe.

18. Humidifier cultivation and process in accordance with any one of claim 1-3 and 17 wherein the special design pipe (6) has the suitable designations, that is, similar to the letters U, the letters J, the letters W and letter J backward.

10 19. Humidifier cultivation and process in accordance with any one of claim 7-8 wherein the solenoid valves (305), switches (701) and (702) act as transmitters associated with the solution level according to the present invention. Can be replaced by any system such that sends a signal to control the volume of solution, or to have automated.

20. Humidifier cultivation and process in accordance with any one of claim 1-10 and 14 wherein
15 the blower (4) can be integrated into the internal component of the humidifier (3).