CLAIMS:

1. An ammonia-containing wastewater treatment method, which comprises the following main steps:

(A) connecting at least one aeration device to an ammonia wastewater holding tank;

(B) operating an oxygen transfer coefficient calculation device to calculate an oxygen transfer coefficient-aeration flowrate relationship of the aeration device;

(C) operating at least one ammonia nitrogen detection element arranged in the ammonia wastewater holding tank to detect an ammonia nitrogen mass in ammonia-containing wastewater; and

(D) operating the aeration device such that a ratio between an ammonia nitrogen mass of the ammonia-containing wastewater that participates in an ammonia oxidation reaction and an oxygen mass is kept at 1:1.5 to 1:2 to make ammonium nitrogen (NH_4^+) first oxidized into nitrite (NO_2^-) before being

oxidized into nitrate (NO_3^-) to allow a remaining mass of ammonia nitrogen to directly enter an anaerobic ammonia oxidation reaction.

2. The ammonia-containing wastewater treatment method according to claim 1, wherein the ratio between the ammonia nitrogen mass and the oxygen mass 1:1.6 to 1:1.9.

3. The ammonia-containing wastewater treatment method according to claim 1, wherein Step (B) comprises:

Step (B1), adding clean water into the ammonia wastewater holding tank;

Step (B2), decreasing dissolved oxygen content of the clean water, and applying a dissolved oxygen sensor to detect the dissolved oxygen content reaching a low point;

Step (B3), operating the aeration device to input an oxygen-containing gas into the clean water;

Step (B4), operating an aeration time controller and a gas flowrate controller of the aeration device to set an output time

and an output amount per unit time of the aeration device and recording an aeration amount of the aeration device;

Step (B5), operating the dissolved oxygen sensor to monitor the dissolved oxygen content of the ammonia-containing wastewater until reaching saturation; and

Step (B6), calculating the oxygen transfer coefficient-aeration flowrate relationship of the aeration device by means of the oxygen transfer coefficient calculation device according to the output time, the output amount per unit time, and the aeration amount.

4. The ammonia-containing wastewater treatment method according to claim 1, wherein Step (B) comprises:

Step (B1), adding clean water into the ammonia wastewater holding tank;

Step (B2), increasing dissolved oxygen content of the clean water, and applying a dissolved oxygen sensor to detect the dissolved oxygen content reaching a high point (oversaturation);

Step (B3), operating the aeration device to input an oxygen-containing gas into the clean water;

Step (B4), operating an aeration time controller and a gas flowrate controller of the aeration device to set an output time and an output amount per unit time of the aeration device, and recording an aeration amount of the aeration device;

Step (B5), operating the dissolved oxygen sensor to monitor the dissolved oxygen content of the ammonia-containing wastewater until reaching saturation; and

Step (B6), calculating the oxygen transfer coefficient-aeration flowrate relationship of the aeration device by means of the oxygen transfer coefficient calculation device according to the output time, the output amount per unit time, and the aeration amount.

5. The ammonia-containing wastewater treatment method according to claim 1, wherein Step (B) comprises:

Step (B1), adding ammonia-containing wastewater into the ammonia wastewater holding tank;

Step (B2), applying a dissolved oxygen sensor to monitor a dissolved oxygen level at a current temperature;

Step (B3), operating the aeration device to input an oxygen-containing gas into the ammonia-containing wastewater;

Step (B4), operating an aeration time controller and a gas flowrate controller of the aeration device to set an output time and an output amount per unit time of the aeration device, and recording an aeration amount of the aeration device;

Step (B5), applying a tail gas collection device arranged on a surface of the ammonia wastewater holding tank to record a tail gas flowrate of the tail gas collection device; and

Step (B6), calculating the oxygen transfer coefficient-aeration flowrate relationship of the aeration device by means of the oxygen transfer coefficient calculation device

according to the output time, the output amount per unit time, the aeration amount, and the tail gas flowrate.

6. The ammonia-containing wastewater treatment method according to any one of claims 3-5, wherein the aeration device comprises at least one gas flowmeter arranged at one side of the aeration device to record the aeration amount.

7. An ammonia-containing wastewater treatment apparatus, mainly comprising:

an ammonia wastewater holding tank, which receives and holds therein ammonia-containing wastewater;

at least one ammonia nitrogen detection element, which detects ammonia nitrogen content of the ammonia-containing wastewater;

at least one aeration device, which is arranged to connect to the ammonia wastewater holding tank to supply an oxygen-containing gas to the ammonia wastewater holding tank, wherein the aeration device comprises an aeration time controller

that controls output time and a gas flowrate controller that controls output amount per unit time; and

an oxygen transfer coefficient calculation device, which is in information connection with the aeration device to calculate an oxygen transfer coefficient-aeration flowrate relationship of the aeration device,

wherein a ratio of an ammonia nitrogen mass of the ammonia-containing wastewater that participates in an ammonia oxidation reaction and an oxygen mass is between 1:1.5 to 1:2.

8. The ammonia-containing wastewater treatment apparatus according to claim 7, wherein the ratio between the ammonia nitrogen mass and the oxygen mass 1:1.6 to 1:1.9.

9. The ammonia-containing wastewater treatment apparatus according to claim 7, wherein a dissolved oxygen sensor is arranged in the ammonia wastewater holding tank to record a variation curve of dissolved oxygen content of the ammonia-containing wastewater.

10. The ammonia-containing wastewater treatment apparatus according to claim 7, wherein a tail gas collection device is arranged on a surface of the ammonia wastewater holding tank to record a tail gas flowrate floating to water surface during an aeration process of the aeration device.