CLAIMS

1. A method for treating acidic gas that adds an alkali agent to a combustion exhaust gas containing acidic gas, and feedback controls an addition amount of the alkali agent based on a measurement signal of an acidic-gas concentration measurement device that measures an acidic gas concentration after collecting dust, the method comprising:

a step of calculating a basal addition amount by multiplying a coefficient of no more than 1 by an average addition amount according to at least an average time; and

a step of calculating, through feedback computation, an addition amount output value of the alkali agent based on the basal addition amount thus calculated.

2. The method according to claim 1, wherein the basal addition amount thus calculated is defined as a lower limit value for the addition amount output value of the alkali agent, in the step of calculating, through feedback computation, the addition amount output value.

3. The method according to claim 1 or 2, wherein the step of calculating, through feedback computation, the addition amount output value further includes:

a step of setting at least two ranges of slopes of the acidic gas concentration;

a step of setting a control target value for the acidic

gas concentration in every range of the at least two ranges of slopes; and

a step of calculating the addition amount output value of the alkali agent based on at least the measurement signal and the control target value in each of the ranges of slope,

wherein a control target value set in a case of the range of slope of the acidic gas concentration being large is smaller than a control target value set in a case of the range of slope of the acidic gas range being small, in the step of setting a control target value.

4. The method according to any one of claims 1 to 3, wherein the step of calculating, through feedback computation, the addition amount output value further includes

a step of setting, between a lower limit value and an upper limit value for the addition amount output value calculated based on the measurement signal, at least one new upper limit value for the addition amount output value to correspond with the acidic gas concentration.

5. The method according to any one of claims 1 to 4, wherein from 0.5 to 0.95 of the average addition amount when the average time is at least 5 minutes is defined as the basal addition amount in the step of calculating the basal addition amount.

6. The method according to any one of claims 1 to 5, wherein

the step of calculating, through feedback computation, the addition amount output value further includes

a step of calculating an addition amount output value of the alkali agent using both outputs among a control output computed from a hydrogen chloride concentration and a control output computed from a sulfur oxide concentration, in addition to the feedback computation.

7. The method according to any one of claims 1 to 6, wherein the step of calculating, through feedback computation, the addition amount output value further includes

a step of calculating an addition amount output value of the alkali agent based on an average value of hydrogen chloride concentration and/or sulfur oxide concentration, in addition to the feedback computation.

8. The method according to any one of claims 1 to 7, wherein the alkali agent is pulverized sodium bicarbonate having an average particle size of 5 to 30 μm.

9. The method according to claim 8, jointly using other alkali agent than the sodium bicarbonate.

10. The method according to claim 9, wherein the other alkali agent is at least one alkali agent selected from the group consisting of slaked lime, sodium hydroxide, magnesium hydroxide, magnesium oxide, sodium carbonate, sodium

sesquicarbonate, natural soda and crude sodium bicarbonate.

CLAIMS

1. A method for treating acidic gas that adds an alkali agent to a combustion exhaust gas containing acidic gas, and feedback controls an addition amount of the alkali agent based on a measurement signal of an acidic-gas concentration measurement device that measures an acidic gas concentration after collecting dust, the method comprising:

a step of calculating a basal addition amount by multiplying a coefficient of less than 1 by an average addition amount according to at least a predetermined time; and

a step of calculating, through feedback computation, an addition amount output value of the alkali agent based on the basal addition amount thus calculated, and obtaining a value that is at least the basal addition amount thus calculated and no greater than an upper limit established in advance, as an addition amount output value of the alkali agent.

2. The method according to claim 1, wherein the basal addition amount thus calculated is defined as a lower limit value for the addition amount output value of the alkali agent, in the step of calculating, through feedback computation, the addition amount output value.

3. The method according to claim 1 or 2, wherein the step of calculating, through feedback computation, the addition amount output value further includes

a step of setting, between a lower limit value and an upper limit value for the addition amount output value calculated based on the measurement signal, at least one new upper limit value for the addition amount output value to correspond with the acidic gas concentration.

4. The method according to any one of claims 1 to 3, wherein the step of calculating the basal addition amount includes setting, as a basal addition amount, from 0.5 to 0.95 of a moving average addition amount defined by an average value of the acidic gas concentration when continuously measuring for a predetermined time the acidic gas concentration every time established in advance that is selected from at least 5 minutes.

5. The method according to any one of claims 1 to 4, wherein the step of calculating, through feedback computation, the addition amount output value further includes

a step of calculating an addition amount output value of the alkali agent using both outputs among a control

output computed from a hydrogen chloride concentration and a control output computed from a sulfur oxide concentration, in addition to the feedback computation.

6. The method according to any one of claims 1 to 5, wherein the step of calculating, through feedback computation, the addition amount output value further includes

a step of calculating an addition amount output value of the alkali agent based on an average value of hydrogen chloride concentration and/or sulfur oxide concentration, in addition to the feedback computation.

7. The method according to any one of claims 1 to 6, wherein the alkali agent is pulverized sodium bicarbonate having an average particle size of 5 to 30 μm.

8. The method according to claim 7, jointly using other alkali agent than the sodium bicarbonate.

9. The method according to claim 8, wherein the other alkali agent is at least one alkali agent selected from the group consisting of slaked lime, sodium hydroxide, magnesium hydroxide, magnesium oxide, sodium carbonate, sodium sesquicarbonate, natural soda and crude sodium bicarbonate.