may also be used for management in the treatment agent addition management unit 13. When the treatment agent supply unit 14 is located near the site where exhaust gas is analyzed in terms of distance and time, the treatment agent can be immediately added to exhaust gas.

EXAMPLES

[0041]

Hereinafter the present invention will be described in detail with reference to Examples. The present invention is not limited by these Examples.

[0042]

To neutralize sulfur oxide in exhaust gas and recover it in the exhaust gas recovery unit, usually the amount of sulfur oxide is analyzed behind the exhaust gas recovery unit. In the control of sulfur oxide, feedback control systems such as PID based on the analysis results of sulfur are used to control the amount of the treatment agent to be added. In many cases sulfur oxide concentration has been analyzed at the downstream of the exhaust gas recovery unit and a treatment agent has been supplied to exhaust gas at the upstream of the exhaust gas recovery unit based on the analysis results. To compare the effect of analysis of oxygen gas concentration and sulfur oxide concentration at the downstream of the exhaust gas recovery unit, how the sulfur oxide concentration changed when the respective concentrations were analyzed and how slaked lime, which was the treatment agent, was consumed were studied.

[0043]

(Comparative Example 1)

CLAIMS

1. An exhaust gas treatment system comprising:

an exhaust gas treatment unit that treats an exhaust gas;

an exhaust gas recovery unit that separates and removes a solid component from the exhaust gas that has been treated in the exhaust gas treatment unit;

a treatment agent storage unit that stores a treatment agent for treating the exhaust gas;

a treatment agent addition management unit comprising an exhaust gas analysis unit, wherein the exhaust gas analysis unit is disposed downstream of the exhaust gas recovery unit and analyzes at least an oxygen gas concentration in the exhaust gas, and wherein the treatment agent addition management unit calculates an amount of the treatment agent to be added necessary to treat an acid gas in the exhaust gas treated in the exhaust gas treatment unit based on an amount of change in the oxygen gas concentration analyzed in the exhaust gas analysis unit, and the treatment agent addition management unit gives an instruction to supply the calculated amount of the treatment agent; and

a treatment agent supply unit that supplies the treatment agent in an amount instructed by the treatment agent addition management unit from the treatment agent storage unit to the exhaust gas treatment unit.

2. The exhaust gas treatment system according to claim 1, wherein the exhaust gas analysis unit analyzes an oxygen gas concentration in the exhaust gas by means of a zirconia oximeter, the treatment agent

addition management unit gives an instruction to supply the treatment agent when oxygen gas concentration starts to decrease, and the exhaust gas treatment unit treats the exhaust gas containing an acid gas with the treatment agent.

3. The exhaust gas treatment system according to claim 1 or 2, wherein the treatment agent has a property of neutralizing an acid gas in the exhaust gas.

4. The exhaust gas treatment system according to any of claims 1 to 3, wherein the acid gas comprises sulfur oxide.

5. An exhaust gas treatment method comprising:

calculating an amount of a treatment agent to be added necessary to treat an acid gas in an exhaust gas treated in an exhaust gas treatment unit, based on an amount of change in an oxygen gas concentration analyzed in an exhaust gas analysis unit in a treatment agent addition management unit, wherein the exhaust gas analysis unit is disposed downstream of an exhaust gas recovery unit that separates gas from a solid component in the exhaust gas to recover and remove the solid component, and analyzes at least the oxygen gas concentration in the exhaust gas;

giving an instruction to a treatment agent supply unit to supply the calculated amount of the treatment agent; and

supplying the instructed amount of the treatment agent from a treatment agent storage unit to the exhaust gas treatment unit, to thereby treat the acid gas in the exhaust gas.