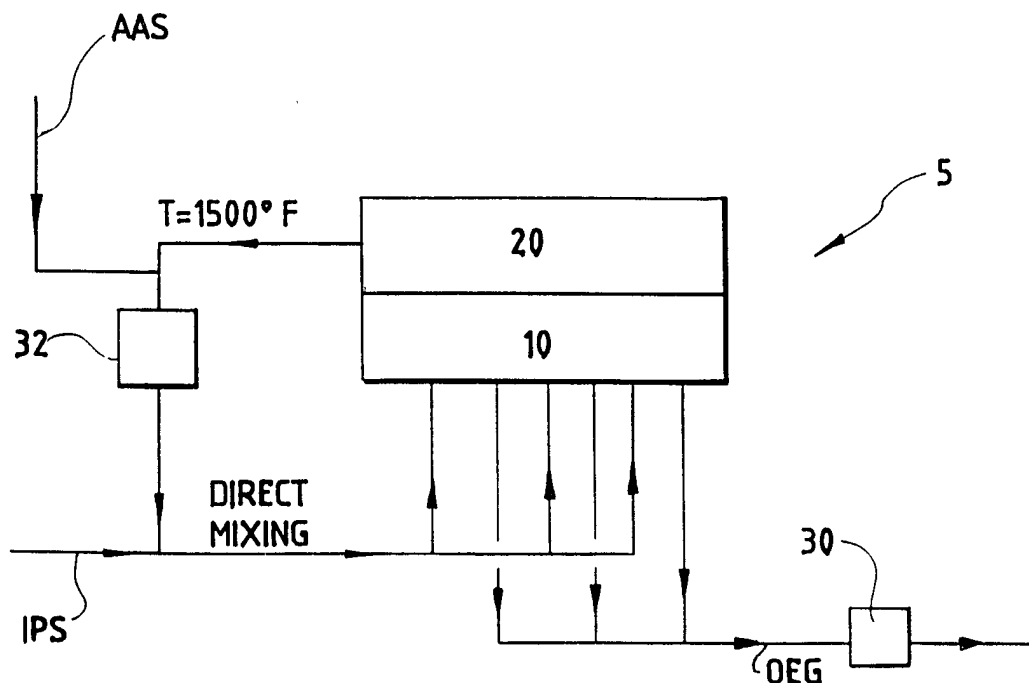




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| (21) International Application Number: PCT/IB97/01112 (22) International Filing Date: 19 August 1997 (19.08.97) (30) Priority Data: 08/700,077 20 August 1996 (20.08.96) US 08/914,622 19 August 1997 (19.08.97) US (71) Applicant (for all designated States except US): SMITH ENGINEERING COMPANY [US/US]; 2837 East Cedar Street, Ontario, CA 91761 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): MARTIN, Gary [US/US]; 2411 Cliff Road, Upland, CA 91784 (US). CHILES, David [US/US]; 10076 Dorset, Rancho Cucamonga, CA 91730 (US). (74) Agents: MAZZA, Michael, P. et al.; Niro, Scavone, Haller & Niro, Suite 4600, 181 W. Madison, Chicago, IL 60602 (US). | | (81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 12 November 1998 (12.11.98) |

(54) Title: PRE-HEATING OF PROCESS STREAM FOR THERMAL OXIDIZERS



(57) Abstract

A method for processing an air stream using a thermal oxidizer (5), by pre-heating the air stream, without the use of auxiliary heat, and substantially eliminating the condensation of organic or inorganic compounds within the air stream to be treated. Alternatively, or in combination, the system used for this pre-heat method can also be used to accommodate intermittent higher volumes of organic or inorganic compounds without the need for additional bypass hardware or any unnecessary waste of energy or capital costs.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB97/01112

| A. CLASSIFICATION OF SUBJECT MATTER | | |
|---|--|--|
| IPC(6) : F27D 17/00 US CL : 432/72, 179, 180, 181; 110/211, 345 According to International Patent Classification (IPC) or to both national classification and IPC | | |
| B. FIELDS SEARCHED | | |
| Minimum documentation searched (classification system followed by classification symbols) U.S. : 432/72, 179, 180, 181; 110/211, 345 | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) APS search terms: thermal oxidizers | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | |
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| A | US 5,376,340 A (BAYER ET AL) 27 DECEMBER 1994, entire document. | 1-9 |
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| A,P | US 5,589,142 A (GRIBBON) 31 DECEMBER 1996, entire document. | 1-9 |