

15-269900

1er examen de fondo

Search history

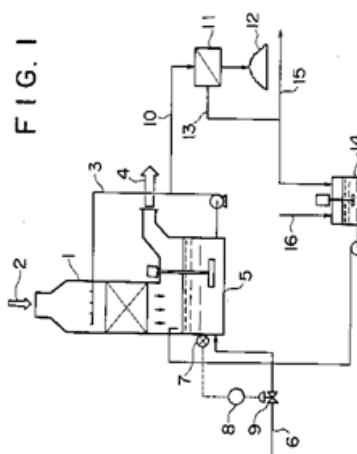
Search PN=(WO2012176634 or WO2012176635 or CN100496672 or US2010061909 or JP09001160 US5879945 or US5560893 or CN201454380 or
1: US2009130013 or EP1106237) (Results 8)

Search PN=(WO2012176634 or WO2012176635 or CN100496672 or US2010061909 or JP09001160 or US5879945 or US5560893 or CN201454380
2: or US2009130013 or EP1106237) (Results 9)

Abstract: Source: US5560893A In a flue gas desulfurization process wherein, when sulfur oxide-containing exhaust gas is treated with an absorbing solution containing a calcium compound, an oxygen-containing gas is passed through the absorbing solution and the flow rate of the oxygen-containing gas is controlled by detecting the oxidation-reduction potential of the absorbing solution continuously, an oxidation controlling method which comprises detecting a first deviation signal between the oxidation-reduction potential of the absorbing solution and the oxidation-reduction potential of the absorbing solution in a completely oxidized state and controlling the flow rate of the oxygen-containing gas in response to a second deviation signal between the first deviation signal and a preset oxidation-reduction potential deviation value.

US: 422/110 423/242.1 423/243.08 423/DIG.5

U.S. Patent Oct. 1, 1996 Sheet 1 of 3 5,560,893



Publication number	Publication date	Application number	Application date
CN1051476 C	20000419	CN19951007096	19950626
CN1122258 A	19960515	CN19951007096	19950626
DK0692299 T3	19990830	DK19950610042T	19950705
EP0692299 A1	19960117	EP19950610042	19950705
EP0692299 B1	19981230	EP19950610042	19950705
ES2125579 T3	19990301	ES19950610042T	19950705
JP3268127 B2	20020325	JP19940158569	19940711
JP8024566 A2	19960130	JP19940158569	19940711
KR0145215 B1	19980715	KR19950020252	19950711
KR19960003788 A	19960223	KR19950020252	19950711
PL309101 A1	19960122	PL19950309101	19950614
TH21828 A	19961120	TH19951001632	19950706
TH8902 B	19990427	TH19951001632	19950706
TR9500793 A2	19960621	TR19950000793	19950630
TR960014 A2	19960621	TR19950000793	19950630
TW288986 B	19961021	TW19950105670	19950606
US5560893 A	19961001	US19950472488	19950607

Designated states: DK ES IT

Title: METHOD FOR MEASURING OXIDATION-REDUCTION POTENTIAL IN A FLUE GAS DESULFURIZATION PROCESS

Abstract: Source: US5879945A In a flue gas desulfurization process based on the wet lime-gypsum method, the controlled oxidation of sulfites, by comparison of the redox potential of an absorbing fluid in a sample tank and the redox potential of the absorbing fluid in a completely oxidized state in a reference tank, and adjustment of the rate of air flow through the absorbing fluid, is improved by removing peroxides from the absorbing fluid in the reference tank before passing air therethrough to effect oxidation to a completely oxidized state. The method avoids instability due to the presence of peroxides in the absorbing fluid.

Classifications:

International (IPC 8-9): B01D53/34 B01D53/50 B01D53/54
B01D53/77 G01N27/26 G01N27/416 (Advanced/Invention);
B01D53/34 B01D53/50 B01D53/77 G01N27/416 (Core/Invention)

International (IPC 1-7): B01D53/34 B01D53/48 B01D53/50
B01D53/54 B01D53/77 G01N27/00 G01N27/26 G01N27/416
G01N33/00

CPC: G01N27/4168 B01D53/501 Y10T436/12 Y10T436/24
Y10T436/25125

European: B01D53/50B G01N27/416E

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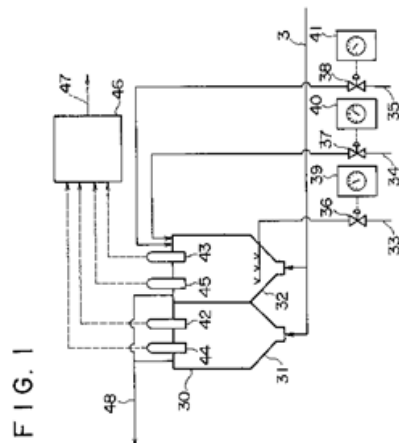
PatBase - US5879945_A

U.S. Patent

Mar. 9, 1999

Sheet 1 of 3

5,879,945

**Family:**

Publication number	Publication date	Application number	Application date
DK0824953 T3	20030908	DK19970610033T	19970814
EP0824953 A1	19980225	EP19970610033	19970814
EP0824953 B1	20030514	EP19970610033	19970814
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JP10057752 A2	19980303	JP19960222040	19960823
JP3254139 B2	20020204	JP19960222040	19960823
KR100216569 B1	19990816	KR19970040217	19970822
PL189207 B1	20050729	PL19970321747	19970822
PL321747 A1	19980302	PL19970321747	19970822
TH13365 B	20020823	TH19971003362	19970820
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US5879945 A	19990309	US19970916251	19970822

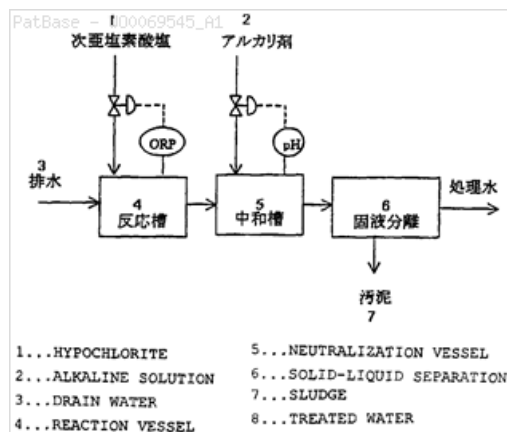
Priority:

JP19960222040 19960823

Probable Assignee: MITSUBISHI HITACHI POWER SYSTEMS LTD**Assignee(s):** (std): MITSUBISHI HEAVY IND KK ; MITSUBISHI HEAVY IND LTD**Assignee(s):** MITSUBISHI HEAVY INDUSTRIES LTD ; MITSUBISHI HEAVY INDUSTRY KK ; MITSUBISHI HITACHI POWER SYSTEMS LTD ; MITSUBISHI HEAVY IND**Inventor(s):** (std): HIROSHI TANAKA ; KOOSOO TAO ; OKINO ; OKINO SUSUMU ; SUSUMU OKINO ; TANAKA ; TANAKA HIROSHI ; TANAKA YUJI ; TAO ; TAO KOOSOO ; TAO KOZO**Designated states:** DK ES IT

Title: METHOD FOR FLUE GAS DESULFURIZATION AND FLUE GAS DESULFURIZATION SYSTEM

Abstract: A method for treating a drain water from a wet flue gas desulfurization apparatus for removing sulfur oxides in a flue gas by the wet lime-gypsum method, characterized as comprising adding a hypochlorite to the drain water, and then adjusting the pH of the resulting mixture to a value of 7 to 9.5, followed by separation between a solid and a liquid; and a method for desulfurizing a flue gas containing sulfur oxides and nitrogen oxides by the wet lime method, characterized as comprising an oxidizing step comprising drawing out a part of the slurry formed by absorption in a desulfurization step, followed by separation of gypsum, adjusting the pH of the resultant filtrate to a value of 3 to 4, and adding an oxidizing agent, a neutralizing step comprising adjusting the pH of the mixture resulting from the oxidizing step to a value of 7 to 9.5, and a solid-liquid separation step comprising separation between a solid and a liquid of the neutralized mixture. These methods can be employed for removing NS compounds effectively, which affect adversely the desulfurization performance of the apparatus, and at the same time for removing heavy metals in the desulfurization drain water, particularly manganese, with economical advantage.

Classifications:**International (IPC 8-9):** B01D53/14 B01D53/34 B01D53/48B01D53/50 B01D53/60 B01D53/73 B01D53/74 B01D53/77
B01D61/14 B01D61/16 C02F1/42 C02F1/44 C02F1/64 C02F1/68
C02F1/72 C02F1/76 C02F9/00 C02F9/04 (Advanced/Invention);
C02F1/28 C02F1/42 C02F1/44 C02F1/52 C02F1/56 C02F1/64
C02F1/66 C02F1/70 C02F1/74 (Advanced/Non-invention);
B01D53/34 B01D53/48 B01D53/50 B01D53/60 B01D53/74
B01D53/77 B01D61/14 B01D61/16 C02F1/42 C02F1/44 C02F1/62
C02F1/72 C02F1/76 (Core/Invention)**International (IPC 1-7):** B01D53/34 B01D53/48 B01D53/50B01D53/60 B01D53/74 B01D53/77 B01D53/78 B01D53/96
B01D61/14 B01D61/16 C02F1/42 C02F1/44 C02F1/62 C02F1/64
C02F1/72 C02F1/76 C02F9/04**CPC:** B01D53/1425 B01D53/50 B01D53/501 B01D53/73 C02F1/283
C02F1/42 C02F1/44 C02F1/444 C02F1/52 C02F1/5236 C02F1/56
C02F1/64 C02F1/66 C02F1/683 C02F1/70 C02F1/72 C02F1/725
C02F1/74 C02F1/76 C02F1/766 C02F9/00 C02F2101/10
C02F2101/20 C02F2103/18 C02F2209/04 C02F2209/06
C02F2303/185**European:** B01D53/14E B01D53/50 B01D53/50B B01D53/73C02F1/68K C02F1/72K C02F1/76 C02F9/00 M02F1/28D M02F1/42 M02F1/44 M02F1/44D M02F1/52 M02F1/52F M02F1/56
M02F1/64 M02F1/66 M02F1/68K M02F1/70 M02F1/72 M02F1/74 M02F1/76 M02F1/76G M02F101/10 M02F101/20 M02F103/18
M02F209/04 M02F209/06 M02F303/18B**Family:**

Publication number	Publication date	Application number	Application date
CN1231284 C	20051214	CN20008000888	20000515
CN1304328 A	20010718	CN20008000888	20000515
CN1698930 A	20051123	CN200510066669	20000515
DE60014831 D1	20041118	DE20006014831	20000515
DE60014831 T2	20051013	DE20006014831T	20000515
EP1106237 A1	20010613	EP20000925662	20000515
EP1106237 A4	20020828	EP20000925662	20000515
EP1106237 B1	20041013	EP20000925662	20000515
EP1129997 A2	20010905	EP20010108043	20000515
EP1129997 A3	20020828	EP20010108043	20000515
EP1134195 A2	20010919	EP20010108042	20000515
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JP2000317262 A2	20001121	JP19990135279	19990517
JP2001000831 A2	20010109	JP19990175155	19990622
JP2001062247 A2	20010313	JP19990372430	19991228
JP3572223 B2	20040929	JP19990175155	19990622
JP3572233 B2	20040929	JP19990372430	19991228
JP3790383 B2	20060628	JP19990135279	19990517
TR200100097 T1	20010621	TR20010000097T	20000515
TR200102998 T1	20030521	TR20010002998T	20000515
TR200401879 T1	20050822	TR20040001879T	20000515
WO0069545 A1	20001123	WO2000JP03093	20000515

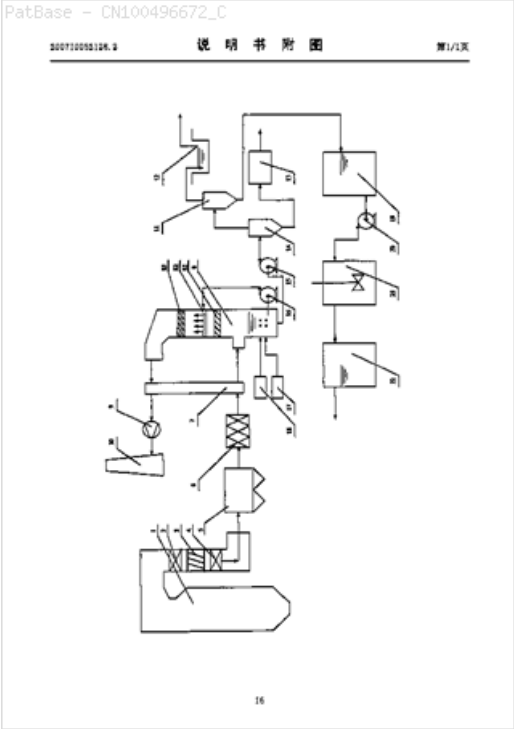
Priority:EP20000925662 20000515 JP19990135279 19990517 WO2000JP03093 20000515
JP19990175155 19990622 JP19990372430 19991228 JP19990175156 19990622**Probable Assignee:** MITSUBISHI HEAVY IND LTD**Assignee(s):** (std): MITSUBISHI HEAVY IND LTD**Assignee(s):** MITSUBISHI HEAVY INDUSTRIES LTD**Inventor(s):** (std): ATSUSHI YOSHIOKA ; BABA HIROSHI ; EIJI OCHI ; ENDO ATSUMASA ; AL YOSHIOKA ATSUSHI
IWASHITA K ; HIROS YOSHIOKA ATSUSHI IWASHITA ; NISHIDA MORIKATA ; NISHIDA MORIMASA ;
OCHI EIJI ; OKINO SUSUMU ; SHINODA TAKEO ; ITO TETSUYA ; IWASHITA KOICHIRO ; KAMIYOSHI
HIDEKI ; KOICHIRO IWASHITA ; LTD MITSUBISHI HEAVY INDUSTRIE ; YOSHIOKA ATSUSHI**Inventor(s):** YOSHIOKA ATSUSHI IWASHITA KOICHIRO OCHI EIJI ; YOSHIOKA ATSUSHI IWASHITA KOICHIRO
OCHI EIJI ET AL ; YOSHIOKA ATSUSHI IWASHITA KOICHIRO OCHI EIJI SHINO ; MITSUBISHI HEAVY
INDUSTRIES LTD ; MORIKATA NISHIDA ; SUSUMU OKINO ; TAKEO SHINODA ; TETSUYA ITO ; HIROSHI
BABA ; ATSUMASA ENDO ; HIDEKI KAMIYOSHI**Designated states:** AT BE CH CN CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

Title: Wet flue gas desulfurizing and hydrargyrum-removing technology based on two-stage oxidation reaction and system thereof

Abstract: Source: CN101053738A A wet flue gas desulfurization and demercuration process and a system thereof based on two-stage oxidizing reaction. The process does two-stage oxidizing treatment to the simple substance HgO in flue gas utilizing to ultraviolet radiation and oxidant of halogen series, transmutes the gas phase divalent ion Hg2+ therein to liquid phase divalent ion Hg2+ using the modified limestone-gesso wet desulfurization process, and then transmutes the liquid phase divalent ion Hg2+ to the stable mercuric sulfide-HgS deposition via stabilizer of liquid phase divalent ion Hg2+. The system comprises desulfurization and demercuration equipments such as an ultraviolet irradiator, an electrical precipitator, an oxidant spraying unit and a reaction absorber etc, gesso treatment equipments of desulfurization byproduct, and a treating equipment for mercuric sulfide-HgS deposition. The process and the system thereof can raise the oxidation rate of simple substance Hg in the flue gas effectively, and at the same time effectively overcome the reduction release of divalent ion Hg2+ to avoid secondary pollution and be capable of raise desulfurization and demercuration efficiency of limestone-gesso wet desulfurization system.

Classifications:

International (IPC 8-9): B01D53/48 B01D53/64 (Advanced/Invention); B01D53/46 B01D53/48 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN100496672 C	20090610	CN200710052128	20070430
CN101053738 A	20071017	CN200710052128	20070430

Priority:

CN200710052128 20070430

Probable Assignee: WUHAN KAIDI ELECTRIC POWER ENV

Assignee(s): (std) WUHAN KAIDI ELECTRIC POWER ENV

Assignee(s): WUHAN KAIDI ELECTRIC POWER ENVIRONMENTAL PROTECTION CO

Inventor(s): (std) HAN XU XU ; JING ZHU ; RUIXIN LI ; XIANGPENG GAO ; XIONGHAO LI ; XU HAN ; FUSHENG YU ; YINSHENG XU ; ZHIAN XU

Inventor(s): ZHU JING ; YU FUSHENG ; GAO XIANGPENG ; HAN XU ; XU XU HAN ; XU YINSHENG ; XU ZHIAN ; LI RUIXIN ; LI XIONGHAO

Title: EXHAUST GAS TREATING METHOD

Abstract: Source: US2010061909A An exhaust gas treating method removes sulfur dioxide from exhaust gas containing at least sulfur dioxide and mercury by bringing the exhaust gas into contact with absorption liquid. Persulfate is added into the absorption liquid or alternatively, iodine gas is added to the exhaust gas before the exhaust gas is brought into contact with the absorption liquid. A high removal rate for both sulfur dioxide and mercury is stably maintained if the load of power generation and the composition of exhaust gas fluctuate.

Classifications:

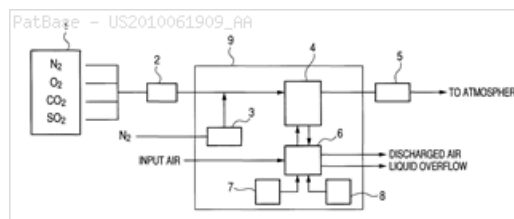
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International (IPC 1-7): B01D53/34 B01D53/50 B01D53/64 B01D53/77

CPC: B01D53/1456 B01D53/64 B01D53/78 B01D2251/106 B01D2257/108 B01D2257/302 B01D2257/602

European: B01D53/14H B01D53/64 B01D53/78 L01D251/106 L01D257/108 L01D257/302 L01D257/602

US: 423/210 423/222 423/243.01 423/243.010S 423/243.02 423/243.020P 423/506 423/513

**Family:**

Publication number	Publication date	Application number	Application date
AU2008221843 AA	20080912	AU20080221843	20080305
AU2008221843 BB	20120712	AU20080221843	20080305
CA2680175 AA	20090904	CA20082680175	20080305
CA2680175 C	20130115	CA20082680175	20080305
CN101663080 A	20100303	CN200880012959	20080305
CN101663080 B	20130320	CN200880012959	20080305
DE602008027731 D1	20131114	DE200860027731T	20080305
DE602008030595 D1	20140417	DE200860030595T	20080305
DK2135664 T3	20140512	DK20080721846T	20080305
DK2452740 T3	20140106	DK20080153676T	20080305
EP2135664 A1	20091223	EP20080721846	20080305
EP2135664 A4	20110316	EP20080721846	20080305
EP2135664 B1	20140305	EP20080721846	20080305
EP2452740 A1	20120516	EP20120153676	20080305
EP2452740 B1	20130918	EP20120153676	20080305
ES2435318 T3	20131218	ES20120153676T	20080305
ES2458625 T3	20140506	ES20080721846T	20080305
IN05872CN2009 A	20100219	IN2009CN05872	20091006
IN268271 B	20150828	IN2009CN05872	20091006
JP2008212886 A2	20080918	JP20070056597	20070307
JP2009125659 A2	20090611	JP20070303323	20071122
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KR20090118104 A	20091117	KR20097020863	20080305
KR20110097969 A	20110831	KR20117016873	20080305
RU2009137010 A	20110420	RU20090137010	20080305
RU2435628 C2	20111210	RU20090137010	20080305
TW200916181 A	20090416	TW20080107888	20080306
TWI430833 B	20140321	TW20080107888	20080306
US2010061909 AA	20100311	US20080530386	20080305
US8663594 BB	20140304	US20080530386	20080305
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Priority:

EP20080721846 20080305 EP20120153676 20080305 JP20070056597 20070307
JP20070303323 20071122 WO2008JP54430 20080305

Probable Assignee: CHIYODA CORP

Assignee(s): (std): AWAI EIJI ; CHIYODA CHEM ENG CONSTRUCT CO ; CHIYODA CORP ; KUMAGAI AKIRA ; TAKEDA DAI ; KAWAMURA KAZUSHIGE ; TIJODA CORP

Assignee(s): TIJODA KORPOREJSHN ; CHIYODA CORP YOKOHAMA ; CHIYODA KAKO KENSETSU KK

Inventor(s): (std): AKIRA KUMAGAI ; AVAI EIDZI ; AWAI EIJI ; DAI TAKEDA ; EIJI AWAI ; KAWAMURA KAZUSHIGE ; KAZUSHIGE KAWAMURA ; KUMAGAI AKIRA ; TAKEDA DAI ; TAKEDA MASARU

Agent(s): SPRUSON AND FERGUSON; RIDOUT AND MAYBEE LLP; MARKS AND CLERK LUXEMBOURG LLP; WALDREN ROBIN MICHAEL; WALLACE SHEILA JANE; VALLEJO JUAN PEDRO; MOTOMIYA TERUHISA; FUJINO IKUO; TAKANASHI NORIMICHI; KATO NOBUAKI; OKABE MASAO; USUI SHINICHI; OKABE YUZURU; WESTERMAN HATTORI DANIELS AND ADRIAN LLP; OKABE MASAO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHODS AND SYSTEMS FOR ENHANCING MERCURY, SELENIUM AND HEAVY METAL REMOVAL FROM FLUE GAS

Abstract: Source: US2009130013A A method for treating flue gas may include adding iron to a slurry in a ratio between approximately 20-to-1 and 5000-to-1 by weight of iron to a weight of mercury, selenium or other heavy metal to be removed from the flue gas, and contacting the slurry with the flue gas in a flue gas desulfurization system. A system for treating flue gas may include a scrubber, a slurry tank, and a water source. Water and limestone may be combined in the slurry tank to form a limestone slurry. At least a portion of the limestone slurry may be used to treat flue gas in the scrubber. Iron may be added to at least a portion of the limestone slurry used to treat flue gas in the scrubber. The iron used in either the method or system may be a ferrous or ferric salt, or elemental iron.

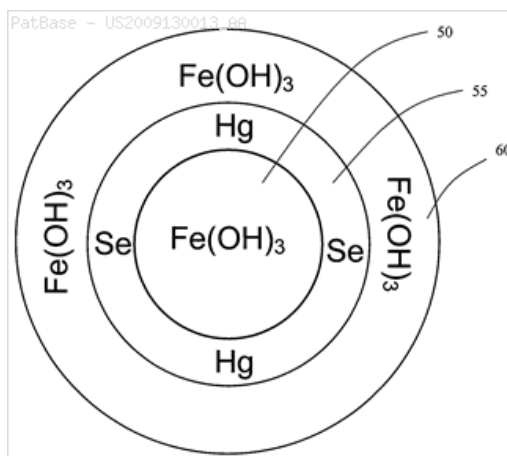
Classifications:

International (IPC 8-9): B01D47/00 C01B17/00 (Advanced/Invention); B01D47/00 C01B17/00 (Core/Invention)

CPC: B01D53/64 B01D2251/404 B01D2251/604 B01D2257/60 C01F11/464

European: B01D53/64 C01F11/46D L01D251/404 L01D251/604 L01D257/60

US: 423/242.1



Family:

Publication number	Publication date	Application number	Application date
US2009130013 AA	20090521	US20080167139	20080702
WO09067645 A1	20090528	WO2008US84285	20081121

Priority:

US20070989766P 20071121 US20080167139 20080702

Probable Assignee: CH2M HILL INC

Assignee(s): (std): CH2M HILL INC ; HIGGINS THOMAS E

Inventor(s): (std): HIGGINS THOMAS E

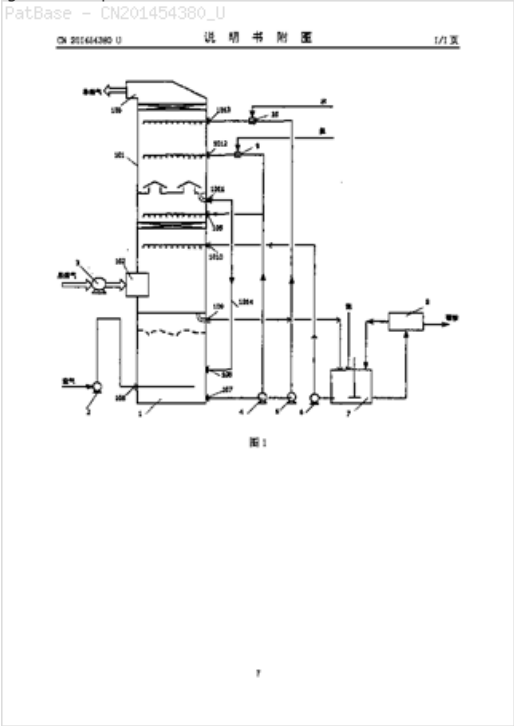
Agent(s): DORSEY AND WHITNEY LLP INTELLECTUAL PROPERTY DEPARTMENT; HOGE ROBERT D ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: Multi-section amino flue gas desulfurization device

Abstract: Source: CN201454380U The utility model discloses a novel multi-section amino flue gas desulfurization device, in particular to a desulfurization device which uses ammonia as raw material to recover oxysulfide from flue gas and produce ammonium sulfate fertilizer, and comprises a desulfurization tower (1), three circulating pumps (4-6) and a liquid storage tank (7), wherein the desulfurization tower is divided into three main function areas by two baffles, i.e. an absorber, a concentrator and an oxidization device, and the three circulating pumps are a desulfurization circulating pump, a deamination circulating pump and a concentration circulating pump respectively; and the liquid storage tank is of a thiamine grower. Accordingly, the flue gas completes the task of desulfurization in the absorber, the ammonium sulfite intermediate (intermediate product) formed after the desulfurization is oxidized into ammonium sulfate in the oxidation device, and is sent to the concentrator to be concentrated, and then flows into the liquid storage tank to grow into ammonium sulfate crystals, so that the flue gas desulfurization process is continuous and stable to achieve the production of solid ammonium sulfate, thereby ensuring the efficient desulfurization, and effectively controlling the escape loss of the raw material ammonia.

Classifications:
International (IPC 8-9): B01D53/50 B01D53/78 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
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Priority:
CN200920070931U 20090422

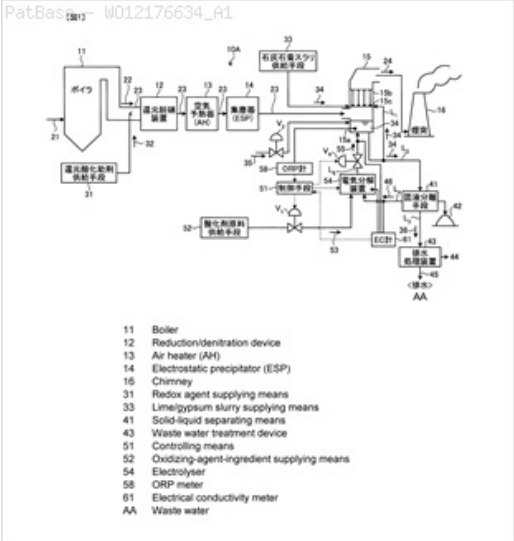
Probable Assignee:	AIJUAN LOU
Assignee(s): (std):	AIJUAN LOU
Assignee(s):	LOU AIJUAN
Inventor(s): (std):	AIJUAN LOU
Inventor(s):	LOU AIJUAN

Title: EXHAUST GAS TREATMENT APPARATUS AND ORP CONTROL METHOD THEREFOR

Abstract: This exhaust gas treatment apparatus has: a redox agent supplying means for supplying a redox agent, which produces hydrogen chloride and ammonia when vaporized, to a discharge flue for the exhaust gas from a boiler; a reduction/denitration device that has a denitration catalyst for reducing the nitrogen oxide in the exhaust gas using ammonia and oxidizing the mercury in the presence of hydrogen chloride; a wet desulfurization device for absorbing and removing the sulfur oxide in the exhaust gas and the oxidized mercury in the reduction/denitration device using an absorbent; an oxidation reduction potential (ORP) meter for measuring the ORP of the absorbent; a solid-liquid separating means for separating the solids and the mercury from the liquids in the desulfurization waste water discharged from the wet desulfurization device; an electrolyser for electrolysing the separated liquid separated by the solid-liquid separating means to produce a hypochlorous acid; and a controlling means for supplying the hypochlorous acid to the absorbent to control the ORP of the absorbent.

Classifications:

International (IPC 8-9): B01D53/46 B01D53/50 B01D53/56
B01D53/64 B01D53/77 B01D53/86 B01D53/94
C02F1/46 (Advanced/Invention)
CPC: B01D53/75 B01D53/501 B01D53/64 B01D53/8631
B01D2251/206 B01D2251/404 C02F1/461 C02F2103/18



Family:

Publication number	Publication date	Application number	Application date
JP2013006144 A2	20130110	JP20110139796	20110623
WO12176634 A1	20121227	WO2012JP64818	20120608

Priority:

JP20110139796 20110623

Probable Assignee: MITSUBISHI HEAVY IND LTD

Assignee(s): (std): NAGAYASU TATSUTO ; NASU YUSAKU ; USHIKU TETSU ; OKINO SUSUMU ; UKAI NOBUYUKI ; ASANO MASAMICHI ; MITSUBISHI HEAVY IND LTD

Assignee(s): MITSUBISHI HEAVY INDUSTRIES LTD

Inventor(s): (std): ASANO MASAMICHI ; NAGAYASU TATSUTO ; NASU YUSAKU ; OKINO SUSUMU ; UKAI NOBUYUKI ; USHIKU TETSU

Agent(s): SAKAI HIROAKI ET AL

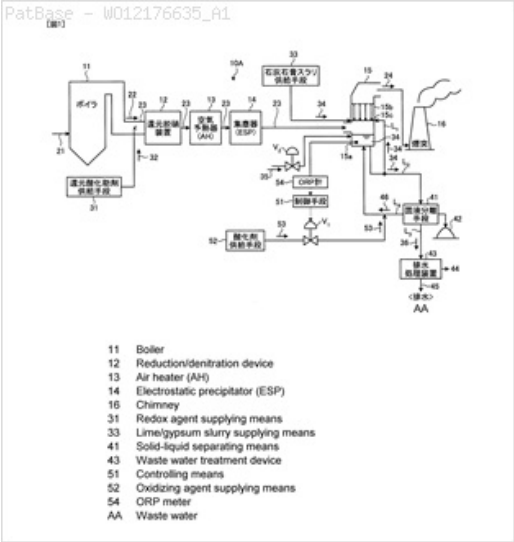
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT HW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

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Classifications:

International (IPC 8-9): B01D53/14 B01D53/34 B01D53/50
B01D53/56 B01D53/64 B01D53/77 B01D53/94 (Advanced/Invention)
CPC: F23J15/02 B01D53/50 B01D53/8631 B01D53/8665 B01D53/869
B01D53/96 F23J2215/20 F23J2215/60 F23J2219/40



Family:

Publication number	Publication date	Application number	Application date
JP2013006143 A2	20130110	JP20110139795	20110623
WO12176635 A1	20121227	WO2012JP64819	20120608

Priority:

JP20110139795 20110623

Probable Assignee: MITSUBISHI HEAVY IND LTD

Assignee(s): (std): KAGAWA SEIJI ; MITSUBISHI HEAVY IND LTD ; NAGAYASU TATSUTO ; UKAI NOBUYUKI ; USHIKU TETSU

Assignee(s): MITSUBISHI HEAVY INDUSTRIES LTD

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