

yenny

Search history

Search 1: TAC=(separation membrane modules for separating gas mixtures) (Results 0)
Search 2: TAC=(apparatus and separation membrane and gas mixtures) (Results 15)

Title: CALCULUS-INHIBITING COMPOSITIONS AND METHOD

Abstract: Source: US4143125A Oral compositions such as mouth washes, toothpastes, other oral hygiene products, foods, beverages, chewing gums and the like containing certain alkylenedioxybis(alkyl-propanedioic acid) compounds inhibit the formation of dental calculus.

Classifications:

International (IPC 8-9): A23G4/00 A23K1/00 A23K1/16 A23L1/00 A23L1/03 A23L1/22

A23L1/226 A61K31/185 A61K31/19 A61K8/00 A61K8/36 A61K8/362 A61K9/68

A61Q11/00 B01D53/00 B01D53/22 B01D59/14 B01D67/00 B01D69/02 B01D69/08

B01D69/10 B01D69/12 B01D71/68 B01D71/70 B01D71/76 B01D71/80 C01B17/45

C01B31/20 C07C59/305 C08F120/44 C08G75/23 C08G77/04 C08J5/18 C08J9/42

G01N1/22 (Advanced/Invention);

A23G4/00 A23K1/00 A23K1/16 A23L1/00 A23L1/03 A23L1/22 A23L1/226 A61K31/185

A61K8/00 A61K8/30 A61K9/68 A61Q11/00 B01D53/00 B01D53/22 B01D59/00

B01D67/00 B01D69/00 B01D71/00 C01B17/00 C01B31/00 C07C59/00 C08F120/00

C08G75/00 C08G77/00 C08J5/18 G01N1/22 (Core/Invention);

A61K (Subclass/Invention)

International (IPC 1-7): A23G3/30 A23K1/00 A23K1/16 A23L1/00 A23L1/226 A61K31/185 A61K31/19 A61K7/16 A61K7/24 A61K7/46 A61K9/68

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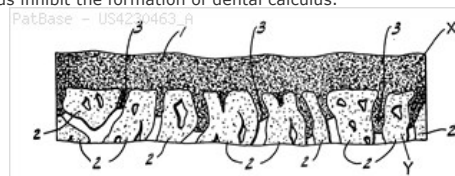
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B01D69/12 B01D71/16 B01D71/42 B01D71/68 B01D71/80

European: A61K7/16D2A A61K8/362 A61Q11/00 B01D53/22 B01D53/22M B01D67/00J14 B01D67/00K14B B01D67/00R14 B01D67/00R18

B01D69/08 B01D69/12 B01D71/68 B01D71/76 B01D71/80 L01D71/16 L01D71/42 L01D71/68

US: 210/500.23 210/500.41 264/129 264/41 424/48 424/49 427/245 514/574 55/16 95/47 95/49 95/51 95/53 95/54 95/55 96/10 96/12

**Family:**

Publication number	Publication date	Application number	Application date
AR224102 A1	19811030	AR19770269964	19771114
AT374375 B	19840410	AT19770008124	19771114
AT812477 A	19830915	AT19770008124	19771114
AU197730607 A1	19790524	AU19770030607	19771114
AU504016 B2	19790927	AU19770030607	19771114
BE860811 A1	19780516	BE19770182612	19771114
BR7707583 A	19780822	BR19770007583	19771111
CA1090257 A1	19801125	CA19770290844	19771114
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DD133298 C	19781227	DD19770202073	19771114
DE2750873 A1	19780518	DE19772750873	19771114
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DE2750874 C2	19860430	DE19772750874	19771114
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DK148735 C	19860203	DK19770005032	19771114
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ES464048 A1	19780801	ES19770464048	19771111
ES466474 A1	19790601	ES19780466474	19780130
ES475666 A1	19790516	ES19780475666	19781201
FI61636 B	19820531	FI19770003439	19771114
FI61636 C	19820910	FI19770003439	19771114
FI773439 A	19780516	FI19770003439	19771114
FR2378513 A1	19780825	FR19770034179	19771114
FR2410501 A1	19790629	FR19770034031	19771110
FR2410501 B1	19821210	FR19770034031	19771110
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IL53379 A0	19780131	IL19770053379	19771114
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IN147738 A	19800614	IN1977CA01602	19771114
IT1088884 A	19850610	IT19770029639	19771114
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JP1474079 C3	19881227	JP19770137219	19771114
JP53062841 A2	19780605	JP19770137217	19771114
JP53086684 A2	19780731	JP19770137219	19771114
JP58095525 A2	19830607	JP19820189397	19821029
JP59051321 B4	19841213	JP19770137219	19771114
JP59051841 B4	19841217	JP19820189397	19821029
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MX172537 B	19931217	MX19770001939	19771114
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NL175387 C	19841101	NL19770012432	19771111
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NO773882 A	19780518	NO19770003882	19771114
PH14682 A	19811110	PH19770020438	19771115
PL125022 B1	19830331	PL19770202124	19771114
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PT67269 A	19771201	PT19770067269	19771114
PT67269 B	19790418	PT19770067269	19771114
RO76391 P	19810530	RO19770092112	19771114
SE440744 B	19850819	SE19770012818	19771114
SE440744 C	19851128	SE19770012818	19771114
SE7712818 A	19780516	SE19770012818	19771114
SE7712818 L	19780516	SE19770012818	19771114
SU858547 D	19810823	SU19772542752	19771114
TR19886 A	19800409	TR19770019886	19771116
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YU272277 A	19821031	YU19770002722	19771115

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ZA7706779 A	19790228	ZA19770006779	19771114

Priority:

US19760741824 19761115 US19760742159 19761115 US19760754371 19761227
US19770832481 19770913 CA19770290702 19771114 CA19770290844 19771114

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Title: High recovery spiral wound membrane element

Abstract: Source: US4855058A This invention is a spiral wound membrane filtration element for reverse osmosis, ultrafiltration, microfiltration and filtration of **gas mixtures** and having a novel radial feed-concentrate flow path and axial permeate discharge allowing conversion of a feed mixture to be varied to any prctical desired degree without regard to the membrane elements length while maitaining turbulent or chopped laminar hydrodynamic flow conditons where desired, and a method of using said membrane elements in a filtration process.

Classifications:

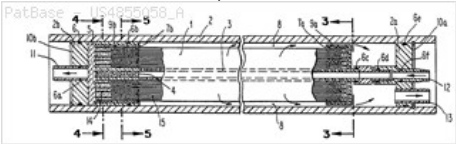
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International (IPC 1-7): B01D13/00 B01D63/10 C02F1/44

CPC: B01D53/22 B01D63/10 B01D2313/143

European: B01D53/22 B01D63/10 L01D313/14B

US: 210/321.74 210/321.78 210/321.83 210/321.87 210/652



Family:

Publication number	Publication date	Application number	Application date
AT84733 E	19930215	AT19870305513T	19870622
AU198774657 A1	19880107	AU19870074657	19870624
AU611086 B2	19910606	AU19870074657	19870624
CA1302904 A1	19920609	CA19870539288	19870610
DE3783667 D1	19930304	DE19873783667	19870622
DE3783667 T2	19930513	DE19873783667T	19870622
EP0251620 A2	19880107	EP19870305513	19870622
EP0251620 A3	19880921	EP19870305513	19870622
EP0251620 B1	19930120	EP19870305513	19870622
JP63065905 A2	19880324	JP19870155640	19870624
KR950007919 B1	19950721	KR19870006384	19870623
US4855058 A	19890808	US19880188758	19880502
ZA8704476 A	19881026	ZA19870004476	19870622

Priority:

US19860877906 19860624	CA19870539288 19870610	EP19870305513 19870622
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Designated states: AT BE CH DE ES FR GB IT LI NL SE

Title: Method of removing organic compounds from air/permanent **gas mixtures**

Abstract: Source: US4994094A A method of removing organic compounds from an air/permanent **gas** mixture. This mixture, as untreated medium, is conveyed to a first gas **separation membrane** and is divided into a filtrate gas stream that is concentrated with organic compounds and a retained gas stream that is depleted of organic compounds. The concentrated filtrate is conveyed to a recovery device for the recovery of organic compounds therefrom. The pressure of the air/permanent **gas** mixture is raised prior to entry thereof into the first gas **separation membrane**. The pressure of the concentrated filtrate is reduced after exit thereof from the first gas **separation membrane**. The depleted gas stream is discharged into the atmosphere, and the gas stream that exits the recovery device is returned to the air/permanent **gas** mixture at some point subsequent to the pressure increase thereof.

Classifications:

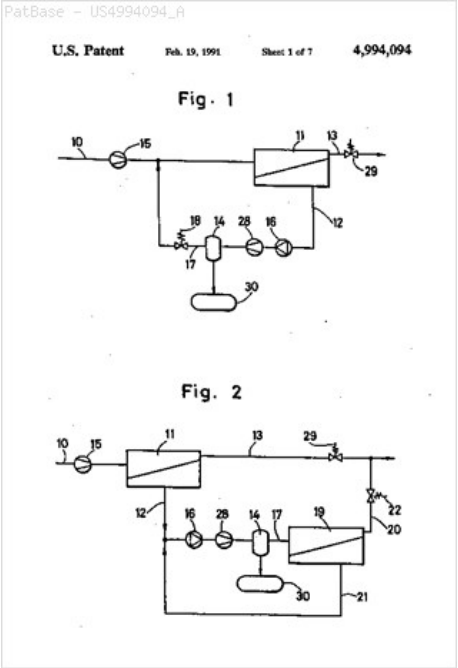
International (IPC 8-9): B01D53/02 B01D53/04 B01D53/22 B67D5/04 C07C7/144 (Advanced/Invention); B01D53/04 (Core/Invention)

International (IPC 1-7): B01D46/42 B01D46/54 B01D5/00 B01D53/00 B01D53/02 B01D53/04 B01D53/22 B01D53/72 B01D71/64 C07C7/144 C10G5/00

CPC: B01D53/02 B01D53/22 B67D7/0476 C07C7/144

European: B01D53/02 B01D53/22 B67D7/04C C07C7/144

US: 55/16 55/68 55/74 95/141 95/237 95/39 95/50



Family:

Publication number	Publication date	Application number	Application date
AT106267 E	19940615	AT19890101223T	19890125
CA1335491 A1	19950509	CA19890591961	19890224
CN1026663 C	19941123	CN19891000797	19890225
CN1035625 A	19890920	CN19891000797	19890225
DE3806107 A1	19890831	DE19883806107	19880226
DE3806107 C2	19940623	DE19883806107	19880226
DE58907723 D1	19940707	DE19895007723	19890125
DK171074 B1	19960528	DK19890000857	19890224
DK85789 A	19890827	DK19890000857	19890224
DK85789 A0	19890224	DK19890000857	19890224
EP0329962 A2	19890830	EP19890101223	19890125
EP0329962 A3	19890920	EP19890101223	19890125
EP0329962 B1	19940601	EP19890101223	19890125
ES2056964 T3	19941016	ES19890101223T	19890125
JP2021920 A2	19900124	JP19890041965	19890223
US4994094 A	19910219	US19890316054	19890224

Priority:

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Assignee(s): (std): GEESTHACHT GKSS FORSCHUNG ; GKSS FORSCHUNGSZENTRUM GESSTHA

Assignee(s): GKSS FORSCHUNGSZENTRUM GESSTHACHT GMBH ; PEINEMANN KLAUS VICTOR ; HATTENBACH KARL ; WIND JAN ; OHLROGGE KLAUS ; GKSS FORSCHUNGSZENTRUM GEESTHACHT GMBH ; GKSS FORSCHUNGSZENTRUM GEESTHACHT GMBH 2054 GEESTHACHT DE ; GKSS FORSCHUNGSZENTRUM GEESTHACHT GMBH 21502 GEESTHACHT ; BEHLING DIETER

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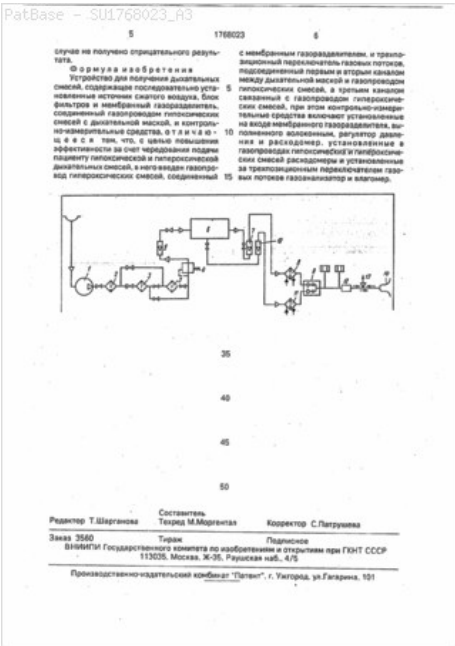
Inventor(s): WIND JAN 2000 BARBUETTEL ; WIND JAN 2000 BARBUETTEL DE ; OHLROGGE KLAUS 2054 GEESTHACHT DE ; OHLROGGE KLAUS 2054 GEESTHACHT ; DIETER BEHLING ; BEHLING DIETER DR D 2000 HAMBURG 55 ; HATTENBACH KARL DR D 2054 GEESTHACHT ; OHLROGGE KLAUS D 2054 GEESTHACHT ; PEINEMANN KLAUS VICTOR DR D 2057 REINBEK ; WIND JAN D 2000 BARBUETTEL ; KLAUS OHLROGGE ; KARL HATTENBACH

Designated states: AT BE CH DE ES FR GB IT LI NL SE

Title: **APPARATUS** FOR PREPARATION OF RESPIRATORY MIXTURE

Abstract: Source: SU1768023A Invention relates to devices for preparing mixtures airway used for therapeutic or prophylactic purposes in E. known breathing **apparatus** using already prepared mixtures were respiratory and providing control parameters breathing mixtures or redesign elements respiratory equipment. breathing **apparatus** is also known for the preparation of a hypoxic mixture comprising a mask, the valve box, and the adsorption tank breathing. Carbon dioxide is absorbed by a chemically active adsorbent into the adsorber. The closest technical nature of the invention is an **apparatus** for producing hypoxic mixtures containing filter, blower, membrane gazorazdelitel, water ring vacuum pump, gas hypoxic mixtures and test facilities. In gazorazdelitele use flat polymeric membrane through which components penetrate the air at different speeds. The driving factor in the gas separation is a pressure difference before and after the membrane. The disadvantages of this device include large size and weight gazorazdelitel which are caused by a sufficiently large gas **separation membranes** flat surface, the need to use liquid ring vacuum pumps, cracks in the membranes at variable loads encountered when starting, stopping, and disorders mode, which impairs the gas separation, the accumulation on the surface of flat membranes static charge that adversely affects the gas separation process; short life (1-2 years), only one possibility for producing a breathing gas removal of waste products to the atmosphere. object of the invention - efficiency devices. CO with VJ of § with th CJ Said aim is achieved in that the device for the preparation of respiratory mixture containing a source of compressed air, a filter unit, a membrane gazorazdelitel connected pipeline hypoxic **gas** mixture flows through the switch to the respiratory gas mask, as well as control and measuring means gazorazdelitel is formed as a membrane and gazorazdelitel fiber is further coupled to switch the gas flow pipeline respiratory hyperoxia-tion mixture, the three-position switch configured gazovyyh.potokov. The larger surface fiber gas **separation membrane** elements arranged tightly in a small cylindrical device (when the mass transfer surface 300 YuOom device dimensions 185-250 mm, weight 20-50 kg), operating pressure of 0.3 to 2.5 MPa when the air in the capillaries of the hollow fibers, or outside the fibers (in this case, air penetrates through the outer surface of the fiber in its channels). When outer air feeding elements of the resource is increased 5-fold in communication tems that the fibers work in compression is more wear-resistant than paper tensile. proposed device allows to vary the mode of continuously issuing ready mixes as respiratory suppression, and flow. Overpressure breathing mixtures obtained enough to overcome the resistance of the respiratory equipment and pipelines, ie respiratory mixture supplied to the various distances to the patient without any additional devices. is possible to reverse the air flow in the fiber and producing gazorazdelitel with normal breathing mixtures. Reversible flow rate can be varied, and concentrations of the mixtures of the device resource. Application Construction enables simultaneously producing finished hypoxic (10-21 percent oxygen) and hyper-oksichesky (21-35 percent oxygen) breathing mixtures that switch gas streams can be alternately supplied to the patient with respiratory customized procedure. Besides breathing **gas** mixture are obtained aseptically clean, i.e. do not contain contaminants, bacteria, and allergens, since they are produced on a molecular level, which serves as a reliable barrier to high molecular weight compounds. The drawing shows a diagram of the device. 5Atmosferny air through the intake filter sucked source 1 Comp-mirrets therein to 0.6-0.8 MPa, partially separated from the moisture and oils and moisture separator is directed to 2, where the removal of oil 0, and then in two series-connected filter 3, which is purified to the desired condition is then air is supplied to the pressure regulator 4 (provided a constant air pressure in the system 5 of 0.5-0.6 MPa). After air enters flowmeter 5 in gazorazdelitel fiber membrane 6. Passage on a hollow fiber capillary frames, air enriched with nitrogen and oxygen is depleted, from 0 gazorazdelitel withdrawn hypoxic breathing mixture containing 10-21 percent oxygen, 79-90 percent nitrogen, with the pressure of 0.4-0.5 MPa, which is through 7 rotameter is supplied to the cooler 8, which is cooled to 25 degrees centigrade on May 20, and then switch the gas streams. In the same 6 gazorazdelitele air components which penetrate through the wall of the hollow fiber form 0 respiratory **gas** mixture containing 21-35 percent 78,09-65 percent oxygen and nitrogen at a pressure of 0.1 MPa, which is fed via a rotameter 10 a cooler 1 which is cooled at 5 degrees centigrade and fed to the switch 9, the gas stream 5. needed respiratory mixture enters the anesthetic or breathing **apparatus** and 12 through the pipeline, tee 13 patients and a respiratory mask 14 in the respiratory system of the patient topic 0. Switching breathing gas production t-job breathing mask from the face of a patient who is already on the respiratory nastroils session 5 Techno-economic performance devices: Performance compressor unit, m3 / h 0.8 Operating pressure MPa0 8 0 Kw 7.5 Holodop roizvoditel s, kw 0.35 Range adjusting parameters respiratory **gas mixtures**: 5 Oxygen, percent 10 - 35 Nitrogen content, percent 65-90 device operates from March 1988 to the present time in Zhytomyr city polyclinic ? 2, conducted with the help of teaching about 700 patients. Neither case not received negative rezup acetate. claims producing **apparatus** breathing mixtures containing successively established source of compressed air, and the membrane filter unit gazorazdelitel connected pipeline hypoxic mixtures with breathing mask, and test tools, characterized in that in order to increase efficiency by interleaving feeding the patient hypoxic and hyperoxic breathing mixtures, it introduced pipeline hyperoxic mixes coupled 0 5 with membrane gazorazdelitelem and trehpo-positional switch gas streams connected first and second channel between the breathing mask and pipeline hypoxic mixtures, and the third channel coupled to the gas hyperoxic mixes, while gauging tools include mounted on the diaphragm gazorazdelitel performed fiber, a pressure regulator and a flow meter installed in pipelines gipoksiches hyperoxic mixes and matches flow and established a three position switch for gas flow analyzer and hygrometer.

Classifications:
International (IPC 8-9): A61M16/10 (Advanced/Invention);
A61M16/10 (Core/Invention)
International (IPC 1-7): A61M16/10



Family:

Publication number	Publication date	Application number	Application date
SU1768023 A3	19921007	SU19914937721	19910408

Priority:

SU19914937721 19910408

Assignee(s): (std): BOGATYRCHUK DMITRIJ L ; BOGATYRCHUK LEONID M
Assignee(s): BOGATYRCHUK LEONID M SU ; BOGATYRCHUK DMITRIJ L SU
Inventor(s): (std): BOGATYRCHUK DMITRIJ L ; BOGATYRCHUK LEONID M
Inventor(s): BOGATYRCHUK LEONID M SU ; BOGATYRCHUK DMITRIJ L SU

Title: ERGOMETRIC DEVICE

Abstract: Source: US5207623A The ergometric device has an ergometric stationary bicycle exerciser, a hypoxic gas generator, a mask, and a flexible hose connecting the generator to the mask. The user of the device sits on the saddle of the exerciser, and produces his effort by inhaling, through the mask, the hypoxic mixture. His ECG, his pulse rate and his blood pressure appear on the screen of the generator.

Classifications:

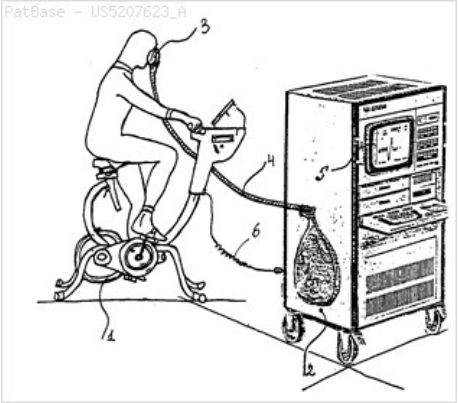
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International (IPC 1-7): A61B5/02 A61B5/08 A61B5/22 A61M16/10 A62B23/02 A62B7/10 A63B23/18 A63B69/16 B01D53/22 B01D63/02 B01D71/26 G05B1/00

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US: 128/200.24 128/203.12 128/205.11 128/205.12 128/205.27 128/725 482/61 482/900 600/538 95/54



Family:

Publication number	Publication date	Application number	Application date
AT177327 E	19990315	AT19910810445T	19910612
AU199217321 A1	19921217	AU19920017321	19920529
AU199341242 A1	19931223	AU19930041242	19930611
AU654711 B2	19941117	AU19920017321	19920529
AU657224 B2	19950302	AU19930041242	19930611
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Priority:

EP19910810445 19910612 CA19922068498 19920512 US19930056679 19930503
US19920898072 19920612

Assignee(s): (std): STAEBLER REGULA ; TKATCHOUK ELENA N ; TORADOTETSUKU SA ; TSYGANOVA TATIANA N ; TRADOTEC SA

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Inventor(s): (std): MURASHOV MIKHAIL V ; STAEBLER REGULA ; TSYGANOVA TATIANA N ; TATSUUNA ENU CHIGANOWA ; REGIYURA SUTEIBURAA ; ERENA ENU TOKATSUCHIYUKU ; TKATCHOUK ELENA N

Inventor(s): TKATCHOUK ELENA NIKANOROVNA ; ELENA N TKATCHOUK ; STAEBLER REGULA CH 1214 VERNIER CH ; TATIANA N TSYGANOVA ; REGULA STAEBLER

Designated states: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

Title: Method and device for separating **gas mixtures** formed above liquids

Abstract: Source: US5537911A PCT No. PCT/DE93/00367 Sec. 371 Date Dec. 20, 1994 Sec. 102(e) Date Dec. 20, 1994 PCT Filed Apr. 27, 1993 PCT Pub. No. WO93/22031 PCT Pub. Date Nov. 11, 1993 In a method for separating a **gas** mixture above a liquid a separating device with a **gas separation membrane** having retentate side and a permeate side is employed. A vacuum at the retentate side of the **gas separation membrane** and a vacuum at the permeate side of the **gas separation membrane** are provided. The **gas** mixture, resulting from transferring a liquid from one storage container to another container upon contact with the surroundings, is fed to the retentate side of the **gas separation membrane** by the vacuum present at the retentate side and the permeate side. The flow volume per time unit of the **gas** mixture fed to the separating device is greater than a flow volume per time unit of the liquid being transferred. On the retentate side of the **gas separation membrane** a gas-diminished retentate is generated and on the permeate side of the **gas separation membrane** a gas-enriched permeate is produced. The flow volume per time unit of the permeate is equal to the flow volume per time unit of the liquid being transferred.

Classifications:

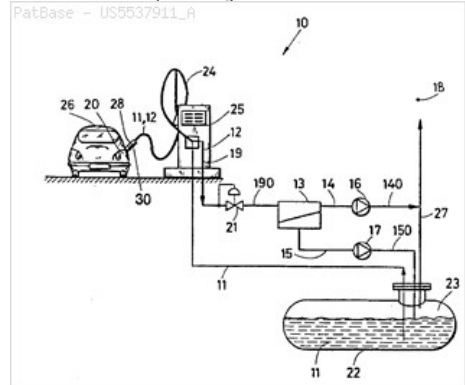
International (IPC 8-9): B01D53/22 B67D7/04 C10L3/10 (Advanced/Invention); B01D53/22 B67D7/00 C10L3/00 (Core/Invention)

International (IPC 1-7): B01D53/22 B01D61/00 B60S5/02 B67D5/32 B67D5/378 C10L3/10

CPC: B01D53/22 B67D7/0476

European: B01D53/22 B67D7/04C

US: 95/22 95/45 95/50 96/4



Family:

Publication number	Publication date	Application number	Application date
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DE59307995 D1	19980219	DE19935007995	19930427
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JP8500765 T2	19960130	JP19930518829T	19930427
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WO9322031 A1	19931111	WO1993DE00367	19930427

Priority:

DE19924214551 19920427 DE19935007995 19930427 WO1993DE00367 19930427

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Assignee(s): SIHI ANLAGENTECHNIK GMBH ; SIHI ANLAGENTECHNIK GMBH 25524 ITZEHOE DE ; GKSS FORSCHUNGSZENTRUM GEESTHACHT GMBH 21502 GEESTHACHT DE ; GKSS FORSCHUNGSZENTRUM GEESTHACHT GMBH ; GKSS FORSCHUNGSZENTRUM GEESTHACHT GMBH 21502 GEEST

Inventor(s): (std): SCHELL MICHAEL ; WIND JAN ; OHLROGGE KLAUS ; BURMEISTER MICHAEL

Inventor(s): OHLROGGE KLAUS 21502 GEESTHACHT DE ; OHLROGGE KLAUS 2054 GEESTHACHT DE ; BURMEISTER MICHAEL D 2058 LAUENBURG DE ; OHLROGGE KLAUS D 2054 GEESTHACHT DE ; WIND JAN D 2000 BARBUETTEL DE ; WIND JAN 22885 BARBUETTEL DE ; WIND JAN 2000 BARBUETTEL DE ; SCHELL MICHAEL 79618 RHEINFELDEN DE

Designated states: AT BE CH DE DK ES FR GB GR IE IT JP LI LU MC NL PT SE US

Title: The membrane absorption SEPARATION olefin CONTAINING **GAS** MIXTURE AND DEVICE FOR CARRYING OUT (Machine translation)

Abstract: Source: RU93021502A Invention relates to the field of membrane technology, namely to methods for the **separation membrane** absorption olefin-containing **gas mixtures** and devices for their implementation. The aim of the invention is to increase productivity and purity of the desired product excreted. A method of membrane separation, absorption **gas mixtures** involves passing along the feed surface of the plurality of membranes, e.g. polyvinyltrimethylsilane with continuous working and porous layers of the absorber olefins selective absorption liquid medium under the membrane and circulating between the absorber and the stripper of the same or different speeds, and pressurized fluid at the higher the selection being in a liquid medium component in the desorber than the gas absorption in the absorber. Selection repositories liquid phase components are in evacuation or introduction of the conveying gas. Liquid and gas in the absorber and desorber move cocurrent or countercurrent manner in cassettes and in series or in parallel between the cassettes, the fluid pressure may be greater or less than the gas pressure in the absorber and desorber. When allocating olefins as fluid take water, aqueous solution of silver nitrate or copper chloride, ammonium chloride and hydrochloric acid absorption of olefins carried out in the absorber at a temperature below 10 degrees C, and separating the olefin from the fluid is conducted at a temperature above 50 degrees centigrade, wherein the liquid absorbent circulated between the absorber and desorber, continuously or intermittently, partially or completely undergoes regeneration. When used as a selective fluid solutions of silver was taken as reagent regenerator 0.01 - 5.00 percent hydrogen peroxide solution, when used as a selective fluid solutions of cupric chloride, ammonium chloride and hydrochloric acid as reagent regenerator take powdered metallic copper, thiosulfate or sodium borohydride or other reducing agent. An **apparatus** for membrane separation of **gas mixtures** absorption comprises a compressor for supplying the **gas** mixture through the gas feed to the membrane disposed in the absorber of such asymmetric polyvinyltrimethylsilane, draining system components permeate **gas** mixture in a stripper, an absorber, or similarly executed as stripping column equipped with a vacuum pump and / or the carrier gas flow at the collector output of recoverable gas, the liquid between the **gas** mixture and extraction system components circulation line equipped with a pump, degasser, an exchanger-heater, arranged in front of the stripper or stripping column and heat exchanger, cooler before entering the collector fluid to the absorber, the second pump and / or a flow divider for creating different velocity and pressure of fluid between the absorber and desorber. Membranes in the absorber and the desorber are connected in a cassette having a mixture of gases entering the collector, the collector output combined gas manifold fluid input and output which allow to organize flow of gases and liquids in cocurrent and countercurrent cassettes and cassette connect to each other over a serial or parallel liquid and gas, wherein the circulation line is provided with a liquid recovery unit to selectively support a device for dispensing reagent and regenerator portions of fresh selective liquid medium and the waste liquid collector output.

Classifications:
International (IPC 8-9): B01D53/22 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
RU93021502 A	19950627	RU19930021502	19930423

Title: Hypoxic fire prevention and fire suppression systems and breathable fire extinguishing compositions for human occupied environments

Abstract: Source: US2001029750A Fire prevention and suppression systems and breathable fire-extinguishing compositions are provided for rooms, houses and buildings, transportation tunnels and vehicles, underground and underwater facilities, marine vessels, aircraft, space stations and vehicles, military installations and vehicles, and other human occupied objects and facilities. The system provides a low-oxygen (hypoxic) fire-preventive atmosphere at standard atmospheric or slightly increased pressure. The system employs an oxygen-extraction **apparatus** supplying oxygen-depleted air inside a human-occupied area or storing it in a high-pressure container for use in case of fire. A breathable fire-extinguishing composition, being mostly a mixture of nitrogen and oxygen and having oxygen content ranging from 12 percent to 17 percent for fire-preventive environments. The fire-suppression system is provided having fire-extinguishing composition with oxygen concentration under 16 percent, so when released it creates a breathable fire-suppressive atmosphere having oxygen content from 10 to 16 percent. A technology for automatically maintaining a breathable fire-preventive composition on board a human-occupied hermetic object is provided.

Classifications:

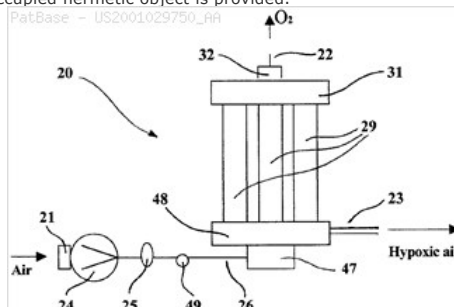
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International (IPC 1-7): A61G10/00 A61G10/02 A61L9/00 A61M15/00 A61M15/00 A61M16/00 A61M16/00 A61M16/00 A62B18/00 A62B23/02 A62B31/00 A62B7/00 A62B7/10 A62B9/00 A62C2/00 A62C3/00 A62C3/07 A62C3/08 A62C35/00 A62C35/58 A62C39/00 A62D1/00 A62D1/02 A62D1/06 A63B23/18 B01D53/02 B01D53/047 B01D53/053 B01D53/22 B65D90/22 E21F5/00 F171/00 F24F3/16 F25B9/00 F25J1/00 F25J3/00 G05B1/00 G08B17/12

CPC: B01D2259/4508 F24F3/16 F24F2011/0002 A23L3/3418 B01D53/0446 B01D53/053 B01D2256/10 B01D2257/504 B01D2257/80 B01D2259/40001 B01D2259/402 Y02C10/08 B01D53/02 A61G10/02 A62B31/00 A62C3/16 A62C3/08 B01D2256/12 B01D2259/455 B64D37/32 B01D53/261 B01D2253/116 B01D2253/25 B01D2259/4566 B01D2259/4575 Y02C10/04 Y02C10/10 H01M8/04089 Y02E60/50 Y10S62/911 A62C99/0018 A62B7/14 A62C3/0221 A62C3/07 B01D53/22 B01D2257/102 B01F3/022 B01F3/0035 F17C7/04 A61M16/0045 A61G10/00 A61M16/10 A61M2202/0208 A63B2208/053 A63B2208/056 A63B2208/12 A63B2213/006 B01D53/04 B01D53/0415 B01D53/047 B01D2253/108 B01D2257/104 B01D2259/40009 B01D2259/4533 F17C2201/0114 F17C2201/035 F17C2201/056 F17C2205/0323 F17C2205/0338 F17C2221/011 F17C2221/014 F17C2223/0123 F17C2223/0161 F17C2223/033 F17C2223/036 F17C2225/0123 F17C2227/0302 F17C2227/0393 F17C2250/032 F17C2265/025 F17C2270/0171 F17C2270/025

European: A23L3/3418 A61G10/00 A61G10/02 A61G10/04 A61M16/00C A61M16/10 A62B31/00 A62C3/02F A62C3/08 A62C3/16 A62C99/00B2 B01D53/02 B01D53/047 B01D53/04C10 B01D53/053 B01D53/22 B01F3/02B B64D37/32 F17C7/04 F24F3/16 H01M8/04C2 K61M202/02A K62B7/14 K62C3/07 K62C3/08 K63B208/05H K63B208/05L K63B208/12 K63B213/00F2 L01D253/108 L01D253/116 L01D253/25 L01D256/10 L01D256/12 L01D257/102 L01D257/104 L01D257/504 L01D257/80 L01D259/402 L01D259/40F L01D259/40K4 L01D259/45B L01D259/45M L01D259/45T L01D259/45V L01D259/45V2 L01D53/04 L01D53/047 L01D53/04C10 L01D53/04C2 L01D53/26B L01F13/00K4 R24F11/00C1 Y02C10/04 Y02C10/08 Y02C10/10 Y02E60/50

US: 128/200.24 128/202.12 128/205.11 128/205.12 128/205.26 128/205.260P 128/205.28 128/205.280S 169/14 169/16 169/16S 169/37 169/43 169/43S 169/44 169/45 169/45P 169/45S 169/46 169/46S 169/5 169/54 169/54P 169/55 169/56 169/5S 169/61 169/62 169/64 220/88.3 239/418 239/8 244/129.2 252/2 252/601 252/601S 340/577 340/577S 340/584 340/584S 426/418 429/13 429/458 429/458S 454/166 454/167 482/13 55/385.1 55/385.2 62/260 62/640 62/640P 62/640S 62/643 62/78 62/78S 62/911 95/10 95/103 95/117 95/117S 95/139 95/139S 95/14 95/19 95/22 95/39 95/45 95/47 95/54 95/8 95/96 96/109 96/134 96/4 96/417 96/420 96/421



Family:

Publication number	Publication date	Application number	Application date
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AT269124 E	20040715	AT19980906151T	19980204
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AU199881635 A1	19990222	AU19980081635	19980623
AU2001277654 AA	20011030	AU20010277654	20010405
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WO9703631 A1	19970206	WO1996US11792	19960716
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Priority:

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Assignee(s): (std): FIREPASS CORP ; FIREPASS IP HOLDINGS INC ; HYPOXICO INC ; KOTLIAR IGOR K ; IGOR K KOTLIAR ; KOTLIAR IGOR ; KOTLJAR IGOR K

Assignee(s): HYPOXICO INC NEW YORK ; IGOR KOTLIAR ; INTELLECTUAL PROPERTY HOLDING LTD

Inventor(s): (std): IGOR K KOTLIAR ; KOTLIAR IGOR ; KOTLIAR IGOR K ; KOTLIAR K ; KOTLJAR IGOR K

Inventor(s): KOTLJAR IGOR' K.

Agent(s): IGOR K KOTLIAR; IGOR KOTLIAR; IGOR K; ORRICK HERRINGTON AND SUTCLIFFE LLP

Designated states: AE AL AM AT AU AZ BA BE BF BG BJ BR BY CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LI LS LT LU LV MA MC MD MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TZ UA UG UZ VN YU ZA ZM ZW

Title: METHOD FOR PREPARING DDR TYPE ZEOLITE FILM, DDR TYPE ZEOLITE FILM, AND COMPOSITE DDR TYPE ZEOLITE FILM, AND METHOD FOR PREPARATION THEREOF

Abstract: Source: US2004173094A This invention provides a DDR type zeolite membrane, characterized in that it is formed as a membrane on a substrate and its main component is silica, and that each single gas permeance at room temperature and 100 degrees centigrade are different, respectively among at least two types of gases selected from a group consisting of carbon dioxide (CO₂), hydrogen (H₂), oxygen (O₂), nitrogen (N₂), methane (CH₄), normal butane (n-C₄H₁₀), isobutane (i-C₄H₁₀), sulfur hexafluoride (SF₆), ethane (C₂H₆), ethylene (C₂H₄), propane (C₃H₈), propylene (C₃H₆), carbon monoxide (CO), and nitrogen monoxide (NO).

Classifications:

International (IPC 8-9): B01D53/22 B01D65/10 B01D69/04 B01D69/06 B01D69/10 B01D69/12 B01D71/02 C01B37/02 C09D1/00 C10L3/10 (Advanced/Invention); B01D53/22 B01D65/00 B01D69/00 B01D71/00 C01B37/00 C09D1/00 C10L3/00 (Core/Invention);

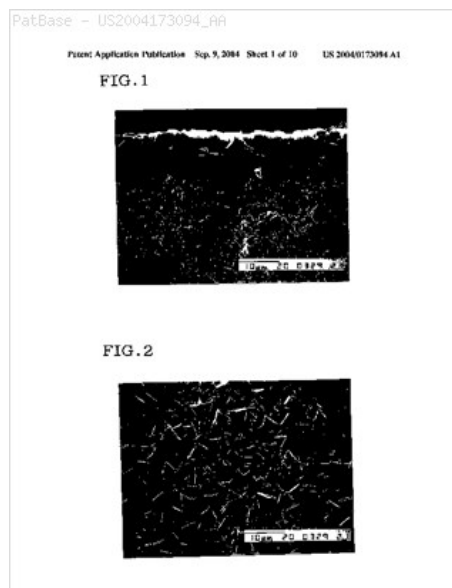
B01D C01B (Subclass/Invention)

International (IPC 1-7): B01D B01D179/00 B01D53/22 B01D69/04 B01D69/06 B01D69/12 B01D71/02 C01B C01B37/02 C09D1/00

CPC: Y10S55/05 B01D69/10 B01D53/22 B01D67/0051 B01D69/12 B01D71/02 B01D2323/12

European: B01D53/22M B01D67/00M16 B01D69/10 B01D69/12 B01D71/02Z L01D323/12

US: 55/524 55/DIG.5 95/45 95/51 96/10 96/11 96/4 96/7



Family:

Publication number	Publication date	Application number	Application date
AT422386 E	20090215	AT20020765562T	20020917
AU2002330412 AA	20030401	AU20020330412	20020917
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JP4204273 B2	20090107	JP20020232550	20020809
MXPA04002508 A1	20040531	MX2004PA02508	20040317
NZ531800 A	20050429	NZ20020531800	20020917
US2004173094 AA	20040909	US20040796890	20040309
US2005229779 AA	20051020	US20050140760	20050531
US6953493 BB	20051011	US20040796890	20040309
US7014680 BB	20060321	US20050140760	20050531
WO03024577 A1	20030327	WO2002JP09480	20020917
ZA200401950 A	20050310	ZA20040001950	20040310

Priority:

JP20010280972 20010917 JP20020212425 20020722 JP20020219135 20020729
WO2002JP09480 20020917 JP20020323696 20021107 JP2002032550 20020809
US20050140760 20050531 US20040796890 20040309

Assignee(s): (std): NAKAYAMA KUNIO ; NGK INSULATOR LTD ; NGK INSULATORS LTD ; SUZUKI KENJI ; TOMITA TOSHIHIRO ; YAJIMA KENJI ; YOSHIDA MANABU

Inventor(s): (std): YOSHIDA MANABU ; YAJIMA KENJI ; TOSHIHIRO TOMITA ; TOSHIHIRO NAKAYAMA KUNIO SUZUKI ; TOMITA TOSHIHIRO ; SUZUKI KENJI ; NAKAYAMA KUNIO ; MANABU YOSHIDA ; KUNIO NAKAYAMA ; KENJI YAJIMA ; KENJI SUZUKI

Inventor(s): NAKAYAMA KUNIO SUZUKI KENJI YOSHIDA MANABU

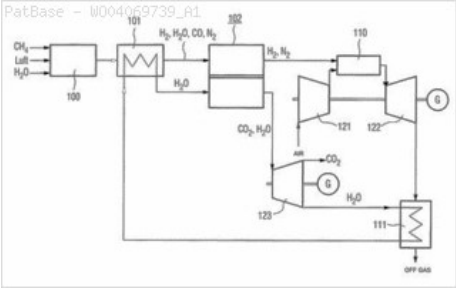
Agent(s): PAGET HUGH CHARLES EDWARD ET AL; BURR AND BROWN

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

Title: METHOD AND DEVICE FOR SEPARATING CO2 CONTAINED IN AN H2-BASED GASEOUS MIXTURE

Abstract: According to prior art, watershift reaction and CO2 separation are carried out independently of each other. According to the invention, the watershift reaction and CO2 separation are carried out in only one reactor with the aid of a **separation membrane** at temperatures higher than 300 DEG C. The inventive device provides means for a watershift reaction and an appropriate **separation membrane** (10) in a reactor.

Classifications:
International (IPC 8-9): B01D53/22 B01D61/38 B01D69/14 B01D71/02 C01B3/16 C01B3/48 C01B3/50 C01B31/20 (Advanced/Invention); B01J35/06 (Advanced/Non-invention)
International (IPC 1-7): B01D53/22 C01B3/48 C01B3/50
CPC: C01B31/20 B01D53/228 B01D61/38 B01D69/141 B01D71/02 B01D2257/504 B01D2325/26 B01J35/065 C01B3/16 C01B3/48 C01B3/501 C01B2203/0233 C01B2203/0283 C01B2203/041 C01B2203/0475 C01B2203/1041 C01B2203/1241 Y02C10/10
European: B01D53/22M B01D61/38 B01D69/14B B01D71/02 C01B3/16 C01B3/48 C01B3/50B C01B31/20 L01D257/504 L01D325/26 L01J35/06B M01B203/02B4B M01B203/02H M01B203/04B2 M01B203/04P4 M01B203/10D M01B203/12B2D2 Y02C10/10



Family:

Publication number	Publication date	Application number	Application date
WO04069739 A1	20040819	WO2004EP01077	20040205

Priority:

DE20031004752 20030205

Assignee(s): (std): BALDAUF MANFRED ; HAMMER THOMAS ; KAPPES THOMAS ; SIEMENS AG

Assignee(s): SIEMENS AKTIENGESELLSCHAFT

Inventor(s): (std): BALDAUF MANFRED ; HAMMER THOMAS ; KAPPES THOMAS

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

Title: IMMOBILIZED FLUID MEMBRANES FOR GAS SEPARATION

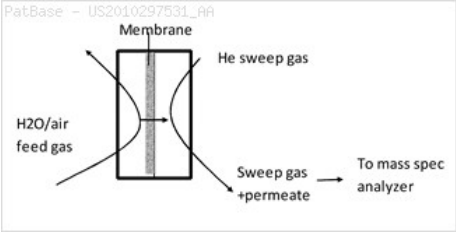
Abstract: Source: US2010297531A Provided herein are immobilized liquid membranes for gas separation, methods of preparing such membranes and uses thereof. In one example, the immobilized membrane includes a porous metallic host matrix and an immobilized liquid fluid (such as a silicone oil) that is immobilized within one or more pores included within the porous metallic host matrix. The immobilized liquid membrane is capable of selective permeation of one type of molecule (such as oxygen) over another type of molecule (such as water). In some examples, the selective membrane is incorporated into a device to supply oxygen from ambient air to the device for electrochemical reactions, and at the same time, to block water penetration and electrolyte loss from the device.

Classifications:

International (IPC 8-9): B01D39/10 B01D53/00 B01D53/14 B01D53/22 B01D53/62 B01D61/00 B01D67/00 B01D69/00 B01D71/02 B01J20/28 B01J8/00 B22D23/00 B22F3/10 B22F3/11 B29C39/38 B32B15/01 B32B15/02 B32B3/26 C25B11/03 F01N3/00 F02M35/00 H01M2/18 H01M8/04 (Advanced/Invention)

CPC: B01D63/082 B01D67/0051 B01D69/02 B01D71/028 B01D2325/02 B01D2325/04 Y02C10/08 B01J20/28033 B01J20/28097 B01J20/3287 B22D19/00 B22D19/0072 B22D25/005 H01M8/1023 H01M8/1037 H01M8/1039 Y02E60/50 B01D61/38 B01D53/228 B01D69/105 B01D2257/504 B01D2258/0283 H01M8/0291 H01M8/0662 Y02C10/04 Y02C10/10 Y02E60/521 Y02C10/06 Y10T428/12014 B01D67/0041 B01D39/2051 B01D67/0046 B01D67/0058 B01D69/06 B01D69/10 B01D71/022 B01D2239/10 B01D2239/1216 B01D2323/08 B01D2323/18 B01D2325/10 B01D2325/12 B01D2325/24 B01J20/3204 B01J20/3297 B22F3/1121 B22F3/22 B22F5/006 B22F2998/10 C22C19/002 C22C19/03 C22C38/08 Y10T428/31678

European: B01D39/20D6 B01D53/22M B01D61/38 B01D63/08D B01D67/00M10 B01D67/00M12 B01D67/00M16 B01D67/00M18D B01D69/02 B01D69/06 B01D69/10 B01D69/10B B01D71/02M B01D71/02Z B01J20/32B4 B01J20/32H12 B22D19/00 B22D19/00K B22D25/00F B22F3/11D B22F3/22 B22F5/00L C22C19/00B C22C19/03 C22C38/08 H01M8/02E2 H01M8/06C H01M8/10E2 H01M8/10E2B14 H01M8/10E2B2 H01M8/10E2D L01D239/10 L01D239/12D L01D257/504 L01D258/02K L01D325/02 L01D325/04 L22F998/10 Y02C10/04 Y02C10/08 Y02C10/10 Y02E60/52B
US: 156/77 156/77S 164/47 164/47S 204/284 204/284S 210/510.1 210/510.100P 264/43 264/43S 422/187 422/187S 423/230 423/230P 428/457 428/457S 428/546 428/546S 429/498 429/498P 429/50 429/50S 429/535 429/535S 429/81 429/81S 502/4 502/4P 502/4S 95/236 95/43 95/44 95/51 96/11 96/4 96/5 96/5S 96/7



Family:

Publication number	Publication date	Application number	Application date
US2010297531 AA	20101125	US20090470294	20090521
US2010304953 AA	20101202	US20100817694	20100617
US2011052466 AA	20110303	US20100901119	20101008
US2011155662 AA	20110630	US20110032752	20110223
US8673067 BB	20140318	US20090470294	20090521
US8715392 BB	20140506	US20100901119	20101008
WO10135509 A2	20101125	WO2010US35543	20100520
WO10135509 A3	20110203	WO2010US35543	20100520
WO11059616 A1	20110519	WO2010US52170	20101011
WO11159389 A1	20111222	WO2011US31342	20110406
WO12115696 A1	20120830	WO2011US63405	20111206

Priority:

US20090470294 20090521 US20090218521P 20090619 US20100817694 20100617
US20090259861P 20091110 US20100901119 20101008 US20110032752 20110223

Assignee(s): (std): BATTELLE MEMORIAL INST ; BATTELLE MEMORIAL INSTITUTE ; CANFIELD NATHAN L ; LI XIAOHONG SHARI ; ZHANG JIGUANG ; ZHANG JIAN ; LIU WEI ; LI XIAOHONG S

Assignee(s): US DEPARTMENT OF ENERGY ; ENERGY US DEPARTMENT OF

Inventor(s): (std): CANFIELD NATHAN L ; LI XIAOHONG S ; LI XIAOHONG SHARI ; LIU WEI ; ZHANG JIAN ; ZHANG JIGUANG

Agent(s): KLARQUIST SPARKMAN LLP; BATTELLE MEMORIAL INST ATTN IP SERVICES K1 53; BRADLEY KARRI KUENZLI; CALDWELL LISA M; TUAN ALLAN ET AL; TUAN ALLAN C 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 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 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

Title: PROCESS FOR SEPARATION OF GASES

Abstract: Source: US2013098242A The invention relates to a specific **apparatus**, more particularly a chain of gas **separation membrane** modules, for separation of **gas mixtures** into two fractions each of elevated purity.

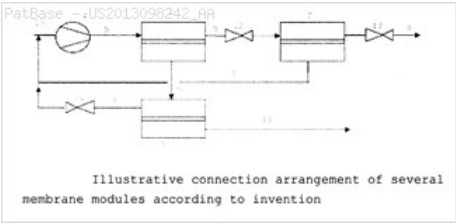
Classifications:

International (IPC 8-9): B01D B01D53/22 B01D61/58 B01D63/02 B01D63/08 B01D69/00 B01D71/16 B01D71/52 B01D71/56 B01D71/64 B01D71/68 B01D71/70 C10L3/10 (Advanced/Invention)

CPC: B01D53/225 B01D53/226 B01D53/227 B01D2256/24 B01D2257/504 C10L3/104 Y02C10/10

European: B01D53/22F2 B01D53/22F4 C10L3/10B2D L01D256/24 L01D257/504

US: 95/45 95/47 95/51 96/10 96/14 96/4 96/7 96/9



Family:

Publication number	Publication date	Application number	Application date
AU2011273795 AA	20120105	AU20110273795	20110526
AU2011273795 AA	20130221	AU20110273795	20110526
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CA2804233 AA	20121231	CA20112804233	20110526
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CO6670542 A2	20130515	CO20130019346	20130201
EA201390039 A1	20130530	EA20130090039	20110526
EP2588217 A1	20130508	EP20110722404	20110526
IL223822 A0	20130228	IL20120223822	20121224
IN00704CN2013 A	20140627	IN2013CN00704	20130129
JP2013534863 T2	20130909	JP20130517129T	20110526
KR20140005846 A	20140115	KR20137002616	20110526
MX2012014777 A1	20130429	MX20120014777	20121214
SG186357 A1	20130130	SG20120009219	20110526
US2013098242 AA	20130425	US20110807831	20110526
US8999038 BB	20150407	US20110807831	20110526
WO12000727 A1	20120105	WO2011EP58636	20110526

Priority:
EP20100168121 20100701 WO2011EP58636 20110526 EP20110722404 20110526

Assignee(s): (std): BAUMGARTEN GOETZ ; EVONIK FIBRES GMBH ; PRISKE MARKUS ; ROEGL HARALD ; UNGERANK MARKUS

Inventor(s): (std): BAUMGARTEN GOETZ ; PRISKE MARKUS ; ROEGL HARALD ; ROGEL HARALD ; UNGERANK MARKUS

Inventor(s): GOETZ BAUMGARTEN ; HARALD ROEGL ; MARKUS PRISKE ; MARKUS UNGERANK

Agent(s): WOLF OLIVER; OBLON MCCLELLAND MAIER AND NEUSTADT LLP

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 GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 RO RS RU 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

Title: METHOD FOR SEPARATING GASES

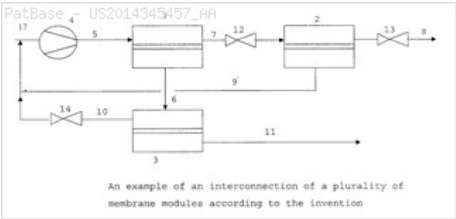
Abstract: Source: US2014345457A The invention relates to a special **apparatus**, in particular linkage of gas **separation membrane** modules, and a special method for separating **gas mixtures** containing helium.

Classifications:

International (IPC 8-9): B01D53/22 B01D63/02 B01D63/08 B01D69/06 B01D69/08 B01D71/64 C01B23/00 (Advanced/Invention)

CPC: B01D2256/18 B01D2311/25 C01B23/0042 C01B2210/0031 B01D63/02 B01D63/08 B01D2311/06 B01D2317/022 C01B2210/0046 C01B2210/007 B01D53/226 B01D69/06 B01D69/08 B01D2053/221 B01D2053/224 B01D53/225 B01D71/64 B01D2317/025

US: 95/53 96/9



Family:

Publication number	Publication date	Application number	Application date
AU2012361210 AA	20130704	AU20120361210	20121129
CA2860502 AA	20140625	CA20122860502	20121129
CN104023821 A	20140903	CN201280064892	20121129
CO7101226 A2	20141031	CO20140139441	20140627
EA201491280 A1	20141030	EA20140091280	20121129
EP2797676 A1	20141105	EP20120791499	20121129
JP2015505273 T2	20150219	JP20140549387T	20121129
KR20140108537 A	20140911	KR20147017602	20121129
MX2014007985 A1	20140821	MX20140007985	20140627
TW201341040 A	20131016	TW20120149590	20121224
US2014345457 AA	20141127	US20120364501	20121129
WO13098024 A1	20130704	WO2012EP73901	20121129

Priority:

EP20110195776 20111227 EP20110019577 20111227 WO2012EP73901 20121129

EP20120791499 20121129

Assignee(s): (std): BALSTER JOERG ; EVONIK FIBRES GMBH ; UNGERANK MARKUS ; VELTHOEN INGRID WINETTE

Assignee(s): EVONIK FIBRES GMBHGEWERBEPARK 4A-4861SCHORFLING AM ATTERSEEAT ; BALSTER JORG

Inventor(s): (std): BALSTER JOERG ; BALSTER JORG ; UNGERANK MARKUS ; VELTHOEN INGRID WINETTE

Inventor(s): VELTHOEN INGRID WINETTEAT ; UNGERANK MARKUSAT ; BALSTER JORGAT ; INGRID WINETTE VELTHOEN ; JOERG BALSTER ; MARKUS UNGERANK

Agent(s): WOLF OLIVER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 GW HN HR HU ID IE IL IN IS IT JP 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 PA 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

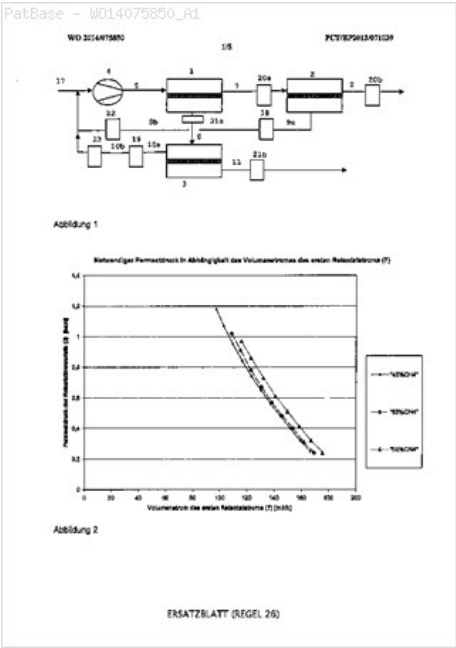
Title: CONTROL OF GAS COMPOSITION OF A GAS SEPARATION SYSTEM HAVING MEMBRANES

Abstract: The invention relates to a method for controlling a gas separation system comprising membrane separation stages, a system controlled by said method and use of said system for separation of **gas mixtures**, in particular in the preparing of biogas or natural gas or synthesis gas.

Classifications:

International (IPC 8-9): B01D53/22 C10L3/10 (Advanced/Invention)

CPC: B01D53/22 B01D53/226 B01D71/64 B01D2256/245 B01D2257/504 B01D2258/05 B01D2317/027 C10L3/104 Y02C10/10 Y02E50/343 C10L2290/46 C10L2290/548 C10L2290/58 C12M47/18



Family:

Publication number	Publication date	Application number	Application date
AU2013347150 AA	20140522	AU20130347150	20131009
WO14075850 A1	20140522	WO2013EP71039	20131009

Priority:

EP20120192571 20121114 EP20130167835 20130515 WO2013EP71039 20131009

Assignee(s): (std): EVONIK FIBRES GMBH ; ROEGL HARALD ; UNGERANK MARKUS

Inventor(s): (std): ROEGL HARALD ; UNGERANK MARKUS

Agent(s): WOLF OLIVER

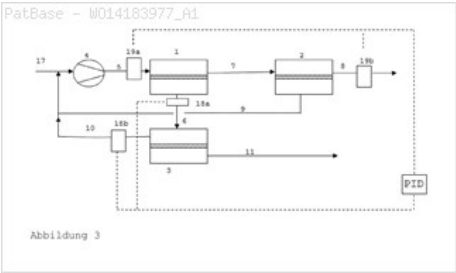
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA 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

Title: CONTROLLING THE GAS COMPOSITION OF A GAS SEPARATION PLANT BY MEANS OF DIAPHRAGMS

Abstract: The present invention relates to a method for controlling a gas separation plant, a plant controlled in said way and the use thereof for separating **gas mixtures**, especially in the treatment of biogas or natural gas.

Classifications:

International (IPC 8-9): B01D53/22 B01D53/30 C10L3/10 (Advanced/Invention)
CPC: B01D53/226 B01D53/227 B01D53/30 B01D2256/245 B01D2257/504 B01D2258/05 C10L3/104 C10L2290/26 C10L2290/46 C10L2290/548 C10L2290/58



Family:

Publication number	Publication date	Application number	Application date
WO14183977 A1	20141120	WO2014EP58535	20140428

Priority:

EP20130167865 20130515

Assignee(s): (std): EVONIK IND AG ; SCHOLZ MARCO ; WESSLING MATTHIAS

Inventor(s): (std): SCHOLZ MARCO ; WESSLING MATTHIAS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 GW HN HR HU ID IE IL IN IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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