



New connection on: : 28-02-2018 : 13:53:41 - Last disconnection on: : 23-02-2018 : 23:05:00

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

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[No database/cluster active] ..fi epodoc

 Database: EPODOC

[EPODOC: SS 1] reactor+ and hydrolitic and acidogenic

Results in EPODOC 0

[SS 2] reactor+ and hydrolitic

Results in EPODOC 1

[SS 3] reactor+ and hydrol[i,y]tic

Results in EPODOC 413

[SS 4] reactor+ 1d hydrol[i,y]tic

Results in EPODOC 82

[SS 5] * and PD<2016-06-15

Results in EPODOC 59

[SS 6] ..v

[EPODOC: SS 6] ..li 1-10



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PN - [CN105565489](#) A 20160511

PR - CN20151968850 20151221

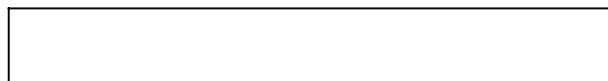
AP - CN20151968850 20151221

DT - I

- CT - || STSE (A)
[CN102674514](#) A 20120919 [X] (SUZHOU SUWATER ENVIRONMENTAL ENGINEERING CO LTD)
[X] 1-10
* 说明书第0001-0030段及说明书附图1-2 *;
[CN103523918](#) A 20140122 [A] (UNIV HEBEI SCIENCE & TECH)
[A] 1-10
* 全文 *;
[CN201058827Y](#) Y 20080514 [A] (UNIV ZHEJIANG [CN])
[A] 1-10
* 全文 *;
[CN202440373U](#) U 20120919 [A] (SHANDONG SHIFANG YUANTONG ENVIRONMENTAL PROT CO LTD)
[A] 1-10
* 全文 *;
[CN204211534U](#) U 20150318 [A] (YANGZHOU FUSHENG ENVIRONMENTAL PROT TECHNOLOGY CO LTD)
[A] 1-10
* 全文 *
- CNOI - [C02F3/2866](#)
- CNOA - [C02F2203/006](#) ; [C02F2301/04](#)
- PA - HARBIN INSTITUTE TECHNOLOGY
- TI - Sludge circulation efficient **hydrolytic reactor**
- AB - A sludge circulation efficient **hydrolytic reactor** comprises a reaction zone, mud lifting zone, a guide zone, a sludge reflow zone and a precipitation zone. The top of the reaction zone is in an umbrella shape, and the inner wall of the umbrella shape is provided with guide plates; the reaction zone is provided with a rectangular stirring paddle, the mud lifting zone is provided with a screw propeller, the rectangular stirring paddle and the screw propeller are fixed to a coaxial stirring link; wastewater flows in the reactor in a circulatory manner; the reactor enables internal circulation of sludge, requires no precipitation tank, makes efficient use of its interior space and has the advantages of high mass transfer capacity, biomass quantity, high hydrolytic efficiency, low cost, small size and the like.

2/59 © EPODOC / EPO

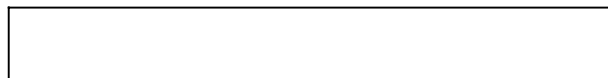
- PN - [CN205061693U](#) U 20160302
- PR - CN20152722150U 20150917
- AP - CN20152722150U 20150917
- DT - I
- PA - SHENZHEN GREENSTER ENV PROT
TECH CO LTD
- TI - Water treatment reactor
- AB - The utility model discloses a
water treatment **reactor**,
including **hydrolytic**
acidification room, good oxygen



room and the oxygen deficiency room that communicates in proper order, hydrolytic acidification room, good oxygen room and oxygen deficiency room all are equipped with water installations and go out the water installation, the play water installation of hydrolytic acidification room and the water installations water of good oxygen room intercommunication. Adopt above -mentioned group technology, the hydrolytic acidification process can improve the biodegradability of waste water for follow -up aerobic process's treatment efficiency improves, again with the combination of oxygen deficiency technology, further gets rid of organic matter in the waste water, the indoor nitrobacteria of good oxygen turns into the nitrate nitrogen with the ammonia nitrogen, and the water of good oxygen room and mud pass through backflow pipeline and flows back to the hydrolytic acidification room, turn into nitrogen gas with the nitrate nitrogen again at the indoor anti - nitrobacteria of hydrolytic acidification, discharge in the air for the ammonia nitrogen can be got rid of in the waste water.

3/59 © EPODOC / EPO

PN - [CN205024060U](#) U 20160210
 PR - CN20152720704U 20150917
 AP - CN20152720704U 20150917
 DT - I
 CCA - [Y02W10/27](#)
 PA - KUNMING DIANCHI WATER CO LTD; UNIV TSINGHUA GRADUATE SCHOOL



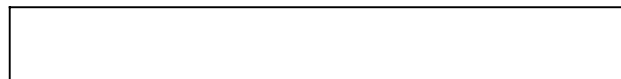
- TI - Sewage treatment plant excess
sludge high temperature
hydrolytic acidification device is
reinforced to aeration
- AB - The utility model relates to a
sewage treatment plant excess
sludge high temperature
hydrolytic acidification's device
is reinforced to the aeration.
The device includes mud storage
pool, mud charge pump, aeration
pump, agitator, check
valve, **hydrolytic**
acidification **reactor**, heating
sea water bath, goes out the
dredge pump, and in the mud
storage pool was arranged in to
the mud charge pump, **hydrolytic**
acidification **reactor** was
arranged in to aeration pump,
agitator, and in the heating sea
water bath was arranged in to
the **hydrolytic**
acidification **reactor**, a dredge
pump was connected to
the **hydrolytic**
acidification **reactor**, is
equipped with the gas outlet on
the **hydrolytic**
acidification **reactor**, and the
check valve is equipped with in
this gas outlet department. The
utility model discloses not only
having realized mud minimizing,
resourceization, stabilization,
having reduced the pollution of
mud to metropolitan
environment, the volatile fatty
acid that generates
simultaneously can wide
application in a plurality of
fields such as environment and
chemical industry.

4/59 © EPODOC / EPO

PN - [CN205011478U](#) U 20160203

PR - CN20152572069U 20150731

AP - CN20152572069U 20150731



DT	- I
PA	- ENVIRONMENTAL SCIENCE RES & DESIGN INST ZHEJIANG P
TI	- Compound hydrolytic acidification reactor
AB	- The utility model discloses a compound hydrolytic acidification reactor , the reactor includes: the reaction cylinder body, this reaction cylinder is internal to be set gradually suspension sludge blanket, the biological rete of filler and is gone out the pool by supreme down, water distribution system, including at least one point -to - point water -locator of being located the internal top of reaction cylinder and evenly distributed in reaction cylinder internal bottom if the dry cloth water spot, each water distribution point is all through water distribution hose connection point -to -point water -locator extremely, microorganism dosing system, be located reaction cylinder external and with point -to -point water -locator is connected, the sewage inlet tube is connected to point -to -point water -locator, the mud pipe sets up in the internal bottom of reaction cylinder. The utility model discloses combine high -efficient obligate microbial inoculant, point -to -point water distribution system with sludge - biofilm cooperative system, provided a compound hydrolysis -acidification pool sewage treatment plant.

5/59 © EPODOC / EPO

PN - [CN105174661](#) A 20151223

PNFP - CN105174661B B 20180202

PR - CN20151721292 20151030
 AP - CN20151721292 20151030
 DT - I
 PA - (A)
 TAICANG DONGNENG ENVIRONMENTAL PROT EQUIPMENT CO L
 TI - (A)
 Acid-pickled phosphatized wastewater treatment process
 AB - (A)
 The invention provides an acid-pickled phosphatized wastewater treatment process which comprises the first step of conducting preliminary filtration on acid-pickled phosphatized wastewater through gratings, the second step of sending the acid-pickled phosphatized wastewater subjected to preliminary filtration into a homogeneous adjusting tank, the third step of sending the acid-pickled phosphatized wastewater subjected to homogeneous treatment into a mixed reaction defecator through a lift pump, the fourth step of sending the wastewater separated in the mixed reaction defecator to a **hydrolytic acidification reactor** through a water pump for acidizing treatment, the fifth step of sending the wastewater subjected to acidizing treatment into an anaerobic tank, the sixth step of sending the wastewater treated in the anaerobic tank into an aerobic tank, the seventh step of sending the wastewater treated in the aerobic tank into an air flotation tank, and the eighth step of sending the wastewater treated in the air flotation tank into a mechanical filtration device, removing suspended matter in water and then sending the water into a fresh water storage pool. According to the process, the anaerobic tank and the aerobic tank are arranged additionally, and phosphorus-contained matter and organic matter in the acid-pickled phosphatized wastewater are treated through an A/O method; hence, the treatment effect is good, cost is low, and the process is friendly to the environment.

6/59 © EPODOC / EPO

PN - [CN105110590](#) A 20151202
 PR - CN20151592674 20150917
 AP - CN20151592674 20150917
 DT - I
 CT - || STSE (A)
[JPS5845800](#) A 19830317 [A] (TAKUMA SOGO KENKYUSHO KK)
 [A] 1-4
 * 全文 *;
[CN1654437](#) A 20050817 [A] (UNIV SOUTH CHINA TECH [CN])
 [A] 1-4
 * 全文 *;
[CN101698559](#) A 20100428 [A] (UNIV JIANGSU TEACHERS TECH)
 [A] 1-4
 * 全文 *;
[CN102241464](#) A 20111116 [YA] (BEIJING ZHONGCHI GREEN ENERGY ENVIRONMENTAL TECHNOLOGY CO LTD)
 [Y] 1-4
 * 说明书第0006-0014、0019-0031、0047-0049段及图1 *
 [A] 1-4;

[CN202246353U](#) U 20120530 [A] (BEIJING HEROCAN ENVIRONMENTAL TECHNOLOGY CO LTD)

[A] 1-4

* 全文 *;

[CN103214156](#) A 20130724 [A] (UNIV BEIJING TECHNOLOGY)

[A] 1-4

* 全文 *;

[CN103626372](#) A 20140312 [YA] (UNIV BEIJING TECHNOLOGY)

[Y] 1-4

* 说明书第0005-0026段及图1 *

[A] 1-4;

[CN103708693](#) A 20140409 [A] (GONG CHENG, et al)

[A] 1-4

* 全文 *;

[CN103803770](#) A 20140521 [X] (UNIV JIANGSU TECHNOLOGY)

[X] 1-4

* 说明书第0007-0028、0030-0060段及图1 *;

[CN205024060U](#) U 20160210 [R] (KUNMING DIANCHI WATER CO LTD, et al)

[R] 4

* 权利要求1 *

- CTNP - || STSE (A)
[A] - 纪海涛, 张红亚, "剩余污泥厌氧水解酸化产VFA的研究", 《工业用水与废水》,
[A] 1-4
* 第11-15页 *
- CCA - [Y02W10/27](#)
- PA - KUNMING DIANCHI WATER CO LTD; UNIV TSINGHUA GRADUATE SCHOOL
- TI - Method and device for intensifying high-temperature hydrolysis acidification of excess sludge from sewage treatment plant through aeration
- AB - The invention relates to a method and device for intensifying high-temperature hydrolysis acidification of excess sludge from a sewage treatment plant through aeration. The method comprises the steps that the excess sludge discharged by a secondary sedimentation tank is subjected to static sedimentation, supernatant liquid is drained to concentrate the sludge, the concentrated sludge is placed into a **reactor** for **hydrolytic** acidification at 55 DEG C, stirring is performed at the same time, aeration is performed on the reactor through an aeration pump for 10 min after sludge is fed every day, and continuous operation is achieved. By using oxygen provided by short-time aeration as an electron acceptor, the activity of methanogens is inhibited, meanwhile, the hydrolase activity of the sludge is intensified, and the hydrolysis acidification efficiency of the excess sludge from the sewage treatment plant is improved. According to the method and device, reduction, reutilization and stabilization of the sludge are achieved, the pollution of the sludge to the urban environment is reduced, and meanwhile generated volatile fatty acid can be widely applied in the environment field, the chemistry engineering field and other fields.

7/59 © EPODOC / EPO

PN - [CN105110583](#) A 20151202

PR - CN20151456401 20150730

AP - CN20151456401 20150730

DT - I

CT - || STSE (A)
[CN101456655](#) A 20090617 [A] (UNIV TSINGHUA [CN])
 [A] 1-3
 * 全文 *;
[CN102229463](#) A 20111102 [A] (BEIJING MUNICIPAL RES INST ENVIRONMENT PROT)
 [A] 1-3
 * 全文 *;
[CN102718316](#) A 20121010 [A] (UNIV TIANJIN)
 [A] 1-3
 * 全文 *

CTNP - || STSE (A)
 [A] - Sheng Zhang 等, "Enhancement of anaerobic sludge digestion by high-pressure homogenization", 《Bioresource Technology》,
 [A] 1-3
 * 第496-501页 *
 [X] - Theodore I. Onyeché 等, "Advanced anaerobic digestion of sludge through high pressure homogenisation", 《Journal of Solid Waste Technology and Management》,
 [X] 1-3
 * 第56页第1段-第61页第5段及附图1-2 *
 [A] - 黑亮, 《城镇污泥安全处置与资源化利用途径探索》, (20150930),
 [A] 1
 * 第49-51页 *
 [A] - 徐强 等, 《污泥处理处置新技术、新工艺、新设备》, (20110630),
 [A] 1
 * 第162-163页 *

PA - UNIV BEIJING FORESTRY

TI - Method for disintegrating residual sludge to raise hydrolytic acidification efficiency by high pressure homogenization technology

AB - The invention relates to the field of environment technology, specifically relates to a method for disintegrating residual sludge to raise the hydrolytic acidification efficiency by the high pressure homogenization technology. The method includes the steps of filtering the residual sludge by 80 mesh sieve; concentrating to the water content of the sludge is 97.5% to 98.0%; disintegrating the concentrated sludge by a high pressure homogenizer under the pressure of 40 to 60 MPa; adding the disintegrated sludge in a **hydrolytic** acidification **reactor** to hydrolyze and acidify at 35 DEG C for 60 to 70 hours. The mixed liquor of sludge and water can be centrifugated by a centrifuge, and the supernatant of hydrolytic acidifying sludge can be used as a denitrifying carbon source. The method for disintegrating residual sludge to raise the hydrolytic acidification efficiency by the high pressure homogenization technology has the advantages of disintegrating residual sludge by using the high pressure homogenization technology, providing abundant organic matters which are prone to be used by microbe such as protein, polysaccharide and so on, and raising the hydrolytic acidifying efficiency of the disintegrated sludge. COD and VFAs of the supernatant of hydrolytic acidifying sludge can be reached the highest value of 6682 and 2065 mg/L respectively, which is very suitable for being the denitrifying carbon source in sewage processing. The method for disintegrating residual sludge to raise the hydrolytic

acidification efficiency by the high pressure homogenization technology is simple, easy to control the hydrolytic acidifying condition, and has good application prospect.

8/59 © EPODOC / EPO

- PN - [CN105036323](#) A 20151111
- PNFP - CN105036323B B 20170301
- PR - CN20152343221U 20150525; CN20151447663 20150727
- AP - CN20151447663 20150727
- DT - I
- CT - || STSE (A)
[CN200967775Y](#) Y 20071031 [A] (UNIV NANJING NORMAL [CN])
 [A] 1-10
 * 全文 *;
[CN101591064](#) A 20091202 [A] (UNIV DALIAN TECH [CN])
 [A] 1-10
 * 全文 *;
[CN102120674](#) A 20110713 [X] (UNIV DALIAN TECH)
 [X] 1、10
 * 权利要求1, 说明书第8-20段, 附图1 *;
[CN202465375U](#) U 20121003 [A] (CHINA PETROLEUM & CHEMICAL)
 [A] 1-10
 * 全文 *;
[WO2012158013](#) A1 20121122 [A] (RONSER BIO TECH SDN BHD [MY], et al)
 [A] 1-10
 * 全文 *
- CTNP - || STSE (A)
 [A] - 龚敏等, "铁、炭填料水解池预处理木薯酒糟废水", 《中国给水排水》
 [A] 1-10
 * 68-69 *
- PA - (A)
 NAT UNIV DONG HWA
- TI - (A)
 Micro-electrolysis catalysis strengthening **hydrolytic** acidification **reactor**
- AB - (A)
 The invention provides a micro-electrolysis catalysis strengthening **hydrolytic** acidification **reactor**. The micro-electrolysis catalysis strengthening **hydrolytic** acidification **reactor** is characterized by comprising a water distribution and gas distribution area, a hydrolytic acidification area, a two-phase separation area and a catalysis strengthening micro-electrolysis area from the bottom up. The reactor provided by the invention is uniform in water distribution, uniform and controllable in gas distribution, unlikely to blockage and high in liquid and solid separation effect and shock load resistance, effectively improves the biodegradability of wastewater, and is suitable for treatment of recalcitrant sewage; trials show that the water inflow COD can be up to 50,000 mg/l, and the COD removal rate can reach 41%.

9/59 © EPODOC / EPO

PN - [CN105016595](#) A 20151104

PNFP - CN105016595B B 20170322

PR - CN20151388174 20150703

AP - CN20151388174 20150703

DT - I

CT - || STSE (A)
[JP2010106133](#) A 20100513 [A] (KUBOTA KANKYO SERVICE KK)
 [A] 1-4
 * 全文 *;
[CN102417285](#) A 20120418 [A] (UNIV TONGJI)
 [A] 1-4
 * 全文 *;
[CN103386411](#) A 20131113 [X] (BEIJING JIANKUN WEIHUA NEW ENERGY SCIENCE & TECHNOLOGY CO LTD)
 [X] 1-3
 * 说明书第41-63段及说明书附图1-2 *;
[CN103449699](#) A 20131218 [A] (JIAOZUO KAITAI POWER EQUIPMENT MFG CO LTD)
 [A] 1-4
 * 全文 *

PA - (A)
 BEIJING JEEGREEN TECHNOLOGY DEV CO LTD

TI - (A)
 Modular sludge thermal hydrolytic treatment device and method

AB - (A)
 The invention relates to a modular sludge thermal hydrolytic treatment device and method. The device comprises a steam feeding main valve, a steam releasing main valve and three-five hydrolytic modules, wherein the steam feeding main valve is arranged at the inlet of a steam main pipeline, the steam releasing main valve is arranged at the outlet of the steam main pipeline, the inlet of each of the hydrolytic modules is connected with the inlet of the steam main pipeline, and the outlet of each of the hydrolytic modules is connected with the outlet of the steam main pipeline; each hydrolytic module comprises a steam feeding valve, a thermal **hydrolytic reactor**, a steam releasing valve and a waste steam feeding valve; the inlet of the steam feeding valve is connected with the inlet of the steam main pipeline, the outlet of the steam feeding valve is connected with the inlet of the thermal **hydrolytic reactor** and the outlet of the waste steam feeding valve in parallel, the outlet of the thermal **hydrolytic reactor** is connected with the inlet of the steam releasing valve, and the outlet of the steam releasing valve and the inlet of the waste steam feeding valve are connected with the outlet of the steam main pipeline; each thermal **hydrolytic reactor** is internally provided with a temperature sensor and a pressure sensor, and each temperature sensor and each pressure sensor send collected temperature values an pressure values to an automatic control system.

10/59 © EPODOC / EPO

PN - [CN104891737](#) A 20150909

PNFP - CN104891737B B 20170606

PR - CN20151271977 20150525

AP - CN20151271977 20150525

DT - I

CT - || STSE (A)
WO2008129595 A1 20081030 [A] (SYNTROPY CO LTD [JP], et al)
 [A] 1-10
 * 全文 *;
CN102765855 A 20121107 [A] (COAL IND JINAN DESIGN & RES CO)
 [A] 1-10
 * 全文 *;
CN104556556 A 20150429 [X] (NAT UNIV DONG HWA)
 [X] 1-10
 * 权利要求1-10, 说明书第0002-0062段, 图1 *

PA - (A)
 NAT UNIV DONG HWA

TI - (A)
 Method for strengthened hydrolytic acidification of chemical industry wastewater

AB - (A)
 The invention provides a method for strengthened hydrolytic acidification of chemical industry wastewater. The method is characterized by comprising the following steps: (1) detecting the pH value of the chemical industry wastewater, directly going to the next step if the pH value is 4.5-9.5, and adjusting the pH value to 4.5-9.5 if the pH value is not 4.5-9.5; (2) injecting the chemical industry wastewater into a strengthened **hydrolytic** acidification **reactor** containing **hydrolytic** acidification bacteria and polymetal catalytic contact filler, and carrying out strengthened hydrolytic acidification reaction under the conditions of aerating and stirring; and (3) after the reaction ends, adding a flocculant for flocculating settling for obtaining supernatant, detecting a B/C value, returning to the step (2) if the B/C value does not reach the standards, and going to subsequent aerobic biochemical reaction after the B/C value reaches the standards. According to the method provided by the invention, a strengthened hydrolytic acidification filler bag is added into the traditional hydrolytic acidification system and can carry out micro-electrolysis under acidic conditions, so that the removal of difficultly-degradable substances is facilitated, hydrolytic acidification is facilitated, the B/C value of yielding water can reach 0.3-0.6, and the removal ratio of COD (Chemical Oxygen Demand) can reach over 35%.