

Title (en)

COMPACT WASTEWATER CONCENTRATOR USING WASTE HEAT

Title (de)

KOMPAKTER ABWASSERKONZENTRATOR UNTER VERWENDUNG VON ABWÄRME

Title (fr)

CONCENTRATEUR D'EAUX USÉES COMPACT UTILISANT UNE CHALEUR RÉSIDUAIRE

Publication

**EP 2473446 A4 20130327 (EN)**

Application

**EP 10805026 A 20100729**

Priority

- US 22965009 P 20090729
- US 70546210 A 20100212
- US 2010043647 W 20100729

Abstract (en)

[origin: WO2011014616A2] A compact and portable liquid concentrator includes a gas inlet, a gas exit and a flow corridor connecting the gas inlet and the gas exit, wherein the flow corridor includes a narrowed portion that accelerates the gas through the flow corridor. A liquid inlet injects liquid into the gas stream at a point prior to the narrowed portion so that the gas-liquid mixture is thoroughly mixed within the flow corridor, causing a portion of the liquid to be evaporated. A demister or fluid scrubber downstream of the narrowed portion removes entrained liquid droplets from the gas stream and re-circulates the removed liquid to the liquid inlet through a re-circulating circuit. Fresh liquid to be concentrated is also introduced into the re-circulating circuit at a rate sufficient to offset the amount of liquid evaporated in the flow corridor.

IPC 8 full level

**B01D 1/14** (2006.01); **B01D 1/16** (2006.01); **B01D 1/20** (2006.01); **B01D 47/06** (2006.01); **C02F 1/04** (2006.01); **C02F 1/16** (2006.01); **C02F 1/20** (2006.01); **C02F 5/02** (2006.01); **E21B 21/06** (2006.01); **C02F 11/13** (2019.01)

CPC (source: EP RU US)

**B01D 1/14** (2013.01 - EP); **B01D 1/16** (2013.01 - EP); **B01D 1/20** (2013.01 - EP); **C02F 1/02** (2013.01 - RU); **C02F 1/048** (2013.01 - EP US); **C02F 1/16** (2013.01 - EP); **C02F 11/16** (2013.01 - RU); **B01D 53/77** (2013.01 - EP); **C02F 1/66** (2013.01 - EP); **C02F 11/13** (2018.12 - EP RU US); **C02F 2101/101** (2013.01 - EP); **C02F 2101/16** (2013.01 - EP); **C02F 2103/001** (2013.01 - EP); **C02F 2103/06** (2013.01 - EP); **C02F 2103/10** (2013.01 - EP); **C02F 2201/008** (2013.01 - EP); **C02F 2209/005** (2013.01 - EP); **Y02E 50/30** (2013.01 - EP); **Y02T 50/678** (2013.01 - EP)

Citation (search report)

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Designated contracting state (EPC)

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DOCDB simple family (publication)

**WO 2011014616 A2 20110203; WO 2011014616 A3 20110616**; AR 077508 A1 20110831; AR 077776 A1 20110921; AR 077781 A1 20110921; AU 2010279004 A1 20120202; AU 2010279004 B2 20140724; AU 2010279005 A1 20120202; AU 2010279005 B2 20150326; AU 2015203696 A1 20150716; AU 2015203696 B2 20170601; AU 2017221790 A1 20170921; BR 112012001718 A2 20170613; BR 112012001724 A2 20161122; CA 2768188 A1 20110203; CA 2769381 A1 20110203; CN 102471094 A 20120523; CN 102471094 B 20151216; CN 102471095 A 20120523; CN 102471095 B 20150819; CN 105126366 A 20151209; CN 105126366 B 20170905; EP 2459488 A2 20120606; EP 2459488 A4 20130306; EP 2473446 A2 20120711; EP 2473446 A4 20130327; JP 2013500852 A 20130110; JP 2013500853 A 20130110; JP 2016040037 A 20160324; JP 5823963 B2 20151125; MX 2012001291 A 20120326; MX 2012001292 A 20120326; RU 2012104408 A 20130910; RU 2012104412 A 20130910; RU 2015113354 A 20151110; RU 2015113354 A3 20180913; RU 2547117 C2 20150410; RU 2551494 C2 20150527; RU 2672451 C2 20181114; UA 105049 C2 20140410; UA 107800 C2 20150225; WO 2011014617 A2 20110203; WO 2011014617 A3 20110616

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**US 2010043647 W 20100729**; AR P100102736 A 20100728; AR P100102757 A 20100729; AR P100102758 A 20100729; AU 2010279004 A 20100729; AU 2010279005 A 20100729; AU 2015203696 A 20150624; AU 2017221790 A 20170830; BR 112012001718 A 20100729; BR 112012001724 A 20100729; CA 2768188 A 20100729; CA 2769381 A 20100729; CN 201080034379 A 20100729; CN 201080034380 A 20100729; CN 201510438348 A 20100729; EP 10805026 A 20100729; EP 10805027 A 20100729; JP 2012523025 A 20100729; JP 2012523026 A 20100729; JP 2015200065 A 20151008; MX 2012001291 A 20100729; MX 2012001292 A 20100729; RU 2012104408 A 20100729; RU 2012104412 A 20100729; RU 2015113354 A 20100729; UA A201201696 A 20100729; UA A201201697 A 20100729; US 2010043648 W 20100729