

Title (en)
RESONANT-VIBRATORY MIXING

Title (de)
RESONANZSCHWINGSMISCHUNG

Title (fr)
MALAXAGE VIBRANT RÉSONNANT

Publication
EP 3450006 A2 20190306 (EN)

Application
EP 18202371 A 20070112

Priority

- EP 18202371 A 20070112
- EP 07835660 A 20070112
- US 2007000953 W 20070112

Abstract (en)
A method for mixing fluids and/or solids in a manner that can be varied from maintaining the integrity of fragile molecular and biological materials in the mixing vessel to homogenizing heavy aggregate material by supplying large amounts of energy. Variation in the manner of mixing is accomplished using an electronic controller to generate signals to control the frequency and amplitude of the motor(s), which drive an unbalanced shaft assembly to produce a linear vibratory motion. The motor may be a servo motor, stepper motor, a linear motor or a DC continuous motor. By placing a sensor on the mixing vessel platform to provide feedback control of the mixing motor, the characteristics of agitation in the fluid or solid can be adjusted to optimize the degree of mixing and produce a high quality mixant.

IPC 8 full level
B01F 11/00 (2006.01); **B06B 1/16** (2006.01)

CPC (source: EP)
B01F 31/265 (2022.01); **B01F 31/27** (2022.01); **B06B 1/04** (2013.01); **B06B 1/10** (2013.01); **B01F 2101/44** (2022.01)

Citation (applicant)

- US 2091414 A 19370831 - BURNELL BRADER GWYNNE, et al
- US 3162910 A 19641229 - BEHNKE GEORGE W, et al
- US 2353492 A 19440711 - O'CONNOR JOHN C
- US 2636719 A 19530428 - O'CONNOR JOHN C
- US 3498384 A 19700303 - OGURA TATSUO
- US 3583246 A 19710608 - STAHL EUGEN, et al
- US 3767168 A 19731023 - DUPRE G, et al
- US 4619532 A 19861028 - SCHMIDT III JOHN W [US]
- US 4972930 A 19901127 - DAVIS EVAN B [US]
- US 5979242 A 19991109 - HOBBS GREGG K [US]
- US 6213630 B1 20010410 - KOSSMANN OLGA [DE]
- US 6250792 B1 20010626 - KRUSH IONA [IL], et al
- US 6263750 B1 20010724 - MAURER THOMAS [DE], et al
- US 6579002 B1 20030617 - BARTICK DON A [US], et al
- US 6250792 B1 20010626 - KRUSH IONA [IL], et al
- US 6263750 B1 20010724 - MAURER THOMAS [DE], et al
- US 6579002 B1 20030617 - BARTICK DON A [US], et al

Cited by
CN111249960A; EP3953065A4

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AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

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DOCDB simple family (application)
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