

Title (en)  
Large scale mixer / reactor

Title (de)  
Grossvolumiger Mischer / Reaktor

Title (fr)  
Mélangeur / réacteur gros volume

Publication  
**EP 1714694 B2 20111102 (DE)**

Application  
**EP 05008591 A 20050420**

Priority  
EP 05008591 A 20050420

Abstract (en)  
[origin: EP1714694A1] Over one section of the reactor length (142), the rotors (18, 20) convey the reaction material axially. Over a further section of the reactor length (144) the reaction material is conveyed in the opposite direction. These sections are divided by a plane of separation (140) at right angles to the rotor shaft. The rotor construction in the two sections (142, 144) is symmetrical about the plane of separation. The plane of separation coincides with one of the planes of rotor segments. Each of the segment planes includes a segment disc carrying a parallel kneading bar on one side, connected exclusively with the one segment disc. The other side carries a kneading bar connecting both axially-adjacent segment discs. The casing (14) has two end walls, with a corresponding arrangement of adjacent kneading bars and segment discs. The arrangement of kneading bars is parallel to the axial direction. They are alternatively inclined with respect to the axial direction, and provide both axial dispersion and axial conveying of the reaction materials. The casing includes connections for: exhaust vapors or gases (108), materials inlet (104) and reacted materials outlet (106). Further mechanical details are claimed. Two rotors are contained in a casing. The segment discs are arranged on spiral lines. The rotors are operated in counter rotation; they are periodically reversed. An independent claim is included for the method of operation.

IPC 8 full level  
**B01F 7/04** (2006.01); **B01J 19/18** (2006.01)

CPC (source: EP)  
**B01F 27/702** (2022.01); **B01F 35/145** (2022.01); **B01F 35/92** (2022.01); **B08B 9/087** (2013.01)

Citation (opposition)  
Opponent :

- EP 0715881 A2 19960612 - BAYER AG [DE]
- DE 2012294 A1 19701001 - LIST HEINZ [CH]
- DE 2349106 A1 19740502 - LIST HEINZ [CH]
- EP 0274668 A1 19880720 - LIST AG [CH]

Cited by  
CN104245107A; ITNA20080041A1; JP2015515378A; US9126158B2; US7964059B2; WO2010034446A3; WO2013160196A1

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

DOCDB simple family (publication)  
**EP 1714694 A1 20061025; EP 1714694 B1 20090225; EP 1714694 B2 20111102**; AT E423614 T1 20090315; DE 502005006692 D1 20090409; ES 2321412 T3 20090605

DOCDB simple family (application)  
**EP 05008591 A 20050420**; AT 05008591 T 20050420; DE 502005006692 T 20050420; ES 05008591 T 20050420