

Title (en)  
MEMBRANE ENHANCED REACTOR

Title (de)  
VERBESSERTER MEMBRANREAKTOR

Title (fr)  
REACTEUR A MEMBRANE AMELIORE

Publication  
**EP 1789172 A1 20070530 (EN)**

Application  
**EP 05808744 A 20050919**

Priority  
• US 2005033267 W 20050919  
• US 61160804 P 20040921

Abstract (en)  
[origin: WO2006034086A1] A hydrogen producing reactor is disclosed. The hydrogen producing reactor has a reaction chamber containing a catalyst bed adapted to produce reaction products containing hydrogen from a hydrogen-producing feedstock. The reaction chamber also includes a hydrogen-selective, hydrogen-permeable gas separation module adapted to receive the reaction products from the catalyst bed and to separate a product stream containing hydrogen from the reaction products. The gas separation module comprises a porous substrate, an intermediate layer located at the porous substrate, and a hydrogen-selective membrane overlying the intermediate layer. The intermediate layer comprises particles and a binder metal, where the binder metal is distributed through out the intermediate layer. A steam reforming process is also disclosed using the disclosed reactor.

IPC 8 full level  
**B01J 8/02** (2006.01); **B01D 53/22** (2006.01); **C01B 3/50** (2006.01)

CPC (source: EP US)  
**B01D 53/22** (2013.01 - EP); **B01D 63/06** (2013.01 - EP); **B01D 63/065** (2013.01 - EP); **B01D 63/069** (2022.08 - US); **B01D 67/0069** (2013.01 - EP); **B01D 67/0088** (2013.01 - EP); **B01D 69/10** (2013.01 - EP US); **B01D 69/12** (2013.01 - EP US); **B01D 71/022** (2013.01 - EP); **B01D 71/02231** (2022.08 - US); **B01D 71/02232** (2022.08 - US); **B01D 71/025** (2013.01 - EP); **B01J 8/009** (2013.01 - EP); **B01J 19/2475** (2013.01 - EP); **C01B 3/384** (2013.01 - EP); **C01B 3/505** (2013.01 - EP); **B01D 2313/42** (2013.01 - EP); **B01D 2325/22** (2013.01 - EP); **C01B 2203/0233** (2013.01 - EP); **C01B 2203/041** (2013.01 - EP); **C01B 2203/047** (2013.01 - EP); **C01B 2203/0475** (2013.01 - EP); **C01B 2203/048** (2013.01 - EP); **C01B 2203/0495** (2013.01 - EP); **C01B 2203/86** (2013.01 - EP); **Y02P 30/00** (2015.11 - EP)

Cited by  
CN101920332A; US11492255B2; US11999619B2; US11492254B2; US11578016B1; US11639290B2; US11787759B2; US11322766B2; US11617981B1; US11718575B2; US11583824B2; DE102022203604A1; WO2023198435A1

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 LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2006034086 A1 20060330**; AU 2005287034 A1 20060330; AU 2005287034 B2 20090611; CA 2580580 A1 20060330; EP 1789172 A1 20070530; JP 2008513337 A 20080501; NO 20071532 L 20070620; TW 200630158 A 20060901

DOCDB simple family (application)  
**US 2005033267 W 20050919**; AU 2005287034 A 20050919; CA 2580580 A 20050919; EP 05808744 A 20050919; JP 2007532531 A 20050919; NO 20071532 A 20070323; TW 94132238 A 20050919