

Title (en)  
MEMBRANE STEAM REFORMER

Title (de)  
MEMBRANDAMPFREFORMER

Title (fr)  
REFORMEUR A LA VAPEUR A MEMBRANE

Publication  
**EP 1789171 A1 20070530 (EN)**

Application  
**EP 05798327 A 20050919**

Priority  
• US 2005033289 W 20050919  
• US 61168304 P 20040921

Abstract (en)  
[origin: WO2006034100A1] 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 porous layer located at the porous substrate, and a hydrogen-selective membrane overlying the intermediate layer. The intermediate porous layer comprises a powder having a Tamman temperature higher than the Tamman temperature of the porous substrate. 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 53/228** (2013.01 - EP); **B01D 67/0069** (2013.01 - EP); **B01D 67/0088** (2013.01 - EP); **B01D 69/108** (2022.08 - EP US);  
**B01D 69/1214** (2022.08 - EP US); **B01D 71/02231** (2022.08 - EP US); **B01D 71/02232** (2022.08 - EP 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 2325/20** (2013.01 - EP);  
**B01D 2325/32** (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);  
**F23C 2900/99001** (2013.01 - EP); **Y02E 20/34** (2013.01 - EP); **Y02P 30/00** (2015.11 - EP)

Citation (search report)  
See references of WO 2006034100A1

Cited by  
US11999619B2; US11787759B2; US11492255B2; US12084346B2; US11492254B2; US11583824B2; US11578016B1; US11639290B2;  
US11322766B2; US11617981B1; US11718575B2

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 2006034100 A1 20060330**; AU 2005286952 A1 20060330; AU 2005286952 B2 20090611; CA 2580585 A1 20060330;  
EP 1789171 A1 20070530; JP 2008513338 A 20080501; NO 20071530 L 20070420; TW 200619136 A 20060616

DOCDB simple family (application)  
**US 2005033289 W 20050919**; AU 2005286952 A 20050919; CA 2580585 A 20050919; EP 05798327 A 20050919; JP 2007532538 A 20050919;  
NO 20071530 A 20070323; TW 94132241 A 20050919