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[Continued on next page]

- (54) **Title:** ACCELERATED MIXED GAS INTEGRITY TESTING OF POROUS MATERIALS

(57) **Abstract:** The invention relates to accelerated mixed gas integrity testing methods, devices, and systems for integrity testing wetted single and multi-layered porous materials., whereby the testing method is non-destructive to the porous materials being tested. The accelerated mixed gas integrity test method includes one or more of the following components: i) a permeate side gas purge component; ii) a permeate side volume reduction component; and iii) a permeate side circulation component. The invention is directed towards reducing the length of time necessary to complete the integrity testing of single and multilayered porous materials, elements and membranes.

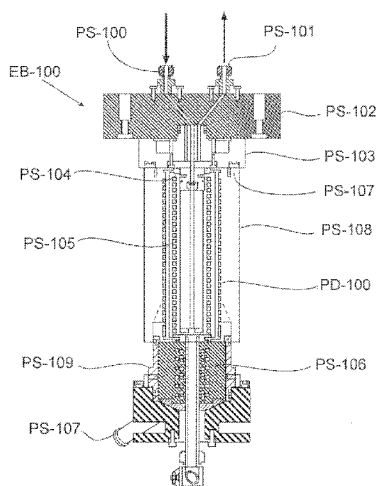


Figure 1



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER*G01N 15/08(2006.01)i, G01N 33/44(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: porous material, integrity test, permeability, gas mixture, concentration, feed side, permeate side.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007-0089489 A1 (LEWNARD, JOHN J. et al.) 26 April 2007 See paragraphs [0009]-[0010], [0041], [0045], [0064]-[0065], [0070]-[0074], [0077], [0080], and [0105]; claims 1, 4-5, 8-14, 16-19, and 24-27; and figures 2A-3.	1-11, 13-17, 19-21
A	US 2010-0223980 A1 (BURKE, AARON et al.) 09 September 2010 See paragraphs [0010]-[0015], [0061]-[0064], and [0070]-[0071]; claims 21-22; and figures 1A-1D.	1-11, 13-17, 19-21
A	EP 0640822 A2 (MILLIPORE INVESTMENT HOLDINGS LIMITED) 01 March 1995 See col.6, line 26 - col.7, line 1; claims 1-5, 7, 9-10, and 19; and figure 1.	1-11, 13-17, 19-21
A	US 2003-0159977 A1 (TANNY, GERALD et al.) 28 August 2003 See paragraphs [0016]-[0020], [0041]-[0045], [0048]-[0051], and [0070]-[0074]; claims 19 and 21; and figures 1-3.	1-11, 13-17, 19-21



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

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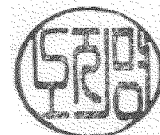
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Information on patent family members

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