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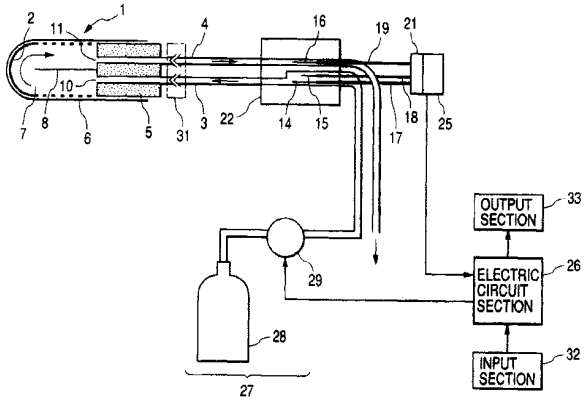
(54) Gas sensor and gas sensor system

(57) The object of the present invention is to provide a carrier solution flow-through type gas sensor system by which the automation of the zero point calibration can be easily carried out, and the base line drift and the temperature drift of the pH electrode can be compensated.

Accordingly, the gas sensor of the present invention is constructed in such a manner that: a gas exchange section (1) having a gas exchanger (7) which is provided with an inlet and an outlet to circulate a carrier solution including at least ions conjugate to a gas to be measured, and separated from the outside by the gas permeable membrane (6); a forward path section (3) which is connected to the inlet of the gas exchanger and guides the carrier solution to the gas exchanger; a return path section (4) which is connected to the outlet of the gas exchanger and guides the carrier solution from the gas exchanger to the outside; a reference pH electrode (14) arranged inside the forward path section; and a measuring pH electrode (16) arranged in either of the inside of the gas exchanger or the inside of the return path section, are provided.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 01 10 2416

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X Y	US 4 490 234 A (BUZZA EDMUND E) 25 December 1984 (1984-12-25) * column 1, line 65 - column 2, line 8; figures 1,2 * * column 2, line 47 - column 4, line 3; claims 3,4 * ---	1,2,4-8,10 3,9,11	G01N33/49 G01N33/487
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X A	US 3 869 354 A (MONTALVO JR JOSEPH G) 4 March 1975 (1975-03-04) * abstract; figure 1 * * column 2, line 5-54 * * column 3, line 13 - column 6, line 15; table 1 * ---	1,5-7,9 2-4,8,10	
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A	EP 0 478 048 A (INSTRUMENTATION LAB SRL) 1 April 1992 (1992-04-01) * abstract; figure 1 * * column 2, line 44 - column 5, line 43 * --- -/--	1-11	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	1 October 2001	Klein, M-O

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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EUROPEAN SEARCH REPORT

Application Number
EP 01 10 2416

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 3 659 586 A (JOHNS RICHARD J ET AL) 2 May 1972 (1972-05-02) * abstract; figure 4 * * column 3, line 1 - column 4, line 16; claim 1 *	1-11	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	1 October 2001	Klein, M-O

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X : particularly relevant if taken alone
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& : member of the same patent family, corresponding document

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 10 2416

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	气体传感器和气体传感器系统		
公开(公告)号	EP1130393A3	公开(公告)日	2001-11-28
申请号	EP2001102416	申请日	2001-02-02
[标]申请(专利权)人(译)	日本光电工业株式会社		
申请(专利权)人(译)	日本光电公司		
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IPC分类号	A61B5/00 G01N27/416 G01N33/49 G01N33/487		
CPC分类号	A61B5/14542 A61B5/14539 A61B5/1473 G01N27/4162 G01N33/4925		
优先权	2000026045 2000-02-03 JP		
其他公开文献	EP1130393A2		
外部链接	Espacenet		

摘要(译)

本发明的目的是提供一种载气溶液流通式气体传感器系统，通过该系统可以容易地进行零点校准的自动化，并且可以补偿pH电极的基线漂移和温度漂移。 。因此，本发明的气体传感器以这样的方式构造：具有气体交换器（7）的气体交换部分（1），该气体交换器（7）设有入口和出口以使载体溶液循环，所述载体溶液至少包括离子共轭物待测气体，通过透气膜（6）与外界隔开;前进路径段（3），其连接到气体交换器的入口并将载体溶液引导到气体交换器;返回路径部分（4），连接到气体交换器的出口，并将载体溶液从气体交换器引导到外部;参考pH电极（14）设置在前向路径部分内;设置有设置在气体交换器内部或返回路径部分内部的测量pH电极（16）。