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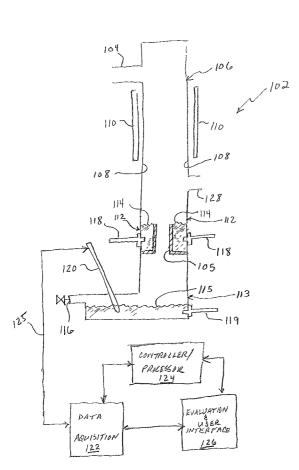
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(54) Title: EXHALED BREATH CONDENSATE COLLECTION AND ASSAY SYSTEM AND METHOD



(57) Abstract: A method and system that provides for minute-tominute EBC pH monitoring (or for other EBC characteristic monitoring) of a subject that greatly assists in determining the timecourse of airway pH changes (or other characteristic changes) in evolving disease processes, and may assist in determining the predictive ability of these tests, as well as determining response to therapy.



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C DOCUMENTS CONSIDERED TO BE RELEVANT		
Category * Citation of document, with indication, where ap	propriate, of the relevant passages	Relevant to claim No
X US 6,033,368 A (GASTON, IV et al.) 0.7 March 2000 (07 03 2000), entire document,		52,56-71,76,77,81-95
esepcially figs 1, 2A, 2B, col 4, line 19-col 6, line	15	53-55,78-80
A		1-51,72-75,96-99
Y US 2004/01 27808 A l (VAUGHAN et al) 0 l Jul> 2004 (01 07 2004) entire document, especially fig l, paragraphs 60-62 of Vaughan		53-55,78-80
		1-51,72-75,96-99
A US 2004/01 62500 A1 (KLINE) 19 August 2004 (19 08 2004), see entire document		1-99
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