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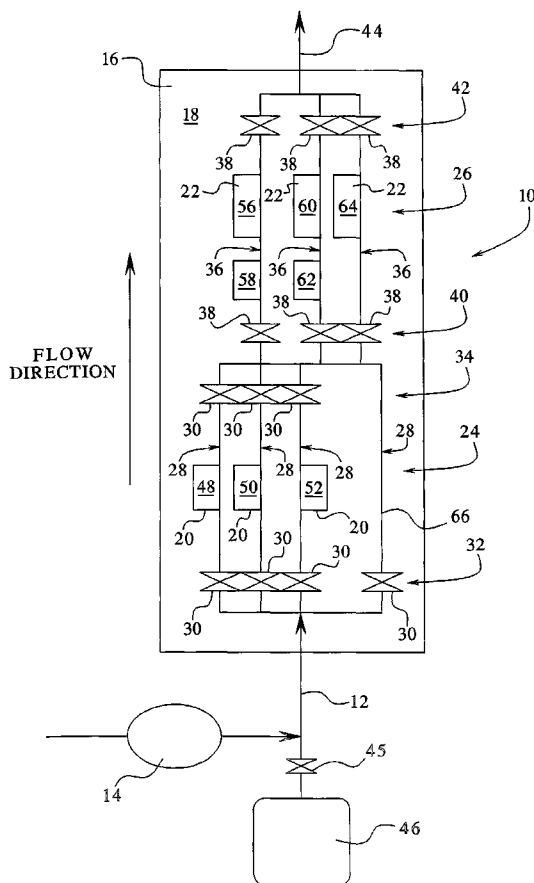
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[Continued on next page]

(54) Title: "BIOSENSOR FOR DIALYSIS THERAPY"



(57) Abstract: A biosensor capable of monitoring a number of different constituents of a dialysate solution used during dialysis therapy is provided. The biosensor of the present invention includes an integrated array of reactive elements and sensing elements that can be hydraulically coupled to the dialysate solution. In this regard, the biosensor can be utilized to provide on-line monitoring of total solutes removed from a patient during dialysis therapy, infection levels, and/or other desirable parameters such that an overall assessment of dialysis therapy can be readily evaluated.

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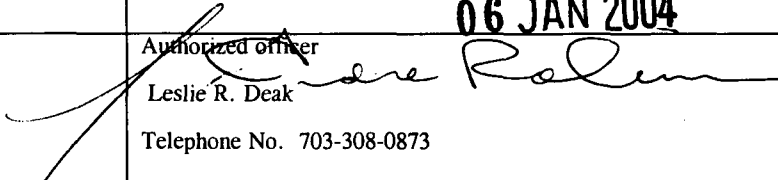
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST BRS: disalysis, monitor, parameters, cassette, sensor, reactor		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,002,055 A (MERKI et al) 26 March 1991 (26.03.1991), entire document.	1-34
Y	US 5,662,806 A (KESHAVIAH et al) 2 September 1997 (02.09.1997), entire document.	1-34
Y	US 5,964,932 A (MICHEL), 09 December 1997 (09.12.1997), entire document.	1-34
Y	US 5,938,938 A (BOSELTO et al) 17 August 1999 (17.08.1999), entire document.	1-34
Y	US 6,123,847 A (BENE) 26 September 2000 (26.09.2000), entire document.	1-34
Y	US 6,139,754 A (HARTRANFT et al) 31 October 2000 (31.10.2000), entire document.	1-34
Y	US 6,175,752 B1 (SAY et al) 16 January 2001 (16.01.2001), entire document.	1-34
Y	US 6,187,199 B1 (GOLDAU et al) 13 February 2001(13.02.2001), entire document.	1-31
Y	US 6,228,047 B1 (DADSON) 8 May 2001 (08.05.2001), entire document.	1-34
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