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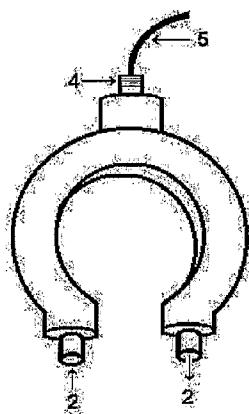
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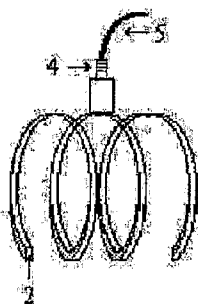
(54) Title: SYSTEM FOR MEASURING THE PRESENCE AND CONCENTRATION OF DIFFERENT IMMISCIBLE LIQUIDS
IN A SAMPLE

(54) Título: SISTEMA DE MEDICIÓN DE LA PRESENCIA Y CONCENTRACIÓN DE DISTINTOS LIQUIDOS INMISCIBLES EN UNA MUESTRA



(57) Abstract: The invention relates to an electronic circuit which is used to measure the presence and concentration of different immiscible elements in a sample, in particular the interface of hydrocarbons, water or both. The operating principle of the inventive system consists in: (i) measuring the charging time in relation to a reference capacitor removed from the measurement and the capacitor equivalent to the sensor thereof and, therefore, proportional to the dielectric constant of the sample to be measured; and (ii) relating the result to the concentration percentage of the different immiscible liquids contained in said sample. The aforementioned sensor is surrounded and protected by an outer layer of impermeable electrical insulating material which facilitates the implantation thereof in areas with extreme levels of dirt, impurities and corrosion, specific to the nature of said type of samples.

(57) Resumen: Circuito electrónico medidor de la presencia y concentración de distintos elementos inmiscibles en una muestra, en particular la interfase de hidrocarburos, agua o ambos cuyo principio de funcionamiento consiste en medir el espacio de tiempo de carga en relación a un condensador de referencia ajeno a la medida y el condensador equivalente a su sensor, y por lo tanto, proporcional a la constante dieléctrica de la muestra a medir y relacionar el resultado con el porcentaje de concentración de los distintos líquidos inmiscibles contenidos en dicha muestra. El sensor está envuelto y protegido por una capa exterior de material aislante eléctrico e impermeable que facilitan su implantación en lugares cuyas condiciones de suciedad, impurezas y corrosión extremas, propias de la naturaleza de este tipo de muestras.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER ipc7 G01N 27/22, G01F 1/64 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) ipc7 G01N 27/00, G01F 1/00 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) EPODOC, WPI, PAJ, CIBEPAT				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X A A Y Y Y A	EP 280814 A2 (TEXACO DEVELOPEMENT CORP.) 07.09.1988, the whole document US 5668309 A (CODINA et al.) 16.09.1997, the whole document EP 274768 A1 (PUMPTech N.V.) 20.07.1988, the whole document US 4266188 A (THOMPSON) 05.05.1981, the whole document US 4370611 A (GREGORY et al.) 25.01.1983, the whole document US 4604904 A (MASSEN) 12.08.1986, the whole document	1-3 4, 5 4, 5 1-5 1-5 1-5 1-3		
☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.				
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Facsimile No.		Telephone No.		