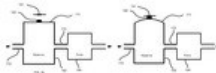
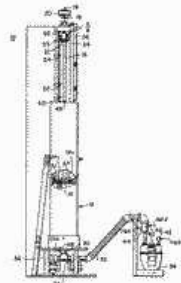
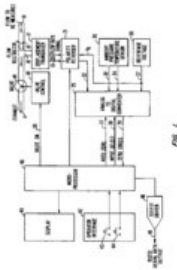
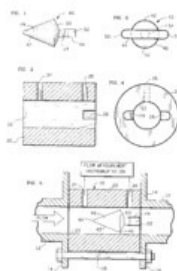
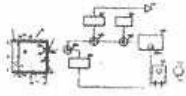
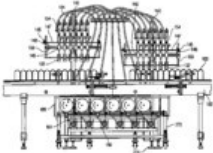
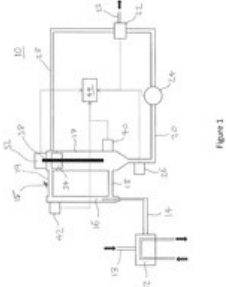
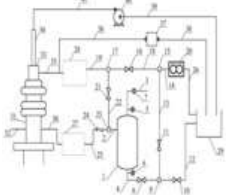
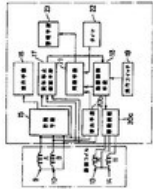
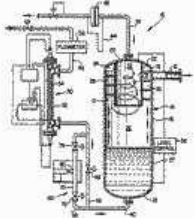
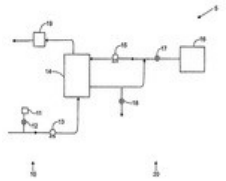
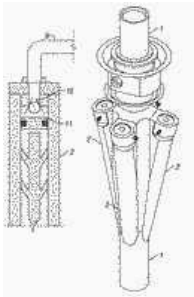
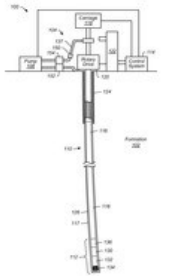
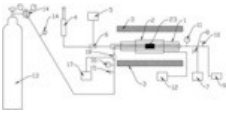
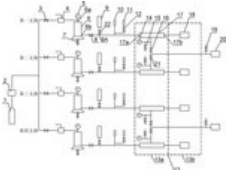
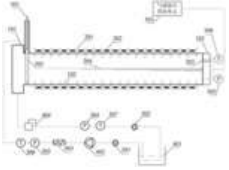
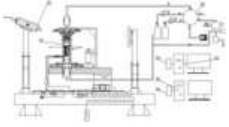
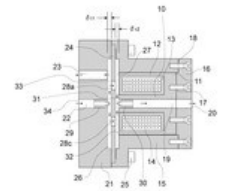
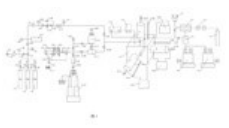
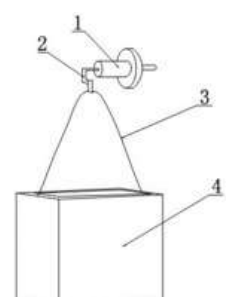
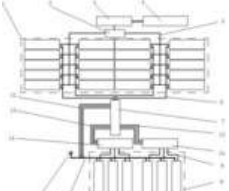


Patent families - 29 results

#	 	Title	Publication number	Publ. date	Applicant/Assignee			
1.		A fluid flow meter	EP2661412	2013-11-13	FIZE RESEARCH FITZ RESEARCH LEVINE, NOAM	100 %		A fluid flow meter comprising a fluid pump to displace fluid with pumping strokes of one or more pumping stroke types wherein each of the one or more stroke types displaces a known volume of fluid, a sensor functionally associated with a fluid reservoir and adapted to generate a signal indicative of a fluid pumping condition within the fluid reservoir, which fluid reservoir is integral or functionally associated with the pump, and circuitry to trigger one or a sequence of strokes of the pump in response to a signal from the sensor. 
2.		Flow meter	US20130228020	2013-09-05	SPIRAX SARCO	97 %		Disclosed aspects relate to a flow meter comprising a flow target arranged to be disposed in a fluid flow path in a conduit; a beam coupled to the flow target and arranged to extend outside of the conduit; a sensor having a moveable sensor part coupled to the beam at a position which in use is outside of the conduit, and a static sensor part, wherein displacement of the moveable sensor part with respect to the static sensor part generates a signal. In use, fluid flow acting on the flow target causes displacement of the moveable sensor part, thereby generating a signal which is representative of the fluid flow rate. 
3.		Apparatus for calibrating fluid flow meters utilizing digital techniques	US4419880	1983-12-13	M & FC HOLDING ROCKWELL INTERNATIONAL	95 %		Apparatus for calibrating a fluid flow meter includes a meter prover for detecting a known volume of fluid through the meter including a chamber of known volume, a piston to be moved rectilinearly within the chamber and a motor driving the piston, the chamber being coupled to the fluid flow meter under test to permit the flow of fluid between the fluid flow meter and the chamber. A rotary encoder coupled to the fluid flow meter provides a first indication in the form of a first series of pulses indicative of the fluid flow as measured by the meter. A high precision linear encoder coupled to the meter prover responsive to the movement of the piston provides a second indication in the form of a second series of pulses indicative of the fluid drawn by the meter prover through the fluid flow meter. A control microprocessor is responsive to the movement of the piston to enable the accumulation of the outputs of the two encoders whereby the accumulated value or number of the second series of pulses provides a calibrated, precise manifestation of the fluid flow through the fluid flow meter as measured by the meter prover. 
4.		Improved acoustic displacement flowmeter	EP0672893	1995-09-20	AGILENT TECHNOLOGIES FISONS CURTIN MATHESON SCIENTIFIC J & W SCIENTIFIC JAY & DOVE RY CIALITECH USA 9 5 6 3 0 CALIFORNIA FOLSOM BLUE LAVIGNE ROAD 9 1	94 %		An acoustic displacement flowmeter determines the flow rate of a fluid in a path containing a controllable valve by establishing fluid flow along the path, directing the flow of the fluid to a transducer having a displacement element by restricting the flow path, generating a signal from the transducer representative of displacement due to fluid flow while the flow path is restricted, using the transducer to determine the fluid flow rate, and reestablishing fluid flow along the path by removing the restriction. The transducer signal is used to determine the fluid flow rate by providing an analog reference signal, integrating the analog reference signal for a predetermined time period, deintegrating the integrated reference signal with the transducer signal until the value of the deintegration signal reaches a threshold value, and using the time required for the deintegration signal to reach the threshold value to calculate the flow rate. The time is accumulated by counting the number N of fundamental sampling periods occurring during the deintegration of the integrated reference signal and determining the flow rate from the equation $V = A/N-B$, where V is the mass flow rate and A and B are constants. A temperature correction signal for adjusting the calculated flow rate value for temperature variations is generated by providing first and second sensor signals whose ratio is representative of temperature, integrating the first sensor signal for a predetermined time period, deintegrating the integrated first signal with the second sensor signal until the value of the deintegration signal reaches zero, and using the time required for the deintegration sensor signal to reach zero to calculate the temperature correction signal. <IMAGE> 
5.		Fluid flow apparatus	EP0979391	2000-02-16	MCCROMETER	94 %		Fluid flow apparatus (10), including a one-piece fluid displacement member (42) removably mounted in a section of fluid conduit (20) so that no material joining is required. The displacement member is removably and replaceably mounted in the conduit section so that one displacement member can be replaced by one or more other displacement members and thereby accommodate a very broad range of fluid flows. The mounting or support (44) is provided at the downstream end of the displacement member which eliminates disturbances in the fluid flow around the displacement member and thereby provides for a highly stable signal. The signal is obtained via measurement taps (24, 26) in the wall of the conduit so that no measurement taps are required in or through the displacement member. 

6.	Method and apparatus for calibrating an encoder of device for monitoring fluid meter	FR2479459	1981-10-02	M & FC HOLDING ROCKWELL INTERNATIONAL	94 %	
Method and apparatus for calibrating a prover used for testing fluid flow meters. The prover includes a variable volume chamber of regular geometry defined by a movable element, e.g. a piston in a cylinder, which chamber is connected to the meter under test. A measuring device is coupled to said element to provide a high resolution signal, typically in the form of a train of pulses. Electromagnetic waves are generated in the chamber, varying their frequency to establish in resonant wave standing condition in the chamber; the mode of generation being selected so that at said resonant condition, the electric and magnetic components of the field generated are related to the dimensions of the chamber. By determining the capacity of the chamber at first and second positions of the piston or other movable element a displacement volume is determined with great accuracy and this is compared with the high resolution signal to determine the incremental volume of fluid displaced by incremental measured movement of said element, e.g. relative to a single pulse of the train. (From GB2072854 A)						
7.	Liquid system with improved fluid displacement	EP1453729	2004-09-08	NATIONAL INSTRUMENTS BENNETT RICHARD N. DOLD GEORGE R. PARIHAR SHAILENDRA K. ROSEN ROBERT A.	86 %	
An improved method and apparatus for a liquid filling system (10) is herein disclosed incorporating means for generating greater overall production rate efficiencies for automatic systems utilizing diverter valve and/or walking beam filling technologies. The methods/apparatus disclosed include means to more efficiently changeover and clean up, in either a clean-in-place or clean-out-of-place (COP) configuration.						
8.	Apparatus and method for determining an amount of non-condensable gas	EP3088862	2016-11-02	SPIRAX SARCO	86 %	
There is disclosed an apparatus 10 and method for determining an amount of non-condensable gas within a fluid flow containing both non-condensable gas and condensate liquid. The method comprises receiving the fluid flow in a fluid displacement volume 18 causing the non-condensable gas to rise within the volume 10; monitoring the liquid level of a free surface in the fluid displacement volume 18 to generate a level signal; monitoring the flow of liquid out of the fluid displacement volume 18 to generate a liquid flow signal; and determining the amount of non-condensable gas based on the level signal and the liquid flow signal.						
9.	Gas-liquid bi-phase flow measuring device and measuring method applied to control pressure well drilling	CN104265267	2015-01-07	CHINA UNIVERSITY OF PETROLEUM EAST CHINA	80 %	
The invention belongs to the oil project field, specifically relates to a gas-liquid bi-phase flow measuring device and measuring method applied to control pressure well drilling. gas-liquid bi-phase flow measuring device applied to control pressure well drilling comprises a vertical bi-phase separator; a separator inflow pipeline is formed at the side of the vertical bi-phase separator; a separator exhaust pipeline is formed at the top end of the vertical bi-phase separator, a first pressure sensor and a Venturi tube are mounted on the separator exhaust pipeline, the first pressure sensor is located between the vertical bi-phase separator and the Venturi tube; a separator liquid discharging pipeline is formed at the bottom end of the vertical bi-phase separator, the separator liquid discharging pipeline is provided with a second pressure sensor and a first brake valve, the second pressure sensor is located between the vertical bi-phase separator and the first brake valve. The Gas-liquid bi-phase flow measuring device and measuring method applied to control pressure well drilling solves the problem that the existing control pressure well drilling system application quality flowmeter cannot measure the as-liquid bi-phase flow for the gas-containing annular reversing out liquid.						
10.	Mass flowmeter	JP04052516	1992-02-20	TOKICO	73 %	
PURPOSE: To make it possible to detect also abnormality due to a change with time by a method wherein a sensor tube is once vibrated in a state of no fluid being made to flow therethrough and then stopped, a state of attenuation of vibration after stoppage is compared with a reference state of attenuation and thereby the abnormality of the sensor tube is judged. CONSTITUTION: A power source is made, a sensor tube (tube) is vibrated by vibrators 13 and 14, and an operating switch 19 is turned ON in a state of a fluid stop signal being inputted to an excitation control means 18. Then the means 18 supplies a control signal to the vibrators 13 and 14 through a drive circuit 20a so that the tube be stopped. Therefore the vibration of the tube is attenuated gradually and stopped. A detecting means 20b detects the attenuation of vibration of the tube from output signals of pickups 9 and 10 and supplies a detection signal to a judging means 21. Using a clock from a timer 22, the means 21 compares a vibration level (amplitude) after passage of a prescribed time after stoppage of the vibration with a reference level and judges the tube to be normal when the vibration level is within an error of the reference level, while judging it to be abnormal when the vibration level exceeds the error. Receiving an abnormality signal from the means 21, an alarm means 23 issues an alarm. COPYRIGHT: (C)1992.JPO&Japio						
11.	Three phase fluid flow measuring system	US4852395	1989-08-01	ATLANTIC RICHFIELD	60 %	
A multi-phase fluid flow measuring system for measuring the volumetric fractions of gas, water and oil including a centrifugal separator for conducting primary separation of gas from the liquid phase, a conduit section forming a closed chamber and a piston displaceable into the chamber to measure the increase in pressure of a liquid sample trapped in the chamber in relation to movement of the piston for determining the residual gas content of the liquid phase, a liquid phase flow meter and apparatus for measuring the microwave energy transmissivity through a sample of the liquid phase to determine the volumetric fraction of water and oil in the liquid phase. One embodiment of the system uses two apparatuses for measuring the microwave transmissivity at different pressures of the liquid phase to compare the transmissivity readings as a way of determining the residual gas content in the liquid phase. A method for measuring the residual gas content takes into consideration an increase in pressure in the sample of liquid being measured including elastic stretch of the measuring vessel as a result of the pressure increase, and compressibility of the liquid phase.						

12.	Computer-implemented method, system, and apparatus for electronic patient care	EP2936360	2015-10-28	DEKA PRODUCTS DEGA PRODUCT PARTNERSHIP	60 %	
13.	Pump stopping wellhead pressure drop measuring transient well test method after acid fracturing	CN106522928	2017-03-22	CHENG HANLIE	58 %	The invention relates to a pump stopping wellhead pressure drop measuring transient well test method after acid fracturing. The method comprises the following steps that (1) pressure data in the whole acid fracturing process are recorded; (2) different fluid displacement data are recorded; (3) a well depth structure and the productive section well diameter are obtained; (4) frictional resistance is obtained; (5) well bottom pressure data in the whole acid fracturing process are simulated; (6) the effective reservoir thickness is gained; (7) the weighted porosity of the effective reservoir porosity is gained; (8) a rock compressibility coefficient is gained; (9) the formation pressure is converted, and the well bottom formation temperature is gained; (10) water saturation is obtained; (11) a water injection pressure drop transient well test analysis model is established; (12) all relevant parameter of the selected analytic model are obtained; and (13) all the parameters are obtained for reservoir evaluation. Through the method, the formation parameters are effectively obtained for reservoir evaluation. The test cost is reduced, the test construction risks are reduced, the individual well yield is not influenced, and the dynamic test data gaining rate is increased. 
14.	Multiple activation-device launcher for a cementing head	EP2334895	2011-06-22	POLICY RESEARCH & DEVELOPMENT PRAD SCHLUMBERGER SCHLUMBERGER SERVICES PETROLIERS SCHLUMBERGER TECHNOLOGIES	51 %	The invention relates to a multiple activation-device launching system for a cementing head, comprising a launcher body comprising at least one launching chamber and a device chamber, the launching chamber sized to receive one or more activation devices therein, the launching chamber in fluid communication with a power source for launching the activation device into the device chamber. Then the invention relates to various methods involving such system. 
15.	Monitoring of drilling operations with flow and density measurement	EP2598715	2013-06-05	SHELL SHELL INTERNATIONALE RESEARCH	46 %	A system includes one or more sensors configured to sense at least one characteristic of fluid entering a well, one or more sensors configured to sense at least one characteristic of fluid exiting a well; and one or more control systems that receive data from at least one of the sensors. 
16.	Device and method for monitoring states of methane in coal seam gas output procedures on basis of nuclear magnetic resonance	CN106290443	2017-01-04	CHINA UNIVERSITY OF MINING & TECHNOLOGY	41 %	The invention discloses a device and a method for monitoring states of methane in coal seam gas output procedures on the basis of nuclear magnetic resonance. Time-dependent dynamic variation rules of the different states of the methane in dry coal sample, water-containing coal sample and heavy water displacement methane adsorption and desorption procedures can be respectively obtained by the property of absence of nuclear magnetic signals of heavy water by the aid of variation of nuclear magnetic resonance T2 spectrum signals in methane adsorption and desorption procedures of dry coal samples and water-containing coal samples, and influence of water, displacement pressures, inlet and outlet displacement differential pressures and confining pressures on the states of the methane in the coal samples can be obtained by means of comparing the dry coal samples, the water-containing coal samples and the heavy water to one another. The device and the method have the advantages that nuclear magnetic resonance technologies are combined with rock core displacement technologies, and accordingly dynamic variation of the states of the methane in the coal samples can be nondestructively monitored in real time in the coal seam gas output simulation procedures. 
17.	Test system and method of fluid non-linear percolation characteristics in low-permeability porous media	CN102297830	2011-12-28	PETROCHINA	40 %	The patent refers to the field of 'investigating or analysing materials by determining their chemical or physical properties'. The invention provides a test system and method of fluid non-linear percolation characteristics in a low-permeability porous media. The test system comprises a plurality of test branches, wherein, each test branch comprises a displacement pressure output unit for providing different pressures to transfer displacing fluid to a test core, a pressure measuring unit for the pressure of the displacing fluid output by the displacement pressure output unit, a flowing unit for accommodating the test core and providing ring crush to the test core, a flow measuring unit for measuring the flow of the displacing fluid flowing through the test core, and a thermostatically control unit for providing a constant ambient temperature for the flowing unit and the flow measuring unit. By adopting the thermostatically control unit, the influence of variation in temperature to the test results is eliminated, so that the test results are accurate. 

18.	Device for monitoring physical property change of hydrate reservoir in deep water drilling fluid invasion process	CN106896212	2017-06-27	CHINA UNIVERSITY OF PETROLEUM EAST CHINA	38 %	
The invention relates to a device for monitoring physical property change of a hydrate reservoir in the deep water drilling fluid invasion process. The device comprises a shaft-hydrate reservoir coupling heat and mass transfer unit and a drilling fluid circulating unit. The shaft-hydrate reservoir coupling heat and mass transfer unit simulates a reservoir structure by adopting a sand filling compaction method, a reaction place is provided for generation, decomposition and regeneration of hydrate in a porous medium, and multiple monitoring means including temperature and pressure sensing, electrical impedance sending, ultrasonic wave monitoring, TDR monitoring and nuclear magnetic resonance tracing isotope are utilized to record physical property parameter changes at different positions in the reservoir in real time. The drilling fluid circulating unit is used for simulating drilling fluid circulation of different drilling parameters. The device can simulate the hydrate reservoir under different water depth conditions and monitor the changes of temperature, pressure and electrical impedance in the reservoir during shaft-reservoir heat and mass transfer and migration regularity of decomposition fluids, original solid-phase hydrate and other substances.						
19.	Gas injection displacement coalbed methane experiment system with ct (computed tomography) real-time scanning and experiment method thereof	CN106370822	2017-02-01	HENAN INSTITUTE OF ENGINEERING	36 %	
The invention relates to a gas injection displacement coalbed methane experiment system with CT (Computed Tomography) real-time scanning. The system comprises a CT real-time scanning system, a reservoir simulation system, a gas injection and collection system, and a data acquiring, processing and controlling system, wherein the data acquiring, processing and controlling system comprises a first computer, a first acquisition card, a second computer and a second acquisition card; the first computer is connected with the reservoir simulation system, an X-ray machine and the gas injection and collection system through the first acquisition card and a data signal line; the second computer is connected with a flat panel detector through the second acquisition card and a data signal line. The invention further discloses an experiment method of the gas injection displacement coalbed methane experiment system with CT real-time scanning. The gas injection displacement coalbed methane experiment system with CT real-time scanning and the method thereof provided by the invention are mainly used for carrying out displacement experiment under different coal quality conditions, gas injection types, gas injection pressure, gas injection velocity conditions, and can be used for monitoring evolution of gas absorption/desorption-diffusion-transfusion stage hole fissure during different gas injection processes and a coalbed methane migration process through CT real-time scanning.						
20.	Fluid servo valve and fluid servo apparatus	US20200018418	2020-01-16	TOKKYOKIKI NISSHO CHARTERED MACHINERY	35 %	
The present invention controls the pressure and flow rate of fluid , in order to obtain uniform performance, configure a closed loop magnetic circuit so as to include an electromagnet, a flapper, and a yoke material, and elastically deform the flapper itself by Maxwell attractive force generated between a magnetic pole of the electromagnet and the flapper to make the separation distance between the nozzle and the flapper variable. As opposed to a rigid flapper structure that swingably moves around a supporting point, like a conventional servo valve, the electromagnet, the magnetic pole, the nozzle, the flapper, and the like are arranged such that a change in magnetic gap directly leads to a change in air gap.						
21.	High temperature and high pressure drainage dynamic evaluation system for coal bed and gas reservoir double-layer commingled production	CN103148888	2013-06-12	SOUTHWEST PETROLEUM UNIVERSITY	31 %	
The invention discloses a high temperature and high pressure drainage dynamic evaluation system for coal bed and gas reservoir double-layer commingled production, which comprises a high temperature and high pressure drainage dynamic evaluation instrument for commingled production in which a coal bed gas inlet is combined with an injection outlet and a high temperature and high pressure drainage dynamic evaluation instrument for commingled production in which the inlet is separated from the injection outlet, wherein the high temperature and high pressure drainage dynamic evaluation instruments respectively comprise a driving and displacing module, a core clamping module, a bottom water simulation module, a confining pressure and back pressure module, a vacuumizing module, a measuring module and a temperature control and data acquisition module. The high temperature and high pressure drainage dynamic evaluation system has the beneficial effect that two sets of experiment equipment provided by the invention are						
22.	Coalbed methane horizontal well hole collapse de-stressed mining simulation test method	WO2020/087861	2020-05-07	CHINA UNIVERSITY OF MINING & TECHNOLOGY XUZHOU OLIVINE GEOSCIENCE & GEOTECH	25 %	
A coalbed methane horizontal well hole collapse de-stressed mining simulation test method. A coal reservoir is constructed by means of reconstruction of a coal measure strata structure and simulation of a similar material simulation subsystem. Pressure pulsation excitation and stress release of a horizontal well are achieved by a pressure pulsation excitation pressure-relief simulation subsystem, and a coal-liquid-gas mixture is displaced hydraulically to be migrated to a straight well section. Detection of electric field distribution in similar materials is achieved by an electric simulation subsystem. A product separation and detection subsystem separates and weighs coal, liquids and gases, and a data acquisition and control subsystem detects and controls the operation and implementation processes of equipment in real time. The method can achieve the simulation of horizontal well hole collapse and stress release of a soft-structured coal reservoir, simulate the migration features of a gas phase, a liquid phase and a solid phase in pressure-relief space, simulate the separation process of the produced mixture, and obtain the law between coal reservoir pressure relief and gas desorption change and the dynamic law between a complex seepage field after coal measure strata excitation and pressure relief and horizontal well section flow .						
23.	Testing device and method of ignition threshold of nuclear passive hydrogen recombiner	CN104835542	2015-08-12	MATERIAL INSTITUTE OF CHINA ACADEMY OF ENGINEERING PHYSICS SICHUAN JUNENG NUCLEAR TECHNOLOGY ENGINEERING	19 %	
The invention discloses a testing device and method of an ignition threshold of a nuclear passive hydrogen recombiner and solves the problem that the high hydrogen concentration accident of a nuclear power station cannot be comprehensively simulated in the prior art. The testing device comprises a piston mechanism, a suspending mechanism and a stainless steel crust used for blocking a flue outlet of the nuclear passive hydrogen recombiner. During introduction of hydrogen, the stainless steel crust covers the flue outlet of the nuclear passive hydrogen recombiner, thus air circulation and dehydrogenation is effectively stopped, and the interior hydrogen concentration of a reaction vessel is enabled to rise fast; after the hydrogen concentration reaches a preset value, fluid drives the suspending mechanism to move, the stainless steel crust is enabled to slide down, the flue outlet of the nuclear passive hydrogen recombiner is exposed, air circulation is allowed in the nuclear passive hydrogen recombiner, and dehydrogenation is achieved under high hydrogen concentration. The high hydrogen concentration accident of the nuclear power station is truly simulated, and excellent reference standards are provided for the study and design of the nuclear passive hydrogen recombiner.						
24.	Liquid carbon dioxide dry-process sand fracturing system and technological process	CN108374655	2018-08-07	CNPC SICHUAN PETROLEUM GEOPHYSICAL PROSPECTING	16 %	
The invention discloses a liquid carbon dioxide dry-process sand fracturing system and a technological process. The liquid carbon dioxide dry-process sand fracturing system at least comprises a carbon dioxide storage tank, a nitrogen pressurization device, a liquid nitrogen pump truck, a liquid nitrogen tank truck, a circulating cooling device, a fracturing truck and a sealed sand mixing device. The liquid nitrogen tank truck, the liquid nitrogen pump truck and the nitrogen pressurization device are sequentially connected through a pipeline. The nitrogen pressurization device is connected with the carbon dioxide storage tank through a carbon dioxide storage tank gas-phase pipeline. The carbon dioxide storage tank is connected with the circulating cooling device through a carbon dioxide storage tank liquid-phase pipeline. The circulating cooling device is connected with the sealed sand mixing device through a sealed sand mixing device liquid inlet pipeline. The sealed sand mixing device is connected with the fracturing truck through a fracturing truck water feeding pipeline. The ground technological process can realize large discharge capacity construction, the concentrated emission of gaseous carbon dioxide and the zero emission of gaseous carbon dioxide are realized in the pump cooling process of the fracturing truck, repeated use of carbon dioxide can be realized, and the construction cost is reduced.						

25.	Temperature control system-containing large-size true triaxial hydraulic fracturing experimental machine and experimental method thereof	CN107907422	2018-04-13	CHINA UNIVERSITY OF GEOSCIENCES WUHAN	11 %
The invention discloses a temperature control system-containing large-size true triaxial hydraulic fracturing experimental machine and an experimental method thereof. The fracturing experimental machine mainly includes a large-size true triaxial module, a temperature control system-containing hydraulic servo pumping pressure module, an acoustic emission module, a sample loading and unloading module and a computer. The experimental method mainly includes the following steps: making and loading a sample, setting parameters of a simulated reservoir, performing a hydraulic fracturing physical simulation experiment, completing the experiment, turning off the experimental machine, unloading the sample, and analyzing the experimental result. The hydraulic fracturing process, especially the geostress field and the temperature field of the simulated reservoir, are simulated under laboratory conditions, and the disadvantage of existing conventional hydraulic fracturing devices ignoring the temperature of the reservoir is overcome; a large number of experiments can guide actual production, avoid the blind operation in the actual production process and improve the production efficiency; and additionally, the hydraulic fracturing experimental machine has the advantages of modular operation, integrated control, and realization of the monitoring of the experimental process.					
26.	Well fluid analysis system	WO2017/205077	2017-11-30	DWT SOLUTIONS A CALIFORNIA DWT SOLUTIONS	8 %
An oil well production analyzing system receives production fluid samples from the oil well according to an automated sampling schedule. The fluid samples are taken from a pipeline through a sampling apparatus to obtain a representative sample. The representative sample flows into a circulation loop having a circulating pump, a water cut analyzer, and a cylindrical vessel, with interconnecting piping and actuated valves there between, with the actuated valves and the circulating pump controlled by a digital processor. Once a determination of the percentage of water and oil in the sample has been determined, the processor stops the circulating pump and activates a piston in the cylindrical vessel which sweeps the cylindrical vessel of any fluid contained in the vessel in preparation of receiving a subsequent fluid sample from the oil well.					
27.	Rotating subsea diverter	EP1071862	2001-01-31	HYDRIL USA MANUFACTURING HYDRIL	6 %
A rotating diverter (108) for isolating fluid in a well (30) from other fluid above the well (30) is provided. The rotating diverter (108) includes a housing body (162) which has a bore (168) running through it. A retrievable spindle assembly (178) which includes a spindle (178) and a bearing assembly (184) is disposed in the bore (168). The bearing assembly (184) supports the spindle (178) for rotation. The spindle (178) is adapted to receive and seal around a tubular member, and rotation of the tubular member rotates the spindle (178) within the bore (168). A lock member (176) is disposed in the housing body (162) to secure the retrievable spindle assembly (178) to the housing body (162).					
28.	Vibration damping running system for vehicle	JP2003267023	2003-09-25	Kazuhiro Hida 3-1 Nakamachi, Musashino-shi, Tokyo 8-6	5 %
PROBLEM TO BE SOLVED: To remove an effect of a low frequency region (20 to 50 Hz) and vibration of a small vehicle, in the small vehicle using a suspension system working also as a shock absorber for improving comfortableness by improving shock vibration of the vehicle. SOLUTION: A fluid pressure gauge detects a linear movement amount following fluid movement, and a displacement signal limited only to a transaction amount from the shock absorber is inputted into a servo amplifier through a band-pass filter and a logarithm compression circuit, is amplified, and is transmitted to an actuator vibration damping device using the shock frequency part as a control signal. A displacement gauge is disposed as a sensor for detecting a movement amount to the actuator vibration damping device for monitoring and controlling a central position of a male screw, a direct current control signal is generated for it, and an objective frequency range is set at about 3 to 20 Hz. The actuator vibration damping device is mounted in series in the moving direction of the shock absorber for receiving the vibration, and the vibration transmission is limited to allow silent running. COPYRIGHT: (C)2003,JPO					
29.	Apparatus and method for thermoelectric cooling of an extraction fluid pump	US5738498	1998-04-14	TELEDYNE ISCO	2 %
In a piston pump for pumping liquid carbon dioxide at a temperature below 30 degrees Fahrenheit and pressures at least as high as 7500 psi at an outlet flow rate in excess of 10 milliliters per minute, the inlet to the pump and the pumphead are each cooled by thermoelectric heat exchangers that are air cooled. The pump is a cam-driven, single-plunger pump with a cam profile that enables the pumping system to avoid distructive reverse torque on the cam, gear train and drive motor after the cam passes top dead center. The volume leaving the pump is determined by measuring only pressure or other parameter related to flow and movement of the plunger. The piston of the pump is supported on both sides of the seal and the support for the piston within the pumphead are machined concentrically and colinearly to the seal gland.					