

Diego Gonzalez

Search history

- Search 1: ((pipe* or pipeline*) or tubing) and pressure and sensor and (valve near solenoid) (Results 3968)
- Search 2: ((pipe* or pipeline*) or tubing) and pressure and sensor and (valve near solenoid) and (leak*) (Results 339)
- Search 3: ((pipe* or pipeline*) or tubing) and pressure and sensor and (valve near solenoid) and (leak*) and flow* near meter (Results 11)
- Search 4: leak* and pipe* and pressure (Results 40372)
- Search 5: leak* and pipe* and pressure and water near hammer and sensor (Results 5)
- Search 6: leak* and pipe* and pressure and sensor and valve and solenoid and processor and memory (Results 6)
- Search 7: pressure and leak* and sensor* and valve* and flow* and control* (Results 3397)
- Search 8: pressure and leak* and sensor* and valve* and flow* and control* and solenoid (Results 591)
- Search 9: pressure and leak* and sensor* and valve* and flow* and control* and solenoid and check (Results 145)
- Search 10: pressure and leak* and sensor* and valve* and flow* and control* and solenoid and check and memory and display (Results 12)
- Search 11: pressure and leak* and sensor* and valve* and flow* and control* and IC=(G01M) (Results 544)
- Search 12: pressure and leak* and sensor* and valve* and flow* and control* and hammer and IC=(G01M) (Results 2)
- Search 13: pressure and leak* and pipe* and sensor* and valve* and flow* and control* and IC=(G01M) (Results 203)
- Search 14: pressure and leak* and pipe* and sensor* and valve* and flow* and control* and IC=(G01M) and check (Results 42)
- Search 15: pressure and leak* and pipe* and sensor* and valve* and flow* and control* and IC=(G01M) and check and display (Results 8)

Title: **LEAK** DETECTION FORMULA, ANALYZER AND METHODS OF USE

Abstract: Source: US2014151242A Detecting a **leak** from a site in a sealed system with a source of pressurized gas which is capable of passing through the site, a composition of matter which adheres to the surfaces of the system and which is capable of showing the presence of the gas escaping from the site. The method includes: injecting gas into the system to a **pressure** in excess of the surrounding **pressure**, and covering the external surface with the composition to identify the location of the site by the interaction of the escaping gas with the composition. The composition is foam that includes a surfactant which forms a least one bubble in the presence of escaping gas and an indicator which changes color in the presence of the escaping gas. The **leak** is an opening down to at least the size of a hole 0.001? in diameter. A gas detector may also be used.

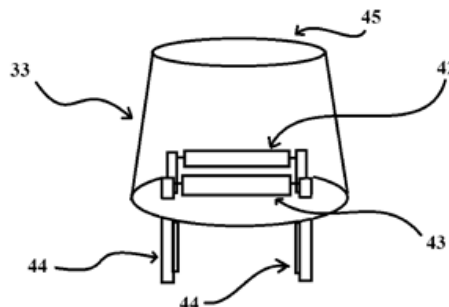
Classifications:

International (IPC 8-9): G01M3/00 G01M3/12 G01M3/20 G01M3/22 G01M3/26 G01N27/26 G01N31/10 G01N31/22 G06F19/00 G07C5/00 G1M3/00 (Advanced/Invention)

CPC: G01N27/419 G01N27/70 G01M3/042 G01M3/38 G07C5/00 G01M3/226

US: 1/1 204/431 205/775 205/780.5 205/785.5 205/787.5 701/32.8 701/33.2 702/51 73/49.3

PatBase - US2014151242_AA



Family:

Publication number	Publication date	Application number	Application date
CA2894247 AA	20150605	CA20142894247	20140131
CA2967035 AA	20140807	CA20142967035	20140131
EP2951571 A1	20151209	EP20140745701	20140131
EP2951571 A4	20161116	EP20140745701	20140131
US2014151242 AA	20140605	US20130025500	20130912
US2014251831 AA	20140911	US20130789319	20130307
US2014257721 AA	20140911	US20130789179	20130307
US9390565 BB	20160712	US20130789179	20130307
WO14121015 A1	20140807	WO2014US14038	20140131

Priority:

CA20142894247 20140131	CA20172894247 20170523	US20130025500 20130912
US20110115516 20110525	US20130759782P 20130201	US20100348078P 20100525
US20130789179 20130307	US20130789319 20130307	WO2014US14038 20140131

Probable Assignee: AUTOMOTIVE TEST SOLUTIONS

Assignee(s): (std): AUTOMOTIVE TEST SOLUTIONS INC ; LEY KENNETH D ; PEDERSON NEAL R ; THOMPSON BERNIE C ; THOMA STEVEN G

Assignee(s): AUTOMOTIVE TEST SOLUTIONS

Inventor(s): (std): LEY KENNETH D ; PEDERSON NEAL R ; THOMA STEVEN G ; THOMPSON BERNIE C

Agent(s): BLAKE CASSELS AND GRAYDON LLP; UEXKUELL AND STOLBERG; DEWITT M; MORGAN DEWITT M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD FOR DETECTING ABNORMALITY IN FLUID SUPPLY LINE USING FLUID **CONTROL** APPARATUS WITH **PRESSURE SENSOR**

Abstract: Source: US2009326719A A method for detecting abnormality in a fluid supply line is provided that uses a fluid **control** apparatus with a **pressure sensor** so that abnormality of malfunction and sheet **leaks** of a plurality of **valves** incorporated into the fluid supply line can be **checked** easily, promptly and accurately by operating the **flow rate control** apparatus possessing the **pressure sensor**. Specifically, using a fluid supply line provided with the **flow rate control** apparatus possessing the **pressure sensor** equipped with a **flow** rate setting mechanism, a **flow rate/pressure display** mechanism, and/or a **flow** rate self-diagnosis mechanism, abnormality of the **control valves**, installed with the **flow rate control** apparatus and on the upstream side and downstream side thereof, is detected by using the **pressure** value **displayed** and/or the value diagnosed with a self-diagnosis mechanism of the **flow rate control** apparatus.

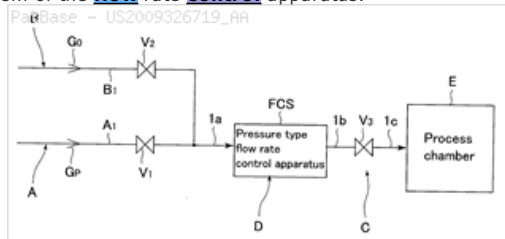
Classifications:

International (IPC 8-9): G01F1/00 G01F1/42 G01F1/50 G01M3/04 G05D7/06 G06F3/48 (Advanced/Invention); G05D7/06 G06F3/048 (Advanced/Non-invention); G01F1/00 G01F1/34 G01M3/04 G05D7/06 (Core/Invention); G06F3/048 (Core/Non-invention)

CPC: F16K37/0091 G01F1/42 G05D7/0635

European: F16K37/00G G01F1/42 G05D7/06F4B

US: 340/611 700/282 700/282P 702/114 702/33 702/34 702/35 702/45 702/47 702/50 715/771 715/771S 73/114.41 73/114.43 73/118.01 73/118.1 73/37 73/40 73/46 73/49.7 73/861.42



Family:

Publication number	Publication date	Application number	Application date
CN101258456 A	20080903	CN200680031548	20060828
CN101258456 B	20120321	CN200680031548	20060828
EP1921530 A1	20080514	EP20060783162	20060828
JP2007095042 A2	20070412	JP20060228526	20060825
JP4866682 B2	20120201	JP20060228526	20060825
KR101008241 B1	20110117	KR20087002907	20060828
KR20080025415 A	20080320	KR20087002907	20060828
TW200717212 A	20070501	TW20060132465	20060901
TWI352886 B	20111121	TW20060132465	20060901
US2009326719 AA	20091231	US20060065438	20060828
US7945414 BB	20110517	US20060065438	20060828
WO07026902 A1	20070308	WO2006JP317390	20060828

Priority:

JP20050253996 20050901 JP20060228526 20060825 WO2006JP17390 20060828
WO2006JP317390 20060828

Probable Assignee: FUJIKIN INC

Assignee(s): (std): FUJIKIN KK ; HIRATA KAORU ; IKEDA NOBUKAZU ; NAGASE MASAOKI ; MATSUMOTO ATSUSHI ; NISHINO KOUJI ; SUGITA KATSUYUKI ; DOHI RYOUSUKE

Assignee(s): FUJIKIN INC

Inventor(s): (std): ATSUSHI MATSUMOTO ; KAORU HIRATA ; KATSUYUKI SUGITA ; KOUJI NISHINO ; MASAOKI NAGASE ; NOBUKAZU IKEDA ; RYOUSUKE DOHI ; SUGITA KATSUYUKI ; NISHINO KOUJI ; NAGASE MASAOKI ; MATSUMOTO ATSUSHI ; IKEDA NOBUKAZU ; HIRATA KAORU ; DOHI RYOUSUKE ; NISHINO KOJI ; IKEDA SHINICHI ; DOI RYOSUKE

Inventor(s): HIRATA KAORU AND

Agent(s): NELSON MARTIN MARK; GRIFFIN AND SZIPL PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: APPARATUS FOR MONITORING A FLUID CONDUIT SYSTEM FOR **LEAKAGE** POINTS

Abstract: Source: US5062442A The apparatus functions for monitoring small **leakages** in order to activate an alarm in the event that there has been more than a predetermined volume of small **leakage** through the water taps or other part of the system and to automatically turn off a main **valve** if **flow** continues therethrough more than a predetermined time and will allow the main **valve** to open if the discharge of fluid is temporary stopped. The system includes a main **valve** having a **valve** seat and a shunt circuit that bridges the **valve** seat. The shunt circuit includes a volume **flow** meter and a shunt **valve** for blocking fluid **flow** through the circuit. The main **valve** opens only when the volume in the shunt path exceeds a predetermined value. The shunt circuit includes a throttle that when fluid **flows** therethrough, provides a **pressure** drop in the shunt circuit which results in the main **valve** diaphragm opening when the shunt circuit predetermined value is exceeded. **Control** apparatus ascertains the volume of fluid **flow** through the measuring portion of the shunt circuit and **controls** the closing the shunt **valve**.

Classifications:

International (ipc 8-9): F17D5/02 G01M3/00 G01M3/28

G08B21/00 (Advanced/Invention);

F17D5/00 G01M3/00 G01M3/28 (Core/Invention)

International (ipc 1-7): F16K17/34 F17D5/02 G01F5/00 G01M3/28
G08B21/00

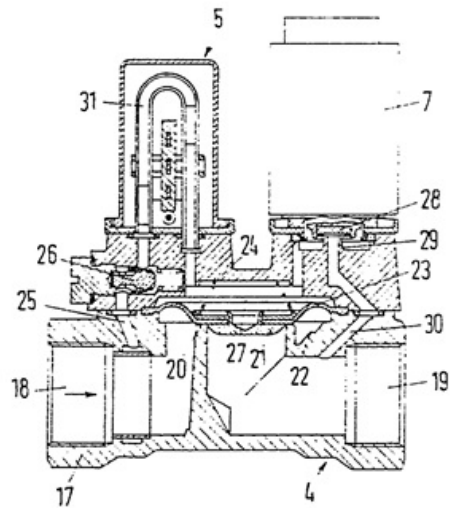
CPC: Y10T137/2562 Y10T137/7759 F17D5/02

European: F17D5/02

US: 137/110 137/486 73/202.5

PatBase - US5062442_A

Fig.2



Family:

Publication number	Publication date	Application number	Application date
CA2006656 AA	19900718	CA19892006656	19891227
CH680307 A	19920731	CH19890004538	19891218
DE3907209 C1	19900301	DE19893907209	19890307
DK8790 A	19900719	DK19900000087	19900112
DK8790 A0	19900112	DK19900000087	19900112
FR2641847 A1	19900720	FR19900000557	19900118
GB2228347 A1	19900822	GB19900001006	19900117
GB9001006 A0	19900314	GB19900001006	19900117
JP2228536 A2	19900911	JP19900009481	19900118
SE8904358 A	19900719	SE19890004358D	19891222
SE8904358 A0	19891222	SE19890004358	19891222
SE8904358 L	19900719	SE19890004358	19891222
US5062442 A	19911105	US19900461685	19900108

Priority:

CA19892006656 19891227 DE19893901251 19890118 DE19893907209 19890307

Probable Assignee: DANFOSS AS

Assignee(s): (std): DANFOSS AS

Assignee(s): DANFOSS A S NORDBORG DK ; DANFOSS A S FABRIK AUTOMATISCHER SCHALT UND REGELAPPARATE ; STENSTROM THEISS ; HYLDIG POUL E ; MOLBAEK JENS J ; STRAEDE BJARNE ; DANFOSS A S ; DANFOSS A S A CO ; DANFOSS A S A CO OF DENMARK ; DANFOSS A S FABRIK AUTOMATISCHER SCHALT U REGELAPPARATE

Inventor(s): (std): BIARUN SUTOREEDE ; IENSU YORUGEN MERUBEKU ; POORU ERITSUKU HIRUDEIIGU ; TEISU SUTENSUTOREEMU ; STRAEDE BJARNE ; STENSTROM THEISS ; STENSTROEM T ; MOLBAEK JENS J ; HYLDIG POUL E ; STENSTROEM THEISS ; MOLBAEK JENS JORGEN ; MOELBAEK JENS JOERGEN ; HYLDIG POUL ERIK ; STENSTR M THEISS ; M LBAEK JENS J RGEN

Inventor(s): BJARNE STRAEDE ; T STENSTROEM ; MOELBAEK JENS JOERGEN NORBORG DK ; JENS JORGEN MOLBAEK ; JENS JOERGEN MOELBAEK ; HYLDIG POUL ERIK AUGUSTENBORG DK ; POUL ERIK HYLDIG ; STENSTROEM THEISS NORDBORG DK ; THEISS STENSTROM ; THEISS STENSTROEM ; STRAEDE BJARNE SOENDERBORG DK

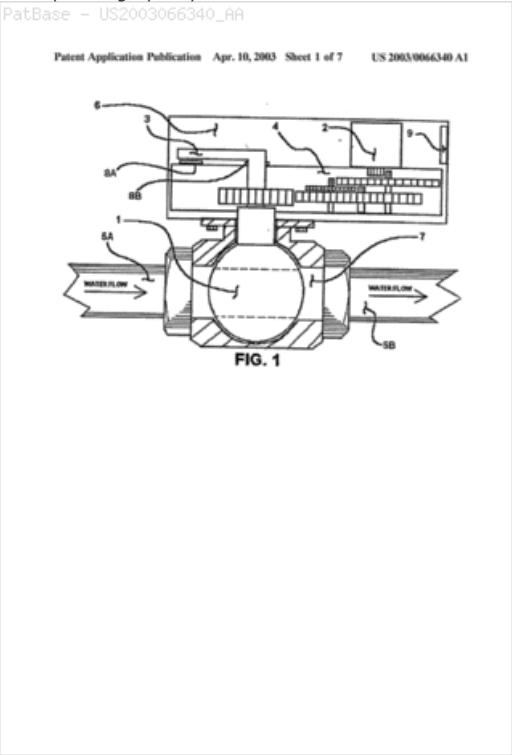
Agent(s): MACRAE AND CO

Title: CONDUCTIVE FLUID **LEAK** DETECTION SYSTEM AND AUTOMATIC SHUT OFF **VALVE**

Abstract: Source: US2003066340A A flood **control** device and system which **controls** conductive fluid(s) in a conductive fluid supply line and or path, using the conductivity of said fluid(s). The conductive fluid system comprises; a conductive fluid supply line, in-line conductive fluid shut-off **valve**, in-line conductive fluid detector, conductive fluid **sensor**(s) (attached in or to conductive fluid dependent appliances), a D.C. powered central processing unit, and **control** panel. The conductive fluid **flows** through said conductive fluid line, said in-line conductive fluid shut-off **valve**, intern reaching said in-line conductive fluid detector which detects the **flow** of conductive fluid, thereby sending data to said central processing unit. When said central processing unit receives said data, said central processing unit delays for a predetermined amount of time (example 3 seconds) waiting to receive data from one or more of said conductive fluid **sensor**(s). If said central processing unit doesn't receive said data from said conductive fluid **sensor**(s) within said predetermined, said central processing unit will automatically send data to said in-line conductive fluid shut-off **valve**, to close, therefore terminating the forward **flow** of conductive fluid(s). System also includes audible signal(s) to signal an alarm condition, timing mode(s) for water conservation and monitoring in-line conductive fluid shut-off **valve** movements, a phone notifier for notifying user of said termination of conduct fluid due to a conductive fluid **leak** detection, and for (user-set) excessive water usage, means for communicating with said central processing unit by way of telephonic communication (to close or re-open said in-line conductive fluid shut-off **valve**), a battery back up system, and means of operating by way of manual means.

Classifications:

International (ipc 8-9): G01F1/28 G01M3/04 G01M3/18 G01M3/26 G01P13/00 (Advanced/Invention); G01F1/20 G01M3/04 G01M3/16 G01M3/26 G01P13/00 (Core/Invention)
International (ipc 1-7): G01M3/08 G08B21/00
CPC: G01F1/28 G01M3/045 G01M3/184 G01P13/0033
European: G01F1/28 G01M3/04B2 G01M3/18E G01P13/00B4A
US: 340/603 340/605 73/40 73/46 73/460



Family:

Publication number	Publication date	Application number	Application date
US2003066340 AA	20030410	US20020243778	20020916
US7032435 BB	20060425	US20020243778	20020916

Priority:

US20010327829P 20011009 US20020243778 20020916

Probable Assignee: HASSENFLUG BRIAN EDWARD

Assignee(s): (std): HASSENFLUG BRIAN EDWARD

Inventor(s): (std): HASSENFLUG BRIAN EDWARD

Agent(s): J E

Title: LEAKAGE TESTER UTILIZING PRESSURE

Abstract: Source: US2012210772A A portable, small-sized device is provided to accurately conduct a leakage test for a liquid volume meter such as a pipette. In operation, pipette P is connected to the device main body side via a tube. A command from a central processing unit causes a pump to perform a suctioning operation to depressurize the pipette P side to a predetermined pressure. Any pressure changes over a predetermined period of time are monitored by a pressure sensor. The central processing unit determines whether there is leakage from the pipette P, and displays a judgment result on a display unit. In particular, when a diaphragm pump is used as the pump, the pulsation of an air flow occurring in a suction operation is attenuated in a pressure vessel so as not to have harmful effects on either the inspection results or the pipette P side.

Classifications:

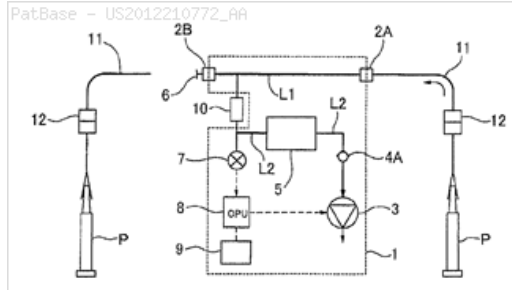
International (IPC 8-9): B01L3/02 G01F13/00 G01F25/00 G01M3/04 G01M3/26 (Advanced/Invention);

G01M3/26 (Core/Invention)

CPC: G01M3/26 B01L3/021 B01L2200/146 G01F25/0092

European: B01L3/02C G01F25/00D G01M3/26 L01L200/14C4

US: 1/1 73/40 73/40P



Family:

Publication number	Publication date	Application number	Application date
CN102575969 A	20120711	CN201080047197	20101019
CN102575969 B	20151125	CN201080047197	20101019
EP2492658 A1	20120829	EP20100824646	20101019
EP2492658 A4	20140312	EP20100824646	20101019
JP2011089775 A2	20110506	JP20090241042	20091020
JP5148582 B2	20130220	JP20090241042	20091020
KR20120090960 A	20120817	KR20127005863	20101019
TH118719 A	20121227	TH20121001813	20101019
US2012210772 AA	20120823	US20100502445	20101019
US9097607 BB	20150804	US20100502445	20101019
WO11048793 A1	20110428	WO2010JP06181	20101019

Priority:

JP20090241042 20091020 WO2010JP06181 20101019

Probable Assignee: A AND D CO LTD

Assignee(s): (std): A AND D CO LTD ; A AND D COMPANY LIMITED ; A AND D COMPANY LTD ; IZUMO NAOTO ; KAGAWA TAKAAKI

Assignee(s): A and D CO ; A AND D COMPANYLTD ; A AND D COMPANY LIMITED

Inventor(s): (std): IZUMO NAOTO ; KAGAWA TAKAAKI ; NAOTO IZUMO ; TAKAAKI KAGAWA

Agent(s): VON KREISLER SELTING WERNER; ROBERTS MLOTKOWSKI SAFRAN AND COLE PC; YOSHIKAWA SOUTI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: Tank **leakage** detection method

Abstract: Source: US4462249A A method and apparatus for detecting perforations in an underground fuel storage tank, employs the creation of a partial vacuum in the tank and a **pressure** difference across the tank wall, to cause air to pass through the perforation, and a hydrophone to sense the acoustic waves produced by the formation of air bubbles in the fuel. The acoustic waves of the bubbles caused by the air passage are sensed by a hydrophone and processed to provide an electrical signal indicative of the presence of the perforation. A water level **sensor** is also used to detect the level of water beneath hydrocarbon fuel in the tank. The method and apparatus can also be used with above ground fuel storage tanks and other types of above and below ground storage tanks.

Classifications:

International (IPC 8-9): B67D5/32 B67D5/60 B67D7/32 B67D7/78

G01H3/00 G01M3/24 G01M3/32 G01N29/00 (Advanced/Invention);

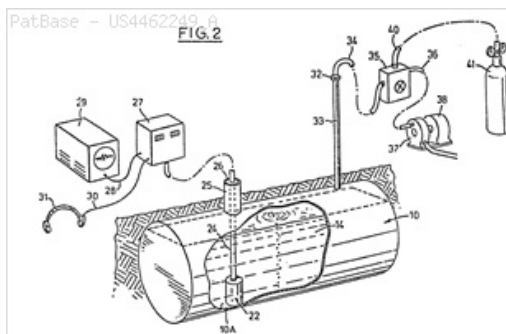
B67D7/32 B67D7/78 G01M3/24 G01M3/32 (Core/Invention)

International (IPC 1-7): G01H3/00 G01M3/24 G01M3/32 G01N29/00

CPC: B67D7/3209 B67D7/78 G01M3/24 G01M3/3245

European: B67D7/32B B67D7/78 G01M3/24 G01M3/32D2

US: 73/291 73/40.5A 73/49.2 73/592



Family:

Publication number	Publication date	Application number	Application date
CA1185693 A1	19850416	CA19810372936	19810313
DE3483581 D1	19901213	DE19843483581	19840727
EP0169283 A1	19860129	EP19840305140	19840727
EP0169283 B1	19901107	EP19840305140	19840727
US4462249 A	19840731	US19810252212	19810408

Priority:

CA19810372936 19810313 EP19840305140 19840727

Probable Assignee: TANKNOLOGY INT CORP

Assignee(s): (std): ADAMS THOMAS E ; ATHABASCA RESEARCH CORP LTD ; TANKNOLOGY CORP INT

Assignee(s): TANKNOLOGY INT CORP ; TANKNOLOGY NDE CORP ; WACHOVIA BANK NATIONAL ASSOCIATION ; TANKNOLOGY CANADA INC TANKNOLOGIE CANADA INC ; ATHABASCA RESEARCH LTD CORP ; CIT GROUP BUSINESS CREDIT INC ; DH HOLDINGS CORP

Inventor(s): (std): ADAMS THOMAS E

Agent(s): HIRONS AND ROGERS

Designated states: BE CH DE FR GB IT LI NL SE

Title: Plant monitoring and diagnosing method and system, as well as plant equipped with the system

Abstract: Source: US5623109A Plant operating conditions 1, apparatus operating conditions 2 and environment conditions 3 are accumulated, combined and put together as a set of plant status variables 8 -through a monitor 6, while water chemistry information 4 is accumulated as another set of plant status variables 9. The set of status variables 8 is updated and the past data are accumulated in the set of status variables 9. Periodical inspection data 5 are also accumulated in the set of status variables 9 along with the water chemistry information 4. The set 9 is compressed and stored as a plant chart 11 such as a personal clinical chart. A status variable prediction 12 is performed in consideration of the personality of a plant. Both data of the sets 8 and 10 are compared with each other by comparison means 13. If both the data nearly coincide with each other, the plant is diagnosed to be normal and, if not, it is diagnosed to be abnormal. When the plant is diagnosed to be abnormal, an abnormal apparatus and an abnormal factor are identified.

Classifications:

International (IPC 8-9): G01D21/00 G01M99/00 G05B23/02

G21C17/00 G21C7/36 G21D3/04 (Advanced/Invention);

G21C7/00 G21D3/00 (Core/Invention)

International (IPC 1-7): G01D21/00 G01M19/00 G05B23/02

G21C17/00 G21C7/36

CPC: G05B23/0254 G05B23/0259 G21C17/00 G21Y2002/206

G21Y2002/40 G21Y2004/40 G21D3/04 G21C7/36 Y02E30/39

European: G05B23/02S4M4 G05B23/02S6 G21C17/00 G21C7/36

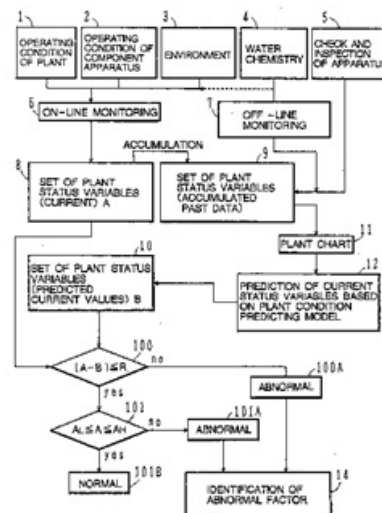
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S21Y4/4030 Y02E30/39 Y02E30/40

US: 376/215 376/217 376/259 73/865.9

PatBase - US5623109_A
U.S. Patent Apr. 22, 1997 Sheet 1 of 20 5,623,109

FIG. 1



Family:

Publication number	Publication date	Application number	Application date
DE69404557 D1	19970904	DE19946004557	19940519
DE69404557 T2	19980312	DE19946004557T	19940519
EP0626697 A1	19941130	EP19940107775	19940519
EP0626697 B1	19970730	EP19940107775	19940519
JP3147586 B2	20010319	JP19930119887	19930521
JP6331507 A2	19941202	JP19930119887	19930521
US5623109 A	19970422	US19940247039	19940520
US5817958 A	19981006	US19960691007	19960805

Priority:

JP19930119887 19930521 US19940247039 19940520 US19960691007 19960805

Probable Assignee: HITACHI LTD

Assignee(s): (std): HITACHI LTD

Inventor(s): (std): FUJIMORI HARUO ; FUKUZAKI KOJI ; FUKUZAKI TAKAHARU ; TAKAHASHI FUMINOBU ; UCHIDA SHUNSUKE ; YAMADA IZUMI

Inventor(s): YAMADA IZUMI NAKA GUN IBARAKI KEN JP ; UCHIDA SHUNSUKE HITACHI SHI IBARAKI KEN JP ; TAKAHASHI FUMINOBU KATSUTA SHI IBARAKI KEN JP ; FUKUZAKI TAKAHARU HITACHI SHI IBARAKI KEN JP ; FUJIMORI HARUO HITACHIOHTA SHI IBARAKI KEN JP

Designated states: DE SE

Title: VERFAHREN UND ANORDNUNG ZUR UEBERPRUEFUNG DER DICHTHEIT NICHT LAENGSWASSERDICHTER POLYETHYLENISOLIRTER STARKSTROMEINLEITERKABEL METHOD AND ARRANGEMENT TO **CHECK** THE TIGHTNESS, NOT LONGITUDINAL WATERTIGHT POLYETHYLENISOLIRTER HIGH POWER SINGLE CONDUCTOR CABLE (Machine translation)

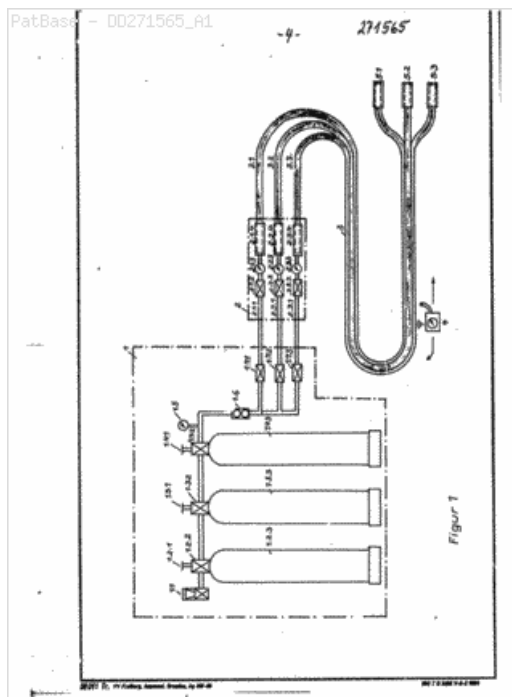
Abstract: Source: DD271565A [Source: Claim 1] Patentansprueche: 1. Verfahren zur ueberpruefung der Dichtigkeit nicht Iflgswasserdichter, polyethylenisolierter Starkstromeinleiterkabel mit zwischen Kabelisolierung und Kabelmantel angeordneten Hohlräumen, wobei unter Verwendung von Indikatorgas die Ortung der Mantelfehler erfolgt, gekennzeichnet durch einen fuer die Pruefdauer pneumatisch zeitweilig einseitig verschlossenen sowie unabgesandeten Kabelabschnitt (3.1; 3.2; 3.3;) mit einer bevorzugten Laenge von 300 m, - In dessen laengslaufende Hohlräume elngangsseltig vorzugsweise Erdgas von einem In einer mobilen Einspeisevorrichtung (1) angeordneten Druckminderer (1,6) eingespuelt wird, wobei mittels eines regelbaren Einspeisedruckes von maximal 150kPa die In Abhaengigkeit zur Kabeltemperatur zulaessige Manteldehnung von 3 percent nicht zu ueberschreiten Ist, - en dessen zu pruefenden Mantel ein Gasspuergeraet (4) In Stroemungsrichtung des Erdgases entlang gefuehrt wird, wobei ein **Sensor** des Gasspuergeraetes (4) das durch die geringere Dichte gegenueber der atmosphaerischen Luft aufsteigende Erdgas aufspuert, - an dessen Mantel die vorliegende Leckstelle geortet sowlegasdlcht verschlossen wird und - aus dessen laengslaufenden Hohlräumen ausgangssseitig Erdgas stroemt, wodurch der Spuefvorgang beendet wird. 2. Anordnung zur ueberpruefung der Dichtigkeit nicht laengswasserdichter, polyethylenisolierter Starkstromeinleiterkabel, gekennzeichnet dadurch, dass eine mobile Einspeisevorrichtung zur abschnittsweisen Dichtigkeitspruefung (1) eine erste bla dritte parallel geschaltete Hochdruckgasflasche (1.2.3; 1.3.3; 1.4.3) mit jeweils einem Flaschenventil (1.2.1; 1.3.1; 1.4.1), ein Tankventil (1.1), ein Rohrbruchventil mit Bypass (1.2.2), ein erstes sowie zweites Rohrbruchventil ohne Bypass (1.3.2; 1.4.2), ein Primaerdruckmanometer (1,6), einen zweistufigen Druckminderer mit Sekundaerdruckmanometer (1.6) und ein erstes bis drittes Absperrventil (1.7.1;...; 1.7.3.) aufweist. 3. Anordnung nach Anspruch 2, gekennzeichnet dadurch, dass ein Anschlusselement (2) zur Einspuelung des Erdgases In die laengslaufenden Hohlräume der zu pruefenden Kabelabschnitte (3.1;...; 3.3) aus einem ersten bis dritten Anschlusschlauch (2.1.1; 2.2.1; 2.3.1), einem ersten bis dritten Absperrventil (2.1.2; 2.2.2; 2.3.2), einem ersten bis dritten Kontrollmanometer (2.1.3; 2.2.3; 2.3.3) und einem ersten bis dritten gasdichten Kabelverbinder (2.1.4; 2.2.4; 2.3.4) besteht. 4. Anordnung nach Anspruch 2, gekennzeichnet dadurch, dass ein Gasspuergeraet (4) zur Ortung der Leckstellen In den Kabelabschnitten (3.1;3.3) mit einer optischen sowie akustischen Anzeige eingesetzt wird. 6. Anordnung nach Anspruch 2, gekennzeichnet dadurch, dass fuer den ersten bis dritten Kabelabschnitt (3.1;...; 3.3) ausgangssseitig Jeweils eine Verschlusskappe (6.1; 6.3) vorgesehen Ist. Hierzu 1 Seite Zeichnung Anwendungsgebiet der Erfindung Die Erfindung bezieht sich euf das Gebiet der Dichtigkeitspruefung von Kabelanlagen und Ist wirtschaftlich dort einsehzbar, wo vor Inbetriebnahme eines Im Kabelgraben gelegten polyethylenisolierten Starkstromkabels eine Mantelpruefung vorgesehen Ist. Charakteristik des bekannten Standes der Technik Die zum Stand der Technik offenbarten Verfahren zur Mantelfehlerortung an nicht laengswasserdichten polyethylenisolierten Starkstromeinleiterkabeln zeigen weitestgehend nur elektrische Mantelpruef- und Ortungsverfahren. Zur Durchfuehrung dieser Pruefungen muessen die Kabel Von einem Erdpotential umgeben sein, das das Kabel schluessig umgibt und durchfeuchtet sein muss. Besonders bei hochsommerlichen Temperaturen oder bei der unguenstigen Zwickellage der Mantelfehler Ist eine vollstaendige, punktgenaue Mantelfehlerortung nicht moeglich. Fuer die Reparatur georteter Mantelfehler Ist zusaetzlicher Tiefbauaufwand erforderlich. Die zur Inbetriebnahme der Kabel nicht gefundene Undichtheiten des Kabelmantels fuehren dazu, dass die Kabel nach einem Jahr Feuchtigkeit aus dem Erdreich gezogen haben, die zu korrosiven Schaeden am konzentrischen Leiter fuehrt bzw. die die Qualitaet des Dielektrikums herabsetzt. Einschränkungen der Lebensdauererwartung bzw. vorzeitige Kabelauswechslung sind die Folge. Weiterhin sind Verfahren bekannt, wo das Kabel durch Um- oder Abtrommeln an einem Erdpotential vorbeigefuehrt wird. Mit diesen Verfahren koennen Fehler, die durch die Kabellegung entstehen, nicht erkannt werden. 1 [Source: claim 1] Claims: 1. procedure for **checking** the tightness not Iflgswasserdichter, polyethylene insulated high voltage single-core cables with cavities arranged between cable insulation and sheath, using the sheath fault locating indicator gas and is characterized by a pneumatically temporarily unilaterally closed for the duration of the test, as well as unabgesandeten cable section (3.1; 3.2; 3.3;) with a preferred length of 300 m, - in its longitudinal cavities elngangsseltig preferably natural gas from a **pressure** reducer (1.6) arranged in a mobile one feeding device (1) washed is, where is by means of adjustable single dining **pressure** of 150kPa maximum not to exceed the permissible according to the temperature of the cable sheath elongation of 3 percent, - en its coat to be tested a gas detector (4) in the direction of the **flow** of natural gas along is, with a **sensor** of the protect (4) tracks down the aufsteigende through the lower density compared to the atmospheric air natural gas, - on whose coat the present **leak** located sowlegasdlcht is closed and - from its longitudinal cavities output gas **flows**, which stops the flushing process. 2. arrangement for **checking** the tightness marked that first bla third parallel high **pressure** gas bottle (1.2.3, 1.3.3, 1.4.3) with each bottle **valve** (1.2.1, 1.3.1, 1.4.1), a tank **valve** (1.1), a burst **pipe valve** with bypass (1.2.2), a first and second **pipe** rupture **valve** without bypass (1.3.2; 1.4.2), a primary **pressure** gauge (1.6), a a mobile one feeding device to the section breeze **leak** test (1) a longitudinal waterproof not, polyethylenisolierter heavy **current** single-core cables, two-stage **pressure** reducer with secondary **pressure** gauge (1.6) and a first to third shut-off **valve** (1.7.1;...; 1.7.3.) has. 3. arrangement according to claim 2, marked by the fact that a connector (2) to the flushing of natural gas in the longitudinal cavities of the cable sections to be tested (3.1;...; 3.3) from a first and third hose (2.2.1, 2.1.1; 2.3.1), a first and third **valve** (2.1.2, 2.2.2; 2.3.2), a first to third **control** manometer (2.1.3, 2.2.3, 2.3.3) and a first to third gas-tight connector (2.2.4, 2.1.4; 2.3.4) is. 4. arrangement of claim 2, marked by the fact that a gas detector (4) is used for the detection of **leaks** in the cable sections (3.1, 3.3) with an optical and acoustic **display**. 6 arrangement according to claim 2, characterized by the fact that for the first and third cable section (3.1;...; 3.3) output each a capful (6.1, 6.3) is provided. This 1 page drawing application field of the invention the invention relates to euf area **leak** testing of cable systems and is economically there einsehzbar, where before a polyethylene insulated power cable in the cable trench, a coat **check** is intended. Disclosed to the State of the art procedures for sheath fault location on no longitudinal watertight polyethylenisolierter power cables show description of the known state of the art largely only electrical Mantelpruef and locating method. This tests the cables of an earth potential must be surrounded, that conclusively surrounds the cable and must be soaked. Especially when high summer temperatures or unfavourable the sheath fault gusset able a full, precise sheath fault locating is not possible. Additional engineering effort is required for the repair of detected sheath fault. For commissioning the cable not gefundene Undichtheiten of the cable sheath will cause that the cable pulled moisture from the ground after a year, which will cause corrosive damage to the concentric conductor or lowers the quality of the dielectric. Limitation on life expectancy or premature cable replacement are the result. Still, procedures are known, where the cable is passed through implementation, from drums to a ground. Can not recognized error caused by the cable laying, with these procedures. 1

Classifications:

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Assignee(s): (std): BERLIN ENERGIEKOMBINAT ; ENERGIEKOMBINAT BERLIN STAMMBE

Assignee(s): VEB ENERGIEKOMBINAT BERLIN STAMMBETRIEB DD

Inventor(s): (std): BIEWALD HARTMUT ; GRUBER JUERGEN ; HELMS REINHARD ; HOPP ALFRED ; TAEDLING JUERGEN

Inventor(s): TAEDLING JUERGEN DD ; HOPP ALFRED DD ; HELMS REINHARD DD ; GRUBER JUERGEN DD ; BIEWALD HARTMUT DD