

CRITICAL SEWER AND WATER CHRONICLES



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ELECTRO SCAN TRANSFORMS PIPE CONDITION ASSESSMENT

Electro Scan Finds Defects Not Found By CCTV; Estimates Defects in Litres Per Second

Award Winning Technology Measures Effectiveness of Rehabilitation & Repairs

Recipient of many international awards, Electro Scan represents a breakthrough in locating and measuring the defect flow of pre- and post-rehabilitated pipes -- an industry first. Utilities can now measure the effectiveness of their repairs by using Electro Scan to calculate a 'Before' and 'After' Defect Flow Rate. In contrast to closed-circuit television inspection (visual) and acoustic (audio) technologies, Electro Scan represents the next generation in condition assessment for water and wastewater infrastructure.



* LPS and GPM calculation assumes a 300mm head and 1% gradient with ±40% accuracy.

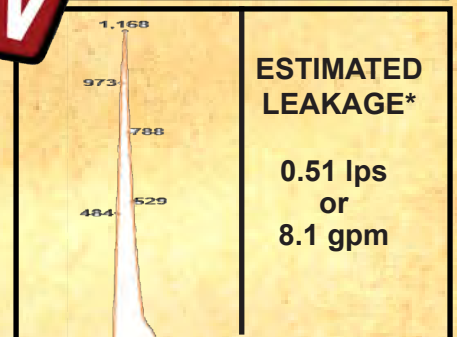
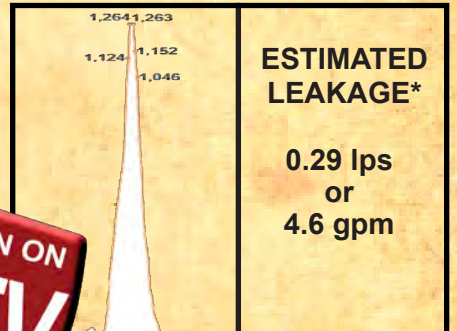
CCTV | Kanalinspektion | 闭路电视



NOT SEEN ON
CCTV



ELECTRO SCAN



ELECTRO SCAN OPENS EUROPEAN OFFICE

electro scan (europe) ltd.

Electro Scan is proud to announce the opening of its Sales office located in Frankfurt, Germany. Central to its European customers, dealers, and integration partners, office hours are 09.00 to 16.00, Monday-Friday, excluding holidays.

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Nashville, Tennessee, USA, America's Country Music Capital, Completes Innovative 20km Electro Scan Project

In March 2014, Electro Scan Inc. announced that Nashville Metro Water Services selected Compliance EnviroSystems, LLC (CES) to complete a 17km (57,000 ft.) Electro Scan project, which was extended to 20km in April 2014.

Metro Water Services is a department of the Metropolitan Government of Nashville and Davidson County and is Tennessee's largest provider of wastewater collection and treatment. Metro Water Services provides service to more than 176,000 water accounts and more than 189,000 sewer accounts, managing over 2,800 miles of water main and over 3,000 miles of sewer main. Brick and clay sewers were first constructed in 1823.

"We are delighted to put Electro Scan to work in Nashville," says Joe Atol IV, Vice President of Operations, CES. "Our team had been tracking this technology [Electro Scan] for several years and liked the way it simulated wet weather conditions and its ability to deliver comparative defect analysis, for each line segment, on the Cloud. The data creates a unique management tool for engineers and wastewater professionals."

Electro Scan's technology utilizes an international patent-pending process to automatically find & measure defects not commonly detected by acoustical listening devices, infrared sensors, laser profilers, ground-penetrating radar or CCTV cameras to assess sewer, stormwater, and water pipes.



The New Economy Selects Electro Scan CleanTech of the Year

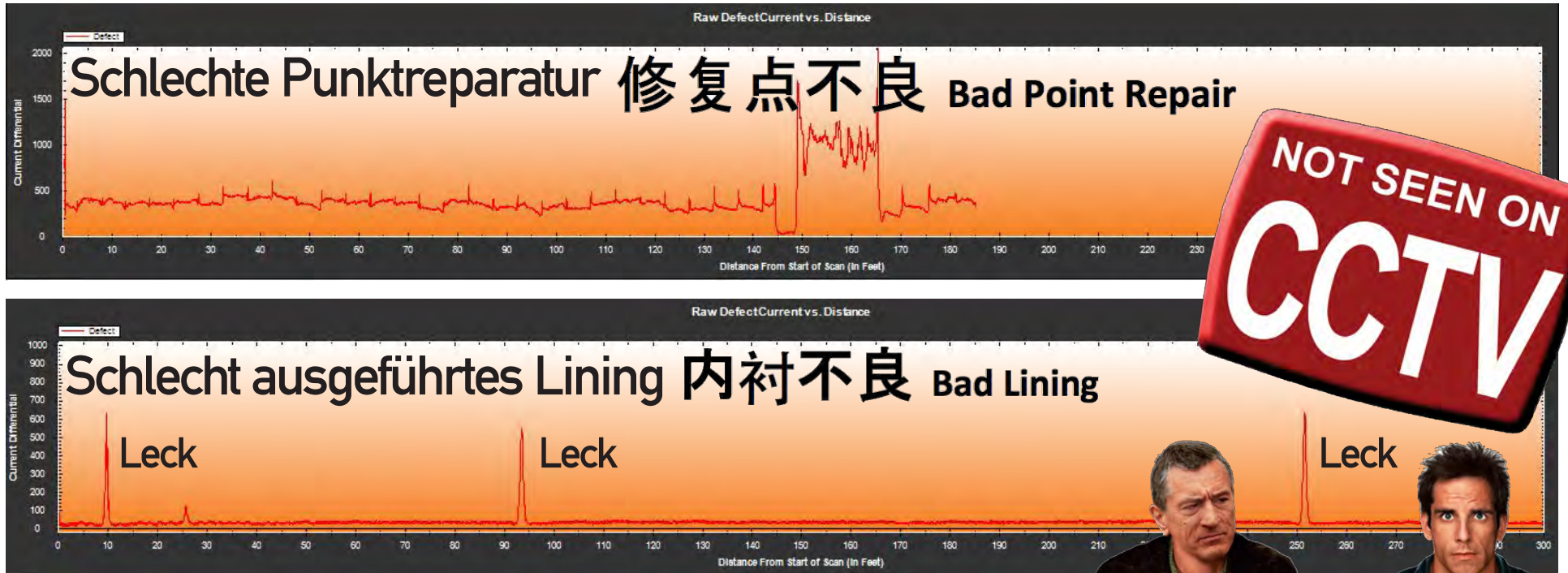
The Editors of The New Economy magazine announced that U.S.-based Electro Scan Inc. was selected as its winner of the Clean Tech 2013 Award for Best Water & Wastewater Solution and featured as its cover story for the April/May 2014 edition.

In its annual international competition, Electro Scan was chosen for its groundbreaking leak detection and cloud computing application that finds defects not previously found by legacy CCTV inspection (visual) and acoustic (audio) devices.

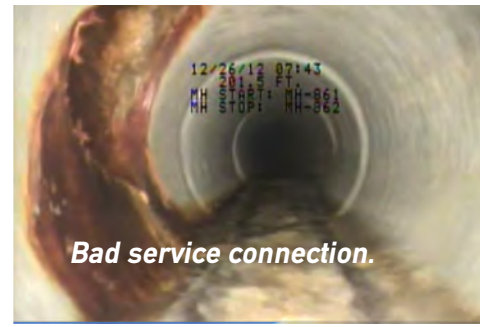
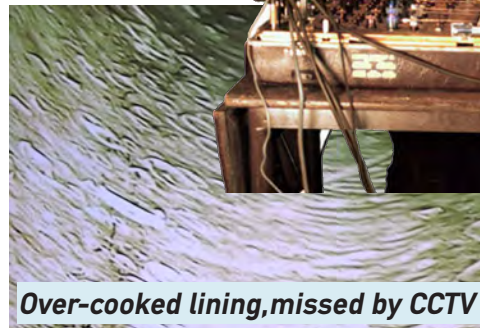
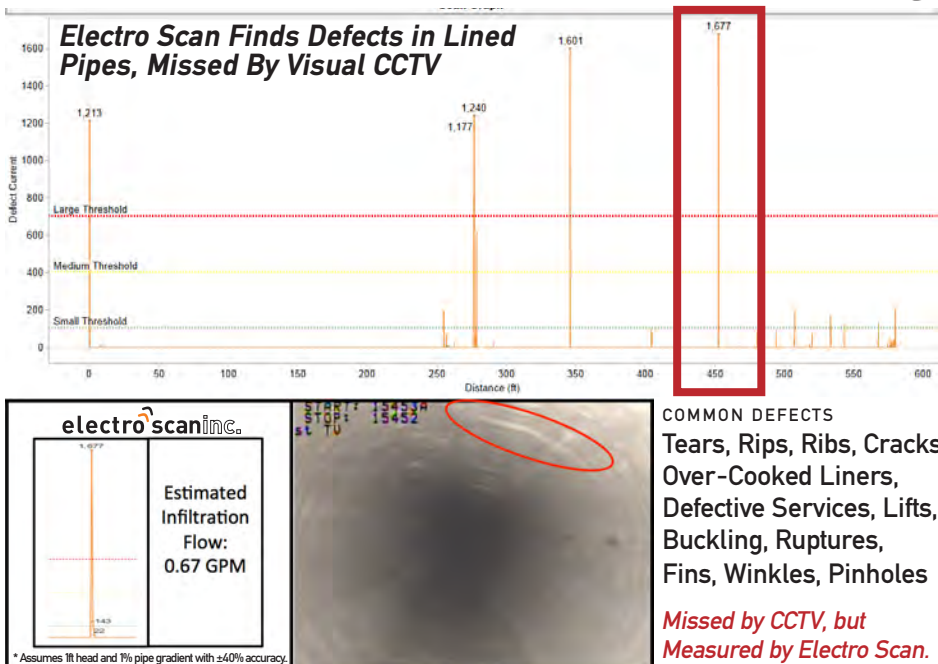


Call +49 69 6655 4132 or Email sales@electroscan.com to Schedule a Demo or Request Pricing

Electro Scan Certifies Post-CIPP Rehabilitation, Point or Spot Repairs, and New Pipe Installations



Electro Scan ist der neue Lügendetektor für Kanalreparaturen und Lining-Arbeiten.

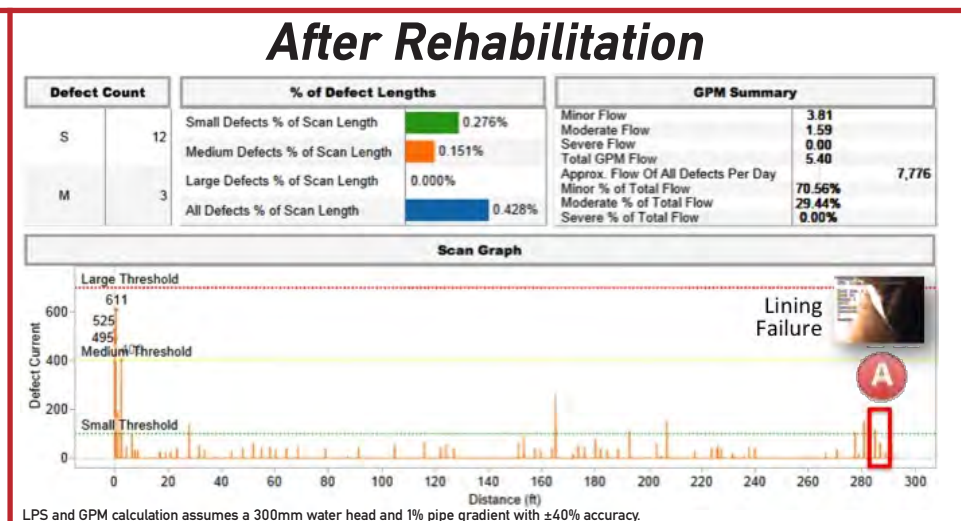
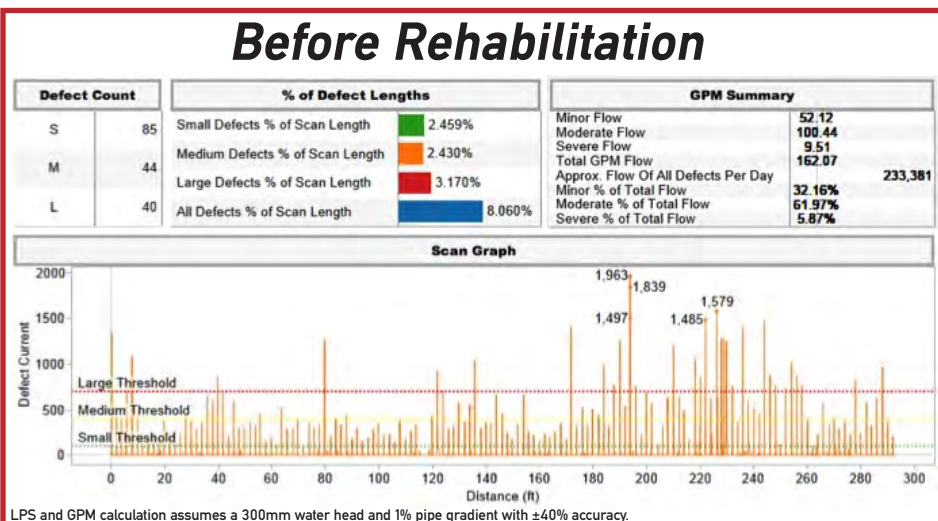
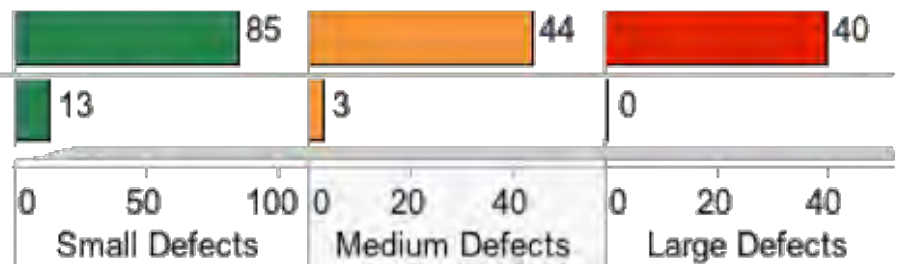


2014
NO-DIG LIVE
16-18 September 2014
Peterborough Arena
Peterborough, PE2 6XE
England

Measuring Pre- and Post-CIPP Defect Flows with Electro Scan

- 1 Pre-CIPP Assessment
- 2 Post-CIPP Assessment

Die meisten Rohre lecken nach der Reparatur. Aber wie viel Reduktion der Infiltration wurde erreicht?
Most pipes leak after repair. But how much reduction in infiltration has been achieved?



Pre- and Post-Rehabilitation	Gallons Per Minute	Gallons Per Day	Number of Defects			
			S	M	L	TOTAL
1 Pre-CIPP	162.07	233,381	85	40	40	165
2 Post-CIPP	5.40	7,776	13	3	0	16
REDUCTION	-156.67	-225,605	-72	-37	-40	-149
REDUCTION (%)	-97%	-97%	-85%	-92%	-100%	-90%

Electro Scan findet schlechte Reparaturen durch kanalinspection verpasst.

280' CCTV

280.7' (ES)

Estimated Infiltration Flow: .29 GPM

CCTV Callout: <None>

Electro Scan finds defects in bad lining jobs missed by CCTV Inspection.

electro scan (europe) ltd. Introducing Electro Scan's European Demo Van



ASTM F2550-13: International Standard Covering Electro Scanning Is Approved Through 2019


Electro Scan is delighted to see leading sewer utilities modify their specifications for sewer evaluations to incorporate its just approved ASTM F2550-13 - Standard for Locating Leaks in Sewer Pipes to Measuring the Variation of Electric Current Flow Through the Pipe Wall.

ASTM F2550, governing the use of electrical current to assess pipes, was first established in 2006, providing a groundbreaking specification that described a modern sewer assessment tool. Including key terminology, principles of operation, procedures,

Winning unanimous approval, the new standard, F2550-13 became immediately effective.

Today, ASTM has emerged as the dominant rule-making society among standards developers in the USA and represents the largest developer of standards in the world.

ASTM supports thousands of volunteer technical committees, which draw their members from around the world to collectively develop and maintain more than 12,000 standards.



Méthode standard pour localiser les fuites dans les égouts en mesurant la variation du courant électrique passant à travers la paroi du tuyau¹

INTRODUCTION

Les infiltrations d'eau dans un système d'égouts à travers des fuites peuvent accroître considérablement le coût et les opérations de ce système. L'écoulement des eaux usagées hors des canalisations peut entraîner une dégradation des aquifères et des eaux littorales. Localisation précise, mesure et caractérisation de tous les défauts potentiels de fuites de tuyaux, sont des données essentielles pour une conception rentable, pour les tests et la certification de réparation de la tuyauterie, le renouvellement et la nouvelle construction. Bien que des méthodes de contrôle couramment utilisées pour détecter les fuites, comme des essais de pression sur l'eau et l'air, ces méthodes sont coûteuses pour fournir une évaluation de la qualité du tuyau, incapable de fournir précisément la localisation et la taille des fuites, surtout pour des joints et des connexions de services, ce qui limite leurs utilisations dans la restauration et à la décision de réhabilitation.

description of apparatus, data descriptions, and reporting standards, ASTM F2550-06 ensured that consulting engineers and contractors provided consistent and meaningful results (Fig. 1).

Headquartered just 5 miles northwest of Philadelphia, ASTM, was founded in 1898 as the American Section of the International Association for Testing and Materials -- pre-dating other venerable standards-making societies, including BSI (1901), DIN (1917), ANSI (1918) and AFNOR (1926).

In November 2013, modifications to F2550-06 were introduced and approved that added its recommendation use to assess repairs, rehabilitation, and replacement of pipes, before and after their renewal.

ASTM F2550 is administered by Committee F36 on Technology and Underground Utilities, which is overseen by Dr. Jey K. Jeyapala, Chairman.

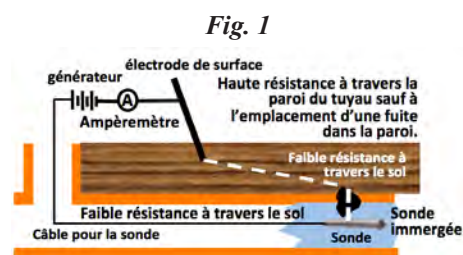


Schéma d'un scan d'un circuit électrique simplifié dans une conduite non conductrice de courant.

ASTM F2550 is specifically part of the F36.20 Inspection and Renewal of Water and Wastewater Infrastructure roster.

In early 2014, Chuck Hansen was appointed the new Chairman of Sub-Committee F36.20, where he is helping other innovative technologies and renewal methods gain their ASTM certification.

“Our mission is to help utilities, consulting engineers, and contractors understand key aspects of the [ASTM] standards,” states Chuck Hansen, ASTM Chairman, F36.20, “and, help transition the industry to more accurately inspect and renew their water and sewer infrastructure.”

NOTE: Electro Scan's calculation of LPS and GPM assumes a 300mm water head and 1% pipe gradient with ±40% accuracy.

1-4 June 2014 - Marina Bay Sands, Singapore



Singapore International Water Week

TechXchange

Matching Innovators with Investors and Partners

June 1, 2014

Headline Sponsor: Electro Scan Inc.

Kanalinspektion & Electro Scan		Kanal TV	Electro Scan
1	Ortet automatisch potentielle Infiltrationsstellen	N	Y
2	Ortet automatisch Lecks in Verbindungsstellen	N	Y
3	Ortet automatisch Lecks in Hausanschlüssen	N	Y
4	Ortet automatisch mögliche Infiltrationsstellen an Rissen und Brüchen	N	Y
5	Ortet Leckagestellen automatisch (d.h. auf 1 cm genau)	N	Y
6	Misst automatisch die Grösse der Lecks (d.h. in Liter pro Minute)	N	Y
7	Ortet automatisch Leckschäden an schlechten Muffen und mangelhaften Armaturen	N	Y
8	Ortet automatisch reparierte Schäden, durch die noch etwas durchsickern könnte	N	Y
9	Ortet automatisch Leckschäden bei Lining-Projekten	N	Y
10	Ortet automatisch nach Wiederinbetriebnahme der Leitungen auftretende Schäden	N	Y
11	Ortet automatisch Leckagen bei Schlamm oder Ablagerungen auf dem Boden der Leitung	N	Y
12	Kann Inspektionen durchführen, wenn die Abwasserleitung mit Wasser gefüllt ist	N	Y
13	Kann die Grösse eines potentiellen Lecks feststellen, wenn Wurzeln eingedrungen sind	N	Y
14	Ortet automatisch Lecks an Verbindungsstellen, an denen Fette und Öle vorhanden sind	N	Y
15	Kann die Grösse eines Lecks feststellen, wenn die Leitung Verkrustungen aufweist	N	Y
16	Leitung muss gespült werden, damit der Schaden vor Ort erkannt werden kann	Y	N
17	Hat bewegliche Teile, die sich mit Schlamm oder Ablagerungen zusetzen und ausfallen können	Y	N
18	Erfordert bei gefüllter Leitung eine Bypass-Leitung während der Inspektion	Y	N
19	Erfordert spezielle Ausbildung und Zulassung zum Erkennen von Schäden	Y	N
20	Stützt sich auf optische Beobachtungen, um Art und Grösse des Schadens aufzuzeichnen	Y	N
21	Inspektionsgeschwindigkeit	1m/min	15m/min

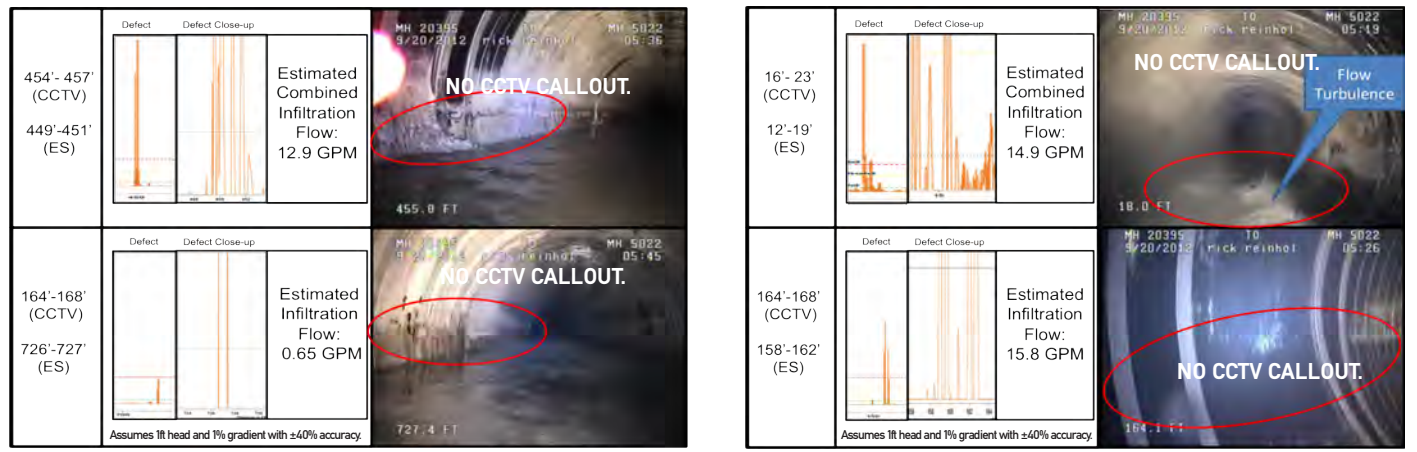
闭路电视与Electro Scan的对比		闭路电视	Electro Scan
1	自动寻找地下水渗入的潜在来源	N	Y
2	自动寻找接口内的渗漏	N	Y
3	自动寻找污水支管连接处的渗漏	N	Y
4	自动寻找裂缝处渗入的来源	N	Y
5	自动寻找渗漏位置(0.4或1cm内)	N	Y
6	自动测量渗漏的大小(估计加仑/分钟或升/分钟)	N	Y
7	自动寻找从不良耦合处渗漏的缺陷	N	Y
8	自动寻找维修後仍可能渗漏的缺陷	N	Y
9	自动寻找重内衬项目中渗漏的缺陷	N	Y
10	自动寻找支管重连接後的缺陷	N	Y
11	如淤泥或碎片仍於管底部, 自动寻找渗漏	N	Y
12	如污水管满水, 能进行检测	N	Y
13	如根茎呈现, 能确定潜在渗漏的大小	N	Y
14	如油脂呈现, 自动寻找接口的渗漏	N	Y
15	如管道结垢, 能确定渗漏的大小	N	Y
16	需活跃渗入来辨别缺陷来源	Y	N
17	含能在碎片或淤泥中堵塞的移动部件	Y	N
18	如管道满水, 需在检测中绕道抽泵	Y	N
19	需特殊培训和认证来识别缺陷	Y	N
20	依靠视觉观察来记录缺陷	Y	N
21	平均检测速度 (150-450mm 管径)	1m/min	15m/min

CCTV & Electro Scan		CCTV	Electro Scan
1	Automatically Finds Potential Sources of Infiltration	N	Y
2	Automatically Finds Leaks Inside Joints	N	Y
3	Automatically Finds Leaks at Service Connections	N	Y
4	Automatically Finds Sources of Infiltration at Cracks	N	Y
5	Automatically Finds Leak Locations (within 0.4 in or 1 cm)	N	Y
6	Automatically Measures Size of Leaks (Est. GPM or LPM)	N	Y
7	Automatically Finds Defects That Leak from Bad Couplings	N	Y
8	Automatically Finds Defects That May Still Leak After Repairs	N	Y
9	Automatically Finds Defects That Leak in Re-Lining Projects	N	Y
10	Automatically Finds Defects After Service Re-Connections	N	Y
11	Automatically Finds Leaks, If Silt or Debris on Bottom of Pipe	N	Y
12	Able to Conduct Inspections, If Sewer Pipe Is Full of Water	N	Y
13	Able to Determine Size of Potential Leak, If Roots Are Present	N	Y
14	Automatically Finds Leaks at Joints, If Grease Is Present	N	Y
15	Able to Determine Size of Leaks, If Pipe Has Encrustation	N	Y
16	Requires Active Infiltration to Identify Defect at Source	Y	N
17	Contains Moving Parts That Could Clog from Debris or Silt	Y	N
18	Requires Bypass During Inspection, If Pipe Full	Y	N
19	Requires Special Training and Certification to Identify Defects	Y	N
20	Relies on Visual Observations to Record Defects	Y	N
21	Ave. Speed of Inspection (6-20" Sewer Main)	1m/min	15m/min

Electro Scan Finds Defects in 1675mm Spiral Wound Pipe

CCTV Inspection Cannot Find Defects In HDPE Pipe

Taking less than an hour to complete its assessment of nearly 300 meters of 1675mm diameter High Density Polyethylene Pipe (HDPE) pipe, Electro Scan located 35 Total Defects – 11 Large, 3 Medium, and 21 Small defects. Assessing pipe integrity from the water line and below, Electro Scan used its high frequency, low voltage, electrical current to locate and measure defect flows where CCTV was unable to locate any problems.



Critical Sewers® & Critical Water® Cloud Application Lets Managers Access Scan Results 24x7x365

critical sewers® Office Upload if WiFi is Not Available in the Field

Home | What's New? | Support | Downloads | Upload Scans | My Electro Scan | Log Out

Scan Detail Report

Authorized Electro Scan Contractor

Withybrook Project

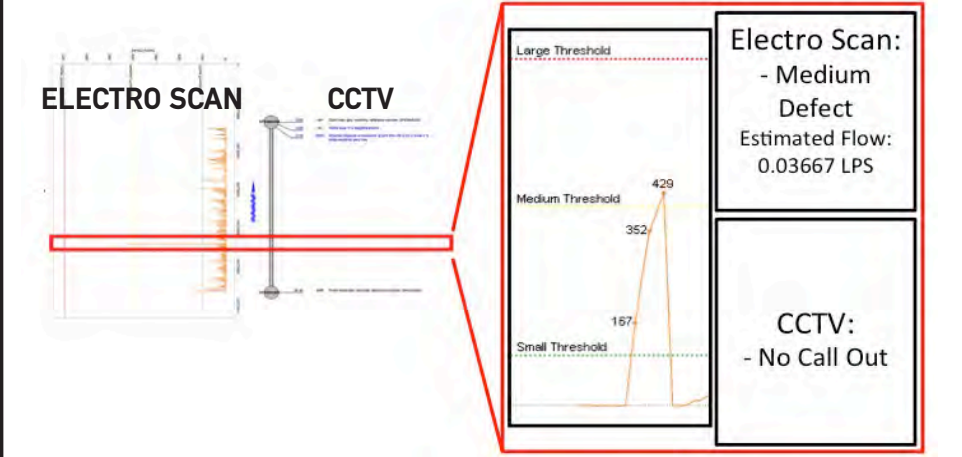
Company: [] Client Project: [] Job ID: []

Fire Wall Password, Protected Severn Trent Account

List of Scans

Electro Scan Data Stored on EU-based Cloud Server

Electro Scan From SPSP43843403 To SP43843401



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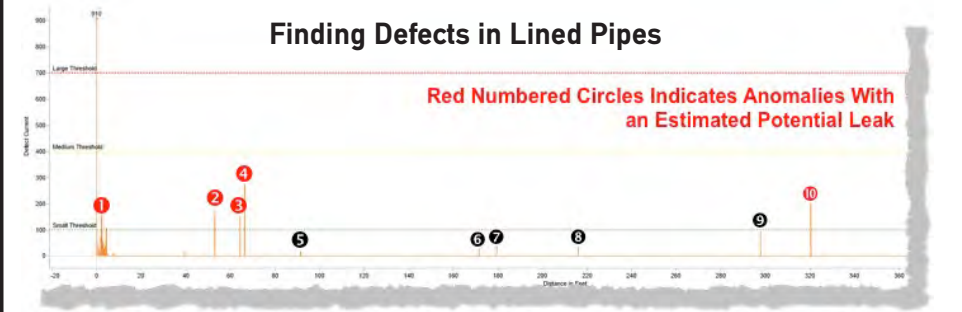
Defect Counts

Estimated Total Defect Flows*

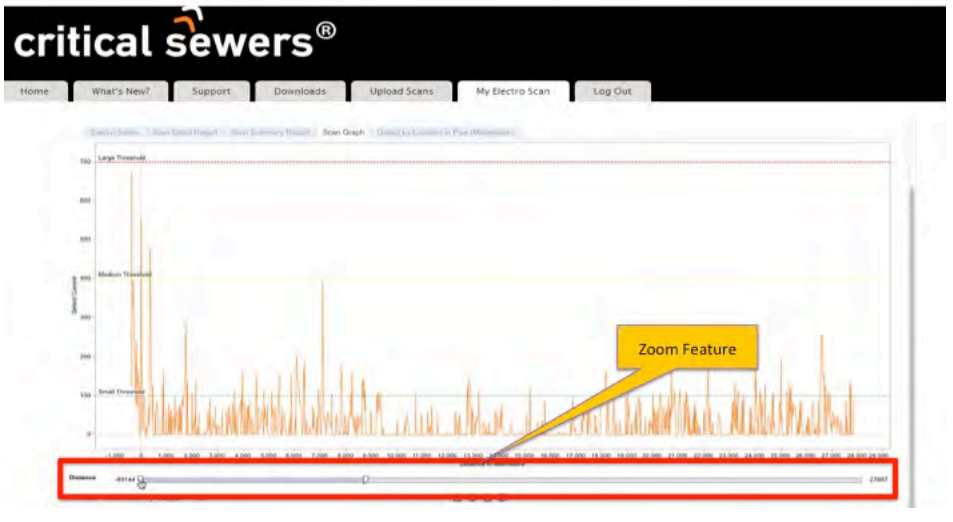
Tabular Data Available for Export

Scan Graph for Visual Reference*

* LPS and GPM calculation assumes a 300mm water head and 1% pipe gradient with ±40% accuracy.

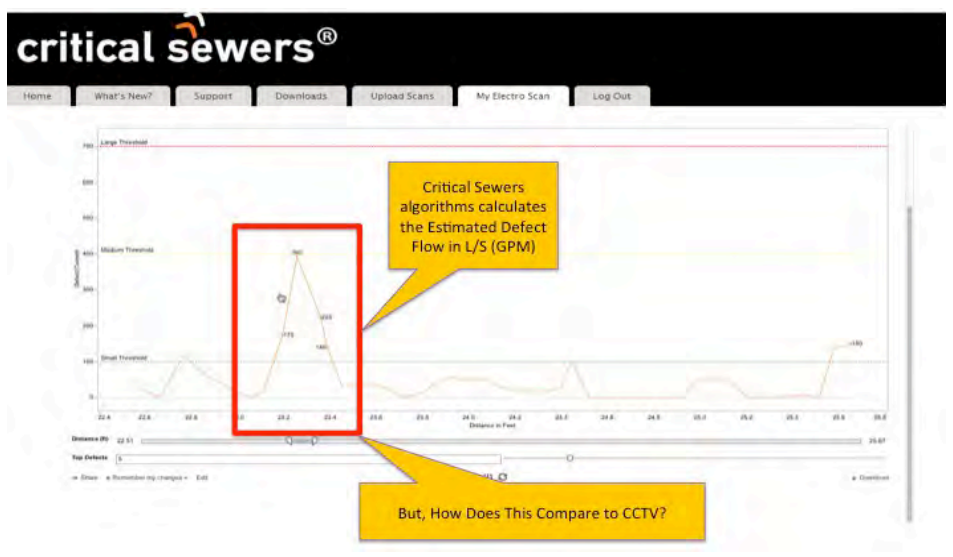


Defect #	Footage	Est GPM
1	1.8 to 2.4	0.350
2	53.1	0.570
3	64.3	0.110
4	66.4	0.780
5	91.6	-
6	171.6	-
7	179.5	-
8	216.2	-
9	298.0	-
10	320.5	0.300



Defect Grade	Defect Start	Defect End	Defect Length (ft)	GPM Flow (gpm)
1	2.152	2.507	0.128	0.350
2	53.077	53.303	0.226	0.570
3	64.343	64.369	0.026	0.110
4	66.420	66.646	0.226	0.780
5	320.482	320.583	0.102	0.300
TOTAL			0.708	2.11

LPS and GPM calculation assumes a 300mm head and 1% gradient with ±40% accuracy.



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FACHMESSE RO-KA-TECH

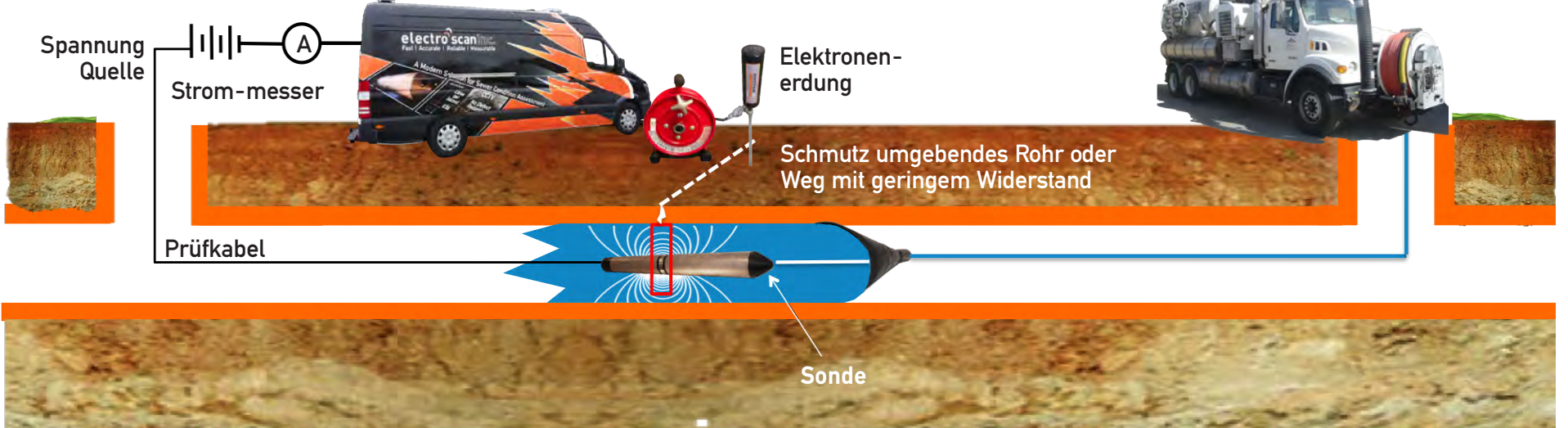
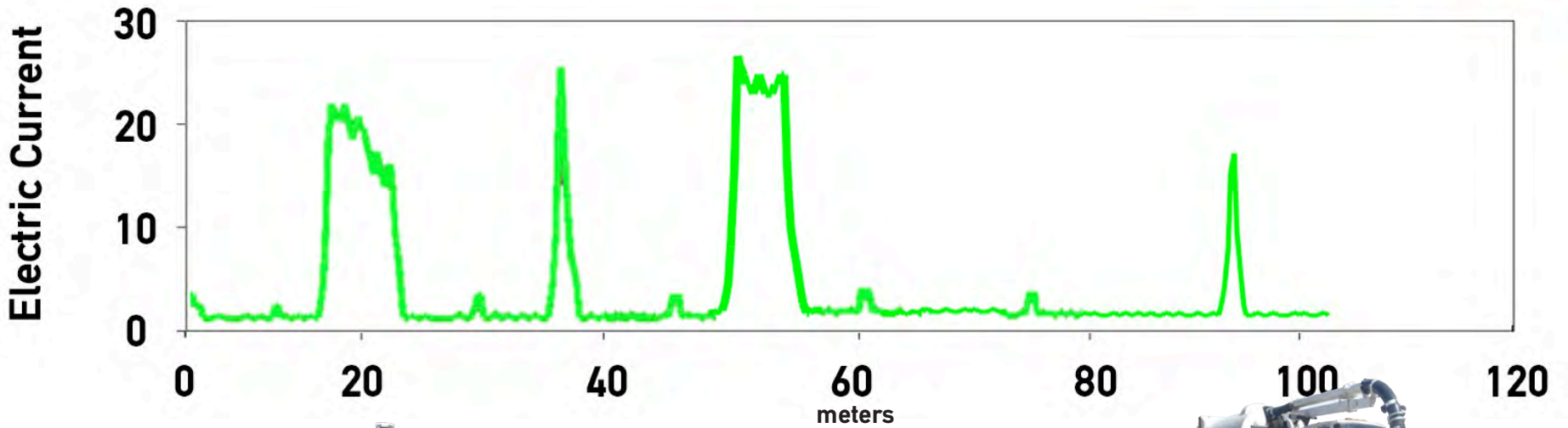
Internationale Fachmesse für Rohr-, Kanal- und Industrieservice

RO-KA-TECH®

06.05.2015-08.05.2015, Kassel, Germany

Wie funktioniert es? | Comment ça marche? | How Does It Work?

它是如何工作的? | كيف يعمل!



The biggest breakthroughs are the ones that alter decisions.

electroscan inc.
"Product of the Year"

Water Environment Federation (2013) | NASTT No-Dig (2013) | CleanTech Innovation Challenge (2013)

"Best Water and Wastewater Solution"
The New Economy Magazine, Clean Tech Awards (2013)

www.electroscan.com

Electro Scan Inc. and CD Lab AG, Maker of Market Leading WinCan Pipe Inspection Software, Sign Global Alliance Deal



California-based Electro Scan Inc., and Swiss-based CD Lab AG, the world's leading provider of sewer pipe assessment software, with its leading flagship product, WinCan, announced a global partnership to offer an integrated solution.

"We are delighted to be expanding our product library to include Electro Scan," states CD Lab's Martin Hien. "Chuck and his team have done a great job adding a new level of data to our industry."

"The addition of Electro Scan further solidifies WinCan's leadership as a key decision support system to help manage wastewater assets," comments Mike Russin, Business Manager of Pipeline Analytics, Inc.

The new Electro Scan-WinCan Module is expected for release in 2014.

Chuck Hansen, Electro Scan, and Martin Hien, CD Lab AG, in Murten, Switzerland (Right).



Hall B5, Booth 111,120

IFAT
5-9 May 2014
Messe München
Germany

Electro Scan's CriticalSewers® Cloud App



ISTT's 32nd ANNUAL INTERNATIONAL NO-DIG CONFERENCE AND EXPO

13-15 October 2014
IFEMA Convention Centre
Madrid, Spain

North American Society for Trenchless Technologies Names Electro Scan 'Best Innovative Product' of 2013

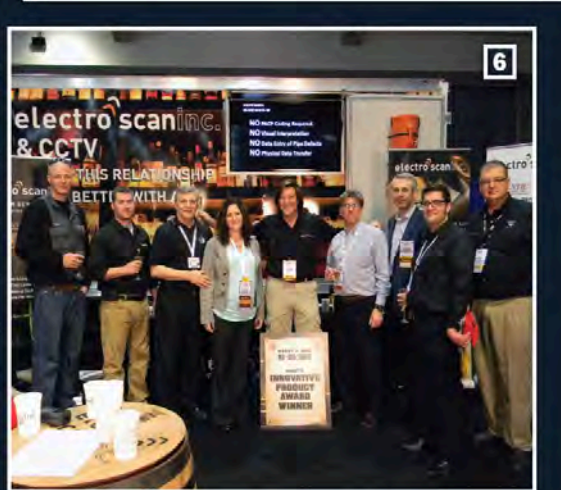
INNOVATIVE PRODUCT AWARDS

NASTT annually recognizes two companies with state-of-the-art products in either new installation or rehabilitation for their achievements in advancing the trenchless industry — called the Joseph L. Abbott Jr. Innovative Product Awards. This year, Electro Scan Inc. and HammerHead Trenchless Equipment were the recipients of this honor.

The award is given in memory of the late Joseph L. Abbott Jr., who was an active member of the society since its inception in 1990. Electro Scan Inc. and HammerHead were formally recognized at the Gala Dinner.

Electro Scan Inc. received the Rehabilitation Award for its Electro Scan ES-620 for Sewer Mains technology. Using patent pending technology that measures the variation of electrical current inside pipes, electro scanning is now available to independently test and certify newly relined

and rehabilitated sewer mains and laterals as leak free. While CCTV inspection is often conducted when a pipe is dry, Electro Scan assesses a pipe's performance under wet conditions. Electro Scan is designed to more accurately find defects in newly relined pipes.



27 September - 1 October 2014
New Orleans Convention Center, USA

Eine moderne Lösung für die Zustandsbewertung von Abwasserkanälen

Schnell | Präzise | Zuverlässig | Messbar

Nicht auf Kanal TV gesehen

Kanal-TV kann nicht Schaden nachzuweisen und zu quantifizieren hat es nicht sehen können. Electro Scan kannst.

Wie funktioniert Electro Scan?

Abwasserkanäle bestehen aus nichtleitenden Materialien (wie Asbestbeton, Ziegeln, Ton, Zement, Kunststoff, armiertem Beton, Liner-Harz usw.), daher kann Strom nur bei Rissen oder Brüchen aus dem Rohrrinnen in den Boden fließen bzw. austreten.

Mit der Electro Scan-Technologie (Patent angemeldet) wird eine Reihe konzentrierter Niederspannungs-/Hochfrequenz-Stromstöße abgegeben, die alle Schäden orten und quantifizieren.

Entspricht der Norm ASTM F2550-13.

How Does Electro Scan Work?

Sewers are made of non-conductive materials (such as Asbestos Concrete, Bricks, Clay, Cement, Plastic, Reinforced Concrete, Liner Resin, etc.), so current will only flow into the ground through cracks or fractures from the inside of the pipe or due to a leak.

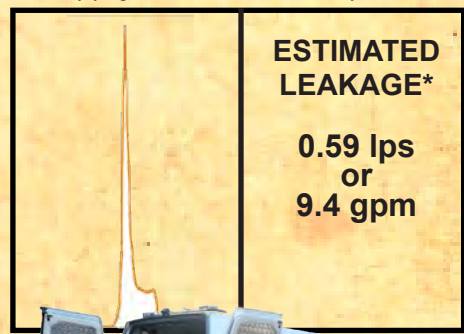
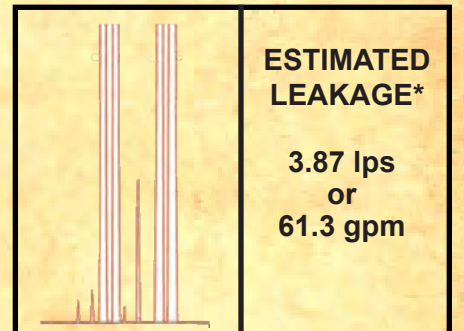
With the electro scan technology (patent pending) is a series of concentrated Niederspannungs-/Hochfrequenz-Stromstöße is delivered, the sites all damages and quantify.

Complies with ASTM F2550-13.

CCTV | Kanalinspektion | 闭路电视



ELECTRO SCAN



* LPS and GPM calculation assumes a 300mm water head and 1% pipe gradient with ±40% accuracy.

Was kann Electro Scan besser als jede Kanalinspektion?

Sickerstellen orten! Infiltrationen sind ein wichtiger Faktor bei der Verunreinigung durch aus Schmutz- und Mischwasserkanälen austretendes Abwasser. Sie entstehen durch Risse und Schäden an Schächten, Abwasserhauptleitungen, Hausanschlussleitungen und Seitenleitungen.

Im Gegensatz zum Kanalfernsehen, das Leckagen optisch nicht ermitteln kann, sucht, ortet und kalkuliert Electro Scan automatisch den schadensbedingten Leakageumfang. Electro Scan kann auch neu installierte, frisch reparierte und sanierte Schlauchlining-Projekte als leakagefrei zertifizieren und ist ganzjährig bei trockenem und nassem Wetter einsetzbar.

What Does Electro Scan Do, That CCTV Cannot?

Answer: Find infiltration and defects not seen by CCTV. Infiltration is a key factor in causing Sanitary Sewer Overflows (SSOs) and Combined Sewer Overflows (CSO) caused by cracks and defects found in manholes, sewer mains, service connections and laterals.

Due to the limitation of CCTV -- i.e. cannot visually detect leaks -- Electro Scan finds, locates and estimates the amount of infiltration caused by defects. Electro Scan can also certify newly installed, recently repaired and rehabilitated lining projects, and work in dry or wet weather conditions, all year around.



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Rufen Sie heute für eine Demonstration

