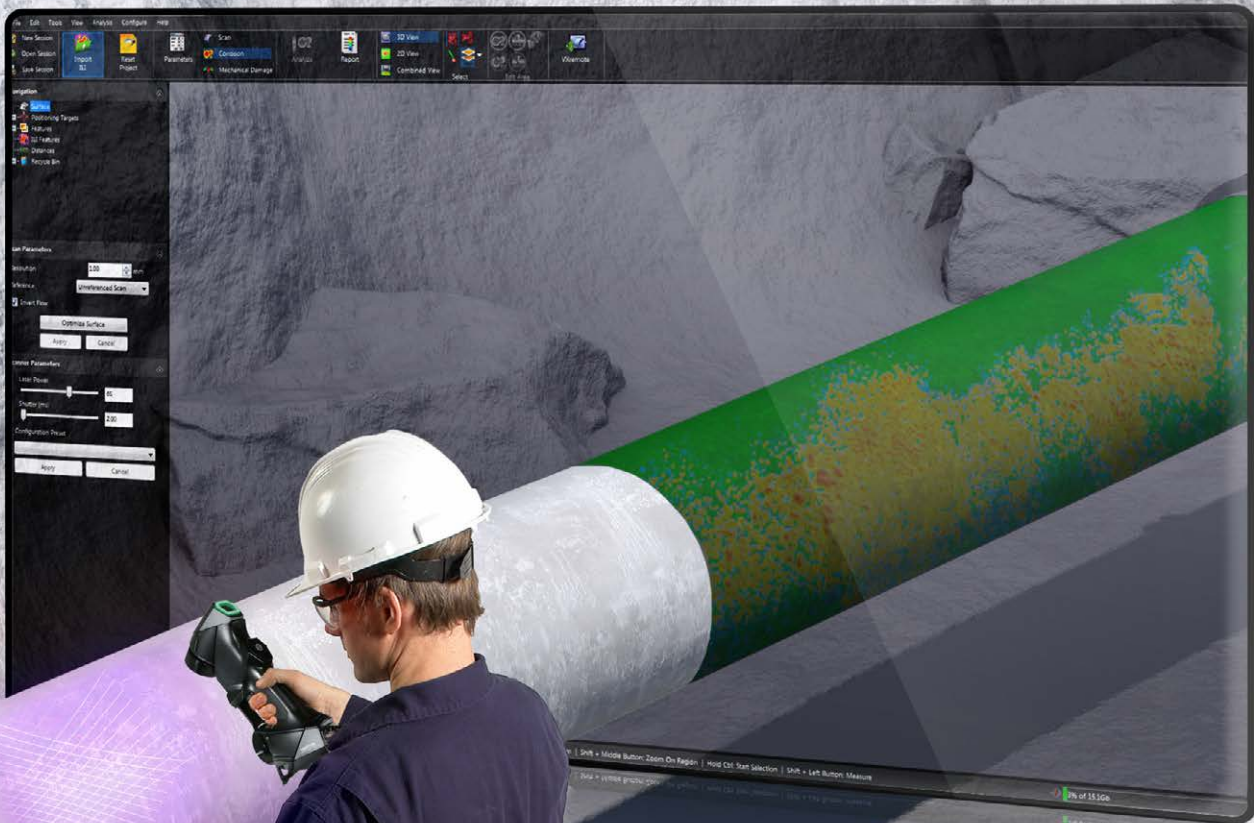


# Pipecheck ™

## 3D SCANNING SOLUTION FOR PIPELINE INTEGRITY





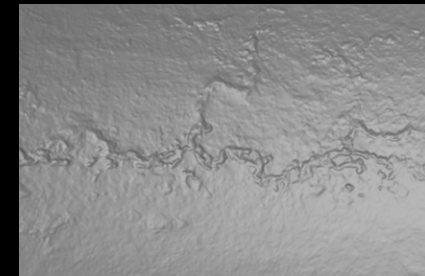
Pipeline operators and NDT service companies are facing increasing pressure from regulatory authorities and environmental groups to guarantee pipeline network integrity to keep maintenance costs down and backfill excavation sites as soon as possible. The use of surface inspection tools that are reliable, efficient, and user-friendly is of the utmost importance.

Creaform has the most trusted 3D technology solution for pipes up to 18 m (60 ft) in length, which includes a portable handheld 3D scanner and Pipecheck™ software. It saves both time and money without compromising on diagnostic results, public safety, or integrity assessments. Thanks to this unique 3D scanning technology and innovative software solution, surface inspection has been completely reinvented!

## Pipecheck SOLUTION: YOUR BEST ALLY AT ALL STAGES OF YOUR PIPELINE INTEGRITY MANAGEMENT PROGRAM

SCAN

### CORROSION



- High-resolution capture of all corroded areas
- Fast surface acquisition to increase efficiency
- Improved scanning performance for small features such as pitting

### MECHANICAL DAMAGE



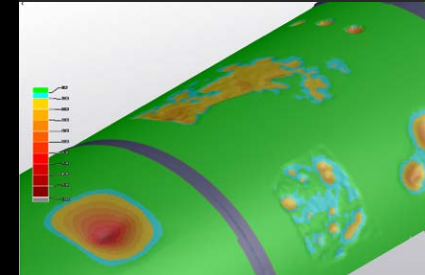
- High-resolution organized mesh file to enhance analysis capabilities
- Fast measurement on any surface finish

### ILI CORRELATION

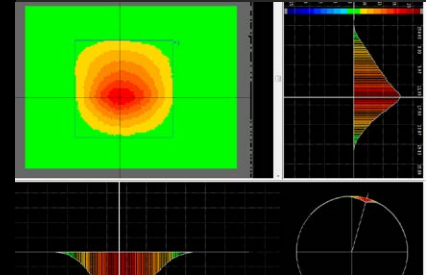


- Highly repeatable measurement independent from operators' skills to increase correlation accuracy
- Improved performance to capture larger areas and extract more accurate statistical trends

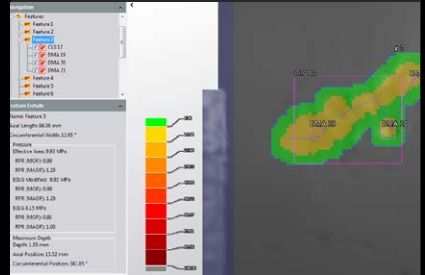
ANALYZE



- Feature detection using real pipe geometry
- Automatically applied interaction rules
- Estimated burst pressure calculations
- Enhanced virtual pit gauge capabilities near welds and obstacles

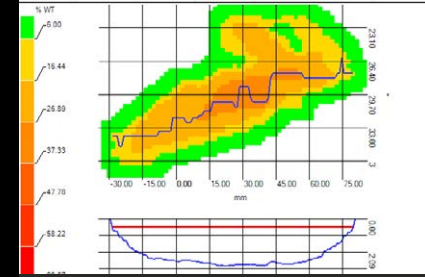


- Automatic maximum depth detection
- Automatic creation of 2D cross-sections in both directions at maximum depth
- Maximum depth measurements using the straight edge technique in both directions
- Shoulder section available

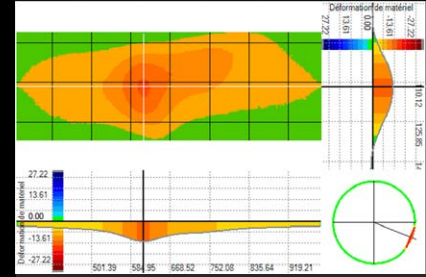


- Automatic match detection through surface overlays and/or manual correlation
- Axial and circumferential offsets for optimal overlay

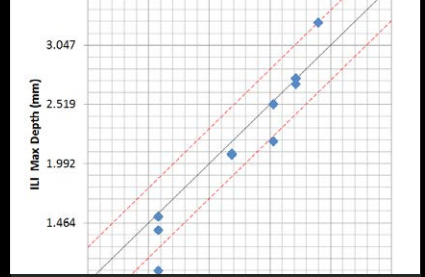
REPORT



- Excel report including worst-case-profile and predicted failure path
- Export to CSV available for further analysis
- Mesh export available
- Customizable pass/fail criteria
- Snapshot tool for 3D reporting



- Cross-section details (axial and circumferential)
- CSV depth grid export
- Mesh export available
- Excel report with ovality measurements (diameter with caliper):
  - Diameter at deepest point
  - Diameter at 90° of deepest point
  - Maximum diameter



- Visual representation of overlay between ILI data and detected features from scanned areas
- Unity chart to assess tool performance for feature dimensions, maximum depth and estimated burst pressure
- List of matched and unmatched features

### Pipecheck SOFTWARE MODULES

#### CORROSION

Pipecheck's corrosion software module offers very fast and reliable data processing that generates instant, on-site results. In comparison with traditional measurement methods, this software offers accuracy and repeatability that are beyond expectations.

#### MECHANICAL DAMAGE

This software module offers key functionalities that traditional measurement methods cannot offer. It offers unprecedented measurement quality for dents and facilitates the decision-making process if repairs have to be done.

### ADVANCED FUNCTIONALITIES

#### FULL-PIPE JOINT ASSESSMENT

Pipecheck can now assess full pipe joints. It saves time and money by scanning pipes all at once or with multiple HandySCAN 3Ds simultaneously. It enables any NDT service company and pipeline operator to perform pipeline integrity assessments on pipes up to 18 m (60 ft) in length.

#### CORROSION IN MECHANICAL DAMAGE

Being able to assess material loss depth from a mechanical damage deformation is no longer an unattainable goal. Pipecheck software is the one and only solution on the market to offer unique and sophisticated tools able to extract corrosion depth inside mechanical damage.

#### STRAIGHTENING OPERATION

Conventional methods for depth measurement (pit gauges) cannot be used accurately since pipe curvature often introduces depth values that do not represent material loss or pipe geometry deformations. To solve this issue—and to improve efficiency and confidence in results—Pipecheck features a built-in pipeline straightening tool. This non-destructive evaluation (NDE) tool uses powerful algorithms that extract the pipe centerline and straighten the full segment. The metal loss or mechanical damage can then be assessed with Pipecheck using the virtual pit gauge tool to report depth readings free of any curvatures.

#### ILI CORRELATION TOOL

In-line inspection (ILI) performance levels can be monitored in Pipecheck by correlating pig data against pipeline 3D scanning and/or imported UT data. The interface has been optimized to compare the depth, length, and width of features in just one click. However, the more pipeline operators accumulate a significant amount of data, the more the correlation results are accurate. ILI determines with more accuracy, which sites really need to be dug up, reducing the number of excavations necessary for direct assessment and repair.

## CREAFORM PORTABLE 3D SCANNERS FEATURE INNOVATIVE AND EXCLUSIVE TECHNOLOGIES

**TRUaccuracy™**  
ACCURATE MEASUREMENTS IN REAL-LIFE OPERATING CONDITIONS

**TRUportability™**  
3D SCANNING WHEREVER YOU NEED TO GO

**TRUsimplicity™**  
VERY SIMPLE 3D SCANNING PROCESS

**USER-FRIENDLY:** THE SCANNING AND ANALYSIS PROCESS ARE INTUITIVE AND ACCURATE, REGARDLESS OF THE INSPECTOR'S SKILLS

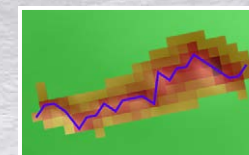
**FULL-PIPE JOINT ASSESSMENT:** PERFORMS PIPELINE INTEGRITY ASSESSMENTS UP TO 18 m (60 ft) IN LENGTH

**IN-LINE CORRELATION:** ASSESS ILI PERFORMANCE BY COMPARING PIG DATA AGAINST Pipecheck DATA TO DETERMINE IF THE ILI DATA IS ACCURATE OR NOT

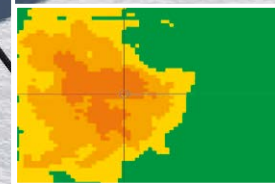
**SCANNING SPEED:** 80 TIMES FASTER THAN PIT GAUGE TECHNIQUE

**HIGH-QUALITY RESULTS:** ACCURACY OF 0.025 mm (0.0009 in)

**REAL-TIME VISUALIZATION:** WITH VXremote™, CREAFORM'S OPTIMIZED REMOTE DESKTOP APPLICATION, DATA ACQUISITION CAN BE VIEWED IN REAL TIME



**CORROSION DEPTH INSIDE MECHANICAL DAMAGE:** UNIQUE AND SOPHISTICATED TOOLS TO EXTRACT CORROSION DEPTH INSIDE MECHANICAL DAMAGE



**TRUaccuracy ON THE PIPE:** ENHANCED VIRTUAL PIT GAUGE CAPABILITIES. PIT GAUGE CONFIGURATION AUTOMATICALLY ADAPTS NEAR WELDS TO ENSURE THE MOST ACCURATE MEASUREMENTS

**ON-THE-GO SCANNING:** TAKE IT FROM PLACE TO PLACE. FITS INTO A CARRY-ON CASE. USE IT IN-HOUSE OR ON-SITE.

**LIGHTWEIGHT AND SMALL:** WEIGHTS UNDER 1 kg (2.2 lb) AND CAN REACH CONFINED AREAS.

FOLLOWS CODE REGULATION (ASME B31G)



HandySCAN 3D™ handheld scanners have been optimized to meet the needs of engineers who specialize in pipeline integrity assessment and are looking for the most effective and reliable way to acquire 3D measurements of physical objects.

Creaform's flagship metrology-grade scanners underwent a complete re-engineering, building on their core assets. They are now more portable and even faster at delivering accurate and high-resolution 3D scans, while remaining very simple to use.

The Creaform Pipecheck solution has two different 3D models of laser scanners to choose from, depending on the required level of accuracy.



**WHEN ACCURACY MEETS VERSATILITY AND PORTABILITY:  
INTRODUCING HandySCAN 3D SCANNERS**

HandySCAN is your go-to solution to quickly, efficiently and accurately detect material loss and mechanical damage. Take advantage of unmatched reliability to conduct end-to-end pipeline integrity assessments. Only with HandySCAN!

**PORTABLE WORKSTATION  
WITH WIRELESS TABLET**

NDT service companies can count on a complete accessory package especially designed to optimize field efficiency and reduce turnaround times.



**INCLUDES**

- Wireless tablet powered by VXremote
- Rugged case with multi-terrain wheels adapted to field environments
- All-in-one transport case that converts into a convenient portable workstation
- Magnetic supports for 3D scanner and wireless tablet



**THE COMPLETE SOLUTION**

**INCLUDED**

- HandySCAN 3D portable scanner
- Pipecheck software license
- Calibration plate
- Reference arrow with protective case
- 8-m USB 3.0 cable
- Universal power supply
- 4 x 500 positioning targets
- 1-year warranty on parts and labor

**OPTIONAL**

- Certified laptop computer
- Pipecheck reference part

**EXTEND THE POWER OF YOUR  
Pipecheck SOLUTION**

**Pipecheck ANALYZE**

**When all you need is the analysis power of Pipecheck**

Offered at a discount price, this software comprises Pipecheck's corrosion and mechanical damage modules for analysis only. It is perfect for projects where assessment is done on-site by a senior technician, while a junior technician focuses on data acquisition. When on-site teams are facing complex cases, analysis can also be done off-site by pipeline integrity engineers. Pipecheck Analyze can open any Pipecheck session, change parameters, reprocess analysis and export a report.



**3D SCANNER EXTERNAL BATTERY  
A whole new level of portability**

With 4 hours of autonomy, the 3D scanner lightweight external battery facilitates data acquisition. Ideal for short-term projects, it provides easier-than-ever access to confined spaces when combined with the HandySCAN 3D! Even rope access projects can benefit from this new level of portability.



**Pipecheck VIEWER**

**An unprecedented amount of data available to pipeline integrity engineers!**

Pipecheck Viewer offers new demonstration and reporting capabilities. Service companies wanting more information about Pipecheck can request real case studies and visualize the results in 3D. Companies already using the software can provide complete Excel reports displaying the 3D model analysis to all of their customers.



**VXremote**

**Remote access software application**

VXremote improves your efficiency in the field by providing fast and easy remote access to Pipecheck. It offers quick activation and setup without any hardware. You can have all its data acquisition functionalities right at your fingertips... Available only with the Creaform certified Rugged Tablet!

**CUSTOMER CARE PROGRAM**

Creaform is committed to offering first-class customer service so that you can get the most out of your system.

Our multilingual team of product specialists will provide you with assistance to answer your immediate needs. Our fleet of leading-edge calibration tools in our service centers gives you local access to faster maintenance service and repair.

Be sure to subscribe to the Customer Care Program to take advantage of worry-free maintenance and global repair coverage for all of your Creaform hardware and software. Whether you need to access our latest software releases and knowledge base or require a loaner unit while your device is being serviced, we have a plan tailored to your needs. Gain peace of mind knowing your equipment will get even better with time.

**METROLOGY AND ENGINEERING SERVICES**

Convinced of the quality and possibilities of the Creaform technologies, but not quite yet ready to commit and buy? Know that Creaform offers a wide range of metrology and engineering services. Our experts have earned a worldwide reputation for effectiveness and professionalism. Whether you need their help to perform 3D scanning, quality control, reverse engineering, FEA/CFD simulations, product and tool development or training services, you can count on their commitment to meet your requirements with responsiveness and adaptability.

## TECHNICAL SPECIFICATIONS

HandySCAN BLACK™

HandySCAN BLACK™IElite

<b>WEIGHT</b>	0.94 kg (2.1 lb)	
<b>DIMENSIONS (LxWxH)</b>	79 x 142 x 288 mm (3.1 x 5.6 x 11.3 in)	
<b>MEASUREMENT RATE</b>	800,000 measurements/s	1,300,000 measurements/s
<b>SCANNING AREA</b>	310 x 350 mm (12.2 x 13.8 in)	
<b>LIGHT SOURCE</b>	7 blue laser crosses	11 blue laser crosses (+1 extra line)
<b>LASER CLASS</b>	2M (eye-safe)	
<b>MEASUREMENT RESOLUTION</b>	0.025 mm (0.0009 in)	
<b>MESH RESOLUTION</b>	0.100 mm (0.0039 in)	
<b>ACCURACY</b>	0.035 mm (0.0014 in)	0.025 mm (0.0009 in)
<b>VOLUMETRIC ACCURACY</b>	0.020 mm + 0.060 mm/m (0.0008 in + 0.0007 in/ft)	0.020 mm + 0.040 mm/m (0.0008 in + 0.0005 in/ft)
<b>VOLUMETRIC ACCURACY (with MaxSHOT NextIElite)</b>	0.020 mm + 0.015 mm/m (0.0008 in + 0.00018 in/ft)	
<b>STAND-OFF DISTANCE</b>	300 mm (11.8 in)	
<b>DEPTH OF FIELD</b>	250 mm (9.8 in)	
<b>PART SIZE RANGE (recommended)</b>	0.05 - 4 m (0.15 - 13 ft)	
<b>SOFTWARE</b>	Pipecheck	

## FEATURE COMPARISON

Pipecheck

Pipecheck ANALYZE

Pipecheck VIEWER

	Pipecheck	Pipecheck ANALYZE	Pipecheck VIEWER
SCANNING	●		
EDIT SCAN	●	●	
MERGE SCAN	●		
CORROSION INTERNAL ANALYSIS	●	●	
CORROSION EXTERNAL ANALYSIS	●	●	
ILI CORRELATION	●	●	
MECHANICAL DAMAGE	●	●	
PIPE STRAIGHTENING	●	●	
REPORTING	●	●	
VIEW 3D SCAN	●	●	●
VIEW REPORT	●	●	●

**CREAFORM**

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ULTRA PRECISION TECHNOLOGIES

Authorized Distributor

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