Celebrating 50 years of Equotip Portable Hardness Testers

Screening Eagle's Proceq is a leading manufacturer of portable hardness testers that have had a significant impact on the industry on a global level. Since the invention of the Leeb method in the 1970s, Proceq has continuously improved and expanded the product range to meet the evolving needs of the industry. The Leeb Rebound Hardness Test (LRHT) was invented in 1975 by Dietmar Leeb and Dr. Brandestini in Switzerland.

Before the invention of the Leeb rebound hardness test, engineers and technicians often grappled with cumbersome, stationary equipment. It was a landscape ripe for innovation, and Proceq stepped forward to redefine the field. Driven by a vision to bring laboratory-grade accuracy to on-site applications, Proceq's portable hardness testers were developed with meticulous precision and high versatility for reliable use onsite and in the lab.

This breakthrough culminated in the development of the Equotips we know today - highly portable instruments that have transformed how hardness testing is conducted.

The series of innovations has lead to accomplishing ISO/IEC 17025 accreditation for all new Equotip portable testing devices and Leeb test blocks, establishing a new industry baseline for quality.

As part of the 50th anniversary of Equotip and the invention of the Leeb method, we invite you to join in the exclusive activities and special offers running throughout 2025.

Let's see how it all started - from the very first release in 1975, to the present day…

Equotip Prototype

1975

The Leeb method, which is the basis of the first Equotip portable hardness tester, is now one of the four most used methods for testing metal hardness. The name ‘Equotip’ comes from an abbreviation of Energy QUOtient and TIP. Soon after the prototype invention, Equotip became the brand name for all portable hardness testers offered by Proceq.

The original EQUOtip

1977

After the prototype came the Original EQUOtip, based on the Leeb rebound method. It was a major breakthrough in portable hardness testing technology and the device received the reputation of “build to last” as some of the units operate until today. The Leeb method has since become one of the most widely used methods for portable hardness testing.

EQUOtip 1

1990

1990 saw the introduction of the EQUOtip 1, a first-of-its-kind, software-driven version that was the first portable hardness tester to save data internally and transfer it to a PC. This Equotip version also saw the introduction of several novel impact devices that solved various challenges in the industry.

EQUOtip 2

2000

Proceq introduced the EQUOtip 2, which was a significant upgrade to the previous Equotip. It featured improved accuracy and repeatability and was capable of measuring a wider range of materials throughout a new set of conversion curves, and even more new probes (those that other manufacturers are offering now). It was a transcription of Proceq's legacy and years of own research into a new class of portable hardness testing devices, whose features became the industry standard used up now.

Equostat

2000

In the same year, Proceq released the EQUOstat, static low-load measurement portable hardness tester, based on the Rockwell Principle. The Equostat probe could be paired with the Equotip 2 as its display unit. It gained its reputation for accurate, rapid and reproduceable results for free-hand measurement on large flat surfaces and small parts.

Piccolo & Bambino

2005

In 2005, Proceq released the small but mighty Equotip Piccolo and Bambino combining modern electronics with a new patented impact device that integrated the release trigger into the charging mechanism. Full bi-directional communication via USB permitted Piccolo to be remote-controlled and easily integrated into automated testing systems. Automatic recognition of the impact direction and self-diagnostics made testing with the Bambino almost foolproof.

Equotip 3

2007

In 2007, Proceq released another breakthrough, the Equotip 3 which featured improved data storage capabilities and advanced features enabling e.g., implementation of devices into the production lines. It was also the first portable hardness testing device upgradeable via the internet and was developed with a more user-friendly interface, thus shortening the learning curve for new users.

Piccolo 2 & Bambino 2

2009

In 2009, Piccolo 2 and Bambino 2 were released with upgraded software features, their own PC software, and the possibility of custom conversion curve generation. The Bambino 2 is particularly suitable for quick and easy on-site hardness checks. The Piccolo 2 has the same features as the Bambino 2 but additionally offers real-time monitoring and user-defined hardness conversion curves. The Piccolink PC Software, which comes with the Piccolo 2, allows easy analysis of the data, including editing and exporting to reports. With the Piccolink software, the instrument can be remote controlled by the PC.

Portable Rockwell

2011

In 2011, Proceq expanded its offering into a new method – Portable Rockwell, which in contrast to the Leeb dynamic method, represents a static measurement called Equostat. It gave the inspectors a quick, reliable and foremost non-destructive testing tool to test the hardness of various metals on site, without the necessity of cutting and transportation to a stationary Rockwell machine. Soon after that, a new generation of EQUOstat probes (renamed to Portable Rockwell), was introduced as compatible with Equotip 3 devices.

Equotip 550

2015

New technological achievements lead to the development of Equotip 550 in 2015, which is a portable hardness tester offering advanced features, including ruggedness for demanding environments, an intuitive user interface, easy automation, and integration. It also has the world's widest standard compliance, selection of conversion curves, and the ability to use three different testing methods in one device.


proceq
equotip®
UCI

Equotip UCI 3-in-1

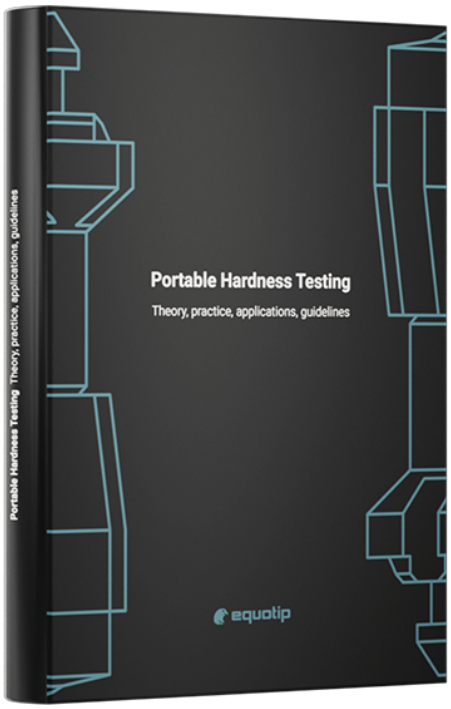
2016

No longer than a year later, Proceq invented and patented the next generation of Ultrasonic Contact Impedance (UCI), which features a precise digital force sensor. Up until now, inspectors had to rely on several probes, produced for a specific test load. With this new invention, inspectors can use only one probe for most of their applications. The device also allows for user feedback, which provides alerts for error conditions and leads to greater accuracy in measurement.

Leeb D Live

2017

Next, Proceq developed the world's first Leeb D wireless device that is Internet-of-Things (IoT) enabled, bridging finally the gap between old-fashioned and modern digital devices. The Equotip Live probes offer access to the cloud storage and data management ecosystem – Screening Eagle Workspace, for future non-destructive hardness measurement data management.



Portable hardness testing book

2022

The release of the world's first Portable Hardness Testing book in 2022 was a significant milestone in the field of portable hardness testing. The book covers various testing methods and provides valuable insights into how to use portable hardness testers effectively, avoid errors, solve hardness-testing-related problems and use best practices, making it a valuable resource for beginners and experienced professionals alike. The release of this book contributed to the standardization and improvement of portable hardness testing and provided a reference for the entire market.

ISO/IEC 17025 accreditation

2023

In 2023, Screening Eagle's brand Proceq received the ISO/IEC 17025 accreditation for calibrations of Leeb, UCI, and Rockwell users, and has now been implemented as factory-default calibration of all portable hardness testing devices and Leeb test blocks produced by Proceq. Now every new Equotip user can leverage the advantages of equipment that has been calibrated to the highest possible standards.

Equotip UCI product upgrades

2024

Proceq developed significant product upgrades for the hardware, firmware and software components of the Equotip UCI (Ultrasonic Contact Impedance) hardness testing probes, elevating functionality and durability of the products to the next level. Users of the Equotip Live UCI and Equotip 550 UCI also benefit from increased traceability as the only products on the market with traceable, calibrated diamonds and ISO 17025-accredited diamond certificate. This brings peace of mind to the quality of the test and fosters legitimacy of documentation for audits.

Equotip 550 UCI Motorized probes

2025

To celebrate the 50th anniversary of Equotip, Proceq launched the new Equotip 550 UCI MOTO-03 and UCI MOTO-08 motorized probes, setting a new benchmark for portable microhardness testing. These advanced probes leverage Ultrasonic Contact Impedance (UCI) technology with precise, motorized force application for reliable, repeatable results, especially on thin coatings and precision components.