

The new Freedom of measuring coating thickness :
Coating thickness measurement with radio control probes

As a pioneer for precise and particularly easy-to-use coating thickness gauges, AUTOMATION Dr. Nix, again and again develops innovative hand held instruments in corporation with experienced practitioners in over 40 countries. The launching of the world's first radio control probe is the result of the demands and desires of many users for precision measuring instruments, especially those who yearn to measure lacquer and corrosion protection coatings at difficult to access places or safety relevant areas, for example on bridges, airplanes or ship body. The new radio control probe is world-wide first and smallest, only thumb size precision measuring device for the non destructive measuring of coatings on ferrous and non ferrous substrates. With the wireless transmission of data per radio control, QNix sat extends the application scope of measuring coating thickness and gives users a never known before "freedom of measuring".

The author of this report leads the team of AUTOMATION Dr. Nix GmbH & CO. KG that designed and developed the world's new radio control probe - QNix® sat.

The situation today:

Measuring coating thickness at difficult to access, safety-relevant places.

Those of you who must make a multiplicity of measurements with a hand held measuring instrument know what we are talking about. In course of taking many measurements the instrument becomes unmanageably or too heavy. A user who accomplishes a large number of measurements over hours easily stands under physical strain and fatigue. Because of the fatigue, measuring errors simply occur which might have serious consequences, leading to complaints and repetition of measurements.

A further problem: Even a relatively small measuring instrument with memory, batteries and display is still too large, in particular for complicated measuring tasks. The critical places of most coated surfaces are hidden in the most inaccessible places - which are safety relevant. Because of the inaccessibility with conventional instruments taking precision measurements is difficult and safety relevant points are often neglected.

A cable-led measuring probe already offers a certain easement for such measuring tasks, since the actual measuring sensor is substantially lighter and smaller than the whole measuring instrument. But then, probe and body gauge are still connected by a disturbing cable - A connection that is always annoying and a source of danger for the user. In practice, one always will need both hands for precise measurements: One hand leads the measuring probe, the other one controls the cable, which always interrupts the measuring process. For security purpose, especially for a hold to the ladder, one needs a third hand that is not available.

NEW: Miniaturized radio control probe allows for precision measurements at difficult- to- access measuring points.

The newly developed miniaturized and completely separate measuring device, which communicates by radio transmission with the indicating body gauge and data storage unit, now offers more than fundamental advantages:

Wireless: No cable obstructs the measurement at inaccessible places or endangers the user. **Thumb size:** With the small dimensions of the only thumb size radio control probe, the user reaches practically everywhere, also difficult to access measuring points.

Light Weight: The weight of the radio control probe (30 g) avoids strain, fatigue and associated measuring errors.

Security: Even at difficult positions, the radio control probe allows for simple, safe and precise measurements.

The world's new radio probe QNix® sat in combination with the modular measuring system QNix® 8500 of AUTOMATION Dr. Nix, Cologne, ideally fulfills the safety and security requirements for the measuring of coating thickness on metals.

The world's new radio control probe QNix sat: An innovative solution.

The development of the world's unique wireless radio control probe QNix® sat was only possible because of the existing experience with the measuring probes of the modular measuring system QNix® 8500. On the basis of its well-known reliability and precision of the probe line and its unproblematic handling, also on different substrates, the simple operation mentality could be retained. Thumb size and only approximately 30 gram, QNix® sat represents the smallest measuring device for measuring coating thicknesses today.

The new radio control probe consists of an extremely miniaturized measuring computer- a high performance accumulator, as well as a radio transmission with a range of up to 20 meters. The device is constructed for radio transmission to work omni directional – no need to adjust antennas to the proper direction for optimal reception. The radio transmission works in the safe frequency band of 2,4 GHz allowing for the use of this device everywhere without restriction.

With the use of a Low power Chip set for the radio transmission the accumulator is gradually loaded. The transmission is secured by an appropriate coding against disturbances. The radio technology used for the QNix sat has a proven employment in the wireless transmission of data between the body gauge and a PC. Also, a high speed accumulator permits up to 4000 measurements without reloading the probe, which is loaded via the body gauge. The full accumulator capacity is available after approximately five hours. The proven measuring head with an integrated ruby prevents the damage of the coatings due to the polished, rounded off surface.

Simple Operation, even in rough Environments.

The design of the radio control probe was purposefully optimized for the use in the rough everyday work and hard site conditions. During the intensive development phases the robustness of the device was guaranteed by numerous quality inspections, loading -, shaking and drop tests.

The innovative result is a practical and user oriented construction that ensures simplest handling, highest precision with at the same time durable long term use. For assurance that measurement has been taken, the transmission of the measured value is optically indicated at the probe by a blue LED signal. In this way, and even in noisy conditions of work one can be sure that all measurements were taken precisely and correctly. The body gauge, which serves as memory, indicator and loading station, can be carried in the jacket pocket or be fastened with bracelet on the arm. Measured values are always comfortably read off without the measuring instrument acting as a disturbing item.

The measurement of the coating thickness is possible depending on whether its execution is on a ferromagnetic substrate or a non-ferromagnetic substrate. Dual radio control probes combine both possibilities and offer optimal flexibility in each measuring situation.

The application of the radio control probe opens new areas of application for coating thickness measurement.

The only thumb size radio control probe QNix® sat offers a set of practical advantages:

For corrosion protection measurements, safety-relevant points become measurable with the small dimensions of the radio control probe. A higher security for the user is reached by the problem-free one hand measurement.

For measurements on wide stretching surfaces or in higher heights with ladder, the radio control probe has the inestimable advantage of the small weight and the wireless transmission. The fatigue danger is minimized. Substantial sources of error and safety risks are eliminated. Simplest handling - which ensures quality and security without neglecting precision. The innovative radio control probe QNix® sat is a great achievement for the user. It creates a "new freedom of measuring in the real sense of the word."

Dr. Ing. Gerrit Gehnen

Further information and photos at www.q-nix.de

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