

# Powerful and flexible inspection data management

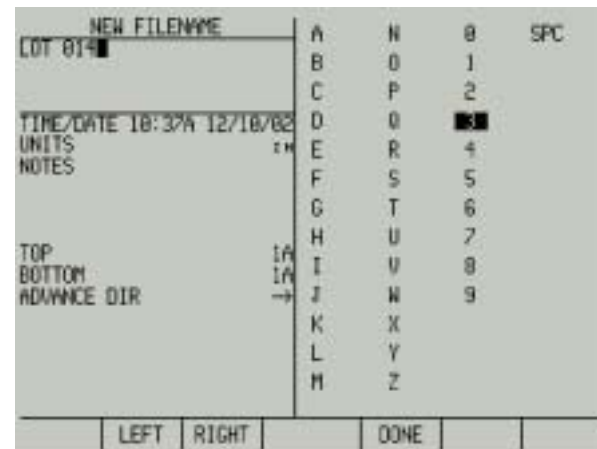
## CL 400

**Ultrasonic Precision Thickness Gauge**

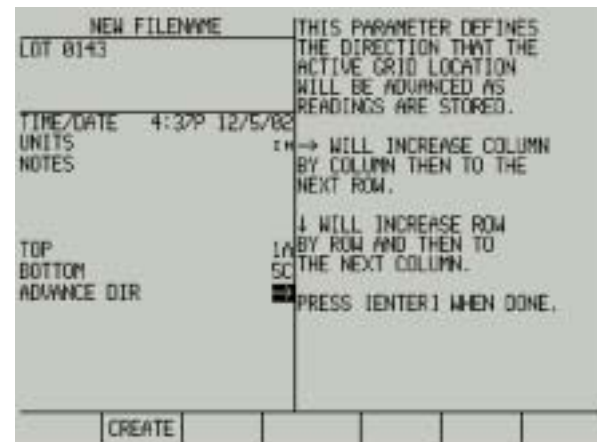


Data Recorder Window

UltraMATE® is a 2-way communication tool. You can use the software to transfer and store a Custom Setup that was created from one CL 400 instrument to another. UltraMATE® also provides a quick alternative for creating a Data Recorder file. Instead of using the CL 400's keypad, create a data file using UltraMATE® and then download it



Data File Naming Using Virtual Keyboard



Creating the data file

## Data Recording and more through software

The **Data Recorder option** can be used to create and store up to 250 grid (x, y) type files with a total capacity of up to 10,000 readings or when combined with the A-Scan option 1,000 readings with attached waveforms. The instrument's virtual keypad can be used to input a 1 to 25 character file name and add notes. A comprehensive Data Recorder navigation scheme provides quick and easy movement to edit or view attached A-Scans within a data file.

The UltraMATE® Thickness Data Software Program fully supports the CL 400's Data Recorder. Data files containing thickness readings and attached A-Scans can be easily transferred to a PC for storage, viewing and editing. Reports can be printed directly from UltraMATE® or by using the Windows™ "Copy & Paste" functions. Data can also be easily placed in other Windows™ applications.



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Visit [AgfaNDT.com](http://AgfaNDT.com) for more information on Krautkramer's CL 400 and to learn more about Agfa NDT's complete ultrasonic, X-ray, digital and film systems.

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## The CL 400 offers sound performance, intuitive operation and practical features to fulfill your precision thickness needs...

The CL 400 has all the ultrasonic performance needed to get the job done with the straightforward operation you will appreciate. You can expand the instrument's capabilities by adding the optional A-Scan or Programmable Data Recorder features.

### Reliable Results

The CL 400 locks quickly on to the reading, displaying a rock-solid value that provides assurance of the measurements accuracy while minimizing test time. This is the result of combining the CL 400's advanced signal processing with our highly damped single element transducers.

Easy to see alarm bar and big digits of the basic model and alarm bar.



### Basic Gauge Features

The basic CL 400 displays the thickness value in large easy-to-read digits. From the very first time you turn on the instrument you will discover the ease of operation and versatility provided by the following useful features:

- **Help Window** — text messages outline step-by-step procedures for various tasks such as calibration, probe setup and data recording
- **Six virtual keys** — change function based on the task at hand to eliminate searching through numerous dedicated keys
- **Large hollow/filled thickness digits** — clearly indicates coupling status
- **Selectable resolution** — down to 0.0001 inches or 1 micron
- **Velocity Value** — always indicated for immediate reference
- **Alarm Bar Graph** — quick visual aid to easily recognize when alarm values are exceeded
- **Standard parameter setups** — support an assortment of delay, contact and bubbler style probes
- **Custom parameter setups** — easily identify a setup by assigning a name related to material type or grade, part name, description, etc. Store your named setup along with all probe parameters, calibrated settings and alarm values for fast and easy recall at any time
- **Virtual keyboard** — simple alphanumeric naming of custom setups or data files
- **Lockout feature** — password protection allows a supervisor to select and limit user access to instrument functions
- **Bi-directional RS232 port** — upgrade operating software via Internet; send readings directly to a PC; 2-way communication of data recorder files or custom setup files
- **Readily Available Power Sources** — "AA" Alkaline or externally charged NiMH and NiCad batteries can be used. Insertion of the AC power supply's plug into the instrument's power receptacle automatically disconnects the batteries.
- **Custom molded, gasket-sealed, high impact resistant plastic housing** — for durable trouble-free use.

## ....and useful options are your building blocks to a perfect solution

The basic CL 400 model is the cornerstone for constructing a solution that meets your exact needs by adding the options of displaying an A-Scan or Data Recorder. One or both can be installed at the time of purchase or can be retrofitted later as your testing requirements change.



A-Scan option provides a variety of views beyond the above THICKNESS + A-SCAN.

### A-Scan monitoring aids transducer alignment and verifies measurement accuracy

The **A-Scan option** proves especially useful when testing complex shapes or contours. Viewing the waveform assists the operator in achieving proper transducer alignment and confirms the validity of the measurement. For special applications, the A-Scan option also provides the ability to alter settings of various instrument measurement parameters to optimize performance. Select and adjust from the following instrument parameters while monitoring the waveform to determine their optimal settings: measurement mode, gate positioning (start, width and threshold), gate arming and detection methods, AGC or manual gain value, damping and bandpass filter. The final measurement parameter settings along with a reference A-Scan waveform and calibration settings can be named and stored as a complete custom setup using the virtual keyboard.

The A-Scan option provides specialized views to assist in fast testing or comparing data to a preset nominal value.

Minimum Capture and Maximum Capture modes display the appropriate value and the associated waveform after completing a continuous scan. Differential and Rate of Reduction modes compare the tested value to a user-defined nominal value and then provide a value in units or as a percentage.

The Interface Tracking feature provides automatic alignment of the interface signal of a delay or immersion probe to the left-hand portion of the display. With Interface Tracking activated, adjustment to the trace starting position is not necessary if changes occur in the delay line length or water path distance.

A waveform can be captured at anytime by pressing the FREEZE key. The frozen image can then be further scrutinized or attached to a thickness value for storage in the optional data recorder.