

You can now verify the  
**THICKNESS**  
of Concrete Slabs in

**CTG**

**1** **Easy Step!**



*You no longer need to  
drill, core, or excavate to  
determine concrete slab  
thickness using Olson's  
product line of Concrete  
Thickness & Flaw Gauges!*



60 Cores = 10 hrs on site

**Job Cost = \$3000**

*...and you still need to patch the holes!*

**VS.**



60+ CTG Slab Tests = 1/2 hr on site

**Job Cost = \$100**

*...same results, no patching required!*

**TIME = \$\$\$**  
**CTG's save YOU**  
**a bundle!**



# CTG

www.OlsonInstruments.com

## CONCRETE THICKNESS GAUGES AND CONCRETE THICKNESS/FLAW GAUGES



The **CTG line of instruments** are hand-held, battery powered, nondestructive systems for measuring the thickness and integrity of concrete slabs, pavements, tunnel linings, walls and other plate-like structures using the Impact Echo principle. *Requires no special knowledge or training* – use it right out of the box with Olson's built-in default concrete parameters, or for greater accuracy, simply calibrate the CTG by testing a point of known concrete thickness as a reference for the speed of sound in that concrete and start testing!



### Standard Model CTG-1T and Optional CTG-1TF (Thickness/Flaw Model)

#### Specifications

» <b>Thickness Range:</b> 3.2" to 6 ft (81 mm to 1.8 m)	» <b>Learning Curve:</b> Less than 10 minutes!
» <b>Accuracy:</b> $\pm 2\%$ at high resolution when calibrated on a known thickness location	» <b>Frequency Resolution:</b> 44.5 (high) or 89 (low)
» <b>Report Capability:</b> <b>CTG-1T:</b> Numerical thickness summary table downloadable to spreadsheet <b>CTG-1TF:</b> Raw data downloadable to PC/Notebook for analyses using Olson's Windows based WINTFS-IE software	» <b>Number of Samples Acquired Per Test:</b> 256 (normal) or 512 (high resolution) » <b>Processing Time for 1 Test:</b> ~ 3 seconds » <b>Sampling Rate:</b> 45,600 samples/second » <b>Maximum Signal Frequency:</b> 22,800 Hz
» <b>Power:</b> Internal rechargeable NiMH battery pack (~ 7 hrs of operation per charge); external battery charger (AC power unit, overnight charging), can use 10 - AA size alkaline batteries or run on the AC power unit	» <b>Weight:</b> 4.4 lbs (2.0 kg) combined for test head, gauge and batteries » <b>Cable Length for Test Head:</b> 6 ft (2 m)

#### Features

» Ruggedized, hand-held test head with integrated displacement transducer and solenoid impactor	» Switch between English (inches) or Metric (centimeters) units with the click of a button
» No coupling agents required for use of test head on concrete	» Easy velocity calibration at known thickness location, or use Olson's default parameters
» Works on cured, hardened concrete in air or on grade	» Download test time/date and results into your PC through serial port
» Works through paint and most types of bonded tile (checks tile bonding too!)	» Thickness data table can be imported into most spreadsheet programs
» Easy to read LED display for outdoors and switchable backlight for indoors	» Save selected test time/date and spectral thickness results for later review

PAVEMENTS WALLS SLABS





# CONCRETE THICKNESS/FLAW GAUGES WITH ENHANCED FEATURES

# CTG

[www.OlsonInstruments.com](http://www.OlsonInstruments.com)

All of the specifications for the **CTG Models with enhanced features** below are common to the CTG-1T Standard Model shown on the previous page except for the items listed in the 4 columns. If you choose to purchase any of our **Thickness/Flaw Models (CTG-1TF)**, you will receive the same components found on the **Thickness Only Models (CTG-1T)** with the addition of Olson's WINTFS-IE software for analyses. For the SW Models, the WINTFS-IE/WINTFS-SASW software package will display phase, velocity, or modulus data vs. frequency or wavelength of a single test.



Telescoping Pole for use on flatwork or overhead

## CTG Models with Enhanced Features

### CTG-1T-ST [Super Thin]



- » Components
- » Test Gauge
- » Test Head with High Frequency Impactor
- » Telescoping Pole

Thickness Range  
» 1.5" to 6 ft  
(38 mm to 1.8 m)

Report Capability  
Numerical Thickness Summary Table, Downloadable to Spreadsheet

**CTG-1TF-ST:**  
WINTFS-IE software for analyses

### CTG-1T-SW [Surface Wave Velocity]



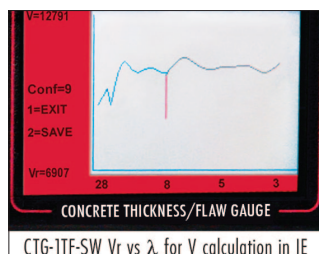
- » Components
- » Test Gauge
- » Standard Test Head
- » Telescoping Pole
- » SASW Detachable Arm with second transducer

Thickness Range  
» 3.2" to 6 ft  
(81 mm to 1.8 m)

Report Capability  
Numerical Thickness Summary Table, Downloadable to Spreadsheet

**CTG-1TF-SW:**  
WINTFS-IE/ WINTFS-SASW software for analyses

### CTG-1T-ST-SW [Super Thin + Surface Wave Velocity]



- » Components
- » Test Gauge
- » Test Head with High Frequency Impactor
- » Telescoping Pole
- » SASW Detachable Arm with second transducer

Thickness Range  
» 1.5" to 6 ft  
(38 mm to 1.8 m)

Report Capability  
Numerical Thickness Summary Table, Downloadable to Spreadsheet

**CTG-1TF-ST-SW:**  
WINTFS-IE/ WINTFS-SASW software for analyses





## CONCRETE THICKNESS & FLAW GAUGES [CTG]

**Comparison Chart of CTG Models (Standard vs Enhanced Features)**

Parameters »	Normal	Thick	Super Thin	Surface Wave
Sampling Rate:	45,600 samples/second	14,400 samples/second	116,000 samples/second	45,600 samples/second (2 channels)
Maximum Signal Frequency:	22,800 Hz	7,200 Hz	58,000 Hz	22,800 Hz/channel
Usable Thickness Range (nominal):	3.2" to 24" (81 mm to 610 mm)	12" to 72" (304 mm to 1.8 m)	1.4" to 6" (36 mm to 150 mm)	5" or greater (127 mm or greater)
Frequency Resolution:	44.5 Hz (high) or 89 Hz (normal)	14 Hz (high) or 28 Hz (normal)	113.5 Hz (high) or 227 Hz (normal)	113.5 Hz (high) or 227 Hz (normal)
Transducer Spacing:				8" (203 mm)
Measurable Velocity Range (P-Wave):				9,000 - 16,000 ft/second (2,750 - 4,900 m/s)

### General Specifications

#### Downloaded Parameters (data table) Per Record:

Test Number, Measured Thickness, Velocity Used, Maximum Thickness Setting, Q Value (echo peak sharpness), Units, Test Mode, Test Date, Test Time

#### Software Used for Post-Data Processing:

WINTFS-IE and WINTFS-SASW

#### Notes:

- » All downloaded waveform data for CTG-1TF download is saved and downloaded at high resolution regardless of the resolution setting on the CTG. Thickness cursors available on all modes of the CTG data display for secondary resonant echo peak depths.
- » **CTG-1T** Models output thickness summary tables only.
- » **CTG-1TF** Models output thickness summary tables and data for post-processing on a Windows 2000 or newer PC using WINTSF-IE or WINTFS-SASW software.



12401 W. 49th Ave.

Wheat Ridge, CO USA 80033-1927

p: 303.423.1212 f: 303.423.6071

www.OlsonInstruments.com

www.OlsonEngineering.com