OPERATING INSTRUCTIONS

Accu-Tek Touch 250 US Edition

36-0690/02

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Specifications

Specifications are subject to change without notice.

Specifications	Details
Dimensions (W x D x H)	648 x 305 x 1,143 mm (25.5 x 12 x 45 in.)
Weight	243 kg (535 lb)
Frame	Solid steel Upper and lower plate section and four uprights, threaded and welded
Protection class	I, IP20
Pollution degree/installation category	2: II
Power requirements	Compression tester: 115 VAC, 60 Hz, 15 A 230 VAC, 50/60 Hz, 8 A Controller: 100/240 VAC 50/60 Hz, single phase
Operating environment	Temperature: 0 to 40 °C (32 to 104 °F) Humidity: 10 to 90%, non-condensing
Storage environment	Temperature: -20 to 70 °C (-4 to 158 °F)
Specimen mounting	Capping compound method ASTM C-617 or unbonded capping steel retaining rings and pads ASTM C-1231
Specimen type and sizes	Cylinders 15 x 30 cm (6 x 12 in) included Cylinders 10 x 20 cm (4 x 8 in) using platen set 37-5506 Cylinders 7.6 x 15.2 cm (3 x 6 in) using platen set 37-5508 Cubes 50 mm (2 in) using platen set 37-5514 Cubes 150 mm (6 in) using platen set 37-5516 Blocks 200 x 200 x 406 mm (8 x 8 x 16 in) using platen set 37-5522 Beams 150 x 150 mm adjustable length from 457, 533,610,762 and 914 mm (6 x 6 in adjustable length from 18, 21,24,30, and 36 in) using flexural attachment 37-5528
Vertical clearance (H x W)	318 mm (12.5 in), or 368 mm (14.5 in) with lower spacer removed
Horizontal Clearance	229 mm (9 in)
Capacity	1,112 kN (250,000 lbf)
Measurement range	11.2 to 1,112 kN (2,500 to 250,000 lbf)
Accuracy	Factory calibrated to ±0.5% of reading from 1% to 100% capacity
Precision/reliability	1% of reading
Controller	ADR Touch™ digital readout unit 37-4856/09
Pressure transducer	0 to 700 bar (0 to 10,152 psi) Output +0.05 to 10 V

Hydraulic pump	Electric/hydraulic pump 1725 rpm, piston pump for high pressure and charged by a gerotor low pressure pump
Load rate valve	3 way 4 position manual pressure compensated valve 1000 to 10,000 psi 3/8” ports, 5 gpm maximum flow rate
Hydraulic pump electrical motor	0.7 kw (1 hp) 1725 R.P.M 115 VAC, 60 Hz; 230 VAC, 50/60 Hz single phase with overload protection, mounted in hydraulic reservoir.
Ram	155 mm (6.13 in.) diameter, 76 mm (3 in.) travel
Platens	Upper 159 mm (6.25 in.) diameter, swivel seat type, lower 178 mm (7 in.) diameter
Fuses	Controller: 2 A, 250 VAC, anti-surge, time delay Switch Box: 15 A, Thermal Resettable Switch 115 VAC 8 A, Thermal Resettable Switch 230 VAC
Testing Standards	Compressive strength tests of concrete cylinders: ASTM C39 and AASTHO T22 Compressive strength test of cement mortar mixes: ASTM C109 Standard practice for capping concrete cylinders: ASTM C617 Compressive strength test of masonry units: ASTM C140 Flexural strength tests of concrete: ASTM C78, C293 and AASTHO T97

General information

In no event will the manufacturer be liable for direct, indirect, special, incidental or consequential damages resulting from any defect or omission in this manual. The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation.

Revised editions are found on the manufacturer’s website.

Safety information

NOTICE

The manufacturer is not responsible for any damages due to misapplication or misuse of this product including, without limitation, direct, incidental and consequential damages, and disclaims such damages to the full extent permitted under applicable law. The user is solely responsible to identify critical application risks and install appropriate mechanisms to protect processes during a possible equipment malfunction.

AVIS

Le fabricant décline toute responsabilité quant aux dégâts liés à une application ou un usage inappropriés de ce produit, y compris, sans toutefois s'y limiter, des dommages directs ou indirects, ainsi que des dommages consécutifs, et rejette toute responsabilité quant à ces dommages dans la mesure où la loi applicable le permet. L'utilisateur est seul responsable de la vérification des risques d'application critiques et de la mise en place de mécanismes de protection des processus en cas de défaillance de l'équipement.

Please read this entire manual before unpacking, setting up or operating this equipment. Pay attention to all danger and caution statements. Failure to do so could result in serious injury to the operator or damage to the equipment. Make sure that the protection provided by this equipment is not impaired. Do not use or install this equipment in any manner other than that specified in this manual.

Use of hazard information

⚠ DANGER
Indicates a potentially or imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING
Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION
Indicates a potentially hazardous situation that may result in minor or moderate injury.

NOTICE
Indicates a situation which, if not avoided, may cause damage to the instrument. Information that requires special emphasis.

Interprétation des indications de risques

⚠ DANGER
Indique une situation de danger potentiel ou imminent qui, si elle n'est pas évitée, entraîne des blessures graves, voire mortelles.

⚠ AVERTISSEMENT
Indique une situation de danger potentiel ou imminent qui, si elle n'est pas évitée, peut entraîner des blessures graves, voire mortelles.

⚠ ATTENTION
Indique une situation de danger potentiel qui peut entraîner des blessures mineures ou légères.

AVIS
Indique une situation qui, si elle n'est pas évitée, peut occasionner l'endommagement du matériel. Informations nécessitant une attention particulière.

Precautionary labels

Read all labels and tags attached to the instrument. Personal injury or damage to the instrument could occur if not observed. A symbol on the instrument is referenced in the manual with a precautionary statement.

	Electrical equipment marked with this symbol may not be disposed of in European public disposal systems after 12 August of 2005. In conformity with European local and national regulations (EU Directive 2002/98/EC), European electrical equipment users must now return old or end-of-life equipment to the Producer for disposal at no charge to the user. ***Note:*** *For return for recycling, please contact the equipment producer or supplier for instructions on how to return end-of-life equipment, producer-supplied electrical accessories, and all auxillary items for proper disposal.*
	This symbol, if noted on the instrument, references the instruction manual for operation and/or safety information.

Etiquettes de mise en garde

Lisez toutes les étiquettes et tous les repères apposés sur l'instrument. Des personnes peuvent se blesser et le matériel peut être endommagé si ces instructions ne sont pas respectées. Les symbols apposés sur l'appareil sont complétés par un paragraphe Danger ou Attention dans le manuel.

	Si l'appareil comporte ce symbole, reportez-vous au manuel d'utilisation pour consulter les informations de fonctionnement et de sécurité.
	En Europe, depuis le 12 août 2005, les appareils électriques comportant ce symbole ne doivent pas être jetés avec les autres déchets. Conformément à la réglementation nationale et européenne (Directive 2002/96/CE), les appareils électriques doivent désormais être, à la fin de leur service, renvoyés par les utilisateurs au fabricant, qui se chargera de les éliminer à ses frais. ***Remarque :*** *Pour le retour à des fins de recyclage, veuillez contacter le fabricant ou le fournisseur d'équipement pour obtenir les instructions sur la façon de renvoyer l'équipement usagé, les accessoires électriques fournis par le fabricant, et tous les articles auxiliaires pour une mise au rebut appropriée.*

Certification

Canadian Radio Interference-Causing Equipment Regulation, IECS-003, Class A:
Supporting test records reside with the manufacturer.
This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numèrique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.
FCC Part 15, Class "A" Limits
Supporting test records reside with the manufacturer. The device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

1. The equipment may not cause harmful interference.

2. The equipment must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their expense. The following techniques can be used to reduce interference problems:

1. Disconnect the equipment from its power source to verify that it is or is not the source of the interference.

2. If the equipment is connected to the same outlet as the device experiencing interference, connect the equipment to a different outlet.

3. Move the equipment away from the device receiving the interference.

4. Reposition the receiving antenna for the device receiving the interference.

5. Try combinations of the above.

EU Radio Interference and Immunity Regulation:

Supporting test records reside with the manufacturer.
The equipment has been tested and found to comply with the following standards.
EN61000-6-3:2007 + A1:2011 EMC (Electromagnetic Compatibility, Emissions) Generic Standards for residential, commercial and light-industrial environments.
EN61000-6-2:2005 EMC (Electromagnetic Compatibility, Immunity) Generic Standards for industrial environments.

Product overview

The ACCU-TEK TOUCH Digital Series Compression Tester combines microprocessor technology with rugged construction and space-saving design. The ACCU-TEK TOUCH can quickly and easily accept a wide variety of accessories for compressive tests on cylinders, cubes, or block specimens.

⚠ WARNING

Do not test any other specimen material other than those explicitly listed in the Specifications of this manual

⚠ AVERTISSEMENT

Ne testez pas tout autre matériau d'échantillon autre que celles indiquées dans la section de Specifications de ce manuel.

⚠ WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

⚠ AVERTISSEMENT

Risque de blessures corporelles. Les instruments ou les composants sont lourds. Ne les installez ou ne les déplacez pas tout seul.

⚠ WARNING

Burn Hazard! The equipment should not be operating continuously at full load for a period longer than 15 minutes. Failure to comply with these recommendations could cause the pump motor and surrounding components to overheat.

⚠ AVERTISSEMENT

Risque de brûlure! L'équipement ne dois pas fonctionne à la capacité complète pour plus de 15 minutes. Si vous vous ne conforme pas aux ces recommandations, la machine pourrait surchauffer.

⚠ DANGER

Do not operate machine near open flame or other heat sources.

⚠ DANGER

Ne pas utiliser la machine à proximité de flammes ou d'autres sources de chaleur.

Front View

(Gate Interlock and Switchbox included in 36-0690/02 series only)

1 Loading Frame	3 Load Measurement and Display
2 Hydraulic Pump	

1. **Loading Frame**

The load frame consists of a rugged welded steel frame incorporating a hydraulic ram/cylinder assembly and electrical hydraulic power pump for applying axial loads. The load frames are supplied with safety gates which should be closed and locked during testing to protect operators.

The motorized hydraulic power pack includes a multi-function control system; refer to the appropriate section of the operating manual to fully understand the settings of this component.

The machines require installation before operation; refer to installation section in this manual.

NOTICE
Exercise caution when lifting the machine, see installation section for recommended lifting points. Use only approved and tested equipment. ELE International will accept no responsibility for damage caused by mishandling.

AVIS
Faites preuve de prudence en soulevant la machine, lisez la section d'installation pour les points de levage recommandées. ELE décline toute responsabilité quant aux dégâts liés a une application ou un usage inappropriés de ce machine.

2. **Load Measurement and Display**

All machines in the range use the same model touch screen display system, configured to meet the machine operating load capacity, which is mounted on the top of the loading frame for ease of viewing.

Hydraulic pressure is measured by a high quality pressure transducer installed in the pressure line between the electrical hydraulic pump and load frame. The electrical output from the transducer is connected to the digital display that converts this signal into engineering units of load. The Advanced Touch Screen display incorporates microprocessor technology and features advanced facilities for data acquisition, calculation and presentation.

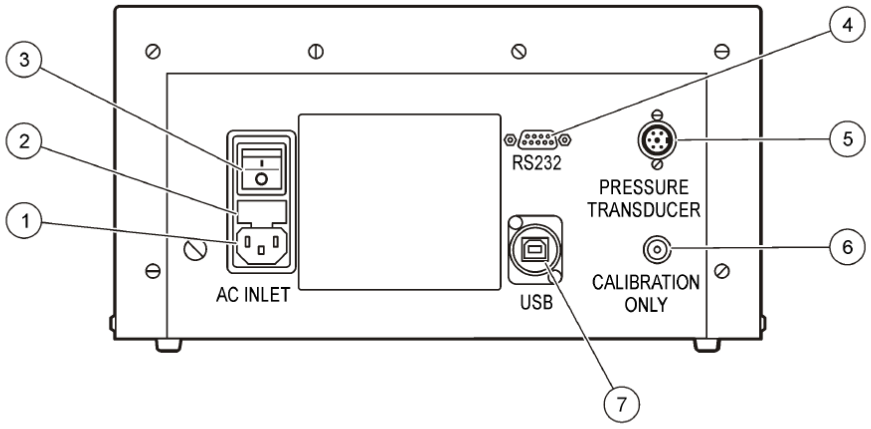
Procedures are easily executed on the data entry touch screen with results viewed on the large, backlit LCD display.

Accurate load pacing is assured by means of the pace deviation bar graph incorporated into the display. The maximum stress is calculated automatically at specimen failure and then displayed in engineering units.

For full operating details and specification of this unit refer to the operating manual that is supplied with each ACCU-TEK TOUCH compression machine.

This controller is used with compression testers to identify the compressive strength or flexural strength of concrete, mortars mixes and masonry products in accordance with ASTM standards. Use the LCD touch screen display to enter sample information and to monitor the pace rate. Test results are shown on the display at the end of each test and are saved to internal memory. Figure 1 shows the power switch, fuse drawer and controller connections.

Figure 1 Instrument overview (back view)



1 Power connector	**5** DIN connector (pressure transducer cable only)
2 Fuse drawer	**6** BNC connector (Service use only)
3 Power switch	**7** miniUSB connector for a computer
4 RS232 connector for a printer	

3. **Testing accessories**

Dependent on which ACCU-TEK TOUCH machine has been purchased, various size upper ball seating/platen assemblies are required in order to test the range of samples to be tested, see relevant operating manual for the range of options available.

⚠ WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

⚠ AVERTISSEMENT

Risque de blessures corporelles. Les instruments ou les composants sont lourds. Ne les installez ou ne les déplacez pas tout seul.

Specimen	Platen Set	Comments
6” x 12” Cylinders	3479-0040	Included with compression machine
4” x 8” Cylinders	37-5561	To be used with upper platen supplied with machine
3” x 6” Cylinders	37-5508	
2” Cubes (50 mm)	37-5514	
6”Cubes (150 mm)	37-5516	
Concrete Masonry Units Flexure Attachment	37-5522 37-5528	For testing 8”x 8”x 16”(203 x 203 x 406 mm) blocks

4. General

The ACCU-TEK TOUCH range of compression machines are designed for indoor use only and in a laboratory environment that enables tests to be conducted in accordance with the testing standard

The purchaser of the machine is responsible for ensuring that technicians who operate the machine has been trained in its operation (as specified in the operating manual) and has demonstrated a knowledge and ability to perform the test procedure in accordance with the testing standard.

This document does not purport to address all of any safety concerns associated with the machine use. It is the responsibility of the purchaser to establish appropriate safety and health practices and to determine and understand any relevant regulatory limitations prior to use.

RELATED USER DOCUMENTATION

The ACCU-TEK TOUCH series of compression machines are specifically designed to determine the strength of concrete, mortars mixes, and masonry products in accordance to the following ASTM standards:

ASTM C39 and AASTHO T22: “Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens”.

ASTM C78, C293, AASTHO T97: “Standard Test Method for Flexural Strength of Concrete”

ASTM C109: “Standard Test Method for Compressive Strength of Hydraulic Cement Mortars”

ASTM C-140: “Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units”.

Note. The above standards reference related standards that need to be reviewed for compliance.

The ACCU-TEK TOUCH machines are differentiated by the maximum capacity of the machines to suit required sample size/s and designed strength characteristics of the samples to be tested.

The range and type of samples the ACCU-TEK TOUCH series of machines are designed to test are detailed in the relevant operating manuals. ELE International accepts no liability or responsibility for testing materials or non-standard test routines not included in the above standards or the machine operating manual.

These operating instructions do not contain all the necessary information on the specific test procedures. Please refer to ASTM C39, E4 or AASHTO T-22 for further information.

Installation

⚠ WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

⚠ AVERTISSEMENT

Dangers multiples. Seul le personnel qualifié doit effectuer les tâches détaillées dans cette section du document.

Installation guidelines

Carefully remove the shipping container and check that all ordered items (such as lower platen, upper platen assembly, and printer) are intact.

Install the instrument indoors on a stable, level surface that is free of vibration.

Position the instrument near an appropriate power source. Allow sufficient room to access the back of the frame assembly for cleaning specimen breakage and for maintenance purposes.

Remove any remaining packing braces and shipping materials.

Mechanical installation

Lift the instrument

NOTICE

Do not use the pump assembly as a base to lift the instrument as damage can result. Lift the instrument by the frame assembly.

AVIS

Ne soulevez pas par l'ensemble de pompe parce que vous endommagerez la machine. Soulevez la machine par le cadre.

Unbolt frame assembly from skid. When moving the unit, use the frame assembly, not the pump assembly, as a base for lifting, for example with forklifts or similar devices.

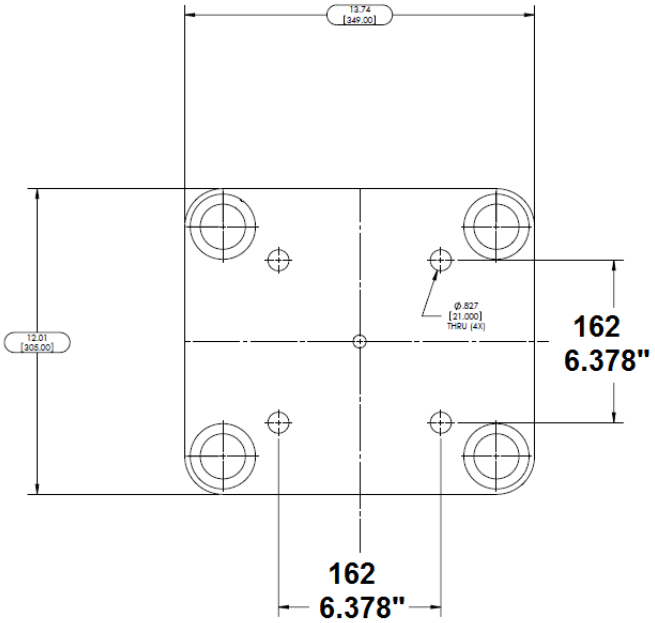
1. Remove the four bolts that attach the frame assembly to the skid.

2. Lift the instrument by the frame assembly either using a suitably rated sling under the top plate and lift with a hoist or forklift. Otherwise a forklift can be used to lift the unit directly if the forks can be moved together sufficiently.

Floor mounting

User-supplied hardware:
• 20 mm M20 x 100 mm bolts, mild steel (4x)

1. Put the instrument on the floor at the installation location.
2. Use the holes in the lower frame plate to put marks on the floor.
3. Move the instrument away from the installation location.
4. Use a drill to put holes in the floor where the marks are located.
5. Install the floor anchors in the holes.
6. Put the instrument on the floor at the installation location again. Make sure that the holes in the lower frame plate align with the holes in the floor.
7. Install bolts in the holes in the lower frame plate.
8. Remove any remaining packing braces and shipping materials.



Bottom Weldment Assembly

⚠ WARNING

Installing the lower platen requires two people.

⚠ AVERTISSEMENT

Il est nécessaire pour deux personnes d'installer les platens

Check that the lower platen is positioned correctly. If lower platen is shipped separately, place it on the compression tester frame so that the locating pins are inserted properly.
Normally, the instrument is shipped with the upper platen assembly installed. If it is not installed, use the following procedure for installation.

1. Locate the groove on the piston. Position the upper platen so that the set screw is aligned in the groove.
2. Use a 3/16" Allen wrench to tighten the set screw. Turn clockwise to move the set screw in.
3. Once installed, check that the upper platen is secured by tightening the set screw.

Frame stand mounting

Attach the optional frame stand to the floor. Refer to the installation instructions supplied with the frame stand.

1. Put the instrument on the frame stand. Make sure that the holes in the lower frame plate align with the holes in the frame stand.
2. Install the supplied bolts in the holes in the lower frame plate.
3. Remove any remaining packing braces and shipping materials.

Operating the Hydraulic System

Hydraulic Pump

The hydraulic pump consists of a 1hp AC motor that drives a piston pump at high pressure and is charged by a gerotor low pressure pump.

NOTICE

The hydraulic system will not start if the door of the compresison machine frame is not closed

AVIS

Le système hydraulique ne commencera pas si la porte de la machine est ouvert.

1 1hp AC motor	4 Toggle Switch (O/I)
2 Load rate valve	5 Breather plug
3 External relief valve	

Power - The green toggle switch (O/I) on the junction box, which is located on the side of the reservoir/motor, is used to switch power to the hydraulic pump.

Load Rate Valve

⚠ WARNING	
	**Burn hazard. Valve body may be hot do not touch.**

⚠ AVERTISSEMENT	
	**Risque de brûlure! Ne touchez pas le corps de soupape parce qu'il peut être chaud.**

Control Handle - This control has four positions.

Retract - When the handle is in this position, with the pump motor running, the loading ram retracts. By stopping the motor, speed of retraction may be increased.

Hold - When the handle is in this position, the load applied by the ram is held unchanged.

Metered Advanced - When the handle is in this position, with the pump motor running, the ram slowly advances at a rate or speed which depends upon the Metering Valve setting. Use this position when the specimen is being loaded.

Full Advanced - When the handle is in this position, with the pump motor running, the ram advances very quickly. Use this position to close the gap quickly between the platen and specimen. The Full Advanced stops when you set the handle to Metered Advanced and the platen advances at the rate set by the metering valve knob.

Metering valve - Turn this knob to increase (counter clockwise) or decrease (clockwise) the loading rate. During the test, the pace deviation display on the control panel should be held close to 0% by carefully turning this knob in the proper direction. Turning this knob counter clockwise produces positive deviation; turning it clockwise produces negative deviation or slows the rate of loading.

User interface and navigation

Display description

All test functions of the display are accessed via the LCD touch screen. For full details refer to the Operating Instructions for the ADR Touch Digital Readout Unit 9901X0262.

To use the touch screen, tap the screen with a finger, pencil eraser or stylus. Do not use sharp objects to select options.
Refer to Table 1 for descriptions of the Home screen icons. Refer to Table 2 for descriptions of the other icons. Refer to Table 3 for descriptions of the keyboard icons.

Table 1 Home screen icons

Icon	Description	Icon	Description
	Shows the Test Setup screen.		Shows the Configuration menu.
	Selects the sample type and sample size.		Shows the Calibration screen. Password protected. (Service use only)
	Shows the saved test results.		

Table 2 Other icons

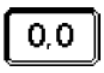
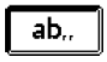
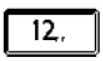
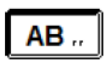
Icon	Description	Icon	Description
	Changes the selected value.		Sends the current test results to the attached printer.
	Backspace		Shows the pace graph.
	Confirm, enter or select		Makes a USB connection between the internal memory and the attached computer.
	Adds the sample as a favorite.		Lets the sample weight be entered.
	Removes the sample as a favorite.		Sets the load to zero.
	Increases the value.		Stops changes to the screen during a test so the values shown can be recorded. ***Note:*** *The controller gives an audible warning to identify that the load shown on the screen is not the current load.*
	Decreases the value.		Lets the screen change during a test to show the current load.

Table 3 Keyboard icons

Icon	Description	Icon	Description
	Backspace		Changes the keyboard to lower case letters.
	Changes the keyboard to numbers and symbols.		Changes the keyboard to upper case letters.

Navigation

Refer to Table 4 for descriptions of the navigation icons.

Table 4 Navigation icons

Icon	Description	Icon	Description
	Goes to the Home screen.		Scrolls down
	Scrolls up		Goes to the previous screen.

Startup

Connect the power cord

1. Connect the supplied power cord to the power connector.
2. Connect the power cord to a mains electrical outlet with protective earth ground.

Connect a printer (optional)

To send test results to a printer, connect a printer to the RS232 connector.

Turn on the controller

Set the power switch for the controller to on.

Select the language, date and time

1. Push  .
2. Push **General Settings**.
3. Push **Set Date and Time**.
4. Select the 12 or 24 hour checkbox to select the clock format.
5. If a 12-hour clock is selected, select the AM or PM checkbox.
6. Push  or to set the date and time.
7. Push  .
8. Push **Set Language**.
9. Select the language.

   Note: *The English language has the option of UK or US which set the date format to DD/MM/YYYY (UK) or MM/DD/YYYY (US).*
10. Push  .

Adjust the display

1. Push .
2. Push **User-defined Settings**.
3. Push **Adjust Display**.
4. To hear a beep each time a button on the touch screen is pushed, select the Key Click checkbox.
5. Push − or + to adjust the brightness.
6. Push − or + to adjust the contrast.
7. Push .

Performing a Compression Test

DANGER
Operator must use eye protection from potential flying debris.
DANGER
L'opérateur doit porter des lunettes de protection en cas de projection de débris.

The procedure for normal operation is described in this section. Normal operation consists of: (1) entering initial operating parameters, (2) compressing specimen to gather data, and (3) either displaying data, printing it on the optional printer, or downloading to a computer.

For storing data in the non-volatile internal memory and transferring it to an external computer, please refer to the Operating Instructions for the 37-4856 ADR Touch Readout Unit.

When the ADR Touch is turned on, the system performs a firmware self-check – this takes several seconds. If the ADR Touch has never been calibrated a message will appear to tell the user that there "is no configuration data saved". Please ensure that the machine is calibrated before use.

* Please refer to the Operating Instructions for the 37-4856 ADR Touch Readout Unit for further details and preliminary setup procedures.

Compress the specimen

⚠ CAUTION	
	Crush hazard. Keep hands away from moving parts.

⚠ ATTENTION	
	Risque d'écrasement. Gardez les mains éloignées des pièces mobiles.

With the control handle on RETRACT position; turn the metering valve knob fully clockwise. Turn the hydraulic pump on by pushing the toggle switch to the ON (O) position.

Check that there is approximately 1/4" (6.35 mm) clearance between the upper platen and the concrete specimen before starting compression. Turn the control handle to FULL ADVANCE position, watching until the upper platen is within 1/8" (3 mm) of the specimen. Turn the control handle to METERED ADVANCE and press the Zero icon to tare any residual load. When the load passes the pacing threshold, the pace bar at the bottom of the screen becomes active. The Pace Error Bar display shows the difference between the required rate and the rate achieved by the operator. The default range of the error bar is normally ±5% of the set rate. The pace rate can be changed at any time by pressing the Magnifier icon on the Test screen.

NOTE: If loading the first half (first 50%) of loading phase at high rate (FULL ADVANCE mode) as allowed by ASTM C-39, **be sure to press ZERO icon to zero the reading while in the METERED ADVANCE mode before rapid loading.**

Adjust the METERING VALVE counter-clockwise to keep the moving bar on the pace deviation rate meter near the center of the scale. The bar is allowed to fluctuate within the ±20% scale to meet ASTM. If the bar goes off scale, adjust the METERING VALVE to compensate.

Load the specimen at the controlled rate until the specimen breaks. While the sample is being loaded, the ADR Touch continually compares the current load on the sample with the peak load seen by the sample. When the current load is below the peak load by the percentage set when setting up the ADR Touch (the default setting is 15%), the ADR senses this as a failure. The initial screen at this point just displays the peak load and stress.

When breakage occurs, turn the control handle to RETRACT. The upper platen will retract. If the control handle is not turned to RETRACT, the upper platen will continue to move down.

DANGER	
	**Multiple Hazards. Do not open the safety gate unless the control handle has been turned to RETRACT. Failure to do this may result in**

DANGER	
	**Dangers multiples. N'ouvre pas la porte à moins que la poignée de commande soit positionnée au niveau de RETRACT. Le non-**

To prepare the ADR for the next sample, press the  icon to return to the Test Screen. Otherwise the test result could be examined further by touching the magnifier icon  , where the screen will then switch to show the sample failure detail.

Please refer to the Operating Instructions for the 37-4856 ADR Touch Readout Unit for printing and displaying stress results.

After each test, remove the broken specimen and clean out any breakage.

To start another test with the same size specimen, position specimen, press the Home Screen icon
 to return to the home screen and return to Step D. For a different size or type of specimen, return
to Step C.

NOTE: The pump is designed to operate intermittently at high pressures. Turn off the motor after the specimen fails. For continuous service, as on production work, the pressure should not exceed 6,000 psi (41,368 kPa). This limitation is for motor protection only.

When all testing is completed, turn off power to the hydraulic pump, and depress the rocker switch on the back of the ADR Touch Readout Unit to turn off the system.

General Maintenance

⚠DANGER

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

NOTICE

Do not disassemble the instrument for maintenance. If the internal components must be cleaned or repaired, contact the manufacturer.

⚠DANGER

Dangers multiples. Seul le personnel qualifié doit effectuer les tâches détaillées dans cette section du document.

AVIS

Ne pas démonter l'instrument pour le réparer. Si un composant interne a besoin d'être nettoyé ou changé, merci de contacter le fabriquant

Clean the ADR Touch Controller

Clean the exterior of the instrument with a moist cloth and a mild soap solution.

Replace the controller fuse

⚠DANGER

Fire hazard. Use the same type and current rating to replace fuses.

⚠DANGER

Risque d'incendie. Remplacez les fusibles par des fusibles de même type et de même calibre.

Fuse failure is typically caused by an instrument problem. If the fuse continues to fail, contact Customer Service.

A spare fuse is supplied in the fuse drawer. Refer to Specifications for fuse requirements.

1. Set the power switch for the controller to off.
2. Remove the power cord for the controller from the electrical outlet.
3. Use a flat-blade screwdriver to open the fuse drawer.
4. Remove the fuse drawer and replace the fuse.
5. Install the fuse drawer.

Maintenance for the Compression Tester

Clean up specimen breakage after each test. Remove any breakage which may have fallen under the lower bearing block.

⚠ WARNING	
	**Burn hazard. Do not remove hydraulic oil when hot.**

⚠ AVERTISSEMENT	
	**Risque de brûlure. Débranchez l'appareil et laissez-le refroidir avant d'effectuer cette procédure.**

Keep level of oil in reservoir between ½" to 1" (12.7 to 25.4 mm) below the top of the filling opening (2 gal. capacity) when the cylinder is fully retracted.

Drain, clean and replenish the reservoir with high grade hydraulic oil (ELE Part No. 9806-0016) yearly or more often if necessary. The frequency of oil change will depend upon the general working conditions, severity of use and overall cleanliness and care given the pump.

Suggested method of removing hydraulic oil could be using a drill-powered pump with flexible tubing that will not require priming of the pump. Discard used oil in accordance to all applicable laws.

Oil the spherical ball on the upper platen once a week with "Oak Protect 408".

Troubleshooting

Common problems

Problem	Possible cause	Solution
The controller does not turn on.	Power is not supplied to the controller.	Connect the power cord to the connector and to an electrical outlet.
	The thermal fuse has tripped.	Turn the unit back on.
The pump motor will not start.	Power is not supplied to the main junction box.	Connect power cord to an electrical outlet.
	The door is open.	Make the valve is in the retract position and close the door.