

Operating Instructions Leland Legacy



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Form #40075 Rev 0412

Leland Legacy Quick Guide

Terms »

Star button *

- Scrolls through run time data and Setup options

Up and down arrow buttons ▲ ▼

- Toggle between display choices and increase or decrease sampling parameters in Setup

Button sequence

▼ * = press buttons individually

[▲▼] = press simultaneously

▲▼ = security code, always press in sequence

Security code *▲▼*

- Prevents unauthorized changes to the pump's sampling program.

Programming Sequences »

- **To activate pump (e.g., to change pump from Sleep to Hold):**

Press any button.

- **To change pump from Hold to Run or Run to Hold:**

Press [▲▼].

- **To reset accumulated data:**

Press [▲▼] then *▲▼*. Press * until *CLr* displays then press [▲▼]; press * until *End* displays then press [▲▼].

- **To set pump flow rate:**

Press [▲▼], then *▲▼*. Flow rate and SET flash. Press ▲ or ▼ to change flow rate. Press * until *End* appears then press [▲▼] to save setting and place pump in Hold.

- **To calibrate flow rate with standard calibrator:**

Press [▲▼], then *▲▼*. Flow rate and SET flash. Press ▲ or ▼ to change flow rate. Press * once. *ADJ* displays. Press ▲ or ▼ until desired flow rate is indicated on calibrator. When finished, press * until *End* displays, then press [▲▼] to save new setting and place pump in Hold. *For CalChk Calibration, see operating instructions.*

- **To change temperature scale from F to C or C to F:**

Press [▲▼] then *▲▼*. Press * until temperature displays. Press ▲ or ▼ to switch units; press * until *End* displays then press [▲▼] to save new setting.

- **To change atmospheric pressure scale (mm, mb, In):**

Press [▲▼] then *▲▼*. Press * until pressure displays then press ▲ or ▼ to switch units; press * until *End* displays then press [▲▼] to save new setting.

- **To change time scale (12 Hr/24 Hr/Dela):**

Press [▲▼] then *▲▼*. Press * until 12 Hr, 24 Hr, or Dela displays then press ▲ or ▼ to switch units; press * until *End* displays then press [▲▼] to save new setting. *To set delayed start (Dela), see operating instructions.*

- **To change clock:**

Press [▲▼] then *▲▼*. Press * until clock displays then press ▲ or ▼ to change flashing hour; press * to move to minutes and ▲ or ▼ to change setting. Press * until *End* displays then press [▲▼] to save new setting.

- **To change the sampling time function:**

Press [▲▼] then *▲▼*. Press * until *ST L/min* displays then press ▲ to change flashing digit; press * until *End* displays then press [▲▼] to save new setting. To delete, follow above steps and press ▼ until 0 appears. Exit Setup.

Note: When in Setup, choosing Esc instead of End will exit Setup without saving new settings.

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Indicates a reminder or note.



Indicates a warning or caution.

Notice: This operating instruction may not address all safety concerns (if any) associated with this product and its use. The user is responsible for determining and following the appropriate safety and health practices and regulatory limitations (if any) before using the product. The information contained in this document should not be construed as legal advice, opinion, or as a final authority on legal or regulatory procedures.

Description

The Leland Legacy dual diaphragm sample pump is designed specifically to provide constant airflows from 5 to 15 L/min with minimum power requirements and low noise. Diaphragm and valve design minimizes power requirements and reduces noise. Incoming and outgoing airflow is pulsation dampened. The lightweight Leland Legacy is housed in a thermoplastic material for strength and features an over-molding of soft rubber that protects against damage and reduces noise. Powered by a rechargeable battery pack containing 10 Li-Ion cells, the Leland Legacy provides 24-hour run times for 10 L/min at 12 inches water back pressure. The pump's patented internal flow sensor measures flow directly and acts as a secondary standard, constantly maintaining the set flow rate. Built-in sensors automatically correct flow for variations in temperature and atmospheric pressure. Advanced programming features are available when used with a PC and DataTrac Software.



Performance Profile

Flow

Flow Range:	5 to 15 L/min
Flow Control System:	Closed loop with patented* internal flow sensor
Compensation Range:	15 L/min at 5 inches water back pressure 10 L/min at 12 inches water back pressure 5 L/min at 20 inches water back pressure
Accuracy:	± 3% of set-point after calibration to desired flow
Flow Fault:	If flow drops by more than 5%, pump stops and holds historical data. Auto-restart up to 10 times.

Operation

Display:	LCD, displays pump serial number, pump software revision level, flow rate, volume, temperature, atmospheric pressure, time of day, run time, and pump status, i.e., hold and run as well as Setup information.
Time Display:	Time of day in hours and minutes (12- or 24-hour clock) with AM and PM indicators
Timer Display Range:	1 to 99999 minutes (69 days). If the run time exceeds 69 days, the timer display rolls over.
Timing Accuracy:	1 min/month @ 25 C
Atmospheric Pressure Accuracy:	± 0.3 inches Hg
Operating Temp. Range:	32 to 113 F (0 to 45 C)
Typical Run Time†:	Sioutas Impactor (13 in water bp): 24 hrs at 9 L/min PEM with 37-mm, 2.0 µm PTFE filter: 24 hrs at 10 L/min Low Volume PUF Tube: 24 hrs at 5 L/min
Noise Level:	64.1 dBA - pump without case 55.7 dBA - pump housed in noise-reducing case (optional accessory Cat. No. 224-89, see p. 20) Measured 3 ft (1m) distance from pump operating at 10 L/min and 12 inches water back pressure
User-adjustable Values:	Sample run time, calibration, clock display, flow rate, time of day, delayed start, and temperature and atmospheric pressure display
Recorded Values:	Start date and time, stop date and time, total sample time, flow rate, sample volume, temperature, atmospheric pressure, and pump mode transitions
Adjustable Logging:	Records pump history from 3 seconds (15.4 min. of data)
Interval:	up to 8 hours (over 102 days of data) depending on setting. <i>Option available when using DataTrac Software.</i>

Performance Profile

Power

Power Supply:	Removable, rechargeable lithium-ion (Li-Ion) battery pack, 7.2 V x 10 Ah Charger/AC adapter: input voltage 100 to 240 V AC
Battery Recharge Time:	15 hours
Charging Temp. Range:	32 to 113 F (0 to 45 C)
Storage Temp. Range:	-4 to 113 F (-20 to 45 C)

Physical

Size:	8 x 3.9 x 2.6 inches (14.2 x 7.6 x 5.8 cm)
Weight:	37 oz (1 kg)
Case:	Thermoplastic with soft rubber over-molding

Approvals

CE marked, UL and cUL (pending),
ATEX (pending)

* Patent No. 5,892,160

† Results when tested with a new pump and new fully charged battery. Pump performance may vary.



Intrinsic safety and other approvals are void if SKC pumps are not repaired by SKC or authorized SKC repair centers. Use only SKC-approved parts to ensure reliable performance and intrinsic safety and to maintain the SKC warranty.

Pump Setup

Keypad Basics

- * Scrolls through run time data and Setup options.
- ▲ Increases values such as flow rate.
- ▼ Decreases values such as flow rate.
- [▲▼] When pressed simultaneously, displayed item is selected or entered.
- *▲▼* Security code that must be pressed in sequence to enter Setup.



Turning the Pump On/Off

- Press any button to turn on the power.
- Press [▲▼] to run the pump or to place a running pump in Hold.
- Manual Off: from Hold, press and hold *.
- Auto Off turns off the pump after 5 minutes in Hold.

Entering and Navigating Setup

Entering: Press [▲▼], then press the security code in sequence *▲▼*. Setup should appear briefly on the LCD.

Navigating: Press * to scroll through parameters. Once the LCD shows End, parameters will repeat until the user exits Setup.

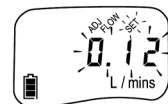
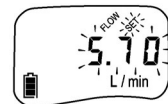
Exiting: Press * until End appears on the LCD. Press [▲▼]. The pump is now in Hold.



Setup Options

After entering Setup, go to:

1. **Flow Set:** Press ▲ or ▼ to increase or decrease pump flow rate. Pump will start running. Press * to move to next parameter.
2. **ADJ:** Used during calibration with primary standard calibrator (*not for use with CalChek feature*). Press ▲ or ▼ to increase or decrease flow adjustment until desired flow is indicated on calibrator. Press * until End appears. Press [▲▼] to save new flow and adjustment settings and exit Setup.





If changing other parameters, continue pressing * after End appears and the remainder of the menu items will appear. Once all changes are entered, press * until End appears, then press [▲▼] to save new settings and exit Setup. Pressing [▲▼] when Esc appears will exit Setup without saving new settings.

3. **CALCh:** Use for CalChek calibration feature only. Pressing [▲▼] initiates single-point calibration. Pressing ▲ seven times initiates a full calibration. See *CalChek Calibration instructions on pp. 9 to 14.*



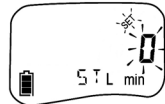
4. **12 Hr/24 Hr Clock and Delayed Start (factory default is 12 Hr clock):** Press ▲ or ▼ to move between standard (12 hour), military (24 hour), and Dela (delayed start). Press * to select. *If Dela (delayed start) is selected, follow instructions on p. 7.*



5. **Time of day:** Press ▲ or ▼ to increase or decrease flashing hour. Press * to move from hours to minutes. Press ▲ or ▼ to increase or decrease flashing minutes. Press * to move to next parameter.



6. **ST (Sampling Time):** Allows the user to program a specific run time. Press ▲ or ▼ to increase or decrease the time in minutes (up to 99999 minutes). Press * to move to next parameter. *See pp. 6 and 16 for Setting and Deleting a Sampling Time.*



7. **Temperature (factory default is Celsius):** Press ▲ or ▼ to toggle between Fahrenheit (F) and Celsius (C). Press * to move to next parameter.



8. **Atmospheric Pressure (factory default is mm):** Press ▲ or ▼ to toggle between inches of mercury (In), millibars (mb), and millimeters of mercury (mm). Press * to move to next parameter.



9. **CLr:** Press [▲▼] to clear accumulated run time and volume data to zero (*see Resetting Run Time Data on p. 6*).



Pump Setup

10. **ESC:** Press [▲▼] to exit Setup without saving new settings.



11. **End:** Press [▲▼] to save new settings and exit Setup.



PrOFF: Appears only when a program is loaded into pump memory. See *DataTrac Software Operating Instructions (Form #40085)* for setting a program. See p. 16 for *Deleting a DataTrac Program* or *Delayed Start*.

Resetting Run Time Data

To reset accumulated volume and run time data to zero:

1. Press [▲▼], then press the security code in sequence *▲▼*. Setup will display briefly.
2. Press * until Clr appears, then press [▲▼].
3. Press * until End appears, then press [▲▼] to exit Setup. The pump is now in Hold.



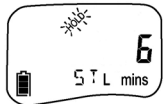
Clr does not clear previously set sampling time (ST). See *Deleting a Sampling Time* on p. 16.

Setting a Sampling Time (ST)

Program the Leland Legacy from the integral keypad or a PC using DataTrac software to sample from 1 to 99999 minutes.



1. Press [▲▼], then press the security code in sequence *▲▼*. Setup will display briefly.
2. Repeatedly press * until ST L/min and a flashing time and Set appear on the display.
3. Set the sampling time by pressing ▲ or ▼ to increase or decrease it to the desired time in minutes.
4. Press * repeatedly until End appears.
5. Press [▲▼] to save the new sampling time and exit Setup.
6. Press [▲▼] to begin sampling. The time display will count down in seconds and the pump will go to Hold. The total sampling time will display.
7. To delete a set sampling time, see *Deleting a Sampling Time* on p. 16.

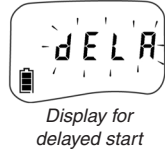


Setting a DataTrac Program

See *DataTrac for Leland Legacy Software Operating Instructions (included on software CD)*.

Setting a Delayed Start

A delayed start can be programmed using the pump keypad or from a PC using DataTrac Software. The following instructions are for keypad only. *See DataTrac Operating Instructions (included on software CD) for programming from a PC.*



When setting the pump for sampling from 1 to 99999 minutes to begin within the next 12-hour period, follow this procedure:

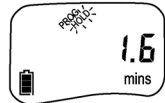


1. Press [▲▼], then press the security code in sequence *▲▼*. Setup will display briefly.
2. Press * until the display reaches the 12 Hr/24 Hr clock. If delayed start is already programmed, the display will show Dela (delayed start) in place of 12 Hr. If no delay is programmed, press ▲ or ▼ until the display shows a flashing Dela (delayed start).
3. Press * until the time of day (flashing hours) displays. Select the hour (time of day) that the pump is to begin sampling (within the next 12 hours) by pressing ▲ or ▼ until the desired hour displays. Press * and the minutes will flash. Press ▲ or ▼ until the desired minutes display.



The time of day entered will be the next occurrence of this time within the next 12-hr period after the delayed start is entered. There is no a.m. or p.m. designation.

4. Press * until the ST displays. Press ▲ or ▼ to set the desired run time in minutes. **A delayed start cannot be run unless a sampling time (ST) is programmed.**
5. Press * until End appears.
6. Press [▲▼] to save settings and exit Setup.
7. Prog and a flashing Hold will appear in the upper left corner of the display. The pump is now set for delayed start.



Once a program is set in the pump, the pump cannot be run manually. To return to manual pump operation, let the program run its course or delete the program (*see Deleting a DataTrac Program or Delayed Start on p. 16*).

Calibration

Resetting Run Time Data



1. Press [▲▼], then press the security code in sequence *▲▼*. Setup will display briefly.
2. Press * until Clr appears, then press [▲▼].
3. Press * until End appears, then press [▲▼] to exit Setup. The accumulated data is cleared and the pump is now in Hold.



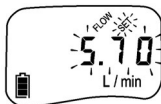
Clr does not clear previously set sampling time (ST). See Deleting a Sampling Time (ST) on p. 16.

Setting Pump Flow Rate

1. Press [▲▼], then press the security code in sequence *▲▼*.
2. The flow rate and Set will flash on the LCD. Press ▲ to increase flow rate. Press ▼ to decrease flow rate. The pump will run while flow is set.
3. Once the desired flow rate is displayed, press * until End appears on the display. The pump will stop running.
4. Press [▲▼] to save the new flow rate and exit Setup.

Verifying Flow Rate Using a Primary Standard Calibrator

1. Connect the pump inlet to a calibrator with representative media in-line (see photo below).
2. Press [▲▼], then press the security code in sequence *▲▼*. The flow rate and Set will flash.



3. Set the flow on the pump display by pressing ▲ or ▼ to increase or decrease flow to the desired rate.

4. Press *. Adj will appear.

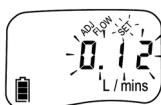
5. If the calibrator reads a higher flow rate than the pump is set for, press ▼

until they are in agreement (within 10 ml). If the calibrator reads a lower flow rate, press ▲

until they agree (within 10 ml). When pressing ▲ or ▼, the pump display will indicate the adjustment (or

correction) made in L/min.

6. Press * until End appears.



Calibration train with sample medium in-line

7. Press [▲▼] to save new flow rate and Adj and exit Setup. Reset run time data (see p. 6).



If the pump has been programmed with DataTrac Software and switched to manual operation, a program may remain in pump memory. Prog will display in the upper left corner of the pump display. See p. 16 for *Deleting a DataTrac Program or Delayed Start*.

Verifying Flow Rate Using CalChek Automatic Calibration Feature

The CalChek automatic calibration feature is available when calibrating a Leland Legacy with DC-Lite Calibrator model 717-03. A CalChek Communicator Smart Adapter is required for communication between the pump and the calibrator. Optional DataTrac Software can be used to expand the documentation capabilities of this system. The CalChek feature provides two calibration options: single-point calibration allows you to set and verify flow at a single point before and after sampling; full (multiple-point) calibration calibrates the flow to a primary standard at multiple flow rates. Both bring the flow to within 5%.



Calibration train with CalChek



To achieve optimum accuracy, do not attempt single-point or full calibration until pump has remained at ambient temperature for several hours.

Single-point Calibration Using CalChek

The CalChek feature provides correction at a single flow setting and usually takes less than one minute to complete. Use it to set the desired flow rate before sampling and to verify flow after sampling.



The CalChek Communicator adapter contains a 25-pin D-type connector. Do not plug it into an RS232 serial computer port.

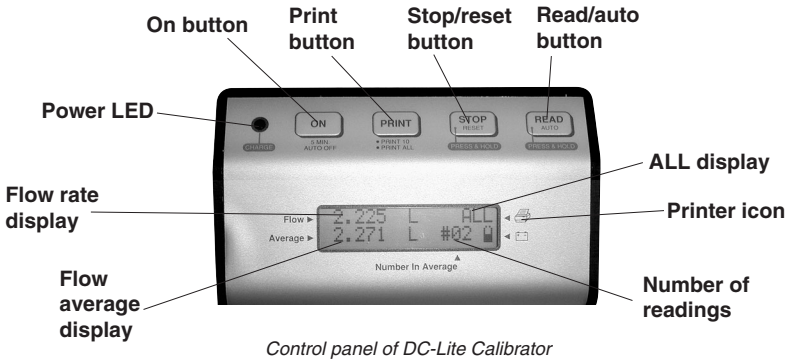


Remember to calibrate with representative sampling media in-line.

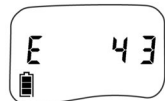
1. Run the Leland Legacy for a minimum of two minutes before starting the calibration procedure. Leave pump on.
2. Using tubing, connect the outlet of the representative sampling medium to the inlet of the pump.
3. Connect the outlet of the calibrator to the inlet of the sample medium.

Calibration

4. Connect the 25-pin plug on the CalChek Communicator Smart Adapter to the data port on the back of the calibrator and the connector on the flying lead to the pump data port on top of the pump.
5. Press [▲▼], then press the security code *▲▼* in sequence. Setup will display briefly.
6. Set the pump to the desired flow rate.
7. Press * on the pump keypad until Cal appears on the pump display.
8. Turn on the calibrator. Press the Print button on the calibrator until ALL appears next to the printer icon on the calibrator display. Hold down the Read button on the calibrator until the calibrator cycles continuously.



9. Press [▲▼] on the pump keypad to initiate single-point calibration.
10. 1Cal will appear on the pump display. During calibration, the pump will *briefly* display the flow rates that it is reading from the calibrator.
11. When calibration is complete, the pump display will either show End indicating that the calibration was successful, or it will show an error code of E4[x] (see *CalChek Error Chart*, p. 14).
12. Press [▲▼] to place the pump in Hold. Disconnect the pump from the representative sampling medium and the calibrator. Place a fresh sample medium in-line. Sample when ready.



Successful single-point calibration will provide an entry in the pump history that can be viewed using DataTrac Software.



To reset the DC-Lite Calibrator, press and hold the stop/reset button.

Full (Multiple-point) Calibration Using CalChek

This type of calibration provides flow correction across the whole operating range of Leland Legacy flow rates (5 to 15 L/min) in approximately four minutes. The operation calibrates each flow to a primary standard. It can also provide a record of calibration for maintenance and quality purposes if optional DataTrac Software is used. It is recommended that you only perform a full calibration during routine maintenance times or if there is an apparent need for it.



The CalChek Communicator adapter contains a 25-pin D-type connector. Do not plug it into an RS232 serial computer port.

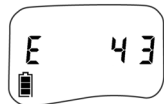


Do NOT place sampling media in-line for full calibration.



Ensure battery pack is fully charged (see Charging the Battery on p. 17).

1. Run the Leland Legacy for a minimum of two minutes before starting the calibration procedure. Leave pump on.
2. Connect the calibrator outlet to the pump inlet with the tubing supplied with the calibrator. **Do NOT place sampling medium in-line.**
3. Connect the 25-pin plug on the CalChek Communicator Smart Adapter to the data port on the back of the calibrator and the connector on the flying lead to the pump data port on top of the pump.
4. Press [▲▼], then press the security code *▲▼* in sequence.
5. Press * on the pump keypad until Cal appears on the pump display.
6. Turn on the calibrator. Press the Print button on the calibrator until ALL appears on the display next to the printer icon on the calibrator. Hold down the Read button on the calibrator until the calibrator cycles.
7. Verify that the battery icon on the pump display shows at least two bars. If it does not, charge the battery before proceeding (see p. 17).
8. Press ▲ on the pump keypad seven times to indicate to the pump and the calibrator that you want a full calibration.



Calibration

9. The pump will display Fcal, Cs1, and a brief flow rate. The pump will continue to display Cs2, then a flow rate, Cs3, then a flow rate . . . until calibration is completed at all flow rates between 5 and 15 L/min. Cal will display during Calibration Check (CCAL) and will count down to 1.
10. When calibration is completed, the Leland Legacy will go to Hold. If the full calibration is successful, the pump LCD will revert to displaying the pump run time as 0.0. If there was failure during the calibration process, an error code of E4[x] will appear (*see CalChek Error Chart, p. 14*).



CalChek Full Calibration can be aborted by pressing [▲▼].

CalChek Full Calibration Data

Requires DataTrac Software

Full calibration completely clears pump history, run time parameters, and the DataTrac Scheduler. Full calibration data can be viewed and printed by going to the DataTrac Pump Manager window in DataTrac Software and clicking on the View menu. Choose Calibration Info. This will display calibration results, pump serial number, and date of the last full calibration. A button allows this data to be printed. The printed report contains pump version, date printed, and a validation code to perform data verification.

CalChek Full Calibration Data Verification

Requires DataTrac Software

To ensure that printed calibration data has not been tampered with, pull down the Tools menu in the Calibration Info window and choose Confirm Validation Code. Enter the data from the printed report, including the validation code. DataTrac Software will indicate whether the information is completely valid or if a parameter has been changed.



When entering data to confirm the validation number, enter the date in the following format: mmm, dd, yyyy (e.g., Aug 18 2003).

Checking CalChek Communicator Battery Status

After two or three movements of the calibrator piston, the LED on the CalChek Communicator adapter should light. Observe the LED for an indication of battery status.

LED

Blinks with each calibrator piston movement

Blinks rapidly for five seconds after the first calibrator piston movement, then proceeds with calibrations

Blinks rapidly, won't proceed with calibration, and switches off.

Battery

Battery fully charged

Replace battery as soon as possible

Replace battery immediately

The CalChek Communicator adapter shuts off within two seconds after the DC-Lite Calibrator switches off.



The CalChek Communicator adapter contains a 25-pin D-type connector. Do not plug it into an RS232 serial computer port.



Disconnect the CalChek Communicator Adapter from the DC-Lite Calibrator after calibration is completed. Maintaining the connection can drain the CalChek Communicator adapter battery.

CalChek Error Chart

Single-point Calibration Errors

Error	Problem	Troubleshooting
E41	Correction required too large. A gross mismatch between the flow setting on the pump and the reading generated by the DC-Lite Calibrator has occurred.	Perform a full calibration. If this fails call SKC Technical Support at 800-752-8472.
E48	Could not get a successful single point calibration within five flow readings.	Try the calibration again. If problem persists, perform a full calibration.

Full (Multiple-point) Calibration Errors

Error	Problem	Troubleshooting
E44	First flow reading greater than 5 L/min. The pump is flowing faster than it should, even though the calibration routine delivered only a very small voltage to the pump.	Check tubing between pump's upper pressure sensor and the top valve assembly diaphragm to make sure that it is not pinched or blocked, or call SKC Technical Support at 800-752-8472.
E45	Pump unable to achieve flow rate of 15 L/min possibly due to a blocked flow tube or an air leak inside the pump.	Check pump's flow tube to ensure that it is not blocked, or call SKC Technical Support at 800-752-8472.
E46 or E49	Analysis error in the data (rare).	Try full calibration again. If problem persists, call SKC Technical Support at 800-752-8472.
E47	Less than two bars appear in the battery icon on the pump display indicating that the battery is too low. There must be at least two bars to begin a full calibration.	Recharge the battery.
—	At conclusion of full calibration, pump does not verify to within 5%.	<p>Pump not at ambient conditions for at least 2 hours. Retry calibration after pump has been at ambient conditions for 2 hours.</p> <p>Pump not running for 2 minutes prior to calibration. Run pump for two minutes and retry calibration.</p>

Errors That Can Occur During Both Calibration Modes

Error	Problem	Troubleshooting
E42	Unstable average. There is too much variation in the flow readings.	Try the calibration again. If problem persists, contact SKC Technical Support at 800-752-8472.
E43	Serial time out. The calibrator is not communicating with the pump.	<ul style="list-style-type: none">• Check adapter connection. If loose or disconnected, connect properly.• Check the battery in the adapter. If near expiration or expired, replace it.• Check that ALL is displayed beside the printer icon on the calibrator. If not, press the print button until ALL is displayed.

1. Following setup (p. 4) and calibration (p. 8), replace representative sampling medium with a new unexposed sampling medium.
2. To begin sampling, press [▲▼] to run the pump. Record the start time.
3. Sample for the time specified in the method used.
4. To stop sampling, press [▲▼] to place the pump in Hold. Record the stop time.
5. When sampling is complete, pump data is retained in memory for recovery. Data can be viewed on the LCD by using the * button to scroll through it.



When using impingers, place an in-line trap between the pump and the impinger to protect the pump from harmful liquids or vapors. Failure to use the impinger trap voids the pump warranty.



If the pump has been programmed with a PC, Prog will display in the upper left corner of the pump display. The pump will not operate manually. To restore manual operation, delete the program. See *Deleting a DataTrac Program or Delayed Start on p. 16.*



Leland Legacy pump with filter cassette in holder

Scrolling Through Data

Repeatedly press * to view run time or sample time (ST)*, sample volume, flow rate, temperature, atmospheric pressure, and time-of-day.



* If the pump is started and stopped manually, the pump LCD will count up run time and display cumulative run time at the end of sampling. If a sampling time (ST) has been programmed, the pump will count down from the set time to zero, then display completed sampling time (ST).

Resetting Run Time Data

To reset accumulated volume and run time data to zero:

1. Press [▲▼], then press the security code in sequence *▲▼*. Setup will display briefly.
2. Press * until Clr appears, then press [▲▼].
4. Press * until End appears, then press [▲▼] to exit Setup. The pump is now in Hold.



Clr does not clear previously set sampling time (ST). See *Deleting a Sampling Time on p. 16.*

Sampling

Deleting a DataTrac Program or a Delayed Start

1. Press [▲▼], then press the security code in sequence *▲▼*. Setup will display briefly.
2. Pressing *, scroll to the flashing PrOFF and press [▲▼].
3. Press * until End displays.
4. Press [▲▼] to exit Setup. The Prog icon will disappear.



Deleting a Sampling Time (ST)

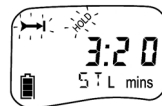
To delete a sampling time (ST), enter Setup and use the * button to scroll to ST L/min. Press ▼ until 0 displays. Press * until End appears. Press [▲▼] to exit Setup.



A time still appears on the display after deleting a sample time. This value is cumulative run time since data was last cleared. To clear this display, see *Resetting Run Time Data on p. 15*.

Flow Fault ➤➤

If flow drops by more than 5%, the pump goes into Hold and retains historical data. The flow fault icon flashes during flow fault. The pump will restart in 20 seconds and try to continue sampling. If the flow remains restricted, the pump returns to flow fault. Auto-restart is attempted every 20 seconds up to 10 times. Flow fault time is not added to the displayed run time or cumulative volume display. The amount of time the pump will remain in flow fault before going to Hold and the number of auto-restart attempts can be adjusted in DataTrac Software. See *DataTrac for Leland Legacy Software Operating Instructions (included on software CD)*.



Battery Status



Three bars indicate a full charge (normally appears after charging), approximately 75% to 100%.



Two bars indicate that the battery is charged enough to operate the pump, approximately 25% to 75%.



One bar indicates battery charge is low (charge battery), approximately 1% to 25%.

Low Battery Fault



No bars and a flashing outline indicate a Low Battery Fault mode (pump will go into Hold).



When the pump stops due to a low battery and is left to stand for a period of time, one battery bar may appear. This “false recovery” will fall quickly if the pump is operated without recharging it.

Recharge the battery before sampling.

Charging the Battery

The Leland Legacy Sample Pump operates from a rechargeable Lithium-Ion battery.

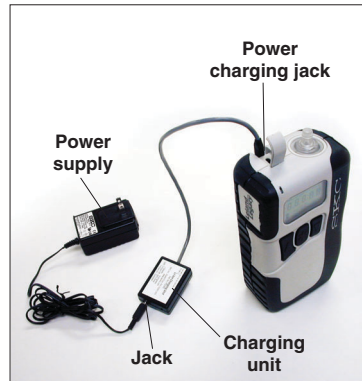


Use of a non-approved charger voids the SKC warranty.

1. Insert the plug on the Charging Unit into the battery charging jack on top of the pump (underneath the protective cover).
2. Insert the plug on the Power Supply into the jack on the Charging Unit.
3. Slide the appropriate wall plug into the Power Supply* and plug the Power Supply into a wall outlet.

The battery will recharge in approximately 15 hours.

** Wall plugs fit tightly. Removal and insertion may require some force.*



Leland Legacy charging train

Battery Operation

Removing and Replacing the Battery Pack



Turn off pump before removing battery. Removing the battery pack while the pump is on or running may corrupt pump history.

1. Position pump with belt clip facing upward.
2. Use a Phillips head screwdriver to remove three screws on bottom half of pump.



3. Grasp and remove battery pack by pulling it up and away from pump body.



4. Align connector of new battery pack with connector in pump body.



5. Gently press new battery pack into pump body until it is flush with the pump case and replace the three screws.



Ensure that the long screw is replaced in the top screw hole. Do not overtighten screws.

Programming the Pump Using a PC

The Leland Legacy can be programmed manually, with its integral keypad, or by using a personal computer and DataTrac Software for full programmability.

Install DataTrac Software onto a PC and connect the PC to the Leland Legacy pump data port with the provided cable adapter. With DataTrac, you can:

- Create and save a Leland Legacy run schedule in pump memory for use in the field at a later time.
- Program a sampling strategy of up to 10 sampling sequences and flow rates.
- Program a delayed start, timed shutdown, or perform STEL and replicate samples.
- Create a sample and analysis sheet for all critical information.
- Print or save to a PC file a complete history of run time data.
- Create a worker exposure profile containing sample and analysis information along with the pump's history. Then, import this into a text document.
- Document CalChek pump calibration.

For complete information on programming the Leland Legacy Pump using DataTrac for Leland Legacy Software, consult the DataTrac Operating Instructions (included on software CD).

Optional Accessories

Description	Catalog No.
DC-Lite Calibrator , 20 ml/min to 20 L/min flow range, includes charger and tubing.	717-03
CalChek Communicator adapter	210-501
Charger Single Leland Legacy Charging Kit, 100-240 VAC, 50/60 Hz. Includes charging unit, power supply, and interchangeable wall plugs.	223-241
Protective Nylon Case Lined for maximum sound reduction. Includes waist belt and shoulder strap.	224-89
DataTrac for Leland Legacy Software Package Includes software CD, adapter, and cable	877-92
Replacement Parts	
Battery pack	P75692NUL
Filter/O-ring Set, 5 filters and O-rings	P40021B
Inlet Filters, pk/50	P40021A



Use of a repaired or rebuilt battery pack voids the SKC warranty and the UL Intrinsic Safety Listing.

Service Policy

To return products to SKC for servicing:

1. Call 800-752-8472 (724-941-9701 for international customers) to obtain a Return Materials Authorization (RMA) number and Product Decontamination Form.
2. Carefully package the product. Mark the RMA number on any correspondence relating to the return and on the outside of the package.
3. Ship to SKC, freight prepaid, to the following address:

SKC Inc.
National Service Center
863 Valley View Road
Eighty Four, PA 15330

Package product carefully to prevent damage during transit. Include a contact name, phone number, shipping address, RMA number, and a brief description of the problem. For nonwarranty repairs, a purchase order number and billing address are also required. The Service Department will contact nonwarranty customers with an estimate before proceeding with repairs.



SKC Inc. will accept for repair any SKC product that is not contaminated with hazardous materials. Products determined to be contaminated will be returned unserviced.



Intrinsic safety and other approvals are void if SKC pumps are not repaired by SKC or authorized SKC repair centers. Use only SKC-approved parts to ensure reliable performance and intrinsic safety and to maintain the SKC warranty.

SKC INC.

LIMITED ONE YEAR WARRANTY

1. SKC warrants that its instruments provided for industrial hygiene, environmental, gas analysis, and safety and health applications are free from defects in workmanship and materials under normal and proper use in accordance with operating instructions provided with said instruments. The term of this warranty begins on the date the instrument is delivered to the buyer and continues for a period of one (1) year.

This warranty does not cover claims due to abuse, misuse, neglect, alteration, accident, or use in application for which the instrument was neither designed nor approved by SKC Inc. This warranty does not cover the buyer's failure to provide for normal maintenance, or improper selection or misapplication. This warranty shall further be void if changes or adjustments to the instrument are made by other than an employee of the seller, or if the operating instructions furnished at the time of installation are not complied with.

2. SKC Inc. hereby disclaims all warranties either expressed or implied, including any implied warranties of merchantability or fitness for a particular purpose, and neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of these instruments. No description of the goods being sold has been made a part of the basis of the bargain or has created or amounted to an express warranty that the goods will conform to any such description. Buyer shall not be entitled to recover from SKC Inc. any consequential damages, damages to property, damages for loss of use, loss of time, loss of profits, loss of income, or other incidental damages. Nor shall buyer be entitled to recover from SKC Inc. any consequential damages resulting from defect of the instrument including, but not limited to, any recovery under section 402A of the Restatement, Second of Torts.

3. This warranty extends only to the original purchaser of the warranted instrument during the term of the warranty. The buyer may be required to present proof of purchase in the form of a paid receipt for the instrument.

4. This warranty covers the instrument purchased and each of its component parts.

5. In the event of a defect, malfunction, or other failure of the instrument not caused by any misuse or damage to the instrument while in possession of the buyer, SKC Inc. will remedy the failure or defect without charge to the buyer. The remedy will consist of service or replacement of the instrument. SKC Inc. may elect refund of the purchase price if unable to provide replacement and repair is not commercially practicable.

6. (a) To obtain performance of any obligation under this warranty, the buyer shall return the instrument, freight prepaid, to SKC Inc., at the following address:

SKC Inc., National Service Center
863 Valley View Road
Eighty Four, PA 15330 USA

(b) To obtain return authorization information or for further information on the warranty performance you may telephone 724-941-9701 at the above address. See Service Policy section in operating manual (if applicable).

7. This warranty shall be construed under the laws of the Commonwealth of Pennsylvania which shall be deemed to be the situs of the contract for purchase of SKC Inc. instruments.

8. No other warranty is given by SKC Inc. in conjunction with this sale.