AirChek® XR5000

Operating Instructions

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Form #38047 Rev 0805

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Indicates a warning or caution.

www.skcinc.com

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.

AirChek XR5000 Quick Guide

Keypad Basics

✷ (star key)	Scrolls through parameters in user setup functions.
▲▼ (up/down arrow keys)	Increase or decrease flow rate, timed run, and run delay time.

Key Sequences

▼ ✷	Press keys individually.
[▲▼]	Press keys simultaneously. Toggles between Run and Hold and exits user setup functions.
✷▲▼✷	Security code to access user setup functions. With pump in a non-running state (no flashing blue LED), press keys in sequence.

Operation

• **Pump On**	**Press and hold** ✷.
• **Pump Off**	Press and hold ✷ through countdown. Auto-off will shut down pump after 5 minutes without activity.
• **Mode Change**	Press [▲▼] to toggle between Run and Hold.
• **Keypad Lock**	Press ▼ **5** times **quickly** to activate. Press ▼ **5** times **quickly** to deactivate.
• **Continuous Run**	With pump in a non-running state (no flashing blue LED), press [▲▼] to run pump. Press [▲▼] to Hold pump when completed.

Accessing User Setup Functions

- ***Entering User Setup Functions***
  With pump in a non-running state (no flashing blue LED), press ✷▲▼✷.
- ***Exiting User Setup Functions***
  Press [▲▼]. Pump is ready. Press [▲▼] to run the pump or to start a run delay.

User Setup Functions

To navigate while in user setup functions, press ✷ until the desired function displays.

Function	When LCD Displays	User Action	Result
Clear Accumulated Run Time *Function only available when accumulated run time exists.*	CLr and flashing Hold	Press [▲▼].	Clears run and run time and exits functions. Press [▲▼] to run pump.
Adjust Flow Rate*	"---" and flashing ADJ Flow	Press ▲ or ▼. Press [▲▼] to exit functions.	Flow increases/ decreases. Press [▲▼] to run pump.
Set Timed Run†	Flashing Set Timed Run and min	Press ▲ or ▼. Press [▲▼] to exit functions.	Minutes increase/ decrease. Press [▲▼] to run pump.
Set Run Delay†	Flashing Set Run Delay and min	Press ▲ or ▼. Press [▲▼] to exit functions.	Minutes increase/ decrease. Press [▲▼] to start run delay. Blue LED flashes. Pump starts after delay elapses.

* *Changing flow rate in user setup functions will not clear accumulated run time.*

† *Changing timed run and/or run delay settings in user setup functions will clear accumulated run time.*

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Description

SKC AirChek XR5000 Sample Pumps are designed to offer users enhanced battery power and easy operation in a lightweight pump that provides accurate airflows from 5 to 5000 ml/min.

- Three battery options provide flexibility and economy for different applications including long run times
- The large three-button keypad and straightforward user setup functions offer user-friendly conveniences.

AirChek XR5000 pumps feature a patented* isothermal flow sensor that measures flow directly and acts as a secondary standard, constantly maintaining the set flow rate. A built-in sensor compensates for changes in temperature that occur after calibration.

** U.S. Patent No. 5,892,160*

AirChek XR5000 Air Sampling Pump

Performance Profile

Flow Range: 1000 to 5000 ml/min (5 to 500 ml/min requires optional low flow adapter kit)

Compensation Range: 5000 ml/min at 10 inches water back pressure
4000 ml/min at 20 inches water back pressure
2000 ml/min at 50 inches water back pressure

Typical Back Pressure of Sampling Media (inches water)

Flow Rate (L/min)	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0
Filter/Pore Size (µm)								
25-mm MCE/0.8	6	9	12	15	18	21	25	31
25-mm MCE/0.45	14	22	28	35	40	44	50	63
37-mm MCE/0.8	2	3	4	5	6	7	9	11
37-mm PVC/5.0	1	1	2	2	2.5	3	3	4
37-mm, polycarbonate/0.45	4	6	8	10	12	15	17	21
25-mm MCE/0.45 microvacuum	21	31	40	48	59	69	79	100
37-mm Teflon/1.0	7.5	11	14.5	19	22	26	30	40

Compare the information in this table to pump compensation range to determine appropriate applications.

Flow Compensation System: Patented* isothermal closed loop flow sensor

Accuracies:
Timing: 1 min/month @ 25 C
Flow Rate: ± 5% of set-point after calibration to desired flow

Battery Charge Level Indicator: Icon displays on LCD at full, mid, low charge, imminent low battery fault, and low battery fault.

Temperature Range:
Operating: 32 to 113 F (0 to 45 C)
Charging: 32 to 113 F (0 to 45 C)
Storage: -4 to 113 F (-20 to 45 C)

Typical Run Time†:

XR5000 Model	2 L/min	5 L/min
High-power Li-Ion	40 hrs	22 hrs
Standard Li-Ion	20 hrs	11 hrs
Alkaline	18 hrs	8 hrs

† Using a 37-mm 0.8-µm MCE filter

For extended run times, the pump may be operated while attached to the charger.

Timer Display Range: 1 to 9999 minutes (6.8 days). If run time exceeds 6.8 days, timer display rolls over.

Flow Fault: If pump is unable to compensate for > 15 seconds due to excessive back pressure, the pump stops and holds run time display. Auto-restart is attempted every 15 seconds up to 5 times.

** U.S. Patent No. 5,892,160*

Performance Profile

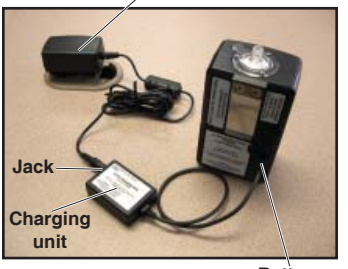
Low Battery Fault:	15 seconds to sleep
Auto-off:	5 minutes of inactivity
Battery Pack: *(model dependent)*	High-power Li-Ion (4 cell), rechargeable, 7.4 V, 4.4 Ah capacity (Cat. No. P85004 for UL Listed pump) or Standard Li-Ion (2 cell), rechargeable, 7.4 V, 2.2 Ah capacity (Cat. No. P85002 for UL Listed pump) or Alkaline (6 cells), disposable, size AA, 1.5 V (nominal), Cat. No. P75715 - not UL Listed for intrinsic safety
Battery Recharge Time: *(with SKC-approved charger)*	**Standard Li-Ion (2 cell):** approximately 4 hrs **High-power Li-Ion (4 cell):** approximately 8 hrs
Size:	**High-power Li-Ion and alkaline models:** 5.5 x 3 x 2.3 in (14 x 7.6 x 5.8 cm) **Standard Li-Ion model:** 4.3 x 3 x 2.3 in (10.9 x 7.6 x 5.8 cm)
Weight:	**High-power Li-Ion:** 21 oz (0.6 kg) **Standard Li-Ion model:** 16 oz (0.45 kg) **Alkaline model:** 17 oz (0.48 kg)
Case:	Anti-static plastic
RFI/EMI Shielding:	CE marked for RFI/EMI protection
Approvals:	c UL us LISTED for use in hazardous locations. Models that are UL Listed for intrinsic safety contain the c UL us LISTED logo on the label. These models must be used with battery pack Cat. No. P85004 or P85002 to maintain the UL intrinsic safety listing.

Cautions:

- ***For safe operation in hazardous locations, ensure the pump label contains the c UL us LISTED logo and the battery pack label contains Cat. No. P85004 or P85002. Use of any other battery pack (including alkaline) or device to power the pump voids the UL Listing for intrinsic safety.***
- ***Use only the charger and battery packs designed for the AirChek XR5000 pump to ensure reliable performance and retain the SKC warranty.***
- ***Use only SKC-approved parts to ensure reliable performance, retain the SKC warranty, and to maintain the UL Listing for intrinsic safety.***

Charging the Lithium-Ion Battery Pack

For models containing a lithium-ion battery pack only.



STOP! *Completely charge a new battery pack before operating the pump. It may be necessary to charge the battery a few times before maximum battery capacity is achieved.*

1. For a complete charge, ensure the pump is **not** running. Insert plug on charging unit into the battery charging jack on back of pump. Ensure plug is oriented so that the arrow on the plug is facing upward.

Ensure proper orientation of charging cable before plugging it into the charging jack. Improper orientation/contact will short circuit the battery.

Short circuiting the battery pack will render it immediately inoperative.

2. Insert plug on power supply into jack on charging unit

3. Slide appropriate wall plug into power supply and plug power supply into a wall outlet.

The standard 2-cell Li-Ion battery pack will recharge in approximately 4 hours. The high-power 4-cell Li-Ion battery pack will recharge in approximately 8 hours. *See http://www.skcinc.com/instructions/1756.pdf for more information on SKC pump battery packs.*

Do not charge or operate pump from charger in hazardous locations.

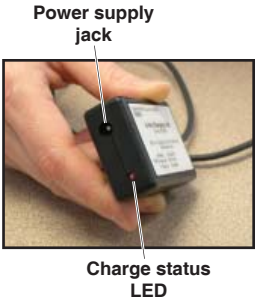
Use only the SKC-approved charger for this pump. Use of an unapproved charger may damage the battery and pump.

Note *The battery pack may be kept on the SKC-approved charger for an indefinite time.*

Reading the Charging Status LED

The Li-Ion Charging Unit (Cat. No. P22300) indicates battery charge status via an LED on the unit that blinks in specific patterns. Observe the LED steadily for > 5 seconds to read charge status.

LED Action				Charge Status
ON ✸ steady				Charge in progress
ON ✸ 2 sec	OFF ○ .25 sec	ON ✸ 2 sec	(Repeats)	Approximately 80% charged
OFF ○ 2 sec	ON ✸ .25 sec	OFF ○ 2 sec	(Repeats)	Charge completed



Note *The battery pack may be kept on the SKC-approved charger for an indefinite time.*

Cautions:

- ***Use only the charger and battery packs designed for the AirChek XR5000 pump to ensure reliable performance and retain the SKC warranty.***
- ***For safe operation in hazardous locations, ensure the pump label contains the c UL us LISTED logo and the battery pack label contains Cat. No. P85004 or P85002. Use of any other battery pack (including alkaline) or device to power the pump voids the UL Listing for intrinsic safety.***
- ***Tampering with the battery pack or using a repaired or rebuilt battery pack voids the SKC warranty and UL Listing for intrinsic safety.***
- ***Do not open, disassemble, short circuit, crush, incinerate, or expose the battery to fire or temperatures in excess of 213 F (100 C).***
- ***Use only the SKC-approved charger for this pump. Use of an unapproved charger may damage the battery and pump.***

See http://www.skcinc.com/instructions/1756.pdf for more information on SKC pump battery packs.

Setup

Keypad Basics

The AirChek XR5000 operates by pressing key sequences on the keypad located on the front of the pump case.

Keys

✷ Scrolls through parameters in user setup functions.

▲ Increases flow rate, timed run, and run delay time.

▼ Decreases flow rate, timed run, and run delay time.

Key Sequences

▲✷ Press keys individually.

[▲▼] Press simultaneously to toggle between Hold and Run modes and to exit user setup functions.

✷▲▼✷ Security code. With pump in a non-running state (no flashing blue LED), press to access user setup functions.

Turning the Pump On

- Press and hold ✷ until display shows “ON”.
- Press [▲▼] to run the pump or to place a running pump in Hold. A blue LED on top of the pump indicates pump is running or that there is a run delay programmed into the pump.

Turning the Pump Off

- **Manual Off (Sleep mode):** With pump in a non-running state (no flashing blue LED), press and hold ✷ until a countdown from 3 to 1 appears on the LCD and pump shuts off. Manual Off will operate even when keypad is locked.
- **Auto Off (Sleep mode):** Turns off a non-running pump (no flashing blue LED) after five minutes of inactivity.

Locking the Keypad

Locking: In any mode, press ▼ **5** times **quickly**. A flashing "L" will appear in the lower right corner of the display.

Unlocking: Press ▼ **5** times **quickly**. The flashing "L" will disappear from the display. The keypad may be operated normally.

Note

- *While the keypad is locked, the ✷ key will still operate to allow manual pump shut off in a non-running state (no flashing blue LED).*
- *A locked keypad will remain locked until the user unlocks it. Turning the pump off and on does not affect keypad lock status.*

Checking Battery Charge Level

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

Two bars indicate 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%.

No bars indicate that low battery fault is imminent.

Low Battery Fault

No bars and a flashing outline indicate a low battery fault (pump will go into Hold and go to sleep after 15 seconds in low battery fault). Accumulated run time will be retained.

Accessing User Setup Functions

Entering Functions:

- With pump in a non-running state (no flashing blue LED), press ✷▲▼✷.

Exiting Functions:

- Press [▲▼] to exit user setup functions. Pump is ready to run.

Note *User setup functions cannot be accessed while the keypad is locked.*

User Setup Functions

Function Overview

User setup functions are listed below in the order in which they display. *Note that the CLr function for clearing accumulated run time is only available when accumulated run time exists.*

No Accumulated Run Time	Accumulated Run Time
	CLr
ADJ Flow	ADJ Flow
Set Timed Run	Set Timed Run
Set Run Delay	Set Run Delay

Clearing Accumulated Run Time

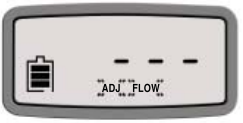
1. With the pump in a non-running state (no flashing blue LED), press ✷▲▼✷.
2. Press [▲▼] at CLr display to clear accumulated run time. Pump is ready to run.

Note *CLr will not cancel Timed Run or Run Delay time settings (see Canceling a Timed Run and/or Run Delay).*

Note

- *Changing the timed run and/or run delay settings in user setup functions will automatically clear accumulated run time.*
- *Changing the flow rate in user setup functions will* **not** *clear accumulated run time.*

Setting Flow Rate



1. With pump in a non-running state (no flashing blue LED), press ✷▲▼✷.
2. Connect pump inlet to a calibrator.
3. Press ✷ until ADJ and Flow flash on display.
4. Press ▲ to increase or ▼ to decrease flow. Dashed lines will move up and down on the LCD to indicate direction of adjustment. Flow rate will not display on the pump LCD. Observe the calibrator for flow reading.
5. Press [▲▼] to accept flow setting and to exit user setup functions.

See Calibration for instructions on calibrating pump flow rate.

Setting a Timed Run

Program the AirChek XR5000 from its keypad to run from 1 to 9999 minutes.

With pump in a non-running state (no flashing blue LED):

1. Press ✹▲▼✹ to enter user setup functions.
2. Press ✹ until a flashing Set Timed Run and min appear on the display.
3. Press ▲ to increase or ▼ to decrease minutes.
4. Press [▲▼] to accept timed run setting and to exit user setup functions. The setting will appear on the display and the pump will be ready to run.
5. Press [▲▼] to run the pump. *See Note.*

Note

- *During a timed run, the blue LED on top of the pump case will flash and time remaining will count down in minutes on the LCD. Once run is complete, pump will stop and accumulated run time will display.*
- *"Timed Run" will only appear on the LCD when a timed run duration in minutes has been selected in user setup functions.*

Reminder Setting a new timed run automatically clears accumulated run time.

Setting a Run Delay

Program the AirChek XR5000 from its keypad to automatically start a sample run after a specified period of time has elapsed.

With pump in a non-running state (no flashing blue LED):

1. Press ✹▲▼✹ to enter user setup functions.
2. Press ✹ until a flashing Set Run Delay and min appear on the display.
3. Press ▲ to increase or ▼ to decrease minutes.
4. Press [▲▼] to accept run delay setting and to exit user setup functions. Run delay time will display on the LCD and the pump will be ready to start run delay.
5. Press [▲▼] to activate the pump. *See Note.*

Note

- *During a run delay, time remaining will count down in minutes and display on the LCD. The blue LED on top of the pump case will flash during run delay time even though the pump is not running. Once the run delay time has elapsed, the pump will start running and accumulated run time will count up in minutes and appear on the display. Once sampling run is complete, stop the pump by pressing [▲▼]. Accumulated run time will remain on the display.*
- *"Run Delay" will only appear on the LCD when a run delay duration in minutes has been selected in user setup functions.*

Reminder Setting a new run delay automatically clears accumulated run time.

Setup

Setting a Run Delay and Timed Run

With pump in a non-running state (no flashing blue LED):

1. Press ✹▲▼✹ to enter user setup functions.
2. Press ✹ until flashing Set Timed Run and min appear on the display.
3. Press ▲ to increase or ▼ to decrease minutes.
4. Press ✹ to scroll to a flashing Set Run Delay and min.
5. Press ▲ to increase or ▼ to decrease minutes.
6. Press [▲▼] to accept run delay and timed run settings and to exit user setup functions. The run delay setting will appear on the LCD and the pump will be ready to start run delay.
7. Press [▲▼] to activate the pump. *See Note.*

Note

- *During a run delay, the blue LED on top of the pump case will flash, time remaining will count down to 0 in minutes on display, and timed run will begin automatically. Timed run will count down in minutes. Once run is complete, pump will stop and accumulated run time will display.*
- *"Run Delay" will display first. Once delay is complete and the run starts, "Timed Run" will display.*

Tip *When setting a timed run or run delay with a large number of minutes in user setup functions, press ✹ with ▲ or ▼. This activates the speed count feature which scrolls through timed run or run delay minutes in increments of 100.*

Reminder Setting a new run delay and timed run automatically clears accumulated run time.

Canceling a Timed Run and/or Run Delay

With pump in a non-running state (no flashing blue LED):

1. Press ✹▲▼✹ to enter user setup functions.
2. Press ✹ until flashing Set Timed Run and min appear on the display.
3. Press ▼ until time displays as 0.
4. Repeat for Run Delay if needed.
5. Press [▲▼] to exit user setup functions. Pump will be ready to run.

Note *Selecting CLr in user setup functions after a sample run will clear accumulated run time only. It will not clear Timed Run or Run Delay time settings.*

Calibration (High Flow: 1000 to 5000 ml/min)

1. Connect pump inlet to the outlet of a primary standard calibrator with representative sample medium in line.

With pump in a non-running state (no flashing blue LED):

2. Press ✹▲▼✹ to enter user setup functions.
3. Press ✹ until ADJ and FLOW flash on display. Press ▲ to increase flow. Press ▼ to decrease flow. Dashed lines will move up or down on the display to indicate graphically the direction of the adjustment. **Flow rate will not display on pump LCD. Observe the calibrator to determine flow rate.**

4. Follow the calibrator operating instructions. Once the desired flow rate is indicated on the calibrator (within ± 5%), press [▲▼] to accept flow setting and to exit user setup functions. The pump will be ready to run.

Note

- *Changing the flow rate in user setup functions will* **not** *clear accumulated run time.*
- *Changing the timed run and/or run delay settings in user setup functions will automatically clear accumulated run time.*

5. Disconnect the calibrator and tubing. Replace representative tubes with new unexposed media for sampling.

Calibration (Low Flow: 5 to 500 ml/min)

Requires Constant Press Controller (CPC) and Adjustable Low Flow Tube Holder - see Accessories, Low Flow Adapter Kit on p. 19.

1. a. For **single-tube applications**, set the flow rate to 1500 ml/min (*see Setting Flow Rate*).
   b. For **multiple-tube applications**, the pump flow rate must be set at ≥ 15% higher than the sum of the flow rates through all tubes.

Do not exceed 500 ml/min flow rate per tube for multiple-tube sampling.

Adjust flow with flow adjust screw on tube holder.

2. Use tubing on the CPC to connect the pump inlet to the CPC outlet (the side of the CPC without a label). Connect the inlet side of the CPC (marked "to sample") to the Adjustable Low Flow Tube Holder.
3. Label all tubes and ports if performing multiple-tube sampling.
4. Insert opened representative tubes into the rubber sleeve(s) of each port on the Adjustable Low Flow Tube Holder. **If any ports remain unused, place unopened tubes in them; it is important to "seal" unused ports.**
5. Loosen the brass flow adjust screw on the low flow holder. Use tubing to connect the exposed end of one tube to a primary standard calibrator.
6. Turn on pump. Turn the flow adjust screw (needle valve) on the tube holder until the calibrator indicates the desired flow rate **(do not adjust the flow rate of the pump)**. For multiple-tube sampling, repeat this procedure for each port to calibrate the flow rate for each tube. **Seal unused ports during calibration with unopened tubes.**
7. Disconnect the calibrator and tubing. Replace representative tubes with new unexposed tubes for sampling.

Note *The CPC has two small inlet ports on the bottom of the unit. These ports should be inspected periodically for blockage, which can occur when sampling in dusty environments. Blocked ports will cause back pressure to increase. Clean ports with a small pick and use air to blow away particles.*

Long-duration color detector tubes require a special tube cover (Cat. No. 224-29T) that accommodates an in-line trap tube (Cat. No. 222-3D-2). The trap tube protects the pump from caustic fumes that are often released from detector tubes. Read closely all precautions when using these tubes.

Failure to use the necessary traps will damage the pump and void the warranty.

Sampling

1. Calibrate pump flow rate *(see Setting Flow Rate and Calibration)*.
2. Replace representative sampling media with new unexposed media.
3. To start a continuous or timed sample run, press [▲▼]. Record start time and other pertinent information.

Note

- *Sampling will start automatically if a run delay is set and initiated. Sampling will stop automatically if a timed run is set and initiated.*
- *For automatic start and stop, set and initiate both a run delay* **and** *a timed run.*
- *For multiple-tube sampling, seal unused holder ports with unopened tubes.*

4. Sample for the time specified in the method used. Accumulated run time will display on the LCD.
5. To stop a sample run, press [▲▼]. This places the pump in Hold. Record stop time and other pertinent information.
    a. To resume sample run without clearing accumulated run time, press [▲▼].
    b. To clear accumulated run time, place pump in Hold, press ✷▲▼✷ to enter user setup functions, and press [▲▼] when CLr displays.

When using impingers, place a 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.

Flow Fault

Flow fault during continuous run.

If the pump is unable to compensate for longer than 15 seconds due to excessive back pressure, the pump enters flow fault. During flow fault, the fault icon displays on the display and flashes during the length of the fault, the pump enters Hold mode, and the accumulated run time display is retained. The pump will restart in 15 seconds and try to continue sampling. If the flow remains restricted, the pump will return to flow fault. Auto-restart is attempted every 15 seconds up to 5 times. Flow fault time is not added to accumulated run time.

To clear a flow fault and the flow fault icon, determine the cause of the fault, remedy the fault cause, and press [▲▼] to remove the icon from the LCD and restart the pump.

Note *A low battery fault may occur instead of a flow fault when there is a low battery charge at the time of the fault, excessive back pressure, and/or when there is a very short distance between the restriction and the pump inlet (e.g., finger fault versus pinched tubing).* ***The flow fault icon will not appear and auto-restart will not be activated under these conditions.*** *A low battery fault icon (see page 7) will appear instead and the pump will go to Sleep.*

Tip *If pump goes to Sleep while in flow fault, the flow fault icon may remain on the display when the pump is subsequently turned on. To remove the icon from the display, place pump in Hold, press ✷▲▼✷ to enter user setup functions, and press [▲▼] when CLr appears.*

Battery Replacement

Replacing the Li-Ion Battery Pack

For models containing a lithium-ion battery pack only.

STOP! ***Completely charge a new battery pack before operating the pump (see page 4).***

Note *It may be necessary to charge the battery a few times before maximum battery capacity is achieved.*

To retain display data, ensure pump is placed in Hold before disconnecting the battery pack. Display data will not be retained if battery is removed while pump is running.

Removing Existing Battery Pack

1. Release the battery pack by removing the two screws on the bottom of the battery pack housing.

2. Pull battery pack housing away from pump case.

Installing New Battery Pack

Important!

3. On the pump keypad, press and hold ✷ and ▼ simultaneously while attaching the pump to the new battery pack. The LCD should display the software version number (525X).

Do not release hold on the two keys until the pump is firmly attached to the battery pack.

4. Release ✷ and ▼.

5. Press ✷ 2 times. The LCD should read 0.

6. Replace and tighten two screws on the bottom of the battery pack housing.

7. Charge the new battery pack completely before use.

See http://www.skcinc.com/instructions/1756.pdf for more information on SKC pump battery packs.

Battery Replacement

Cautions:

- ***For safe operation in hazardous locations, ensure the pump label contains the c UL us LISTED logo and the battery pack label contains Cat. No. P85004 or P85002. Use of any other battery pack (including alkaline) or device to power the pump voids the UL Listing for intrinsic safety.***
- ***Do not charge or operate pump from charger in hazardous locations.***
- ***Use only the charger and battery packs designed for the AirChek XR5000 pump to ensure reliable performance and retain the SKC warranty.***
- ***Use only SKC-approved parts to ensure reliable performance, retain the SKC warranty, and to maintain the UL Listing for intrinsic safety.***
- ***Tampering with the battery pack or using a repaired or rebuilt battery pack voids the SKC warranty and UL Listing for intrinsic safety.***
- ***Do not open, disassemble, short circuit, crush, incinerate, or expose the battery to fire or temperatures in excess of 213 F (100 C).***
- ***Use only the SKC-approved charger for this pump. Use of an unapproved charger may damage the battery and pump.***

Battery Replacement

Changing the Alkaline Batteries

For models containing AA alkaline batteries only.

> *To retain display data, ensure pump has been allowed to go to sleep after the last run (see Turning the Pump Off). Display data will not be retained if batteries are removed while pump is running.*

Removing Existing Battery Pack

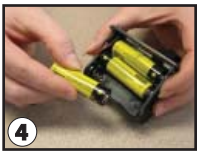
1. Remove two screws on bottom of battery pack housing.

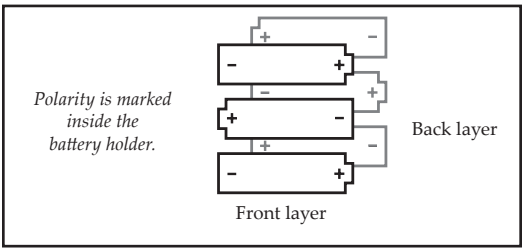
2. Pull battery pack housing away from pump case.

3. Holding battery pack housing tightly in one hand, place a finger from the other hand through the loop on top of the battery pack. Pull upward firmly to remove the battery holder from the housing.

Installing New Batteries

4. If replacing existing batteries, first remove batteries from holder. Place new batteries into the holder in the following polarity arrangement.





5. Orient battery holder properly with battery pack housing (black and red wires and battery terminal toward front of housing with SKC logo).

Important!

6. On the pump keypad, press and hold ✹ and ▼ simultaneously while attaching the pump to the new battery pack. The LCD should display the software version number (525X).

Do not release hold on the two keys until the pump is firmly attached to the battery pack.

7. Release ✹ and ▼.

8. Press ✹ 2 times. The LCD should read 0.

9. Replace and tighten two screws on the bottom of the battery pack housing.

Cautions:

- ***For safe operation in hazardous locations, ensure the pump label contains the c(UL)us LISTED logo and the battery pack label contains Cat. No. P85004 or P85002. Use of any other battery pack (including alkaline) or device to power the pump voids the UL Listing for intrinsic safety.***
- ***Use only the charger and battery packs designed for the AirChek XR5000 pump to ensure reliable performance and retain the SKC warranty.***
- ***Use only SKC-approved parts to ensure reliable performance, retain the SKC warranty, and to maintain the UL Listing for intrinsic safety.***

Service

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.

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.

Rechargeable lithium-ion batteries for use with SKC sampling pumps have been tested in accordance with the UN Manual of Tests and Criteria and are designated as UN3091. To be exempt from Dangerous Goods Shipping requirements, the box must contain 24 or fewer cells. Therefore, limit any box to be shipped to the following number of pumps:

Leland Legacy Pump - 2 pumps
QuickTake 15 - 12 pumps
QuickTake 30 - 3 pumps
AirChek XR5000 - 6 standard Li-Ion model pumps or 3 high-power Li-Ion model pumps
See shaded box below.

3. Ship to SKC, freight prepaid, to the following address:

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

Note *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.*

***Li-Ion Battery Shipment**

Rechargeable, lithium-Ion batteries for use with SKC sampling pumps have been tested in accordance with the UN Manual of Tests and Criteria and are designated as UN3091.

For air shipments:

Rechargeable lithium-Ion batteries in SKC pumps are subject to the A-45 exemption to the IATA regulations and are not regulated for air shipments. This information must be written on the shipping document when shipping by air.

For ground shipments:

US DOT regulations specify a limit of 24 or fewer battery cells in one shipping box. If you exceed 6 standard Li-Ion model or 3 high-power Li-Ion model AirChek XR5000 pumps with battery packs in one shipping box, specific shipping requirements must be followed. Contact SKC for more information or refer to the regulatory authority in your area.

Note: *5-pack kits of the high-power XR5000 sample pump exceed DOT limitations for ground shipments. Two pumps need to be shipped in a separate box to be exempt OR additional requirements have to be met to place the shipment. Contact SKC for details.*

The SKC warranty and UL Listing for intrinsic safety are void if pumps are not repaired by SKC or authorized SKC repair centers. Use only SKC-approved parts to ensure reliable performance, retain the SKC warranty, and maintain the UL Listing for intrinsic safety.

Description	Cat. No.
Defender Primary Standard Calibrator, 50-5000 ml/min flow range, includes lead-acid battery, charger (100-240 V), Optimizer 110 Software, and 1-meter serial cable	717-510M
Single Charging Kit, *for models with Li-Ion battery packs only,* 100-240 V AC, 50/60 Hz, includes charging unit, power supply, and interchangeable wall plugs	223-241
Protective Pouches	
Suitable for use with high-power Li-Ion and alkaline XR5000 pump models	
Red, for high visibility	224-96A
Black, sound reducing	224-96C
Black	224-88
Low Flow Adapter Kit (5 to 500 ml/min) *Suitable for all XR5000 pump models,* includes constant pressure controller (CPC), adjustable low flow tube holder, and Type A protective tube cover	210-500
Constant Pressure Controller (CPC), for sampling in the 5 to 500 ml/min flow range. *Use with adjustable low flow holder listed below. CPC included in Low Flow Adapter Kit (above).*	224-26-CPC
Adjustable Low Flow Tube Holders for Low Flow (5 to 500 ml/min) Sampling	
Use with CPC listed above. Require separate tube covers listed below.	
Single (*included in Low Flow Adapter Kit above)*	224-26-01
Dual	224-26-02
Tri	224-26-03
Quad	224-26-04
Sample Tube Protective Covers	
Use with adjustable flow tube holders listed above.	
Type A (tubes 6-mm OD x 70-mm L), *included in Low Flow Adapter Kit above*	224-29A
Type B (tubes 8-mm OD x 110-mm L)	224-29B
Type C (tubes 10-mm OD x 150-mm L)	224-29C
Type T (tandem for color detector tubes up to 115 mm L and a trap tube)	224-29T
Long-duration Detector Tube Accessories	
Trap Tubes	222-3D-2
Tandem Plastic Tube Cover	224-29T

Replacement Parts

Description	Cat. No.
Battery Packs	
High-power Li-Ion (4-cell for UL Listed pump)	P85004
Standard Li-Ion (2-cell for UL Listed pump)	P85002
Alkaline (6-cell) - Use voids pump UL Listing for intrinsic safety	P75715
Belt Clip	P20139
Filter (inlet)/O-ring (3)	P20140
Filter Housing	P20142
Filters, inlet (50)	P40011
Battery Pack Cover	P20419

Cautions:

- ***For safe operation in hazardous locations, ensure the pump label contains the c(UL)us LISTED logo and the battery pack label contains Cat. No. P85004 or P85002. Use of any other battery pack (including alkaline) or device to power the pump voids the UL Listing for intrinsic safety.***

- ***Use only SKC-approved parts to ensure reliable performance, retain the SKC warranty, and to maintain the UL Listing for intrinsic safety.***

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.

Form #3755 Rev 0207