ANALYT MESSTECHNIK



OPERATING MANUAL

SKC AirChek TOUCH Sample Pump

Charging, set-up, flow rate verification and sampling with the AirChek TOUCH personal air sampling pump, 5 to 5000 mL/min, with maintenance, troubleshooting and ordering information.

AMTC-MN-0038

About this manual

The SKC AirChek® TOUCH is a personal air sampling pump for flows from 5 to 5000 mL/min, operated from a colour touch screen. This manual takes you from unpacking to a finished sample: charging the battery, setting up the pump, verifying the flow rate, running manual and timed samples, and reading the sample history. Later chapters cover the maintenance you may do yourself — including the full calibration after a repair — troubleshooting, the technical data and the order numbers of accessories and spare parts.

Read Safety (p. 6) before you use the pump for the first time — the pump's intrinsic-safety ratings, listed under Certifications (p. 38), apply only under the conditions set out there. To start sampling quickly, follow Commissioning (p. 12), Verifying the flow rate (p. 17) and Sampling (p. 23) in that order.

The manual applies to the AirChek TOUCH pump, Cat. No. 220-5000TC, and to every kit built around it (Cat. No. 220-5000TC-…). Analyt-MTC supplies, services and supports the pump; for questions, repairs and spare parts see Service, warranty and contacts (p. 41).

Keep this manual for the lifetime of the product. The current revision is on the product page at analyt-mtc.com.

Conventions in this manual:

- Keys, buttons and menu entries are printed like this: **Settings**.
- A menu path such as **Menu › Timed Sample › P1** means that you open each entry in turn.

Abbreviations

Abbreviation	Meaning
LCD	Liquid-crystal display
LED	Light-emitting diode
PC	Personal computer
RH	Relative humidity
STP	Standard temperature and pressure, the standard conditions shown on the Units screen
USB	Universal serial bus

How this manual marks information

⚠ WARNING

A hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

Practices not related to personal injury — damage to the product, the process or the sample.

Note
Information that helps understanding; never a hazard.

Settings that can also be made on a PC carry the tag *Also in DataTrac Pro*.

Document information

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Manufacturer	SKC Inc.

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Rev.	Date	Change
2	October 2026	Quality programme: new document type, number and identity pages.
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CHAPTER 1

Safety

Read this chapter before you use the pump for the first time. Each point is repeated, with its context, in the section where it applies. The intrinsic-safety rating of the AirChek TOUCH applies when the pump runs on its original battery pack, with approved components only. The rules in this chapter protect that rating, the people working with the pump, or both.

Intended use

The AirChek TOUCH is a personal air sampling pump: it draws air through a sample medium, such as a filter cassette or a sorbent tube, at 5 to 5000 mL/min. Use it only with battery pack P75718 or P75718A and with the approved charging cradles, spare parts and accessories (see Approved parts and accessories (p. 7)).

Charging the pump or running it from a charging cradle in a hazardous location, using an unapproved battery pack or charging cradle, and opening the pumping compartment are misuse: they can make the pump unsafe, as the sections below explain.

Hazardous locations

The pump, Cat. No. 220-5000TC, is rated intrinsically safe (Exia) for hazardous locations when it runs on battery pack P75718 or P75718A. The ratings are listed under Certifications (p. 38).

⚠ WARNING

Charging the pump, or running it from a charging cradle, in a hazardous location can ignite the atmosphere and cause a fire or an explosion. Observe these precautions.

- Never charge the pump, or run it from a charging cradle, in a hazardous location.
- Remove and replace the battery pack only in an area known to be non-hazardous.
- Replacing any component with a non-approved part may impair intrinsic safety.
- Charge only in an approved charging cradle (see Approved parts and accessories (p. 7)). The charging input must never exceed 12 V (maximum charge input voltage U_m = 12 V).

Battery pack

The pump runs on a rechargeable lithium-ion (Li-Ion) battery pack, Cat. No. P75718 or P75718A (replacement packs are supplied as P75718A). Treat it like any Li-Ion battery: it stores enough energy to start a fire if it is damaged or overheated. Technical Note 1918 on Li-Ion battery packs is available on the AirChek TOUCH product page at www.analyt-mtc.com.

⚠ WARNING

Opening, disassembling, short-circuiting or crushing the battery pack, or heating it above 212 °F (100 °C), can cause a fire, an explosion and burns. Observe these precautions.

- Do not open, disassemble, short-circuit or crush the battery pack, heat it above 212 °F (100 °C) or put it in a fire. Tampering with the pack in any of these ways also voids the warranty.
- Replace the battery pack only with battery pack P75718 or P75718A. Another battery may catch fire or explode.
- Keep battery packs out of the reach of children, and in their original packaging until you use them.
- Dispose of used battery packs promptly, following local and national recycling or waste regulations.

NOTICE

Removing the battery pack from a running pump loses the date, time and other settings. Switch the pump off before you remove the battery pack.

Approved parts and accessories

Power the pump only from battery pack P75718 or P75718A, and charge it only in an approved charging cradle: the Standard Charging Cradle (Cat. No. 220-800), the Charging e-Cradle (Cat. No. 220-900) or the charging cradle Cat. No. 220-850. Use only the approved spare parts and accessories listed in Ordering information (p. 39).

NOTICE

An unapproved battery or charging cradle can damage the pump and voids the warranty. A repaired or rebuilt battery pack also voids the warranty. Use only the approved battery packs and charging cradles.

⚠ WARNING

A pump powered from any device, a charging cradle included, or from a battery pack other than P75718 or P75718A is no longer intrinsically safe. In a hazardous location it can ignite the atmosphere and cause fire, explosion or injury. This also voids the intrinsic-safety certifications and the warranty. In a hazardous location, power the pump only from battery pack P75718 or P75718A, with no charging cradle or other device connected. Use a pump standing in a powered cradle for sampling only outside hazardous locations.

What you may service yourself

You may replace the external parts of the pump: the inlet filter, the battery pack, the protective screen cover and the belt clip. Maintenance (p. 33) describes each task. Everything else — and in particular anything inside the pumping compartment — is service work. Repairs that affect intrinsic safety must be done by the manufacturer's authorised service; contact Analyt-MTC to arrange them.

⚠ WARNING

Opening the pumping compartment can compromise the intrinsic-safety rating, and it voids the warranty. In a hazardous location, a pump that is no longer intrinsically safe can ignite the atmosphere. Do not open the pumping compartment.

The warranty also lapses if the warnings and cautions in this manual are not followed.

CHAPTER 2

Product description

Checking the contents

Check the delivery against the table below. If anything is missing, contact Analyt-MTC (see Service, warranty and contacts (p. 41)). The pump on its own, Cat. No. 220-5000TC, comes without a charging cradle and power supply; order these separately before you can charge it (see Charging and data accessories (p. 39)). All power supplies work on 100–240 V mains.

Order code	Contents
220-5000TC	Pump with Li-Ion battery pack and screwdriver set
220-5000TCK	Basic Kit: pump as above, Charging e-Cradle, power supply with cord and 1 m Tygon tubing, in a carry case
220-5000TCK5	5-Pump Basic Kit: 5 pumps as above, 4 Standard Charging Cradles, 1 Charging e-Cradle, power supply with cord, 5 × 1 m Tygon tubing and 3 Step-by-Step Guides, in a carry case
220-5000TCKP	Single Pump Dust Sampling Kit: pump as above, Charging e-Cradle, power supply with cord, plastic IOM Multidust Sampler, 5 Multidust cassettes, IOM foams, Calidaptor, 1 m Tygon tubing and Step-by-Step Guide, in a carry case
220-5000TCK5P	5-Pump Dust Sampling Kit: 5 pumps as above, 4 Standard Charging Cradles, 1 Charging e-Cradle, power supply with cord, 5 plastic IOM Multidust Samplers, 10 Multidust cassettes, IOM foams, Calidaptor, 5 × 1 m Tygon tubing and 3 Step-by-Step Guides, in a carry case
220-5000TCKV	Single Pump Vapour Sampling Kit: pump as above, Charging e-Cradle, power supply with cord, All-in-One adjustable tube holder, tube cover, tube breaker, 1 m Tygon tubing and Step-by-Step Guide, in a carry case
220-5000TCK5V	5-Pump Vapour Sampling Kit: 5 pumps as above, 4 Standard Charging Cradles, 1 Charging e-Cradle, power supply with cord, 5 All-in-One adjustable tube holders, 5 tube covers, tube breaker, 5 × 1 m Tygon tubing and 3 Step-by-Step Guides, in a carry case
220-5000TCKC	Single Pump Combined Sampling Kit: pump as above, Charging e-Cradle, power supply with cord, plastic IOM Multidust Sampler, 5 Multidust cassettes, IOM foams, Calidaptor, All-in-One adjustable tube holder, tube cover, tube breaker, 1 m Tygon tubing and Step-by-Step Guide, in a carry case
220-5000TCK5C	5-Pump Combined Sampling Kit: 5 pumps as above, 4 Standard Charging Cradles, 1 Charging e-Cradle, power supply with cord, 5 plastic IOM Multidust Samplers, 10 Multidust cassettes, IOM foams, Calidaptor, 5 All-in-One adjustable tube holders, 5 tube covers, tube breaker, 5 × 1 m Tygon tubing and 3 Step-by-Step Guides, in a carry case
Ask Analyt-MTC	Pump kit with Standard Charging Cradle: pump with Li-Ion battery pack, screwdriver set, Standard Charging Cradle, power supply with cord, 3 ft (0.9 m) Tygon tubing, collar clip with cable tie; 100–240 V
Ask Analyt-MTC	Pump kit with filter cassette holder: pump with Li-Ion battery pack, screwdriver set, Standard Charging Cradle, power supply with cord, filter cassette holder, in a soft-sided nylon carry case; 100–240 V
Ask Analyt-MTC	Pump kit for high and low flow: as above, plus an All-in-One adjustable tube holder and a Type A protective tube cover, in a soft-sided nylon carry case; 100–240 V
Ask Analyt-MTC	Single High/Low Flow Enhanced Pump Kit: pump with Li-Ion battery pack, Charging e-Cradle, power supply with cord, USB cable, filter cassette holder, All-in-One adjustable tube holder and Type A protective tube cover, in a soft-sided nylon carry case; 100–240 V
Ask Analyt-MTC	3-pack High/Low Flow Pump Kit: 3 pumps with Li-Ion battery packs, 2 Standard Charging Cradles, 1 e-Cradle, power supply with cord, USB cable, and 3 each of filter cassette holders, All-in-One adjustable tube holders and Type A protective tube covers, in a hard-sided case; 100–240 V
Ask Analyt-MTC	5-pack High Flow Pump Kit: 5 pumps with Li-Ion battery packs, screwdriver set, 4 Standard Charging Cradles, 1 e-Cradle, power supply with cord and 5 filter cassette holders, in a hard-sided case; 100–240 V
Ask Analyt-MTC	5-pack High/Low Flow Pump Kit: 5 pumps with Li-Ion battery packs, screwdriver set, 4 Standard Charging Cradles, 1 e-Cradle, power supply with cord, and 5 each of filter cassette holders, All-in-One adjustable tube holders and Type A protective tube covers, in a hard-sided case; 100–240 V

Parts of the pump

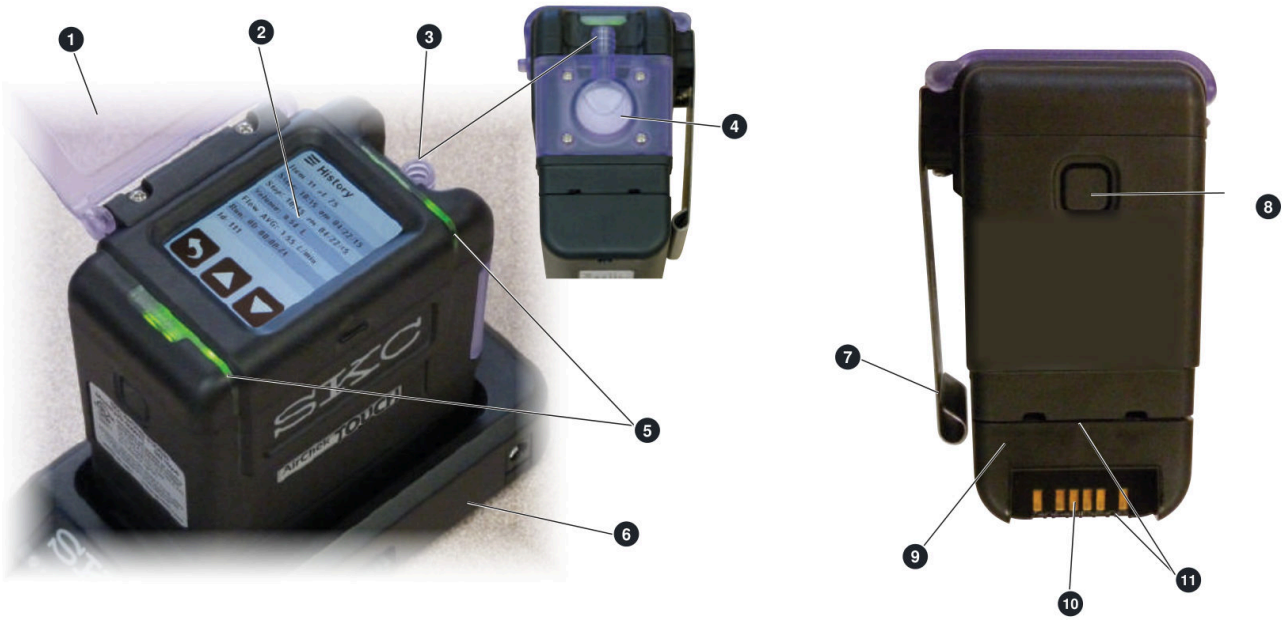


Figure 1. Pump parts. Left: top view in the charging cradle; centre: inlet end; right: back.
1 Protective screen cover · **2** Colour touch screen · **3** Pump inlet · **4** Inlet housing with filter · **5** Status LEDs · **6** Charging cradle · **7** Belt clip · **8** On/off button · **9** Battery pack · **10** Charging contacts · **11** Battery screws (2)

Switching on and off

The on/off button is recessed in the side of the pump (8 in Figure 1 (p. 9)). Press and hold it briefly to switch on — the screen lights — and press and hold it again to switch off. A pump that is not running switches itself off after 5 minutes without use, to save the battery.

The Home screen

The Home screen appears when you switch the pump on. Its soft keys change with the pump's state: a stopped pump offers **Run**, **Menu** and **Settings**; a running pump offers **Stop**, **Info** and **Lock**, and adds the elapsed time and the accumulated volume. In both states, touching the flow rate display is a key in its own right — **Set Flow** on a stopped pump, **Pause/Resume** on a running one. The screen figures in this manual show US units (°F, inHg); choose your units as described in Display units (p. 17).

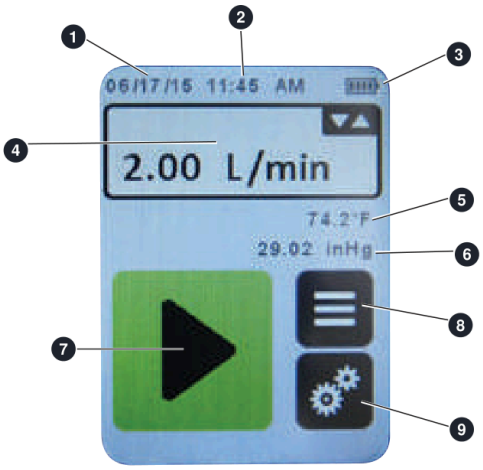


Figure 2. Home screen, pump stopped.
1 Date · **2** Clock · **3** Battery status · **4** Flow rate display (**Set Flow** key) · **5** Ambient temperature · **6** Atmospheric pressure · **7 Run** · **8 Menu**: About, History, Timed Sample · **9 Settings**: Calibrate (manual and CalChek flow rate verification, full calibration), Device

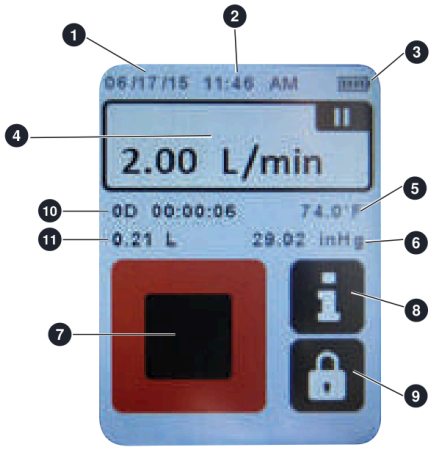


Figure 3. Home screen, pump running.
1–3, 5, 6 as in Figure 2 · **4** Flow rate display (**Pause/Resume** key) · **7 Stop** · **8 Info**: current run data · **9 Lock** · **10** Elapsed sample time · **11** Accumulated volume

Using the touch screen

Unlatch the protective screen cover and lift it to reach the screen. The screen is resistive: tap the soft keys gently with a fingertip or the tip of a fingernail. A tap on an arrow key changes a value by one step; touch and hold the key to jump to the next multiple of ten and then continue in steps of ten.

	Key	What it does
	Up/down	Increases or decreases a value; scrolls through data.
	Checkmark	Accepts the selection or setting and moves on to the next screen, or to the Home screen.
	Back	Returns to the previous screen.
	Erase	Deletes the entered value from right to left. When all fields are empty, returns to the previous screen.
	Keypad	Enters values such as flow rate, sample time and start date or time.
	X (exit)	Returns to the Home screen *without* accepting the entries.
	Home	Returns to the Home screen.
	Run	Starts a manual sample, a timed sample, or a timed sample with a start date and time.
	Edit	Goes back to the first input screen so you can change the entries.
	Stop	Stops the pump and resets the run time and volume shown. The run data is saved to the history.

Battery status

The battery symbol at the top right of the Home screen has four bars that disappear as the battery discharges.

Bars	Charge remaining
4	approx. 75–100 %
3	approx. 50–75 %
2	approx. 25–50 %
1	approx. 5–25 %
none	A low-battery fault is imminent: the pump will stop and switch off. The run data is kept in the history, and a fault symbol appears when the pump is switched on again.

Status LEDs

Two LEDs, above and below the screen, show the pump's state without reading the display.



Figure 4. Status LEDs. Left: green flashing — the pump or a programmed schedule is running. Right: red flashing — flow fault.

> **Note**
> LEDs flashing alternately red and green mean the flow is out of tolerance: the pump is about to enter flow-fault mode, or is attempting an automatic restart after a flow fault (see Faults during sampling (p. 27)).

CHAPTER 3

Commissioning

Charge every battery pack completely before you use the pump for the first time, and again before each flow rate verification and sample. A full charge takes about 3 hours. The pump can also sample while it stands in a powered cradle; run time is then unlimited.

⚠ WARNING

Charging the pump, or running it from a charging cradle, in a hazardous location can ignite the atmosphere. An ignition can cause fire, explosion or injury. Never charge the pump, or run it from a charging cradle, in a hazardous location. Charge only in the approved cradles listed in Approved parts and accessories (p. 7), powered by the power supplies described below.

Setting up the cradles

Each pump charges in its own cradle: a black Standard Charging Cradle (Cat. No. 220-800) or a grey Charging e-Cradle (Cat. No. 220-900), which also connects the pump to a PC. Charge within 0 to 45 °C.

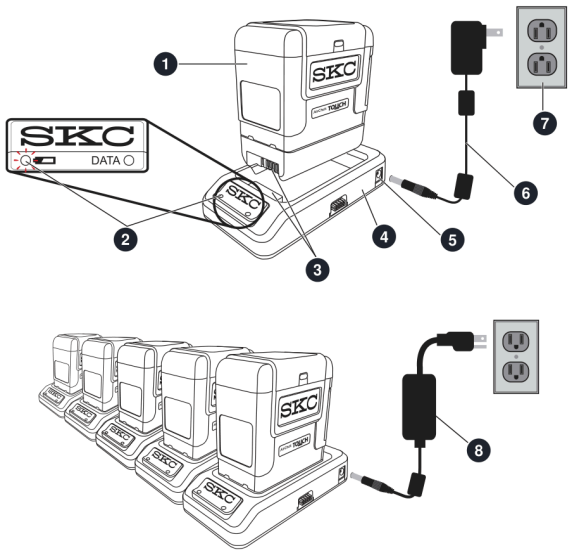


Figure 5. Charging with one cradle (top) and with five chained cradles (bottom).
1 Pump · **2** Charge status LED · **3** Charging contacts · **4** Charging cradle · **5** Power port · **6** Single Cradle Power Supply · **7** Mains outlet, 100–240 V · **8** Multi Cradle Power Supply

1. **One cradle:** plug the connector of the Single Cradle Power Supply (Cat. No. 220-600) into the power port on the side of the cradle, then plug the power supply into a 100–240 V mains outlet.
2. **Several cradles:** push the connector on the side of one cradle into the connector of the next. Chain up to 5 Standard Charging Cradles, or up to 4 Standard Charging Cradles and 1 e-Cradle. Plug the Multi Cradle Power Supply (Cat. No. 220-700) into the power port of the last cradle in the chain, then into a 100–240 V mains outlet.
3. Align the contacts on the bottom edge of the pump with the contacts in the cradle and set the pump in. Repeat for each pump.
4. Leave the pumps in the cradles until the charge status LED is steady green (about 3 hours).

Reading the charge status

The left LED on the cradle shows the charge status. Watch it for more than 5 seconds before you read it, since one state is a repeating pattern.

Left cradle LED	Charge status
Red, steady	Charging

Left cradle LED	Charge status
Red 3 s, green 1 s, repeating	About 75 % charged
Green, steady	Fully charged; trickle charge

CHAPTER 4

Operation

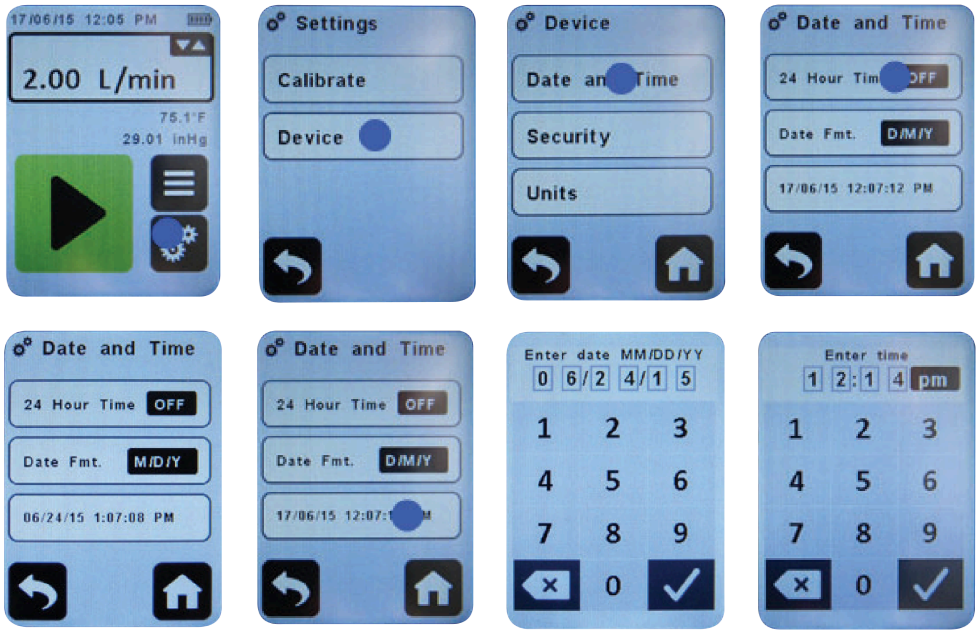
Operation runs from the settings you make once to the finished sample: set the date, time, display units and security settings; set and verify the flow rate before and after every sample; run the sample; then read its history on the pump or in DataTrac Pro.

Set the date, time and display units once, before the first sample, so that the sample history carries the right times and values. The security settings decide how well a running sample is protected against accidental or deliberate changes.

All device settings are under **Settings › Device**. On each settings screen, **Back** returns to the Device screen and **Home** to the Home screen; both keep the changes you made. The settings in this section are *Also in DataTrac Pro* and can be uploaded from a PC to up to five pumps at once (see Using the pump with a PC (p. 29)).

Date and time

1. Touch **Settings › Device › Date and Time**.
2. Touch **24-Hour Time** to switch the 24-hour clock on or off. The setting shown is the one in effect.
3. Touch **Date Fmt.** to step through the date formats M/D/Y, D/M/Y and Y/M/D.
4. To change the date and time, touch the date and time display. Enter the date on the keypad and touch the checkmark. Enter the time as hh:mm, touch **am**, **pm** or **24** for the type of time, and touch the checkmark.



Setting the date and time. Top row: Settings on the Home screen, Device, Date and Time, and switching the 24-hour clock. Bottom row: the date format, opening the date and time, entering the date and entering the time.

Security: Auto-Lock, Secure Lock and Auto-Dim

Open **Settings › Device › Security**. The Security screen shows the three settings with their current values; touch one to change it.



The Device screen with Security touched. The Home and Settings screens before it are as in the date and time figure.

Auto-Lock

Auto-Lock locks the touch screen and the on/off button during sampling, so that a knock or a stray touch cannot change the pump's state. To unlock, the user enters the simple code **1 2 3 4**. Touch **Auto-Lock** and choose 1, 2, 3, 4 or 5 minutes, or **Off**; the pump returns to the Security screen.



Auto-Lock: the Security screen (left) and the Auto-Lock options (right).

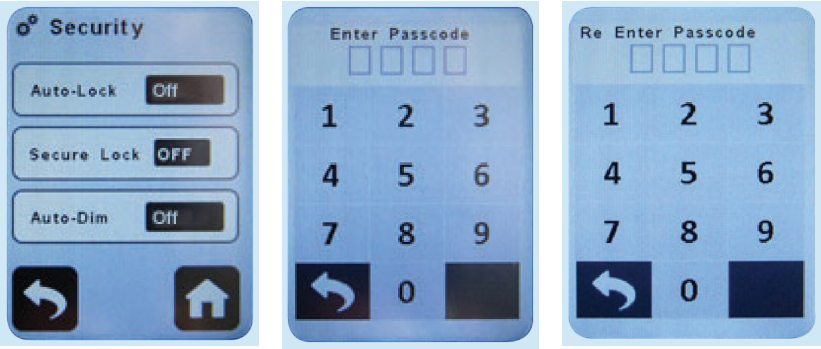
> **Note**
> A timed sample always locks the screen, even with Auto-Lock set to Off (see Timed samples (p. 25)).

Secure Lock

Secure Lock protects a sample against tampering: unlocking the screen and on/off button then needs a four-digit passcode that you choose.

To switch Secure Lock on:

1. Touch **Secure Lock** (it shows OFF).
2. Enter a four-digit passcode of your choice.
3. Enter the same passcode again. The pump returns to the Security screen, and Secure Lock shows ON.



Switching Secure Lock on: Secure Lock shows OFF; enter the passcode; enter it again.

To switch Secure Lock off:

1. Touch **Secure Lock** (it shows ON).
2. Enter your passcode, or the master passcode **8472**. The pump returns to the Security screen, and Secure Lock shows OFF.

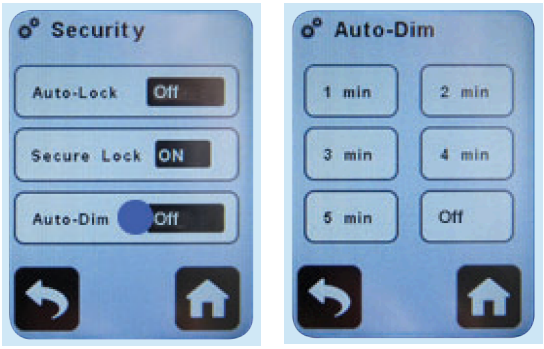


Switching Secure Lock off: Secure Lock shows ON; enter your passcode or the master passcode.

> **Note**
> Forgotten the passcode? The master passcode **8472** always unlocks the screen and the on/off button.

Auto-Dim

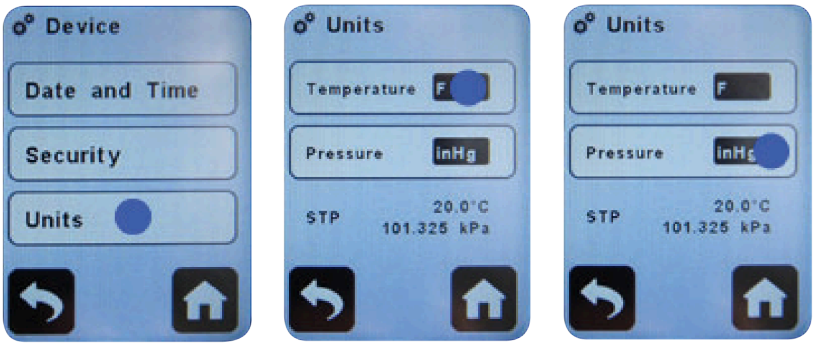
To save battery power, the pump can dim the backlight once the chosen time has passed since you touched **Run**. Touch **Auto-Dim** and choose 1, 2, 3, 4 or 5 minutes, or **Off**. Touching the screen at any time restores full brightness.



Auto-Dim: the Security screen (left) and the Auto-Dim options (right).

Display units

1. Touch **Settings** › **Device** › **Units**.
2. Touch **Temperature** to switch between °F and °C.
3. Touch **Pressure** to step through mbar, mmHg and inHg.



Display units: Units on the Device screen, then the Units screen with Temperature and Pressure. The STP line shows the standard conditions (example values). The Home and Settings screens before it are as in the date and time figure.

> **Note**
> The Units screen also shows the standard conditions (STP) used for the standard volume. They can be changed only in DataTrac Pro.

Verifying the flow rate

The sample volume is flow rate times time, so the result is only as good as the flow rate. Verify the flow with a flowmeter before and after every sample, with a representative sample medium in line — the same type of tube, filter or sampler you will sample with — because the medium's resistance changes the flow the pump delivers.

Before you verify

> **Note**
> The flow rate shown on the pump is not calibrated traceably to national or international standards, so it cannot be used to verify the flow. Always verify with a flowmeter that has a traceable calibration.

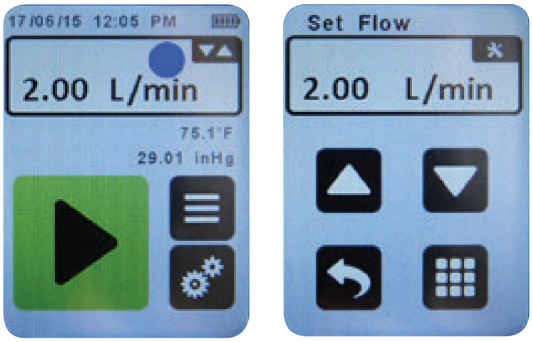
- Charge the battery completely (see Commissioning (p. 12)).
- If the pump has come from a much colder or warmer place, let it adjust to the room temperature first.
- Verify the flow through the complete sampling train, before and after each sample.
- Choose the method for your flow range:

Flow range	Method	You need
1–5 L/min	Manual verification, 1 to 5 L/min (p. 18)	A flowmeter with traceable calibration, e.g. a chek-mate Flowmeter
1–5 L/min	CalChek Single, 1 to 5 L/min (p. 19)	chek-mate Flowmeter with CalChek (see Flowmeters and calibration accessories (p. 39)), charging cradle (220-800 or 220-900), CalChek Communication Cable (375-200)
5–500 mL/min	Manual verification, 5 to 500 mL/min (p. 21)	A flowmeter with traceable calibration; All-in-One adjustable tube holder (one tube), or Dual, Tri or Quad Adjustable Low Flow Tube Holder with Constant Pressure Controller (CPC) (several tubes)

The pump's menus keep the word "calibration": flow rate verification is started under **Settings › Calibrate**, and the completion screens read "Manual Cal Completed" or "calibration completed". CalChek Full, a multi-point calibration of the pump's compensation system after maintenance or repair, is a different procedure: see Calibration and verification (p. 31).

Setting the flow rate

1. On a stopped pump, touch the flow rate display (**Set Flow**). The pump starts and shows the Set Flow screen.
2. Set the flow with the up/down arrows, or touch the keypad key and enter the value.
3. Touch the checkmark to accept the flow and return to the Home screen, or **Back** to return without accepting.



Setting the flow rate: the flow rate display on the Home screen (left) opens the Set Flow screen (right). The tools symbol at its top right opens manual flow rate verification.

> **Note**
> When you set the flow with the arrows, the Set Flow screen gives direct access to manual flow rate verification: touch the flow rate display again (the tools symbol at the top right).

Manual verification, 1 to 5 L/min

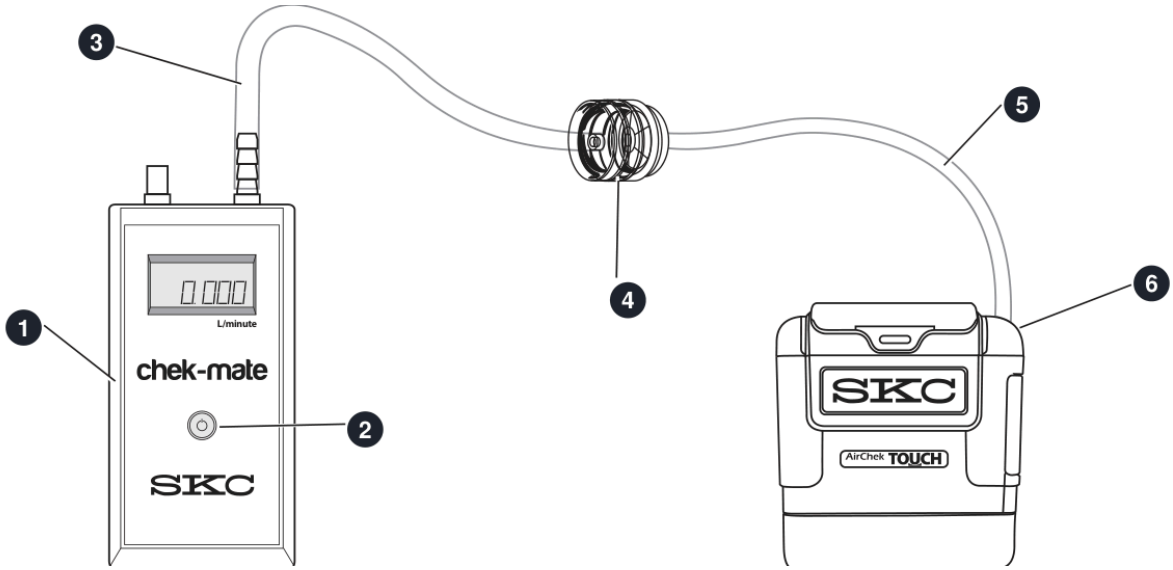
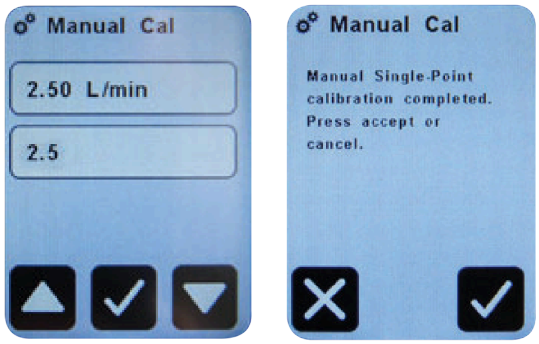


Figure 6. Flow rate verification train for 1 to 5 L/min.
1 Flowmeter with traceable calibration (chek-mate shown) · **2** Flowmeter on/off button · **3** Tubing · **4** Representative sample medium · **5** Tubing · **6** Pump inlet

1. On a stopped pump, touch the flow rate display (**Set Flow**). Set the required flow with the up/down arrows.
2. Let the pump run for 5 minutes, then touch the flow rate display (tools symbol).
3. Set up the verification train as in Figure 6 and switch the flowmeter on.
4. Adjust the flow with the up/down arrows until the flowmeter shows the required flow. Touch the checkmark; the Manual Cal Completed screen appears.
5. Touch the checkmark to accept the verified flow, or X to discard the adjustment. Both return to the Home screen.
6. Disconnect the flowmeter and the representative sample medium, and continue with Sampling (p. 23).



Manual flow rate verification: adjusting the flow on the Manual Cal screen (left), and the completion screen (right). The Home and Set Flow screens before it are as in the setting-the-flow-rate figure.

> **Note**
> The same verification can be started from the menus: **Settings › Calibrate › Manual**, connect the verification train, checkmark, enter the flow, checkmark, adjust with the arrows, checkmark, then checkmark to accept or X to cancel.

When switched on, the chek-mate flowmeter shows "On", then the upper limit of its range, "**`5.0 L`**", then the current flow — or "`_ _ _ _`" if there is no flow or the flow is below its lowest display value.

CalChek Single, 1 to 5 L/min

With CalChek, the chek-mate flowmeter reports the measured flow to the pump through a cable, and the pump adjusts itself until the flow matches the set point. Verify with the representative sample medium in line, as for manual verification. Several pumps can stand in a chain of cradles, but their flow is verified one pump at a time.

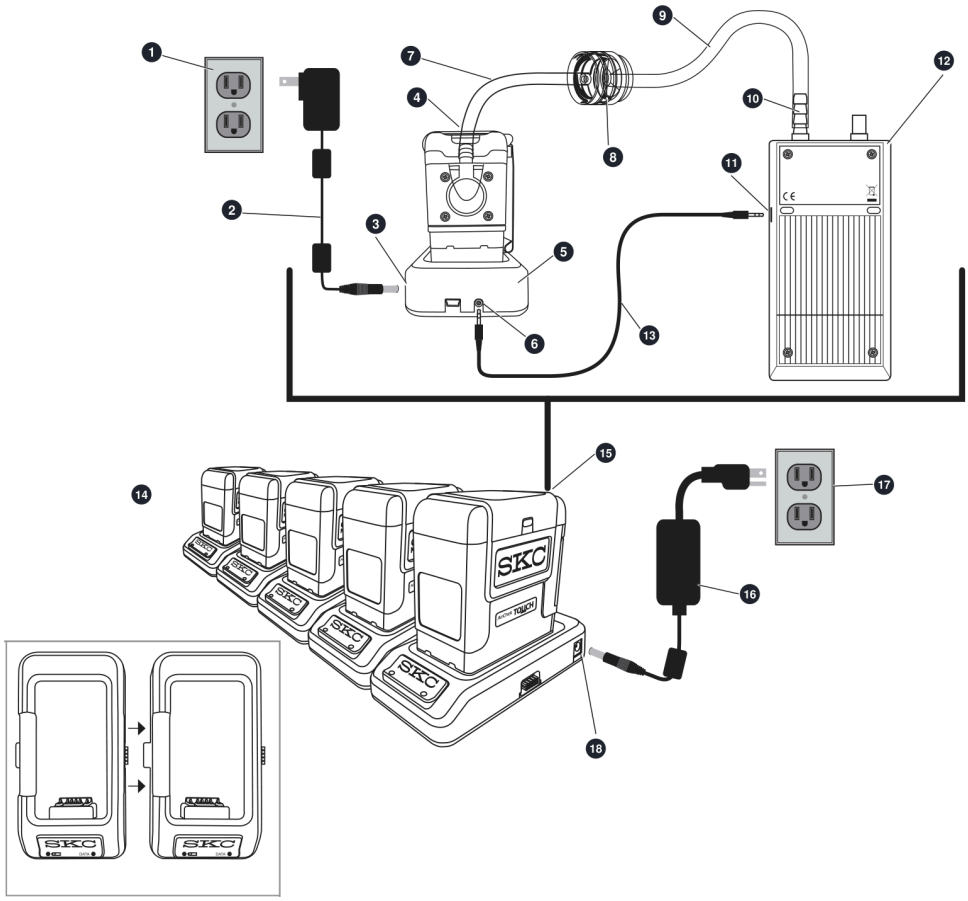


Figure 7. CalChek Single flow rate verification train, with one cradle (top) or a chain of cradles (bottom); inset: how two cradles connect.
1 Mains outlet, 100–240 V · **2** Single Cradle Power Supply · **3** Power port · **4** Pump inlet · **5** Cradle · **6** CalChek port · **7** Tubing · **8** Representative sample medium · **9** Tubing · **10** Flowmeter suction port · **11** CalChek interface socket · **12** chek-mate flowmeter (back) · **13** CalChek Communication Cable · **14** Five chained cradles · **15** Pump inlet · **16** Multi Cradle Power Supply · **17** Mains outlet · **18** Power port

Preparing the verification

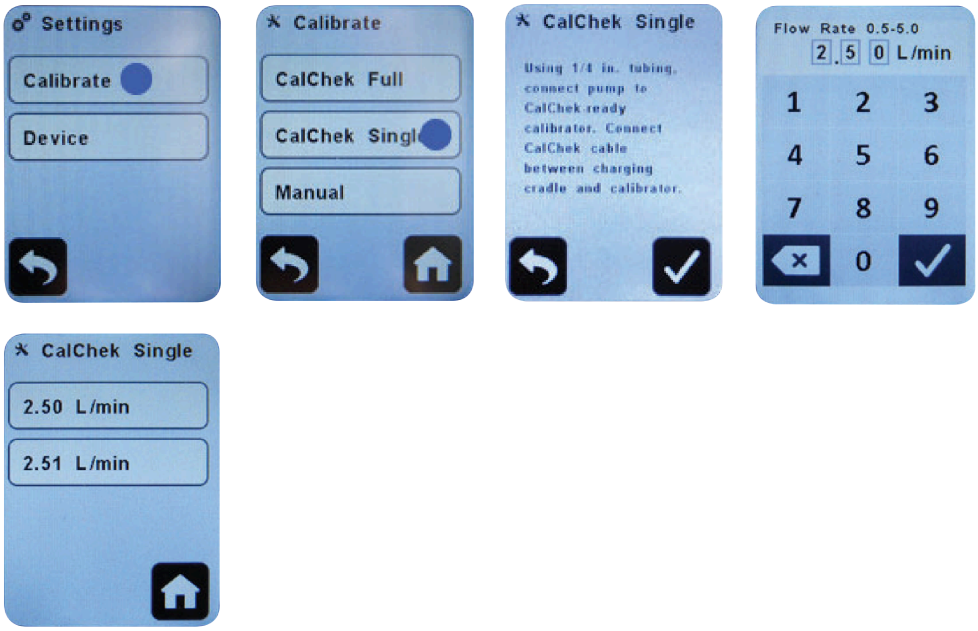
1. Connect the power supply to the cradle or chain of cradles, as for charging (see Setting up the cradles (p. 12)), and set the pump in its cradle.
2. Touch **Run** and let the pump run for 5 to 15 minutes.
3. Set up the verification train as in Figure 7, then touch **Stop**.
4. Press and hold the on/off button on the front of the chek-mate to switch it on.
5. Plug one end of the CalChek Communication Cable into the CalChek interface socket on the chek-mate, and the other end into the CalChek port at the back of the cradle.



Connecting the CalChek Communication Cable: to the chek-mate (left) and to the CalChek port on the back of the cradle (right, e-Cradle shown).

Running the verification

1. Touch **Settings › Calibrate › CalChek Single**.
2. Check that the verification train is in place and touch the checkmark.
3. Enter the required flow and touch the checkmark. The pump starts and verifies the flow by itself. The upper box on the screen shows the set flow, the lower box the flow measured by the chek-mate. Touch **Home** at any time to cancel.
4. When the screen reports "CalChek Single-Point calibration completed successfully", touch the checkmark to accept and return to the Home screen. If it reports that the calibration failed, it gives an error number and what to check: touch **Back** to repeat the verification, or X to leave it.



CalChek Single: Calibrate, CalChek Single, the prompt to connect the verification train, entering the flow, and the running verification (upper box set flow, lower box flow measured by the chek-mate). The Home screen before it is as in the date and time figure.

After the verification

- **One pump:** replace the representative medium with a fresh, unexposed one, take the pump out of the cradle, unplug the CalChek cable from the cradle and continue with Sampling (p. 23).
- **A chain of pumps:** the flow of each pump is verified on its own. Move the tubing with the representative medium to the inlet of the next pump and the CalChek cable to the CalChek port of its cradle, set the flow and repeat Running the verification (p. 21). When the flow of every pump is verified, take the pumps out of the cradles, unplug the cable from the last cradle, fit fresh, unexposed media and start sampling.

Manual verification, 5 to 500 mL/min

For flows from 5 to 500 mL/min the pump runs at a higher flow, and an adjustable tube holder sets the flow through each sorbent tube: you adjust it with the brass screw beneath the tube's port. Low flows can only be verified manually.

- **One tube:** All-in-One adjustable tube holder (included in Low Flow Kit 210-500).
- **Several tubes:** Dual, Tri or Quad Adjustable Low Flow Tube Holder with a Constant Pressure Controller (CPC). For details of these holders and the CPC, see their own operating instructions.

Verify the flow through the sampling train before *and* after each sample, with the same tube holder and pump you sample with.

Preparing the tubes and the pump

1. Decide how many tubes, and of which type, you need for verification and sampling. Break the tips off the representative tube(s) for the pre-sample verification. For multi-tube sampling, label the tubes.
2. On a stopped pump, touch the flow rate display (**Set Flow**) and set the pump flow with the arrows:
   - one tube: **1.5 L/min**;
   - several tubes: the sum of all tube flows plus 15 %.
3. Let the pump run for 5 to 15 minutes, then touch the flow rate display (**Manual Cal**, tools symbol).

> **Note**
> For multi-tube sampling, do not set more than 500 mL/min through any one tube.

Preparing the tube holder

1. Push an opened representative tube into the rubber sleeve of a port, with the arrow on the tube pointing towards the pump. For several tubes, repeat for each port you will sample with.
2. Several tubes only: seal every unused port with an unopened tube, and label the ports to match the tube labels.
3. With a small flat-blade screwdriver, turn the brass adjusting screw beneath the (first) active port anticlockwise.
4. Connect the flowmeter to the tube — for several tubes, to the first one — as in Figure 8 or Figure 9.



An opened tube in the All-in-One holder; the arrow marks the brass flow adjusting screw.

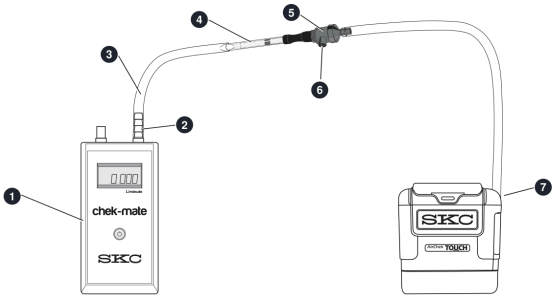


Figure 8. Verification train for one sorbent tube (All-in-One holder).
1 Flowmeter · **2** Suction port · **3** Tubing · **4** Sorbent tube · **5** All-in-One holder · **6** Adjusting screw · **7** Pump inlet

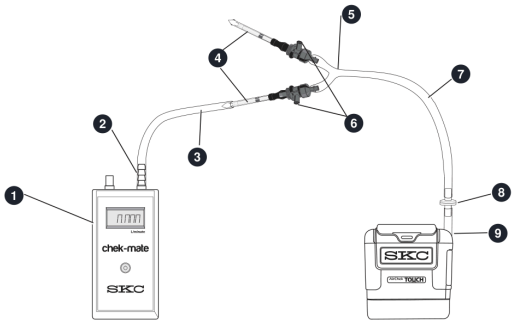
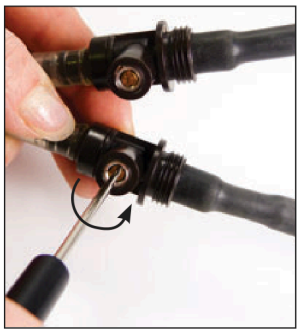


Figure 9. Verification train for several sorbent tubes, 5 to 500 mL/min (dual holder shown).
1 Flowmeter · **2** Suction port · **3** Tubing · **4** Sorbent tubes · **5** Dual adjustable low flow holder · **6** Adjusting screws · **7** Tubing · **8** Constant Pressure Controller (CPC) · **9** Pump inlet

Adjusting the flow

1. Turn the adjusting screw of the port clockwise to reduce the flow, or anticlockwise to increase it, until the flowmeter shows the flow your method specifies. The adjustment changes the reading on the flowmeter, not on the pump.
2. Several tubes: move the flowmeter tubing to the next active tube, open its adjusting screw anticlockwise, and repeat step 1. Do this for every active tube.

3. Check the flow through each tube once more before removing the representative tubes. Any correction should be small.
4. Touch the checkmark on the pump. The Manual Cal Completed screen appears: touch the checkmark to accept, or X to cancel. Both return to the Home screen.
5. Disconnect the flowmeter and the representative tubes, and continue with Sampling (p. 23).



Turning the flow adjusting screw beneath a port of the adjustable low flow tube holder.

Note
From the menus: **Settings › Calibrate › Manual**, connect the verification train, checkmark, enter the flow, checkmark, adjust with the screw on the holder, checkmark, then checkmark to accept or X to cancel.

Sampling

The pump runs a sample in one of two ways: manually, started and stopped by you, or timed, where the pump stops itself after a set duration — optionally starting at a set time, and optionally in run/pause cycles.

Before you sample

- Charge the battery completely, and let the pump adjust to the ambient temperature if it has come from a much colder or warmer place.
- Verify the flow with a representative sample medium (see Verifying the flow rate (p. 17)), then replace that medium with a fresh, unexposed medium as specified by your method.
- With sorbent tubes, verify the flow through the sampling train before and after each sample, with the tube holder and pump you sample with.
- The pump can sample while standing in a powered charging cradle — but never in a hazardous location (see Hazardous locations (p. 6)).

WARNING

A pump powered from any device, a charging cradle included, or from a battery pack other than P75718 or P75718A is no longer intrinsically safe. In a hazardous location it can ignite the atmosphere and cause fire, explosion or injury. This also voids the intrinsic-safety certifications and the warranty. In a hazardous location, power the pump only from battery pack P75718 or P75718A, with no charging cradle or other device connected. Use a pump standing in a powered cradle for sampling only outside hazardous locations.

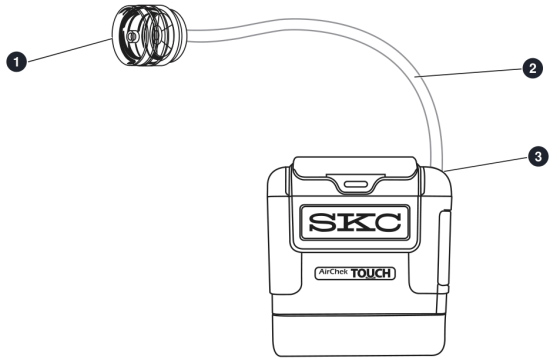
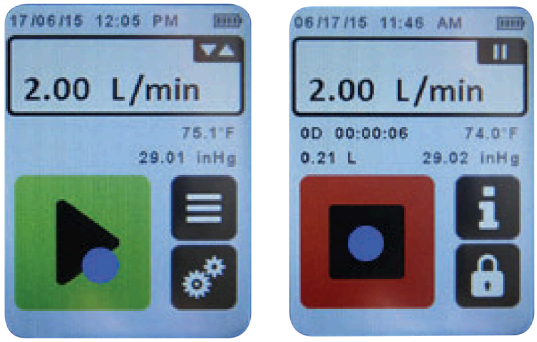


Figure 10. Sampling train (high flow, filter cassette shown).
1 Sample medium · **2** Tubing · **3** Pump inlet

Manual sample

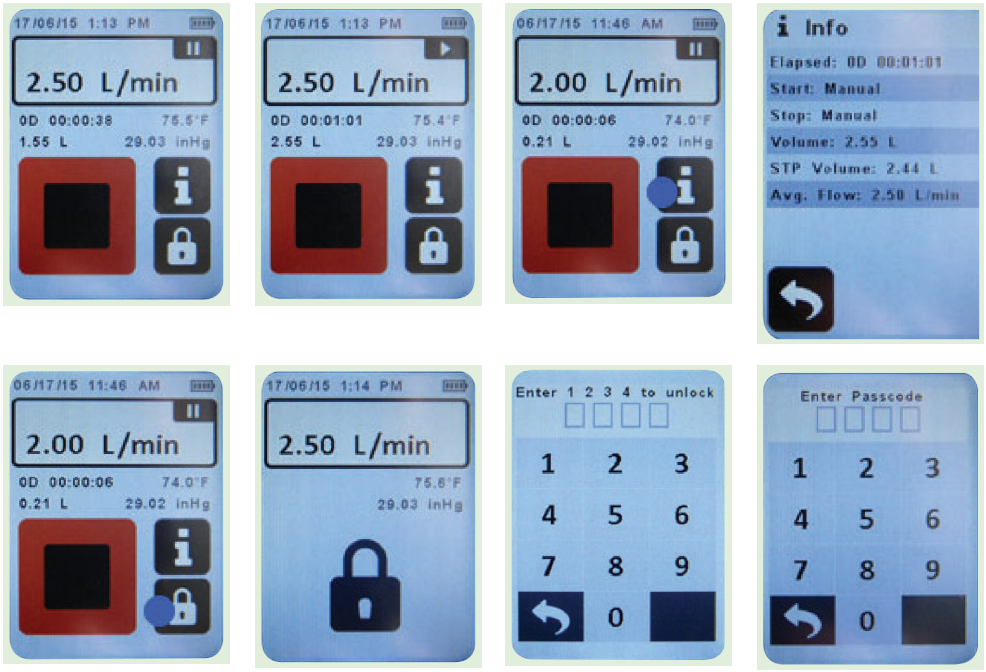
1. Set the flow your method specifies (see Setting the flow rate (p. 18)) and verify it with a representative medium.
2. Set up the sampling train as in Figure 10, with fresh medium.
3. Touch **Run** to start the sample, and note the start time.
4. To end the sample, touch **Stop**. The time and volume on the screen reset; the run data is saved to the history.
5. Note the stop time, remove the sample medium and cap it.
6. Fit the representative medium again and verify the flow after sampling (post-sample flow rate verification).



Manual sample: Run on the Home screen (left) and Stop on the running pump (right).

While the pump is running

To…	Do this
Pause the sample	Touch the flow rate display (**Pause**). The pump stops and the run data freezes.
Resume the sample	Touch the flow rate display (**Resume**). The pump restarts and the run data continues to accumulate.
See the current run data	Touch **Info** (i).
Lock the screen	Touch **Lock**. The Lock screen appears.
Unlock the screen	Touch the Lock screen and enter **1 2 3 4** as prompted. If Secure Lock is on, enter your passcode or the master passcode **8472** (see Secure Lock (p. 15)).



While the pump is running. Top row: pause and resume; Info and the current run data. Bottom row: Lock, the Lock screen, unlocking with 1 2 3 4, and the passcode prompt when Secure Lock is on.

Next to the accumulated volume, the pump shows the volume converted to standard conditions (STP volume). The standard conditions (STP or others) are chosen in DataTrac Pro.

Timed samples

A timed sample stops itself after the duration you enter. As soon as you touch **Run** on a timed sample, the screen locks — whatever the Auto-Lock setting — so the sample cannot be changed by accident. For a one-off run use a quick timed sample; for runs you repeat regularly, save them as one of the four presets.

Quick timed sample

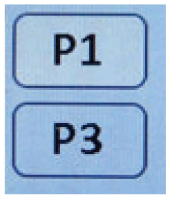
1. Verify the flow with a representative medium and set up the sampling train (Figure 10).
2. Touch **Menu › Timed Sample › Timed**.
3. Enter the flow your method specifies and touch the checkmark.
4. Enter the total sample time in minutes and touch the checkmark. The Timed Sample screen appears.
5. Touch **Run** to start. Alternatively: **Edit** to change flow and duration (touch **Erase** on each screen to clear the old value), **Back** to return to the duration screen, or **Home** to leave without saving the timed sample.
6. The pump stops at the end of the set time; to end the sample earlier, touch **Stop**. Then note the stop time, remove and cap the medium, and verify the flow with the representative medium.



Quick timed sample: Menu, Timed Sample, Timed, the flow rate and the total duration.

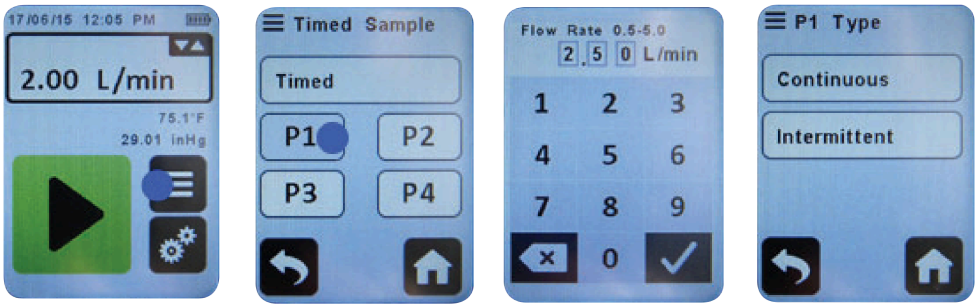
Timed sample presets

Presets **P1** to **P4** store a complete sample program: flow, continuous or intermittent operation, duration and an optional start time. A preset that is already programmed shows a white background. Presets can be edited on the pump or in DataTrac Pro (*Also in DataTrac Pro*).



Preset keys: a programmed preset has a white background (top), an empty one does not (bottom).

1. Touch **Menu › Timed Sample**, then a preset, e.g. **P1**.
2. Enter the flow your method specifies and touch the checkmark.
3. Choose **Continuous** or **Intermittent** and continue below.

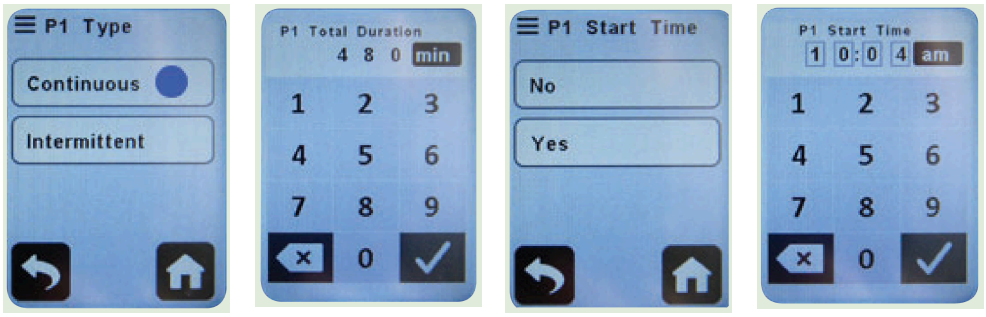


Creating a preset: Menu, then on the Timed Sample screen a preset (P1), the flow rate, and the type of sample. The Menu screen in between is as in the quick timed sample figure.

Continuous sample — the pump runs without a break for the whole duration:

1. Enter the total sample time in minutes and touch the checkmark.

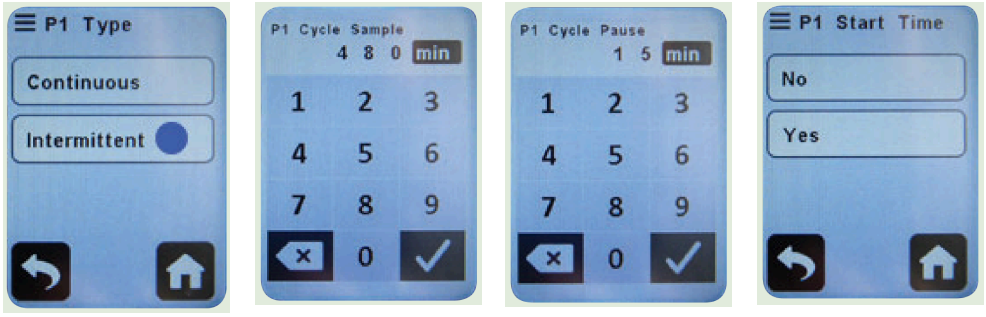
2. Start time: touch **No** to start the sample manually, or **Yes** to enter a start time (hh:mm, then **am**, **pm** or **24**, then the checkmark). Touch **Date** to change the start date.



Continuous sample: Continuous, the total duration, the start-time choice, and the start time.

Intermittent sample — the pump alternates between sampling and pausing for the whole duration:

1. Enter the total duration of the sample in minutes and touch the checkmark.
2. Enter the minutes the pump samples in each cycle and touch the checkmark.
3. Enter the minutes the pump pauses in each cycle and touch the checkmark.
4. Set the start time as for a continuous sample.



Intermittent sample: Intermittent, the minutes of sampling and of pause in each cycle, and the start-time choice. The total duration and start time screens are as in the continuous sample figure.

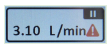
> **Note**
> For an intermittent sample the pump calculates the number of run/pause cycles and the expected volume. To fit in whole cycles, it may adjust the total duration slightly.

The preset screen then offers **Run** to start (the screen locks automatically), **Edit** to change any of the entries (use **Erase** to clear old values), **Back** to return to the Timed Sample screen, and **Home**.

Faults during sampling

The pump holds the flow constant while the load changes. If it can no longer compensate — for example with a nearly empty battery, an overloaded sample medium or kinked tubing — it stops and reports a fault. The history records the fault but not its cause, so note what you found.

Fault	What the pump does	What to do
Low battery	Stops and switches off without warning; how soon depends on the load. The run data is kept in the history. A red fault symbol appears when the pump is switched on again and disappears during the next sample.	Charge the battery (see Commissioning (p. 12)).

Fault	What the pump does	What to do
 Flow fault	If the flow stays out of tolerance for more than 15 seconds: the LEDs flash red and green, the pump stops and shows a red fault symbol. It then tries to restart every 15 seconds, up to 5 times. If the flow recovers, sampling and data accumulation continue. If not, the pump stops and the time and volume on the screen reset to zero.	Check for kinked tubing and an overloaded or blocked medium. The run data up to the fault is in the history (see Sample history (p. 28)).

Sample history and pump information

Sample history

Every sample the pump runs is saved to its history when the sample ends — including samples ended by a fault. Touch **Menu › History**: the pump shows a short summary of the latest sample. Scroll through older records with the up/down arrows. Besides the accumulated volume, the history shows the volume at standard conditions (STP volume).



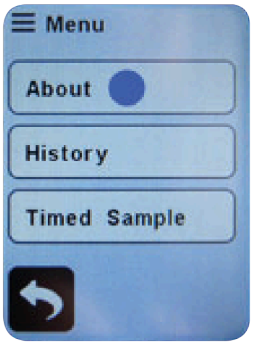
Sample history: History in the menu (left) and a history record (right), scrolled with the arrows.

NOTICE

The pump holds up to 1042 history records. Once the history is full, the oldest records are overwritten without warning. Upload the history to a PC with DataTrac Pro every week so that no data is lost.

Pump information

Touch **Menu › About** to display the pump information. Have it at hand when you contact Analyt-MTC about the pump.



About in the menu. The pump information screen lists the date of manufacture, serial number, ID, lifetime run time and volume, and the firmware version.

CHAPTER 5

Communication

Using the pump with a PC

With the DataTrac Pro for AirChek TOUCH software (DataTrac Pro for short) on a PC, you can download the run data and history, and set up pump settings and sample programs — delayed start, timed stop and intermittent sampling at different flow rates — then upload them to up to five pumps at once. The pump connects to the PC through a Charging e-Cradle (Cat. No. 220-900) and a USB connection. The DataTrac Pro Hardware Accessory Kit (Cat. No. 877-93) contains an e-Cradle, a single cradle power supply and a USB 2.0 A to Mini-B cable.

DataTrac Pro is free software, downloaded over the Internet. Ask Analyt-MTC for the current installer and for the DataTrac Pro for AirChek TOUCH user manual, which describes installation and operation in detail.

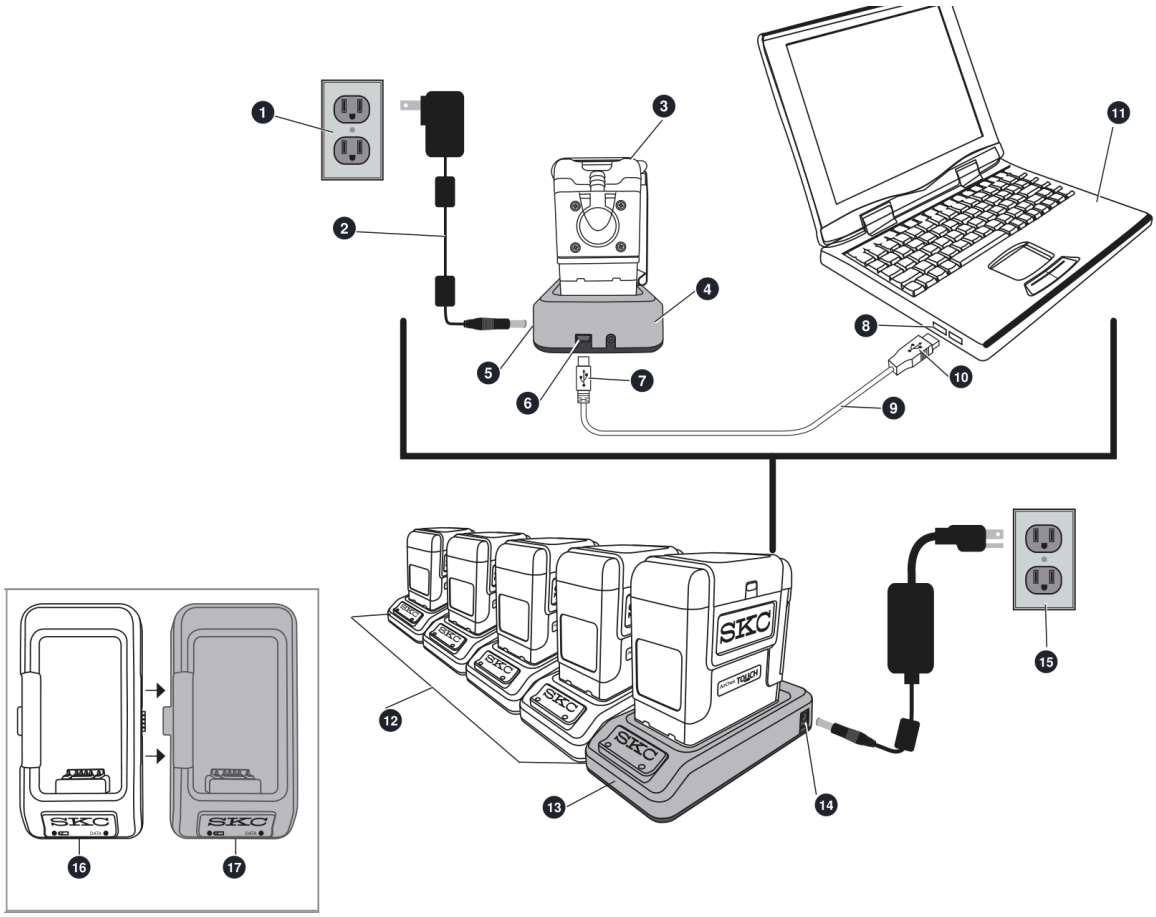


Figure 11. Connecting pumps to a PC: one pump in an e-Cradle (top), or a chain of cradles ending in the e-Cradle (bottom); inset: how a standard cradle connects to the e-Cradle.
1 Mains outlet, 100–240 V · **2** Single Cradle Power Supply · **3** Pump · **4** e-Cradle (grey) · **5** Power port · **6** Data port · **7** Mini-B connector · **8** USB 2.0 A port · **9** USB cable · **10** USB connector · **11** PC · **12** Standard cradles (black) · **13** e-Cradle (grey) · **14** Power port · **15** Mains outlet · **16** Standard cradle (black) · **17** e-Cradle (grey)

1. Check that the PC meets the system requirements of DataTrac Pro.
2. Set up the cradles, power supply and USB cable as in Figure 11, set the pump(s) in the cradles and switch them on.
3. Install DataTrac Pro on the PC.

Note
The pumps must be powered and switched on before you download data from them.

If the PC does not find the pump, see Troubleshooting (p. 35).

Access control and stored data

Access to a running pump is controlled on the pump itself: see Security: Auto-Lock, Secure Lock and Auto-Dim (p. 15). Auto-Lock unlocks with the code **1 2 3 4**; Secure Lock needs your four-digit passcode or the master passcode **8472**.

The pump stores up to 1042 sample records and overwrites the oldest without warning once the history is full: see Sample history (p. 28). Upload the history to a PC with DataTrac Pro every week.

CHAPTER 6

Calibration and verification

CalChek Full — also called multi-point calibration, or resetting the compensation system — calibrates the pump's flow compensation across its whole operating range. It is needed after maintenance or repair, not before each sample; before and after each sample, verify the flow as described in Verifying the flow rate (p. 17). CalChek Full runs *without* a sample medium: a Pulsation Dampener takes its place in the verification train.

You need a Medium Flow chek-mate Flowmeter with CalChek (see Flowmeters and calibration accessories (p. 39); kits 375-0550-KN and 375-0550-KNS combine it with the Pulsation Dampener), a Standard Charging Cradle (220-800) or e-Cradle (220-900), the CalChek Communication Cable (375-200) and the Pulsation Dampener (375-100). Charge the battery completely and let the pump adjust to the room temperature first.

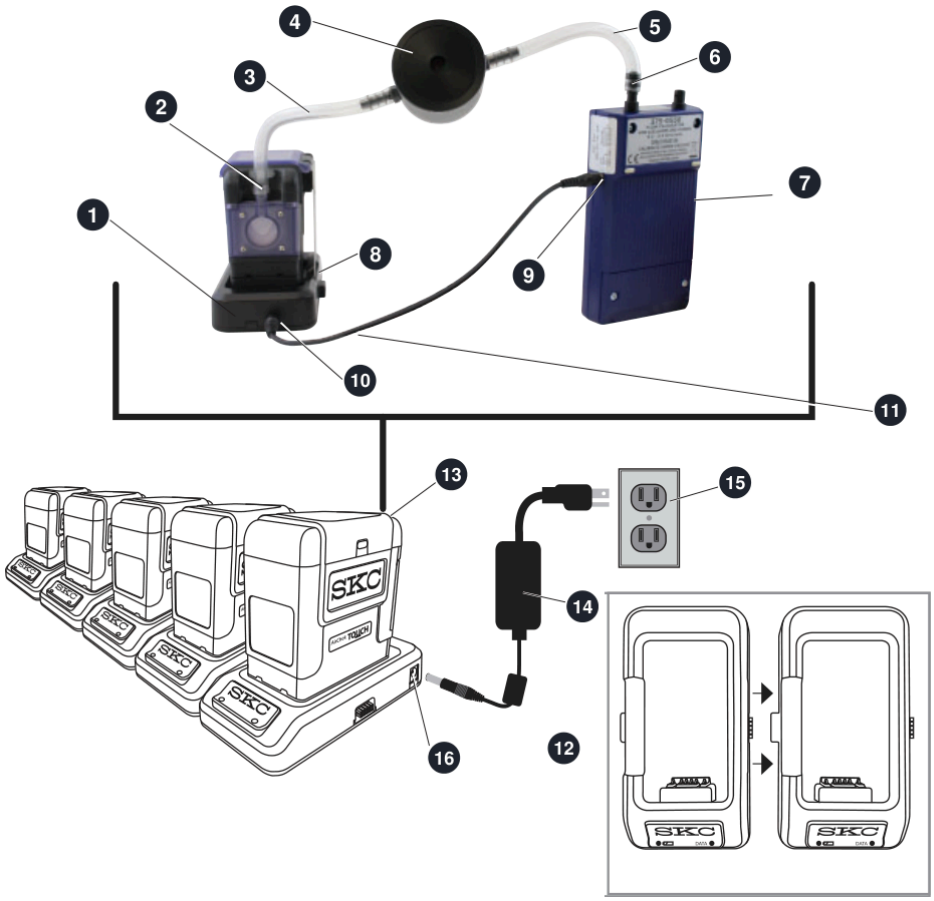
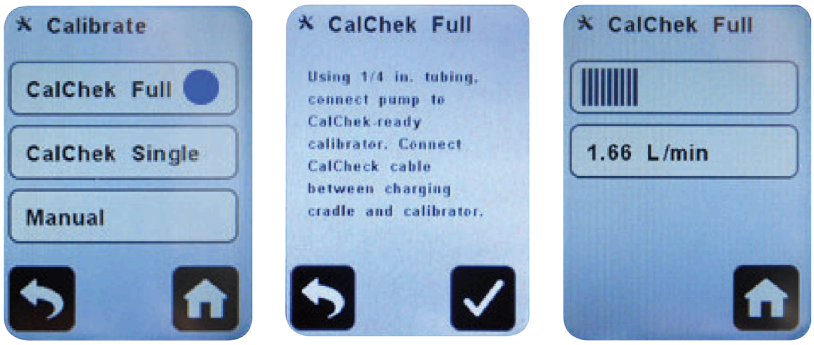


Figure 12. Verification train for CalChek Full calibration, with one cradle (top) or a chain of cradles (bottom); inset: how two cradles connect.
1 Single Cradle Power Supply · **2** Pump inlet · **3** Tubing · **4** Pulsation Dampener · **5** Tubing · **6** Flowmeter suction port · **7** chek-mate flowmeter (back) · **8** Cradle · **9** CalChek interface socket · **10** CalChek port · **11** CalChek Communication Cable · **12** Five chained cradles · **13** Pump inlet · **14** Multi Cradle Power Supply · **15** Mains outlet, 100–240 V · **16** Power port

1. Prepare the cradle(s), the pump, the chek-mate and the CalChek cable exactly as for CalChek Single (see Preparing the verification (p. 20)), including the 5 to 15 minute run, but build the verification train of Figure 12: Pulsation Dampener in line, no sample medium. Only one pump is calibrated at a time.
2. Touch **Settings › Calibrate › CalChek Full**.

3. Check that the verification train is in place — without sample medium, with the Pulsation Dampener — and touch the checkmark.
4. The pump calibrates itself. The Data LED on the cradle flashes green and amber alternately; the upper box on the screen shows a progress bar, the lower box the flow measured by the chek-mate. This can take several minutes. Touch **Home** at any time to cancel.
5. When the screen reports "CalChek Full calibration completed successfully", touch the checkmark to accept and return to the Home screen. If calibration failed, the screen gives an error number and what to check: touch **Back** to repeat, or X to leave.
6. Unplug the CalChek cable from the cradle.



CalChek Full: CalChek Full on the Calibrate screen, the prompt to connect the verification train, and the running calibration. The Home and Settings screens before it are as in the CalChek Single figure.

CHAPTER 7

Maintenance

You may replace four external parts yourself: the battery pack, the screen cover, the belt clip and the inlet filter with its housing. Use only the original spare parts listed in Spare parts (p. 39). All other service is done by Analyt-MTC (see What you may service yourself (p. 7)).

Replacing the battery pack

You need a 2.5 mm hex key (Allen key) and, for a replacement, a new battery pack P75718 (P75718A is also approved).

⚠ WARNING

Changing the battery pack in a hazardous location can ignite the atmosphere. An ignition can cause fire, explosion or injury. Remove and replace the battery pack only in an area known to be non-hazardous. Read the warnings in Hazardous locations (p. 6) and Battery pack (p. 6) first.

NOTICE

Removing the battery pack from a running pump loses the date, time and other settings. Switch the pump off before you remove the battery pack.

1. Switch the pump off: press and hold the recessed on/off button briefly until the screen goes dark.
2. Loosen the two screws on the bottom of the battery housing with the hex key, and pull the battery pack away from the pump case.
3. If you are fitting a new pack, dispose of the old one promptly according to local regulations. Do not take it apart and do not put it in a fire.
4. Align the battery pack with the bottom of the pump case: the connector on top of the pack must meet the protruding contacts of the power control board on the bottom of the case.
5. Press the two parts together until they sit snugly, then tighten the two screws, alternating between them.
6. Charge a new battery pack completely before use. A pack you have re-fitted must be at least 25 % charged — two bars on the battery symbol (see Commissioning (p. 12)).

Replacing the screen cover

1. Remove the two screws from the top of the screen cover's mounting block, and lift off the cover with the block.
2. Press the mounting block onto the posts of the new cover, with the underside of the block facing up and its straight edge facing away from the cover. Swing the block away from the cover until it stops against the cover's inside edge.
3. Line up the cover and block with the holes in the top of the belt clip and pump case.
4. Insert the two screws through the block into the belt clip and tighten them gently until snug.
5. Check that the cover closes properly.

Replacing the belt clip

> **Note**
> Do not remove the two lower hex nuts from the main case, and make sure the hex nut in the top of the case does not fall out while the clip is off.

1. Remove the screen cover: take out the two screws from the top of the mounting block and lift off the cover with the block.
2. Remove the screw from the bottom of the belt clip and pull it out through the opening in the clip.
3. Lift the belt clip away from the pump.
4. Push the new belt clip into place until it fits snugly.
5. Insert the belt-clip screw through the opening in the clip into the pump case. Tighten it only until it engages — not fully yet.
6. Refit the screen cover: line up the two holes of the mounting block with the holes in the top of the belt clip, insert the two screws and tighten them until snug. Check that the cover closes properly.
7. Now tighten the screw under the belt clip until snug.

Replacing the inlet filter or inlet housing

1. Remove the four screws from the inlet housing (4 in Figure 1 (p. 9)) and pull the housing away from the pump.
2. Remove the O-ring and the filter.
3. Place the new or existing filter and the O-ring in the inlet recess. The O-ring must lie completely flat.
4. Line up the inlet housing with the recess and insert the four screws. Tighten them only until the gap between housing and pump has closed.

CHAPTER 8

Troubleshooting

Problems and remedies

Problem	Remedy
The pump stopped during a sample and shows a red fault symbol.	Low battery or flow fault — see Faults during sampling (p. 27). The run data up to the fault is in the sample history (p. 28).
The LEDs flash alternately red and green.	The flow is out of tolerance: check for kinked tubing and an overloaded or blocked sample medium. The pump is about to enter flow-fault mode, or is trying to restart.
The screen does not accept input during a sample.	The screen is locked. Touch it and enter 1 2 3 4, or the Secure Lock passcode (master passcode 8472).
The pump is in an e-Cradle with power supply and cable, but does not communicate with the PC.	1. Check that DataTrac Pro is installed correctly. 2. Restart DataTrac Pro. 3. Check the cable connections. 4. In a chain of cradles, check that the cradles are firmly connected. 5. Unplug the CalChek Communication Cable from the cradle or chain.
The touch screen is frozen, or the on/off button does not respond.	Reset the pump — see Resetting the pump (p. 35).

If none of these remedies helps, contact Analyt-MTC (see Service, warranty and contacts (p. 41)). Do not open the pump: beyond the parts in Maintenance (p. 33), repairs are done by Analyt-MTC.

Resetting the pump

If the pump no longer responds to the touch screen, reset its microprocessor. Try steps 1–2 first; steps 3–6 are needed only if the pump still does not respond. Both remove the battery pack, so work in a non-hazardous area.

1. Remove the battery pack and fit it again (see Replacing the battery pack (p. 33)).
2. Touch the screen. If the pump responds, carry on working. If not, continue with step 3.
3. Remove the battery pack again. Lay the pump on a flat surface with the AirChek TOUCH logo facing up.
4. Find the two protruding contacts of the power control board on the bottom of the pump case, labelled “RESET”.

   NOTICE

   A sharp object can damage the contacts. Do not use a sharp object on the contacts.

5. Lay a metal paper clip across both RESET contacts for at least 8 seconds, then remove it (Figure 13).



Figure 13. Touching both RESET contacts with a paper clip for 8 seconds.

Note

After a manual reset or a firmware upgrade, the pump shows a start-up screen with the manufacturer's logo and the firmware version the first time it is switched on.

6. Fit the battery pack again straight away and check that the pump responds. The battery must be at least 25 % charged (two bars).

CHAPTER 9

Specifications

Flow and performance

Pump type	Type P, for personal sampling of airborne particles according to ISO 13137:2022
Flow range	1000–5000 mL/min, constant flow 5–500 mL/min with an adjustable low flow tube holder
Back pressure (pressure drop)	5000 mL/min at 0–20 in. H_2O (0–5 kPa) 4000 mL/min at 0–30 in. H_2O (0–7.5 kPa) 3000 mL/min at 0–40 in. H_2O (0–10 kPa) 2000 and 1000 mL/min at 0–50 in. H_2O (0–12.5 kPa)
Flow control	Isothermal; corrects for changes in back pressure, temperature and atmospheric pressure
Flow fault	If the pump cannot compensate it enters flow-fault mode and tries to restart 5 times
Flow accuracy	Flow control ±5 % of set point
Sound level	51.7 dB average at 3 ft (1 m), with a 37 mm, 0.8 µm mixed cellulose ester (MCE) filter cassette
Sample media	Sorbent tubes, filters, size-selective particulate samplers, impingers

Power

Battery	Removable, rechargeable Li-Ion battery pack: 7.2 V, 3.3 Ah, 24 Wh (approved packs P75718 and P75718A)
Mains operation	From a powered charging cradle; run time unlimited
Operating time on battery	8 h or more at 2000 mL/min against 16 in. H_2O (4 kPa) back pressure 8 h or more at 5000 mL/min against 20 in. H_2O (5 kPa) back pressure 20 h at 2000 mL/min* 10 h at 5000 mL/min*
Charging	In a charging cradle: one cradle with Single Cradle Power Supply 220-600, or up to 5 chained cradles with Multi Cradle Power Supply 220-700; power supplies 100–240 V
Charging time	Approx. 3 hours, depending on battery capacity and state of discharge
Maximum charge input voltage	U_m = 12 V

* Measured with a new pump and battery and a 37 mm, 0.8 µm MCE filter. Run time in use may differ.

Operating conditions

Temperature	Operating 32–104 °F (0–40 °C) · charging 32–113 °F (0–45 °C) · storage −4 to 113 °F (−20 to 45 °C)
Humidity	Operating and storage up to 95 % RH, non-condensing
Altitude	Flow corrected for temperature (32–104 °F, 0–40 °C) and ambient pressure up to 15000 ft (4572 m) above and down to 4500 ft (1372 m) below sea level

Display and sensors

Display	Colour LCD: flow rate, ambient temperature, ambient pressure, accumulated volume, elapsed time (all real-time)
User interface	Resistive touch screen with auto-dim and locking
Status LEDs	Dual LEDs: flashing green = running; flashing red = flow fault
Sensor accuracy	Atmospheric pressure ±0.3 inHg · temperature ±1 °C · time ±0.002 %
Other features	Real-time clock; programmable on the pump and from a PC; CalChek automatic flow rate verification and calibration; PC connection through the e-Cradle; ultra-quiet operation

Mechanical

Dimensions	4.1 × 3.7 × 2.8 in (10.4 × 9.4 × 7.1 cm)
Weight	19.4 oz (550 g)
Case	Polycarbonate with rubberised anti-static overmoulding; belt clip
Tubing	1/4 in inside diameter
Ingress protection	Not rated

Certifications

Intrinsic safety (UL)	Class I, Div. 1, Groups A, B, C and D; Class II, Div. 1, Groups E, F and G; Class III, Div. 1 hazardous locations, when used with battery pack P75718 or P75718A; temperature code T3C Exia; Class I, Zone 0, Group IIC (Cat. No. 220-5000TC)
Rating label	cULus Listed mark, E62011: “SKC AirChek TOUCH Model 220-5000TC, Intrinsically Safe Air Sampling Pump; Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III, T-Code T3C; Class I, Zone 0, Group IIC”
Standards and marks	Designed to meet ISO 13137:2022 · CE · UKCA · RoHS compliant

The certification applies only under the conditions in Safety (p. 6).

CHAPTER 10

Ordering information

Order from Analyt-MTC with the order codes.

For the pump and its kits, see Checking the contents (p. 8). Use only these original parts: the UL listing for intrinsic safety holds only with approved parts, and other parts void the warranty.

Charging and data accessories

Description	Order code
Standard Charging Cradle (black); needs a power supply	220-800
Charging e-Cradle (grey), for PC connection with DataTrac Pro; includes USB cable; needs a power supply	220-900
Single Cradle Power Supply, for one cradle, 100–240 V	220-600
Multi Cradle Power Supply, for 2 to 5 chained cradles, 100–240 V	220-700
DataTrac Pro Hardware Accessory Kit: e-Cradle, Single Cradle Power Supply and USB cable for the PC connection; needed to download and use the free DataTrac Pro for AirChek TOUCH software (pump and software required)	877-93

Flowmeters and calibration accessories

Description	Order code
Medium Flow chek-mate Flowmeter with CalChek, 0.50–5 L/min; includes 9 V alkaline battery; CalChek cable ordered separately. With a calibration certificate traceable to UK standards	375-0550
The same flowmeter with a calibration certificate traceable to NIST (National Institute of Standards and Technology, USA) or ISO standards	NIST: Ask Analyt-MTC ISO: 375-0550S
Kit: Medium Flow chek-mate Flowmeter with Pulsation Dampener 375-100. With a calibration certificate traceable to NIST or ISO standards:	375-0550-KN (NIST) 375-0550-KNS (ISO)
CalChek Communication Cable, required for CalChek automatic flow rate verification and CalChek Full calibration	375-200
Pulsation Dampener, required for CalChek Full calibration	375-100

Sampling accessories

Description	Order code
Low Flow Kit, 5–500 mL/min: All-in-One adjustable tube holder and Type A protective tube cover	210-500
Protective pouch, black nylon, with adjustable waist belt and shoulder strap	224-911

Spare parts

Description	Order code
Replacement battery pack, Li-Ion; P75718 and P75718A are the only packs approved for the pump; never use a repaired or rebuilt one	P75718A P75718
Belt clip	P51824
Inlet	P20423

Description	Order code
Inlet filter and O-rings, pack of 3	P4001
Screen cover	P20422

CHAPTER 11

Service, warranty and contacts

Analyt-MTC is your contact for everything concerning the AirChek TOUCH: technical questions, spare parts and accessories, repairs and warranty claims. Any work beyond the user tasks in Maintenance (p. 33) — including anything inside the pumping compartment — is service work; contact Analyt-MTC. Repairs that affect intrinsic safety must be done by the manufacturer's authorised service.

Contact

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www.analyt-mtc.com

Before you contact Analyt-MTC

Have the following at hand so that Analyt-MTC can help you quickly:

- the model and serial number from the rating label;
- the pump information (p. 28) from Menu › About;
- what happened, and the related entries in the sample history (p. 28).

Returning a pump

Before you send a pump for repair or under warranty, ask Analyt-MTC how to return it and what to include. The pump contains a lithium-ion battery, so the shipping rules below apply.

Shipping lithium-ion batteries

The pump's Li-Ion battery packs have passed the tests of the UN Manual of Tests and Criteria, Part III, subsection 38.3, and are rated below 100 Wh. Pumps and battery packs are nevertheless subject to the special shipping regulations for lithium batteries (UN 3480 and UN 3481). Ask your carrier before you ship them.

Warranty

Make warranty claims to Analyt-MTC; the warranty terms of your supply contract apply. Following the warnings and cautions in this manual is a condition of any claim, so check Safety (p. 6) before you report a fault.

Disposal

Do not dispose of the pump with household waste. Dispose of it as electrical and electronic equipment under local regulations (WEEE). Remove batteries first where fitted and dispose of them separately.

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Sales, service and calibration

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