

# TRAINING HANDBOOK

Accu-Chek® Solo micropump system



# SCREEN FOR BOLUS ENTRY

## Getting to know the bolus entry screen



	Name	Description
①	<b>Blood glucose result</b>	If no current test result exists, --- is displayed.
②	<b>Active Insulin</b>	If no active insulin exists, --- is displayed. This screen element is only available with activated bolus advice feature.
③	<b>Carbohydrate amount</b>	If no carbohydrate amount is entered, --- is displayed.
④	<b>Total amount</b>	Tap this entry field to enter the total amount for the bolus. The total amount is the sum from correction bolus and meal bolus.
⑤	<b>Correction insulin</b>	Tap this entry field to enter the amount of insulin needed to return from an out-of-target blood glucose value back to values within target.  Correction insulin can be negative, if the BG value is below the target value. This will be taken away from a pending meal bolus.
⑥	<b>Meal insulin</b>	Tap this entry field to enter the amount of insulin to compensate for the food ingested.
⑦	<b>Bolus type</b>	Tap this element to select one of the following bolus types: standard bolus, extended bolus, multiwave bolus, quick bolus, pen/syringe bolus.

The information displayed on the diabetes manager for the carbohydrate amount (③), is only visible if you have entered it in the detailed BG test result screen.

### **Note**

When the screen for bolus entry appears for the first time, there are no bolus amounts specified. You must enter the bolus amount.

If you first set the correction bolus or the meal bolus, the total bolus amount is deactivated and cannot be adjusted. The value, however, is updated accordingly.

If you first set the total amount, all insulin will be set as correction bolus. The entry fields for correction bolus and meal bolus are deactivated.

Therefore, it is recommended to start by entering correction bolus and meal bolus, separately. Without bolus advice setup, distinguishing between correction and meal insulin mainly affects the bolus types you can use. With bolus advice set up, it may help to better control high BG values after meals.

# STANDARD BOLUS

## What is the standard bolus

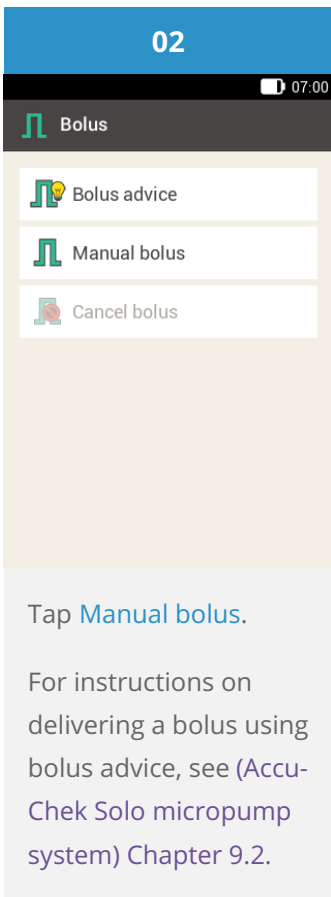
The standard bolus delivers the programmed insulin dose all at once, similar to an injection. This bolus can be helpful for foods that contain rapid-acting carbohydrates, such as cake or bread. The standard bolus is also the right bolus for correcting high blood glucose levels.

## Initiating a bolus

01		
<b>Main menu</b> <b>Add data</b>	<b>Status screen</b> <b>Add data</b>	<b>Done</b> <b>Bolus</b>
<b>Status screen &gt; Bolus</b> <b>Option 1:</b> Tap <b>New bolus</b> or <b>+</b> on the Status screen. Continue with Step 2.	<b>Main menu &gt; Bolus</b> <b>Option 2:</b> Tap the <b>Bolus</b> menu from within the Main menu. Continue with Step 2.	<b>Test result &gt; Bolus</b> <b>Option 3:</b> After testing your blood glucose: Tap <b>Bolus</b> on the Test result in detail screen. Continue with Step 3.

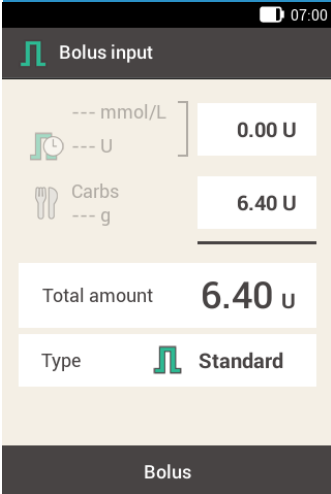
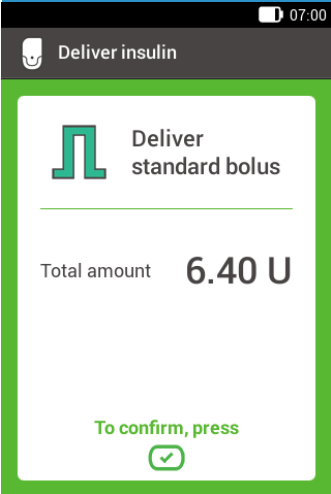
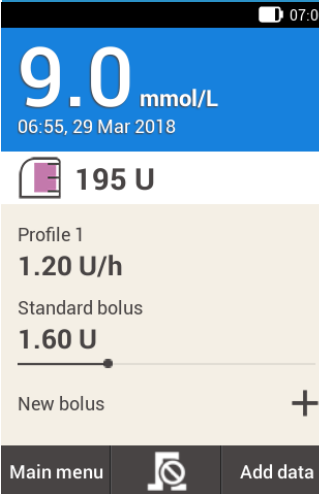
### Note

If you have already set up the bolus advice function, tapping "Bolus", in option 3, will lead you directly to the bolus advice result screen. (For more information on bolus advice, see [\(Accu-Chek Solo micropump system\) Chapter 9.1](#)).



## Entering the bolus

03	04	05
Bolus	OK	OK
<p>Tap the entry field that is appropriate for your situation: enter the correction bolus, the meal bolus or the total bolus amount.</p>	<p>Use <b>-</b> and <b>+</b> to set the desired amount for the correction bolus.</p> <p>Tap <a href="#">Save</a>.</p>	<p>Use <b>-</b> and <b>+</b> to set the desired amount for the meal bolus.</p> <p>Tap <a href="#">Save</a>.</p>

06	07	08
 <p>07:00</p> <p>Bolus input</p> <p>--- mmol/L ] 0.00 U</p> <p>--- U</p> <p>Carbs --- g 6.40 U</p> <p>Total amount 6.40 U</p> <p>Type  Standard</p> <p>Bolus</p>	 <p>07:00</p> <p>Deliver insulin</p> <p>Deliver standard bolus</p> <p>Total amount 6.40 U</p> <p>To confirm, press </p>	 <p>07:00</p> <p>9.0 mmol/L</p> <p>06:55, 29 Mar 2018</p> <p>195 U</p> <p>Profile 1 1.20 U/h</p> <p>Standard bolus 1.60 U</p> <p>New bolus +</p> <p>Main menu  Add data</p>
<p>Tap <b>Bolus</b>.</p>	<p>This screen shows you the details of the bolus. Check that they are correct and then press the insulin button to deliver the bolus.</p>	<p>The micropump delivers the standard bolus. The display shows the Status screen with a progress bar illustrating the progress of the bolus delivery.</p>



## EXTENDED BOLUS

### What is the extended bolus

For situations that require delivery of bolus insulin over a period of time instead of all at once, you can use an extended bolus. The extended bolus is a feature special to insulin infusion pumps where the amount of insulin is delivered over a period of time that you can adjust, as necessary. This can be especially useful for slowly digestible meals, e.g. foods with complex carbohydrates or foods that are high in fat and protein. An extended bolus can also be helpful for meals that extend over a longer period of time (e.g. a buffet). The duration of bolus delivery can be programmed in 15-minute increments for a period of up to 24 hours. Delivery begins immediately after you confirm the bolus. Throughout bolus delivery, the Status screen shows the remaining time and amount of the extended bolus. You can add a standard or quick bolus to an ongoing extended bolus and one additional extended or multiwave bolus.

#### Note

You can only program an Extended bolus when you program insulin for carbohydrates and no insulin for corrections.

01		
<p><b>Status screen &gt; Bolus</b></p> <p><b>Option 1:</b></p> <p>Tap <b>New bolus</b> or <b>+</b> on the Status screen.</p> <p>Continue with Step 2.</p>	<p><b>Main menu &gt; Bolus</b></p> <p><b>Option 2:</b></p> <p>Tap the <b>Bolus</b> menu from within the Main menu.</p> <p>Continue with Step 2.</p>	<p><b>Test result &gt; Bolus</b></p> <p><b>Option 3:</b></p> <p>After testing your blood glucose:</p> <p>Tap <b>Bolus</b> on the Test result in detail screen.</p> <p>Continue with Step 3.</p>

**Note**

If you have already set up the bolus advice function, tapping "Bolus", in option 3, will lead you directly to the bolus advice result screen. (For more information on bolus advice, see [\(Accu-Chek Solo micropump system\) Chapter 9.1](#)).

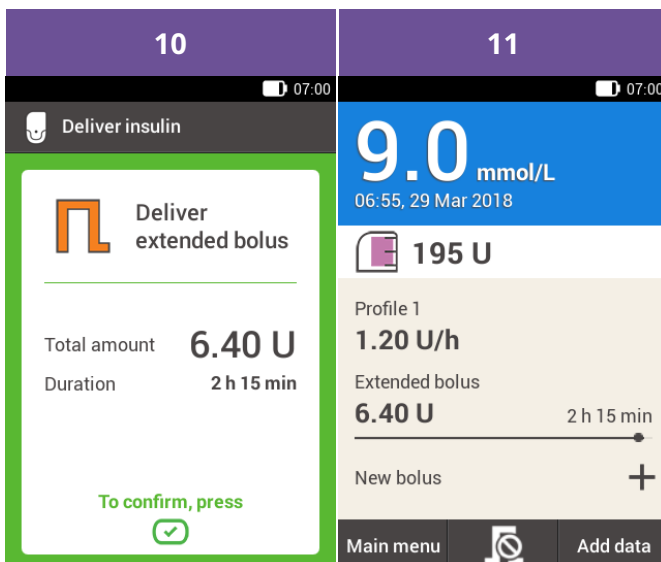
02	03
<p data-bbox="288 141 620 174">Bolus</p> <ul style="list-style-type: none"> <li data-bbox="308 241 601 293">Bolus advice</li> <li data-bbox="308 297 601 349">Manual bolus</li> <li data-bbox="308 353 601 405">Cancel bolus</li> </ul>	<p data-bbox="624 141 954 174">Bolus input</p> <div style="display: flex; justify-content: space-between;"> <div data-bbox="651 241 813 293"> <p>--- mmol/L</p> <p>--- U</p> </div> <div data-bbox="821 241 938 293"> <p>0.00 U</p> </div> </div> <div style="display: flex; justify-content: space-between;"> <div data-bbox="651 320 742 371"> <p>Carbs</p> <p>--- g</p> </div> <div data-bbox="821 320 938 371"> <p>0.00 U</p> </div> </div> <hr/> <div data-bbox="651 405 938 456"> <p>Total amount 0.00 U</p> </div> <div data-bbox="651 483 938 535"> <p>Type <b>Standard</b></p> </div> <p data-bbox="683 535 906 562">Including health events: 0 %</p>
<p data-bbox="308 667 539 701">Tap <b>Manual bolus</b>.</p>	<p data-bbox="643 667 927 842">Tap the entry field that is appropriate for your situation. Tap field for meal insulin.</p>

**Note**

You cannot deliver correction insulin over a period of time. Therefore, do not enter insulin in the correction or total field. If you need a correction bolus rather use the Standard or Multiwave bolus.

04	05	06
OK	Bolus	OK
Use <b>-</b> and <b>+</b> to set the desired amount for the meal bolus.  Tap <b>Save</b> .	Tap <b>Type</b> .	Tap <b>Extended bolus</b> .  Then tap <b>Save</b> .

07	08	09
Bolus	OK	Bolus
Tap <b>Duration</b> .	Use <b>-</b> and <b>+</b> to set the hours and minutes for the extended bolus duration.  Tap <b>Save</b> .	Tap <b>Bolus</b> .




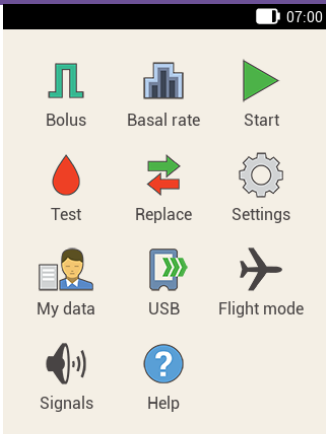
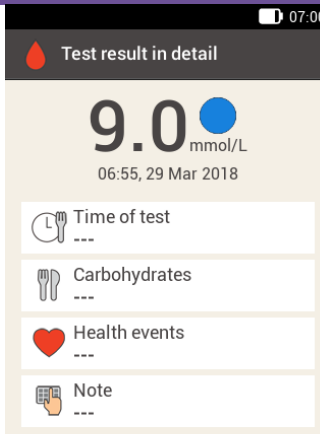

This screen shows you the details of the bolus. Check that they are correct and then press the insulin button to deliver the bolus.

The micropump delivers the extended bolus. The display shows the Status screen with a progress bar illustrating the progress of the bolus delivery and the time remaining until completion.

# MULTIWAVE BOLUS

## What is the multiwave bolus?

The multiwave bolus is another advanced feature of insulin pumps and combines a standard bolus with an extended bolus: part of the bolus amount is delivered immediately while the other part is delivered over a specified period of time. This kind of bolus can be helpful when you eat meals that contain both fast and slowly digestible carbohydrates as well as proteins and fats or long meals with several courses. You can also use this bolus type when you are planning to eat slowly digestible carbohydrates, but have an elevated blood glucose level before the meal. You then program the immediate part of the bolus for the correction of the blood glucose level and the extended part for the carbohydrates. The duration of the delayed bolus delivery can be programmed in 15-minute increments for a period of up to 24 hours, and begins immediately after you confirm the bolus. You can add a standard or quick bolus to an ongoing multiwave bolus, and one additional extended or multiwave bolus.

01		
		
<b>Main menu</b>  <b>Add data</b>	<b>Status screen</b> <b>Add data</b>	<b>Done</b> <b>Bolus</b>
<b>Status screen &gt; Bolus</b>  <b>Option 1:</b>  Tap <b>New bolus</b> or <b>+</b> on the Status screen.  Continue with Step 2.	<b>Main menu &gt; Bolus</b>  <b>Option 2:</b>  Tap the <b>Bolus</b> menu from within the Main menu.  Continue with Step 2.	<b>Test result &gt; Bolus</b>  <b>Option 3:</b>  After testing your blood glucose: Tap <b>Bolus</b> on the Test result in detail screen.  Continue with Step 3.

**Note**

If you have already set up the bolus advice function, tapping "Bolus", in option 3, will lead you directly to the bolus advice result screen. (For more information on bolus advice, see [\(Accu-Chek Solo micropump system\) Chapter 9.1](#)).

<p><b>02</b></p> <p>07:00</p> <p><b>Bolus</b></p> <ul style="list-style-type: none"><li>Bolus advice</li><li>Manual bolus</li><li>Cancel bolus</li></ul> <p>Tap Manual bolus.</p>	<p><b>Note</b></p> <p>You can only program a multiwave bolus if the bolus contains meal insulin.</p>	<p><b>03</b></p> <p>07:00</p> <p><b>Bolus input</b></p> <p>--- mmol/L } <b>0.00 U</b></p> <p>--- U }</p> <p>Carbs --- g } <b>0.00 U</b></p> <p><b>Total amount 0.00 U</b></p> <p>Type <b>Standard</b></p> <p>Including health events: 0 %</p> <p><b>Bolus</b></p> <p>Tap the entry field that is appropriate for your situation: enter the correction bolus or the meal bolus.</p>
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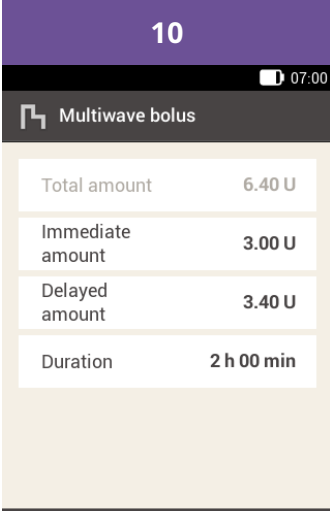
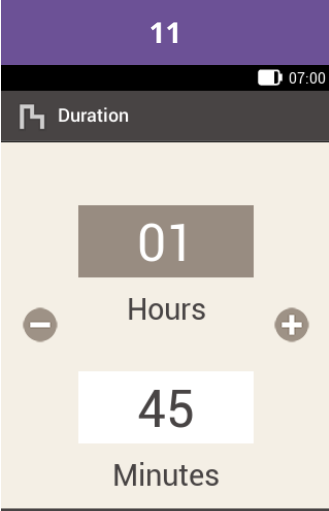
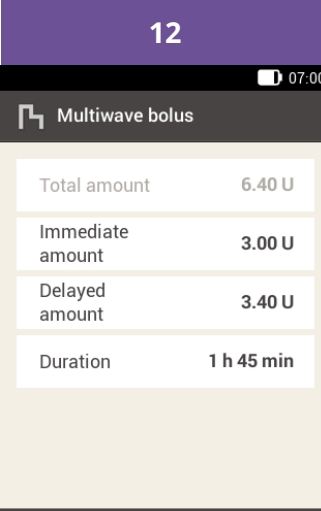
04	05	06
OK	OK	Bolus
<p>Use <b>−</b> and <b>+</b> to set the desired amount for the meal bolus.</p> <p>Tap <b>Save</b>.</p>	<p>Use <b>−</b> and <b>+</b> to set the desired amount for the correction bolus.</p> <p>Tap <b>Save</b>.</p>	<p>Tap <b>Type</b>.</p>

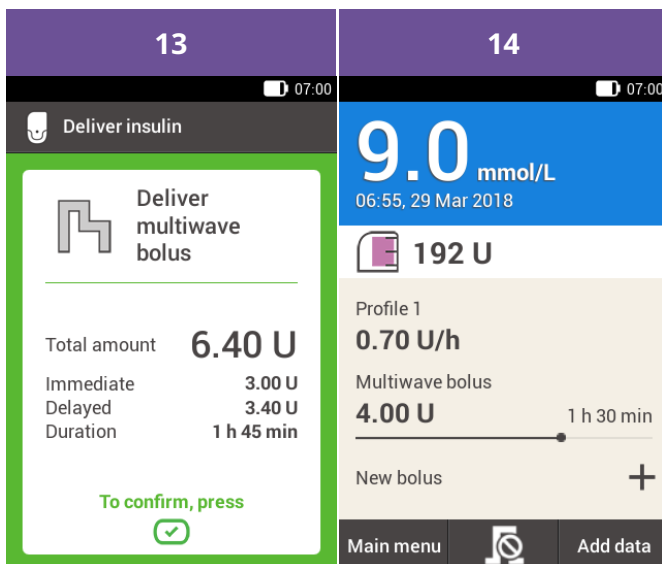
07	08	09
OK	Bolus	OK
<p>Tap <b>Multiwave bolus</b>.</p> <p>Then tap <b>Save</b>.</p>	<p>Tap <b>Immediate amount</b> or <b>Delayed amount</b>.</p>	<p>Use <b>−</b> and <b>+</b> to set the <b>Immediate amount</b> or <b>Delayed amount</b>.</p> <p>Tap <b>Save</b>.</p>



**Note**

Since the **Total amount** will remain the same, it does not matter whether you set the **Delayed amount** or the **Immediate amount**, as the other will be calculated accordingly. You cannot set an immediate amount that is lower than the correction insulin.

10	11	12
 <p>Multiwave bolus</p> <p>Total amount 6.40 U</p> <p>Immediate amount 3.00 U</p> <p>Delayed amount 3.40 U</p> <p>Duration 2 h 00 min</p>	 <p>Duration</p> <p>01 Hours</p> <p>45 Minutes</p>	 <p>Multiwave bolus</p> <p>Total amount 6.40 U</p> <p>Immediate amount 3.00 U</p> <p>Delayed amount 3.40 U</p> <p>Duration 1 h 45 min</p>
Bolus	OK	Bolus
Tap Duration.	Use <b>-</b> and <b>+</b> to set the duration of the delayed part of the multiwave bolus. Tap <b>Save</b> .	Tap Bolus.



This screen shows you the details of the bolus. Check that they are correct and then press the insulin button to deliver the bolus.

The micropump delivers the multiwave bolus. The display shows the Status screen with a progress bar illustrating the progress of the bolus delivery and the remaining time until completion.

# QUICK BOLUS

What is a quick bolus



## QUICK BOLUS



### A BOLUS

which is programmed using the buttons on the micropump

**WHY AND WHEN YOU NEED IT**



**HIGH**

blood glucose level



**NOT AVAILABLE**  
or cannot communicate

**OR**



**FLIGHTMODE**  
is activated on your device

please note

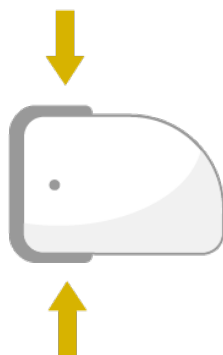
**0.2 UNITS**  
basic setting for  
quick bolus increment



if needed change the  
quick bolus to

- 0.5 UNITS**
- 1.0 UNITS**
- 2.0 UNITS**

**WHAT YOU NEED TO DO**



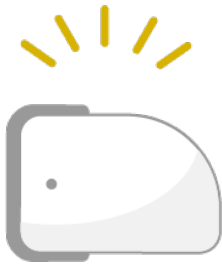
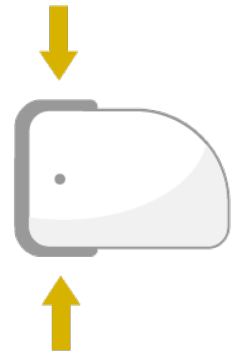
**TO ACTIVATE**  
press 3s until beep

----- **1**

2

### TO DOSE

press both quick bolus buttons at once  
1 press = 1 amount of insulin increment



### CONFIRMS

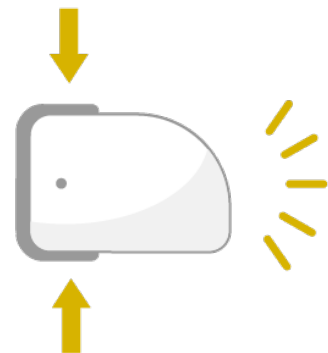
1 beep = 1 amount of insulin increment

3

4

### TO AGREE

press both quick bolus buttons again until beep



✓ QUICK BOLUS DELIVERY STARTS

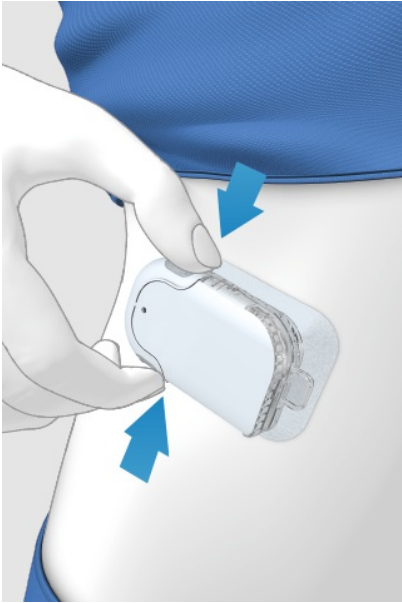
#### Warning

Make sure that you know and use the correct quick bolus increment suitable for your personal insulin need. Using the incorrect bolus increment will deliver a wrong insulin dose.

## **i Note**

If you use the quick bolus to cover carbohydrates, you should later adjust the meal amount in the diary in order to get optimum future bolus advice. See [\(Accu-Chek Solo micropump system\) Chapter 9.9](#) for more information.

## **Using quick bolus**



- 1 Press and hold the two quick bolus buttons for 3 seconds until you hear a beep.
- 2 After hearing the beep, simultaneously press both quick bolus buttons – once per increment, until the desired insulin dose has been reached.
- 3 3 seconds after the last button press, the micropump will then confirm the number of button presses with one beep per press to confirm the amount of insulin entered.
- 4 If you agree with the amount of insulin: press both quick bolus buttons again to deliver the quick bolus. The pump will confirm the start of the bolus delivery with a sound.

## **i Note**

If you do not confirm the quick bolus by pressing both buttons within 5 seconds, the programmed quick bolus will be cancelled and an according tone will be issued.

## CANCELLING A BOLUS

### Cancelling a bolus using the “Cancel Bolus” menu

You have two options to cancel a bolus using the diabetes manager:

Facing either the status screen or the main menu, you can cancel a bolus by tapping the .

In the Cancel bolus menu, you can cancel one or all boluses.

### Cancelling a bolus while programming

#### Standard, extended and multiwave bolus

While programming, press  to go back to the last step and enter a new value.


#### Quick bolus

If you have not confirmed the quick bolus by pressing both quick bolus buttons within 5 seconds, the programmed quick bolus will be cancelled.

### Prevent bolus delivery without the diabetes manager

If you do not have the diabetes manager at hand and want to interrupt bolus delivery, remove the micropump from the pump holder as long as the bolus is being delivered. Then re-attach the pump into the pump holder when you are ready to continue insulin delivery. Please be aware that when the micropump has been detached from the body, no basal insulin delivery will have been received.

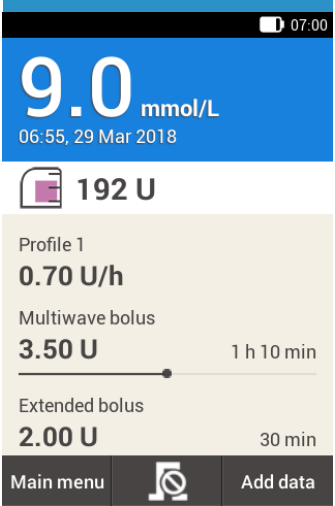

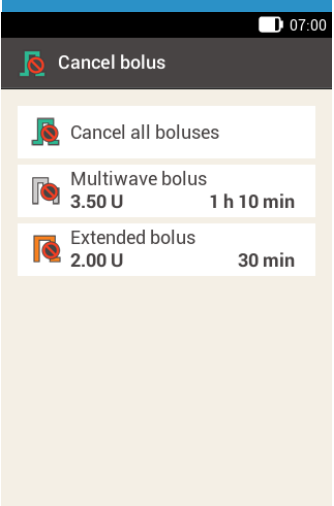
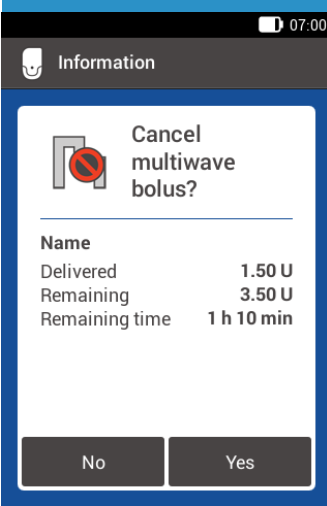

## Cancelling all boluses

<p><b>01</b></p> <p>On the Status screen or main menu, tap .</p>	<p><b>02</b></p> <p>If you want to cancel all running boluses at the same time, tap <b>Cancel all boluses</b>.</p>	<p><b>03</b></p> <p>Tap <b>Yes</b> if you want to cancel all boluses.</p>
---	--	---

<p><b>04</b></p> <p>Tap <b>OK</b> to confirm.</p>	<p><b>05</b></p> <p>All boluses have been cancelled and deleted from the Status screen.</p>
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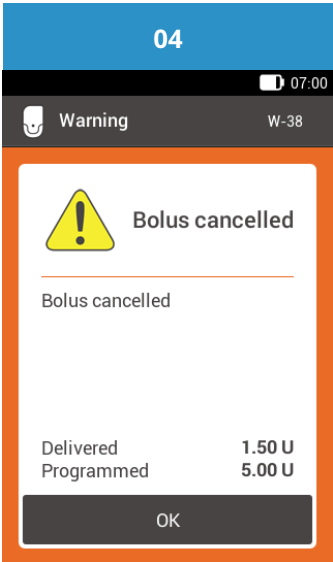


## Cancelling single boluses

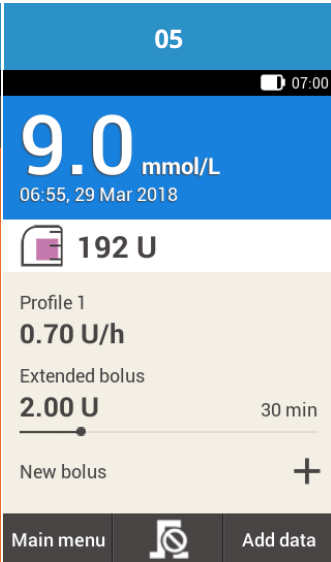
01	02	03
 <p>06:55, 29 Mar 2018</p> <p><b>9.0</b> mmol/L</p> <p>192 U</p> <p>Profile 1 <b>0.70 U/h</b></p> <p>Multiwave bolus <b>3.50 U</b> 1 h 10 min</p> <p>Extended bolus <b>2.00 U</b> 30 min</p> <p>Main menu  Add data</p>	 <p>Cancel bolus</p> <p>Cancel all boluses</p> <p>Multiwave bolus <b>3.50 U</b> 1 h 10 min</p> <p>Extended bolus <b>2.00 U</b> 30 min</p>	 <p>Information</p> <p>Cancel multiwave bolus?</p> <p>Name</p> <p>Delivered 1.50 U</p> <p>Remaining 3.50 U</p> <p>Remaining time 1 h 10 min</p> <p>No Yes</p>
<p>On the Status screen or main menu, tap .</p>	<p>Tap the bolus you want to cancel.</p>	<p>Tap <b>Yes</b> if you want to cancel the bolus.</p>

### Note

The bolus is proceeding until you tap Yes to confirm you wish to cancel the selected bolus.



Tap **OK** to confirm the warning.



The bolus has been cancelled and deleted from the Status screen.

## USING LAG TIME

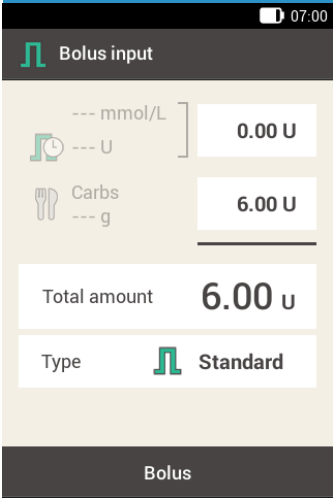
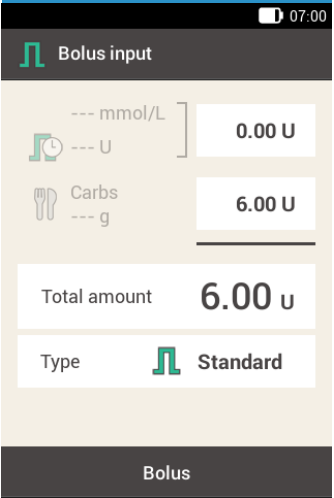
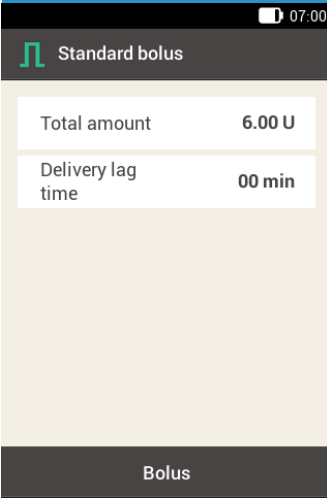
### What is delivery lag time?

In some situations (e.g. gastroparesis) it may be helpful to start a meal bolus after you started eating. With the delivery lag time setting, you can specify a delay between programming a bolus and the actual beginning of the bolus delivery. With lag setting switched on the delivery lag time field will appear each time you program a bolus in addition to the bolus amount and duration. You can set the lag time to 0, 15, 30, 45 or 60 minutes. Discuss using the delivery lag time setting with your healthcare professional. Before you can use this feature, you need to activate it: See [\(Accu-Chek Solo micropump system\) Chapter 13.5, Bolus Settings](#).

#### Note

Boluses containing correction insulin cannot be delayed via the lag time.

## Delaying bolus delivery

01	02	03
		
<p data-bbox="311 741 592 1155">Select one of the 3 options for bolus delivery that are mentioned in the “Standard Bolus” section. Perform the appropriate steps until the bolus input screen is displayed.</p>	<p data-bbox="646 741 775 775">Tap <b>Bolus</b>.</p>	<p data-bbox="981 741 1241 775">Tap <b>Delivery lag time</b>.</p>

04	05	06
<p>Use <b>-</b> and <b>+</b> to set the Delivery lag time.</p> <p>Tap <b>Save</b>.</p>	<p>Tap <b>Bolus</b>.</p>	<p>To confirm this step and deliver the standard bolus, press the insulin button.</p>

The display shows the Status screen with the current bolus details.

FOR PEOPLE WITH DIABETES. ALWAYS READ THE INSTRUCTIONS FOR USE. CONSULT YOUR HEALTHCARE PROFESSIONAL FOR ADVICE.

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