



# Cardiohelp System Preparation

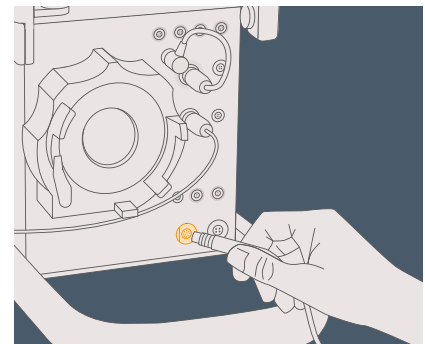
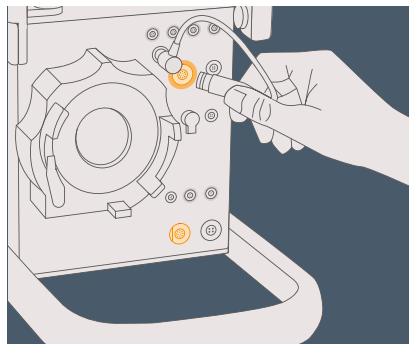
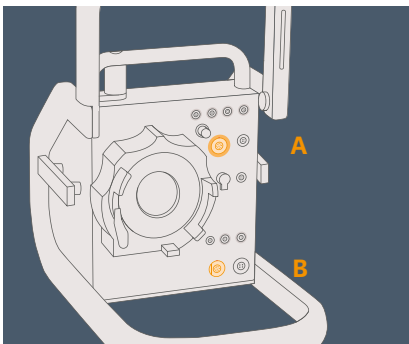
## Set-up and priming

# Cardiohelp System

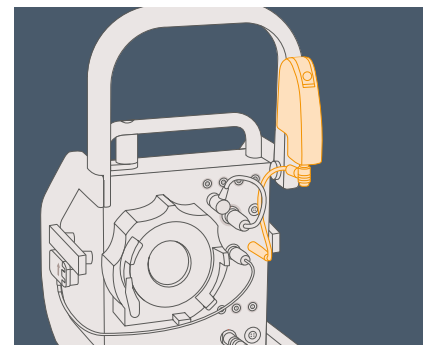
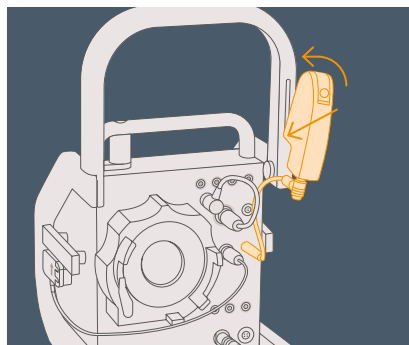
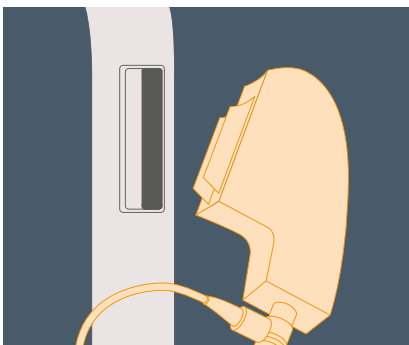
## Part 1: Preparation and installation

1 Carry out a function check on the Cardiohelp as well as a battery check.  
Then switch the Cardiohelp off.

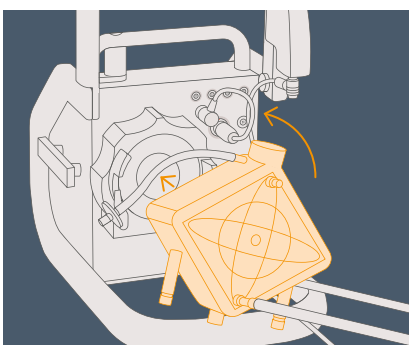
2 Open the safety bar of the Cardiohelp and connect the integrated sensor cable (A) and the flow/bubble sensor (B).



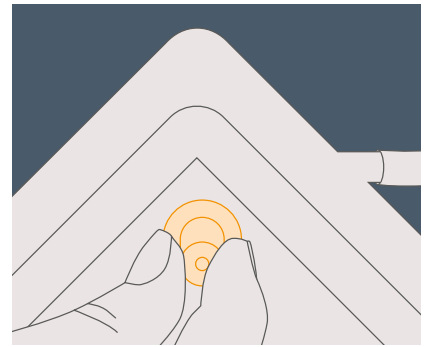
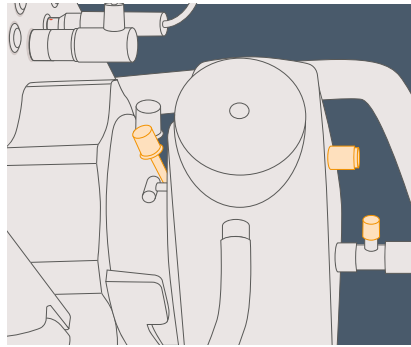
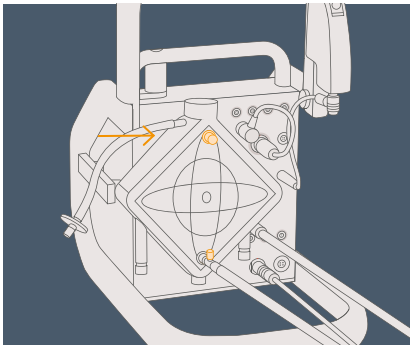
3 Connect the venous probe in the standby position on the safety bar of the Cardiohelp and connect the short connection cable to the Cardiohelp.



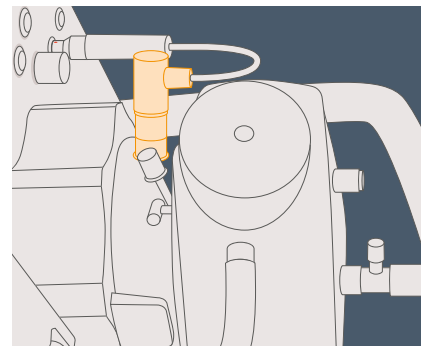
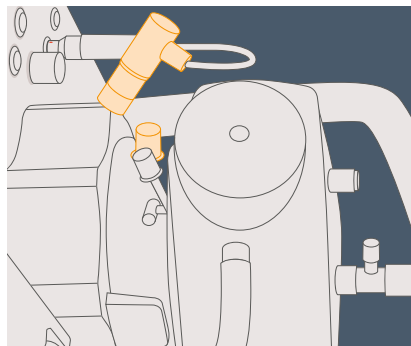
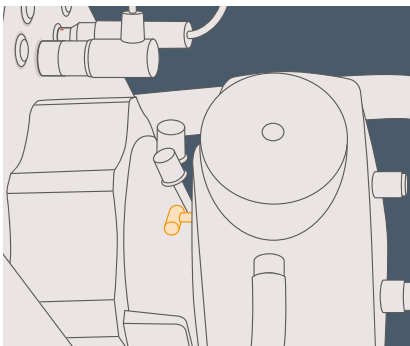
4 Install the HLS Module Advanced on the Cardiohelp Drive.  
Ensure that the HLS Module Advanced is correctly secured.



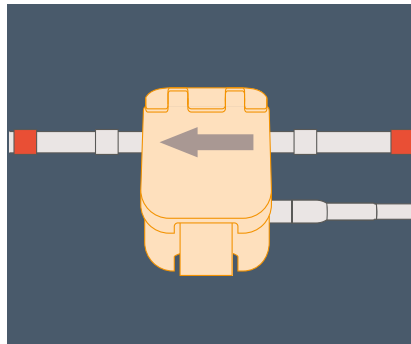
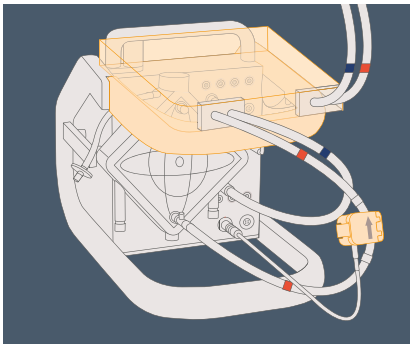
5 Check that all Luer lock connections are secure.



6 Leave the de-airing membrane open. 7 Connect the integrated sensor cable to the HLS Module.

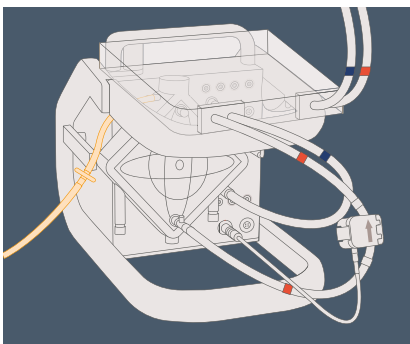


8 Close the safety bar, place the table tray on the Cardiohelp horizontally and attach the 3/8" flow/bubble sensor between the two white marks on the red line.

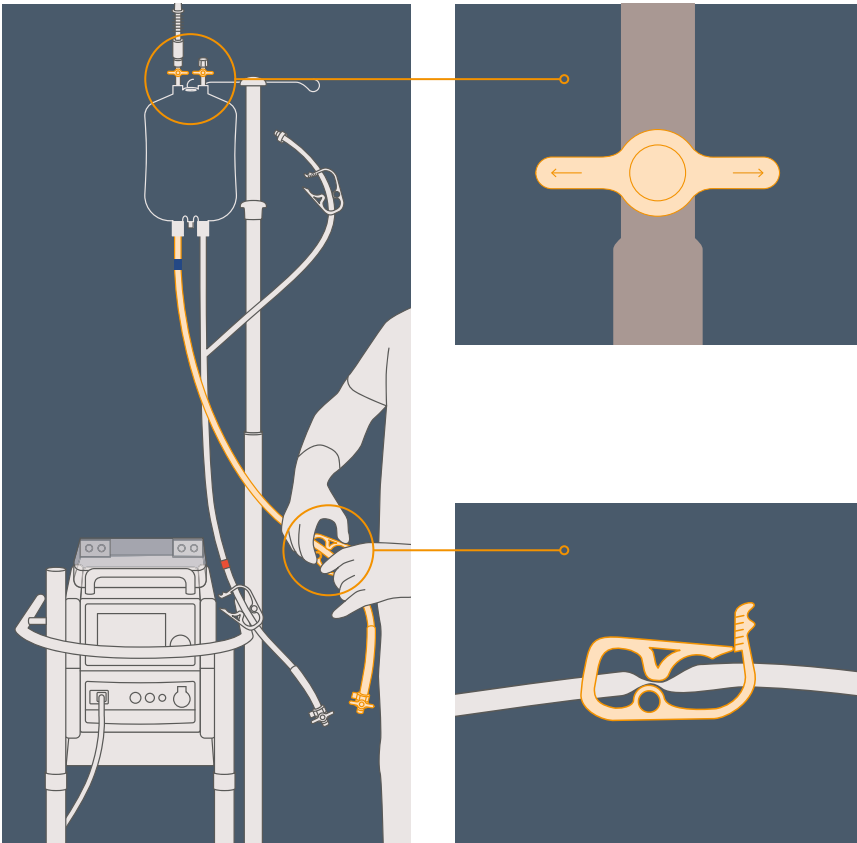


The arrow on the sensor must point in the direction of flow.

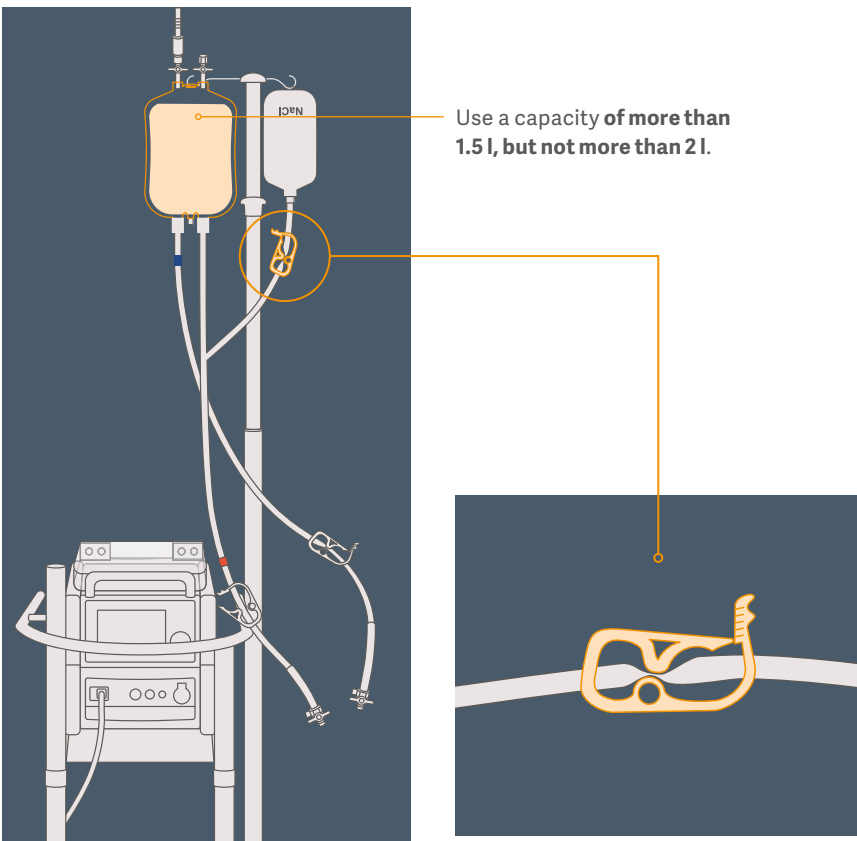
9 Connect the gas tube to the gas filter.



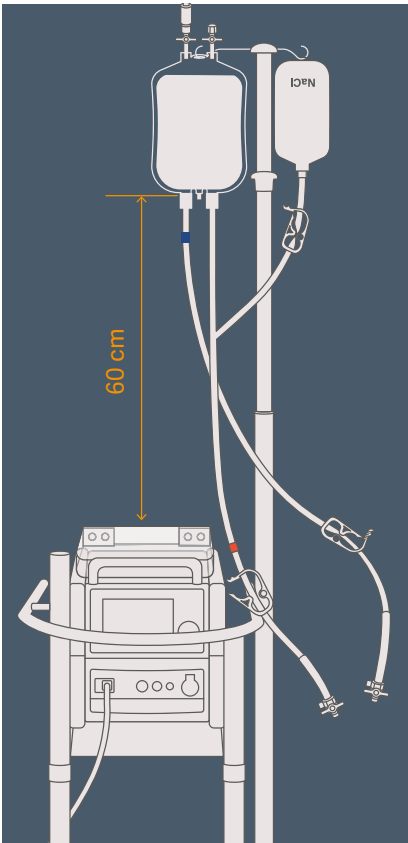
- 10 Hang the priming bag on an infusion pole. Close the two two-way stopcocks at the top of the bag. Close the clamp on the blue line of the priming set.



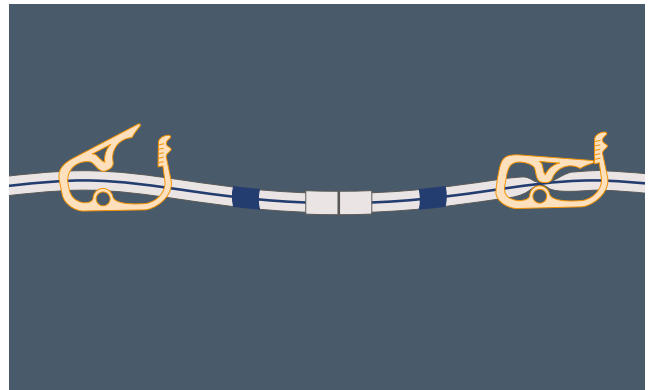
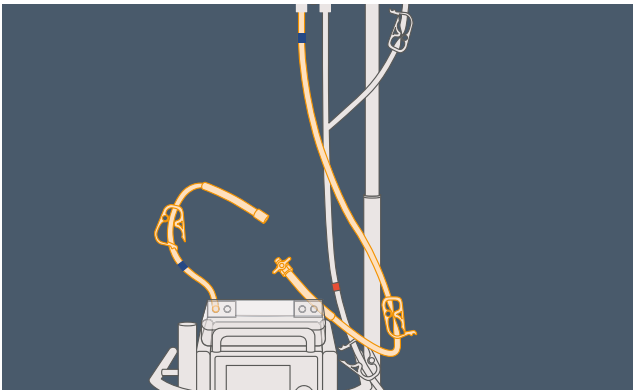
- 11 Fill the priming bag with physiological solution via the spike of the priming line. Close the clamp on the priming line of the priming set.



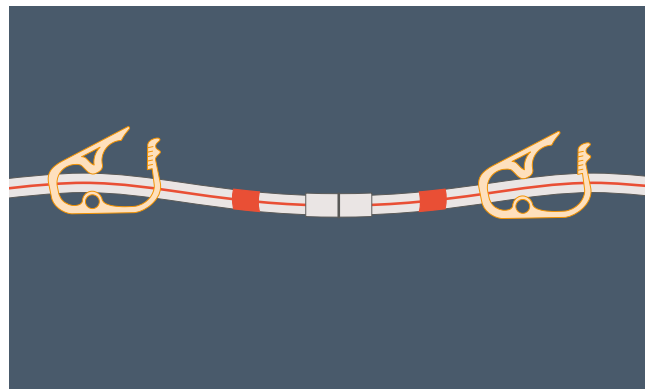
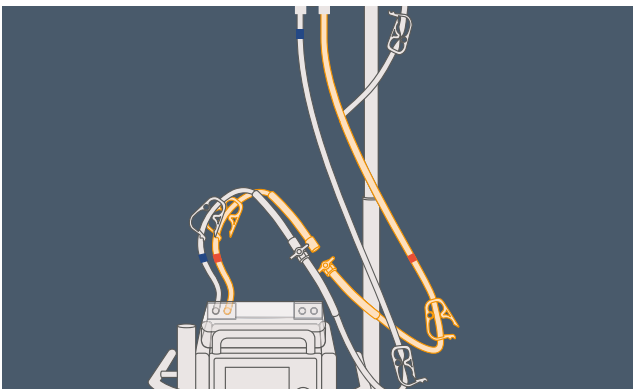
12 Make sure there is at least 60 cm (2 ft) between the top of the Cardiohelp and the bottom of the priming bag.



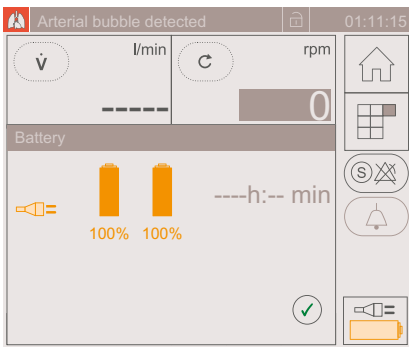
13 Connect the blue line of the priming set with the blue line of the table set.



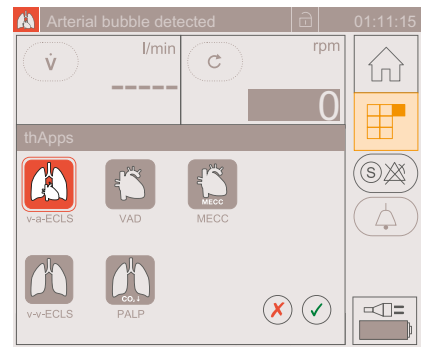
14 Repeat this step for the red lines. Make sure that all the integrated tube clamps in the red line are open.



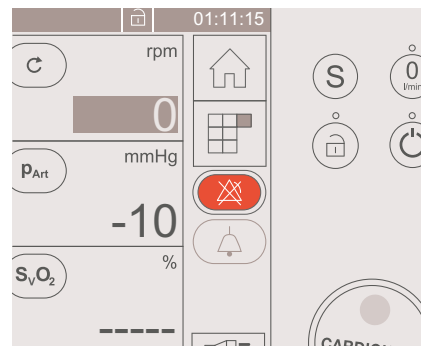
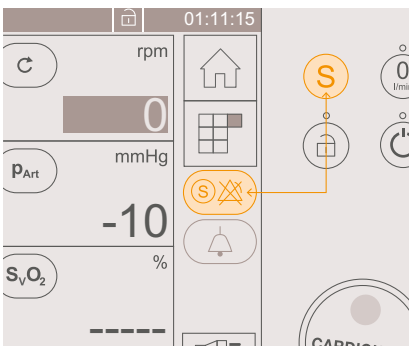
15 Switch on the Cardiohelp and check charge of both batteries.



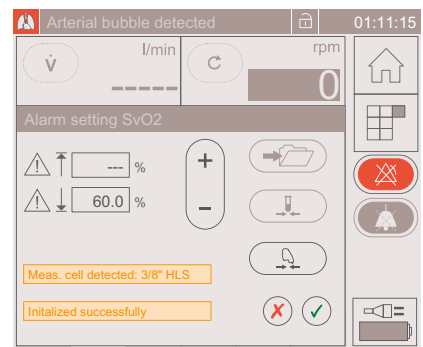
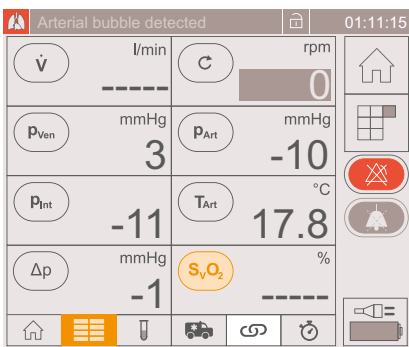
16 Select the required thApp (v-v ECLS or v-a ECLS).



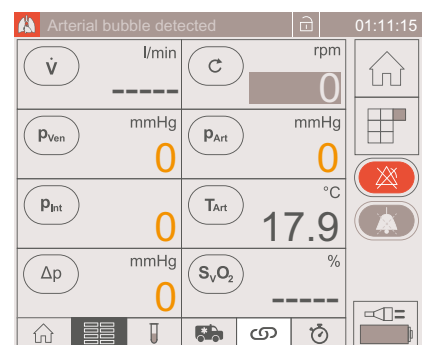
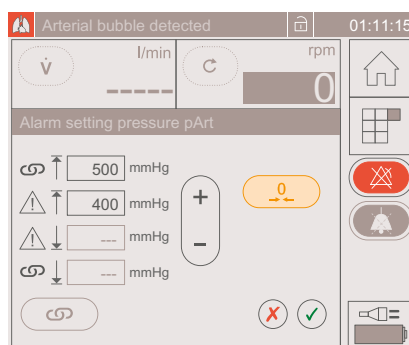
17 Activate Global Override mode.



18 In the menu of one of the blood parameters, check whether the venous probe has been initialized and whether the mounted set has been recognized.

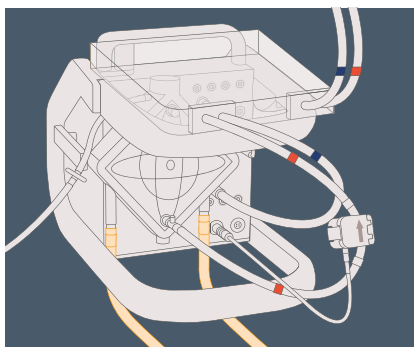


19 With the tubing free of liquid calibrate each pressure parameter one by one.



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**20** Connect the water lines of the heater-cooler unit to the water connectors on the HLS Module Advanced.

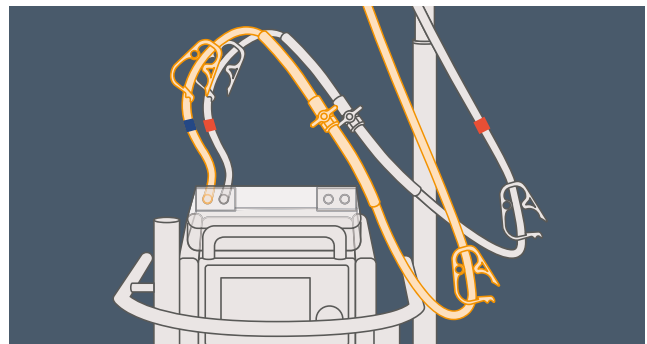
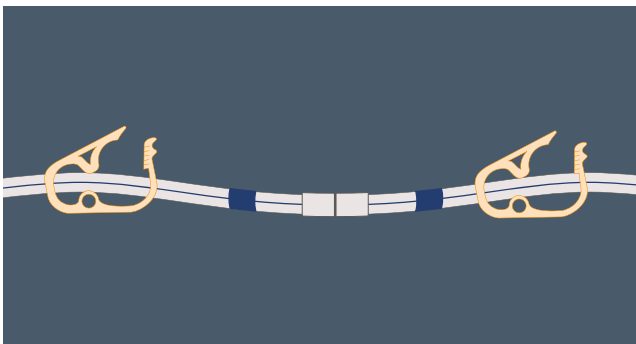


# Cardiohelp System

## Part 2: Priming the system

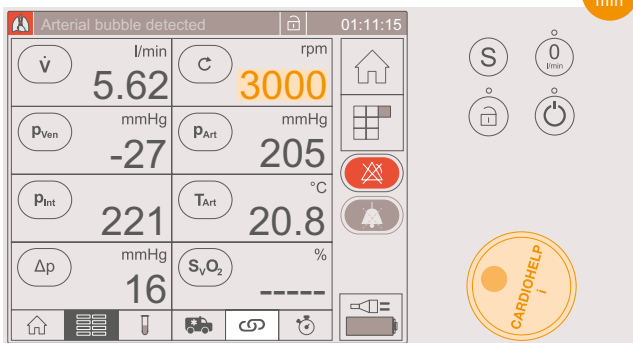
1 Before priming the set, run water through the heat exchanger of the HLS Module Advanced and check for leaks.

2 Completely open the integrated tube clamps on the blue line. Wait until the set is passively primed and the flow has stopped.



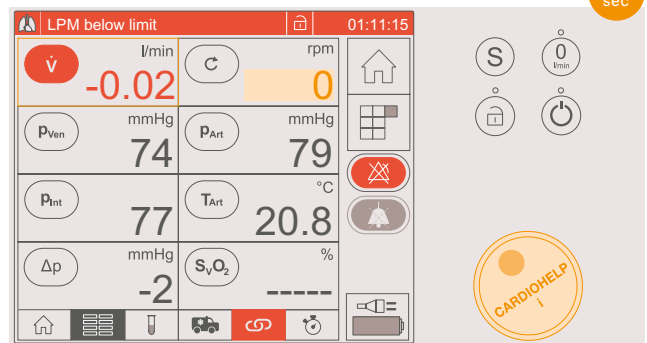
3 Set the speed to 3,000 rpm for 2 minutes.

3,000 rpm  
2 min

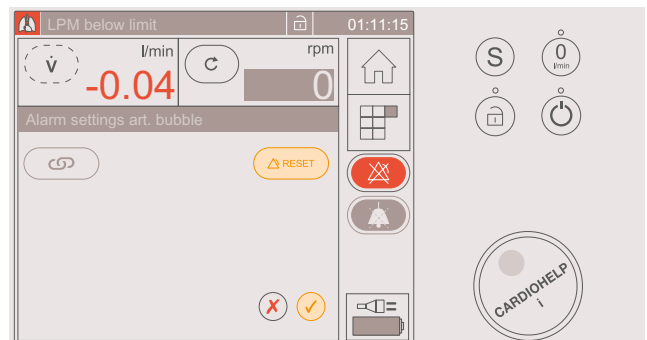
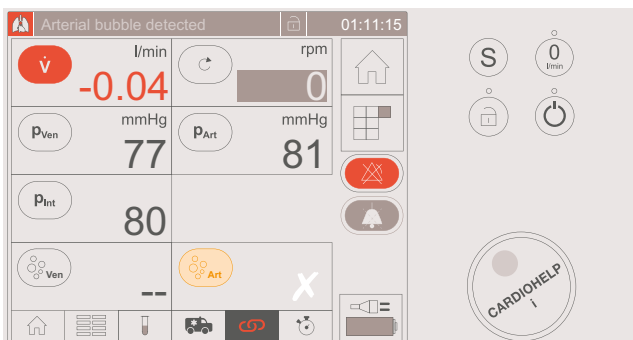


4 Reduce the speed to 0 rpm for at least 5 seconds.

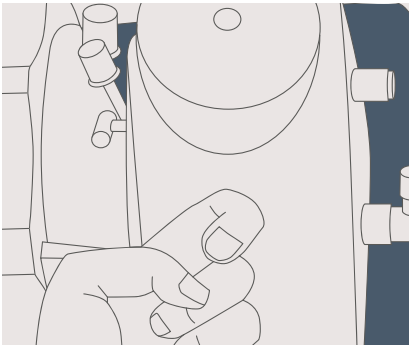
0 rpm  
5 sec



5 Reset the flow/bubble sensor.

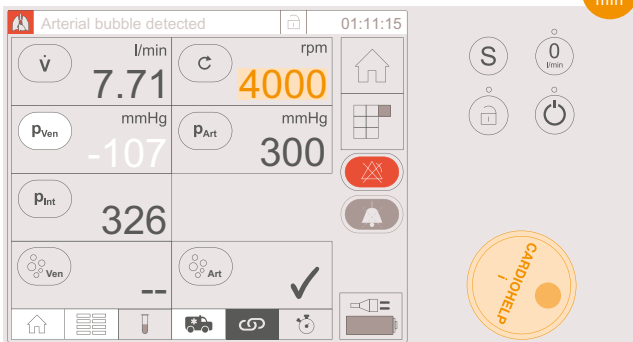


6 Tap the tube system and the HLS Module Advanced with your hand to remove any gas bubbles still present in the system.



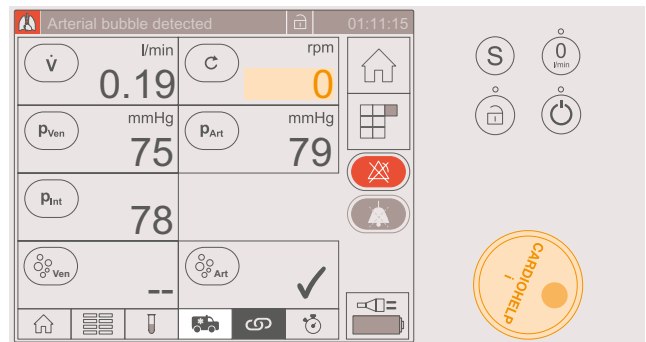
7 Set the speed to 4,000 rpm for 1 minute.

4,000 rpm  
1 min

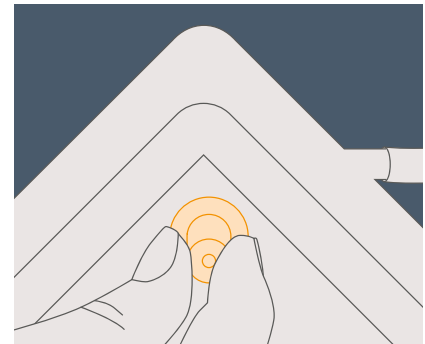
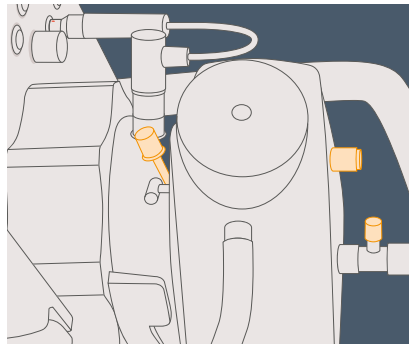
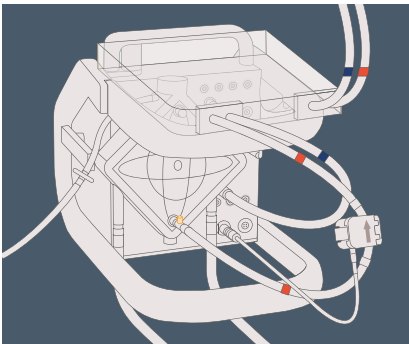


8 Reduce the speed to 0 rpm.

0 rpm

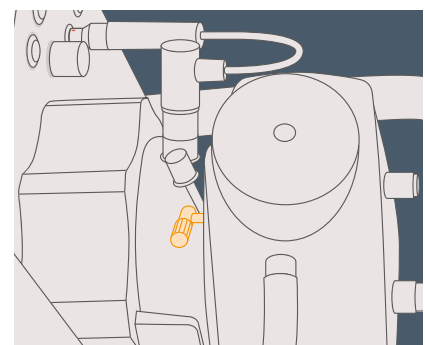


9 De-air all of the Luer lock connectors of the HLS Module Advanced.

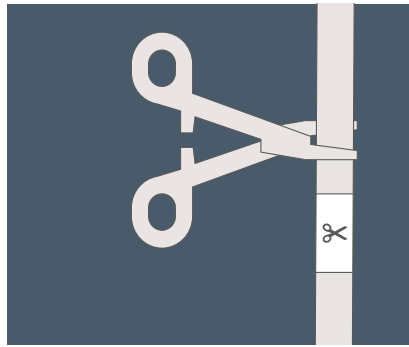
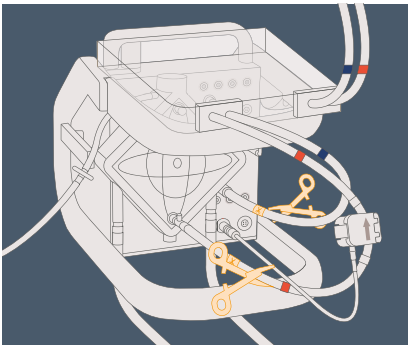


10 If a further bubble was detected during step 7, reset the flow/bubble sensor and repeat steps 3 to 8.

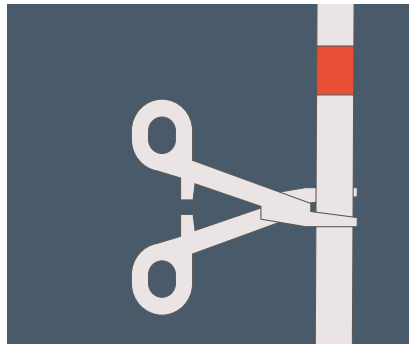
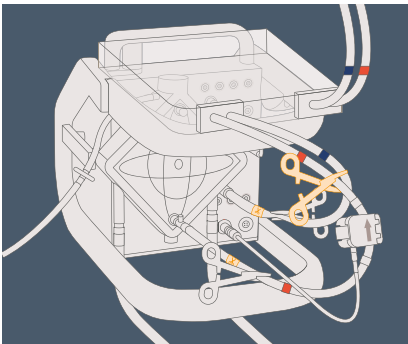
11 Close the de-airing membrane with the yellow protective cap.



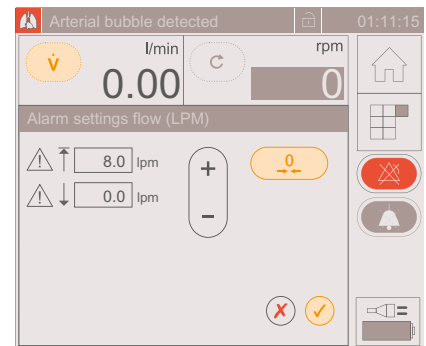
- 12** Clamp the red line on the clamp symbol on the blood outlet side using a metal clamp.  
Clamp the blue line on the clamp symbol on the blood inlet side using a metal clamp.



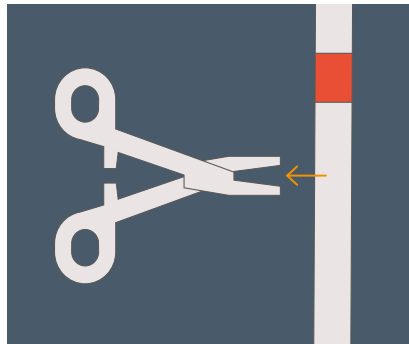
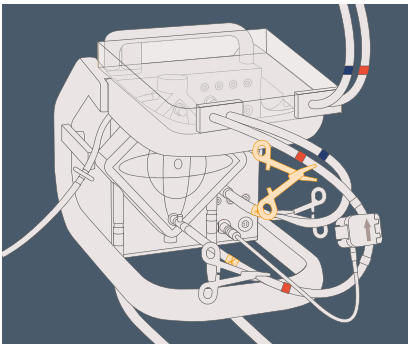
- 13** Clamp the red line downstream of the flow/bubble sensor.



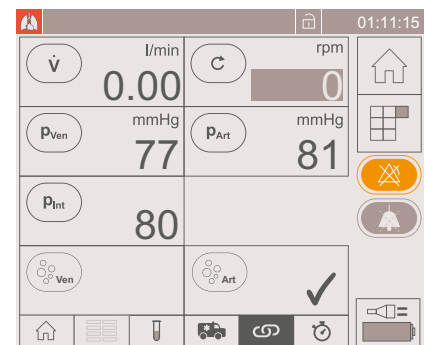
- 14** Calibrate the flow/bubble sensor in the flow sensor menu.



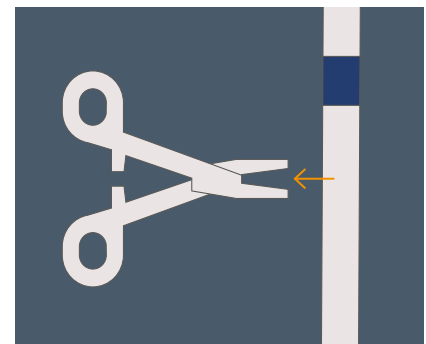
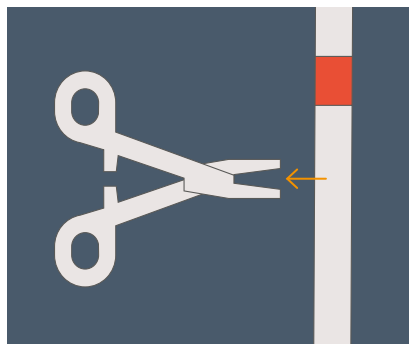
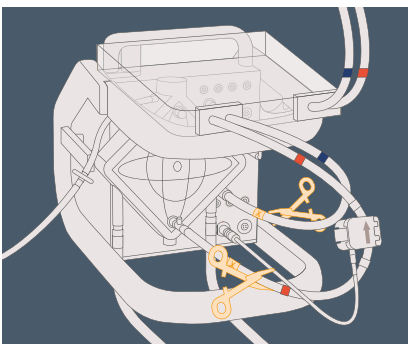
- 15** Remove the clamp downstream of the flow/bubble sensor.



- 16** Deactivate the Global Override mode.



- 17** Open all of the metal clamps on the red and blue lines.

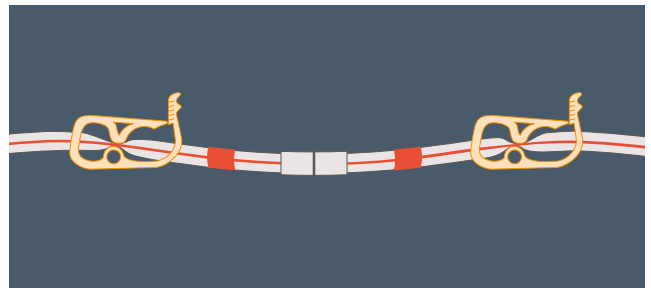
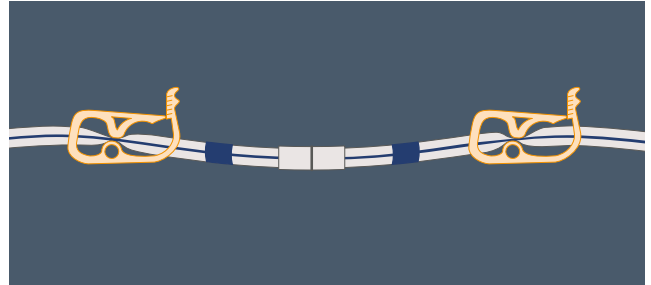
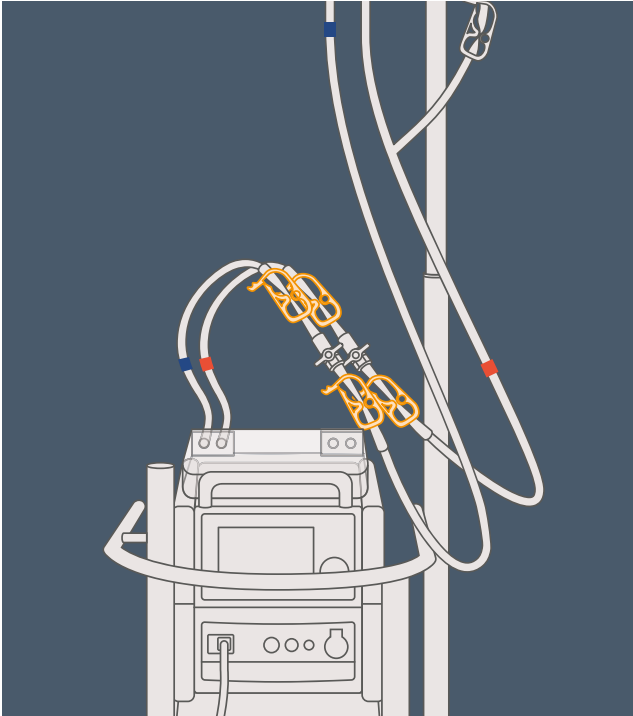


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**18** Heat up the priming solution before commencing extracorporeal patient support in order to avoid cardiac arrhythmias and other health risks.

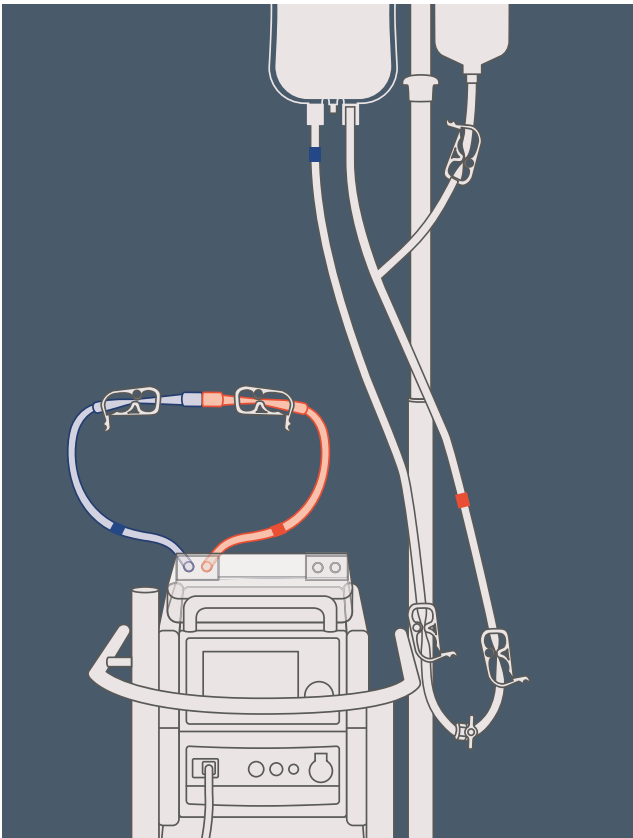
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**19** Close all of the integrated tube clamps on the red and blue lines.



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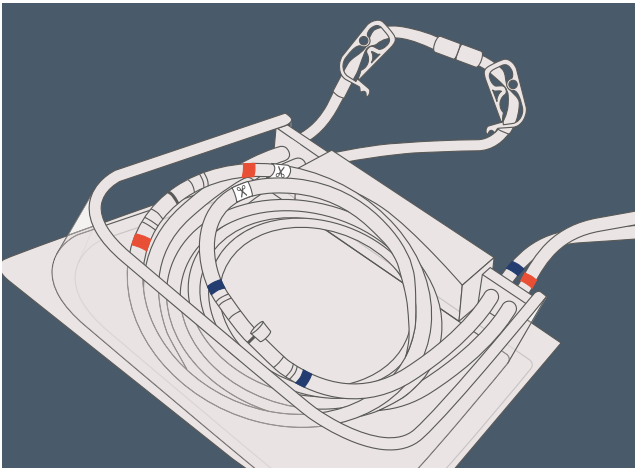
**20** Separate the priming set from the table set by disconnecting the quick-action couplings. Connect the red and blue lines of the table set.



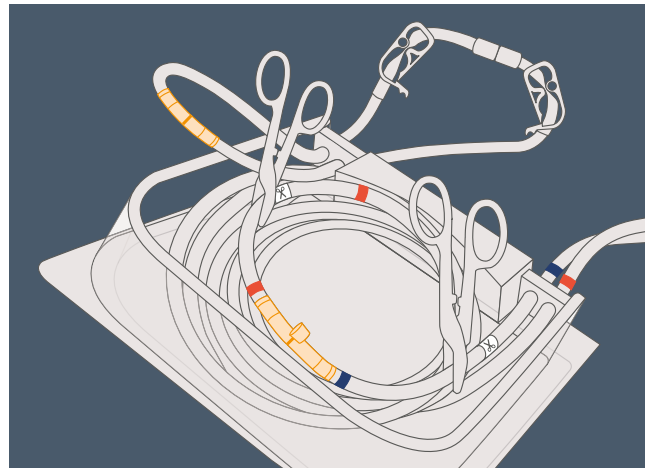
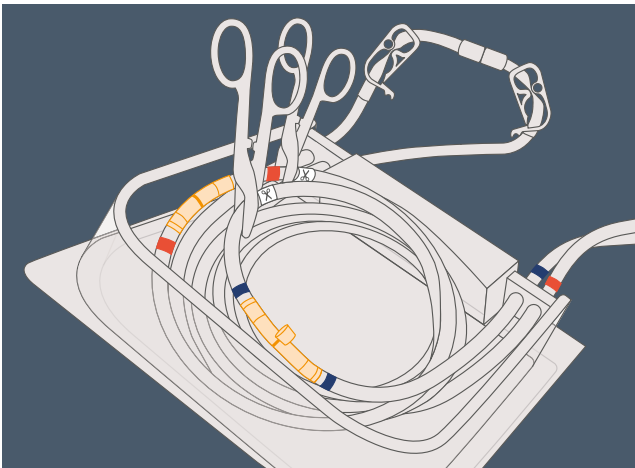
# Cardiohelp System

## Part 3: Connecting to the patient

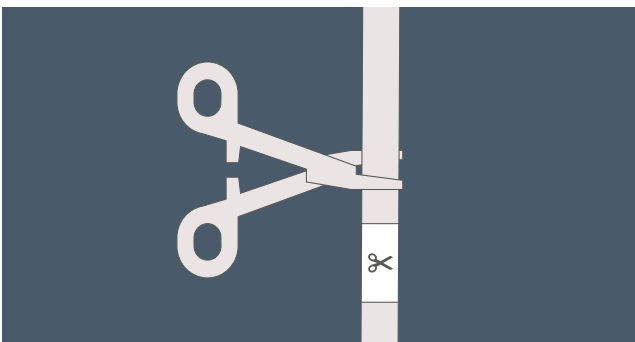
1 Open the table set tray.



2 The person working under sterile conditions clamps the red and the blue tubes close to the clamp symbol using the clamps in the tray and separates the tubes by disconnecting the quick couplings.

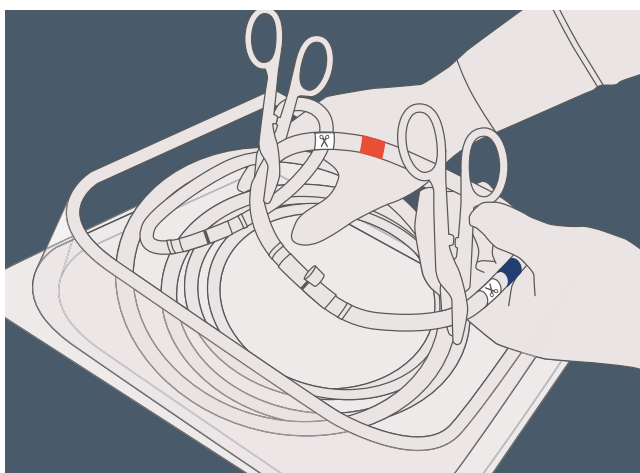


Connect the red line with the blue line of the table set.



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**3** The sterile table set can now be removed from the tray.



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**4** Cut off the quick-action couplings.

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**5** Connect the set to the cannulae air-free.

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**6** Secure the tube connections between the set and cannulae using cable ties.

# Note

This document is designed as an aid and does not replace the corresponding instructions for use.

Only use the Cardiohelp-i and all other products mentioned in this document together with the respective instructions for use. See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events.

The information and technical specifications in this document are based on:  
Instructions for Use HLS Set Advanced 5.0/7.0, HIT Set Advanced 5.0/7.0  
70106.5490 · G-360 · Version 02 · NONUS · 2020-04

All information presented in this brochure is either referenced by the above publications or is on file at Getinge.



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