Troubleshooting

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Learning Objectives

After completing this lesson, you will be able to:

- Troubleshoot initializing errors
- Troubleshoot fluidic issues
- Troubleshoot the vacuum system

Agenda

- Initializing Troubleshooting
- Fluidics Troubleshooting
- Vacuum Troubleshooting

Software initialization troubleshooting

Symptoms:

Error massage: Software was unable to initialize internal hardware devices

Close Error message and relaunch software

If problems persist:

- Restart the instrument computer
- Shutdown the instrument, wait 1 minute and the restart the instrument

Wait for instrument drive called DoNotEject to initialize

Open HCS and look for the initialization icon at bottom left of start screen

- This icon appears when the software is initialized

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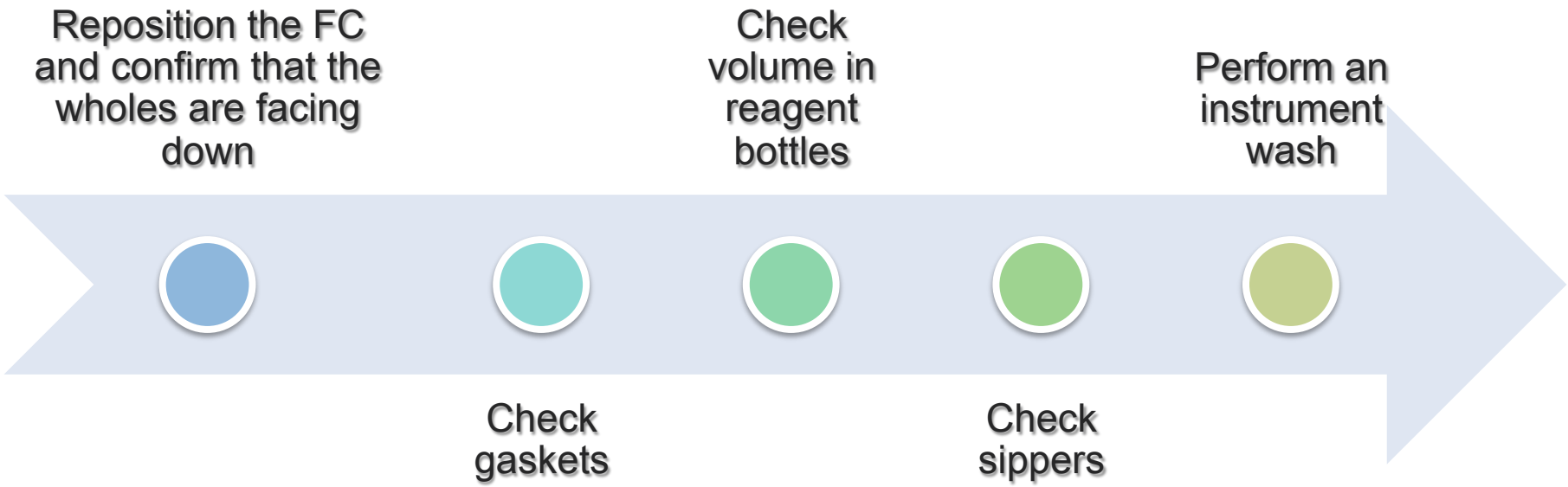
Fluidics Troubleshooting

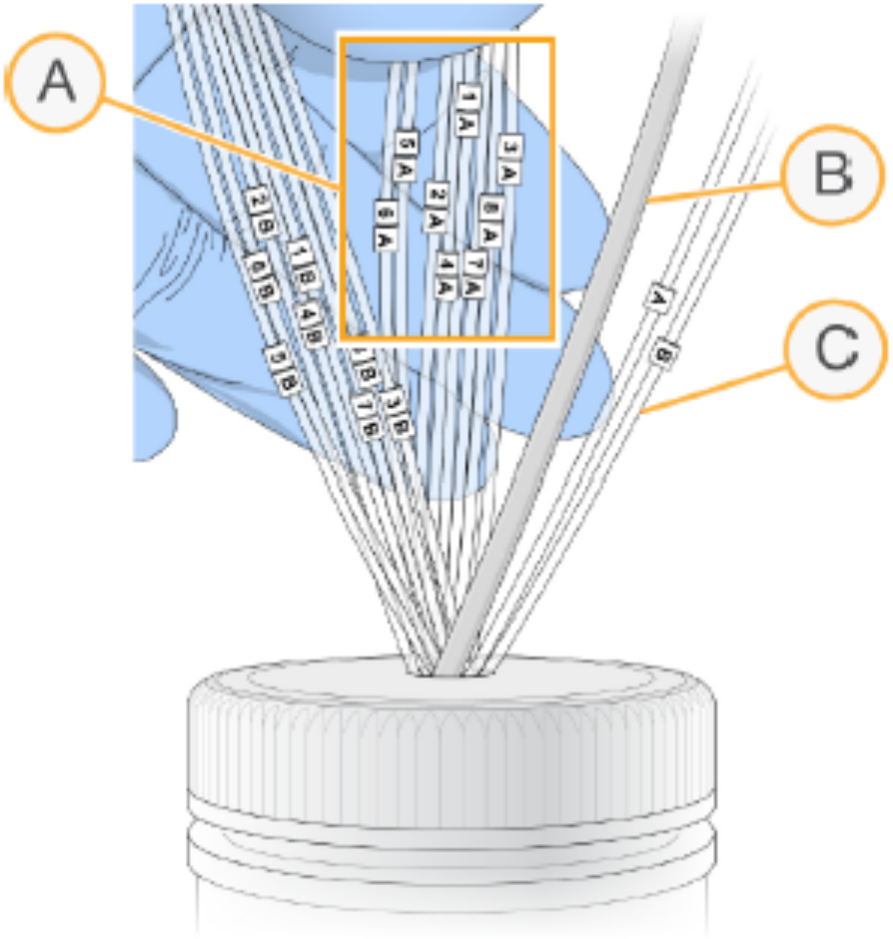
Symptoms:
Bubbles visible in the flow cell/Waste volume too low



Fluidic System check

Wash the system
- Collect the waste of 8 tubes per flow cell used
- Place the waste line for each flow cell into its own 15 mL tube
- Run a water wash
- Check the waste volume for each waste line (~4 mL per tube)

Perform Fluidic check
- Visually inspect the flow cell for bubbles and leaks near the manifold



A Flow Cell Waste Lines for Reagent Positions 1–8
B Condensation Pump Tubing (Do not remove)
C Paired-End Priming Pump Tubing (Do not remove)

Vacuum Troubleshooting

Symptoms

Flow Cell Holder Switch

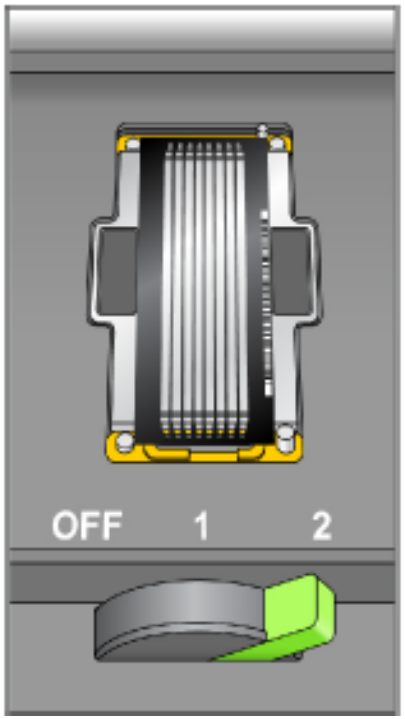
- Has the wrong color in position 1 or 2

Flow Cell Holder

- Is not holding vacuum
- You are able to lift a flow cell off the stage when the vacuum switch is engaged

Poor or No Vacuum

- Affects both flow cell holders if the vacuum pump is defective



HiSeq System Flow Cell Holder Switch States

Switch Position and Color	Description
	Position 0 — off. Switch not illuminated. No vacuum to the flow cell holder.
	Position 1 — vacuum engaged. Solid orange indicates that inadequate vacuum is being provided.
	Position 1 — vacuum engaged. Blinking orange indicates that vacuum is being provided, but still inadequate.
	Position 1 — vacuum engaged. Blinking green indicates that vacuum pressure is good. Switch can be moved to third position (raise manifolds).
	Position 2— manifolds raised. Solid green indicates good vacuum pressure.

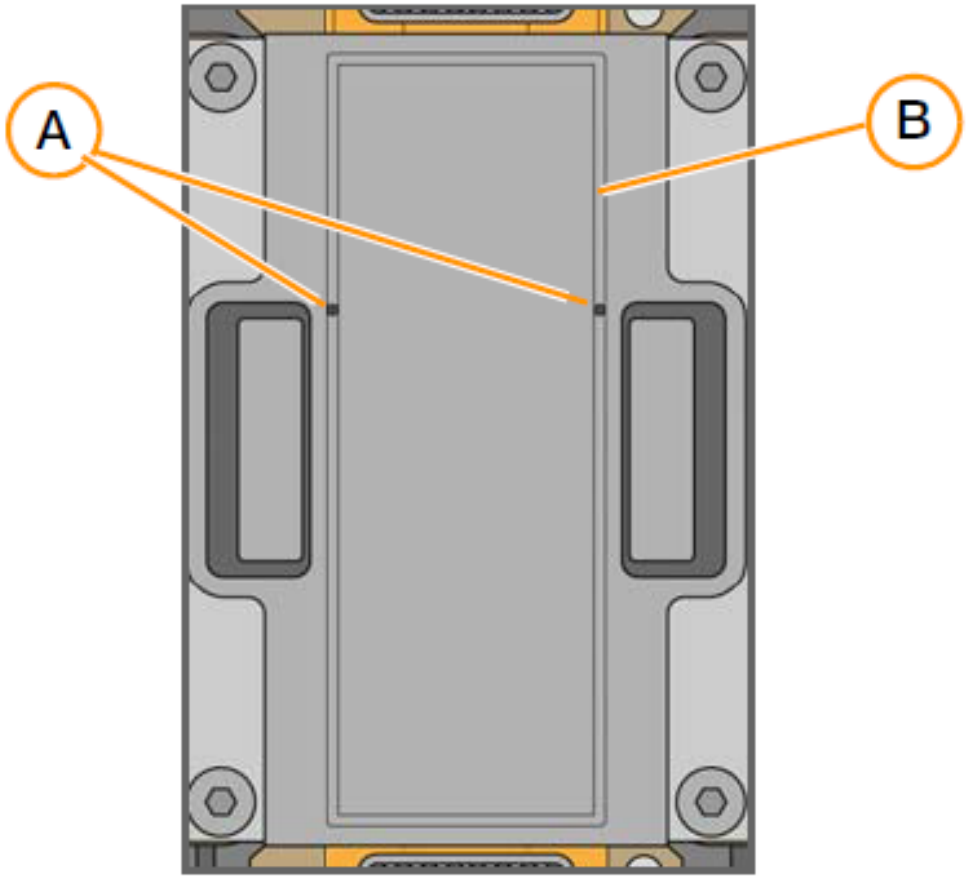
Troubleshoot the flow cell holder area

Examine and clean the flow cell holder

- Remove flow cell and check vacuum ports and groove

Check if one flow cell has vacuum

- indicates the vacuum pump is working



A Vacuum ports

B Groove in flow cell holder through which vacuum is applied

Questions?