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Troubleshooting

This section provides tips to help you identify and resolve issues that might occur on your flow cytometer. If additional assistance is required, contact Cytek Biosciences. Please have the following information available: serial number, error messages, and details of recent performance.

For instrument support within the US, call 1-877-92-CYTEK. Visit our website, www.cytekbio.com, for up-to-date contact information.

Observations

Observation	Possible Causes	Recommended Solutions
Daily QC does not complete	Wrong QC bead sample	Ensure you are running SpectroFlo QC beads.
	Bead sample not properly mixed	Mix the bead sample.
	Bead sample too dilute	Concentrate the bead sample or prepare a fresh bead sample.
	Air bubble is sample line	Run a SIT Flush.
Daily QC failed	Air bubble in fluidics	Run a Purge Filter.
	Dirty flow cell	Run a Clean Flow Cell. If the problem persists, run a Clean Flow Cell using 25%–50% Contrad 70, followed by DI water.
	Questionable sample prep	Verify the sample prep technique.
	Air in sheath filter	Run a Purge Filter.
	Sample not diluted in same fluid as sheath	Dilute the sample in the same fluid as the sheath solution.
Air in sheath filter	Cytometer was not in use for a prolonged period	Run a Purge Filter. Check that all sheath connectors are securely attached. Check for leaks or cracks in the sheath plenum. Replace, if needed.
	Empty sheath tank	Fill the sheath tank. Run a Purge Filter.

Observation	Possible Causes	Recommended Solutions
No events displayed (flow rate lower than expected)	No sample in tube	Add sample or install a new sample tube.
	Sample not properly mixed	Mix the sample to suspend cells/particles.
	Clogged SIT	Run a SIT Flush. Then run a Clean Flow Cell with 10% bleach, followed by a Clean Flow Cell with DI water. If the clog persists, replace the sample line.
	For loaders, the SIT Lift Distance set too low (touching bottom of tube)	Increase the SIT Lift Distance. See "Calibrating the SIT" on page 103.
No events displayed (flow rate normal)	Insufficient gain for threshold parameter	Increase the gain for the threshold parameter.
	Threshold too high	Lower the threshold.
	Laser delay not correct	Ensure the laser delay values match those from the latest Daily QC run. See "Instrument Control" on page 44 for the laser delay location. If the values do not match, rerun Daily QC.
	Threshold set to incorrect parameter	Set the threshold to the appropriate parameter for the application (usually FSC).
	Gated plot with no data in gate	Delete or move the gate.
Low sample event rate	Threshold too high	Lower the threshold.
	Insufficient gain for threshold	Increase the gain for the threshold parameter.
	Sample not properly mixed	Mix the sample to suspend cells/particles.
	Sample too dilute	Concentrate the sample. Set the flow rate to Medium or High.
	Clogged SIT	Run a SIT Flush. Then run a Clean Flow Cell with 10% bleach, followed by a Clean Flow Cell with DI water. If the clog persists, replace the sample line.
Erratic event rate	Partially blocked SIT	Run a SIT Flush. Then run a Clean Flow Cell with 10% bleach, followed by a Clean Flow Cell with DI water.
	Clumpy sample	Vortex, filter, or disaggregate the sample.

Observation	Possible Causes	Recommended Solutions
Data in scatter parameters appear distorted	Air bubble in flow cell	Run a SIT Flush.
	Air in sheath filter	Run a Purge Filter.
	Dirty flow cell	Run a Clean Flow Cell.
	Poor sample health	Check the viability of the cells.
	Hypertonic buffers	Check the pH of the buffers and fixative.
	Incorrect instrument settings	Optimize the instrument settings.
High CVs	Air bubble in fluidics	Run a SIT Flush and a Purge Filter.
	Sample flow rate set to High	Set the sample flow rate to Low or Medium.
	Dirty flow cell	Run a Clean Flow Cell. If the problem persists, run a Clean Flow Cell using 25%–50% Contrad 70, followed by DI water.
	Questionable sample prep	Verify the sample prep technique.
	Air in sheath filter	Run a Purge Filter.
	Sample not diluted in same fluid as sheath	Dilute the sample in the same fluid as the sheath solution.
SIT hitting bottom of well/tube	SIT Lift Distance set too low	Set the SIT Lift Distance to at least 1.5. See "Calibrating the SIT" on page 103.