## 7.3.2 Calibration Errors

| | | |
|---|---|---|
| ***System Leak Test*** | | |
| Error 6 – Pressure Drop | Excessive Pressure Drop During System Test | 1. Ensure closed patient system.<br>2. Run system test with single tubing limb connect between outlet & exhalation cover.<br>3. Remove system tubing and verify flow from PV1<br>4. Perform internal leakage test.<br>5. Replace Sensor PCB |
| Error 7 – Pressure Rise | Excessive Pressure Increase During System Test | 1. Forward leak through PV1 valve.<br>2. Forward leak through Solenoid 4 if nebulizer is connected.<br>3. Replace Sensor PCB. |
| Error 8 – Max Time To Pressure | Unable To Adequately Pressurize Patient System | 1. Ensure closed patient system.<br>2. Run system test with single tubing limb connect between outlet & exhalation cover.<br>3. Remove system tubing and verify flow from PV1<br>4. Perform internal leakage test.<br>5. Replace Sensor PCB |
| Error 10 – Deviation High | Flow At Transducer dP2 Out Of Range | 1. Verify internal flow sensor calibration, recalibrate as necessary. |
| Error 11 – Error Emptying Tank | Tank Pressure Remains Above 100mbar | 1. Ensure that patient wye is open at the beginning of system test.<br>2. Verify that PV1 is opening and flow is evident from to patient port.<br>3. Replace Inspiratory Valve PV1<br>4. Verify no leakage through blender system. |
| ***Flow Sensor Calibration*** | | |
| Error 12 – High Pressure | Pressure Out Of Range | 1. Ensure that the proximal sensor is connected to the tubing system and that its outlet is open.<br>2. Replace proximal sensor<br>3. Verify internal flow sensor calibration, recalibrate as necessary.<br>4. Verify PV1 calibration, recalibrate as necessary. |
| Error 13 – Deviation High | Zero Adjustment dP2 | 1. Perform re-zero of pressure transducers, fab test 5<br>2. Replace Sensor PCB. |
| Error 14 – Deviation High | Zero Adjustment dP3 | 1. Perform re-zero of pressure transducers, fab test 5<br>2. Replace Sensor PCB. |
| Error 15 – Deviation High | Zero Adjustment P3 | 1. Perform re-zero of pressure transducers, fab test 5<br>2. Replace Sensor PCB. |

| | | |
|---|---|---|
| Error 16 – Deviation High | Differential pressure too low @ 30 lpm | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |
| Error 17 – Deviation High | Differential pressure between Adult / Infant limits @ 30 lpm | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |
| Error 18 – Deviation High | Differential pressure too high @ 30 lpm | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |
| Error 19 – Deviation High | Differential pressure too low @ low flow level | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |

| | | |
|---|---|---|
| Error 20 – Deviation High | Differential pressure too high @ low flow level | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |
| Error 21 – Deviation High | Coefficient (a) too low | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |
| Error 22 – Deviation High | Coefficient (a) too high | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |
| Error 23 – Deviation High | Coefficient (b) too low | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |

| | | |
|---|---|---|
| Error 24 – Deviation High | Coefficient (b) too high | 1. Ensure that system is leak free by running system test.<br>2. Ensure that the proximal sensor is correctly connected to the tubing system and that its outlet is open.<br>3. Replace proximal sensor<br>4. Perform re-zero of pressure transducers, fab test 5<br>5. Verify internal flow sensor calibration, recalibrate as necessary.<br>6. Replace Sensor PCB |
| Error 25 – Saving Data | NVRAM Damaged | 1 Replace proximal sensor<br>2.Perform NVRAM test<br>3.Clear & Test NVRAM, recalibrate device.<br>4. Replace controller PCB |
| Error 26 – Emptying Tank | Error Emptying Tank | 1. Ensure that patient wye is open at the beginning of system test.<br>2. Verify that PV1 is opening and flow is evident from to patient port.<br>3. Replace Inspiratory Valve PV1<br>4. Verify no leakage through blender system. |
| Error 27 – Low Pressure | Pressure P2 < 15 mbar | 1. Ensure that that the flow sensor outlet is blocked during compensation test.<br>2. Replace proximal flow sensor<br>3. Perform calibration of proportion valve PV1. |
| Error 28 – High Pressure | Pressure P2 > 40 mbar | 1. Replace proximal flow sensor<br>2. Perform calibration of proportion valve PV1. |
| ***Oxygen Sensor*** | | |
| Error 2 – Saving Data | NVRAM Damaged. | 1.Replace O2 Sensor<br>2.Perform NVRAM test<br>3.Clear & Test NVRAM, recalibrate device.<br>4. Replace controller PCB |
| Error 3 – Deviation High | Error during calibration at 100% setting. | 1. Ensure O2 supply is connected and adequate flow available.<br>2. Ensure O2 Sensor connected correctly.<br>3. Replace O2 Sensor.<br>4. Confirm that inlet check valves CV1/2 are correctly installed and undamaged, replace as necessary.<br>5. Replace Sensor PCB.<br>6. Replace O2 Sensor interface block. |