



Leak testing on Merlin



This can be done on any machine to test for leaks within Merlin itself.

Procedure: Remove any connections to the Gas In and Gas Out pipes.

Set Insp control to PL (fully clock-wise)
Set Flow/TV control to 0.1
Set Exp control to 9.0
Set Max Airway Pressure to 57
Turn Assist mode OFF

Connect a single short piece of 22mm hose between the To-Patient and the From-Patient ports



Set the machine to **RUN**.

Merlin will deliver gas at 0.1 L (100ml/min), which is just over 1ml/second. This is very slow and if there is even a tiny leak it will not get to 57cm pressure. Note, that this tests for any leaks in the Inspiratory valve, Expiratory valve, Merlin chamber and internal connecting pipes.

When the pressure reaches 57cm, Merlin will stop the Inspiratory phase and return to its resting position. The screen will show the delivered volume in mls. Repeat the test 3 or 4 times and make sure the results are consistent. To test for valves that begin leaking with prolonged use, run this test for at least 3 hours. If at any point a leak develops and the pressure cannot be reached an Alarm screen will appear - "TARGET PRESSURE NOT REACHED". The machine does not need to be attended during the test as the Error screen will not clear unless the Reset switch is pressed. If Merlin fails this leak test it should be returned to the supplier for Service.