

**Making your own “remote” oxygen flow meter – by Kil Sawford
(Edited by the Breathe Support Network, medically reviewed by
Mark W. Mangus, Sr., BSRC, RRT, RPFT, FAARC)**

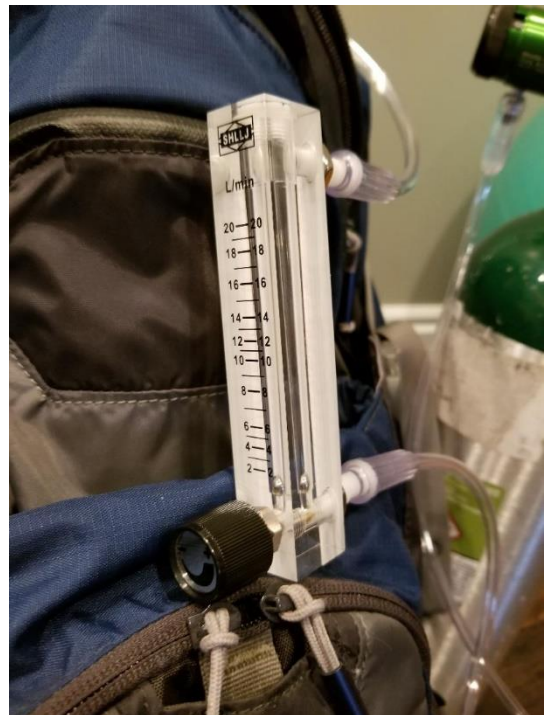


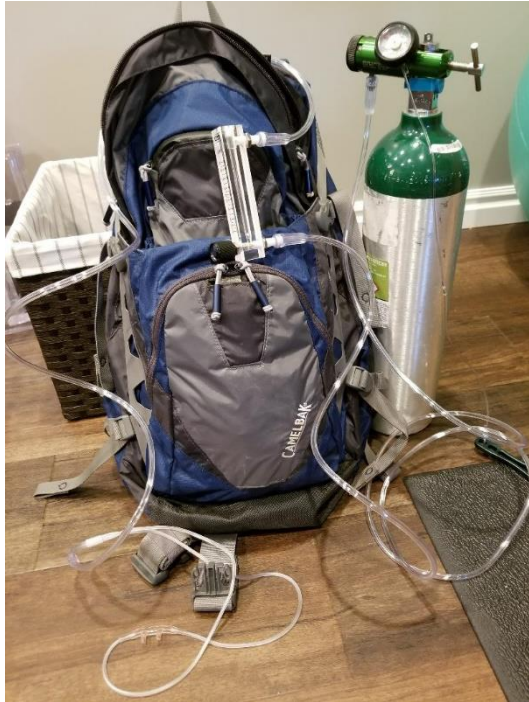
Here’s the way I make my oxygen (O₂) flow easily adjustable. I use this set up for hiking, but it could be adapted to other applications. This set up allows me to increase my O₂ flow going uphill and decrease it, to conserve O₂, going downhill. This improves my hiking experience by allowing me to adjust my flow rate without having to make frequent stops to remove my backpack every time I need an adjustment. It also helps me use my O₂ efficiently, so I don’t have to run my tanks wide open at the highest setting all the time. I can stay out longer with my tank(s).

The key piece to this set up is inserting an adjustable flow meter in line with the O₂ tubing going to your cannula. In the photo to the left, you see it hanging from the horizontal strap going across my chest.

It’s a clear acrylic device, seen in the photo to the right. I bought it off Amazon for \$17.62. I remember that it came from China and took ~3 weeks to get here. There are many other adjustable flow meters to choose from, if desired. There’s nothing special about this one. You just want to make sure the adjustment covers the range you need, and the connections are compatible with your oxygen tubing. This flowmeter adjusts from 1-20 liters per minute (LPM).

When using the flow meter, it’s important to remember that the bubble indicator is calibrated using gravity, so the tube orientation needs to be straight up and down to get an accurate reading. It doesn’t need to stay upright all the time, just when you’re trying to read it while making adjustments.





For the rest of my set up (photo left), it's a matter of getting a section of tubing that goes from your oxygen source (tanks, concentrator) to the input of the adjustable flow meter and then connect the output to your cannula. In this photo, the regulator output is on the right side of my backpack, and you can trace it all the way to the flow meter input at the bottom of the device.

The output of the flow meter is at the top of the device, and again, you can trace the tubing from the output going behind the backpack and then coming out on the left side of the picture down to the cannula on the floor. Then I hike with the tank inside the backpack.

When operating, I keep the oxygen source (via regulator on a tank or concentrator) dialed up to the highest setting I would want to use, and then use the flow meter to make the flow rate adjustments locally. This set up could be adapted for other applications like helping a patient adjust their flow as they move through a house without having to go back to the concentrator all the time. This could allow keeping a big, noisy floor concentrator tucked away in another room.

The biggest challenge I have is “where” to carry the flow meter. I've tried it other places, but I keep coming back to hanging it off the chest strap of my backpack. This keeps it out of the way and easily accessible. If you were using this at home, you might need to get a little creative to find what works for you. Possibly wearing a lanyard with the flow meter attached.

I would like to extend a special thank you to Kil Sawford for writing and sharing this helpful resource with the worldwide pulmonary fibrosis community. I would also like to extend a special thank you to Mark Mangus for taking time to read and validate this article. These two gentlemen and other people like them help make our worldwide PF community rich with knowledge. Thank you, gentlemen!

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