



## Golem CO<sub>2</sub> Scrubber Manual

**Participation in rebreather diving can result in serious injury or death!**

The Golem CO<sub>2</sub> scrubber is a replacement scrubber canister for rebreathers. As with all CO<sub>2</sub> scrubbers, it is designed to chemically remove CO<sub>2</sub> from the breathing loop. However, the Golem CO<sub>2</sub> scrubber has the increased benefit of radial gas flow through the sides of the canister and the center column.



### Packing the Scrubber

To refill the scrubber, first unscrew the retaining nut from the center column. Remove the scrubber canister lid by pulling up on the two handles found on the top of the lid. Once the lid is removed, carefully inspect and lubricate the o-rings on the circumference and in the center opening

**!!! Always use oxygen compatible lubricants where pure oxygen or oxygen-enriched gas is used !!! Failure to do so can result in serious injury or death !!!**



Cover the top of the center column to prevent scrubber chemical falling into it. A cap from the Sofnolime or Sodasorb tub works well.

Fill the canister one-third full. Keep the canister upright while lightly tapping the sides with your hand (the same way as though burping a baby). Lightly tap the bottom of the canister against a solid, flat surface to settle the adsorbent chemical.

Fill the second third of the canister, and repeat the tapping process to achieve settling in the midsection.

Fill the remainder of the scrubber canister all the way to the top fill line (groove in the upper black center ring). Repeat the tapping routine. The scrubber chemical might need to be added several times in order to bring the fill level in alignment with the fill line. Make sure that the surface of the adsorbent material is level.

Replace the canister cover, and push down on it to compress the springs and expose the threads on the center column. Screw on the retaining nut several revolutions to hold the lid in place. Lay the canister on its side and lightly tap it while rolling it around. The canister should be rotated at least two complete revolutions in order to achieve uniform packing of the adsorbent material.

Next, stand the canister upright and repeat the tapping routine. Tighten the retaining nut, and shake the canister. There should be no rattling sound when the packed canister is shaken. If the adsorbent material rattles inside of the scrubber canister, remove the lid to add a small amount of the chemical. Repeat the tap down and rolling procedure until there is no rattling.

That completes the scrubber packing procedure.

**WARNING!!! Failure to properly pack the scrubber canister can lead to increased levels of CO<sub>2</sub> and hypercapnia. Learn to recognize the common symptoms of hypercapnia and how to alleviate them. Always carry adequate bailout, and have the proper training and skills to use it. Ultimately, you, the diver, have the responsibility for your safety while diving.**



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When replacing scrubber canister in a CCR, verify that the height of the replacement Golem canister with included spacer is the same as that of the original canister and spacer.

Place both canisters and their respective spacers side by side on a flat surface. Use a level to ensure that both canister assemblies are the same height (see pictures). Please contact us at the address below if you have any questions.

**WARNING!!!** Failure to verify canister assembly height can lead to scrubber bypass and increased levels of CO<sub>2</sub>. Learn to recognize the common symptoms of hypercapnia and how to alleviate them. Always carry adequate bailout, and have the proper training and skills to use it. Ultimately, you, the diver, have the responsibility for your safety while diving.

