Magnetic Stirrer

It is essential to have a convenient, ideally automated solution for stirring culture jars for liquid culture work and diminishing the need to open up the jars for stirring to avoid contamination vectors. Laboratories use magnetic stir bars and stir plates for this. These professional tools tend to be pricey, so I designed and built my own. My magnetic stirrer is built from an old computer fan and scavenged magnets from a broken hard disk. Reusing parts in this way kept the cost at a minimum. In the next iteration, I added a much stronger electric motor, a potentiometer for speed control, better and stronger magnets and a power switch. I used to split the 12V power supply into my flow hood and magnetic stirrer – in my user tests and workshops, this turned out to be not ideal since this means both devices are constantly running and interdependent in voltage. Adding power switches and voltage control to both devices would still allow for a shared power supply unit. As a replacement for the PE coated magnetic stir bars used by professional laboratories, I ordered long cylindrical neodymium magnets from supermagnete.ch. I tested a few different formats in 500 ml, 1000 ml and 1800 ml jars and chose the best working formats for each volume.