



Space Saving Purification Trolley

Due to having limited space at home to store all the components required for my purification system, I decided to sit down and have a good think about how I could come up with some kind of mobile trolley that would house all the components as well as being mobile so that it could easily be moved from one place to another if required. It needed to be narrow enough to enable me to fit it into a narrow storage cupboard so that it was hidden and out of the way.

After I had drawn up my design, I decided to try a prototype made out of wood. This was a much cheaper option than going straight out and spending a fortune on metal. After a trip to the local DIY store, I managed to build my design within an afternoon. I was quite pleased with the result, and now that I had a full scale model with all the dimensions being just what I needed, I could then take the next step to making one using metal.



I bought 4 x 2.5m lengths of 23.5mm x 23.5mm galvanized steel and cut these to the desired lengths for the frame. I used 20mm bolts & nuts to secure it. For the base, I used a 20mm thick wood panel and another for the face plate

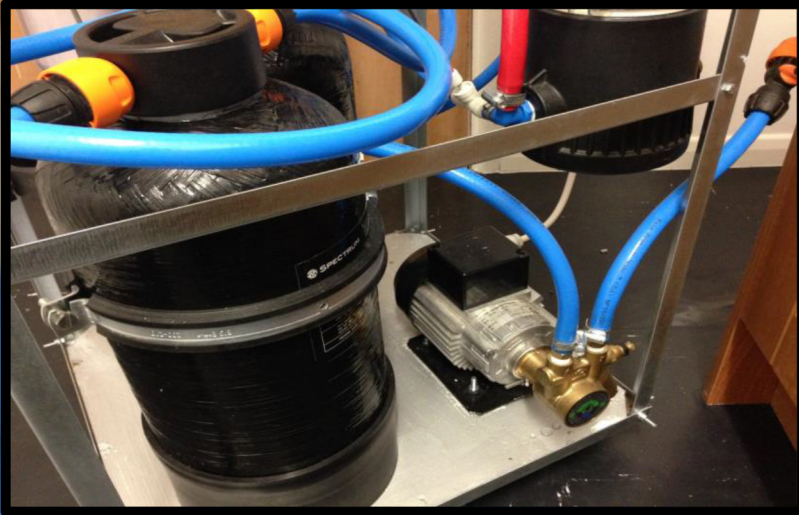
The face plate was designed to house my pressure gauge, ball valve lever, and inline TDS digital meter. I used 4 coach bolts and 2 pipe saddle brackets to hold the gate valve in place. The face plate was designed to be at the top of the trolley at approximately shoulder height to enable easy access to all the components while standing.

I fixed 4 free moving trolley wheels to the base for easy transportation of the system.

Purification components that my trolley holds are as follows:

- Pressure Gauge
- Inline TDS Digital Meter
- Ball Valve Lever
- 4040 RO
- 2 x 20" Pre Filter Housings
- 2 x 11 Litre DI Vessels (1 mixed bed resin, 1 softening resin)
- Rotary Vane Booster Pump
- 10" Salt Housing





Parts Used for 2nd Prototype

- 4 x 2.5m lengths 23.5mm x 23.5mm galvanized steel
- 20 x M6 20mm bolts with washers & nuts
- 4 x M6 40mm bolts with washers & nuts
- 4 x M6 40mm coach bolts
- 4 x trolley wheels
- 2 x wooden panels cut to desired size

I am extremely with my 2nd prototype which uses galvanized metal and is currently in use. It has solved a space issue for me and I can now keep it stored in my cupboard and roll it out if I need to. I will now go onto make the final design where I will be using angle iron or stainless steel (or both) with welded joints instead of using bolts. Every part of the final trolley will be metal, no wood will be used.