## Making a Vacuum chuck for £10 or less



An enthusiast told me that since getting a vacuum chuck he does not know how he managed without.

The classic use is cleaning up the bottom of bowls and other vessels when there are few alternative methods of holding the work.

Proprietary VC's can cost several hundred pounds but here is a bargain basement version for use with a hollow headstock

The heart of the system is a dual radial bearing which needs to be sealed. I bought one for about  $\pounds 3$ . (This was the most expensive component in the project)



Rubber sealed deep groove ball bearings 17x35x10mm

part no. 60032RS

From Simply Bearings Ltd 01942 269837



## Here are the other parts



Plastic pipe with external diameter of 10.5mm. I used home brewing hose



Closed cell foam as sold by "The Range". If you can blow through it then it is no good



Pipe inserts 15mm required to stiffen the plastic pipe at each end

You will also need some MDF and wood scraps.

Assembling the components is quite straight forward. Using super glue I stuck the bearing into a recess which had been accurately drilled on the lathe. There is some risk of sticking the inner bearing but this risk can be reduced by creating a shelf (see below) and ensuring the bearing sits slightly proud of the MDF body



Fit the pipe insert fit into the plastic hose. You may need to heat the end of the hose. Make the bush or sleeve which needs to fit snugly inside the inner bearing. Glue in place. The diameter of the sleeve should offer a tight fit for the inner hose assembly. I used beech for the sleeve but any close grained timber would be fine. The faceplate ring ensures that the disc runs true. If you use a scroll chuck make sure you can get the plastic hose through the opening and through the hollow head stock



The business end is the workshop Vac which is actually quite good for the job with a powerful motor and lots of storage capacity which means that the work stays in position a few seconds after the power is switched off.

The wooden connector is a tight push fit into the Vac hose and with this design the seal tightens with the vacuum pressure.

You may need to add a means of reducing the vacuum pressure such as a relief valve to aid fine adjustment or protect thin walled vessels or the vac motor during prolonged use. You may find your Vac hose already has a slider mechanism which allows you to adjust the pressure





