

Setting Up the Vacuum Chucking Hardware

Introduction

Vacuum chucking is an easy way to complete vessels, bowls and platters by providing a positive, quick hold allowing for the completion of the foot.

In the past vacuum chucking has been less widely used due to the costs and assumed complexity of setting up the system.

Pumps can be inexpensive if purchased used from a recycler or build from converted refrigeration systems. Chucks can also be purchased commercially or build from scratch inexpensively. Even the rotating vacuum adapters can be purchase inexpensively or build from available parts!

This article deals only with the set up of the plumbing system from the lathe's vacuum adapter to the vacuum pump. All items were purchased locally except the rotary vacuum adapter. The total investment was about \$100.00 and probably can be done even less expensively.

Building the hardware system

At the right is a picture of the full hardware assembly including the inexpensive rotary adapter.

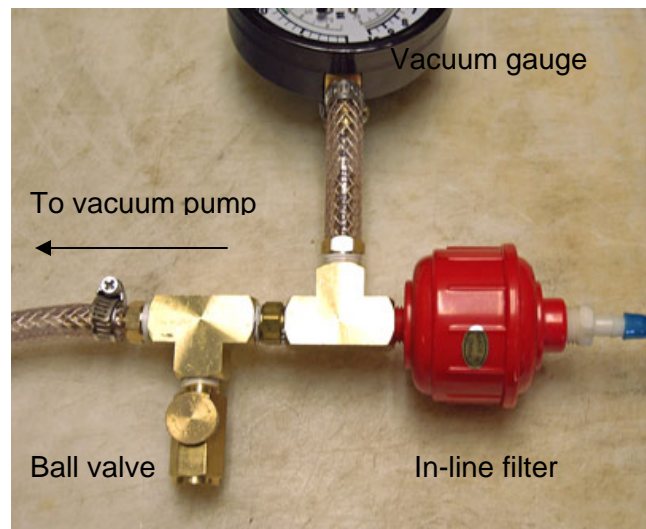
This adapter is fitted through the headstock, the back Morris taper adapter (shown at the top of the photo) is screwed down to the inboard side of the headstock and the excess brass tubing is cut off to length. The opposite end fit snugly to the outboard side of the headstock and contains a vacuum tight rotary fitting.

The red in-line filter is required to protect the vacuum pump from debris and saw dust.



All brass parts have been wrapped with Teflon tape before being screwed together. Hose barbs to hose assemblies should be strengthened with the addition of a hose clamp.

The following is a complete list of all parts I purchased to build this assembly



Hardware for setting up a vacuum chuck

• Harbor Freight	
○ 38159 (2 pack) in line moisture filters	4.99
○ 94503 (2 each) ¼ inch brass “T”	4.78
○ 32905 (1 each) Brass ball valve (in line regulator)	2.99
○ 94501 (1 each) hose repair kit -7 pieces	3.99
○ 1 each PTFE (Teflon) tape	.89
• Hardware store	
○ ¼ inch nipple short length (1 each)	1.99
○ ¼ inch hose barb, nylon (1 each)	.89
○ 3 feet vacuum hose	2.37
• Kragen Auto	
○ Vacuum gauge, Innova 3620	21.64
• Packard Woodworks	
○ 110902 Fast Vacuum adaptor kit	56.95
TOTAL	101.08

Plus a vacuum pump and appropriate home-built chucks