

# Typical Vacuum System Diagram

A Reference by:  
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[or on the IAP \(International Association of Pen-turners\) site.](#)



This reference sheet was downloaded from

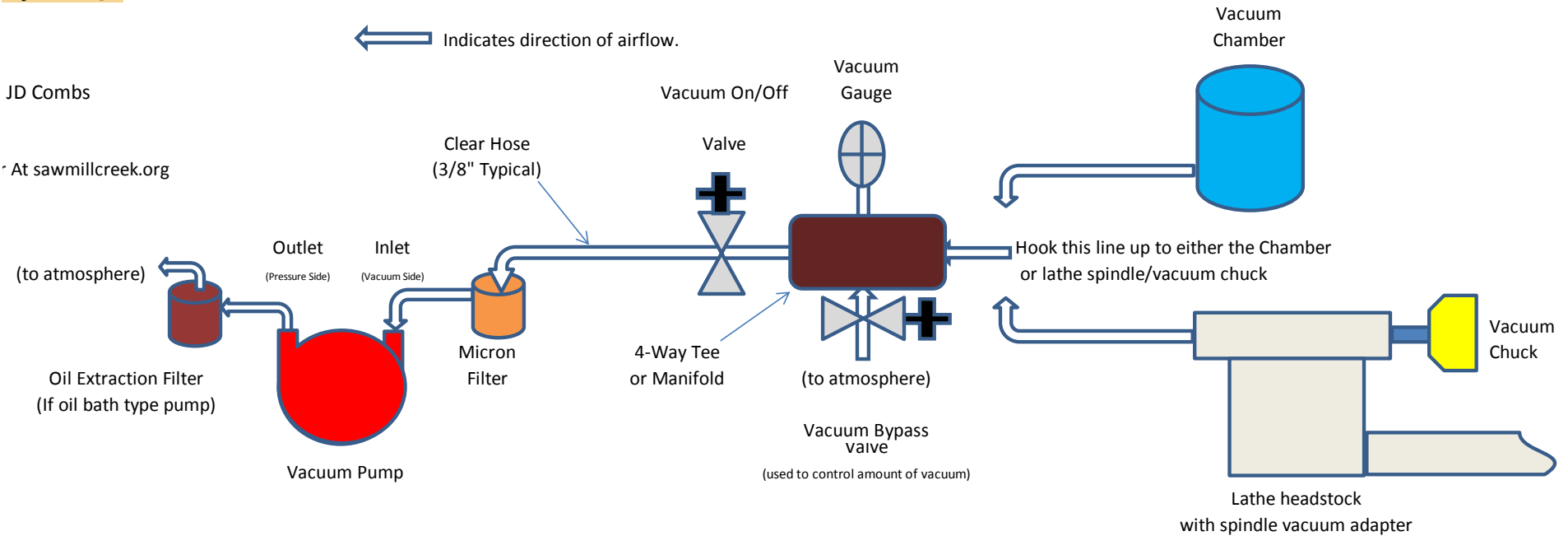
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## TYPICAL VACUUM PUMP SETUP FOR A VACUUM CHAMBER OR A VACUUM CHUCK SYSTEM



- '05/2016(Gramme) Notes:
- Oil Extraction Filter A good coalescing filter is very expensive, \$100s plus, therefore a non oil bath pump is the least expensive to setup. An oil bath pump exhausted into the shop without a filter will most likely fill the shop with an oil mist. If oil bath pump is used get a filter that mounts on the exhaust port and drains the extracted oil back into the pump.
  - Oil Pump Dry vane pumps provide enough vacuum, typically 26"hg, plenty for vacuum chucking. Oil bath pumps are more likely to be used for wood stabilization, they can generate up to near 30"hg or near perfect vacuum. The cubic-feet/min ratings determine how fast you will reach desired vacuum. Higher ratings can offset leaks in a system.
  - Air(micron) filter Many wood workers use automotive inline gas filters or oil filters. Typical micron filtration 2-5 microns.
  - Valves General purpose 1/4" to 3/8" ball valves found at your local hardware or plumbing supply work great.
  - Vacuum Gauge Amazon about \$6-\$10
  - Hose, Tee, fittings Found at your local hardware or plumbing supply work great. Standard air type quick-disconnects make great connections especially at the chamber or spindle interface.
  - Vacuum Chamber Can be purchased online, some examples can be seen at TurnTex Woodworks. I built my own out of a 10" PVC pipe coupling and a 1/2"x12"x24" piece of clear poly carbonate.
  - Spindle adapter & vacuum Chuck Another item that can be purchased online, examples can be seen at "jturningtools.com/vacuum-adapters". For my Jet 1642 I made the spindle adapter out of a brass fitting and a sealed bearing, the chuck out of a faceplate and PVC.
  - Optional A vacuum reservoir can be added to stabilize the amount of vacuum, especially useful on a "tight" system(non-leaking system).