

# Runn'n Cool

Presents

## Total External Static Pressure Testing

Created by Rundawg

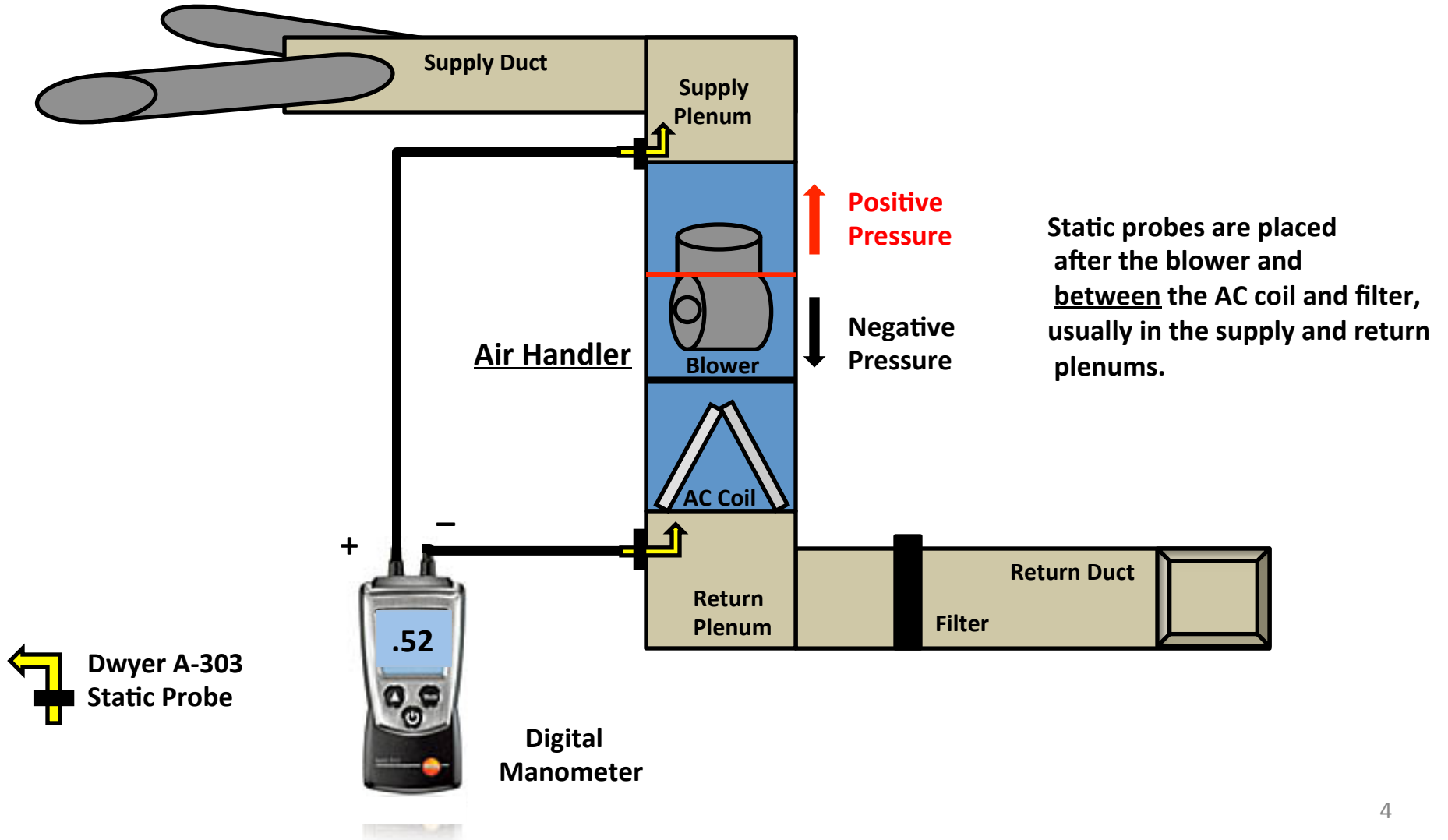
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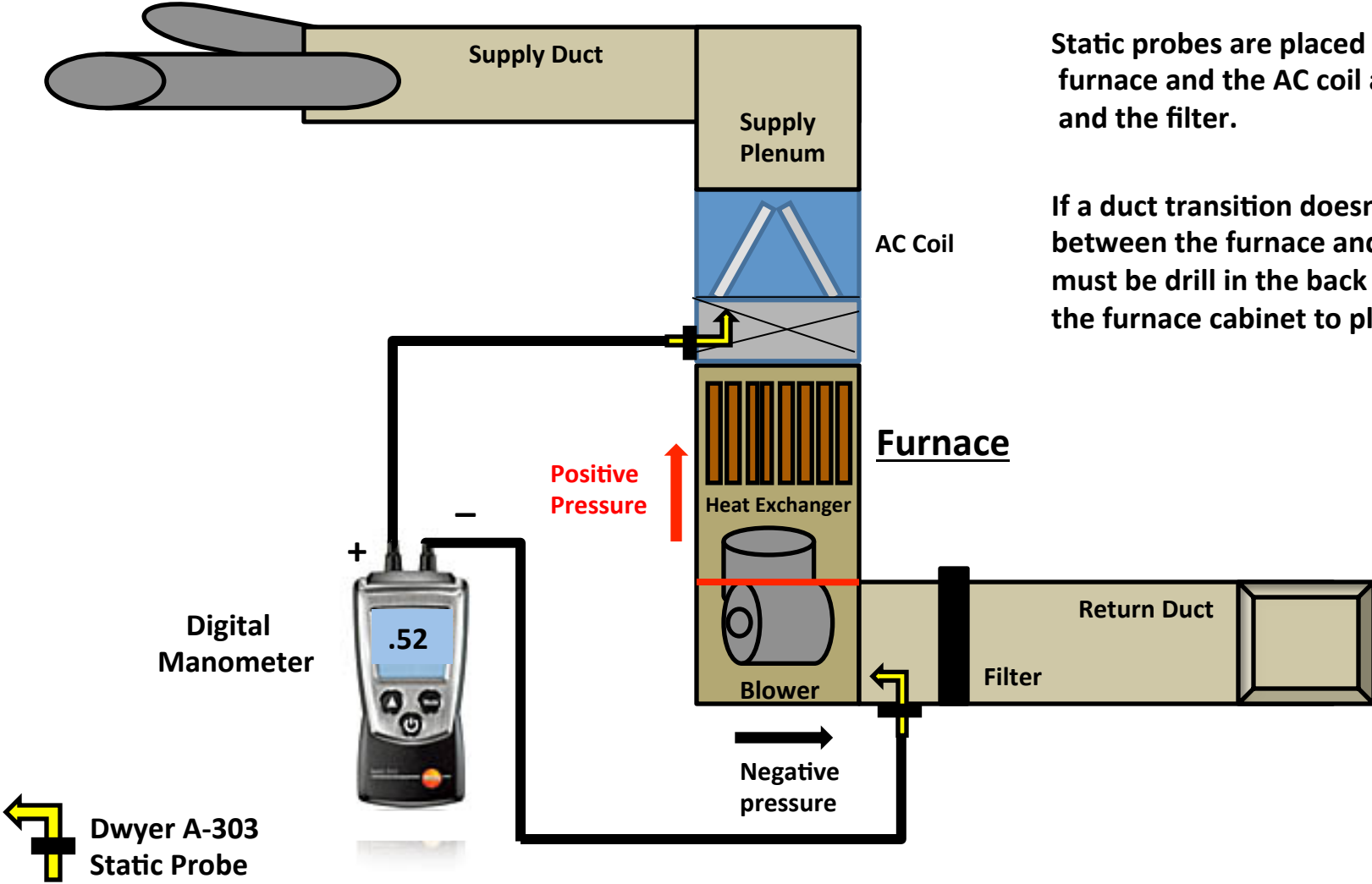
## TESP Testing Tips and Notes

1. Static probes can be positioned into or away from the airflow, as long as the holes in the probes are perpendicular to the airflow.
2. If individual readings are taken, you add the two readings for TESP, and subtract the low reading from the high reading when testing individual components.
3. .50 inch w.c. is usually the max TESP recommended by most manufacturers using multi speed blowers. Variable speed blowers can be higher.
4. TESP is the measure of resistance the blower must overcome outside(external) to the air handler or furnace cabinet.
5. Most manufacturers TESP numbers are based on a wet coil.
6. Static probes can be placed on each side of a piece of equipment (coil, filter ect.) to get the pressure drop (resistance) across that specific piece of equipment.
7. **Always remember to read the notes on the bottom of the manufacturers blower performance table for specifics in testing their equipment.**

# Testing TESP on an Air Handler



# Testing TESP on a Furnace with an AC Coil

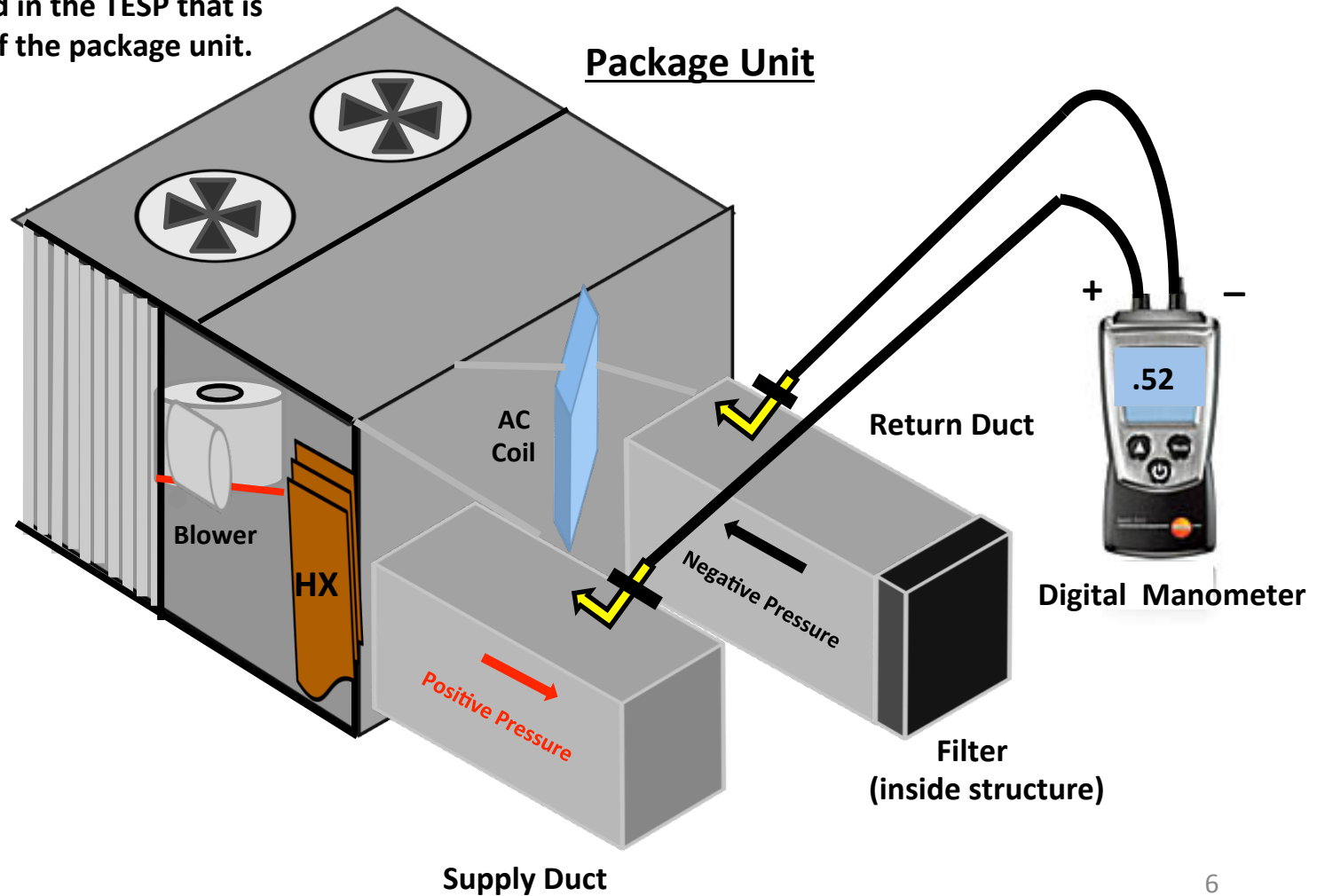


Static probes are placed between the furnace and the AC coil and furnace and the filter.

If a duct transition doesn't exist between the furnace and the coil, a hole must be drilled in the back top center of the furnace cabinet to place the probe.

# Testing TESP on a Package Unit

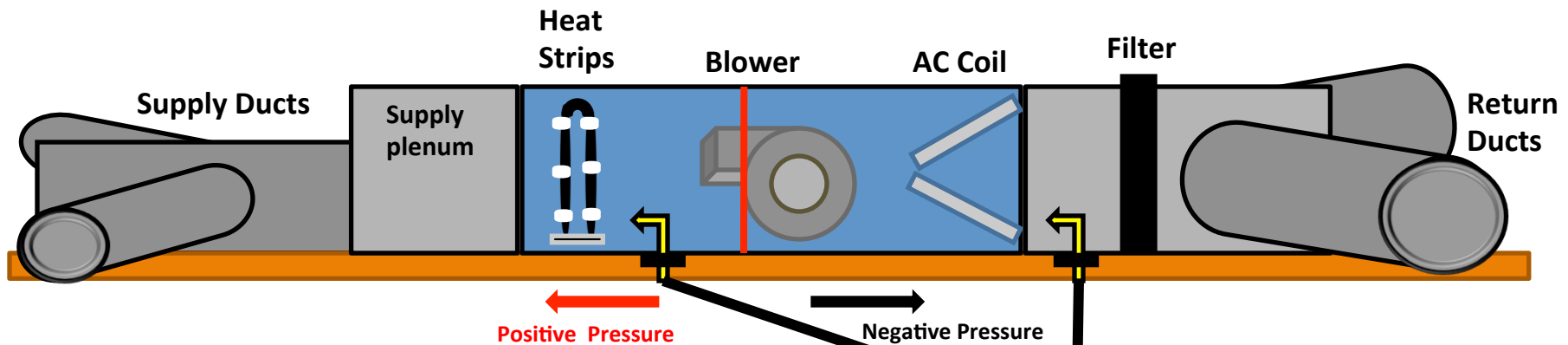
Static probes are placed outside and next to the unit in the supply and return ducts. The coil and HX inside the unit are included in the TESP that is listed on the rating plate of the package unit.



 Dwyer A-303  
Static Probe

# Testing TESP on an Air Handler with Heat Strips

The probes are placed between the filter and the AC coil on the negative side, and the blower and the heat strips on the positive side.



Even though the heat strips are inside the unit, the manufacturer doesn't know what size heat strips will be used. So their resistance must be accounted for by placing the probe before the strips.

If the manufacturer lists the resistance of the heat strips in the manual. The positive probe can be placed in the supply plenum after the heat strips, and the heat strips know resistance is then added to the TESP number.

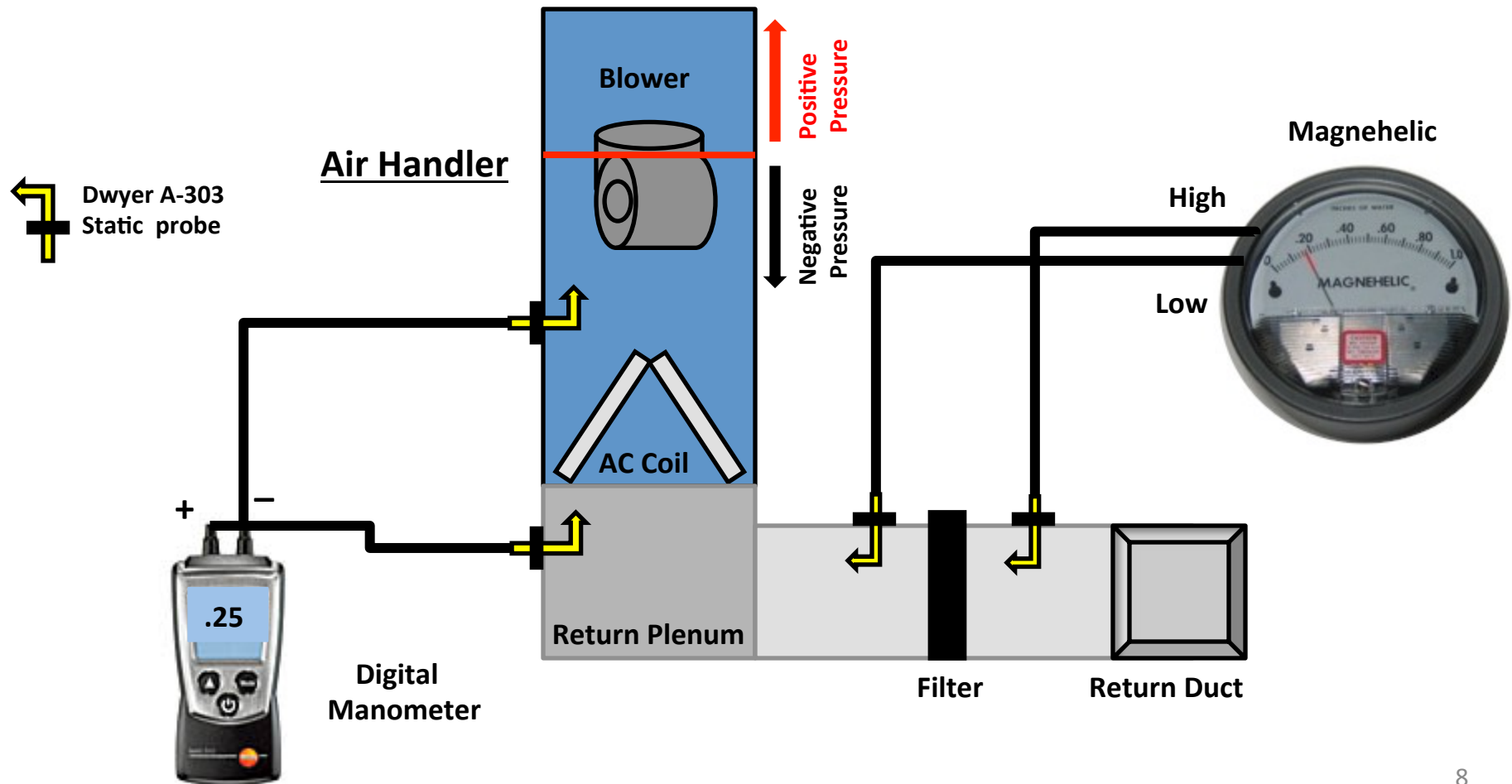


Dwyer A-303 Static Probe



# Testing for Pressure Drop across Individual Components

Static probes are placed on each side of the component being tested.





# Testing Tools and Materials



**Dwyer A-303  
Static Probe**



**Testo 510  
Digital Manometer**

or



**Dwyer #2001  
0 – 1.0 inch wc  
Magnehelic**



**3/16 inch ID Tubing**



**1/4 inch Drill Bit**



**1/4 inch Hole Plugs**