

**Lab 9. Fans & Ducts (2.5 Points)**

The intent of this assignment is to better understand fan and duct performance. Find the specifications, including a duct curve plot, for the Broan QTXE150 bath fan.

1. HVI rates these fans at a single static pressure (sometimes two pressures). What is that pressure and what is the rated flow at that pressure for this fan?

Rating pressure        \_\_\_\_\_ inches of water

Rated flow             \_\_\_\_\_ cfm

2. Find the static pressure for a 4" duct that is 50' long with 3 - 90 degree elbows and a 4" hood. Plot the duct curve on top of the fan curve. What will the flow rate be for this fan with this duct configuration? Do the same for a 5" duct.

3. If the house airtightness is 400 cfm at 50 Pascals, what pressure will this fan create at its rated flow? Given that pressure, if you have a make-up air duct that is 20' of 6" flex duct and a 6" hood, how much air can we expect to flow through this duct.

Pressure differential   \_\_\_\_\_ Pascals

Flow through duct        \_\_\_\_\_ cfm