

# Building Your Own Flow Bench?

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We understand that there are people that would prefer to build their own flow bench for the self-satisfaction or financial rewards of doing the job themselves or to explore new ideas. There are some flow bench parts that are difficult to locate at a reasonable price that we offer to help you along the way to complete your project...

## Motors:

There are more than 100 motors available that appear to be the right one for flow bench use. However, the rating on these motors is based on total flow, which is not the condition that we use them under. The proper motor for the job is one that produces maximum flow at the depression that we will be using them. As an example, if the test pressure is going to be 28" and the measuring device creates a differential pressure of 6", our motors should be at peak performance at 34" (28 + 6). All vacuum motors have a performance curve similar to an engines horsepower curve. It may be rated at 125cfm but at 34" it may only produce 50cfm. The next consideration is for the motor to be double ball bearing and thermally protected. We use exclusively Ametek Lamb motors and supply the motor that meets the demands of a flowbench.

## Incline manometer

This is an area that you don't want to skimp on. The repeatability of your flow bench depends on the accuracy of the manometer. The standard Dwyer 246 is the most common manometer and has a scale graduated in inches (0 to 6). The scale is removable so that you can customize it to meet your needs. Red gauge oil is used because of its low evaporation rate and its ability to maintain its specific gravity.

## Vertical manometer

These are easy to build but only if accuracy is not a consideration. If you plan to repeat a test or compare it to another test, you will need to use the same test pressure. We recommend the Dwyer 1230 series manometer available in 12, 24, 36 and 48-inch scale lengths.

## Laminar flow elements

These are the absolutely most accurate and repeatable methods of measuring air flow but are very expensive. There are other options including the Audie Technology "Flow Quick";.

## Other parts

There are parts such as direction control valves, motor starters, tubing and other small parts that you may have trouble locating. There is a possibility that we have them or can send you in the right direction.