

Twin Tube Research

A short study was done to determine the effects of twin tube length and diameter on pulsation. 9/32" and 3/8" ID hoses was used with the same pulsator, claw, shells, and liners for each trial. This test was performed in a laboratory setting. Tube lengths of 3, 5, 6, 12' were monitor for performance with the vacuum set at a constant level of 14.4 inHg for each trial.

The results can be observed in Figure 1 and Figure 2 demonstrate that as the twin air tube gets longer, A & C phases will get longer and B & D phases will get shorter. They also show that as tube diameter increases, A & C phases will get shorter and B & D phases will get longer. It is important to understand how length and diameter of the twin air tube can effect pulsation.

Let's look at the set-up used to obtain this data. The pulsator used for this trial has approximately a 580ms b phase with no twin air tube. Adding 10' of 9/32" tubing to the pulsator would reduce the b phase to about 520 ms. Using 10' of 3/8" tubing would make it approximately 544ms.

It should be noted that the actual values are dependent on equipment and settings used. The graphs are only to show the relationship of twin tube to length and diameter.

