

GPC and SplitStream Cyclone Dust Removal Case Study

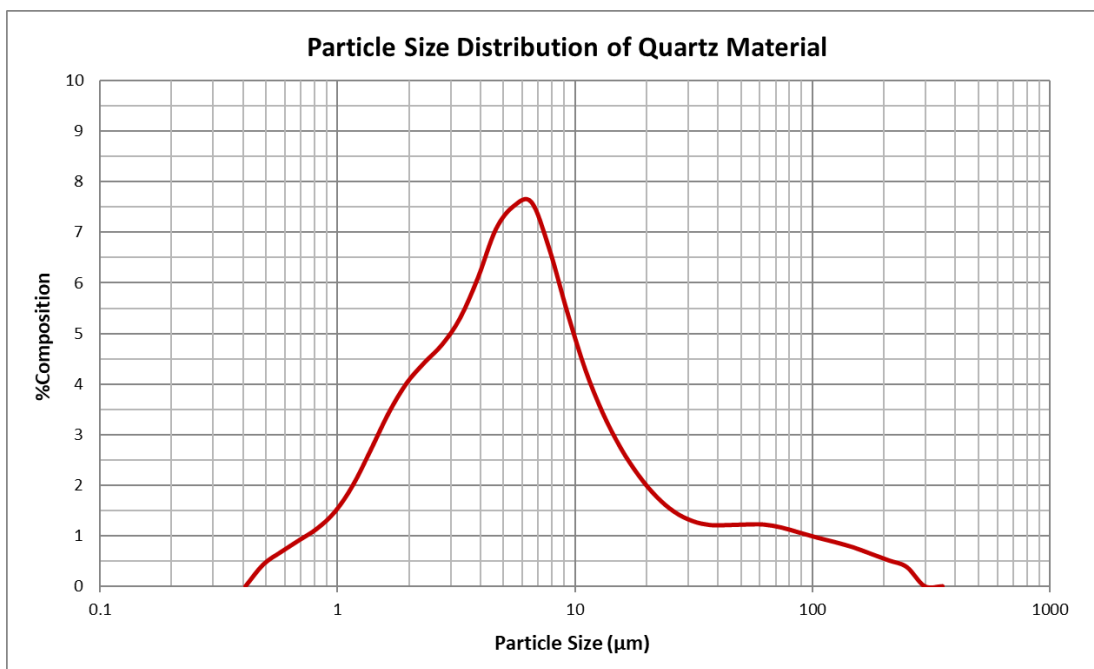
Quartz Dust Removal

Aerodyne Environmental tested quartz dust in our GPC-18 and S400 SplitStream test labs. All tests were done at room temperature with a dust loading of 16 grains/ft³. The GPC-18 test had a pressure drop of 2.5" W.C. Two tests with the S400 were performed by varying the airflows of the primary and secondary airstreams: 3:2 ratio and 1:1 ratio. For the 3:2 ratio S400 test, there was a pressure drop of 6.5" W.C. through the primary airstream and 8.0" W.C. through the secondary airstream. For the 1:1 ratio S400 test, there was a pressure drop of 4.0" WC through the primary airstream and 18.0" through the secondary airstream. The quartz dust sample tested had a particle size distribution as shown in the graph below. Its mean particle size was 5 micron and had a bulk density of approximately 56 lbs/ft³.

The GPC-18 cyclone got 56%* removal of the material.

The S400 SplitStream cyclone (3:2 ratio) got 85%* removal of the material.

The S400 SplitStream cyclone (1:1 ratio) got 90%* removal of the material.



* Please note that particle removal efficiency is based on multiple factors in the process, including but not limited to cyclone size, pressure drop through the cyclone, particle size distribution, particle geometry, and material density. This test is a representative test, and results for your application may be different based on the above conditions.