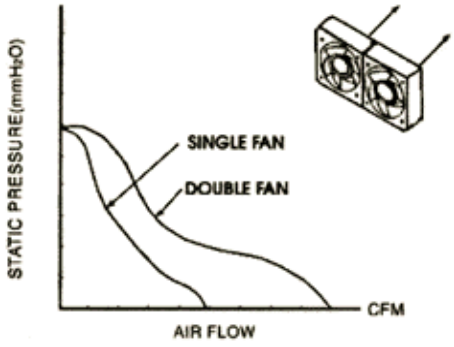
The Parallel and Series Operation

The parallel operation

The parallel operation is defined as using two or more fans side by side.

The volume air flow of two fans in parallel will be double in the free-air condition only. If the parallel fans are applied to the higher system resistance situation, the high system resistance that enclosure has, the less increase in flow results with parallel fan operation. Thus, this type of application is only recommended for the low system resistance situation -- when the fans can operate near free delivery.

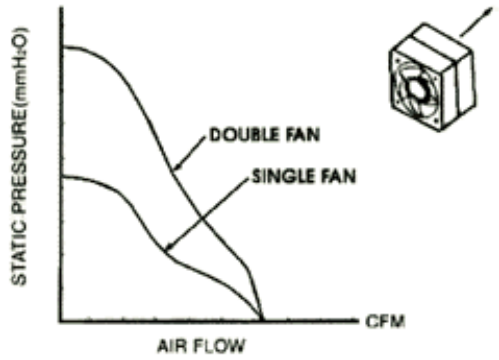


The Operation of Parallel Fans vs. Single Fan Graphs

The series operation

The series operation is defined as using two or more fans in series.

The static pressure capacity of two fans in series can be doubled at zero air flow condition, but do not increase the airflow in the free-air situation. An additional fan in series increases the volume flow in a higher static pressure enclosure. Thus, in series operation, the best results are achieved in systems with high resistance.



The Performance of Series Fan vs. Single Fan Graphs