



**Agilent Technologies**

## **How QuickSwap Works**

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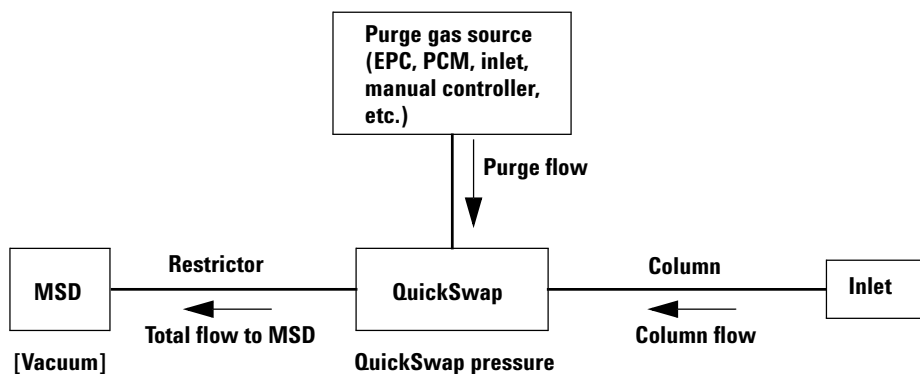
## How QuickSwap Works

QuickSwap is a T-connection placed between the end of the GC column and the entrance to the MSD transfer line. A purge gas flow mixes with column effluent, passes into a deactivated fused silica restrictor inside the transfer line, and then into the MSD source.

With a proper choice of restrictor size, column flow, and purge gas pressure, the purge gas blankets the restrictor entrance even when the column is removed. This keeps air out of the MSD and makes it possible to trim or remove columns while the MSD is under vacuum and the transfer line and the restrictor inside of it are still hot, saving pumpdown and equilibration time.

QuickSwap requires some changes to direct-connection conditions. Inlet pressure (column head pressure) will be different, transfer line temperature may be different, and the total flow of gas into the MSD will probably be different. It will be necessary to update retention times and response factors and verify any performance metrics prior to analysis of samples. While QuickSwap was designed to minimize performance losses, some losses are possible with specific applications. The guidelines in this manual will help ensure the best possible migration of current methods to QuickSwap methods.

Figure 1 shows the plumbing for normal analysis conditions.



$$\text{Total flow to MSD} = \text{Purge flow} + \text{Column flow}$$

$$\text{Column outlet pressure} = \text{QuickSwap pressure} = \text{Purge gas source pressure} = \text{EPC or PCM pressure}$$

Figure 1 Flows and pressures