

# 100% sealed connection

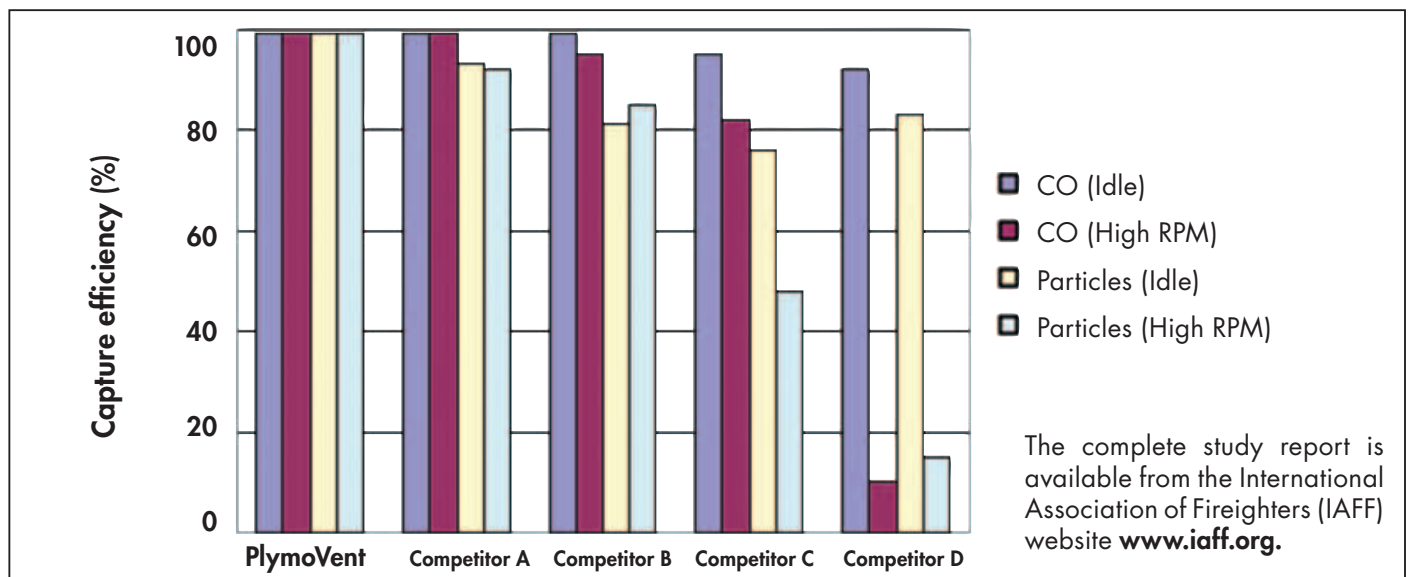
## PlymoVent Grabber® – the only 100% air tight solution

A study was undertaken by International Personnel Protection, Inc. in Austin, Texas, to examine the effectiveness of different diesel exhaust source capture systems in controlling the release of diesel exhaust in fire stations.

### Findings

Three types of results were found illustrating the type of performance observed for sampled systems:

1. The majority of sealed systems showed little or no measurable leakage.
2. Some non-sealed systems showed no leakage during idle engine speeds, but could not keep up with the higher emissions associated with high engine rpm during a simulated pump check.
3. Other non-sealed systems showed leakage occurs continuously over their operation. Oscillations in the measured levels of contaminants was attributed to variations in system airflow caused by the combination of improper installation and an inadequate nozzle to tailpipe connection.



### Conclusions

This study shows that while several factors affect the effectiveness of source capture systems, significant differences in collection efficiencies exist between systems. As evident in the examination of different manufacturer nozzle designs, those designs that permit a total seal around the apparatus tailpipe show little if any leakage as compared to systems which do not have an air-tight seal of the nozzle with the apparatus tailpipe.

Source capture designs where the nozzle connection to the apparatus tailpipe is relatively open, relying on airflow to control to emissions, are not consistent in preventing leakage of diesel exhaust. These systems are particularly susceptible to the higher rpm operations of the apparatus engine as may occur during a pump check.

The source capture system design should account for the range of apparatus condition and provide suitable airflow for all conditions of use.

*PlymoVent was the pioneer of the inflatable tailpipe nozzle, which is today the standard of the industry. Its leakproof design guarantees no escape of exhaust gases from around your tailpipe.*

### Recommendations

**Based on this study, choosing a source capture design that affords an airtight seal with the apparatus tailpipe should be one the essential criteria for selection of a source capture system.**



PlymoVent reserves the right to make design and technical changes.