Seal Leakage Measurements

For: EPA Gas Star Technology Transfer Workshop

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Seal Leakage Measurements
Seal Location
Seal Leakage is a Problem Elsewhere
Lost Dollars due to leaking seal(s)

<table>
<thead>
<tr>
<th>Vent Gas Leakage Rate in SCFM</th>
<th>$0</th>
<th>$500</th>
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Lost Dollars

Vent Gas Leakage Rate in SCFM

- $4
- $5
- $6
Flow Sensing via Flow Column

- Works well when measuring dry clean gas
- Low cost easy to understand
Flow Sensing via Turbine Flow Meter

- Multiply the velocity times the cross sectional area of the turbine provides the volumetric flow rate

Excellent measurement accuracy for clean gases!

Moving parts subject to wear
Drag, a particular problem at low flows
Buildup caused by oily gas which erode the accuracy
Flow Sensing via Thermo Mass Flow Technology

0.2 to 10 SCFM
120F Max Temp of Gas
500 PSI Safety Proof
Number of Leaking Cylinders in a Station

No. of engines \( \times \) No. of cylinders = 24 leaking seals
Package Vent Leakage Meters

Flow

Flow: 0.2 to 10 SCFM
Input Power: 9 V rechargeable batt.
Operating Temp: 40 to 120 F
Class 1 Div.II rated pending
Option Output: 4 to 20 mA

Model 8510-002

Flow

Flow: 0.2 to 10 SCFM
Input Power: 24 Vdc
Operating Temp: 40 to 120 F
Output: 4 to 20 mA
Class 1 Div.I rated
Option: remote meter

Model 8520-002