

Since when  
can cleaning the air  
save you money?



CARB Approved

Since the  
**PERMEATOR**<sup>®</sup>

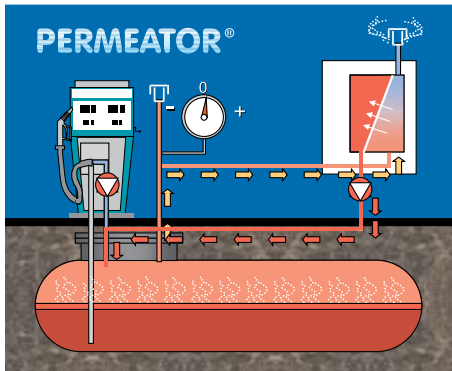


ARID TECHNOLOGIES, INC.

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# The PERMEATOR®

- CARB Approved; Executive Order G-70-209
- Saves You Money by Reducing Gasoline Evaporative Losses
- Keeps the Environment Cleaner
- Independent, third-party field test confirmed the predicted evaporative losses and determined that the PERMEATOR reduced these evaporative emissions by 99.27%.
- Protects the Health of Your Staff and Customers
- Installs Easily into Stage II Vapor Recovery Systems
- UL698A Approved



The **PERMEATOR** prevents the venting of gasoline vapors (volatile organic compounds) and resulting product loss from gasoline storage tanks through a patented membrane. The system virtually eliminates evaporative emissions and has been proven over many years in large tank storage and refinery applications.

ARID Technologies, Inc., now brings this same robust technology to the **retail station environment**.



## Design Highlights

The **PERMEATOR** reduces the evaporative emissions of gasoline vapors by over 99%, while it simultaneously increases salable gasoline product volume by up to 0.5% of gasoline sold (5 gallons per 1,000 gallons dispensed). The **PERMEATOR** handles the 520-1 volume increase that occurs when gasoline evaporates by using the patented membrane system.

The **PERMEATOR** can be installed without excavation and is simple to maintain.

The compact unit can be retrofitted to existing Stage II vapor recovery systems (vacuum-assisted or balance) or installed at facilities with no recovery systems.

For Stage II systems, the **PERMEATOR** allows for improved refueling vapor recovery efficiency at the nozzle without sacrificing evaporative emissions from the storage tanks.

As on-board refueling vapor recovery (ORVR) equipped vehicles continue to enter the nation's fleet, the **PERMEATOR** will bring increasing economic return to gasoline marketers while delivering greater environmental benefits.



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Feature	Benefits
Low initial cost. Less than 1-2% of typical outlet construction costs. Similar cost as new Multiple product dispenser (MPD).	High return on investment (15-95%) and short pay back period depending on site-specific factors.
<ol style="list-style-type: none"> <li>1. High hydrocarbon vapor recovery efficiency (&gt;99%) without wasting natural resources or generating secondary air pollution.</li> <li>2. Allows vacuum-assisted systems to operate with higher (V/L) ratios and to achieve higher collection efficiencies at nozzle/ automobile interfaces.</li> </ol>	Environmentally Friendly technology exceeds current federal, state, and local emission requirements. Provides consumer and environmental protection, while at the same time recovering salable product.
<ol style="list-style-type: none"> <li>1. Retrofits any type of Stage II "front-end" vapor recovery system.</li> <li>2. Remote Data Acquisition System and Data Logger records operating parameters and allows for the calculation of saved product volumes while simultaneously providing notification of PERMEATOR and storage tank system anomalies.</li> </ol>	Can be installed in any existing refueling facility: <ol style="list-style-type: none"> <li>1. Allows uncontrolled dispensing facilities to avoid large evaporative losses as storage tanks ingest air from vent lines.</li> <li>2. Allows dispensing facilities using balance or vacuum assisted systems to avoid large evaporative losses as the ORVR vehicle population increases.</li> </ol>
Unique membrane technology selectively recovers toxic compounds, such as benzene, toluene and MTBE.	Membrane vapor recovery eliminates evaporative losses of VOC's and hazardous air pollutants (HAP's) by converting them into usable products.
Elegant, compact, durable design.	Easy installation with little or no excavation.
Safe solution for variable vapor concentrations generated by ORVR equipment on new cars.	Eliminates the potential for increased vapor emissions as the population of ORVR vehicles dramatically increases over the next 10 years.
<ol style="list-style-type: none"> <li>1. Simple operation since membrane module has no moving parts. Expected life cycle of membrane is 15-20 years with minimal maintenance cost.</li> <li>2. Warranty: three year parts and labor</li> <li>3. Energy efficient — no phase changes are involved in the separation because all streams enter and exit the system in the vapor phase.</li> </ol>	Very low operating costs. \$25-\$60/month  Reduces hydrocarbon contamination in ground water by lowering the fugitive underground vapor emissions