RAE SYSTEMS by Honeywell

Humidity Filtering II Tube

For MiniRAE 3000 and Other Photoionization Detectors

The Humidity Filtering II Tube dries the sample gas entering pumped instruments. It is particularly suited for removing humidity effects on photoionization detectors (PIDs) while making VOC measurements, and typically lasts for about a half hour of continuous readings. The Humidity Filtering II Tube utilizes a solid adsorbent to remove moisture without impacting the detection and measurement of most VOCs.

- **Facilitates quick, on-the-spot measurements of many gases and vapors**
- **Extends the time needed between sensor cleanings**

KEY FEATURES

Accurate

- Enables continuous reading of VOCs under extremely humid conditions for about one half hour (per tube) at room temperature
- Prevents drifting readings at high humidity when the sensor is dirty.

Versatile

- Attaches to the Flex-I-Probe™ inlet with the same adapter used for ppbRAE 3000 VOC zeroing tubes.
- Especially useful for measuring chlorinated solvents and fuels under high humidity conditions as are often encountered during soil and water remediation.
- Can be used with other instruments having a built-in pump such as MiniRAE Lite, ppbRAE 3000, UltraRAE 3000, MultiRAE Lite, MultiRAE and MultiRAE Pro when humidity is an issue, when using a PID or making low-level LEL sensor measurements.
- Caution: Absorbs some compounds such as ammonia and slows the response of heavy compounds, especially at low concentrations or low temperatures. (Check RAE Systems' Technical Note TN-178 for adapter connections or for further details.)

APPLICATIONS

Use with photoionization detectors where humidity effects need to be removed during applications such as:

- Soil and water remediation
- VOCs in landfill sites

ISO 9001 CERTIFIED

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SPECIFICATIONS

Table 1. Humidity Filtering Capacity

Temp °C	Temp °F	Relative Humidity (%)	Run time to t_{10} (min @ 500 cc/min)	Run time to t_{20} (min @ 500 cc/min)
45	113	99	12	14
		75	17	18
		50	35	>40
		25	>40	>40
40	104	100	18	20
		75	25	30
		50	40	>40
30	86	100	22	26
		75	28	32
		50	40	>40
20	68	100	23	
		75	34	>40
	50	40		

Note: The contents of the tubes are non-hazardous, but may absorb hazardous components from the sample gas.

Table 1. Effect on VOC Response

Compound	Conc. (ppm)	Temp (°C)	t_{90} (sec)	CF*
Isobutylene	100	22	3	1.0
Isobutylene	10	0	5	1.17
Cyclohexane	10	22	3	1.0
Octane	100	22	3	1.0
Undecane	100	22	60	1.1
Benzene	5	22	3	1.0
Toluene	10	22	3	1.0
Xylene	100	22	10	1.05
Styrene	50	22	10	1.0
Gasoline	100	22	15	1.05
Gasoline	10	22	15	1.0
Gasoline	10	0	28	1.6
Jet Fuel JP-5	10	22	65	1.0
Diesel Fuel	100	22	110	1.3
Vinyl Chloride	10	22	3	1.0
Trichloroethylene	10	22	3	1.0
Trichloroethylene	10	0	5	1.2
Perchloroethylene	10	22	4	1.0
Glutaraldehyde	10	22	NR** (480)	NR** (1.05)
Ethanol	1000	22	3	1.0
Ethanol	100	22	40	1.0
Isopropanol	10	22	90	1.15
Acetone	1000	22	3	1.0
Acetone	100	22	20	1.0
Acetone	10	22	80	1.0
Acetone	10	0	115	1.17
Phenol	20	22	150	1.0
Methyl methacrylate	10	22	150	1.05
Dimethyl sulfide	10	22	3	1.0
Ethyl mercaptan	10	22	4	1.05
Butyl mercaptan	10	22	5	1.05
Hydrogen sulfide	7	22	3	1.0
Ethylamine	high	22	NR**	NR**
Ammonia	50	22	NR**	NR**

*CF = Correction Factor. Multiply by reading to get true concentration to correct from some loss.

** Not recommended because of severe losses.

CORPORATE HEADQUARTERS

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DS-1014-04