

# RKI Sensor Specification

**Features:** Fast warm-up time  
Good zero stability  
Quick response time

## Hydrogen Fluoride (HF)

**Part Number:** ES-23PX-HF  
**Sensor Application:** EAGLE, Fixed Systems

| Technical Specifications    |                                 |   |   |
|-----------------------------|---------------------------------|---|---|
| <b>Measuring Principle</b>  | Amperometric 3-electrode sensor | <b>Accuracy</b>   | +/- 10% of reading or<br>+/- 5% of full scale<br>(whichever is greater) |
| <b>Range of Measurement</b> | 0 – 9 ppm                       | <b>Repeatability</b>  | +/- 5% of reading   |
| <b>Resolution</b>           | 1% of full scale                | <b>T<sub>90</sub> Response time<br/>(20°C, 2 min. exposure)</b> | 90 seconds  |

| Operating Conditions     |                           |                        |           |
|--------------------------|---------------------------|------------------------|-----------|
| <b>Temperature Range</b> | -20°C to +45°C            | <b>Life Expectancy</b> | 2-3 Years |
| <b>Humidity Range</b>    | 10-95% RH, Non Condensing | <b>Warranty</b>        | 1 Year    |

## Known Gas Interferences

| Gas  | PPM Gas Applied | Reading |
|--|-----------------|---------|
| Acetic Acid (CH <sub>3</sub> COOH)           | 30 ppm          | 9 ppm   |
| Acetone ((CH <sub>3</sub> ) <sub>2</sub> CO) | 1 % vol         | 0 ppm   |
| Ammonia (NH <sub>3</sub> )                   | 25 ppm          | -2 ppm  |
| Arsine (AsH <sub>3</sub> )                   | 1 ppm           | 0 ppm   |
| Carbon Dioxide (CO <sub>2</sub> )            | 1.6 % vol       | 3 ppm   |
| Carbon Monoxide (CO)                         | 300 ppm         | 0 ppm   |
| Carbon Tetrafluoride (CF <sub>4</sub> )      | 1 % vol         | 0 ppm   |
| Chlorine (Cl <sub>2</sub> )                  | 2.7 ppm         | 4.4 ppm |
| Diborane (B <sub>2</sub> H <sub>6</sub> )    | 10 ppm          | 0 ppm   |
| Disilane (Si <sub>2</sub> H <sub>6</sub> )   | 10 ppm          | 0 ppm   |
| Ethanol (C <sub>2</sub> H <sub>5</sub> OH)   | 1 % vol         | 0 ppm   |
| Fluorine (F <sub>2</sub> )                   | 5 ppm           | 4 ppm   |
| Hydrogen (H <sub>2</sub> )                   | 5 % vol         | -1 ppm  |

| Gas   | PPM Gas Applied | Reading |
|---|-----------------|---------|
| Hydrogen Bromide (HBr)  | 10 ppm          | 0 ppm   |
| Hydrogen Chloride (HCl)   | 9 ppm           | 8 ppm   |
| Hydrogen Cyanide (HCN)  | 10 ppm          | 0 ppm   |
| Hydrogen Sulfide (H <sub>2</sub> S)                               | 30 ppm          | 0 ppm   |
| Isopropyl Alcohol (IPA)<br>((CH <sub>3</sub> ) <sub>2</sub> CHOH) | 1 % vol         | 0 ppm   |
| Methane (CH <sub>4</sub> )  | 10 % vol        | 0 ppm   |
| Nitric Oxide (NO)   | 100 ppm         | 0 ppm   |
| Nitrogen Dioxide (NO <sub>2</sub> )                               | 7.7 ppm         | 1 ppm   |
| Nitrogen Trifluoride (NF <sub>3</sub> )                           | 50 ppm          | 0 ppm   |
| Ozone (O <sub>3</sub> )   | 5 ppm           | 2.4 ppm |
| Phosphine (Ph <sub>3</sub> )                                      | 1 ppm           | 0 ppm   |
| Phosphoric Acid (H <sub>3</sub> PO <sub>4</sub> )                 | 50 ppm          | 0.1 ppm |
| Silane (SiH <sub>4</sub> )  | 10 ppm          | 0 ppm   |