

RKI Sensor Specification

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

Hydrogen Chloride (HCl)

Part Number: ES/ESM/ESU-23E-HCl
Sensor Application: GD-K8A, Eagle, GD-70D, GD-K88Ai

Technical Specifications			
Measuring Principle	Amperometric 3-electrode sensor	Accuracy	+/- 10% of reading or +/- 5% of full scale (whichever is greater)
Range of Measurement	0 – 6 ppm / 0 – 15 ppm	Repeatability	+/- 5% of reading
Resolution	1% of full scale	T₉₀ Response time (20°C, 2 min. exposure)	90 seconds

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

Known Gas Interferences

Gas	PPM Gas Applied	Reading
Acetone (CH ₃) ₂ CO	1.0% Vol.	1.1 ppm
Acetylene (C ₂ H ₂)	88	5.0 ppm
Ammonia (NH ₃)	240	-0.8 ppm
Arsine (AsH ₃)	1.1	5.0 ppm
Carbon Dioxide (CO ₂)	99.9% Vol.	-0.03 ppm
Carbon Monoxide (CO)	300	0.14 ppm
Chlorine (Cl ₂)	10	-0.27 ppm
Chloroethoxy (dimethyl)silane (C ₄ H ₁₁ ClOSi)	5	3.7 ppm* ³
Diborane (B ₂ H ₆)	41	5.0 ppm
Trans-1,2-Dichloroethylene (CHCl=CHCl)	1000	0.0 ppm
Dimethylhydrazine (CH ₃) ₂ NNH ₂)	4	24.0 ppm
Cyclohexanone (C ₆ H ₁₀ O)	300	0.59 ppm
Disilane (Si ₂ H ₆)	9.1	5.0 ppm
Ethanol (C ₂ H ₅ OH)	1.0 % Vol.	1.14 ppm
Ethyl Acetate (CH ₃ COOC ₂ H ₅)	1000	0.0 ppm
Ethyl Benzene (C ₆ H ₅ C ₂ H ₅)	1.0% Vol	0.83 ppm
Ethylene (C ₂ H ₄)	500	5.0 ppm
Fluorine (F ₂)	23	-5.0 ppm
Freon 22 (CH ₂ ClF ₂)	99.99% Vol.	0.61 ppm
Freon 134a (CH ₂ FCF ₃)	5120	0.04 ppm
Germane (GeH ₄)	19	5.0 ppm

Gas	PPM Gas Applied	Reading
Hydrazine (N ₂ H ₄)	2.0	2.4 ppm
Hydrogen (H ₂)	20% Vol.	5.0 ppm
Hydrogen Selenide (H ₂ Se)	.84	5.0 ppm
Hydrogen Sulfide (H ₂ S)	56	5.0 ppm
Isopropyl Alcohol (IPA) ((CH ₃) ₂ CHOH)	1.0% Vol.	0.27 ppm
Methyl Ethyl Ketone (CH ₃ COC ₂ H ₅)	300	0.07 ppm
Methyl Hydrazine (CH ₃) ₂ NHNNH ₂)	4	31.2 ppm
Methanol (CH ₃ OH)	1.0% Vol.	0.05 ppm
Nitric Acid (HNO ₃)	40	3.3 ppm
Nitrogen Dioxide (NO ₂)	28	5.0 ppm
Nitrogen Monoxide (NO)	18	5.0 ppm
Ozone (O ₃)	28	-5.0 ppm
4-Penten-2-ol (C ₅ H ₁₀ O)	1000	4.4 ppm
Phosphine (Ph ₃)	1.0	5.0 ppm
Propane (C ₃ H ₈)	99% Vol.	1.35 ppm
R-407C - Mix Gas* ¹	1000	-0.01 ppm
R-410A - Mix Gas* ²	1000	0.0 ppm
Silane (SiH ₄)	40	5.0 ppm
Styrene (C ₈ H ₈)	10	3.3 ppm
Sulfur Dioxide (SO ₂)	21	5.0 ppm
Tetrahydrofuran (C ₄ H ₈ O)	300	0.65 ppm

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Hydrogen Peroxide (H ₂ O ₂)	3.0	7.8 ppm	Trichloroethylene (C ₂ HCl ₃)	1000	0.0 ppm
Hydrogen Bromide (HBr)	5.7	5.0 ppm	Toluene (C ₆ H ₅ CH ₃)	1.0% Vol.	2.4 ppm
Hydrogen Cyanide (HCN)	15	2.0 ppm	Xylene (C ₆ H ₄ (CH ₃) ₂)	1.0% Vol.	1.23 ppm
Hydrogen Fluoride (HF)	10	0.79 ppm			

*1 HFC 32 CH₂F₂(23.0%) / HFC-125 CHF₂-CF₃(25.0%) / HFC -134a CH₂F-CF₃(52.0%)

*2 HFC 32 CH₂F₂(50.0%) / HFC-125 CHF₂-CF₃(50.0%)

*3 Since the gas produced is unstable, there is a variation of 3.7 to 6.0 ppm.

Part # Prefix	Applicable Instruments
ES	GD-K8A, GD-K7D2, Eagle
ESM	GD-K71D, GD-K77D
ESU	GD-70D