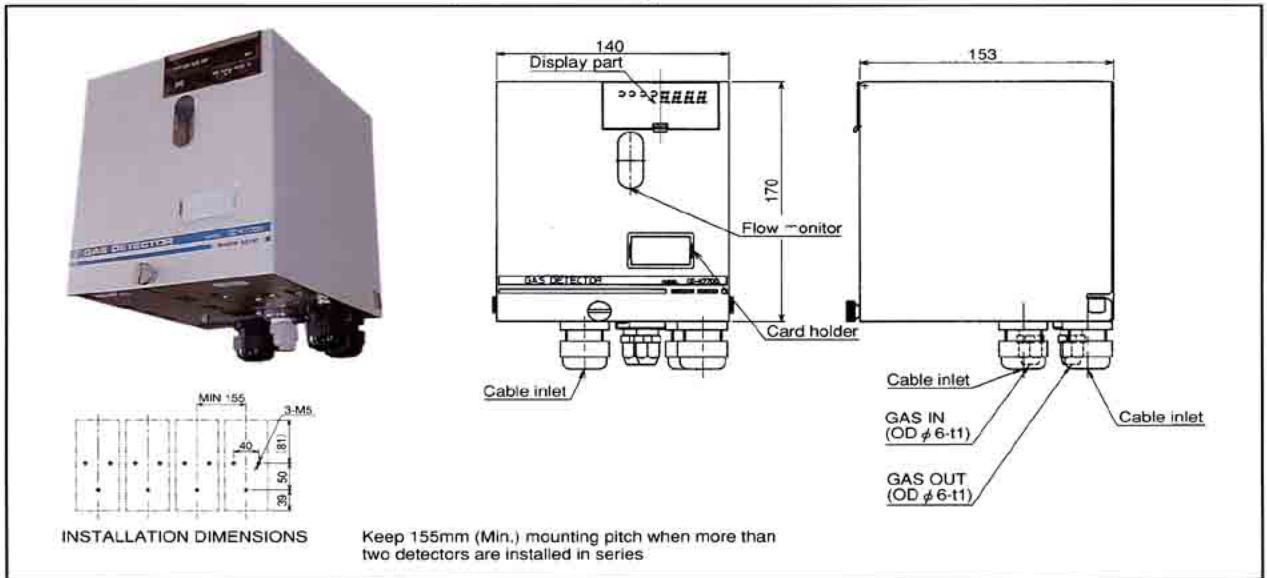


# NF<sub>3</sub>/TEOS GAS DETECTOR HEAD

The Riken Model GD-K77DG and GD-K77DG-NT use pyrolysis to oxidize NF<sub>3</sub> (Nitrogen trifluoride); which is then detected as NO<sub>2</sub> with an electrochemical sensor. The Model GD-S77DG and S77DG-NT also use pyrolysis to oxidize TEOS (Tetraethoxysilane). The resulting SiO<sub>2</sub> (Silicon dioxide) is then detected in an ionization chamber. This advanced method offers distinct advantages compared to conventional TEOS detection (Hydrolysis/electrochemical sensor): long sensor life and virtually no interference from other gases.

## 7 OUTER DIMENSIONS (GD-K77DG)



## 8 SPECIFICATIONS

Model	GD-K77DG	GD-K77DG-NT	GD-S77DG	GD-S77DG-NT
Detection principle	Pyrolysis/electrochemical-cell		Pyrolysis/ionization chamber	
Detection method	Sample-drawing type		Sample-drawing type	
Detectable gas and measuring range	NF <sub>3</sub> , 0-30ppm		TEOS, 0-15ppm	
Signal transmission	Analog transmission (4-20mA)	Two wire digital transmission	Analog transmission (4-20mA)	Two wire digital transmission
Gas concentration display	Digital LED display, 4 digit			
Gas alarm	Two alarm levels : 1st alarm (Yellow LED) : 2nd alarm (Red LED)			
Dry outputs for remote alarm	Dry contact for each 1st alarm, 2nd alarm and trouble alarm (NO or NC each)			
Alarm delay time	Approx 30 seconds when exposed to gas concentration of 1.6 times alarm level (Same as T60)			
Self diagnosis function	Trouble, low flow, system failure, communication error			
Operating conditions	0-40°C, 30-85% R.H.			
Power requirements	24 VDC ± 10%, Approx 10W and 100 ~ 120VAC or 220 ~ 240VAC			
Applicable cable	Shielded cable 3C, 1.25 sq (18 gage)	Shielded twisted one pair cable 1.25 sq (18 gage) (KPEVS 1P 1.25sq)	Shielded cable 3C, 1.25 sq (18 gage)	Shielded twisted one pair cable 1.25 sq (18 gage) (KPEVS 1P 1.25sq)
Structure, painting colour	Wall mounting, Munsel No. 2.5Y9/2 (Beige)			
Outer dimensions, weight	Approx 140(W) × 170(H) × 153(D)mm, Approx 3.2 kg Approx 5.6"(W) × 6.7"(H) × 6.0"(D), Approx 7.0 lb		Approx 140(W) × 170(H) × 193(D)mm, Approx 3.2 kg Approx 5.6"(W) × 6.7"(H) × 7.7"(D), Approx 7.0 lb	
Applicable tubing for outer connection	O. D. φ 6-1t PTFE tubing. (Provided with P. P. coupling)			

● Specifications subject to change without notice.

# DETECTABLE GASES

Name of gases		ACGIH TLV-TWA	measuring range	Preset alarm level (Standard)	Sensor
Ammonia	NH <sub>3</sub>	25ppm	0~75ppm	25ppm	ESM-23R
Antimony Pentachloride	SbCl <sub>5</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Arsenic Pentachloride	AsCl <sub>5</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Arsenic Pentafluoride	AsF <sub>5</sub>	HF 3ppm	HF 0~9ppm	3ppm	ESM-K233
Arsenic Trichloride	AsCl <sub>3</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Arsenic Trifluoride	AsF <sub>3</sub>	HF 3ppm	HF 0~9ppm	3ppm	ESM-K233
Arsine	AsH <sub>3</sub>	0.05ppm	0~0.2ppm	0.05ppm	ESM-23AHS
Boron Tribromide	BBr <sub>3</sub>		HBr 0~9ppm	3ppm	ESM-K233
Boron Trichloride	BCl <sub>3</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Boron Trifluoride	BF <sub>3</sub>	1ppm(C)	HF 0~9ppm	3ppm	ESM-K233
Bromine	Br <sub>2</sub>	0.1ppm	0~1ppm	0.1ppm	ESM-K233
Chlorine	Cl <sub>2</sub>	0.5ppm	0~1.5ppm	0.5ppm	ESM-K233
Chlorine Trifluoride	ClF <sub>3</sub>	0.1ppm	0~0.6ppm	0.1ppm	ESM-K233
Diborane	B <sub>2</sub> H <sub>6</sub>	0.1ppm	0~0.3ppm	0.1ppm	ESM-23AY
Dichlorosilane	SiH <sub>2</sub> Cl <sub>2</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Disilane	Si <sub>2</sub> H <sub>6</sub>	5ppm	0~15ppm	5ppm	ESM-23AH
Fluorine	F <sub>2</sub>	1ppm	0~3ppm	1ppm	ESM-K233
Germane	GeH <sub>4</sub>	0.2ppm	0~0.5ppm	0.2ppm	ESM-23DH
Germanium Tetrachloride	GeCl <sub>4</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Hydrogen Bromide	HBr	3ppm(C)	0~9ppm	3ppm	ESM-K233
Hydrogen Chloride	HCl	5ppm(C)	0~15ppm	5ppm	ESM-K233
Hydrogen Fluoride	HF	3ppm(C)	0~9ppm	3ppm	ESM-K233
Hydrogen Iodine	HI		0~5ppm	2ppm	ESM-K233
Hydrogen Selenide	H <sub>2</sub> Se	0.05ppm	0~0.2ppm	0.05ppm	ESM-23SD
Hydrogen Sulfide	H <sub>2</sub> S	10ppm	0~1ppm	0.3ppm	ESM-K23AH
Iodine	I <sub>2</sub>	0.1ppm(C)	0~1ppm	0.3ppm	ESM-K233
Molybdenum Hexafluoride	MOF <sub>6</sub>	HF 3ppm	HF 0~9ppm	3ppm	ESM-K233
Nitrogen Dioxide	NO <sub>2</sub>	3ppm	0~15ppm	3ppm	ESM-23AH
Ozone	O <sub>3</sub>	0.1ppm(C)	0~0.06ppm	0.1ppm	ESM-K239
Phosphine	PH <sub>3</sub>	0.3ppm	0~1ppm	0.3ppm	ESM-23AH
Phosphorus Oxychloride	POCl <sub>3</sub>	0.1ppm	HCl 0~15ppm	5ppm	ESM-K233
Phosphorus Pentafluoride	PF <sub>5</sub>	HF 3ppm	HF 0~9ppm	3ppm	ESM-K233
Phosphorus Trichloride	PCl <sub>3</sub>	0.2ppm	HCl 0~15ppm	5ppm	ESM-K233
Phosphorus Trifluoride	PF <sub>3</sub>	1ppm	0~10ppm	2ppm	ESM-23DH
Silane	SiH <sub>4</sub>	5ppm	0~15ppm	5ppm	ESM-23DH/23AH
Silicone Tetrachloride	SiCl <sub>4</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Silicone Tetrafluoride	SiF <sub>4</sub>	HF 3ppm	HF 0~9ppm	3ppm	ESM-K233
Sulfur Tetrafluoride	SF <sub>4</sub>	0.1ppm	HF 0~9ppm	3ppm	ESM-K233
Tantalum Fluoride	TaF <sub>5</sub>	HF 3ppm	HF 0~9ppm	3ppm	ESM-K233
Tin Tetrachloride	SnCl <sub>4</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Trichlorosilane	SiHCl <sub>3</sub>	HCl 5ppm	HCl 0~15ppm	5ppm	ESM-K233
Tungsten Hexafluoride	WF <sub>6</sub>	HF 3ppm	HF 0~9ppm	3ppm	ESM-K233

For gases not listed above, contact us or our nearest agent.



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