

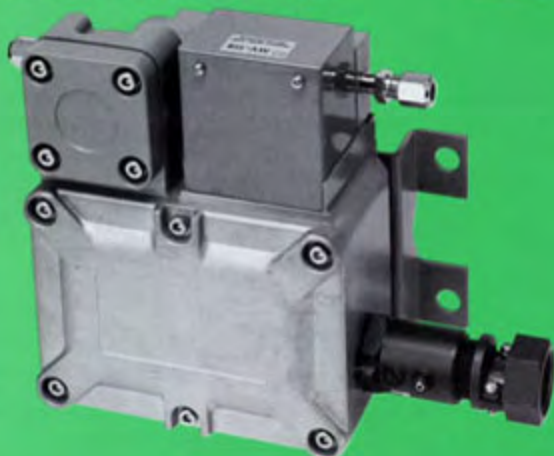
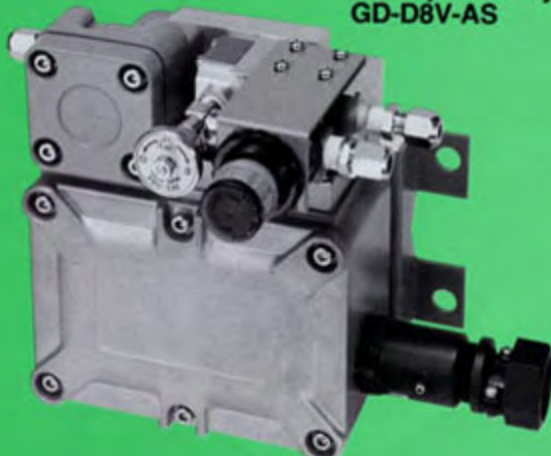
RIKEN**GAS DETECTOR HEADS**

FOR COMBUSTIBLE/TOXIC GAS ALARM SYSTEM

<SEMICONDUCTOR METHOD>

Diffusion sampling type
GD-A8V-36**FEATURES**

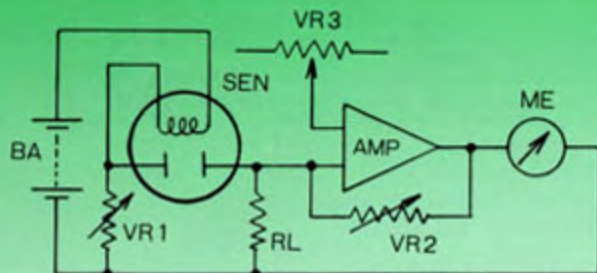
- Compact & lightweight
- Easy maintenance
- Quick-fit sensor replacement
- Compatible sensor for diffusion sampling and sample drawing detector heads
- Long life sampling pump (GD-D8V series)
- Explosion proof
- Wide variety of accessories

Sample drawing type
by built-in pump
GD-D8V-76/D8VDC-30, 32Air aspiration type
GD-D8V-AS**DETECTION PRINCIPLE**

The gas sensitive semiconductor sensor is composed of the sintered metal oxides (SnO_2 , ZnO , etc.) and the heater. In the sintered metal oxides, one pair of electrode is embedded.

In the presence of explosive or toxic gases, the gas molecules are adsorbed on its surface.

This, in turn, causes move of free electrons in the semiconductor, with increase in electric resistance for deductive gases or decrease in electric resistance for oxide gases corresponding to the concentration of explosive or toxic gases. This change of electric resistance is detected with electrodes and outputs as gas concentration.



- | | |
|-----------------------------|---------------------|
| VR1: Heater voltage control | AMP: Amplifier |
| VR2: Span control | BA: DC power supply |
| VR3: Zero control | |
| RL: Load resistance | |
| SEN: Sensor | |
| ME: Indicator | |



95QR-007



97ER-005

**RIKEN KEIKI**

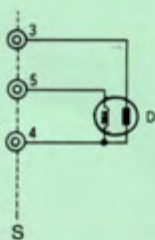
TLV/LEL CONCENTRATIONS & DETECTABLE CONCENTRATIONS FOR VARIOUS GASES & VAPORS

Name of gas	Chemical formula of abbreviation	Available full scale		TLV-TWA (ppm)	LEL (% by vol)
		Min (ppm)	Max (ppm)		
Acetic acid	C ₂ H ₄ O ₂	500	3000	10	4.0
Acetone	C ₃ H ₆ O	100	10000	750	2.15
Acetylene	C ₂ H ₂	200	2000	—	1.5
Acrylonitrile	C ₃ H ₃ N	500	1000	2	2.8
Benzene	C ₆ H ₆	200	2000	10	1.4
Buthy acetate	C ₆ H ₁₂ O ₂	100	5000	150	1.4
Butyl acrylate	C ₇ H ₁₂ O ₂	100	1000	10	1.5
n-Butyl alcohol	C ₄ H ₁₀ O	100	5000	50	1.4
Chloroform	CHCl ₃	200	5000	10	—
Cyclohexane	C ₆ H ₁₂	200	5000	300	1.3
Cyclohexanon	C ₆ H ₁₀ O	50	1000	25	1.4
2-ethoxyethyl acetate	C ₈ H ₁₆ O ₃	100	3000	5	—
Ethyl acetate	C ₄ H ₈ O ₂	100	1000	400	2.1
Ethyl alcohol	C ₂ H ₅ OH	100	2000	1000	3.0
Ethylene	C ₂ H ₄	200	2000	—	2.7
Ethylene oxide	C ₂ H ₄ O	100	1000	1	3.3
Flon 11	CCl ₃ F	500	5000	1000	—
Flon 22	CHClF ₂	300	5000	1000	—
Hydrogen	H ₂	200	10000	—	4.0
Hydrogen sulfide	H ₂ S	30	100	10	—
Isopropyl alcohol	IPA	300	5000	400	2.0
LNG		2000	100%LEL	—	5.0
LPG		2000	100%LEL	—	2.2
Methyl alcohol	CH ₃ OH	200	2000	200	5.5
Methyl bromide	CH ₃ Br	200	1000	5	—
Methyl ethyl keton	MEK	30	2000	200	1.8
Methyl isobutyl keton	MIBK	50	1000	50	1.4
Methylene choride	CH ₂ Cl ₂	500	5000	200	—
n-Hexane	n-C ₆ H ₁₄	100	5000	50	1.2
Tetrahydrofuran	THF	100	2000	200	2.0
Toluene	C ₇ H ₈	300	3000	100	1.2
Trichloroethlene	C ₂ HCl ₃	300	1000	50	—
Vinyl chloride	VCM	200	3000	5	3.8
Xylene	C ₈ H ₁₀	100	1000	100	1.0

Note 1): Other gases & vapors are also detectable. For further details, please consult with us.
 2): TLV = Threshold limit value according to ACGIH
 3): LEL = Lower explosive limit (= Lower flammable limit) concentrations in % by volume.

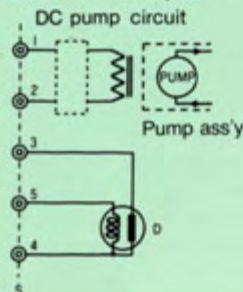
CIRCUIT DIAGRAM

GD-A8V-36



D: Sensor
S: Terminal

GD-D8V-76/D8VDC-30, 32



D: Sensor
S: Terminal

INDICATOR/ALARM UNIT (CONTROL MODULE) SUITABLE FOR THESE DETECTOR HEADS

Single channel

- GH-631□

Multi-channel

- GH-171
- GH-571A
- BL-2300 system
- Other GH-series
- GH-581
- BL-7000

ORDERING INFORMATION

When ordering, please specify the followings:

- 1) Gas to be measured and co-existing gases
- 2) Model designation and measuring range
- 3) Model of indicator/alarm unit to be connected with
- 4) Applications
- 5) Ambient conditions around the detector head



A9812



ISO 9001:2000

★ Distributed by: