



INSTRUCTION MANUAL  
FOR  
RIKEN DIFFUSION SAMPLING TYPE  
OXYGEN DETECTOR HEAD  
MODEL GD-F44  
(GALVANIC CELL)

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Before operation, read this instruction manual correctly and you are kindly requested to operate it with correct operation method.

When this was operated wrongly in a way that is not described in this manual or modified without any permission, we, Riken Keiki, cannot assume any responsibility caused by it.

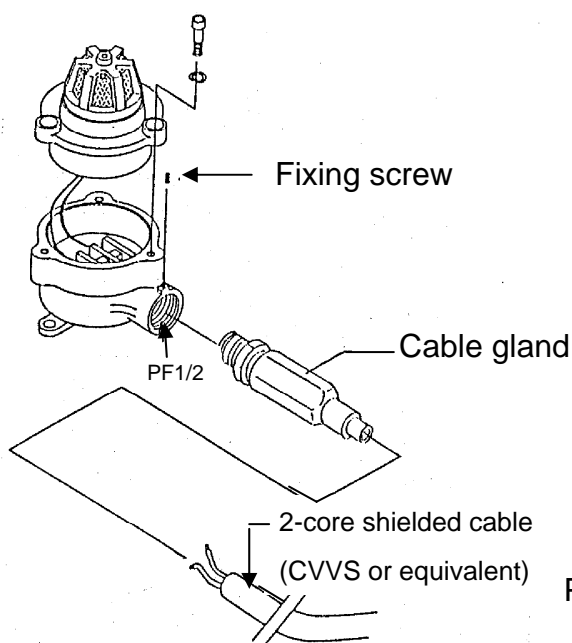
## **CAUTIONS AT INSTALLATION**

- (1) When make the installation, consider the maintenance to replace the oxygen sensor etc and make the gas sensitivity adjustment at the place likely to be leaked and deposited.
- (2) When install it at the outdoor site or the place with plenty of dust and mist, the mounting of wether proof cover (playing the role of dust cover) shall be required (This weather proof cover is an option).
- (3) At construction, the much care must be taken not only for the seam part on the explosion protection goods, but make the screw up of each part perfectly.
- (4) Though this detector head (galvanic cell type sensor) is less influenced from the external noise, use shielded cable and make the wirings apart from the big noise generating source and high tension cable line.
- (5) Install it at the place free of vibration as possible as can be.
- (6) For the wiring connection (2-core) to the terminal block of the detector head, make the wirings correctly by seeing the instrument wiring diagram attached to the approval drawings or complete drawings etc .
- (7) As this is a safety instrument, the daily check for it shall be required. If any trouble for it could be found, contact our nearest agent or us.
- (8) To obtain the safety, make "the maintenance check regulated by law" or if it is not regulated by a law, the check for over every 6 months shall be required.

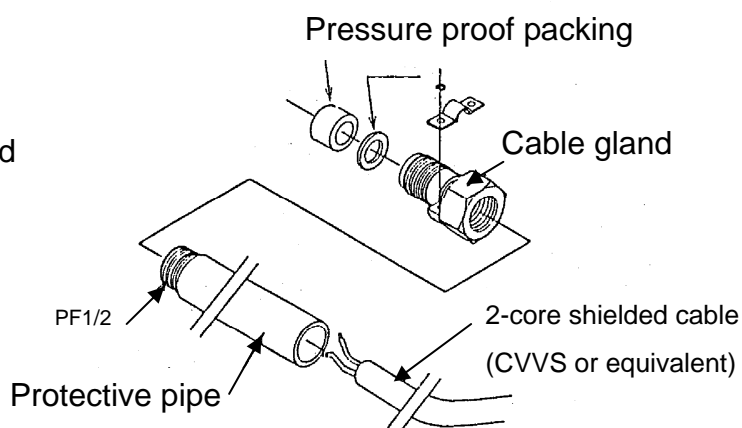
## 1. EXPLOSION PROOF WIRING CONSTRUCTION

As this detector head is designed to install at hazardous area, be sure to make explosion proof wiring construction.

- (1) Connect indicator/alarm unit and detector head with 2-core shielded cable (CVVS, 1.25sq or 2.0sq).
- (2) Connect core wire with terminals (+) and (-) in terminal box through piercing metal. Do not connect shielded wire but insulate it.
- (3) Make wiring connection apart from large generated source of noise or electrical wire line of high voltage.
- (4) Tighten each part with screws.
- (5) These are two wiring construction methods shown in Fig 1 and Fig 2.



**Fig 1 Standard method**



**Fig 2 Cable conduit construction**

## 2. CALIBRATION

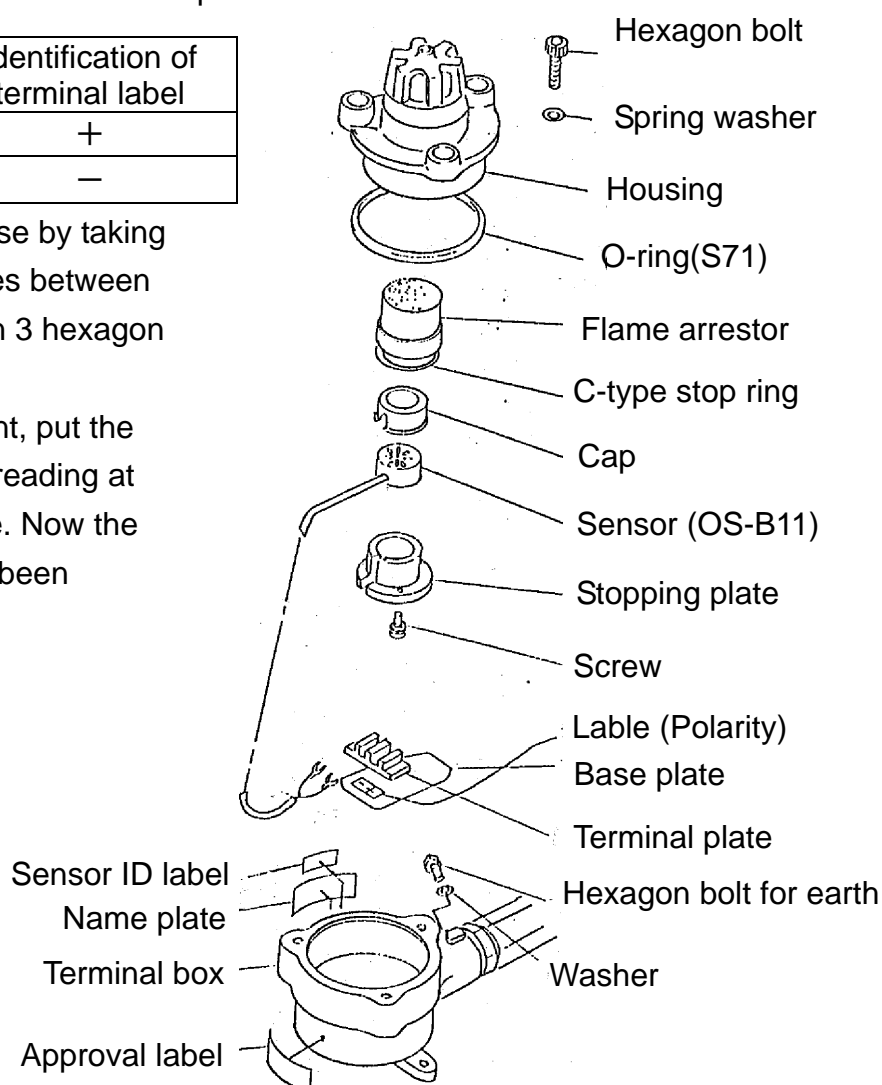
- (1) Check that the meter in indicator/alarm unit is 21% when exposing the fresh air in regular period.
- (2) If not, adjust reading with SPAN potentiometer in indicator/alarm unit.
- (3) Replace the sensor with new one when you can not adjust reading at 21%.

### 3. SENSOR REPLACEMENT

- (1) Put the power switch to OFF position in indicator/alarm unit.
- (2) Remove 3 hexagon bolts for housing and take off the housing. Take care not to cut the sensor lead wire by pulling it so strongly.
- (3) Remove 2 lead wires from terminal plates.
- (4) Remove 3 screw to be fixed with stopping plate and take off the cap and sensor from the sensor holder to replace it with new one.
- (5) Take off the sensor from the sensor holder and replace it with new one.
- (6) Mount the new sensor and assemble them as before.
- (7) Connect 2 sensor leads with terminal plate.

Color of leads	Identification of terminal label
White	+
Black	-

- (8) Set the housing with base by taking care not to pinch lead wires between housing and base. Tighten 3 hexagon bolts.
- (9) After sensor replacement, put the power to ON and adjust reading at 21% in fresh atmosphere. Now the sensor replacement has been completed.



**Fig 3 Assembled drawing**

#### **CAUTION**

Take care of the rock or flaw on the contact point of explosion proof construction.