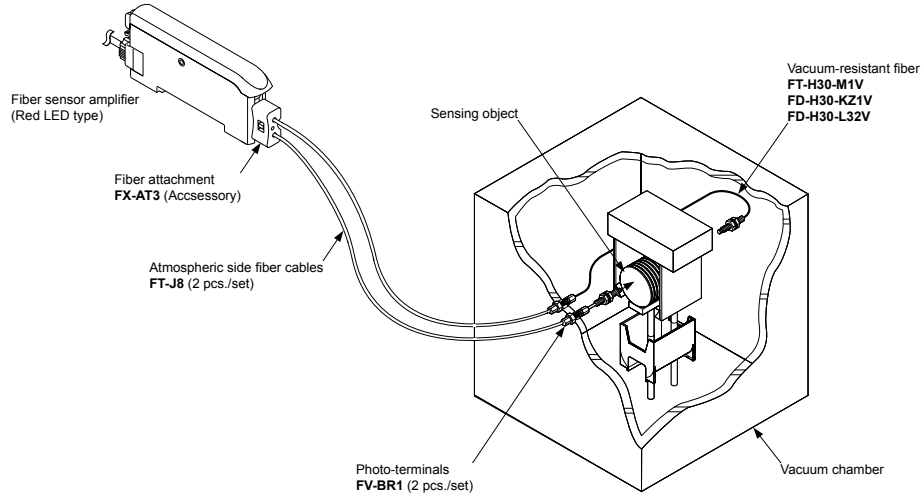


1 OUTLINE

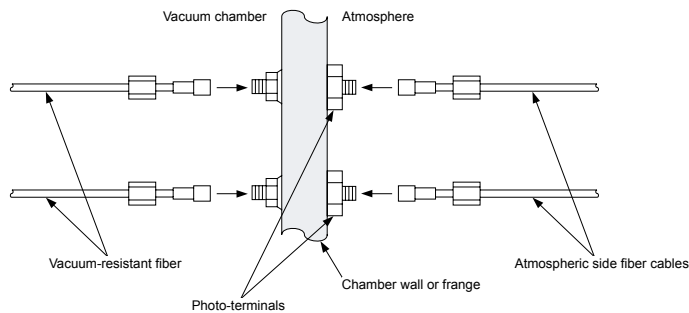
- The vacuum-resistant fiber enables detection of sensed objects directly within a vacuum chamber, where the photo-terminal **FV-BR1** isolates the atmospheric side from the vacuum side.
- The simple construction and easy set up facilitates usage as do all our fiber cables.



<Attached accessory> (The model Nos. having suffix “-S” are set model No. with accessories.)

Model No.	FV-BR1 (2 pcs./set)	FT-J8 (2 pcs./set)	FX-AT3 (Fiber attachment)	FX-CT2 (Fiber cutter)	Mounting bracket
FT-H30-M1V-S	○	○	○	○	-
FD-H30-L32V-S	○	○	○	○	-
FD-H30-KZ1V-S	○	○	○	○	○

2 CONFIGURATION



* Leakage: 1.33×10^{-10} Pa·m³/s [He] or less

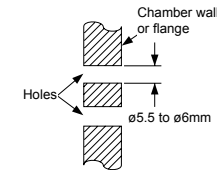
Thank you very much for purchasing Panasonic products. Read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product. Kindly keep this manual in a convenient place for quick reference.

3 CAUTIONS

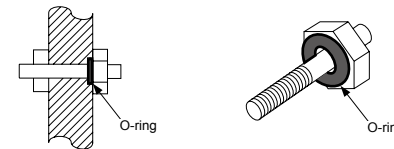
- This product has been developed / produced for industrial use only.
- When installing this product, take care that oil from palms etc. is not transferred to the product.
- Since the fiber is made of glass, if it is used at places having intense vibration or impact, or pulled excessive force, the fiber may break. Take sufficient care when using the fiber.
- The bending radius should be R18mm (R25mm for **FT-J8**) or more. If the fiber is to be mounted on a movable part, the bending radius should be R20mm or more. Take care if the bending radius is less than R25mm, the fiber may break. However, **FT-J8** can not be mounted on a movable part.
- Keep the sensing surface and the cable joint intact. If they are scratched, the detectability deteriorates.
- In case the sensing surface or cable joint gets dirty, clean it with a soft cloth soaked with water. Do not use organic solvent.
- Do not use the fiber at places where organic solvent is contained in the air.
- Take care that the sensor is not directly exposed to fluorescent light from a rapid starter-lamp, a high frequency lighting device or sunlight, as it may affect the sensing performance.
- Do not move or bend the fiber cable after the sensitivity was set. The sensing may become unstable.

4 MOUNTING

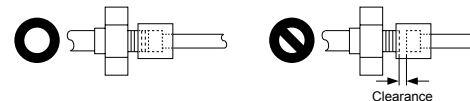
- Make two holes on the vacuum tank wall (chamber wall or flange). The hole diameter must be $\phi 5.5$ to $\phi 6$ mm.



- Mount the photo-terminal **FV-BR1** on the vacuum tank wall. When mounting **FV-BR1** on the wall, be sure to mount the attached o-ring, and the side where the o-ring is mounted should be the atmospheric side. The tightening torque should be 0.58N·m or less.

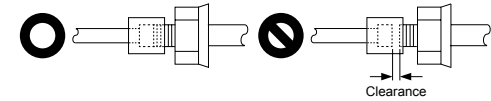


- Mount the **FT-J8** atmospheric side fibers on the atmospheric side of the photo-terminal **FV-BR1**. The tightening torque should be 0.58N·m or less.



Note: The fixing nuts must be tightened securely. If not, the sensing range may decrease.

- Mount the vacuum-resistant fiber on the vacuum side of the photo-terminals **FV-BR1**. The tightening torque should be 0.58N·m or less.

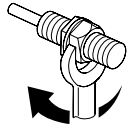


Note: The fixing nuts must be tightened securely. If not, the sensing range may decrease.

- Fix the fiber head of the vacuum-resistant fiber.

FT-H30-M1V

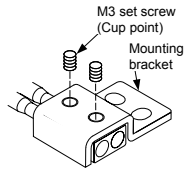
- The tightening torque should be 0.98N·m or less.



FD-H30-KZ1V

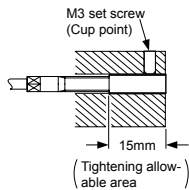
<If using the mounting bracket>

- Use M3 set-screws (cup point) and the tightening torque should be 0.05N·m or less.
- The fiber head can be fixed even without set-screws if the mounting bracket is fit to the body.



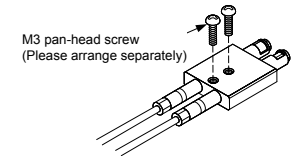
<If not using the mounting bracket>

- Use M3 set-screws (cup point). The fiber should be fixed within 15mm from the fiber head tip, as shown in the right figure. The tightening torque should be 0.3N·m or less.



FD-H30-L32V

- Use M3 screws (engagement length: 3mm or more) and the tightening torque should be 2N·m or less.



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