

## Flow cell for U-50 series U-50FC Instruction Manual

The flow cell U-50FC is used to measure the pumped water stably by using the U-50 series.

### ■ Warranty and Responsibility

HORIBA warrants that the Product shall be free from defects in material and workmanship and agrees to repair or replace free of charge, at HORIBA's option, any malfunctioned or damaged Product attributable to HORIBA's responsibility for a period of one (1) year from the delivery unless otherwise agreed with a written agreement. In any one of the following cases, none of the warranties set forth herein shall be extended;

- Any malfunction or damage attributable to improper operation
- Any malfunction attributable to repair or modification by any person not authorized by HORIBA
- Any malfunction or damage attributable to the use in an environment not specified in this manual
- Any malfunction or damage attributable to violation of the instructions in this manual or operations in the manner not specified in this manual
- Any malfunction or damage attributable to any cause or causes beyond the reasonable control of HORIBA such as natural disasters
- Any deterioration in appearance attributable to corrosion, rust, and so on
- Replacement of consumables

HORIBA SHALL NOT BE LIABLE FOR ANY DAMAGES RESULTING FROM ANY MALFUNCTIONS OF THE PRODUCT, ANY ERASURE OF DATA, OR ANY OTHER USES OF THE PRODUCT.

### ■ Trademarks

Generally, company names and brand names are either registered trademarks or trademarks of the respective companies.

### ■ For your safety

Warning messages are described in the following manner. Read the messages and follow the instructions carefully.

#### ● Meaning of warning messages



This indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



This indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



This indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. Without safety alert indication of hazardous situation which, if not avoided, could result in property damage.

#### ● Symbols





Description of what should be done, or what should be followed



Description of what should never be done, or what is prohibited

## ■ Safety Precautions

This section provides precautions to enable you to use the product safely and correctly and to prevent injury and damage. The terms of DANGER, WARNING, and CAUTION indicate the degree of imminency and hazardous situation. Read the precautions carefully as it contains important safety messages.

 <b>CAUTION</b>
 <b>Keep the exit of the flow cell open.</b> If the internal pressure exceeds 30 kPa, it may damage the product or a user.

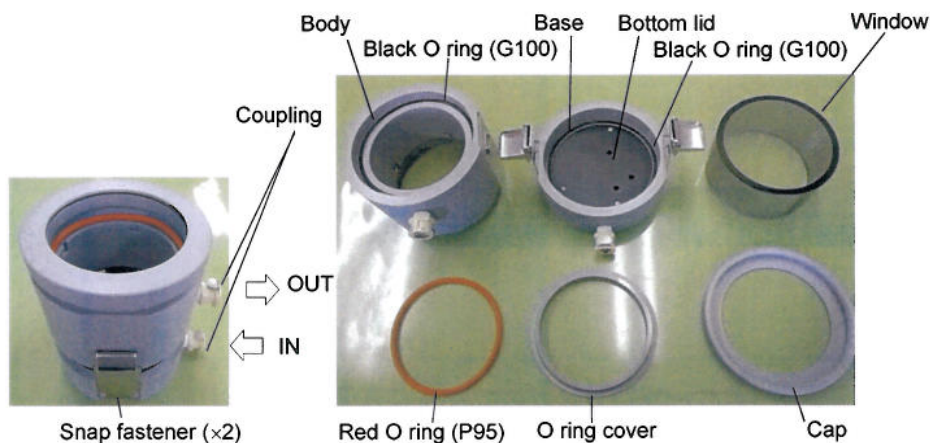
## 1 Specifications

Items	Specifications
Usable fluid	Water or water solution only
Flow rate	0.1 L/min to 0.5 L/min.
Sample temperature	-5°C to 55°C/23°F to 131°F
Inner diameter of connecting tube	6.4 mm (1/4 inch) or 9.5 mm (3/8 inch) I.D. tubes
Material	Polyvinylchloride, Stainless steel, Acrylic resin, FKM, Silicon rubber

## 2 Precautions

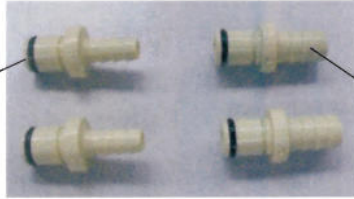
- The flow cell U-50FC is applicable only to the sensor probe of U-50 series.
- Do not bend the tube and do not put something on the tube to avoid clogging the flow.
- It is necessary to keep the sensor probe standing vertically when measuring.
- The flow cell cannot be used for sample including organic solvent.  
Please use tap water and do not use organic solvent when you clean the flow cell.
- Do not use a hard brush when cleaning the cell to avoid rubbing the cell.
- Remove the sensor guard of sensor probe to set up the sensor probe to the flow cell.  
Be careful not to make the sensor hit to something.

## 3 Name of parts



For fitting the sample IN/OUT tube

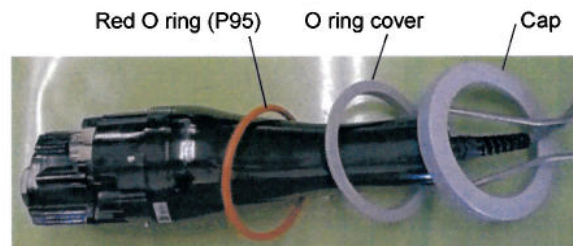
Fitting small (x2)  
(For I.D. 6.4 mm tube)



Fitting large (x2)  
(For I.D. 9.5 mm tube)

## 4 Setup

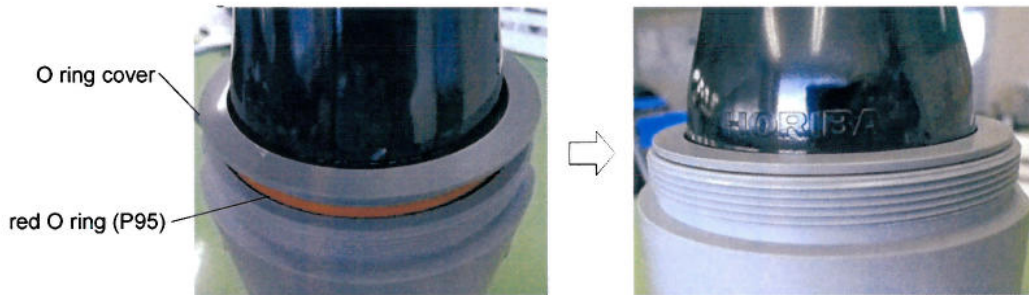
1. Remove the cap, O ring cover, and red O ring (P95) from the flow cell body.
2. Pass the cap, O ring cover, and red O ring (P95) through the sensor probe from sensor side. Remove the sensor guard of sensor probe.



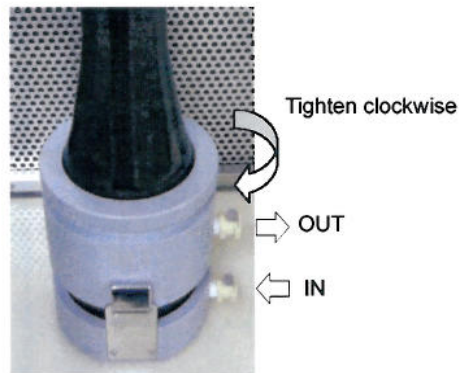
3. Put the sensor probe in the flow cell so that four pins of the sensor probe may get into the guide of the flow cell body.
  - Make the coupling of the flow cell and logo of "HORIBA" of the sensor probe the same direction. It is necessary to match the direction for accurate measurement of turbidity and dissolved oxygen.
  - After putting the sensor probe in the flow cell, turn the sensor probe clockwise until there is a hit according to the guide.
  - Confirm the sensor probe does not remove by pulling up it.



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4. Put red O ring (P95) between the sensor probe and the flow cell body, and push down it by O ring cover.



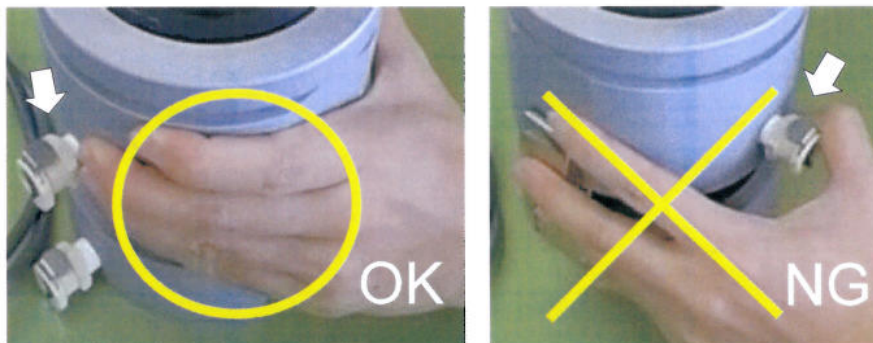
5. Tighten the cap firmly, fit tubes to the fittings, and connect with the couplings. Setup is completed.



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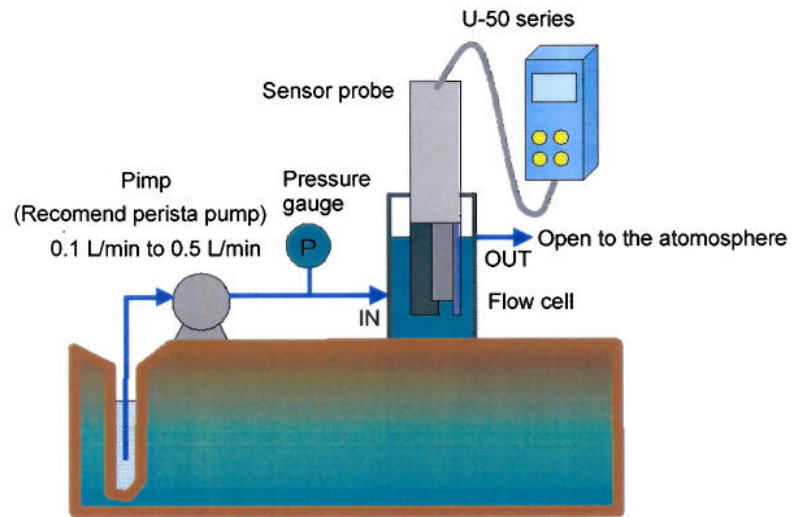
**Note**

Do not hold the couplings when you tighten the cap.



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● **Example for installation of flow cell**



## 5 Confirmation of Flow rate

1. Flow sample through the flow cell.
2. Spill effluent into your graduated cylinder for a fixed time.
3. Convert the amount of the effluent into the flow rate.

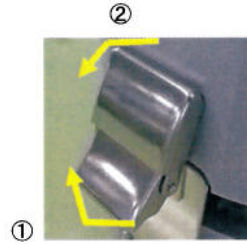
## 6 Disassembling the flow cell

You can disassemble the flow cell so that it can be cleaned easily. It is recommended to clean the flow cell after the measurement.

1. Remove the cap, O ring cover, and red O ring (P95) from the body.
2. Unfasten two snap fasteners.



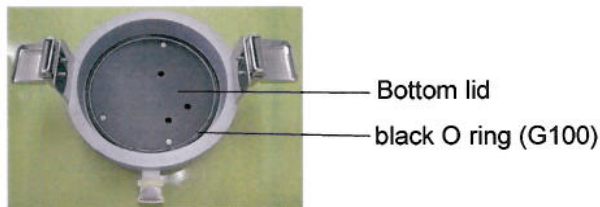
Snap fastener



3. Remove the body and remove the window.



4. Remove black O ring (G100) and the bottom lid.



You can assemble in the reverse order.

### Note

When leakage occurs, it may be the cause of O rings deterioration.  
In this case, replace the red O ring (P95) and the black O ring (G100).  
If leakage cannot be prevented by such countermeasure, contact your local agency.

Parts No.	Parts name	Note
3200192737	Red O ring (P95)	
3200192739	Black O ring (G100)	2 pcs./set