

# General Specifications

## Sensor Holders

GS 12J05C02-00E

### GENERAL

Various types of analyzers are used to control quality and wastewater in a wide variety of production processes. Holders are used to set up analyzers at sites of measurement. Yokogawa provides several types of holders, for which cleaners can be added, allowing customers to build reliable and easy-to-maintain measuring systems by selecting the right holders and cleaners for the conditions of applications.

The submersion type holders PH8HS, PH8HSF and DOX8HS are widely used with process analyzers and can be directly immersed in reaction tanks or measuring baths for measurement. The DOX8HS for dissolved-oxygen meters or MLSS meters has a skew-cut tip to prevent air bubbles from accumulating on the tip of a sensor.

The flow-through holders PH8HF, PH8HFF and FH350G can be set up at a point along pipelines to measure solvent in production lines or wastewater pipelines.

Unlike with submersion type holders that require the entire holder assembly to be pulled up, the suspension holder HH350G has a guide pipe along which just a fitting-mounted sensor can be separately pulled up with a chain, thus increasing the ease of maintenance.

The inclined float holder, PB350G is equipped with a float that moves up and down in accordance with the fluctuating water surface level. Since the float has been designed to accommodate an sensor without extreme projections and depressions, the amount of foreign matter building up around the float or sensor decreases, and it becomes harder for dirt to accumulate, thus enabling continuous stable measurement over a long period. We have provided the vertical float holder, PB360G, for cases when the installation space for a float holder is limited or the measuring bath is covered. If however, there is no flow, neither float holder is recommended.

### FEATURES

#### Submersion Type Holders: PH8HS, PH8HSF and DOX8HS

- Available in stainless steel or polypropylene.
- Optional jet- or ultrasonic-cleaning device (unavailable for DOX8HS).



- Optional flange fitting for PH8HS, PH8HSF.
- Skewed mounting for DOX8HS to prevent influence from bubbles.

#### Flow-Through Holders: PH8HF, PH8HFF and FH350G

- Available in stainless steel or polypropylene.
- Optional jet- or ultrasonic-cleaning device (unavailable for FH350G).
- Allows direct mounting to the pipeline.

#### Suspension Holder: HH350G

- Allows the sensor to be pulled up separately.
- Easy maintenance.
- Optional jet-cleaning device.

#### Float Holder: PB350G and PB360G

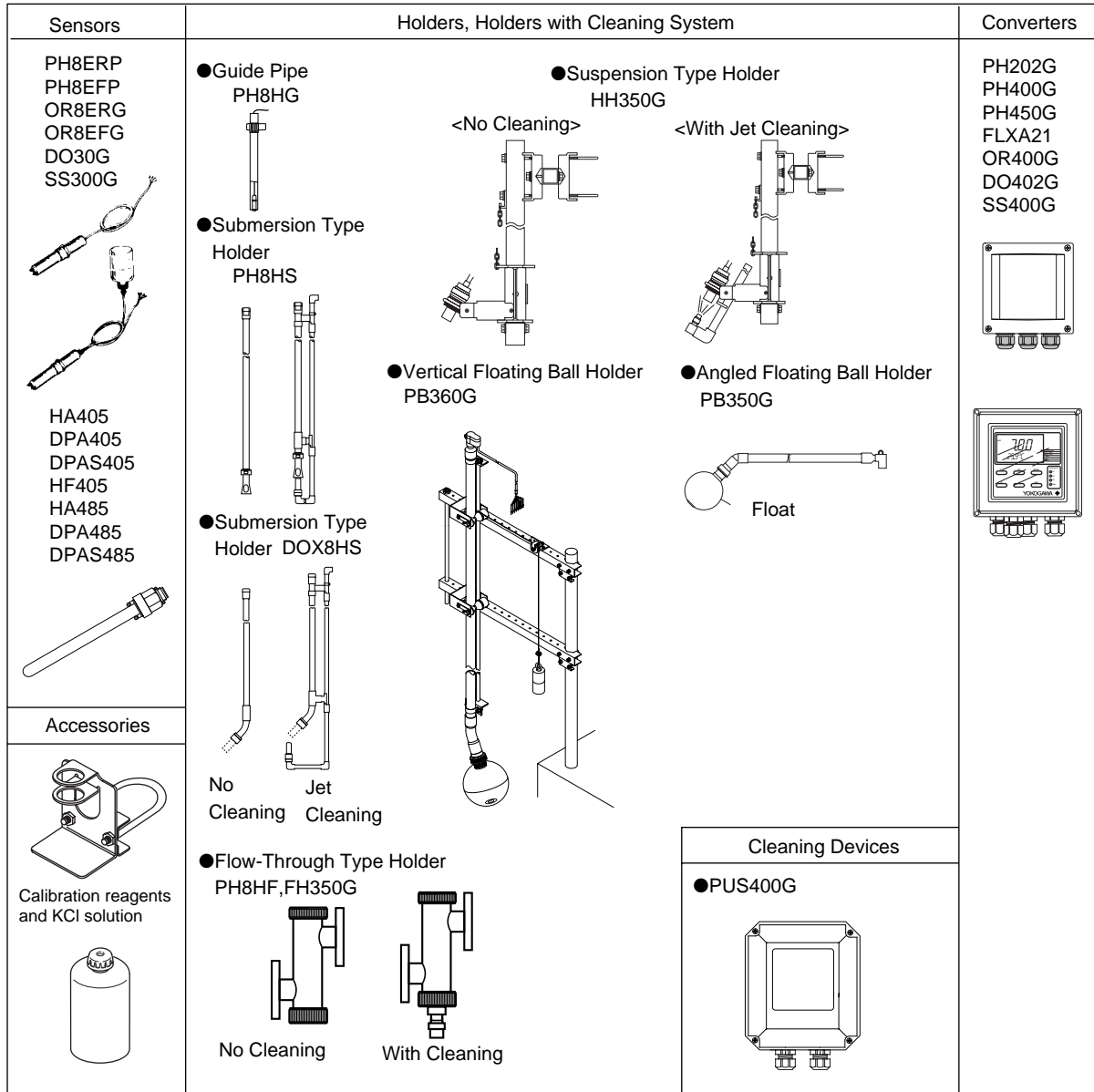
- Continuous stable measurement without effect from fluctuations in fluid level.
- Reduces maintenance frequency.
- Easy-to-maintain.
- Vertical type is also available for limited installation space.


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## SYSTEM CONFIGURATION

For the pH/ORP converter and sensors, see GS 12B07D02-E, GS 12B07B02-E, GS 12B7C1-E or GS 12B07C05-01E.  
 For the FLXA21, see GS 12A01A02-01E. For the dissolved oxygen converter and sensor, see GS 12J05D02-00E.  
 For the MLSS converter and sensors, see GS 12E6A1-E.

Fig. 1-a System Configuration (General Purpose, Non-Explosionproof Types)



**CAUTION**  
 Select the material of wetted parts with careful consideration of process characteristics. Inappropriate selection may cause leakage of process fluids, which greatly affects facilities. Considerable care must be taken particularly in the case of strongly corrosive process fluid such as hydrochloric acid, sulfuric acid, hydrogen sulfide, and sodium hypochlorite. If you have any questions about the wetted part construction of the product, be sure to contact Yokogawa.

**CAUTION**  
 Installation Location of Holders (Guide Pipe, Submersion Type, etc)  
 The holder should be used in a place that is as vibration free as possible.  
 Using the holder in a place where it is affected by vibration, may result in damage to the holder.

## SPECIFICATIONS

### 1. Guide-Pipe PH8HG

Applicable sensors:

General pH Sensor PH8ERP, PH8EFP  
 General ORP Sensor OR8ERG, OR8EFG  
 Dissolved Oxygen Sensor DO30G  
 MLSS Sensor SS300G

(Note) When using a KCl filling type sensor, a stanchion or mounting bracket is required separately.

Mounting: 2-inch pipe mounting vertical or horizontal.

(Note) Make sure the mounting pipe is rigid and firmly installed.

Pipe length: 2 m

Material:

Holder; Polypropylene or PVC  
 Mounting bracket; Galvanized iron or stainless steel (equivalent to SS304)

Weight:

Holder; "-PP"; approx. 1 kg, "-PV"; approx. 1.6 kg  
 Mounting bracket; Approx. 1 kg/set

Measuring temperature: -5 to 50°C (PVC)  
 -5 to 80°C (Polypropylene)

### 2A. Submersion Type Holder PH8HS

Applicable sensors:

General pH Sensor PH8ERP, PH8EFP,  
 Special pH Sensor HA405, DPA405, HF405  
 General ORP Sensor OR8ERG, OR8EFG  
 Special ORP Sensor HA485, DPA485

(Note) An adapter is required when using special pH/ORP sensors.

When using with special pH/ ORP sensors, this holder cannot be used outdoors due to exposure to rain or due to condensation at a high humid place.

Mounting: 2-inch pipe mounting vertical or horizontal with 1 or 2 set of mounting bracket

(Note) Make sure the mounting pipe is firmly installed.

Cleaning method:

Jet cleaning, brush cleaning or ultrasonic cleaning

(Note) Brush cleaning and ultrasonic cleaning cannot be used when using special pH/ORP sensor.

Material:

Holder; Polypropylene or stainless steel (equivalent to SS316)

Flange; Polypropylene or stainless steel (equivalent to SS304)

O-ring; Fluoro-rubber (Viton) or Daielperfrow

Mounting bracket; Galvanized iron or stainless steel (equivalent to SS304)

Cleaning unit (wetted parts):

Ultrasonic; Stainless steel (equivalent to SS316), titanium or Hastelloy C

Jet; Polypropylene

Brush; Polypropylene, titanium (shaft), Rulon W (bearings)

Weight:

Holder; Approx. 0.5 to 5 kg (polypropylene)  
 Approx. 1.5 to 11.5 kg (stainless steel)

Mounting bracket; Approx. 1 kg/set

Flange; Approx. 0.5 to 1.8 kg (polypropylene)  
 Approx. 2.9 to 15.6 kg (stainless steel)

Temperature range:

No Cleaning; -5 to 100°C

With Cleaning; -5 to 80°C

(Note) The temperature range may be limited by the specifications of the sensor.

Flow rate: 2 m/s or less

(Note) The flow speed may be limited by the specifications of the sensor.

Measuring pressure: Submersion depth 3m max.

(Note) The pressure may be limited by the specifications of the sensor.

Utility required for cleaning unit:

| Type        | Pressure(kPa)                | Flow Rate         |
|-------------|------------------------------|-------------------|
| Water jet   | 200 to 400 + Liquid pressure | 5 to 20 l/min     |
| Water brush | 100 to 250 + Liquid pressure | 20 to 30 l/min    |
| Air jet     | 200 to 400 + Liquid pressure | 100 to 300 NI/min |
| Air brush   | 150 to 250 + Liquid pressure | 300 to 600 NI/min |

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(Note 1) Pressure and flow rate must be simultaneously satisfied at the holder inlet port.

(Note 2) A large braid-reinforced tube of Ø22 x Ø15 is recommended for supply due to the flow rate.

### 2B. Submersion Type Holder (Explosionproof Type) PH8HSF

The holder is used only when using ultrasonic cleaning system in the explosionproof area.

Use PH8HS when using no cleaning, jet cleaning or brush cleaning.

Applicable sensors:

General pH Sensor PH8ERP, PH8EFP  
 General ORP Sensor OR8ERG, OR8EFG

Mounting: 2-inch pipe mounting vertical or horizontal with 1 or 2 set of mounting bracket.

(Note) Make sure the mounting pipe is firmly installed.

Cleaning method: Ultrasonic cleaning

Material:

Holder; Polypropylene or stainless steel (equivalent to SS316)

Flange; Polypropylene or stainless steel (equivalent to SS304)

O-ring; Fluor-rubber (Viton) or Daielperfrow

Mounting bracket; Galvanized iron or stainless steel (equivalent to SS304)

Cleaning unit (wetted parts):

Ultrasonic; Stainless steel (equivalent to SS316), titanium or Hastelloy C

Construction: TIIS flameproof type (for d2G4 gas)

Cable entrance port of terminal box; G 3/4

Weight:

Holder; Approx. 2.2 to 3.2 kg (polypropylene)  
 Approx. 3.3 to 5.7 kg (stainless steel)

Mounting bracket; Approx. 1 kg/set

Flange; Approx. 1.5 kg (polypropylene)  
 Approx. 15 kg (stainless steel)

Temperature range: -5 to 80°C

(Note) The temperature may be limited by the specifications of the sensor.

Flow rate: 2 m/s or less

(Note) The flow speed may be limited by the specifications of the sensor.

Pressure: Submersion depth 3 m max.

(Note) The pressure may be limited by the specifications of the sensor.

### 2C. Submersion Type Holder DOX8HS

Applicable sensors:

Dissolved Oxygen Sensor DO30G, DO70G  
 MLSS Sensor SS300G

Mounting: 2-inch pipe mounting vertical or horizontal, with 1 or 2 set of mounting bracket.

(Note) Make sure the mounting pipe is firmly installed.

Cleaning method:

Water or air jet cleaning (The wiper cleaning of MLSS meter should be specified on the sensor.)

Material:

Holder; Polypropylene or stainless steel equivalent to SS316)

O-ring; Fluoro-rubber (Viton)

Mounting bracket; Stainless steel (equivalent to SS316) or galvanized iron

Cleaning unit (wetted parts); Polypropylene

Weight:

Holder; Approx. 0.5 to 3.6 kg (polypropylene)  
Approx. 1.5 to 11.5 kg (stainless steel)

Mounting bracket; Approx. 1 kg/set

Temperature range: 0 to 80 °C

(Note) The temperature may be limited by the specifications of the sensor.

Flow rate: 2 m/s or less.

(Note) The flow rate may be limited by the specifications of the sensor.

Utility required for cleaning unit:

Pressure, Water jet; 100 to 200 kPa

Air jet; 100 to 200 kPa

Flow rate, Water jet; 5 to 20 l/min

Air jet; 10 to 20 NI/min

(Note 1) Pressure and flow rate must be simultaneously satisfied at the holder inlet port.

(Note 2) A large braid-reinforced tube of Ø22 x Ø15 is recommended for supply due to the flow rate.

### 3A. Flow-Through Type Holder PH8HF

Applicable sensors:

General pH Sensor PH8ERP, PH8EFP  
Special pH Sensor HA405, DPA405, HF405  
General ORP Sensor OR8ERG, OR8EFG  
Special ORP Sensor HA485, DPA485

(Note) An adapter is required when using special pH/ORP sensor.

When using with special pH/ ORP sensors, this holder cannot be used outdoors due to exposure to rain or due to condensation at a high humid place.

Mounting: 2-inch pipe mounting vertical or horizontal, with 1 set of mounting hard bracket.

(Note) Make sure the mounting pipe is firmly installed.

Cleaning method:

Jet cleaning, brush cleaning or ultrasonic cleaning

(Note) Brush cleaning and ultrasonic cleaning cannot be used when using special pH/ORP sensor.

Material:

Holder; Polypropylene or stainless steel(equivalent to SS316)

O-ring; Fluoro-rubber (Viton) or Daielperfrow

Mounting bracket; Stainless steel (equivalent to SS304)

Cleaning unit (wetted parts);

Ultrasonic; Stainless steel (equivalent to SS316), titanium or Hastelloy C

Jet; Polypropylene

Brush; Polypropylene, titanium(shaft), Rulon® W (bearings)

Weight:

Holder; Approx. 0.4 to 1.7 kg (polypropylene)  
Approx. 3 to 6.1 kg (stainless steel)

Mounting bracket; Approx. 0.5 kg

Temperature range:

No Cleaning: -5 to 80 °C (polypropylene)

-5 to 105°C (stainless steel)

With Cleaning: -5 to 80°C

(Note) The temperature may be limited by the specifications of the sensor.

Flow rate: 3 to 11 l/min

(Note) The flow rate may be limited by the specifications of the sensor.

Pressure: Atmospheric pressure to 500kPa

(Note) The pressure may be limited by the specifications of the sensor.

Utility required for cleaning unit:

|             | Pressure(kPa)                | Flow Rate         |
|-------------|------------------------------|-------------------|
| Water jet   | 200 to 400 + Liquid pressure | 5 to 20 l/min     |
| Water brush | 100 to 250 + Liquid pressure | 20 to 30 l/min    |
| Air jet     | 200 to 400 + Liquid pressure | 100 to 300 NI/min |
| Air brush   | 150 to 250 + Liquid pressure | 300 to 600 NI/min |

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(Note 1) Pressure and flow rate must be simultaneously satisfied at the holder inlet port.

(Note 2) A large braid-reinforced tube of Ø22 x Ø15 is recommended for supply due to the flow rate.

### 3B. Flow-Through Type Holder (Explosionproof Type) PH8HFF

The holder is used only when using Ultrasonic cleaning system in the explosionproof area.

Use PH8HF when using no cleaning, jet cleaning or brush cleaning.

Applicable sensors:

General pH Sensor PH8ERP, PH8EFP

General ORP Sensor OR8ERG, OR8EFG

Mounting: 2-inch pipe mounting vertical or horizontal, with 1 set of mounting bracket.

(Note) Make sure the mounting pipe is firmly installed.

Cleaning method: Ultrasonic cleaning

Material:

Holder; Polypropylene or stainless steel(equivalent to SS316)

O-ring; Fluoro-rubber (Viton) or Daielperfrow

Mounting bracket; Stainless steel (equivalent to SS304)

Cleaning unit (wetted parts):

Ultrasonic; Stainless steel (equivalent to SS316), titanium or Hastelloy C

Construction: TIIS flameproof type (for d2G4 gas)

Cable entrance port of terminal box; G 3/4

Weight:

Holder; Approx. 3 to 3.2 kg (polypropylene)

Approx. 5.6 to 7.6 kg (stainless steel)

Mounting bracket; Approx. 0.5 kg

Temperature range: -5 to 80°C

(Note) The temperature may be limited by the specifications of the sensor.

Flow rate: 3 to 11 l/min

(Note) The flow rate may be limited by the specifications of the sensor.

Pressure: Atmospheric pressure to 500kPa

(Note) The pressure may be limited by the specifications of the sensor.

### 3C. Flow-Through Type Holder FH350G

Applicable sensors:

MLSS Sensor SS300G

( Measuring range: 0-1000 mg/l or less)  
 (Note) Not applicable high range (greater than 0 to 1000mg/l) of MLSS sensor and DO sensor.  
 Mounting: 2-inch pipe mounting vertical or horizontal  
 (Note) Make sure the mounting pipe is firmly installed.  
 Cleaning method:  
 Water or air jet cleaning (The wiper cleaning of MLSS cannot be used.)  
 Material:  
 Holder; Polypropylene or stainless steel (equivalent to SS316)  
 O-ring; Fluoro-rubber (Viton)  
 Mounting bracket; Stainless steel (equivalent to SS304)  
 Cleaning unit (wetted parts); Polypropylene  
 Weight:  
 Holder; Approx. 0.4 to 5 kg  
 Mounting bracket; Approx. 0.5 kg  
 Temperature range: 0 to 80°C  
 (Note) The temperature may be limited by the specifications of the sensor.  
 Flow rate: 6 to 11 l/min  
 (Note) Keep the specified flow rate to prevent substances from standing in the holder and bubbles from sticking onto the sensor.  
 Pressure: 0 to 200 kPa  
 (Holder pressure rating is 500 kPa)  
 Utility required for cleaning unit:  
 Pressure:  
 Water jet; process pressure +100 to 200 kPa  
 Air jet; process pressure +100 to 200 kPa  
 Flow Rate: Water jet; 5 to 20 l/min  
 Air jet; 10 to 20 NI/min  
 (Note 1) Pressure and flow rate must be simultaneously satisfied at the holder inlet port.  
 (Note 2) A large braid-reinforced tube of  $\varnothing 22 \times \varnothing 15$  is recommended for supply due to the flow rate.

#### 4. Suspension Holder HH350G

Applicable sensor:  
 General pH Sensor PH8ERP, PH8EFP  
 General ORP Sensor OR8ERG, OR8EFG  
 Dissolved Oxygen Sensor DO30G, DO70G  
 MLSS Sensor SS300G  
 (Note1) When using a KCl filling type sensor, a stanchion or mounting bracket for the KCl tank is required separately.  
 (Note2) Not applicable for special pH/ORP sensors.  
 Mounting: 2-inch pipe mounting vertical.  
 (Note) Make sure the mounting pipe firmly installed.  
 Cleaning method: Water or air jet cleaning (The wiper cleaning of MLSS meter should be specified on the sensor.)  
 Material:  
 Holder; Polypropylene and stainless steel (equivalent to SS304)  
 Guide-pipe; Stainless steel (equivalent to SS304)  
 Mounting bracket; Stainless steel (equivalent to SS304)  
 Cleaning unit; Stainless steel (equivalent to SS304), PVC, and polypropylene  
 Weight: 6.4 to 13.8 kg  
 Temperature range: 0 to 80°C  
 (Note) The temperature may be limited by the specifications of the sensor.  
 Flow rate: 1 m/s or less  
 (Note) The flow speed may be limited by the specifications of the sensor.  
 Utility required for cleaning device:

Pressure; Water jet; 100 to 200 kPa  
 Air jet; 100 to 200 kPa  
 Flow rate; Water jet; 5 to 20 l/min  
 Air jet; 10 to 20 NI/min  
 (Note 1) Pressure and flow rate must be simultaneously satisfied at the holder inlet port.  
 (Note 2) A large braid-reinforced tube of  $\varnothing 22 \times \varnothing 15$  is recommended for supply due to the flow rate.

#### 5. Angled Floating Ball Holder PB350G

Applicable sensors:  
 General pH Sensor PH8ERP, PH8EFP  
 General ORP Sensor OR8ERG, OR8EFG  
 Dissolved Oxygen Sensor DO30G, DO70G  
 MLSS Sensor SS300G  
 (Note1) When using a KCl filling type sensor, a stanchion or mounting bracket for the KCl tank is required separately.  
 (Note2) Not applicable for special pH and ORP sensor (HA405, HA485, DPA405, DPA485 etc.) .  
 Pipe length: 2.5m  
 Mounting: 2-inch pipe horizontal mounting or horizontal plane mounting  
 (Note) Make sure the mounting pipe firmly installed. Use anchor bolts(4xM8) or relevant fixtures for mounting on horizontal planes.  
 Material:  
 Holder; ABS resin, Nitrile rubber (NBR), brass, and PVC  
 Arm; PVC or stainless steel (equivalent to SS304)  
 Mounting bracket; Stainless steel (equivalent to SS304)  
 Weight:  
 Holder (including.arm); Approx. 5 kg (model PB350G-PV-25)  
 Approx. 6 kg (model PB350G-S3-25)  
 Mounting bracket; Approx. 5 kg  
 Temperature range: 0 to 50 °C  
 (Note) The temperature may be limited by the specifications of the sensor.  
 Flow rate: 20 to 100 cm/s (The arm must not be distorted significantly.)  
 (Note) The flow speed may be limited depending on the specifications of the sensor.

#### 6. Vertical Floating Ball PB360G

Applicable sensors:  
 General pH Sensor PH8ERP, PH8EFP  
 General ORP Sensor OR8ERG, OR8EFG  
 Dissolved Oxygen Sensor DO30G, DO70G  
 MLSS Sensor SS300G  
 (Note 1) When using a KCl filling type sensor, a stanchion or mounting bracket for the KCl tank is required separately.  
 (Note 2) Not applicable for special pH and ORP sensor (HA405, HA485, DPA405, DPA485 etc.) .  
 Mounting: 2-inch pipe vertical mounting  
 (Note) Make sure the mounting pipe firmly installed.  
 Material:  
 Holder; ABS resin, brass, and rigid PVC  
 O-ring; Nitrile rubber (NBR)  
 Arm; rigid PVC or stainless steel (equivalent to SS304)  
 Guide-pipe; Stainless steel (equivalent to SS304)  
 Mounting bracket; Stainless steel (equivalent to SS304),  
 Roller, Pulley; Polypropylene

Balance Weight; Stainless steel  
(equivalent to SS304)  
Rope; Vinyl Covered Stainless steel  
(equivalent to SS304)  
Connection Supporter;  
Stainless steel (equivalent to SS304)

**Weight:**

Holder, guide-pipe, and arm;  
Approx. 7.4 kg (model PB360G-PV-25-NN)  
Approx. 8.8 kg (model PB360G-PV-35-NN)  
Approx. 8.0 kg (model PB360G-S3-25-NN)  
Approx. 9.6 kg (model PB360G-S3-35-NN)

Mounting bracket; ( including assist bracket and U-bolt  
assembly) Approx. 5 kg x 2 sets

Roller assembly (including mounting bolt assembly);  
Approx. 3.3 kg x 2 sets

Pulley assembly (including mounting bolt assembly);  
Approx. 0.5 kg

Connection supporter; Approx. 0.5 kg

Balance weight;  
Approx. 3 kg (model PB360G-□□-25-NN)  
Approx. 4.5 kg (model PB360G-□□-35-  
NN)

Rope (including bolt clip);  
Approx. 85 g (model PB360G-□□-25-NN)  
Approx. 97 g (model PB360G-□□-35-NN)

Temperature range: 0 to 50 °C

(Note) The temperature may be limited by the specifica-  
tions of the sensor.

Flow rate: 20 to 100 cm/s (The arm must not be  
distorted significantly.)

(Note) The flow speed may be limited depending on the  
specifications of the sensor.

### 7A. Solenoid Valve for Jet/Brush Cleaning PH8MV

Pilot kick operated, 2-port valve. Open when energized.

Fluid: Normal tap water, industrial water, or air  
Operating pressure: 0 to 1 MPa  
Forward (reverse) pressure resistance: 2 MPa  
Fluid temperature: Water; 5 to 60°C, Air; 60°C or less  
Cv: 4.5  
Process connection: Rc 1/2  
Power supply: 100/110/200/220 V AC, 50/60 Hz  
Power consumption: 10 W  
Construction: Drip-proof JIS C0920 (IP53)

**Material:**

Body: Bronze  
Sealing: Nitrile rubber  
Coil case and terminal box: Aluminum alloy, nylon (lid)

Ambient temperature: Maximum 50°C

Electric connection: G 1/2

Weight: Approx. 1 kg

### 7B. Explosionproof Type Solenoid Valve for Jet/ Brush Cleaning PH8MVF

Pilot kick operated, 2-port valve. Open when energized.

Fluid: Normal tap water, industrial water, or air  
Operating pressure: 0.05 to 1 MPa  
Forward (reverse) pressure resistance: 1.5 MPa  
Fluid temperature: Water; 5 to 60°C, Air; 60°C or less  
Cv: 3.1

Process connection: Rc 1/2

Power supply: 100 V AC, 50/60 Hz  
110 V AC, 60 Hz  
200 V AC, 50/60 Hz  
220 V AC, 60 Hz

Power consumption: 10 W  
Construction: IIIS flameproof type (for d2G4 gas)  
Material:

Body: Bronze

Sealing: Nitrile rubber

Coil case and terminal box: Aluminum  
alloy

Ambient temperature: Maximum 50°C

Leak at valve seat: 400 Nml/min (air pressure:  
50 to 700 kPa)

Electric connection: G 1/2

Mounting position: Vertical mounting with coil in top

Weight: Approx. 3.3 kg

### 8. Cleaning Pump/Tank Assembly PH8PU1

Pump/tank assembly for water jet cleaning. Allows tap  
water to be used for cleaning, using a level-controlled tank.

Cleaning water: Normal tap water or industrial water  
(when isolation from other water lines is required);  
maximum pressure of 500 kPa

Cleaning water outlet pressure: Max. 300 kPa,  
(which can be regulated by the bypass valve.)

Cleaning water outlet flow rate: Max. 30 l/min,  
(which can be regulated by the bypass valve.)

Connectable unit: Holder or sensor with the jet cleaning  
system

Tank: With a ball tap (ball float valve for level control)  
Effective capacity of approx. 40 liters.

Pump: Suction pump with capacitor-starting-type  
induction motor. Equipped with an electro-  
magnetic actuator with overcorrect protec-  
tion.

Cleaning water inlet connection:  
G 1/2

Cleaning water outlet connections:

G 1/2 (Optional Rc 1/2 or ANSI 1/2NPT adapters are  
available.)

Electric connection:

Plastic watertight gland equivalent to JIS A15.

Applicable cable outside diameter: 9 to 12 mm

Conduit adapter: Optional

Ambient temperature: 5 to 50°C

Power supply: 100 or 200 V AC ±10%, 50/60 Hz, single  
phase

(Must be equal to the converter's power supply.)

Power consumption: 0.4 kW

Construction: For installation outdoors (in a place safe  
from rain, wind, and direct sunlight)

Color: Light gray (Munsell 2.8GY6.4/0.9 equivalent)

Dimensions: Approx. 442 (W) x 804 (D) x 800 (H) mm

Finish: Baked polyurethane

Weight: Approx. 55 kg

### 9A. Ultrasonic Oscillator (Non-Explosionproof Type) PUS400G

Combination device:

Holder with ultrasonic cleaner (PH8HS, PH8HF)

Connection cables are provided with holders.

Cleaning method: Continuous ultrasonic emission  
(Frequency sweep method)

Oscillation frequency: Approx. 61 to 81 kHz

Output voltage: Approx. 70 V

Power supply: 100/110/115/200/220/240 V AC±10%  
50/60 Hz



## MODEL AND SUFFIX CODES

### 1. Guide-pipe PH8HG

| Model                         | Suffix Code | Option Code | Description  |
|-------------------------------|-------------|-------------|--|
| PH8HG                         | .....       | .....       | Guide-pipe (*1)                                    |
| Material                      | -PV         | .....       | Polyvinylchloride (fluid temperature 50°C or less) |
|                               | -PP         | .....       | Polypropylene (fluid temperature 80°C or less)     |
| Style Code                    | *A          | .....       | Style A  |
| Option, Mounting Bracket (*2) |             | /MS5        | Stainless steel mounting bracket (1 set)           |

\*1 : Pipe length: 2 m

\*2 : A set of 2-inch pipe mounting bracket is provided as standard.

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### 2A. Submersion Type Holder PH8HS

| Model                                | Suffix Code           | Option Code | Description  |
|--------------------------------------|-----------------------|-------------|--|
| PH8HS                                | .....                 | .....       | Submersion type holder   |
| Material                             | -PP                   | .....       | Polypropylene  |
|                                      | -S3                   | .....       | Stainless steel  |
| Pipe length                          | -10                   | .....       | 1.0m   |
|                                      | -15                   | .....       | 1.5m   |
|                                      | -20                   | .....       | 2.0m   |
|                                      | -25                   | .....       | 2.5m   |
|                                      | -30                   | .....       | 3.0m   |
| pH Measuring System                  | -T                    | .....       | Always -T  |
| Cleaning System                      | -NN                   | .....       | None   |
|                                      | -S3                   | .....       | For ultrasonic cleaning (Transducer: SS316) (*1)                     |
|                                      | -TN                   | .....       | For ultrasonic cleaning (Transducer: Titanium) (*2)                  |
|                                      | -HC                   | .....       | For ultrasonic cleaning (Transducer: Hastelloy C) (*3)               |
|                                      | -JT                   | .....       | For jet cleaning. The solenoid valve must be specified separately.   |
|                                      | -BR                   | .....       | For brush cleaning. The solenoid valve must be specified separately. |
| Cable Length for Ultrasonic Cleaning | -NN                   | .....       | None   |
|                                      | -C3                   | .....       | 3m   |
|                                      | -C5                   | .....       | 5m   |
|                                      | -C6                   | .....       | 7m   |
|                                      | -C7                   | .....       | 10m  |
|                                      | -C8                   | .....       | 15m  |
|                                      | -C9                   | .....       | 20m  |
| Connector for Jet or Brush Cleaning  | -JP                   | .....       | Rc1/2  |
|                                      | -NP                   | .....       | 1/2 NPT  |
| Style Code                           | *A                    | .....       | Style A  |
| Options                              | Mounting Bracket (*5) | /MS1        | Mounting bracket : 1 set   |
|                                      |                       | /MS2        | Mounting bracket : 2 sets  |
|                                      |                       | /MS3        | Stainless steel mounting bracket : 1 set                             |
|                                      |                       | /MS4        | Stainless steel mounting bracket : 2 sets                            |
|                                      | Special Mounting      | /F1         | With flange (Without Cleaning System)                                |
|                                      |                       | /F2         | With flange (With Cleaning System)                                   |
|                                      | O-ring                | /PF         | Daierper (*4)  |

\*1: General purpose (Normal pH3 to 14) \*2: For salt water \*3: For acid (Normal pH0 to 4)

\*4: Choose Daierperfrow when this holder is used in organic solvent, high alkali or high temperature alkali.

\*5: The required number of mounting bracket sets depends on the installation location and flow rate. In general, one set is sufficient for pipe lengths of 1 meter, and otherwise two sets are required.

T02A.EPS

**2B. Submersion Type Holder (Explosionproof Type) PH8HSF**

| Model  | Suffix Code        | Option Code       | Description                                    |
|--|--------------------|-------------------|--|
| PH8HSF   | .....              | .....             | Submersion type holder                         |
| Material   | -PP                | .....             | Polypropylene                                  |
|  | -S3                | .....             | Stainless steel                                |
| Pipe Length  | -10                | .....             | 1.0m   |
|  | -15                | .....             | 1.5m   |
|  | -20                | .....             | 2.0m   |
| pH Measuring System                                | -T                 | .....             | Always -T                                      |
| Cleaning System (*4)<br>(Ultrasonic cleaning only) | -S3                | .....             | SS316 Transducer (*1)                          |
|  | -TN                | .....             | Titanium Transducer (*2)                       |
|  | -HC                | .....             | Hastelloy C Transducer (*3)                    |
| Explosion Protection                               | -JS                | .....             | TIIS Flameproof (d2G4)                         |
| Style Code   | *A                 | .....             | Style A  |
| Options  | Mounting Bracket   | /MS1              | Mounting bracket : 1 set (*6)                  |
|  |                    | /MS2              | Mounting bracket : 2 sets (*6)                 |
|  |                    | /MS3              | Stainless steel mounting bracket : 1 set (*6)  |
|  |                    | /MS4              | Stainless steel mounting bracket : 2 sets (*6) |
|  | Special Mounting   | /F                | With flange (JIS 10K 200 FF)                   |
|  | Flameproof Packing | /PG2              | Adaptor 3/4 inch                               |
|  | Tag Plate          | /SCT              | Stainless steel tag plate                      |
| O-ring   | /PF                | Daielperfrow (*5) |  |

\*1: General purpose (Normal pH3 to 14)    \*2: For salt water    \*3: For acid (Normal pH0 to 4)  
 \*4: Use PH8HS for no cleaning, Jet cleaning or brush cleaning.  
 \*5: Choose Daielperfrow when this holder is used in organic solvent, high alkali or high temperature alkali.  
 \*6: The required number of mounting bracket sets depends on the installation location and flow rate. In general, one set is sufficient for pipe lengths of 1 meter, and otherwise two sets are required.

T02B.EPS

**2C. Submersion Type Holder DOX8HS**

| Model                         | Suffix Code | Option Code | Description  |
|-------------------------------|-------------|-------------|--|
| DOX8HS                        | .....       | .....       | Submersion type holder   |
| Material                      | -PP         | .....       | Polypropylene  |
|                               | -S3         | .....       | Stainless steel  |
| Pipe Length                   | -10         | .....       | 1.0m   |
|                               | -15         | .....       | 1.5m   |
|                               | -20         | .....       | 2.0m   |
|                               | -25         | .....       | 2.5m   |
|                               | -30         | .....       | 3.0m   |
|                               | -35         | .....       | 3.5m (stainless steel -S3) only                                    |
|                               | -40         | .....       | 4.0m (stainless steel -S3) only                                    |
| Type                          | -C          | .....       | For DO30G and SS300G   |
|                               | -L          | .....       | For DO70G  |
| Cleaning System (*1)          | -NN         | .....       | None   |
|                               | -JT         | .....       | For jet cleaning (The solenoid valve must be specified separately) |
| Connector for Cleaning        | -NN         | .....       | None   |
|                               | -JP         | .....       | Rc 1/2   |
|                               | -NP         | .....       | 1/2 NPT  |
| Style Code                    | *B          | .....       | Style B  |
| Options Mounting Bracket (*2) | /MS1        | .....       | Mounting bracket : 1 set   |
|                               | /MS2        | .....       | Mounting bracket : 2 sets  |
|                               | /MS5        | .....       | Mounting bracket (stainless steel) : 1 set                         |
|                               | /MS6        | .....       | Mounting bracket (stainless steel) : 2 sets                        |

\*1: When using the wiper cleaning of MLSS meter, choose a proper cleaning system under the MS code of the MLSS sensor.  
 \*2: The required number of mounting bracket sets depends on the installation location and flow rate. In general, one set is sufficient for pipe lengths of 1 meter, and otherwise two sets are required.

T02C.EPS

**3A. Flow-Through Type Holder PH8HF**

[Style: S2]

| Model                                | Suffix Code | Option Code | Description  |
|--------------------------------------|-------------|-------------|--|
| PH8HF                                | .....       | .....       | Flow-through type holder   |
| Material                             | -PP         | .....       | Polypropylene } Refer to note below<br>Stainless steel } for selection   |
|                                      | -S3         | .....       |  |
| Process Connection                   | -JPT        | .....       | Rc1  |
|                                      | -NPT        | .....       | 1 NPT female thread  |
|                                      | -J10        | .....       | JIS 10K 25 FF (Note)   |
|                                      | -A15        | .....       | ANSI Class 150 1 FF flange (Note) (for polypropylene holder -PP)<br>ANSI Class 150 1 RF flange with serration (for SS316 holder -S3) |
| pH Measuring System                  | -T          | .....       | Always -T  |
| Cleaning System                      | -NN         | .....       | None   |
|                                      | -S3         | .....       | For ultrasonic cleaning (Transducer: SS316) (*1)   |
|                                      | -TN         | .....       | For ultrasonic cleaning (Transducer: Titanium) (*2)  |
|                                      | -HC         | .....       | For ultrasonic cleaning (Transducer: Hastelloy C) (*3)   |
|                                      | -JT         | .....       | For jet cleaning. The solenoid valve must be specified separately  |
|                                      | -BR         | .....       | For brush cleaning. The solenoid valve must be specified separately  |
| Cable Length for Ultrasonic Cleaning | -NN         | .....       | None   |
|                                      | -C1         | .....       | 1m   |
|                                      | -C3         | .....       | 3m   |
|                                      | -C6         | .....       | 7m   |
|                                      | -C7         | .....       | 10m  |
|                                      | -C8         | .....       | 15m  |
|                                      | -C9         | .....       | 20m  |
| Connector for Jet or Brush Cleaning  | -JP         | .....       | Rc1/2  |
|                                      | -NP         | .....       | 1/2 NPT  |
| Style Code                           | *A          | .....       | Style A  |
| Options                              | O-ring      | /MF1        | Mounting bracket (stainless steel)   |
|                                      |             | /PF         | Daierperflow (*4)  |

\*1: General purpose (Normal pH 3 to 14) \*2: For salt water \*3: For acid (Normal pH 0 to 4)

\*4: Choose Daierperflow when this holder is used in organic solvent, high alkali or high temperature alkali.

Notes:(1) Mounting bracket is generally not required when the stainless steel holder is installed in-line in a pipe

It is required where the holder is installed in a sampling rack (in which case the U-bolt included in /MF1 in not used).

(2) Criteria for material selection (-PP or -S3)

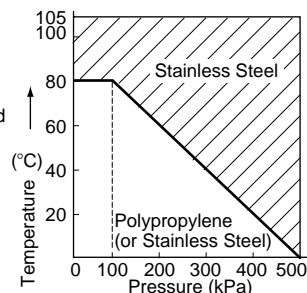
In general, polypropylene is recommended from the viewpoint of chemical resistance.

However stainless steel is recommend in any of the following cases: \*

- (a) The liquid contains organic reagent, oxidizing agents, etc., which can attack polypropylene.
- (b) The temperature/pressure correlation of the process condition falls within the hatched area of the diagram shown right.
- (c) The use of polypropylene is not reasonable from a viewpoint of strength or past experience.

(3) For stainless steel, normally a 3 to 14 pH value is recommended.

(Note): Only mating dimensions are according to flange standard.



T03A.EPS

**3B. Flow-Through Type Holder (Explosionproof Type) PH8HFF**

[Style: S2]

| Model  | Suffix Code        | Option Code | Description  |
|--|--------------------|-------------|--|
| PH8HFF   | .....              | .....       | Flow-through type holder   |
| Material   | -PP                | .....       | Polypropylene } Refer to note below for selection<br>Stainless Steel }   |
|  | -S3                | .....       |  |
| Process Connection                                 | -JPT               | .....       | Rc1  |
|  | -NPT               | .....       | 1 NPT female thread  |
|  | -J10               | .....       | JIS 10K 25 FF flange   |
|  | -A15               | .....       | ANSI Class 150 1 FF flange equivalent (for polypropylene holder -PP)<br>ANSI Class 150 1 RF Flange with serration (for SS316 holder -S3) |
| pH Measuring System                                | -T                 | .....       | Always -T  |
| Cleaning System (*4)<br>(Ultrasonic cleaning only) | -S3                | .....       | (SS316 transducer) (*1)  |
|  | -TN                | .....       | (Titanium transducer) (*2)   |
|  | -HC                | .....       | (Hastelloy C transducer) (*3)  |
| Explosion Protection                               | -JS                | .....       | TIIS Flameproof (d2G4)   |
| Style Code   | *A                 | .....       | Style A  |
| Options  | Special Mounting   | /MF1        | Mounting bracket (stainless steel)   |
|  | Flameproof Packing | /PG2        | JIS flameproof packing adapter 3/4 inch  |
|  | Tag Plate          | /SCT        | Stainless steel tag plate  |
|  | O-ring             | /PF         | Daierperflow (*5)  |

\*1: General purpose (Normal pH 3 to 14)      \*2: For salt water      \*3: For acid (Normal pH 0 to 4)

\*4: Use PH8HS for no cleaning, Jet cleaning or Brush cleaning.

\*5: Choose Daierperflow when this holder is used in organic solvent, high alkali or high temperature alkali.

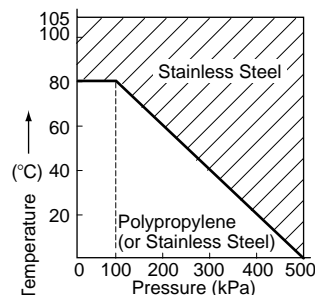
Notes: (1) Mounting bracket is generally not required when the stainless steel holder is installed in-line in a pipe  
It is required where the holder is installed in a sampling rack (in which case the U-bolt included in /MF1 is not used).

(2) Criteria for material selection (-PP or -S3)

In general, polypropylene is recommended from the viewpoint of chemical resistance.  
However stainless steel is recommend in any of the following cases:\*

- (a) The liquid contains organic reagent, oxidizing agents, etc., which can attack polypropylene.
- (b) The temperature/pressure correlation of the process condition falls within the hatched area of the diagram shown right.
- (c) The use of polypropylene is not reasonable from a viewpoint of strength or past experience.

(3) For stainless steel, normally a 3 to 14 pH value is recommended.  
The stainless steel holder is recommended to be used in normal pH of 3 to 14.



T03B.EPS

**3C. Flow-Through Type Holder FH350G (For MLSS Meter)**

| Model                        | Suffix Code               | Option Code | Description   |
|------------------------------|---------------------------|-------------|---|
| FH350G                       | .....                     | .....       | Flow-through type holder  |
| Material                     | -PP                       | .....       | Polypropylene   |
|                              | -S3                       | .....       | Stainless steel   |
| Process Connection           | -JPT1                     | .....       | Rc1   |
|                              | -NPT1                     | .....       | 1 NPT female thread   |
|                              | -J10F                     | .....       | JIS 10K 25 FF flange  |
|                              | -A15F                     | .....       | ANSI Class 150 1 FF flange equivalent<br>(for polypropylene holder -PP)       |
|                              | -A15R                     | .....       | ANSI Class 150 1 RF flange with serration<br>(for stainless steel holder -S3) |
| Cleaning System              | -NN                       | .....       | None  |
|                              | -JT                       | .....       | For Jet Cleaning (the solenoid valve must be specified separately)            |
| Connector for Cleaning water | -NN                       | .....       | None  |
|                              | -JP                       | .....       | Rc 1/2  |
|                              | -NP                       | .....       | 1/2 NPT female thread   |
| Option                       | Mounting Bracket          | /MF5        | Mounting bracket (stainless steel)  |
|                              | Stainless Steel Tag Plate | /SCT        | Stainless steel tag plate   |

(Notes) Required flow rate is 6 l/min or greater.  
Maximum measuring range of MLSS sensor is 0 to 1000 mg/l.

T03C.EPS

**4. Suspension Holder HH350G**

| Model                   | Suffix Code | Option Code | Description   |
|-------------------------|-------------|-------------|---|
| HH350G                  | .....       | .....       | Suspension holder   |
| ———                     | -NN         | .....       | Always -NN  |
| Guide-Pipe Length       | -00         | .....       | No guide-pipe   |
|                         | -10         | .....       | 1m  |
|                         | -20         | .....       | 2m  |
|                         | -30         | .....       | 3m  |
|                         | -40         | .....       | 4m  |
| Cleaning System (*1)    | -NN         | .....       | None  |
|                         | -JT         | .....       | Jet cleaning (The solenoid valve must be specified separately.) |
| Connection for Cleaning | -NN         | .....       | None  |
|                         | -JP         | .....       | Rc 1/2  |
|                         | -NP         | .....       | 1/2 NPT   |

\*1: When using the wiper cleaning of MLSS meter, choose a proper cleaning system under the MS-code of the MLSS sensor.

T04.EPS

**5. Angled Floating Ball Holder PB350G**

| Model        | Suffix Code | Option Code | Description                 |
|--------------|-------------|-------------|-----------------------------|
| PB350G       | .....       | .....       | Angled floating ball holder |
| Arm Material | -PV         | .....       | PVC                         |
|              | -S3         | .....       | Stainless steel             |
| Pipe Length  | -00         | .....       | No guide-pipe (*)           |
|              | -25         | .....       | 2.5m                        |
| ———          | -NN         | .....       | Always -NN                  |

\* When pipe (JIS K6741 VP40) is prepared by user.

T05.EPS

**6. Vertical Floating Ball Holder PB360G**

| Model       | Suffix Code | Option Code | Description                   |
|-------------|-------------|-------------|-------------------------------|
| PB360G      | .....       | .....       | Vertical floating ball holder |
| Material    | -PV         | .....       | PVC                           |
|             | -S3         | .....       | Stainless steel               |
| Pipe Length | -25         | .....       | 2.5m                          |
|             | -35         | .....       | 3.5m                          |
|             | -NN         | .....       | Always -NN                    |

T06.EPS

**7A. Solenoid Valve for Jet/Brush Cleaning PH8MV**

| Model                  | Suffix Code | Option Code | Description    |
|------------------------|-------------|-------------|----------------|
| PH8MV                  | .....       | .....       | Solenoid valve |
| Fluid                  | -A          | .....       | Air            |
|                        | -W          | .....       | Water          |
| Power Supply Voltage   | -100        | .....       | 100V AC        |
|                        | -110        | .....       | 110V AC        |
|                        | -200        | .....       | 200V AC        |
|                        | -220        | .....       | 220V AC        |
| Power Supply Frequency | -50         | .....       | 50Hz           |
|                        | -60         | .....       | 60Hz           |
| Style Code             | *C          | .....       | Style C        |

T07A.EPS

**7B. Solenoid Valve (Explosionproof Type) for Jet/Brush Cleaning PH8MVF**

| Model                  | Suffix Code | Option Code | Description                    |
|------------------------|-------------|-------------|--------------------------------|
| PH8MVF                 | .....       | .....       | Flameproof type solenoid valve |
| Fluid                  | -A          | .....       | Air                            |
|                        | -W          | .....       | Water                          |
| Power Supply Voltage   | -100        | .....       | 100V AC 50/60Hz                |
|                        | -110        | .....       | 110V AC 60Hz only              |
|                        | -200        | .....       | 200V AC 50/60Hz                |
|                        | -220        | .....       | 220V AC 60Hz only              |
| Power Supply Frequency | -50         | .....       | 50Hz                           |
|                        | -60         | .....       | 60Hz                           |
| Explosion Protection   | -JS         | .....       | TIIS Flameproof (d2G4)         |
| Style Code             | *A          | .....       | Style A                        |
| Option Tag Plate       | /SCT        |             | Stainless steel tag plate      |

T07B.EPS

**8. Cleaning Pump/Tank Assembly PH8PU1**

| Model                       | Suffix Code | Option Code | Description                      |
|-----------------------------|-------------|-------------|----------------------------------|
| PH8PU1                      | .....       | .....       | Cleaning tank/pump assembly      |
| Power Supply                | -3          | .....       | 200V AC 50/60Hz                  |
|                             | -5          | .....       | 100V AC 50/60Hz                  |
| Style code                  | *B          | .....       | Style B                          |
| Options                     |             | /PT         | With Rc 1/2 adapter              |
| Cleaning Water Inlet/Outlet |             | /NP         | With 1/2 NPT adapter             |
| Anchor bolts                |             | /AN         | 4 L-shape M12 x 160 (SS41) bolts |
| Conduit adapter             |             | /APUG       | G 1/2                            |
|                             |             | /ANSI       | 1/2NPT                           |

T08.EPS

9A. Ultrasonic Oscillator PUS400G

| Model        | Suffix Code      | Option Code                    | Description                              |
|--------------|------------------|--------------------------------|--|
| PUS400G      | .....            | .....                          | Ultrasonic oscillator for pH meter       |
|              | -NN              | .....                          | Always -NN                               |
| Application  | -NN              | .....                          | General purpose                          |
| Power Supply | -1               | .....                          | 100V AC 50/60Hz                          |
|              | -2               | .....                          | 110V AC 50/60Hz                          |
|              | -3               | .....                          | 115V AC 50/60Hz                          |
|              | -4               | .....                          | 200V AC 50/60Hz                          |
|              | -5               | .....                          | 220V AC 50/60Hz                          |
|              | -6               | .....                          | 240V AC 50/60Hz                          |
| Language     | -E               | .....                          | English                                  |
|              | -J               | .....                          | Japanese                                 |
| Options      | Mounting Bracket | /PS                            | Pipe mounting bracket (stainless steel)  |
|              |                  | /W                             | Wall mounting bracket (stainless steel)  |
|              |                  | /PA                            | Panel mounting bracket (stainless steel) |
|              | Hood             | /H                             | Awning hood (carbon steel)               |
|              |                  | /H2                            | Awning hood (stainless steel)            |
|              | Special Finish   | /X1                            | Baked epoxy resin                        |
|              | Tag Plate        | /SCT                           | Stainless steel tag plate                |
|              | Conduit Adaptor  | /AFTG                          | G1/2                                     |
| /ANSI        |                  | 1/2 NPT                        |  |
| /SPS         |                  | Teflon coated SUS steel screws |  |

T09A.EPS

9B1. Ultrasonic Oscillator (Explosionproof Type) PH8USF

| Model                | Suffix Code                                    | Option Code | Description  |
|----------------------|--|-------------|--|
| PH8USF               | .....  | .....       | Flameproof ultrasonic oscillator   |
| Power Supply         | -3   | .....       | 200 V AC 50/60 Hz  |
|                      | -4   | .....       | 220 to 240 V AC 50 to 60 Hz specify voltage  |
|                      | -5   | .....       | 100 V AC 50/60Hz   |
|                      | -7   | .....       | 110 to 115V AC 50 to 60 Hz specify voltage   |
| Explosion Protection | -JS  | .....       | TIIS Flameproof (d2G4)   |
| Style Code           | *A   | .....       | Style A  |
| Options              | Mounting Bracket                               | /PM         | Pipe mounting bracket  |
|                      | Connection Cable Between Oscillator and Holder | /C□□        | Specify the length in meter □□. No termination e.g. /C03 refers to the cable length of 3 m. Standard cable lengths: 3, 7, 10 m 10 m max. |
|                      | Flameproof Packing                             | /PG2        | TIIS flameproof packing adaptor 3/4 inch : 2 pcs   |
|                      | Tag Plate                                      | /SCT        | Stainless steel tag plate  |

(Note) PH8USF must be used with Alarm Box PH8AL.

For 110 to 115 V AC or 220 to 240 V AC power supplies, specify the voltage when ordering.

Tolerance is ±10 % of the voltage specified.

Example: Power supply voltage 110 V AC

T09B1.EPS

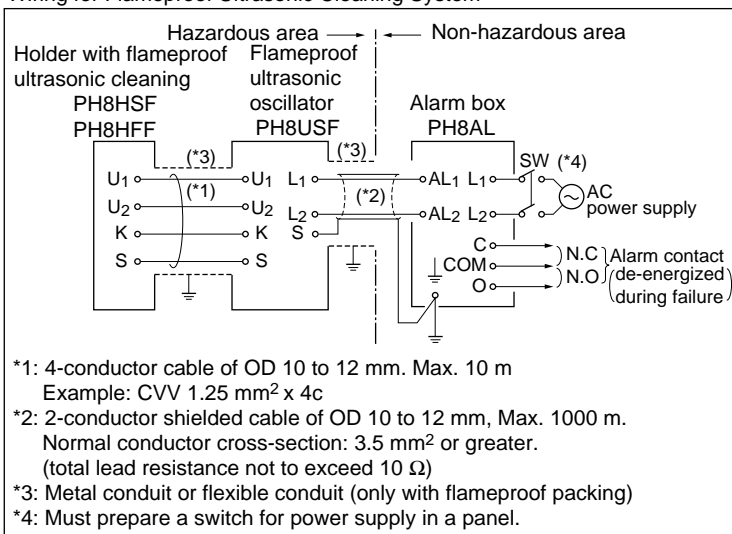
9B2. Alarm Box PH8AL

| Model        | Suffix Code | Option Code | Description               |
|--------------|-------------|-------------|---------------------------|
| PH8AL        | .....       | .....       | Alarm box                 |
| Power Supply | -3          | .....       | 200V AC 50/60Hz           |
|              | -4          | .....       | 200 to 240V AC 50 to 60Hz |
|              | -5          | .....       | 100V AC 50/60Hz           |
|              | -7          | .....       | 110 to 115V AC 50 to 60Hz |
| Style Code   | *A          | .....       | Style A                   |
| Option       |             | /APC        | Air purge connector Rc1/2 |

T09B2.EPS

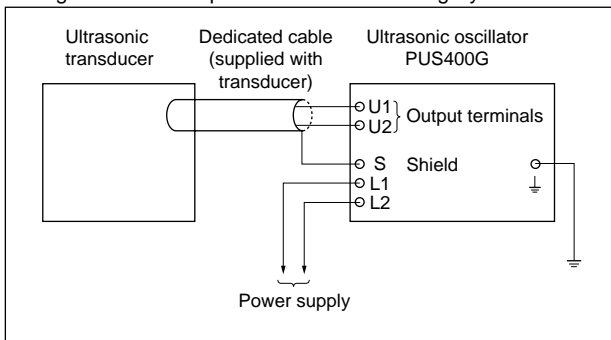
WIRING DIAGRAM

Wiring for Flameproof Ultrasonic Cleaning System



F001.EPS

Wiring for Non-Flameproof Ultrasonic Cleaning System



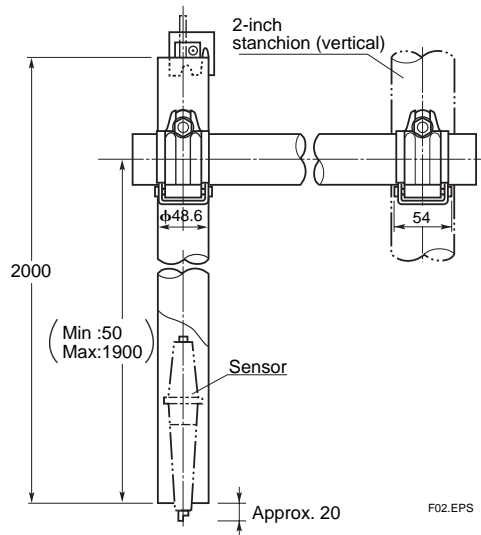
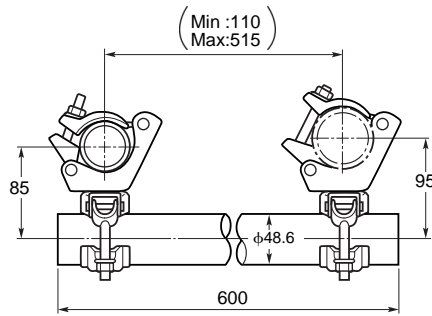
F002.EPS

## DIMENSIONS

### Guide-Pipe (with Mounting Bracket)

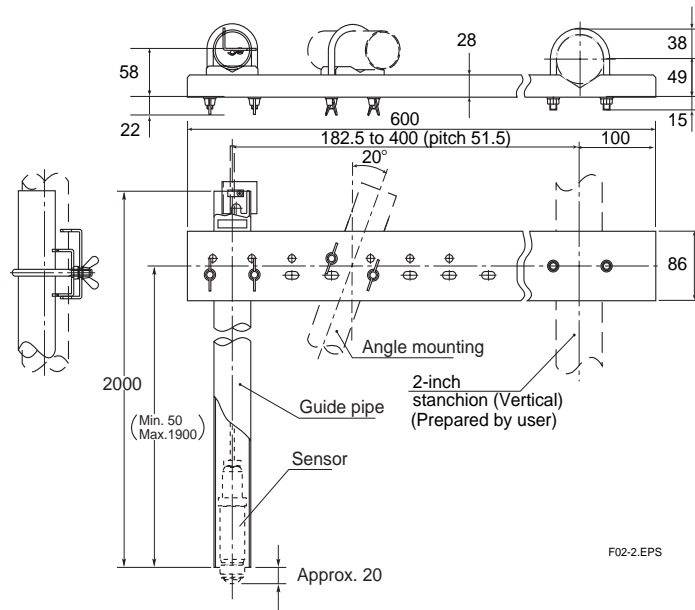
PH8HG

UNIT : mm



### Mounting Bracket, Stainless Steel

□/MS5



**Submersion Type Holder, Polypropylene**

**PH8HS-PP**

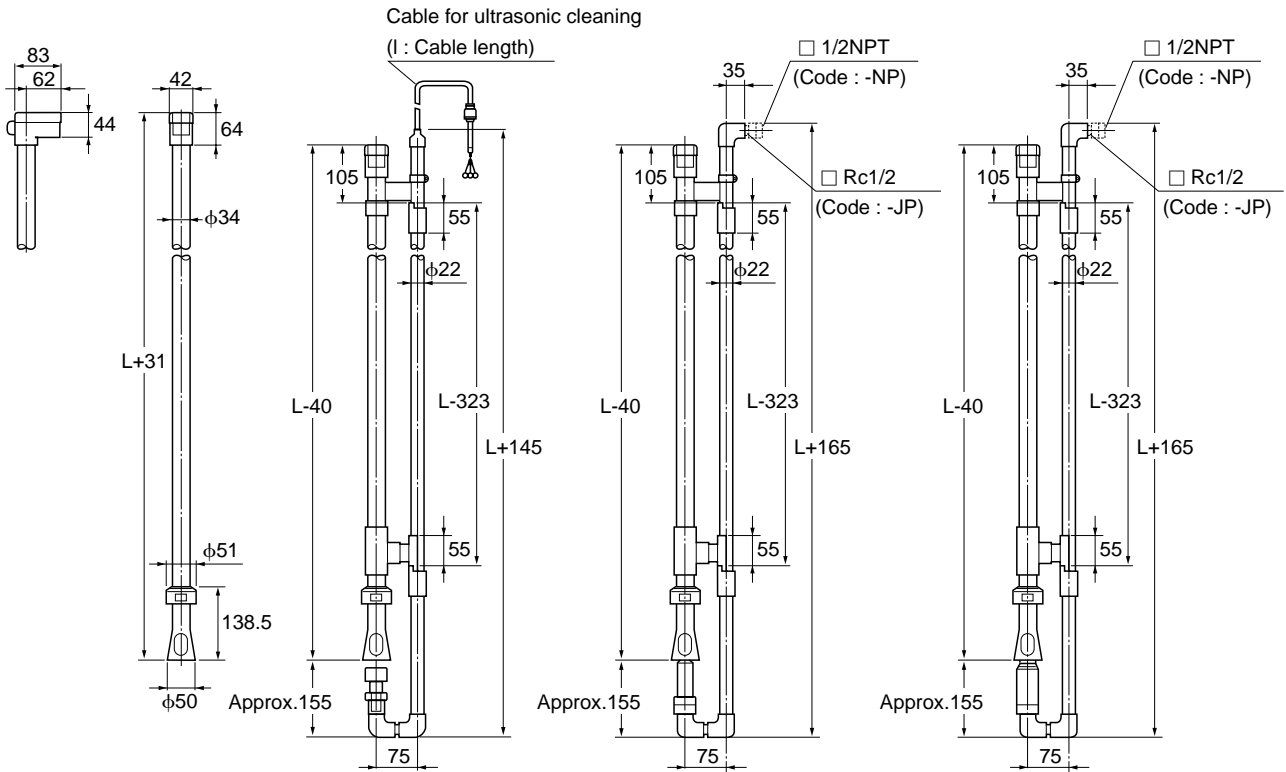
**UNIT: mm**

<Without Cleaner>

<With Ultrasonic Cleaner>

<With Jet Cleaner>

<With Brush Cleaner>



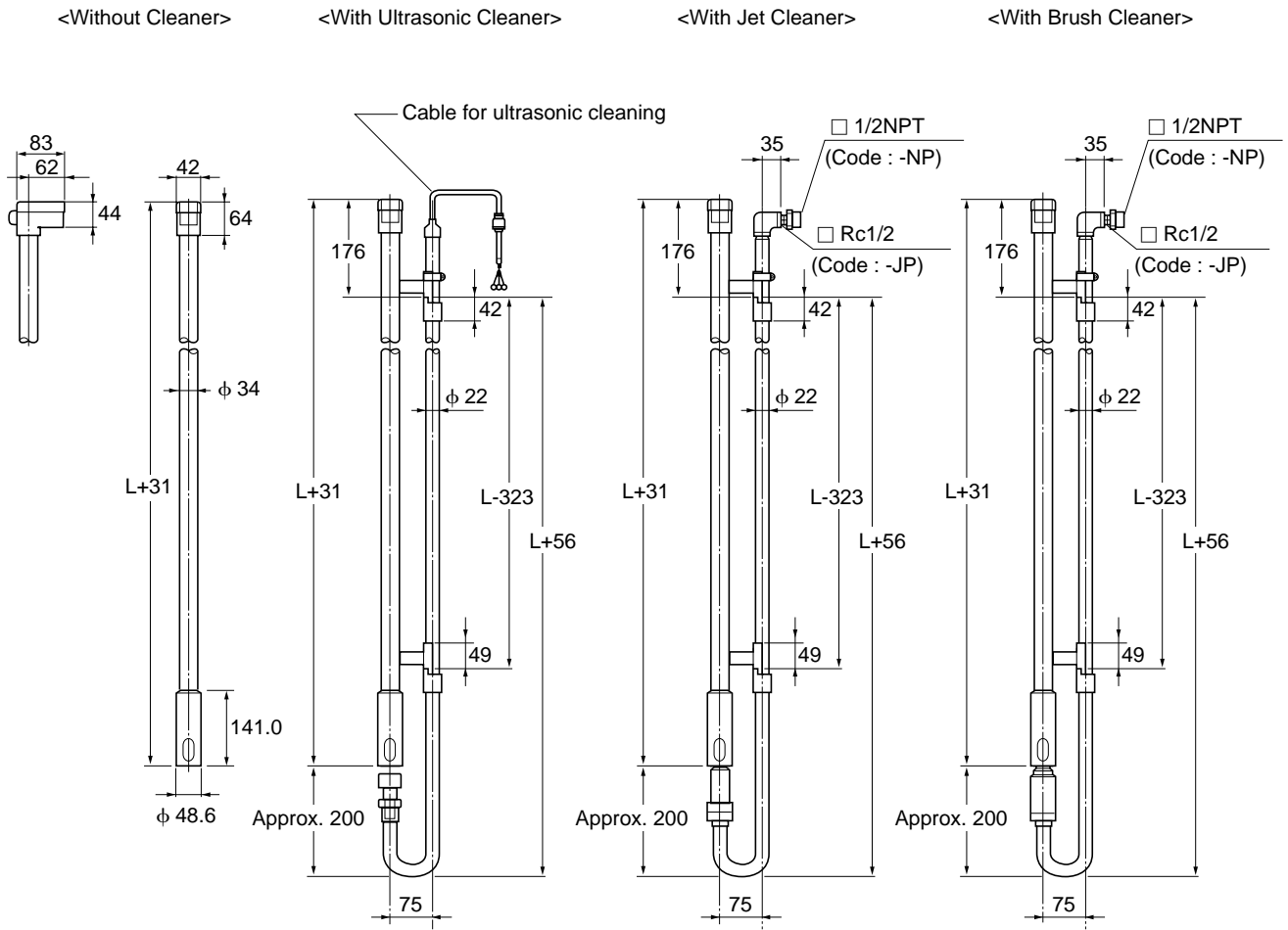
|                          | Specification of Holder<br>(Model and Code)   | Cable Length (l)<br>(Code : C□)   | Weight (Approx.)                                |   |   |   |   |
|--------------------------|---|-----------------------------------|---|---|---|---|---|
|                          |   |                                   | Nominal Holder Length (L)                       |   |   |   |   |
|                          |   |                                   | <input type="checkbox"/> 1000mm<br>[Code : -10] | <input type="checkbox"/> 1500mm<br>[Code : -15] | <input type="checkbox"/> 2000mm<br>[Code : -20] | <input type="checkbox"/> 2500mm<br>[Code : -25] | <input type="checkbox"/> 3000mm<br>[Code : -30] |
| <input type="checkbox"/> | Without Cleaner<br>PH8HS-PP-□□-□-NN-NN        |                                   | 0.5 kg  | 0.65 kg   | 0.8 kg  | 1.0 kg  | 1.1 k g   |
| <input type="checkbox"/> | With Ultrasonic Cleaner<br>PH8HS-PP-□□-□-S3-C | <input type="checkbox"/> 3m (C3)  | 1.7 kg  | 2.2 kg  | 2.7 kg  | 3.2 kg  | 3.7 kg  |
| <input type="checkbox"/> | PH8HS-PP-□□-□-TN-C                            | <input type="checkbox"/> 5m (C5)  | 1.8 kg  | 2.3 kg  | 2.8 kg  | 3.3 kg  | 3.8 kg  |
| <input type="checkbox"/> | PH8HS-PP-□□-□-HC-C                            | <input type="checkbox"/> 7m (C6)  | 1.9 kg  | 2.4 kg  | 2.9 kg  | 3.4 kg  | 3.9 kg  |
|                          |   | <input type="checkbox"/> 10m (C7) | 2.1 kg  | 2.6 kg  | 3.1 kg  | 3.6 kg  | 4.1 kg  |
|                          |   | <input type="checkbox"/> 15m (C8) | 2.5 kg  | 3.0 kg  | 3.5 kg  | 4.0 kg  | 4.5 kg  |
|                          |   | <input type="checkbox"/> 20m (C9) | 2.9 kg  | 3.4 kg  | 3.9 kg  | 4.4 kg  | 4.9 kg  |
| <input type="checkbox"/> | With Jet Cleaner<br>PH8HS-PP-□□-□-JT-P        |                                   | 1.6 kg  | 2.1 kg  | 2.6 kg  | 3.1 kg  | 3.6 kg  |
| <input type="checkbox"/> | With Brush Cleaner<br>PH8HS-PP-□□-□-BR-P      |                                   | 1.6 kg  | 2.1 kg  | 2.6 kg  | 3.1 kg  | 3.6 kg  |

F03.EPS

**Submersion Type Holder, Stainless Steel**

**PH8HS-S3**

**UNIT: mm**



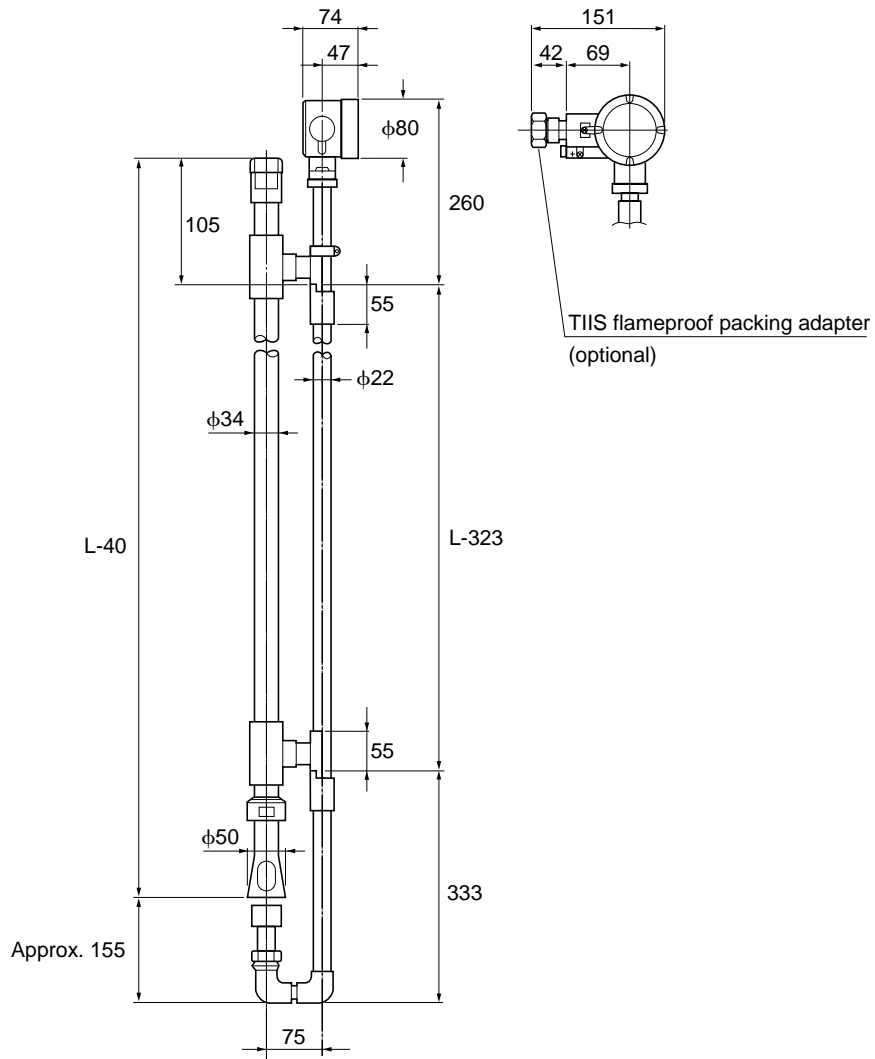
| Specification of Holder<br>(Model and Code)                            | Weight (Approx.)          |                          |                          |                          |                          |
|--|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | Nominal Holder Length (L) |                          |                          |                          |                          |
|  | □ 1000mm<br>[Code : -10]  | □ 1500mm<br>[Code : -15] | □ 2000mm<br>[Code : -20] | □ 2500mm<br>[Code : -25] | □ 3000mm<br>[Code : -30] |
| Without Cleaner<br>PH8HS-S3-□□-□-NN                                    | 1.5 kg                    | 2.3 kg                   | 3.1 kg                   | 3.9 kg                   | 4.7 kg                   |
| With Non-Explosionproof Ultrasonic Cleaner<br>PH8HS-S3-□□-□-S3, TN, HC | 2.7 kg                    | 3.9 kg                   | 5.1 kg                   | 6.3 kg                   | 7.5 kg                   |
| With Jet Cleaner<br>PH8HS-S3-□□-□-JT                                   | 2.5 kg                    | 3.6 kg                   | 4.7 kg                   | 5.8 kg                   | 6.9 kg                   |
| With Brush Cleaner<br>PH8HS-S3-□□-□-BR                                 | 2.5 kg                    | 3.6 kg                   | 4.7 kg                   | 5.8 kg                   | 6.9 kg                   |

F07.EPS

**Submersion Type Holder (Explosionproof Type), Polypropylene**

PH8HSF-PP

UNIT: mm



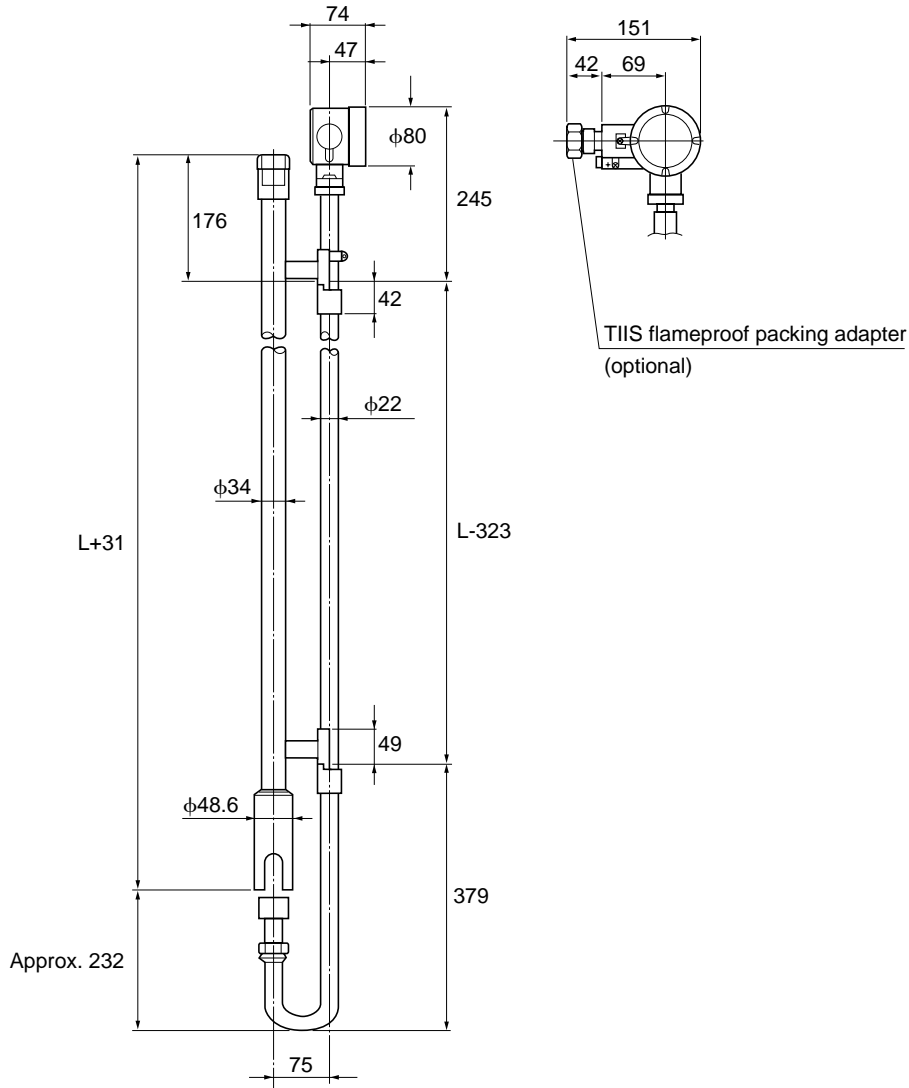
| Specification of Holder<br>(Model and Code)          | Weight (Approx.)          |                       |                       |
|--|---------------------------|-----------------------|-----------------------|
|  | Nominal Holder Length (L) |                       |                       |
|  | 1000mm<br>[Code: -10]     | 1500mm<br>[Code: -15] | 2000mm<br>[Code: -20] |
| With Ultrasonic Cleaner<br>PH8HSF-PP-□□-T-S3, TN, HC | 2.2 kg                    | 2.7 kg                | 3.2 kg                |

F11.EPS

**Submersion Type Holder (Explosionproof Type), Stainless Steel**

PH8HSF-S3

UNIT: mm



L = Normal holder length (Standard: 1000 mm, 1500 mm, 2000 mm)

| Specification of Holder<br>(Model and Code)                     | Weight (Approx.)          |                        |                        |
|---|---------------------------|------------------------|------------------------|
|   | Nominal Holder Length (L) |                        |                        |
|   | 1000mm<br>[Code : -10]    | 1500mm<br>[Code : -15] | 2000mm<br>[Code : -20] |
| With Flameproof Ultrasonic Cleaner<br>PH8HSF-S3-□□-T-S3, TN, HC | 3.3 kg                    | 4.5 kg                 | 5.7 kg                 |

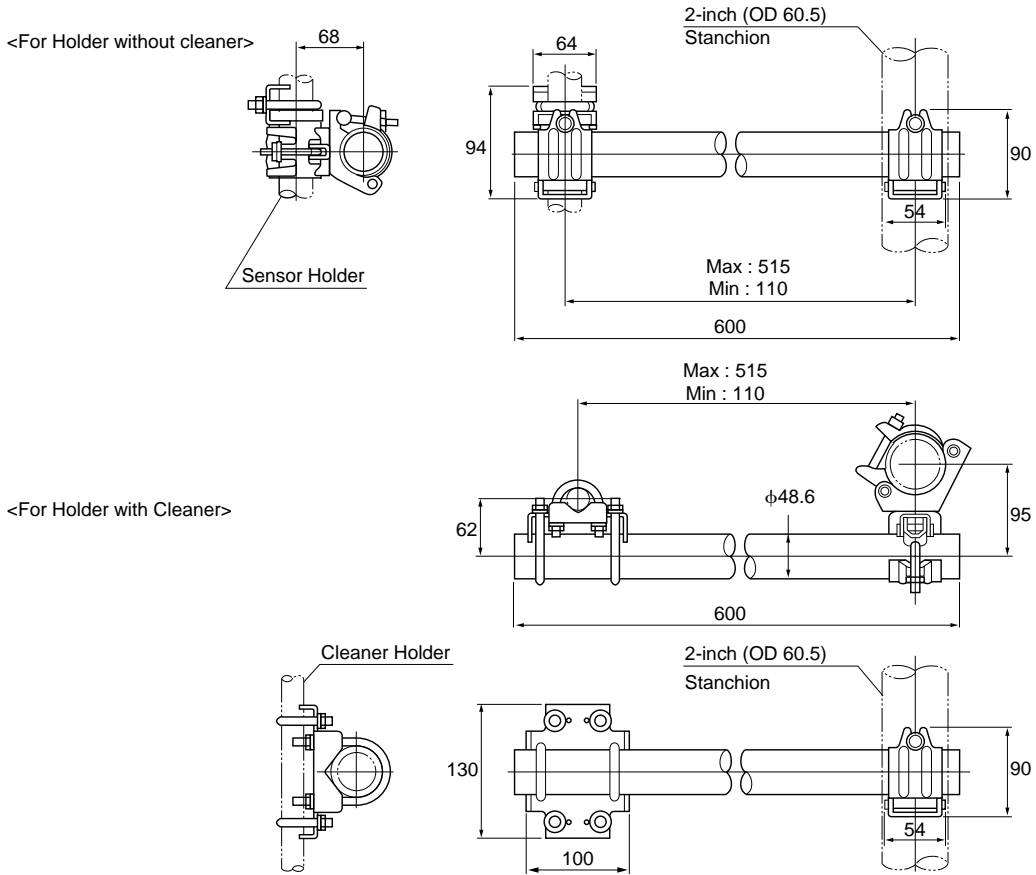
F15.EPS

**Mounting Bracket for Submersion Type Holder, Weight: Approx. 1kg**

□/MS1: 1 set

□/MS2: 2 set

UNIT: mm

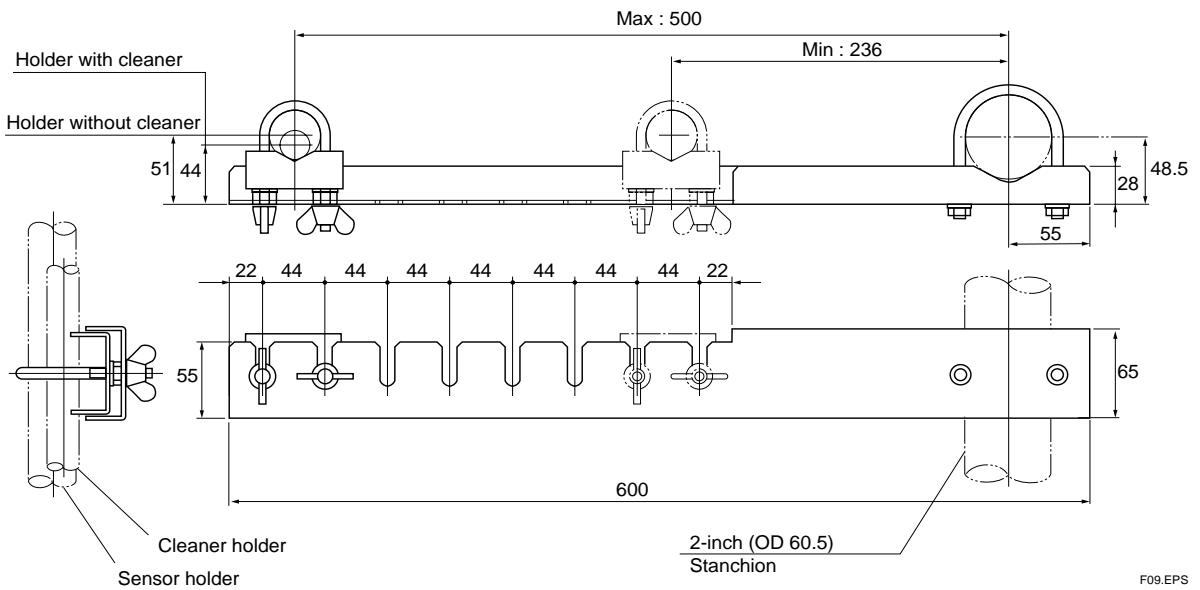


F08.EPS

**Stainless Steel Mounting Bracket for Submersion Type Holder, Weight: Approx. 1kg**

□/MS3: 1 set

□/MS4: 2 sets



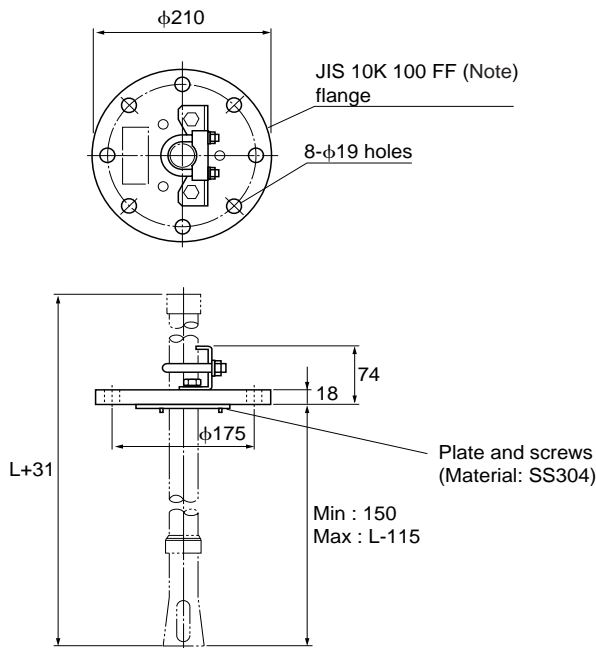
F09.EPS

**/F□ Flange Mounting**

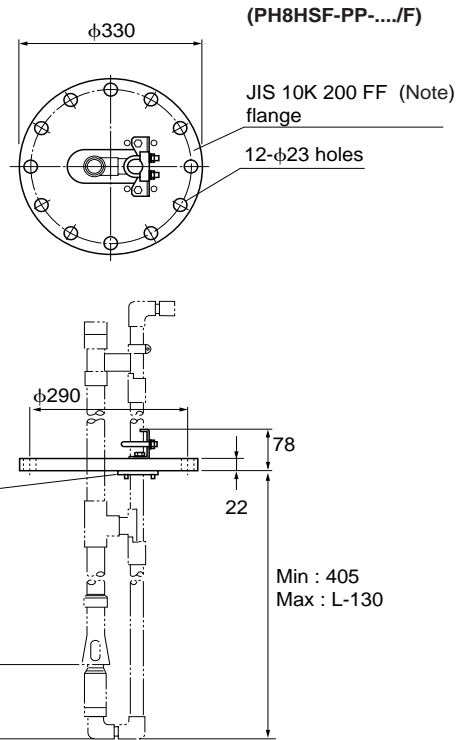
**UNIT: mm**

**□/F1: Flange of holder without cleaner**  
**- Material: Polypropylene-**

**□/F2: Flange of holder with cleaner**  
**- Material: Polypropylene-**



Flange weight: Approx. 1 kg

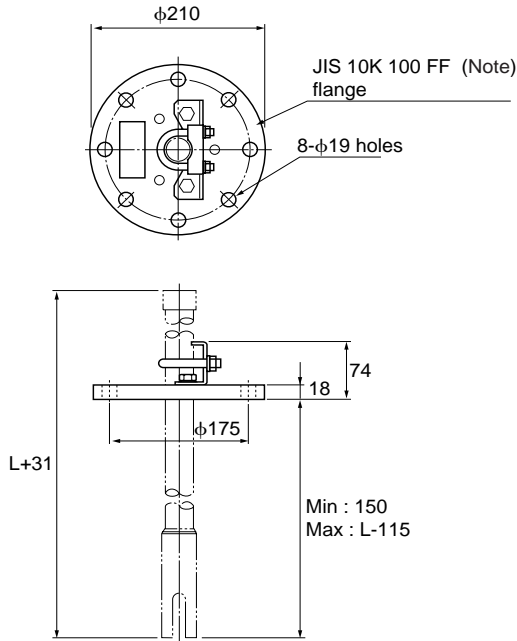


Flange weight: Approx. 1.5 kg

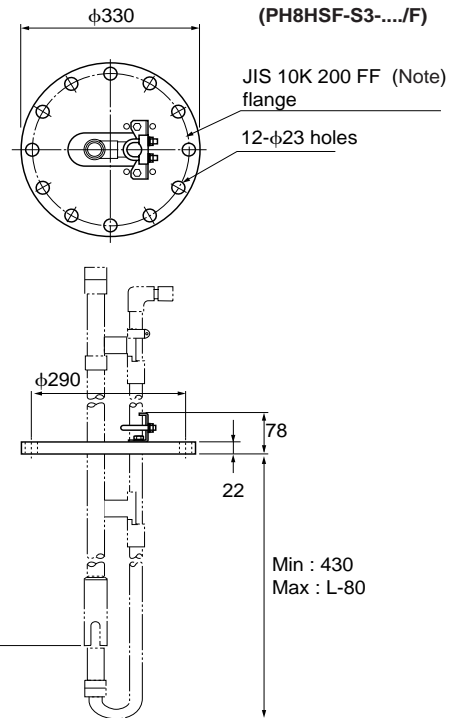
F06.EPS

**□/F1: Flange of holder without cleaner**  
**- Material: SS316 Stainless steel -**

**□/F2: Flange of holder with cleaner**  
**- Material: SS316 Stainless steel -**



Flange weight: Approx. 5 kg



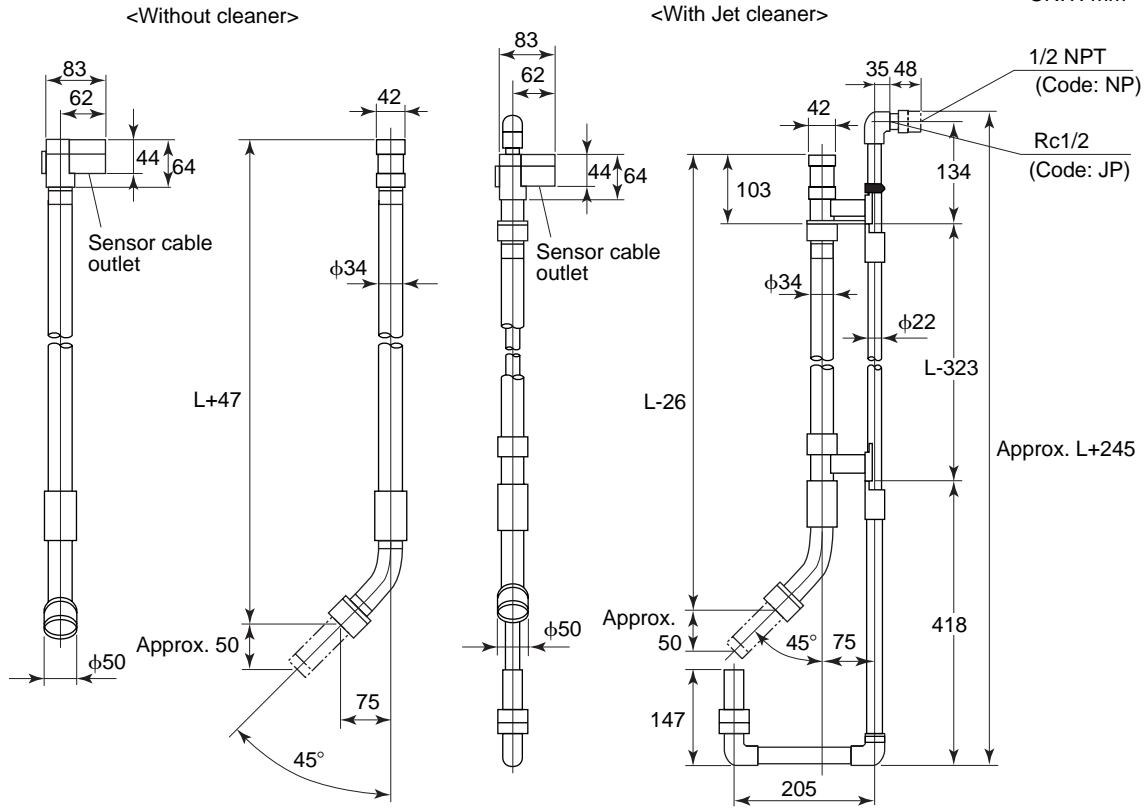
Flange weight: Approx. 15 kg

F10.EPS

**Submersion Type Holder, Polypropylene (See separate drawing for mounting bracket)**

**DOX8HS-PP (For DO30G and SS300G)**

UNIT: mm

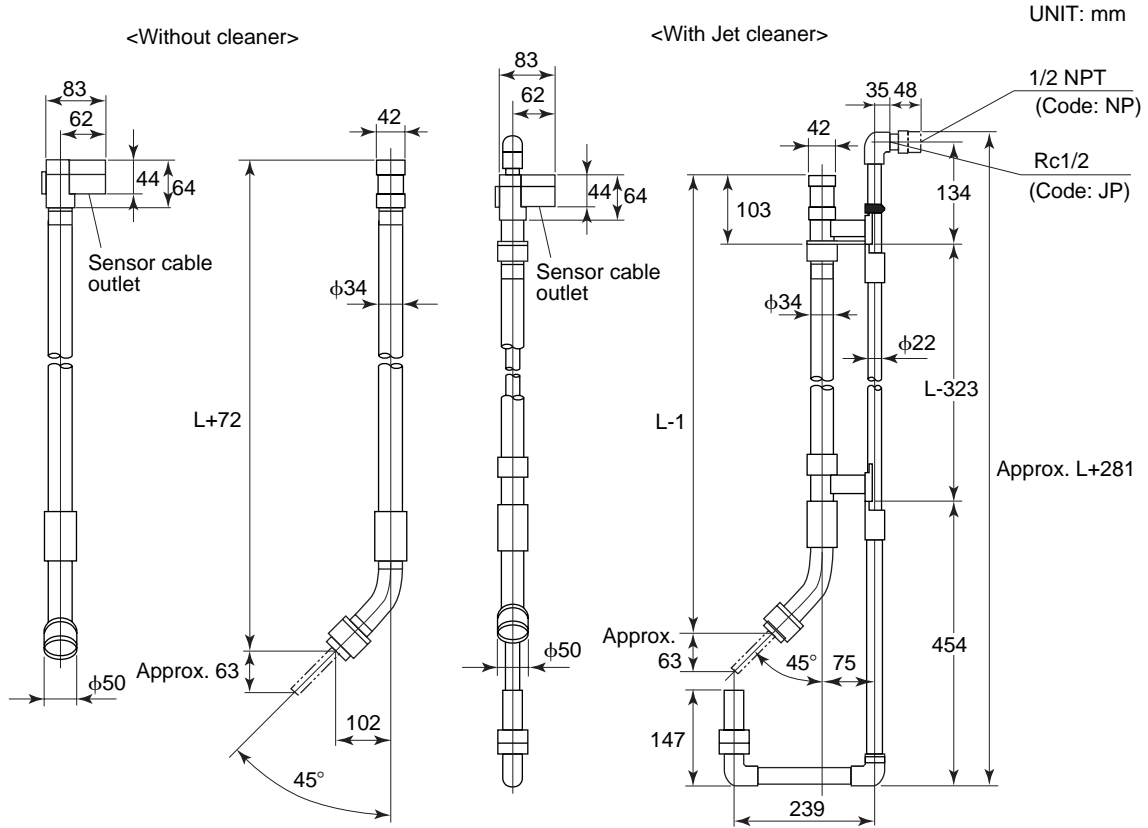


| Specification of Holder<br>(Model and Code)   | Weight (Approx.)          |                          |                          |                          |                          |
|---|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|   | Nominal Holder Length (L) |                          |                          |                          |                          |
|   | 1000 mm<br>[ Code: -10 ]  | 1500 mm<br>[ Code: -15 ] | 2000 mm<br>[ Code: -20 ] | 2500 mm<br>[ Code: -25 ] | 3000 mm<br>[ Code: -30 ] |
| Without Cleaner<br>DOX8HS-PP-□□-C-NN-NN*B/□□  | Approx.<br>0.5 kg         | Approx.<br>0.65 kg       | Approx.<br>0.8 kg        | Approx.<br>0.95 kg       | Approx.<br>1.1 kg        |
| With Jet cleaner<br>DOX8HS-PP-□□-C-JT-□P*B/□□ | Approx.<br>1.6 kg         | Approx.<br>2.1 kg        | Approx.<br>2.6 kg        | Approx.<br>3.1 kg        | Approx.<br>3.6 kg        |

F19.EPS

**Submersion Type Holder, Polypropylene (See separate drawing for mounting bracket)**

**DOX8HS-PP (For DO70G)**

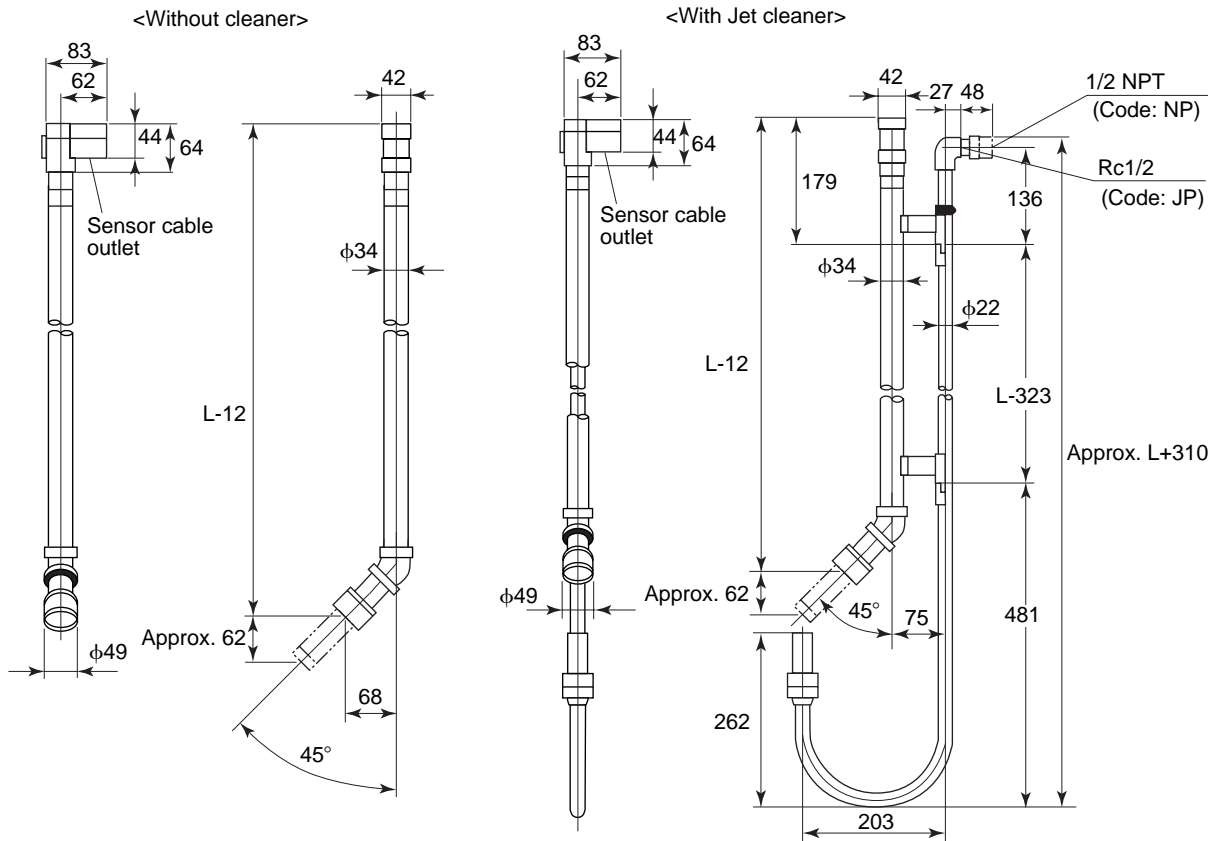


| Specification of Holder<br>(Model and Code)   | Weight (Approx.)          |                          |                          |                          |                          |
|---|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|   | Nominal Holder Length (L) |                          |                          |                          |                          |
|   | 1000 mm<br>[ Code: -10 ]  | 1500 mm<br>[ Code: -15 ] | 2000 mm<br>[ Code: -20 ] | 2500 mm<br>[ Code: -25 ] | 3000 mm<br>[ Code: -30 ] |
| Without Cleaner<br>DOX8HS-PP-□□-L-NN-NN*B/□□  | Approx.<br>0.5 kg         | Approx.<br>0.65 kg       | Approx.<br>0.8 kg        | Approx.<br>0.95 kg       | Approx.<br>1.1 kg        |
| With Jet cleaner<br>DOX8HS-PP-□□-L-JT-□P*B/□□ | Approx.<br>1.7 kg         | Approx.<br>2.2 kg        | Approx.<br>2.7 kg        | Approx.<br>3.2 kg        | Approx.<br>3.7 kg        |

F19-1.EPS

**Submersion Type Holder, Stainless Steel (See separate drawing for mounting bracket)  
DOX8HS-S3 (For DO30G and SS300G)**

UNIT: mm



| Specification of Holder<br>(Model and Code)   | Weight (Approx.)          |                         |                         |                         |                         |
|---|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|   | Nominal Holder Length (L) |                         |                         |                         |                         |
|   | 1000 mm<br>[ Code:-10 ]   | 1500 mm<br>[ Code:-15 ] | 2000 mm<br>[ Code:-20 ] | 2500 mm<br>[ Code:-25 ] | 3000 mm<br>[ Code:-30 ] |
| Without Cleaner<br>DOX8HS-S3-□□-C-NN-NN*B/□□  | 1.9 kg                    | 3.1 kg                  | 4.3 kg                  | 5.5 kg                  | 6.7 kg                  |
| With Jet cleaner<br>DOX8HS-S3-□□-C-JT-□P*B/□□ | 4.1 kg                    | 5.6 kg                  | 7.1 kg                  | 8.6 kg                  | 10.1 kg                 |

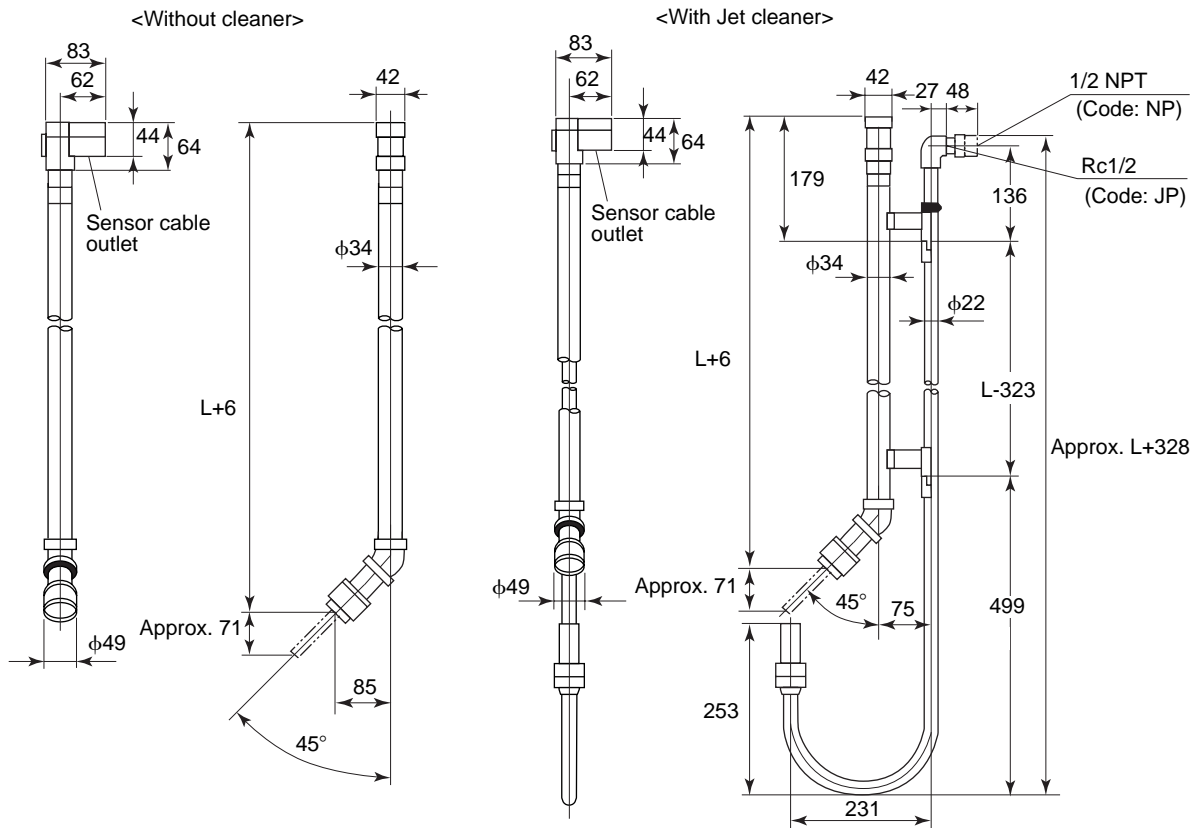
| Specification of Holder<br>(Model and Code)   | Weight (Approx.)          |                         |
|---|---------------------------|-------------------------|
|   | Nominal Holder Length (L) |                         |
|   | 3500 mm<br>[ Code:-35 ]   | 4000 mm<br>[ Code:-40 ] |
| Without Cleaner<br>DOX8HS-S3-□□-C-NN-NN*B/□□  | 7.9 kg                    | 9.1 kg                  |
| With Jet cleaner<br>DOX8HS-S3-□□-C-JT-□P*B/□□ | 11.6 kg                   | 13.1 kg                 |

F20.EPS

For the "/MS1", "/MS2" Mounting Bracket, see page 21, for the "/MS5", see page 16.

**Submersion Type Holder, Stainless Steel (See separate drawing for mounting bracket)  
DOX8HS-S3 (For DO70G)**

UNIT: mm



| Specification of Holder<br>(Model and Code)   | Weight (Approx.)          |                         |                         |                         |                         |
|---|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|   | Nominal Holder Length (L) |                         |                         |                         |                         |
|   | 1000 mm<br>[ Code:-10 ]   | 1500 mm<br>[ Code:-15 ] | 2000 mm<br>[ Code:-20 ] | 2500 mm<br>[ Code:-25 ] | 3000 mm<br>[ Code:-30 ] |
| Without Cleaner<br>DOX8HS-S3-□□-L-NN-NN*B/□□  | 2.0 kg                    | 3.2 kg                  | 4.4 kg                  | 5.6 kg                  | 6.8 kg                  |
| With Jet cleaner<br>DOX8HS-S3-□□-L-JT-□P*B/□□ | 4.2 kg                    | 5.7 kg                  | 7.2 kg                  | 8.7 kg                  | 10.2 kg                 |

| Specification of Holder<br>(Model and Code)   | Weight (Approx.)          |                         |
|---|---------------------------|-------------------------|
|   | Nominal Holder Length (L) |                         |
|   | 3500 mm<br>[ Code:-35 ]   | 4000 mm<br>[ Code:-40 ] |
| Without Cleaner<br>DOX8HS-S3-□□-L-NN-NN*B/□□  | 8.0 kg                    | 9.2 kg                  |
| With Jet cleaner<br>DOX8HS-S3-□□-L-JT-□P*B/□□ | 11.7 kg                   | 13.2 kg                 |

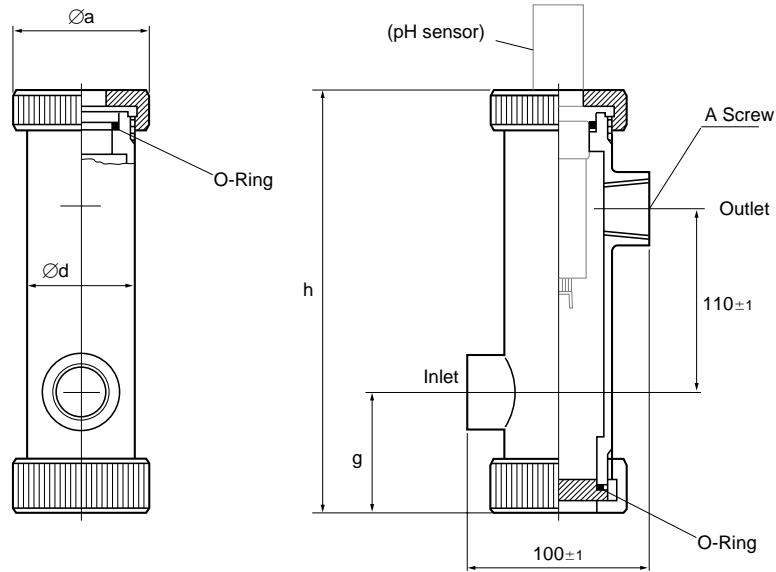
F20-1.EPS

For the "/MS1", "/MS2" Mounting Bracket, see page 21, for the "/MS5", see page 16.

**Flow-Through Type Holder**

PH8HF-PP-□PT-T-NN-NN  
PH8HF-S3-□PT-T-NN-NN

UNIT: mm

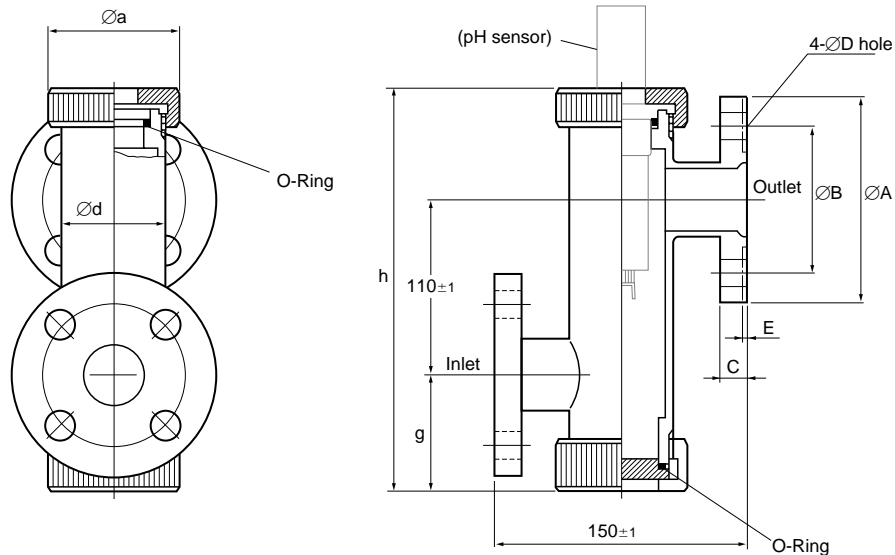


| Model and Code       | A Screw | a  | d          | g          | h           | Weight        |
|----------------------|---------|----|------------|------------|-------------|---------------|
| PH8HF-PP-JPT-T-NN-NN | Rc1     | 80 | Approx. 60 | Approx. 70 | Approx. 250 | Approx. 0.4kg |
| PH8HF-PP-NPT-T-NN-NN | 1NPT    | 80 | Approx. 60 | Approx. 70 | Approx. 250 | Approx. 0.4kg |
| PH8HF-S3-JPT-T-NN-NN | Rc1     | 70 | Approx. 60 | Approx. 70 | Approx. 243 | Approx. 3kg   |
| PH8HF-S3-NPT-T-NN-NN | 1NPT    | 70 | Approx. 60 | Approx. 70 | Approx. 243 | Approx. 3kg   |

F23.EPS

**Flow-Through Type Holder**

PH8HF-PP-□1□-T-NN-NN  
PH8HF-S3-□1□-T-NN-NN



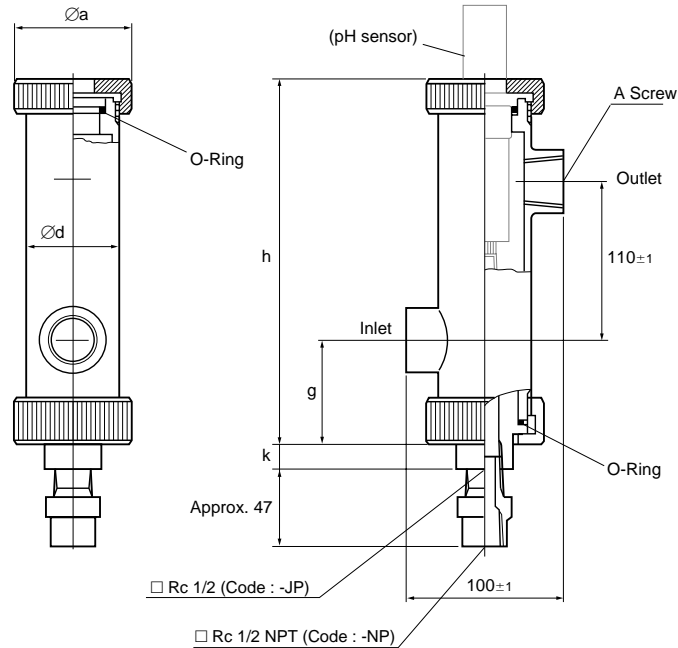
| Model and Code       | A   | B    | C    | D    | E | a  | d          | g          | h           | Weight        |
|----------------------|-----|------|------|------|---|----|------------|------------|-------------|---------------|
| PH8HF-PP-J10-T-NN-NN | 125 | 90   | 14   | 19   | - | 80 | Approx. 60 | Approx. 70 | Approx. 250 | Approx. 0.6kg |
| PH8HF-PP-A15-T-NN-NN | 108 | 79.2 | 14.2 | 15.7 | - | 80 | Approx. 60 | Approx. 70 | Approx. 250 | Approx. 0.6kg |
| PH8HF-S3-J10-T-NN-NN | 125 | 90   | 14   | 19   | - | 70 | Approx. 60 | Approx. 70 | Approx. 243 | Approx. 5kg   |
| PH8HF-S3-A15-T-NN-NN | 108 | 79.2 | 14.2 | 15.7 | 2 | 70 | Approx. 60 | Approx. 70 | Approx. 243 | Approx. 5kg   |

F24.EPS

**Flow-Through Type Holder, Screw Connection, With Jet Cleaner / Brush Cleaner**

PH8HF-□□-□PT-T-□□-□P

UNIT: mm

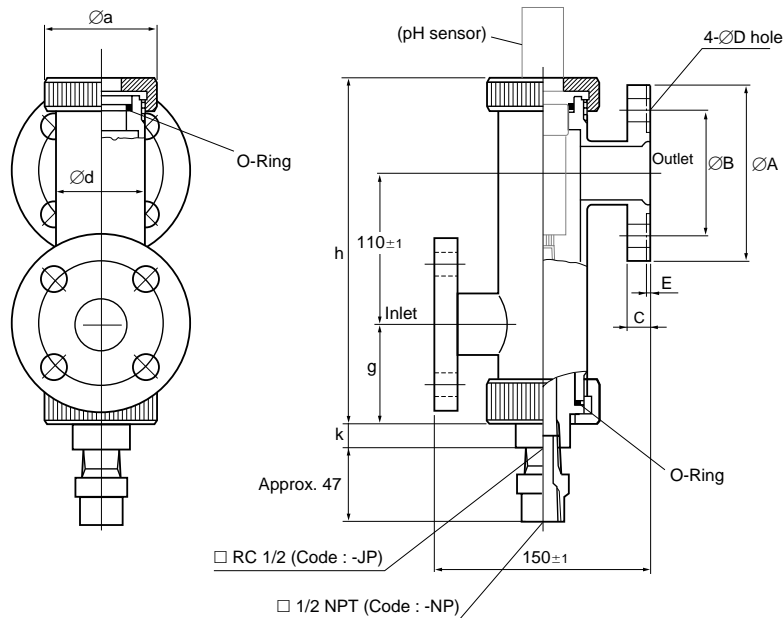


| Model and Code       | A Screw | a  | d          | g          | h           | k  | Weight        |
|----------------------|---------|----|------------|------------|-------------|----|---------------|
| PH8HF-PP-JPT-T-□□-□P | Rc1     | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.4kg |
| PH8HF-S3-JPT-T-□□-□P | Rc1     | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 4kg   |
| PH8HF-PP-NPT-T-□□-□P | 1NPT    | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.4kg |
| PH8HF-S3-NPT-T-□□-□P | 1NPT    | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 4kg   |

F25.EPS

**Flow-Through Type Holder, Flange Connector With Jet Cleaner / Brush Cleaner**

PH8HF-□□-□1□-T-□□-□P



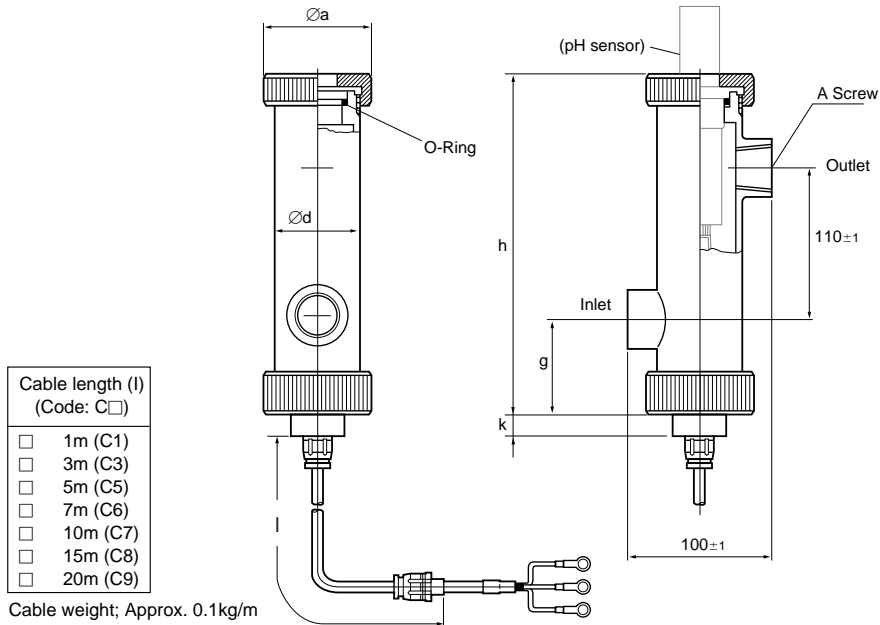
| Model and Code       | A   | B    | C    | D    | E | a  | d          | g          | h           | k  | Weight        |
|----------------------|-----|------|------|------|---|----|------------|------------|-------------|----|---------------|
| PH8HF-PP-J10-T-□□-□P | 125 | 90   | 14   | 19   | - | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.6kg |
| PH8HF-S3-J10-T-□□-□P | 125 | 90   | 14   | 19   | - | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 6kg   |
| PH8HF-PP-A15-T-□□-□P | 108 | 79.2 | 14.2 | 15.7 | - | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.6kg |
| PH8HF-S3-A15-T-□□-□P | 108 | 79.2 | 14.2 | 15.7 | 2 | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 6kg   |

F26.EPS

**Flow-Through Type Holder, Screw Connection, With Ultrasonic Cleaner**

PH8HF-□□-□PT-T-□□-C□

UNIT: mm

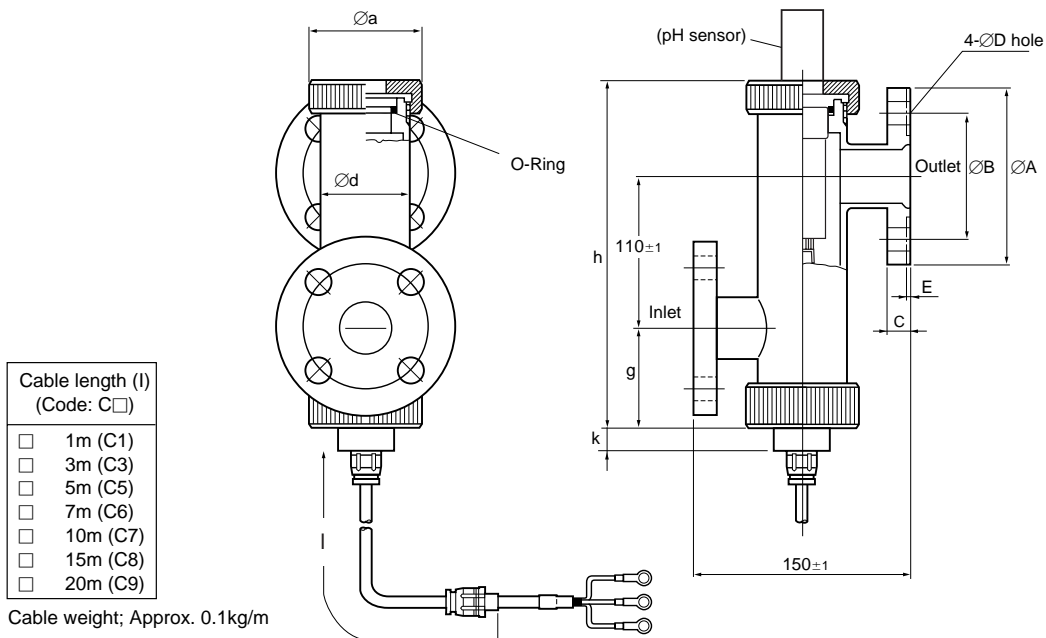


| Mode and Code        | A Screw | a  | d          | g          | h           | k  | Weight        |
|----------------------|---------|----|------------|------------|-------------|----|---------------|
| PH8HF-PP-JPT-T-□□-C□ | Rc1     | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.5kg |
| PH8HF-S3-JPT-T-□□-C□ | Rc1     | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 4.1kg |
| PH8HF-PP-NPT-T-□□-C□ | 1NPT    | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.5kg |
| PH8HF-S3-NPT-T-□□-C□ | 1NPT    | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 4.1kg |

F27.EPS

**Flow-Through Type Holder, Flange Connection, With Ultrasonic Cleaner**

PH8HF-□□-□1□-T-□□-C□

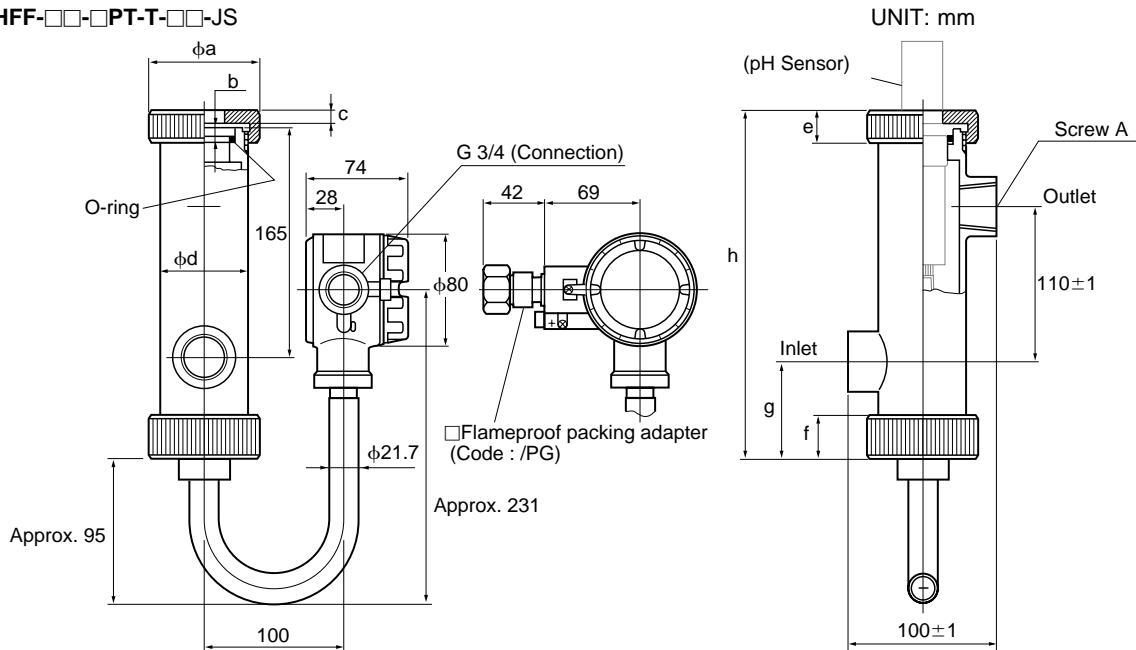


| Model and Code       | A   | B    | C    | D    | E | a  | d          | g          | h           | k  | Weight        |
|----------------------|-----|------|------|------|---|----|------------|------------|-------------|----|---------------|
| PH8HF-PP-J10-T-□□-C□ | 125 | 90   | 14   | 19   | - | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.7kg |
| PH8HF-S3-J10-T-□□-C□ | 125 | 90   | 14   | 19   | - | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 6.1kg |
| PH8HF-PP-A15-T-□□-C□ | 108 | 79.2 | 14.2 | 15.7 | - | 80 | Approx. 60 | Approx. 70 | Approx. 250 | 15 | Approx. 1.7kg |
| PH8HF-S3-A15-T-□□-C□ | 108 | 79.2 | 14.2 | 15.7 | 2 | 70 | Approx. 60 | Approx. 70 | Approx. 245 | 17 | Approx. 6.1kg |

F28.EPS

**Flow-Through Type Holder (Explosionproof), Screw Connection, With Type Ultrasonic Cleaner**

PH8HFF-□□-□PT-T-□□-JS

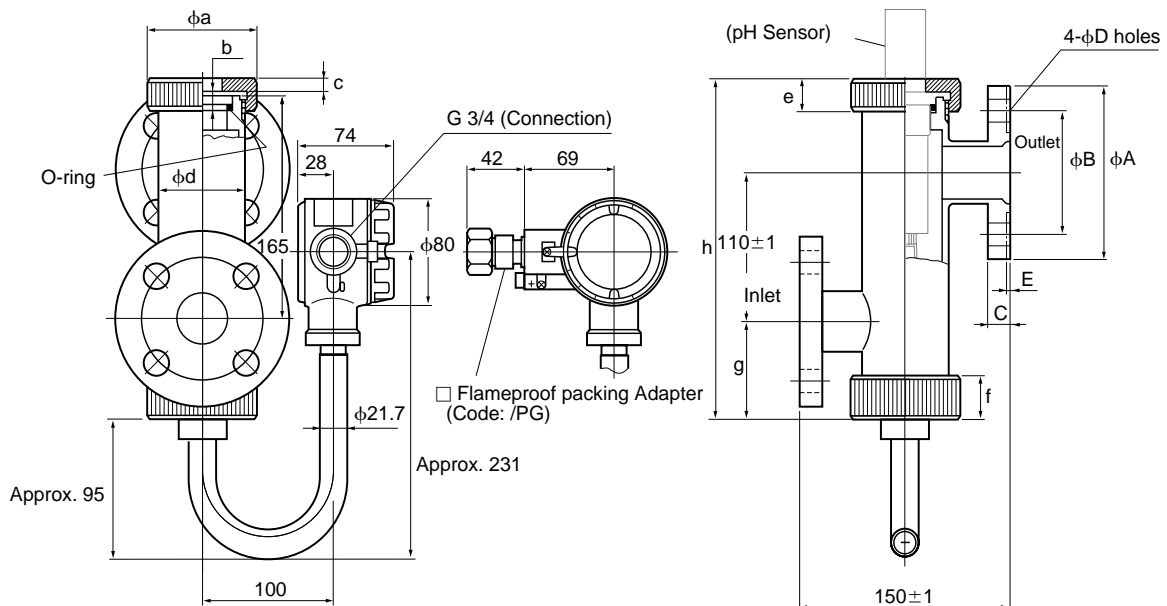


| Model and Code        | Screw A | a  | b  | c  | d    | e  | f  | g  | h (Approx.) | Weight (Approx.) |
|-----------------------|---------|----|----|----|------|----|----|----|-------------|------------------|
| PH8HFF-PP-JPT-T-□□-JS | Rc1     | 80 | 9  | 11 | 60   | 25 | 30 | 70 | 250         | 3kg              |
| PH8HFF-S3-JPT-T-□□-JS | Rc1     | 70 | 10 | 6  | 60.5 | 26 | 26 | 69 | 245         | 5.6kg            |
| PH8HFF-PP-NPT-T-□□-JS | 1NPT    | 80 | 9  | 11 | 60   | 25 | 30 | 70 | 250         | 3kg              |
| PH8HFF-S3-NPT-T-□□-JS | 1NPT    | 70 | 10 | 6  | 60.5 | 26 | 26 | 69 | 245         | 5.6kg            |

F29.EPS

**Flow-Through Type Holder (Explosionproof Type), Flange Connection, With Ultrasonic Cleaner**

PH8HFF-□□-□1□-T-□□-JS



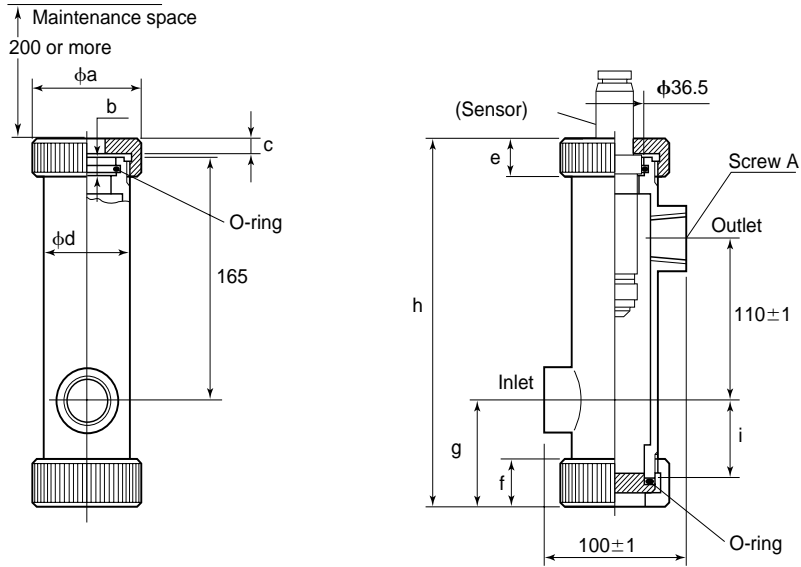
| Model and Code        | A   | B    | C    | D    | E | a  | b  | c  | d    | e  | f  | g  | h (Approx.) | Weight (Approx.) |
|-----------------------|-----|------|------|------|---|----|----|----|------|----|----|----|-------------|------------------|
| PH8HFF-PP-J10-T-□□-JS | 125 | 90   | 14   | 19   | - | 80 | 9  | 11 | 60   | 25 | 30 | 70 | 250         | 3.2kg            |
| PH8HFF-S3-J10-T-□□-JS | 125 | 90   | 14   | 19   | - | 70 | 10 | 6  | 60.5 | 26 | 26 | 69 | 245         | 7.6kg            |
| PH8HFF-PP-A15-T-□□-JS | 108 | 79.2 | 14.2 | 15.7 | - | 80 | 9  | 11 | 60   | 25 | 30 | 70 | 250         | 3.2kg            |
| PH8HFF-S3-A15-T-□□-JS | 108 | 79.2 | 14.2 | 15.7 | 2 | 70 | 10 | 6  | 60.5 | 26 | 26 | 69 | 245         | 7.6kg            |

F30.EPS

**Flow-Through Type Holder (For MLSS Meter), Screw Connection, Without Cleaning, (See separate drawing for mounting bracket)**

FH350G

UNIT: mm

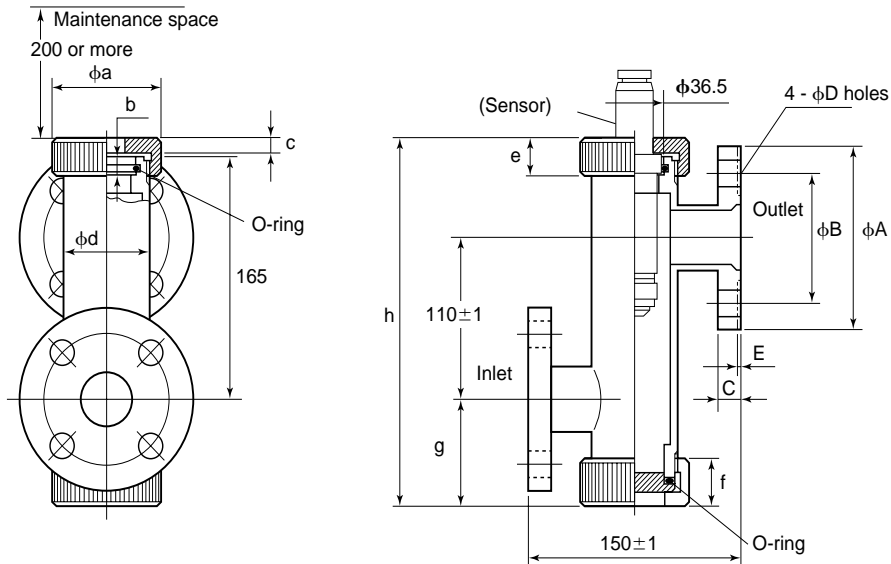


| Model and Code       | Screw A | a  | b   | c  | d    | e  | f  | g  | h (Approx.) | i  | Weight (Approx.) |
|----------------------|---------|----|-----|----|------|----|----|----|-------------|----|------------------|
| FH350G-PP-JPT1-NN-NN | Rc1     | 80 | 8.9 | 12 | 60   | 25 | 30 | 70 | 250         | 54 | 0.4kg            |
| FH350G-PP-NPT1-NN-NN | 1NPT    | 80 | 8.9 | 12 | 60   | 25 | 30 | 70 | 250         | 54 | 0.4kg            |
| FH350G-S3-JPT1-NN-NN | Rc1     | 70 | 8.7 | 6  | 60.5 | 26 | 26 | 69 | 245         | 55 | 3kg              |
| FH350G-S3-JPT1-NN-NN | 1NPT    | 70 | 8.7 | 6  | 60.5 | 26 | 26 | 69 | 245         | 55 | 3kg              |

F31.EPS

**Flow-Through Type Holder (For MLSS Meter), Flange Connection, Without Cleaning (See separate drawing for mounting bracket)**

FH350G



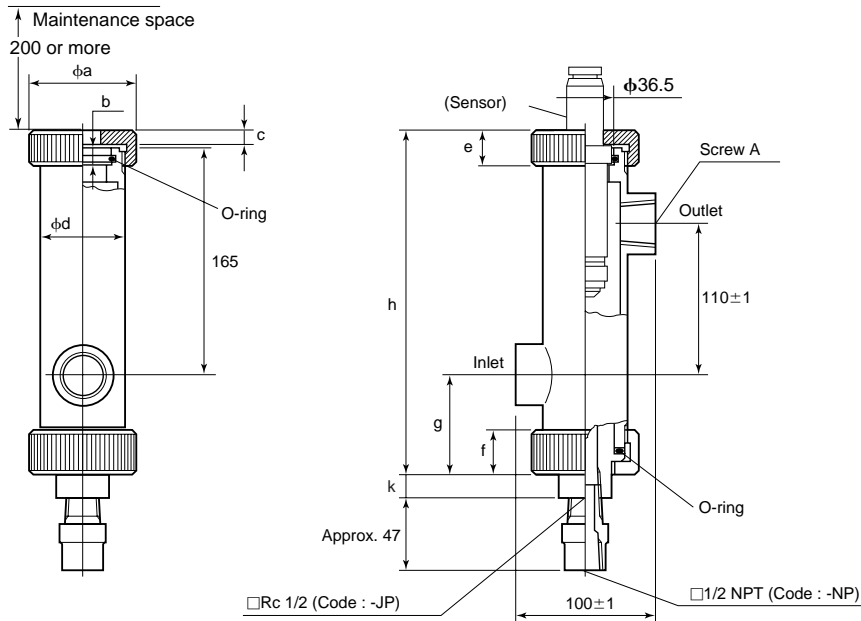
| Model and Code       | A   | B    | C    | D    | E | a  | b   | c  | d    | e  | f  | g  | h (Approx.) | Weight (Approx.) |
|----------------------|-----|------|------|------|---|----|-----|----|------|----|----|----|-------------|------------------|
| FH350G-PP-J10F-NN-NN | 125 | 90   | 14   | 19   | - | 80 | 8.9 | 12 | 60   | 25 | 30 | 70 | 250         | 0.6kg            |
| FH350G-PP-A15F-NN-NN | 108 | 79.2 | 14.2 | 15.7 | - | 80 | 8.9 | 12 | 60   | 25 | 30 | 70 | 250         | 0.6kg            |
| FH350G-S3-J10F-NN-NN | 125 | 90   | 14   | 19   | - | 70 | 8.7 | 6  | 60.5 | 26 | 26 | 69 | 245         | 5kg              |
| FH350G-S3-A15R-NN-NN | 108 | 79.2 | 14.2 | 15.7 | 6 | 70 | 8.7 | 6  | 60.5 | 26 | 26 | 69 | 245         | 5kg              |

F32.EPS

**Flow-Through Type Holder (For MLSS Meter), Screw Connection, With Jet Cleaner (See separate drawing for mounting bracket)**

**FH350G**

**UNIT: mm**

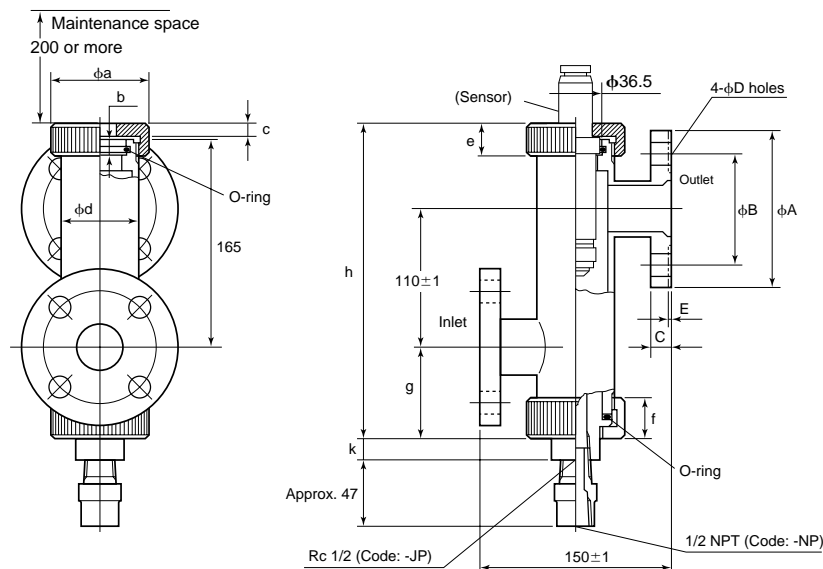


| Model and Code      | Screw A | A   | B    | C    | D    | E | a  | b   | c  | d    | e  | f  | g  | h (Approx.) | k  | Weight (Approx.) |
|---------------------|---------|-----|------|------|------|---|----|-----|----|------|----|----|----|-------------|----|------------------|
| FH350G-PP-JPT1-□□□P | Rc 1    | 125 | 90   | 14   | 19   | - | 80 | 8.9 | 12 | 60   | 25 | 30 | 70 | 250         | 15 | 1.4kg            |
| FH350G-S3-JPT1-□□□P | Rc 1    | 108 | 79.2 | 14.2 | 15.7 | - | 70 | 8.7 | 6  | 60.5 | 26 | 26 | 69 | 250         | 17 | 4kg              |
| FH350G-PP-NPT1-□□□P | 1 NPT   | 125 | 90   | 14   | 19   | - | 80 | 8.9 | 12 | 60   | 25 | 30 | 70 | 250         | 15 | 1.4kg            |
| FH350G-S3-NPT1-□□□P | 1 NPT   | 108 | 79.2 | 14.2 | 15.7 | 6 | 70 | 8.7 | 6  | 60.5 | 26 | 26 | 69 | 250         | 17 | 4kg              |

F33-2.EPS

**Flow-Through Type Holder (For MLSS Meter), With Jet Cleaner (See separate drawing for mounting bracket)**

**FH350G**



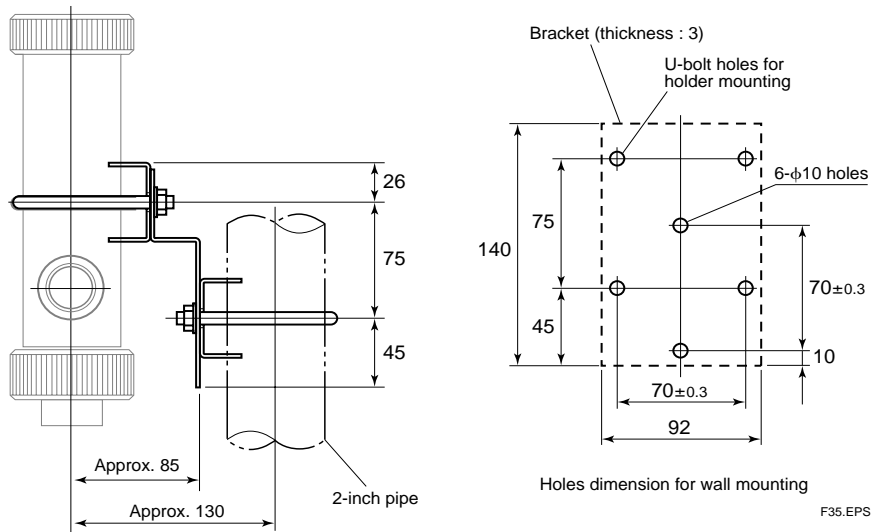
| Model and Code       | A   | B    | C    | D    | E | a  | b | c  | d    | e  | f  | g  | h (Approx.) | k  | Weight (Approx.) |
|----------------------|-----|------|------|------|---|----|---|----|------|----|----|----|-------------|----|------------------|
| FH350G-PP-J10F-JT-□P | 125 | 90   | 14   | 19   | - | 80 | 9 | 11 | 60   | 25 | 30 | 70 | 250         | 15 | 1.6kg            |
| FH350G-PP-A15F-JT-□P | 108 | 79.2 | 14.2 | 15.7 | - | 80 | 9 | 11 | 60   | 25 | 30 | 70 | 250         | 15 | 1.6kg            |
| FH350G-S3-J10F-JT-□P | 125 | 90   | 14   | 19   | - | 70 | 8 | 6  | 60.5 | 26 | 26 | 69 | 245         | 17 | 6kg              |
| FH350G-S3-A15R-JT-□P | 108 | 79.2 | 14.2 | 15.7 | 2 | 70 | 8 | 6  | 60.5 | 26 | 26 | 69 | 245         | 17 | 6kg              |

F33.2a.EPS

**Mounting Bracket for Flow-Through Type Holder, Weight: Approx. 0.5kg**

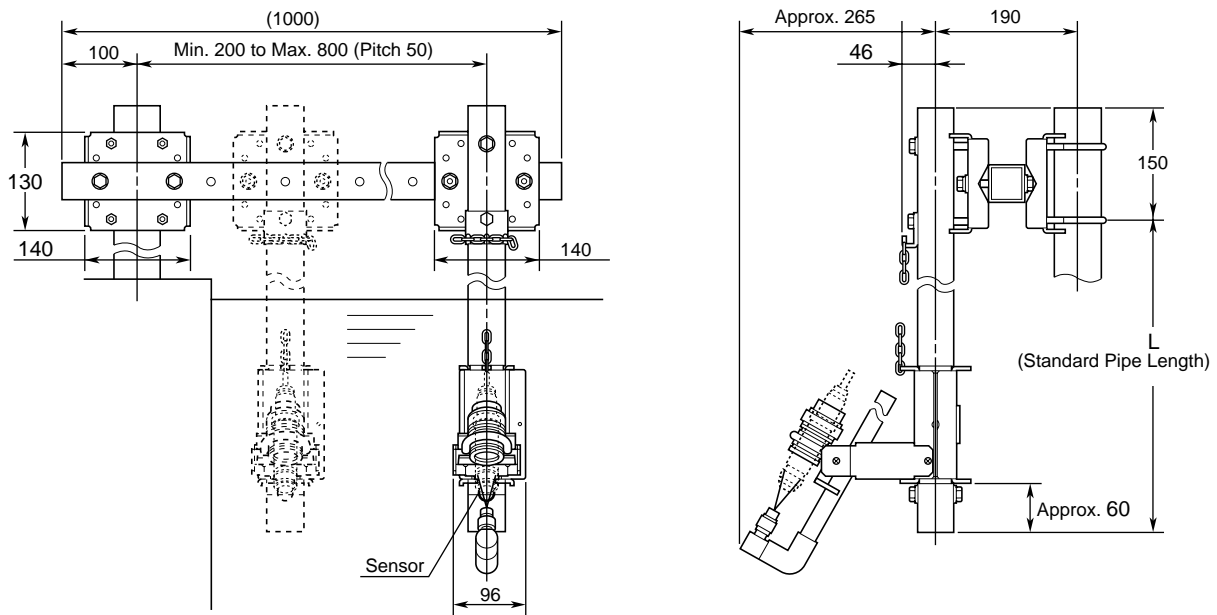
- (PH8HF---)/MF1
- (PH8HFF---)/MF1
- (FH350G---)/MF5

UNIT: mm



**Suspension Type Holder**

HH350G



| Specification of Holder<br>(Model and Code) | Weight                    |                        |                        |                        |
|---|---------------------------|------------------------|------------------------|------------------------|
|   | Nominal Holder Length (L) |                        |                        |                        |
|   | 1000mm<br>[Code : -10]    | 2000mm<br>[Code : -20] | 3000mm<br>[Code : -30] | 4000mm<br>[Code : -40] |
| Without Cleaner<br>HH350G-NN-□□-NN-NN       | 6.4 kg                    | 8.7 kg                 | 11 kg                  | 13.3 kg                |
| With Jet Cleaner<br>HH350G-NN-□□-JT-□ P     | 6.9 kg                    | 9.2 kg                 | 11.5 kg                | 13.8 kg                |

F36.EPS

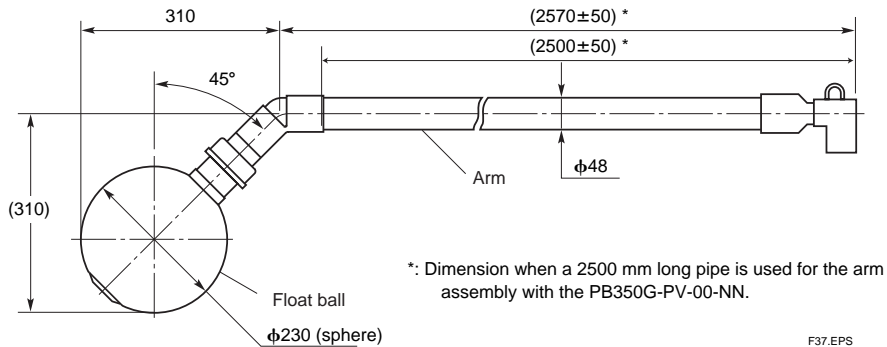
**Angled Floating Ball Holder**

**PB350G-PV**

**UNIT: mm**

**Arm Material: PVC**

● **Holder**

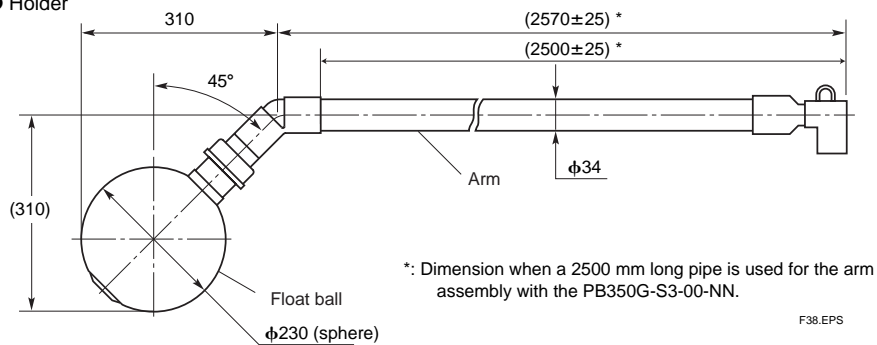


F37.EPS

**PB350G-S3**

**Arm Material: Stainless Steel**

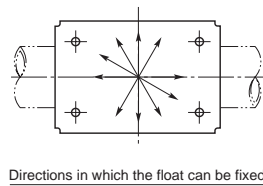
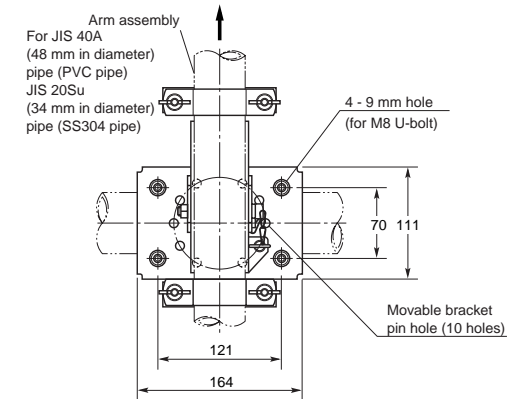
● **Holder**



F38.EPS

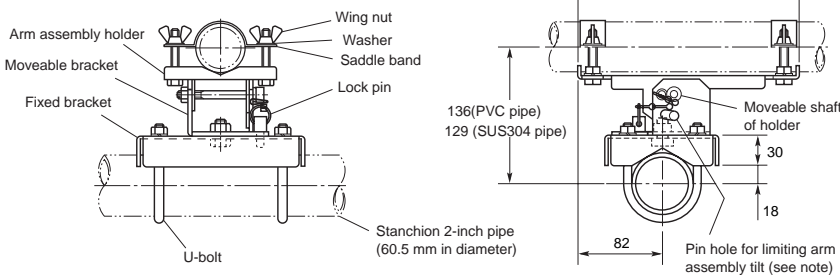
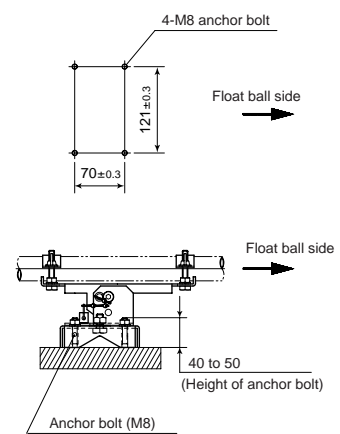
● **Mounting Bracket**

Pipe Mounting with U-bolts      Float ball side



Installation with Anchor Bolt

Dimensions for Anchor Bolt Installation



Note: When the lock pin is inserted in the pin hole for limiting arm assembly tilt, the arm assembly holder is tilted at about 30° (in float rising direction).

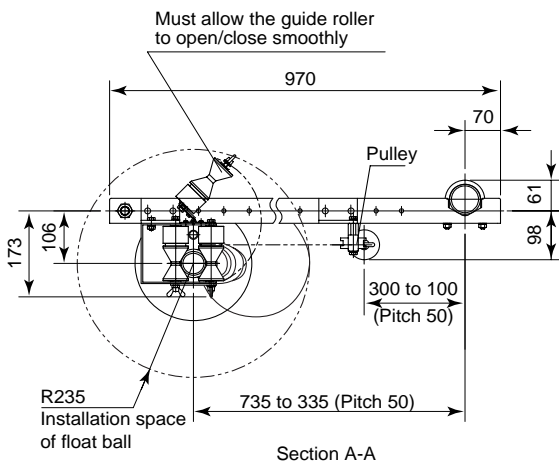
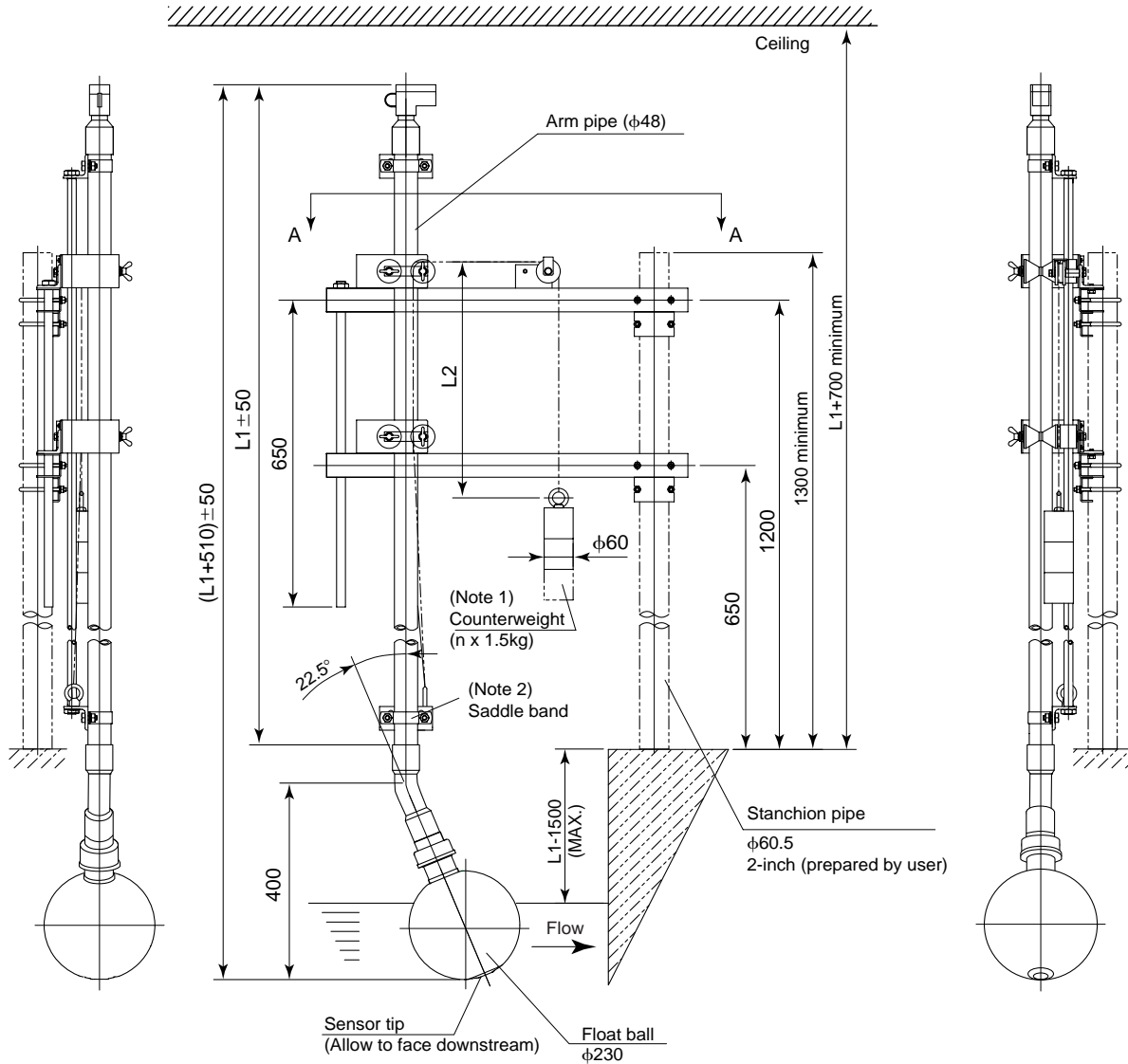
F39.EPS

**Vertical Floating Ball Holder**

**PB360G-PV**

**UNIT: mm**

**Arm Material: PVC**



Note 1: Adjust the weight so that the fluid surface level is equal to or above the center of the float ball.  
(Two weights when L1=2.5 m; three weights when L1=3.5 m)

Note 2: Before fixing the saddle band, adjust the orientation of the holder so that the sensor tip faces downstream.

L1= Holder length specified

L2= Half the maximum span +150 mm. However, if the counterweight touches the stanchion pipe installed, adjust the position of the pulley so that the counterweight can freely move up and down inside the tank.

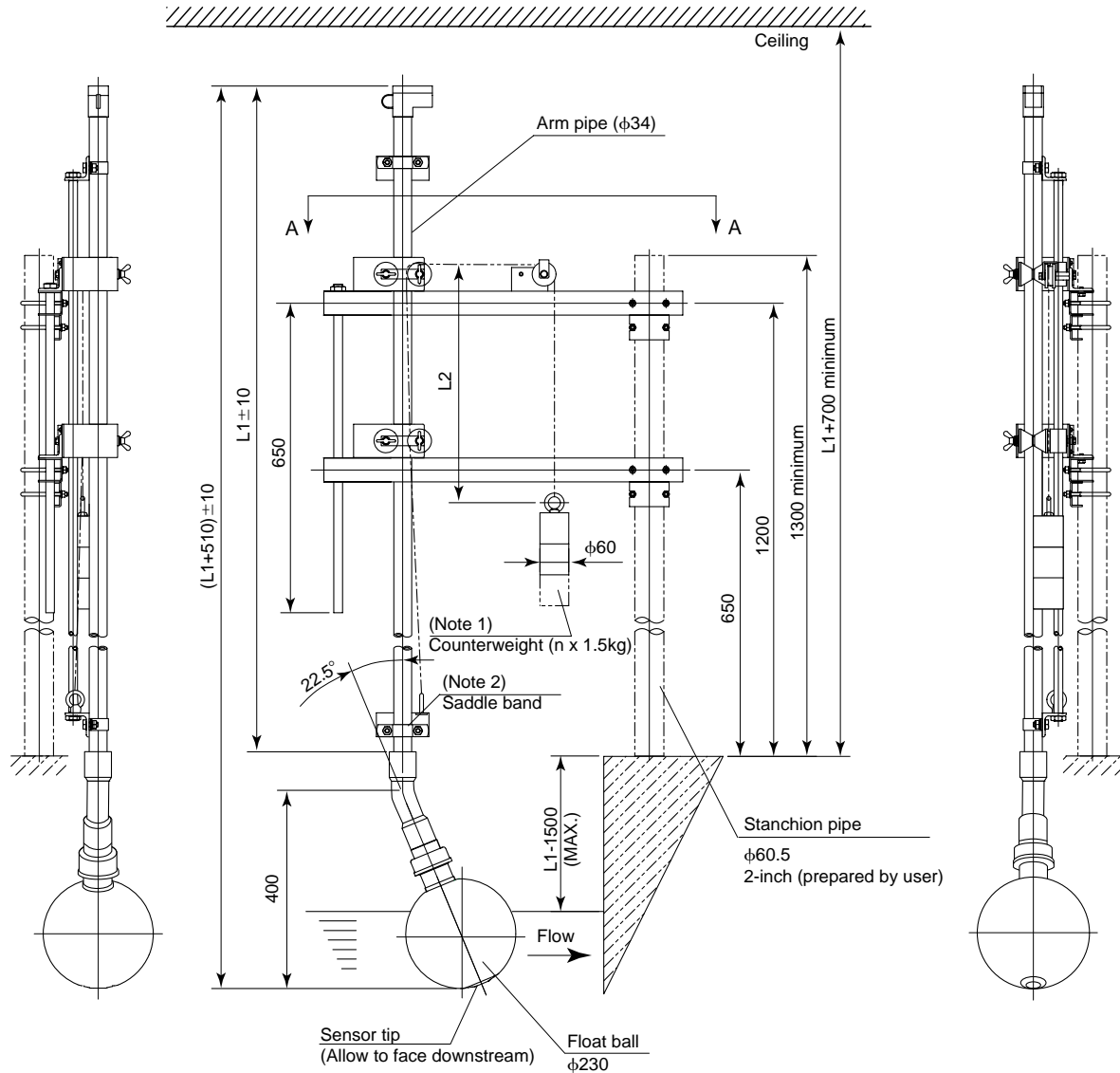
F40.EPS

**Vertical Floating Ball Holder**

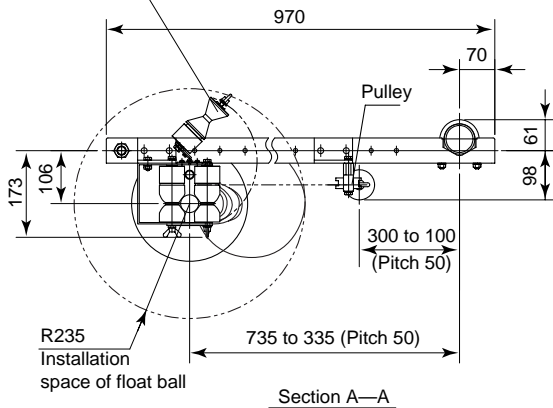
**PB360G-S3**

**UNIT: mm**

**Arm Material: Stainless Steel**



The guide roller must be able to be opened/closed smoothly.



Note 1: Adjust the weight so that the fluid surface level is equal to or above the center of the float ball.  
(Two weights when L1=2.5 m; three weights when L1=3.5 m)

Note 2: Before fixing the saddle band, adjust the orientation of the holder so that the sensor tip faces downstream.

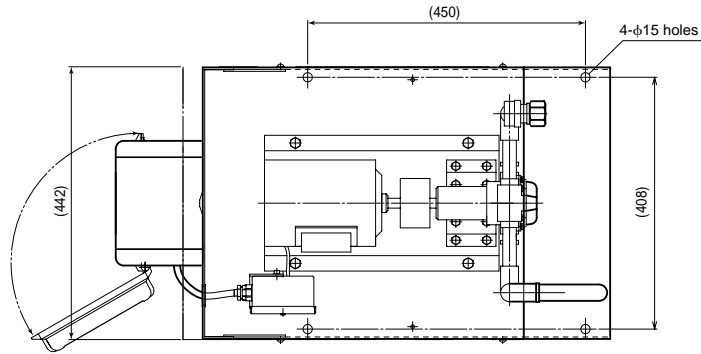
L1= Holder length specified

L2= Half the maximum span +150 mm. However, if the counterweight touches the stanchion pipe installed, adjust the position of the pulley so that the counterweight can freely move up and down inside the tank.

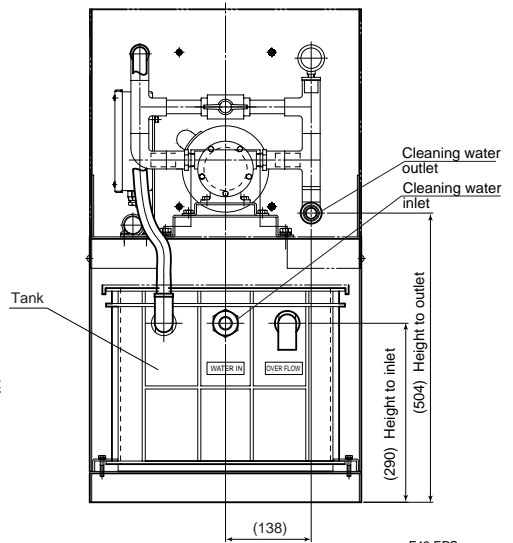
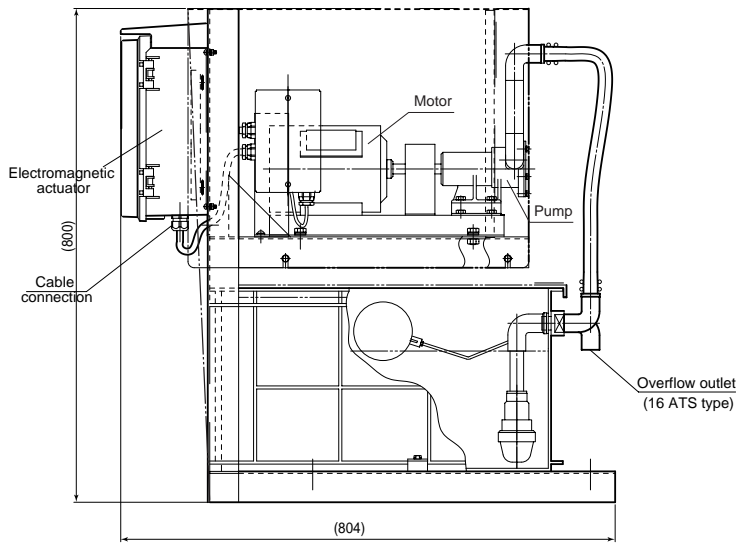
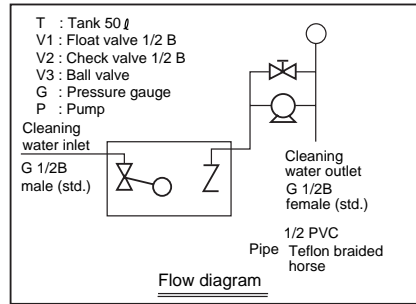
F41.EPS

**Cleaning Pump / Tank Assembly**

**PH8PU1**



UNIT: mm

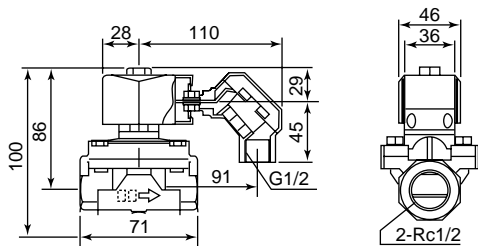


F42.EPS

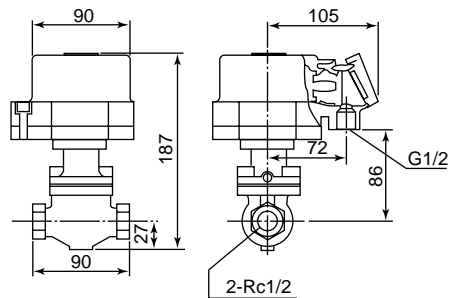
**Notes on installation of cleaning pump / tank assembly**

- (1) The cleaning pump / tank assembly may be installed outdoors. However, the place must be sheltered from rain, wind, and direct sunlight.
- (2) Since the noise level will increase to a maximum of 100 dB (A), utmost attention should be paid to the installation environment.
- (3) Connect a wired soft vinyl-chloride tube to the cleaning water outlet. Do not connect a rigid PVC pipe directly.

**General Purpose Solenoid Valve PH8MV**



**Explosionproof Solenoid Valve PH8MVF**



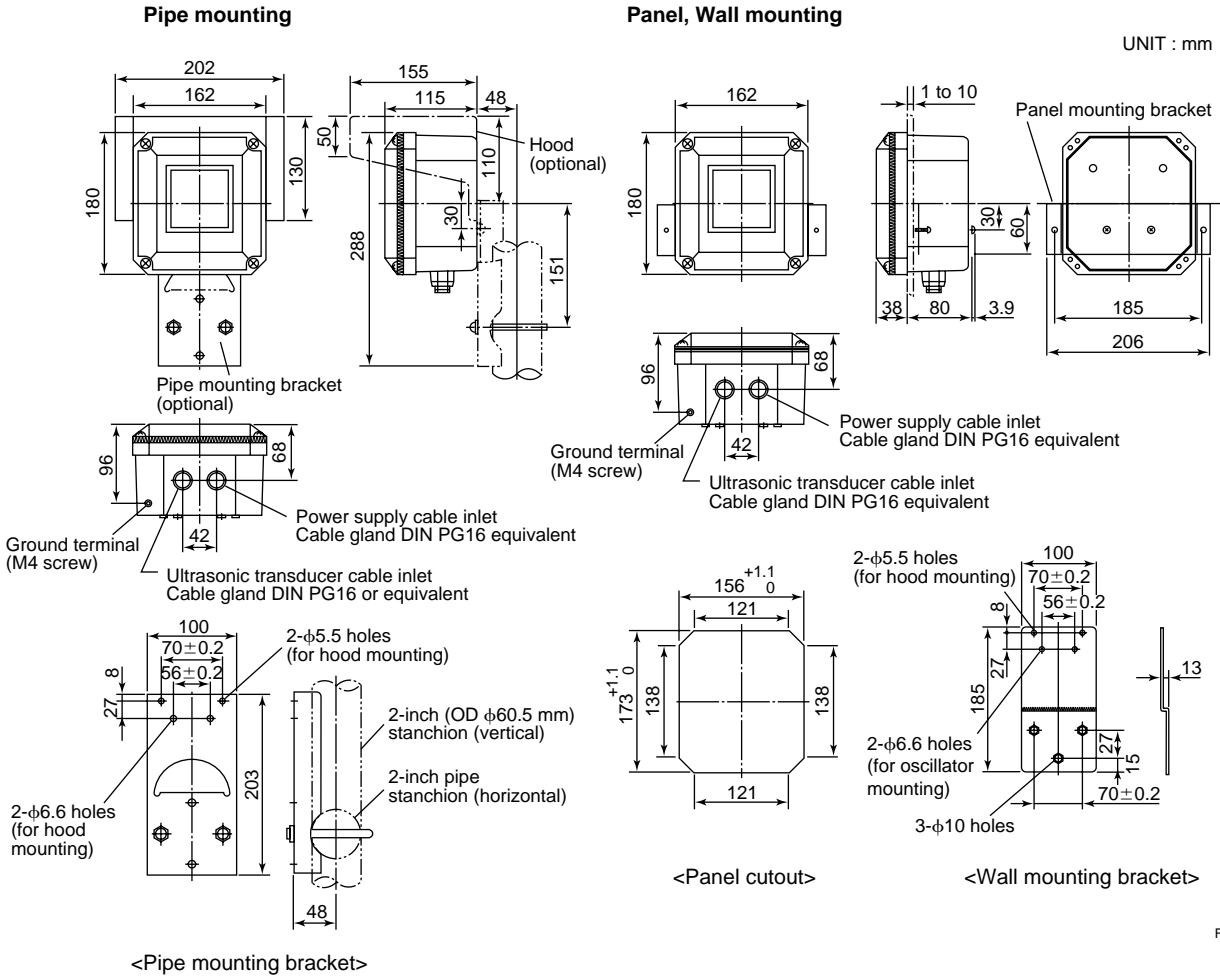
**Cautions on Installation of Solenoid Valve for Jet / Brush Cleaning**

1. Do not allow a sample solution to flow backward into the solenoid valve or to be replaced with the driving fluid.  
For this take relevant measures; e.g. install a check valve to prevent inverse pressure between the inlet and outlet of the solenoid valve, or install the solenoid valve higher than the holder, especially when using the air jet/brush cleaning system.
2. Make sure to avoid the risk of corrosion of the solenoid body (bronze) and seal (nitrile rubber) by vapor or gaseous components generated from a sample solution, especially when using the air jet/brush cleaning system.

F43.EPS

**Ultrasonic Oscillator (Non-Explosionproof Type)**

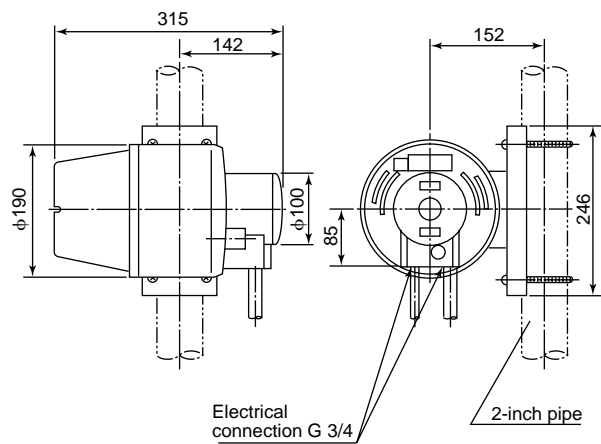
**PUS400G**



F44.EPS

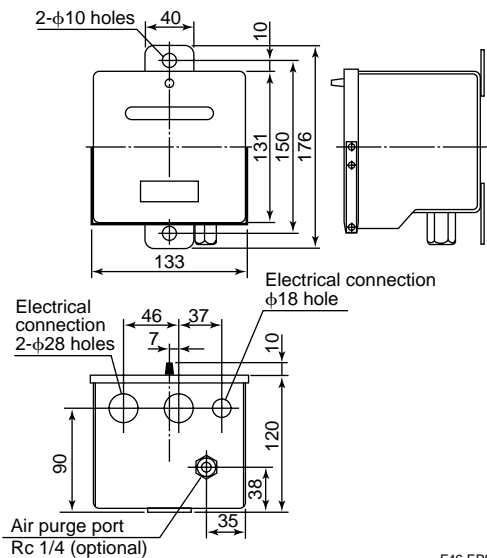
**Ultrasonic Oscillator (Explosionproof Type)**

**PH8USF**



F45.EPS

**Alarm Box**



F46.EPS