

# SPECIFICATION SHEET



## DO DETECTOR (POLAROGRAPH METHOD)

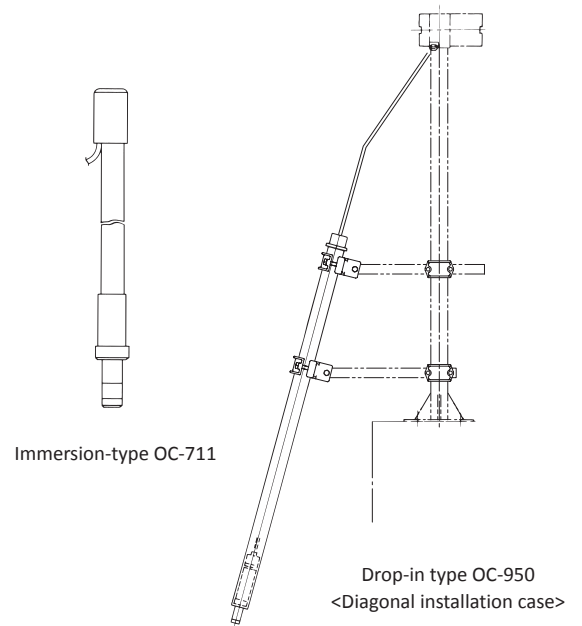
□ OC series

This product is Dissolved Oxygen (DO) Detector for wastewater/sewage/human waste treatment facilities and general environmental water measurement with diaphragm polarograph method electrode built-in electrode holder.

There are Immersion type · drop in type, flow-through type and float type.

For measuring low concentration pure water such as semiconductor and boiler, please refer to the separate spec sheet for details.

For combination wire connection with Dissolved Oxygen Transmitter, please see the Dissolved Oxygen Analyzer Spec Sheet in the book.

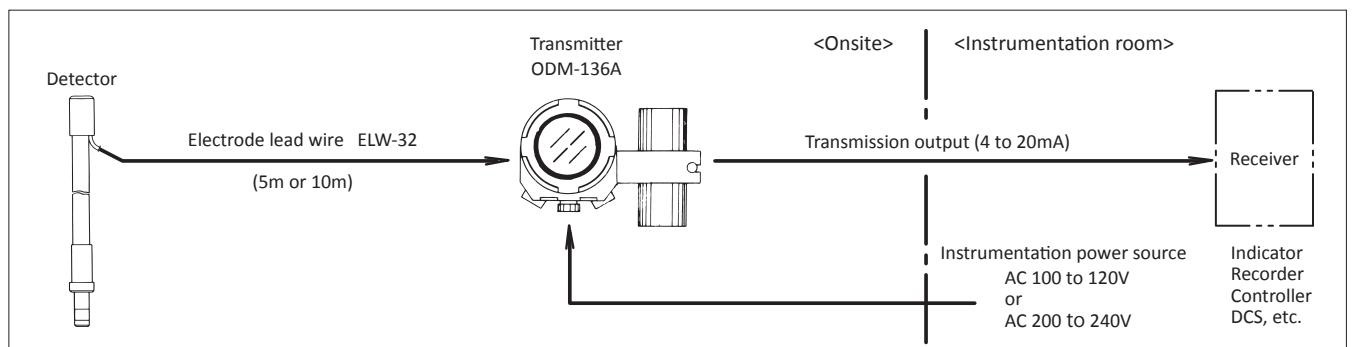


### ■ Immersion type (Drop-in) · Flow-through type electrode holder

#### Standard Specifications

Product name	Immersion type DO electrode holder	Drop-in DO detector	Drop-in DO electrode holder	Flow-through type DO electrode holder	Flow-through type DO electrode holder
Model	OC-711	OC-950	OC-991	NOC-814	NOC-815
Installation	Immersion type	Immersion type (Drop-in)		Flow-through type	
Temp. Range	Sample Water	0 to 45°C (In condition that it does not freeze)			
	Outer	-5 to 50°C			
Pressure range	0.03MPa or less	0.1MPa or less		0.15MPa or less	0.3MPa or less
Weight	Approx.1kg (At full length 1m)	Approx.17kg (With protective pipe 5m)	Approx.3kg (With protective pipe 2m)	Approx.2kg	Approx.5kg
Combined electrode	7533L (For general use) or 7536L/7540L (For human waste)			7533L (For general use) or 7536L (For human waste)	
Wetted part materials	Holder: PVC, PP	Detector: SUS316, PVC, PP		Holder: PVC, PP Case: PVC	Holder: PVC, PP Case: SUS316
		Protective pipe: SUS304	Protective pipe: PVC		

#### Configuration

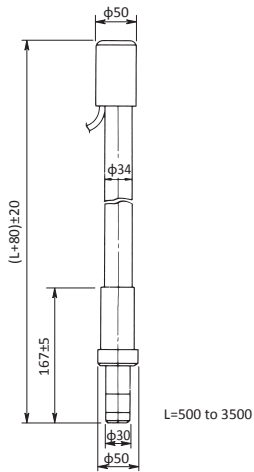


**Dimensions and Product code**

● OC-711

<Immersion type DO electrode holder>

Unit : mm



OC711-2

1	.....	Holder length*1
2	.....	0.5m
3	.....	1.0m
4	.....	1.5m
5	.....	2.0m
6	.....	2.5m
7	.....	3.0m
9	.....	Special
1	.....	Holder material
9	.....	Hard PVC (standard)
	.....	Special
	.....	Combined electrode*2
0	.....	None
1	.....	7533L (For General use. Waste water treatment)
2	.....	7536L (For human waste treatment)
3	.....	7540L (For human waste treatment, With diaphragm tear detection)
	.....	Electrode lead wire type*3
0	.....	Not necessary
1	.....	ELW-32 (when choosing 7533L, 7536L)
2	.....	ELW-067 (when choosing 7540L)
	.....	Length of electrode lead wire*4
0	.....	When electrode lead wire is unnecessary
J	.....	3m
K	.....	5m (standard)
L	.....	7m
M	.....	10m
	.....	Holder guide assay
A	.....	None
B	.....	With*5
	.....	Language
0	.....	Japanese (standard)
1	.....	English
9	.....	Special

\*1. It is not possible to produce lengths other than those that can be selected. The maximum is 4 m.

\*2. The 7536L and 7540L electrodes are intended for specimens such as [urine] that is repeatedly stressed by the diaphragm. (Considering diaphragm firmness, slow response, instruction shake reduction, etc.)

Note that the 7540L type combined transmitter is limited to OBM-162A.

\*3. Note that the electrode lead wires are different depending on the electrode to be incorporated.

\*4. The electrode lead wire length is about twice the holder length. For holder length less than 2m, please choose 5m.

\*5. It is necessary when combining holder fittings ZN-7 type

Note:

1. It is an immersion type holder made of rigid PVC to be installed in an aeration tank etc.

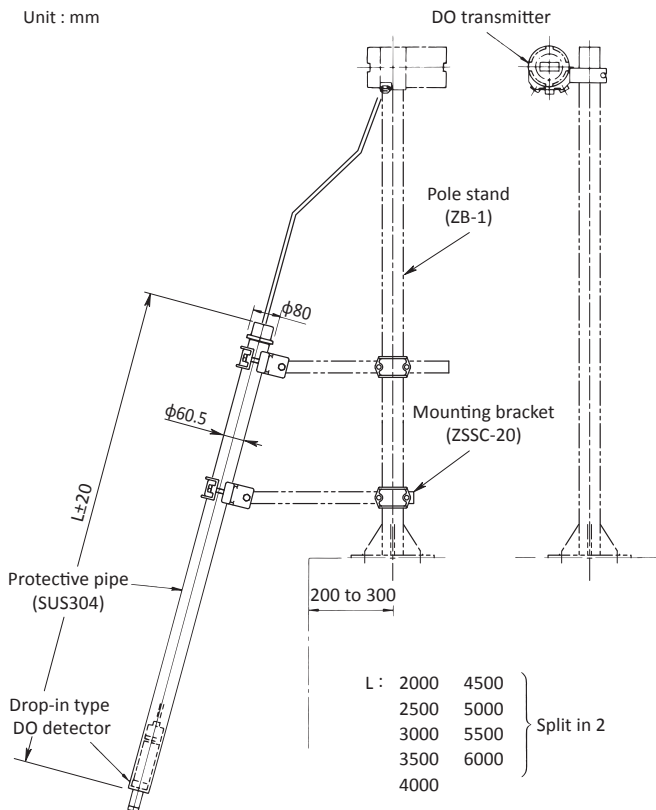
2. Wetted part material is hard PVC, PP, PE, FKM, Silicone rubber, fluorine resin.

3. Use the ZFL-3 or ZFL-4 loose flange.

● OC-950

<Drop-in type DO detector Diagonal installation example>

Unit : mm



OC950-4

1	.....	Protective pipe (50A) material
	.....	SUS304
	.....	Protective pipe length*1
A	.....	2.0m
B	.....	2.5m
C	.....	3.0m
D	.....	3.5m
E	.....	4.0m
F	.....	4.5m (Split in 2)
G	.....	5.0m (Split in 2)
H	.....	5.5m (Split in 2)
J	.....	6.0m (Split in 2)
	.....	Protective pipe rubber stopper*2
0	.....	Without
1	.....	With
	.....	Combined electrode*3
0	.....	None
1	.....	7533L (For general use, waste water treatment)
2	.....	7536L (For human waste treatment)
3	.....	7540L (For human waste treatment, With diaphragm tear detection)
	.....	Electrode lead wire type*4
0	.....	Not necessary
1	.....	ELW-32 (when choosing 7533L, 7536L)
2	.....	ELW-067 (when choosing 7540L)
	.....	Electrode lead wire length
0	.....	When electrode lead wire is unnecessary
K	.....	5m
L	.....	7m
M	.....	10m
G	.....	12m
1	.....	15m
2	.....	20m
	.....	Language
0	.....	Japanese (standard)
1	.....	English

\*1. The maximum length of Protective pipe is 6.0m. For Split in 2 at 4.0m or less, select "Z: Special".

\*2. It is a rubber stopper for odor prevention when 5 Protective pipe is attached to a sealed tank with a loose flange or the like.

\*3. The 7536L and 7540L electrodes are intended for specimens such as [urine] that is repeatedly stressed by the diaphragm. (Considering diaphragm stiffness, slow response, command vibration reduction, etc.) Note that the 7540L type combined transmitter is limited to OBM-162A.

\*4. Be careful as the electrode lead wires are different depending on the electrode to be incorporated.

Note:

1. It is a rugged drop-in type DO detector for deep aeration tanks such

as wastewater / human waste treatment (agriculture collection and discharge) equipment.

2. The electrode holder is the same as OC-991 type (SUS 316 / PP). If you do not need a Protective pipe and only the electrode holder, please order with OC-991 type.

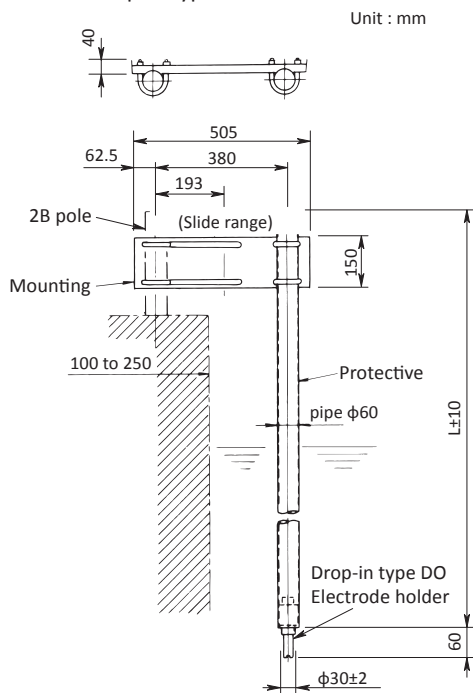
3. When attaching Protective pipe to 50A pole, please separately offer ZSSC-20 type (SUS made, flexible type) separately.

4. When installing Protective pipe with flange, please separately order the ZFL-2 (S) type.

The loose flange is a special specification for mounting 50A pipe, and the flange size is 80 A or more.

5. If you need a detector mounting pole stand (50A pipe), please separately order [ZB-1 type].

● OC-991 <Drop-in type DO electrode holder>



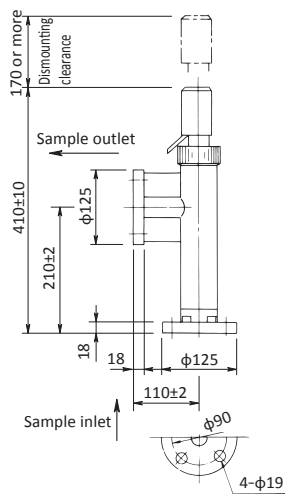
OC991-3	□□□□□	Protective pipe length (PVC 50A pipe)
0	.....	None
1	.....	0.5m*1
2	.....	2.0m
3	.....	2.5m
4	.....	3.0m
5	.....	3.5m
6	.....	4.0m*2
7	.....	4.5m*2
8	.....	5.0m*2
		Mounting palate(including U bolt)
0	.....	Without
1	.....	With (SUS)
		Protective pipe rubber stopper*3
0	.....	Without
1	.....	With
		Combined electrode*4
0	.....	None
1	.....	7533L (For general use, waste water treatment)
2	.....	7536L (For human waste treatment)
3	.....	7540L (For human waste treatment, diaphragm tear detection)
		Electrode lead wire type*5
0	.....	None
1	.....	ELW-32 (when choosing 7533L, 7536L)
2	.....	ELW-067 (when choosing 7540L)
		Electrode lead wire length
Custom spec. code;	0	.....
Numeric digit: 9	J	.....
Alphabet: Z	K	.....
	L	.....
	M	.....
		Language
	0	.....
	1	.....

- \*1. It comes with 0.5 m of the tip of Protective pipe.  
You can also extend Protective pipe at your construction. (Please prepare extension pipes and sockets)
- \*2. Split in 2 type between protection of 4m or more, and a socket for connection is attached.  
(For convenience of handling such as transportation)
- \*3. Rubber stopper for odor prevention when Protective pipe is attached to a sealed tank with a loose flange or the like.
- \*4. The 7536 L and 7540 L electrodes are intended for specimens such as [urine] that repeated stress is applied to the diaphragm. (Considering diaphragm stiffness, slow response, command vibration reduction, etc.) Note that the 7540L type combined transmitter is limited to OBM - 162A.
- \*5. Be careful as the electrode lead wires are different depending on the electrode to be incorporated.

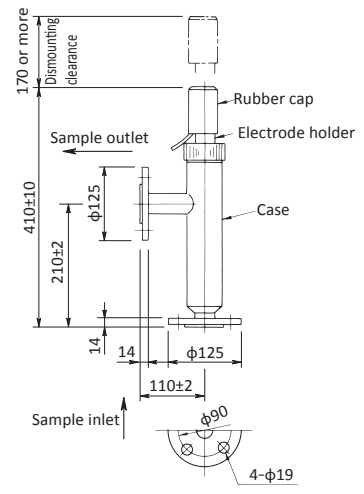
Note:

1. It is a drop-in type detector that measures DO in a deep place such as a river lake, including a wastewater treatment facility.  
For strong aeration tanks such as sewage / shiver (agricultural collection and discharge) processing plant, we recommend OC-950 type with high mounting strength.
2. When attaching Protective pipe with flange, designate "Mounting plate: None" and insert ZFL-11 (S) Type separately.  
In addition, its loose flange is a special specification for 50A pipe installation, flange size is 80 A or more.
3. Select "Protective pipe: None" "Mounting plate: None", the throw-in type electrode holder (Made by SUS 316 / PP).

● NOC-814  
 <Flow-through type DO  
 electrode holder>  
 Unit : mm



● NOC-815  
 <Flow-through type DO  
 electrode holder>  
 Unit : mm



NOC814-1-	□□□□□	Case material
A	.....	Hard PVC (standard)
Z	.....	Special (resin only)
	.....	Piping connection standard
1	.....	25A JIS 10K FF
	.....	Electrode holder type
1	.....	OC-811 holder
	.....	Combined electrode
0	.....	None
1	.....	7533L
	.....	Electrode lead wire (ELW-32) length
0	.....	When electrode lead wire is unnecessary
J	.....	3m
K	.....	5m
L	.....	7m
M	.....	10m
	.....	Language
0	.....	Japanese (standard)
1	.....	English

NOC815-1-	□□□□□	Case material
A	.....	SUS316 (standard)
Z	.....	special (metal only)
	.....	Piping connection standards
1	.....	25A JIS 10K RF
	.....	Electrode holder type
1	.....	OC-811 holder
	.....	Combined electrode
0	.....	None
1	.....	7533L
	.....	Electrode lead wire (ELW-32) length
0	.....	When electrode lead wire is unnecessary
J	.....	3m
K	.....	5m
L	.....	7m
M	.....	10m
	.....	Language
0	.....	Japanese (standard)
1	.....	English

Note: Wetted part materials are PP, PE, rigid PVC, FKM, silicon rubber, fluorine resin.

Note: Wetted part materials are SUS 316, PP, PE, rigid PVC, FKM, silicon rubber, fluorine resin.

## ■ Float type Detector

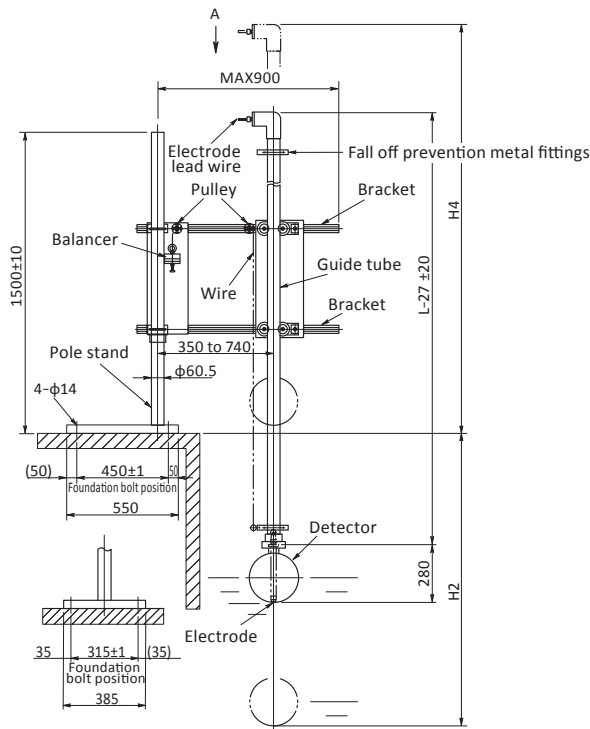
### Standard Specifications

Model	: FOC-711/712
Installation	: Float type vertical type (FOC-711) Float type arm type (FOC-712)
Sample temperature	: 0 to 45°C (No freezing condition)
Sample water pressure	: Atmospheric pressure
Weight	: Approx. 30kg (FOC-711) Approx. 20kg (FOC-712)
Combined electrode	: 7546L type (For General / human waste)
Dedicated electrode wetted part material	: Float main unit (PVC; Foam PVC)

**Dimensions and product code**

Unit : mm

**FOC-711 type <float type DO detector (vertical type)>**



FOC711-1-	□□□	Holder (Guide pipe length)
1	.....	2.0m
2	.....	2.5m
3	.....	3.0m
9	.....	Special*1
	.....	Built in Electrode
0	.....	None
1	.....	EL7546L (for human waste / standard)*2
9	.....	Special
	.....	Electrode lead wire (ELW-32) Length *3
0	.....	none
L	.....	7m (standard)
M	.....	10m
Z	.....	Special
	.....	Language
0	.....	Standard
1	.....	English
9	.....	Special

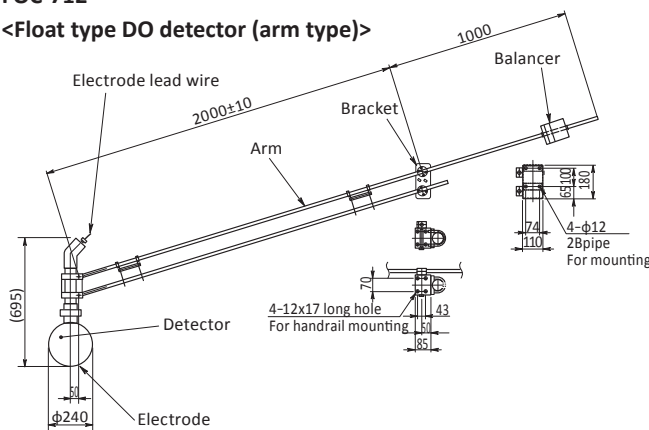
- \*1. The maximum length of the holder (guide pipe) is 3m. (Considering mounting strength and maintainability)  
For installation in deep water, drop-in type (OC950, etc.) is recommended.
- \*2. The built-in electrode EL7546L is a dedicated float type electrode. 100 micron film thickness. Please order replacement diaphragm J (558732K).
- \*3. Electrode lead wire (ELW32) is 7m standard.

**Note:**

1. The float (electrode) follows fluid level fluctuations, and is characterized by selfcleaning due to vertical movement of the float and sample flow velocity.  
For the outline of installation, etc., please refer to the installation procedure diagram. However, the float's followup range to liquid level fluctuations varies depending on the mounting position of the detector, etc. Please contact us when installing in locations where the range of liquid level fluctuations is large.
2. Please order the detector mounting pole stand B150 (product code B150-□-C□□) separately.
3. Wetted part materials are float (PVC) and electrodes (PVC, PE, FEP, SUS).

**FOC-712**

**<Float type DO detector (arm type)>**



FOC712-1-	□□□	Guide pipe (arm) length
1	.....	3m (Standard)
9	.....	Special*1
	.....	Built-in Electrode
0	.....	None
1	.....	EL7546L (human waste) (Standard)*2
9	.....	Special
	.....	Electrode lead wire (ELW-32) length*3
0	.....	None
L	.....	7m (Standard)
M	.....	10m
Z	.....	Special
	.....	Language
0	.....	Standard
1	.....	English
9	.....	Special

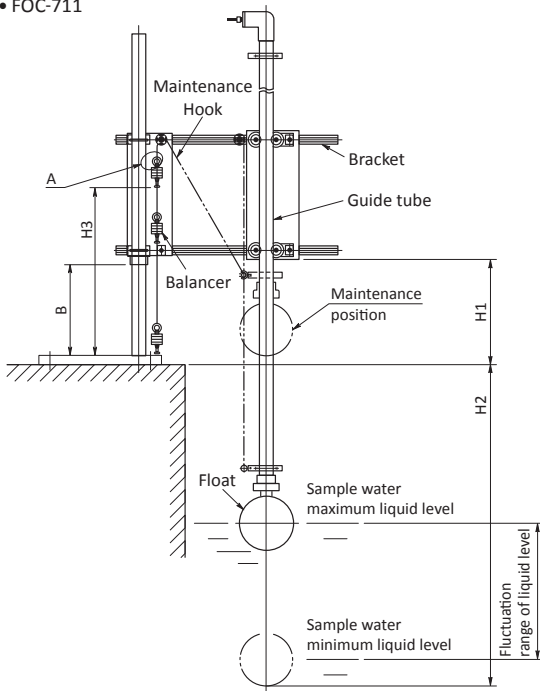
- \*1. The maximum guide pipe (arm) length is 3m. (Considering mounting strength and maintainability)  
For installation in a deep tank, a drop-in type (OC950, etc.) is recommended.
- \*2. The built-in electrode EL7546L is a dedicated float type electrode. 100 micron film thickness. Please order Diaphragm J (558732K) for replacement diaphragm.
- \*3. Electrode lead wire (ELW32) is 7m standard. Order 10 m if the installation distance between the detector and exchanger is long.

**Note:**

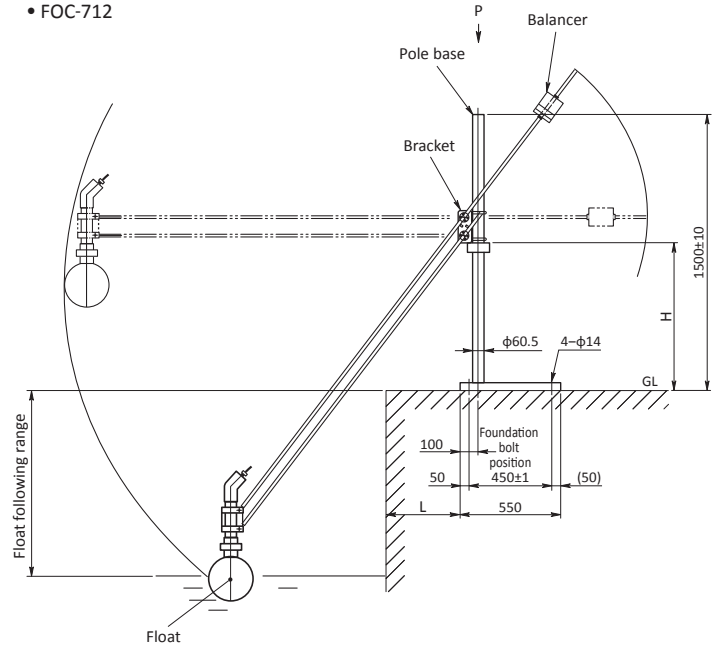
1. The float (electrode) follows fluid level fluctuations, and is characterized by self-cleaning due to vertical movement of the float and sample flow velocity.  
For the outline of installation, etc., please refer to the installation procedure diagram.  
However, the float's follow-up range to liquid level fluctuations varies depending on the mounting position of the detector, etc. Please contact us when installing in locations where the range of liquid level fluctuations is large.
2. Please order the detector mounting pole stand B150 (product code B150-□-C□□) separately.
3. The wetted part materials are float (PVC) and electrodes (PVC, PE, FEP, SUS).

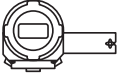
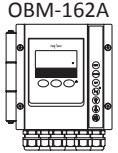
## Installation

### • FOC-711



### • FOC-712



Combined Transmitter	Guide pipe length L	Bracket installation height from the ground H1	Possible installation depth of float H2	Float follow-up range for liquid level fluctuation H3
 ODM-135A/136A	2000mm	approx.440mm (MIN) approx.720mm (MAX)	approx. 0 to 1000mm approx. 0 to 720mm	approx. 670mm approx. 950mm
	2500mm	approx.440mm (MIN) approx.720mm (MAX)	approx. 0 to 1500mm approx. 0 to 1220mm	approx. 670mm approx. 950mm
	3000mm	approx.440mm (MIN) approx.720mm (MAX)	approx. 0 to 2000mm approx. 0 to 1720mm	approx. 670mm approx. 950mm
 OBM-162A	2000mm	approx.440mm (MIN) approx.580mm (MAX)	approx. 0 to 1000mm approx. 0 to 860mm	approx. 670mm approx. 810mm
	2500mm	approx.440mm (MIN) approx.580mm (MAX)	approx. 0 to 1500mm approx. 0 to 1360mm	approx. 670mm approx. 810mm
	3000mm	approx.440mm (MIN) approx.580mm (MAX)	approx. 0 to 2000mm approx. 0 to 1860mm	approx. 670mm approx. 810mm

L	H	Float following range
400	800	0 to 1000
	700	0 to 1100
	600	0 to 1200
300	800	0 to 1000
	700	0 to 1100
	600	0 to 1200
	500	0 to 1300
200	800	0 to 1000
	700	0 to 1100
	600	0 to 1200
	500	0 to 1300
100	400	0 to 1400
	800	0 to 1000
	700	0 to 1100
	600	0 to 1200
	500	0 to 1300
	400	0 to 1400
	300	0 to 1500

## ■ Immersion type detector with pulse air jet cleaning

## ■ Drop type detector with pulse air jet cleaning

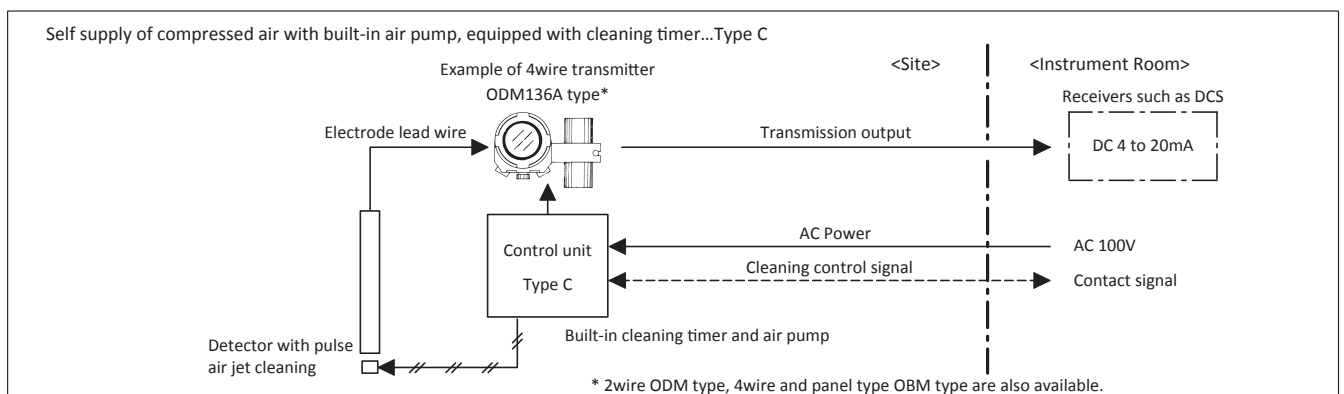
This is a detector that integrates a polarographic DO (dissolved oxygen) electrode holder and a pulse air jet cleaner.

- The pulse air jet cleaner cyclically and intermittently discharges compressed air to the electrode sensitive part in the sample water. The high-speed water flow generated when the compressed air expands rapidly in the sample water effectively removes and cleans the electrode sensitive parts. In addition, this high-speed water stream contains a large amount of air bubbles, and when the water stream and air bubbles randomly hit the electrode sensitive part, it removes and cleans the crystalline scale such as hydroxide as if peeling it off.
- It is highly effective in cleaning wastewater treatment facilities, sewage and human waste treatment plants, even with organic matter and microorganisms, so it can be expected to reduce electrode cleaning and maintenance work.
- There are two installation methods: the immersion type (POC-7D type) with a length of up to 3m, and the drop-in type (POC-95D) for deep tanks.
- Compressed air should be general-purpose air in the plant, but if there is no supply facility, an air pump can be built in, so you can self-supply.
- Built-in cleaning timer when combined with ODM type converter without cleaning device control function

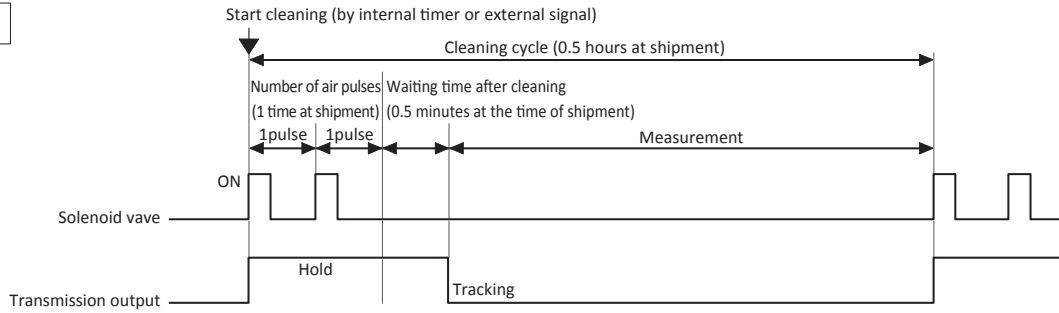
### Standard Specifications

Product name	: Immersion type detector with pulse air jet cleaning; POC-7D Drop type detector with pulse air jet cleaning; POC-95D
Measurement object	: Dissolved Oxygen (DO)
Cleaning method	: Intermittent cleaning with high-speed water flow generated by expansion when compressed air is discharged
Combined electrode	: For general wastewater and sewage treatment..... 7533L Human waste ..... 7536L Human waste / With Diaphragm Break Detection..... 7540L
Supply Air	: Plant general-purpose air Dust and oil removal (air filter) required Connection..... Rc 1/4 Pressure..... 0.1 to 0.3MPa Consumption ... approx. 0.6L (per pulse)
Supply Power	: AC 100V±10% 50/60Hz
Power Consumption	: Approx. 20VA With air pump, approx. 150VA
Ambient air / humidity	: -5 to 50°C 95%R or less
Sample condition	: Temperature... 0 to 45°C Pressure..... Atmospheric pressure
Wetted part materials	: Immersion type... PVC, SUS316, PP Drop-in type; PVC, SUS304/316, PP
Control unit	: Protective structure... IP54 Wiring port... 3 glands for cable φ6 to φ12 Weight... approx. 15kg (with air pump)
Detector weight	: Immersion type... approx. 4kg (Length 1m) Drop-in type... approx. 10kg (Length 3m)
Cleaning timer (option)	: Required when combining with transmitters other than OBM-162A, or when using type with air pump. Cleaning cycle... 0.1 to 99.9 hrs. (0.5 hrs. default) Times of air pulse... 1 to 19 times (1 time default) Waiting time after cleaning... 0.0 to 99.9 minutes (0.5 min. default)

### Configuration



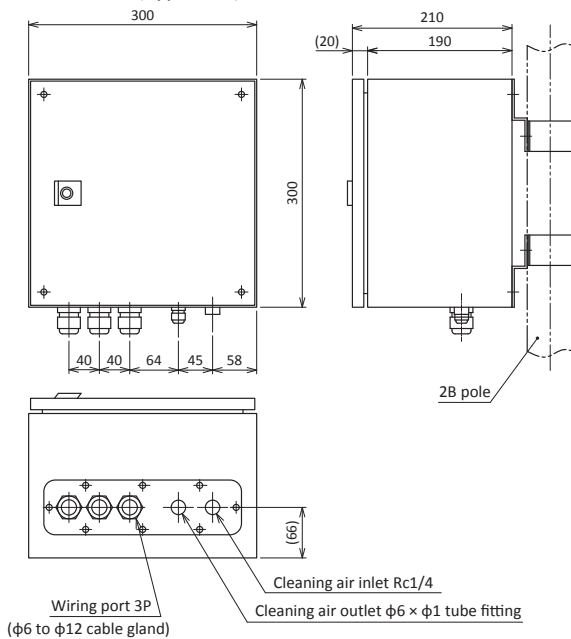
### Time Chart



### Dimensions

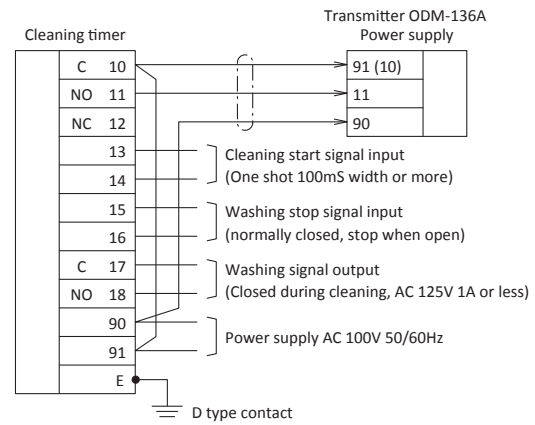
Unit : mm

#### ● Control Unit (Type A/B)



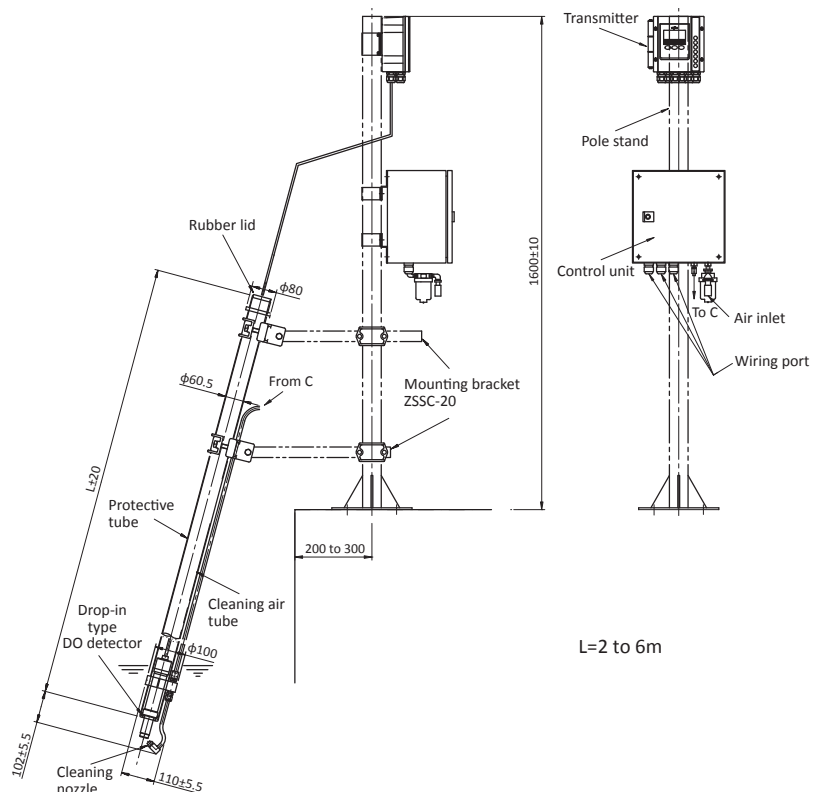
### Connection of cleaning timer

Type B/C Sample of connection with transmitter ODM-136A

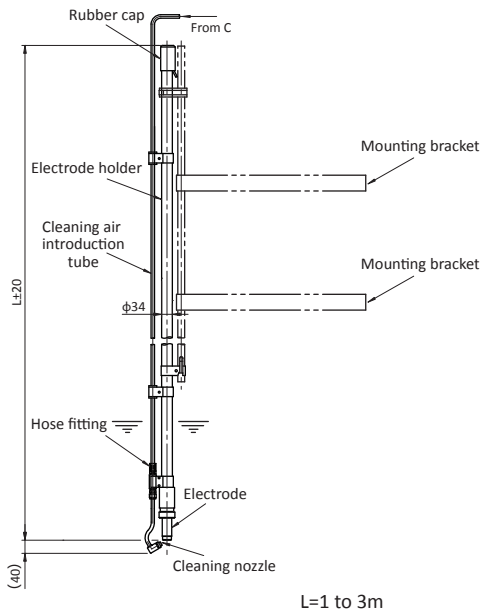


#### ● POC95D type drop detector (Type C)

(Example of slanted mounting with built-in air pump)



#### ● POC-7D Immersion type detector





**Product code**

POC7D-2-		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	.....	Type A	.....	Compressed air supply method *1																	
		2	.....	Type A	.....	External supply																	
		3	.....	Type B	.....	External supply/built-in pressure reducing valve with filter																	
		4	.....	Type B	.....	External supply/built-in cleaning timer																	
		5	.....	Type C	.....	Built-in external supply/cleaning timer, Built-in pressure reducing valve with filter																	
			.....		.....	Built-in air pump and built-in cleaning timer																	
			.....	A	.....	Power Pressure																	
			.....	B	.....	AC 100V 50/60Hz																	
			.....	C	.....	AC 110 to 120V 50/60Hz *2																	
			.....		.....	AC 200 to 240V 50/60Hz *2																	
			.....		.....	Combined holder																	
			.....	A	.....	Hard PVC (OC-711)																	
			.....		.....	Combined holder length																	
			.....	1	.....	1.0m																	
			.....	2	.....	1.5m																	
			.....	3	.....	2.0m																	
			.....	4	.....	2.5m																	
			.....	5	.....	3.0m																	
			.....		.....	Built-in electrode *3																	
			.....	0	.....	None																	
			.....	A	.....	7533L (For general use / sewage treatment)																	
			.....	B	.....	7536L (For human waste)																	
			.....	C	.....	7540L (For human waste, with diaphragm tear detection)																	
			.....		.....	Electrode lead wire type *4																	
			.....	0	.....	Unnecessary																	
			.....	1	.....	ELW-32 (When selected 7533L, or 7536L)																	
			.....	2	.....	ELW-067 (When selected 7540L)																	
			.....		.....	Length of electrode lead wire																	
			.....	0	.....	When electrode assembly is not required																	
			.....	K	.....	5m(Protective tube length 2m or less)																	
			.....	M	.....	10m																	
			.....		.....	Hood (sun shade for control unit)																	
			.....	0	.....	None																	
			.....	1	.....	Equipped																	
			.....		.....	Arrester Built-in																	
			.....	0	.....	None																	
			.....	1	.....	Arrester *5																	
			.....		.....	Holder Guide Assy																	
			.....	0	.....	None (The holder length is 1.5m or less, use mounting bracket ZC-2 type)																	
			.....	1	.....	Equipped (Combine the support bracket ZN-7 type with the holder)																	
			.....		.....	Language																	
			.....	A	.....	Japanese (Standard)																	
			.....	B	.....	English																	

Custom spec. code;  
 Numeric digit: 9  
 Alphabet: Z

\*1 Combination transmitter differ depending on the compressed air supply method (TypeA/B/C).

Type A	OBM-162/162A
Type B	ODM-135A/136A, OBM-102A
Type C	OBM-162/162A, OBM-102A, ODM-135A/136A

\*2. Specify from AC 110V/115V/120V, or AC 200V/220V/230V/240V (step down trans will be built in the AC 100V control unit)

\*3. 7536L and 7540L electrodes are intended for samples such as human waste which repeatedly stresses the diaphragm. (Strength of the diaphragm, sluggish response, reduction of indication deflection, etc. are taken into consideration.) The 7540L combination transmitter is limited to OBM-162A.

\*4. Please note that the electrode lead wire differs depending on the embedded electrode.

\*5. For Type B/C (built-in cleaning timer), install a ceramic surge arrester on the power line.

Note.

1. Sample water conditions  
 Temperature: 45°C max. Pressure: Open to the atmosphere
2. If a total detector length of 2 m or more is required, we recommend the drop-in type POC-95D.
3. If mounting equipment is required, please order the pole stand ZB-1 type or the following mounting brackets separately.  
 Mounting bracket: ZC-2 type for holder length up to 1.5m  
 When the holder length is 2m or longer, combine the ZC-1/C type and the support bracket ZN-7 type.

## Product code

POC95D-2-	□	□	□	□	□	□	□	□	□	□
	1				Type A	Compressed air supply method *1				
	2				Type A	External supply				
	3				Type B	External supply/built-in pressure reducing valve with filter				
	4				Type B	External supply/built-in cleaning timer				
	5				Type C	Built-in external supply/cleaning timer, Built-in pressure reducing valve with filter				
						Built-in air pump and built-in cleaning timer				
						Power Pressure				
	A					AC 100V 50/60Hz				
	B					AC 110 to 120V 50/60Hz *2				
	C					AC 200 to 240V 50/60Hz *2				
						Built-in electrode *3				
	0					None				
	1					7533L (For general and sewage treatment use)				
	2					7536L (For human waste)				
	3					7540L (For human waste, with diaphragm tear detection)				
						Type of Electrode Lead Wire *4				
	0					Not required				
	1					ELW-32 (When selected 7533L or 7536L)				
	2					ELW-067 (When selected 7540L)				
						Length of Electrode Lead Wire				
	0					When electrode built-in is not required				
	K					5m (Protective tube length 3m or less)				
	M					10m				
						Protection tube material				
	1					SUS304				
	2					SUS316				
						Protective tube length				
	A					2.0m				
	B					2.5m				
	C					3.0m				
	D					3.0m (Split)				
	E					3.5m				
	F					3.5m (Split)				
	G					4.0m				
	H					4.0m (Split)				
	J					4.5m (Split)				
	K					5.0m (Split)				
	L					6.0m (Split)				
						Hood (Sun shade of control unit)				
	0					None				
	1					Equipped				
						Arrester Built-in				
	0					None				
	1					Equipped *5				
						Language				
	A					Japanese (standard)				
	B					English				

Custom spec. code;  
Numeric digit: 9  
Alphabet: Z

\*1 Combination transmitter differ depending on the compressed air supply method (TypeA/B/C).

Type A	OBM-162/162A
Type B	ODM-135A/136A, OBM-102A
Type C	OBM-162/162A, OBM-102A, ODM-135A/136A

\*2. Specify from AC 110V/115V/120V, or AC 200V/220V/230V/240V (step down trans will be built in the AC 100V control unit)

\*3. 7536L and 7540L electrodes are intended for samples such as human waste which repeatedly stresses the diaphragm. (Strength of the diaphragm, sluggish response, reduction of indication deflection, etc. are taken into consideration.)  
The 7540L combination transmitter is limited to OBM-162A.

\*4. Please note that the electrode lead wire differs depending on the embedded electrode.

\*5. For Type B/C (built-in cleaning timer), install a ceramic surge arrester on the power line.

Note.

1. Sample water conditions  
Temperature: 45°C max. Pressure: Open to the atmosphere
2. A rubber stopper on the top of the protection tube is standard equipment.
3. If mounting equipment such as a protective tube is required, please order the pole stand ZB-1 type or the following mounting brackets separately.  
50A pipe mounting (SUS 2-piece mounting bracket)  
...ZSSC-20 type

## ■ Detector with jet cleaning

Apply jet or air onto the tip of the electrode to clean the electrode. The cleaning cycle can be changed by setting the control section. It is also possible to control the start and stop of cleaning with an external contact signal. The operating part inside the transparent window of the control unit is equipped with a lamp to indicate that cleaning is in progress and that cleaning is in advance.

### Standard Specifications

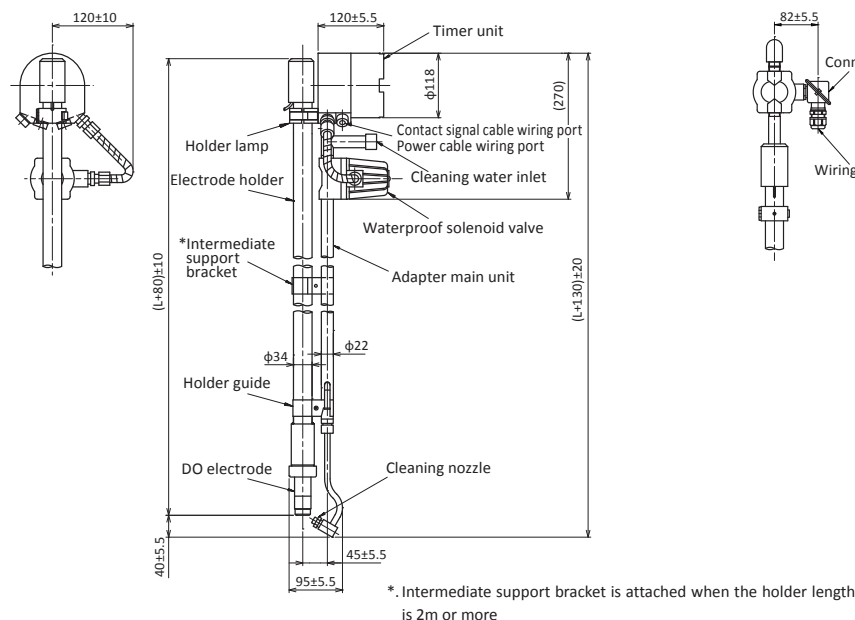
Product name		Immersion type Detector with water jet cleaning	Flow-through type Detector with water jet cleaning	Drop-in type Detector with water jet cleaning
Model name		JOC-711C	JOC-811C	JOC-950C
Cleaning method		Intermittent air or water jet cleaning		
Installation method		Immersion	Flow-through type	Drop-in type
Temperature range	Sample	0 to 45°C (Do not freeze)		
	Ambient	-5 to 50°C (Do not freeze cleaning liquid flow path)		
Sample water pressure		Atmospheric Pressure	0.3MPa or less	Atmospheric Pressure
Cleaning cycle		0.1 to 3h (Up to 12 h by option)		
Cleaning time		0 to 60s		
Signal delay time during cleaning		0 to 5min (Free setting)		
Cleaning signal output time		0 to 6 min (water jet or air discharge time + signal delay time during cleaning)		
I/O Signal		Signal during cleaning: 1a, 1c (2 systems) Contact capacity: AC 125V 1A or less External cleaning start input: closing time, 100ms or more No-voltage closing contact pulse Contact capacity DC 30V 0.1A or less Cleaning stop signal input: Open to stop (normal short circuit) Internal load solenoid valve AC 100V 220mA		
Cleaning water or Air	Pressure		0.05 to 0.5MPa (Sample pressure + 0.05 to 0.2MPa)	
	Amount	Water	Approx. 1.5 to 3.5L/min	
		Air	Approx. 5 to 11L/min	
Power		AC 100V±10% 50/60Hz		
Power consumption		Approx. 25VA		
Weight		Approx.7kg (Entire length 1m)	Approx.9kg	Approx.20kg (Protective tube 5m)
Electrode		7533L (for general use), or 7536L, 7540L (for human waste)*		
Wetted material		Holder: PVC, PP Adapter: SUS316	Holder: PVC, PP Case: SUS316	Detector: SUS316, PVC, PP Protective tube: SUS304
Standard color coating		Metallic Silver		
Structure		Rain proof structure		
Connection		_____	25A JIS 10K RF	_____

\*.7540L electrodes are unavailable for JOC-811C

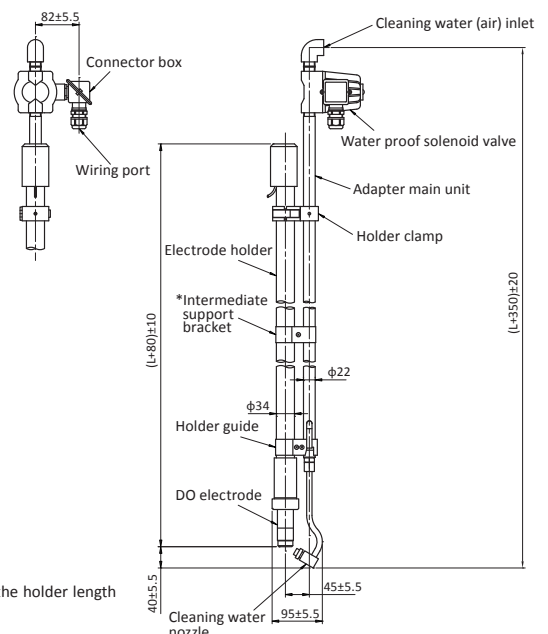
### Dimensions

Unit : mm

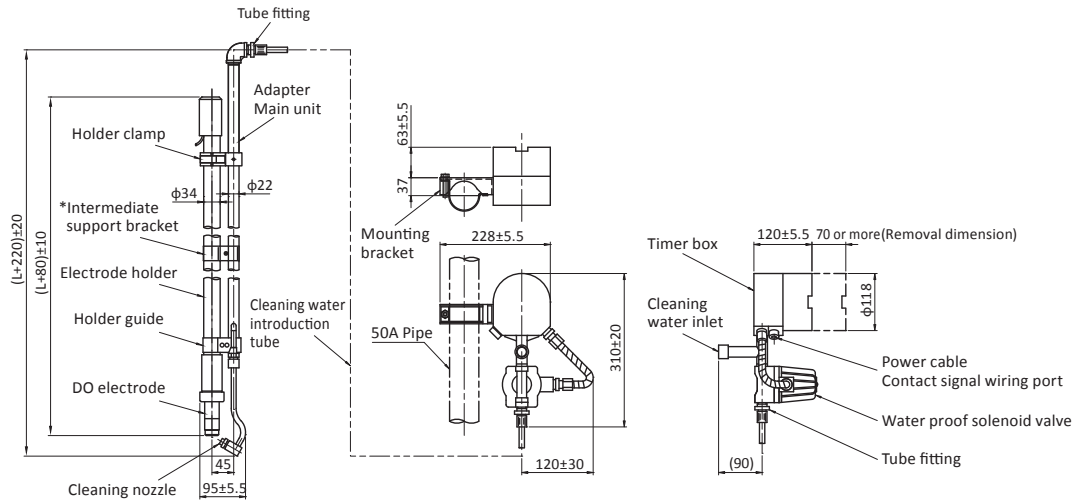
#### ● JOC-711C Combined with ODM-135A/136A



#### ● JOC-711C Combined with OBM-162A/100A

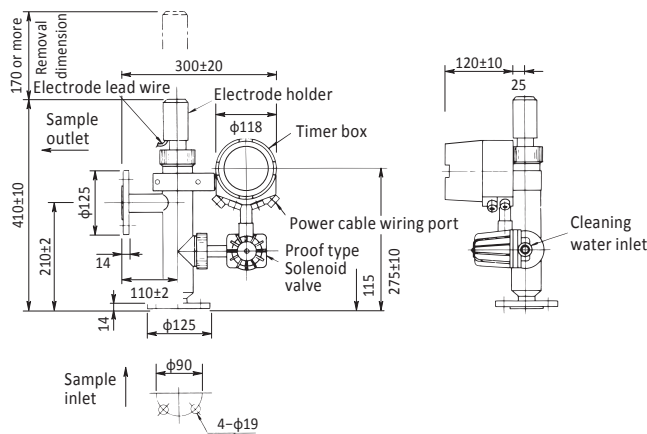


● JOC-711C (Separate type) Combined with ODM-135A/136A

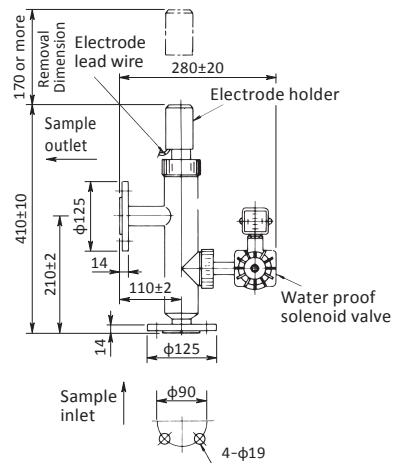


\*Intermediate support brackets are included when the holder length L is 2m or more.

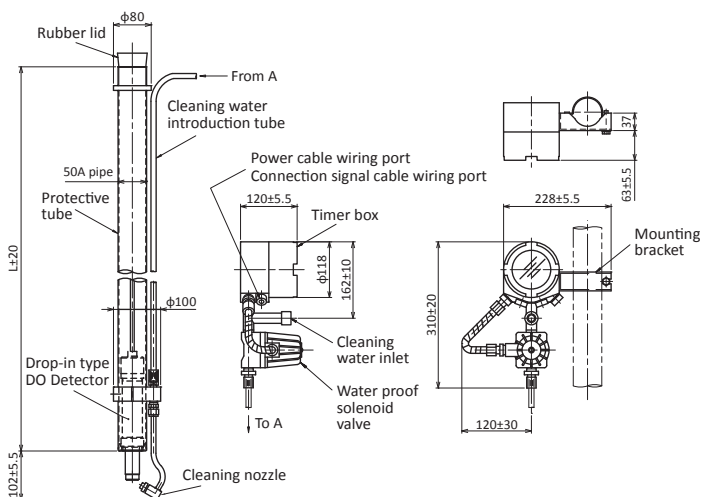
● JOC-811C Combined with ODM-135A/136A



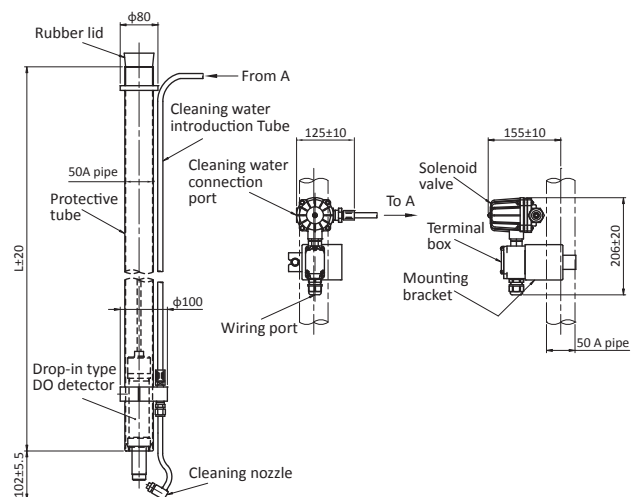
● JOC-811C Combined with OBM-162A/100A



● JOC-950C Combined with ODM-135A/136A



● JOC-950C Combined with OBM-162A/100A



**Product code**

JOC-711C <Immersion type detector with water jet cleaner>  
 JOC711C-3-□□□□□□□□

A	.....	Power*1
0	.....	AC 100V 50/60Hz
1	.....	Combined holder (Not required for separate order)
	.....	Holder Not required
	.....	PVC holder (OC-711)
	.....	Length of combined holder*2
1	.....	0.5m
2	.....	1.0m
3	.....	1.5m
4	.....	2.0m
5	.....	2.5m
6	.....	3.0m
	.....	Timer unit*3
0	.....	None
1	.....	Equipped
	.....	Shape of control unit (timer unit and solenoid valve)
A	.....	Integrated type (Standard)
B	.....	Separated type
	.....	Built in Electrode*5
0	.....	None
1	.....	7533L (For general use / sewage process)
2	.....	7536L (Human waste process)
3	.....	7540L (For human waste with diaphragm tear detection)
	.....	Type of electrode lead wire*6
0	.....	Not required
1	.....	ELW-32 (In case 7533L, or 7536L is selected)
2	.....	ELW-067 (In case 7540L is selected)
	.....	Length of Electrode Lead Wire
0	.....	When built-in Electrode is not required
K	.....	5m (standard)
L	.....	7m
M	.....	10m
	.....	Cleaning cycle *7
0	.....	3 hrs (0.1 to 3 hrs) Standard
1	.....	12 hrs (0.1 to 12 hrs)
8	.....	Not applicable (When there is no timer unit)
	.....	Language
0	.....	Japanese (standard)
1	.....	English

Custom spec. code;  
 Numeric digit: 9  
 Alphabet: Z

- \*1. If the power supply voltage is 100V or higher, use a step-down transformer (ZP-30 type: 35VA). (To be attached separately)
- \*2. The manufacturing limit for the holder length is 4m. We recommend the drop-in type JOC-950C, which is easy to maintain.
- \*3. Whether the timer part is "Yes" or "No" is determined by the combined transmitter.  
 Select "No" for OBM-102A, OBM-162A, and OBM-336 types that have a built-in timer function, and select "Yes" for ODM-13xA type.
- \*4. If the operation unit (timer unit and solenoid valve) is separated, a 5m cleaning water tube between the solenoid valve and the detector is attached.  
 If you select "None" for the timer part in the 4th digit of the product code, select "separate type" because only the solenoid valve is separated.  
 Select "separate type" when installing on a hoisting frame or a mobile frame.
- \*5. The 7536L and 7540L electrodes are intended for samples such as night soil, which repeatedly apply stress to the diaphragm.  
 (Strength of the diaphragm, sluggish response, reduction of indication deflection, etc. are taken into consideration.) Note that the 7540L combination transmitter is limited to OBM-162A.

- \*6. Please note that the electrode lead wire differs depending on the embedded electrode.
- \*7. If you select "None" for the timer section in the 4th digit of the product code, select "8: Not applicable". (For settings such as the cleaning cycle, use the built-in timer function of the combination transmitter.)"

**Note**

1. This is a model change of the JOC-711B type. As a new feature, the timer section is equipped with a cleaning notice display as standard.
2. If you use an air jet instead of a water jet, use the POC-7E type for pulse air cleaning, which has a higher cleaning effect.
3. If you need detector mounting equipment, please order one of the following.  
 Metal fittings: ZC-1 type or ZC-2 type  
 Flange: ZFK-1 type (detector length up to 1.5m) or ZFK-2 type
4. The heavy anti-corrosion coating of the timer part, built-in arrester, etc. are special specifications.

**Product code**

JOC811C-0-□□□□□□□□

A	.....	Power*1
1	.....	AC 100V 50/60Hz
1	.....	Material of case and nozzle
1	.....	SUS316
1	.....	Wiring connection standard
1	.....	25A JIS 10K RF
1	.....	Combined transmitter
1	.....	ODM-135A/136A
2	.....	OBM-100A/162A, OBM-336
	.....	(When equipped with cleaning function)
8	.....	Others
0	.....	Built-in Electrode
1	.....	Not equipped
1	.....	7533L
0	.....	Electrode lead wire length (ELW-32)
J	.....	When electrode lead wire is not required
K	.....	3m
L	.....	5m
M	.....	7m
M	.....	10m
0	.....	Cleaning cycle*2
1	.....	3 hrs. (standard)
Y	.....	12 hrs.
Y	.....	Not applicable
0	.....	Language
1	.....	Standard
1	.....	English

Custom spec. code:  
 Numeric digit: 9  
 Alphabet: Z

- \*1. If the power supply voltage is other than 100V, please order a step-down transformer (ZP-30 type: for 35VA). (attachment)
- \*2. Select Not applicable when OBM-162A type or OBM-336 type is selected as a combined converter. (This is because the setting function built into the OBM-162 and OBM-336 transmitters are used to set the cleaning cycle, etc.)"

- Note
1. This product is a model change product of [JOC-811B type].  
 New functions such as cleaning notice display have been added, and only the control section has been newly designed to be thin.
  2. Wetted part materials are SUS316, PP, PE, rigid PVC, FKM, silicon rubber, and fluorine resin.

**JOC-950C <Drop-in type detector with water jet cleaning>**

JOC950C-4-□□□□□□□□

A	.....	Power*1
1	.....	AC 100V 50/60Hz
1	.....	Protective tube (50A) Material
2	.....	SUS304
2	.....	SUS316
A	.....	Protective tube length
B	.....	2.0m
C	.....	2.5m
D	.....	3.0m
E	.....	3.5m
F	.....	4.0m
G	.....	4.5m (Split)
H	.....	5.0m (Split)
J	.....	5.5m (Split)
J	.....	6.0m (Split)
0	.....	Timer unit *2
1	.....	None
1	.....	Equipped
0	.....	Built-in Electrode *3
1	.....	None
2	.....	7533L (For general / sewage treatment)
3	.....	7536L (For human waste)
3	.....	7540L (For human waste, with diaphragm tear detection)
0	.....	Types of electrode lead wire *4
1	.....	Not required
2	.....	ELW-32 (If selected 7533L, or 7536L)
2	.....	ELW-067 (If selected 7540L)
0	.....	Electrode lead wire length
K	.....	When built-in electrode is not required
M	.....	5m (When protective tube length is 2 to 3m)
M	.....	10m
Y	.....	Others specified
0	.....	Cleaning cycle*6
1	.....	3 hrs. (0.1 to 3 hrs.) Standard
8	.....	12 hrs. (0.1 to 12 hrs.)
8	.....	Not applicable (When there is no timer)
0	.....	Protective tube rubber cap (for odor prevention)
1	.....	None
1	.....	Equipped
0	.....	Language
1	.....	English (standard)
1	.....	English

Custom spec. code:  
 Numeric digit: 9  
 Alphabet: Z

- \*1. If the power supply voltage is 100V or more, please order a step-down transformer (ZP-30 type: 35VA). (To be attached separately)
- \*2. Select "No" for OBM-102A, OBM-162A, and OBM-336, which have a built-in timer function, and "Yes" for ODM-13□A.
- \*3. The 7536L and 7540L electrodes are intended for samples such as night soil, which repeatedly apply stress to the diaphragm.  
 (Strength of the diaphragm, sluggish response, reduction of indication deflection, etc. are taken into consideration.)  
 Note that the 7540L combination transmitter is limited to OBM-162A.
- \*4. Please note that the electrode lead wire differs depending on the embedded electrode.
- \*5. If you select "None" for the timer part in the 4th digit of the product code, select "8: Not applicable". (For settings such as the cleaning cycle, use the built-in timer function of the combination converter.)

- Note
1. This is a model change of JOC-950A. As a new feature, the timer section is equipped with a cleaning notice display as standard.
  2. This is a DO detector with water jet cleaning for installation in deep aeration tanks such as sewage and night soil treatment facilities, as well as agricultural village wastewater treatment facilities. Since it is a drop type, it is easy to pull up the electrode holder.
  3. The temperature of the sample water is -5 to 50°C, the pressure is atmospheric pressure, and the flow velocity is 2m/s or less.
  4. The OC-950 type is the drop-in type without water jet cleaning. The electrode holder is common with the OC-991/950 types.
  5. When mounting the protective tube on a 50A pole, please order the ZSSC-20 type (SUS, universal mounting bracket) separately.
  6. Please order the ZB-1 type for the pole stand for mounting the protection tube.
  7. The heavy anti-corrosion coating of the timer section and the built-in arrester are special specifications.

## ■ Dissolved oxygen electrode

It employs a diaphragm polarographic method, and has excellent stability, safety, durability, and easy exchange of the diaphragm. This ensures extremely reliable measurements with minimal maintenance.

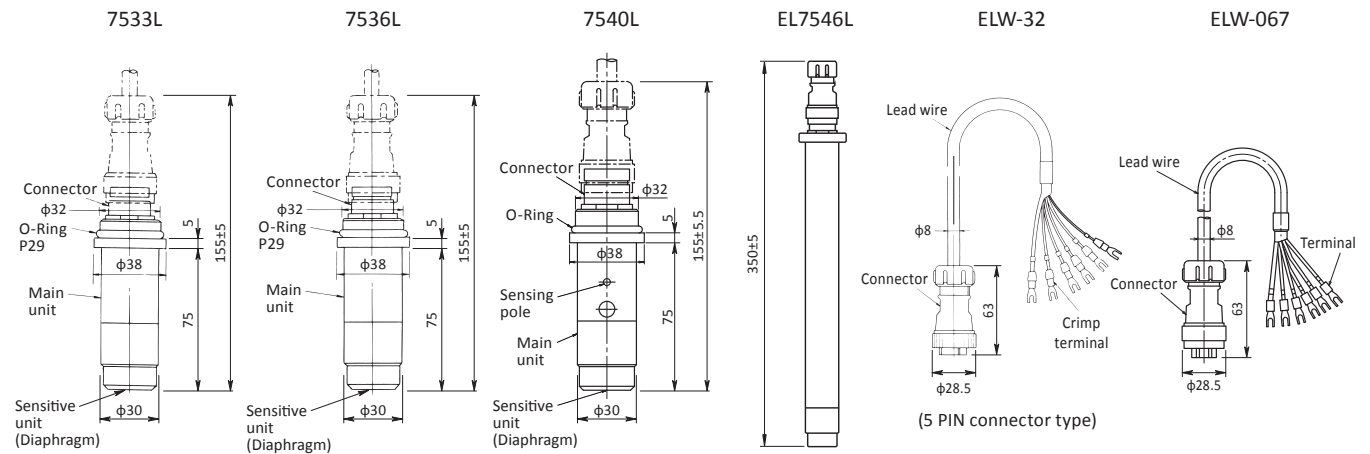
### Standard Specifications

Usage		General aeration tank	General aeration tank / human waste		
Electrode model		7533L	7536L	7540L	7546L
Replacement diaphragm		Diaphragm (5721570K)*	Diaphragm J (558732K)*		
Main material	Main unit	PVC, PE, SUS316			
	Diaphragm	PTFE, FEP			
Sample	Temperature	0 to 45°C			
	Pressure	0.3MPa or less			
	Flow rate	10cm/s or more at the tip of electrode			
Heat resistant		50°C			
90% response time		Approx. 60s (25°C)	Approx. 180s (25°C)		
Linearity		Within ±3% of air saturation value (at certain temperature)			
Repeatability		Within ±2% of air saturation value (at certain temperature)			
Combined lead wire		ELW-32	ELW-067	ELW-32	
Combined holder		OC-711, JOC-711C, POC-7D			FOC-7xx

\*Common electrode internal solution (Electrolyte 50mL) Code No.143D169

### Dimensions

Unit : mm



## <Old type DO electrode>

Polarographic DO electrodes for old-type dissolved oxygen meters OD-32D/36D/135/136 are shown in the table below. (There is no compatibility with the current 7533L/7546L, etc. due to differences in temperature sensor characteristics and electrode shape.)

Discontinued models	Replacement	Usage / applicable holders
7691L Electrode lead wire ELW-4	ELD019 Electrode lead wire ELW-062	General aeration tank OC-71, JOC-7B
7693L	ELD021	General aeration tank (tip replaceable)
7695L	ELD023	For human waste JOC-7B
7697L	ELD017	For human waste OC-71, JOC-7B
7699L	ELD024	General aeration tank (For drop-in type JOC)
7646L	ELD016	Throw-in type
7648L	ELD018	Tip-replacement throw-in type

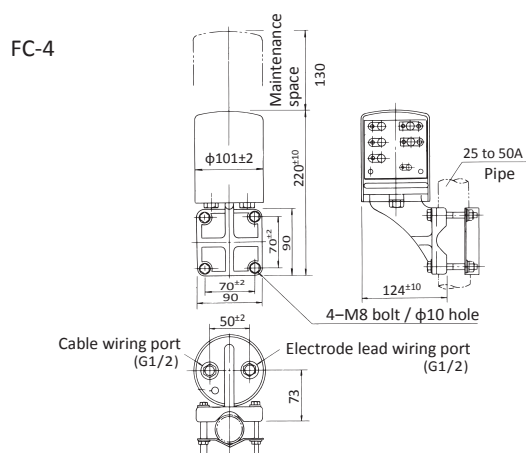
## ■ Related equipment

### Connector box and dedicated cable

#### ● Connector box

This is used when the transmitter and electrodes are installed separately and it is not possible to wire to the transmitter with the lead wires attached to the electrodes.

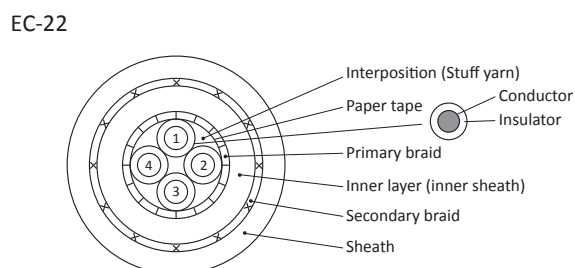
Model	: FC-4
Structure	: Outdoors
Weight	: Approx. 0.9kg
Case	: ABS resin
Base	: ABS resin
Color	: Satin chrome plating
Mounting method	: Can be mounted on 25A to 50A pipes, walls or boards



#### ● Dedicated cables

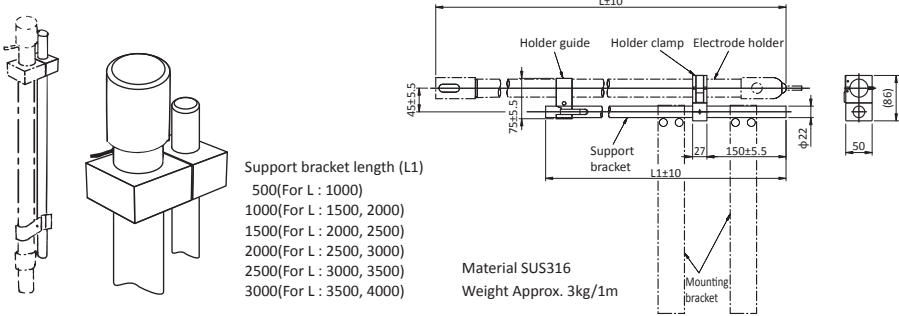
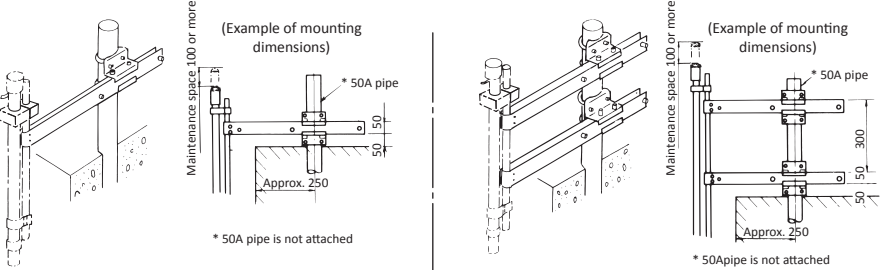
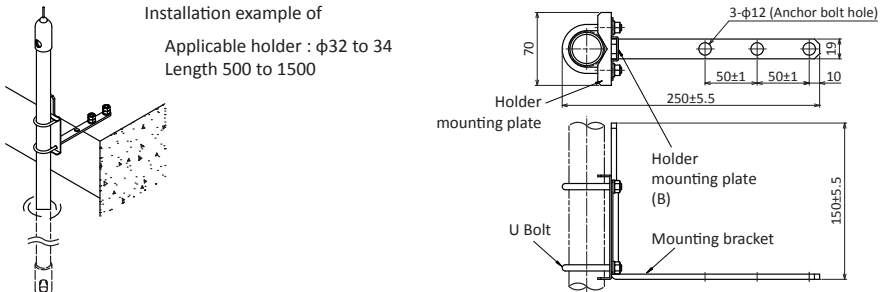
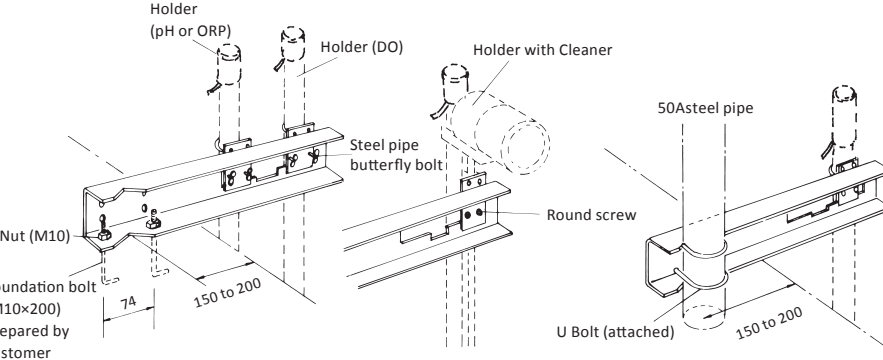
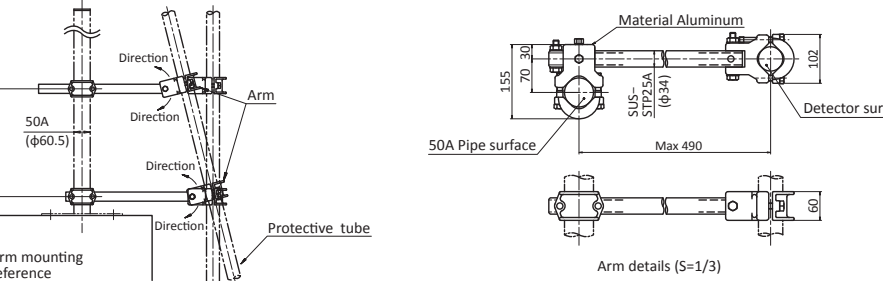
The dedicated cable is a special cable for the DO meter and is used between the transmitter and the connector box.

Model	: EC-22
Diameter	: φ8
Insulator	: Polyethylene and Vinyl
Jacket	: Vinyl
Insulation resistance	: 10 <sup>5</sup> MΩ or more /100m between core wires
Extended distance	: Maximum 100m, Unable to use intermediate relay
Standard length	: 5m unit 100m in 5m unit
Weight	: Approx. 0.5kg/5m



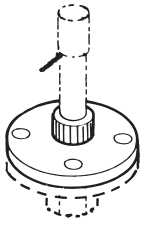
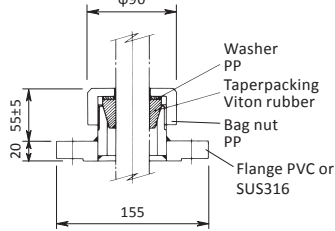


**Immersion type holder mounting bracket**

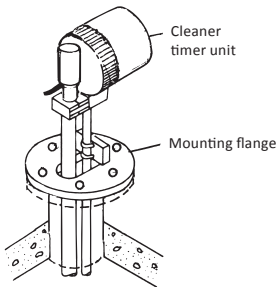
Model	Purpose	Installation Sample
<p>ZN-7  (Support bracket)</p>	<p>Used in combination with A, B, and C fittings without cleaning. The holder can be detached with one touch. The L length should be shorter than the length of the holder so that the hook can reach the surface of the water.</p>	 <p>Support bracket length (L1) 500(For L : 1000) 1000(For L : 1500, 2000) 1500(For L : 2000, 2500) 2000(For L : 2500, 3000) 2500(For L : 3000, 3500) 3000(For L : 3500, 4000)</p> <p>Material SUS316 Weight Approx. 3kg/1m</p>
<p>ZC-1</p>	<p>Fixed to a pole (50A). Use in combination with the ZN-7 type when using a non-cleaning holder. Total length: 600mm Material: SPCC or SUS</p>	 <p>B Type : Up to holder length 1.5m C Type : Up to holder length 2 to 4 m</p>
<p>ZCD-2</p>	<p>A simple mounting bracket for a single holder. Anchor bolt (M10) Fixed. Total length: 250mm Material: SUS304</p>	<p>Installation example of Applicable holder : φ32 to 34 Length 500 to 1500</p> 
<p>ZC-2</p>	<p>Can be fixed with anchor bolts or fixed with a 50A pole. Two holders such as pH and DO can be attached. The holder is a one-touch detachable type. Bracket length: 500mm Material: SUS 304 Combined holder length is 2m or less. It is also possible to attach a holder with cleaning function.</p>	 <p>&lt;Mounting by anchor bolt&gt; &lt;Mounting by pole stanchion&gt;</p>
<p>ZSSC-20</p>	<p>Firmly attach the protective tube of the drop detector. ● Pole (50A) fixed ● A set of 2 ● Length and angle can be changed Full length: 600mm Material: SUS and Aluminum casting</p>	 <p>Protective tube length 2 to 6m can be attached</p>

### Immersion type holder mounting flange

● Loose flange (for holder without cleaning)

Model	Spec	Installation example · Structure	
ZFL-3	Resin (standard PVC) Standard 50A JIS 10K FF		
ZFL-4	Metal (standard SUS316) Standard 50A JIS 10K FF		

● Open flange (for holder with wash)

Model	Spec	Installation procedure diagram	
ZFK-1	Made of resin (rigid PVC or PP) Flange size: 100A to 300A JIS10K or 5KFF A rubber cover (anti-odor packing) for the flange opening is optional.	A JOC-711 electrode holder with cleaning up to 1.5m in total length can be attached. (POC-7D cannot be combined)	
ZFK-2	Metal (SUS304 or SUS316) Flange size: 100A to 300A JIS 10K or 5KRF A rubber cover (anti-odor packing) for the flange opening is optional.	JOC-711 type electrode holder with cleaning can be installed up to 2.0m to 4.0m in total length. (POC-7D cannot be combined)	

### DO calibration kit

There are two types of DO meter calibration kits: one for span calibration with air-saturated water (A) and one for span calibration in air (B). It can be used in common for all detectors, such as flow-through type, immersion type, and trace type (for pure water).

● DO calibration kit types

Product Name	Category	Purpose	Code No.
DO calibration kit (A)	Common to all models, common to domestic and overseas	For span calibration in air-saturated water	6151840K
DO calibration kit (B)	Common to all models, common to domestic and overseas	For span calibration in air	6151850K

● Details of DO calibration kit (A)

No.	Product Name	Code No.	Quantity	Remarks	Purpose
1	Special grade anhydrous sodium sulfite	143A002	1	500g	For zero water preparation
2	Beaker	136C035	3	PE made 500mL	For calibration / cleaning
3	Air pump	125B248	1	Battery type	For preparing air-saturated water
4	Dry Battery	106A003	2	Single 11.5V	For air pump

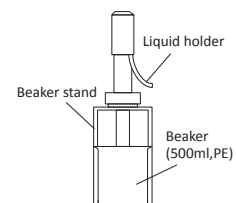
● Details of DO calibration kit (B)

No.	Product Name	Code No.	Quantity	Remarks	Purpose
1	Special grade anhydrous sodium sulfite	143A002	1	500g	For zero water preparation
2	Beaker	136C035	3	PE made 500mL	For calibration / cleaning

● Flow-through type holder for calibration [beaker stand]

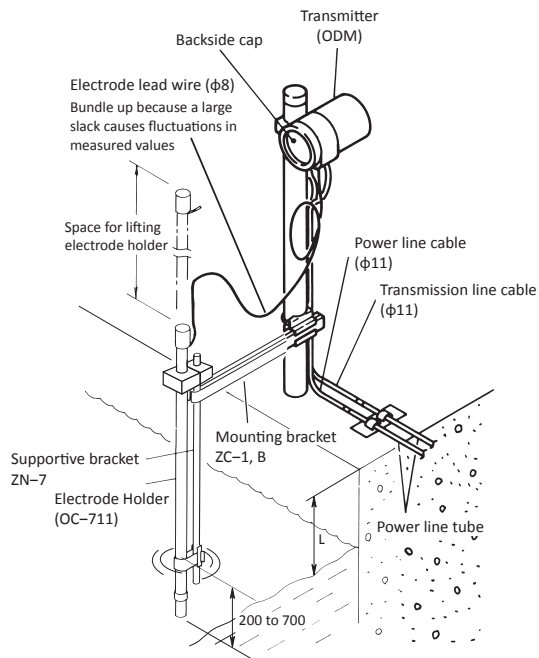
By placing the flow-through type holder on the “beaker stand”, calibration (checking) can be performed easily and stably. Please order separately.

Product Name	Applicable holder	Code No.	Remarks	Purpose
Beaker stand	NOC-814/815	74200200	Stainless	For 500mL beaker (PE)



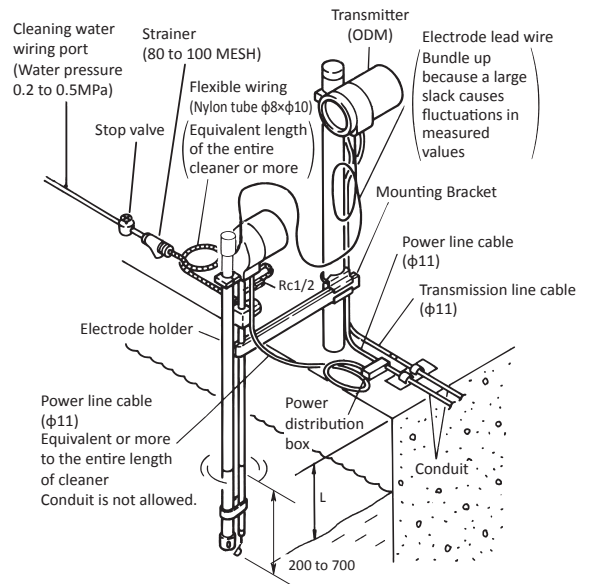
## Detector Installation Sample

Standard installation diagram of immersion type DO measurement system



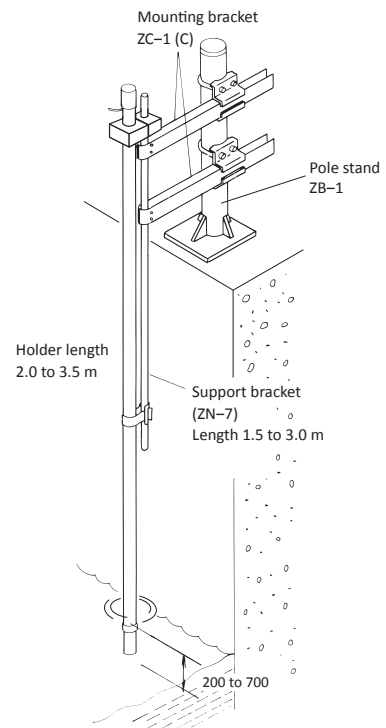
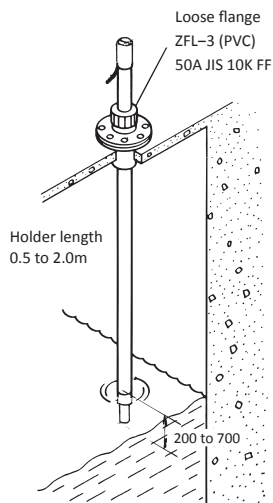
### Cleaning Water

- Use good quality tap water or equivalent for washing water. When using tap water, it is prohibited by the Waterworks Act to supply directly from the tap water supply, so use a tap water pressurizer or the like to insulate it from general water pipes.
- If freezing is expected in winter, install insulation and heat insulation piping.
- \*The higher the pressure, the better the cleaning effect, so 0.2 MPa or more is recommended.



The length of the electrode holder should be  $L + (500 \text{ to } 1000)$ , where L is the distance to the water surface.

<Caution>  
Since it is necessary to raise the washer for operation inspection, etc., as shown in the figure, bundle the washing water flexible pipe and the power cable for a length corresponding to the entire length of the washer.





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## CAUTION

Please read the operation manual carefully  
before using products.

<https://www.toadkk.com/english/>

Information and specifications are subject to change without notice.