

FLOW-THROUGH TYPE PH/ORP METER DETECTOR

(N)HC-8 Type Series

A flow-through type detector used to measure pH/ORP in a closed loop, such as a pipe or a closed tank. This detector incorporates an electrode into the electrode holder.

There are a (chamber) type that connects to bypass line with a flange, and an insertion type that connects with a "screw" or flange on the piping or the side of the tank. There are many fabrication specifications for wetted materials and connection standards, and there are many types of combination electrodes so that they can be used under various measurement conditions.

Please refer to the respective spec sheets for immersion type detectors and chip replacement type electrodes.

■ General Purpose Detector

This electrode holder is made of KCl storage-type resin, and can be used widely from wastewater and water/sewage treatment equipment and boiler equipment to general process control equipment. There are two types: the internal liquid pressurize type with process pressure and the internal liquid head pressure type (water sampling type) without process pressure (atmospheric pressure).

Select the model name from the table below according to the connection method to the process line and the measurement conditions such as the pressure, temperature, and properties of the sample water.



HC-880 model



NHC-882 model



HC-812 model



NHC-883 model

Model	Connection method	Materials of wetted parts	Pressure range	Temperature range (Do not freeze)	Flow rate	Applicable electrode		Weight
						pH	ORP	
HC-880	Inline, screw (M60, P2) or flange 50A JIS 10K FF)	PP, FKM	0 to 0.15MPa (0 to 0.30MPa)	-5°C to 80°C	2m/s or less	5610	2610	1kg
NHC-882	Flange (25A JIS 10K FF) or threads (Re 1/2) with resin case	PP, FKM	0 to 0.15MPa (0 to 0.30MPa)	-5°C to 80°C	5 to 10L/min	5610	2610	2kg
NHC-892	Flange (25A JIS 10K FF) or threads (Re 1/2) with resin case	PP, FKM	Atmospheric pressure (sampling type)	-5°C to 80°C	5 to 10L/min	5600	2600	2kg
NHC-883	Flange (25A JIS 10K RF) or threads (Re 1/2) with stainless steel case	PP, FKM SUS316	0 to 0.3MPa	-5°C to 80°C	5 to 10L/min	5610	2610	5kg
NHC-893	Flange (25A JIS 10K RF) or threads (Re 1/2) with stainless steel case	PP, FKM SUS316	Atmospheric pressure (sampling type)	-5°C to 80°C	5 to 10L/min	5600	2600	5kg

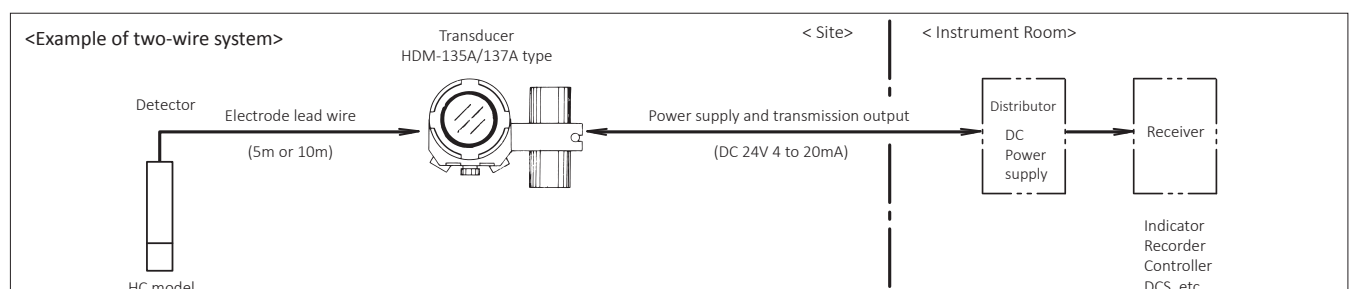
Note 1. The electrical conductivity of the sample water must be at least 100 μ S/cm (10mS/m).

Note 2. If process pressure is present, it is necessary to keep the inside of the detector 30 to 50kPa higher than the process pressure at all times. Continuous pressurize with instrumentation air is required.

Note 3. PP (polypropylene) is sensitive to sunlight. Avoid outdoor installation as much as possible. For outdoor installation, select PVC.

Note 4. For detailed specifications and optional specifications, refer to the product code of each model.

Configuration



Combination pH electrode

This electrode employs a glass membrane with excellent linearity over a wide range of pH0 to 14, and is structured to suppress the outflow of silver chloride from the comparator electrode liquid junction (non-leak silver chloride inner electrode type). Stable continuous measurement is possible under various measurement conditions such as high temperature,

dilute solution, and reducing solution. Fluoric acid-resistant glass membranes are used for fluoric acid-containing liquids, and perfluoro rubber (a new material of fluorocarbon rubber) is used for comparative electrode sealants.

Electrodes that are resistant to organic solvents and other chemicals are also available as standard specifications. All of the internal solutions of the electrodes below are 3M potassium chloride (KCl).

Model	Electrolyte exudation method	Type of glass membrane	pH measurement range	Service temperature range (do not freeze)	Reference electrode seal	Lead wire material	Applicable electrode holder
5610-□F	Pressurized type	Standard membrane	pH0 to 14	-5 to 70°C	FKM	Heat-resistant PVC	NHC-882
5611-□F	Pressurized type	Standard membrane	pH0 to 14	-5 to 95°C	FKM	Silicon	NHC-883
5612-□F	Pressurized type	Standard membrane	pH0 to 14	-5 to 70°C	Perfluoro-rubber	Heat-resistant PVC	NHC-883
5613-□F	Pressurized type	Standard membrane	pH0 to 14	-5 to 95°C	Perfluoro-rubber	Silicon	NHC-883
5615-□F	Pressurized type	Hydrofluoric acid resistance membrane	pH0 to 12	-5 to 50°C	FKM	Heat-resistant PVC	NHC-882
5600-□F	Non-pressurized type	Standard membrane	pH0 to 14	-5 to 70°C	FKM	Heat-resistant PVC	NHC-892
5601-□F	Non-pressurized type	Standard membrane	pH0 to 14	-5 to 95°C	FKM	Silicon	NHC-893
5605-□F	Non-pressurized type	Hydrofluoric acid resistance membrane	pH0 to 12	-5 to 50°C	FKM	Heat-resistant PVC	NHC-892

Length of the electrode lead wire

Combined ORP electrode

The ORP electrode is primarily made of platinum (Pt) or alloy (M). Platinum is used for ORP measurement and control of general processes, while alloy is used for ORP measurement and control of plating wastewater, sewage, and urine treatment processes.

Temperature sensor (T) is built-in, and temperature compensation during temperature measurement and reference liquid check can be automated. Since the comparator electrode (R) is the same as the pH electrode, all of the inner solution is 3M potassium chloride (KCl).

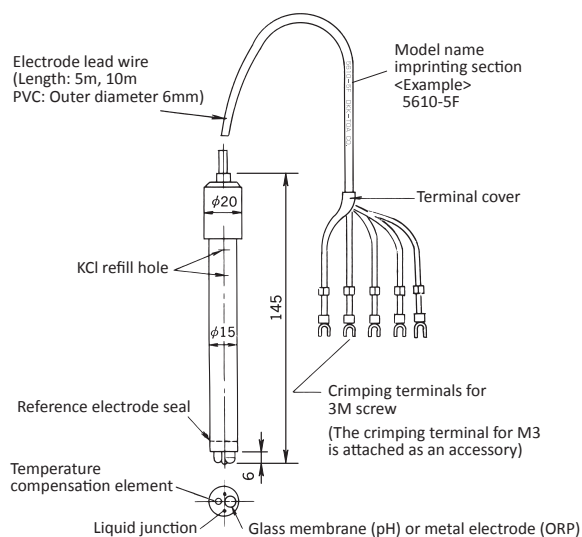
Model	Electrode combination	Electrolyte exudation method	Service temperature range	Seal material of reference electrode	Lead wire material	Applicable holder
2610-□F	Pt+R+T	Pressurized type	-5 to 70°C	FKM	Heat-resistant PVC	NHC-882
2615-□F	M+R+T	Pressurized type	-5 to 70°C	FKM	Heat-resistant PVC	NHC-882
2600-□F	Pt+R+T	Non-pressurized type	-5 to 70°C	FKM	Heat-resistant PVC	NHC-892
2605-□F	M+R+T	Non-pressurized type	-5 to 70°C	FKM	Heat-resistant PVC	NHC-892

<pH/ORP Electrode Remarks>

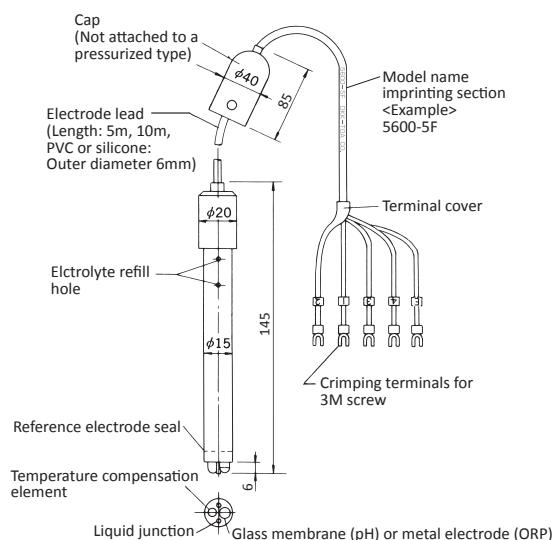
○The amount of KCl consumption (efflux) is 1 to 3 mL/day when the electrodes are incorporated into their respective holders and pressurized (process pressure +30 to 50kPa) or head pressurized and used under standard conditions.

○The pH electrode of the fluoric acid-resistant glass film can be used in HF solutions up to 1000 ppm (-5°C to 50°C).

○The pH-electrode of the standard glass membrane may degrade quickly under high temperature (50°C or higher) and high alkaline (over pH13) conditions. Please contact for details.



Pressure type 561□ type, 261□ type external dimensions

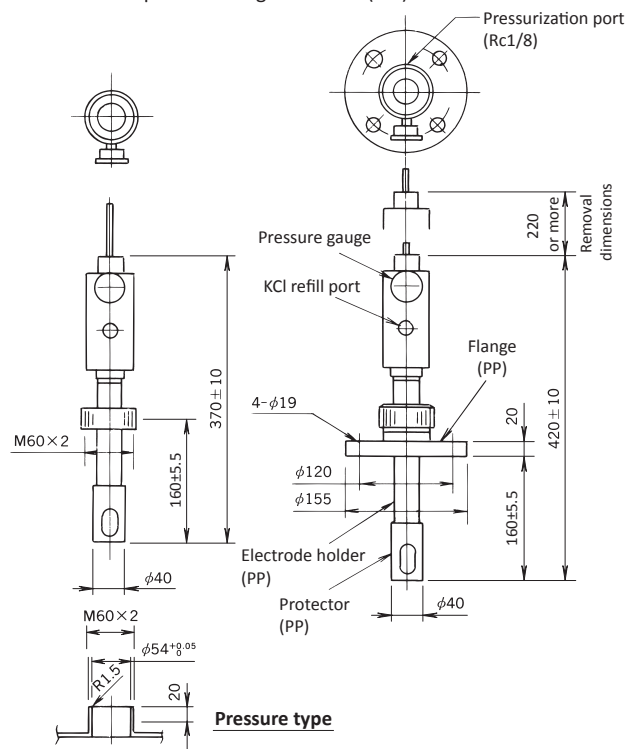


Head pressure 560□ type, 260□ type external dimensions

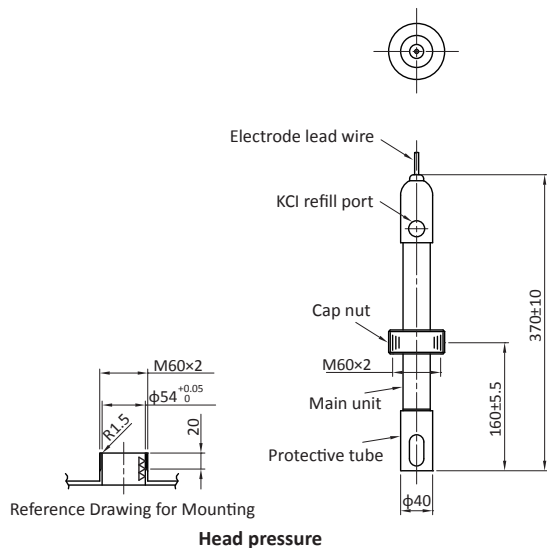
External Dimensions and Product Code

● Pressurized/Head Pressurized

HC-880 <Thread or flange mount type, made of PP, service pressure range 0 to 0.15 (0.3) MPa>



Reference Drawing for Mounting



Reference Drawing for Mounting

Head pressure

HC880-3-		
1	.....	Main material of wet part
2	.....	Polypropylene (PP), Fluorine Rubber (FKM)
A	.....	Transparent PVC, Fluorine Rubber (FKM)
B	.....	Pressure resistance *1
0	.....	0.15MPa
1	.....	0.3MPa
2	.....	Pipe connection standard
A	.....	M60 P2 cap nut
B	.....	50 A JIS 10K FF Flange
C	.....	2" ANSI 150LB FF flange
0	.....	Insertion length
1	.....	160mm (Standard)
2	.....	260mm
A	.....	Internal solution pressurizing system
B	.....	Head pressurize (no pressurization)*1
C	.....	Instrumentation air: Connection Rc1/8 (PT1/8)
0	.....	Instrumentation air: Tube (6mm, 10m), R1/4 (with fittings)
1	.....	Manual pressure pump: check valve built into the body *2
2	.....	Internal solution (KCl) reserve tank
0	.....	Standard 100mL
1	.....	Integrated type 250 mL
2	.....	Separate type 500 mL*3
0	.....	Description form
1	.....	Japanese (standard)
2	.....	English

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

*1. When using the head pressure type without sample water pressure (without pressurization), select the withstanding pressure 0.15MPa type.

Water head pressure method: This method allows the internal liquid to flow out only by the head of the internal liquid (KCl). This method is applicable only when the piping to which this detector is connected and the inside of the measuring tank is open to the atmosphere.

In the case of the air pressurization method, a pressure gauge is assembled. (for displaying pressure of internal liquid pressurized air)

Pressure gauge scale
: 0 to 0.2MPa (Withstand pressure 0.15MPa)
: 0 to 0.4MPa (Withstand Voltage 0.3MPa)

*2. The manual pressurization pump is not included as a standard accessory, and must be ordered separately. Code No.125 B 971

It cannot be used for high temperature use (silicone lead wire) electrodes such as 5611 type. Use the pressurization method with instrumented air.

*3. Since the 05-digit internal liquid pressurize method is for the air pressurization type, the separated type cannot support the head pressurization method (without pressurization).

Note

1. The wetted material is a liquid flow type or pipe insertion type holder made of resin such as polypropylene (PP).

The maximum sample water temperature is 80°C for PP and 60°C for PVC.

2. This is an electrode holder that excludes the case (chamber) from the flow liquid type detector NHC-882/892/883/893 type.

3. Combination electrodes are available separately. Select from the table below according to the measurement conditions, combination converter, and internal liquid pressurization method.

Standard combination of electrode [Air pressurization type] [Head pressurization type]

Classification	Product code	Product code
pH General purpose	EL5610-2-□F□	EL5600-2-□F□
For high temperature	EL5611-0-□F	EL5601-2-□F□
For HF resistance	EL5615-2-□F□	EL5605-2-□F□
ORP for general use (Pt)	EL2610-1-□F	EL2600-1-□F
For sewage (human waste)(M)	EL2615-0-□F	EL2605-0-□F

When combining electrodes other than those mentioned, contact sales office because they may become specially designed.

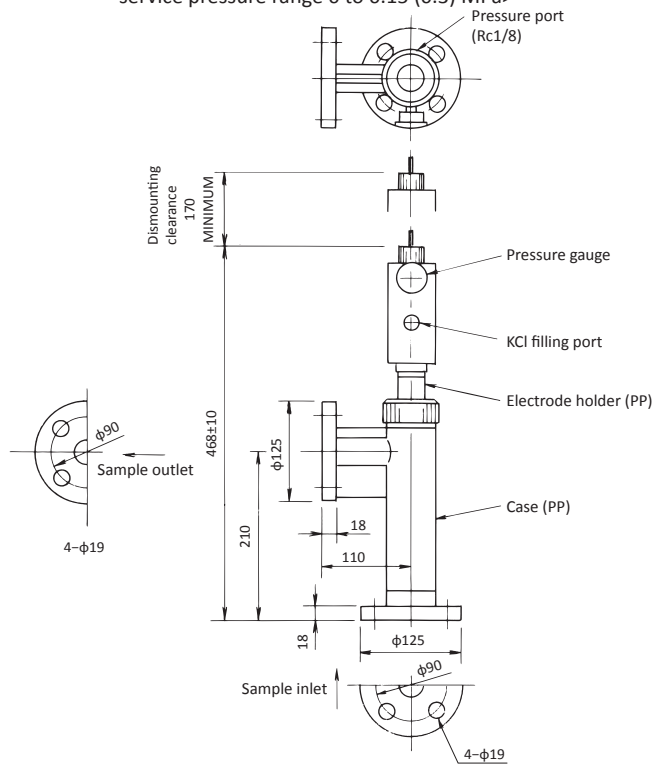
4. PP (polypropylene) is sensitive to sunlight, so avoid outdoor installation as much as possible.

For outdoor installation, select PVC.

5. If the sample water temperature exceeds 80°C or the sample water pressure exceeds 0.3MPa, select an all-stainless steel HC-811/812 type.

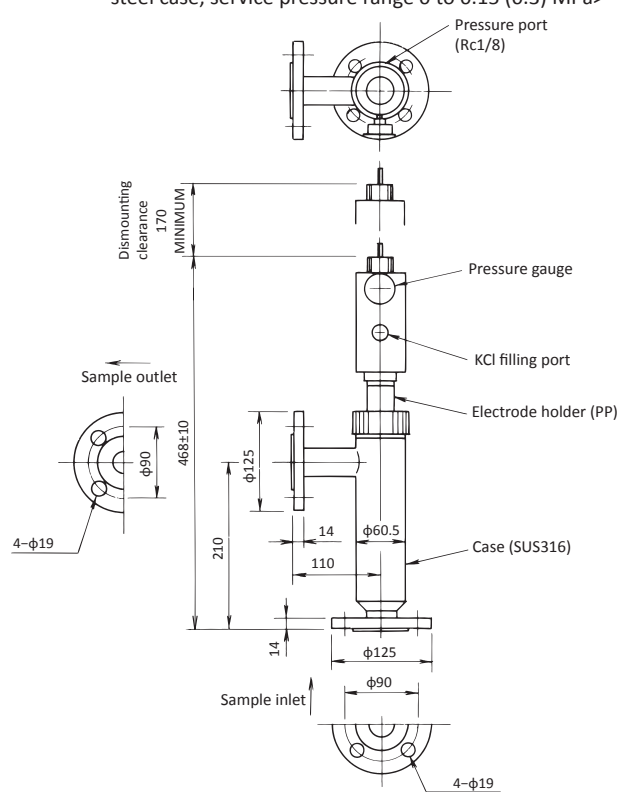
● Pressure type

NHC-882 <Flange or thread connection with PP case, service pressure range 0 to 0.15 (0.3) MPa>



● Pressure type

NHC-883 <Threads or Flange connection type, with stainless steel case, service pressure range 0 to 0.15 (0.3) MPa>



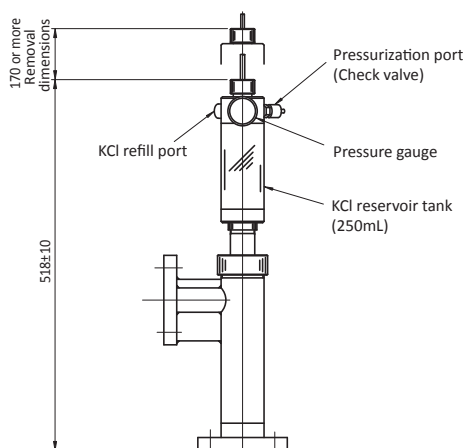
● KCl reservoir tank (optional)

Pressurized detectors for flow liquid general applications can optionally be equipped with a KCl reservoir tank.

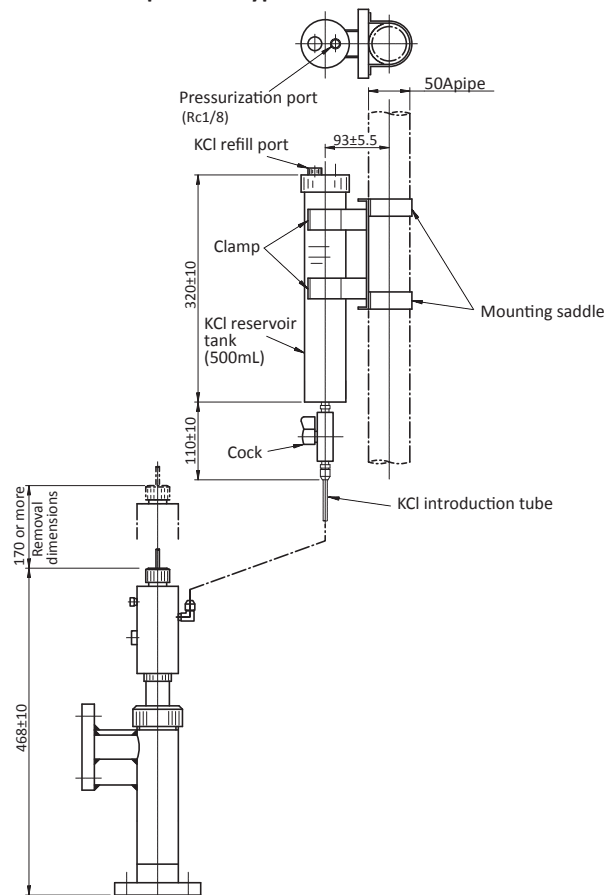
There are two types, one integrated (approximately 250mL) and the other separated (approximately 500mL). The frequency of KCl supplementation can be extended to approximately one month for the integrated type and to approximately two months for the separated type.

All of the tanks are made of transparent PVC, so the remaining amount of KCl solution can be easily checked.

<Pressurized integral>



<Pressurized separation type>



NHC882-3-	□□□□□	
	1	Main material of wet part (holder/case)
	2	Semi-transparent polypropylene/polypropylene (PP)
		Transparent vinyl PVC / Hard PVC
		Pressure resistance *1
	A	0.15MPa
	B	0.3MPa
		Case piping connection standard
	1	25A JIS 10K FF
	2	40A JIS 10K FF*2
	3	Rc1/2
	4	1"ANSI 150LB FF
	5	1"JPI 150LB FF
		Internal solution pressurizing system
	A	Instrument air: Connection Rc1/8 (PT1/8)
	B	Instrumented air: Tube (6mm, 10m), R1/4 (with fittings)
	C	Manual pressure pump: check valve built into the body*3
		Internal solution (KCL) reserve tank
Custom spec. code;	0	Standard 100mL
Numeric digit: 9	1	Integrated type 250mL
Alphabet: Z	2	Separate type 500mL
		Description form
	0	Japanese (standard)
	1	English

NHC883-3-	□□□□□	
	1	Main material of wet part (holder/case)*1
	2	Translucent Polypropylene (PP)/SUS316
		Translucent Polypropylene (PP)/SUS316L
	3	Translucent PVDF/SUS316
		translucent PVDF/SUS316L
	4	Rubber material for wet part *1
	1	Fluorine rubber (FKM)
	2	Perfluoro rubber
		Pressure resistance *2
	A	0.15MPa
	B	0.3 MPa
		Case piping connection standard
	1	25A JIS 10K RF
	2	40A JIS 10K RF*3
	3	Rc1/2
	4	1"ANSI 150LB RF
	5	1"JIP 150LB RF
		Internal solution pressurizing system
	A	Instrumentation air: Connection Rc1/8 (PT1/8)
	B	Instrumentation air: Tube (6mm, 10m), R1/4 (with fittings)
	C	Manual pressure pump: check valve built into the body*4
		Internal solution (KCL) reserve tank
Custom spec. code;	0	Standard 100mL
Numeric digit: 9	1	Integrated type 250mL
Alphabet: Z	2	Separate type 500mL
		Description form
	0	Japanese (standard)
	1	English

*1. The structure of the case (chamber) and the scale of the pressure gauge to be assembled (pressure display of internal liquid pressurized air) differ depending on the sample water pressure (proof pressure).

0.15MPa type: Case General Structural Scale 0 to 0.2MPa

0.3MPa Type: Case Pressure Resistance Scale 0 to 0.4MPa

*2. The sample water outlet tube in the case (chamber) is 25A and is 40A for flange-size only.

*3. The manual pressurization pump is not included as a standard accessory, and must be ordered separately. Code No.125 B 971

It cannot be used for high temperature use (silicone lead wire) electrodes such as 5611 type. Use the pressurization method with instrumented air.

Note

1. The wetted part material is a flow-through holder made of resin such as polypropylene (PP). The sealing rubber is fluorine rubber (FKM).

The maximum sample water temperature is 80°C for PP and 60°C for PVC.

2. Combination electrodes are available separately. Select from the table below according to the measurement conditions and combination converter.

Standard combination of electrode

Classification		Product code
pH	General purpose	EL5610-2-□F□
	For high temperature	EL5611-0-□F
	For HF resistance	EL5615-2-□F□
ORP for general use (Pt)		EL2610-1-□F
	For sewage (human waste)(M)	EL2615-0-□F

When combining electrodes other than those mentioned above, contact sales office because they may become specially designed.

3. PP (polypropylene) is sensitive to sunlight, so avoid outdoor installation as much as possible.

For outdoor installation, select PVC.

4. If the pipe to be installed is metal, resin case (chamber) may be damaged. Select stainless steel NHC-883 type.

5. When the internal liquid does not need to be pressurized (sample water pressure is atmospheric), select NHC-892 type. Note that a pressurized holder excluding the case (chamber) from this product is HC-880.

*1. Electrode holders are made of polypropylene (PP) and PVDF, case (chamber) are made SUS316 and SUS316L.

If the sample water contains organic solvents, select a PVDF and perfluoro-rubber wetting material and a 5612 type electrode.

*2. Depending on sample water pressure (pressure resistance), the scale of the pressure meter to be integrated (pressure indication for pressurizing air for internal solution) varies.

*3. The sample water outlet tube in the case (chamber) is 25A and is 40A for flange-size only.

*4. The manual pressurization pump is not included as a standard accessory, and must be ordered separately. Code No.125 B 971

It cannot be used for high temperature use (silicone lead wire) electrodes such as 5611 type. Use the pressurization method with instrumented air.

Note

1. The material of the electrode holder is made of polypropylene (PP) or PVDF resin. The material of the case (chamber) is SUS316.

Maximum temperature of sampling water is 80°C for PP and 95°C for PVDF.

2. Combination electrodes are available separately. Select from the table below according to the measurement conditions and combination converter.

Standard combination of electrode

Classification		Product code
pH	General purpose	EL5610-2-□F□
	For high temperature	EL5611-0-□F
	For chemical resistance	EL5612-0-□F
	For high temperature and chemical resistance	EL5613-0-□F
ORP for general use (Pt)		EL2610-1-□F
	For sewage (human waste)(M)	EL2615-0-□F

When combining electrodes other than those mentioned above, contact sales office because they may become specially designed.

3. PP (polypropylene) is sensitive to sunlight, so avoid outdoor installation as much as possible.

For outdoor installation, select a PVDF type.

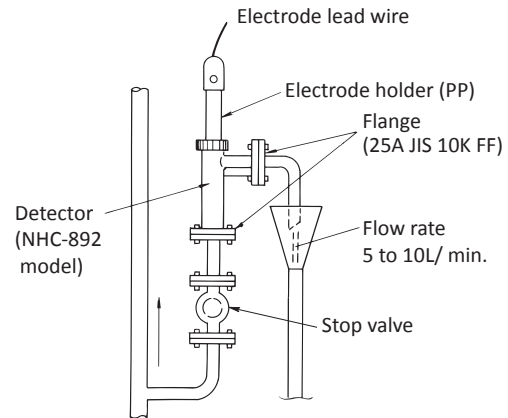
4. If the sample water temperature exceeds 80°C or the sample water pressure exceeds 0.3MPa, select an all-stainless steel NHC-813 type.

5. When the internal liquid does not need to be pressurized (sample water pressure is atmospheric), select NHC-893 type.

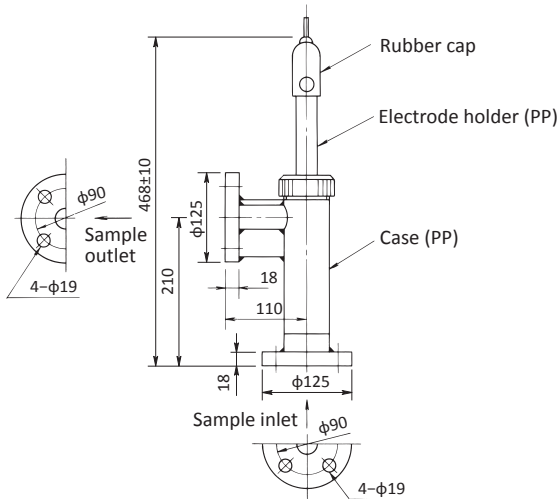
● Head pressure type (water sampling type)

Model name NHC-892 (Made of Case PP)
NHC-893 (Made of Case SUS)

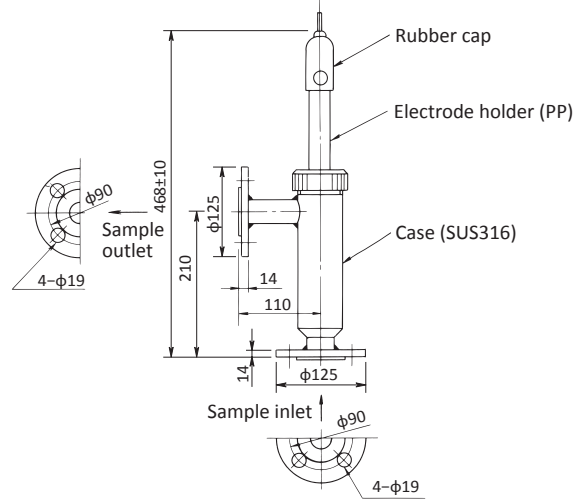
The head pressure type detector NHC-892, 893 type can be used when the sample water outlet side of the case is open to the atmosphere and the overflow method is used as shown in the figure on the right. The piping on the outlet side should be as short as possible. Please be careful to operate the product at the highest 10L/.



NHC-892 <Flange or screw connection with PP case>



NHC-893 <Flange or screw connection with SUS316 case>

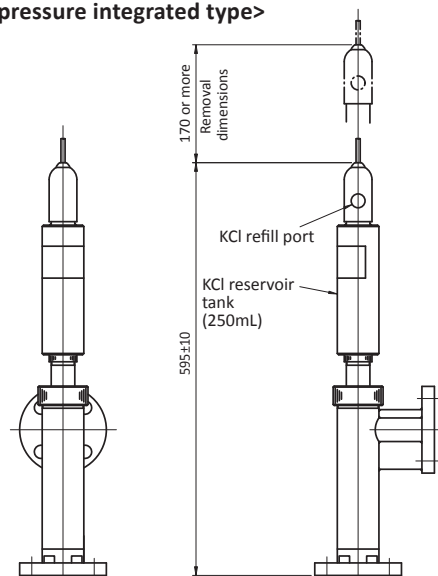


● KCl reservoir tank (optional)

Integrated KCl reservoir tank (approx. 250mL) can be optionally added to flow-through general purpose head pressure detectors.

The frequency of KCl supplementation can be extended to approximately one month, and all of the tank materials are made of transparent PVC. Therefore, the remaining amount of KCl solution can be easily checked.

<Head pressure integrated type>



NHC892-3-□□□	□□□	Main material of wet part (holder/case)
1	.....	Translucent Polypropylene/Polypropylene (PP)
2	.....	Transparent PVC/Hard PVC
	.....	Pipe connection standard
1	.....	25A JIS 10K FF
2	.....	40A JIS 10K FF*1
3	.....	Rc1/2
4	.....	1"ANSI 150LB FF
5	.....	1"JPI 150LB FF
	.....	Internal solution (KCL) reserve tank
0	.....	Standard 100mL
1	.....	Integrated type 250mL
Custom spec. code;	.....	Description form
Numeric digit: 9	0	Japanese (standard)
Alphabet: Z	1	English

NHC893-3-□□□	□□□	Main material of wetted part (holder/case)
1	.....	Translucent polypropylene (PP)/SUS316
2	.....	Transparent PVC/ SUS316
3	.....	Semi-transparent PVDF/SUS316
	.....	Pipe connection standard
1	.....	25A JIS 10K RF
2	.....	40A JIS 10K RF*1
3	.....	Rc1/2
4	.....	1"ANSI 150LB RF
5	.....	1"JPI 150LB RF
	.....	Internal solution (KCL) reserve tank
0	.....	Standard 100mL
1	.....	Integrated type 250mL
Custom spec. code;	.....	Description form
Numeric digit: 9	0	Japanese (standard)
Alphabet: Z	1	English

*1. The sample outlet tube in the case (chamber) is 25A and is 40A for flange-size only.

Note 1. The wetted part material is a flow-through holder made of resin such as polypropylene (PP). The sealing rubber is fluorine rubber (FKM). The maximum sample water temperature is 80°C for PP and 60°C for PVC.

2. Combination electrodes are separately available. Select from the table below according to the measurement conditions and combination converter.

Standard combination of electrode

	Classification	Product code
pH	General purpose	EL5600-2-□F□
	For high temperature	EL5601-2-□F□
	For HF resistance	EL5605-2-□F□
ORP for general use (Pt)		EL2600-1-□F□
	For sewage (human waste)(M)	EL2605-0-□F□

When combining electrodes other than those mentioned above, contact sales office because they may become specially designed.

- 3. PP (polypropylene) is sensitive to sunlight, so avoid outdoor installation as much as possible. For outdoor installation, select PVC.
- 4. If the pipe to be installed is metallic, NHC-892 type resin case (chamber) may be damaged. Select stainless steel case type, NHC-893.

Detector for high temperature and high voltage (old model)

This is a stainless steel high-temperature, high-pressure holder with electrode combination integrated in a KCl tank. Determine the type name by inline connection method and measurement condition for process on-line measurement control such as food chemistry and pharmaceutical factory.

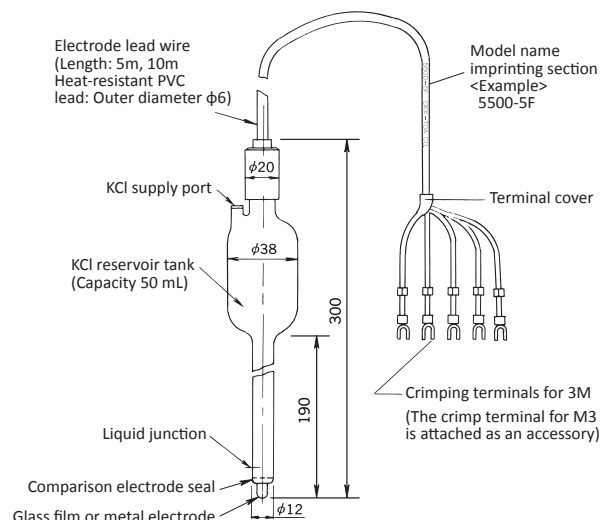
Model	How to connect	Wetted material	Pressure range	Service temperature range (do not freeze)	Flow rate and velocity	Representative combination electrode		Weight
						pH	ORP	
HC-81/811	In-line screw	SUS316,FKM	0 to 0.45MPa	-5 to 95°C	2m/s or less	5500	2500	2 kg
HC-812	In-line flange	SUS316,FKM	0 to 0.45MPa	-5 to 95°C	2m/s or less	5500	2500	3 kg
NHC-813	Flange or screw with stainless steel casing	SUS316,FKM	0 to 0.45MPa	-5 to 95°C	5 to 10L/min	5500	2500	6 kg

Combined electrode

Please specify separately.

Model	Applications	Sealing material	Lead wire material
5500-□F	pH Standard	FKM	Heat-resistant PVC
5502-□F	pH chemical resistant	Perfluoro-rubber	Heat-resistant PVC
5507-□F	pH For fermentation	FKM	Heat-resistant PVC
2500-□F	ORP(pt)	FKM	Heat-resistant PVC
2505-□F	ORP(M)	FKM	Heat-resistant PVC

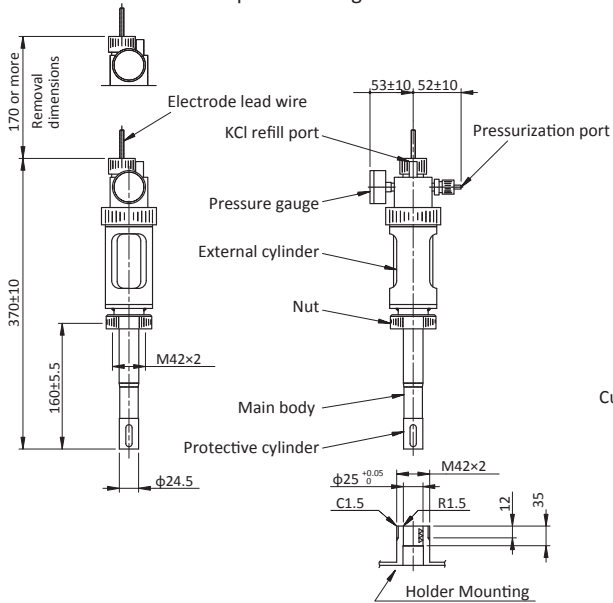
Length of the electrode lead wire



Dimensions of 550□ type and 250□ type

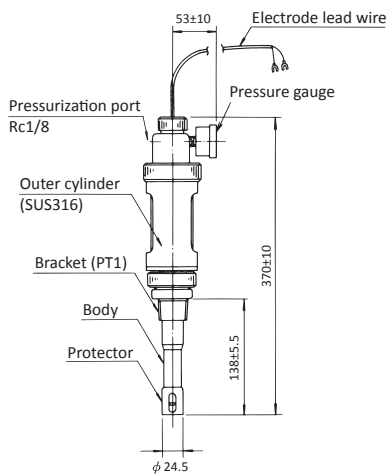
External Dimensions and Product Code

- HC-81 model <Cap nut connection, SUS316, service pressure range 0 to 0.45MPa>



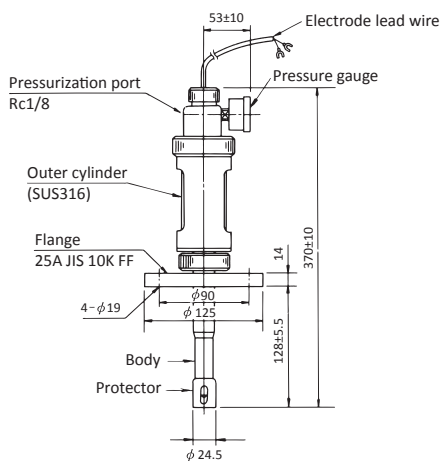
HC81-1-	□	□	□	□	
	1	.....			Main material of wetted part
	2	.....			SUS316, FKM
					SUS316L, FKM
	1	.....			Pressure gauge standard
	2	.....			0 to 0.4MPa
	3	.....			0 to 0.2MPa
					0 to 0.7MPa (up to sample pressure 0.45MPa)
	0	.....			Pipe connection standard
					M42 P2 cap nut
					Internal solution pressurizing system
	A	.....			Manual pressure pump: Check bulb built-in on the main body
	B	.....			Instrumentation air: Rc1/8 (PT1/8)
	C	.....			Instrumentation air: Rc1/4 (PT1/4)
	E	.....			Instrumentation air: Tube (6mm, 10m), R1/4 with fittings
					Description form
Custom spec. code;	0	.....			Japanese (standard)
Numeric digit: 9	1	.....			English
Alphabet: Z					

- HC-811 model <Thread connection, SUS316, service pressure range 0 to 0.45MPa>



HC811-1-	□	□	□	□	
	1	.....			Main material of wetted part
	2	.....			SUS316, FKM
					SUS316L, FKM
					Pressure gauge standard
	1	.....			0 to 0.4MPa
	2	.....			0 to 0.2MPa
	3	.....			0 to 0.7MPa (up to sample pressure 0.45MPa)
					Pipe connection standard
	1	.....			R1 (PT1) Screw installation
					Internal solution pressurizing system
	A	.....			Manual pressure pump: Check bulb built-in on the main body
	B	.....			Instrumentation air: Rc1/8 (PT1/8)
	C	.....			Instrumentation air: Rc1/4 (PT1/4)
	E	.....			Instrumentation air: Tube (6mm, 10m), R1/4 with fittings
	Z	.....			Custom spec *2
					Description form
Custom spec. code;	0	.....			Japanese (standard)
Numeric digit: 9	1	.....			English
Alphabet: Z					

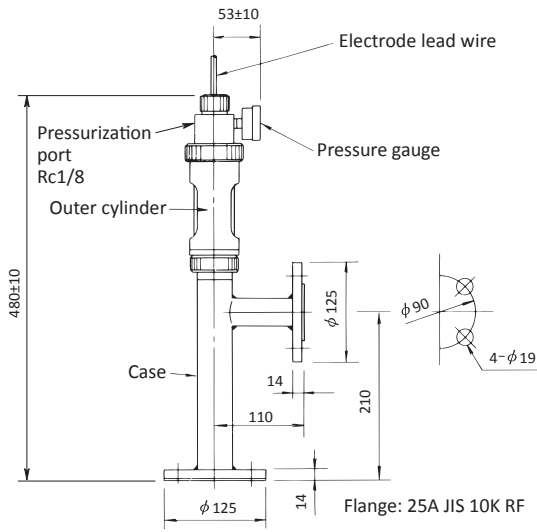
- HC-812 model <Flange connection, SUS316, service pressure range 0 to 0.45MPa>



HC812-1-	□	□	□	□	
	1	.....			Main material of wetted part
	2	.....			SUS316, FKM
					SUS316L, FKM
					Pressure gauge standard
	1	.....			0 to 0.4MPa
	2	.....			0 to 0.2MPa
	3	.....			0 to 0.7MPa (up to sample pressure 0.45MPa)
					Pipe connection standard
	2	.....			25A JIS 10K FF
	4	.....			40A JIS 10K FF
	6	.....			1"ANSI 150LB FF
					Internal solution pressurizing system
	A	.....			Manual pressure pump: Check bulb built-in on the main body
	B	.....			Instrumentation air: Rc1/8 (PT1/8)
	C	.....			Instrumentation air: Rc1/4 (PT1/4)
	E	.....			Instrumentation air: Tube (6mm, 10m), R1/4 with fittings
	Z	.....			Custom spec *2
					Description form
Custom spec. code;	0	.....			Japanese (standard)
Numeric digit: 9	1	.....			English
Alphabet: Z					

● NHC-813 model

<Flange connection with stainless steel case, SUS316, service pressure range 0 to 0.45MPa>



NHC813-1-

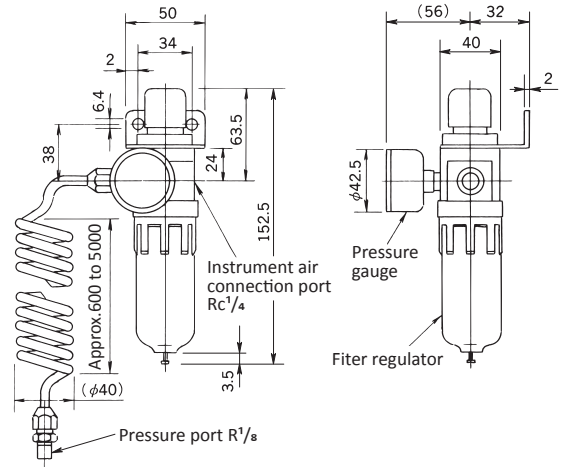
1	Main material of wetted part
2	SUS316, FKM
3	SUS316L, FKM
1	Pressure gauge standard
2	0 to 0.4MPa
3	0 to 0.2MPa
3	0 to 0.7MPa (up to sample pressure 0.45MPa)
1	Pipe connection standard
2	25A JIS 10K RF
3	25A JIS 10K FF
4	40A JIS 10K RF
5	40A JIS 10K FF
6	1"ANSI 150LB RF
7	1"JPI 150LB RF
	Internal solution pressurizing system
A	Manual pressure pump: Check bulb built-in on the main body
B	Instrumentation air: Rc1/8 (PT1/8)
C	Instrumentation air: Rc1/4 (PT1/4)
E	Instrumentation air: Tube (6mm, 10m), R1/4 with fittings
Z	Custom spec *2
	Description form
0	Japanese (standard)
1	English

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

■ Related Equipment

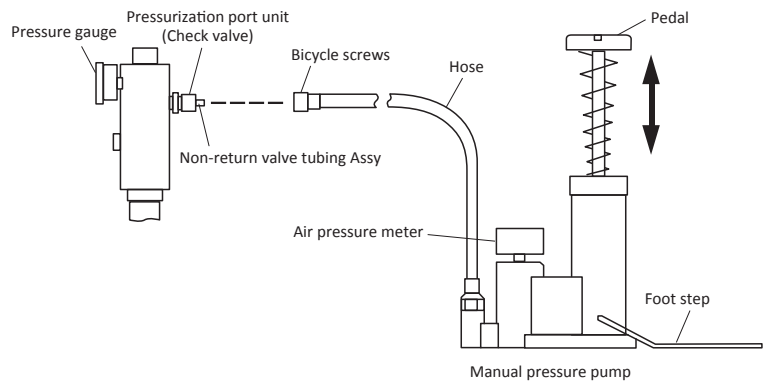
Air Set PAS-10

This is an air set for pressurizing the pressurized immersion type holder with instrumentation air. A spiral tube useful for attaching and detaching the holder is connected to the pressure regulator with filter with secondary 0 to 0.3MPa setting.



Manual pressure pump

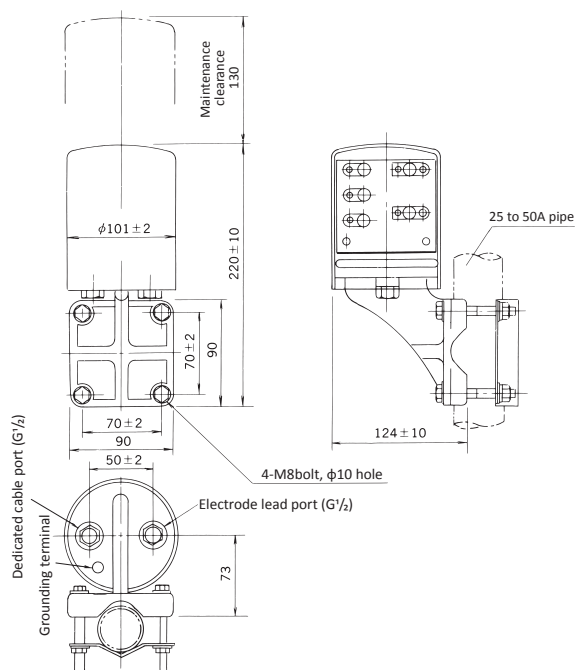
Pressurization port unit and manual pressurization pump are available, if there is no equipment for instrumentation air (Check valve). In this case, periodic pressurize operation is required.
 Pressurized port unit: Code No. 4351110U
 Check valve tube Assy: Code No. 5970030K
 Manual pressurization pump: Code No. 125B971



Connector Box

Used in combination with a dedicated cable when the transmitter and detector are installed apart (mainly panel-mounted transducers) and cannot be wired to the transducer through the electrode lead wires.

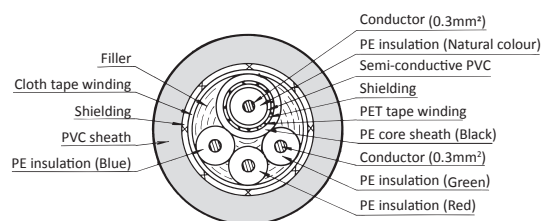
- Model : FC-4
- Construction : Field installation, spray proof (JIS C 0920)
- Mounting : 25 to 50A Pipe, wall or panelmount
- Material : ABS resin
- Finish : Matted chromium plating, metallic silver
- Weight : Approx. 0.9kg
- Dedicated cable : EC-10



Dedicated Cable

The dedicated cable is a special cable dedicated to pH/ORP meter and is used between the transducer and the connector box. Maximum length is up to 100m and intermediate relaying is not possible.

- Model : EC-10
- Overall diameter : $\phi 8$
- Insulation : Polyethylene and PVC
- Outer cover : PVC
- Insulation resistance : At least $10^6 \text{M}\Omega/100\text{m}$ between core conductors
- Standard length : 5m, 10 to 100m
- Weight : Approx. 0.5kg/5m



pH and ORP meter calibration (check) kit

The pHmeter calibration kit consists of a pH7 reference solution for two-point calibration and a pH4 or pH9 reference solution and beaker. Select pH4 standard solution kit for standard measurement and pH9 standard solution kit for alkaline measurement.

The ORP check kit consists of an ORP standard solution and a beaker.

Use	Key	Code No.	Product name
pH standard	N	6581420K	pH calibration 4-7 kit (NN)
pH Alkali	P	6581430K	pH calibration 7-9 kit (PN)
ORP	Q	6581440K	ORP check kit (QN)

Detailed list for kit

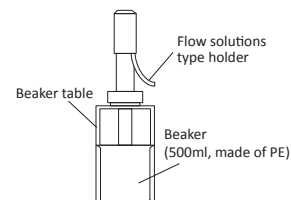
● pH calibration 4-7 kit (NN) (Code No. 6581420K)		Code No.	Amount
Polyethylene beaker (500mL)		(136C035)	3
pH 4 powder for standard solution (500mL with container)		(143F307)	1
pH 7 powder for standard solution (500mL with container)		(143F308)	1
pH 4 powder for standard solution (for 500mL, 5 packs/set)		(143F060)	1
pH 7 powder for standard solution (for 500mL, 5 packs/set)		(143F061)	1
● pH calibration 7-9 kit (PN) (Code No. 6581430K)		Code No.	Amount
Polyethylene beaker (500mL)		(136C035)	3
pH 7 powder for standard solution (500mL with container)		(143F308)	1
pH 9 powder for standard solution (500mL with container)		(143F309)	1
pH 7 powder for standard solution (for 500mL, 5 packs/set)		(143F061)	1
pH 9 powder for standard solution (for 500mL, 5 packs/set)		(143F062)	1

● ORP check kit (QN) (Code No. 6581440K)	Code No.	Amount
Polyethylene beaker (500mL)	(136C035)	2
ORP powder for standard solution (500mL with container)	(143F310)	1
ORP powder for standard solution (for 500mL, 5 packs/set)	(143F089)	1

Beaker stand for calibration and checking of flowing liquid type holder

By placing the flow type holder on the "beaker stand", calibration can be easily and stably performed. Please order separately.

Products Name	Application Holder	Code No.	Material	Applications
Beaker table	HC-880, NHC-8□□, HC-G80	74200200	Stainless	500mL for one beaker
	HC-81/811/812, NHC-813	61562400		



pH Standard Solutions

There are various pH standard solutions (500mL) and powdered reagents (for 500mL). The second type of pH standard solution is a pH standard solution (Kanto Chemical Co., Ltd.) that has traceability to the national standard, and it passes the inspection by a public agency.

○ pH Standard Solutions

Name	pH value (25°C)	Accuracy	Capacity	Parts code
Oxalate pH standard solution	1.68	±0.02	500mL	143F194
0.01M oxalate pH standard solution	2.15	±0.02	500mL	143F091
Phthalate pH standard solution	4.01	±0.02	500mL	143F191
Neutral phosphate pH standard equimolar solution	6.86	±0.02	500mL	143F192
Borate pH standard solution	9.18	±0.02	500mL	143F193
Carbonate pH standard solution	10.02	±0.02	500mL	143F195

○ Powder Reagent for pH Standard Solution

Name	pH value (25°C)	Capacity	Parts code
Powder reagent for oxalate pH standard solution	1.68	For 500 mL (5 packs)	143F065
Powder reagent for 0.01M oxalate pH standard solution	2.15	For 500 mL (5 packs)	143F090
Powder reagent for Phthalate pH standard solution	4.01	For 500 mL (5 packs)	143F060
Powder reagent for neutral phosphate Salt pH standard solution	6.86	For 500 mL (5 packs)	143F061
Powder reagent for borate pH standard solution	9.18	For 500 mL (5 packs)	143F062
Powder reagent for pH carbonate standard solution	10.02	For 500 mL (5 packs)	143F066

○ Class 2 pH Standard Solution

Name	pH value at 25°C, and criteria	Capacity	Parts code
Phthalate pH standard solution, class 2	4.01±0.015	500mL	143F501
Neutral phosphate pH standard solution, class 2	6.86±0.015	500mL	143F502
Borate pH standard solution, class 2	9.18±0.015	500mL	143F503

ORP Standard Solutions

The ORP standard solution is used by saturating quinhydrone with phthalate pH standard solution

Name	Capacity	Parts code
ORP standard solution (pH4.01 solution plus quinhydrone)	500 mL	143F196
Powder reagent for ORP standard solution (pH4.01 powder plus quinhydrone)	For 500 mL (5 sets)	143F089
Quinhydrone powder reagent for ORP standard solution (quinhydrone only)	For 500 mL (5 packs)	143F059

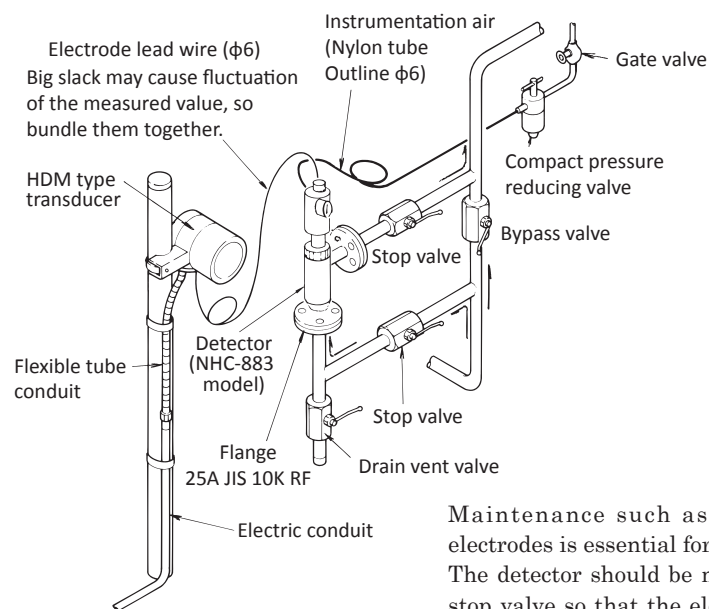
Electrolyte for Electrode

This is an internal solution for KCl supply electrodes. The solution comes in a polyethylene bottle with a nozzle.

Name	Object electrode	Capacity	Parts code
3M KCl solution	Non-leak silver chloride internal electrode	500mL	143A252
Powder reagent for 3M KCl solution	Non-leak silver chloride internal electrode	1 package for 500 mL	143A253

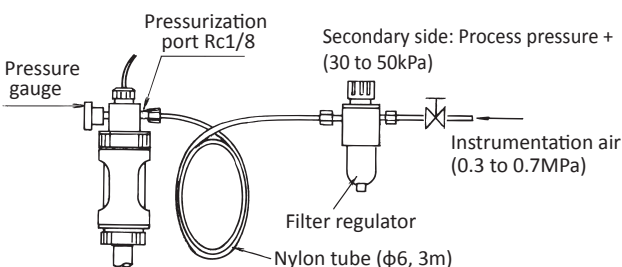
■ Flow type detector installation example

<Standard installation diagram of flow-through type pH/ORP measuring system>



<Pressurization method using instrumentation air>

Internal liquid pressurization port of each detector is Rc (PT) 1/8 screw connection for instrumentation air connection. Prepare a compact pressure reducing valve/gate valve and nylon tube, and connect them as shown in the figure below.

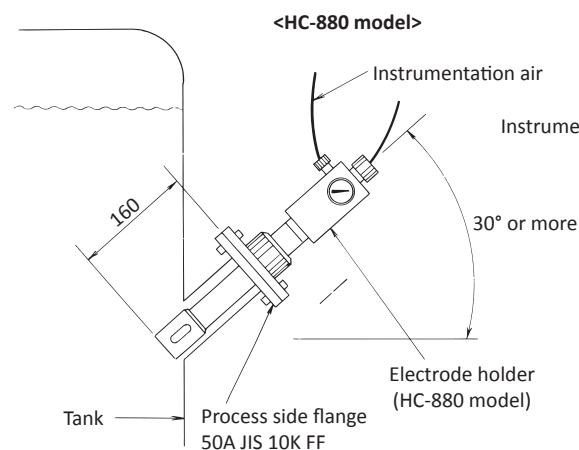


Maintenance such as cleaning and calibration of electrodes is essential for pH meters.

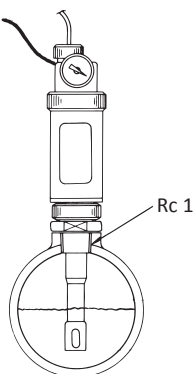
The detector should be mounted on a bypass line with a stop valve so that the electrode holder can be pulled out safely at any time. Use a flexible tube to connect the instrumentation air.

NOTE . Detector cannot be installed in direct sunlight.

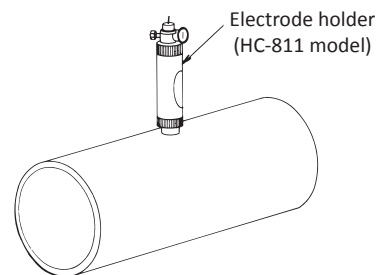
<Tank Side Mounting>



(Rc1 female thread engagement)
Install a stop valve on the inlet/outlet side so that the electrode holder can be pulled out.



<Pipe attachment>



DKK-TOA CORPORATION



Please read the operation manual carefully before using products.

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