General Specifications

EXA RC

Model RC400G
Residual Chlorine Analyzer

GS 12F4A1-E

■ Overview

Chlorine treatment in water treatment systems, such as municipal water supplies, serves to destroy microorganisms, fungi, aquatic plants and shellfish that live in water, and thus to yield appropriate quality for the application. However, adding too much chlorine cause negative effects; in municipal water supplies, it may give the water an unpleasant chlorine odor; in industry, excessive chlorine may corrode plumbing; and in waste water this may release dangerous substances into streams and rivers. For this reason, it has become very important in recent years to use a residual chlorine analyzer when chlorine is added to water, in order to measure the concentration of chlorine, and to monitor and control this concentration.

The RC400G residual chlorine analyzer employs a polarographic system using rotating gold alloy electrodes to provide continuous online measurement of residual chlorine concentration. It is said that total chlorine (residual chlorine) is the sum of free chlorine and combined chlorine. By appropriate use of reagents, RC400G can have three kinds of measurement possibilities, namely free chlorine measurement, total chlorine (residual chlorine) measurement, and free chlorine measurent in case of existence of combined chlorine. If the raw water is particularly dirty, the concentration of combined chlorine may become extremely high immediately after chlorine is added. To compensate for this, we also offer a free chlorine measurement system featuring improved separation performance over the standard system (Combined chlorine insensitive version).

The RC400G is an intelligent residual chlorine analyzer making extensive use of microprocessors incorporating know-how based on Yokogawa's many years of experience in residual chlorine analysis.

■ Features

Intelligent microprocessor-based converter

- Simple, one-touch calibration.
- Automatic sensor self-diagnostics (zero point, slope, response) during calibration.
- Change of output range for 1mg/l span or greater, and remote range switching are available.
- Line-segment function available for output signal.
- Simple verification of applied voltage/current characteristics (Plateau characteristic) between electrodes. Allows detailed knowledge of sensor characteristics for the target application to be obtained.
- A wealth of display functions and contact output functions.
- Easy-to-use operating panel.

Upgraded detector based on extensive experience

- Improvements to rotating electrodes and glass bead cleaning have been added for even more effective automatic continuous cleaning.
- Waterjet cleaning can be applied for the purpose of particularly dirty applications.

- Uses reliable sliding contacts in contact elements.
- Easily maintained (easy-to-clean) cell construction.
- Available for special version (for free chlorine measurement) designed to cope with very high concentrations of combined chlorine (see other literature).

Sampling equipment (conditioning equipment)

- Adds a 2-cylinder sand filter for particularly dirty applications to the product line.

■ Standard Specifications

1. Residual chlorine analyzer

Measurement object: Free chlorine or residual chlorine (total chlorine) in water
Measurement method: Rotating electrode type polarographic system
Measurement range: 0 to 10 mg/l (mg/l used as concentration units per JIS K0101 and municipal water test methods)
Output range: Can be freely set within ranges with spans of 1 mg/l or greater. (Range set when shipment. No.1: 0 to 5 mg/l No.2: 0 to 10 mg/l. Allows selection between 2 ranges (selected with contact input signal).
2-line-segment output available: Any desired point between 0% and 100% of measurement span can be set as the 50% point of the output range.
Output signal: 4 to 20 mA (load resistance, 550 Ω Max.) or 1 to 5 V DC (output resistance, 300 Ω Max.), isolated
Display range: -1.00 to 12.00 mg/l
Display method: Digital display (4-digit LED)
Output contacts: Voltage-free ("dry") contacts
Contact rating: Max. 250 V AC, Max. 2 A, Max. 125 VA (resistive load)
Max. 220 V DC, Max. 2 A, Max. 60 W (resistive load)

YOKOGAWA

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan
Tel.: 81-422-52-5617 Fax.: 81-422-52-6792

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Input contacts: Voltage-free (“dry”) contact
ON resistance: 200 Ω Max.
OFF resistance: 100 kΩ Min.
Open circuit voltage: 10 V
Closed circuit current: 100 mA
Automatic zero calibration: Zero calibration using activated charcoal filter (optional)
Contact inputs:
Remote range switching: Switching between 2 preset ranges (range 1 and range 2)
Contact open: Range 1
Contact closed: Range 2
Contact outputs:
FAIL contact: Activate when concentration over range, measurement temperature error, no liquid in flow cell converter error, temperature compensation over range, setting upper limit exceeded
Range switching contact
MAINT contact: Activate when analyzer is in maintenance mode

	Main power OFF	Main power ON	
	---	Not operating	Operating
FAIL contact	Open	Closed	Open
MAINT contact	Closed	Open	Closed

Sample conditions:
Temperature: 0 to 50 °C
pH: 3 to 9 pH
Flow: 1 to 4 l/min, for pure water or municipal water application.
5 to 10 l/min, for raw water or sea water application.
10 to 20 l/min, for secondary sewage treatment application.
Pressure: 20 to 500 kPa
Electrodes:
Indicator electrode: Rotating gold alloy electrode
Counter electrode: Platinum electrode (built-in Pt1000 Ω RTD), the combined chlorine insensitive version uses a silver chloride electrode (built-in Pt1000 Ω RTD).
Reagents:
Composition: The following reagents are dissolved in pure water to give 100 l of solution.
(Note) Pure water should be equal to or exceed level of tap water and should not contain oxidizing and reducing substances such as chlorine.

	For residual chlorine measurement		For free chlorine measurement	For combined chlorine measurement
Maximum concentration	Up to 6 mg/l	Over 6 up to 10 mg/l	Up to 10 mg/l	Up to 10 mg/l
Potassium iodide, extra pure	500 g	1000 g	---	---
Potassium bromide, extra pure	---	---	4000 g	4000 g
Anhydrous sodium acetate, extra pure	150 g		1000 g	5400 g
Glacial acetic acid, extra pure	1000 ml		1000 ml	200 ml

Consumption: 1.5 ml/min ±10%
Constant flow pump:
Sample flow: 50 ml/min ±10%
Reagent flow: 1.5 ml/min ±10%

Converter functions:
Display functions:
Data: Concentration, temperature, applied voltage, diffusion current, output signal %, pump flow, zero point, slope
Status indicators: Measurement, maintenance, hold, calibration in progress, cleaning, fail
Operating status : Rotating electrode, metering pump, air pump, solenoid valve ON/OFF
Diagnostic functions: Concentration over range, measurement temperature error, no liquid in flow cell, converter error, temperature compensation over range, setting upper limit exceeded, zero point error, slope error, response error
Maintenance functions (MAINT mode):
One-touch calibration, flow cell and sand filter system cleaning, pump flow measurement, one-touch plateau characteristic acquisition, failure error information
Setup functions:
PROGRAM 1 mode
Output Range 1 and Range 2 settings, 2-line-segment output setting, applied voltage setting, response time and stability parameter settings, contact output during FAIL condition (ON/OFF), indication hold during MAINT (ON/OFF), remote range switching ON/OFF
PROGRAM 2 mode
Cleaning, auto zero calibration sequence setup
Automatic cleaning functions: Electrode and flow cell cleaning methods
For pure water: Glass-bead cleaning
For raw/sea water, secondary sewage treatment: Glass-bead cleaning+water jet cleaning; Water jet cleaning flow: 2 to 3 l/min

Sand filter system:
Filter sand: Filter sand for municipal water (high-speed filtering sand, approx. 550 ml per tube)
Filtering flow: Approx. 500 ml/min (per cylinder)
Backwash water flow: 8 to 9 l/min (per cylinder)
Standard cleaning sequence (factory settings)

	1-cylinder system	2-cylinder system	Setting range
Sand filter backwash interval	2 hours	30 min	0.1 to 24 h, 0.1 h steps
Sand filter backwash time	1 min	1 min	0.1 to 25 min, 0.1 min steps
Flow cell jet cleaning interval	2 hours	1 hour	0.1 to 24 h, 0.1 h steps
Flow cell jet cleaning time	1 min	1 min	0.1 to 25 min, 0.1 min steps
Waiting time	5 min	3 min	0.1 to 25 min, 0.1 min steps
Output hold time	6 min	4 min	Jet cleaning time + waiting time

In a 1-cylinder system, sand filter backwash and flow cell jet cleaning are performed at the same time.

Wetted part materials
Measurement tank: Acrylic resin
Pump: Fluorinated rubber (Viton), hardened PVC, SUS316
Tubing/piping: Polyethylene, hardened PVC

Stand materials: Carbon steel or stainless steel

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Paint colors
Mounting stand: Munsell 0.6GY3.1/2.0
Other parts: Munsell 0.6GY3.1/2.0 and 2.5Y8.4/1.2

Finish: Baked polyurethane resin coating

Operating conditions
Ambient temperature: -5 to 55 °C
(However, measure to prevent freezing are required if the water sample or reagent appears to freeze.)
Ambient humidity: 5 to 95% RH (non-condensing)
Storage temperature: -30 to 70 °C
Installation: Indoors (A separate rainproof cover is required for outdoor installation. Avoid direct sunlight.)

Utilities
Power supply: 100/110/220 V AC ±10%, 50/60 Hz
Power consumption:
RC400G-1☐; Approx. 65 VA
RC400G-2☐; Approx. 125 VA
RC400G-3☐; Approx. 210 VA
Cleaning water (required with sand filter system):
Quality; clean water
Pressure; 100 to 500 kPa
Flow; 10 to 12 l/min
Consumption;
Approx. 130 l/day (1-cylinder sand filter type)
Approx. 470 l/day (2-cylinder sand filter type)
(With standard cleaning sequence [factory settings])
Air purge (using instrument air):
Supply pressure; 140 kPa
Air consumption; Approx. 5 l/min

Weight
For pure water: Approx. 65 kg
For raw water (1-cylinder): Approx. 70 kg
For raw water (2-cylinder): Approx. 75 kg

Optional specifications
Pump for air purge (if instrument air cannot be used)
Install to enable intake of clean air.
Intake/discharge: 5 l/min, at 50 Hz (Intake/discharge outlets: Open)
Maximum pressure: 80 kPa
Power consumption: Approx. 23 VA
Weight: Approx. 2 kg

Regulatory Compliance:
EMC Regulatory Arrangement in Australia and New Zealand (RCM) EN 55011 Class A, Group 1
Korea Electromagnetic Conformity Standard Class A
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2. Reagent Tank Model RC401G

(1) Reagent tank (RC401G-A)
Capacity: 100 L
Materials: Rigid PVC
Weight: Approx. 15 kg

(2) Reagent tank with stand (RC401G-B)
Incorporates the reagent tank in item (1) with a stand and a needle valve.
Stand materials: carbon steel
Stand color: Munsell 2.5Y8.4/1.2
Stand finish: Baked polyurethane resin coating
Weight: Approx. 25 kg

(3) Reagent mixing tank with cart (RC401G-C)
A reagent mixing tank mounted on a cart.
With manual mixer, and pump for transferring reagents.
Note: This tank is for reagent mixing, and is not a substitute for the reagent tank.
Tank capacity: 100 L
Tank materials: Rigid PVC
Cart materials:
Frame; Steel pipe (SPG30A)
Bracket; Steel plate (SPCC)
Pump (Seal-less Pump):
Discharge flow rate; 14 to 35 L/min
Wetted part material; Polypropylene resin, Hastelloy, ceramics, fluorinated rubber
Power supply; 100 V AC, 50/60 Hz
Power consumption; Approx. 100 VA
Power cord; PVC sheathed cable, 5 m
Weight; Approx. 40 kg

3. Reagent sets (for one year)

(1) For free chlorine
Potassium bromide extra pure:
64 containers, 500 g each
Anhydrous sodium acetate extra pure:
16 containers, 500 g each
Acetic acid extra pure: 7 containers, 500 ml each

(2) For residual chlorine (Total chlorine)
Potassium iodide extra pure:
8 containers, 500 g each
Anhydrous sodium acetate extra pure:
3 containers, 500 g each
Acetic acid extra pure:
17 containers, 500 ml each

(3) For high concentration of residual chlorine (Total chlorine)
Potassium iodide extra pure:
16 containers, 500 g each
Anhydrous sodium acetate extra pure:
3 containers, 500 g each
Acetic acid extra pure:
17 containers, 500 ml each

(4) For combined chlorine insensitive version (Free chlorine)
Potassium bromide extra pure:
64 containers, 500 g each
Anhydrous sodium acetate extra pure:
87 containers, 500 g each
Acetic acid extra pure:
4 containers, 500 ml each
(Note) These reagents sets are not imported from Japan because of both safety and transportation cost issues. Purchase them directly in your local reagent supplier.

■ Characteristics

(Percent display is computed with respect to whichever of output range 1 or output range 2 has the highest upper range value)

Repeatability: 2%
Linearity: ±3%
Drift: Zero drift; ±1%/month Max.
Span drift; -5%/month Max.
Response time: Displayed as 90% response time
For pure water; Approx. 3 min
For raw water; Approx. 4 min
(Within 3 min from standard liquid inlet)
Temperature compensation error (water temperature): ±1% Max. (Temperature compensation range: 0 to 40 °C)
Effect of ambient temperature: ±0.5%/10 °C
Effect of power variation: ±0.5%/10% of rated voltage
Effect of combined chlorine: 5% or less, of concentration of combined chlorine for combined chlorine insensitive version

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■ Model and Suffix Codes

(1) Residual chlorine analyzer

[Style: S3]

Model	Suffix code	Option code	Description
RC400G	----------	----------	Residual chlorine analyzer
Application (cleaning unit) (*1)	-1	----------	For pure water, for municipal water (with glass-bead cleaning)
	-2	----------	For raw water (1-cylinder) (with glass-beads cleaning, jet cleaning, and one cylinder sand filter unit) *6
	-3	----------	For raw water (2-cylinder) (with glass-beads cleaning, jet cleaning, and two cylinder sand filter unit) *6
Output signal	5	----------	1 to 5 V DC
	6	----------	4 to 20 mA DC
Power supply	1	----------	200 V AC, 50 Hz
	2	----------	200 V AC, 60 Hz
	3	----------	220 V AC, 50 Hz
	4	----------	220 V AC, 60 Hz
	5	----------	100 V AC, 50 Hz
	6	----------	100 V AC, 60 Hz
	7	----------	110 V AC, 50 Hz
	8	----------	110 V AC, 60 Hz
Measurement object (*2)	F	----------	Free chlorine
	T	----------	Residual chlorine (total chlorine)
	C	----------	Combined chlorine insensitive version (free chlorine) (*3)
-	-N	----------	Always -N
-	*A	----------	Always A
Optional specifications		/AP1	With air purge pump (200 V AC, 50/60 Hz) *7
		/AP3	With air purge pump (220 V AC, 50/60 Hz) *7
		/AP5	With air purge pump (100 V AC, 50/60 Hz) *7
		/AP7	With air purge pump (110 V AC, 50/60 Hz) *7
		/PPM	Units: ppm
		/NR	Without reagent set for start-up (*4)
		/SCT	Stainless tag plate
		/S	Stainless stand (*5)
		/AZC	With automatic zero calibration
		/ARS	With arrestor (power and signal lines)

*1: "Application" indicates general guidelines. Select the cleaning equipment appropriate for the contamination in the sample.
*2: Measurement object selection is indicated in the following.
*3: Less affected by combined chlorine in free chlorine measurement.
*4: When ordering the RC400G, select /NR and get reagent sets for start-up from local reagent supplier. These reagent sets can not be exported from Japan due to both safety and transportation issues.
*5: Stanchion, base and bracket are stainless steel.
*6: Please contact Yokogawa regarding the adequate number of the cylinder.
*7: Installation of air purge is always required for all aplication. If instrument air cannot be used, select the air purge pump.

Application	Measurement object	
	Free chlorine	Total chlorine
Water purification: raw water	○ (*1)	○
Water purification: mixed water, sedimentation water	○ (*1)	○
Water purification: mains water	○	○
Sea water	x	x (*3)
Factory wastewater, treated effluent	x	x
Factory cooling water (industrial water)	x	○ (*2)
Factory drinking water	○	○
Sewage secondary treatment	x	x (*3)

○: Can be measured
x: Cannot be measured

*1: If ammoniacal contaminants are present in large quantity, high concentrations of combined chlorine may remain if sampling is performed soon after chlorine injection in prechlorination treatment, or in intermediate treatment without prechlorination treatment. In this case, combined chlorine type is recommended
*2: Oxidizing or reducing agents other than chlorine may be present. If so, chlorine concentration measurement may not be possible.
*3: There are Residual chlorine analyzer for sewage secondary treatment or sea water. Please ask Yokogawa.

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Accessories

1. Residual chlorine meter (RC400G)

Name	Quantity	Remark
Polishing powder	1 bottle	For polishing electrode
Lubricating oil	1	For metering pump drive
Fuses	4 each	1 A and 3 A (for spare)
Glass beads	1	(including for spare) (2 bags)
Valve sheet	4	For metering pump (for spare)
Bellophram	1	For sample pump (for spare)
	1	For reagent pump (for spare)
Special tool	1	For pump valve replacement
Tool	1	For Bellophram replacement
Allen wrenches	1 set	1.5, 2, 2.5, 4, 5, 6 (mm)
Reagent set	(*)	For startup

2. Reagent tank (RC401G-A, RC401G-B)

Name	Q'ty	Remark
Couplings	2 sets	
Polyethylene tubing	5 m	Outside diameter 6 mm, Inside diameter 4 mm.

Note: These are not included in reagent mixing tank (RC401G-C.)

(*) These reagents sets are not imported from Japan because of both safety and transportation cost issues. Purchase them directly in your local reagent supplier.

(2) Reagent tank

Model	Suffix code	Option code	Description
RC401G	----------	----------	Reagent tank
Type	-A	----------	Reagent tank only
	-B	----------	Reagent tank with stand
	-C	----------	Reagent mixing tank with mobile stand
-	-HM	----------	With manual mixer
-	*A	----------	Style A

(3) Spare parts

Replacement intervals vary depending on the application.

Name	Part No.	Description	Q'ty	Recommended replacement interval
Indicator electrode (Rotating electrode)	K9334JP	Gold alloy electrode (*2)	1	Yearly
Counter electrode	K9332MJ	Reference electrode	1	(*1)
Counter electrode (for combined chlorine)	K9332MK	Silver chloride electrode	1	(*1)
Glass beads (2 bags/Q'ty)	K9332ZJ	For cleaning indicator electrode	1	Yearly
Polishing powder (Alumina)	K9088PE	For polishing indicator electrode	1	-
Brush	K9332JX	Part for electrode mechanism	1	2 years
Slip ring	K9332JZ	Part for electrode mechanism	1	2 years
Drive belt	L9804UK	Part for electrode mechanism	1	3 years
Driven shaft assembly	K9334JV	Part for electrode mechanism (*2)	1	3 years
O-ring	Y9115XB	Part for electrode mechanism	1	3 years
Motor assembly (100 V)	K9334JY	Part for electrode mechanism	1	3 years
Motor assembly (110 V)	K9334VQ	Part for electrode mechanism	1	3 years
Motor assembly (200 V)	K9334VR	Part for electrode mechanism	1	3 years
Motor assembly (220 V)	K9334VS	Part for electrode mechanism	1	3 years
Gear head (100 V / 110 V)	K9332JP	Part for electrode mechanism	1	3 years
Gear head (200 V / 220 V)	K9334VA	Part for electrode mechanism	1	3 years
Fuse (1 A)	A1109EF	For electric circuit	1	Yearly (*3)
Fuse (3 A)	A1113EF	For power supply	1	Yearly (*3)
Sand	K9720FZ	For sand filter unit (1 liter)	1	Yearly

(*1) At the time of damage. (*2) P/N changed by style S3.

(*3) Fuse may be used more than one year, we recommend periodical replace for planning maintenance. Continued next page.

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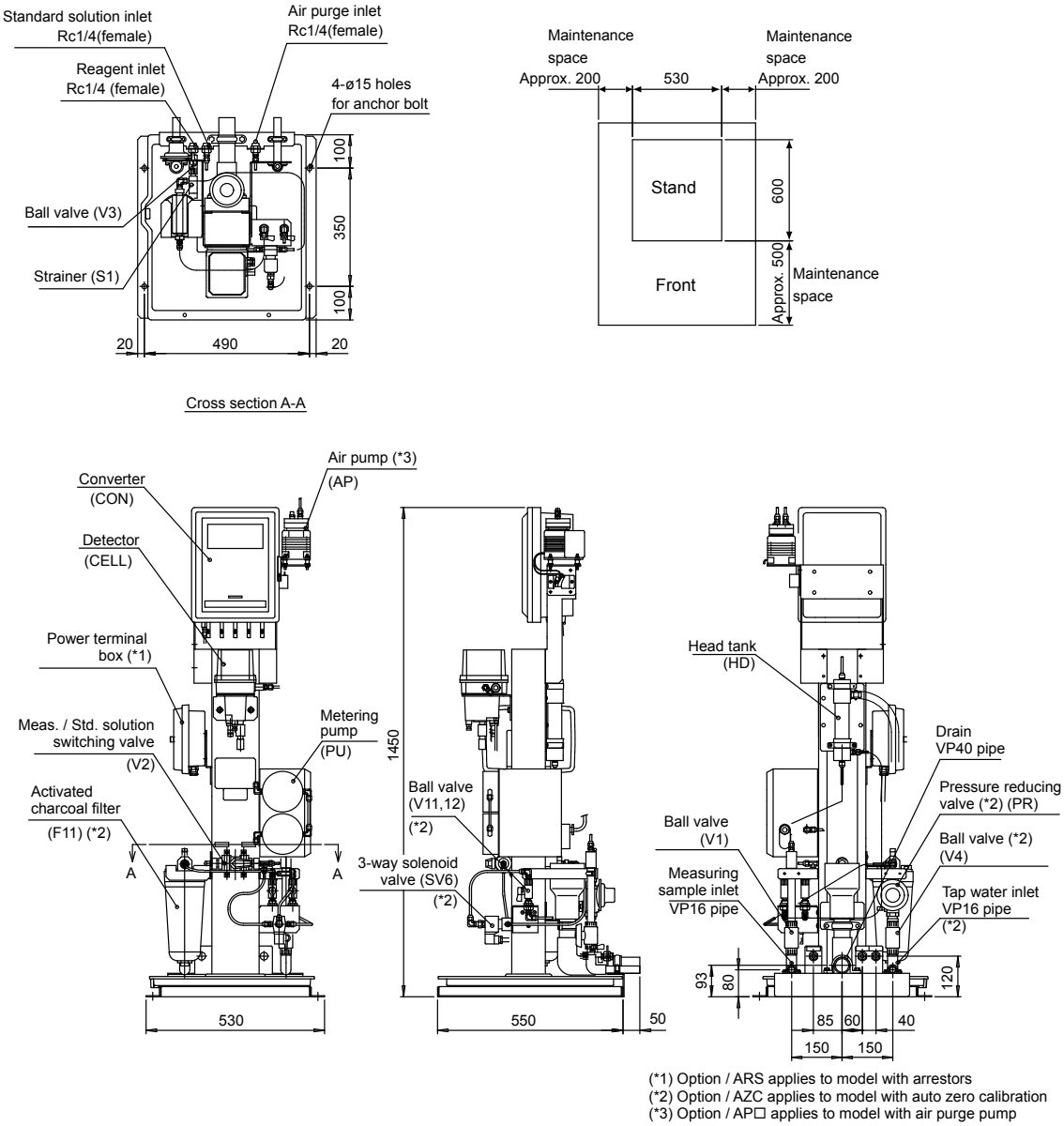
Name	Part No.	Description	Q'ty	Recommended replacement interval
Air pump (100 V)	K9087XA	For air purgepump	1	3 years
Air pump (110 V)	K9087XF	For air purgepump	1	3 years
Air pump (200 V)	K9087XG	For air purgepump	1	3 years
Air pump (220 V)	K9087XH	For air purgepump	1	3 years
Lubricating oil (engine oil)	K9041RA	For metering pump drive	1	1 month (*4)
Bellophram	L9819AA	For reagent pump	1	6 months
Bellophram	L9819AB	For sample water pump	1	6 months
Valve sheet	K9041HC	For metering pump	1	6 months
Activated charcoal filter	L9862AY	For automatic zero calibration	1	Yearly
Filter	K9332NN	For head tank or sand filter	1	Yearly

(*4) Recommended maintenance interval for lubricating the metering pump drive assembly.

■ External Dimensions

(1) RC400G-1 Residual chlorine analyzer for pure water and municipal water

unit : mm



(*1) Option / ARS applies to model with arrestors
(*2) Option / AZC applies to model with auto zero calibration
(*3) Option / APㅁ applies to model with air purge pump

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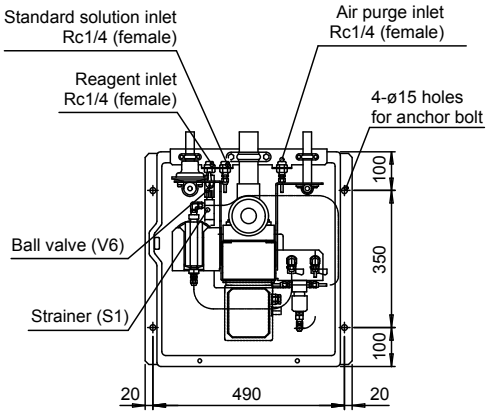
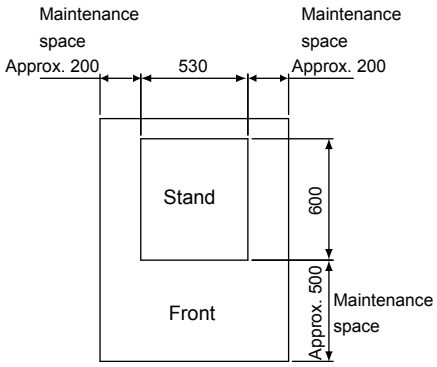
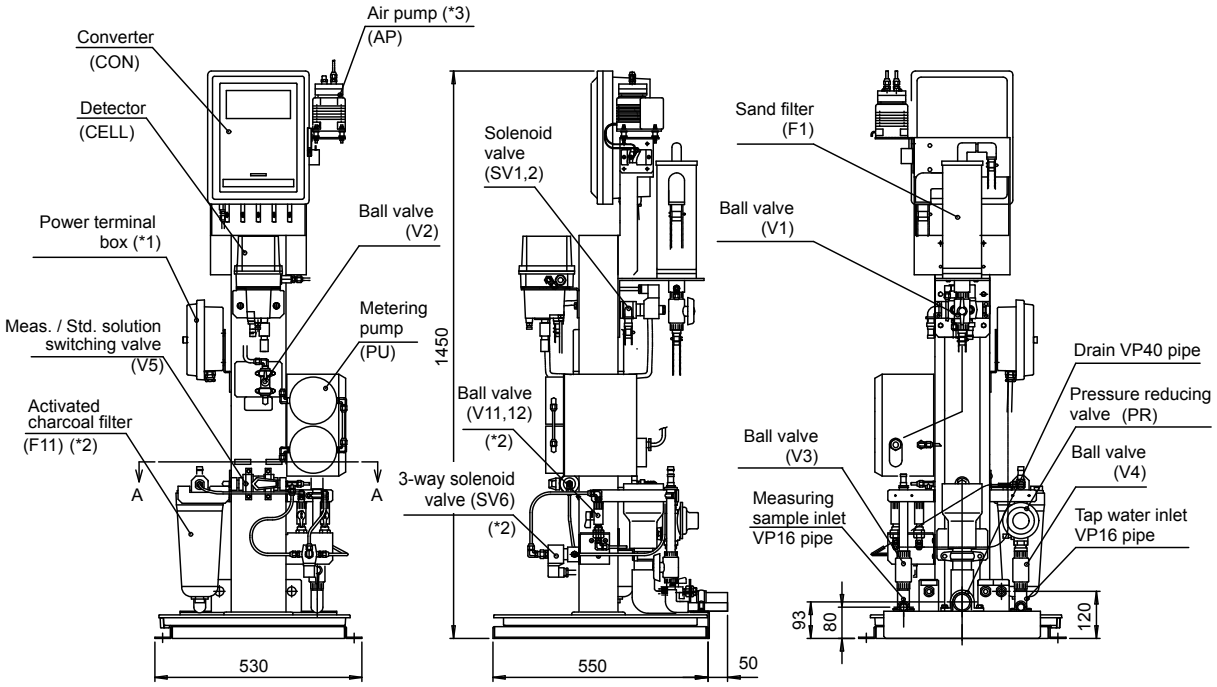
(2) RC400G-2 Residual chlorine analyzer for raw water (1-cylinder)

unit : mm



Cross section A-A





(*1) Option / ARS applies to model with arrestors
(*2) Option /AZC applies to model with auto zero calibration
(*3) Option / AP☐ applies to model with air purge pump

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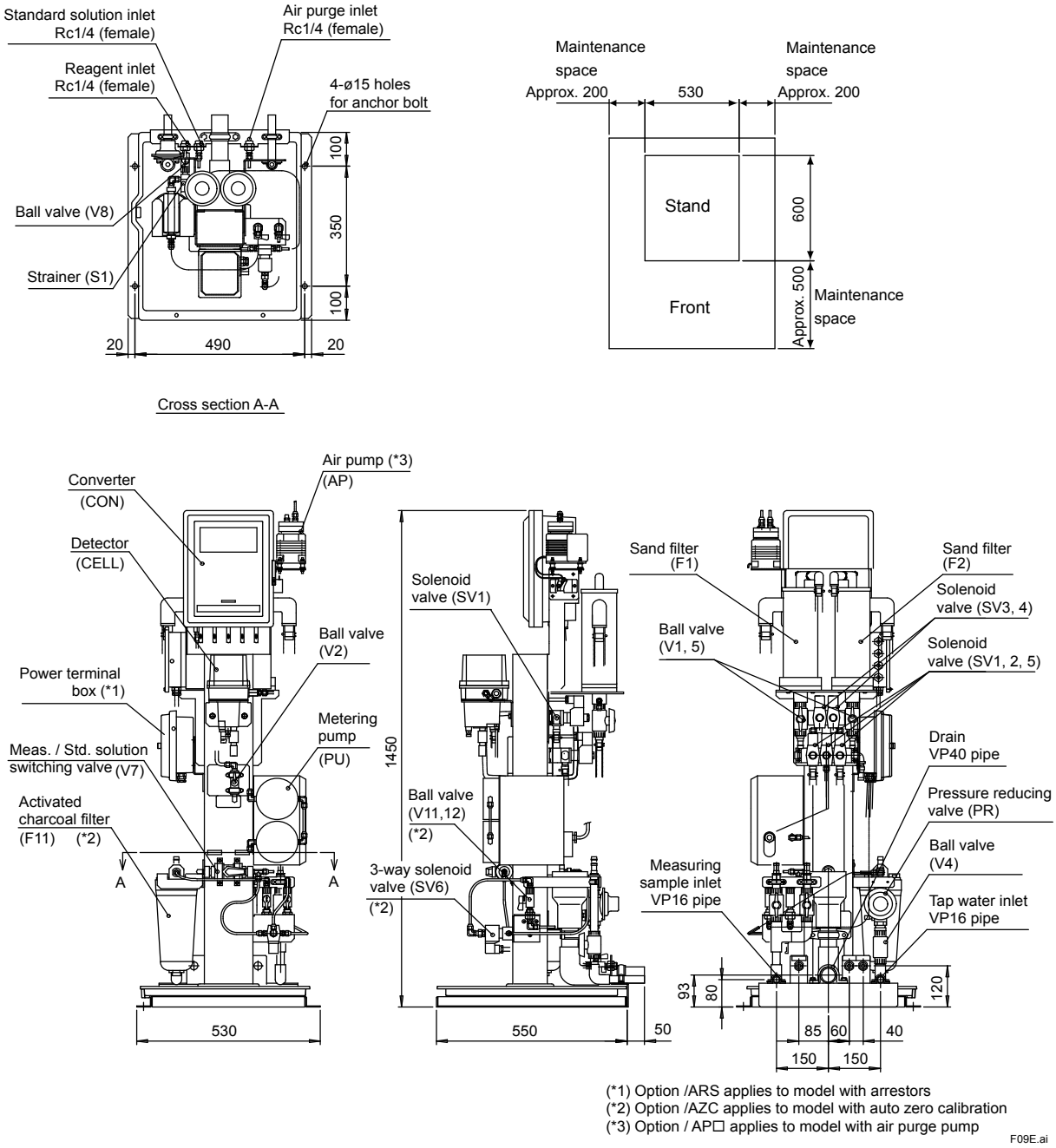
(3) RC400G-3 Residual chlorine analyzer for raw water (2-cylinder)

unit : mm



(*1) Option /ARS applies to model with arrestors
(*2) Option /AZC applies to model with auto zero calibration
(*3) Option / AP□ applies to model with air purge pump

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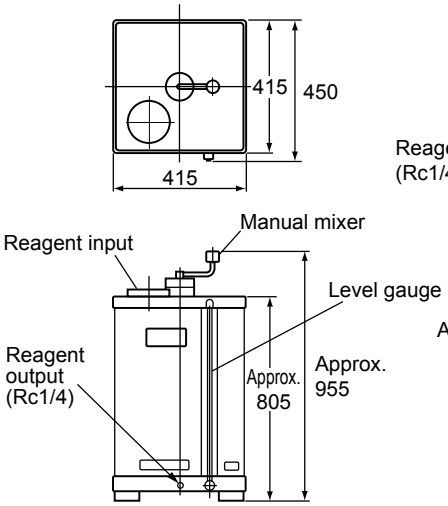
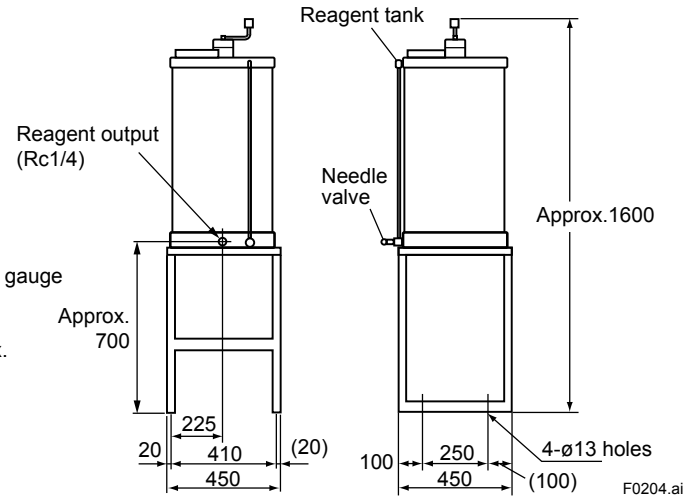
Reagent tanks

- **RC401G-A Reagent tank**

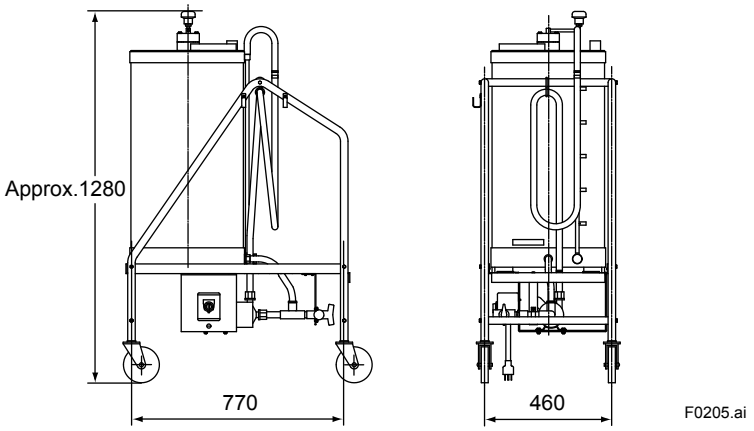


- **RC401G-B Reagent tank**

Unit: mm



- **RC401G-C Reagent preparation tank**



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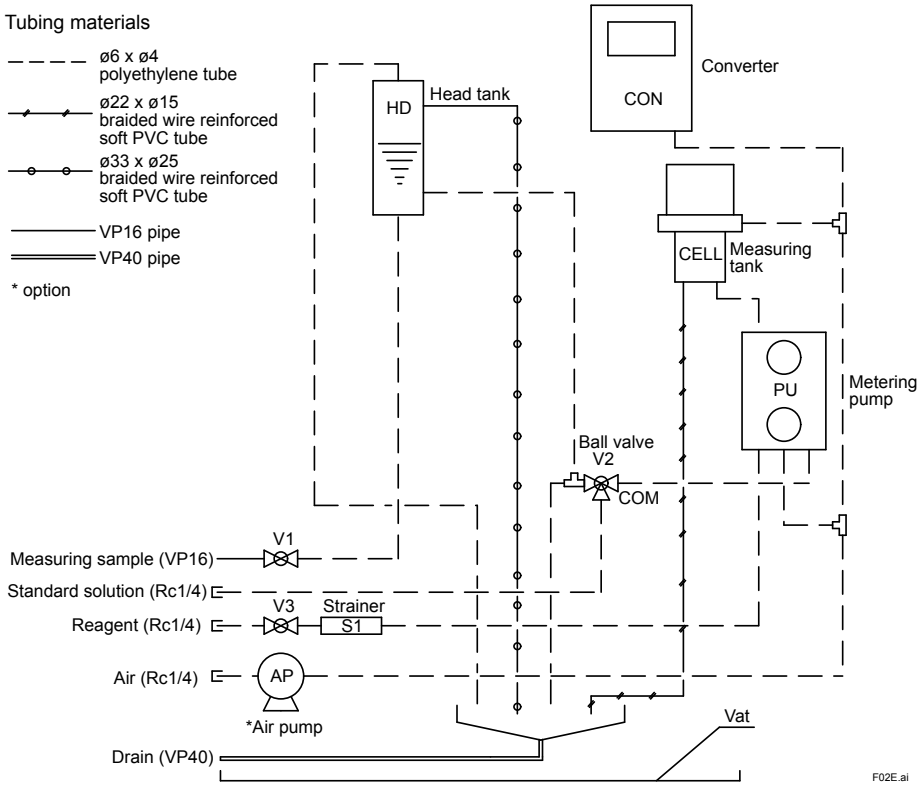
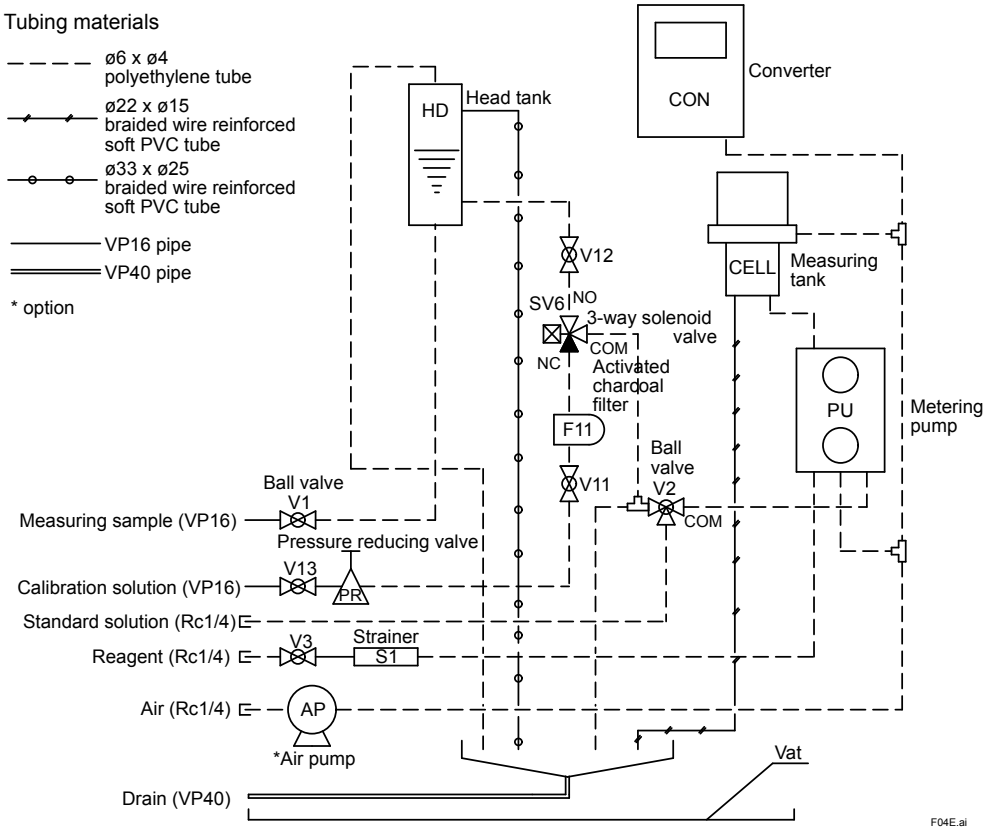
■ Piping Diagrams

(1) RC400G-1 Residual chlorine analyzer for pure water and municipal water



RC400G-1 /AZC with auto zero calibration



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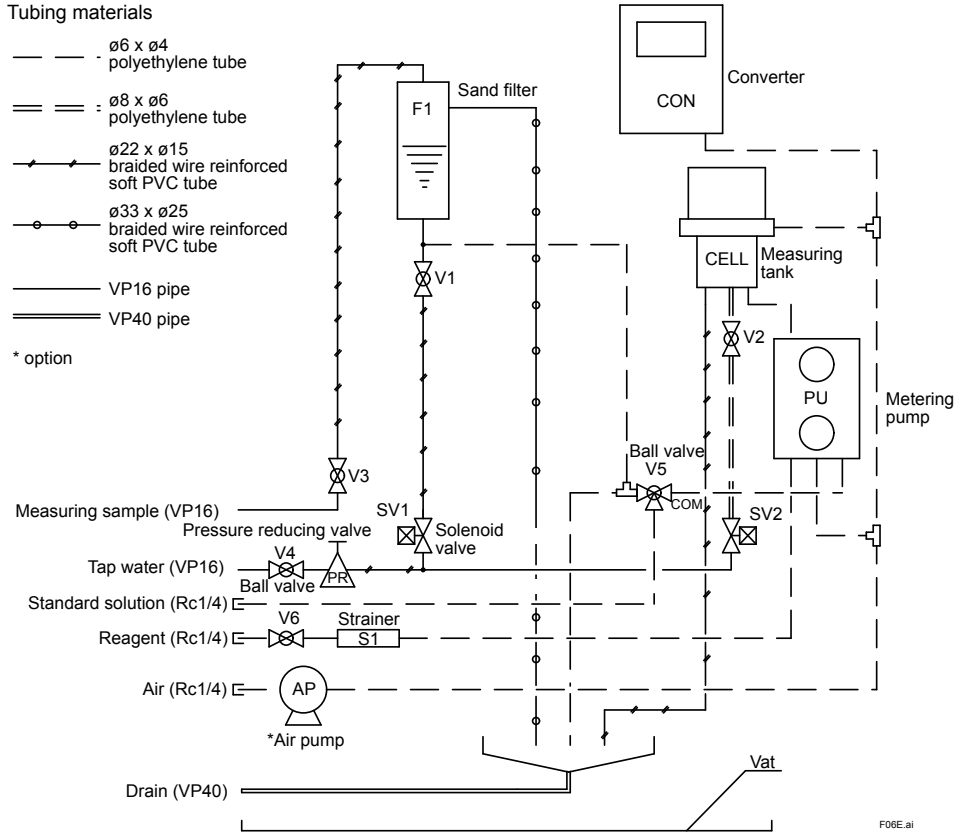
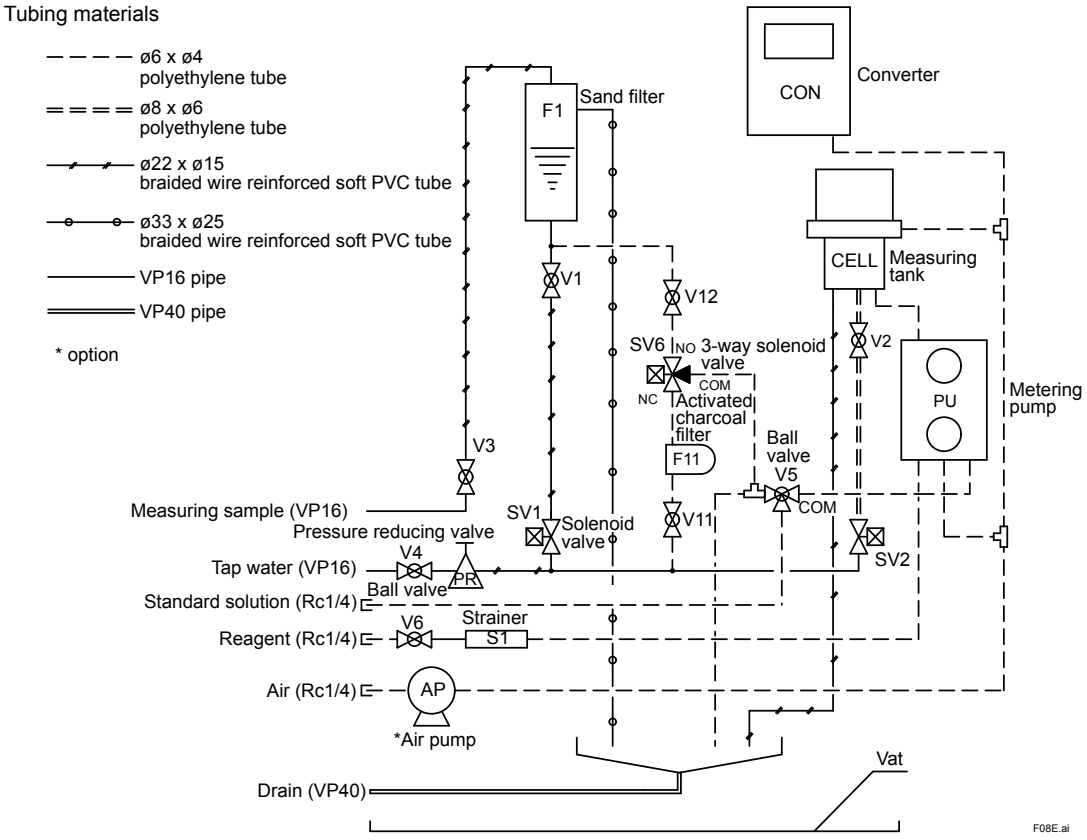
(2) RC400G-2 Residual chlorine analyzer for raw water (1-cylinder)



RC400G-2 /AZC with auto zero calibration



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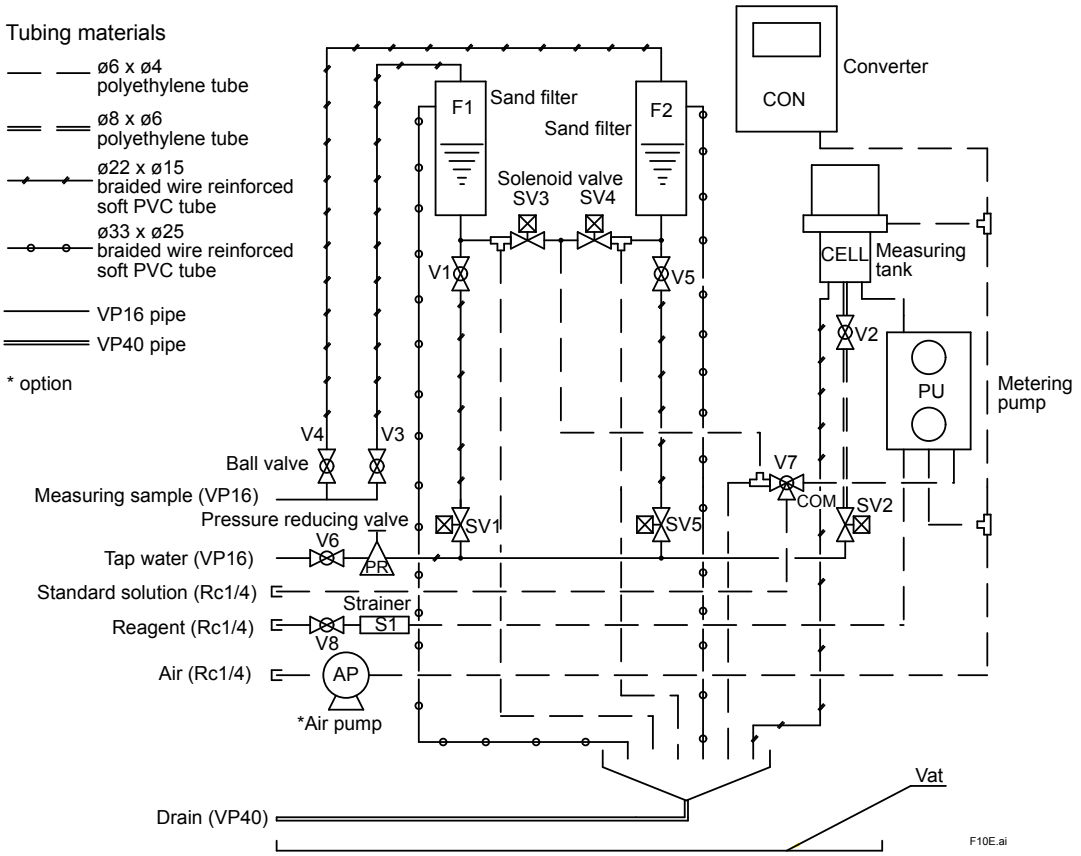
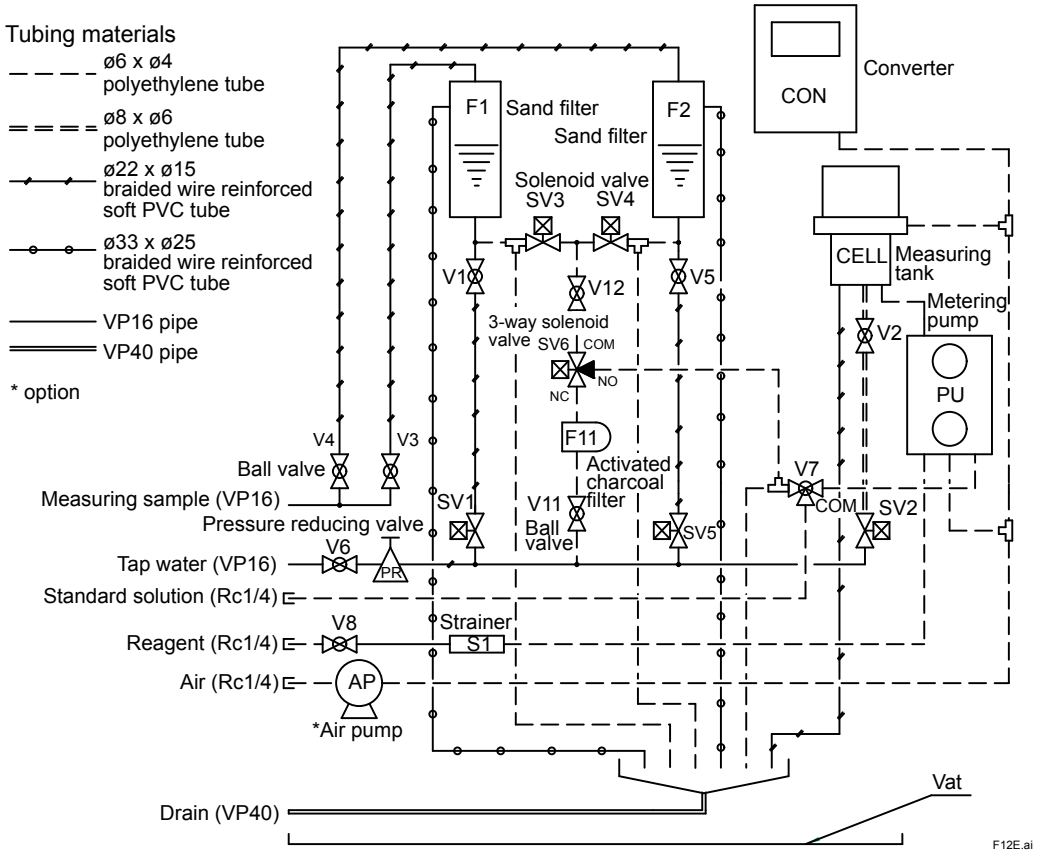
(3) RC400G-3 Residual chlorine analyzer for raw water (2-cylinder)



RC400G-3 /AZC with auto zero calibration



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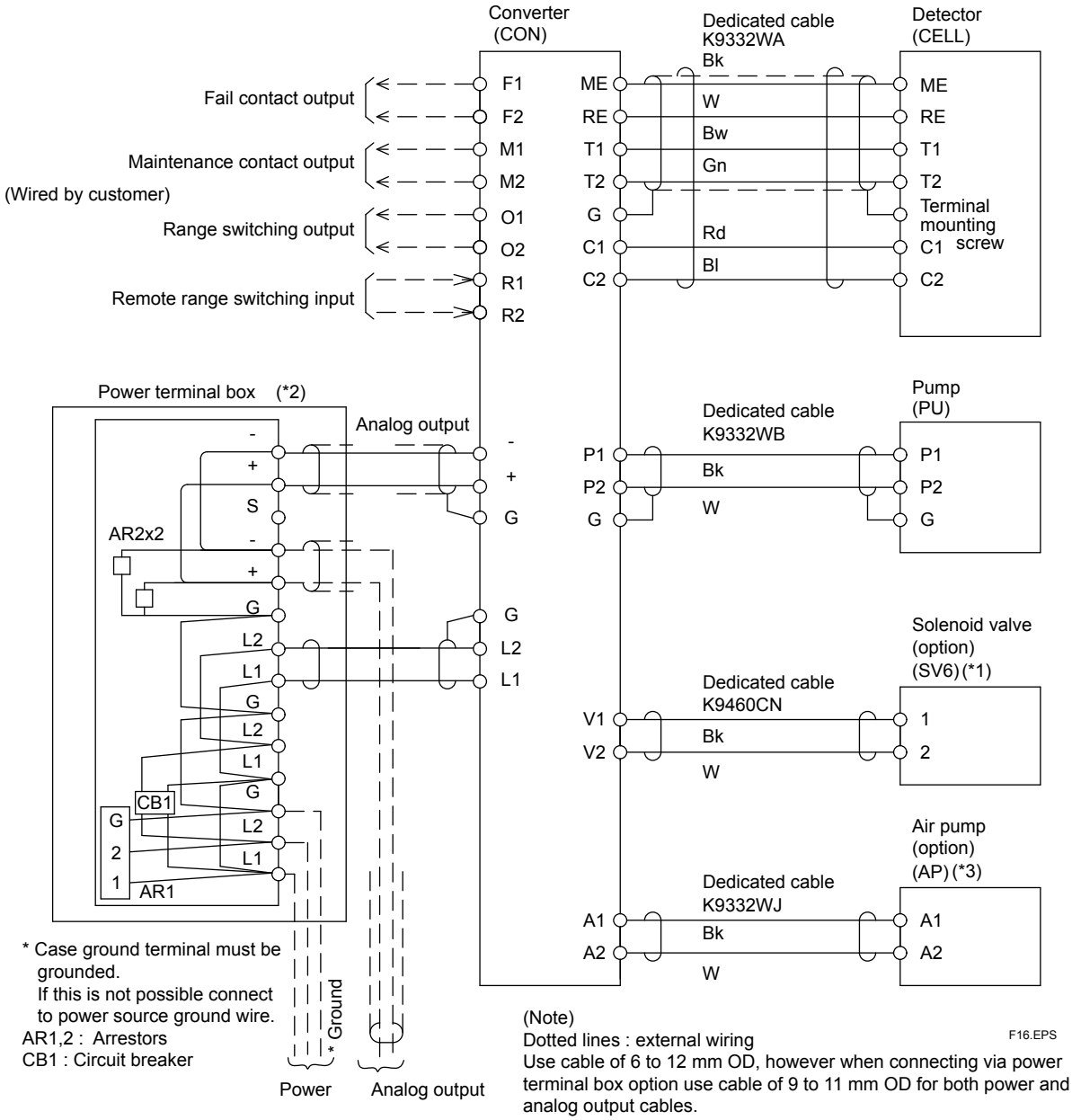
■ Wiring Diagram

RC400G-1 /ARS /AZC



(Note)
Dotted lines : external wiring
Use cable of 6 to 12 mm OD, however when connecting via power terminal box option use cable of 9 to 11 mm OD for both power and analog output cables.

(*1) Option /AZC applies to auto zero calibration
(*2) Option /ARS applies to version with arrestor
(*3) Option /AP☐ applies to version with air purge pump

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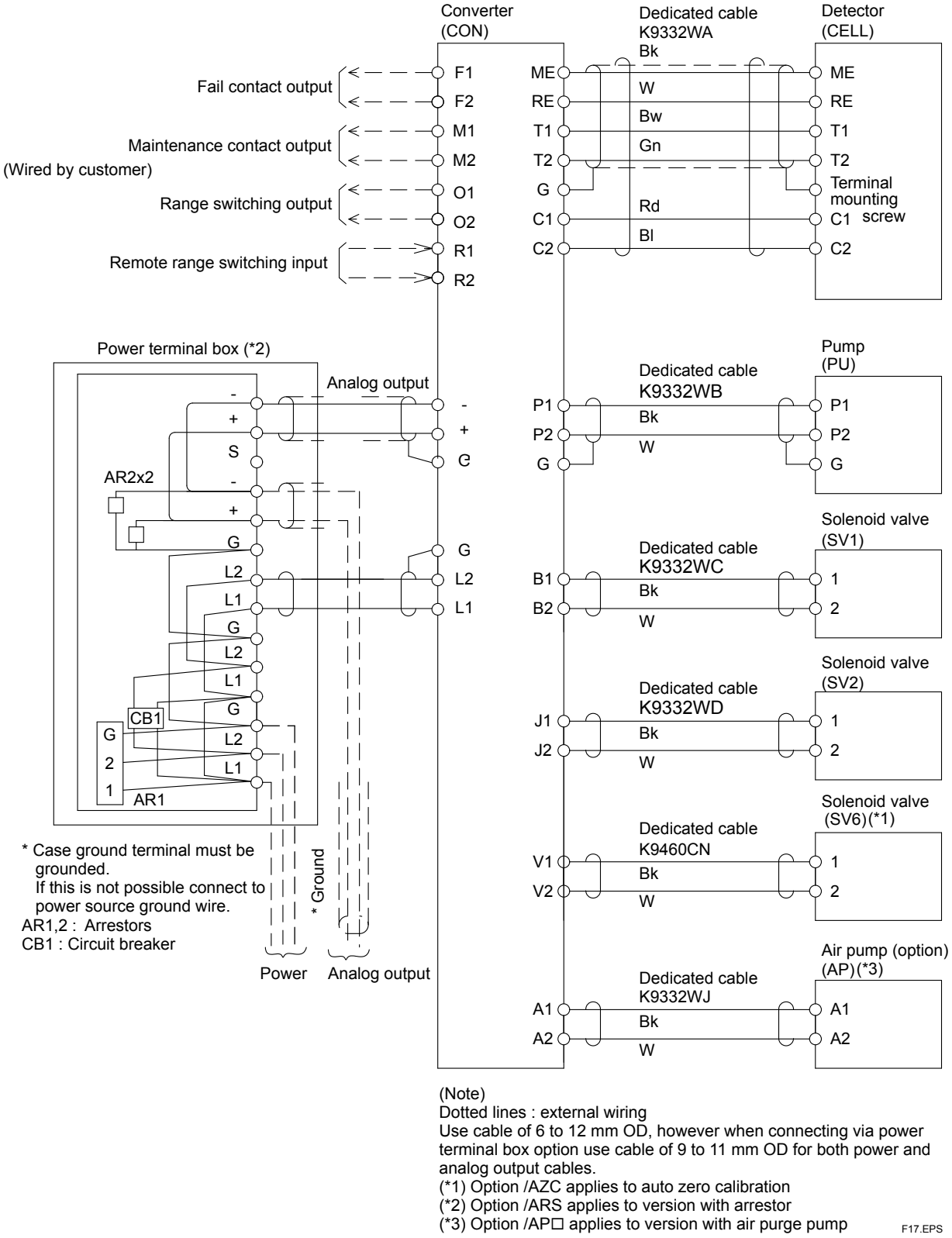
RC400G-2 /ARS /AZC



(Note)
Dotted lines : external wiring
Use cable of 6 to 12 mm OD, however when connecting via power terminal box option use cable of 9 to 11 mm OD for both power and analog output cables.
(*1) Option /AZC applies to auto zero calibration
(*2) Option /ARS applies to version with arrestor
(*3) Option /AP☐ applies to version with air purge pump

F17.EPS

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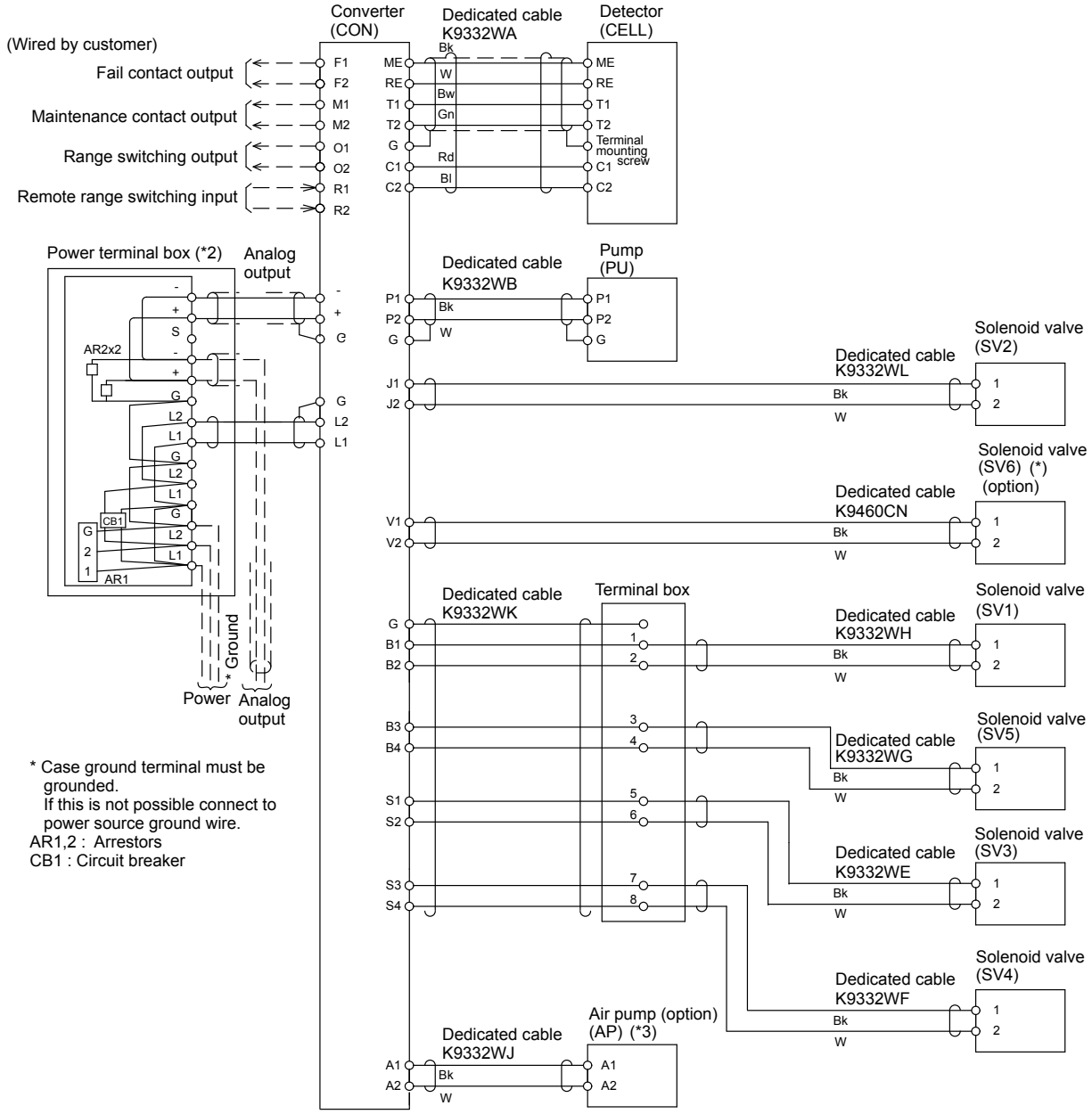
RC400G-3 /ARS /AZC



* Case ground terminal must be grounded.
If this is not possible connect to power source ground wire.
AR1,2 : Arrestors
CB1 : Circuit breaker

(Note)
Dotted lines : external wiring
Use cable of 6 to 12 mm OD, however when connecting via power terminal box option use cable of 9 to 11 mm OD for both power and analog output cables.
(*1) Option /AZC applies to auto zero calibration
(*2) Option /ARS applies to version with arrestor
(*3) Option /AP☐ applies to version with air purge pump

F18.EPS

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Enquiry Specifications Sheet for RC400G Residual Chlorine Analyzer

Please place checkmarks (✓) in the pertinent boxes and filling in the blanks.

1. General information

Name of your company:_____

Name of inquirer: _____ Dept. or sect.:_____ (telephone:_____)

Name of plant: _____

Measurement location: _____

Purpose of use: ☐ Indication ☐ Record ☐ Alarm ☐ Control

Power supply: _____ V AC_____ Hz

2. Process conditions

(1) Solution temperature:_____to_____, normally_____[°C]

(2) Solution pressure:_____to_____, normally_____[kPa]

(3) Ammoniacal contaminants?: ☐ Yes ☐ No

(4) Slurry or soiling components?: ☐ Yes ☐ No

(5) Name of measured solution:_____

(6) Composition of measured solution:_____

(7) Other remarks: _____

3. Installation environment

(1) Ambient temperature:_____to_____ [°C]

(2) Installation location: ☐ Indoors _____

(3) Other remarks: _____

4. Specification requirements

(1) Measurement object: ☐ Free chlorine
☐ Residual (total) chlorine
☐ Combined (free) chlorine

(2) Measuring range: ☐ _____to_____mg/L ☐ _____

(3) Transmission output: ☐ 4 to 20 mA DC ☐ 1 to 5 V DC

(4) Selection of component instruments: ☐ Residual chlorine analyzer
☐ Reagent tank
☐ Accessories

(5) Options: ☐ With air purge pump ☐ Unit: ppm ☐ Stainless tagplate ☐ Stainless stand
☐ With arrestor ☐ With automatic zero calibration

5. Cleaning methods: ☐ Glass-bead cleaning
☐ Glass-bead cleaning, jet cleaning, and one sand filter unit
☐ Glass-bead cleaning, jet cleaning, and two sand filter units

6. Others : _____

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Subject to change without notice.