4 Operating Procedures (Semi-Automatic Protocol)

The isolation work using semi-auto protocol is explained as below.

Note: Reading/management functions for sample IDs and collection IDs are not available in Semi-Automatic Protocols.

Wear appropriate gloves, mask, and protective goggles for isolation work with risk of infection.

Furthermore, after conducting isolation work with risk of infection, wear proper gloves and mask when contacting the system because the system may be contaminated.

Do not put a tray, etc. with fluid in it on top or inside this system.

The fluid may be spilt and the operation panel or inside devices may fail.

Important: Wear proper gloves and mask for isolation work if appropriate. Be careful not to contaminate with sweat or sputum from preparation of sample until completion of isolation work.

4.1 For Isolating Operation

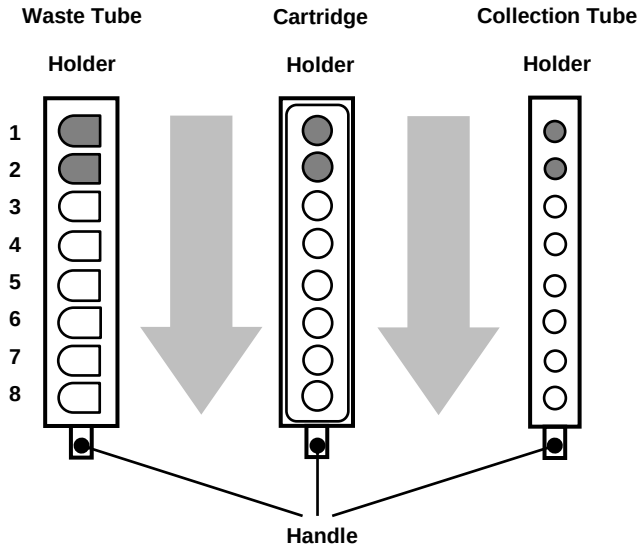
Abide by the following when conducting isolation work.

- **Follow the setting order for accessories and consumables and set them correctly.**
- **Set the waste tubes, cartridges and collection tubes in correct positions.**

Important: Erroneous setting of waste tubes, cartridges and collection tubes will cause spilling of reagents or dissolved samples, results will not be gained, and the sample will be wasted.
In addition, beware of the risk of contamination or system failure.

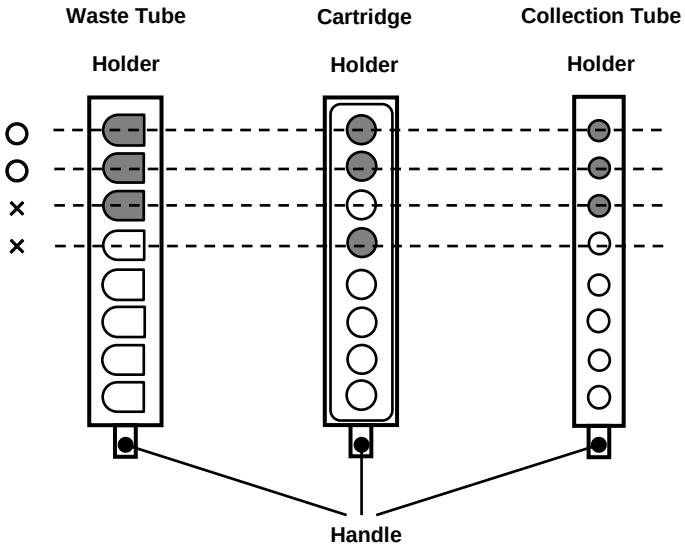
Rule 1

Waste tubes, cartridges and collection tubes be set in order from side handle.



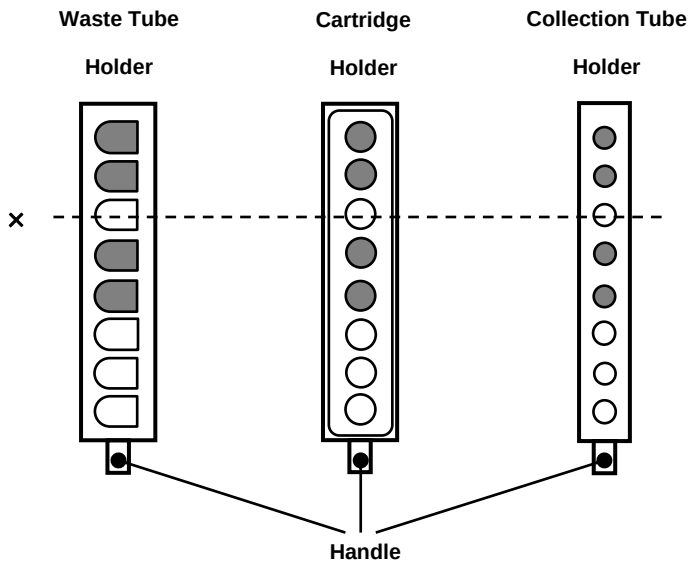
Rule 2

The 3 components, waste tube, cartridge and collection tube be set in corresponding parallel positions while avoiding dislocation



Rule 3

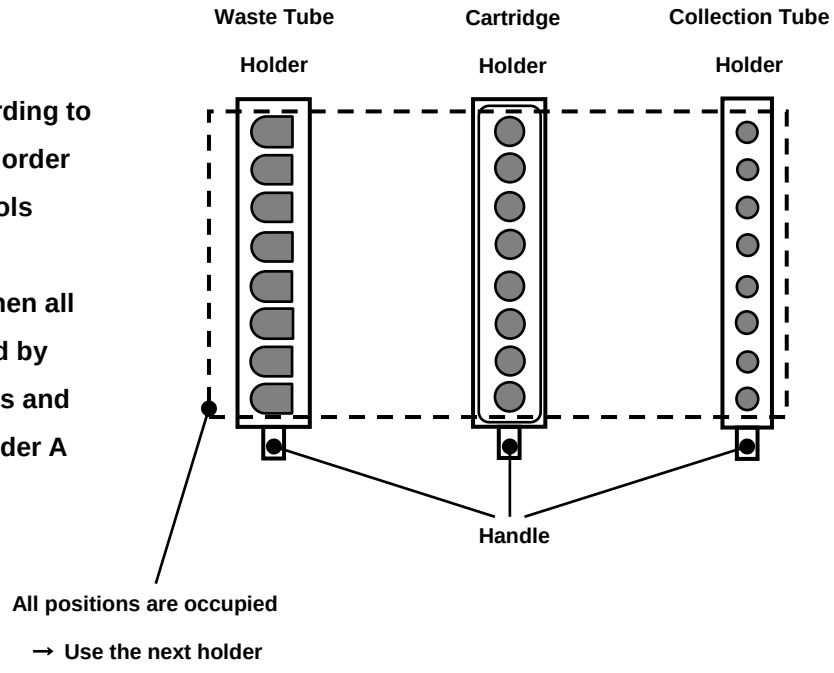
Setting be order without a vacancy



Rule 4

Use each holder according to number of samples in order of identification symbols A→B→C.

Use holder B (or C) when all positions are occupied by waste tubes, cartridges and collection tubes in holder A (or A and B)



4.2 Confirmation of Articles to be Prepared

Confirmation of articles that should be prepared before conducting isolation work is explained below.

■QuickGene-Auto240L Main Unit and Accessories

Refer to "1.4 Checking of Packed Contents" and confirm that all are included.

■Other articles to prepare

The following articles should be prepared. NB: They are not included in the system package but must be prepared independently.

- **QuickGene DNA Whole Blood Kit L (DB-L) 48 Specimens/1 Kit**
  - **Cartridge x48**
  - **Waste Tube x48**
  - **Reagents x 1 set**
- **QuickGene-Auto240L Consumables Kit (QG-240L-CK) 48 Specimens/1 Kit**
  - **Lysate Tube x48**
  - **10-mL Tip x60**
  - **1.2-mL Tip x96**
- **1.5-mL Micro Tube or 1.4-mL Matrix™ Tube with 2D barcode**
  (Used as collection container [collection tube] for DNA.)
  NB: ID reading/management using barcodes is not available with semi-auto protocols.
- **Special Grade Ethanol (>99%)**
- **Nuclease-free Water (used for dissolution of pretreated enzyme (EDB) and for confirmation of system functioning)**
- **Protective Gloves**
- **Safety Goggles**

4.3 Preparation of Reagents

Explanation of reagent preparation before conducting isolation work.

■Preparation of Reagents

Prepare the reagents included in the package of QuickGene DNA Whole Blood Kit L (DB-L: selling separately) in the following manner.

- **Protease (EDB)**

  NB: Not used in this system with semi-auto protocol.

  Add 3.3 mL of nuclease-free water in a bottle containing freeze-dried product and dissolve completely.

  It is recommended to preserve the dissolved pretreated enzyme (EDB) in a refrigerator (4℃), which will provide stability for 2 months. Preservation at -20℃ will prolong the stability period for an enzyme, but avoid repetitive thawing and freezing.

Note: Use the pretreated enzyme (EDB) after completely dissolving in accordance with the following procedures:

Add 3.3 mL of nuclease-free water, set a lid on container and invert.

Leave it for more than 30 minutes while occasionally agitating and confirm complete dissolution of powder before use.

Insufficient dissolution may result in clogged cartridge or shortage of yield to the target.

- **Lysis Buffer (LDB)**

  NB: Not used in this system with semi-auto protocol.

  Mix well before use.

  If undissolved solid is observed, dissolve at 37°C.

- **Wash Buffer (WDB)**

  Delivered in concentrate form.

  Add 160 mL of special grade ethanol in the bottle before use and mix well.

  After mixing with ethanol, close bottle lid and preserve at room temperature.

- **Elution Buffer (CDB)**

  Used for elution of nucleic acid.

■Set Reagents in System

Set the reagents prepared in the previous section in the system as below:

◆ **Reagent Container and Required Reagent Quantity (for processing 2-mL sample)**

Reagent	Reagent Container	Setting Position No.	Quantity of Use /1 sample	Other Required Quantity*	Required Quantity/1 Operation		
					8 Samples	16 Samples	24 Samples
WDB (mixed with ethanol)	Wash Buffer Bottle	4	19.5 mL	50 mL	206 mL	362 mL	518 mL
CDB	Reagent Container S	5	0.5 mL	1 mL	5 mL	9 mL	13 mL

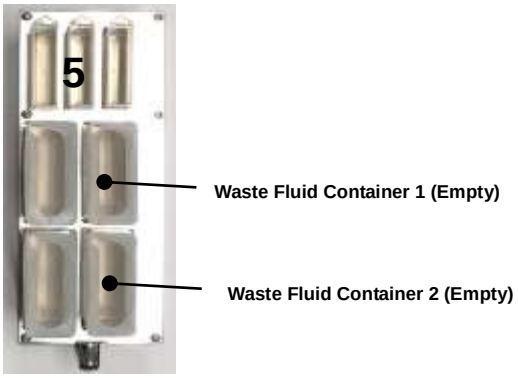
*The "Other Required Quantity" includes the quantity to fill the system fluid feeding line and the additional quantity for a stable fluid suction.

(1) Refer to the table above and split the required quantity of reagent in a reagent container for QG-Auto240L.

4

Note: After operation, the quantity of reagent included in the kit may fall short if residual reagent in the reagent container is discarded.
The residual reagent in the reagent container should be preserved in a sealed container and consumed as soon as possible.

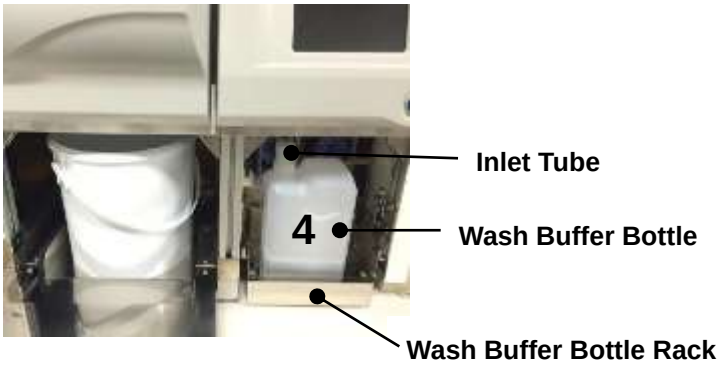
(2) Set reagent containers S and L with reagent in them in the reagent container holder according to the setting position numbers.
Set an empty container at the setting position numbers for unused reagent containers and waste containers.



Note: Be sure to set waste container in empty status.
Operation with residual waste fluid in waste fluid container may cause overflow of waste fluid. Dispose of fluid before setting container in holder.

(3) Set reagent container holder in reagent container holder slot of this system.

(4) Set wash buffer bottle in wash buffer bottle rack in drawer (at setting position No.4).



Note: If setting is incomplete, the inability to absorb wash buffer may influence operation results.
Abide by the following and correctly set wash buffer bottle:

- **Wash buffer bottle is set so that opening comes to left side of rack.**
- **Ends of 2 inlet tubes reach bottom of wash buffer bottle.**
- **Inlet tubes are not kinked midway.**

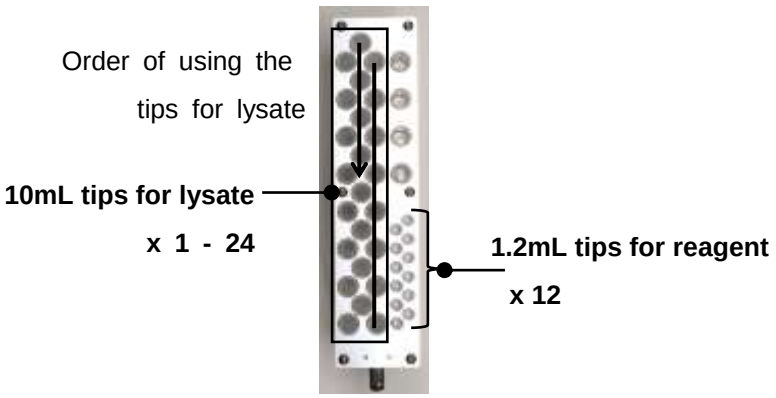
4.4 Preparation of Consumables and Accessories

Explanation regarding the preparation of consumables and accessories before isolation work.

■Set consumables and accessories on each holder

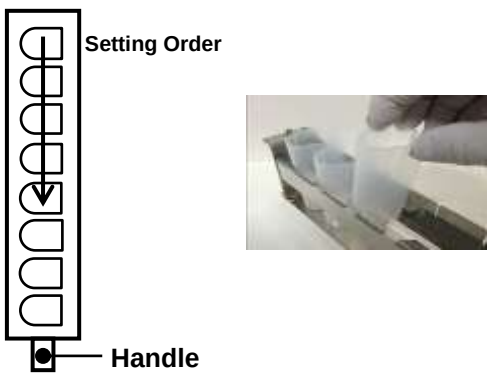
(1) Set 1.2-mL tips and 10-mL tips in reagent tip holder.

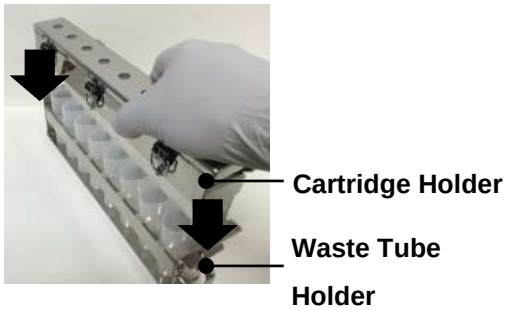
Only the necessary quantity of 1.2-mL tips should be removed from the 1.2-mL tip rack and set in place.



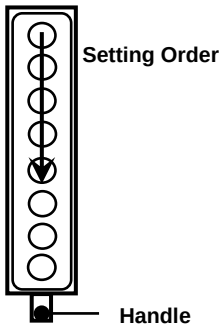
Note: Set all reagent tips (1.2-mL tip x 12) in the holder.
Set number of tips for lysate (10-mL x 1-24) equal or more to the number of samples.

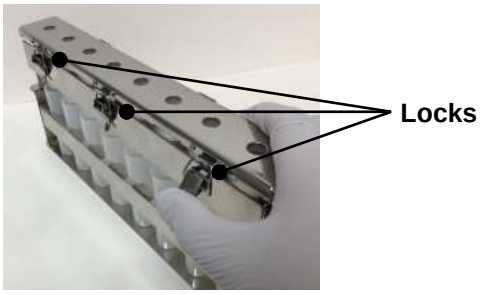
(2) Set number of waste tubes equal to number of samples in waste tube holder.
After setting, attach cartridge holder from above.



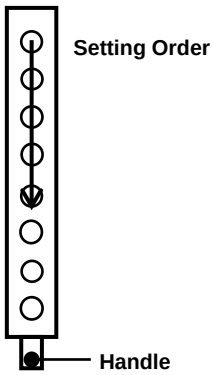


(3) Set number of cartridges equal to number of samples in cartridge holder.
After setting, close cover and lock locks in 3 places.

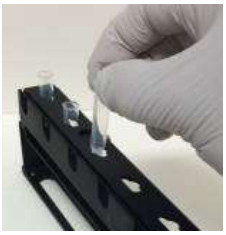




(4) Set number of collection tubes equal to number of samples in collection tube holder.
Use adapters according to type of collection tubes.



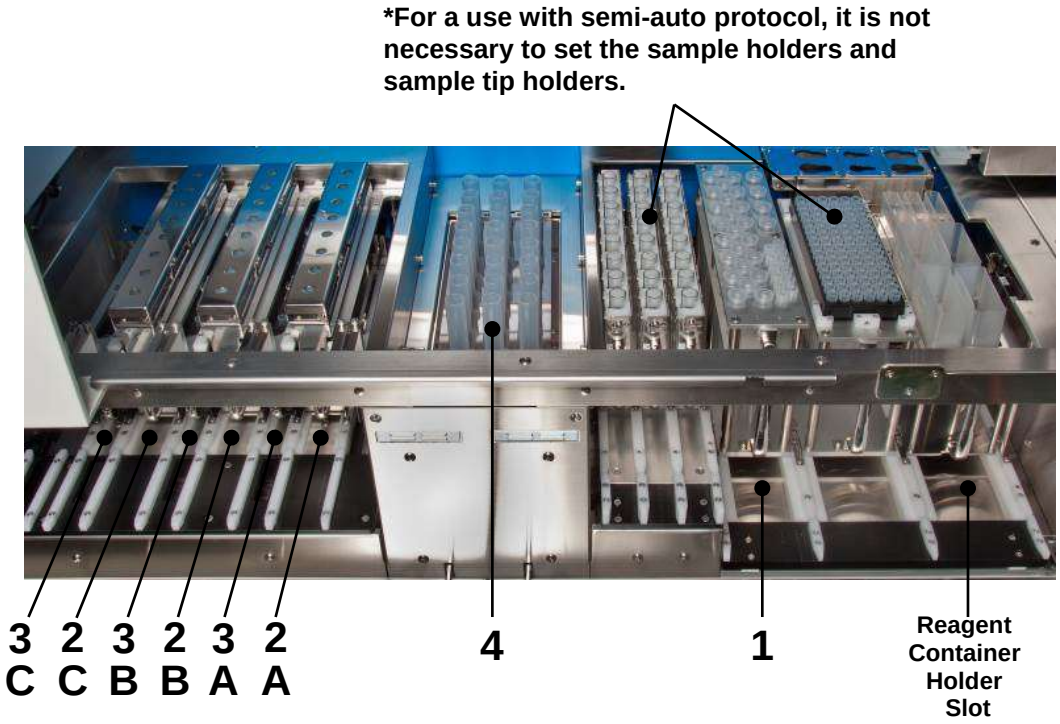
1.5mL Micro Tube
(Without adapter)



Matrix™ Tube with 2D Barcode
(With adapter)

Note: When several holders are used, set collection tubes according to holder identification symbols A-C.

■ Set holders in system



Holder Name	Slot No.
Reagent Tip Holder	1
Cartridge/Waste Tube Holder	2A - C
Collection Tube Holder	3A - C
Lysate Tube	4

(1) Open flap doors in left/right side of system.

(2) Set prepared holders in corresponding slot in reference to above chart.

Note:

- **Holder shall be securely set in slot until it contacts stopper on the end.**
- **Set holder in correct slot according to manual and identification label. If holder is forcibly set in wrong slot, holder or system may be damaged.**

(3) Close left/right flap doors.

■ Set lysate tubes in system

(1) Open system sliding door.

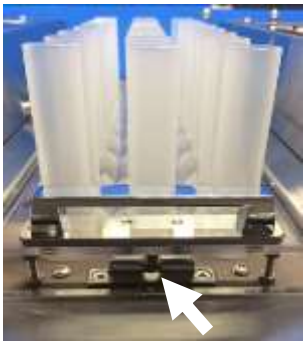
(2) Open agitator cover of lysate unit.

(3) Set lysate tubes with lysate (pre-treatment fluid) in them.

Refer to “4.5 Preparation of Samples” for preparation of lysate.

Note: After setting lysate tubes, promptly start system operation.

(4) After setting lysate tubes, close agitator cover until click is heard.



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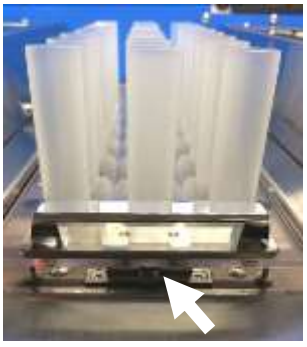


○

Note: **Be sure to securely close agitator cover until click is heard and then fix it. If fixing is incomplete, an error will occur during system check before operation.**

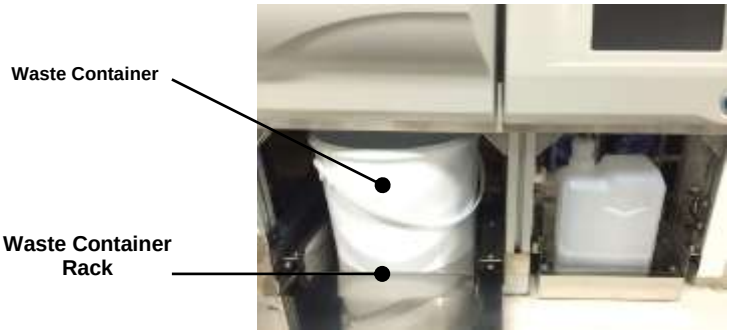
(5) Close sliding doors.

■ Set waste container in system.

(1) Open system drawer.

(2) Set waste container in waste container rack.

Securely set waste container to fit rack groove.



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○

Note: **Be sure to correctly set empty waste container included in delivery. Use of container not included in delivery, use of unemptied container, or use with an erroneous setting may cause waste overflow.**

(3) Close drawer.

4.5 Preparation of Samples

■ Preparation of sample

- Use full blood collected using EDTA-2NA, EDTA-2K, or heparin.
- Use full blood collected within 3 days as far as possible. Use of blood preserved for a long period or use of that on which freezing and thawing procedures have been repeated may cause cartridge clogging or decrease in yield.

■Preparation of Lysate

(1) Refer to handbook included in dedicated reagent kit (QuickGene DNA Whole Blood Kit L (DB-L)) and prepare lysate.

(2) Move prepared lysate to lysate tube.

Note:

- **If lysate is left as it is, a sufficient nucleic acid quality or yield may not be acquired. After completion of lysate preparation, promptly start system operation. If unavoidable, it may be left for up to 30 minutes without affecting yield.**
- **When moving lysate, take care not to let lysate adhere to outside or opening of lysate tube. If lysate adheres to outside or opening of tube, wipe it off using soft paper, etc. containing 0.1% sodium hypochlorite solution or ethyl alcohol.**

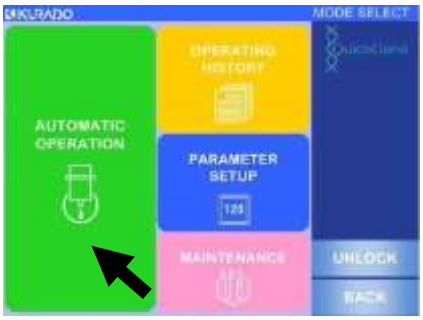
4.6 Isolating Operation

Operations before starting isolation and operation after completion are explained below.

Refer to "3.6 Start-Up of System" and "3.7 Registration and Deletion of User IDs" for start-up of system, etc.

Refer to "4.3 Preparation of Reagents", "4.4 Preparation of Consumables/Accessories" and "4.5 Preparation of Samples" for necessary preparations for isolation operation.

<1> Start-Up of Automatic Isolation Operation and Selection of Protocol



(1) Refer to "3.6 Start-Up of System", turn ON system power, and move to mode select screen.

(2) Press [AUTOMATED OPERATION].

(3) Press [OK] on displayed pop-up window.

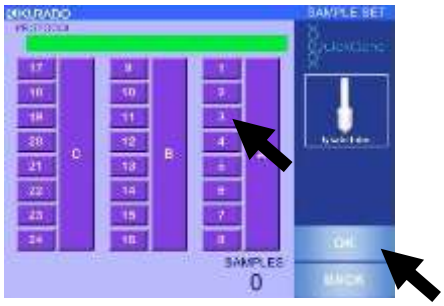
(4) Check that waste container in system drawer is empty and execute.

(5) Press semi-automatic protocol button to operate.
(Ex：W BLOOD DNA 2 mL SEMI-AUTO)
Refer to "2.8 Implemented Protocols" for explanations on protocols.

(6) Move to next section "<2> Enter Sample Information".

<2> Enter Sample Information

Note: Reading and management functions of sample IDs and collection IDs are not available in SEMI-AUTO protocols.



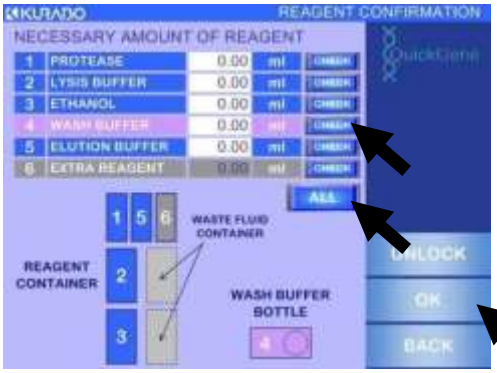
(1) Press numeric button corresponding to number of set samples.

- Pressed button will be indicated in reversed deep violet on operation screen.
- Selection will be canceled if pressed button is pressed again.
- Pressing A, B or C button will result in selection of all holders in each row.

(2) Check that selected button coincides with set-up number of samples and press [OK].

(3) Move to next section "<3> Confirmation of Reagent".

<3> Confirmation of Reagent



(1) Refer to indicated information on screen regarding reagents used for automatic isolation operation, and confirm that required quantity is set in correct position.

(2) Press [CHECK] for a confirmed reagent.
If [ALL] is pressed, the [CHECK] buttons for all reagents are pressed at one time.

(3) Press [OK]
When all [CHECK] buttons are pressed, [OK] button will be enabled.

<4> Automatic Operation Start

*Not available in Semi-Automatic protocol

(1) Press [START] to start automatic operation.

After completing check of various parts using sensors, isolation operation starts. For those items determined as "NG", refer to the below and solve the problems.

Checking Items	Reference
REAGENT CONTAINER	4.3 Preparation of Reagents
WASH BUFFER BOTTLE	
WASTE FLUID CONTAINER	
COLLECTION TUBE	4.4 Preparation of Consumables/ Accessories
LYSATE TUBE	
DISPENSING TIP (10ml/LYSATE)	
DISPENSING TIP (1.2ml/REAGENT)	
CARTRIDGE/WASTE TUBE	
WASTE CONTAINER	
AGITATOR COVER	

Note:

- **To suspend isolation operation during automatic system operation, refer to "3.9 Operation to Stop Automatic Operation".**
- **When isolation operation is suspended during automatic operation due to an error or trouble, refer to "8.1 Troubleshooting" or "8.2 Error Messages".**

<5> Ending the Operation / Confirmation of Operation Results

***Not used in Semi-Automatic Protocol**

(1) Operation ends when left screen is displayed.
Background color for sample number indicates operation results.

Color	Operation Result
Green	Normal End
Red (NG1)	Chip Clogging at Sample Suction (Incomplete Isolation)
Yellow (NG2)	Pressure Leakage of Cartridge (Incomplete Isolation)
Blue (NG3)	Clogged Cartridge (Incomplete Isolation)
Gray	No Sample

Note： Refer to “8.1 Troubleshooting” or “8.2 Error Messages” for an incomplete isolation.

(2) Press [FINISH] on operation result screen.

(3) Press [OK] on displayed pop-up window.

(4) Press system power switch and turn power OFF.

<6> Collection of Isolation Samples

(1) Confirm system power is OFF.

(2) Open left flap door and remove collection tube holder.

Note: Isolation sample inside may spill if collection tube holder is tilted. Remove while holding onto collection tube holder handle with one hand and supporting bottom surface of holder with other hand.

(3) Close collection tube cap and remove.

Note:

- **Securely close cap.**
- **Carefully conduct removal and management of collection tubes, paying attention to holder identification symbols A-C.**

<7> Disposal of Consumables and Wastes

(1) Confirm system power is OFF.

(2) Open left/right flap doors and remove all holders and consumables.

(3) Refer to table below and treat removed holders and consumables appropriately.

Holders/Consumables	Treatment	Remarks
Reagent Container Holder	Remove reagent containers from reagent container holder. Residual reagents from reagent containers should be stored in sealed container. Remove waste fluid container from reagent container holder and dispose of waste fluid collected in waste container. Refer to "7 Daily Inspection and Maintenance" and clean reagent containers and waste fluid containers.	Note: Residual reagent from reagent container should be consumed as soon as possible. Waste fluid should be disposed of in accordance with rules and regulations.
Sample Tip Holder	Remaining tips should be stored in clean environment with no contamination.	
Lysate Tube	Dispose of lysate tubes	Biohazard: Treat lysate tubes in accordance with customer's infectious waste treatment manuals.
Cartridge Holder	Release locks at 3 places on cartridge holder and open cover. Pull out and dispose of cartridges singly.	Note: Remove cartridge so that tip does not contact cartridge holder. If cartridge tip contacts cartridge holder, refer to "7 Daily Inspection and Maintenance" and wash cartridge holder.
Waste Tube Holder	Remove waste tubes from waste tube holder and dispose of waste fluid and waste tubes.	Biohazard: Removed waste fluid and waste tubes should be treated in accordance with customer's infectious waste treatment manuals.

Holders/Consumables	Treatment	Remarks
Wash Buffer Bottle	**Reagents remaining in wash buffer bottle should be sealed as is and stored. When washing the wash buffer bottle, refer to "7 Daily Inspection and Maintenance".**	**Note: When storing the wash buffer bottles, securely close caps.**
Waste Container	**Dispose of wastes in waste container. When cleaning waste container, refer to "7 Daily Inspection and Maintenance".**	**Biohazard: Waste should be treated in accordance with customer's infectious waste treatment manuals.**

<8> Post-treatment of System

(1) Refer to "7. Daily Inspection and Maintenance" and carry out system maintenance as necessary.

(2) **Close all system doors.**

Isolation operation is now complete.

If operation is to be continued with semi-automatic protocol, start from "4.3 Preparation of Reagent".

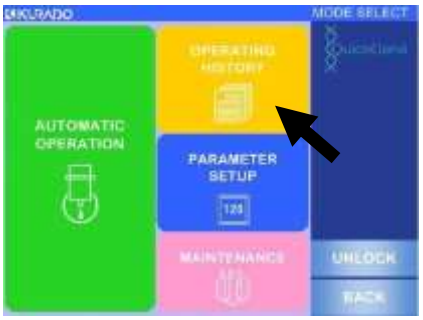
Important: **If system will not be used for more than 1 week, refer to "7.2 When System not in Use for More than One Week" and carry out maintenance.**

5 Operation History

Confirmation and saving procedures for operation histories are explained below.

5.1 Checking Operation History

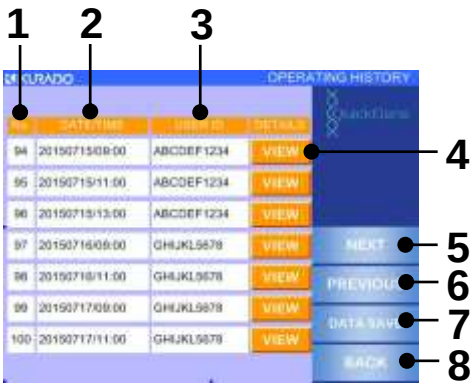
Procedures for confirmation of operation histories are explained below.



(1) Turn ON system power (see "3.6 Start-Up of System") and move mode select screen.

(2) Press [OPERATING HISTORY].

(3) Operation histories are displayed.



1. **No.: Operation Management Number**
   Numbers allocated to past 100 operation histories.
   When number of records exceeds 100, they are automatically deleted, oldest record first.

2. **DATE/TIME: Operation date and time**

3. **USER ID: User ID who performed the operation**

4. **VIEW: Move to detailed information**
   Press this to move to "5.2 Checking ID Information".

5. **NEXT: Go to next item.**

6. **PREVIOUS: Return to previous item.**

7. **DATA SAVE: Move to data save mode.**
   Press this to move to "5.3 Storing the Operation History".

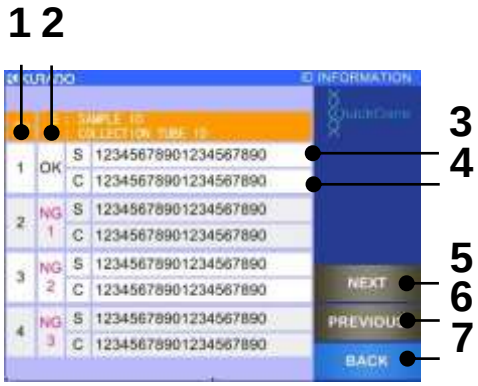
8. **BACK: Return to mode select screen.**

5.2 Checking ID Information

Procedures for checking ID information are explained below.

(1) Press [VIEW] of operation history to check ID information in "5.1 Checking Operation History".

(2) Press [ID INFO] in displayed pop-up window.



(3) ID information displayed.

1. Sample No.

Sample management number within operation.

2. Operation Result

Displays operation results.

OK: Normal Completion

NG1: Chip Clogging at Sample Suction (Incomplete Isolation)

NG2: Pressure Leakage of Cartridge (Incomplete Isolation)

NG3: Clogged Cartridge (Incomplete Isolation)

3. Sample ID

Barcode information on sample (blood collection tube) is displayed.

When sample ID reading function is "OFF", sample position information (Ex: A-1, A-2) is displayed in sample ID columns.

4. Collection ID

Barcode information on collection tube is displayed.

When collection ID reading function is "OFF", sample position information (Ex: A-1, A-2) is displayed in collection ID columns.

5. **NEXT: Go to next item.**

6. **PREVIOUS: Return to previous item.**

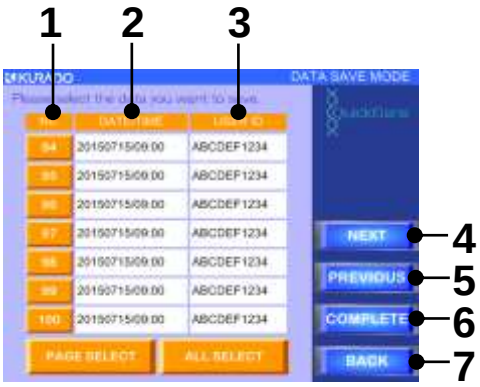
7. **BACK: Return to operation history checking screen.**

5.3 Storing Operation History

Procedures for saving operation histories are explained below.

(1) Press [DATA SAVE] in "5.1 Checking Operation History".

(2) Press [OK] in displayed pop-up window.



(3) Data saving screen is displayed.

1. **No: Operation Management Number**

   Numbers allocated to past 100 operation histories.

2. **DATE/TIME: Operation date and time.**

3. **USER ID: User ID of current operator.**

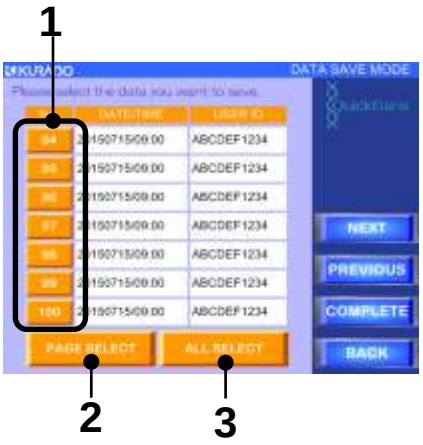
4. **NEXT: Move to next item.**

5. **PREVIOUS: Return to previous item.**

6. **COMPLETE: Execution of data saving.**

   Press after selecting operation history to save.

7. **BACK: Return to operation history checking screen.**



(4) Select management number of operating history to save using combination of buttons 1-3 below.

1. **No.: Operation management number selection button**

   Press operation management number selection button to select operation histories singly.

2. **PAGE SELECT: Page select button**

   Press page selection button to select displayed operation histories page by page.

3. **ALL SELECT: All select button**

   Press all select button to select all operation histories up to past 100 items.

(5) Press [COMPLETE] after selecting operation histories to save.

(6) When pop-up window is displayed, insert USB memory stick in USB port on side surface of system. Then press [SAVE] in pop-up window.

(7) When saving is complete, remove USB memory stick from system.

6 Parameter Setup Procedures

The parameter setup procedures are explained below.

6.1 Parameters

"Parameters" refers to the parameters controlling nucleic acid isolation processes in the system; they are set up per isolation protocol.

Among the parameters, there are those for which a change by the user is permitted and those for which a change is permitted only by an administrator who possesses an EXPERT password (EXPERT mode).

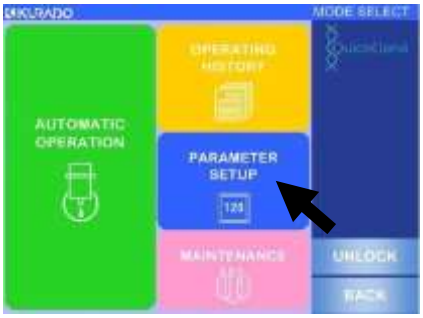
The items that can be changed by the user are explained below.

Important: Changes in EXPERT mode include critical items. Do not effect such a change on customer's own judgment.

6.2 Starting up the Parameter Setup Mode

A change of parameter setup value is made in the parameter setup mode.

The procedures for changing the parameter setup are explained below:



(1) Refer to "3.6 Start-up of System", turn system power ON, and move to mode selection screen.

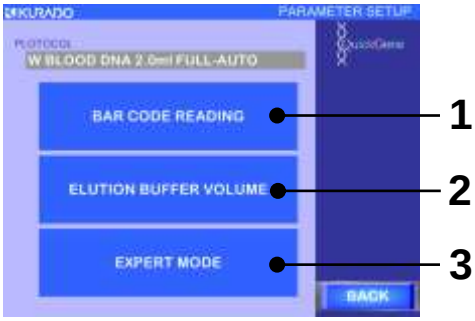
(2) Press [PARAMETER SETUP].

(3) Press button for a protocol to change parameters.

(Ex: W BLOOD DNA 2-mL FULL-AUTO)

Refer to "2.8 Implemented Protocols" for explanations on the protocol.

(4) Parameter setup mode will start. Then select parameter items to change.



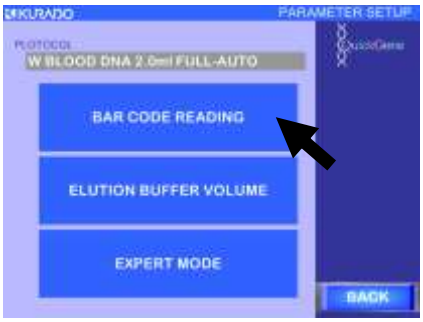
1. **BARCODE READING: Setup of barcode (ID) reading functions.**
   Item to set up ON/OFF of barcode (ID) reading function.
   Refer to "6.3 Setup of Barcode (ID) Reading Function".

2. **ELUTION BUFFER VOLUME: Setup of elution buffer volume.**
   Item to set up injection volume of elution buffer.
   Refer to "6.4 Setup of DNA Elution Buffer Volume".

3. **EXPERT MODE**
   Item controlled by EXPERT password. Please contact our sales agent to start up EXPERT mode and change procedures.

6.3 Setup of Barcode (ID) Reading Function

The setup procedures for the barcode (ID) reading functions are explained below:



(1) Press [BARCODE READING] in parameter setup mode.

(2) Regarding IDs given to samples (blood collection tubes) and IDs given to collection tubes, select [OK] for reading or [OFF] for not reading.

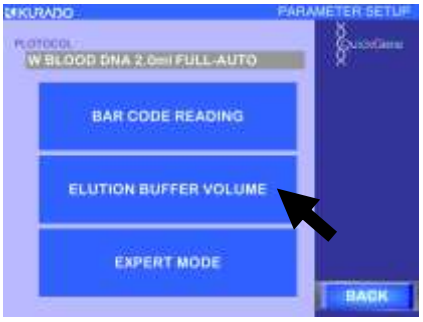
Note: **ON/OFF of barcode (ID) reading functions are available in three combination patterns:**

Pattern	Sample ID	Collection ID
1	ON	ON
2	ON	OFF
3	OFF	OFF

(3) Press [BACK] to end setup of barcode (ID) reading functions.

6.4 Setup of DNA Elution Buffer Volume

The procedures for setting up the DNA elution volume are explained as below:



(1) Press [ELUTION BUFFER VOLUME] in parameter setup mode.

(2) Enter injection quantity for collection fluid in accordance with one of the following two methods.
The setup range (MIN-MAX) is 0.05-1.00 mL, and the increment is 0.01 mL.

1. **Directly enter value using ten-key entry pad screen.**
   Touch white frame in which value is entered to display ten-key pad, enter a value within setup range, and press [ENT].

2. **Change value using up/down (△▽) buttons.**
   One press of [△] button will increase setup value by 0.01, and one press of [▽] will decrease setup value by 0.01.

(3) After entering value, press [OK] to complete.

6.5 Parameters Setup/Changed with the EXPERT Mode

The parameters that can be changed with EXPERT mode are shown below.

EXPERT mode is accessed with EXPERT password.

Please contact our sales agent regarding start-up of EXPERT mode and procedures for parameter change.

(1) EXPERT Mode Parameters

No.	Screen Display	Parameter Name	Unit
1	DISP PROTEASE	Protease divided injection quantity	ml
2	LB SUCTIONING SP	Protease suction speed	mm/sec
3	LB DISCHARGING SP	Protease discharge speed	mm/sec
4	DISP SAMPLES	Sample divided injection quantity	ml
5	SAMP SUCTIONING SP	Sample absorption speed	mm/sec
6	SAMP DISCHARGING SP	Sample discharge speed	mm/sec
7	MIXING SPEED(1)	Primary mixing speed	*
8	MIXING TIME(1)	Primary mixing time	sec
9	MIXING SPEED(2)	Secondary mixing speed	*
10	MIXING TIME(2)	Secondary mixing time	sec
11	DISP LYSIS BUFFER	Lysis reagent divided injection quantity	ml
12	LB SUCTIONING SP	Lysis reagent suctioning speed	mm/sec
13	LB DISCHARGING SP	Lysis reagent discharging speed	mm/sec
14	MIXING SPEED(1)	Primary mixing speed	*
15	MIXING TIME(1)	Primary mixing time	sec
16	MIXING SPEED(2)	Secondary mixing speed	*
17	MIXING TIME(2)	Secondary mixing time	sec
18	INCUBATING TEMP	Incubating temperature	degC
19	INCUBATING TIME	Incubating time	sec
20	HEATER ON TIMING	Heat ON timing	sec
21	DISP ETHANOL	Ethanol divided injection quantity	ml
22	EN SUCTIONING SP	Ethanol suction speed	mm/sec
23	EN DISCHARGING SP	Ethanol discharging speed	mm/sec
24	MIXING SPEED(1)	Primary mixing speed	*
25	MIXING TIME(1)	Primary mixing time	sec
26	MIXING SPEED(2)	Secondary mixing speed	*
27	MIXING TIME(2)	Secondary mixing time	sec
28	TRANSFER LYSATE	Lysate transferming quantity	ml
29	LS SUCTIONING SP	Lysate suctioning speed	mm/sec
30	LS DISCHARGING SP	Lysate discharging speed	mm/sec
31	BIND SPEED	Binding process pressurizing speed	rpm
32	BIND PEEK	Binding process pressurizing peak pressure	Kpa
33	BIND UP TM	Binding process pressurizing time over	sec
34	BIND RETRY	Binding process pressurizing retry peak pressure	Kpa
35	BIND LOWER	Binding process depressurizing threshold	Kpa
36	BIND DOWN TM	Binding process depressurizing time over	sec
37	BIND R DOWN TM	Binding process depressurizing retry time over	sec
38	BIND FALL	Binding process depressurizing monitoring pressure(variation)	Kpa
39	WB DISPENSING SP	Washing reagent divided injection speed	rpm
40	DISP WASH BUFFER 1	Washing reagent divided injection quantity	ml

No.	Screen Display	Parameter Name	Unit
41	WASH SPEED(1)	Washing process presurizing speed (1st)	rpm
42	WASH PEEK(1)	Washing process peak pressure (1st)	Kpa
43	WASH UP TM(1)	Washing process presurizing time over (1st)	sec
44	WASH RETRY(1)	Washing process presurizing retry peak pressure (1st)	Kpa
45	WASH LOWER(1)	Washing process depresurizing threshold (1st)	Kpa
46	WASH DOWN TM(1)	Washing process depresurizing time over (1st)	sec
47	WASH R DOWN TM(1)	Washing process depresurizing retry time over (1st)	sec
48	WASH FALL(1)	Washing process depresurizing monitoring pressure (variation) (1st)	Kpa
49	DISP WASH BUFFER 2	Washing reagent divided injection quantity	ml
50	WASH SPEED(2)	Washing process presurizing speed (2nd)	rpm
51	WASH PEEK(2)	Washing process peak pressure (2nd)	Kpa
52	WASH UP TM(2)	Washing process presurizing time over (2nd)	sec
53	WASH RETRY(2)	Washing process presurizing retry peak pressure (2nd)	Kpa
54	WASH LOWER(2)	Washing process depresurizing threshold (2nd)	Kpa
55	WASH DOWN TM(2)	Washing process depresurizing time over (2nd)	sec
56	WASH R DOWN TM(2)	Washing process depresurizing retry time over (2nd)	sec
57	WASH FALL(2)	Washing process depresurizing monitoring pressure (variation) (2nd)	Kpa
58	DISP WASH BUFFER 3	Washing reagent divided injection quantity	ml
59	WASH SPEED(3)	Washing process presurizing speed (3rd)	rpm
60	WASH PEEK(3)	Washing process peak pressure (3rd)	Kpa
61	WASH UP TM(3)	Washing process presurizing time over (3rd)	sec
62	WASH RETRY(3)	Washing process presurizing retry peak pressure (3rd)	Kpa
63	WASH LOWER(3)	Washing process depresurizing threshold (3rd)	Kpa
64	WASH DOWN TM(3)	Washing process depresurizing time over (3rd)	sec
65	WASH R DOWN TM(3)	Washing process depresurizing retry time over (3rd)	sec
66	WASH FALL(3)	Washing process depresurizing monitoring pressure (variation) (3rd)	Kpa
67	DISP WASH BUFFER 4	Washing reagent divided injection quantity	ml
68	WASH SPEED(4)	Washing process presurizing speed (4th)	rpm
69	WASH PEEK(4)	Washing process peak pressure (4th)	Kpa
70	WASH UP TM(4)	Washing process presurizing time over (4th)	sec
71	WASH RETRY(4)	Washing process presurizing retry peak pressure (4th)	Kpa
72	WASH LOWER(4)	Washing process depresurizing threshold (4th)	Kpa
73	WASH DOWN TM(4)	Washing process depresurizing time over (4th)	sec
74	WASH R DOWN TM(4)	Washing process depresurizing retry time over (4th)	sec
75	WASH FALL(4)	Washing process depresurizing monitoring pressure (variation) (4th)	Kpa
76	DISP WASH BUFFER 5	Washing reagent divided injection quantity	ml
77	WASH SPEED(5)	Washing process presurizing speed (5th)	rpm
78	WASH PEEK(5)	Washing process peak pressure (5th)	Kpa
79	WASH UP TM(5)	Washing process presurizing time over (5th)	sec
80	WASH RETRY(5)	Washing process presurizing retry peak pressure (5th)	Kpa
81	WASH LOWER(5)	Washing process depresurizing threshold (5th)	Kpa
82	WASH DOWN TM(5)	Washing process depresurizing time over (5th)	sec
83	WASH R DOWN TM(5)	Washing process depresurizing retry time over (5th)	sec
84	WASH FALL(5)	Washing process depresurizing monitoring pressure (variation) (5th)	Kpa
85	DISP ELUTION BUFFER 1	DNA elution reagent divided injection quantity	ml
86	EB SUCTIONING SP	DNA elution reagent suctioning speed	mm/sec
87	EB DISCHARGING SP	DNA elution reagent discharging speed	mm/sec
88	WAITING	Waiting	sec
89	ELUTION SPEED(1)	DNA eluting process presurizing speed (1st)	rpm

No.	Screen Display	Parameter Name	Unit
90	ELUTION PEEK(1)	DNA eluting process peak pressure (1st)	Kpa
91	ELUTION UP TM(1)	DNA eluting process presurizing time over (1st)	sec
92	ELUTION RETRY(1)	DNA eluting process presurizing retry peak pressure (1st)	Kpa
93	ELUTION LOWER(1)	DNA eluting process depresurizing threshold (1st)	Kpa
94	ELUTION DOWN TM(1)	DNA eluting process depresurizing time over (1st)	sec
95	ELUTION R DOWN TM(1)	DNA eluting process depresurizing retry time over (1st)	sec
96	ELUTION FALL(1)	DNA eluting process depresurizing monitoring pressure (variation) (1st)	Kpa
97	DISP ELUTION BUFFER 2	DNA eluted reagent divided injection quantity	ml
98	WAITING	Waiting	sec
99	ELUTION SPEED(2)	DNA eluting process presurizing speed (2nd)	rpm
100	ELUTION PEEK(2)	DNA eluting process peak pressure (2nd)	Kpa
101	ELUTION UP TM(2)	DNA eluting process presurizing time over (2nd)	sec
102	ELUTION RETRY(2)	DNA eluting process presurizing retry peak pressure (2nd)	Kpa
103	ELUTION LOWER(2)	DNA eluting process depresurizing threshold (2nd)	Kpa
104	ELUTION DOWN TM(2)	DNA eluting process depresurizing time over (2nd)	sec
105	ELUTION R DOWN TM(2)	DNA eluting process depresurizing retry time over (2nd)	sec
106	ELUTION FALL(2)	DNA eluting process depresurizing monitoring pressure (variation) (2nd)	Kpa
107	DIS CARRIER RNA	Additional reagent divided injection quantity	ml
108	CR SUCTIONING SP	Additional reagent suctioning speed	mm/sec
109	CR DISCHARGING SP	Additional reagent discharging speed	mm/sec
110	MIXING SPEED(1)	Primary mixing speed	*
111	MIXING TIME(1)	Primary mixing time	sec
112	MIXING SPEED(2)	Secondary mixing speed	*
113	MIXING TIME(2)	Secondary mixing time	sec
114	DETECT PRES	Pressurizing threshould pressure	Kpa
115	DOWN PRES	Depressurizing threshould pressure during pressurizing	Kpa

*Mixing speed setup/0: 1300rpm, 1: 1400rpm, 2: 1500rpm, 3: For origin return

(2) EXPERT Mode Parameter Setups

No.	Screen Display	Protocol Name (Default values)							
		W BLOOD DNA 2.0ml FULL-AUTO	W BLOOD DNA 1.0ml FULL-AUTO	PLASMA DNA 2.0ml FULL-AUTO	PLASMA DNA 1.0ml FULL-AUTO	W BLOOD DNA 2.0ml SEMI-AUTO	W BLOOD DNA 1.0ml SEMI-AUTO	PLASMA DNA 2.0ml SEMI-AUTO	PLASMA DNA 1.0ml SEMI-AUTO
1	DISP PROTEASE	0.30	0.15	0.30	0.15	-	-	-	-
2	LB SUCTIONING SP	10	10	10	10	-	-	-	-
3	LB DISCHARGING SP	10	10	10	10	-	-	-	-
4	DISP SAMPLES	2.00	1.00	2.00	1.00	-	-	-	-
5	SAMP SUCTIONING SP	5	5	5	5	-	-	-	-
6	SAMP DISCHARGING SP	10	10	10	10	-	-	-	-
7	MIXING SPEED(1)	0	0	0	0	-	-	-	-
8	MIXING TIME(1)	0	0	0	0	-	-	-	-
9	MIXING SPEED(2)	0	0	0	0	-	-	-	-
10	MIXING TIME(2)	0	0	0	0	-	-	-	-
11	DISP LYSIS BUFFER	2.50	1.25	2.50	1.25	-	-	-	-
12	LB SUCTIONING SP	10	10	10	10	-	-	-	-
13	LB DISCHARGING SP	10	10	10	10	-	-	-	-
14	MIXING SPEED(1)	0	0	0	0	-	-	-	-
15	MIXING TIME(1)	120	120	120	120	-	-	-	-
16	MIXING SPEED(2)	0	0	0	0	-	-	-	-
17	MIXING TIME(2)	0	0	0	0	-	-	-	-
18	INCUBATING TEMP	50	50	50	50	-	-	-	-
19	INCUBATING TIME	300	300	300	300	-	-	-	-
20	HEATER ON TIMING	0	0	0	0	-	-	-	-
21	DISP ETHANOL	2.50	1.25	2.50	1.25	-	-	-	-
22	EN SUCTIONING SP	10	10	10	10	-	-	-	-
23	EN DISCHARGING SP	10	10	10	10	-	-	-	-
24	MIXING SPEED(1)	0	0	0	0	-	-	-	-
25	MIXING TIME(1)	90	90	90	90	-	-	-	-
26	MIXING SPEED(2)	0	0	0	0	-	-	-	-
27	MIXING TIME(2)	0	0	0	0	-	-	-	-
28	TRANSFER LYSATE	7.30	3.65	7.30	3.65	7.30	3.65	7.30	3.65
29	LS SUCTIONING SP	10	10	10	10	10	10	10	10
30	LS DISCHARGING SP	5	5	5	5	5	5	5	5
31	BIND SPEED	450	450	450	450	450	450	450	450
32	BIND PEEK	120	120	120	120	120	120	120	120
33	BIND UP TM	6	6	6	6	6	6	6	6
34	BIND RETRY	120	120	120	120	120	120	120	120
35	BIND LOWER	50	50	50	50	50	50	50	50
36	BIND DOWN TM	20	20	20	20	20	20	20	20
37	BIND R DOWN TM	25	25	25	25	25	25	25	25
38	BIND FALL	20	20	20	20	20	20	20	20
39	WB DISPENSING SP	200	200	200	200	200	200	200	200
40	DISP WASH BUFFER 1	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
41	WASH SPEED(1)	450	450	450	450	450	450	450	450
42	WASH PEEK(1)	120	120	120	120	120	120	120	120
43	WASH UP TM(1)	6	6	6	6	6	6	6	6
44	WASH RETRY(1)	120	120	120	120	120	120	120	120
45	WASH LOWER(1)	50	50	50	50	50	50	50	50
46	WASH DOWN TM(1)	20	20	20	20	20	20	20	20
47	WASH R DOWN TM(1)	25	25	25	25	25	25	25	25
48	WASH FALL(1)	20	20	20	20	20	20	20	20

No.	Screen Display	Protocol Name (Default values)							
		W BLOOD DNA 2.0ml FULL-AUTO	W BLOOD DNA 1.0ml FULL-AUTO	PLASMA DNA 2.0ml FULL-AUTO	PLASMA DNA 1.0ml FULL-AUTO	W BLOOD DNA 2.0ml SEMI-AUTO	W BLOOD DNA 1.0ml SEMI-AUTO	PLASMA DNA 2.0ml SEMI-AUTO	PLASMA DNA 1.0ml SEMI-AUTO
49	DISP WASH BUFFER 2	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
50	WASH SPEED(2)	450	450	450	450	450	450	450	450
51	WASH PEEK(2)	120	120	120	120	120	120	120	120
52	WASH UP TM(2)	6	6	6	6	6	6	6	6
53	WASH RETRY(2)	120	120	120	120	120	120	120	120
54	WASH LOWER(2)	50	50	50	50	50	50	50	50
55	WASH DOWN TM(2)	20	20	20	20	20	20	20	20
56	WASH R DOWN TM(2)	25	25	25	25	25	25	25	25
57	WASH FALL(2)	20	20	20	20	20	20	20	20
58	DISP WASH BUFFER 3	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
59	WASH SPEED(3)	450	450	450	450	450	450	450	450
60	WASH PEEK(3)	120	120	120	120	120	120	120	120
61	WASH UP TM(3)	6	6	6	6	6	6	6	6
62	WASH RETRY(3)	120	120	120	120	120	120	120	120
63	WASH LOWER(3)	50	50	50	50	50	50	50	50
64	WASH DOWN TM(3)	20	20	20	20	20	20	20	20
65	WASH R DOWN TM(3)	25	25	25	25	25	25	25	25
66	WASH FALL(3)	20	20	20	20	20	20	20	20
67	DISP WASH BUFFER 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	WASH SPEED(4)	1	1	1	1	1	1	1	1
69	WASH PEEK(4)	50	50	50	50	50	50	50	50
70	WASH UP TM(4)	6	6	6	6	6	6	6	6
71	WASH RETRY(4)	70	70	70	70	70	70	70	70
72	WASH LOWER(4)	45	45	45	45	45	45	45	45
73	WASH DOWN TM(4)	20	20	20	20	20	20	20	20
74	WASH R DOWN TM(4)	25	25	25	25	25	25	25	25
75	WASH FALL(4)	20	20	20	20	20	20	20	20
76	DISP WASH BUFFER 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	WASH SPEED(5)	1	1	1	1	1	1	1	1
78	WASH PEEK(5)	50	50	50	50	50	50	50	50
79	WASH UP TM(5)	6	6	6	6	6	6	6	6
80	WASH RETRY(5)	70	70	70	70	70	70	70	70
81	WASH LOWER(5)	45	45	45	45	45	45	45	45
82	WASH DOWN TM(5)	20	20	20	20	20	20	20	20
83	WASH R DOWN TM(5)	25	25	25	25	25	25	25	25
84	WASH FALL(5)	20	20	20	20	20	20	20	20
85	DISP ELUTION BUFFER 1	0.50	0.25	0.10	0.10	0.50	0.25	0.10	0.10
86	EB SUCTIONING SP	10	10	10	10	10	10	10	10
87	EB DISCHARGING SP	10	10	10	10	10	10	10	10
88	WAITING	0	0	0	0	0	0	0	0
89	ELUTION SPEED(1)	450	450	450	450	450	450	450	450
90	ELUTION PEEK(1)	120	120	120	120	120	120	120	120
91	ELUTION UP TM(1)	6	6	6	6	6	6	6	6
92	ELUTION RETRY(1)	120	120	120	120	120	120	120	120
93	ELUTION LOWER(1)	50	50	50	50	50	50	50	50
94	ELUTION DOWN TM(1)	20	20	20	20	20	20	20	20
95	ELUTION R DOWN TM(1)	25	25	25	25	25	25	25	25
96	ELUTION FALL(1)	20	20	20	20	20	20	20	20

No.	Screen Display	Protocol Name (Default values)							
		W BLOOD DNA 2.0ml FULL-AUTO	W BLOOD DNA 1.0ml FULL-AUTO	PLASMA DNA 2.0ml FULL-AUTO	PLASMA DNA 1.0ml FULL-AUTO	W BLOOD DNA 2.0ml SEMI-AUTO	W BLOOD DNA 1.0ml SEMI-AUTO	PLASMA DNA 2.0ml SEMI-AUTO	PLASMA DNA 1.0ml SEMI-AUTO
97	DISP ELUTION BUFFER 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	WAITING	0	0	0	0	0	0	0	0
99	ELUTION SPEED(2)	450	450	450	450	450	450	450	450
100	ELUTION PEEK(2)	50	50	50	50	50	50	50	50
101	ELUTION UP TM(2)	6	6	6	6	6	6	6	6
102	ELUTION RETRY(2)	70	70	70	70	70	70	70	70
103	ELUTION LOWER(2)	45	45	45	45	45	45	45	45
104	ELUTION DOWN TM(2)	20	20	20	20	20	20	20	20
105	ELUTION R DOWN TM(2)	25	25	25	25	25	25	25	25
106	ELUTION FALL(2)	20	20	20	20	20	20	20	20
107	DIS CARRIER RNA	0.00	0.00	0.00	0.00	-	-	-	-
108	CR SUCTIONING SP	1	1	1	1	-	-	-	-
109	CR DISCHARGING SP	1	1	1	1	-	-	-	-
110	MIXING SPEED(1)	0	0	0	0	-	-	-	-
111	MIXING TIME(1)	0	0	0	0	-	-	-	-
112	MIXING SPEED(2)	0	0	0	0	-	-	-	-
113	MIXING TIME(2)	0	0	0	0	-	-	-	-
114	DETECT PRES	10	10	10	10	10	10	10	10
115	DOWN PRES	20	20	20	20	20	20	20	20

7 Daily Inspections and Maintenance

The maintenance procedures for this system are explained below.

Biohazard **When cleaning, wear proper gloves, mask and protective goggles.**

Caution **Carry out cleaning of system main unit and accessories at every operation.**
Operation while contaminated will cause cross-contamination.

Warning **Ethyl alcohol is an inflammable substance. Do not use in proximity of open flame.**

7.1 What to Do before Using the System

Before using system, carry out the following:

- **Check for any contamination of system and accessories. If contaminated, they must be cleaned.**
- **(→"7.3 Cleaning of System Main Unit and Accessories" and "7.6 UV (Ultraviolet Light) Irradiating Function")**
- **Check for any deterioration or damage of consumables. Replace if deteriorated or damaged.**
- **(→"7.4 Replacement of Consumables")**
- **Replenishment or replacement of reagents.**
- **Check for any residual used reagent in wash buffer feeding lines.**
  If any remains, discharge and clean inside of fluid feeding lines.
  (→"7.5 Cleaning of Wash Buffer Feeding Line")

7.2 When System Not in Use for More Than One Week

If system use is not planned for more than one week after previous use, carry out the following:

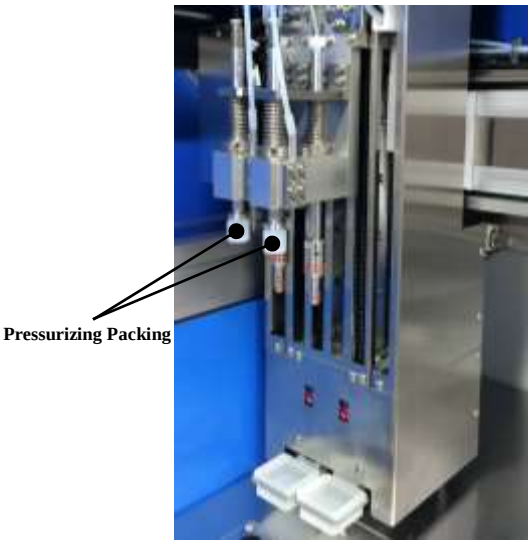
- **Check for contamination of system and its accessories. If contaminated, they must be cleaned.**
  (→"7.3 Cleaning of System Main Unit and Accessories", "7.6 UV (Ultraviolet Light) Irradiating Function")
- **Check for any residual used waste or waste fluids. Dispose of if any remain.**
- **Clean wash buffer feeding lines.**
  (→"7.5 Cleaning of Wash Buffer Feeding Line")

7.3 Cleaning of System Main Unit and Accessories

Locations and procedures for cleaning system main unit and accessories are explained below:

Parts Requiring Cleaning	Cleaning Procedures
System Main Unit (Exterior)	**Grit and dust should be wiped off using soft cloth, etc. Strong stains should be wiped off using soft paper, etc. containing 0.5% sodium hypochlorite solution or ethyl alcohol.** **Be sure to wipe off area where sodium hypochlorite solution was applied using soft paper, etc. containing nuclease-free water and dry.**
System Main Unit (Interior)	
Pressurizing Nozzle (Packing)	**Refer to "Cleaning of Pressurizing Nozzle (Packing)" explained later.** **Note: If strong stains or any abnormality such as blemishes, deformation or hardening are observed, replace parts. (→"7.4 Replacement of Consumables")**
Reagent Container Holder	**Wipe off using soft paper, etc. containing 0.5% sodium hypochlorite solution or ethyl alcohol.** **Be sure to wipe off area where sodium hypochlorite solution was applied using soft paper, etc. containing nuclease-free water and dry.**
Sample Tip Holder	
Reagent Tip Holder	
Sample Holder	
Cartridge Holder	
Waste Tube Holder	
Collection Tube Holder	
Holder Packing	**Refer to "Cleaning of Holder Packing" explained later regarding cleaning holder packing included in cartridge holder.** **Note: If strong stains or any abnormality such as blemishes, deformation or hardening are observed, replace parts.**
Wash Buffer Bottle	**Dispose of residual reagents and waste fluids in containers.** **Rinse inside of containers using 0.5% sodium hypochlorite solution or ethyl alcohol as necessary.** **Wash inside containers using nuclease-free water and dry.**
Reagent Container S	
Reagent Container L	
Waste Fluid Container	
Waste Container	**If contaminated, immerse in 0.5% sodium hypochlorite solution for 30 minutes. Then wash stain with water and dry.**
Drip Tray	**Refer to "Cleaning of Drip Tray" explained later.** **Note: If strong stains or any abnormality such as blemishes, deformation or hardening are observed, replace tray.**

■ Cleaning Pressurizing Nozzle (Packing)



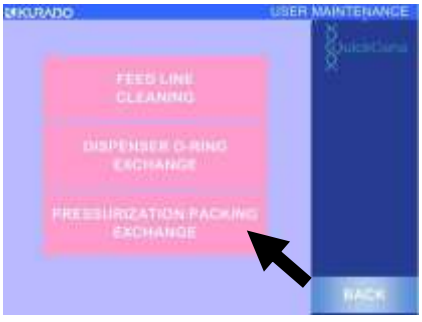
Pressurizing nozzle (packing) is mounted on robot unit.

Cleaning procedures for pressurizing nozzles (packing) are explained below.

(1) Refer to "3.6 Start-Up of System", turn ON system power and move to mode selection screen.

(2) Press [MAINTENANCE] and start maintenance mode.

(3) Press [USER MAINTENANCE].



(4) Press [PRESSURIZATION PACKING EXCHANGE].

(5) Press [START] in displayed pop-up window.

Press [CANCEL] to close window.

(6) Robot unit moves near opening of system sliding doors. When motion is complete, a message will be displayed.

(7) Press system power switch to turn OFF power.

(8) Open sliding doors, refer to below and clean pressurizing nozzle (packing).

Parts to Clean	Cleaning Procedures
Pressurizing Nozzle (Packing)	**Wipe off using soft paper, etc. containing 0.5% sodium hypochlorite solution or ethyl alcohol. Be sure to wipe off area where sodium hypochlorite solution was applied using soft paper, etc. containing nuclease-free water and dry.**

Note: Clean pressurizing packing for every operation. Operation while pressurizing packing is contaminated will cause cross-contamination. Furthermore, if strong stains or abnormality such as blemishes, deformation or hardening are present, normal isolation may not be possible due to insufficient pressurizing. Replace pressurizing packings as necessary. (→"7.4 Replacement of Consumables")

■ Cleaning Holder Packings

Cartridge Holder

Holder Packing

Holder packings are mounted inside cartridge holder cover.

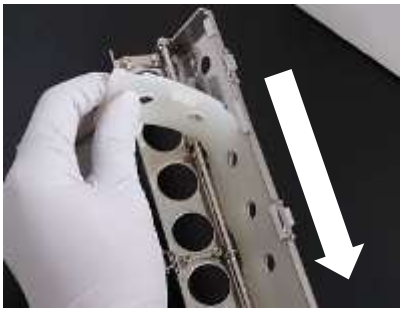
Procedures for cleaning and replacement of holder packings are explained below.

(1) Open cover by releasing locks at 3 places on cartridge holder.

Projection

(2) Pull on projection of holder packing and remove end from cartridge holder.

Note: When removing packing, work while supporting cartridge holder with one hand.



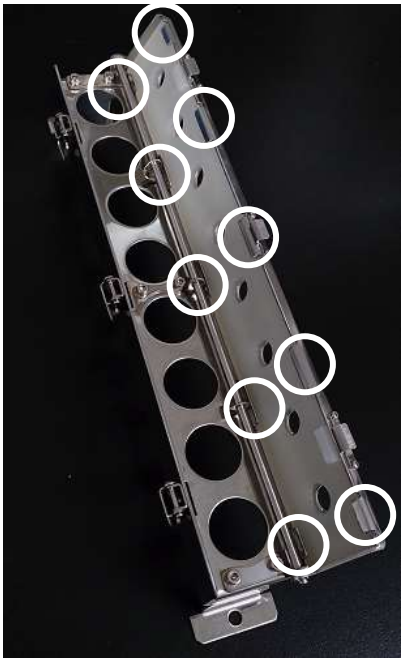
(3) Switch grip to end of packing and completely remove holder packing.

(4) Refer to below and clean holder packing.

Parts to Clean	Cleaning Procedures
Holder Packing	**Wipe off using soft paper, etc. containing 0.5% sodium hypochlorite solution or ethyl alcohol. Be sure to wipe off area where sodium hypochlorite solution was applied using soft paper, etc. containing nuclease-free water and dry.**

Note: Clean holder packing for every operation. Operation while holder packing is contaminated will cause cross-contamination. Furthermore, if holder packing stain is sticky or abnormalities such as blemishes, deformation or hardening are present, normal isolation may not be possible due to insufficient pressurizing. Replace holder packings as necessary.

Cartridge Holder Lugs (10 pcs)



(5) Fit cleaned or new holder packing onto cartridge holder

Note: If fitting of holder packing is omitted or incomplete, normal isolation operation may not be possible due to insufficient pressurizing. After fitting holder packing, be sure to confirm that packings are fit properly onto 10 cartridge holder hooks.

■ Cleaning Drip Tray

Drip trays are mounted on lower part of robot unit.

Procedures for cleaning and replacement of drip trays are explained below.

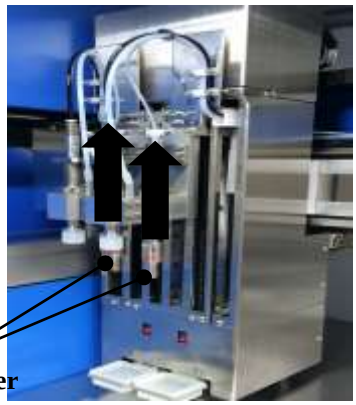
(1) Refer to "Cleaning Pressurizing Nozzles (Packing)" explained above and move robot unit near opening of system sliding doors.

(2) Press system power switch to turn OFF power.

(3) Open sliding doors and remove drip trays from drip tray guide.

If drip trays are not pulled out (housed in the robot), slowly lift bottom part of dispenser and pull out the drip trays manually.

Drip trays are housed in



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(4) Refer to below and clean drip trays.

Parts to Clean	Cleaning Procedures
Drip Trays	Wipe off using soft paper, etc. containing 0.5% sodium hypochlorite solution or ethyl alcohol. If stain is sticky, immerse in 0.5% sodium hypochlorite solution for 30 minutes. Then wash stain area with water and dry.

Note: Clean drip trays for every operation. Operation while drip trays are contaminated will cause cross contamination. Replace drip trays depending on condition such as irremovable stain.

(5) Mount cleaned or new drip trays on drip tray guide.

Drip Tray Flange

Drip Tray Guide Frame

Note: Securely mount drip tray so that flanges tightly contact drip guide frame. Omitted or incomplete fitting of drip tray will cause cross-contamination.

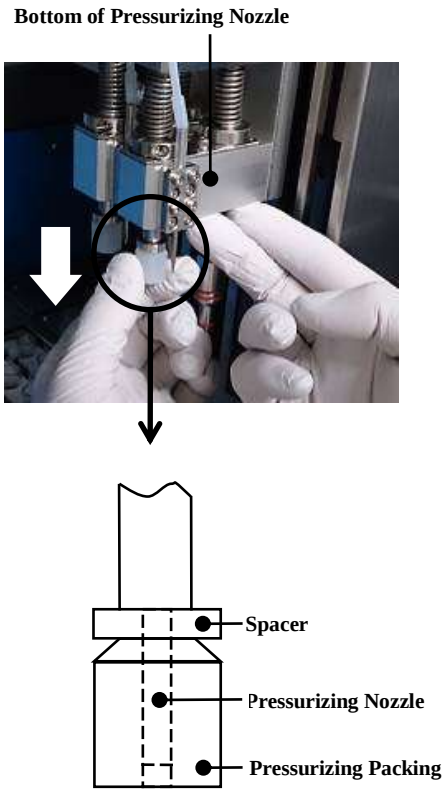
Tight Contact

7.4 Replacement of Consumables

Procedures for replacement of consumables used for system are as follows.

■ Replacement of Pressurizing Packing

Procedures for replacement of pressurizing packings are explained below.



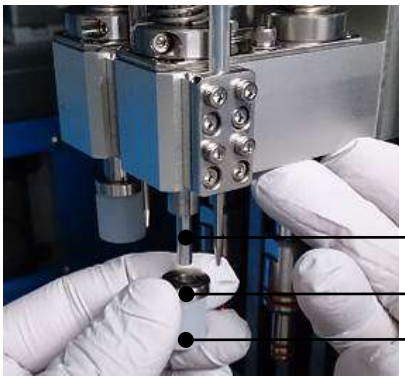
(1) Refer to "Cleaning Pressurizing Nozzles (Packing)" in "7.3 Cleaning System Main Unit and Accessories" and move the robot unit near opening of system sliding doors.

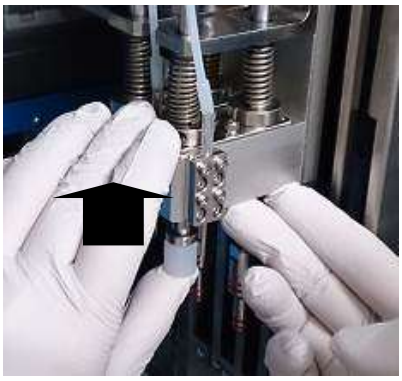
(2) Press system power switch to turn OFF power.

(3) Hold pressurizing packing with fingers as shown in figure, and support bottom of pressurizing nozzle with other hand. Pull down and remove pressurizing packing from pressurizing nozzle.

Note:

- **When removing pressurizing packing, be sure to work while supporting bottom of pressurizing nozzle with one hand.**
- **Spacer set in upper part of pressurizing packing is removed when pressurizing packing is removed. Take care not to drop spacer during removal.**

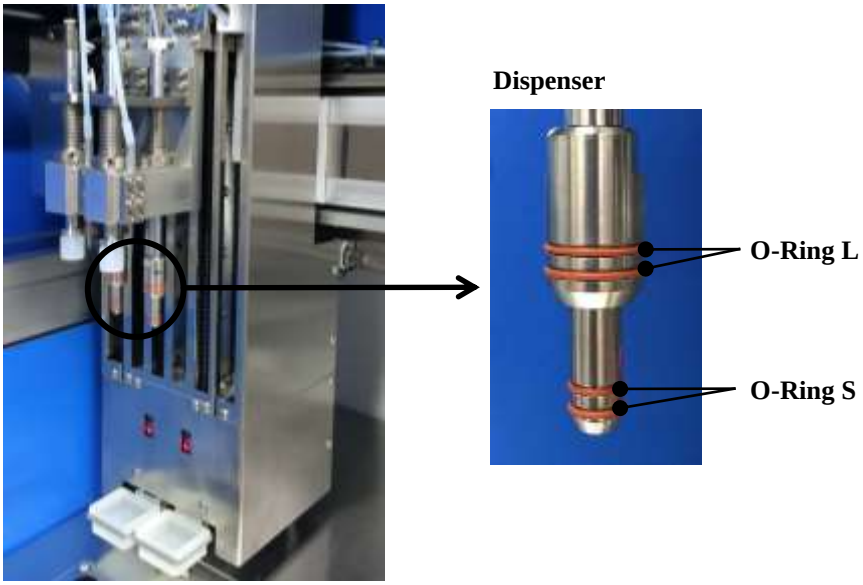




(4) Securely insert upward and in order spacer and new pressurizing packing into pressurizing nozzle.

Note: If spacer fitting is omitted or pressurizing packing fitting is incomplete, normal isolation operation may not be possible due to insufficient pressurizing. After fitting pressurizing packing, check secure mounting of pressurizing nozzle, spacer and pressurizing packing without a gap.

■ Replacement of Dispenser O-Ring



In this system, 2 large and 2 small O-rings (O-ring L: 2 pcs, O-ring S: 2 pcs) are set in each of the 2 dispensers.

Procedures for replacing dispenser O-rings are explained below.

Note: If any abnormality such as blemishes, deformation or hardening are observed on the O-rings, normal isolation may not be possible due to defective divided injection of samples, reagents and lysates. Furthermore, it may cause cross-contamination. Replace dispenser O-rings as necessary. We also recommend that you change it every three months.

(1) Refer to "3.6 Start-Up of System", turn system power ON and move to mode select screen.

(2) Press [MAINTENANCE] to start maintenance mode.

(3) Press [USER MAINTENANCE].

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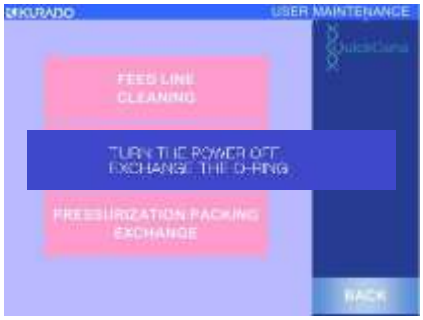
(4) Press [DISPENSER O-RING EXCHANGE].

(5) Press [START] in displayed pop-up window.

Press [CANCEL] to close window.



(6) Robot unit will move near opening of system sliding doors. When movement is complete, a message will be displayed.

(7) Press system power switch to turn OFF power.

(8) Open system sliding doors and remove O-rings using small slotted screwdriver, etc.

Note: When removing dispenser O-rings, take care not to damage dispenser.

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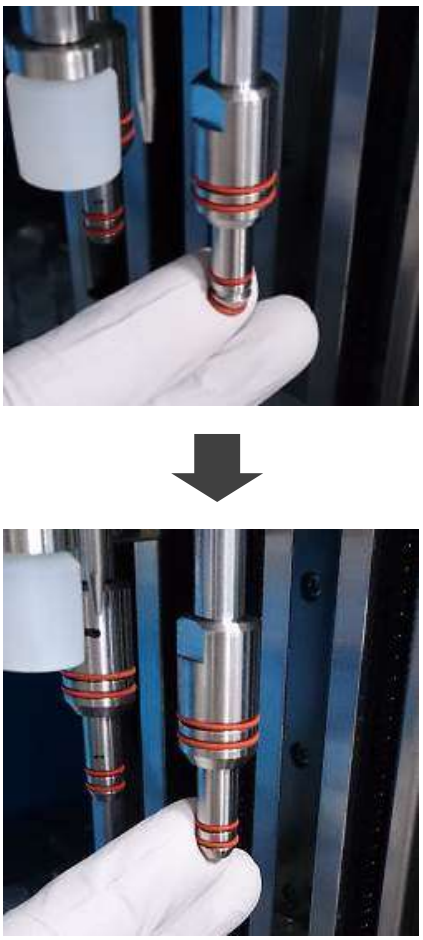
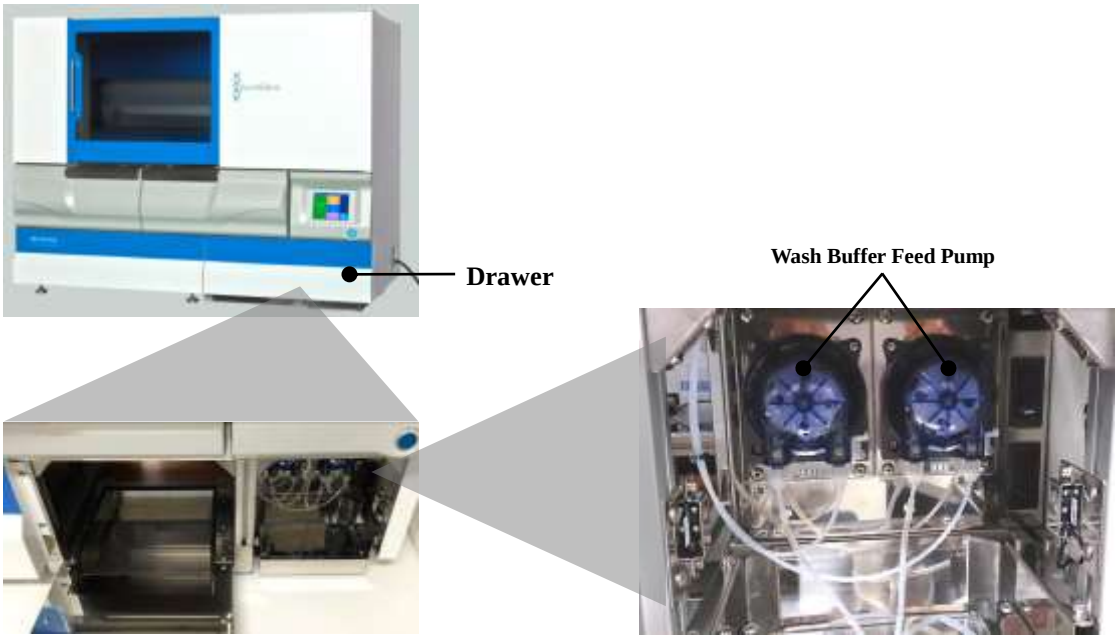


(9) Fit new O-ring onto groove on dispenser.

Note:

- **When fitting O-ring onto dispenser, take care not to damage O-ring.**
- **If O-ring fitting is omitted or incomplete, normal isolation may not be possible due to defective divided injection of samples, reagents and lysates. Furthermore, it may cause cross-contamination.**

■ Replacement of Wash Buffer Pump Tubes



Inside of Drawer

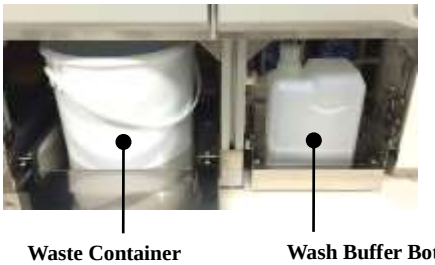
Two wash buffer feed pumps for wash buffer are installed in the system drawer, and one pump tube is used for each pump.

The procedures for replacement of wash buffer feed pump tubes are explained below.

Note: Deterioration of wash buffer pump tubes may influence nucleic acid isolation processes due to abnormal injection of wash buffer.

Replace wash buffer feed pump tubes every 6 months as a standard.

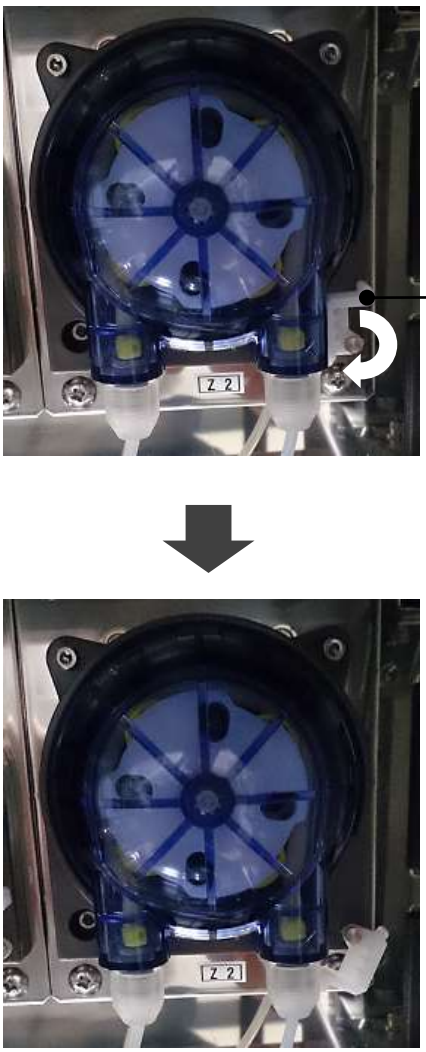
(1) Check that system power is OFF.



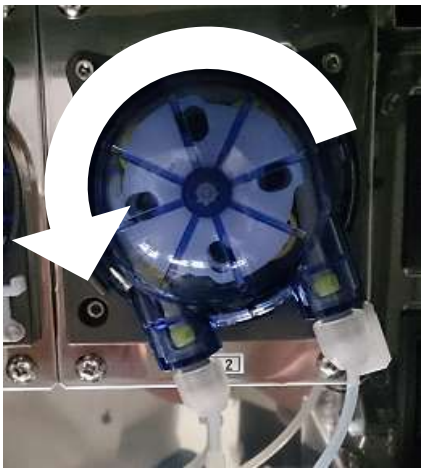
(2) Pull out drawer and take out waste container and wash buffer bottle.

Wash buffer pump will appear behind wash buffer bottle.

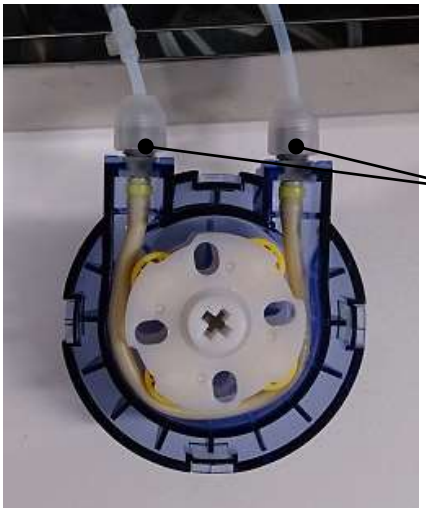
Note: Store inlet tube tip inserted into wash buffer bottle in clean bag, etc.



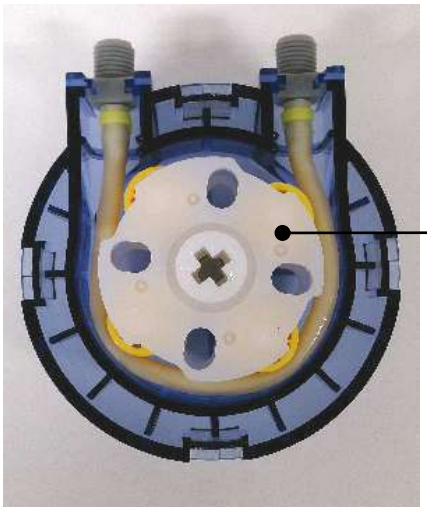
(3) Release wash buffer pump lock.



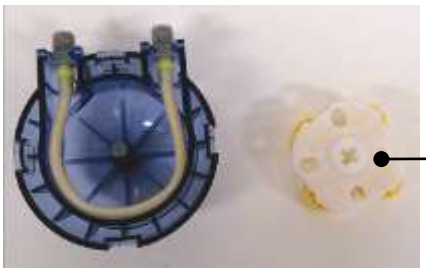
(4) Grasp plastic cover of wash buffer pump and turn counterclockwise (in direction of arrow) until it stops (approximately 20 degrees). Then pull and remove wash buffer pump toward you.



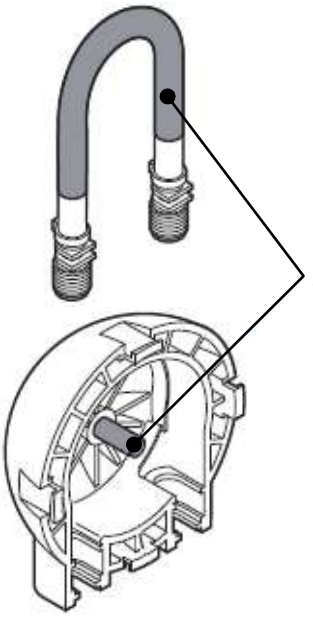
(5) Turn two connected tube joints in direction of arrows and remove.



(6) Remove rotating component.

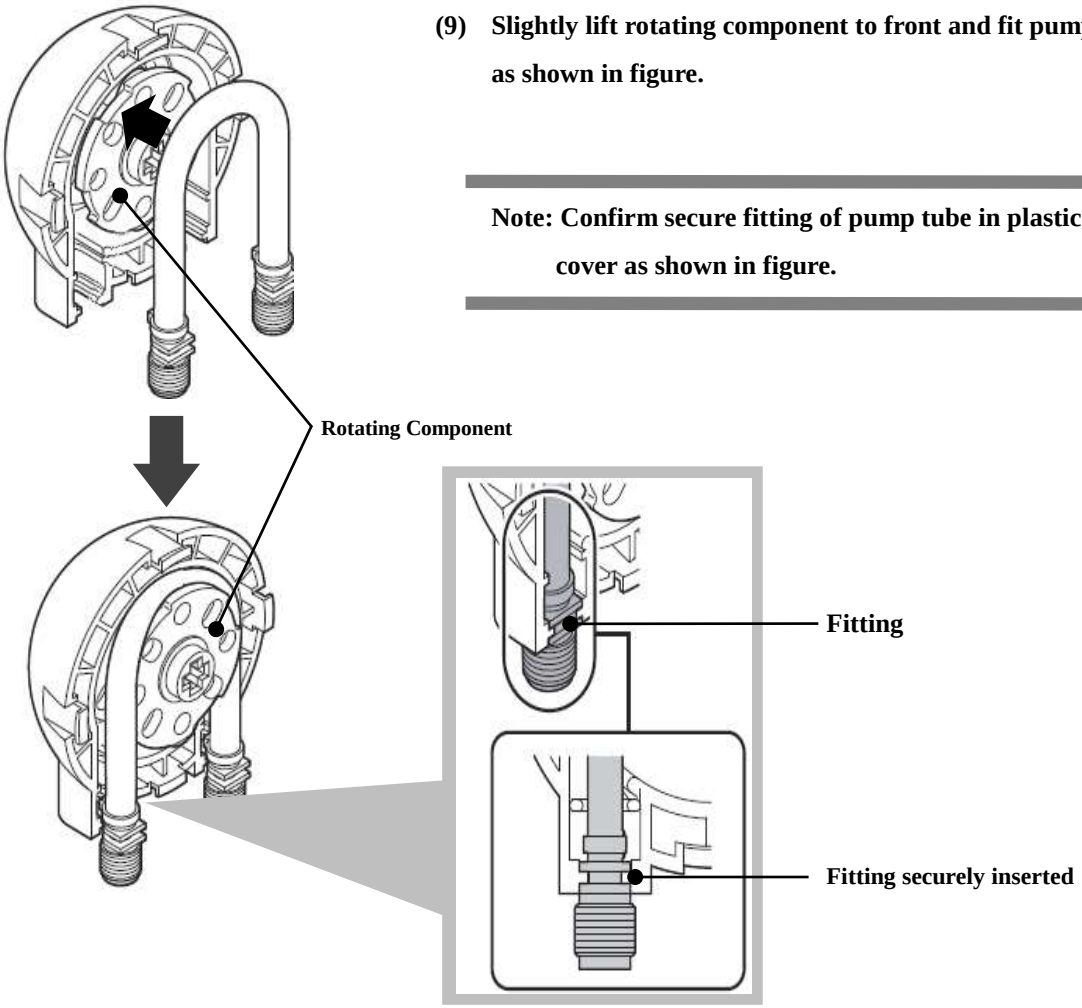


(7) Remove wash buffer pump tube.



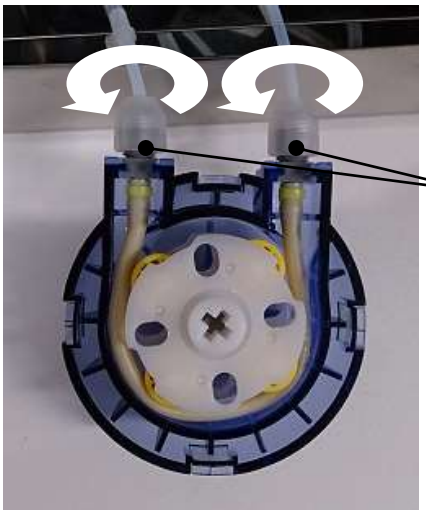
(8) Apply dedicated grease to new wash buffer pump tube and rotating component shaft (gray areas in figure).

Note: Be sure to use only dedicated grease included with replacement parts. Use of other greases will cause problems such as degraded durability.



(9) Slightly lift rotating component to front and fit pump tube as shown in figure.

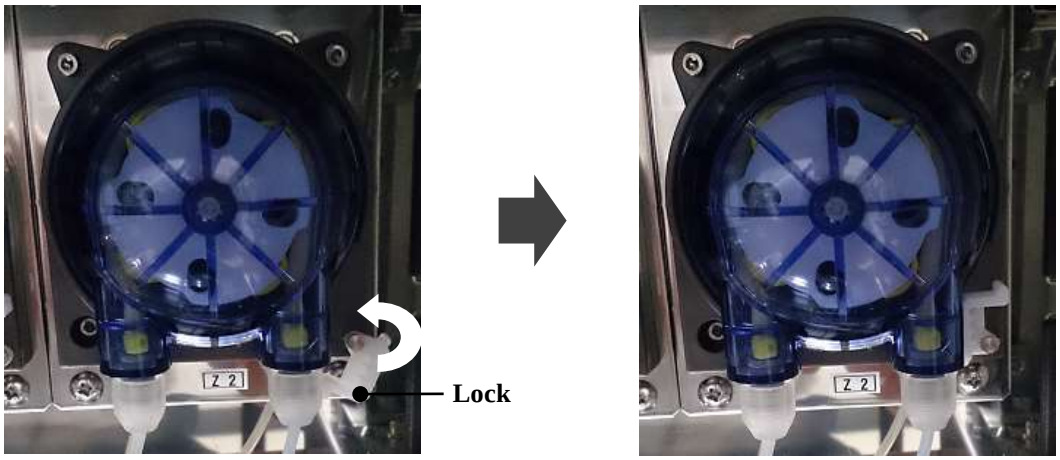
Note: Confirm secure fitting of pump tube in plastic pump cover as shown in figure.



(10) Set two tube joints while turning in direction of arrows in figure.

(11) Fit wash buffer pump in tilted position on fitting groove as shown in figure. Then turn wash buffer pump clockwise (in direction of arrow) until it stops (approximately 20 degrees).

(12) Lock wash buffer pump as shown in figure.



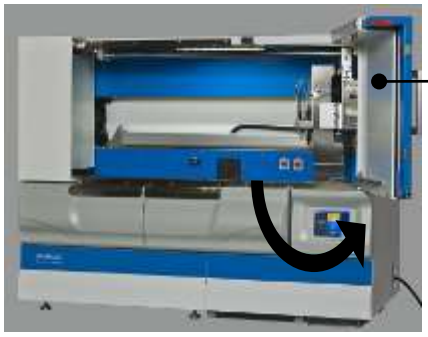
■ Replacement of Fan Filter

A fan filter is used in fan installed in rear of system work area. A fan filter is used inside the fan.

Procedures for fan filter replacement are explained below.

Note: Normal ventilation of inside of system may not be possible if fan filter deteriorates or becomes dirty.
Replace fan filter every year as a standard.

(1) Check that system power is OFF.



(2) Fully open system sliding doors.

Note: Beware of any persons or other obstacles when fully opening sliding doors.

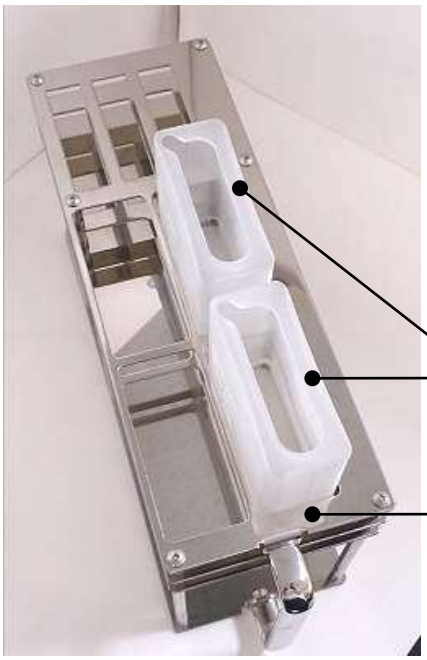
(3) Grasp side of fan cover and remove toward front.

(4) Remove filter from fan cover.

(5) Set new filter following reverse order.

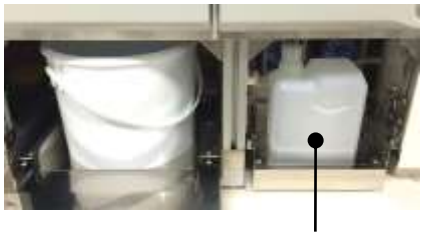
7.5 Cleaning of Wash Buffer Feeding Line

When power is turned OFF after completion of work, a small quantity of reagents remains in wash buffer feeding lines. If this system will not be reused for more than one week, any residual fluid may crystallize and clog nozzles or damage tube. Clean wash buffer feeding lines in accordance with the following procedures. This cleaning should always be conducted before using system after a long period of shutdown.



(1) Set 2 waste fluid containers (reagent container L) in reagent container holder and set reagent container holder in system.

Note: Waste fluid container should be set in specified position as shown in figure.



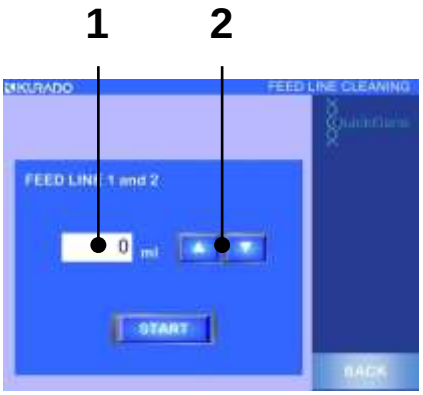
(2) Supply nuclease-free water to wash buffer bottle and set wash buffer bottle in system. Close drawer after setting.

(3) Refer to "3.6 Start-Up of System", turn system power ON and move to mode select screen.

(4) Press [MAINTENANCE] to start maintenance mode.

(5) Press [USER MAINTENANCE].

(6) Press [FEED LINE CLEANING].



(7) Cleaning mode for feed line starts.

Enter fluid feeding quantity as "15 mL" with either of following procedures:

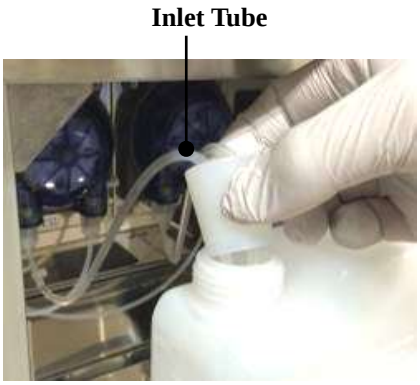
1. **Directly enter a value using ten-key entry pad.**
   Touch white frame in which a value is entered to display ten-key pad, enter value for feeding fluid quantity, and press [ENT].

2. **Change value using up/down (△▽) buttons.**
   One press of [△] button increases setup value by 1, and one press of [▽] decreases setup value by 1.

Note: Too great a fluid feeding quantity may cause fluid overflow from waste fluid container. Do not enter value exceeding 20 mL.

(8) Enter value and press **[START]**.
Wash buffer pump will operate and fluid in wash buffer bottle will be fed and discharged into waste fluid container.

Note: Too frequent fluid feeding may cause fluid overflow from waste fluid container. Dispose of waste fluid in waste fluid container as necessary to prevent overflow.



(9) **Remove inlet tube of fluid feeding line from wash buffer bottle and press [START] while empty.**
Supply air to fluid feeding lines and discharge residual fluid from line.

(10) Set inlet tube in container with ethyl alcohol and press **[START]**.
Feed ethyl alcohol into fluid feeding lines.

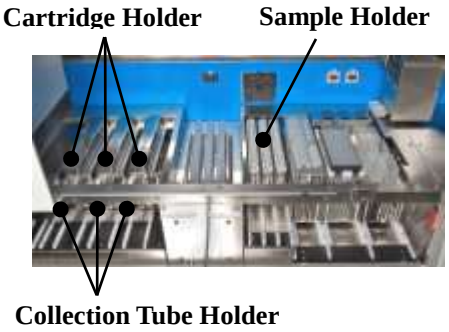
(11) **Remove inlet tube from container with ethyl alcohol, and press [START] while empty.**
Supply air to fluid feeding lines and discharge residual fluid from lines.

(12) **Press [START] several times if necessary while empty.**
Supply air to fluid feeding lines and dry inside of lines with air flow.

(13) **Turn system power OFF and dispose of waste fluid in waste fluid container.**

7.6 UV (Ultraviolet Light) Irradiating Function

UV (ultraviolet light) lamp is included in system robot unit, and UV is irradiated in work area in UV irradiating mode. Procedures for using UV irradiation mode are explained below.



(1) Remove sample holder, cartridge/waste tube holder and collection tube holder from system.

Note: To prevent sample damage, UV irradiation is not permitted while sample holder, cartridge/water tube holder and collection tube holders are set in system.

(2) Refer to "3.6 Start-Up of System", turn system power ON, and move to mode select screen.

(3) Press **[MAINTENANCE]** to start maintenance mode.

(4) Press **[UV IRRADIATION MODE].**

(5) Setup screen for UV irradiation mode is displayed. Select [YES] to automatically turn OFF system power after UV irradiation or press [NO] to maintain system power.

(6) Press [START] to start UV irradiation.

Important: Before starting UV irradiation, check that all system sliding doors, L/R flap doors and drawers are closed.

8 Before Concluding as a Failure

”Was the operation a failure?" Error messages displayed on the operation panel are explained below.

8.1 Troubleshooting

If sample isolation is unsuccessful, check setup values for parameters.

If the setup values for parameters are improper, sample isolation may fail due to excessive or insufficient buffer, abnormal pressurizing process, improper heating temperature or insufficient agitation of lysate solution. Parameters should be changed in accordance with instructions of manufacturer or its sales agent.

Refer to "6 Parameter Setup Procedures" regarding parameter setup.

If problem is still not resolved, contact our customer consultation desk.

If you feel that isolation was a failure, please check the following before contacting us.

Phenomenon	Possible Cause	Countermeasure
Does not operate when power is turned ON	Is the power plug connected in an outlet?	Securely insert the power plug in an outlet
Breaker is shut off	Overcurrent or risk of electrical leakage due to system failure	Contact our customer consultation desk.
Abnormal noise from system	Possibility of system failure	Contact our customer consultation desk.
Strange smell from the system		Promptly pull the power cable off from the outlet. Then contact our customer consultation desk.
Cartridge fluid is not correctly caught in collection tubes and waste tubes.	Are cartridges securely set in cartridge holder?	- Securely set cartridge in setting position of holder. - Set twaste tube to match setting position of cartridge.
	Are the snap locks (3 places) of the cartridge holder securely locked?	Securely lock the snap locks of the cartridge holder
Wash buffer does not exit nozzle.	Does wash buffer bottle contain buffer?	If wash buffer bottle is empty, supply buffer.

Phenomenon	Possible Cause	Countermeasure
Isolation work skipped steps / was interrupted midway.	Clogged with tips during sample (blood) suction.	Check for any solid substances that may cause clogging of tips in set sample.
	Pressure did not increase when cartridge was pressurized.	- Securely set cartridge in holder setting position. - Securely lock cartridge holder snap locks.
	The cartridge was clogged	Check for any solid substances that may cause clogging of cartridge in the set sample. Refer to the troubleshooting described in the handbook for the dedicated reagent kit.
The DNA yield is low. DNA is not acquired.	-	Refer to the troubleshooting described in the handbook for the dedicated reagent kit.
The sequential experiments such as PCR are not successful	-	Refer to the troubleshooting described in the handbook for the dedicated reagent kit.
Precipitate in reagent	-	Refer to troubleshooting described in handbook for dedicated reagent kit.

8.2 Error Messages

When error message is displayed on operation panel, promptly take measure indicated in table below and contact our customer consultation desk as necessary.

Error messages displayed on operation panel are as follows:

◇System Check Related Errors

Code No.	Message	Description	Countermeasure
0003	HEATER SINGULARITY	Abnormal heater operation found during system check	If similar error occurs in a retry of operation, contact our customer consultation desk.
0005	PRESSURE SINGULARITY/No.1 No.1 pressure head of can not be pressurized. Turn of the power of the device, please check the pressure packing.	Pressure leakage abnormality in pressurizing packing 1 during system check (Check Timeout)	Turn system power OFF and check or replace abnormal pressurizing packing.
0006	PRESSURE SINGULARITY/No.2 No.2 pressure head of can not be pressurized. Turn of the power of the device, please check the pressure packing.	Pressure leakage abnormality in pressurizing packing 2 during system check (Check Timeout)	
0011	OPEN AGITATION COVER	Lysate unit cover is open during system check	Press door lock release button to open flap doors; close and lock lysate unit cover.
0012	NO WASTE CONTAINER1 waste container1 has not been set. Press the BACK button to turn off the display, open the door by pressing the UNLOCK button, set the waste container1.	During system check, waste fluid container 1 or holder is not set in reagent container holder in system.	Press door lock release button to open flap doors and set waste fluid container corresponding to reagent container holder. Or securely set reagent container holder in system.
0013	NO WASTE CONTAINER2 waste container2 has not been set. Press the BACK button to turn off the display, open the door by pressing the UNLOCK button, set the waste container1.	During system check, waste fluid container 2 or holder is not set in reagent container holder set in system.	

Code No.	Message	Description	Countermeasure
0014	NO WASTE TIP CONTAINER Waste tip container1 has not been set. Set the waste tip container.	During system check, waste container is not set in system.	Open drawer and set waste container in waste container rack. Press door lock release button after setting and open/close sliding doors or flap doors. (System check will re-start.)

◇Sample ID/Collection ID Reading Related Errors

Code No.	Message	Descriptions	Countermeasure
0020	SAMPLE RACK WRONG The wrong sample rack was installed. Please install the correct sample rack.	Information other than specified holder is read during sample holder ID reading. (Ex: Information from holder B was read during reading of holder A)	Press [BACK] in pop-up display and re-read ID of specified holder.
0021	SAMPLE ID READ ERROR Samples of the following number has not been installed, or ID could not be read. sampleNo. Let again, read a sample of the ID.	Gap in read-out sample numbers when sample IDs read. (Ex: 1, 2, 3, 5, 6...)	Press [BACK] in pop-up display and press [RE-READ] to re-read sample IDs.
0022	SAMPLE-RACK REMOVED Sample rack has been removed. All sample rack is removed from the device, please let me read again sample ID.	Sample holder (already read) set in system removed during sample ID reading.	Remove all sample holders from system and press [BACK] in pop-up display to re-read sample IDs.
0030	COLLECTION-RACK EXIST Has been installed collection tube rack A B C is already in the device. Please remove the collection tube rack A B C.	When collection IDs to be read, collection tube holders set before reading.	Remove all collection tube racks from system and re-read collection ID.

Code No.	Message	Description	Countermeasure
0031	COLLECTION RACK WRONG The wrong collection rack was installed. Please install the correct collection rack.	When reading collection tube holder IDs, information other than specified holder is read. (Ex: When reading holder A, information for holder B was read.)	Press [BACK] in pop-up display and re-read ID of specified holder.
0032	COLLECTION ID READ ERROR Collection tubes of the following number has not been installed, or ID could not be read. tubeNo. Let again, read a collection tube of the ID.	When reading collection IDs, number of read out tubes and samples are different. (Ex: Samples 1, 2, 3, 4, 5, /Tubes 1, 2, 3, 5)	Press [BACK] in pop-up display and press [RE-READ] to re-read collection IDs.
0033	COLLECTION-RACK REMOVED Collection rack has been removed. All collection rack is removed from the device, please let me read again collection tube ID.	When reading collection IDs, collection tube holder (already read) in system was removed.	Remove all collection tube holders from system, press [BACK] in pop-up display, and re-read collection IDs.
0040	SAMPLE-RACK REMOVED Sample rack has been removed. All sample rack is removed from the device, please let me read again sample ID.	Sample ID reading setup is ON and sample holder removed from system after door locks are released via reagent quantity confirmation screen or work check screen.	Remove all sample holders from system, press [BACK] in pop-up display and return to protocol selection screen.

Code No.	Message	Description	Countermeasure
0041	SAMPLE-RACK REMOVED Sample rack has been removed. All sample rack and collection rack is removed from the device, please let me,read again sample ID and collection tube ID.	Reading setups for sample IDs and collection IDs are ON and sample holder removed from system after releasing door lock via reagent quantity confirmation screen or work check screen.	Remove all sample holders and collection tube holders from system and press [BACK] in pop-up screen and return to protocol selection screen.
0042	COLLECTION-RACK REMOVED Collection rack has been removed. All collection rack is removed from the device, please let me read again collection tube ID.	Reading setups for sample IDs and collection IDs are ON and collection tube holder is removed from system after releasing door lock via reagent quantity confirmation screen or work check screen.	

◇ Door Open Related Errors during Automatic Operation

Code No.	Message	Description	Countermeasure
0098	AGITATOR COVER OPEN	Locking abnormality on lysate unit cover during system check, automatic operation or manual operation. (Cover opens due to loose locks.)	Turn system power OFF, open slide doors and check lysate unit cover. If cover lock is loose, securely lock and restart automatic operation. If error is unresolved, contact our customer consultation desk.
0099	FRONT DOOR OPEN	Locking abnormality on sliding doors or flap doors during system check, automatic operation or manual operation. (Door opens due to loose locks.)	Contact our customer consultation desk.

◇USB/System Control Related Errors

Code No.	Message	Description	Countermeasure
0100	USB NOT INSTALL USB flash drive is not installed.	USB flash drive (USB memory) is not inserted in USB port.	Insert USB flash drive (USB memory) in USB port and operate on touch panel.
0101	USB CAPACITY SHORTAGE USB flash drive of the capacity is not enough.	Free space in USB flash drive (USB memory) is insufficient when saving operation histories.	Check free space of USB flash drive (USB memory).
0102	FIRMWARE UPDATE ERROR	Firmware (control software) update abnormality	Contact our customer consultation desk.
0103	SD BACKUP ERROR	Data backup abnormality in SD card.	Contact our customer consultation desk.
0104	GET TIME ERROR	Communication abnormality when system main unit acquires time from touch panel.	Contact our customer consultation desk.

◇Automatic Operation Related Errors

Code No.	Message	Description	Countermeasure
0110	TIP EJECT ERROR	Abnormality in tip ejecting operation during automatic operation	If similar error repeats during retry of operation, contact our customer consultation desk.
0111	TIP SET ERROR	Abnormality in tip mounting operation during automatic operation.	
0113	LIQUID DETECT ERROR	Abnormality in fluid surface detection operation during automatic operation.	
0114	FILTER PRESS ERROR	Abnormality at start of cartridge pressurization operation during automatic operation.	
0118	SYRINGE SUCTION ERROR	Abnormality at start of syringe suction operation during automatic operation.	

Code No.	Message	Description	Countermeasure
0120	TRAY REMOVE	Abnormality when sample holder, waste tube holder or collection tube holder removed or lysate tube unit cover lock released after releasing door locks during automatic operation in reagent quantity confirmation screen.	If holders are removed, restart operation from protocol selection screen. If error is found with lysate unit cover locks, check cover locking status. If error continues, contact our customer consultation desk.

◇Heater/Fan Related Errors

Code No.	Message	Description	Countermeasure
0150	DIGITAL OUT ERROR	Abnormality when digital output control fails.	Contact our customer consultation desk.
0151	HEATER ALERT	Abnormality when temperature controller alert occurs during system check.	If similar error repeats during retry of operation, contact our customer consultation desk.
0152	FAN ALARM	Abnormality when exhaust fan alarm activates at time of system power ON.	

◇UV Irradiation Related Errors

Code No.	Message	Description	Countermeasure
0201	SAMPLE RACK A EXIST	Sample holder A is set in system when UV irradiated.	Press door lock release button, open flap doors, and remove relevant holder from system.
0202	SAMPLE RACK B EXIST	Sample holder B is set in system when UV irradiated.	
0203	SAMPLE RACK C EXIST	Sample holder C is set in system when UV irradiated.	
0204	FILTER RACK A EXIST	Cartridge holder A is set in system when UV irradiated.	
0205	FILTER RACK B EXIST	Cartridge holder B is set in system when UV irradiated.	
0206	FILTER RACK C EXIST	Cartridge holder C is set in system when UV irradiated.	
0207	WASTE RACK A EXIST	Waste tube holder A is set in system when UV irradiated.	
0208	COLLECTION RACK A EXIST	Collection tube holder A is set in system when UV irradiated.	
0209	WASTE RACK B EXIST	Waste tube holder B is set in system when UV irradiated.	
0210	COLLECTION RACK B EXIST	Collection tube holder B is set in system when UV irradiated.	
0211	WASTE RACK C EXIST	Waste tube holder C is set in system when UV irradiated.	Press door lock release button, open flap doors, and remove relevant holder from system.
0212	COLLECTION RACK C EXIST	Collection tube holder C is set in system when UV irradiated.	

◇Password Input Related Errors

Code No.	Message	Description	Countermeasure
0900	PASSWORD INCORRECT Password for this user is incorrect.	Mismatch of user login and user delete passwords.	Re-enter password to check. If password is forgotten, contact our customer consultation desk.
0901	PASSWORD INCORRECT Password for the EXPERT MODE is incorrect.	Mismatch of expert mode password.	
0902	PASSWORD INCORRECT Password for the MANUFACTURER MODE is incorrect.	Mismatch of manufacturer maintenance mode password.	
0950	INPUT DATA ERROR The entered value is not accepted.	User registration ID/password is out of range of 5-10 digits.	Check that number of entered digits is in range of 5-10 digits.
0951	INPUT DATA ERROR The entered value is not accepted.	Mismatch of first-time and second-time user registration passwords.	Recheck entered password.
0952	INPUT DATA ERROR The entered value is not accepted.	ID entered for user registration is identical to previously registered ID.	Check registering user ID and re-try user registration.
0953	INPUT DATA ERROR The entered value is not accepted.	Number of registered users already at maximum 24 when user registration attempted.	Delete some registered users and re-try user registration.

◇Origin Return Related Errors

Code No.	Message	Description	Countermeasure
9001	M501 ORG ERROR	Abnormality of origin return on X axis of isolation unit	If similar error repeats with operation retry, contact our customer consultation desk.
9002	M502 ORG ERROR	Abnormality of origin return on Z axis of isolation unit	
9003	M601 ORG ERROR	Abnormality of origin return on X axis of robot unit	
9004	M602 ORG ERROR	Abnormality of origin return on Y axis of robot unit	
9005	M701 ORG ERROR	Abnormality of origin return on dispenser 1 (Z1)	
9006	M702 ORG ERROR	Abnormality of origin return on dispenser 2 (Z2)	
9007	M801 ORG ERROR	Abnormality of origin return on syringe 1 (Line Z1)	
9008	M802 ORG ERROR	Abnormality of origin return on syringe 2 (Line Z2)	
9009	M401 ORG ERROR	Abnormality of origin return on lysate unit agitator motor	

◇Positioning Operation Related Errors

Code No.	Message	Description	Countermeasure
9101	M501 POSITIONING ERROR	Abnormality of positioning operation on X axis of isolation unit	If similar error repeats with operation retry, contact our customer consultation desk.
9102	M502 POSITIONING ERROR	Abnormality of positioning operation on Z axis of isolation unit	
9103	M601 POSITIONING ERROR	Abnormality of positioning operation on X axis of robot unit	
9104	M602 POSITIONING ERROR	Abnormality of positioning operation on Y axis of robot unit	
9105	M701 POSITIONING ERROR	Abnormality of positioning operation on dispenser 1 (Z1)	
9106	M702 POSITIONING ERROR	Abnormality of positioning operation on dispenser 2 (Z2)	
9107	M801 POSITIONING ERROR	Abnormality of positioning operation on syringe 1 (Line Z1)	
9108	M802 POSITIONING ERROR	Abnormality of positioning operation on syringe 2 (Line Z2)	
9109	M901 POSITIONING ERROR	Abnormality of operation on wash buffer pump 1 (Line Z1)	
9110	M902 POSITIONING ERROR	Abnormality of operation on wash buffer pump 2 (Line Z2).	
9111	M1001 POSITIONING ERROR	Abnormality of operation on pressurizing pump 1 (Line Z1).	
9112	M1002 POSITIONING ERROR	Abnormality of operation on pressurizing pump 2 (Line Z2)	

Code No.	Message	Description	Countermeasure
9113	M401 POSITIONING ERROR	Abnormality of operation on agitator motor for lysate unit	If similar error repeats with operation retry, contact our customer consultation desk.

Appendix A

A.1 Options

The following options are provided:

Name	**: Holder Set**	**Name**	**: Reagent Container Holder**	**Name**	**: Sample Tip Holder**
P/N	**:**	**P/N**	**: 40321300096**	**P/N**	**: 40321300097**
					
Name	**: Reagent Tip Holder**	**Name**	**: Sample Holder x3**	**Name**	**: Cartridge Holder x3**
P/N	**: 40321300098**	**P/N**	**: 40321300088**	**P/N**	**: 40321300090**
					
Name	**: Waste Tube Holder x3**	**Name**	**: Collection Tube Holder x3**	**Name**	**: Waste Container**
P/N	**: 40321300091**	**P/N**	**: 40321300089**	**P/N**	**: 40321301203**
					
Name	**: Wash Buffer Bottle**	**Name**	**: Reagent Container S x3**	**Name**	**: Reagent Container L x4**
P/N	**: 40321301204**	**P/N**	**: 40321301201**	**P/N**	**: 40321301202**
					

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A.2 Warranty

- **Warranty period is one (1) year from delivery of system.**
- **Free repair warranty is applied when failure occurs during normal use (conditions of use in accordance with precautions in this manual, etc.) during warranty period.**
- **Repair fee will be charged for cases below even if warranty has not expired:**
  - **Improper use, damage caused by products other than those our company approves, or damage caused by other devices.**
  - **Failure or damage caused by transportation or rough handling.**

A.3 After-Sales Service

- **Before requesting repair, please refer to "8. Before Concluding a Failure" and check conditions of problem. If problem is not subsequently solved, please contact our system service personnel or sales agent.**
- **If failure occurs, please contact our system service personnel or sales agent.**

A.4 Customer Consultation Desk

Kurabo Industries Ltd. **Advanced Technology Division, Bio-Medical Department**

Osaka **Kurabo Neyagawa Techno Center 3F, 14-5 Shimokida-cho, Neyagawa, Osaka 572-0823**

Technical Support **TEL +81 72 820 3079** **FAX +81 72 820 3095**

Tokyo **Nihonbashi-honcho Bldg. 2F, 7-1, 2-chome, Nihonbashi-honcho, Chuo-ku, Tokyo 103-0023**

TEL. +81 3 3639 7077 **FAX. +81 3 3639 6998**

URL: http://www.kurabo.co.jp/bio/

A.5 Precautions for Transportation

When system is to be transported, please be sure to contact our system service personnel or sales agent.

A.6 Disposal

System disposal should be conducted in accordance with disposal procedures specified by law and local ordinance.

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This system has a user authentication function, and OpenSSL is used as a cryptographic communication protocol.

Automated Nucleic Acid Isolation System
QuickGene-Auto240L Operation Manual

Issuer: Kurabo Industries, Ltd.

Advanced Technology Division / Bio Medical Department

Kurabo Neyagawa Techno Center 3F, 14-5 Shimokida-cho, Neyagawa, Osaka 572-0823

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