

Related Product

Closed Cooling Water Circulator
CF312L

Temperature Range : -20 to 30℃
Cooling Capacity : Approx. 420W at 10℃/ approx. 280W at -10℃



Features

- Easy to clean intake air filter
- Easy to use new controller
- Stress-free circulating line connection
- It is safe for drainage of condensation water



Diaphram Vacuum Pump
N820G

Exhaust speed : 9 to 20L/min
Hose nipple size : ϕ10.6/ ϕ9 (Two-stage type)

Product Code		255161
Model		N820G
Pumping speed		9 to 20L/min (With manual variable volume)
Wetted material		PTFE/FFPM
External input		Remote operation by external signal
Ultimate pressure	at Min. speed	Gas ballast closed≤600 Pa (Open≤1700 Pa)
	at Max. speed	Gas ballast closed≤800 Pa (Open≤1500 Pa)
Vacuum port	Hose nipple outer diameter	ϕ10.6mm/ ϕ9mm (2 stage type)
Standards	Power supply	Single phase 100V to 240V 50/60Hz
	Overall dim.	163(W)x259(D)x220(H)mm
	Weight	8.8kg

Features

- Manual flow adjustment with variable volume
- Gas ballast system effective for solvent vapor
- Remote operation by external signal



SINCE 1889



Rotary Evaporator
RE212 series



RE212BW



SINCE 1889
For the development of scientific technologies
Yamato Scientific Co., Ltd.
www.yamato-scientific.com

Yamato Scientific Co.,Ltd.
International Sales Department :
Harumi Island Triton Square Office Tower Y, 36F
1-8-11 Harumi, Chuo-ku, Tokyo 104-0053, Japan
TEL: +81-3-5548-7122 FAX: +81-3-5548-0132
<Customer Service/Technical Support> english-website@yamato-net.co.jp

Yamato Scientific Shanghai Corp.
Room 1001-1002, Block B, Xinyan Building,
No.65 Guiqing Road, Xuhui District, Shanghai, China
TEL: +86-21-6443-5319 FAX: +86-21-5452-0268
<Customer Service/Technical Support> info@yamato-shanghai.com

Yamato Scientific America Inc.
925 Walsh Ave.Santa Clara, CA 95050, U.S.A.
TEL: +1-408-235-7725 FAX: +1-408-235-7730
<Customer Service Customer> Service@yamato-usa.com
<Technical Support > www.yamato-usa.com



RE212AW



RE212BW

Yamato Scientific Co., Ltd.

Everything is New!

porator
es

Diagram illustrating the configurations and dimensions for the RE212 series:

- RE212A**: Diagnal, Glassware set A. Overall dimensions: 719(W)×324(D)×534(H)mm.
- RE212AW**: Main unit + Glassware set A, Water Bath. Overall dimensions: 744(W)×365(D)×534(H)mm.
- RE212AO**: Main unit + Glassware set A, Oil Bath. Overall dimensions: 744(W)×365(D)×534(H)mm.

The height adjustment of the body is realized by the jack handle activated by a spring. The spring is adjusted to balance the force with glass and piping connected, and can be raised and lowered with a light force. To fix/release the jack, just twist the handle. A height stroke of up to 200mm is possible, enabling easy to installation and removal of the distillation flask.

Upper part of slide panel
(The height is adjusted while holding by hand)

Height adjustment

Jack handle

Turn to the right

Fixed

Turn to the left

Release

The position of the glassware/bath can be installed on either side of the main unit. It can be reversed by rotating the motor box at the back of the operation panel. This way it is possible to use the layout freely according to the limited space inside a fume hood or on a lab bench. Vertical glassware B type can be arranged three in the fume hood.

Vertical	Glassware set B	RE212BW	
RE212B	Main unit + Glassware set B	RE212BW	Main unit + Glassware set B
Overall dimensions: 529(W)×324(D)×745(H)mm		Overall dimensions: 554(W)×365(D)×745(H)mm	Water Bath
			RE212BO
			Main unit + Glassware set B
			Oil Bath
			Overall dimensions: 554(W)×365(D)×745(H)mm

The device is operated by the control panel located in the center. Turning the encoder (knob) slowly adjusts the number of revolutions display by one rpm, and turning it fast by ten rpm. The rotational speed can be set within the wide range of 5 to 315 rpm. After confirming the rpm value, press the ►|■ keys to rotate the distillation flask. The rotation mode can be selected from forwards rotation, reverse rotation, and automatic reverse that repeats normal rotation and reverse rotation at a set interval.

Rotation speed display

Encoder

Run/Stop key

Power key

In order to prevent the condensate accumulated in the condenser from intruding into the vacuum seal along the inside, a liquid drip prevention structure is added in front of the vacuum seal inside the condenser. Dew condensation inside the sample introduction tube cover is also assumed and the liquid collected prevention structure is set up by glassware set B. The durability of the vacuum seal is improved by preventing an invasion of liquid to the vacuum seal part.

Figure 1: Comparison of the structure of the glassware set. The figure shows two glassware sets, A and B, with a cross-section of set B. Set A has a large, shallow, bowl-like shape. Set B has a more complex, multi-ported design. The cross-section of set B shows a 'Sample introduction tube cover' and a 'Liquid accumulation prevention structure'.

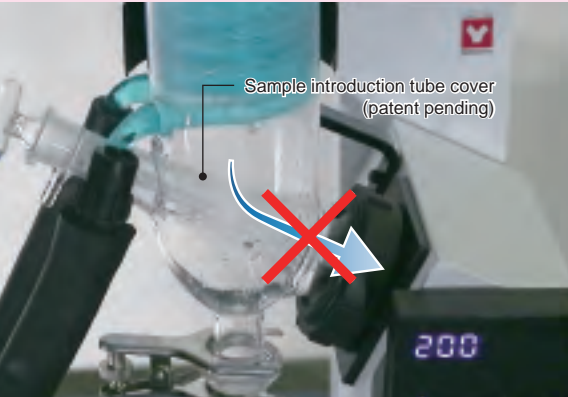
AC adapter is stored neatly

An AC adapter holder is provided on the back of the main unit, and you can store the AC adapter and excess cables in a neat manner. Furthermore, if you use the included back cover to cover the back, it can be placed inside the bench or fume hood with a clean wiring to reduce dust and liquid intrusion.



A sample introduction tube cover prevents backflow of condensate (Glassware set B)

A sample introduction tube cover is installed in the condenser to prevent the condensate in the condenser from flowing back through the sample introduction tube to the distillation flask. It is shaped to cover the sample introduction tube from the top, realizing an extremely complex structure in which the glass shape to be the cover is mounted inside the condenser.



Examples of standard systems

Product name	Model	Product cord
Rotary evaporator	RE212B-D	255690
Water bath	BM312-D	255411
Externally closed cooling water circulator	CF312L-D	221628
Circulating insulation hose (soft) ID 9mm × OD 13mm × 2m, 2pcs	OCF12	221581
Vacuum hose ID 6mm × OD 15mm × 5m	—	255297
Diaphragm vacuum pump	N820G	255161

Total power supply capacity: about 18.6A
Number of outlets required: 3 (when using a water bath service outlet)

Two easy-to-care baths

There are two kinds of baths available: water and oil bath (water/oil combined use). They have a capacity of 5L, inner diameter of ϕ 240mm. The flat shape with no heater or sensor inside the bus makes cleaning easy. A bath is equipped with safety functions such as automatic overheat prevention, upper temperature limit abnormality, and independent overheat prevention (temperature fixed type).



Space saving model with high cooling capacity

The cooling surface area of approx. 0.143m² for both A and B type condensers enable high cooling capacity for optimal condensation. The dimensions including the condenser B and the bath has been downsized compared to the conventional product in both width and height. Therefore it requires less space and multiple units can be installed in a limited space such as in a fume hood.



Specifications

Set Selection Chart

Composition Items	Model		RE212A-D	RE212AW-D	RE212AO-D	RE212B-D	RE212BW-D	RE212BO-D
		Product cord	255687	255688	255689	255690	255691	255692
Main body	RE212-D	255683	●	●	●	●	●	●
Glassware set A	RG202A-D	255684	●	●	●			
Glassware set B	RG202B-D	255685				●	●	●
Water bath	BM312-D	255411		●			●	
Oil bath	BO312-D	255404			●			●

Specifications (RE202A/B)

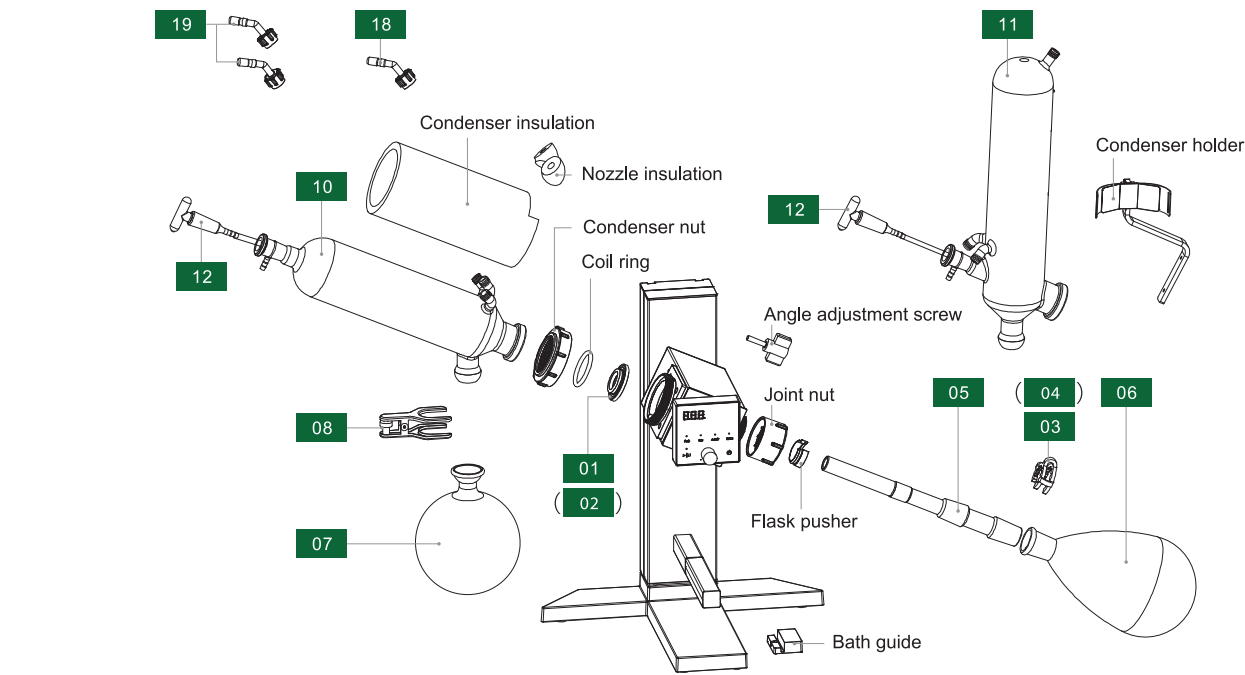
Model		RE212A-D	RE212B-D
Product Code		255683 + 255684	255683 + 255685
Condenser		Type A (diagonal)	Type B (vertical)
Configuration	Glass condenser	Double-wound coil (cooling surface area: approx. 0.143mm², with heat insulation) Vacuum seal (FKM, single-sided PTFE finish)	Vertical double-wound coil (coolingsurface area: approx. 0.143mm², with heatinsulation) vacuum seal (FKM, single-sided PTFE finish)
	Rotary joint	ϕ29/38 inner diameter ϕ18mm×L284mm	ϕ29/38 inner diameter ϕ18×L208mm
	Standard flasks	Evaporative flask (TS29/38, 1L) and clip (POM), receiving flask (S35, 1L), and clamp (SUS)	
	Motor	DC brushless motor	
Performance	Connection nozzle dia.	Outer diameter ϕ10mm (cooling water /vacuum)	
	Rotation speed range	5 to 315rpm encoder type digital setting and display	
	Jack	Manual balance type (~200mm stepless adjustment, fixed/released by 90°Crotation)	
Safety features	Evaporation capacity	Approx. 23 mL/min (water evaporation)	
	Motor stop function at overload, Over current protection, Over voltage protection		
Other features		Automatic reverse switching by forward/reverse/timer, Power failure recovery (mode selection type)	
Standard	Applicable distillation flask	ϕ29 50 to 2000mL (JIS standard)	
	Applicable receiving flask	100 to 2000mL	
	Power source (50/60Hz)	AC100 to 230V Single phase, SE type (2P)/KC plug	
	Current	1A	
	External dimensions (W×D×Hmm)	719×324×534 (jack maximum position : H734mm)	529×324×745 (jack maximum position : H945mm)
	Weight	9kg (Rotary evaporator body: approx. 7kg + glass set: approx. 2kg)	
Accessories	RE202	Instruction manual, Warranty card, AC adapter, Power cord (approx. 2 m), Bath guide, back cover, Velcro (one side and both sides), Condenser holder, Hex. wrench	
	Glasswere	Warranty card, Fask clip, Receiver flask clip, Vacuum seal, Flask pusher, Thermal insulation for condenser	

Specifications (Water Bath/Oil Bath)

Bath type		Water Bath	Oil Bath
Product Code		255411	255404
Model		BM312-D	BO312-D
Performance	Temperature range	Room Temp. +10 to 90°C	Room Temp. +10 to 180°C*1
	Temp. adjustment accuracy	±1.0°C	±1.5°C (water), ±2°C (oil)
Configuration	Exterior material	PBT (Glass fiber is entered)	
	Bath internal material	Stainless steel	
Safety features		Automatic overheat prevention, Upper temperature limit abnormality, Independent overheat prevention (fixed temperature type), Power supply cut off by power supply fuse, Sensor disconnection detection	
Other features		Calibration offset, overshoot notification, Power failure recovery function (mode selection type)	
Standard	Power source (50/60Hz)	AC200 to 230V 5-6A Single phase	
	Bath internal dimensions and capacity	ϕ240×119mm/Approx. 5L	
	External dimensions *2	ϕ262 (Up to 286 mm in depth)×H 240mm	
	Weight	Approx.4.5kg	
Accessories		Instruction manual, Warranty card, Power cord (approx. 3m), Fuse 15A (large), Fuse 2A (small)	

*1 Please use water by less than 90°C. *2 Do not include protrusions.

Optional Items

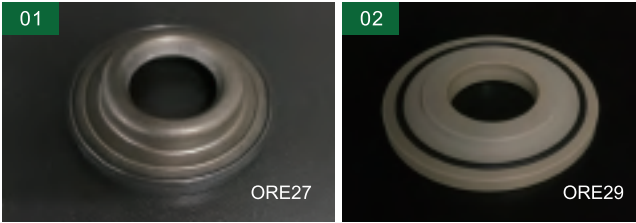


A

Glassware set A
(standard accessories)

B

Glassware set B
(standard accessories)



Component and optional items

<div>01</div> <div>Vacuum seal</div> <div>ORE27 <255740></div> <div>Material : FKM (Single sided PTFE), 2pcs.</div>	<div>A</div> <div>B</div>	<div>02</div> <div>PTFE Vacuum seal</div> <div>ORE29 <255741></div> <div>Material : PTFE, Chemical resistant, 1pc.</div>
<div>03</div> <div>Clip</div> <div>ORE41 <255747></div> <div>Material : POM, ¥29, 2pcs.</div>	<div>A</div> <div>B</div>	<div>04</div> <div>Clip</div> <div>ORE43 <255748></div> <div>Material : POM, ¥24, 2pcs.</div>

05 Rotary joints				
For	Ground glass joint	Size	Model	Product code
Glassware set A (for RG202A)	Standard	¥29/38 L284mm	ORE72	255720
		¥24/40 L286mm	ORE76	255722
	Transparent	¥29/38 L284mm	ORE82	255724
		¥24/40 L286mm	ORE86	255726
Glassware set B (for RG202B)	Standard	¥29/38 L208mm	ORE74	255721
		¥24/40 L210mm	ORE78	255723
	Transparent	¥29/38 L208mm	ORE84	255725
		¥24/40 L210mm	ORE88	255727

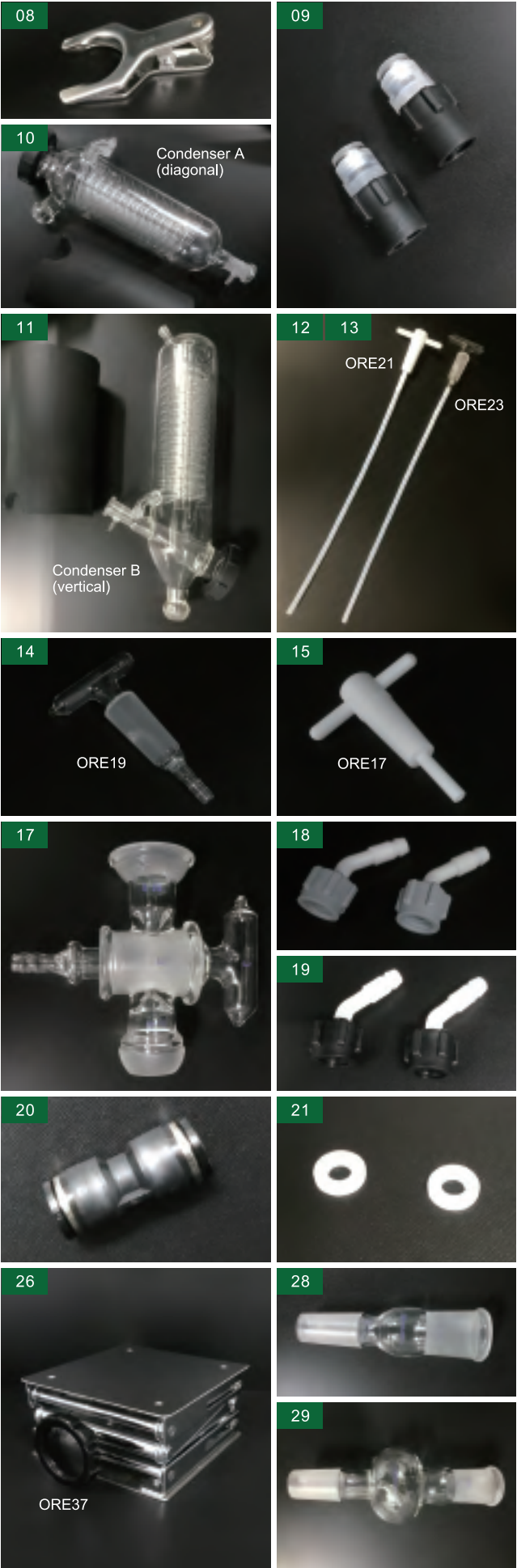
Transparent Ground glass joint : The sample does not easily get into the gap of the slide and is easy to clean.

06 Evaporating flasks			
Size	Capacity	Model	Product code
¥29/38	100mL	ORE24	255701
	200mL	ORE26	255702
	300mL	ORE28	255703
	500mL	ORE32	255704
	1000mL	ORE34	255705
	2000mL	ORE36	255706
¥24/40	100mL	ORE42	255708
	200mL	ORE44	255709
	300mL	ORE46	255710
	500mL	ORE48	255711
	1000mL	ORE52	255712
	2000mL	ORE54	255713

Low rotational shake type

07 Receiving flasks		
Capacity	Model	Product code
100mL	ORE56	255714
200mL	ORE58	255715
300mL	ORE62	255716
500mL	ORE64	255717
1000mL	ORE66	255718
2000mL	ORE68	255719

S35/20 is JIS standard



<div>08</div> <div>Spherical joint clip</div> <div>ORE45 <255749></div> <div>Stainless steel, S35/20 is JIS standard, 1pc.</div>	<div>A</div> <div>B</div>	<div>09</div> <div>One-touch connector^{*1}</div> <div>ORE33 <255743></div> <div>GL14, OD 10mm, 2pcs., for circulating insulation hose (hard)</div>																								
<div>10</div> <div>Condenser A (diagonal)</div> <div>ORE47 <255750></div> <div>Includes : Condenser insulation, Condenser nut and Coil ring</div>	<div>A</div> <div>B</div>	<div>11</div> <div>Condenser B (vertical)</div> <div>ORE49 <255751></div> <div>Includes : Condenser insulation, Condenser nut and Coil ring</div>																								
<div>12</div> <div>Sample induction cock (glass)</div> <div>ORE23 <255738></div> <div>Set of <div>14</div> + <div>16</div></div>	<div>A</div> <div>B</div>	<div>13</div> <div>Sample induction cock (PTFE)</div> <div>ORE21 <255737></div> <div>Set of <div>15</div> + <div>16</div></div>																								
<div>14</div> <div>Cock (glass)</div> <div>ORE19 <255736></div> <div>Material : Glass, ¥19/38</div>	<div>A</div> <div>B</div>	<div>15</div> <div>Cock (PTFE)</div> <div>ORE17 <255735></div> <div>Material : PTFE, ¥19/38</div>																								
<div>16</div> <div>Sample induction tube</div> <div>ORE25 <255739></div> <div>Material : PTFE Length 520mm (cut to L345mm for condenser B)</div>	<div>A</div> <div>B</div>	<div>17</div> <div>Three-way cock</div> <div>ORG50 <255363></div> <div>Used for switching the receiving flasks during operation S35/20 male/female, Length114mm</div>																								
<div>18</div> <div>Vacuum nozzle (gray)</div> <div>ORG80 <255512></div> <div>GL14, OD 10mm, 2pcs.</div>	<div>A</div> <div>B</div>	<div>19</div> <div>Cooling nozzle (black)</div> <div>ORE31 <255742></div> <div>OD 10mm, 2pcs.</div>																								
<div>20</div> <div>Reray connector^{*1}</div> <div>ORE35 <255744></div> <div>OD 10mm, 1pc. for circulation insulation hose (hard)</div>	<div>A</div> <div>B</div>	<div>21</div> <div>Nozzle packing</div> <div>OCF40 <281494></div> <div>Silicon, 12 pcs., for vacuum/cooling nozzle</div>																								
<div>22</div> <div>Vacuum hose</div> <div><255297></div> <div>ID 6mm × OD 15mm×5m, 1pc.</div>	<div>A</div> <div>B</div>	<div>23</div> <div>Circulating insulation hose (hard)^{*1}</div> <div>OCF78 <281475></div> <div>ID 6.5mm × OD 10mm×2m, (Insulatin outside diameter 22mm) Hard (polyurethane), 2pcs.</div>																								
<div>24</div> <div>Circulating insulation hose (soft)</div> <div>OCF12 <221581></div> <div>ID 9mm × OD 13mm × 2m (heat insulation OD 28mm), (ethylene propylene), 2pcs., with 4 clamps, for cooling water</div>	<div>A</div> <div>B</div>	<div>25</div> <div>Circulating insulation hose (soft)</div> <div>OCF62 <221599></div> <div>ID 9mm × OD 14mm × 2m (heat insulation OD 41mm), (silicon), 2pcs., with 4 clamps, for cooling water</div>																								
<div>26</div> <div>Laboratory jack</div> <div>ORE37 <255745></div> <div>150×150mm, Height : 75 to 245mm</div>	<div>A</div> <div>B</div>	<div>27</div> <div>Laboratory jack</div> <div>ORE39 <255746></div> <div>200×200mm, Height : 75 to 245mm</div>																								
<div>28</div> <div>Equal/Different diameter joints</div> <table><tr><th>Standards (female→male)</th><th>Model</th><th>Product code</th></tr><tr><td>¥24/40 → ¥24/40 L105mm</td><td>ORE11</td><td>255732</td></tr><tr><td>¥24/40 → ¥19/38 L103mm</td><td>ORE13</td><td>255733</td></tr><tr><td>¥24/40 → ¥15/25 L90mm</td><td>ORE15</td><td>255734</td></tr><tr><td>¥29/38 → ¥29/38 L106mm</td><td>ORE92</td><td>255728</td></tr><tr><td>¥29/38 → ¥24/40 L108mm</td><td>ORE94</td><td>255729</td></tr><tr><td>¥29/38 → ¥15/25 L93mm</td><td>ORE98</td><td>255731</td></tr><tr><td>¥29/38 → ¥19/38 L106mm</td><td>ORE96</td><td>255730</td></tr></table>			Standards (female→male)	Model	Product code	¥24/40 → ¥24/40 L105mm	ORE11	255732	¥24/40 → ¥19/38 L103mm	ORE13	255733	¥24/40 → ¥15/25 L90mm	ORE15	255734	¥29/38 → ¥29/38 L106mm	ORE92	255728	¥29/38 → ¥24/40 L108mm	ORE94	255729	¥29/38 → ¥15/25 L93mm	ORE98	255731	¥29/38 → ¥19/38 L106mm	ORE96	255730
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29 Trap bulbs (Round shape, 100mL)

Standards (female→male)	Product code
¥29/42 → ¥19/38 L173mm	RE200GT001
¥29/42 → ¥29/42 L183mm	RE200GT002
¥29/42 → ¥24/40 L173mm	RE200GT003
¥29/42→ ¥15/25 L160mm	RE200GT004

^{*1} When using a circulation insulation hose (hard), change the cooling nozzle (black) to one-touch connector before use. Also, when extending, relay connectors are required.