
Dissolution Tester RC-12D

User's Manual

Shanghai Lorderan Scientific Instrument Co., Ltd.

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Introduction

Thanks for purchasing the product RC-12D Dissolution tester designed and manufactured by us.

Please read user's manual carefully before using the product. It will help you operate it properly and efficiently.

Product Registration

Prior to use the product, please fill up the user's registration card and mail to us, in order to get our service in future.

Technical Service

Pls. contact our marketing department for any service during warranty. Be sure that you have sent back the user's registration card.

If you have any problems, Pls. Try to find answers in user's manual first, or you can call our marketing department.

Proper Operation

Make sure you have read this manual carefully before installing/operating the instrument. For any concerns pls. Contact us.

- Transport with care. Any incline, convert, and hit are prohibited.
- Check and protect all safety related labels.
- It is prohibited to use any damaged product and power cord.
- Turn off the power before maintenance, or moving.

Contact Us

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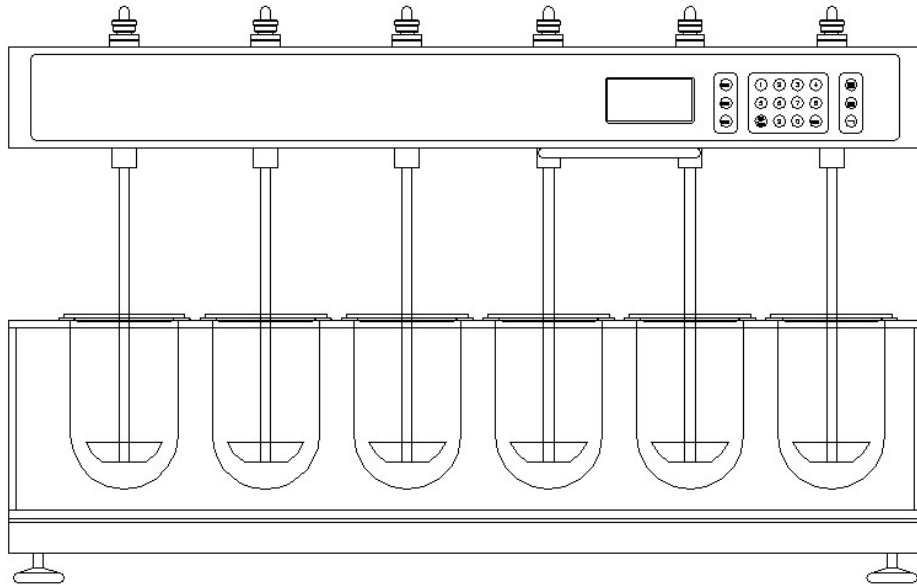
<https://www.facebook.com/lorderan/>

Introduction

Brief introduction

RC-12D Dissolution tester consist of control system, electric system, water bath system, transmission system, lifting system, transducer unit, paddle unit and rotating basket unit etc. It is mainly controlled by MPU. The features are: reasonable structure, automatic and simplified operation, high accuracy and sensitivity, low noise and errors and stable performance.

The chassis of RC-12D Dissolution tester is composed of pedestal, foot, electric case, control case, front panel and rear panel.



Front panel includes:

- Temperature LCD display
- Temperature indicator
- Temperature button(preset temperature / control temperature)
- Speed LCD display
- Running indicator
- Running control button (preset speed / control rotation)
- Time LCD display
- Timing indicating
- Timing button (preset time /timing control)
- Preset/real time control button (preset state/real time state)
- Reset button
- Number button
- Upswing control
- Stop button
- Descent control
- Product model

Rear panel includes:

- Power on switch
- AC socket(fuse jack included)
- Name plate

Function description

- Number button

Digits 0~9 on the keyboard is used to input the presetting parameters or the pharmacopoeia parameters.

Digital button 9, when the machine is running, press it can print the current experimental Settings and operation data.

- Reset button

Reset button is used to reset the system. Press the button, the controlled system resume to initial status.

When power turns on, the system is first in the presetting state and the default parameters are as follows: temperature 37.0°C, speed 100RPM, time 045MIN.

The reset button is pressed with buzzer beep.

- Preset/real time control button

This button is used to repeatedly select state between preset and real time states.

In preset state the LCDs display preset parameters, otherwise, it displays actual values.

- Temperature LCD display

Three LCDs in the temperature display area are used to display the preset temperature or the actual temperature. The unit of temperature is centigrade(°C).

- Temperature indicator

Temperature indicator indicates the working status of the system.

When it light, it means the system in automatic controlled status, otherwise, it means the system in uncontrolled status.

- Temperature button

Temperature button is used to preset temperature or to control the working status of the temperature system.

In preset state, the function of this button is to setup the temperature. Pressing the button will clear the old value and the LCDs, which indicate the temperature, will be zero and flashed. Now you can setup the temperature between 20.0~45.0°C. Input the number using the keyboard (for example, 36.5°C input 3,6,5 in series) to get the temperature parameters. The LCDs stop flashing five times later, indicating that the system has received the setup value.

In real time state, this button has the function of controlling the working state of the temperature system. Pressing the button will turn on or turn off the automatic temperature system and the LCDs will display the actual temperature value at this time.

The buzzer in the instrument will beep shorter every time when the button is pressed.

- Speed LCD displayer

Three LCDs in this area will display the preset speed or the actual rotating speed of the

paddle (or the rotating disk). The unit of this parameter is RPM.

- Running indicator

Rotating indicator indicates the working state of the rotation system. It lightening means that the system controls the rotation speed automatically, on the contrary, the system is in none controlling state.

- Running button

This button is used to setup the speed or to control the rotation.

In preset state, the function of this button is to setup the rotating speed. Pressing the button will clear the old value and the LCDs, which indicate the speed, will be zero and flashed. Now you can setup the speed between 20~200RPM. Input the number using the keyboard (for example, 45RPM input 0,4,5 in series) to get the speed you wanted. The LCDs stop flashing five times later, indicating that the system has received the setup value.

In real time state, this button has the function of controlling the rotation of the paddle. Pressing the button will start or stop rotation of the paddle. The LCDs will display the actual rotation speed at this time.

Some medicines need to change solvent in experiment (Code: 19-23). It stops rotating when the first group time experiment is over. Press running button to start the second group time experiment after the solvent had been changed.

The buzzer in the instrument will beep shorter every time when the button is pressed.

- Time number display

These LCDs is used to display the preset time or the actual surplus time of the rotation. The unit is MIN.

- Timing indicator

Timing indicator indicates the working state of the timing system.

It lightening means that the system is in the automatic controlling state, on the contrary, the system is in none time state.

- Timing button

This button is used to setup the time or to control timing.

In preset state, the function of this button is to setup the time. Pressing the button will clear the old value and the LCDs, which indicate the time, will be 001 and flashed. Now you can setup nine groups of time between 1~999 MIN. The instrument will take a sample at the end of the time. Input the number using the keyboard (note that each group of time has three numbers, for example, input 0,5,0 in series for 50 min) to get the time you wanted. The LCDs stop flashing five times later, indicating that the system has received the setup value. Meanwhile, the time LCDs display 002 and flashes. You can continue setting the second group of time by using the keyboard. Following the above procedures until you have set all nine groups of time. If you need less than nine groups of time, you can press the timing button to finish this course after you have set the last group of time. The time LCDs will display the first group of time after you have finished the setup procedure.

In real time state, this button has the function of setting up the time. Pressing the button will turn on or turn off the automatic timing system. The LCDs will display the actual surplus time at

this moment.

The buzzer in the instrument will beep shorter every time when the button is pressed.

- Rising button

This button ▲ is the functional key to control the rising of the control box. The control box will go up when the button is pressed.

- Stop control

This button ● is the functional key to control the lift of the control box. The control box will stop lifting after pressed the button.

- Descending button

This button ▼ has the function of controlling the descent of the control box. The control box will descend automatically when the button is pressed.

- Automatically setup the pharmacopoeia parameter

It storage special dissolution parameter of pharmacopoeia of PRC/2015. Input the numbers based on the code of appendix to automatically setup the pharmacopoeia parameter. It is displayed in windows.

In preset state, key the code, windows display three parameters of dissolution.

Sample: pyrimethamine tablet Code: 35, Key 3,5. Windows display:
37.0°C,075RPM,045MIN.

Press the number button, the beep sound.

- Power switch

Power on switch is the main power switch. In ON position, tester is in working status, inversely, tester stop working.

Before connecting to AC power, please ensure it's in OFF position!

- AC socket

AC socket is connected to the power supply with power cord offered in this tester.

Fuse is under the AC socket. Attached one 5A fuse and a backup one is offered. This is to prevent damage to this tester in suddenness case.

Please make sure AC power supply is connected properly !

When change fuse, make sure same spec part is used for tester safety!

Specification

Model	RC-12D
Testing Station	12
Speed Range	20~200 rpm
Speed Accuracy	±2 rpm

Temperature Range	Rt~45.0 °C
Temperature Stability	±0.3 °C
Preset Timing Nine Points	1~999 min
Time Accuracy	±0.5 mm
Paddle Radial Run-Out	±0.5 mm
Basket Radial Run-Out	±1.0 mm
Power Supply	220V/ 50 Hz, 110V/ 60 Hz
Power	1200 W
Dimension	960×540×480 mm
Weight	75 kg

Environment requirement

Usage temperature	+18°C~+28 °C
Store temperature	-10°C~+50 °C
Humidity	20%~80% RH

Installation

Unpacking and Inspection

Open package, take out manual, tester, and accessories; and check items according to packing list. Any mismatch/damage happened, please contact sales department immediately.

Tester settled

Tester must be placed on stable work station/table and put damping pad between bath box and tester.

Minimum space required around test is 0.5m, to ensure heat escaping. Clean tester periodically to prevent tester from abnormal operation.

Connect to the power supply

Link the socket & AC power supply source with attached power cord.

Pipe line connection

Connect the bath box and the electric box with attached plastic pipe. The entrance of the bath box is connected to the exit of the electric box, while the exit of the bath box is connected to the entrance of the electric box.

Soak the pipe in hot water to soft it before connecting the pipe.

Cycle liquid

Suggest using distillation water.

Bath box

Constant temperature bath system is composed of bath box, heater and cycle water pump. It

used to supply high efficient bath.

Refill cycle liquid

Clean up the bath box and pour into the cycle liquid until it come to the calibration.

Cycle liquid

Gas inside the bath circulation system must be emptied before normally using the instrument, to ensure the effective circulation of the bath liquid.

Put the aspirator into the water inlet of the bath. Turn on power, the power indicator light and pump run. Empty the gas of the system until the liquid pump smoothly.

It is strictly prohibited to revolve the pump in empty conditions.

Empty cycle liquid

Empty the water with aspirator and pipe. Clean up the bath box.

Change cycle liquid

Change cycle liquid can be completed by repetitively operate the empty, fill and cycle procedures.

Unit conjunctive

- Paddle conjunctive

The drive head is raised on top. Put the paddle in the hole of axle, up it on top, set close unit in head of paddle and close. The drive head is lowered to home position.

- Basket conjunctive

The drive head is raised on top. Put the basket shaft in the hole of axle, up it on top, set close unit in head of basket shaft and close. The drive head is lowered to home position.

Put the specimen in the basket. Set it up underneath of basket shaft.

- Put vessels in hold of bath box and press it with the button.

Offset adjustment

Adjust the depth of the rotating lever

The interval between the underneath of blade and the bottom of the vessel is measured with the depth gage. Adjust the suit of the close unit on the rotating lever, make the range interval with 25 MM.

Adjust the center of the rotating lever

Move the vessel to adjust the exact center of the vessel in relation to each shaft.

Operation

Power on

Turn the power switch to ON position, the indicator light, initialize the tester for 10 minutes, then it's readiness.

Lift control

The control box will go up when the button ▲ is pressed and it will descend automatically when the button ▼ is pressed. The control box will stop lifting after pressed the button ● when it is raising or descending.

Preset common parameter

When power turns on, the system is first in the presetting state and the default parameters are as follows: temperature 37.0°C, speed 100RPM, time 045MIN.

Preset arbitrary parameter

In the presetting state:

Press temperature button to preset temperature.

Press RUN button to preset the speed of rotate.

Press TIME button to preset the time.

Automatically setup the pharmacopoeia parameter

To press number buttons can automatically preset the pharmacopoeia parameter in presetting state.

Temperature control

Pressed P/R button, the system is in real state after parameters were preset. Pressing button TMP. will turn on the automatic temperature system. Repeat pressing button to turn off it.

Rotation control

Pressed P/R button, the system is in real state after parameters were preset. Pressing button RUN will rotate the shaft. Repeat pressing button to stop it.

Timing control

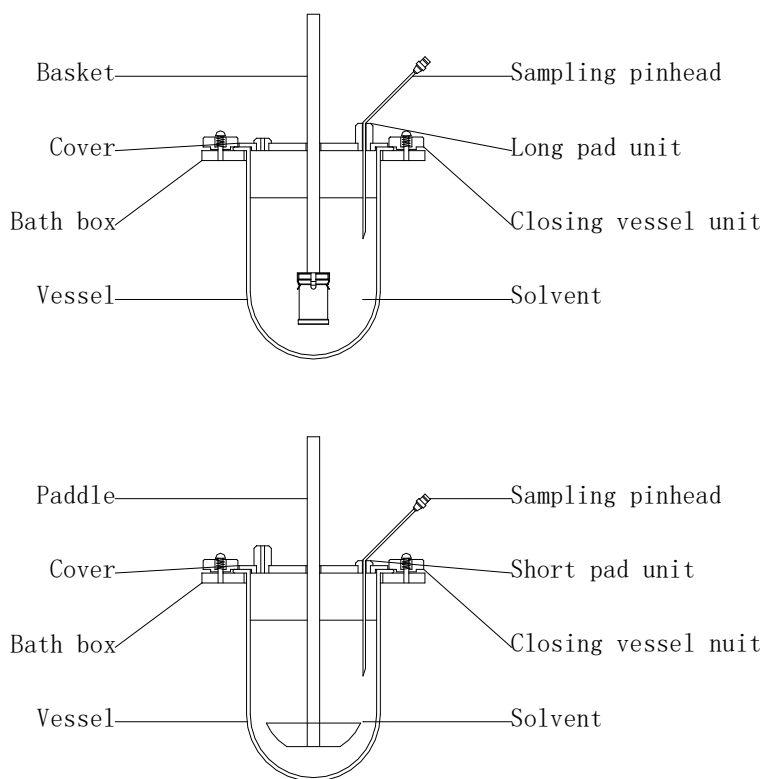
Pressed P/R button, the system is in real state after parameters were preset. Pressing button TIME will turn on the automatic time system. Repeat pressing button to turn off it.

Test

Choose basket or paddle based on the specimen's name and test method. Turn on power, preset parameters and press button P/R. Fetch quantum solvent without gas, put it in each vessel. The solvent's temperature is stabilized with preset temperature. Sample eight specimens, put

them in eight baskets or vessels separately. Down baskets or paddles in vessels, turn on rotating and timing. Sample quantum solvent after timing end and filter it with 0.8u filtration film. Fetch and test it. Each specimen's dissolution is figured out.

Sampling



Power off

Turn switch to OFF position, the indicator is off and tester stop working.

Demonstration

- (1) Power on.
- (2) Preset parameter.
- (3) In real state.
- (4) Put in solvent.
- (5) Controlling temperature.
- (6) Put specimen in.
- (7) Controlling rotating.
- (8) Controlling time.
- (9) Timing end, sample, filter, test.
- (10) Same measurement can be completed by carry out (2)~(9) repetitively.
- (11) Clear test, please press reset button.

Maintenance

Clean box and parts periodically. Do not use steel brush, it will result in damage to the tester

Troubleshooting

- Can not power on

Check whether the voltage is OK and fuse is OK, please refer to the rating marked in nameplate while installation.

- Water dose not loop

Check the pump and it's wire is OK.

- Water's temperature dose not raise

Check the heater and it's wire is OK.

- Water's temperature dose not constant

Check the sensor and it's wire is OK.

- Rotating units don't rotate

Check the motor and it's wire is OK.

If the tester does not work after checking above items, please don't repair it by yourself, contact our market department please.

Appendix—Code in pharmacopoeia

Special dissolution parameter of pharmacopoeia of PRC/2020

No.	PHARMACEUTICAL NAME	MO DE	VOLU ME ml	TEM P °C	SPEE D rpm	TIM E min	COD E
001	Acidum salicylicum	2		37.0	50	10	00
						15	
						20	
						25	
						30	
002	Acidum salicylicum	1		37.0	100	10	01
						15	
						20	
						25	
						30	
003	Pyrimethamine tablets	2	500	37.0	75	45	35
004	Acetazolamide tabs	2	900	37.0	100	45	45
005	Acetylspiramycin tablets	1	900	37.0	100	45	45
006	Acetylspiramycin capsules	2	900	37.0	50	45	27
007	Diflunisal capsules	2	900	37.0	50	30	26
008	Diprophylline tablets	1	900	37.0	100	30	43
009	Triazolam tablets	3	200	37.0	75	30	33
010	Diethylstilbestrol tablets	3	250	37.0	100	45	45
011	Pentoxifylline sustained-release tablets	2	900	37.0	50	120	02
						360	
						720	
						960	
012	Enalapril maleate tablets/capsules	1	500	37.0	100	30	43
013	Chlorphenamine maleate tablets	3	250	37.0	50	45	27
014	Timolol maleate	3	150	37.0	100	30	43
015	Benorilate tablets	2	1000	37.0	90	45	39
016	Benorilate, pseudoephedrine hydrochloride and chlorphenamine maleate tablets	2	1000	37.0	75	45	35
017	Ubenimex capsules	3	100	37.0	75	30	33
			200				
018	Altmetamine tablets/capsules	1	900	37.0	100	30	43
019	Dihydroartemisinin tablets	3	250	37.0	50	30	26
020	Diclofenac sodium enteric-coated tablets	1	1000	37.0	100	120	20
						165	
021	Dipyridamole tablets	1	900	37.0	100	30	43
022	Magnesium salicylate tablets/capsules	2	900	37.0	50	45	27
023	Estazolam tablets	3	100	37.0	100	30	43
			200				
024	Prohlumide tablets	2	900	37.0	100	30	43
025	Propylthiouracil tablets	1	900	37.0	100	30	43
026	Probenecid tablets	2	900	37.0	50	30	26
027	Levonorgestrel and quinestrol tablets	2	900	37.0	100	60	46
028	Levodopa tablets/capsules	1	900	37.0	100	30	43
029	Bumetanide tablets	1	900	37.0	100	30	43
030	Ibuprofen and pseudoephedrine hydrochloride tablets	1	900	37.0	120	30	49
031	Ibuprofen tablets/capsules	1	900	37.0	120	30	49
032	Ibuprofen sustained release capsules	1	900	37.0	30	60	03
						120	
						240	
033	Primidone tablets	2	900	37.0	50	60	28
034	Carbamazepine tablets/capsules	2	1000	37.0	150	60	53

035	Carbimazole tablets	1	600	37.0	50	45	27
036	Carbidopa tablets	1	750	37.0	50	30	26
037	Captopril tablets	3	250	37.0	75	20	32
038	Captopril tablets	3	250	37.0	75	45	35
039	Carmofur tablets	1	1000	37.0	100	60	46
040	Folic acid tablets	1	900	37.0	100	45	45
041	Metildigoxin tabs	3	100	37.0	60	60	30
042	Mefenmic acid tablets/capsules	2	800	37.0	75	45	35
043	Mebendazole tablets	2	900	37.0	75	120	37
044	Tolbutamide tablets	2	900	37.0	75	30	33
045	Thiamphenicol capsules	1	900	37.0	100	45	45
046	Teimethoprim tablets	2	900	37.0	50	45	27
047	Metoclopramide tablets	1	500	37.0	100	30	43
048	Methotrexate tablets	2	900	37.0	50	45	27
049	Methyldopa tablets	1	900	37.0	100	45	45
050	Metronidazole tablets	1	900	37.0	100	30	43
051	Methyltestostrone tablets	2	500	37.0	100	45	45
052	Pefloxacin mesylate tablets/capsules	2	1000	37.0	50	45	27
053	Cefdinir casules	2	900	37.0	50	30	26
054	Cefaclor tablets/capsules	1	900	37.0	100	30	43
055	Cefuroxime axetil tablets/capsules	2	900	37.0	55	15	04
						45	
056	Cefradine tablets	2	900	37.0	75	60	36
057	Cefuadine capsules	1	900	37.0	100	45	45
058	Cefalexin tablets/capsules	1	900	37.0	100	45	45
059	Cefadroxil tablets	2	900	37.0	50	30	26
060	Cefadroxil capsules	1	900	37.0	100	30	43
061	Stanozolol tablets	3	250	37.0	50	45	27
062	Sparfloxacin tablets	1	900	37.0	100	45	45
063	Sparfloxacin capsules	2	900	37.0	50	45	27
064	Nilestriol tablets	3	150	37.0	100	45	45
065	Nimodipine tablets/dispersible tablets/capsules	2	900	37.0	75	30	33
066	Nitrendipine tablets	2	900	37.0	100	60	46
067	Paracetamol tablets	1	1000	37.0	100	30	43
068	Paracetamol capsules	2	1000	37.0	50	45	27
069	Paracetamol granules	2	1000	37.0	50	30	26
070	Kitasamycin tablets	2	1000	37.0	75	45	35
071	Gemfibrozil capsules	2	900	37.0	50	45	27
072	Diazepam tablets	1	800	37.0	100	20	42
073	Digoxin tablets	3	250	37.0	100	60	46
074	Calcium folinate tablets	1	900	37.0	100	30	43
075	Calaium folinate capsules	1	900	37.0	100	30	43
076	Cimetidine tablets	1	900	37.0	100	15	41
077	Cimetidine capsules	1	900	37.0	100	20	42
078	Griseofulvin tablets	2		37.0	100	60	46
079	Danazol capsules	2	1000	37.0	80	30	38
080	Sultamicillin tosilate tablets/capsules	3	150	37.0	50	30	26
		2	600				
			900				
081	Triamcinoone tablets	1	500	37.0	100	45	45
082	Moclobemide tablets	1	900	37.0	100	30	43
083	Moclobemide capsules	2	900	37.0	50	30	26
084	Warfarin sodium tablets	1	500	37.0	100	45	45
085	Mifepristone tablets	1	900	37.0	100	30	43
086	Amobarbital tablets	1	500	37.0	100	30	43
087	Iocarboxazid tablets	2	900	37.0	100	45	45
088	Isoniazid tablets	1	1000	37.0	100	30	43

089	Rifampin and isoniazid tablets	1	900	37.0	100	30	43
090	Rifampin and isoniazid capsules	2	900	37.0	50	30	26
091	Rifampin isoniazid and pyrazinamide tablets	1	900	37.0	100	30	43
092	Rifampin isoniazid and pyrazinamide capsules	2	900	37.0	50	30	26
093	Erythromycin enteric-coated tablets	1	900	37.0	100	120	20
						165	
094	Meleumycin tablets	1	900	37.0	100	30	43
095	Fenbufen tablets	2	900	37.0	100	45	45
096	Fenbufen capsules	1	900	37.0	100	45	45
097	Amoxicillin and clavulanate potassium tablets	2	900	37.0	75	30	33
098	Clarithromycin tablets	1	900	37.0	100	30	43
099	Clarithromycin capsules	2	900	37.0	50	30	26
100	Nitrofurantoin enteric-coated tablets	2	1000	37.0	150	120	22
						120	
101	Furosemide tablets	2	1000	37.0	50	30	26
102	Piroxicam tablets	2	900	37.0	75	40	34
103	Pipemidic acid tablets/capsules	1	1000	37.0	100	30	43
104	Praziquantel tablets	2	900	37.0	50	60	28
105	Pyrazinamide tablets	2	900	37.0	50	45	27
106	Pyrazinamide capsules	1	900	37.0	100	30	43
107	Indapamide tablets	2	900	37.0	75	60	36
108	Indometacin enteric-coated tablets	1	1000	37.0	100	120	20
						165	
109	Indometacin capsules	2	900	37.0	100	45	45
110	Allopurinol tablets	2	1000	37.0	100	45	45
111	Reserpine tablets	2	900	37.0	100	30	43
112	Rifampicin tablets/capsules	2	900	37.0	50	45	27
113	Glutamic acid tablets	2	1000	37.0	100	45	45
114	Famciclovir tablets/capsules	1	900	37.0	100	30	43
115	Aspirin tablets	1	1000	37.0	100	30	43
116	Aspirin enteric-coated tablets	1	750	37.0	100	120	20
						165	
117	Aspirin enteric capsules	1	500	37.0	100	120	20
						165	
118	Aciclovir tablets	2	900	37.0	50	30	26
119	Aciclovir capsules	1	900	37.0	100	30	43
120	Albendazole tablets	2	900	37.0	75	45	35
121	Azithromycin tablets/capsules	2	900	37.0	100	45	45
122	Azithromycin dispersible tablets	2	900	37.0	50	15	24
123	Amoxicillin tablets	2	900	37.0	75	30	33
124	Amoxicillin capsules	1	900	37.0	100	45	45
125	Atenolol tablets	2	1000	37.0	50	45	27
126	Alprazolam tablets	1	500	37.0	100	30	43
127	Piperazine ferulate tablets	1	1000	37.0	50	30	26
128	Sodium ferulate tablets	1	900	37.0	50	30	26
129	Artesunate tablets	2	1000	37.0	100	30	43
130	Phenoxymethylpenicillin potassium tablets	1	900	37.0	100	30	43
131	Phenobarbital tablets	2	900	37.0	50	45	27
132	Phenytoin sodium tablets	2	500	37.0	100	45	45
133	Pizotifen tablets	3	100	37.0	75	45	35
134	Perphenazine tablets	2	500	37.0	100	45	45
			1000	37.0			
135	Felodipine tablets	3	250	37.0	100	30	43
136	Roxithromycin tablets/dispersible tablets/capsules	1	600	37.0	100	45	45
			900	37.0			
137	Rotundine tablets	1	900	37.0	100	45	45
138	Etacrynic acid tablets	2	900	37.0	50	45	27

139	Erythromycin estolate tablets	2	900	37.0	75	45	35
140	Erythromycin tsrolate capsules	2	900	37.0	75	45	35
		3	250	37.0	50	45	27
141	Enoxacin tablets/capsules	1	900	37.0	100	30	43
142	Famotidine tablets	1	900	37.0	100	30	43
143	Famotidine capsules	1	900	37.0	50	30	26
144	Bulleyacnitine A tablets	3	100	37.0	100	20	42
145	Dimenhydrinate tablets	2	900	37.0	50	45	27
146	Theophylline sustained-release tablets	2	900	37.0	50	120	05
						360	
						720	
147	Tamoxifen citrate tablets	2	1000	37.0	100	30	43
148	Zinc citrate tablets	1	1000	37.0	100	30	43
149	Clomifene citrate tablets	1	1000	37.0	100	45	45
150	Sulfasalazine enteric-coated tablets	1	1000	37.0	100	120	21
						180	
151	Fleroxacin tablets/capsules	1	900	37.0	75	30	33
152	Haloperidol tablets	3	200	37.0	75	45	35
153	Fluconazole tablets/capsules	1	500	37.0	100	45	45
			1000				
154	Hydrocortisone tablets	2	900	37.0	50	30	26
155	Hydrochlorothiazide tablets	1	1000	37.0	150	30	52
156	Compound captopril tablets	1	1000	37.0	150	30	52
157	Compound furosemide tablets	2	900	37.0	50	30	26
158	Compound norethisterone tablets	3	200	37.0	100	60	46
159	Compound amiloride hydrochloride tablets	1	900	37.0	100	30	43
160	Compound sulfamethoxazole tablets	2	900	37.0	75	30	33
161	Pediztric compound sulfamethoxazole tablets	2	500	37.0	75	30	33
162	Ethambutol hydrochloride tablets	1	900	37.0	100	45	45
163	Metformin hydrochloride tablets	1	1000	37.0	100	45	45
164	Trifluoperazine hydrochloride tablets	1	900	37.0	50	45	27
		3	200				
165	Berberine hydrochloride tablets/capsules	1	1000	37.0	120	45	50
166	Maprotilline hydrochloride tablets	1	500	37.0	100	20	42
167	Procaterol hydrochloride tablets	3	100	37.0	70	10	31
168	Imipramine hydrochloride tablets	1	900	37.0	100	45	45
169	Levamisole Hydrochloride tablets	1	900	37.0	100	30	43
170	levamisole Hydrochloride entercoated tablets	1	750	37.0	100	60	46
171	Bucinnazine hydrochloride tablets	1	900	37.0	75	30	33
172	Tetracycline hydrochloride tablets	2	900	37.0	100	60	46
173	Tetracycline hydrochloride capsules	2	900	37.0	75	60	36
174	Diltiazem hydrochloride tablets	2	900	37.0	75	30	06
						180	
175	Difenidol hydrochloride tablets	2	900	37.0	50	30	26
176	Tramadol hydrochloride tablets	1	900	37.0	100	10	40
177	Tramadol hydrochloride capauls	1	900	37.0	100	20	42
178	Tramadol hydrochloride sustained-release tablets	1	900	37.0	100	60	07
						124	
						240	
						480	
179	Morphine hydrochloride tablets	3	125	37.0	50	30	26
			250				
180	Marphine hydrochloride sustained-release tablets	1	500	37.0	50	60	08
						120	
						180	
						240	
						300	

181	Valacyclovir hydrochloride tablets/capsules	1	900	37.0	50	45	27
182	Doxycycline hyclate tablets/capsules	2	900	37.0	50	45	27
183	Doxepin hydrochloride tablets	1	900	37.0	100	45	45
184	Minocycline hydrochloride tablets/capsules	2	900	37.0	50	45	27
185	Promethazine hydrochloride tablets	1	900	37.0	100	45	45
186	Amiloride hydrochloride tablets	2	900	37.0	50	30	26
187	Amitriptyline hydrochloride tablets	1	900	37.0	100	45	45
188	Ciprofloxacin hydrochloride tablets/capsules	2	900	37.0	50	30	26
189	Diphenhydramine hydrochloride tablets	1	500	37.0	100	45	45
190	Nefopam hydrochloride tablets	2	1000	37.0	50	45	27
191	Ondansetron hydrochloride tablete	2	500	37.0	50	30	26
			1000				
192	Paroxetine hydrochloride tablets	2	1000	37.0	50	45	27
193	Hydralazine hydrochloride tablets	1	900	37.0	100	30	43
194	Hydralazine hydrochloride tablets	1	900	37.0	100	60	46
195	Prazosin hydrochloride tablets	2	500	37.0	75	30	33
196	Pethidine hydrochloride tablets	3	100	37.0	100	40	44
197	Flunarizine hydrochloride capsules	1	600	37.0	100	30	43
198	Metacycline hydrochloride tablets/capsules	2	900	37.0	60	45	29
199	Lofexidine hydrochloride tablets	3	150	37.0	100	60	46
200	Loperamide hydrochloride capsules	3	150	37.0	100	45	45
201	Moracizine hydrochloride tablets	1	1000	37.0	50	60	28
202	Ambroxol hydrochloride tablets	2	900	37.0	75	30	33
203	Ambroxol hydrochloride capsules	1	900	37.0	100	30	43
204	Ambroxol hydrochloride sustained-release capsules	2	1000	37.0	50	60	19
						120	
205	Verapamil hydrochloride tablets	2	900	37.0	50	45	27
206	Verapamil hydrochloride sustained-release tablets	2	1000	37.0	50	120	09
						360	
						720	
207	Thioridazine hydrochloride tablets	1	1000	37.0	100	60	46
208	Chlorpromazine hydrochloride tablets	1	1000	37.0	100	30	43
209	Propranolol hydrochloride tablets	1	1000	37.0	100	30	43
210	Procainamide hydrochloride tablets	1	900	37.0	100	75	47
211	Ranitidine hydrochloride tablets	2	900	37.0	50	45	27
212	Papaverine hydrochloride tablets	1	900	37.0	100	30	43
213	Cyproheptadine hydrochloride tablets	3	150	37.0	75	45	35
214	Ticlopidine hydrochloride tablets	1	900	37.0	100	45	45
215	Ticlopidene hydrochloride capsules	1	500	37.0	100	30	43
			1000				
216	Cinnarizine tablets	1	1000	37.0	100	45	45
217	Cinnarizine capsules	1	1000	37.0	100	45	45
218	Glibenclamide tablets	3	250	37.0	75	45	35
219	Gliclazide tablets	1	1000	37.0	150	60	10
						180	
220	Glipizide tablets	1	500	37.0	100	30	43
221	Glipizide capsules	3	125	37.0	100	45	45
			250				
222	Gliquidone tablets	2	500	37.0	75	45	35
223	Glycopyrrolate tablets	1	500	37.0	50	45	27
224	Ofloxacin tablets/capsules	1	900	37.0	50	30	26
225	Tranexamic acid tablets	1	1000	37.0	100	15	41
226	Dapsone tablets	1	1000	37.0	100	60	46
227	Triamterene tablets	1	900	37.0	100	45	45
228	Aminophylline tablets	1	800	37.0	100	10	40
229	Aminophylline sustained-release tablets	1	1000	37.0	50	120	11
						240	

							360	
230	Paracetamol and codeine phosphate tablets (I)	1	900	37.0	100	30	43	
231	Paracetamol and codeine phosphate tablets (II)	1	900	37.0	100	30	43	
232	Aminoglutethimide tablets	1	1000	37.0	100	30	43	
233	Betamethasone tablets	2	900	37.0	50	45	27	
234	Nicotinic acid tablets	1	900	37.0	100	20	42	
235	Metoprolol tartrate tablets	1	500	37.0	100	30	43	
			900					
236	Metoprolol taurate sustained-release tablets	2	900	37.0	50	60	12	
						240		
						480		
237	Norfloxacin capsules	2	1000	37.0	50	45	27	
238	Naproxen tablets/capsules	1	900	37.0	100	45	45	
239	Naproxen and codeine phosphate tablets	1	900	37.0	100	30	43	
240	Paracetamol and caffeine tablets	2	900	37.0	100	30	43	
241	Aspirin, heavy magnesium carbonate and dihydroxyaluminiumaminoacetate tablets	1	1000	37.0	100	30	43	
242	Tretinoin tablets	2	900	37.0	100	45	45	
243	Vitamin B2 tablets	1	600	37.0	100	20	42	
244	Erythromycin ethylsuccinate tablets/dispersible tablets/capsules	2	900	37.0	50	30	26	
245	Tegafur tablets	2	1000	37.0	50	45	27	
246	Tegafur capsules	2	1000	37.0	75	45	35	
247	Tinidazole tablets	1	900	37.0	100	30	43	
248	Tinidazole capsules	1	900	37.0	100	30	43	
249	Calcium gluconate tablets	2	900	37.0	50	45	27	
250	Zinc gluconate tablets	1	1000	37.0	100	30	43	
251	Erythromycin stearate tablets	1	1000	37.0	100	45	45	
252	Erythromycin stearate capsules	1	900	37.0	100	45	45	
253	Nifedipine tablets	2	900	37.0	120	60	51	
254	Isosorbide dinitrate tablets	2	500	37.0	75	45	35	
255	Tioguanine tablets	2	900	37.0	50	45	27	
256	Azathioprine tablets	2	900	37.0	50	30	26	
257	Ferrous sulfate sustained-release tablets	1	900	37.0	100	120	13	
						360		
258	Morphine sulfate sustained-release tablets	2	900	37.0	100	60	14	
						120		
						180		
						240		
						300		
						360		
259	Gentamycin sulfate sustained-release tablets	1	?	37.0	100	120	15	
						240		
						360		
260	Salbutamol sulfate sustained-release tablets	3	250	37.0	100	120	16	
						240		
						480		
261	Salbutamol sulfate sustained-release capsules	2	500	37.0	100	60	17	
						240		
						480		
262	Quinidine sulfate tablets	1	900	37.0	100	45	45	
263	Potassium chloride sustained-release tablets	2	900	37.0	50	120	18	
						240		
						480		
264	Diclofenac sodium and codeine phosphate tablets	2	500	37.0	100	45	45	
265	Colxacillin sodium capsules	1	900	37.0	100	45	45	
266	Clonazepam tablets	2	900	37.0	100	60	46	
267	Clozapine tablets	1	1000	37.0	100	30	43	
268	Chlordiazepoxide tablets	1	800	37.0	100	30	43	

269	Chloramphenicol tablets/capsules	1	900	37.0	100	30	43
270	Chlortalidone tablets	2	900	37.0	100	60	46
271	Oxazepam tablets	2	1000	37.0	50	60	28
272	Oxaprozín enteric-coated tablets/capsules	1	1000	37.0	100	120	20
						165	
273	Omeprazole enteric-coated tablets/capsules	1	500	37.0	100	120	20
						165	
274	Sulpiride tablets	1	900	37.0	50	20	25
		3	100				
275	Dulindac tablets	2	900	37.0	50	45	27
276	Clemastine fumarate tablets	2	500	37.0	50	30	26
277	Ketotifen fumarate tablets/capsules	3	200	37.0	75	30	33
278	Mercaptopurine tablets	2	900	37.0	100	45	45
279	Artemether capsules	2	500	37.0	100	60	46
			1000				
280	Ketoprofen enteric-coated capsules	1	750	37.0	100	120	21
						165	
281	Carbocisteine tablets	1	1000	37.0	100	30	43
282	Pyridostigmine bromide tablets	2	900	37.0	100	60	46
283	Lithium carbonate tablets	1	900	37.0	100	30	43
284	Lithium carbonate sustained-release tablets	1	1000	37.0	150	180	23
						180	
285	Zinc acexamate capsules	1	900	37.0	100	30	43
286	Megeserol acetate tablets	3	200	37.0	75	60	36
287	Prednisone acetate tablets	2	600	37.0	100	45	45
288	Sulfadiazine tablets	2	100	37.0	100	60	46
289	Ligustrazine phosphate tablets	1	900	37.0	100	45	45
290	Ligustrazine phosphate capsules	1	900	37.0	100	20	42
291	Codeine phosphate tablets	1	900	37.0	100	20	42
292	Primaquine phosphate tablets	1	900	37.0	100	60	46
293	Chloroquine phosphate tablets	1	1000	37.0	100	45	45
294	Fosfomicin calcium tablets/capsules	2	1000	37.0	75	30	33
295	Spirolactone tablets	2	1000	37.0	75	60	36
296	Spirolactone capsules	2	1000	37.0	100	60	46

Packing list

RC-12D Dissolution tester include following items typically:

- Tester _____ 1
- Bath box _____ 1
- Vessels _____ 12
- Water box pad _____ 1
- Attachment box _____ 1
 - Vessel Covers _____ 12
 - Paddle unit _____ 12
 - Rotating basket unit _____ 12
 - Locking unit _____ 12
 - 230V AC power cord _____ 1
 - Deep ruler _____ 1
 - Center ruler _____ 1
 - Mercury thermometer _____ 1
 - Filter head _____ 12
 - Filter membrane _____ 1
 - Sample needle _____ 12
 - Plastic pipe _____ 2
 - Soft pipe _____ 1
 - User's manual _____ 1
 - Product quality guarantee _____ 1
 - User registration card _____ 1

Product quality guarantee

- This quality guarantee covers the scope of RC-12D Dissolution tester.
- Start from purchasing date; warranty period is one year.
- This quality guarantee is effective from receiving registration card filled by users.
- During warranty, we offer free charge service for troubleshooting in normal cases, but for any cases caused by flood, fire, earthquake, or other calamity, is excepted.
- During warranty, in one of the following cases, we will charge for material/service:
- No product quality guarantee, mismatch with this guaranty or wrong record/remark.
- Damages caused by unusual working environment.
- Damages caused by disassembly, install, extend, move or modify without our permission.
- Damages caused by repairing without our permission.
- Keep this guarantee in proper place and any other issue is provided.
- The guarantee is only applicable in Chinese mainland.

Using Instruction

- Proper operation & maintenance will prolong the working time of the instrument. Please follow the manual's instruction carefully.
- When the power supply is unstable, pls. Use AV regulator. Pay special attentions to the information related to power supply, temperature, humidity in the manual.
- Always keep the instrument cleaning. Disassembly/move any parts of the tester is prohibited.
- In case of trouble present, pls. Stop using, call us or dealer for help.

Registration card

Name	
Address	
ZIP	E-mail
Tel	Fax
Product	
Model	S/N