
HAND OPERATED CENTRIFUGE MODEL HC-2000/HC-2100

Instruction Manual



No.02000192 (Zhejiang, CHINA)

Quality is Everything...

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Rev.B

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1. Summary

The potassium ion in the drilling fluid aims to stabilize shale and restrain the clay's dilatancy. So, the potassium ion content must be measured accurately so as to control the performances of drilling fluid. HC-2000 / HC-2100 hand operated centrifuge is used to measure the potassium ion content in the drilling fluid whose potassium ion content is more than 5000mg/l or KCl concentration is bigger than 3.5lb/bbl. Use the perchloride to deposit the potassium ion in the centrifuge, then determine the volume of the deposit, and numerate the content from the criterion curve.

2. Model and specification

HC-2000 / HC-2100

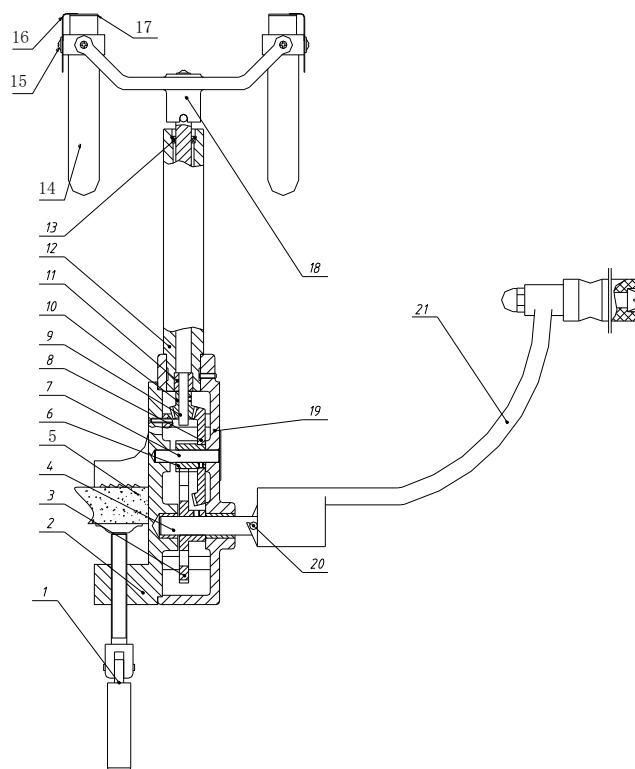
3. Technical parameters of the instrument

Main technical parameters are listed below:

No.	Name	Technical parameter
1	Rotate speed	2000r/min
2	HC-2000 Be adapted to	10ml or 15ml kolmer centrifuge tube
3	HC-2100 Be adapted to	100ml kolmer centrifuge tube

4. The structure and working principle

(1)Structure:the instrument is comprised of shell, gear, handle, test tube frame, fixing equipment, and etc.



The structure is detailed as follows:

No.	Item	Name	Number
1	SY-2-01-0	Clamp equipment	1
2	SY-2-02	lid	1
3	SY-2-03	gear	1
4	SY-2-04	Polished rod axis	1
5		workbench	1
6	SY-2-05	pinion	1
7	SY-2-06	Gear stem	1
8	SY-2-07	Big bevel gear	1
9	SY-2-08	axis	1
10	SY-2-09	Small bevel gear	1
11	SY-2-10	cover	1
12	SY-2-11	bush	1
13	GB61700	bearing	1
14	SY-2-12-3	Test tube canister	2
15	GB818-85	Semi-circle screw M5×6	2
16	SY-2-12-1	Clip	2
17	kolmer	Centrifugal test tube10ml	2
18	SY-2-12	Test tube frame	1
19	SY-2-14	Chassis	1
20	SY-2-15	Brake pin	1
21	SY-2-19	Handle	1

(2) Working principle

Measured sample in the centrifugal tube is centrifuged by the high speed rotation, so the deposits are separated from the liquid, and its content can be determined by graduated vessels.

5. Operation of the instrument

1. After reading the explanation book carefully, use the fixation clamp equipment to fix the instrument on the workbench, and ensure that the instrument will not twitter and be stable.
2. Fix the handle on the main axis of the instrument, and clockwise turn the handle to observe revolution body of the instrument so as to make it normal operating state.
3. Measure the revolution of the revolution body after the handle are turned one circle. For example: Handle runs one circle and the revolution body runs 15 circles.
4. Place the prepared centrifugal tube(10ml kolmer model) on the test tube of the fixed frame, and clip it so as no to pour out.(Note: if just use one test tube, another test tube

should be used to make a balance at the same way.)

5. Revolution body runs 2000 circles, and the handle runs 10 circles (1800/1200). So the handle must run 120 circles in one minute to make the revolution body 2000 circles in one minute. At this rotation speed, the handle must turn 10 times in 5 seconds. In 15~20 seconds, you can reach the constant 2000 RPM rotation speed. These period time should be noted in the sample centrifugal time.

6. Centrifuge one minute at 1800r/min constant rotation speed, and immediately take out the centrifugal tube and read the volume of deposit.

7. After the experiment is finished, test tube clip should be removed, and test tube should be taken out and purified.

8. Draw a diagram according to the volume of deposit (ml) and the content of potassium chloride (lb/bbl) in rectangular coordinate.



Before the instrument will be operated, the instrument and the test tube should be fixed fastly.

On operation, hand, clothes and other articles should be away from the rotation body or other rotation parts.

6. Maintenance of the instrument

1. When moving, repairing and cleaning the instrument, should be gently to fetch the instrument, lest that some component deform so as to influence the precision and use.

2. The rotation body must not be collided, lest that it bends to deform and defect the instrument.

3. Firstly operate the instrument, should run several minutes. If the voice and the rotation speed are normal, accessories are fixed, then the instrument can be operated naturally.

4. The instrument must have free ventilation, and regularly clear away the dust or the dirty. Be careful of that these dirty enter the instrument.

5. The handle should be parted with instrument when no using.

6. After using, purify the instrument and test tube, and place them into a dry surrounding.

7. Transportation and Storage of Instrument

The transportation and storage of instrument should correspond to the JB/T9329-1999 standard. The product should be stored in the room with ventilation. The indoor air does not contain the impurity which can arouse device corrosion.

8. Fault judge and remove

Item	Phenomenon	Cause	Removing method
1	Centrifuge sway on operation	The centrifuge is not fixed hardly	Re-install the clamp equipment and make the instrument fixed hardly
2	When shaking the handle, feel not agile	The rotation parts have erosion to make frictions	Add lubricating oil

9. A list for accessories, tools, major components and technical documents

(1) Accessories:

Item	Name	Unit	Amount	Remarks
1	Test tube(kolmer10ml)	piece	2	
2	handle	piece	1	

10. Warranty and Returns

10.1 Warranty

Rigchina Group Company warrants its products to be free from defects in material and workmanship for a period of 12 months from the time of shipment. If repair or adjustment is necessary, and has not been the result of abuse or misuse within the twelve-month period, please return, freight prepaid, and correction of the defect will be made without charge.

Out of warranty products will be repaired for a nominal charge.

Please refer to the accompanying warranty statement enclosed with the product.

10.2 Returns

For your protection, items being returned must be carefully packed to prevent damage in shipment and insured against possible damage or loss. Rigchina will not be responsible for damage resulting from careless or insufficient packing.

Before returning items for any reason, authorization must be obtained from Rigchina Instrument Company. When applying for authorization, please include information regarding the reason the items are to be returned.

Our shipping address is:

RIGCHINA GROUP COMPANY

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