



青岛创梦仪器有限公司

Qingdao Chuangmeng Instrument Co., Ltd.



湿筛仪  
Wet Sieve Analysis

使用手册  
Instruction Manual

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请你仔细阅读《使用手册》，正确掌握本产品的安装和使用方法。阅读后请将本《使用手册》妥善保管，以备今后进行检修和维护时使用。

Please read the *Instruction Manual* carefully, for correctly grasping the installation and using method of this product. Please keep properly this *Instruction Manual* after reading, for the usage during troubleshooting and maintenance in the future.

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## I. 概述 Summary

将钻井液放在滤网上，利用水冲刷钻井液过滤后，测定钻井液及重晶石的含沙量，并可得出筛余百分数。

The drilling fluid is placed on a filter screen and filtered by water washing drilling fluid. The sand content of drilling fluid and barite is measured, and the remaining percentage of the screen can be obtained.

## II. 型号及规格

1420

## III. 仪器的主要技术参数 Main technical parameters

名称 Name	技术参数 Technical parameter
有效滤失面积 Effective filtration area	45.8cm <sup>2</sup> (国际 API 标准 7.1in <sup>2</sup> )
工作压力 Pressure	10psi (国际 API 标准 10 磅/吋 <sup>2</sup> )
钻井液杯容量 Volume of Drilling fluid cup	400ml
滤网目数 Mesh number of strainer	200 目/325 目 200 mesh/325 mesh
外形尺寸 Overall dimension	200×150×400cm

## IV. 仪器的结构及工作原理 Structure and working principle

### A. 组成 Constituent part

- 1) 支架 Bracket
- 2) 喷嘴组件 Nozzle assembly
- 3) 钻井液杯组件 Drilling fluid cup assembly
- 4) 减压阀组件 Pressure reducing valve assembly
- 5) 冷水嘴 Water-cooled nozzle

### B. 工作原理 Working principle

以水通过规定的压力（由减压阀得到压力表中显示压力应为 10psi），经喷嘴在规定的时间内对所需测定的钻井液或重晶石在滤网上（220 目或 325 目）进行水过筛（湿筛）而得到筛余百分数。

With water passing through the prescribed pressure (The pressure gauge obtained from the pressure reducing valve shows that the pressure should be 10 psi), through the nozzle in the prescribed time, the required drilling fluid or barite in the strainer

(220 mesh or 325 mesh) water screening (wet screening) and get the remaining percentage.

## V. 仪器的操作 Instrument operation

- 1) 仔细阅读说明书，检查仪器是否完好，根据装箱单认真检查备件等。
- 2) 取出仪器支架部分，将仪器安装放平。
- 3) 将冷水嘴与水源相接。并使其处于关闭状态。(注：水源为干净、纯洁的自来水)
- 4) 将水管和冷水嘴、仪器主机、喷嘴组件相连接。
- 5) 取出钻井液杯组件。要确保钻井液杯各部件清洁干燥，也要确保密封圈未变形或损坏。将钻井液杯组装完整，放在杯座上。(注：根据实验需要安放 200 目或 325 目滤网)
- 6) 将配置好的钻井液，到入钻井液杯组件的筛网上。
- 7) 打开冷水嘴，接通水源。调节减压阀手柄将水压调到 10psi，观察喷水嘴喷出的水流是否形成扇形。(注：若水流形成的扇形不均匀，可调节嘴喷前端螺母。)
- 8) 用手拿住喷嘴，对准钻井液杯内的样品来回冲洗 2 分钟。
- 9) 把剩下的砂子刮在已经称重的蒸发器中烘干，烘干温度为  $105 \pm 3^\circ\text{C}$ ，烘干时间为 1~2 小时，自然冷却后称重，就可计算筛余百分数。

计算筛余百分数的公式：

$$\text{筛余百分数} = \frac{\text{筛余重量}}{\text{样品重量}} \times 100\%$$

- 10) 实验完毕，洗净、擦干所有部件，减压阀内应把水控干，注意不要弄坏滤网。

1) Read the instructions carefully and check the instruments in good condition. Check the spare parts carefully according to the packing list.

2) Remove the instrument bracket. Installation and leveling of instruments

3) Connect the water-cooled nozzle to the water source. And shut it down. (*Note: water is clean*).

4) Connect the water pipe with the water-cooled nozzle, the instrument main engine and the nozzle assembly.

5) Remove the drilling fluid cup assembly. To ensure that all parts of the drilling fluid are clean and dry, make sure that the sealing ring is not distorted or damaged. Assemble the drilling fluid cup and put it on the cup holder. (Note: 200 or 325 mesh strainer should be placed according to the experiment).

6) The well drilling fluid will be put into the sieve network of the drilling fluid cup assembly.

7) Open the water-cooled nozzle and connect the water source. Adjust the pressure reducing valve handle to adjust the water pressure to 10psi, and observe whether the water jet from the nozzle is fanned. (Note: if the fan shape is uneven, the nozzle front nut can be adjusted.)

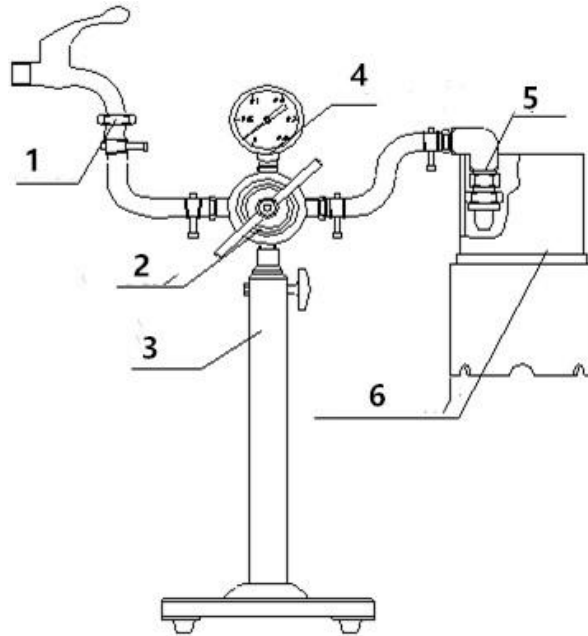
8) Hold the nozzle with your hand and rinse the sample in the drilling fluid cup for 2 minutes.

9) The remaining sand is scraped and dried in an evaporator that has been weighed.

The drying temperature is  $105 \pm 3^\circ\text{C}$ , the drying time is 1-2 hours. After natural cooling, the percentage of sieve residue can be calculated.

$$\text{Percentage of sieve residue} = \frac{\text{Weight of sieve residue}}{\text{Weight of Sample}} \times 100\%$$

10) After the experiment, wash and dry all the parts. Water should be controlled to dry in the pressure reducing valve. Be careful not to break the strainer.



1. 水嘴 Nozzle	3. 底座组件 Base assembly	5. 管接头组件 Union joint assembly
2. 减压阀 Pressure relief valve	4. 压力表 Pressure gauge	6. 泥浆组件 Mud assembly

## VI. 仪器的维护与保养 Maintenance and maintenance of instruments

1) 清洗各部件并干燥待用，仪器置于干燥环境中。确保通气孔内清洁。“O”型圈未变形、无破损，密封面无损伤。

2) 移动、维修或保养仪器时。要轻拿、轻放，以免造成部件变形影响精度和使用。

3) 实验所用水源为纯净的自来水，水压  $\geq 1.2$  实验压力。

1) Clean the components and dry them up. The instruments are placed in a dry environment. Make sure that the ventilation holes are clean. The "O"-ring has no deformation and no damage, and the sealing surface is free from damage.

2) When moving, repairing or maintaining instruments. It is necessary to take lightly and put it lightly so as not to cause deformation of parts and affect accuracy and use.

3) The water used in the experiment is pure tap water. Experimental pressure of water pressure up to 1.2.

## VII. 故障的判定与排除 Judgement and elimination of faults

故障 Fault	原因 Reason	维修方法 Maintenance method
有砂粒从钻井液杯的滤网漏出。 Sand is leaking out of the filter screen of the drilling fluid cup.	过滤网破损。 Filter screen damage.	更换过滤网。 Replace filter screen.
做湿筛实验时有未筛净的钻井液成份。 There is a sieve of drilling fluid composition during wet screen test.	网孔被堵塞。 Mesh is blocked.	疏通被堵塞的网孔。 Dredging blocked meshes.
压力表指针自动上升。 Automatic rise of pressure gauge pointer.	减压阀芯漏气。 Decompression valve spool.	上紧阀芯压帽或更换密封垫圈。 Tighten the core pressure cap or replace the sealing washer.

# 青岛创梦仪器有限公司 装箱单

## Qingdao Chuangmeng Instrument Co., Ltd. Packing list

生产企业：青岛创梦仪器有限公司

Manufacturing enterprise: Qingdao Chuangmeng Instrument Co.,Ltd.

生产地址：青岛市城阳区流亭街道兴海路3号

Production address: No. 3 Xinghai Road, Liuting Street, Chengyang District, Qingdao

主机型号：

Model of the main motor:

出厂编号：

Manufacturing No:

序号 NO	编号	名称及规格 Name and specification	数量 Quantity	备注 Remarks
1		支架 Bracket	1	
2		减压阀 Pressure relief valve	1	
3		钻井液杯 Drilling fluid cup	1	
4		滤网（200、325目） Strainer	1	
5		杯盖 Cup cover	1	
6		滤网胶垫 Filter pad	2	
7		杯座 Cup seat	1	
8		水龙头万能接头 Universal joint	1	
9		喷雾水嘴 Spray nozzle	1	
10		胶管 Rubber hose	2	
11		使用手册 Instruction Manual	1	
12		合格证 Certificate	1	