



青岛创梦仪器有限公司
Qingdao Chuangmeng Instrument Co., Ltd.

液体压力密度计
Pressurized Mud Balance

型号 MODEL: 1020



使用手册
Instruction Manual

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本企业通过 ISO9001:2015 质量管理体系认证

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、介绍 Summary

通常有一定量的空气被夹带或困在钻井液和水泥浆的流体中,当使用常规设备测定流体密度时,可能会产生错误的结果。通过对样品杯加压,可以将空气体积减少或压缩到可忽略的量,这样流体密度的读数就会更准确。

液体压力密度计原理与标准液体密度计相同,一个已知体积的样品杯由平衡尺杆另一端的配重进行平衡。游动砝码沿刻度尺移动,平衡尺杆上的水平仪指示何时处于平衡状态,游动砝码在刻度尺上的位置表示样品的密度。

在杯盖的中心是单向阀,允许流体单向流入样品杯。吸液管附在单向阀上,向样品杯内加注样品达到加压的目的。当样品杯内压力增大时,单向阀自动关闭,密封杯内压力将盖子固定在适当位置。

A certain amount of air is usually trapped in or trapped in a fluid of drilling fluid and cement slurry. When a conventional device is used to measure the density of the fluid, it may result in a wrong result. By pressurizing the sample cup, the volume of air can be reduced or compressed to a negligible amount, so that the reading of fluid density will be more accurate.

Principle of liquid pressure densitometer, the same as the standard liquid densimeter. A known volume sample cup is balanced by the counterweight on the other end of the balance bar. The moving weights are moved along the scale, and the horizontal instrument on the balance rod indicates when it is in the state of balance, moving the weight of the weight on the scale to indicate the density of the sample.

The center of the cup cover is a one-way valve, allowing the fluid to flow into the sample cup one way. The liquid absorption pipe is attached to the check valve, and the sample is added to the sample cup to achieve the purpose of pressurization. When the pressure in the sample cup increases, the check valve automatically closes, and the pressure inside the sealing cup holds the lid in place.

II、参数 Parameters

序号 No	名称 Name	参数 Parameters
1	范围 Range	0.75-3.1g/cm ³ (6.5-26lb/gal)
2	精度 Accuracy	0.01g/cm ³
3	容量 Capacity	210cm ³
4	尺寸 Size	570×130×160mm

III、操作 Operation

1. 样品杯中注入所要测定的液体，使液面略低于杯沿 6.4mm (1/4in) 处。
2. 向下推，打开单向阀。
3. 把盖子放在样品杯上，慢慢压下去。当您将盖子压入样品杯时，样品应该从单向阀流出。如果没有样品从单向阀流出，拆卸盖子并添加更多的样品。将盖子压入样品杯时要小心，测试样品可能从单向阀喷出，记得戴防护眼镜。
4. 将压帽盖在盖子上并拧紧到位。
5. 吸液管的操作方法与注射器相似，将吸液管前端浸入到样品中，向上拉吸液杆，可将样品抽入吸液管内。
6. 将吸液管的前端放在单向阀的顶部。
7. 用一只手向下压吸液杆，使单向阀保持开启状态。压下吸液杆的力量约 40 磅。在持续向吸液杆施加力时，慢慢抬高吸液管。这将允许单向阀弹出，密封样本杯内的压力。
8. 当单向阀完全弹出时，停止对吸液杆施加力，并将其从单向阀上移开。

1.) The liquid in the sample cup is injected into the sample cup, so that the liquid surface is slightly lower at the edge of the cup 6.4mm (1/4in).

2.) Push down and open the one-way valve.

3.) Put the lid on the sample cup and slowly press it down. When you press the lid into the sample cup, the sample should flow out of the check valve. If no sample is discharged from the check valve, remove the lid and add more samples. Be careful when pressing the lid into the sample cup. The sample may be ejected from the one-way valve, and wear protective glasses.

4.) Cover the cap on the cover and tighten it in place.

5.) The operation of the liquid absorption pipe is similar to that of the syringe. The front end of the liquid absorption pipe is immersed in the sample, and the suction rod is pulled upward, and the sample can be pumped into the liquid absorption pipe.

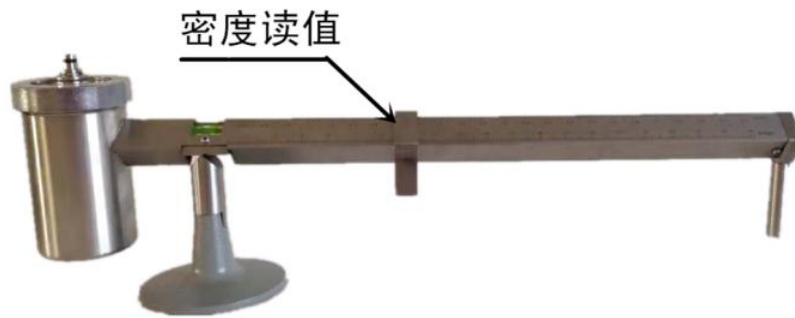
6.) The front end of the liquid absorption pipe is placed on the top of the one-way valve.

7.) Press the suction rod downward with one hand to keep the check valve open. The force of the sucking sucking rod is about 40 pounds. When the force is continuously applied to the sucking rod, slowly raise the liquid absorption pipe. This will allow the one-way valve to pop up and seal the pressure in the sample cup.

8.) When the one-way valve is fully ejected, Stop exerting force on the sucking rod. And remove it from a one-way valve.



9. 将仪器表面及杯盖上多余的样品擦拭干净。
 10. 将仪器主刀刃对准主刀口，放于支撑座上。
 11. 来回移动游动砝码，直到平衡臂平衡为止。当平衡臂平衡时，水平仪上的气泡将位于两条线之间。
 12. 从平衡臂上的刻度上读出密度。
 13. 测试完毕，重新连接空吸液管，并下推吸液杆，释放杯内压力。
 14. 松开压帽，取下样品杯盖，倒出样品，冲洗干净，在单向阀上涂上防水润滑脂。
- 9.) Wipe the surface of the instrument and the extra samples on the cup cover.
 - 10.) The main knife edge of the instrument is aligned to the main knife edge and placed on the support seat.
 - 11.) Move the weights back and forth until the balance arm is balanced. When the balance arm is balanced, the bubble on the level will be located between the two lines.
 - 12.) Read the density from the scale on the balance arm.
 - 13.) After testing, reconnect the empty liquid absorption pipe and push down the sucking rod to release the pressure inside the cup.
 - 14.) Release the pressure cap, remove the cup lid, wash out the sample, and coat the check valve with waterproofing grease.



IV、校准 Calibration

*通常在现场进行。在使用液体压力密度计测量流体密度之前，您可以进行校准。

1. 彻底清洗仪器。把样品杯装满清水，放在支点上。请务必清除所有样品，可以保重校准的准确性。
2. 游码在比例尺上滑动，比重（Sp. Gr.）为 1。
3. 如果水平仪的气泡没有在两条线内，可以调整平衡仓内铅弹，直到平衡。

*It is usually carried out on the spot. You can calibrate before using liquid pressure gauge to measure fluid density.

1.)Clean the instrument thoroughly. Fill the sample cup with water and put it on the pivot. Be sure to clear all the samples and ensure the accuracy of the calibration.

2.)The swimming weights slide on the scale, and the specific gravity (Sp. Gr.) is 1.

3.)If the bubble of the level is not between the two lines, the projectile in the balance can be adjusted until the balance is reached.

青岛创梦仪器有限公司 装箱单

Qingdao Chuangmeng Instrument Co., Ltd. Packing list

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

主机型号：1020 液体压力密度计

Model of the main motor: Pressurized Mud Balance

出厂编号：

Manufacturing No.

序号 No	编号	名称 Name	数量 quity	备注 Remarks
1		主机 Host	1	
2		底座 Base	1	
3		吸液管 Liquid absorption pipe	1	
4		“O”型圈（ $\phi 9 \times 1.8$ ） "O"-ring（ $\phi 9 \times 1.8$ ）	4	
5		“O”型圈（ $\phi 13 \times 1.8$ ） "O"-ring（ $\phi 13 \times 1.8$ ）	2	
6		“O”型圈（ $\phi 55 \times 3$ ） "O"-ring（ $\phi 55 \times 3$ ）	2	
7		使用手册 Instruction Manual	1	
8		合格证 Certificate	1	