混凝试验搅拌器
Coagulation test mixer

ZKS-Ⅰ-6L

产品使用说明
Product User Manual

四川中科申科技有限公司
Sichuan Zhongkeshen Technology Co., Ltd

目录

前　言

感谢您购买和使用四川中科申科技有限公司 混凝试验搅拌器产品!

在您使用本产品之前请您仔细阅读对应产品的使用说明书,并按照正确操作顺序进行使用,同时请妥善保存于日后查阅。

特别说明:

1、本说明书仅用于对应型号产品使用。

2、使用前对照具体产品型号进行参数使用!

3、本公司保留对此手册的最终解释权,再次感谢您选择我们的产品!

产 品 概 述

　　混凝试验搅拌器是水处理领域常用的一种水处理专用试验仪器,用于水处理过程的烧杯试验,模拟水处理运行(自来水净化或者污水处理)中的加药、反应、絮凝、沉淀过程,试验结果放大应用到生产装置中,在水厂实践生产中起到了重要的指导作用,帮助水厂精确控制投药量,降低生产成本。
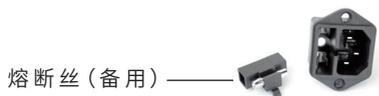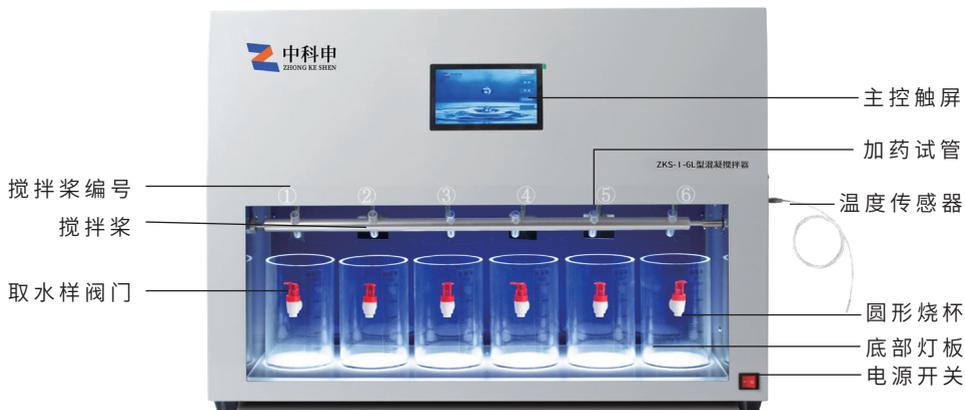
主 要 作 用

1、比较各种混凝剂的混凝效果;

2、确定最佳的混凝剂投加量;

3、优化混合条件;

4、优化絮凝条件;

5、求混合、絮凝、沉淀的合理组合。

适 用 范 围

高等院校、科研院所、自来水厂、污水处理厂、市政给排水、环境环保业......

ZKS-Ⅰ-6L型混凝试验搅拌器

主机结构

主控触屏

加药试管

温度传感器

搅拌桨编号

搅拌桨

取水样阀门

ZKS-Ⅰ-6L型混凝搅拌器

① ② ③ ④ ⑤ ⑥

圆形烧杯

底部灯板

电源开关

散热出风口

电源接口

熔断丝（备用）

电源线

产品介绍

　　本产品由四川中科申科技有限公司研发推出的水处理试验装置采用7寸触摸彩色液晶屏设计，集中化管理操作与显示，反应灵敏、视觉直观、更清晰。步进电机驱动，多元化运行模式、加药、升降、G值、GT值等多项参数，大容量储存，程序储存数达上百条，内置仪器故障报警提醒，报警参数一目了然。

基本参数

型号	ZKS-Ⅰ-6L
主机重量	27kg
产品尺寸	长850mm，宽230mm，高620mm
圆形烧杯	1L，φ10cm，H16.5cm
转速范围	10～1000 r/min ±0.01%
速度梯度(G)	10～1000 S^{-1}
运行时间	每条程序分10段，每段运行0~9h
测温范围	0℃～50℃ ±1℃
功率	150W
电压	AC 220V ±5%

装箱清单

序号	名称	数量	序号	名称	数量
1	主机	1台	5	搅拌杯	6个
2	电源线	1根	6	温度传感器	1支
3	加药试管	6个	7	说明书	1份
4	熔断芯	2个	8	保修卡	1份

产品特点

1. 根据转速测算G值；

2. 自动测算GT值；

3. 根据编程自动进行试验，自动加药，自定义加药时间与沉淀时间；

4. 设备配备优质测温探头，自动测温，测温范围：0℃~50℃；

5. 底座配有LED光源，保证观察亮度，观察絮凝效果更清楚；

6. 数根搅拌轴既可同步运行，可异步运行；

7. 触摸彩色液晶屏，触摸灵敏、智能方便、动态显示各参数，数据更清晰；

8. 可储存20条程序，每条程序分10段无级变速运行；

产品安装

本仪器只能使用圆形烧杯。

1、取出搅拌杯放入装置底座凹槽内；

2、取出药剂试管安装到试管夹内（出厂已安装完成）；

3、取出电源线插入电源接口，接入电源后，电源开关按向"-"即可开机使用，按向"o"，装置关机，供电电压为交流220V±5%，消耗功率约150W，电源一定要有可靠的接地线，决不允许使用两相供电。机箱后侧电源插座内有保险熔断丝，如无法正常开机，可查看熔断丝是否烧掉；

4、取出温度传感器插入仪器右侧传感器孔内，即可直接使用。

编 程 方 法

1、登录以及修改密码

1.1、登录：开机等待数秒选择系统语言后进入主界面后，点击"参数"按钮，输入密码（初始密码：111111）进入参数界面，如图1所示；

1.2、修改密码：在参数界面点击密码修改可修改密码。

阶段号	转速.RPM	时间.S	G值
1	0000	0000	0.0
2	0000	0000	0.0
3	0000	0000	0.0
4	0000	0000	0.0
5	0000	0000	0.0
6	0000	0000	0.0
7	0000	0000	0.0
8	0000	0000	0.0
9	0000	0000	0.0
10	0000	0000	0.0

程序号：0   Gd: 0.0000
混凝温度℃：0   Tk: 0.0000
StirerQuan：0   Tb: 0.0000
Define：0

保 存
密码修改
返 回

图1 账号信息界面

2、程序的编写

注意：请确认温度显示正常后，再开始编写程序

2.1、点击程序号方框选择想要编辑的程序编号，在对应的程序中可设置总共10段程序，填写每阶段"转速"与每阶段搅拌时间，程序可通过转速自动计算G值；

StirerQuan：程序控制的搅拌头个数
Gd：G值计算系数
Tk、Tb：温度系数

填写好程序点击保存后在运行中使用。

图2 自动界面

NO.: 搅拌桨编号;	程序号: 搅拌桨正在运行的程序号;
当前阶段号: 搅拌桨当前运行到程序第几阶段;	当前转速: 搅拌桨当前的转速;
G值、GT值: 当前的G值与GT值参数;	自动流程: 运行流程当前状态;
时间: 程序已经运行时间;	温度: 当前设备温度。

自动运行

1. 设置好运行参数后就可以开始程序同步运行/异步运行了,在主页面点击"自动"按钮,进入自动界面,如图2所示;

2. 点击搅拌桨对应的程序编号方框,为对应的搅拌头设置预设好的程序号(如需同步运行,将所有编号设置相同即可);

3. 点击参数进入设置界面,如图3所示,"加药时间"为程序运行的第几秒自动进行加药操作,点击数据框可直接修改(最多预设四次加药,如需更多次加药请使用手动加药,当需要加药时,点击手动加药即可);

4. 点击"沉淀时间"框设置好沉淀时间后返回到自动界面进行下一步;

5. 当确认自动界面程序设置无误后,即可点击开始按钮,程序就会进入自动运行状态,当程序运行完成后,搅拌桨自动升到初始位进行沉淀阶段,沉淀完成后设备会响起蜂鸣声,界面中间弹出"完成确认",点击确认蜂鸣声关闭;

图3 设置界面

6. 在运行过程中,如需停止程序,点击"停止"按钮后搅拌桨停止,等待数秒后搅拌桨会自动上升回到初始位;

蜂 鸣 提 示 开 启 / 关 闭

搅拌试验完成后会响起蜂鸣声,单击"蜂鸣提示"按钮进行蜂鸣声的开启或关闭操作,显示"蜂鸣声开启"则为开启状态,反之则是关闭状态。

循 环 开 启 / 关 闭

此功能开启后会循环运行设置好的程序,为厂家测试功能,如有需要可进入单击"循环"按钮进行循环功能的开启与关闭操作,显示"循环开启"则为功能开启状态,反之则是功能关闭状态,默认为关闭状态。
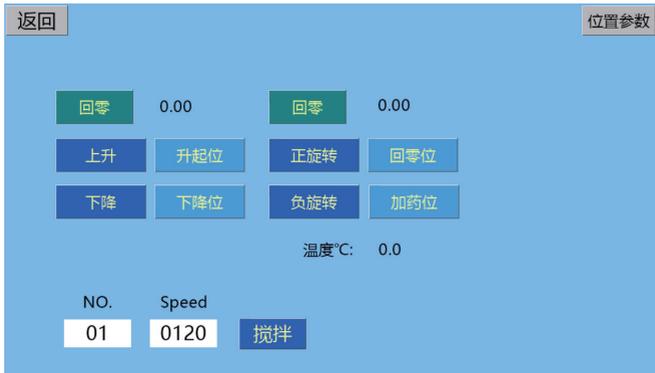
当循环功能为开启状态后,在"自动监视"页面点击"停止",程序不会停止,会自动将程序从头开始。

图2 手动界面

手动运行

此程序用于测试设备各项功能是否正常,检验装置是否能够正常使用,左边控制搅拌桨,右边控制加药轴。

1. 回零:搅拌桨与药剂试管轴都有默认零位,点击"回零"按键后搅拌桨与药剂试管将自动找零;

2. "上升"与"下降"控制搅拌的升起与下降,长按使搅拌头升起/下降;

3. "升起位"与"下降位"控制搅拌桨一键升到初始位与一键下降到截止位;

4. "正旋转"与"负旋转"控制药品轴的旋转,长按实现药品轴旋转;

5. "回零位"与"加药位",控制药品轴回到预设的初始位与倒入位置;

6. "搅拌"按钮可检测对应的搅拌头是否正常运转,长按控制搅拌头旋转;

7. "speed":控制搅拌浆测试速度;

8. "位置参数":在没有我公司工程师帮助下请勿修改此参数,以免造成设备运转异常。

售后服务

公司制定统一标准的售后服务准则,售后工程师经过系统专业的培训致力于为用户提供最专业、贴心的服务。

1、属于产品质量问题,两个月内包换,一年内免费维修。三年内更换零部件收取材料费用,免收维修费。

2、产品出现质量问题时,请及时打电话与我公司联系,并告知产品详细信息,我公司会及时为您服务。

3、产品出现质量问题时,可能会采取返厂维修的方式,为防万一,请保留好产品外包装。

售后服务:19138459975

CONTENTS

Preface

Thank you for purchasing and using the coagulation test mixer product from Sichuan Zhongkeshen Technology Co., Ltd!

Before using this product, please carefully read the corresponding user manual and use it in the correct order. Please also keep it properly for future reference.

Special note:

1. This manual is only for use with the corresponding model of product.

2. Please use it according to the specific product model!

3. Our company reserves the final interpretation right of this manual. Thank you again for choosing our product!

Product Overview

The coagulation test mixer is a commonly used water treatment specialized testing instrument in the field of water treatment. It is used for beaker tests in the water treatment process, simulating the processes of dosing, reaction, flocculation, and precipitation in water treatment operations (tap water purification or sewage treatment). The test results are amplified and applied to production equipment, playing an important guiding role in practical production in water plants, helping water plants to accurately control the dosage of chemicals and reduce production costs.
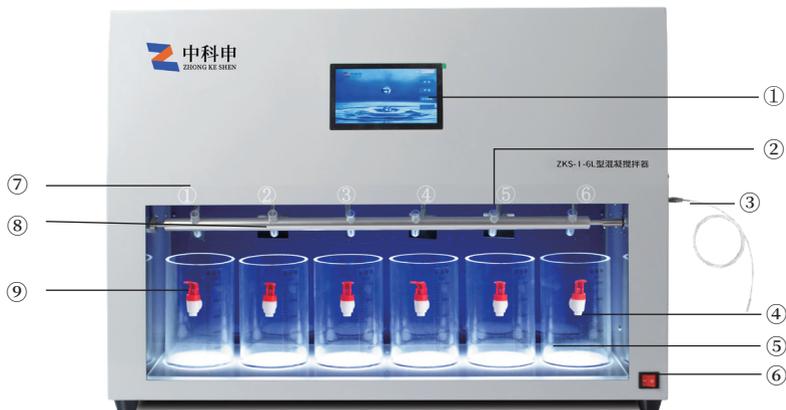
Main role

1. Compare the coagulation effects of various coagulants;

2. Determine the optimal dosage of coagulant;

3. Optimize mixing conditions;

4. Optimize flocculation conditions;

5. Seeking a reasonable combination of mixing, flocculation, and precipitation.

Scope of application

Higher education institutions, research institutes, water treatment plants, sewage treatment plants, municipal water supply and drainage, environmental protection industry......

ZKS - Ⅰ - 6L type coagulation test mixer

Host structure

①:Main control touch screen　　　②:Dosing tube　　　③:Temperature sensor

④:Mixing cup　　　⑤:Bottom light board　　　⑥:Power switch

⑦:Paddle number　　　⑧:Dosing shaft　　　⑨:Sampling valve

⑩:Cooling air outlet　　　⑪:Power interface　　　⑫:Power cord

⑬:Fuse core

Product Introduction

This product is developed and launched by Sichuan Zhongkeshen Technology Co., Ltd. The water treatment test device adopts a 7-inch touch color LCD screen design, centralized management operation and display, and sensitive response Visually intuitive and clearer.   Stepper motor drive, diversified operation modes, dosing, lifting, G value, GT value and other parameters, large capacity storage, program storage up to 20, built-in instrument fault alarm reminder, alarm parameters are clear at a glance.

Basic parameters

Model	ZKS-Ⅰ-6L
Host weight	27kg
Product size	85*23*62cm
Mixing cup	1L,φ10cm,H16cm
Speed range	10～1000 r/min ±0.01%
Velocity gradient (G)	10～1000 S^{-1}
Running time	Each program is divided into 10 segments, with each segment running for 0~9 hours
Temperature range	0℃～50℃ ±1℃
Power	150W
Voltage	AC 220V ±5%

Packing List

Number	Name	quantity	Number	Name	quantity
1	Host	1	5	Mixing cup	6
2	Power cord	1	6	Temperature sensor	1
3	Dosing tube	6	7	Manual	1
4	Fuse core	2	8	Warranty card	1

Product Features

1. Calculate the G value based on the rotational speed;

2. Automatically calculate GT value;

3. Conduct experiments automatically according to programming, add medication automatically, and customize the dosing time and precipitation time;

4. The equipment is equipped with high-quality temperature probes for automatic temperature measurement, with a temperature range of 0 ℃~50 ℃;

5. The base is equipped with LED light source to ensure brightness and clearer observation of flocculation effect;

6. Several mixing shafts can operate synchronously or asynchronously;

7. Touch color LCD screen, sensitive to touch, intelligent and convenient, dynamically displays various parameters, and data is clearer;

8. It can store 20 of programs, with each program running in 10 stages of continuously variable speed;

Product installation

1. This instrument can only use circular beakers.

2. Take out the mixing cup and place it in the groove of the device base;

3. Remove the medication test tube and install it into the test tube clamp (already installed at the factory);

4. Remove the power cord and insert it into the power interface.　After connecting to the power supply, press the "-" direction of the power switch to turn it on.　Press the "o" direction to turn off the device.　The power supply voltage is AC 220V ± 5%, and the power consumption is under 150W.　The power supply must have a reliable grounding wire and two-phase power supply is never allowed.　There is a fuse in the power socket on the back of the chassis.　If it cannot be turned on normally, you can check if the fuse is burned out;

5. Remove the temperature sensor and insert it into the sensor hole on the right side of the instrument for direct use.

Programming methods

1.Login and password change

1.1 Login: After waiting for a few seconds to turn on the computer and select the system language, enter the main interface, click the "Parameters" button, enter the password (initial password: 111111) to enter the parameters interface, as shown in Figure 1;

1.2. Change Password: Click on "Change Password" in the parameter interface to change the password.

PhaseNo.	Speed.rpm	Time.s	G_Value
1	0000	0000	0.0
2	0000	0000	0.0
3	0000	0000	0.0
4	0000	0000	0.0
5	0000	0000	0.0
6	0000	0000	0.0
7	0000	0000	0.0
8	0000	0000	0.0
9	0000	0000	0.0
10	0000	0000	0.0

ProgramNo. 0   Gd: 0.0000
Temp 0   Tk: 0.0000
StirerQuan: 0   Tb: 0.0000
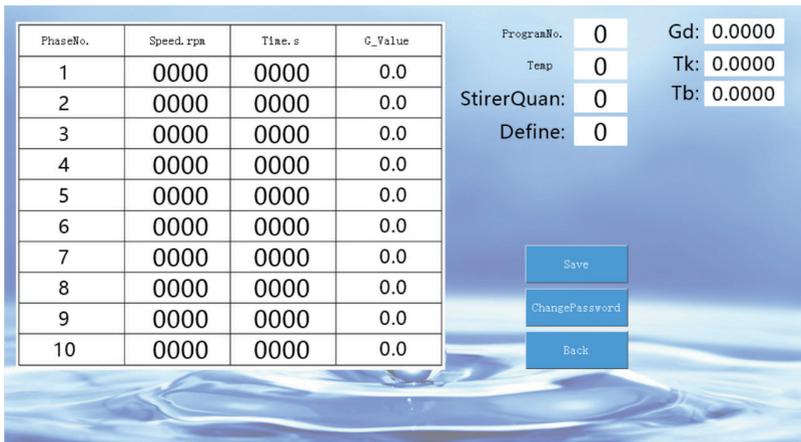Define: 0

Save

ChangePassword

Back

Figure 1: Account Information Interface

2. Programming

Attention: Please confirm that the temperature display is normal before starting to write the program.

Click on the program number box to select the program number you want to edit. In the corresponding program, you can set a total of 10 programs and fill in the "Speed" and "Time" for each stage. The program can automatically calculate the G value based on the speed.

• StirerQuan: Number of mixing heads controlled by the program
• Gd: Calculation coefficient of G value
• Tk, Tb: Temperature coefficient

Fill in the program and click "save" to use it during runtime.

Figure 2: Auto interface

NO.:Paddle number；

ProgramNO.：The program number of the stirring paddle operation；

PhaseNO.：At which stage of the program the stirring paddle is running；

Speed：The current speed of the stirring paddle；

G value, GT value：The current G value and GT value parameters；

AutoOperatio：Running the current state of the process；

RunTime：How long the program has been running；

Temp：Real-time temperature detected by the temperature sensor。

Runs automatically

1. After setting the operation parameters, the program can start to run synchro-nously/asynchronously. Click the "Auto" button on the main page to enter the automatic interface, as shown in Figure 2;

2. Click the box corresponding to the program number of the stirring paddle and set the preset program number for the corresponding stirring paddle (if you need to synchronize operation, all the numbers can be set the same);

3. Click parameters to enter the setting interface, as shown in Figure 3. "Dosing time" is the number of seconds in which the program runs to auto-matically dosing, which can be directly modified by clicking the data box (the maximum of four dosing times are preset, if you need to dosing more times, please use manual dosing, when you need to do so, click "dosing");

4. Click on the "chem_prec_time" box to set the chem precipitate time and return to the automatic interface for the next step;
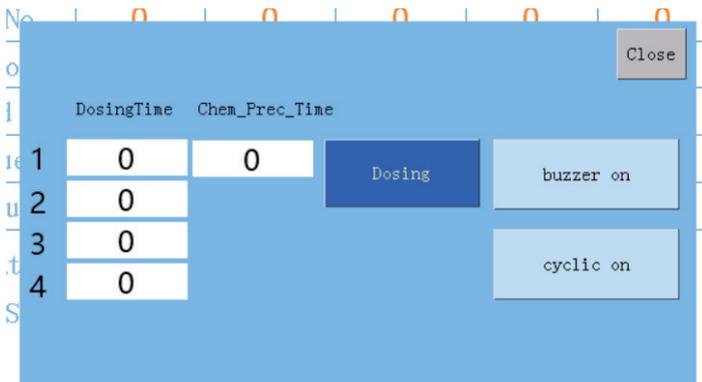
Figure 3: Parameters interface

5. When the automatic interface program Settings are correct, you can click the "Start" button, the program will enter the automatic operation state. When the program is completed, the stirring paddle will automatically rise to the initial position for the precipitation stage. After the precipitation is completed, the device will sound a buzzer, and "Confirm completion" will pop up in the middle of the interface. Click to confirm the buzzer to close;

6. During operation, if you need to stop the program, click the "Stop" button to stop the agitator. Wait for a few seconds and the agitator will automatically rise back to its initial position;

The beep function to turned on/off

After the test is completed, a buzzer will sound. Click the buzzer Prompt button to enable or disable the buzzer. If "Buzzer on" is displayed, the buzzer on state is enabled; otherwise, the buzzer is off state.

Loop function to turn on/off

After this function is enabled, the pre-set program will run in a loop for manufacturer testing. If necessary, click the "cyclic" button to turn on and off the cyclic function. If "cyclic on" is displayed, the function will be turned on; otherwise, the function will be turned off, and it will be considered as off by default.

When the loop function is turned on, clicking "stop" on the "automatic monitoring" page will not stop the program and will automatically start the program from scratch.
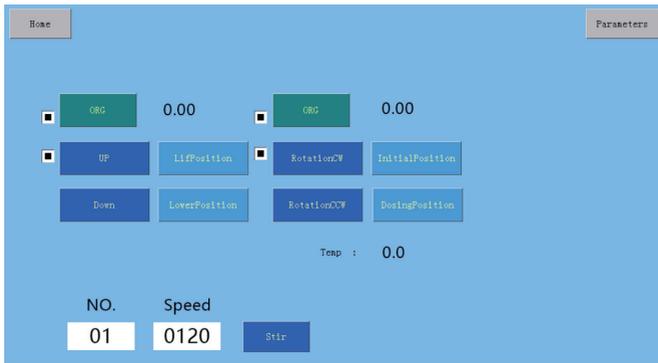
Figure 4 Manual interface

Manually run

This program is used to test whether the various functions of the equipment are normal, and to verify whether the device can be used normally. This program is used to test whether the various functions of the equipment are normal, and to verify whether the device can be used normally.The left side controls the stirring paddle and the right side controls the dosing shaft.

1. ORG: Both the stirring paddle and Dosing shaft have default zero positions. After clicking the "ORG" button, the stirring paddle and Dosing shaft will automatically reset;

2. "UP" and "DOWN" control the rise and fall of the mixing paddle, long press to make the mixing head rise/fall;

3. "LifPosition" and "LowerPosition" control the stirring paddle one key to the initial position and one key to the cutoff position;

4. "RotationCW" and "RotationCCW" control the rotation of the dosing axis, and long press to realize the rotation of the dosing axis;

5. "InitialPosition" and "DosingPosition" control the drug axis to return to the preset initial position and pouring position;

6. The "Stir" button can detect whether the corresponding stirring paddle of "NO." is running normally, and the rotation of the stirring paddle can be controlled by long press;

7. "Speed" : control the detection speed of mixing paddle corresponding to "NO.";

8. "Parameters" : Do not modify this parameter without the help of our engineers to avoid abnormal operation of the device.

After-sale service

The company has established a unified standard for after-sales service guide-lines, and after-sales engineers have undergone systematic and professional training to provide users with the most professional and caring services.

1. Belonging to product quality issues, replacement within two months and free repair within one year. Material costs will be charged for replacing parts within three years, and maintenance fees will be waived.

2. When there is a quality issue with the product, please contact our company by phone in a timely manner and provide detailed information about the product. Our company will serve you promptly.

3. When there is a quality problem with the product, it may be repaired by returning it to the factory. Please keep the outer packaging of the product.

官方网站
Official website

微信公众号
Wechat public account

网址\Website:www.sczks.com
售后电话:19138459975
Tel:+8619138459975
服务电话:028-85541992
Service Calls:+86-28-85541992