PCE Instruments PCE-127 Series Flow Cup Meter User Manual

Contents

PCE Instruments PCE-127 Series Flow Cup Meter

Product Information

The Manual Flow Cup Meter PCE-127 Series is a device manufactured by PCE Instruments. It is designed for measuring flow rates and is suitable for use in various industries. The meter is equipped with a flow cup and provides accurate measurements of liquid flow.

The PCE-127 Series Flow Cup Meter is available in different models with varying technical specifications. The meter comes with a user manual that provides detailed information on its operation, safety instructions, and maintenance procedures.

Product Usage Instructions

Safety Notes

Before using the PCE-127 Series Flow Cup Meter, it is important to read and understand the safety notes provided in the user manual. These notes outline the precautions that need to be taken to ensure safe operation of the device.

Only qualified personnel should operate the flow cup meter, and any repairs should be carried out by PCE Instruments personnel. Non-compliance with the safety instructions may result in damage or injuries that are not covered by warranty.

Specification

The user manual contains detailed technical specifications of the PCE-127 Series Flow Cup Meter. It provides information on the device's measurement range, accuracy, power supply requirements, and other relevant parameters. Refer to this section for a comprehensive understanding of the meter's capabilities.

System Description

This section provides an overview of the flow cup meter's system description. It explains the components of the meter and how they work together to measure flow rates accurately. Familiarize yourself with this information to better understand the device's functionality.

Operation

Preparing the Measurement

Prior to taking measurements using the PCE-127 Series Flow Cup Meter, it is necessary to follow the instructions provided in this section. It includes steps such as preparing the meter, connecting it to the liquid source, and ensuring proper calibration.

Taking a Measurement

This section explains the step-by-step process of taking measurements with the flow cup meter. It covers procedures such as filling the flow cup, timing the flow, and recording the results. Follow these instructions carefully to obtain accurate and reliable measurements.

Maintenance

Maintenance is an essential aspect of ensuring the longevity and performance of the flow cup meter. This section

provides guidelines on how to clean and maintain the device properly. It also includes information on recommended maintenance intervals and
procedures.

Contact

For any inquiries or support related to the PCE-127 Series Flow Cup Meter, contact PCE Instruments using the provided contact details. The user manual lists the contact information for PCE Instruments UK and PCE Americas separately. Reach out to the
respective office based on your location.

Disposal

This section provides instructions on the proper disposal of the flow cup meter. Follow the guidelines mentioned in this section to ensure environmentally friendly disposal of the device.

Contact

PCE Instruments UK

For customers located in the United Kingdom, contact PCE Instruments UK using the provided contact details for any further assistance or inquiries.

PCE Americas

For customers located outside of the United Kingdom, contact PCE Americas using the provided contact details for any further assistance or inquiries.

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Thank you for purchasing a flow cup meter from PCE Instruments.

Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage the meter.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a cloth and suitable cleaning agents. Do not use aggressive agents or abrasives and do not use wire brushes, metal scrapers or other metallic tools for cleaning.
- Clean the flow cup meter after each use and make sure that it is dry and free from residues before storing it.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the cup for visible damage. If any damage is visible, do not use the device.

This user's handbook is published by PCE Instruments without any guarantee.
We expressly point to our general guarantee terms which can be found in our general terms of business. If you have any questions please contact PCE Instruments.

Specification

Technical specifications

	Immersion cup PCE-127/4P	Flow cup PCE-127/4
Capacity	100 ml	
Ø nozzle	4 mm (±0.02 mm)	
Standard	DIN 53211	
Flow time	25 … 150 s	
Dynamic viscosity	96.2 … 680 mPa * s	
Material	Cup: anodized aluminium Nozzle: stainless steel	
Dimensions	Inner Ø: 50 mm Outer Ø: 65 mm Height: 78 mm Handle length: 170 mm	Inner Ø: 50 mm Outer Ø: 65 mm Height: 70 mm
Weight	Approx. 215 g	Approx. 200 g

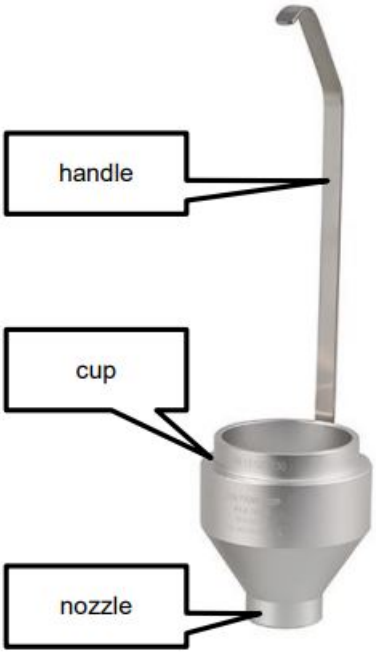
Delivery contents

- 1 x flow cup PCE-127/4 or immersion cup PCE-127/4P
- 1 x glass plate (PCE-127/4 only)
- 1 x factory certificate
- 1 x instruction manual

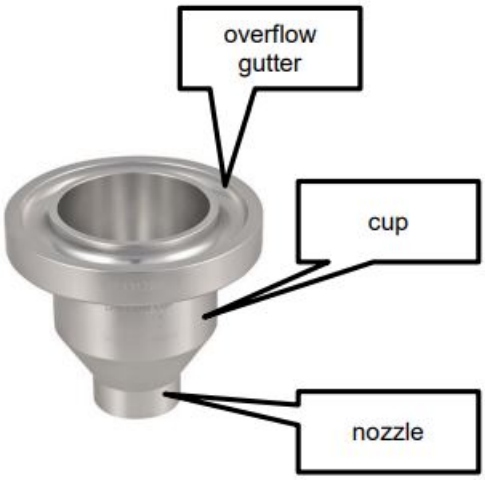
Optional accessories

– Stand BDG 130

System description



immersion cup PCE-127/4P



flow cup PCE-127/4

Operation

Preparing the measurement

To perform a measurement, you need a stopwatch.
Also, please mind the following notes to prepare the measurement:

- Make sure that the cup and the nozzle are clean and free from residues.
- The liquid to be measured has to be homogeneous and free from air bubbles. Do not let the sample rest for too long. The sample should be freshly strained (e. g. by stirring) before starting the measurement.
- Allow some time for the fluid and the cup for temperature compensation.
- Measure and note down the temperature of the liquid.
- You can only measure Newtonian fluids with the flow cup. To check if the sample is Newtonian, observe the measuring procedure (see chapter 4.2) and follow these steps:
  - Fill the cup and measure the flow time immediately.
  - Fill the cup again and wait one minute before measuring the flow time.
  - If the deviation between both results is above 10 %, the sample is a non-Newtonian fluid. In this case, you cannot measure it with the flow cup.

Taking a measurement

Immersion cup PCE-127/4P

1. Immerse the flow cup into the sample until it is filled completely.
2. Quickly pull the flow cup out of the fluid and start the flow time measurement at the same time. Make sure that

you hold the flow cup vertically during the whole measurement.

3. Watch the fluid coming out of the nozzle. Once the flow breaks, stop the flow time measurement.
4. Repeat the measurement.
5. If the results of both measurements do not deviate by more than 5 %, calculate the average and note it down.
6. After that, you can calculate the viscosity by using a viscosity nomogram, for example.

Flow cup PCE-127/4

1. Place the cup in a way that the nozzle is aligned vertically and not blocked.
2. Place a finger on the nozzle to cover it.
3. Fill the cup to the brim. Pour the fluid into the cup gently to prevent the formation of air bubbles.
4. Slide the glass plate over the rim of the cup until it is covered completely. Excess sample is absorbed by the overflow gutter.
5. Remove your finger from the nozzle and wait a while to allow air bubbles to get to the surface.
6. Remove the glass plate and start the flow time measurement at the same time.
7. Watch the fluid coming out of the nozzle. Once the flow breaks, stop the flow time measurement.
8. Repeat the measurement.
9. If the results of both measurements do not deviate by more than 5 %, calculate the average and note it down.
10. After that, you can calculate the viscosity by using a viscosity nomogram, for example.

Maintenance

The flow cups of the PCE-127 series are low-maintenance devices.
If you need to perform calibration checks on a regular basis (e. g. in line with a quality management system) we offer a variety of calibration oils.

Contact

If you have any questions, suggestions or technical problems, please do not hesitate to contact us. You will find the relevant contact information at the end of this user manual.

Disposal

For the disposal of batteries, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.
In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

If you have any questions, please contact PCE Instruments.

Contact

If you have any questions about our range of products or measuring instruments please contact PCE Instruments.

PCE Instruments UK

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Documents / Resources

	PCE Instruments PCE-127 Series Flow Cup Meter [pdf] User Manual PCE-127, PCE-127 Series Flow Cup Meter, Flow Cup Meter, Cup Meter, Meter

References

- Computer Instruments | Home
- General Business Terms | PCE Instruments
- Industrial Measurement Products and Solutions | PCE Instruments
- PCE Americas Inc. : Test Instruments | PCE Instruments