# Serstech SERS kit User manual





## V 2.0

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# **Product presentation**

# Serstech SERS kit

Experience the power of the Serstech SERS Kit, a patented solution designed for challenging samples. Paired with the Serstech Arx mkII instrument, it enhances Raman signal for precise identification of substances like heroin and fentanyl. Achieve spot measurements with exceptional accuracy, thanks to high-quality SERS surfaces. Elevate your substance identification capabilities effortlessly.

Note: For detailed instructions on using the Serstech Arx mkll instrument, please refer to the full user manual included on the **USB stick.** 





# **Included Accessories**



Disc with the SERS surface attached in

Note: Avoid touching SERS surface (the inner part), apart from the liquid sample drop. The SERS surface degrade over time, leading to inaccurate results and diminished performance.



# **Included Accessories**



Sample preparation bottle containing 3mL of Methanol with attached swab stick on the main cap.



Tissue.



Lithium battery 3.6 V, Lithium-thionyl Chloride (Li-SOCI2).

Hex key for battery replacement.



# Demonstration

Prepare sample material on the SERS surface.

1.0

Place tissue on flat surface and place the SERS surface disc on top of it.



Unscrew the cap of the preparation bottle containing the solvent (methanol).





1.2

Use the swab stick on the bottom of the cap, to transfer sample material into the solvent.





# Prepare sample material on the SERS surface

#### 1.3

Secure the sample preparation bottle cap and shake it in multiple directions until the powder is dissolved in the methanol.



#### 1.4

Break off the seal on top of the sample preparation bottle cap and place at least one drop in the center of the disc.

Note: Be careful to place the drop in the center of the disc, where the SERS surface is located. Ensure the drop is into the SERS surface.



# SERSTECH

Use the paper tissue to absorb any excess liquid from the disc.

Note: Use the paper tissue gently and do not come into contact with the SERS surface as there is a risk of removing the solution from it.



### 1.6

After cleaning the disc very gently, confirm that there is solution on the SERS surface remaining by visual observation. Let the sample rest. We recommend at least 60 seconds and more.



# SERSTECH

# Using the SERS Kit Adapter

### 2.0

Place the disc in the center of the Active sample holder.

Note: Make sure that the disc is stable and placed exactly in the center of the Active sample holder as shown on the pictures. When the disc is placed correctly a 'click' sound will be noticed. Misplacement increases the chance of inaccurate measurements.



#### 2.1

Place the top of the Active sample holder onto the mounted bottom part of the SERS adapter.



# SERSTECH

Turn on the Serstech Arx mkll and enter your PIN code to log in.



## 3.1

Take off the cap holder and place the SERS adapter directly onto the instrument probe.



## 3.2

Select Scan and then Advanced scan.

Note: It is possible to specify which libraries the measurement will match the analysis with. Go in to Scan, then Libraries, to select before the scanning.





Keep the instrument in an upright position and click the power button on the top of the SERS kit device. Make sure that the SERS kit device rotates.

Do not look into the lens when the instrument is on – severe eye damage can occur!



## 3.4

On the Arx instrument select Scan, Advanced scan, SERS-kit scan and then START to measure by pressing the "OK" button.

# Manual scan SERS-kit scan Verify scan Verify scan Position sample to scan START CANCEL

## 3.5

Let it run until the analysis ends.

Note: The SERS adapter stop running by itself. It is possible to end the rotation earlier by clicking the power button on top of the SERS adapter.





The Serstech Arx will display the result.

Note: If an inconclusive result is presented, please repeat step 1.4 and add further drops from the methaanol solution onto the disc. For optimal results 5 repetitions (5 drops) is suggested. Please add one drop at a time and let it evaporate before adding the second drop and so on. Run the analysis again as mentioned above. For further analysis, the ChemDash software can be used.



Support: For technical assistance, please contact your SERSTECH reseller. If your questions cannot be answered immediately, the reseller will forward your queries to ensure a rapid response. For more information, please visit our Support or check our FAQ page: www.serstech.com/support

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INVISIBLE LASER RADIATION AVOID EXPOSURE TO BEAM CLASS 3B LASER PRODUCT This is a Class 3B laser product and complies with EN 60825-1:2014. Ensure the beam is always terminated at asuitable non-specular (i.e. non mirror-like) surface. Do not direct the beam at other people or into areas where other people unconnected with the laser workmay be present. Refer to the International standard EN 60825-14 user's guide for guidance on identifying and controlling hazards associated with laser use.



Always ensure the laser is turned off when changing measuring accessories, e.g. from point-and-shoot adapter to vial holder.



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