



**G23 Instruments**

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## ISO-CV7A PRECISION ENGINEERED MICROELECTRODE HOLDER

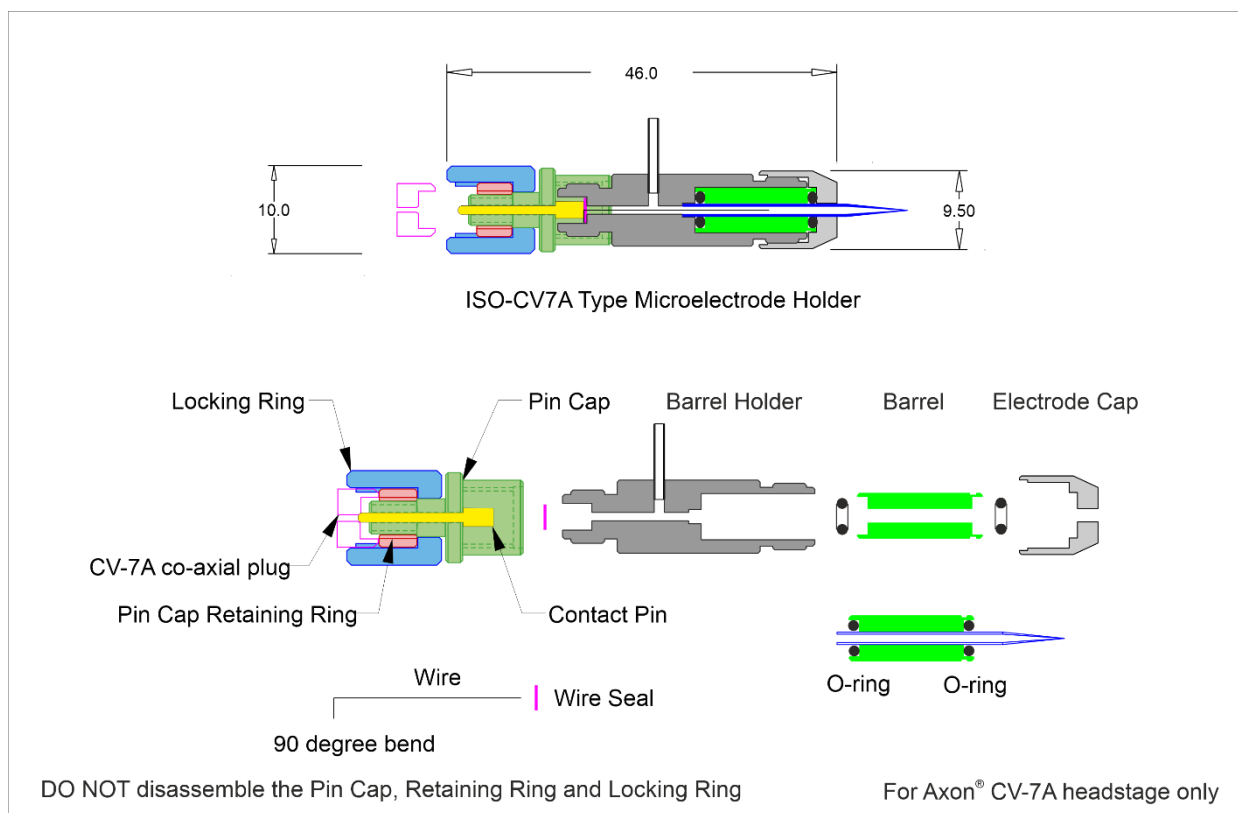
For Axon®/PatchMaster® Headstage CV-7A with SMA fitting



### Use and Maintenance of electrode holders

G23 Instruments' ISO range of precision engineered, low noise, minimal drift, microelectrode holders, are designed to virtually eliminate air leakage and pipette movement during patch clamp recording, which is undesirable but often occurs during changes in pipette pressure.

The CV7A type holder is specifically designed to be used with the Axon®/PatchMaster® CV-7A headstage which has a SMA connector. This design offers electrophysiologists a holder with the highest mechanical stability and lowest electrical noise.



### Before first use

Before using for the first time **ONLY**, disassemble the barrel holder, barrel and electrode cap and briefly rinse the polycarbonate and Teflon pieces in 70% ethanol to remove any traces of machine oil which may remain after production. These should then be blotted dry and left overnight in a desiccator to dry completely.

**Continued use of ethanol, for cleaning, will have a detrimental effect on the polycarbonate parts.**

**DO NOT disassemble the pin cap, retaining ring and locking ring assembly.**

### Assembly

The barrel has a 'fingernail' ridge cut into each end to enable easy removal of the barrel and O-rings from the barrel holder.

- Push an O-ring into each of the counterbored ends of the barrel.
- Gently push a piece of polished electrode glass through the barrel and both O-rings.

It is essential that the ends of all electrode glass should be lightly fire polished to remove rough edges. This prevents scratching of the chlorided silver wire and mechanical damage to the polycarbonate barrel of the holder.

- Position the barrel inside the barrel holder such that the polished end of the electrode glass fits into its seat in the barrel holder.
- Assemble your chlorided wire (0.25mm diameter) by piercing the wire seal with a small hypodermic needle. Thread the wire through the bore of the needle and then remove the needle from the wire seal. Slide the seal along the wire and make a 90-degree bend in the wire. Move the seal to the bend and trim the wire to just under the outside diameter of the wire seal.
- Care should also be taken to ensure that the silver wire remains straight and not compressed or twisted in any way and that there is a good (non-chlorided) contact between the wire and the gold-plated connecting pin.
- Assemble the parts, making sure that the gold-plated pin is in good condition and the unit is clean and dry.
- Screw on the electrode cap until the O-rings compress (finger tight). Do not over tighten the electrode cap.
- **Attach the holder/adaptor assembly to your CV-7A headstage by screwing the locking ring finger tight ONLY. Do not over tighten or force the locking ring.**

## Maintenance

**For continued low-noise we recommend you follow some simple precautions.**

The more rigorous the low-noise demands of the recording, the more frequent should be the cleaning.

For the lowest electrical noise it is essential that the holder be kept clean and dry. After daily use we recommend removal of the holder from the headstage and storage in a container with desiccant.

At least once a week the parts of the holder should be disassembled and the polycarbonate and Teflon pieces cleaned. We have found that brief (10-20s) sonication in distilled water is usually sufficient for this purpose. Again, the pieces should be blotted dry and left overnight in a desiccator to dry completely.

**DO NOT disassemble the pin cap, retaining ring and locking ring assembly.**

**Continued use of ethanol, for cleaning, will have a detrimental effect on the polycarbonate parts.**

Should your microelectrode require attention or you are having any problems with it, please contact us by email: [sales@g23instruments.com](mailto:sales@g23instruments.com) or telephone +44 (0)7957 656664. We work with our research users to develop and improve our products so please let us have any comments and suggestions.

### Our Guarantee

Should your microelectrode require attention or you are having a problem with it, please contact us at [sales@g23instruments.com](mailto:sales@g23instruments.com) or telephone +44 (0)7957 656664.

Electrode holders are covered by an international guarantee for a period of 12 months from the date of purchase against faults in materials and workmanship. The affected part will be replaced free of charge, within this period, provided that the fault falls within the terms of this guarantee.

Damage and/or defects caused by fair wear and tear, accidents, use which is unreasonable or inconsistent with our instructions and repair by persons other than G23 Instruments are not covered by this guarantee. Wire seals, O-rings and contact pins, worn in the course of normal use, are also excluded.

Please note that your rights under the guarantee are subject to your compliance with G23 Instruments' electrode holder instructions as set out above. Please read the instructions above carefully. This guarantee is additional to your statutory rights.