Auto Chloridizer and Microelectrode Starter Kit

Auto Chloridizer 863

- Simple means to chloridize Ag/AgCl electrodes
- Environmentally safe

The electrolytic chloridation unit Auto Chloridizer 863 provides a simple means for the chloridation of Ag/AgCl electrodes. It covers the surface of the silver electrode with an AgCl film insoluble in water. Unlike a purely chemical procedure, electrolytic chloridation does not involve the use of substances endangering the environment. It is normal practice to work with physiological saline solution (NaCl) as the electrolyte.

The electrolytic chloridation method also offers excellent reproducibility of the AgCl film at constant current density and chloridation time. The auto chloridizer operates with an electronically controlled constant-current source with current monitoring and error indication through an LED and error beep. During the chloridation of a single Ag/AgCl electrode the unit is operated manually through the start/stop key.

For routine production of several identical electrodes, such as Ag/AgCl wires for glass microelectrodes, the unit offers a simple programming feature for the chloridation period in the repeat mode. First the learning mode is initiated by pressing the repeat key (for longer than 1 second) and then an electrode is produced manually using the start/stop key. All further electrodes are then prepared automatically according to the manual setting by pressing the repeat key. The end of the chloridation process is indicated by a beep and the current source is automatically switched off.

The counter electrode (cathode) used is a carbon-glass ceramic crucible. This material has a very high electrical conductivity, is very largely inert physiologically, and resistant to oxidation and corrosion. There is therefore no contamination of the AgCl film through free metal ions, as is the case when using stainless steel as a cathode for example.

Specifications

Chloridation Current	Electronically controlled constant current source with current monitoring facility, and with low/medium/high selection by switch, corresponding to approx. 5/10/15 mA respectively
Chloridation Voltage	Max. driving voltage of constant current source is approx. 15 V and is therefore completely safe for user
Start/Stop	Manual operating mode start/stop for chloridation of single electrodes
Repeat	Automatic repetition of manually set chloridation procedure
Dimensions, H x W x D	15 x 6 x 12 cm (5.9 x 2.4 x 4.7 in)
Weight	750 g (1.7 lb)

Catalog No.	Product
CGS 8173.75	HSE Auto Chloridizer Model 863, 115 VAC, 60 Hz
CGS 8174.75	HSE Auto Chloridizer Model 863, 230 VAC, 50 Hz
CGS 8175.75	Spare Crocodile Clips
CGS 8176.75	Maintenance Kit for Silver Electrodes, Emery Paper and Scotch-Brite Cleaning Sponge, for cleaning the silver electrode before chloridation

Microelectrode Starter Kit

This starter kit makes entry into microelectrode production technology easy for researchers who have not yet produced any microelectrodes themselves. It contains all the necessary aids, components and consumables. A puller and an impedance meter must be purchased separately
In addition to manual dexterity which is always necessary, the user requires a binocular transmitted-light microscope with eyepiece graticule and up to 500X magnification for optical checking of the tip diameter.

The kit is suitable for producing intracellular microelectrodes using borosilicate glass capillaries with an integral filament. The filament makes microelectrode
filling easy. Special filling devices, such as vacuum filling equipment, are therefore not required. In addition to a transport and storage container for completed microelectrodes, the kit also includes a specially developed electrolytic chloridation unit for producing an AgCl film on silver electrodes, see to the left. Controlled application of the AgCl film through the selection of current density and chloridation period in the case of the electrolytic chloridation method, together with the good reproducibility of the AgCl film, readily justify the increased cost of purchasing the electrical chloridation equipment. By contrast, chemical chloridation involves less equipment but produces poorer chloridation results and has negative effects on the environment.

The kit includes:

Materials: Pack of 1.5 mm OD glass capillaries with filament, 10 m pure silver wire, 0.2 mm dia., fine solder wire, emery paper, Scotch-Brite cleaning sponge, KCl and NaCl powder, connecting pins for the microelectrodes, and sealing wax.

Tools: 18 W, 230 V minia, curved soldering tweezers, straight soldering tweezers, fixation tweezers, clamping stand as aid for soldering the micro pins, electrolytic chloridation Auto Chloridizer, transport and storage container for microelectrodes, special microelectrode holder with miniature socket, and illustrated book about the microelectrode technology.

Catalog No.	Product
CGS 8177.75	Microelectrode Starter Kit, 115 VAC, 60 Hz
CGS 8178.75	Microelectrode Starter Kit, 230 VAC, 50 Hz