

Note: FHC products described here have not been FDA approved for human use. IRB approval for experimental procedures must be secured.

Please see FHC's microTargeting® products for FDA cleared, intraoperative versions.

Intra-Operative Microelectrodes

FHC microelectrodes are used in intra-operative recording procedures around the world. Four standard configurations have been developed in response to particular needs. All can be provided in a variety of lengths, configurations, and tip impedances. We can use a variety of terminations and often add a stop at a precise distance from the tip.

Type 1 describes the lengthened version of the tungsten and stainless steel microelectrodes used in research for many years. Extremely straight, this configuration is insulated with many coats of a thermally cured epoxy. We also add a sheath of polyimide tubing to ensure a smooth fit through guide tubes. The result is a sturdy, safe, recording/stimulating microelectrode.

Type 2 microelectrodes are extended versions of classic glass insulated platinum/iridium microelectrodes. This type was used in many of the initial intra-operative recording procedures and is still favored in situations where maximum current delivery is required. The microelectrode is housed in a length of insulated stainless steel tubing to provide strength and straightness.

Type 3 Microelectrodes include an insulated outer stainless steel tube which can be used in a coaxial differential recording mode to minimize noise and artifacts. This version is available with tungsten, stainless steel or platinum/iridium microelectrodes.

Type 4 describes a macro- or semi-microelectrode bipolar configuration. Able to record multi-unit activity and deliver higher stimulating currents, this configuration has a sturdy, ground tip, stainless steel construction.

Types 5,6,7, and 8 are versions of configurations 1-4 which are provided with a stainless steel protective tube. This facilitates handling, sterilization, and insertion of the delicate microelectrodes. We often include a ground connection wire to provide electrical shielding.

Please note that any of the terminations and physical configurations shown in the examples below can be provided on any of the various types 1-4.

Our electrode specialists are ready to work with you to design a specific microelectrode for your intra-operative requirements. They will bring our years of experience to the design of the correct configuration for your recording equipment and stereotactic frame.

ORDERING INFORMATION

For Intra-Operative Microelectrode prices please refer to page 4 of the price list. Though priced individually, our microelectrodes are packaged in quantities of 12.

Please refer to FHC's microTargeting® electrode section for FDA cleared, intraoperative versions.

TO SPECIFY FHC INTRA-OPERATIVE ELECTRODES:

IO 123456 7 iin

Intra-Operative Electrode Base Electrode Factory Use Only Customer Initials and Version / Revision Number Configuration

In addition to the configuration style, it is necessary to determine the type of microelectrode to use, and any dimensional and termination requirements that you have. Please consult our Microelectrode Specialists to finalize an electrode design to best meet your needs. Once a design is finalized, we will assign initials and a revision number to complete the catalog number which completely specifies your microelectrode. A final price can then be quoted.

7 Configuration:
 1: Long (Tungsten or SS)
 2: Extended (Pt/Ir)
 3: Micro-Concentric
 4: Macro-Concentric
 5: Long, with Protective Tube
 6: Extended, with Protective Tube
 7: Micro-Concentric with Protective Tube
 8: Macro-Concentric with Protective Tube
 X: Special / Specify

iin Customers Initials
 ii: Initials of customer for whom the matrix was designed
 n: Version or revision number

1 IO WGGSE 1AB1
 Dimensions: 100mm, 225mm +/- 0.5mm, 238mm, ~245mm, 8mm, ~2mm.
 Components: Tungsten Microelectrode, .011" ID PI x 135mm, 5 min. Epoxy together: .022" ID (M3-23) x 8mm, .028" ID (M3-27) x 8mm, .035" ID (M3-31) x 8mm, 17ga SS Tubing x 8mm, Male Pin M3-01.

2 IO PSEGSG 2KM1
 Dimensions: 10mm, 245mm, 232mm, 20mm.
 Components: Epoxy seal <.5mm dia, Pt/Ir Z=8-1.2 Meg Thin Glass Insulation (Smooth) O.D. Not to exceed OD of PI Tubing * Concentricity Critical, .55 ID x 215 POLYIMIDE (M3-23), 26ga SS TUBE.

3 IO WGGSE 3PB1
 Dimensions: 10mm, 200mm.
 Components: 23ga TW, grind end to expose outer conductor, Tungsten Microelectrode Z = 1.5 Meg, 26ga SS TUBE, Coax Connector (N1-15).

4 IO SVGXSE 4CB1
 Dimensions: .300Ø, .04mm, .22mm, 300mm, 10mm, 250Ø, .550Ø.
 Components: Outer Pole 24 ga SS Tube, Inner Pole SS, 250mm Ø, Male Pins with heat-shrink: Red = Inner Pole, Yellow = Outer Pole, SHRINK TUBING, 50mm x 36ga INSULATED Cu LEADS.

5 IO WGGSE 5PC1
 Dimensions: 1.2mm Ø, 2mm, 228mm, 33mm, 65mm, 31mm, 228mm.
 Components: 18.5ga SS Tubing, RETRACTED, EXTENDED, Round and Polish end of tube.

6 IO PSEGSG 6KM1
 Dimensions: 160mm, 245mm, 2mm.
 Components: Round and Polish end of tube, 20ga TW SS Tubing, 17ga SS Collar, Glue in place, 17ga SS Collar.

7 IO WGGSE 7PB1
 Dimensions: 5mm, 200mm Typical, 40mm.
 Components: 19ga TW SS Tubing, 23ga TW, grind tip to expose, 17ga SS Collar with Heatshrink, Coax Connector (N1-15), Tungsten Microelectrode Z = 1.5 Meg, Ground.

8 IO SVGXSE 8CB1
 Dimensions: 50mm, 250mm, 2mm.
 Components: Round and Polish end of tube, 21 ga XTW SS Tube, K3-76-3A; March 9, 2001.

