

# STATE OF THE ART, COMPLETE, SAFE AND RELIABLE SEEG SOLUTION



DIXI medical products are manufactured in France. Carefully read the information in the "Instructions for Use" (IFU) manual and on the product labeling. Drawings and pictures are not binding. All technical specifications may be modified without notice.

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# DIXI medical

DIXI is a family company founded in 1904 in Le Locle, Switzerland. The factory set up its own mechanic's workshop in the aim of improving the quality of production to manufacture high precision machinery for the watch-making industry. At that time, the region of Le Locle produced half of the watches sold worldwide. DIXI medical activities started in 1974 when the company, then called SORMEL, took over the development of intracranial electrodes for stereotactic neurosurgery from SIEMENS MEDICAL. DIXI medical products have been manufactured in Besançon, France, considered the capital of microtechnologies, for over 40 years. The Franche-Comté region benefits greatly from a highly skilled workforce. All instruments are CE marked. FDA clearance for MICRODEEP® was granted in 2017. DIXI medical products are sold worldwide. For more information on certifications, please contact info@diximedical.com.

#### Support Teams

DIXI medical works hand-in-hand with consultant neurosurgeons and neuroscientists to provide the necessary medical expertise and insight to create and improve medical instruments. The R&D team, made of design and biomedical engineers, is in charge of development, monitoring and technical products certifications. Skilled operators are hired and specially trained for reliable assembling in Clean Rooms. The Clinical Support Team is here to offer you assistance and make sure that you get the best SEEG solution. DIXI medical continuously strives for greatness in R&D, manufacturing and clinical support to ensure the highest quality of its products.

# COMPLETE SEEG SOLUTION

SEEG is a less invasive surgery than subdural grids, allowing direct recording from tissue and

good coverage. Multiple electrodes may be placed in and around a focal target.

#### DIXI offers a complete, safe and reliable SEEG solution

- SEEG Intracerebral Electrodes MICRODEEP®
- For SEEG exploration, functional mapping and thermocoagulation of epileptic foci
- Instruments to place the MICRODEEP® electrodes:
  - Bone starter, depth report device, screwdrivers, screws, drills, coagulation electrodes, stylets and caps
  - Guiding tubes compatible with most frames, robots and neuronavigation systems<sup>1</sup>
  - Cables to connect the electrodes to most EEG recording systems<sup>1</sup>



# MICRODEEP® SEEG ELECTRODES

For SEEG exploration, functional mapping and thermocoagulation of epileptic foci

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Class III, CE mark issued by the notified body GMED 0459 Single-use sterilized item MICRODEEP® is a multi-contact flexi-rigid intracerebral electrode, with a diameter of 0.8 mm and a hemispherical tip. The active part is perfectly smooth without roughness between contacts.

• Diameter 0.8 mm

- Platinum / Iridium
- Total length: 50 cm and 90 cm
- From 5 to 18 contacts
- Active exploration length ranges from 16 mm to 80.5 mm
- Specific stereotactic instruments provide accurate MICRODEEP® electrode positioning
- A cap allowing depth marking and fastening is integrated on the MICRODEEP® intracerebral electrode
- Connection cables CBL (page 18)
- Adapted to thermocoagulation

Reference	Nr of				
	contacts	Lt	Lc	Li	Lsi
D08-05AT	5	16	2	1.5	-
D08-08AT	8	26.5	2	1.5	-
D08-10AT	10	33.5	2	1.5	-
D08-12AT	12	40.5	2	1.5	-
D08-15AT	15	51	2	1.5	-
D08-18AT	18	61.5	2	1.5	-
D08-05AM	5	16	2	1.5	-
D08-08AM	8	26.5	2	1.5	-
D08-10AM	10	33.5	2	1.5	-
D08-12AM	12	40.5	2	1.5	-
D08-15AM	15	51	2	1.5	-
D08-15BM	15 (3x5)	62	2	1.5	7
D08-15CM	15 (3x5)	70	2	1.5	11
D08-18AM	18	61.5	2	1.5	-
D08-18CM	18 (3x6)	80.5	2	1.5	11





# SINGLE-USE INSTRUMENTS

adapted to sterotactic guiding system ø 2.5 mm



Class III, CE mark issued by the notified body GMED 0459 Single-use sterilized material

- Drill bit to perforate the skull with suitable diameter for the use of guiding screw
- Single stop to control the depth of the drill bit or the coagualtion electrode (can be sold separately, autoclavable)

Reference	L (mm)	l <sub>activ</sub> (mm)	l drilling (mm)	Туре
KIP-ACS-510	140	13.5	14	Cylindrical
KIP-ACS-515	200	19.5	20	Cylindrical

#### Coagulation Electrodes and Stop

Class III, CE mark issued by the notified body GMED 0459 Single-use sterilized material

- Coagulation electrode with a round tip to coagulate the skin KIP-ACS-605
- Coagulation electrode with a sharp tip to open the dura mater KIP-ACS-600
- Single stop to control the depth of the coagulation electrode (can be sold separately, autoclavable)





## SINGLE-USE INSTRUMENTS for MICRODEEP® Electrode Implantation

### Guiding Screws

Class III, CE mark issued by the notified body GMED 0459 Single-use sterilized item

- Made to be fixed into the bone through the skin.
- Self-tapping tip allowing a direct fixing into a hole ø 2.1 mm
- Adapted to stereotactic guiding instrument ø 2.5 mm
- Individually packed, delivered per box of 10

Guiding Screws	L (mm)
ACS-015SMS-10	15
ACS-020SMS-10	20
ACS-025SMS-10	25
ACS-030SMS-10	30
ACS-035SMS-10	35



Class Is, CE mark issued by the notified body GMED 0459 Single-use sterilized item

 Used to obstruct the guiding screws before the placement of MICRODEEP<sup>®</sup> electrode in case of CSF leaks

Caps for Guiding Screws

• Individually packed, delivered per box of 5



Caps	ACS-050S-5
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## REUSABLE INSTRUMENTS for MICRODEEP® Electrode Placement

ACS-745		
Bone Starter		
Class I, CE mark	Bone Starter	ACS-745
Delivered Non-sterile, autoclavable		
<ul> <li>Used to prime the skin and the skull before drilling</li> </ul>		
<ul> <li>Adapted to stereotactic guiding instrument ø 2.5 mm</li> </ul>		
ACS-740		
Marking Rod	Marking Rod	ACS-740
Class I, CE mark		
Class I, CE mark Delivered Non-sterile, autoclavable		
		I
Delivered Non-sterile, autoclavable		



Class I, CE mark Delivered Non-sterile, autoclavable

- Long screwdriver used for placement of guiding screw ø 2.5 mm
- Screwdriver for simple stop to adjust the tightening





## ABLE INSTRUMENTS for MICRODEEP® Electrode Placement



• Sliding ruler to measure the depth of accessories (Drill, Coagulation electrodes and Marking rod)



Class Im, CE mark issued by the notified body GMED 0459

Delivered Non-sterile, autoclavable

• Depth marking instrument to adjust the depth of MICRODEEP® electrode and stylet

#### Wrench and Screwdriver for Guiding Screws' Removal

Class I, CE mark Delivered Non-sterile, autoclavable

- Short screwdriver and wrench to be used without guide when removing the guiding screws
- Wrench to be used to loosen the guiding screws
- Short screwdriver to finish the removal of the guiding screws

Wrench	ACS-715
Short Screwdriver	ACS-711





ACS-711



## CONNECTION CABLES for MICRODEEP®

#### Connection Cables CBL

Class I, CE mark

- 5 to 18 contacts
- Length of cable available: 120, 150 and 180 cm
- Only one electrode connected per cable
- Touch-proof connectors (DIN 42802)

Microdeep® Electrodes	Reference	
D08-05AT	CBL-05/*	
D08-08AT	CBL-08/*	
D08-10AT	CBL-10/*	
D08-12AT	CBL-12/*	
D08-15AT	CBL-15/*	
D08-18AT	CBL-18/*	
D08-05AM	AM CBL-05/*	
D08-08AM	CBL-08/*	
D08-10AM	CBL-10/*	
D08-12AM	CBL-12/*	
D08-15AM	CBL-15/*	
D08-15BM	CBL-15/*	
D08-15CM	CBL-15/*	
D08-18AM	CBL-18/*	
D08-18CM	CBL-18/*	





# CORTEX STRIP/GRID ELECTRODES WITH CONNECTION CABLES

For Intraoperative Monitoring and Stimulation

Class III, CE mark issued by the notified body GMED 0459 Single-use sterilized item

- Contact diameter 4 mm
- Thickness: 0.5 mm
- Width of strips: 10 mm
- Distance between the contacts: 10 mm
- Not MRI compatible
- Touch-Proof connectors (DIN 42802)

- Contacts made of stainless steel
- Dome shaped contacts to improve adherence
- Pre-cut grid to adapt to the areas to explore
- Thin and flexible
- Numbered contacts

Reference	S		
Nr of contacts per strip	Grid 4 strips	Grid 2 strips	1 strip
8	-	C10-16AIOM	C10-08AIOM
6	-	C10-12BIOM	C10-06BIOM
4	C10-16CIOM	C10-08CIOM	C10-04CIOM



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