



# PiezoXpert<sup>®</sup>

Assisting to ease micromanipulation  
of challenging cells

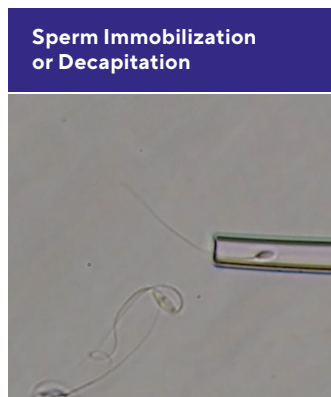


Easier, less traumatic cell membrane penetrations enabling higher survival rates

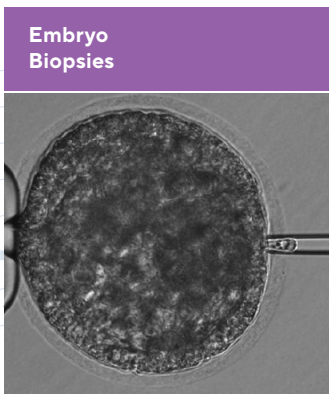
# Piezo-assisted Cell Manipulation

The PiezoXpert was developed for piezo-assisted micromanipulation, especially for the penetration of rigid or very elastic membranes. With finely tuned piezo pulses, it enables exceptionally precise and controlled performance even in highly sensitive applications. The PiezoXpert combines ease of use for beginners with the flexibility, performance and precision required by experts. Optimize your cell manipulation with this advanced solution for precise membrane penetrations.

## Piezo assistance for a wide range of demanding applications

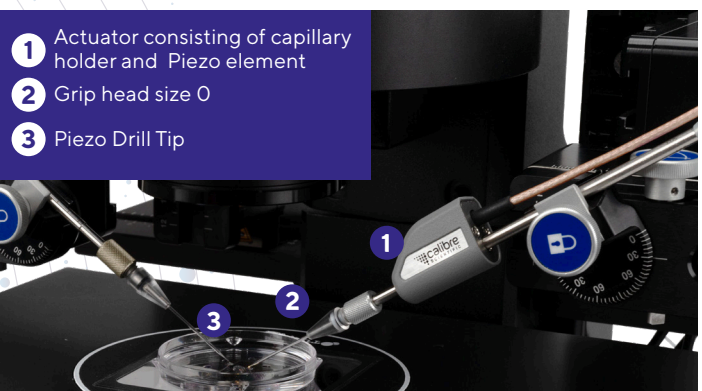


The piezo assistance is used in research for various cell manipulation procedures. It is the method of choice for applications with particularly challenging cells, such as oocytes with high membrane elasticity, low viscosity of the cytoplasm or opaque appearance under the microscope. Piezo-assisted micromanipulation therefore offers excellent support in the manipulation of oocytes and embryos from mice, hamsters, horses, cattle, pigs, camels and many others.



## PiezoXpert, your simple solution

The PiezoXpert is compatible with micromanipulators of major manufacturers. Its compact control unit can be placed close to the operator. The actuator enables simple mounting on the micromanipulator and reproducible fixing of the Piezo Drill Tip. The foot pedal, Piezo actuator and grip head are included. The PiezoXpert is produced in Hamburg, Germany.



- 1 Actuator consisting of capillary holder and Piezo element
- 2 Grip head size 0
- 3 Piezo Drill Tip

# Easy and intuitive operation with more reproducible results - the PiezoXpert

- **Convenient operation:** The device is intuitive to use. The piezo impulses can be set and triggered very easily and therefore enable simple optimization of the settings.
- **Dual pulse operation:** Storage and quick recall of two different pulse parameter sets, e.g. for piezo-ICSI-induced penetration of the zona (slightly stronger pulse) and oolemma (softer pulse). The two different pulse sets can be triggered simply, safely and quickly one after the other using the two-pedal foot control.
- **Optimized force transmission:** The piezo element is fixed to the capillary holder of the actuator near the Piezo Drill Tip and thus ensures direct optimal transmission of the piezo pulses to the capillary tip.
- **Clean function:** Strongest pulses can be triggered to remove debris from the capillary.



## Capillaries for Piezo-assisted cell manipulation

Holding capillaries		Capillaries for Piezo-assisted cell transfer	
<b>VacuTip I</b>	<b>VacuTip II</b>	<b>Piezo Drill Tip ICSI</b>	<b>Piezo Drill Tip ES</b>
<p><b>Applications</b></p> <ul style="list-style-type: none"> <li>• For holding oocytes, blastocysts, etc.</li> </ul> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• 15 µm inner diameter</li> <li>• 100 µm outer diameter</li> <li>• Smooth, rounded tip end for gentle holding</li> </ul>	<p><b>Applications</b></p> <ul style="list-style-type: none"> <li>• For holding oocytes, blastocysts, etc.</li> </ul> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• 60 µm inner diameter</li> <li>• 110 µm outer diameter</li> <li>• Smooth, rounded tip end for gentle holding</li> </ul>	<p><b>Applications</b></p> <ul style="list-style-type: none"> <li>• Piezo-assisted transfer of sperms into oocytes</li> </ul> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• 6 mm flange length</li> <li>• Non-polished, blunt tip end for optimal piezo pulse force transfer and minimal trauma</li> </ul>	<p><b>Applications</b></p> <ul style="list-style-type: none"> <li>• Piezo-assisted transfer of embryonic stem cells into blastocysts</li> </ul> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• Non-polished, blunt tip end for optimal piezo pulse force transfer and minimal trauma</li> </ul>

## Give your Piezo Drill capillary extra weight

The transmission of the piezo pulses requires the Piezo Drill capillaries to be made heavier. This is achieved by loading these glass capillaries with a heavy solution such as Fluorinert or Perfluorooctane. Our unique Microloaders are suitable for loading these liquids through the rear opening of the Piezo Drill Tips. These pipette tips have a very long and very fine tip end that can be inserted deep into the capillary lumen.



### Microloader

- Extremely long, fine and flexible tip for filling of microcapillaries for microinjection and where additional reach is needed
- Use with small-volume pipettes (from 0.5 to 20 µl) with a slim metal cone

## PiezoXpert - Product specifications

<b>Control unit</b>	Weight 2.8 kg, Dimensions 17 x 11.5 x 23 cm 6.7 x 4.5 x 9.1 in (WxHxD)
<b>Piezo Actuator 2</b>	Piezo element, capillary holder (OD:4 mm, compatible with all major micromanipulators) and grip head 4 size 0
<b>Warranty</b>	2 years

### Ordering information

Description	Europe Order no.	UK/HKG Order no.	US/Japan Order no.	Australia Order no.	China Order no.
<b>PiezoXpert®</b> , incl. acuator 2, foot control and grip head 4 size 0	EPE-5194000016	EPE-5194000032	EPE-5194000024	EPE-5194000059	EPE-5194000067
<b>Grip head 4 size 0</b> , incl 6 O-rings and 2 distance sleeve	EPE-5196082001	EPE-5196082001	EPE-5196082001	EPE-5196082001	EPE-5196082001
<b>Piezo Drill Tip ICSI</b> , for piezo-assisted ICSI, set of 25	EPE-5191000087	EPE-5191000087	EPE-5191000087	EPE-5191000087	EPE-5191000087
<b>Piezo Drill Tip ES</b> , for piezo-assisted ESC transfer, set of 25	EPE-5195000095	EPE-5195000095	EPE-5195000095	EPE-5195000095	EPE-5195000095
<b>VacuTip I</b> , holding capillary, set of 25	EPE-5195000036	EPE-5195000036	EPE-5195000036	EPE-5195000036	EPE-5195000036
<b>VacuTip II</b> , holding capillary, set of 25	EPE-5195000044	EPE-5195000044	EPE-5195000044	EPE-5195000044	EPE-5195000044
<b>Microloader</b> , set of 25	EPE-5195000036	EPE-5195000036	EPE-5195000036	EPE-5195000036	EPE-5195000036
<b>Tube adapter</b> , to connect injectors from other manufacturers (tube OD 2 mm or 3 mm)	EPE-5194075407	EPE-5194075407	EPE-5194075407	EPE-5194075407	EPE-5194075407

### Your local distributor: [cmi.calibrescientific.com/contact](http://cmi.calibrescientific.com/contact)

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