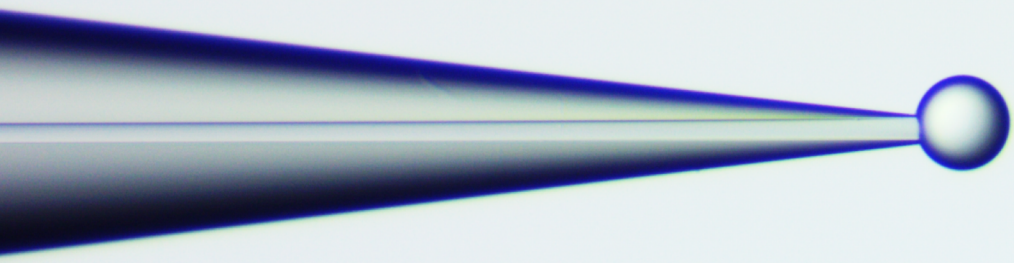
FOSSILIONTECH



The Sharp Singularity™ Lotus Emitters

Improve the quality of your data

with robust and repeatable nano-electrospray ionization

The Sharp Singularity Lotus Emitters represent the newest version of our Sharp Singularity emitters They use the ***lotus effect*** to achieve a more stable and smaller meniscus, leading to an increase in their efficiency and stability.

Stable and repeatable signals require extremely tight tolerances at the microscopic scale.

FIT's unique micro-machining process produces:

- **Extremely sharp emitters**
- **Constant inner diameter (down to 10µm ID)**
- **Very tight tolerances**

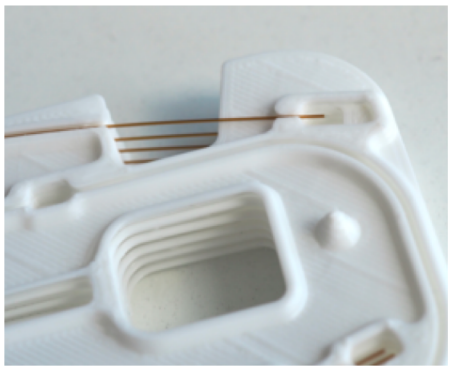
The ideal emitter geometry

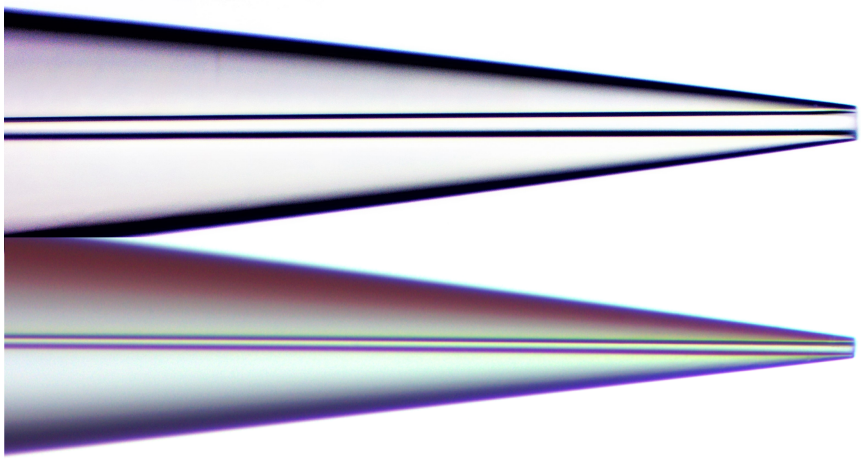
The size of the meniscus is defined by the OD at the tip. Smaller meniscus leads to lower evaporation rates, better ionization efficiencies, and better detection limits in proteomic workflows. They require lower voltages and delay the onset of discharges, leading to more stable sprays. On the other hand, small ID are more prone to clogging, and age more rapidly. The ideal emitter diameter is the result of a balance: The largest possible ID and the smallest possible tip OD.
The choice of the ID of the emitters is a trade-off decision, between performance and robustness.

The Sharp Singularity™ Lotus nanoESI emitters

Integrity and handling:

Each capillary come in an individual capillary guard to facilitate storage, inspection, and quality control.

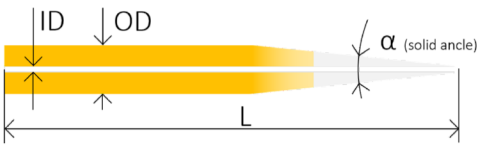




Quality and traceability:

We have full control of the production, QA/QC, and delivery process. All nano-ESI emitters are inspected and tested. To give you full control of your process, each emitter comes with a complete traceability and quality control report. With microscopy photos

Available geometries ID 10 um, 15 um, 20 um and more;



Available emitter geometries:

Ref. 20-20	ID=20µm,	OD=365µm,	L=20cm,	α= 7.5º
Ref. 20-10.5	ID=20µm,	OD=365µm,	L=10.5cm,	α= 7.5º
Ref. 20-07	ID=20µm,	OD=365µm,	L=7cm,	α= 7.5º
Ref. 20-06.25	ID=20µm,	OD=365µm,	L=6.25cm,	α= 7.5º
Ref. 20-05	ID=20µm,	OD=365µm,	L=5cm,	α= 7.5º
Ref. 20-02	ID=20µm,	OD=365µm,	L=2cm,	α= 7.5º
Ref. 10-20	ID=10µm,	OD=365µm,	L=20cm,	α= 7.5º
Ref. 10-10.5	ID=10µm,	OD=365µm,	L=10.5cm,	α= 7.5º
Ref. 10-07	ID=10µm,	OD=365µm,	L=7cm,	α= 7.5º
Ref. 10-06.25	ID=10µm,	OD=365µm,	L=6.25cm,	α= 7.5º
Ref. 10-05	ID=10µm,	OD=365µm,	L=5cm,	α= 7.5º
Ref. 10-02	ID=10µm,	OD=365µm,	L=2cm,	α= 7.5º

Other geometries upon request:

Available IDs: 100um, 75um, 50µm, 40µm, 30um, 20µm, 15um, 10µm
Available lengths: from 2cm to 50 cm

Ion source /column– emitter compatibility table:

Ion Source model	Emitter recommended by Ion Source provider	Our references
Nanospray Flex™ - **Thermo/Proxeon**	≤ 20µm ID, 360µm OD, 10.5 cm long [1]	**Ref. 20-10.5** **Ref. 10-10.5**
NanoFlow Spray™, NanoFlow Z-Spray™, Micromass NanoFlow™, NanoLock Spray™, **- Waters**	20µm ID, 360µm OD, 2.5'' or 6.25 cm long [2]	**Ref. 20-06.25** **Ref. 10-06.25**
CaptiveSpray™ - **Bruker**	20µm ID, 360µm OD, 2 cm long [3]	**Ref. 20-02** **Ref. 10-02**
NanoSpray® III Ion Source - **SCIEX**	10-20µm ID, 360µm OD, 7 cm long [4]	**Ref. 20-07** **Ref. 20-07**
SUPER SESI™ - **FIT**	20µm ID, 360µm OD, 20 cm long	**Ref. 20-20**
Flex Ion connect for µPAC columns - **Pharmafluidics**	20µm ID, 360µm OD, 5 cm long	**Ref. 20-05** **Ref. 10-05**

1. Nanospray Flex Series Ion Source. User Guide - 60053-97127/ Revision B - Thermo Fisher Scientific.
2. Universal NanoFlow Sprayer. Installation and Maintenance Guide - 71500110107/ Revision C - Waters Corporation.
3. The impact II, a very high-resolution Quadrupole time-of-flight instrument (QTOF) for deep shotgun proteomics. Mol Cell Proteomics. Beck S. et al. 2015;14(7):2014–2029. doi: 10.1074/mcp.M114.047407.
4. NanoSpray® III Ion Source Consumables - D5037833 A - AB SCIEX.

Find pricing and more: https://www.fossiliontech.com/nanoesi-emitters

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