

96 AFA-TUBE® TPX 150 Plate (PN 520310)

Intended Use

The product is designed for AFA-energetics™ sample processing in the following Covaris Focused-ultrasonicators: LE220-plus, LE220R-plus, LE220RSc, and the R230.

The 96 AFA-TUBE TPX 150 Plate must be inserted into the Racks and Instruments in the correct orientation. The plate contains an RFID tag.

This Consumable is NOT heat sealable: a foil seal and/or strip caps are recommended for sealing.



Please ensure that the correct rack is paired with the correct consumable, consistent with proteomic applications. This Consumable is recommended for use with the R230 for cell lysis and proteomic extraction with a processing volume of 10–50 µL.

AFA-energetics can be delivered in 2 ways: continuous mode or pulsing mode. Continuous mode refers to the total time of the protocol without delays or pauses during the treatment. Pulsing mode refers to the short intervals of treatment (typically 10 seconds at a time) that contain delays or pauses during the treatment, i.e., the AFA-energetics are delivered in an ON/OFF pattern. Please refer to the relevant application document.

For current protocols, quick guides, technical notes, or application notes: <https://www.covaris.com/protocols>.
For specific help with applications involving shearing, contact applicationsupport@covaris.com.
Recommended instructions are subject to change without notice.

Proteomic Protocols

- Quick Guide: Proteomics with LE220-plus/R-plus (https://www.covaris.com/wp-content/uploads/pn_010542.pdf)
- Quick Guide: Proteomics with LE220RSc (https://www.covaris.com/wp-content/uploads/pn_010542.pdf)
- Quick Guide: Proteomics with R230 (please contact applicationsupport@covaris.com for specific parameters)

Notes

- Complies with ANSI-SBS-4 standard for 96-well microplates (See **Appendix A**)
- Designed for use with automated 1, 8, and 96 channel pipettors
- If incubating the AFA-TUBE TPX Plate at temperatures > 60 °C, a lid must be used to prevent adhesive foil seal failure

Package Contents

- Ready-to-use 96 AFA-TUBE TPX 150 Plate
- Desiccant pouch

Nominal Plate Dimensions

Overall Height (top of tube)	19.6 mm above mounting plane (without seal)
Tube center-to-center Spacing	9.0 mm (SBS standard pattern)
Tube Depth	18.6 mm
Interior Clearance Diameter	5.4 mm (at tube opening); 2.3 mm (at tube inside bottom)

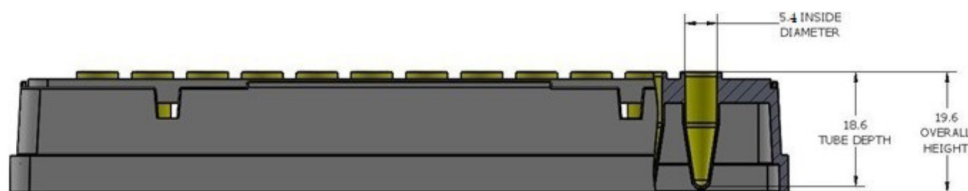


Figure 1. Plate and Tube Dimensions of the 96 AFA-TUBE TPX 150 Plate ([PN 520310](#)).



CAUTION: Remove the desiccant pack prior to use.

Operating Limits

Volume Capacity (Max)	200 µL (Refer to protocols for recommended sample processing volume)
Water Level	Automatically adjusted by the instrument
Centrifuge	2,200 x RCF (maximum); May be application dependent
Storage	Dry at ambient temperature and protected from direct sunlight

Plate Definitions

Please refer to the Quick Guide for specific parameters (Peak Incident Power, Duty Factor, etc.) for Proteomic applications.

LE220-plus/LE220R-plus

Sealing	For NGS applications, use the 96 microTUBE Plate Thin Foil Seals (PN 520235) For all other applications, use the 8 AFA-TUBE TPX Strip Caps (PN 500639)
Peak Incident Power (PIP) Max	450 W
Average Incident Power (AIP) Max	250 W
Rack (PN 500622)	PSU Rack 96 AFA-TUBE TPX Plate
Plate Definition (PN 500622)	"LE220plus_500622 96 AFA-TUBE TPX Plate – 2.2 offset"

LE220Rsc

Sealing	For NGS applications, use the 96 microTUBE Plate Thin Foil Seals (PN 520235) For all other applications, use the 8 AFA-TUBE TPX Strip Caps (PN 500639)
Peak Incident Power (PIP) Max	450 W
Average Incident Power (AIP) Max	250 W
Rack (PN 500622)	PSU Rack 96 AFA-TUBE TPX Plate
Plate Definition (PN 500622)	"LE220PRSC_500622 PS 96 AFA-TUBE TPX Plate - 2.2 offset"

R230

Sealing	For NGS applications, use the 96 microTUBE Plate Thin Foil Seals (PN 520235) For all other applications, use the 8 AFA-TUBE TPX Strip Caps (PN 500639)
Peak Incident Power (PIP) Max	350 W
Average Incident Power (AIP) Max	110 W
Rack (PN 500750)	PSU Rack R230 TPX Plate & 130 Plate
Plate Definition (PN 500750)	"R230_500750 Rack_520310 Plate_23.5WL_0.5OS"

NOTE: If the plate definition is not present on the system, contact Covaris Technical Support (Techsupport@covaris.com) with the system serial number.

Instructions for Use

The 96 AFA-TUBE TPX 150 Plate is a ready-to-use sample processing vessel. The specially designed plate is optimized for use with Covaris Adaptive Focused Acoustics® (AFA®).

The plate is designed to be used with standard labware, compatible with automation including heating blocks, magnetic stands, etc. It can be used on liquid handling platforms using 96 multichannel heads for pipetting with no adapter necessary. The plate may also be used with manual pipettes if needed. If sample volume is at maximum, be sure to pipette slowly from the top of the tube to ensure no sample displacement.

Recommended Sequence for User

1. Fill the Tubes:

- Dispense the samples about 2–3 mm above the bottom of the tube or at the bottom depending on sample volume.

2. Seal the Plate for AFA-processing:

- Remove the backing from the thin foil seal and carefully align it over the plate. Using a sealing paddle or a roller (or your fingers), thoroughly press the seal on the tubes verifying that the seal is adhered to the top of each tube.
- The plate is now ready to be processed in your Covaris instrument.

3. Pre AFA Centrifugation:

- Centrifuge the plate after sample addition to ensure the sample is at the bottom of the tube at up to 2,200 RCF in a benchtop centrifuge compatible with 96 well plates for up to 60 seconds. **DO NOT STACK PLATES IN CENTRIFUGE.** Visually inspect plate to verify that all liquid is at the bottom of each tube before proceeding to Step 4.

4. AFA-processing (examples):

- Refer to the Quick Guide, DNA shearing with LE220-plus, LE220R-plus, LE220Rsc, or R230 Focused-ultrasonicator <https://www.covaris.com/protocols/> or other application-specific protocol/guide.

- b. The plate must be in the Rack 96 AFA-TUBE TPX plate ([PN 500684](#) or [PN 500668](#)) for processing. Check that the water is filled to the top of the edge of the bottom flange after automatic water adjustment, as depicted below.



Figure 2. Plate Illustration after Automatic Water Adjustment

5. Post AFA Centrifugation:

- a. Centrifuge the plate after AFA up to 2,200 RCF before removing any sample. **DO NOT STACK PLATES IN CENTRIFUGE.**

6. Downstream Sample Handling:

- a. After AFA treatment, the samples are ready for downstream processing. The thin foil seal can be removed for processing in the 96 AFA-TUBE TPX 150 Plate. Do not use the plate for long term storage of the samples.

Ordering Information

Part Name	Part Number	Part Description
96 AFA-TUBE TPX 150 Plate	520310	96-well AFA-TUBE Plate for proteomic applications with aluminum foil seal
PSU Rack 96 AFA-TUBE TPX Plate	500622	LE220-plus, LE220R-plus, and LE220Rsc Polysulfone Rack
PSU Rack R230 TPX Plate & 130 Plate	500750	R230 Rack
Thin Foil Seals	520235	96 microTUBE Plate Thin Foil Seals (25)
8 AFA-TUBE TPX Strip Caps	500639	Caps for sealing during AFA processing, recommended for cell lysis applications

Support and Technical Assistance

Tech Support: Ongoing assistance with the operation or application of the equipment and/or troubleshooting is provided via:

- **Telephone:**
 - US & APAC: +1 781.932.3959, during the hours of 8:30 a.m. to 5:00 p.m. (EST), Monday through Friday
 - EU: +44 (0)845 872 0100, during the hours of 9:00 a.m. to 5:00 p.m. (GMT), Monday through Friday
- **E-mail:**
 - Service and Instrumentation: techsupport@covaris.com
 - Solutions: applicationsupport@covaris.com
 - US Customer Service: customerservice@covaris.com
 - EU/UK Customer Service: emeacustomerservice@covaris.com
 - APAC Customer Service: APACcustomerservice@covaris.com

Appendix A: Covaris 96 AFA-TUBE TPX 150 Plate Dimensions (PN 520310)

The Covaris 96 AFA-TUBE TPX 150 Plate complies with the ANSI/SBS-4 standard for 96 well microplates. The outside plate dimensions and the well positions for the 96 well plate from the ANSI SLAS 4-2004 document are captured in the figure below. The Covaris 96 AFA-TUBE TPX 150 Plate tube dimensions are also listed below in mm.

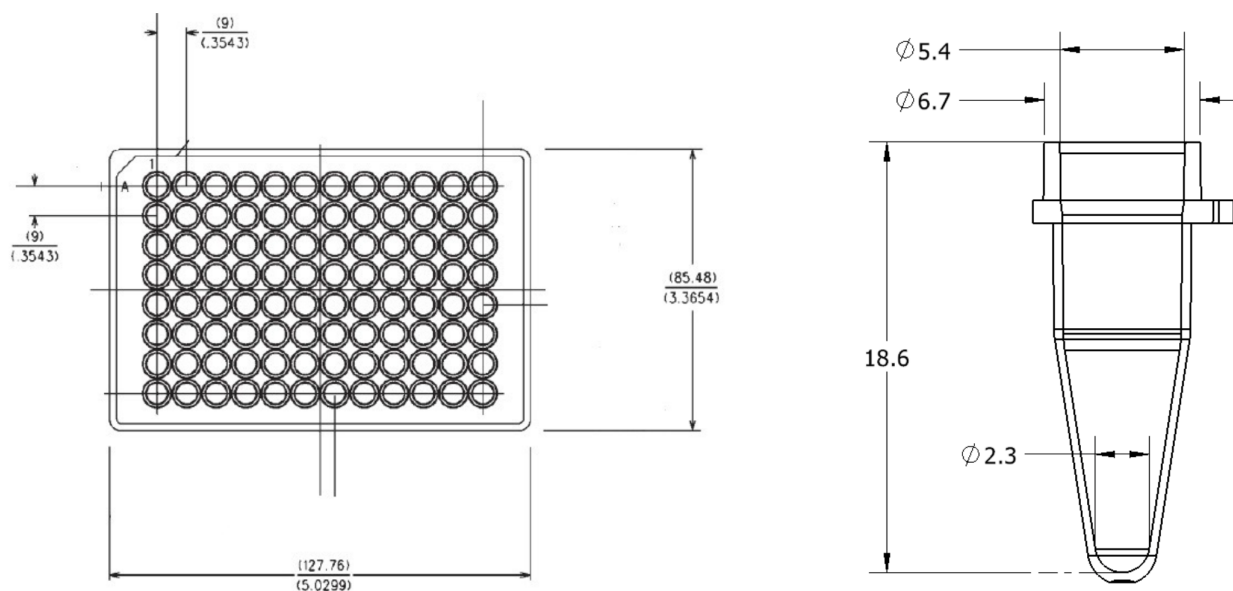


Figure 3. Plate and Tube Dimensions for the 96 AFA-TUBE TPX 150 Plate ([PN 520310](#)).

Information subject to change without notice. For use research only. Not for use in diagnostic procedures.

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