

# 96 AFA-TUBE™ TPX Plate (PN 520291)

## 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.



For current protocols: [www.covaris.com/technical-resources/](http://www.covaris.com/technical-resources/)

## Operating Limits

LE220-plus, LE220R-plus, LE220Rsc, and R230 - Average Incident Power (AIP) (Max)	90 W continuous mode 250 W pulsing mode
Volume (Max)	200 µl
Water Level	Automatically adjusted
Centrifuge	2,200 x RCF maximum
Storage	Dry at ambient temperature and protected from direct sunlight

## Ordering Information

Part Name	Part Number	Part Description
96 AFA-TUBE TPX Plate	<a href="#">520291</a>	96 well AFA-TUBE Plate with aluminum-film seal
Rack 96 AFA-TUBE TPX Plate	<a href="#">500684</a>	LE220-plus, LE220R-plus, and LE220Rsc Rack
PS Rack 96 AFA-TUBE TPX Plate	<a href="#">500622</a>	LE220-plus, LE220R-plus, and LE220Rsc Polysulfone Rack
R230 Rack 96 AFA-TUBE TPX Plate	<a href="#">500668</a>	R230 Rack

## Plate Definitions

Instrument(s)	Part Description
LE220-plus, LE220R-plus, and LE220Rsc	"LE220plus_500684 96 AFA-TUBE TPX Plate 1.8 offset"
R230	Please contact Technical Support at <a href="mailto:TechSupport@covaris.com">TechSupport@covaris.com</a> for more information

## Notes

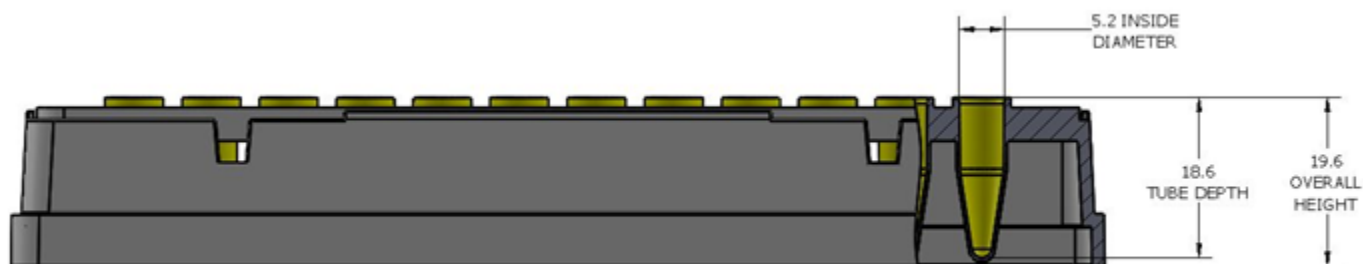
- Complies with the ANSI/SBS-4 standard for 96 well microplates
- Designed for use with automated 1, 8, and 96 channel pipettors
- Recommended instructions are subject to change without notice
- If incubating the AFA-TUBE TPX Plate at temperatures > 60 °C, a lid must be used to prevent adhesive foil seal failure

## Package Contents

- Ready-to-use 96 AFA-TUBE TPX Plate
- One Thin Foil seal
- Desiccant pouch

## Nominal Strip 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	5.2 mm (maximum tip diameter 18.5 mm from end)



## Instructions for Use

**CAUTION:** Remove the desiccant pack prior to use.

The 96 AFA-TUBE TPX 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 as typical labware compatible with automation including heating blocks, magnetics 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 volume is at maximum, be sure to pipette slowly from the top of the tube to ensure no sample displacement.

## Recommended Sequence for Use

### 1. Fill the tubes:

- Dispense the samples about 2 to 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.

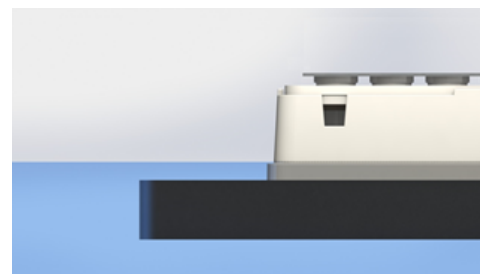
### 3. Pre AFA-Centrifugation:

- 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 Focused-ultrasonicator <https://www.covaris.com/protocols/> or other application-specific protocol guide.

The plate must be in the Rack 96 AFA-TUBE TPX plate ([PN 500684](#) or [PN 500622](#)) for processing. Check that the water is filled to the top of the edge of the bottom flange after automatic water adjustment, as depicted to the right.



### 5. Post AFA Centrifugation:

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

### 6. Downstream sample handling:

- 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 Plate. Do not use the plate for long term storage of the samples.

## Technical Assistance

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

- Telephone
  - United States: Tel: +1 781.932.3959 during the hours of 9:00 a.m. to 5:00 p.m., Monday through Friday, Eastern Standard Time (EST), Greenwich Mean Time (GMT-05:00)
  - Europe: Tel: 44 (0) 845 872 0100, during the hours of 9:00 a.m. to 5:00 p.m., Monday through Friday, Greenwich Mean Time
- E-mail queries to [techsupport@covaris.com](mailto:techsupport@covaris.com) or [applicationsupport@covaris.com](mailto:applicationsupport@covaris.com)

## Revision History

Document Part #	Revision	Date	Description of Change
010502	A	05/2019	Release of 96 AFA-TUBE TPX Plate
010502	B	02/2020	Update PN for 96 AFA-TUBE TPX Plate and LE220-plus rack
010502	C	05/2020	Update PN for R230 Rack 96 AFA-TUBE TPX Plate
010502	D	10/2020	Update formatting and hyperlinks

## Appendix A: Removing or Installing the Intensifier (Covaris PN 500141) from a Covaris E System

The 500141 Intensifier is a small inverted stainless steel cone centered over the E-Series transducer by four stainless wires. The wires are held in place by a black plastic ring pressed into the transducer well.

If an AFA protocol requires “no Intensifier”, please remove the Intensifier, using the following steps:

1. Empty the water bath. Start the instrument and start the SonoLab™ software.
2. Wait for the homing sequence to complete (the transducer will be lowered with the rack holder at the home position, allowing easy access to the Intensifier).
3. Grasp opposite sides of plastic ring and gently pull the entire assembly out of the transducer well. Do not pull on the steel cone or the wires. The ring is a friction fit in the well – no hardware is used to hold it in place.



The 500141 Intensifier (left) shown installed in the E-Series transducer well and (right) removed. Note the “UP” marking at the center of the Intensifier.

If a protocol requires the Intensifier to be present, simply reverse this process:

4. Align the black plastic ring with the perimeter of the transducer well. Note that the flat side of the center cone (marked UP) should be facing up (away from the transducer).
5. Gently press each section of the ring into the well until the ring is seated uniformly in contact with the transducer, with approximately 2 mm of the ring evenly exposed above the transducer assembly. Do not press on the cone or wires. The rotation of the ring relative to the transducer assembly is not important.
6. Refill the tank. Degas and chill the water before proceeding.

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  - Europe: Tel: 44 (0) 845 872 0100, during the hours of 9:00 a.m. to 5:00 p.m., Monday through Friday, Greenwich Mean Time
- E-mail queries to [techsupport@covaris.com](mailto:techsupport@covaris.com) or [applicationsupport@covaris.com](mailto:applicationsupport@covaris.com)