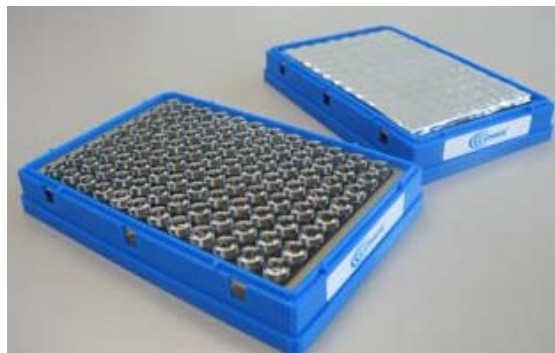


## TITLE: Covaris 96 microTUBE™ Plate

For acoustic treatment protocols, please download document [www.covarisinc.com/pdf/pn\\_400056.pdf](http://www.covarisinc.com/pdf/pn_400056.pdf) from Covaris.

### Operating Limits and Conditions:

Temperature (bath)	4°C minimum 25°C maximum
Duty Cycle	10% maximum
Intensity	5 maximum
Volume	130µl maximum
Water level (FILL/RUN)	E Series - level 6
Intensifier	500141 required, installed on transducer
Centrifuge	180 RCF



### Ordering Information:

		Part Number
Sample vessel	96 microTUBEs with AFA Fibers in a single use, pre-pierced seal plate, pre-assembled, ready to use	520078
	Ten (10) 96 microTUBE plates	
	Individually packaged and shipped together	520069
	Intensifier: IE-DNA (required)	500141

**CAUTION:** Use of this product requires a unique Well Plate Definition for each E Series instrument. If this is the first time using this plate, you will need to contact customer service and have your system serial number available. A Well Plate Definition, specific to your E Series instrument will be provided. The Well Plate Definition will be named "520078 96 microTUBE plate".

### Notes:

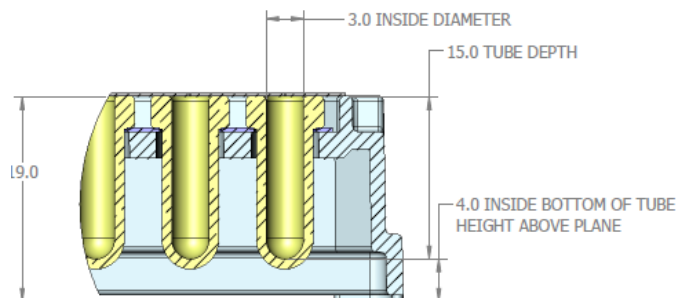
- Compatible with Covaris E Series™ instruments (requires intensifier)
- Complies with the ANSI/SBS-4 standard for 96 well microplates
- Designed for use with automated 1, 8, and 96 channel pipettors
- Refer to the Covaris Website ([www.covarisinc.com](http://www.covarisinc.com)) for the appropriate application protocols using microTUBEs (for example, DNA Fragmentation)
- The microTUBE plate is not recommended for sample storage
- Recommended instructions are subject to change without notice.

### In this package:

- Ready-to-use microTUBE plate with 96 130µl glass tubes with AFA Fibers
- One aluminum-film seal
- Desiccant pouch

## Nominal Plate Dimensions

Overall Plate Height (top of tubes)	19.0 mm above mounting plane
Tube center-to-center spacing	9.0 mm (SBS standard pattern)
Tube depth	15.0 mm (bottom is 4.0 mm above mounting plane)
Interior clearance diameter	3.0 mm (maximum tip diameter 15 mm from end)



**NOTE:** Store the plates in a cool, dry place before use.

## Recommended Pipette Tips

To avoid binding against the tube interior when fully inserted into the microTUBE, use pipette tips that maintain a diameter no greater than 3 mm within 15 mm of their dispensing end. A 200 µl tip such as Axygen® TR-222CL-STK (VWR 22234-076), or equivalent, is recommended.

Many robotic systems use proprietary tips, so this diameter should be verified prior to use.

## Instructions for Use:

**CAUTION:** REMOVE THE SHRINK FILM AND DESICANT PACK PRIOR TO USE

The microTUBE plate is a ready-to-use sample processing device. The specially-designed glass tubes are optimized for use with Covaris Adaptive Focused Acoustics™ (AFA™). Each tube contains an AFA fiber that improves precision, reduces fragmenting times, and allows small sample volumes to be processed.

The plate is manufactured with an easy-to-pierce, pre-slit aluminum seal that keeps the AFA fibers in place.

**CAUTION:** DO NOT REMOVE THIS ALUMINUM SEAL FROM THE PLATE

In order to ensure proper sample processing, the total sample volume should be 130µl. A narrow 200µl tip is recommended. If the 200µl tip diameter is too large for the 3 millimeter interior tube diameter, 100µl tips may be used by dispensing and aspirating twice.

The plate is designed for automation --- allowing multi-pipette heads to simultaneously pierce the seals, however, the plate may also be used with manual pipettes. Due to the sample volume required for optimal processing, care must be taken in both the loading and in the aspirating methods to ensure the pipette tip does not displace the sample in the tube.

**CAUTION:** In automated liquid handling systems, friction between the 96 pipettes and foil may cause the plate to lift off the deck as pipettes are raised. A hold-down clamp for SBS plates is recommended.

## Recommended Sequence for Automated Use:

### 1. Pierce the aluminum seal:

Load pipette tips and, prior to aspirating sample, press the tips through the aluminum seal, fully piercing the foil by going to the bottom of the tube. This will allow air to flow out of the tube during filling.

**CAUTION:** To prevent the AFA fiber from falling out, do not tip the plate once the seal has been pierced.

### 2. Fill the tubes:

Aspirate sample and dispense into the open tubes. Since the recommended sample and tube volume are nearly identical, you will need to take care that the pipette tip does not displace the sample as it is loaded. To avoid fluid displacement and bubble formation either, 1) extract the tip as the sample is dispensed, or 2) dispense slowly with the tip located just below the top of the tube.

### 3. Re-Seal the plate for processing:

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

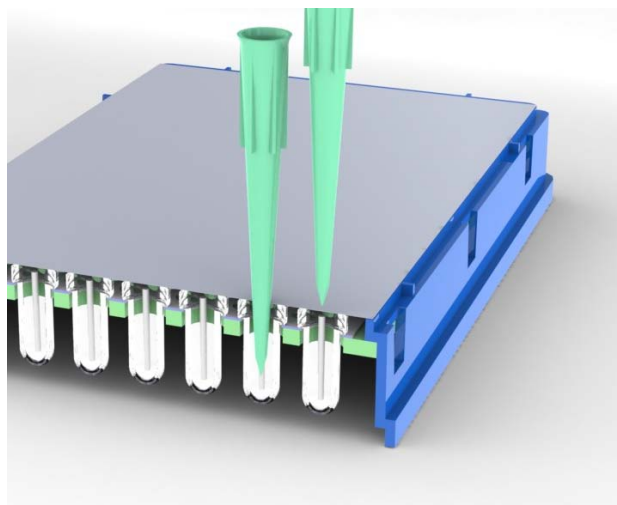
### 4. Sample Aspiration:

After processing, the samples are ready to be aspirated. Sample should be aspirated as soon as is practical after treatment. Do not use the microTUBE plate for long term storage. Since the tubes are full, be careful not to displace the sample by putting the tip directly to the bottom of the plate. Air must also be allowed to enter the tube during sample withdrawal. Carefully pierce the foil and aspirate as you lower the tip into the tube, maintaining contact with the fluid to avoid aspirating air. You may have to raise the tip once or twice during aspiration to allow the tube to vent.

### 5. Centrifugation

If necessary centrifugation is permitted (up to 180g (RCF). This is about 1000 RPM in a benchtop centrifuge with a swinging bucket rotor.

**DO NOT STACK PLATES IN CENTRIFUGE.**



## Removing or Installing the Intensifier (Covaris PN 500141) from an E210 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 by in 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 E210 and start the SonoLAB software.
2. Wait for the homing sequence to complete (the transducer will be lowered with the rack holder at its 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 E210 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:

1. 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).
2. 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.
3. Refill the tank. Degas and chill the water before proceeding.

### Technical Assistance

- By telephone (+1 781 932 3959) during the hours of 9:00am to 5:00pm, Monday through Friday, United States Eastern Standard Time (EST) or Greenwich Mean Time (GMT) minus 05:00 hours
- By e-mail at [techsupport@covarisinc.com](mailto:techsupport@covarisinc.com)