

Flex Mixing System

Instructions for Use



ENTEGRIS FLEX MIXING SYSTEM

The Entegris Flex Mixing System is a single-use system for the mixing of powders and liquids or liquids and liquids in a sterile, closed system. The mixing utilizes a large peristaltic pump and is effective for mixing solutions up to 200 L.

The Flex Mixing System is comprised of a sterile single-use Flex Mixing Bag (50 L, 100 L, 200 L), a corresponding cylindrical tank, a dolly, and a peristaltic pump for rapidly providing homogenous solutions.

1. Prepare cylindrical tank for use with the Flex Mixing System. All tank volumes have the same inner diameter and therefore a larger tank can be used with a smaller bag; however, a larger bag cannot be used with a smaller tank. If the mixed solution is to be processed where mixing occurs, the tank may be placed directly on the laboratory floor or load cell (if available); if the mixed solution is to be moved, the tank should be placed on a dolly before use.



2. The disposable mixer is sealed within two polybags, which must be removed before use. Care should be taken not to cut any of the inner materials while removing each polybag.



The outer polybag is generally removed while passing into a cleanroom. The inner polybag is removed within the cleanroom before setup and operation.



3. Remove Flex Mixer from the inner polybag. Bubble-wrap and other protective materials should be removed before use.



4. The Flex Mixing Bag is designed with BIB (bag-in-bag) technology to provide no weld seams on the sides of the chamber. The top and bottom of the assembly should be squared before use. To square the bag, two technicians should locate the bottom of the bag. This can be done by identifying the side with no porting and the stainless steel mixing head (below).



Technicians should then each grab two corners of the chamber. Bracing their arms, in a slow, steady movement, they should pull until the bag takes a square shape as shown in the following images.



5. The bag should then be inverted, and the top of the bag should be squared using the same method.



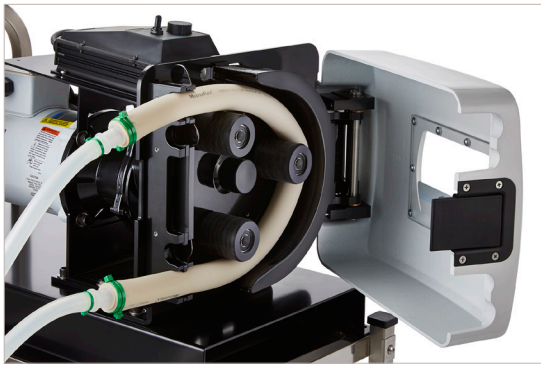
6. Insert the bottom of the bag into the cylindrical tank.



7. At the top of the bag, there is an opaque tubing loop.



8. Following the recommended instructions from the peristaltic pump manufacturer, feed the tubing through the pump head.



The pump is reversible; ensure that when operating, the pump heads roll to push liquid toward the stainless steel mixing head identified previously.

9. Lock support rod onto the top of the barrel and hand tighten screws. Lock the pump loop tubing inlet and outlet into support rod for mixing support. After this is done, if available, use this opportunity to tare your scale before mixing.



10. Powder-Liquid Mixing:

- a. Fill bag to 20% of total volume. Gently lift all four corners of the bag upward to allow water to fully fill the mixing space.
- b. Continue to fill to 80% of the total volume. Set peristaltic pump to 100% speed and turn on, allow 5 minutes to achieve steady state mixing. Add desired powders. When mixing is nearly complete, add quantity sufficient of water to achieve 100% desired volume.
- c. (optional) Open powder port slightly, press on top of bag gently to remove excess air and securely tighten the powder port.

11. Liquid-Liquid Mixing:

- a. Fill bag to 20% of total volume. Gently lift all four corners of the bag upward to allow water to fully fill the mixing space.
- b. Continue to fill to 100% of the total volume. Set peristaltic pump to 100% speed and turn on. Allow to mix.
- c. (optional) Open powder port slightly, press on top of bag gently to remove excess air and securely tighten the powder port.

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