

Mixing Systems

Complete recirculation and mixing process system

Two of the most significant benefits to single-use bioprocessing over reusable manufacturing equipment are lower cost and simpler operation. And yet some processing steps, such as mixing, have not been able to realize these benefits.

Many single-use mixing systems on the market use expensive stainless steel vessels, components, and control systems that are unnecessary for most applications.

The Entegris mixing system is designed to maximize simplicity, ease-of-use, and affordability. This single-use bag system creates a completely sterile mixing and recirculation process from start to finish. Our mixing system is designed to store, recirculate, and mix all types of solutions within a sterile single-use bag. With the properly fitted bag, the only additional equipment is a reusable Entegris tank and a peristaltic pump. The rapid recirculation design will mix to a homogeneous mixture, saving time and money without sacrificing quality of consistency.

APPLICATIONS

- Buffer preparation
- Media preparation
- Recirculation of homogeneous solutions
- Liquid to liquid
- Powder to liquid



Custom sizes, configurations, and materials available to meet your needs

FEATURES & BENEFITS

Simplest single-use mixing system	<p>Peristaltic pump operation minimizes capital costs</p> <p>Streamlined single-use consumables require less operator training and minimize risk of mishandling</p> <p>Flexible and mobile design allows easy integration into any process step</p>
Customizable system design	<p>Provides design flexibility and allows the system to fit the process rather than the process adapt to the system</p>
Quick-turn customer service	<p>Consistently fast development and delivery minimizes the risk of production delays</p> <p>Personalized timely and useful attention ensures the solution meets your unique needs</p>

MATERIALS OF CONSTRUCTION

Flex 100/150 film*

This multilayer design provides strength and low gas permeability for single-use mixing applications.

- Total 9 mil thickness
- Inner product contact barrier: Flex 100 low density polyethylene (LDPE)
- Middle barrier: Flex 100 LDPE
- Outer barrier: Flex 150 ethylene vinyl alcohol (EVOH)/nylon

*2-ply includes two inner LDPE barriers and an outer barrier of LDPE/EVOH/NYLON/LDPE, with the inner barrier placed inside the outer to create a 2-ply chamber.

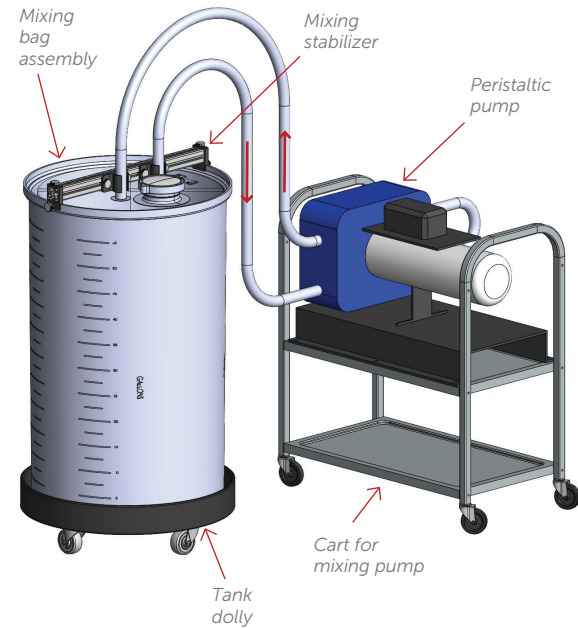
METHOD OF OPERATION

Entegris' mixing system uses a disposable mixing nozzle to direct recirculating fluids and powders throughout the single-use bag, which is fitted inside a reusable mixing system tank. Using the mixing nozzle design, multiple tubing sizes, and a conical-shaped bottom tank, the mixing system creates either a gentle or robust turbulent mixing that sweeps and lifts the contents from the container bottom. There are no moving parts in the system; fluid and other media recirculation is accomplished via an external pump. If needed, the mixing system can be combined with our temperature-controlled mixing tank.

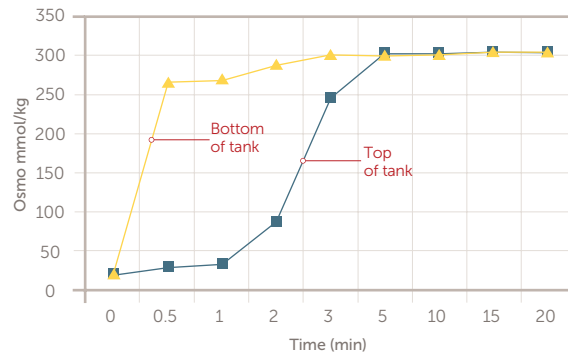
Standard Features

- Entegris mixing bags and associated components are sterilized using gamma irradiation between 25 – 40 kGy unless requested otherwise
- Extractables and leachables (E&I) data available for film
- Full traceability for all materials
- Certificates of Analysis provided for each lot
- Entegris' mixing system is manufactured in an ISO 9001:2015 certified facility

STANDARD RECIRCULATION SYSTEM DIAGRAM



PERFORMANCE DATA



Results: The test data demonstrates rapid mixing of the test media achieving 99% homogeneity within 5 minutes and 100% or complete mixture within 15 minutes.

ORDERING INFORMATION

Part number	Description	Product dimensions	MOQ	Recommended Rigid Outer Container
FSE05626.01	50 L Flex mixing bag assembly	24"H x 23"	5	FSF05537.01 (50-liter tank)
FSE05626.02	100 L Flex mixing bag assembly	30"H x 23"	5	FSF05537.02 (100-liter tank)
FSE05626.03	200 L Flex mixing bag assembly	38"H x 23"	5	FSF05537.03 200-liter tank)
FSF00010.03	Tank dolly (one size fits all, 50-200 L)	–	1	–
FSF05789.01	Cart for mixing pump	–	1	–
FSF05688.01	Mixing stabilizer	–	1	–

Pump not included with the bag assembly system.
Contact your Entegris Account Manager for more information.

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](https://www.entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

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