

Thermo Scientific imPULSE Single-Use Mixers (S.U.M.s)

The next generation of efficiency and performance

The Thermo Scientific™ imPULSE™ Single-Use Mixers (S.U.M.s) have a mixer for any application. The linear scale design delivers uniform, superior mixing in every model and easily scales from 30 L all the way up to 5,000 L giving a consistent and quick scale-up. The innovative disc technology, flexible design, and custom upgrades are the innovations behind the superior and reproducible mixing results of the imPULSE mixer family.

imPULSE S.U.M. Core models

The innovative disc design and hexagonal shape of the disc and vessel are the core of the imPULSE mixer series; they are the means to the quick and thorough mixing. The Core line gives users this superior mixing without high-end controls and monitors.

imPULSE S.U.M. Elite models

The imPULSE Elite model is a flexible platform that can be customized to your requirements. Centered around full cGMP production, the Elite model combines superior mixing with a range of options that can make your system unique to your process.



Upstream applications

- Media preparation.
- Final formulation steps.
- Buffer preparation.
- Harvest vessels.
- Large-volume mixing (up to 5,000 L).

Downstream applications

- Pooling and liquid transfer.
- Product suspension.
- Mixing and storing multiple batches.
- Buffer preparation.
- Viral inactivation.

Mixing technology

The disc design is an integrated part of the single-use BioProcess Container (BPC) for the imPULSE S.U.M.s. Proportionally scaled to the vessel, the disc and vessel have matching hexagonal shapes that create turbulent flow circulation and even mixing within the BPC. Additionally, the proportional scale of the disc and vessel create consistent and reproducible results in any size from 30 L all the way up to 5,000 L making scale-up seamless.

A rolling diaphragm provides the pumping action to the mixing head as opposed to traditional impellers. The diaphragm does not abrade the surfaces or produce particulate.



imPULSE S.U.M. Core model ordering information

30 L	IM00030	1,000 L	IM01000
50 L	IM00050	1,500 L	IM01500
100 L	IM00100	2,000 L	IM02000
250 L	IM00250	3,000 L	IM03000
500 L	IM00500	5,000 L	IM05000
750 L	IM00750		

*The elite models are custom-configured to meet your specific needs. Please contact your BioProduction sales representative for more information.



Standard features

- Available in 30 L–5,000 L.
- 304 L stainless steel tank and sliding window or door and window.
- Clean room grade casters (30 L–750 L).
- Rolling diaphragm.
- Core model only: Nema 4x motor controller.
- Elite model only: Integrated control panel.

Elite model additional options

- Clean room grade swivel casters.
- Powder BPC lifting system with hanger (jib crane and manual power winch).
- Peristaltic pump and controller assembly.
- Integrated pump/tray platform.
- Mixing tank jacket and insulation.
- Auto inflate and vent controls.
- Six channel data logger with display.
- Programmable logic controller (PLC).
- Disposable/Conventional Process Monitoring (pH, DO, CO₂).
- Weight indication system with load cells.
- Guided wave radar.
- Seismic restraint system.

Find out more at thermofisher.com/sut

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