

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

The next generation of efficiency and performance

The Thermo Scientific™ imPULSE™ Single-Use Mixer (S.U.M.) is a mixer for any application. The design enables uniform, superior mixing in every model that easily scales from 30 L all the way up to 5,000 L, giving you 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 S.U.M. family.

Superior mixing in every model

The imPULSE™ mixing system gives users superior mixing with configurable high-end controls and monitors to fit specific process requirements. Various options for instrumentation, powder bag handling, and a peristaltic pump are available to make your system custom-tailored for your process.



Key features

- Linear mixing scalability: 30–5,000 L
- Hexagonal vessel with open top and sloped bottom with openings for the mixing BPC and tubing outlets
- Integrated rolling diaphragm that provides the pumping action to the mixing disc; the diaphragm will not abrade the surfaces or produce particulate
- Integrated control panel with relay logic, manual push buttons, selector switch interface, and digital speed indication
- Stationary powder BPC hanger and lifting system with manual or power winch
- Mixing tank jacket and insulation
- Weight indication system with load cells
- Auto inflate and vent control options

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.



Ordering information

Size	Cat. No.
30 L	IM00030
50 L	IM00050
100 L	IM00100
250 L	IM00250
500 L	IM00500
750 L	IM00750
1,000 L	IM01000
1,500 L	IM01500
2,000 L	IM02000
3,000 L	IM03000
5,000 L	IM05000

Note: The imPULSE Elite models are custom-configured to meet your specific needs. Please contact your sales representative for more information.

Find out more at thermofisher.com/sum

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
- Nema 4x motor controller

Additional customized 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
- Integrated control panel