

# Introducing LevMixer™ drive unit Gen V and LM mixing tanks 5th generation

Cytiva, 100 Results Way, Marlborough, MA, USA

## Meet the LevMixer drive unit Gen V

The LevMixer drive unit Gen V is designed to fulfill the need for shear-sensitive mixing in the across a wide range of bioprocess applications, in a cGMP environment. It allows for efficient and reproducible single-use mixing, with various tank size options allowing a range of 16 to 1600 L.

The LevMixer drive unit gen V includes a drive unit designed with usability in mind, with a robust connection interface and smooth, curved surfaces that are easy to clean. The touch-screen HMI has user-friendly animations, and it is set up to allow for both local and remote connectivity and control via ethernet connection and OPC-UA server.



Fig 1. LevMixer drive unit Gen V.

## Take a look at LevMixer technology

The LevMixer system consists of an interchangeable superconducting drive unit and a proprietary levitating impeller-based single-use mixing biocontainer fitted into a jacketed stainless steel tank.

Once charged and coupled with the single-use system, the superconducting drive unit makes the impeller levitate and rotate to initiate effective mixing inside a closed system. Coupling the impeller with the drive motor requires no dynamic seals or shaft penetration inside the single-use system.



Fig 2. Impeller blade floating over the LevMixer Gen V drive unit.

## Applications

- Fill and finish/final formulation
- Media and buffer preparation
- Product homogenization
- Gene therapy
- Suspension/re-suspension
- mRNA and new modalities

## Get to know our 5th generation of levitating and magnetic (LM) mixing tanks

From 50 to 1600 L, the seven new 5th generation tanks are fully jacketed (bottom + sidewall jackets), to allow for quicker heating and cooling, especially at lower volumes. Their smooth, curved surfaces are easy to clean, and the integrated load cells are more hygienically designed. The control panel is integrated into the frame design, reducing footprint, and features pre-wired pH, conductivity, and temperature monitoring capability\*.

The LevMixer system uses disposable biocontainers made from Allegro film, which is animal-derived component-free (ADCF) and complies fully with USP Class VI requirements. The system is designed to be fully backward compatible, to be used with the LevMixer and Magnetic Mixer single-use biocontainers available from Cytiva. Additionally, a new set of standard biocontainers have been released, featuring a thermowell alongside the pH and conductivity probe ports.



\*pH and conductivity re-usable Hamilton probes to be purchased separately.

Fig 3. LevMixer drive unit Gen V and 200 L LM mixing tank 5th generation.

## Explore the LevMixer drive unit Gen V and the LM mixing tank 5th generation features, benefits, and applications

### Features and benefits

#### Heating and cooling

- All 5th generation mixing tanks are fully jacketed (bottom + sidewall) allowing for efficient heating and cooling, especially at lower volumes.
- A new set of standard LevMixer SU biococontainers have been released with a thermowell as a standard feature, allowing for temperature monitoring and control via a separately-ordered TCU.

#### Smaller footprint

- The integration of the control cabinet helps reduce space needs.

#### Better cleanliness

- The tank and drive unit feature a smoother, more curved frame and tank design.
- The 5th generation tanks feature hygienic-graded load cells.

#### Automation

- A built in HMI on the mixing tank allows for monitoring of key process parameters, and ease of data export.
- The drive unit has a HMI for local RPM control, and the ethernet connection can be utilized for remote connectivity and control.

#### Backward compatibility

- Single-use biocontainers
  - The same low shear, low particulate levitating impeller provides effective mixing.
  - Existing standard single-use biocontainer designs can be used in the new 5th generation mixing tanks, including the LevMixer biocontainers with the LevMixer drive units and the Magnetic Mixer biocontainers with the magnetic mixer drive units.
- Drive units with tanks
  - Existing Cytiva drive units can be used on new tanks, with the exception of the 1600 L tank which will only work with the LevMixer Gen V drive unit.
  - Existing Cytiva LevMixer and Magnetic Mixer tanks will work together with the LevMixer Gen V drive unit.

#### Improved usability

- A more robust drive unit simplifies docking with the tank and changing positions.
- The control screen has been redesigned to be more user-friendly.
- Optimized single-use hardware allows for more efficient and comfortable installation of single-use biocontainers.

Available for ordering early 2025



Fig 4. LevMixer Gen V drive unit with the 200 L and 1600 L tanks.