

# TideXcell™ Harvesting System



TideXcell™ Harvesting System (THS) is specially designed for TideXcell™ high density cell culture system for cell recovery from the cultured matrix vessel. The THS is a powerful tool to harvest and transfer viable cells, intracellular viruses, and more from large scale TideXcell™ system in a close and automated system; thus eliminating the risk of contamination. It can also be applied to harvest cell mass for biological production and any related applications. With the use of THS, up to  $10^{11}$  cells can be harvested within one (1) to three (3) hours operation.

*Note: Total number of harvested cells depend on the type of cell line to be used.*

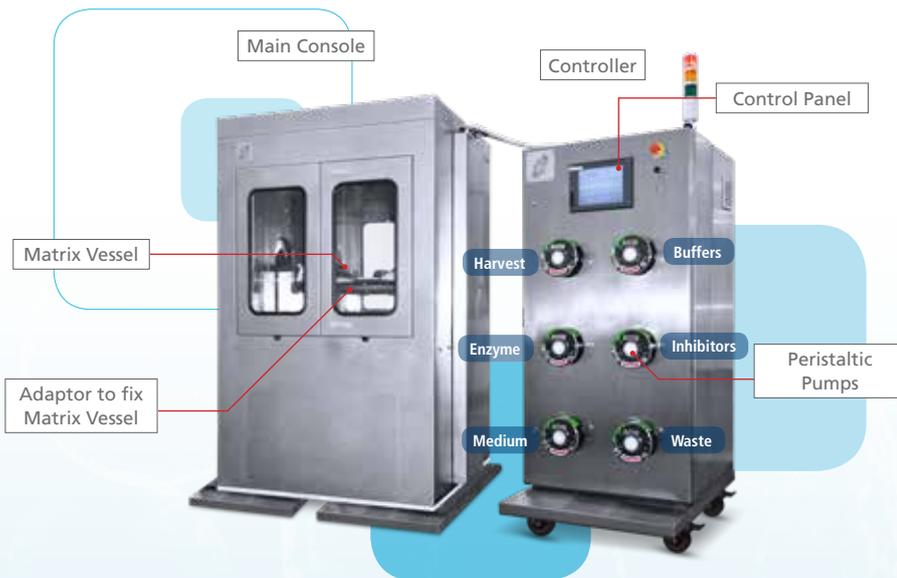
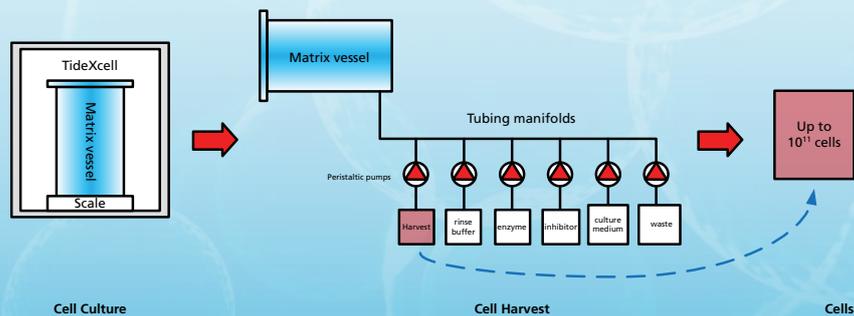


Fig. 1 TideXcell™ Harvesting System, which contains two units: main console for shaking and turning of the Matrix Vessel and Controller for pumping and harvest procedure control.

## Principle

TideXcell™ Harvesting System utilizes the same and conventional cell harvest concept by enzymatic treatment that could digest and detach cells from attached substrates. The procedure includes:

Fig. 2 Principle and mechanism for cell recovery from the TideXcell™ Harvesting System



Cell Culture

Cell Harvest

Cells

- 1. Installation:** Mount and fix the TideXcell™ Matrix Vessel in the TideXcell™ Harvesting System and connect the TideXcell™ matrix vessel with tubing manifolds that will serve as path for introducing phosphate buffer saline (PBS), enzyme (usually Tryple Select, Accumax, and Collagenase among others), enzyme inhibitor (when using serum-free culture medium), culture medium, and waste container. These six tubings connect with the Matrix Vessel through a manifold.
- 2. Rinse:** Rinse the matrixes with phosphate buffer saline or equivalent solution to remove serum that could inhibit the enzymatic activity in the following step.
- 3. Enzymatic treatment:** Submerge the matrixes with a chosen enzyme to digest cells until the cells round up for detachment
- 4. Cell Detachment:** Shake the matrix vessel together with the matrixes to shake off cells out of the porous matrixes.
- 5. Collection:** Collect the cells by washing the matrixes with cell culture medium or equivalent solution and collect the cells into harvest tank.

## Features

- Suitable for cell harvest from TideXcell™ 2L Matrix Vessels to 20L Matrix Vessels.
- Support the cell seed source for TideXcell™-010 up to TideXcell™-100 systems.
- Harvest viable animal cells within 1 to 3 hours (harvest time depends on harvest cycles).
- Entire harvest procedure is done automatically in a closed system. Manual operation is also available.
- Up to 10<sup>11</sup> cells with viability above 90% could be recovered from one THS unit.

*Note: Cell harvest efficiency depends on the cell line used.*



Fig. 3 Support cell seed train from TideXcell™-002 up to TideXcell™-100 cell culture systems

## Technical Specifications

Dimension	Main Console: 1100 x 1100 x 1844 mm; Controller: 1100 x 800 x 1688 mm Floor Space and Weight Load Requirement: 4500 x 4000 x 3000 mm; 2,000kg
Power	220 V, 50/60 Hz, single phase, 30 A Max.
Mechanical spec	Gas Supply: Gas compressor is needed with at least 5kgf/cm <sup>2</sup> air supply Vertical vibration: effective distance 10 cm Max. load during shaking: 20 kg
Shaking	0~250 rpm, 0~30 secs per cycle (depending on the cell line)
Peristaltic pump	6 pumps, Model: VerderFlex S30, rotation speeds: 20~250 rpm; suitable tube size; ID 3/8"; OD 5/8".
Control	PLC programming 10.4" color touch panel

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ADHERENT BIOPROCESSING SPECIALIST

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