24-Well Loading Stations™

Product Information Sheet
01/21/16 Rev. 1.0

The 24-well Loading Stations™ are designed to provide uniform radial and circumferential strains to cells cultured on the flexible membranes of the HT BioFlex® culture plate and stretched with the Flexcell® Tension System. The Loading Stations™ are comprised of polystyrene. The 10 mm diameter loading posts are positioned such that each is centered beneath the well bottoms of an HT BioFlex® culture plate (Fig. 1). When vacuum is applied to the culture plate with a Flexcell® Tension System, the membrane deforms across the loading post face creating equibiaxial strain. For more information, see the Loading Station™ product webpage at http://www.flexcellint.com/LoadingStation.htm.

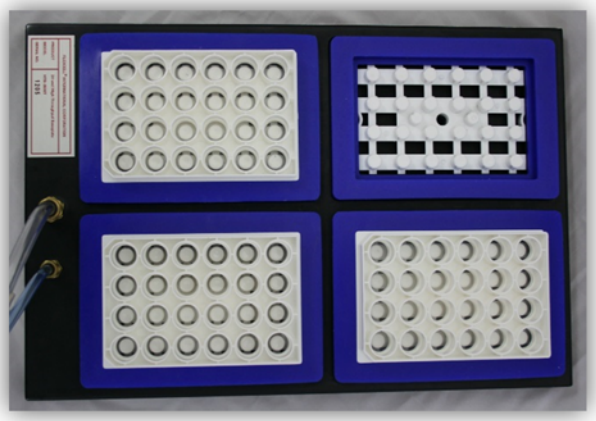

Figure 1. *24-well baseplate with a Loading Stations™ with twenty-four loading posts in the upper right well. The remaining three wells each have HT BioFlex® culture plate in blue, rubber gaskets sitting atop a 24-well Loading Station™.*

Lubricant Application to Loading Stations™

Once the Loading Stations™ are placed within the four wells of the 24-well HT baseplate, lubricant should be applied to the tops and sides of the 24 loading posts on each Loading Station™. Use the Loctite® silicone lubricant supplied with the Loading Stations™. Use your finger to spread a thin, even layer of lubricant over the top and edge of each post in sufficient quantity to form a friction barrier. Ensure lubricant is not over-applied, as over-application will form lumps under the membrane, affecting the strain profile. For more information and setting up your baseplate, see *Tech Report 110: Tension Baseplate Assembly:* http://www.flexcellint.com/documents/110_TensionBaseplateAssemblyTech.pdf, or the instructional video, *Tension BioFlex® Baseplate Assembly*, accessible on our webstite: http://www.flexcellint.com/videos-instruct.htm.

NOTE: For each new experiment, be sure to clean and re-lubricate the Loading Stations™.

Loading Station™ Specifications

The 24-well HT Loading Stations™ have maximum and minimum strain capabilities with respect to vacuum level. The following values are minimum and maximum % elongations, respectively, for the HT BioFlex® plates when used with the FX-5000™ Tension System: 1.2% and 8.0%. When creating regimens, do not exceed these values in the *min%* and *max%* boxes for experiments in which 24-well HT Loading Station™ will be used. The pressure-strain conversion charts can be found in *Tech Report 101: Loading Stations. Quantification of Strain on the Membrane Surface*, available at http://www.flexcellint.com/documents/101_LoadingStationsTech.pdf.

Assigning and Downloading Regimens in the FX-5000™ FlexSoft® Program

In the FX-5000™ FlexSoft® Program, select the REGIMEN drop down menu and then ASSIGN. For 24-well HT BioFlex® plates, select the ***HT 24-Well Plate (Cylindrical LS)*** platform option. *NOTE: Failing to select the appropriate* ***Platform*** *assignment will produce inaccurate elongation values. The* ***Platform*** *assignment must match the actual culture plate and Loading Station™ configuration being used for the desired strain to be applied.*

Ordering Information

24-Well Loading Stations™ can be purchased in a set of four (Cat. No. HTLS-3000). If you already have a Flexcell® Tension System, but want to add a high-throughput equibiaxial strain component, HT BioFlex® baseplate kits (Cat. No. HTBK-4000) are also available. Baseplate kits include a baseplate, 4 gaskets, 4 cell seeders, corresponding Loading Stations™, 4 sample plates, acrylic window, grease, and software update, if needed.

Flexcell® culture plates are protected by the following patents: US Patents 4,789,601 and 4,822,741 (International Patents DE3855631D1, DE3855631T2, EP0365536B1); US Patent 6,048,723; US Patent 6,218,178.

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