

The Q2000 Production Scale Package includes all the parts and accessories needed for a full continuous processing system. The list of components can be customized depending on the needs of each individual lab or application.

**CELL LYSIS**

**HOMOGENIZATION**

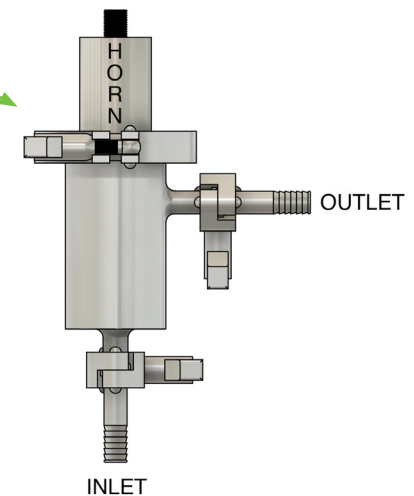
**EMULSIFICATION**

**SOLUBILIZATION**

**DEAGGLOMERATION**

**DISPERSION**

Processing volumes are application specific. There are many variables (viscosity, concentration, etc.) that can affect the min/max processing volumes and processing times.



**FLOCELL CROSS-SECTION**

<b>Chiller</b>	The chiller circulates coolant through the heat exchanger to maintain the temperature of the process liquid.
<b>Ultrasonic Generator</b>	The Sonicator generates the electrical signal needed to create the ultrasonic waves. It requires a 220V wall outlet and connects to the ultrasonic stack.
<b>Sound Enclosure</b>	The sound enclosure houses the ultrasonic stack and floccell and protects users from the extremely high decibel level.
<b>Ultrasonic Stack</b>	The stack (converter, booster, horn and floccell) is where the conversion from electrical signal to mechanical motion occurs as well as the processing of the liquid. The components of the stack work together to amplify the mechanical motion and transmit pressure waves into the liquid.
<b>Heat Exchanger</b>	Ultrasonics generates a significant amount of heat. The heat exchanger works with the chiller to extract the heat and maintain your desired temperature range.
<b>Magnetic Drive Pump</b>	Recirculates the process liquid through the process tank, Floccell and heat exchanger continuously.
<b>Process Tank</b>	This 25L tank is the reservoir for the process liquid. It connects to the mag drive pump and via a 3-way valve, to the filtration process.
<b>Automation Controller</b>	Utilizes feedback from flow, temperature and pressure sensors, along with a serial communications interface with the ultrasonic power supply to monitor for process irregularities and failures. In the case of a process deviation, the controller will sound an alarm and shut-off the ultrasonics until an operator corrects the error.
<b>Peristaltic Pump</b>	Pumps the processed liquid through the filtration system. This type of pump is required to maintain sterility.
<b>Sanitary Filter Housing</b>	Sterilizing grade filtration is needed at the final step to remove titanium contamination as well as any other contaminants resulting in a food grade product.

**Note:** Compressed air is required to cool the ultrasonic stack (10psi/3-4 CFM of dry, oil free, filtered air). If you do not have a continuous duty compressor system, we can discuss alternative options.