

## MICROTIPS

Two types of microtips are available to enable processing samples in small vessels at very high intensity – a tapered microtip and a stepped microtip.

The tapered microtip screws into the ½" (13 mm) threaded end probe in place of the replaceable tip.

The stepped microtip/probe assembly which consists of two parts, the coupler (standard or reverse) and the microtip or probe\*, screws into the converter in place of the probe. Capable of reaching into narrower vessels than the tapered microtip, the stepped microtip assembly can process volumes as small as 150 µl. Microtips are fabricated from titanium alloy Ti-6Al-4V and are autoclavable.

\*Sold separately.

**CAUTION: In order not to exceed the tensile limit of the titanium, and causing the microtip to fracture, observe the maximum amplitude limits listed below.**



| PART NO.          | TAPERED MICROTIP*                         |  |  | STEPPED MICROTIP/PROBE ASSEMBLY**       |  |  |   |
|-------------------|---|--|--|---|--|--|---|
|                   | 630-0418                                  | 630-0419                                   | 630-0420                                   | COUPLER***<br>630-0421                  | STEPPED MICROTIP<br>630-0423             | STEPPED MICROTIP<br>630-0422               | PROBE<br>630-0435                         |
| TIP DIAMETER      | ⅛" (3 mm)                                 | ⅜" (5 mm)                                  | ¼" (6 mm)                                  |   | ⅛" (2 mm)                                | ⅛" (3 mm)                                  | ¼" (6 mm)                                 |
| INTENSITY         | Ultra high                                | Very high                                  | High                                       |   | Ultra high                               | Very high                                  | High                                      |
| VOLUME (batch)    | 1-15 ml                                   | 3-20 ml                                    | 10-50 ml                                   |   | 0.2 ml-5 ml                              | 0.5 ml-15 ml                               | 5 ml - 50 ml                              |
| MAXIMUM AMPLITUDE | 40%                                       | 65%  | 75%  |   | 40%                                      | 40%  | 40%                                       |
| micrometers†      | 160                                       | 212  | 180  |   | 89                                       | 105  | 75  |
| (microns)         |   |  |  |   |  |  |   |
| inches†           | .0060                                     | .0083                                      | .0070                                      |   | .0035                                    | .0040                                      | .0030                                     |
| LENGTH#           | 6 <sup>1</sup> / <sub>16</sub> " (171 mm) | 5 <sup>29</sup> / <sub>32</sub> " (150 mm) | 5 <sup>19</sup> / <sub>32</sub> " (142 mm) | 3 <sup>3</sup> / <sub>4</sub> " (95 mm) | 4 <sup>1</sup> / <sub>2</sub> " (116 mm) | 5 <sup>13</sup> / <sub>32</sub> " (136 mm) | 4 <sup>7</sup> / <sub>16</sub> " (113 mm) |

\* Screws into a ½" (13 mm) threaded end probe Part No. 630-0220 in place of the replaceable tip. Connecting stud ¼ - 20. To process a sample below 20% use low amplitude tapered microtip Part No. 630-0718.

\*\* Consists of coupler and stepped microtip or probe. Screws into the converter instead of the ½" (13 mm) probe. To process a sample below 20% use with reverse coupler Part No. 630-0613. The coupler and microtip are sold separately.

\*\*\* Connecting stud ½ - 20.

† With the amplitude control set at the maximum amplitude listed above.

# Because microtips are tuned to resonance, their length may vary slightly due to variation in the titanium's modulus of elasticity.

## EXTENDERS

Extenders screw into threaded end probes of identical diameter in place of the replaceable tip. Recommended when working with tall narrow vessels such as Erlenmeyer flasks. Extenders are fabricated from titanium alloy Ti-6Al-4V and are autoclavable. Also available on special order with threaded ends to accept replaceable tips.\* Connecting stud ¼ - 20.

½" (13 mm) half wave extender - 5" (127 mm) long. Part No. 630-0410.

¾" (19 mm) half wave extender - 5" (127 mm) long. Part No. 630-0409.

1" (25 mm) half wave extender - 5" (127 mm) long. Part No. 630-0444.



\* Do not use an extender with replaceable tip when processing samples containing organic solvents or low surface tension liquids. Use a solid extender instead.

Note: Because extenders are tuned to resonance, their length may vary slightly due to variations in the titanium's modulus of elasticity. Longer extenders are available upon request.