Because Precision Matters

Achieving elite levels of precision and performance takes commitment.

Uniting unmatched precision with powerful sealing ability, HARMONIC ACE+ 7 Shears are designed for a wider range of surgical jobs to reduce the number of surgical devices needed to achieve hemostasis.

Refined blade design
- Tapered tip designed for precision and multifunctionality
- Features a proprietary nonstick coating

Available in 3 shaft lengths
- 23 cm, 36 cm, and 45 cm

Adaptive Tissue Technology
- Delivers energy intelligently
- Utilizes an advanced algorithm
- Responds to changing tissue conditions
- Provides enhanced audible feedback
- Enables greater surgical precision and performance*
*As compared to HARMONIC® device without Adaptive Tissue Technology

Advanced Hemostasis mode
- Coagulates vessels up to 7 mm in diameter with the use of the Advanced Hemostasis hand control button

Stronger vessel sealing versus Covidien, Stryker and Olympus

Benchtop burst pressure testing in porcine carotid arteries

![Burst Pressure Chart](chart.png)

**In a bench-top study with 5-7mm porcine carotids that compared median burst pressure, HARMONIC ACE®+7 versus: Thunderbeat (Seal and Cut mode) (p=0.05) (C1871); LigaSure™ Advance (p< 0.001) (C1591); LigaSure™ 5mm Blunt Tip (p< 0.001) (C1587).

**In a bench-top study with 3-5mm porcine carotids that compared median burst pressure, HARMONIC ACE®+7 versus: Stryker reprocessed HAR36 at Power Level 3 (p=0.0007) (C1875); Sonicision™ (Min power level) (p=0.0004) (C1870).

Designed to outperform the competition

World-class precision with secure and reliable vessel sealing across a wide range of vessels

The median burst pressures of HARMONIC ACE®+7 Shears in Advanced Hemostasis mode were:
- 140% higher than LigaSure™ 5 mm Blunt Tip*
- 112% higher than LigaSure™ Advance*
- 74% higher than Sonicision™***
- 50% higher than Stryker Reprocessed ACE+**
- 35% higher than Thunderbeat*

*In a bench-top study with 5-7mm porcine carotids that compared median burst pressure, HARMONIC ACE®+7 versus Thunderbeat Sealed Cut mode (p<0.03) (C1871); LigaSure™ Advantage 5mm (C1887); LigaSure™ 5mm (C1887). *Assessments (C1873) and (C1887) were conducted at power level 3 and 5 respectively.

**In a bench-top study with 3/5mm porcine carotids that compared median burst pressure, HARMONIC ACE®+7 versus Stryker Reprocessed ACE at Power Level 3 (p<0.0001) (C1875); Sonicision™ (Min power level) (p<0.0004) (C1870).
The value of **intelligent** energy delivery

Adaptive Tissue Technology provides critical thermal management during surgery by dynamically optimizing energy delivery in response to changing tissue conditions, enabling greater surgical precision and performance.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Quantity/Sales Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HARH23</td>
<td>HARMONIC ACE®+7 Open 5mm Diameter Shears, 23cm Length with Advanced Hemostasis</td>
<td>6</td>
</tr>
<tr>
<td>HARH36</td>
<td>HARMONIC ACE®+7 Laparoscopic 5mm Diameter Shears, 36cm Length with Advanced Hemostasis</td>
<td>6</td>
</tr>
<tr>
<td>HARH45</td>
<td>HARMONIC ACE®+7 Laparoscopic 5mm Diameter Shears, 45cm Length with Advanced Hemostasis</td>
<td>6</td>
</tr>
</tbody>
</table>

The distal shaft of Thunderbeat is **39% hotter** than HARMONIC® devices with Adaptive Tissue Technology.

---

1. In a preclinical study on 5-7mm goat carotids (n=70) that compared the mean thermal damage via histology of HARMONIC ACE®+ 7 in Advanced Hemostasis mode vs LigaSure™ Blunt Tip (LF1537) (2.54 [±0.48] mm vs. 3.08 [±0.67] mm, respectively, p<0.001). Data on file, Ethicon Endo-Surgery (PSP003909, PSP003620, PCS0000215). (C1647) 2. In a preclinical study on 5-7mm goat carotids (n=38) that compared the mean thermal footprint via histology of HARMONIC ACE®+ 7 in Advanced Hemostasis mode vs LigaSure™ Blunt Tip (LF1537) (6.48 [±0.81] mm vs. 10.07 [±1.12] mm, respectively, p<0.001). Thermal footprint = left thermal damage + jaw width + right thermal damage. Data on file, Ethicon Endo-Surgery (PSP003909, PSP003620, PCS0000215). (C1646) 3. In a bench-top study on porcine jejunum, Thunderbeat (Seal and Cut mode) exhibited 38.6% higher mean shaft temperature (Celsius) vs. Ethicon ACE devices with Adaptive Tissue Technology at Max Power Level 5 (p<0.001). (C1944) 4. In a bench-top study on porcine jejunum, Thunderbeat (Seal and Cut mode) exhibited 38.6% higher mean shaft temperature (Celsius) vs. Ethicon ACE devices with Adaptive Tissue Technology at Max Power Level 5 (p<0.001). (C1944)