Shown with Surgitron® Dual EMC 90, Surg-e-Vac™ and Cart

**Surgitron® Dual EMC 90 Specifications**

<table>
<thead>
<tr>
<th>Product Code:</th>
<th>IEC3A-S30-90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Surgitron® 4.0 Dual RF™/90 IEC</td>
</tr>
</tbody>
</table>

**Dimensions**
- Height: 5 inches
- Width: 9 inches
- Depth: 13 inches
- Weight: 18 lbs

**Output frequency**
- 4.0 MHz Monopolar
- 1.7 MHz Bipolar

**Line Frequency**
- 50 - 60 Hz

**Line Voltage**
- 110/120/220/240 volts

**Output Power**
- Monopolar Cut: 90 Watts
- Monopolar Cut/Coag: 65 Watts
- Monopolar Hemo: 45 Watts
- Monopolar Fulgurate: 35 Watts
- Bipolar: 90 Watts

---

**How Our Patented Radiofrequency Technology Works**

1. **Cellular Radiofrequency Absorption**
   - High frequency RF energy has a strong affinity for water.
   - Targeted tissue / cell readily absorbs energy due to high water content.
   - Intracellular pressure increases as water molecules expand.
   - Volatilization results in cell conversion to vapor. Process emits steam which aids in coagulation.
   - Cellular interaction enables precise dissection with tissue preservation.

---

ellman® International, Inc. 3333 Royal Avenue, Oceanside, N.Y. 11572-3625 U.S.A. (800) 835-5355 • (516) 594-3333 • Fax: (516) 569-0054 • www.ellman.com

© 2012 ellman® International, Inc.

Note: Do not copy or distribute without written authorization from Ellman International, Inc.
Distinct Benefits for Your Practice and Your Patients

- **Precision** – create precise incisions in a variety of tissue structures
- **Versatility** – no other energy-based technology has the surgical versatility of Ellman
- **Quick Recovery** – with less tissue destruction, healing is hastened and your patients can recover quickly
- **Decreased Post-Operative Pain** - 4.0 MHz causes less trauma
- **Decreased Post-Surgical Edema** - low temperature equals less tissue destruction
- **Less Burning or Charring of Tissue** – 4.0 MHz minimizes burning of tissue, unlike laser or conventional lower frequency electrosurgery

Surgitron® Dual EMC 90 Energy Source

With over 50 years of experience, over 70 patents and more than 200 journal articles, Ellman is your trusted worldwide partner for surgical products and services.

The Surgitron® Dual EMC 90 unit represents advanced radiofrequency technology that provides unparalleled surgical control, precision, versatility and safety. The high frequency of 4.0 MHz minimizes heat dissipation and thus cellular alteration.

Five Distinct Waveforms for Optimum Results

1. **Fully Filtered (Cut)**
   - Micro-smooth cutting
   - Negligible lateral heat
   - Minimal cellular destruction
   - Best cosmetic results. Fastest healing
   - Ideal for skin incision and biopsy
   - 4.0 MHz

2. **Fully Rectified (Cut/Coag)**
   - Cutting with hemostasis
   - Ideal for sub-cutaneous tissue dissection and planing. Especially useful in vascular areas while producing minimal amounts of lateral heat and tissue damage
   - 4.0 MHz

3. **Partially Rectified (Hemo)**
   - Coagulation / Shrinkage
   - Ideal hemostasis with controlled penetration
   - For cutting with maximum hemostatic control
   - 4.0 MHz

4. **Fulguration**
   - Maximum hemostasis
   - Ideal for intentional tissue destruction
   - 4.0 MHz

5. **Bipolar**
   - Pinpoint, micro-coagulation
   - Minimal charring or tissue necrosis
   - Ideal for coagulation in and around critical anatomy
   - 1.7 MHz

Clinical Citations

6. Aferzon, M, Derm Surgery (2002); vol 28, p735-738

**4.0 MHz Minimizes Lateral Thermal Damage and Maximizes Precision**

- Ellman radiofrequency technology produces one-third the lateral thermal damage as compared to conventional electrosurgery
- Ellman radiofrequency technology produces one-half to one-third of the lateral thermal damage versus most lasers

**Features**

- **Dual Frequency** combining two optimized frequencies – Monopolar (4.0 MHz) and Bipolar (1.7 MHz) for maximum surgical benefits – for outstanding precision and control
- **Digital Control Panel** facilitates easy operation and a clear view of settings
- **Solid State Circuitry** for dependable and consistent energy emission
- **Safety Indicators** provide visual and auditory alerts
- **Parameter Recall** allows rapid set-up for subsequent procedures

**Transmission Electron Microscopy Showing Lateral Thermal Damage on Human Oviducts by Different Instruments**

Distinct Benefits for Your Practice and Your Patients

• **Precision** – create precise incisions in a variety of tissue structures
• **Versatility** – no other energy-based technology has the surgical versatility of Ellman
• **Quick Recovery** – with less tissue destruction, healing is hastened and your patients can recover quickly
• **Decreased Post-Operative Pain** - 4.0 MHz causes less trauma
• **Decreased Post-Surgical Edema** - low temperature equals less tissue destruction
• **Less Burning or Charring of Tissue** – 4.0 MHz minimizes burning of tissue, unlike laser or conventional lower frequency electrosurgery

Five Distinct Waveforms for Optimum Results

1. **Fully Filtered (Cut)**
   - Micro-smooth cutting
   - Negligible lateral heat
   - Minimal cellular destruction
   - Best cosmetic results. Fastest healing
   - Ideal for skin incision and biopsy
   - 4.0 MHz

2. **Fully Rectified (Cut/Coag)**
   - Cutting with hemostasis
   - Ideal for sub-cutaneous tissue dissection and planing. Especially useful in vascular areas while producing minimal amounts of lateral heat and Sural damage
   - 4.0 MHz

3. **Partially Rectified (Hemo)**
   - Coagulation / Shrinkage
   - Ideal hemostasis with controlled penetration
   - For cutting with maximum hemostatic control
   - 4.0 MHz

4. **Fulguration**
   - Maximum hemostasis
   - Ideal for intentional tissue destruction
   - 4.0 MHz

5. **Bipolar**
   - Pinpoint, micro-coagulation
   - Minimal charring or tissue necrosis
   - Ideal for coagulation in and around critical anatomy
   - 1.7 MHz

Clinical Citations
6. Aferzon, M, Derm Surgery (2002); vol 28, p735-738

Features

• **Dual Frequency** combining two optimized frequencies – Monopolar (4.0 MHz) and Bipolar (1.7 MHz) for maximum surgical benefits – for outstanding precision and control
• **Digital Control Panel** facilitates easy operation and a clear view of settings
• **Solid State Circuitry** for dependable and consistent energy emission
• **Safety Indicators** provide visual and auditory alerts
• **Parameter Recall** allows rapid set-up for subsequent procedures

4.0 MHz Minimizes Lateral Thermal Damage and Maximizes Precision

- Ellman radiofrequency technology produces one-third the lateral thermal damage as compared to conventional electrosurgery
- Ellman radiofrequency technology produces one-half to one-third of the lateral thermal damage versus most lasers

Clinical Citations


Surgitron® Dual EMC 90 Energy Source

With over 50 years of experience, over 70 patents and more than 200 journal articles, Ellman is your trusted worldwide partner for surgical products and services.

The Surgitron® Dual EMC 90 unit represents advanced radiofrequency technology that provides unparalleled surgical control, precision, versatility and safety. The high frequency of 4.0 MHz minimizes heat dissipation and thus cellular alteration.

Five Distinct Waveforms for Optimum Results

1. Fully Filtered (Cut)
   - Micro-smooth cutting
   - Negligible lateral heat
   - Minimal cellular destruction
   - Best cosmetic results. Fastest healing
   - Ideal for skin incision and biopsy
   - 4.0 MHz

2. Fully Rectified (Cut/Coag)
   - Cutting with hemostasis
   - Ideal for sub-cutaneous tissue dissection and planing. Especially useful in vascular areas while producing minimal amounts of lateral heat and Sural damage
   - 4.0 MHz

3. Partially Rectified (Hemo)
   - Coagulation / Shrinkage
   - Ideal hemostasis with controlled penetration
   - For cutting with maximum hemostatic control
   - 4.0 MHz

4. Fulguration
   - Maximum hemostasis
   - Ideal for intentional tissue destruction
   - 4.0 MHz

5. Bipolar
   - Pinpoint, micro-coagulation
   - Minimal charring or tissue necrosis
   - Ideal for coagulation in and around critical anatomy
   - 1.7 MHz

Clinical Citations

6. Aferzon, M, Derm Surgery (2002); vol 28, p735-738

Distinct Benefits for Your Practice and Your Patients

- **Precision** – create precise incisions in a variety of tissue structures
- **Versatility** – no other energy-based technology has the surgical versatility of Ellman
- **Quick Recovery** – with less tissue destruction, healing is hastened and your patients can recover quickly
- **Decreased Post-Operative Pain** - 4.0 MHz causes less trauma
- **Decreased Post-Surgical Edema** - low temperature equals less tissue destruction
- **Less Burning or Charring of Tissue** – 4.0 MHz minimizes burning of tissue, unlike laser or conventional lower frequency electrosurgery

Features

- **Dual Frequency** combining two optimized frequencies – Monopolar (4.0 MHz) and Bipolar (1.7 MHz) for maximum surgical benefits – for outstanding precision and control
- **Digital Control Panel** facilitates easy operation and a clear view of settings
- **Solid State Circuitry** for dependable and consistent energy emission
- **Safety Indicators** provide visual and auditory alerts
- **Parameter Recall** allows rapid set-up for subsequent procedures

4.0 MHz Minimizes Lateral Thermal Damage and Maximizes Precision

- Ellman radiofrequency technology produces one-third the lateral thermal damage as compared to conventional electrosurgery
- Ellman radiofrequency technology produces one-half to one-third of the lateral thermal damage versus most lasers

Clinical Citations


Surgitron® Dual EMC 90 Energy Source

With over 50 years of experience, over 70 patents and more than 200 journal articles, Ellman is your trusted worldwide partner for surgical products and services.

The Surgitron® Dual EMC 90 unit represents advanced radiofrequency technology that provides unparalleled surgical control, precision, versatility and safety. The high frequency of 4.0 MHz minimizes heat dissipation and thus cellular alteration.

Five Distinct Waveforms for Optimum Results

1. Fully Filtered (Cut)
   - Micro-smooth cutting
   - Negligible lateral heat
   - Minimal cellular destruction
   - Best cosmetic results. Fastest healing
   - Ideal for skin incision and biopsy
   - 4.0 MHz

2. Fully Rectified (Cut/Coag)
   - Cutting with hemostasis
   - Ideal for sub-cutaneous tissue dissection and planing. Especially useful in vascular areas while producing minimal amounts of lateral heat and Sural damage
   - 4.0 MHz

3. Partially Rectified (Hemo)
   - Coagulation / Shrinkage
   - Ideal hemostasis with controlled penetration
   - For cutting with maximum hemostatic control
   - 4.0 MHz

4. Fulguration
   - Maximum hemostasis
   - Ideal for intentional tissue destruction
   - 4.0 MHz

5. Bipolar
   - Pinpoint, micro-coagulation
   - Minimal charring or tissue necrosis
   - Ideal for coagulation in and around critical anatomy
   - 1.7 MHz

Clinical Citations

6. Aferzon, M, Derm Surgery (2002); vol 28, p735-738

Distinct Benefits for Your Practice and Your Patients

- **Precision** – create precise incisions in a variety of tissue structures
- **Versatility** – no other energy-based technology has the surgical versatility of Ellman
- **Quick Recovery** – with less tissue destruction, healing is hastened and your patients can recover quickly
- **Decreased Post-Operative Pain** - 4.0 MHz causes less trauma
- **Decreased Post-Surgical Edema** - low temperature equals less tissue destruction
- **Less Burning or Charring of Tissue** – 4.0 MHz minimizes burning of tissue, unlike laser or conventional lower frequency electrosurgery

Features

- **Dual Frequency** combining two optimized frequencies – Monopolar (4.0 MHz) and Bipolar (1.7 MHz) for maximum surgical benefits – for outstanding precision and control
- **Digital Control Panel** facilitates easy operation and a clear view of settings
- **Solid State Circuitry** for dependable and consistent energy emission
- **Safety Indicators** provide visual and auditory alerts
- **Parameter Recall** allows rapid set-up for subsequent procedures

4.0 MHz Minimizes Lateral Thermal Damage and Maximizes Precision

- Ellman radiofrequency technology produces one-third the lateral thermal damage as compared to conventional electrosurgery
- Ellman radiofrequency technology produces one-half to one-third of the lateral thermal damage versus most lasers

Clinical Citations


Shown with Surgitron® Dual EMC 90, Surg-e-Vac™ and Cart

**Surgitron® Dual EMC 90 Specifications**

<table>
<thead>
<tr>
<th><strong>Product Code:</strong></th>
<th>IEC3A-S30-90</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Surgitron® 4.0 Dual RF™/90 IEC</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td></td>
</tr>
<tr>
<td>Height: 5 inches</td>
<td></td>
</tr>
<tr>
<td>Width: 9 inches</td>
<td></td>
</tr>
<tr>
<td>Depth: 13 inches</td>
<td></td>
</tr>
<tr>
<td>Weight: 18 lbs</td>
<td></td>
</tr>
<tr>
<td><strong>Output frequency</strong></td>
<td></td>
</tr>
<tr>
<td>4.0 MHz Monopolar</td>
<td></td>
</tr>
<tr>
<td>1.7 MHz Bipolar</td>
<td></td>
</tr>
<tr>
<td><strong>Line Voltage</strong></td>
<td>110/120/220/240 volts</td>
</tr>
<tr>
<td><strong>Output Power</strong></td>
<td></td>
</tr>
<tr>
<td>Monopolar Cut:</td>
<td>90 Watts</td>
</tr>
<tr>
<td>Monopolar Cut/Coag:</td>
<td>65 Watts</td>
</tr>
<tr>
<td>Monopolar Hemo:</td>
<td>45 Watts</td>
</tr>
<tr>
<td>Monopolar Fulgurate:</td>
<td>35 Watts</td>
</tr>
<tr>
<td>Bipolar:</td>
<td>90 Watts</td>
</tr>
</tbody>
</table>

**How Our Patented Radiofrequency Technology Works**

1. **Cellular Radiofrequency Absorption**
   - High frequency RF energy has a strong affinity for water.
   - Targeted tissue/cell readily absorbs energy due to high water content.
   - Intracellular pressure increases as water molecules expand.

2. Volatilization results in cell conversion to vapor. Process emits steam which aids in coagulation.

3. Cellular interaction enables precise dissection with tissue preservation.

4. Advanced 4.0 MHz Radiofrequency Technology

5. PRECISION • VERSATILITY