

INTUITIVE

# Da Vinci Energy

**SynchroSeal  
Vessel Sealer Extend  
E-100 Generator**

Amplified performance.  
Precise control.



---

# Da Vinci Energy<sup>1</sup> Amplified performance.<sup>1,2</sup> Precise control.<sup>1</sup>

Increase efficiency<sup>1,3</sup> without sacrificing results with the speed<sup>4</sup>, precision<sup>1</sup>, and versatility offered by da Vinci Energy from Intuitive.

Start with a generator and instruments that enable rapid sealing while keeping temperatures low.<sup>1,3</sup> Select from unique, multifunctional instruments designed to streamline procedures. All seamlessly integrated to enable controlled energy delivery<sup>5</sup> and optimized performance for strong, secure seals with minimal lateral thermal spread.<sup>1</sup>

With da Vinci Energy, take charge of smart energy that's quicker, cooler, and effective in more ways than one.

1. Da Vinci Energy includes: SynchroSeal with E-100 and Vessel Sealer Extend with E-100.

2. Based on analysis of sealing cycle time differences between SynchroSeal with E-100 compared to Harmonic ACE®+7 and Vessel Sealer Extend with E-100 compared to Vessel Sealer Extend with ERBE VIO devices. P <0.05. Data on file.

3. Based on activation times and cool down temperatures: SynchroSeal with E-100 is compared to Harmonic ACE+7, VSE with E-100 is compared to VSE with ERBE VIO dV.

4. Compared to ERBE VIO dV.

5. Data on file.

# SynchroSeal

Streamline sealing.<sup>5</sup> Optimize performance.<sup>6</sup>

Get enhanced efficiency<sup>7</sup> and versatility<sup>8</sup> from a single instrument with an average seal time of fewer than two seconds<sup>9</sup>. With a single pedal press, SynchroSeal enables you to confidently seal and cut vessels up to 5 mm in diameter and tissue bundles that fit in the jaws.

---

## 01

Use the refined, curved jaw for enhanced dissection<sup>8</sup> and secure grasping.<sup>10</sup>

---

## 02

Achieve single-step transection with a raised cut electrode.

---

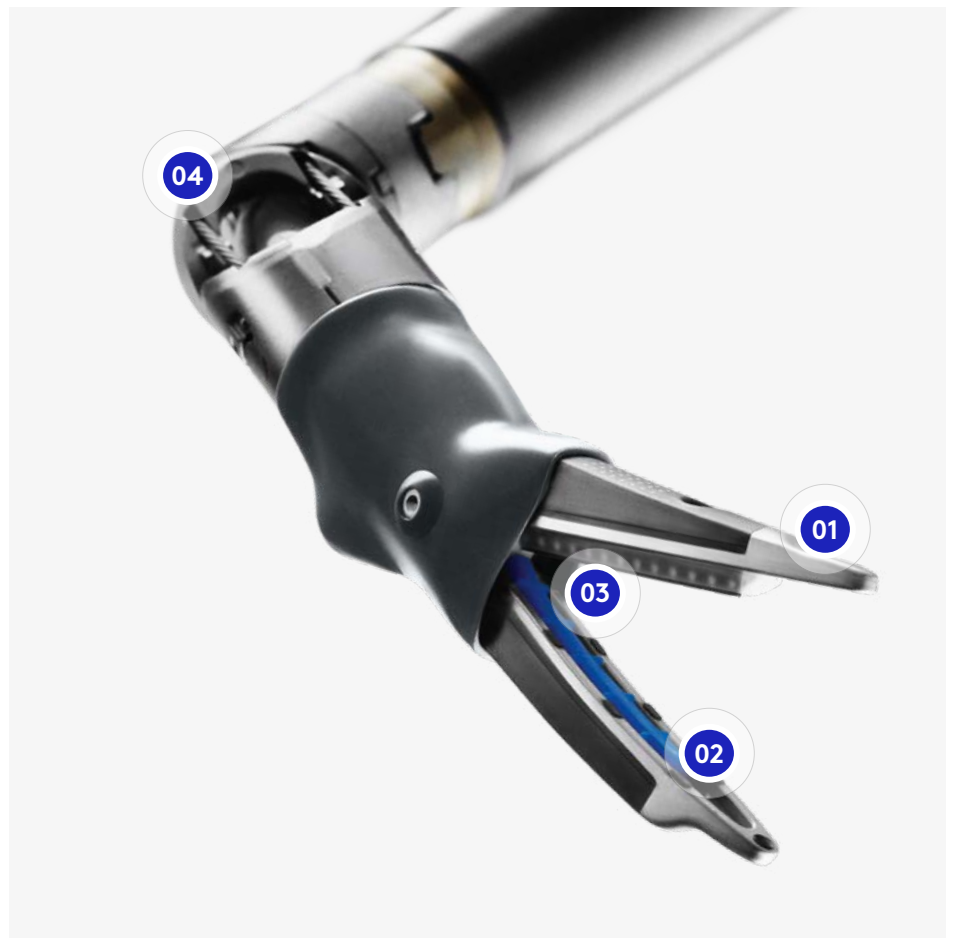
## 03

Create strong, reliable seals with 1-2 mm of lateral thermal spread.<sup>1</sup>

---

## 04

Approach anatomy at your preferred angle with 60° fully wristed articulation.<sup>5</sup>



5. Data on file.

6. Compared to HARMONIC ACE+7.

7. Compared to Vessel Sealer Extend with ERBE VIO dV in terms of faster estimated workflow and seal activation times.

8. Compared to Vessel Sealer Extend with ERBE VIO dV.

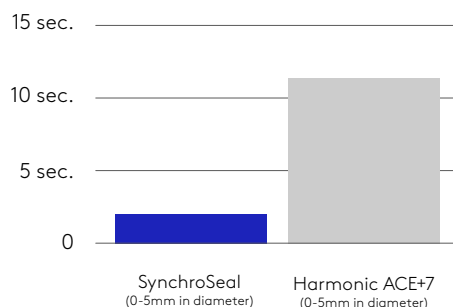
9. Mean seal time based on seal time from seal and sync mode.

10. Compared to HARMONIC ACE+7. Based on benchtop testing performed using a Tekscan pressure-mapping sensor and a force gauge.



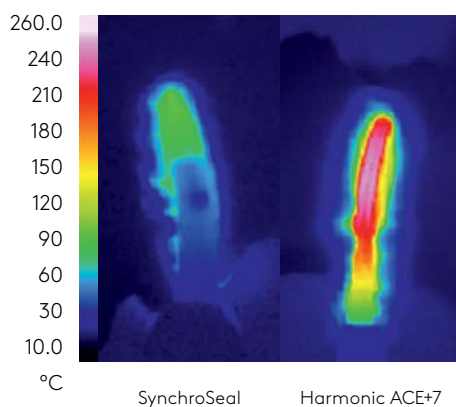
# Seal faster while keeping your cool

## Average Seal Time



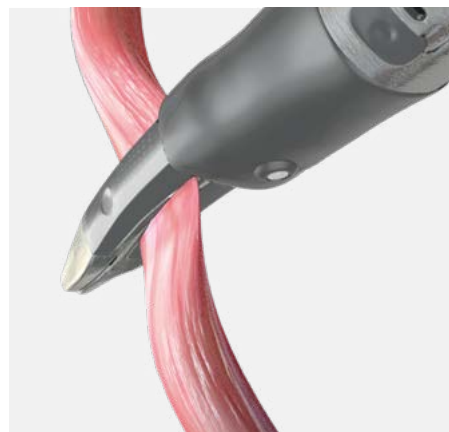
## Accelerate your sealing<sup>11</sup>

SynchroSeal offers improved efficiency through simplified operation and fast activation times. When paired with the E-100 generator from da Vinci Energy, SynchroSeal saves 9.90 seconds per seal, compared to HARMONIC ACE+7 Shears with Advanced Hemostasis.



## Keep your peak temperatures low<sup>12</sup>

A cooler thermal profile allows the jaws to quickly seal and cut tissue, then cool down faster—helping you move on to the next task.



## Take advantage of grasping capabilities

The textured jaws of SynchroSeal grip with greater force, which may potentially reduce tissue slippage,<sup>13</sup> while applying less overall pressure for potentially less stress on tissue within the jaws.<sup>14</sup>

11. Compared to HARMONIC ACE+7. Data based on testing of Ex-vivo tissue from 0-5mm in diameter. Average seal times required to seal arteries for SynchroSeal and HARMONIC ACE+7 were measured.
12. Compared to HARMONIC ACE+7. Ex vivo testing performed using porcine small bowel mesentery.
13. Compared to HARMONIC ACE+7. Results of testing on file. Benchtop testing performed using uniform synthetic material. Forces at which the material slipped from the grasped

jaws of SynchroSeal and HARMONIC ACE+7 were measured. Slip forces for SynchroSeal were significantly greater than HARMONIC ACE+7.

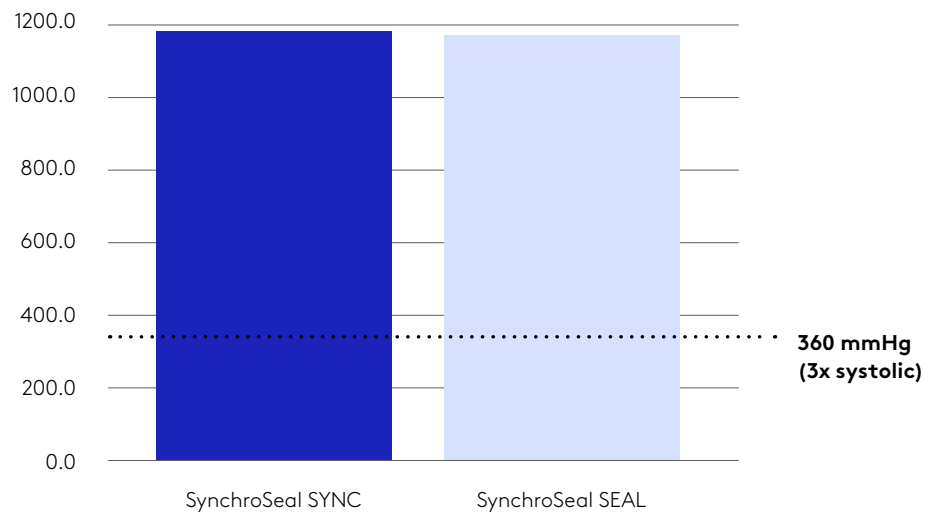
14. Compared to HARMONIC ACE+7. Results of testing on file. Benchtop testing performed using a Tekscan pressure-mapping sensor. Pressures applied by the gripped jaws of SynchroSeal and HARMONIC ACE+7 were measured. Grip pressures for SynchroSeal were significantly less than HARMONIC ACE+7.

# Control energy with confidence

## Achieve strong, secure seals

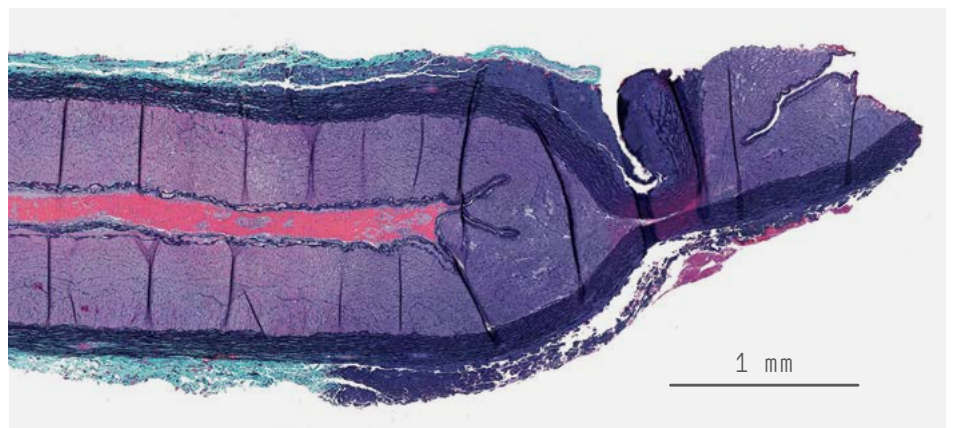
Using SynchroSeal, create seals that consistently withstand more than three times normal systolic burst pressure.<sup>5</sup>

### Mean Burst Pressure (mmHg)



## Minimize lateral thermal spread

SynchroSeal enables you to seal vessels up to 5 mm in diameter and tissue bundles that fit in the jaws with 1-2 mm of lateral thermal spread.<sup>5</sup>



**In vivo porcine artery pictured above has been sealed and transected with a single pedal press with Sync mode on SynchroSeal.**

5. Data on file.

# Vessel Sealer Extend

Performance you expect. Speed that you don't.<sup>8</sup>

Securely seal and cut vessels up to 7 mm in diameter and tissue bundles that fit in the jaws. With an average sealing time of fewer than three seconds<sup>5</sup>, Vessel Sealer Extend may potentially improve efficiency during your surgical case.<sup>15</sup>

---

## 01

Optimize dissection and tissue manipulation with a 30% slimmer jaw profile.<sup>16</sup>

---

## 02

Extend your seal and spot coagulate with a 3 mm longer electrode.<sup>16</sup>

---

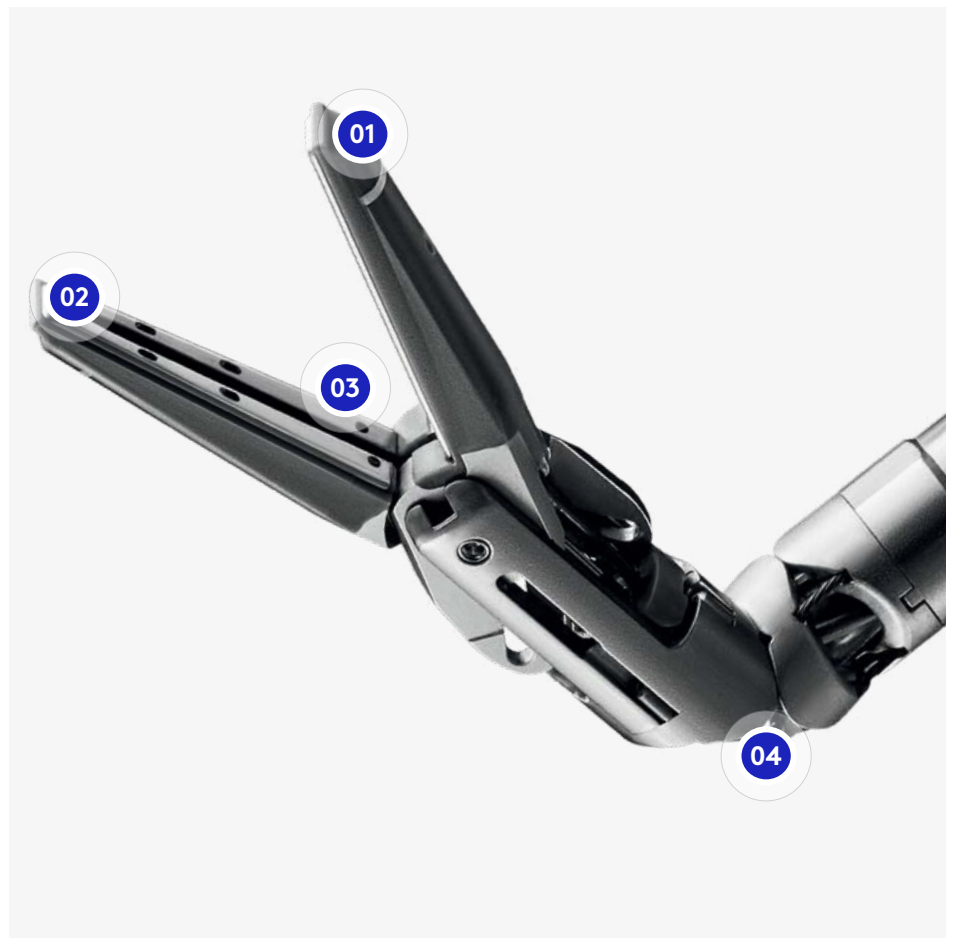
## 03

Reduce the need for an extra grasper with the stronger grip provided by a textured surface.<sup>16</sup>

---

## 04

Access vessels with 60° of fully wristed articulation, and create secure 90° seals and effective cuts.<sup>16</sup>



5. Data on file.

8. Compared to Vessel Sealer Extend with ERBE VIO dV.

15. Compared to Vessel Sealer Extend with ERBE VIO dV in terms of seal activation times.

16. Compared to EndoWrist Vessel Sealer. Data on file.

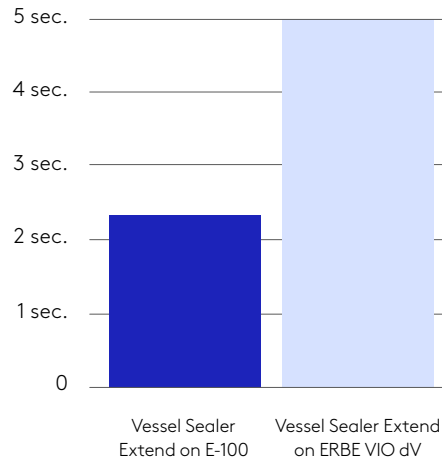






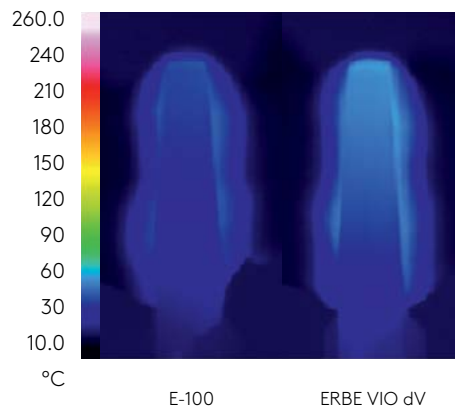
# See what sets Vessel Sealer Extend on E-100 apart

## Average Seal Time



## Maximize efficiency

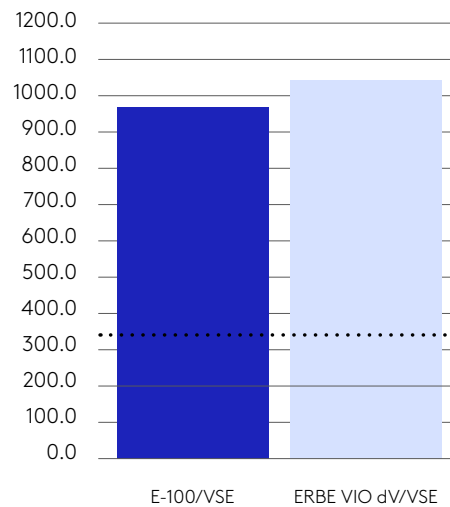
With the E-100 generator from da Vinci Energy, Vessel Sealer Extend can seal twice as fast compared to Vessel Sealer Extend with the ERBE VIO dV generator.<sup>17</sup>



## Keep your temperatures even lower

Vessel Sealer Extend operates at a cooler jaw temperature with E-100 than with ERBE VIO dV.<sup>18</sup>

## Mean Burst Pressure (mmHg)



## Continue creating strong, secure seals

When using Vessel Sealer Extend with E-100, you can rely on strong seals<sup>8</sup> that will withstand more than three times normal systolic burst pressure with minimal lateral thermal spread.<sup>5</sup>

5. Data on file.

8. Compared to Vessel Sealer Extend with ERBE VIO dV.

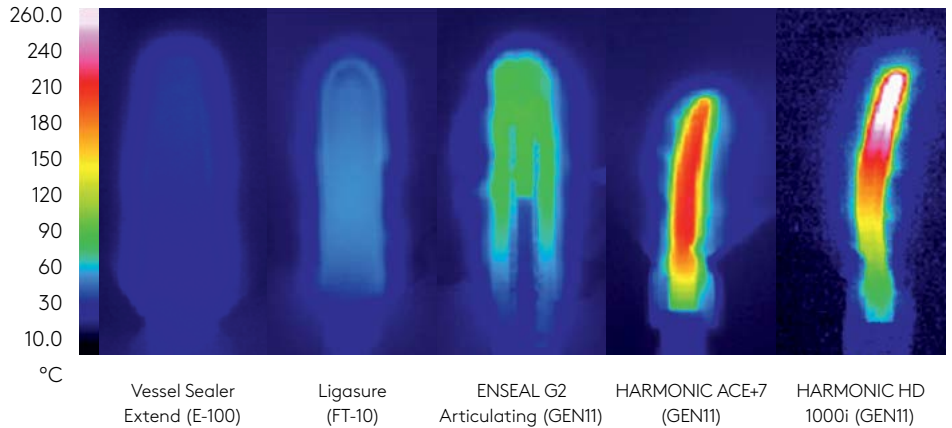
17. Compared to Vessel Sealer Extend with ERBE VIO dV in terms of seal activation times.

18. Compared to LigaSure® Blunt Tip, ENSEAL G2® ENSEAL Articulating, HARMONIC ACE®+7 and HARMONIC HD1000®. Data on file.

# Operate at a cooler temperature

When compared with competitive sealers, Vessel Sealer Extend shows the coolest peak temperature and the shortest cooling time.<sup>18</sup>

## Peak jaw temperature comparison



The peak jaw temperature for Vessel Sealer Extend on E-100 is:

**30.2%**

lower than  
LigaSure  
Blunt Tip

**52.9%**

lower than  
ENSEAL G2  
Articulating

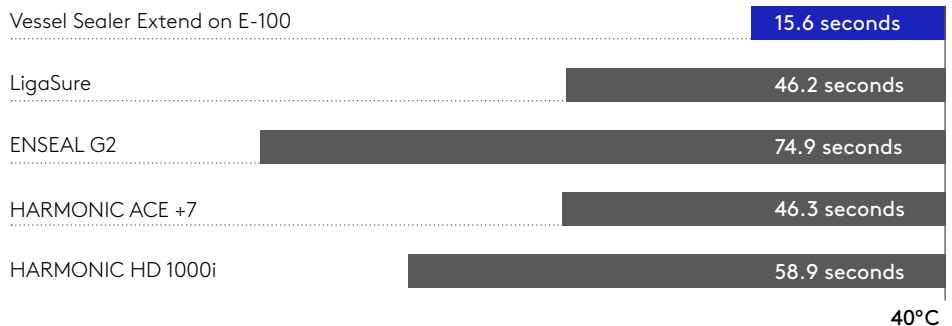
**78.4%**

lower than  
HARMONIC  
ACE +7

**83.4%**

lower than  
HARMONIC  
HD 1000i

## Cool down time from maximum jaw temperature



18. Compared to LigaSure Blunt Tip, ENSEAL G2 Articulating, HARMONIC ACE +7 and HARMONIC HD1000i. Data on file.

# Notice a difference in speed with the E-100 generator<sup>4</sup>

Move from one task to the next with agility. The E-100 generator from da Vinci Energy seamlessly integrates with the da Vinci X and da Vinci Xi surgical systems to help enable rapid sealing times<sup>4</sup> at low temperatures.<sup>19</sup> Combine with SynchroSeal or Vessel Sealer Extend, and take full advantage of the speed and versatility offered by da Vinci Energy.

E-100 offers three energy modes for Vessel Sealer Extend and SynchroSeal, including advanced bipolar sealing and coagulation, and a unique mode for single-step sealing and transection with SynchroSeal.<sup>5</sup>



4. Compared to ERBE VIO dV.

5. Data on file.

19. Vessel Sealer Extend with E-100 compared to Vessel Sealer Extend with ERBE VIO dV.



---

# Improve your workflow

Discover what amplified performance and precise control means with cooler, faster, more versatile capabilities enabled by the da Vinci Energy portfolio.




**With da Vinci Energy, you can:**

Complete seals with SynchroSeal and Vessel Sealer Extend in less time and potentially improve efficiency during your cases with E-100.

With cooler thermal profiles and less than 2 mm lateral thermal spread, move to the next task with low potential for heat damage using SynchroSeal and Vessel Sealer Extend.

Seal, cut, dissect, and grasp with the built-in versatility of SynchroSeal and Vessel Sealer Extend.

# Ordering Information

		Part Number
	<b>SynchroSeal</b> 6 units per box  da Vinci X and da Vinci Xi Surgical Systems	<b>480440</b>
	<b>Vessel Sealer Extend</b> 6 units per box  da Vinci X and da Vinci Xi Surgical Systems	<b>480422</b>
	<b>E-100 Generator</b> 1 unit  da Vinci X and da Vinci Xi Surgical Systems	<b>378848</b>

**To learn more about da Vinci Energy products, visit:**

[www.intuitive.com/en-gb](http://www.intuitive.com/en-gb)

**To contact a representative or receive additional information:**

Visit [www.intuitive.com/en-gb](http://www.intuitive.com/en-gb) or  
call Intuitive Customer Service:

**Europe**

+41.21.821.2020 or  
+800.0821.2020 (toll free)

# European Regional Offices

## European Headquarters (Switzerland)

Intuitive Surgical Sàrl  
1, chemin des Mûriers  
1170 Aubonne, Suisse  
Tel: +41 21 821 2000  
Fax: +41 21 821 2001  
VAT #: CHE-113.407.162 VAT

## Germany

Intuitive Surgical Deutschland GmbH  
Am Flughafen 6  
79108 Freiburg, DE  
MWST #: DE200038727  
Amtsgericht Freiburg, HRB 720585  
Geschäftsführer: Dirk Barten,  
Marshall Mohr,  
Jean-Yves Raimon-Dacunha-Castelle,  
Kara Andersen Reiter

## France

Intuitive Surgical SAS  
Cité de la Photonique,  
bâtiment Gienah  
11 avenue de Canteranne  
33600 Pessac, FR  
TVA #: FR 64 417 889 177  
SIREN 417 889 177  
Capital Social 37000€  
RCS Bordeaux Code APE 4646Z

## United Kingdom

Intuitive Surgical Ltd  
The Schrodinger Building  
Oxford Science Park  
Heatley Rd, Oxford, OX4 4GE, UK  
VAT #: GB943 2213 49  
Company registration  
No 6727762

## Product Information

### Da Vinci X and Xi Surgical Systems

The Intuitive Surgical Endoscopic Instrument Control Systems (da Vinci X and da Vinci Xi Surgical Systems) are intended to assist in the accurate control of Intuitive Surgical Endoscopic Instruments during urologic surgical procedures, general laparoscopic surgical procedures, gynecologic laparoscopic surgical procedures, and trans-oral otolaryngology surgical procedures restricted to benign tumors and malignant tumors classified as T1 and T2, and for benign base of tongue resection procedures. The systems are indicated for adult and pediatric use (except for trans-oral otolaryngology surgical procedures). They are intended to be used by trained physicians in an operating room environment.

The da Vinci X and da Vinci Xi Surgical Systems are class IIb medical devices CE marked (CE2460) under the European Medical Devices Directive (93/42/EEC), manufactured by Intuitive Surgical, Inc. Refer to Instructions For Use before use.

### SynchroSeal

SynchroSeal is a bipolar electro-surgical instrument for use with a compatible da Vinci Surgical System and a compatible electro-surgical generator. It is intended for grasping, dissection, sealing and transection of tissue. SynchroSeal can be used to seal vessels up to and including 5 mm in diameter and tissue bundles that fit in the jaws of the instrument.

SynchroSeal has not been shown to be effective for tubal sterilization or tubal coagulation for sterilization procedures and should not be used for these procedures.

The SynchroSeal is a class IIb medical devices CE marked (CE 2460) under the European Medical Devices Directive (93/42/EEC), manufactured by Intuitive Surgical, Inc. Refer to Instructions For Use before use.

### Vessel Sealer Extend

The Vessel Sealer Extend is a bipolar electro-surgical sealing and cutting instrument for use with the da Vinci Xi and da Vinci X Surgical Systems and the compatible electro-surgical generator. It is intended for grasping and blunt dissection of tissue and for bipolar coagulation and mechanical transection of vessels up to 7 mm in diameter and tissue bundles that fit in the jaws of the instrument. The Vessel Sealer Extend has not been shown to be effective for tubal sterilization or tubal coagulation for sterilization procedures, and should not be used for these procedures.

The Vessel Sealer Extend is a class IIb medical device CE marked (CE 2460) under the European Medical Devices Directive (93/42/EEC), manufactured by Intuitive Surgical, Inc. Refer to Instructions For Use before use.

### E-100 Electro-surgical Generator

E-100 Electro-surgical Generator is an electro-surgical unit (ESU) intended to deliver high-

frequency energy (HF) for cutting, coagulation and vessel sealing of tissues. The E-100 Electro-surgical Generator is a class IIb medical devices CE marked (CE 2460) under the European Medical Devices Directive (93/42/EEC), manufactured by Intuitive Surgical, Inc. Refer to Instructions For Use before use.

### Legal Notices

The information contained in this document has been checked and compiled with the greatest care. However, no responsibility is taken for its correctness, completeness and topicality. It is the sole responsibility of the recipient to check all information before using it in the individual case.

Individuals' outcomes may depend on a number of factors, including but not limited to patient characteristics, disease characteristics and or physician/surgeon experience.

Some products, features or technologies may not be available in all countries. Please contact your local Intuitive representative for product availability in your region.

### Privacy Notice

Intuitive's Privacy Notice is available at [www.intuitive.com/privacy](http://www.intuitive.com/privacy).

© 2022 Intuitive Surgical Operations, Inc. All rights reserved. Product and brand names/logos are trademarks or registered trademarks of Intuitive Surgical or their respective owner.



