








Comparison Table

| ESU Model | ForceTriad™ | VIO 300D | Alsa NHP 250/DA | ARC 350 | Maxium | DRE Citadel X3 | TOM 412A | Iconic IS410S | | | | | | | | |
|---------------------------------------|--|---|--|--|---|---|---|---|-------|------|--------|------|--------|------|--------|------|
| Company | Covidien (Valleylab) | ERBE | Alsa | Bowa | KLS Martin | DRE | TEKNO | Kavandish System | | | | | | | | |
| Picture |  |  |  |  |  |  |  |  | | | | | | | | |
| Output configuration | Isolated output | Isolated output | Isolated output | Isolated output | Isolated output | Isolated output | Isolated output | Isolated output | | | | | | | | |
| Cooling | Natural and forced convection, and fan | | by convection, without fan | Convection, Temperature-controlled fan | | | by convection | Natural convection | | | | | | | | |
| Fundamental Frequency | 472KHZ | 350 KHZ | 440 kHz ± 5% | | 357 to 961KHZ | 440 KHz | 450 KHz ±3% | 410 KHZ | | | | | | | | |
| Display | 3 LCD, touch screens, 14.5 cm (5.7 in) diagonal | TFT-Display and Focus View | Number of displays /indicators: 5 | Display and indicators | Clear 8.4" screen | TFT color touchscreen panel | Number of displays /indicators: 5 | LCD display has 4 lines of 20 characters for setting modes and memories and displaying alarms and messages / 9x seven-Segment, for displaying output powers | | | | | | | | |
| Dimensions and Weight | 457 x508 x254/ mm / 13.6 kg | 410 x 380 x 165 mm / 9.5 kg | 380x380x160mm/ 16kg | 430 x 180 x 475 mm/ 12.5 kg | 390 x 182 x435 mm/ 8.3 kg | 420 x 450 x 175 mm/ 7.5 kg | 400 x 400 x 180 mm/ 18Kg | 400 x 440 x 170mm/ 8kg | | | | | | | | |
| Monopolar Cut Output Characteristics | <ul style="list-style-type: none"> Pure: 300W Blend: 200W | <ul style="list-style-type: none"> Auto cut: 300W HIGH Cut: 300W Dry cut: 200W | <ul style="list-style-type: none"> Pure: 280W Blend I: 280W Blend II:140W Auto Pure: 280W Auto Blend: 280W Auto Endo: 220W | <ul style="list-style-type: none"> Standard: 100W Micro: 20W Dry:100W Argon:100W Resection: -- MertaLOOP:-- Laparoscopy :100W | Max cutting power: 360 W <ul style="list-style-type: none"> Pure cut: 360W Blend: 250W Super Blend: 150W Uro Pure Cut: 360W Uro Blend Cut:320W Polyp I,II: 350W Papilla I,II,III: 180W ESD:180W Soft Cut: 180W Argon Cut:360W | <ul style="list-style-type: none"> Low Cut: 400 W Pure Cut: 400 W Blend1: 250 W Blend2: 200 W Endo1: 400 W Endo2: 400 W Hydro: 400 W | <ul style="list-style-type: none"> PURE: 400W BLEND SOFT: 300W BLEND STRONG:130W CV PURE: 400W CV BLEND: 300W CV ENDO: 250W | <table border="1"> <tr><td>Pure</td><td>360W</td></tr> <tr><td>Blend1</td><td>330W</td></tr> <tr><td>Blend2</td><td>300W</td></tr> <tr><td>Blend3</td><td>270W</td></tr> </table> | Pure | 360W | Blend1 | 330W | Blend2 | 300W | Blend3 | 270W |
| Pure | 360W | | | | | | | | | | | | | | | |
| Blend1 | 330W | | | | | | | | | | | | | | | |
| Blend2 | 300W | | | | | | | | | | | | | | | |
| Blend3 | 270W | | | | | | | | | | | | | | | |
| Monopolar Coag Output Characteristics | <ul style="list-style-type: none"> Fulgurate: 120W Spray: 120W | <ul style="list-style-type: none"> Swift coag: 200W Forced coag:120W Soft coag: 200W Spray coag: 120W | (ADC System) <ul style="list-style-type: none"> Fulg Forced:150W PIN POINT CONTACT:250W Soft :280W Spray:140W | <ul style="list-style-type: none"> Moderate:60W Forced non cutting:50W Forced mixed:60W Forced cutting:80W Spray:80W Resection:60W | Maximum coagulation power:320W <ul style="list-style-type: none"> Clamp Coag: 250W Forced Clamp: 150W Forced Prep: 150W Contact Coag: 250W | <ul style="list-style-type: none"> Soft: 300 W Desiccate: 200 W Swift: 120 W Force:120 W Spray:120 W Hi-Spray: 70 W | <ul style="list-style-type: none"> FLUG:140W PIN POINT:250W SOFT: 270W SPRAY:130W | <table border="1"> <tr><td>Swift</td><td>200W</td></tr> <tr><td>Forced</td><td>140W</td></tr> <tr><td>Spray</td><td>120W</td></tr> <tr><td>Soft</td><td>100W</td></tr> </table> | Swift | 200W | Forced | 140W | Spray | 120W | Soft | 100W |
| Swift | 200W | | | | | | | | | | | | | | | |
| Forced | 140W | | | | | | | | | | | | | | | |
| Spray | 120W | | | | | | | | | | | | | | | |
| Soft | 100W | | | | | | | | | | | | | | | |

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|--|--|---|--|---|--|---|---|--|-------|------------|-------|
| | | | | <ul style="list-style-type: none"> • Cardiac mammary:15W • Cardiac Thorax: 15W • SimCoag:60W • Gastro Coag:15W • Laparoscopy:60W | <ul style="list-style-type: none"> • Forced Coag: 150W • Uro Coag: 150W • Forced Uro Coag: 150W • Spray: 150W • Air Beam: 150W • Endo Spray: 100W • Duo Prep: 150W • Duo Spray: 150W | <ul style="list-style-type: none"> • Hydro: 120 W | | | | | |
| APC(Argon plasma coagulation) | --- | <ul style="list-style-type: none"> • Forced APC: 120W • Pulsed APC: 120W | SPRAY+ ARGON GAS: 140W Max. flow and gas pressure:15lt/min. At the entrance: 2.5atm; during the functioning: 1atm | <ul style="list-style-type: none"> • Argon open:80W • Argon flexible:40W • Argon flex pulse: 20W | <ul style="list-style-type: none"> • Argon Beam: 150W • Endo Argon: 100W • Pulsed Argon I,II:100W | Optional argon beam coagulation | <ul style="list-style-type: none"> • ARGON GAS COAGULATION: 130W | Continuous Argon 100W Pulsed Argon 50W | | | |
| Bipolar Output Characteristics | <ul style="list-style-type: none"> • Low : 95W • Standard: 95W • Macro: 95W • Auto Bipolar | <ul style="list-style-type: none"> • Bipolar Cut:100W • Bipolar Soft Coag: 120W • Bipolar Forced Coag: 90W • Auto Bipolar | <ul style="list-style-type: none"> • Pure:160W • Blend:130W • Micro CV, Micro HC:130W • Macro:130W | <ul style="list-style-type: none"> • Standard(Bip cut):100W • Standard forceps (Bip Coag):40W | <ul style="list-style-type: none"> • Bipolar Pure Cut: 120W • Bipolar Blend Cut: 120W • Foreflex: 120W • Uro Bip Pure Cut: 350W • Uro Bip Blend Cut: 350W • Micro Coag:50W • Macro Coag: 120W • Neptun: 250W • Bipol TUR Coag: 200W | Bipolar Coag <ul style="list-style-type: none"> • Micro: 120 W • Standard: 120 W • Force: 120 W • Bip Cut: 120 W • Macro Cut: 120 W | (Bipolar cutting) <ul style="list-style-type: none"> • PURE:160W • SALINE:160W (Bipolar coagulation) <ul style="list-style-type: none"> • MICRO:120W • AUTO:120W • FORCED MICRO:120W | Bipolar Cut 100W Bipolar Coag. 80W Auto Start Bipolar Coag 50W | | | |
| LigaSure Output Characteristics | 350 W | BiClamp (optional) | Seal HC:130W | Tissue Seal PLUS (optional):200W | <ul style="list-style-type: none"> • SealSafe:320W • SealSafe® IQ: 320W | <ul style="list-style-type: none"> • Fine seal: Low Pulse output, 5 levels, 150 W at 100 Ω, CF 1.5 • Rapid seal: High Pulse output, 5 levels, 150 W at 100Ω, CF 1.5 | SEALING: 120W | <table border="1"> <tr> <td>Seal1</td> <td rowspan="2">4~5 Second</td> </tr> <tr> <td>Seal2</td> </tr> </table> Max: 160 | Seal1 | 4~5 Second | Seal2 |
| Seal1 | 4~5 Second | | | | | | | | | | |
| Seal2 | | | | | | | | | | | |

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|--|--|--|---|---|---|------------------------------|------------------------------------|---|
| Input mains voltage 110V | full regulation range 90-132 VAC | 100-120 V AC | 115V ± 10% | 90 V to 130 V | 100 ± 10 % | | 115 V AC | 100-130 V AC(optional) |
| Input mains voltage 220V | full regulation range 208-264 VAC | 220-240 V AC | 230± 10% | 198 V to 264 V | 240 V ± 10 % | 180-265 V AC | 230 V AC | 220-240 V AC |
| Power input during max RF output | 924 VA | 920 VA | 828 VA | 1150 VA | 600 VA | Max. Power input: 1000 VA | 820VA | 800 VA |
| Mains frequency (nominal) | 50 Hz to 60 Hz | 50 Hz to 60 Hz | 50 Hz to 60 Hz | 50 Hz to 60 Hz | 50 Hz to 60 Hz | 50 Hz to 60 Hz | 50 Hz to 60 Hz | 50Hz to 60 Hz |
| Fuses | 8 A- 250 V fast blow | T 8 A / T 4 A | T 5 A | 2 x 5 A slow-blow 2 x 10 A slow-blow | 6.3 A | Fuse: 4 A | 2, situated on the rear side (T5A) | 5 A - 250 V Standard |
| Classification acc. to 93/42 EWG | I Ib | I Ib | I Ib | I Ib | I Ib | I Ib | I Ib | I Ib |
| Protection category acc. to EN 60 601-1 | I | I | I | I | I | I | I | I |
| Type acc. to EN 60 601-1 | CF | CF | CF | CF | CF defibrillator-proof | CF | CF | CF |
| Intermittent operation | ON time 25% (e.g. activated for 10 sec. / deactivated for 30 | ON time 25% (e.g. activated for 10 sec. / deactivated for 30 | Neutral electrode safety circuit with acoustic signal (loud and intermittent) | 10 s / 30 s (on/off) | Intermittent INT 10 s / 30 s corr. to 25 % duty factor | | | ON time 25% (e.g. activated for 10 sec. / deactivated for 30 |
| Return electrode monitor | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Contact quality monitor | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Dual foot pedals | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 |
| single foot pedals | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 |
| Intelligent power control | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Monopolar instrument Receptacles | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2pcs, compatible with the Bowa, Fiab, Martin, Tecno and Valleylab |
| Bipolar instrument Receptacles | 1 | 1 | 2 | 2 | 2 Connection of 4 bipolar instruments using bipolar port expanders | 1 | 2 | 1pcs, compatible with the Bowa, Fiab, Martin, Tecno and Valleylab |
| LigaSure instrument Receptacles | 2 | 1 | Same as Bipolar | --- | Same as Bipolar | 2 | Same as Bipolar | 1pcs, compatible with instruments made by valleylab, Martin, Bowa |
| MF Receptacles | --- | 1 | --- | --- | --- | --- | --- | --- |
| programmable | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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|---------------------------|-------------|--------------|-----------------|--------------------|--------|-------------------------|----------|---------------|
| Leakage current detection | ✓ | ✓ | ✓ | ✓ | ✓ | Not specified | ✓ | ✓ |
| Auto start/ Auto stop | ✓ | Auto bipolar | ✓ | Bipolar auto start | ✓ | Bipolar auto start/stop | ✓ | ✓ |
| Self check | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

خدمات پس از فروش تقریباً رایگان:

حتی پس از پایان دوره گارانتی، تنها در صورت نیاز به تعویض قطعات، هزینه قطعات از مشتری دریافت میشود. بنابراین میتوان گفت استفاده از خدمات پس از فروش دستگاههای تولید کاوندیش در طول عمر دستگاه برای مشتریان تقریباً رایگان است.

سرعت عمل در ارائه خدمات پس از فروش:

در صورت بروز مشکل در دستگاهها، شرکت مهندسی کاوندیش سیستم در کمتر از ۲/۵ روز کاری خدمات مشتری شامل تعمیر، بازمینی، کالیبراسیون و ارسال دستگاه را تکمیل خواهد نمود. در صورت نیاز به زمان بیشتر برای تعمیر دستگاه، مشتری می تواند از دستگاه جایگزین استفاده نماید.

خدمات دستگاه جایگزین:

لازم به ذکر است چنانچه مرکز درمانی در فاصله ارسال دستگاه جهت خدمات پس از فروش و دریافت آن، نیازمند به دستگاه جایگزین باشد، یک دستگاه جایگزین به صورت امانی بلافاصله (پس از درخواست مرکز درمانی)، از طرف شرکت برای آن مرکز ارسال می شود. (این سرویس کاملاً رایگان بوده و هیچ هزینه ای بابت آن، از مشتری دریافت نمی شود).

خدمات کارت طلایی:

با پرداخت هزینه بسیار جزئی، کارت گارانتی طلایی نیز صادر می شود که علاوه بر ۲۴ ماه گارانتی اولیه شامل ۱۲ ماه گارانتی اضافی می شود که شروع آن پس از پایان ۲۴ ماه اول (از تاریخ نصب دستگاه) می باشد که این گارانتی دارای شرایط بهتری نسبت به گارانتی اولیه است.