



spectrum

electrosurgical system

spectrum of use in electrosurgery

result oriented performance

Spectrum is a state-of-the-art electrosurgical system that automatically adapts to the user's needs.

Our goal was to create an electrosurgical unit that requires no complicated set-up prior to surgery and is ready for operation immediately after instrument connection.

Owing to the solutions used in **spectrum**, the user does not need to control power settings. The **spectrum** system itself ensures that the output settings are maintained so as to obtain the desired result, regardless of the surgical conditions - **result oriented performance**.

For more than 20 years we have specialised in the production of the highest quality electrosurgical diathermies. Our experience and continually evolving technology have enabled us to set new trends in electrosurgery. Through active cooperation with our Customers we have created **spectrum** - the first electrosurgical system which adapts to different surgical procedures so that each surgical intervention is as effective as possible.

Spectrum of opportunities and a single goal, which is full support of the surgeon in the operating room.



To facilitate the work with an electrosurgical system to the greatest extent possible, we have equipped spectrum with a number of functions to support the surgeon during the procedure.

- the **SmartDevice System** detects and identifies the connected instrument. It automatically adjusts the appropriate operating modes and output parameters to the connected instrument,
- the **SpectrumResult** solution maintains the output settings so as to obtain the desired effect of diathermy, regardless of the surgical conditions,
- 10-inch **InTouch Screen** has integrated brightness adjustment and a choice of graphics versions of the screen (light and dark skins),
- **universal SDS outputs** allow the use of monopolar and bipolar instruments in the same output,
- new **specialist modes** are adapted to specific applications in urology, arthroscopy and endoscopy,
- simple **software updates** via USB,
- communication with the user in different languages, **Voice Communication** commands inform about the operating status,
- **Spectrum Trolley** provides ergonomic work in the operating room.



easy and safe operation

confidence through technology

SmartDevice System

Never before has it been so easy to prepare an electrosurgical system for operation.

Just connect the instrument and start working.

The **SmartDevice System** detects and identifies the connected instrument. It automatically adjusts the operating mode and output settings to the instrument, thus improving the operator's working comfort.

The user does not have to wonder which mode and which setting to use for a specific instrument. The **SmartDevice System** identifies the instrument connected to spectrum. It automatically selects the modes in which it can be used and sets the suggested operating parameters for the identified instrument. In this way, it increases instrument life and safety of work.

The spectrum system remembers the settings selected for each instrument, and when it is connected again, it recalls the stored parameters.

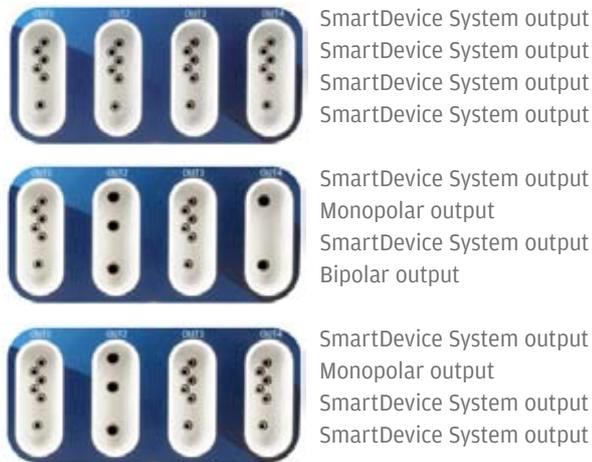
The assignment of the selected settings to a specific instrument facilitates the operation, and significantly reduces the time of preparation for surgery.



Universal SDS outputs

The outputs of spectrum use the new SDS standard. They are intended for both monopolar and bipolar instruments. They feature the SmartDevice instrument recognition system. Spectrum will automatically recognize the type of the connected instrument and recall the modes and settings appropriate for that instrument. To take all advantages of the SDS system, it is necessary to use special SpectrumLine instruments. These accessories are encoded with information concerning their properties.

The spectrum system allows a different configuration of outputs, depending on the user's needs.



Communication with the user

Spectrum can communicate with the user in different languages.

Voice communication is a novel solution in electrosurgical systems. The human voice simulator used in spectrum signals the potential problems and will guide the user. The user selects the volume level.

The system is equipped with modern software, which allows to access and update the system with language versions to suit the user's individual needs.



InTouch Screen

The spectrum electrosurgical system is controlled with a touch screen which is designed to provide the user with easy access to all diathermy functions. The settings or modes of operation are changed by touching icons on the screen. To ensure maximum ease of operation there are no extra buttons or knobs.

Owing to a larger 10-inch display with a resolution of 800 × 600 pixels and a movable panel, spectrum may be suspended and positioned at various heights, to adjust the visibility for the users' needs and preferences.



Spectrum meets the requirements of every operating room.

With built-in brightness and colour adjustment options and an option to change the colour of the control panel, it can be used both in a “dark” endoscopy room, and in “light” open surgery.

Depending on the user's needs three different graphical versions of the user interface can be selected.



SpectrumResult

The idea of spectrum is to set all parameters by default, and once selected, the settings will not require subsequent adjustments.

With the solution used in spectrum, the user does not need to control power settings. The electrosurgical system itself ensures that the output settings are maintained so as to obtain the desired effect of work, regardless of the surgical conditions.

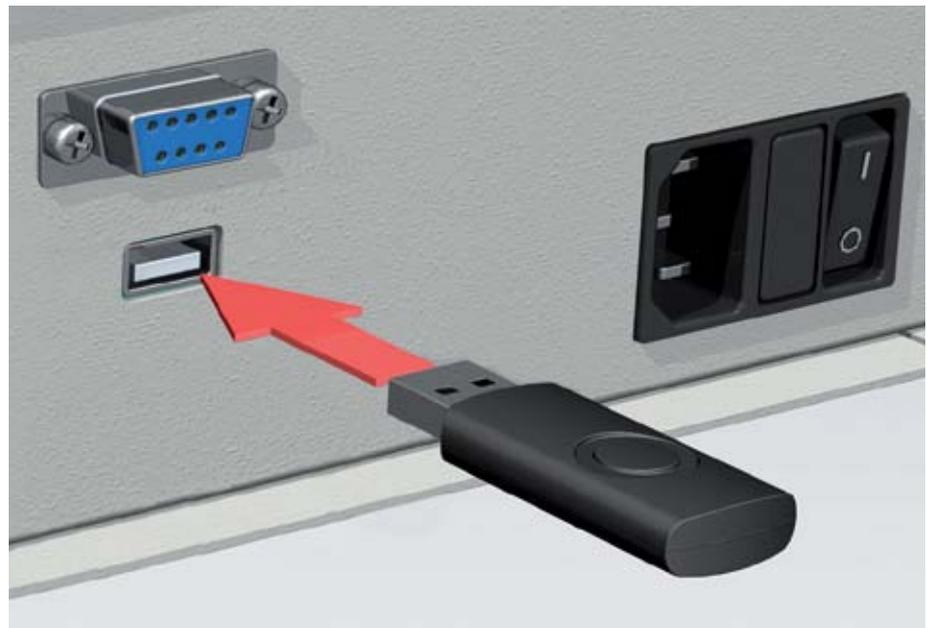
The doctor no longer has to focus on adjustment of the settings during the procedure.

SpectrumResult performs real-time monitoring of all operating parameters of the system: actual power, current intensity and voltage. Constant monitoring of all parameters always ensures the best result.

By using the benefits offered by a modern generator, spectrum increases the efficiency of cutting. It allows the development of new modes of operation, together with the changing needs of customers and standards in surgery.

Software upgrade

Spectrum is equipped with a modern operation system that allows for very fast and easy update with the development of new features and operating modes. Software upgrade is performed automatically after connecting the USB memory to the device. At the same time, miniaturisation of the processor in spectrum increases its reliability.



operating modes

setting performance goals

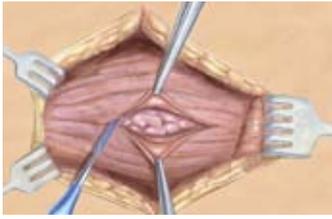
A modern operating room is focused on effects rather than power settings. Spectrum allows to set the desired effect. The effect determines the intensity of diathermy work. The operator chooses the desired coagulation or cutting effect. It is not necessary to focus on analysing and selecting the appropriate power level, which would allow to achieve the required effect.

Spectrum allows to work using standard cutting and coagulation modes. It also offers the opportunity to work in highly specialised modes such as bipolar cutting in the fluid environment, argon coagulation and big blood vessels sealing system - ThermoStapler®.

Spectrum has been enhanced with new universal modes and specialised modes. The names of all the modes have been systematised to facilitate the work with unit and eliminate the possibility of mistakes in selecting the operating mode.



OPEN SURGERY



MONO CUT
Monopolar cutting with different levels of haemostasis.



PRECISE CUT
Monopolar delicate cutting for small and precise structures.



MIXED CUT
Monopolar cutting with desiccation.



BI-CUT
Bipolar cutting with different levels of haemostasis.



SOFT COAG
Monopolar contact coagulation with low voltage.



HYBRID COAG
Monopolar coagulation for contact and non-contact use.



FORCED COAG
Monopolar contact coagulation.



SOFT BI-COAG
Bipolar coagulation with low voltage.



SPRAY COAG
Monopolar non-contact coagulation with high voltage.



FORCED BI-COAG
Bipolar coagulation with high voltage.



ARGON CUT
Monopolar argon enhanced cutting.



STANDARD ARGON
Monopolar argon plasma coagulation.



ThermoStapler®
Bipolar mode for sealing big blood vessels and bundles of tissue.



LAPAROSCOPY
Bipolar mode for sealing blood vessels and bundles of tissue.

GYNAECOLOGY



ThermoStapler®
Bipolar mode for sealing big blood vessels and bundles of tissue.



LAPAROSCOPY
Bipolar mode for sealing blood vessels and bundles of tissue.

ENDOSCOPY



POLIPO CUT
Endoscopic monopolar cutting for polypectomy procedures.



ENDO ARGON
Monopolar delicate argon coagulation for endoscopic procedures.



PAPILO CUT
Endoscopic monopolar cutting for papillotomy procedures.



PULSE ARGON
Monopolar pulse argon coagulation for endoscopic procedures.



MUCO CUT
Endoscopic monopolar cutting for mucosectomy procedures.



ENDO SPRAY
Delicate endoscopic spray coagulation for non-contact operation.

UROLOGY



URO CUT
Monopolar cutting in liquid for urological procedures.



URO COAG
Monopolar coagulation in liquid for urological procedures.



URO BI-VAPOR
Bipolar vaporization in liquid for urological procedures.



URO BI-CUT
Bipolar cutting in liquid for urological procedures.



URO BI-COAG
Bipolar coagulation in liquid for urological procedures.

ARTHROSCOPY



ARTRO CUT
Monopolar cutting in liquid for arthroscopic procedures.



ARTRO COAG
Monopolar coagulation in liquid for arthroscopic procedures.



ARTRO BI-CUT
Bipolar cutting in liquid for arthroscopic procedures.



ARTRO BI-COAG
Bipolar coagulation in liquid for arthroscopic procedures.

HYSTEROSCOPY



HYSTERO CUT
Monopolar cutting in liquid for gynaecological procedures.



HYSTERO COAG
Monopolar coagulation in liquid for gynaecological procedures.



HYSTERO BI-CUT
Bipolar cutting for gynaecological procedures (hysteroscopy) in conductive liquid.



HYSTERO BI-COAG
Bipolar coagulation for gynaecological procedures (hysteroscopy) in conductive liquid.

confidence through safety

AutoTest	After power-up the system performs an internal test of the correct operation of diathermy, including all components of the system as well as the connected accessories.
NEM system	The NEM system controls the quality of neutral electrode adhesion during procedures in a continuous mode. If the electrode application is not complete, the system withholds operation. User has ability to choose between two split disposable Emed Safe electrodes - for adults and for children. An expandable screen shows the quality of connection of a splitted electrode and its application during surgery. When using reusable silicon electrodes, the correct connection of an electrode to the electrosurgical system is monitored.
PowerStart	Spectrum automatically adjusts the power depending on the needs. When necessary, the control system allows a temporary increase in power (in the range selected by the user) to help start the cutting process.
EndoDetect	A fully controlled cutting process during polypectomy procedures. The loop closing detection system available in spectrum does not allow to activate the instrument when the area of contact with the tissue is too small. By preventing accidental activation of current flow, the EndoDetect System minimises the risk of perforation, ensuring the safety of the performed procedures.
Overload Protection	Temperature monitoring of all critical components of the system allows to avoid damage even with intensive use.
Defibrillator Proof	The EMED systems are Class I CF units with the protection against the defibrillation impulse.
Service messages	In spectrum, all messages are displayed on the screen in graphical form, with a detailed description of the problem. It gives also clear information what should be checked and how to proceed.

SpectrumLine accessories

setting the stage

SpectrumLine Trolley

A modern trolley for electrosurgical unit designed to form an integral part of the system. The trolley has stabilizing pins to prevent accidental dropping of diathermy. It is adapted for large 10-litre argon cylinders, with access from the front of the trolley. An additional shelf for accessories, and places for smoke suction and an irrigation pump are situated so that all equipment is directed towards the user. Cable holder and basket for accessories also facilitate the work in the operating room.



SpectrumLine Smoke Evacuator

Spectrum system is adapted to operate with EMED Smoke Evacuator that effectively traps odor, smoke, dust and other potentially hazardous by-products generated during electro-surgical procedures. Minimizes the level of smoke in the operating room. It also improves the visibility of the operation area during electrosurgical interventions. SpectrumLine Smoke Evacuator ensures the safety of doctors and patients.



SpectrumLine accessories and instruments

Spectrum system was equipped with a dedicated line of accessories. It can also work with other standard accessories and instruments that work with every unit produced by EMED. Full range of our surgical instruments and accessories is available in „Accessories for electrosurgery,” or on our website www.emed.pl



spectrum

electrosurgical system



SpectrumLine accessories

electrode handles · monopolar and bipolar cables for laparoscopic
· monopolar cables for endoscopic · monopolar and bipolar cables
for electroresectoscope · other bipolar cables

electrosurgical system spectrum

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Electrosurgical Unit spectrum



080-100

SpectrumLine trolley for EMED ESU, with case for argon cylinders (2x 5L/10L), basket



100-313

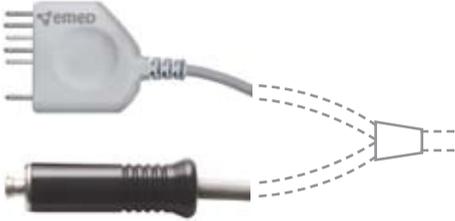
MultiSwitch, two-pedal footswitch, wireless



electrode handles

SDS plug wtyk SDS	Ref. No. Kod	cable length dł. kabla	Ø dia. średnica	
	322-14S	4 m	4 mm	Electrode handle, large, 2 switches Uchwyt elektrody, szeroki, 2 przyciski
	327-14S	4 m	2.4 mm	Electrode handle, large, 2 switches Uchwyt elektrody, szeroki, 2 przyciski
				
				Ø dia. średnica
	215-23S	3 m	4 mm	Electrode handle, small, 2 switches Uchwyt elektrody, wąski, 2 przyciski
	215-25S	5 m	4 mm	Electrode handle, small, 2 switches Uchwyt elektrody, wąski, 2 przyciski
				
				Ø dia. średnica
218-23S	3 m	2.4 mm	Electrode handle, small, 2 switches Uchwyt elektrody, wąski, 2 przyciski	
218-25S	5 m	2.4 mm	Electrode handle, small, 2 switches Uchwyt elektrody, wąski, 2 przyciski	
				
			Ø dia. średnica 	

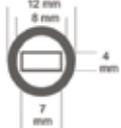
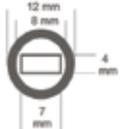
argon electrode handles

SDS/LuerLock plug	Ref. No.	cable length	 
	932-14S	3.5 m	Argon electrode handle, large, 2 switches
			
			432-46S
			 
			432-45S
		 	

monopolar cables

SDS plug	Ref. No.	cable length		
	280-03S 280-05S	3 m 5 m	4mm female	Monopolar laparoscopic cable
				
	281-03S	3 m	3mm female	Monopolar endoscopic cable
				
	405-04S	4.5 m	2mm male	Monopolar cable for TONTARRA resectoscope
				
	408-14S	4.5 m	angled connector	Monopolar cable for STORZ resectoscope
				
409-04S	4.5 m	3 mm male	Monopolar cable for OLYMPUS resectoscope	
				

bipolar cables

SDS plug	Ref. No.	cable length	
	<p>351-03S 351-05S</p>	<p>3 m 5 m</p>	<p>Bipolar cable, straight connector</p>
	<div style="display: flex; justify-content: space-around; align-items: center;">   </div>		
	<p>351-13S 351-15S</p>	<p>3 m 5 m</p>	<p>Bipolar cable, angled connector</p>
	<div style="display: flex; justify-content: space-around; align-items: center;">   </div>		
	<p>401-03S 401-05S</p>	<p>3 m 5 m</p>	<p>Bipolar cable 2x2.6mm, for ThermoStapler® clamps</p>
			
<p>348-04S</p>	<p>4.5 m</p>	<p>Bipolar cable for STORZ resectoscope</p>	
			
<p>354-04S</p>	<p>4.5 m</p>	<p>Bipolar cable for TONTARRA, WOLF resectoscope</p>	
<div style="display: flex; justify-content: space-around; align-items: center;">  <div style="display: flex; gap: 20px;">   </div> </div>			

bipolar cables

SDS plug	Ref. No.	cable length	
	349-04S	4.5 m	Bipolar cable for OLYMPUS resectoscope
			
	359-03S 359-05S	3 m 5 m	Bipolar cable for STORZ laparoscopy
			
	352-03S	3 m	Bipolar cable for WOLF laparoscopy
			
358-03S	3 m	Bipolar cable for BiTech scissors	
			

other accessories

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Smoke evacuator aria

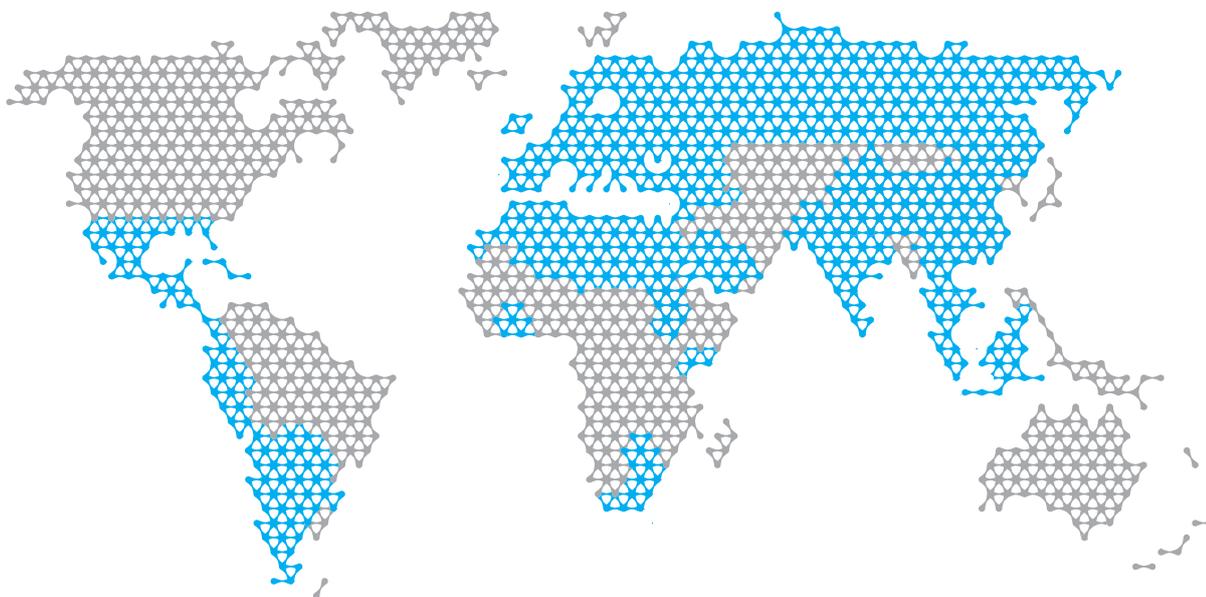


020-100

Waterfall, endoscopic irrigation pump, with drain set



contact us



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For product information, including indications, contraindications, warnings, precautions, potential adverse effects and patient counselling information, see the Instructions For Use.



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