emed
confidence in performance



spectrum

electrosurgical system

October 2014

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 over 15 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 diathermy 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.

SmartDevice System output
SmartDevice System output
SmartDevice System output
SmartDevice System output

SmartDevice System output
Monopolar output
SmartDevice System output
Bipolar output

SmartDevice System output
Monopolar output
SmartDevice System output
SmartDevice System output

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.

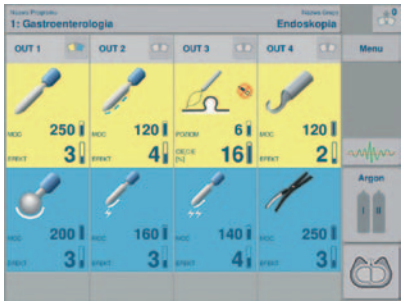




Spectrum meets the requirements of every operating room.

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 and preferences, 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 user 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

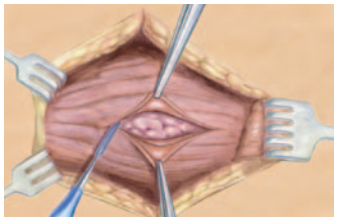
A modern operating room is focused on effects rather than power settings. Spectrum allows to set the desired effect. The effect determines the intensity of diathermy work. The operator chooses the desired coagulation or cutting effect. It is not necessary to focus on analysing and selecting the appropriate 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 diathermy and eliminate the possibility of mistakes in selecting the operating mode.



OPEN SURGERY





MONO CUT
Monopolar cutting with different levels of haemostasis.



PRECISE CUT
Monopoar delicate cutting for small and precise structures.



MIXED CUT
Monopolar cutting with desication.



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.



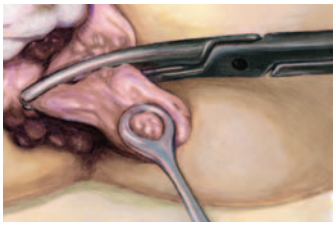
FORCED BI-COAG
Bipolar coagulation with high voltage.



ARGON CUT
Monopolar argon enhanced cutting.



STANDARD ARGON
Monopolar argon plasma coagulation.



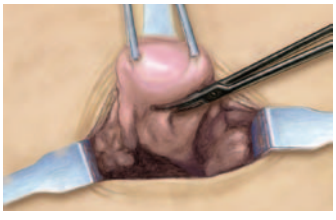


ThermoStapler®
Bipolar mode for sealing big blood vessels and bundles of tissue.



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

GYNAECOLOGY



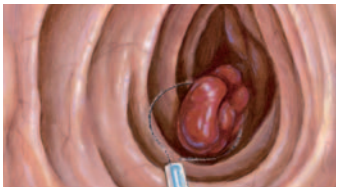


ThermoStapler®
Bipolar mode for sealing big blood vessels and bundles of tissue.



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

ENDOSCOPY





POLIPO CUT
Endoscopic monopolar cutting for polypectomy procedures.



PAPILLO CUT
Endoscopic monopolar cutting for papillotomy procedures.



MUCO CUT
Endoscopic monopolar cutting for mucosectomy procedures.



ENDO ARGON
Monopolar delicate argon coagulation for endoscopic procedures.

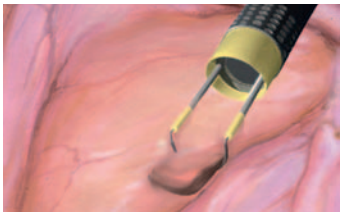


PULSE ARGON
Monopolar pulse argon coagulation for endoscopic procedures.



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

UROLOGY





URO CUT
Monopolar cutting in liquid for urological procedures.



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

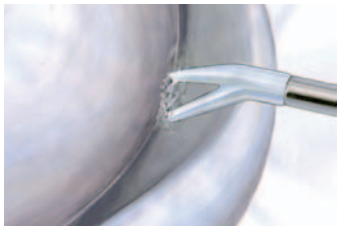


URO COAG
Monopolar coagulation in liquid for urological procedures.



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

ARTHROSCOPY





ARTRO CUT
Monopolar cutting in liquid for arthroscopic procedures.



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

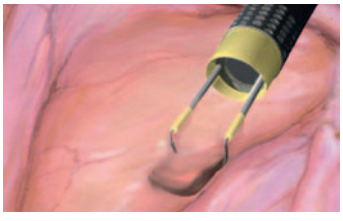


ARTRO COAG
Monopolar coagulation in liquid for arthroscopic procedures.



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.

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 surgical diathermy 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

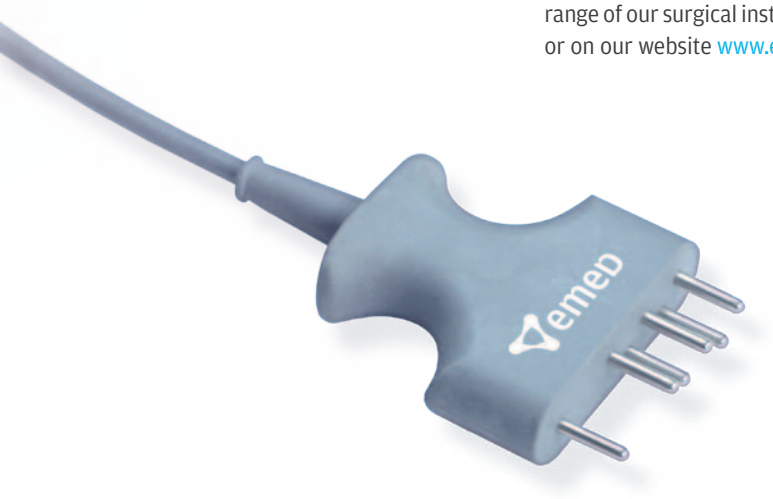
Spectrum system is adapted to operate with EMED Smoke Evacuator that effectively traps odor, smoke, dust and other potentially hazardous by-products generated during electrosurgical procedures. Minimizes the level of smoke in the operating room . It also improves the visibility of the operation area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

100-013 Electrosurgical Unit spectrum
(diathermy, argon module, ThermoStapler® System)



080-100 SpectrumLine trolley for EMED ESU,
with case for argon cylinders (2x 5L/10L), basket



100-313 MultiSwitch,
two-pedal footswitch, wireless



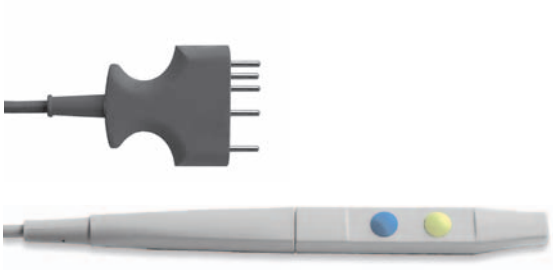
020-001 Smoke evacuator aria



020-100 waterfall, endoscopic irrigation pump, with drain set



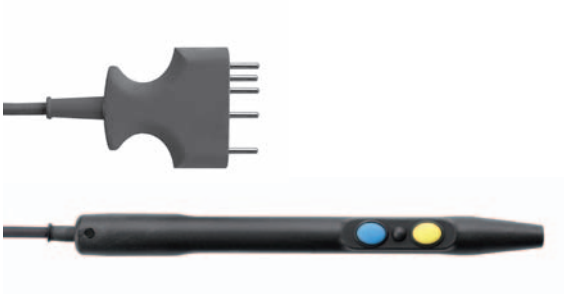
electrode handles



322-14S Electrode handle 4mm, large, 2 switches, cable 4m, SDS plug

327-14S Electrode handle 2.4mm, large, 2 switches, cable 4m, SDS plug

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215-23S Electrode handle 4mm, small, 2 switches, cable 3m, SDS plug

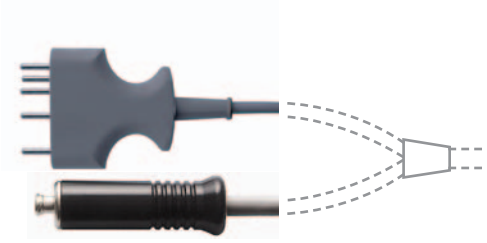
215-25S Electrode handle 4mm, small, 2 switches, cable 5m, SDS plug

218-23S Electrode handle 2.4mm, small, 2 switches, cable 3m, SDS plug

218-25S Electrode handle 2.4mm, small, 2 switches, cable 5m, SDS plug

CE 134°C STERILIZATION

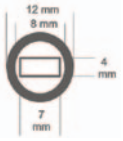
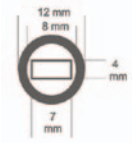
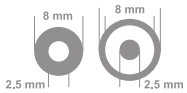
argon electrode handles

SDS/LuerLock plug	Ref. No.	cable length	CE max. 134°C STERILIZATION
	932-14S	3.5 m	Argon electrode handle, large, 2 switches
			
	432-46S	3.5 m	Monopolar cable for argon flexible electrode, flat connector
			
	432-45S	3.5 m	Monopolar cable for argon flexible electrode, round connector
			

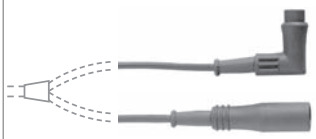
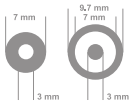
monopolar cables

SDS plug	Ref. No.	cable length		CE max. 134°C STERILIZATION
	280-03S 280-05S	3 m 5 m	4mm female	Monopolar laparoscopic cable
			Ø 4 mm	
	281-03S	3 m	3mm female	Monopolar endoscopic cable
			Ø 3 mm	
	405-04S	4.5 m	2mm male	Monopolar cable for TONTARRA resectoscope
			Ø 2 mm	
	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	CE max. 134°C STERILIZATION
	351-03S 351-05S	3 m 5 m	Bipolar cable, straight connector
	 		
	351-13S 351-15S	3 m 5 m	Bipolar cable, angled connector
	 		
	401-03S 401-05S	3 m 5 m	Bipolar cable 2x2.6mm, for ThermoStapler® clamps
			
	348-04S	4.5 m	Bipolar cable for STORZ resectoscope
			
	354-04S	4.5 m	Bipolar cable for TONTARRA, WOLF resectoscope
	 		

bipolar cables

SDS plug	Ref. No.	cable length	CE max. 134°C STERILIZATION
	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
			

bipolar laparoscopic instruments

SDS plug	Ref. No.	cable lenght	CE max. 134°C STERILIZATION
	824-13S	3 m	Handle for bipolar laparoscopic instrument, reusable



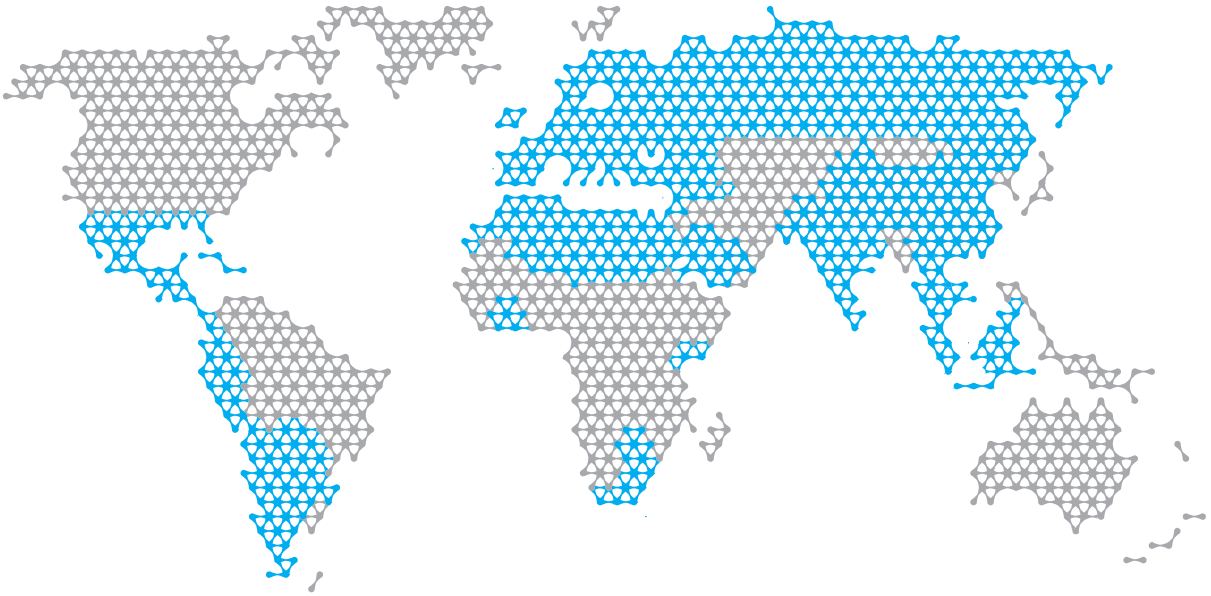
instrument with fixed cable



CE 134°C STERILIZATION

See our catalogue for a comprehensive range of accessories.
For more information, contact the regional representatives or visit www.emed.pl

contact us



confidence in performance

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