



# SPECTRUM

electrosurgical system



# SPECTRUM of use in electrosurgery

result oriented performance

**SPECTRUM** is a state-of-the-art electrosurgical system that automatically adjusts to the user's needs.

For over 20 years we have been specializing in the production of the highest quality electrosurgical devices. Our experience and constantly evolving technology have allowed us to set new trends in electrosurgery.

Our goal was to create an electrosurgical unit that does not require complicated configuration before and during the surgery, and is ready for operation as soon as the instrument is connected.

This is how **SPECTRUM** was created - the first electrosurgical system that adapts to a variety of surgical procedures to make any surgical intervention as effective as possible.

Due to the solutions used in the **SPECTRUM** the user does not have to control the power settings.

The **SPECTRUM** system itself ensures that the output settings are maintained to obtain the desired results regardless of the surgical conditions - result oriented performance.

A spectrum of possibilities and one goal which is the full support of the surgeon in the operating room.



To make the work with the electrosurgical system as easy as possible, we have equipped SPECTRUM with a number of functions supporting the surgeon during the procedure.

- the **SmartDevice System** detects and identifies the connected instrument. It automatically sets the proper operating modes and output parameters
- the **SpectrumResult** solution maintains the output settings to obtain the desired effect regardless of working conditions
- the 10" **InTouch** display has built-in brightness customization and selection of graphic versions screen (light and dark mode)
- **universal SDS outputs** allow to use monopolar and bipolar instruments on the same output
- **specialist modes** designed for specific applications in urology, arthroscopy, and endoscopy
- simple **software updates** via USB
- communication with the user in different languages, **Voice Communication** notifications inform about the operating status
- the **Spectrum Trolley** which ensures ergonomic work in operating room



# easy and safe operation

confidence through technology

## SmartDevice System

It has never been so easy to prepare an electrosurgical system for operation.

Just plug in the instrument and start working.

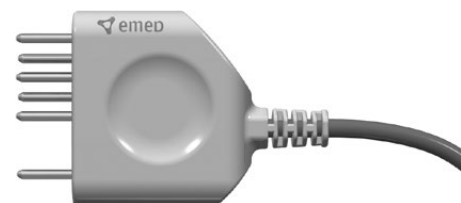
The **SmartDevice system** detects and identifies the connected instrument. It automatically adjusts the operating mode and output settings of the instrument improving the operator's comfort.

The user does not have to deliberate what mode and what settings 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 suggested operating parameters. Thus, increases work safety and the service life of instruments.

The SPECTRUM system remembers the settings selected for each instrument and recalls stored parameters when reconnected.

Assigning selected settings to a specific instrument facilitates operation and significantly reduces the time of preparation for the procedure.

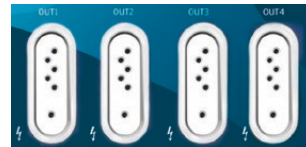


### Universal SDS outputs

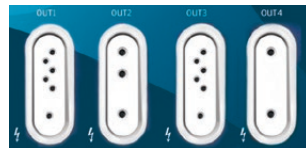
SPECTRUM outputs use the SDS standard. They are designed for both monopolar and bipolar instruments, and equipped with the SmartDevice instrument recognition system. SPECTRUM will automatically recognize the type of instrument connected and set modes and settings appropriate to that instrument.

To use SDS system, it is necessary to use special SDS instruments. These accessories contain information concerning their properties.

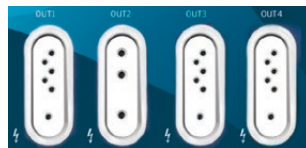
SPECTRUM is available with different sets of outputs.



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 an innovative solution in electrosurgical systems. The human voice simulator used in SPECTRUM signals potential problems and guides the user. The user can select the volume level.

The system is equipped with modern software enabling access and updating the system with language version adapted to the individual needs of the user.



### InTouch Screen

The SPECTRUM Electrosurgical System is controlled through a touchscreen which has been designed to give the user easy access to all functions. Settings or operating modes are changed by touching the icons on the screen. For maximum ease of use, there are no extra buttons or knobs.

Due to a larger 10-inch display with a resolution of 800 × 600 pixels and a movable panel, the spectrum can be suspended and set at different heights to adjust the visibility.



SPECTRUM meets the requirements of every operating room.

Thanks to the built-in brightness and color adjustment and the possibility of changing the color of the control panel, it can be used both in the „dark” endoscopic room and in the „light” open surgery.

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





### SpectrumResult

The idea behind SPECTRUM is to set all parameters by default, and once selected, the settings will not require further changes.

Thanks to the solution used in the SPECTRUM, the user does not have to control the power settings.

The electrosurgical system itself ensures that the output parameters are maintained so as to obtain the desired effect, regardless of the operating conditions.

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

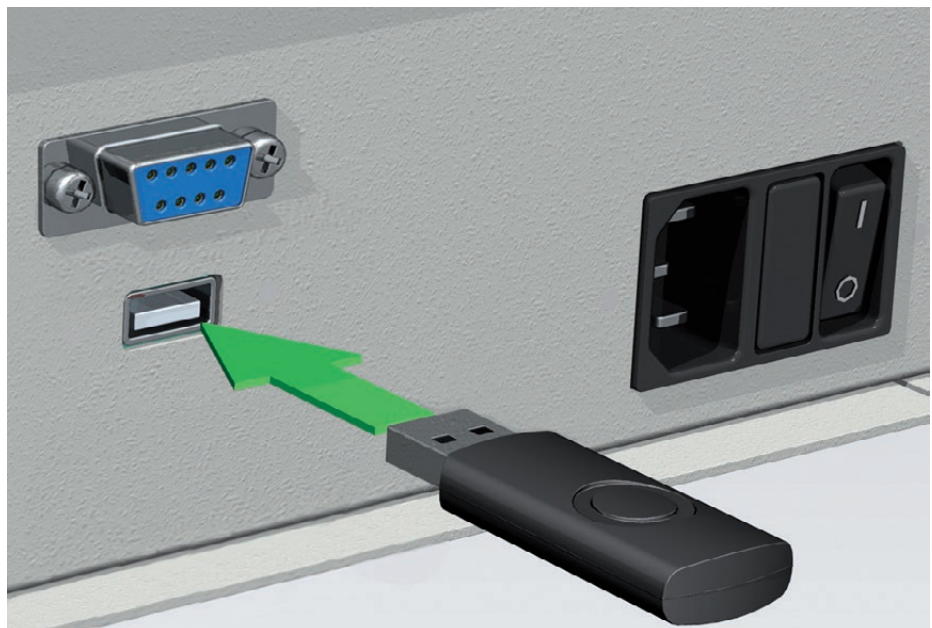
SpectrumResult performs real-time monitoring of all operating parameters of the system:

actual power, amperage and voltage. Constant monitoring of all parameters always ensures the best result.

By using the advantages of a modern generator, SPECTRUM increases cutting efficiency. It allows for the development of new modes of surgery along with the changing needs of customers and standards in surgery.

### Software upgrade

SPECTRUM is equipped with a modern operating system that allows for a very quick and easy update. The software update takes place automatically after connecting the USB memory to the device. At the same time, the miniaturization of the processor spectrum increases its reliability.





# operating modes

## setting performance goals

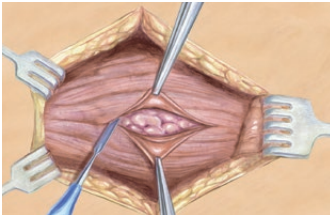
The modern operating room focuses on effects, not power settings. SPECTRUM allows you to set a desired effect. The effect determines the intensity of the cutting and coagulation. It is not necessary to focus on the analysis and selection of the appropriate power level that will allow you to achieve the desired effect.

SPECTRUM allows to work in standard cutting and coagulation modes. It also enables work in highly specialized modes, such as bipolar cutting in a liquid environment, argon coagulation and the ThermoStapler® sealing system for large blood vessels.

SPECTRUM has been enriched with new universal modes and specialist modes. The names of all modes have been systematized to make it easier to work with the device and eliminate the possibility of mistakes in selecting the operating mode.



OPEN SURGERY



**MONO CUT**  
Monopolar cutting with different haemostasis effects.



**PRECISE CUT**  
Precise monopolar cutting.



**MIXED CUT**  
Monopolar drying cutting



**BI-CUT**  
Bipolar cutting with different effects of haemostasis.



**SOFT COAG**  
Low-voltage contact monopolar coagulation.



**HYBRID COAG**  
Monopolar coagulation for contact and non-contact highvoltage applications.



**FORCED COAG**  
Contact monopolar coagulation.



**SOFT BI-COAG**  
Low-voltage contact bipolar coagulation



**SPRAY COAG**  
High-voltage non-contact monopolar coagulation.



**FORCED BI-COAG**  
High-voltage bipolar coagulation.



**ARGON CUT**  
Argon-enhanced monopolar cutting.



**ARGON COAG**  
Argon-enhanced monopolar coagulation.

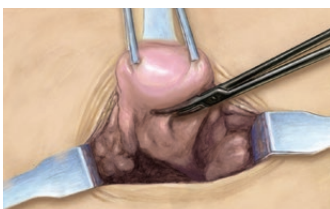


**ThermoStapler®**  
Bipolar mode for sealing big blood vessels.



**ThermoStapler® LAP**  
Bipolar system for sealing large blood vessels intended for laparoscopic procedures.

GYNAECOLOGY

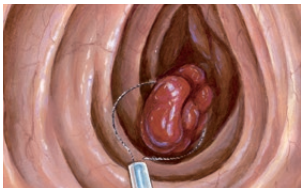


**ThermoStapler®**  
Bipolar mode for sealing big blood vessels and bundles of tissue.



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

## ENDOSCOPY



**POLIPO CUT**  
Monopolar cutting for endoscopic procedures.



**ENDO ARGON**  
Argon-enhanced monopolar coagulation for endoscopic procedures.



**PAPILO CUT**  
Monopolar cutting for endoscopic procedures.



**PULSED ARGON**  
Argon-enhanced pulsed monopolar coagulation.

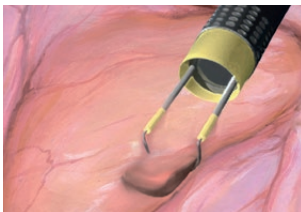


**MUCO CUT**  
Monopolar cutting for mucosectomy procedures.



**ENDO SPRAY**  
Monopolar endoscopic coagulation.

## UROLOGY



**URO CUT**  
Monopolar cutting for urological procedures.



**URO COAG**  
Monopolar coagulation for urological procedures.



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

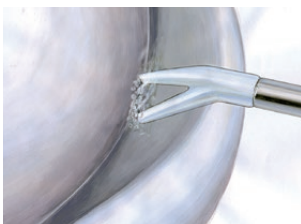


**URO BI-CUT**  
Bipolar cutting for urological procedures TURP and TURB.



**URO BI-COAG**  
Bipolar coagulation used for the TURP and TURB urological procedures.

## ARTHROSCOPY



**ARTRO CUT**  
Monopolar cutting for arthroscopic procedures.



**ARTRO COAG**  
Arthroscopic monopolar coagulation in the environment of non-conductive fluids.

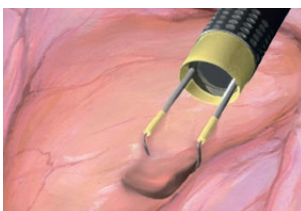


**ARTRO BI-CUT**  
Bipolar cutting for arthroscopic procedures.



**ARTRO BI-COAG**  
Arthroscopic bipolar coagulation in the environment of conductive fluids.

## HYSTEROSCOPY



**HYSTERO CUT**  
Gynaecological monopolar cutting in fluid environment.



**HYSTERO COAG**  
Gynaecological monopolar coagulation in a fluid environment.



**HYSTERO BI-CUT**  
Gynaecological bipolar cutting in a fluid environment.



**HYSTERO BI-COAG**  
Gynaecological bipolar coagulation in a fluid environment.

# confidence through safety

AutoTest	After powering up, the system performs an internal functional test of all system components and connected accessories.
NEM system	The NEM system controls the neutral electrode adhesion during treatments in a continuous mode. If the electrode application is not complete, the system pauses operation. The user can choose between two Emed Safe split disposable electrodes - for adults and for children. The expandable screen shows the quality of the split electrode connection and its use during the surgery. Adhesion monitoring does not apply to reusable silicone electrodes, but its connection to the electro-surgical unit is constantly controlled.
PowerStart	SPECTRUM automatically adjusts the power as needed. If necessary, the control system allows for a temporary increase in power (within the range selected by the user) to help start the cutting process.
EndoDetect	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 the current flow, the EndoDetect system minimizes the risk of perforation, ensuring the safety of the performed procedures.
Overload Protection	Temperature monitoring of all critical system components avoids damage even with intensive use.
Defibrillator Proof	EMED systems are class I CF devices with protection against defibrillation impulse.
Service messages	In SPECTRUM, all messages are displayed graphically on the screen, with a detailed description of the problem. It also gives clear information on what to check and how to proceed.

# SpectrumLine accessories

## setting the stage

### SpectrumLine Trolley

A modern trolley for an electrosurgical unit is designed as an integral part of the system. The trolley has stabilizing pins to prevent accidental dropping of the device. It is adapted to large 10-liter argon cylinders, accessible from the front of the trolley. An additional shelf for accessories, place for smoke evacuators and an irrigation pump are positioned so that all equipment is directed towards the user. A cable holder and basket for accessories also facilitate work in the operating room.



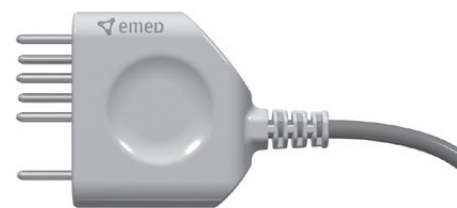
### SpectrumLine Smoke Evacuator

The SPECTRUM system is compatible with the EMED smoke evacuator which effectively catches odors, smoke, dust, and other potentially dangerous by-products generated during electrosurgical procedures. Minimizes the level of smoke in the operating room, and increases visibility. The ARIA Smoke Evacuator ensures the safety of doctors and patients.



### SpectrumLine accessories and instruments

SPECTRUM system has been equipped with a dedicated line of accessories. It can work with other standard accessories and instruments that work with any unit manufactured by EMED. The full range of our surgical instruments and accessories is available in the „Accessories for electrosurgery” tab or on our website [www.emed.pl](http://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



080-100

SpectrumLine trolley with argon cylinder case for electrosurgical units (2x 5L/10L)







100-313

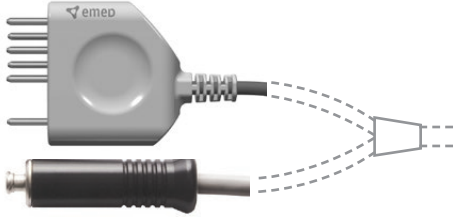


MultiSwitch, two-pedal footswitch, wireless









# electrode handles

SDS plug  	Ref. No.	cable length	Ø dia.	
	322-14S	4 m	4 mm	Electrode handle, large, 2 switches
	 <span style="float: right;">  Ø dia.</span>			
	215-23S	3 m	4 mm	Electrode handle, small, 2 switches
	215-25S	5 m	4 mm	Electrode handle, small, 2 switches
	 <span style="float: right;">  Ø dia.</span>			
	218-23S	3 m	2.4 mm	Electrode handle, small, 2 switches
218-25S	5 m	2.4 mm	Electrode handle, small, 2 switches	
 <span style="float: right;">  Ø dia.</span>				



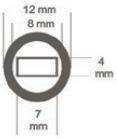

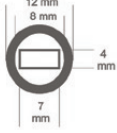




# argon electrode handles

SDS/LuerLock plug	Ref. No.	cable length	
	932-14S	3.5 m	Argon electrode handle, large, 2 switches
			
	432-46S	3.5 m	Monopolar cable for argon flexible electrode, flat connector
			


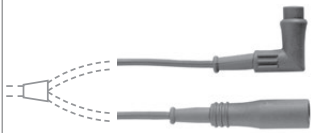
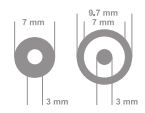



# monopolar cables

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 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>	
				
	<p>351-13S 351-15S</p>	<p>3 m 5 m</p>	<p>Bipolar cable, angled connector</p>	
				
	<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 resectoscope</p>		
				




# 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 laparoscopy STORZ
			
	352-03S	3 m	Bipolar cable for WOLF laparoscopy
			
358-03S	3 m	Bipolar cable for BiTech scissors	
			

# bipolar instruments

SDS plug	Ref. No.	cable length	
	824-13S	3 m	Handle for bipolar laparoscopic instrument, reusable
			








instrument with fixed cable

SDS plug	Ref. No.	cable length	box	
	847-S30	3 m	10 pcs.	Disposable handle with knife electrode, 2 switches, sterile
	847-S31	3 m	10 pcs.	Disposable handle with needle electrode, 2 switches, sterile
				
				








# SDS bipolar arthroscopic electrodes


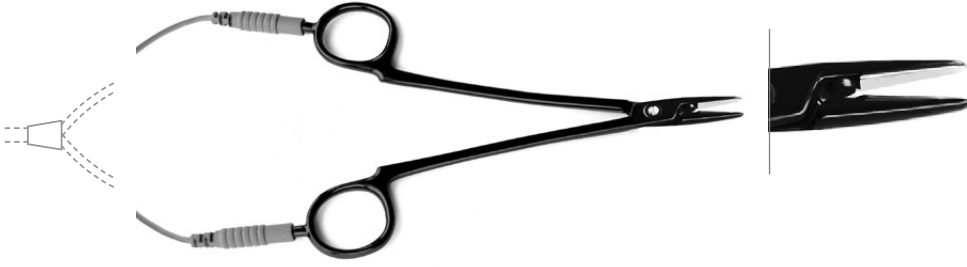
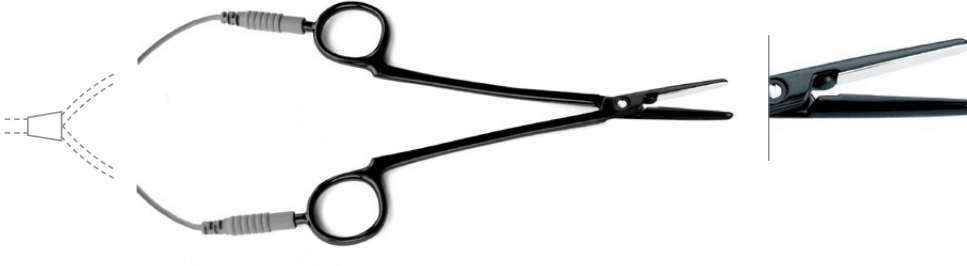
SDS plug	Bipolar electrode		Ref. No.		cable length	
			<a href="#">58S-010</a> <a href="#">58S-030</a>	115 mm 170 mm	3 m	Bipolar needle electrode, angled 90°, 0.6 x 1.5 mm
			<a href="#">58S-020</a> <a href="#">58S-060</a>	115 mm 170 mm	3 m	Bipolar needle electrode, angled 90°, 0.6 x 4 mm
			<a href="#">58S-040</a>	115 mm	3 m	Bipolar button electrode, angled 90°, 1.5 x 4 mm
			<a href="#">58S-110</a> <a href="#">58S-140</a>	115 mm 170 mm	3 m	Bipolar vaporization electrode, Phazer, convex, angled 70°, ball 2.4 mm
			<a href="#">58S-930</a> <a href="#">58S-920</a>	115 mm 170 mm	3 m	Bipolar vaporization electrode, round, VAP

instrument with fixed cable

# ThermoStapler® vessel sealing clamps, angled, SDS

SDS plug	Ref. No.	length	
	801-16S	16 cm	ThermoStapler® - vessel sealing clamps, angled, smooth, with cable 3 m
			
	801-18S	18 cm	ThermoStapler® - vessel sealing clamps, angled, smooth, with cable 3 m
	801-23S	23 cm	ThermoStapler® - vessel sealing clamps, angled, smooth, with cable 3 m
	801-28S	28 cm	ThermoStapler® - vessel sealing clamps, angled, smooth, with cable 3 m
			
<hr style="width: 20%; margin-left: auto;"/> instrument with fixed cable			

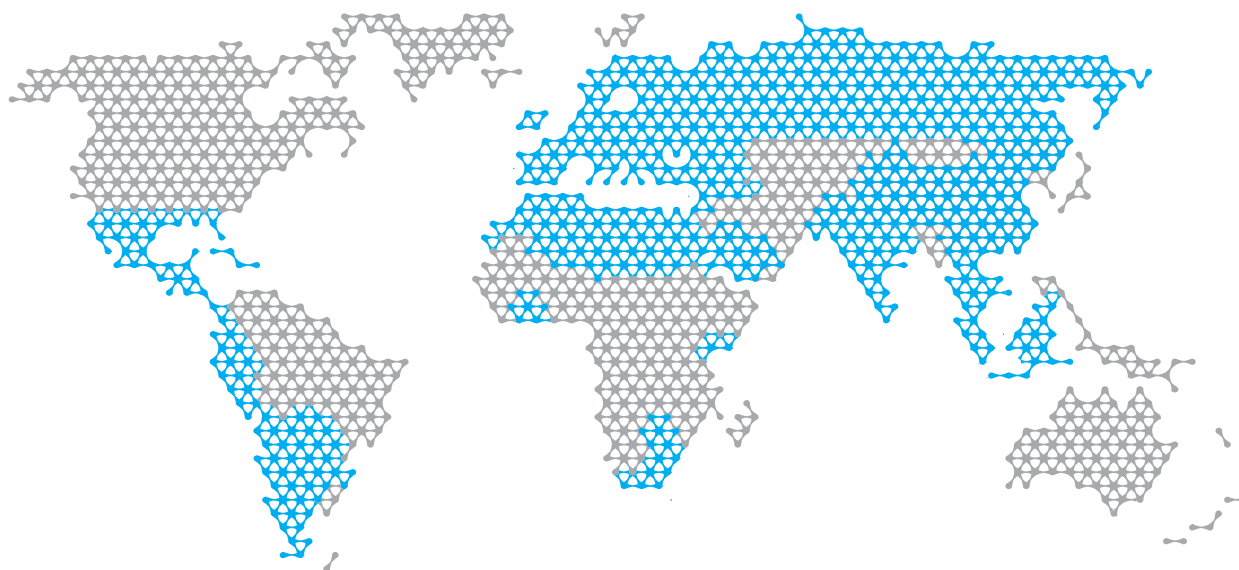
# ThermoStapler® vessel sealing clamps, straight, SDS

SDS plug	Ref. No.	length	
	801-66S	16 cm	ThermoStapler® - vessel sealing clamps, straight, smooth, with cable 3 m
			
	801-68S	18 cm	ThermoStapler® - vessel sealing clamps, straight, smooth, with cable 3 m
	801-73S	23 cm	ThermoStapler® - vessel sealing clamps, straight, smooth, with cable 3 m
	801-78S	28 cm	ThermoStapler® - vessel sealing clamps, straight, smooth, with cable 3 m
			
			<hr style="width: 20%; margin-left: auto; margin-right: 0;"/> instrument with fixed cable

# additional devices

	Ref. No.	
	020-001	Smoke evacuator ARIA
	020-100	WATERFALL, endoscopic irrigation pump

# contact us



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