

ATOM create your performance









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create your performance





ATOM create your performance

Electrosurgery is a constantly developing discipline of medical technology. It has been applied for dozens of years and is still looking for novel approaches as well as more effective and safer solutions. With an enhanced range of electrosurgical applications in a number of different specializations, electrosurgical systems have become more complex and complicated, while the scope of available functionalities and operational modalities has not necessarily matched the actual needs and requirements of their users.



For more than 20 years now EMED has been involved in the manufacture of top-quality electrosurgical systems. Our considerable experience and continually evolving technology have enabled us to set new trends in electrosurgery. Our aim is to deliver electrosurgical units as simple to operate as possible. This would make it possible to take a full advantage of the opportunities offered by advanced electrosurgical methods in medical procedures.

ATOM is the first electrosurgical system which combines perfectly well a small size and a wide spectrum of applications.

ATOM create your performance







ATOM is a compact electrosurgical unit which offers possibilities which have so far been provided by large and complicated electrosurgical systems only.

Create your electrosurgical system

ATOM is a system which easily adapts to the user. Since it is possible to configure in any way the available operating modes, each user can set up an electrosurgical system that accurately meets the actual needs and requirements. Based on the configuration options for each operating mode, the electrosurgical system can be freely adjusted to the specialist's needs and requirements.

With an innovative user interface as well as a large and easy-to-read touchscreen, the operation of the system is simple and intuitive.

ATOM SmartDevice System

ATOM does not require any complicated preprocedure configuration – you simply need to connect the instrument. The system will automatically detect it and adjust the appropriate settings.

The electrosurgical unit is equipped with SmartDevice System (SDS) sockets. The SDS system detects and identifies the connected instrument. ATOM automatically adjusts the operating mode and output settings, thus ensuring greater comfort and safety of work. If the settings are changed during the procedure, the electrosurgical unit will store them in memory, and automatically recall them when the instrument is connected for the next procedure. SDSA argon socket with integrated argon connection makes plugging the argon cables very convenient and user-friendly.

Connect the instrument and start work.



ATOM create your performance

- monopolar and bipolar modes
- highly-specialized operating modes, e.g. bipolar resection, an endoscopic cutting procedure and ThermoStapler[®]
- argon plasma coagulation in standard and pulse mode
- automatic regulation of working parameters on the basis of real-time measurements
- instantaneous and average power monitor that enables the operator to control the electrosurgical unit's working parameters
- colour touch screen and system for recognition of connected instruments, SDS
- integrated argon connection SDSA
- control system for the neutral electrode, NEM, and the EMED SAFE electrode that guarantees safety of the procedure
- innovative user interface as well as a large and easy-to-read touch-screen
- dedicated trolley with case for argon cylinder and handy basket for accessories and cables ensure comfort and ergonomic conditions in the surgery theatre



ATOM safety of performance

Safety of the patient

Correct application of a neutral electrode (passive plate) is a very important part of every electrosurgical procedure. In monopolar operation, neutral electrode collects the high frequency current and discharges it, closing the electrical circuit.

The ring around the EmedSafe electrode dissipates the HF-current over the entire surface of the neutral electrode. It means that the HF-current dispersion is the same regardless of the direction of the electrode.

Neutral Electrode Monitor (NEM) system continuously verifies if the neutral electrode keeps accurate contact with patient's body during the procedure. In case the contact has been detected to be not sufficient and therefore not safe, the unit stops operation and warns the user.

Two different types of disposable split neutral electrode can be selected by the operator: version for adults and version for infants.





EmedSafe neutral electrode for adults and children



EmedSafe neutral electrode for infants

ATOM setting performance

Power monitor

A modern operating room is focused on effects rather than power settings. The operator chooses the desired coagulation or cutting effect. It is not necessary to focus on analyzing and selecting the appropriate power level, which would allow to achieve the required effect. ATOM is fitted out with an advanced measuring system which automatically adjusts in real-time the output power to the changing conditions within the operating field based on measurements of the output parameters. Due to continuous monitoring of all parameters, the user always obtains the best result regardless of the working conditions during the procedure.

Power monitor shows the diagram of instantaneous output power and the average power value after the cutting or coagulation process is completed.



Measuring parameters in real time

ATOM footswitch

Wireless footswitch operation

This innovative solution eliminates the additional cables from the operating theatre or procedure room. The footswitch communicates with the electrosurgical unit using wireless data transfer.

The state-of-the-art technology used in the wireless module guarantees data transfer without undue delay and without interference in functions of other equipment in the operating theatre.

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Two-pedal footswitch, wireless



Footswitch settings menu

Footswitch options:

- recognition of connected footswitch (type, serial number, etc.)
- different options of assigning of the buttons to the outputs
- constant monitoring of battery level
- low battery level alert

Versatility of applications

ATOM features monopolar and bipolar techniques in a variety of cutting and coagulation modes. The generator features highly-specialized operating modes, e.g. bipolar resection, an endoscopic cutting procedure and ThermoStapler® – a system for sealing large blood vessels. An integrated argon module brings the benefits from argon plasma coagulation and cutting.





Monopolar and bipolar resection



Argon cutting and coagulation

MONOPOLAR AND BIPOLAR RESECTION



Vessel sealing system



URO BI-CUT Bipolar cutting for urological procedures TURP and TURB. Used for cutting and vaporisation of tissue. It requires the use of conductive fluids, e.g. normal saline or Ringer's solution. Instruments: bipolar urological resectoscope, loop or a vaporisation electrode



URO BI-COAG Bipolar coagulation used for the TURP and TURB urological procedures. This mode is used in the environment of conductive fluids, e.g. saline solution or Ringer's solution.

Instrument: bipolar urological resectoscope, loop electrode or ball.



URO CUT Monopolar cutting for urological procedures. The mode is used in the environment of non-conductive fluids, e.g. Purisol, glucose or distilled water. It is necessary for the TURP and TURB procedures. Instruments: monopolar urological resectoscope.



URO COAG Monopolar coagulation for urological procedures (TURP, TURB) in the environment of non-conductive fluids, e.g. distilled water, Purisol or glucose. Instruments: monopolar resectoscope - loop or ball electrodes.

ARGON CUT AND COAGULATION



ARGON COAG Argon-enhanced monopolar coagulation. The mode is used for non-contact coagulation of the surface of bleeding tissues. It eliminates smoke and smell. It ensures very shallow and gentle coagulation. Instruments: rigid argon electrodes for coagulation.



ENDO ARGON Argon-enhanced monopolar coagulation for endoscopic procedures. It ensures very shallow and gentle coagulation. It is necessary when there is a risk of perforation. The absence of smoke ensures the perfect visibility of the operative field. Instruments: flexible argon probes.



PULSED ARGON Argon-enhanced pulsed monopolar coagulation. It is used in gastroenterology to control bleeding. It enables the precise delivery of energy doses exactly to the bleeding site. Instruments: flexible argon probes.



ARGON CUT Argon-enhanced monopolar cutting. The argon shield reduces the amount of generated smoke and smell. The thermal damage to tissues is reduced and bleeding control is improved. This function is particularly desirable during procedures that require intensive use of the electrosurgical unit. Instrument: needle- or lancet-type argon electrodes.

THERMOSTAPLER®



ThermoStapler® is a special bipolar mode enabling the sealing of large blood vessels and the preparation of tissue bundles before cutting. It eliminates the need for traditional staplers and ligation. This mode is especially helpful for the resection of organs and tumours. Instruments: bipolar clamps and bipolar instruments for vessel sealing.



STANDARD MONOPOLAR MODES



MONO CUT Monopolar cutting with different hemostasis effects. Effect 1 is used to cut the tissues when additional bleeding control is not needed. This cutting mode causes the least damage to tissues. Other effects include enhanced hemostasis levels. They are used when there is a need for more intensive bleeding control already in the course of cutting. Instruments: monopolar electrodes, e.g. knife, loop or needle.



MIXED CUT Monopolar drying cutting. Alternating cutting and soft coagulation enable the cutting of severely bleeding tissues, while minimising blood loss. Instruments: monopolar electrodes, e.g. knife, loop or needle.



PRECISE CUT Precise monopolar cutting. Used when cutting small and precise structures. More gentle current enables higher cutting precision. Instruments: monopolar electrodes, e.g. knife, loop or needle.





FORCED COAG Contact monopolar coagulation. A traditional type of coagulation which enables quick and efficient coagulation of local bleeding. Instruments: monopolar electrodes, e.g. ball, spatula or lancet.



SOFT COAG Low-voltage contact monopolar coagulation. This mode enables deep coagulation, reaching deeper than the other types. Instruments: monopolar electrodes, e.g. ball, spatula or lancet.



SPRAY COAG High-voltage non-contact monopolar coagulation. It enables quick and effective coagulation of larger areas. It eliminates tissue adherence to the instrument. Instruments: monopolar electrodes, e.g. ball, spatula or lancet.



HYBRID COAG Monopolar coagulation for contact and non-contact highvoltage applications. Instruments: monopolar electrodes, e.g. ball, spatula or lancet.



STANDARD BIPOLAR MODES



BI-CUT Bipolar cutting with different effects of hemostasis. Special bipolar instruments are used for this mode. This mode is particularly recommended for procedures performed on neonates and patients with a heart pacemaker. Instruments: specialised standard instruments for bipolar cutting.



SOFT BI-COAG Low-voltage contact bipolar coagulation. In this mode, the current flows between the electrode tips and no passive electrode is required. Typically, it is used to seal single medium-sized blood vessels. Instruments: bipolar forceps, bipolar laparoscopic instruments.



SCISS BI-COAG Universal soft bipolar coagulation for hemostasis of bleeding tissues cut with bipolar scissors. Instruments: bipolar scissors with an SDS cable.



FORCED BI-COAG High-voltage bipolar coagulation. In this mode, the current flows between the electrode tips and no passive electrode is required. Typically used for closing medium-sized blood vessels. Instruments: bipolar forceps.



GASTROENTEROLOGY



POLIPO CUT Monopolar cutting for endoscopic procedures. Necessary for polyp removal. Alternating cutting and coagulation ensures optimum coagulation and reduces the risk of bleeding. Instruments: standard endoscopic loops.



PAPILLO CUT Monopolar cutting for endoscopic procedures. Used for cutting Vater's papilla during a papillotomy procedure. It ensures safe cutting with the optimum hemostatic effect. Instrument: papillotome.



MUCO CUT Monopolar cutting for mucosectomy procedures. A specialized endoscopic cutting mode for mucosectomy procedures. Pulsed cutting current and precise pulse duration enable safe and fast cutting in endoscopic submucosal dissection (ESD) and endoscopic mucosal resection (EMR) procedures. Instruments: endoscopic knife or needle.



GASTROENTEROLOGY



ENDO COAG Monopolar endoscopic coagulation. It is used for additional hemostasis in polypectomy and marking the lesions. Instruments: standard endoscopic loops.



ENDO SPRAY Monopolar endoscopic coagulation. It is used for quick hemostasis of local haemorrhages. Instruments: standard endoscopic loops.



ENDO BI-COAG Bipolar coagulation for endoscopic procedures. Soft hemostasis without carbonisation of the tissue. Instrument: a bipolar probe and a SDS adaptor for bipolar endoscopic hemostasis probe REF 281-60S.



ARTHROSCOPY



ARTRO CUT Monopolar cutting for arthroscopic procedures. This mode is used in fluid environment. It requires the use of non-conductive fluids, e.g. distilled water, glycine. Instruments: monopolar arthroscopic electrodes.



ARTRO COAG Arthroscopic monopolar coagulation in the environment of nonconductive fluids, e.g. distilled water, Purisol, glucose. Instruments: monopolar arthroscopic electrodes.



ARTRO BI-CUT Bipolar cutting for arthroscopic procedures. This mode is used in fluid environment. It requires the use of conductive fluids, e.g. saline solution. Instruments: bipolar arthroscopic electrodes.



ARTRO BI-COAG Arthroscopic bipolar coagulation in the environment of conductive fluids, e.g. saline solution. Instruments: bipolar arthroscopic electrodes.

ATOM efficiency oriented performance



Argon cutting and coagulation

Argon coagulation

ATOM has a built-in argon module, which brings the benefits of argon plasma coagulation and cutting into the open, laparoscopic and endoscopic surgical procedures.

Argon coagulation uses the phenomenon of good

conduction of high frequency current by ionised argon. Argon is a chemically inert gas, devoid of physiological effects and non combustible. Under the effect of current, it becomes ionised and forms a plasma cloud in which electric arcs are formed.



Efficiency enhancing features of argon plasma coagulation:

- immediate hemostasis helps efficiently coagulate large areas of bleeding surface
- penetration depth limited to approximately 3 mm minimizes risk of perforation
- tissue carbonization is minimal compared to standard electrocoagulation
- no tissue vaporization minimizes the risk of perforation
- no contact between the applicator and tissue means no tissue adhesion
- less surgical smoke gives good visibility of operating area
- reduced smoke eliminates unpleasant odors
- precise application of thermal energy results in reducing procedure time





Rigid argon electrode tip

Flexible argon electrode tip

ATOM time oriented performance

ThermoStapler®

Time and cost reducing features of the ThermoStapler® system:

- enables fast and effective sealing of blood vessels, arteries or tissue bundles
- blood loss is significantly reduced, the systemallows to economize on sutures and staplers
- time of operation is significantly reduced
- natural sealing of vessels
- no foreign body remains in the patient's body
- no risk of adhesion or infection







Laparoscopic and open surgery vessel sealing



Angled clamps

ATOM create your standard

Universal solution for urology and gynecology procedures

Along with the EMED resectoscope, the ATOM system is a multipurpose set which is always ready for use, whatever operating technique is chosen.

The EMED resectoscope is a multifunctional instrument, which enables both monopolar and bipolar operations without changing the working elements.







Bipolar resection in saline Ø

Bipolar coagulation with loop electrode



Bipolar coagulation with ball electrode

It is fitted out with a rotary sheath with the continuous • flow function. Benefits of continuous flow function:

- helps to quickly remove tissue fragments and replace the irrigation solution,
- reduces the temperature of the irrigation solution when it is heated up by the energy generated by the electrosurgical unit,
- ensures a clean operating field.

• To ensure the comfort of use, the working element is available in two versions: active or passive, according to the operator's preferences and habits.





PI-CUT wide half-loop electrode

Ball electrode 5mm folded

ATOM safety and ergonomics at work

AUTOTEST

Each time the power is switched on, the system conducts an internal test of all the electrosurgical unit components and any instruments and auxiliary electrosurgical units that may be connected. The result of the AUTOTEST is displayed on the screen as a message.

MENU

ATOM provides additional adjustment options of such parameters as: activation signal volume, screen brightness and language selection.

FOOTSWITCH

ATOM automatically identifies the type of footswitch connected to the electrosurgical unit.



SUPPLEMENTAL DEVICES

Connected endoscopic irrigation pump.

POWER MONITOR

Endo unit automatically adjusts the output power to achieve desired effect on tissue, analyzing conditions of operating area. Power monitor shows current power output during cutting.

ARGON

Shows the status of argon cylinder.

NEM SYSTEM

The ATOM electrosurgical unit is equipped with the NEM system which controls the adhesion quality of the neutral divided EMED SAFE electrode. Application of the electrode is monitored throughout the whole procedure. In combination with the EMED SAFE electrodes, the NEM system maximises safety during the procedure.

ATOM software update

Always up-to-date

ATOM unit features state-of-the-art software that enables quick and convenient updating, whenever new functionalities and modes have been developed. Software update is performed automatically by the unit after simply plugging in the USB flash memory to the electrosurgical unit.





Automatic update after USB flash memory connection

ATOM







Good visibility and clean operating site are of prime importance in all types of surgery.



In endoscopic procedures, the operation site may be contaminated with chime or blood residue in the gastrointestinal tract.

The possibility of irrigating the operating site is a very important element of any endoscopic procedure. The WATERFALL endoscopic irrigation pump was designed to ensure full comfort and safety during surgeries.

The pump makes it possible to quickly rinse the gastrointestinal tract using saline solution or deionized water directly through the endoscope's channel or by using endoscopic instruments.

Advantages of the WATERFALL endoscopic pump:

- good visibility and clean operating site
- quick and easy fluid flow adjustment from the pump control panel
- possibility of activation using the footswitch or from the control panel
- low-noise, does not cause nuisance in the procedure room
- small size and possibility of mounting on the endo trolley, which gives access to the pump during the procedure



WATERFALL enables quick and easy cleaning of blood and chime residue from the surgery site.



Kod	Nazwa
100-620	Electrosurgical system ATOM
080-060	TinyLine trolley with argon cylinder case for electrosurgical units (5L/10L)
100-302	Two-pedal footswitch, 6 pin-plug

	Ref. No.	
A A	100-051	Argon Cylinder 5L (empty cylinder - with no gas)
	100-151	Argon Cylinder 10L (empty cylinder - with no gas)
	5501640	Argon regulator P300-P40EMED, DIN 477/6 (Europe)
	5501565	Argon regulator P300-P40EMED, DIN 477/6 (Europe) with pressure sensor
ARGON	5501641	Argon regulator P300-P40EMED, DIN 477/10 (Northern Europe)
	5501621	Argon regulator P300-P40EMED, BS 341/3 (UK)
	5501631	Argon regulator P300-P40EMED, CGA 580 (America)

	Ref. No.	Ø dia.	Description
	932-148	Ø 1.5 mm	Flexible argon probe, reusable, TBS, dia. 1.5mm, length 1.5m
	932-149	Ø 2.3 mm	Flexible argon probe, reusable, GIT, dia. 2.3mm, length 2.2m
	932-150	Ø 3.2 mm	Flexible argon probe, reusable, GIT, dia. 3,2mm, length 2,2m
	932-151	Ø 1.5 mm	Flexible argon probe, reusable, TBS, dia. 1,5mm, length 3m
flat type plug	932-152	Ø 2.3 mm	Flexible argon probe, reusable, GIT, dia. 2.3mm, length 3m
	432-46A		Monopolar cable for argon flexible electrode, flat connector, L: 3.5m, SDSA plug
	932-14A		Argon electrode handle, large, 2 switches, cable 3.5m, SDSA plug

	Ref. No.	Description
2	812-80H	Disposable neutral electrode EMED SAFE, hydrogel, split, for adults and children, 176x122mm, 110cm2
	812-83H	Disposable neutral electrode EMED SAFE, hydrogel, split, for infants, 181x76mm, 37cm2
923	380-030	Disposable neutral electrode cable, L: 3m, flat plug
	380-050	Disposable neutral electrode cable, L: 5m, flat plug

Electrode handle



Monopolar cable

		Ref. No.	Description
	Ø 4 mm	280-035	Monopolar laparoscopic cable, L: 3 m, 4 mm female
		280-055	Monopolar laparoscopic cable, L: 5 m, 4 mm female
	Ø 3 mm	281-035	Monopolar laparoscopic cable, L: 3 m, 3 mm female
	Ø 2 mm	405-045	Monopolar cable for resectoscope, L: 4.5 m, 2 mm male
		408-145	Monopolar cable for STORZ resectoscope, angled connector, L: 4.5 m,
		409-045	Monopolar cable for OLYMPUS resectoscope, length 4.5 m, 3 mm male





bipolar cable

		Ref. No.	Description
	359-035	Bipolar cable for laparoscopy STORZ, L: 3 m	
	359-055	Bipolar cable for laparoscopy STORZ, L: 5 m	
		352-035	Bipolar cable for WOLF laparoscopy, L: 3 m
		358-03S	Bipolar cable for BiTech scissors, L: 3 m

SDS bipolar arthroscopic electrodes



SDS bipolar arthroscopic electrodes



SDS ThermoStapler[®] vessel sealing clamps



bipolar laparoscopic instrument

		Ref. No.	Description
d emen		824-135	Handle, cable 3m, SDS plug, reusable, for bipolar laparoscopic instrument
	ø 5mm I	824-134	Outer shaft, dia. 5mm, L: 340mm, reusable, for bipolar laparoscopic instrument
		824-010	Insert- grasping forceps, fenestrated, L: 340mm, reusable, for bipolar laparoscopic instrument
		824-019	Insert: dissector Maryland, L: 340mm, reusable, for bipolar laparoscopic instrument
		824-018	Insert: scissors, curved, L: 340mm, reusable, for bipolar laparoscopic instrument

additional devices



contact us



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