

# Effective hemostasis and devitalization

with Argon Plasma Coagulation (APC) –  
A success story...



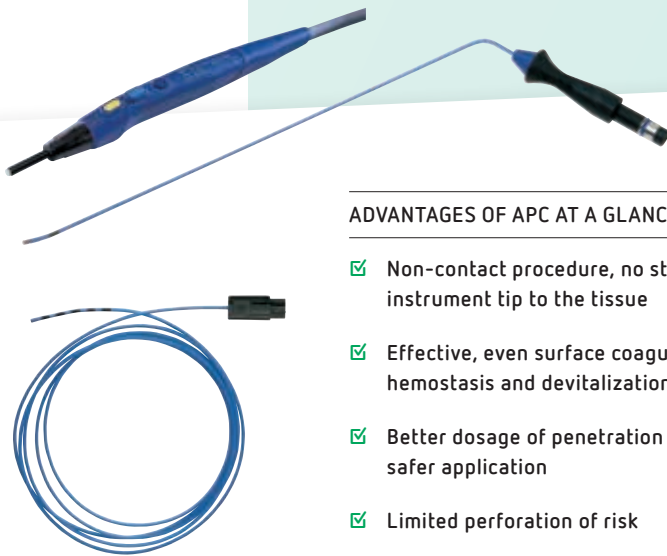
APC is an electro-surgical technique for the management of bleeding and the devitalization of tissue abnormalities. During the procedure electro-surgical current is transferred to the tissue via ionized argon gas. The procedure has few complications and is safe: creating effective hemostasis and a homogenous surface coagulation with a limited penetration depth. Since transmission of the electro-surgical current is by a non-contact technique, (the instruments do not come into direct contact with tissue), the instruments almost never stick to the tissue. The current can be applied axially, laterally or radially, depending on the indication.

The equipment consists of an APC unit, an electro-surgical generator and APC instruments. In the Erbe VIO System the APC 2 and the VIO generator are optimally

coordinated. Operation of the instruments and their interaction is carried out via the central display of the VIO master module.

A wide range of applicators and probes are available for APC procedures in open surgery, endoscopy and laparoscopy (Please note. Catalogue for Electro-surgical Accessories). We have developed this range of instruments for the medical specialties of gastroenterology, ENT, bronchoscopy, laparoscopy, open surgery, etc., to meet the needs of different applications and anatomical sites in close cooperation with specialists from these different medical fields – all over the world.

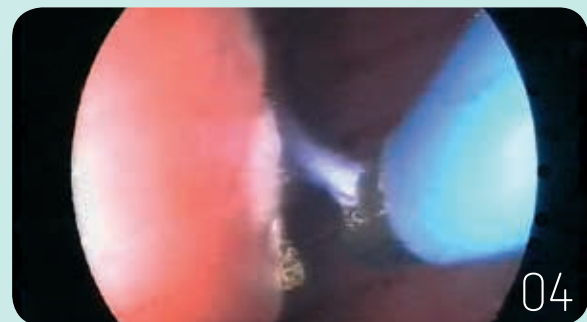
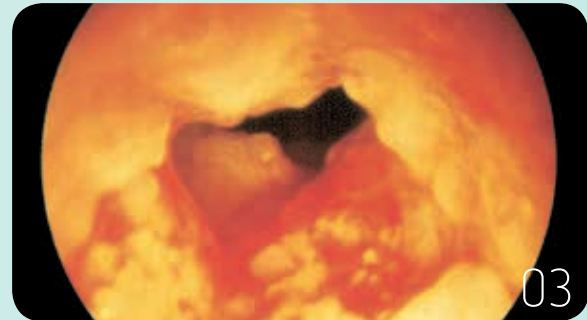
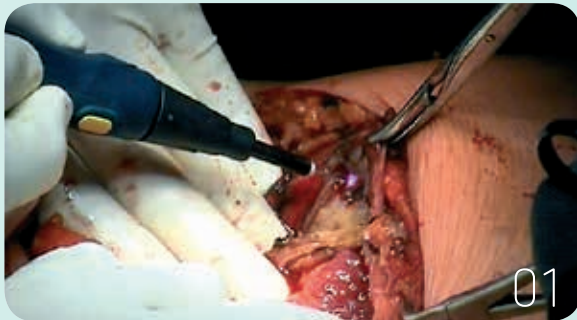
Numerous scientific studies have demonstrated the therapeutic successes of these procedures. More information available on request!



## ADVANTAGES OF APC AT A GLANCE

- ✔ Non-contact procedure, no sticking of the instrument tip to the tissue
- ✔ Effective, even surface coagulation, for uniform hemostasis and devitalization
- ✔ Better dosage of penetration depth leads to safer application
- ✔ Limited perforation of risk
- ✔ Minimal carbonization and smoke plume formation, minimal pollution through unpleasant odors
- ✔ Safe procedure with few complications

# Examples of indications in different medical specialties



## 01 Surgery/Gynecology

Homogenous coagulation of large surfaces and Argon-supported cutting, for example in

- ✓ Abdominal surgery
- ✓ Laparoscopy
- ✓ Liver surgery
- ✓ Breast surgery
- ✓ Visceral surgery

## 02 Gastroenterology

- ✓ Superficial and small vascular hemorrhages
- ✓ Tumor reductions
- ✓ Tumor bleeding
- ✓ Devitalization and coagulation of the right colon
- ✓ Stent ingrowth/overgrowth
- ✓ Radiation proctitis
- ✓ GAVE syndrome

## 03 Interventional Bronchology

- ✓ Superficial and small vascular hemorrhages
- ✓ Tumor reductions
- ✓ Tumor bleeding
- ✓ Recanalization
- ✓ Granulation
- ✓ Fistula conditioning
- ✓ Stent ingrowth/overgrowth

## 04 ENT

- ✓ Rhinology: rhinorrhagia, hyperplasia of the nasal turbinates, hemostasis in turbinectomies, Osler's disease
- ✓ Larynx: granulomas, laryngeal papillomatosis
- ✓ Oral cavity: leukoplakia, hemangiomas, granulomas, papillomas/fibromas, precancerosis
- ✓ Trachea: granulomas after laser surgery, papillomatosis, subglottal stenosis

# ... with a sequel:

## APC now with new modes and plasma regulation for a wider choice during applications ...



*The many advantages of argon plasma coagulation have now been perfected with the APC 2 and the VIO System. The VIO APC 2 offers three new modes:*

PRECISE APC

PULSED APC

FORCED APC

These modes cover a unique range of argon plasma coagulation procedures and provide even more safety as well as offering additional applications: from minimal surface coagulation to deep devitalization. Optimal ignition properties make handling even easier. On the one hand "ignition" of the argon plasma is now possible even with very low power output settings –

while maintaining the same, regular ignition intervals. For the first time a homogenous, carefully dosed surface application is possible even with very low energy outputs. On the other hand the achievable coagulation depth, for example in tumor reductions, has been greatly improved.\*

THE MODE PULSED APC, IN PARTICULAR, BRINGS A NUMBER OF IMPORTANT ADVANTAGES:

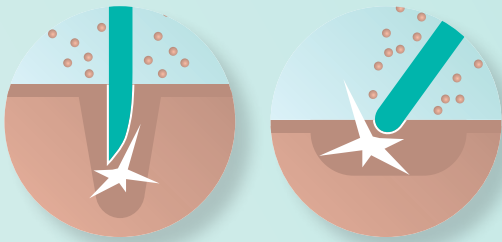
- ✔ particularly large ignition interval
- ✔ safe "ignition" of the plasma
- ✔ homogenous surface coagulation
- ✔ large range of coagulation / devitalization effects
- ✔ can be well controlled, with good level of safety



\*Fujishiro, M., Yhagi, N. et al: Comparison of tissue damage in different settings of new argon plasma coagulation apparatus (VIO), Endoscopy 2003, 35 (suppl II), A 167



Argon plasma coagulation

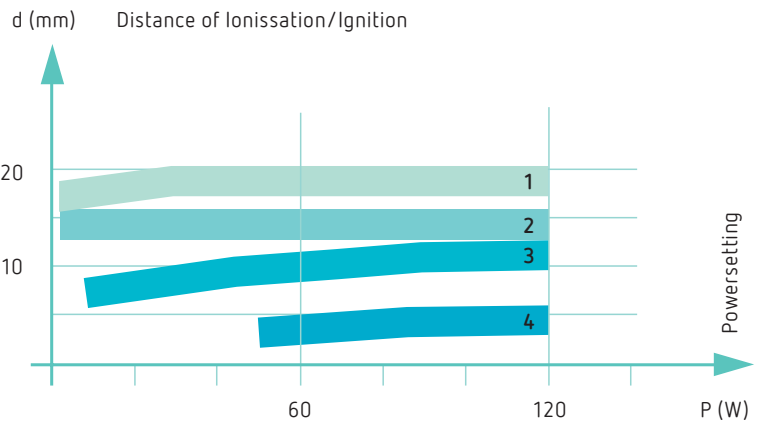


Argon Cut/Coag:  
Argon-supported cutting and coagulation

#### ADVANTAGES OF THE NEW APC 2 AT A GLANCE

- ✔ Greatly increased range of options for argon plasma coagulation
- ✔ Optimized adjustment of the thermal effect with new modes and parameter settings
- ✔ Very good ignition properties even at very low output settings
- ✔ Homogenous surface coagulation
- ✔ Improved control of APC leads to more safety
- ✔ Easy operation with Plug & Play
- ✔ Argon-supported cutting with the full range of possibilities provided by the new VIO System

## A comparison of the ignition properties of the APC 2



- 1 Pulsed APC effect 2
- 2 Pulsed APC effect 1
- 3 Forced APC effect 1
- 4 conventional APC technique

# ... and even more user-friendly.



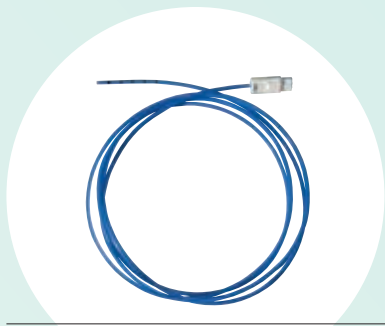
### ARGON EXTENSION SOCKET

For all VIO/APC unit configurations requiring an additional socket. The APC 2 can include an additional, fourth socket in addition to the 3 active sockets of the VIO.



### ARGON-SUPPORTED CUTTING AND COAGULATION

Argon CUT/COAG reduces smoke plume and carbonization and can be activated for many of the VIO functions.

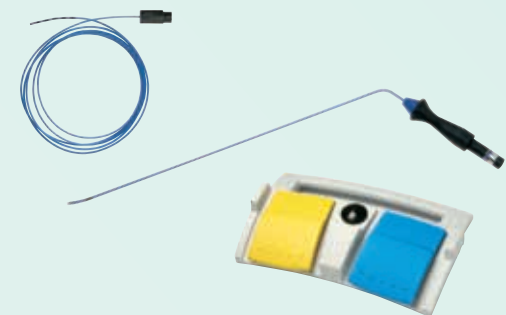


The **3M APC PROBE** is particularly suitable for double balloon enteroscopy (DBE) procedures. The APC 2 supports such applications with the PULSED APC mode, thus making it possible to adjust the coagulation depth in minute steps. For the minimization of risks, particularly in the small intestine which otherwise carries a high risk of perforation.



### PLUG & PLAY WITH DIGITAL INSTRUMENT RECOGNITION

The APC 2 automatically sets the appropriate parameters for the instrument plugged in, whether it is an APC handle or probe. The operating physician can start work immediately.



### REMODE FUNCTION

With the third button on the APC handle remote activation from the operating table is possible. Without directly operating the VIO System via the panel the operating physician can use the APC handle to alternate between two instrument settings.

Erbe instruments such as applicators and probes optimized for different procedures are available for almost every APC indication.

# Technical data

## APC 2

No. 10134-000	Type of gas	Argon 4.8 (99.998%) and higher degree of purity
	Initial pressure	5 ± 2 bar    72.5 ± 29 psi
	Max. final pressure	2 ± 0.4 bar    29 ± 5.8 psi
	Adjustable gas flow	0.1 – 8 l/min depending on the respective instrument attached; adjustable in steps of 0.1 l
	Flushing flow	Depends on the instrument (corresponds to the target flow of the attached instrument)
	Flushing duration	3 sec
	Dimensions: Width x Height x Depth	410 x 80 x 370 mm
	Weight	4.8 kg
	Classification in accordance with EU Directive 93/42/EWG	II b
	Type according to EN 60601-1CF	CF



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