

GI CAPITAL SOLUTIONS

- Spray Cryotherapy
 - Electrosurgery
 - Intraprocedural Irrigation
 - CO₂ Insufflation

Our full portfolios of innovative endoscopy equipment help to improve patient care every day. These problem-solving solutions include a novel spray cryotherapy system, a state-of-the-art electrosurgery unit and accessories, CO₂ insufflation systems, as well as an irrigation pumps.

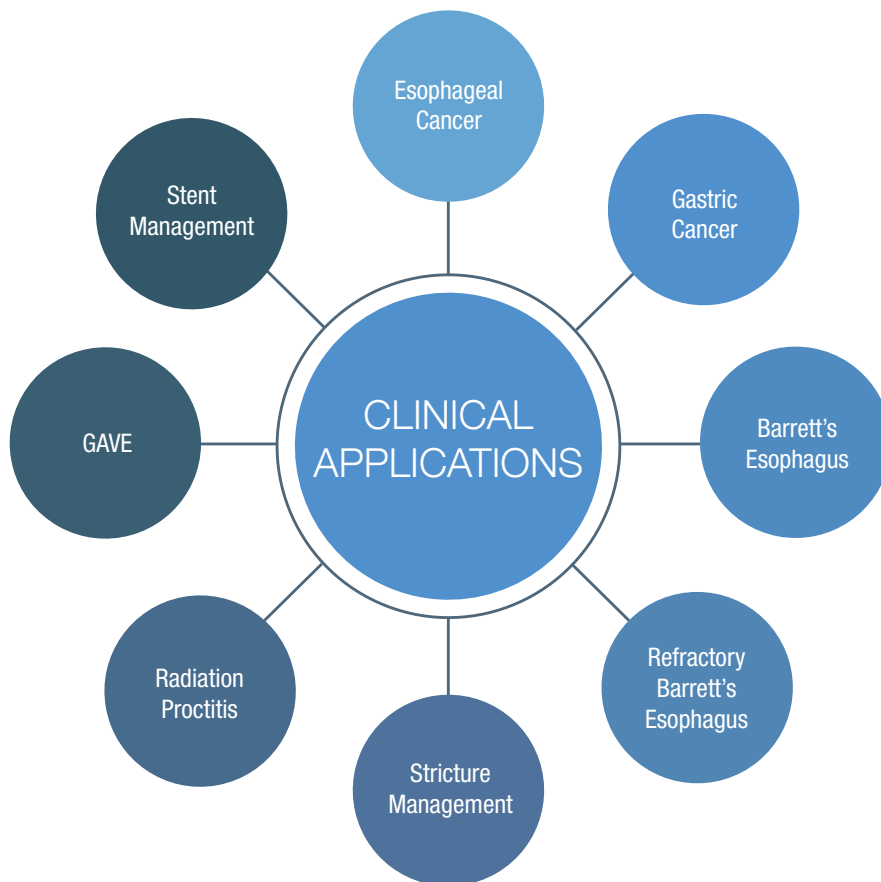


SPRAY CRYOTHERAPY

trūFreeze®
Spray Cryotherapy

trūFreeze® Spray Cryotherapy System

trūFreeze cryotherapy is a **non-contact ablation** technology that is used as an adjunct application where other modalities are limited. Spray cryotherapy can help patients who do not respond to RFA for Barrett's Esophagus, have a history of low pain tolerance, are taking anticoagulants, have early-stage esophageal cancer with residual dysplasia, or need palliative care for late-stage cancer.



trūFreeze Cryotherapy can extend the continuum of care offered to your patients.

Don't have cryotherapy? Visit our website or email us at trufreeze@steris.com to learn more about trūFreeze Spray Cryotherapy.



WEBSITE

Freeze Disease with the Power of Liquid Nitrogen

trūFreeze spray cryotherapy uses **Liquid Nitrogen (LN₂)** for cryogenic destruction of tissue in the gastrointestinal tract. LN₂ is the **coldest cryogen** available and the only cryogen capable of ablating **benign and malignant** cells at -196 °C.



-20°C

Benign
cell death

Vascular stasis & necrosis
of benign issue -20°C

-50°C

Malignant
cell death

Increased dwell time or
subsequent sprays

Not All Ablations are Equal...trūFreeze cryotherapy is capable of malignant cell kill 1mm deep over a 2cm² area due to the extremely cold nature of LN₂

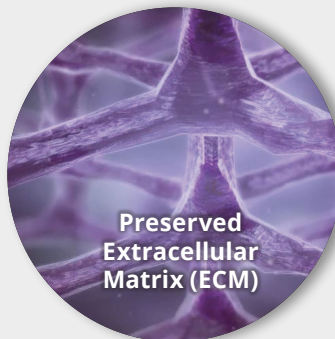
The non-contact nature of trūFreeze spray cryotherapy enables ablation of benign and malignant tissue of various shape, nodularities, and sizes allowing for complete coverage of the ablative areas in even the most difficult anatomical locations.

trūFreeze spray cryotherapy traps and flash-freezes water in cells causing cell death while preserving the extracellular matrix, promoting a rejuvenative healing response.



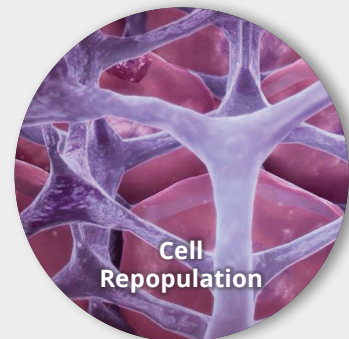
Frozen Cells

-196°C flash freeze, re-warm
to body temperature causes
instant cell death



Preserved
Extracellular
Matrix (ECM)

ECM is Cryo-Resistant due to
low water content, but breaks
down with heat



Cell
Repopulation

Intact ECM enables healing
with limited scarring or fibrosis

ELECTROSURGERY

gi4000 Electrosurgery Unit

Our full line of electrosurgery offerings includes the **gi4000 Electrosurgery Unit (ESU)** and compatible accessories including **Argon and Monopolar Probes**.

- The state-of-the-art gi4000 Electrosurgery Unit is designed specifically for flexible endoscopy and has Argon, Monopolar, Bipolar and Lavage functions all built into one, compact unit.



Miniature Argon Gas Canister fits directly into the unit

ARC SMART™ Argon Coagulation Probe

The ARC SMART Argon Coagulation Probe is the perfect companion to the performance of the gi4000 ARC SMART Linear Beam and ensures beam and energy delivery whenever needed.

- Single-use, ARCONNECT Probe Connectors attach ARC SMART™ Argon Probes to the gi4000 electrosurgery unit.



ARCONNECT™ Probe Connector



ARC SMART Coagulation Probe Video

TOUCHSOFT COAGULATOR™ Monopolar Probe

The TOUCHSOFT COAGULATOR Monopolar Probe is a unique ball-tip style endoscopic accessory used for contact coagulation or tissue ablation throughout the upper and lower GI tract.



TOUCHSOFT COAGULATOR® Monopolar Probe treating a Jejunal Angioectasias during Double-Balloon Endoscopy.¹



TOUCHSOFT COAGULATOR Anastomotic Bleed Video

1. "White Paper: Technology and Clinical Overview of the Genii TouchSoft Coagulator®." Prepared by Genii, Inc. St. Paul, MN. January 2012. (Updated 2017)

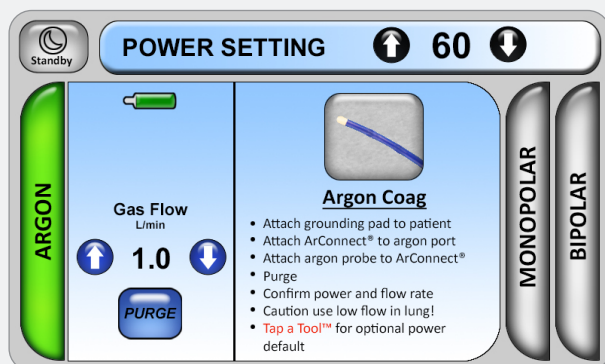
4 FUNCTIONS OF THE gi4000 ESU

Four functions all-in-one...all output choices are designed specifically for flexible endoscopy procedures and are designed to work in conjunction with endoscopic accessories.



Clinical Applications Video

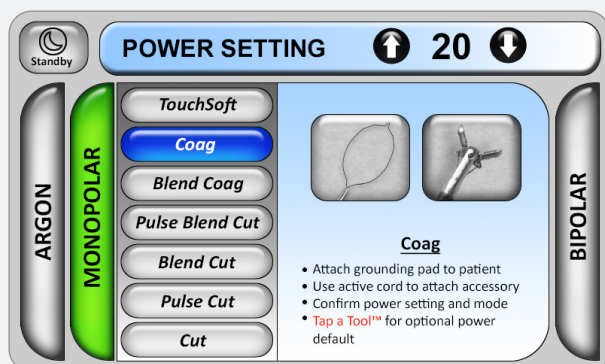
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Argon coagulation:

- Proprietary ARC SMART™ Linear Argon Beam facilitates a robust arc length without sacrificing limited tissue depth
- Features a miniature argon gas canister that fits directly into the unit

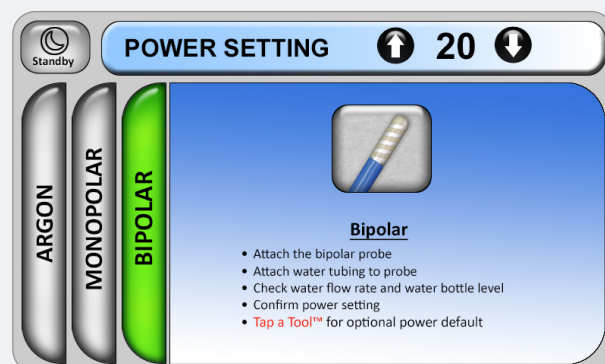
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Monopolar:

- The 7 Monopolar Modes are listed from Coag to Cut with several blended options in between.
- Tip: The TOUCHSOFT™ output is the recommended choice to achieve gentle, depth limited coagulation producing safe and efficacious results.

3



GI Bipolar:

- Offers power curve for GI specific use.
- Compatible with most manufacturer's single plug bipolar flexible endoscopic probes.

4



Lavage:

- Features a built-in, variable 6-speed pump that has adjustable flow rates.
- Compatible with most disposable tubing options. Performs with 24-hour ENDOGATOR™ Tubing (4005644).

ARCSMART™ LINEAR ARGON BEAM

Since Argon Plasma Coagulation is a non-contact method, the arc-length achieved is an important variable.³ The advantages of maintaining a non-contact application include speed in treating large or diffuse lesions, a more homogeneous tissue coagulation zone with a relatively shallow depth of injury, and less tissue sticking to the argon probe with its associated chance of promoting re-bleeding.^{1,3}

The gi4000 Electrosurgery Unit includes the ARC SMART Linear Argon Beam, which is useful for flexible endoscopy. The advanced technology of the ARC SMART Beam:

- Ignites readily under clinical conditions within a range of default power settings.
- Lengthens in a linear relationship to the power increase with minimal effect on depth of tissue injury (*see figures 1 & 2*).
- Can increase power settings in 2-5 watt increments to help complete desired therapy (*see figure 2*).
- Is not as aggressive as amplified argon beams can be.

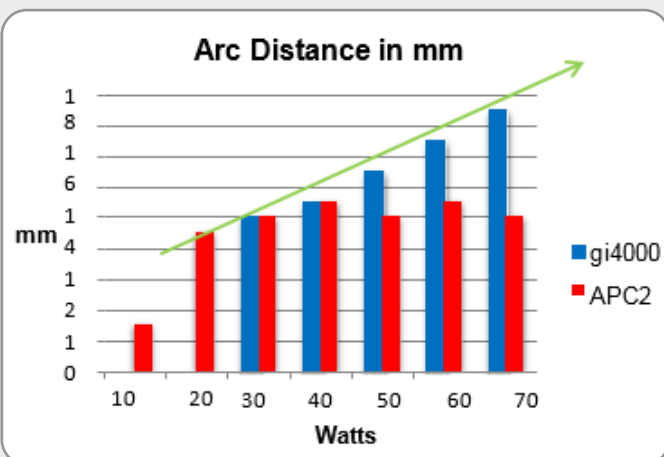
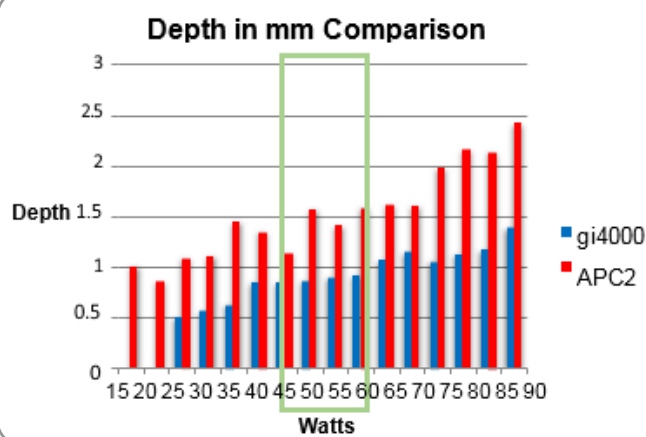


Figure 1. ARC SMART™ Linear Argon Beam increases in length in linear relationship with power increase.²

Figure 2. ARC SMART™ Linear Argon Beam depth of injury compared to an amplified argon beam (one second activation).²



1. J. Robotis, P. Sechopoulos, Th Rokkas. Argon plasma coagulation: Clinical applications in gastroenterology. Annals of Gastroenterology 2003, 16(2):131-137

2. White Paper: "Technical Overview and Pre-Clinical Data gi4000 electrosurgery generator." Prepared by Genii, Inc. St. Paul, MN. January 2012. (Updated April, 2017)

3. M. Morris and J.H Hwang: "Electrosurgery in Therapeutic Endoscopy."

INTRAPROCEDURAL IRRIGATION

ENDO STRATUS™ Irrigation Pump

Deliver irrigation for GI endoscopy procedures with a warm water option by utilizing the ENDO STRATUS Irrigation Pump.

The ENDO STRATUS Irrigation Pump:

- Features warm water technology which may minimize chances of spastic colon
- Offers automatic prime button to provide instant irrigation upon foot pedal depression
- Adjustable flow rate knob allows clinicians to increase/decrease flow based on type of procedure
- Allows for irrigation through auxiliary water jet or biopsy channel tubing and connectors
- Is compatible with the ENDOGATOR™ Tubing



The ENDOGATOR™ Tubing:

Works with irrigation pumps and sterile water bottles.

- **Used:** With STERIS Irrigation Pumps.
- **Design:** Incorporates a backflow prevention valve that prevents the backflow of fluids from entering the irrigation tubing and water bottle during endoscopic procedures.
- **Product Use:** 24-hour disposable tubing that provides an alternative to manual cleaning and reprocessing of reusable tubing.



CO₂ INSUFFLATION

CO₂MPACT Endoscopic Insufflator™ System:

Designed to distend the working area for better visibility and access to the inside lining of the digestive tract.

- Saves gas with a 30/60/120-minute timer to select the amount of time until the flow of gas automatically stops
- Connects to both tank and wall mount sources to accept tank or central supply of CO₂
- Accommodates low, medium and high flow settings allowing the user to choose the flow rate needed based on the type of procedure
- Features internal dual pressure relief valves which are designed to prevent over-pressurization



From mobile carts to CO₂ hoses, we have all the needed accessories to support the use of our CO₂ insufflator portfolio.

CO₂ Tubing Sets:

Our full line of CO₂ tubing sets includes offerings compatible with Olympus, Pentax and/or Fujinon endoscopes/systems. Featuring options with hydrophobic filters and pinch clamps that help prevent fluid from breaching the unit.

- **Used:** with STERIS Insufflator Systems.
- **Water bottle cap tubing sets:** designed for use with disposable water bottles.
- **Product Use:** 24-hour disposable tubing that provides an alternative to manual cleaning and reprocessing of reusable tubing.



CLINICAL BENEFITS OF CO₂ INSUFFLATION:

What are the clinical benefits of CO₂ vs. room air?

The traditional media used for distending the GI tract has been room air. For the patient, however, the impact from delivery of room air into the GI tract may be quite uncomfortable and require additional recovery time.



Safety:

- "CO₂ is a non-flammable gas that can be used safely while performing electrocautery."¹
- "CO₂ insufflation appears to be well-tolerated even in patients with underlying pulmonary disease and does not seem to induce higher rates of respiratory depression or excessive CO₂ retention compared with insufflation with ambient room air."¹



Patient Comfort:

- "CO₂ is absorbed from the GI Tract approximately 160 times faster than nitrogen, the major gaseous ingredient of ambient air. It is passively absorbed through mucosal lining into the bloodstream and eventually exhaled through the lungs."¹
- "Compared with air insufflation, CO₂ insufflation during colonoscopy causes lower postprocedural pain and bowel distention."²



Clinical Advantage:

- "CO₂ insufflation offers clear benefits to patients undergoing advanced endoscopic procedures, lengthy endoscopy procedures, and unsedated procedures."¹
- "CO₂ insufflation is associated with higher serrated polyp detection rates (SPDR) when compared to air insufflation during screening colonoscopy; which could result in improved polyp detection by optimizing bowel insufflation."³

1. ASGE Technology Committee. Technology Status Evaluation Report: The use of carbon dioxide in gastrointestinal endoscopy. *Gastrointestinal Endoscopy*, Volume 83, No. 5. 2016; 857-862
2. Meta-analysis: the use of carbon dioxide insufflation vs. room air insufflation for gastrointestinal endoscopy. *Aliment Pharmacol Ther* 2012; 35: 1145-1154
3. Carbon Dioxide insufflation is associated with increased serrated polyp detection rate when compared to room air insufflation during screening colonoscopy. <https://ncbi.nlm.nih.gov/pmc/articles/PMC5597937>

PRODUCT CHART

SPRAY CRYOTHERAPY		
Product Number	Description	Units/Box
CC301	truFreeze® System Spray Cryotherapy Console; Includes: - Console - Fill kit	1
2000516	truFreeze® System Rapid AV Spray Catheter Kit; Includes: - Straight Spray Catheter - Catheter introducer - 16 Fr CryoDecompression Tube (CDT) - Connector and suctioning tubing	5
2000181	Active Venting CryoDecompression Tube; Includes: - 16 Fr CDT	5
2000177	truFreeze® System Rapid AV Spray Catheter Kit; Includes: - Straight Spray Catheter - Catheter introducer - 20 Fr CryoDecompression Tube (CDT) - Connector and suctioning tubing	5
ACCC3CDT05	Active Venting CryoDecompression Tube; Includes: - 20 Fr CDT	5

ELECTROSURGERY				
Product Number	Description	Units/Box		
G1110001	gi4000 ESU; Includes: Submersible footswitch, power cord, lavage bottle holder, customer positional accessory clips, operation and maintenance manual	1		
BX00713100	gi4000 Introduction Kit includes: Argon Gas Canister (1 each), ARCONNECT™ Probe Connectors (2 each), 2.3mm x 220cm ARC SMART™ Probes (2 each), TOUCHSOFT COAGULATOR™ Probe (1 each), Reusable Monopolar Active Cord (1 each), 1000mL Water bottle holder (1 each)	1		
BX00711005	Reusable Monopolar Active Cord	1		
G1120010	Argon Gas Canister – 49 liters	2		
G1120020	ARCONNECT™ Argon Probe Connector	10		
G1120040	TOUCHSOFT COAGULATOR™ Monopolar Contact Coagulation Probe	5		
Product Number	Description	Sheath Diameter (mm)	Length (cm)	Units/Box
G1140001	ARC SMART™ Argon Probe – straight fire	2.3	220	10
G1140002	ARC SMART™ Argon Probe – straight fire	2.3	330	10
G1140003	ARC SMART™ Argon Probe – straight fire	3.2	220	10
G1140004	ARC SMART™ Argon Probe – straight fire and ARCONNECT™ Probe Connector	2.3	220	10 (of each item)
G1140005	ARC SMART™ Argon Probe – straight fire and ARCONNECT™ Probe Connector	2.3	330	10 (of each item)
G1140006	ARC SMART™ Argon Probe – straight fire and ARCONNECT™ Probe Connector	3.2	220	10 (of each item)

INTRAPROCEDURAL IRRIGATION		
Product Number	Description	Units/Box
EGA500	ENDO STRATUS™ Irrigation Pump	1
EGP100	ENDOGATOR™ Irrigation Pump	1
100126	ENDOGATOR™ Single Use Auxiliary Water Jet Connector FUJIFILM	50
100241	ENDOGATOR™ Single Use Auxiliary Water Jet Connector OLYMPUS	50
100242	ENDOGATOR™ Single Use Auxiliary Water Jet Connector PENTAX	50
4005629	ENDOGATOR™ Channel Adapter	50
100130	ENDOGATOR™ Irrigation Tubing for ENDO STRATUS™	10
100130B	ENDOGATOR™ Irrigation Tubing for ENDO STRATUS™ BULK	20
4005644	ENDOGATOR™ Irrigation Tubing for EGP-100 Irrigation Pumps	10
200230B	ENDOGATOR™ Irrigation Tubing for EGP-100 Irrigation Pumps BULK	20

INTRAPROCEDURAL IRRIGATION - CONTINUED

Product Number	Description	Units/Box
100608	ENDOGATOR™ Hybrid Tubing PENTAX 100150C02EXT, 4005644	10
100609	ENDOGATOR™ Hybrid Tubing OLYMPUS 100145C02EXT,100130	10
4000838	ENDOGATOR™ Hybrid Tubing OLYMPUS 100145C02EXT,100130 BULK	20
100610	ENDOGATOR™ Hybrid Tubing OLYMPUS 100145C02EXT, 4005644	10
100610B	ENDOGATOR™ Hybrid Tubing OLYMPUS 100145C02EXT, 4005644 BULK	20
100630	ENDOGATOR™ Hybrid Tubing FUJIFILM500/600 100165C02EXT,100130	10
100631	ENDOGATOR™ Hybrid Tubing FUJIFILM500/600 100165C02EXT, 4005644	10
Product Number	ENDGATOR™ + SMARTCAP™ Tubing Kits	Units/Box
100602B	ENDOGATOR™ Tubing Kit OLYMPUS 100145, 100130 BULK	20
100603	ENDOGATOR™ Tubing Kit OLYMPUS 100145, 4005644	10
100603B	ENDOGATOR™ Tubing Kit OLYMPUS 100145, 4005644 BULK	20
4005471	ENDOGATOR™ Tubing Kit PENTAX 100160, 100130	10
4005472	ENDOGATOR™ Tubing Kit PENTAX 100160, 4005644	10
100616B	ENDOGATOR™ Tubing Kit PENTAX 100160, 4005644 BULK	20
100618	ENDOGATOR™ Tubing Kit FUJIFILM500/600, 100165, 4005644	10
100618B	ENDOGATOR™ Tubing Kit FUJIFILM500/600, 100165, 4005644 BULK	20

CO₂ INSUFFLATION

Product Number	CO ₂ MPACT Endoscopic Insufflator™ System & Accessories	Units/Box
710300	CO ₂ MPACT Endoscopic Insufflator™ System	1
710602	Two tank shuttle valve system	1
710603	High pressure hose and yoke for CO ₂	1
710604	High pressure DISS hose for CO ₂	1
710310	Mobile cart - holds 2 tanks (size D or E)	1
Product Number	ENDO STRATUS™ CO ₂ Insufflator & Accessories	Units/Box
EGA501	ENDO STRATUS™ CO ₂ Insufflator	1
EGA7012	Tank Yoke	1
EGA7029	Dual Tank Yoke	1
EGA7020	3 Foot Wall Hose (Low Pressure)	1
EGA7023	9 Foot Wall Hose (Low Pressure)	1
EGA7011	3 Foot Tank Hose (High Pressure)	1
EGA7024	9 Foot Tank Hose (High Pressure)	1
EGA7030	IV Style Cart	1
EGA7031	Box Style Cart	1
Product Number	ENDO SMARTCAP™ for CO ₂ Insufflation	Units/Box
100145C02	ENDO SMARTCAP™ CO ₂ Tubing OLYMPUS 140/160/180/190	10
100145C02B	ENDO SMARTCAP™ CO ₂ Tubing OLYMPUS 140/160/180/190 BULK	20
100145C02EXT	ENDO SMARTCAP™ CO ₂ EXT Tubing OLYMPUS 140/160/180/190	10
100145C02EXTB	ENDO SMARTCAP™ CO ₂ EXT Tubing OLYMPUS 140/160/180/190 BULK	20
100150C02	ENDO SMARTCAP™ CO ₂ Tubing PENTAX	10
100150C02EXT	ENDO SMARTCAP™ CO ₂ EXT Tubing PENTAX	10
100162	ENDO SMARTCAP™ Tubing PENTAX, AIR TO CO ₂ ADAP	50
100164C02	ENDO SMARTCAP™ CO ₂ Tubing FUJIFILM 700	10
100164C02EXT	ENDO SMARTCAP™ CO ₂ EXT Tubing FUJIFILM 700	10
100165C02	ENDO SMARTCAP™ CO ₂ Tubing FUJI 500/600	10
100165C02EXT	ENDO SMARTCAP™ CO ₂ EXT Tubing FUJI 500/600	10
100551	ENDO SMARTCAP™ Tubing, CO ₂ Extension Tube w/ Hydrophobic FILTER, 84"	10

PRODUCT CHART CONTINUED ON FOLLOWING PAGE.

CO₂ INSUFFLATION - CONTINUED

Product Number	ENDOGATOR™ + SMARTCAP™ Tubing Kits	Units/Box
Regular or Short Line CO ₂ + Irrigation Tubing		
100611	ENDOGATOR™ Tubing Kit OLYMPUS 100145C02, 100130	10
4005470	ENDOGATOR™ Tubing Kit OLYMPUS 100145C02, 4005644	10
CO ₂ Line with Filter Long Line + Irrigation Tubing		
100622	ENDOGATOR™ Tubing Kit OLYMPUS w/ CO ₂ Filter 100145C02, 100130, 100551	10
100622B	ENDOGATOR™ Tubing Kit OLYMPUS w/ CO ₂ Filter 100145C02, 100130, 100551 BULK	20
100623	ENDOGATOR™ Tubing Kit OLYMPUS w/ CO ₂ Filter 100145C02, 4005644, 100551	10
100623B	ENDOGATOR™ Tubing Kit OLYMPUS w/ CO ₂ Filter 100145C02, 4005644, 100551 BULK	20
100626	ENDOGATOR™ Tubing Kit PENTAX w/ CO ₂ Filter 100150C02, 100130, 100551	10
100627	ENDOGATOR™ Tubing Kit PENTAX w/ CO ₂ Filter 100150C02, 4005644, 100551	10
100628	ENDOGATOR™ Tubing Kit FUJI500/600 w/ CO ₂ Filter 100165C02, 100130, 100551	10
100629	ENDOGATOR™ Tubing Kit FUJI500/600 w/ CO ₂ Filter 100165C02, 4005644, 100551	10
4004637	ENDOGATOR™ Tubing Kit - AquaShield Long Line CO ₂ + ENDOGATOR 100130	20
4004638	ENDOGATOR™ Tubing Kit - AquaShield Long Line CO ₂ + ENDOGATOR 4005644	20
Extended Length CO ₂ Line + Irrigation Tubing		
100650	ENDOGATOR™ Tubing Kit OLYMPUS w/ Extended Length CO ₂ 100145C02EXT, 100130	10
100650B	ENDOGATOR™ Tubing Kit OLYMPUS w/ Extended Length CO ₂ 100145C02EXT, 100130 BULK	20
100651	ENDOGATOR™ Tubing Kit OLYMPUS w/ Extended Length CO ₂ 100145C02EXT, 4005644	10
100655	ENDOGATOR™ Tubing Kit PENTAX w/ Extended Length CO ₂ 100150C02EXT, 100130	10
100655B	ENDOGATOR™ Tubing Kit PENTAX w/ Extended Length CO ₂ 100150C02EXT, 100130 BULK	20
100656	ENDOGATOR™ Tubing Kit PENTAX w/ Extended Length CO ₂ 100150C02EXT, 4005644	10
100657	ENDOGATOR™ Tubing Kit FUJI500/600 w/ Extended Length CO ₂ 100165C02EXT, 100130	10
100658	ENDOGATOR™ Tubing Kit FUJI500/600 w/ Extended Length CO ₂ 100165C02EXT, 4005644	10
100658B	ENDOGATOR™ Tubing Kit FUJI500/600 w/ Extended Length CO ₂ 100165C02EXT, 4005644 BULK	20

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5960 Heisley Road
Mentor, OH 44060-1834 – USA
Customer Service: 800-548-4873
Fax: 440-639-4495
www.steris.com