



Product Catalog

Advancing Operating Room Safety Through Innovation!



BUFFALO FILTER®

Filtration Group®

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VisiClear®

Surgical Smoke Evacuator

VisiClear® is our most advanced acute care offering for surgical smoke evacuation. Combining Safeport Technology™, an occlusion warning, filter life tracking, and one-touch programmable procedure modes for open tubing, electrosurgical pencil, and laparoscopic procedures, VisiClear effectively captures and filters surgical smoke, particulates and other potentially hazardous by-products. The filter contains activated carbon known to adsorb gases.



Pneumatic Footswitch
(included)

Product Features & Benefits

Procedure Operating Modes

One of three operating modes (Laparoscopic, Open Tubing, and Electrosurgical Pencil Mode) can easily be selected, automatically customizing filter life based on surgical procedure.

Advanced Sound Control Design

Whisper Technology™ ensures ultra-quiet operation with unprecedented sound quality.

Sleek Shelf Design

Ergonomically designed to accommodate stacking.

Occlusion Warning

Safety feature that alerts medical personnel when an occlusion has occurred.

Intuitive Color Touch Screen

Easy to use, requires minimal training, and can be operated with gloved hand.

Unique Sliding Port Closure

SafePort Technology™ ensures reduced risk of staff coming in contact with a contaminated port.

Technical Information

Flow Rates* 30 cfm (839 lpm) using 7/8 in (22 mm) tubing

Dimensions (H x W x D) 7.1 in x 13.9 in 16.1 in
(18.0 cm x 35.4 cm x 40.9 cm)

Noise Levels* @ minimum power < 43 dBA
@ maximum power < 55 dBA

Weight With filter installed: 17.5 lbs (7.9 kg)
Without filter installed: 14.5 lbs (6.6 kg)

Warranty Three (3) Year Full Warranty

Made in USA

Product Ordering Information	Catalog Number
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100/120 Volt Systems	VC120
220/240 Volt Systems	VC220
(includes one filter and one footswitch)	

100/120 Volt Systems	VC120NF
220/240 Volt Systems	VC220NF
(includes one footswitch)	

Filter Ordering Information	Catalog Number
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ViroSafe® VisiClear® Filter	VS135 Series
Filter Life	18, 21, 35 hours (depending on the mode)

*Nominal values



EZLink®
(sold separately; catalog #: EZLINK01)



ViroSafe® Fluid Trap
(sold separately; catalog #: VSFT10)

ViroVac®

Surgical Smoke Evacuator

ViroVac® surgical smoke evacuator provides ideal flow for physician offices and outpatient surgery centers. It combines customizable (variable) filter life, a compact shelf design, 3-port filter with filter life tracking technology, while exceeding expectations for value and efficacy.

Product Features & Benefits

Compact Design

Allows for easy placement on shelf or counter and accommodates stackability.

Patented 3-Port Filter Design

Versatile 3-port filter design features covered, hidden male ports and accommodates a variety of tubing sizes providing versatility in procedure and accessory setup.

Variable Filter Life (up to 35 hours)

Delivers unsurpassed value and reduces per procedure costs.

Simple LED Display

Two button design (motor speed and on/standby) makes this system extremely easy to operate.

Covered Filter Ports

Filter ports are covered for additional safety.

Quiet Operation

Addresses noise concerns.

Technical Information

Flow Rates*	25 cfm (708 lpm) using 7/8 in (22 mm) tubing
Dimensions (H x W x D)	6 in x 11 in x 15.5 in (15.2 cm x 27.9 cm x 39.4 cm)
Noise Levels*	@ maximum power < 55 dBA
Weight	With filter installed: 12.0 lbs (5.0 kg) Without filter installed: 9.5 lbs (4.0 kg)
Warranty	One (1) Year Full Warranty

Made in USA

Product Ordering Information	Catalog Number
100/120 Volt Systems	VV120
220/240 Volt Systems	VV220
(includes one filter and one footswitch)	

100/120 Volt Systems	VV120NF
220/240 Volt Systems	VV220NF
(includes one footswitch)	

Filter Ordering Information	Catalog Number
ViroSafe® ViroVac® Filter	VS353 Series
Filter Life	18, 24, 35 hours (depending on flow rate)

*Nominal values



Pneumatic Footswitch
(included)



EZLink®
(sold separately; catalog #: EZLINK01)



ViroSafe® Fluid Trap
(sold separately; catalog #: VSFT10)

PlumeSafe® Turbo

Surgical Smoke Evacuator

PlumeSafe® Turbo is a powerful portable surgical smoke evacuator designed with sufficient flow for the aesthetic market. It features turbo suction power, an interactive LCD display and filter tracking technology. It can easily be placed on a counter, shelf, floor or other location convenient to the operative area.

Product Features & Benefits

Turbo Mode

Significantly increases the airflow to quickly remove smoke from the surgical site.

Interactive LCD Display

Our interactive display puts information at your fingertips. Multiple languages are included, adding to the unit's versatility.

Adjustable Flow Control

Suction setting can easily be adjusted in 10% increments.

Filter Tracking Technology

Automatically tracks and records filter life through a patented technology.

Quiet Operation

Addresses noise concerns.

Technical Information

Flow Rates*	68 cfm (1923 lpm) using 1–1/4 in (32 mm) tubing 44 cfm (1257 lpm) using 7/8 in (22 mm) tubing
Dimensions (H x W x D)	13.5 in x 8 in x 17 in (34 cm x 20 cm x 43 cm)
Noise Levels*	@ maximum power < 58 dBA
Weight	With filter installed: 16.9 lbs (7.0 kg) Without filter installed: 14.0 lbs (6.0 kg)
Warranty	Three (3) Year Full Warranty

Made in USA

Product Ordering Information	Catalog Number
100/120 Volt 50/60 Hz	PSWTURBO AS
220/240 Volt 50/60 Hz	PSWTURBO AS/220
(includes one footswitch; filter sold separately)	

Filter Ordering Information	Catalog Number
PlumeSafe® Turbo Replacement Filters	VS06, VSXLL, VSXLLT, VSEY, VSOH, and VSVET Series

Filter Life	6–24 hours depending on model
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*Nominal values



Pneumatic Footswitch
(included)



EZLink®
(sold separately; catalog #: EZLINK01)



ViroSafe® Fluid Trap
(sold separately; catalog #: VSFT10)

Porta PlumeSafe® 604

Surgical Smoke Evacuators

Porta PlumeSafe® 604 is an ideal surgical smoke evacuator for veterinarian and non-acute care settings where moderate flow is needed. The unit is portable, easy to use, and features patented technology to track filter life.

Product Features & Benefits

Lightweight & Portable

Allows for easy transport or tabletop use.

LED Display

Indicates filter life and suction power.

Adjustable Flow Control

Suction setting can easily be adjusted in 10% increments.

Filter Tracking Technology

Automatically tracks and records filter life through a patented technology.

Quiet Operation

Addresses noise concerns.

Technical Information

Flow Rates*	48 cfm (1358 lpm) using 1–1/4 in (32 mm) tubing
	36 cfm (1019 lpm) using 7/8 in (22 mm) tubing
Dimensions (H x W x D)	10 in x 6.5 in x 18 in (25 cm x 17 cm x 46 cm)
Noise Levels*	@ maximum power < 59 dBA
Weight	With filter installed: 22.0 lbs (9.0 kg) Without filter installed: 18.6 lbs (8.0 kg)
Warranty	One (1) Year Full Warranty

Made in USA

Product Ordering Information	Catalog Number
100/120 Volt 50/60 Hz (includes one footswitch; filter sold separately)	PPS604
Filter Ordering Information	Catalog Number
Porta PlumeSafe® 604 Replacement Filters	VS06, VSXLL, VSXLLT, VSEY, VSOH, and VSVET Series
Filter Life	6–24 hours depending on model

*Nominal values



Pneumatic Footswitch
(included)



EZLink®
(sold separately; catalog #: EZLINK01)



ViroSafe® Fluid Trap
(sold separately; catalog #: VSFT10)

PlumePen® Ultra

Surgical Smoke Evacuation Pencils & Pencil Adapters

No matter the surgical procedure, PlumePen® Ultra is up to the challenge. An addition to the PlumePen portfolio, Ultra offers a telescopic capture port with an advanced swivel design that will delight the surgeon with superior hand movement and less wrist drag. The Cam Lock System assures secure positioning allowing for precise application of energy to targeted tissue while removing hazardous surgical smoke.

Product Features & Benefits

Telescopic Capture Port with Enclosed Blade

Blade moves in unison with capture port affording versatility in any surgical situation. Integrated design eliminates need for blade replacement saving time and money.

Cam Lock System

Prevents capture port movement during surgery.
Audible click upon activation/deactivation of locking mechanism.

Responsive, Multi-Directional Swivel

Unique, floating ball joint design allows unrestricted hand movement.

Integrated Wire/Tubing Management

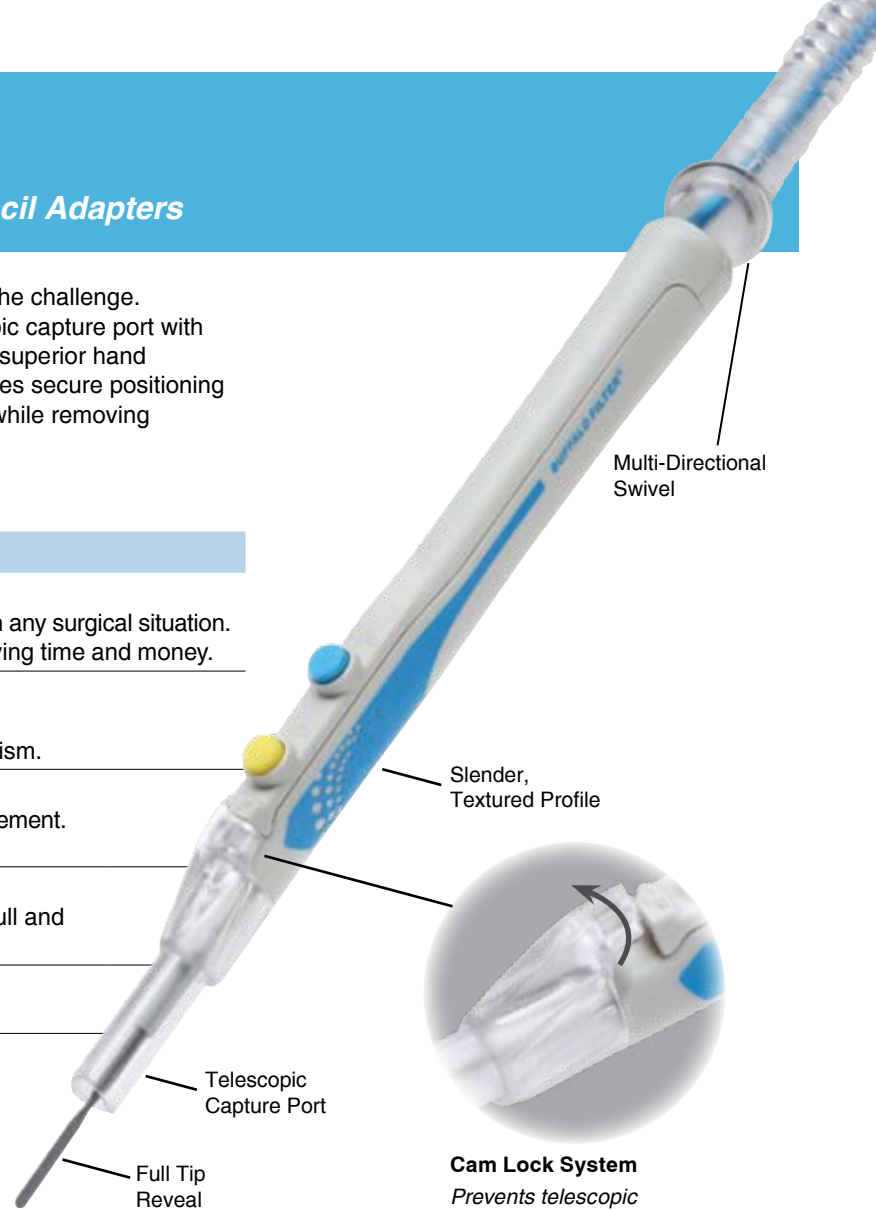
Ultra-light, PVC free, flexible tubing aids in reducing wrist pull and hand fatigue.

Slender, Textured Profile

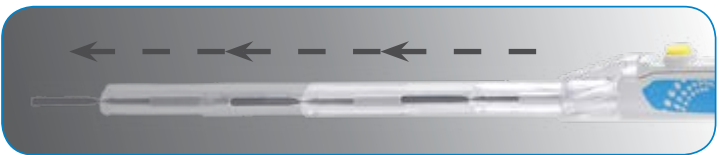
Improves surgeons grip.

Simple Connectivity

7/8 in (22 mm) cuff.

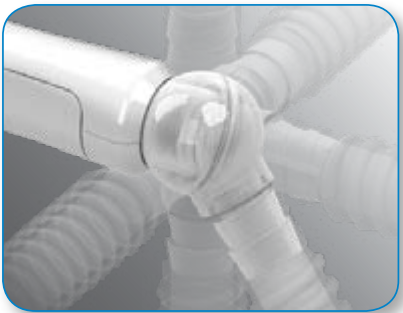


Product Ordering Information	Catalog Number	Quantity
PlumePen Ultra (Non-Stick ESU Blade)	PLPUL2020	20/Case
Includes 3/8 in (9.5 mm) x 10 ft (3 m) hose/tubing & 7/8 in (22 mm) filter port adapter.		
PlumePen Ultra (Non-Stick ESU Blade)	PLPUL2520	20/Case
Includes 3/8 in (9.5 mm) x 15 ft (4.6 m) hose/tubing & 7/8 in (22 mm) filter port adapter.		



Telescopic Capture Port

Extends up to 5.3 in (135 mm)



Multi-Directional Swivel

Provides for superior hand movement and less wrist drag than competitive products

PlumePen® Elite

Surgical Smoke Evacuation Pencils & Pencil Adapters

Pushing the boundaries through design innovation, **PlumePen® Elite** features a compact, ultra slim, ergonomic design that is significantly smaller than competitive electrosurgical smoke pencils. PlumePen Elite offers the comfort and advanced feature set surgeons demand.

Product Features & Benefits

Powerfully Compact and Ultra Slim

Significantly smaller (up to 46%) than competitive electrosurgical smoke pencils and similar in size to standard electrosurgical pencils.

Up to 25% More Flow

Provides more flow than competitive electrosurgical smoke pencils.

Over-molded Button Design

One piece over-molded button design limits fluid ingress aiding in the prevention of sticking buttons.

Over-molded Cradle Design

Provides improved grip and comfort.

Adjustable Capture Port

Offers customized placement for effective smoke capture regardless of blade length.

Full Blade Reveal

Offers exceptional visibility at the surgical site.

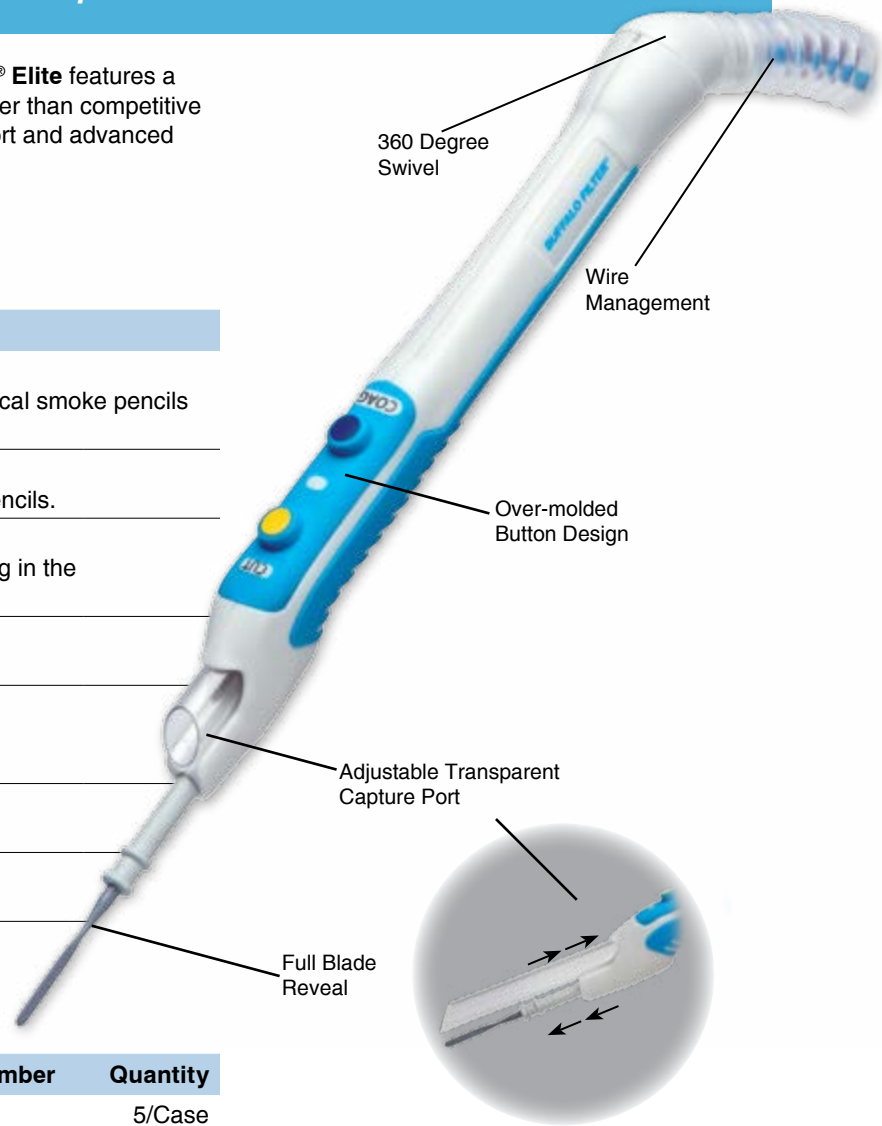
Light, Flexible Tubing

Aids in reducing pull, hand fatigue, and tension on the wrist.

360 Degree Swivel

Allows for fluid hand movement and free range of motion.

Product Ordering Information	Catalog Number	Quantity
PlumePen Elite (Stainless Steel ESU Blade)	PLP1005	5/Case
	PLP1020	20/Case
Includes 3/8 in (9.5 mm) x 10 ft (3 m) tubing with adapter to 7/8 in (22 mm) port.		
PlumePen Elite (Stainless Steel ESU Blade)	PLP1505	5/Case
	PLP1520	20/Case
Includes 3/8 in (9.5 mm) x 15 ft (4.6 m) tubing with adapter to 7/8 in (22 mm) port.		
PlumePen Elite (Non-Stick ESU Blade)	PLP2005	5/Case
	PLP2020	20/Case
Includes 3/8 in (9.5 mm) x 10 ft (3 m) tubing with adapter to 7/8 in (22 mm) port.		
PlumePen Elite (Non-Stick ESU Blade)	PLP2505	5/Case
	PLP2520	20/Case
Includes 3/8 in (9.5 mm) x 15 ft (4.6 m) tubing with adapter to 7/8 in (22 mm) port.		



PlumePen® Pro

Surgical Smoke Evacuation Pencils & Pencil Adapters

PlumePen® Pro is as a cost effective solution combining precision surgical smoke management and electrosurgery without compromising quality or features. Pro is a perfect solution for surgeries where a pencil adapter is less optimal.

Product Features & Benefits

Sleek, Textured Profile

Similar in size to standard electrosurgical pencils with raised texturing to improve surgeon's grip.

360 Degree Swivel

Rotating connection allows for fluid hand movement and free range of motion.

Transparent Removable Capture Port

Provides a clear view of the blade.

Wire Management

Seamless integration of ESU wire and tubing provides organized cord management.

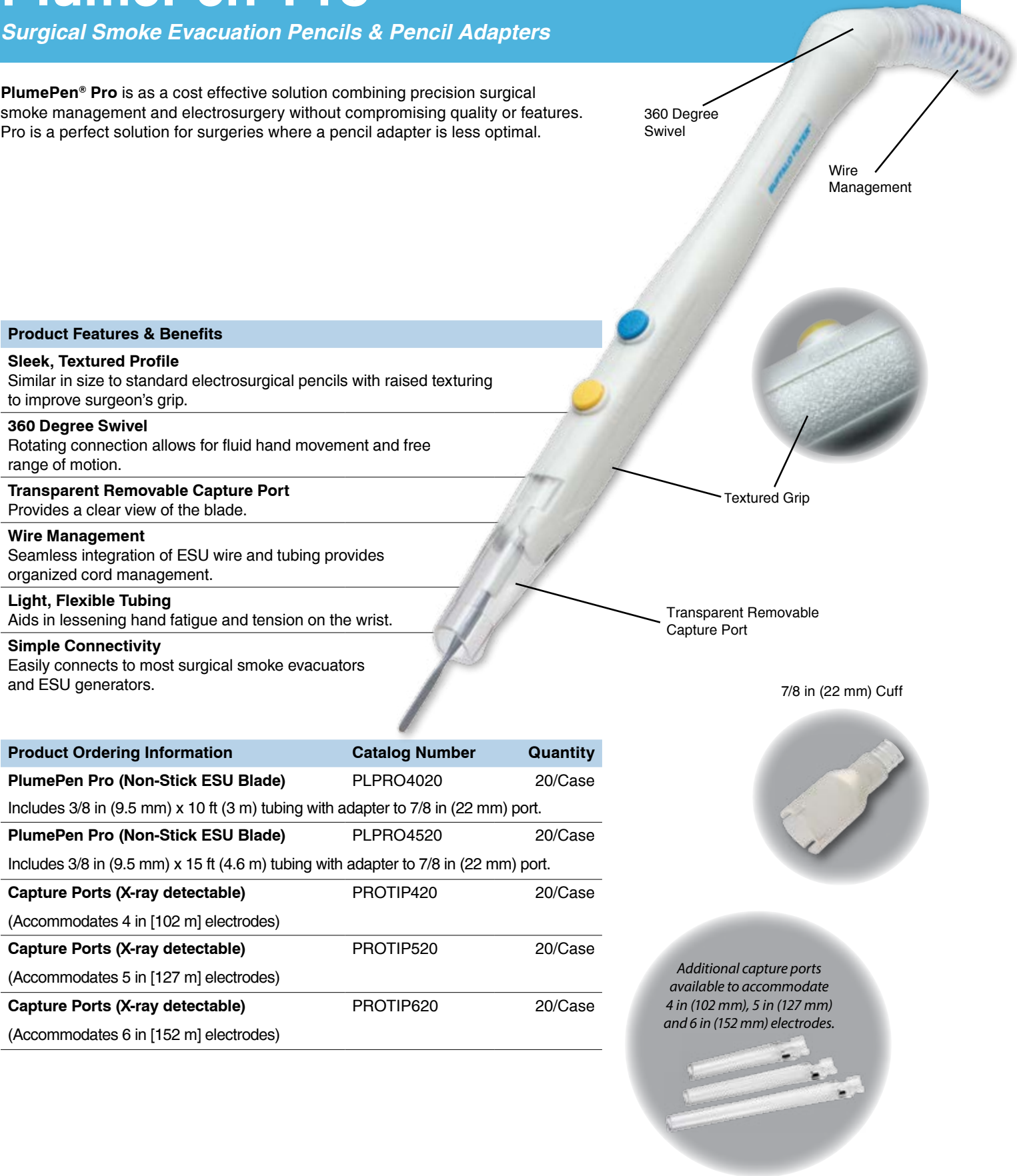
Light, Flexible Tubing

Aids in lessening hand fatigue and tension on the wrist.

Simple Connectivity

Easily connects to most surgical smoke evacuators and ESU generators.

Product Ordering Information	Catalog Number	Quantity
PlumePen Pro (Non-Stick ESU Blade)	PLPRO4020	20/Case
	Includes 3/8 in (9.5 mm) x 10 ft (3 m) tubing with adapter to 7/8 in (22 mm) port.	
PlumePen Pro (Non-Stick ESU Blade)	PLPRO4520	20/Case
	Includes 3/8 in (9.5 mm) x 15 ft (4.6 m) tubing with adapter to 7/8 in (22 mm) port.	
Capture Ports (X-ray detectable)	PROTIP420	20/Case
(Accommodates 4 in [102 m] electrodes)		
Capture Ports (X-ray detectable)	PROTIP520	20/Case
(Accommodates 5 in [127 m] electrodes)		
Capture Ports (X-ray detectable)	PROTIP620	20/Case
(Accommodates 6 in [152 m] electrodes)		



SnapEvac[®]

Surgical Smoke Evacuation Pencils & Pencil Adapters

SnapEvac[™] is an ergonomically designed smoke evacuation electrosurgical pencil adapter that transforms most hyfrecator hand-switch pencils and electrosurgical pencils into a surgical smoke evacuation device that captures smoke plume at the point of creation.

- Product Features & Benefits
- Snap and Evac

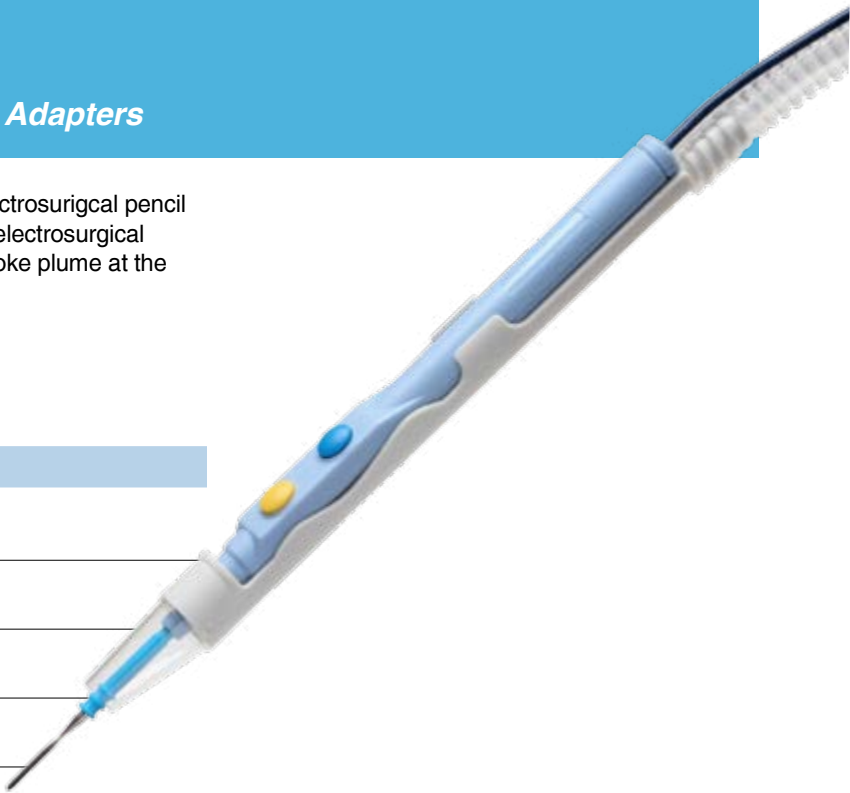
Just snap in handpiece of your choice.
- Efficient Workflow

Eliminates need for OR personnel to hold tubing.
- Transparent Capture Port

Improves visibility of the surgical site.
- Cost-Effective

Economical option for surgical smoke evacuation.
- Lightweight Tubing

Product Ordering Information	Catalog Number	Quantity
SnapEvac	SnapEvac20	20/Case
Designed using ABS plastic and a polycarbonate capture port. Includes 10 ft (3 m) tubing with a 7/8 in (22 mm) cuff.		
*Electrosurgical pencil not included		



PenAdapt[®]

Surgical Smoke Evacuation Pencils & Pencil Adapters

PenAdapt[®] is an ergonomically designed pencil adapter that captures surgical smoke at the point of creation. Expertly engineered to position the capture inlet as close to the point of surgical smoke creation as possible, PenAdapt was designed to minimize any change to the feel of the pencil or the surgeon's line of vision. PenAdapt accommodates most electrosurgical pencils.

- Product Features & Benefits
- Universal Design

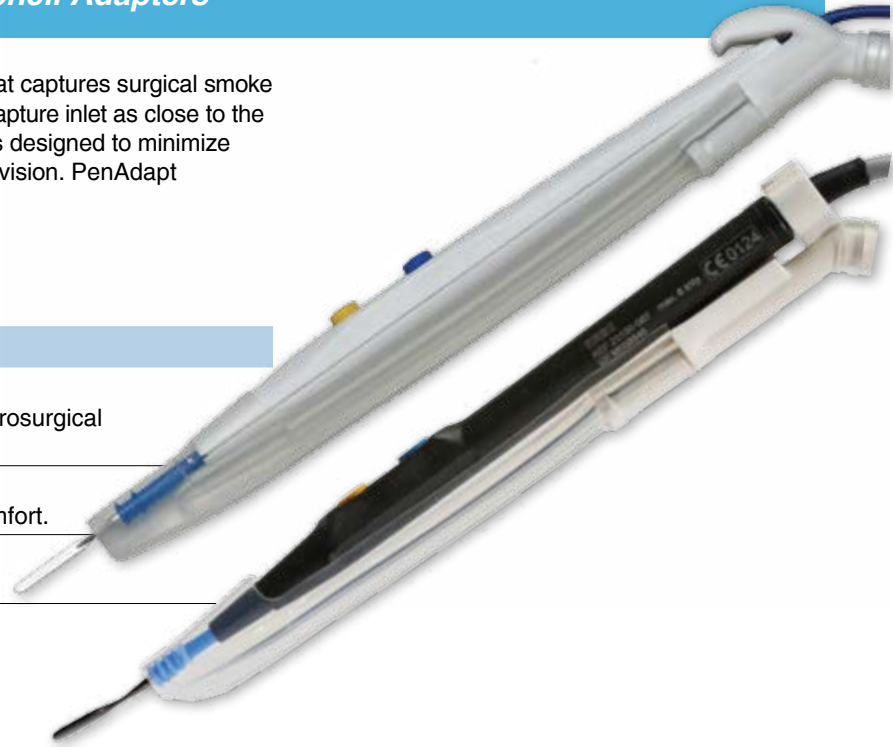
Pliable silicone material allows for proper fit to most electrosurgical pencil brands.
- Angled Back End Clasp

Reduces tension placed on surgeon's wrist providing comfort.
- Convenience

Eliminates need for OR personnel to hold tubing.
- Low Profile Front Nozzle

Improves visibility of the surgical site.

Product Ordering Information	Catalog Number	Quantity
PenAdapt	PA1025	25/Case
Ideal for wall suction applications. Includes 3/8 in (9.5 mm) x 1 ft (30.5 cm) tubing with an adapter to 3/8 in (9.5 mm) tube.		
PenAdapt (Cut-back)	PA1025CB	25/Case
Ideal for wall suction applications. Cut-back adapter provides increased visibility. Includes 3/8 in (9.5 mm) x 1 ft (30.5 cm) tubing with an adapter to 3/8 in (9.5 mm) tube.		
PenAdapt	PA2010	10/Case
Ideal for surgical smoke evacuator applications. Includes 3/8 in (9.5 mm) x 4 ft (1.22 m) tubing with an adapter to 7/8 in (22 mm) x 6 ft (1.8 m) tube.		
PenAdapt (Cut-back)	PA2010CB	10/Case
Ideal for surgical smoke evacuator applications. Cut-back adapter provides increased visibility. Includes 3/8 in (9.5 mm) x 4 ft (1.22 m) tubing with an adapter to 7/8 in (22 mm) x 6 ft (1.8 m) tube.		
PenAdapt	PA2010B	10/Case
Ideal for attachment to reusable electrosurgical pencil applications. Includes 3/8 in (9.5 mm) x 4 ft (1.22 m) tubing with an adapter to 7/8 in (22 mm) x 6 ft (1.8 m) tube.		
PenAdapt	PA2010BCB	10/Case
Ideal for attachment to reusable electrosurgical pencil applications. Cut-back adapter provides increased visibility. Includes 3/8 in (9.5 mm) x 4 ft (1.22 m) tubing with an adapter to 7/8 in (22 mm) x 6 ft (1.8 m) tube.		
*Electrosurgical pencil not included		




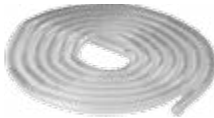




PA1025, PA1025CB,
PA2010, PA2010CB



PA2010B, PA2010BCB







Tubing – Standard & Specialty

Surgical Smoke Evacuation Tubing & Accessories

Description	Catalog Number	Quantity
1/4 in (6.4 mm) Smoke Evacuation Tubing		
 NON-STERILE Excellent for use with filtered wall suction and for situations where space is limited. 1/4 in (6.4 mm) x 2 ft (.6 m).	ST10105	5/Case
3/8 in (9.5 mm) Smoke Evacuation Tubing		
 STERILE Excellent for use in an office setting and in small pockets where space is limited. 3/8 in (9.5 mm) x 10 ft (3.0 m).	VT38S1010	10/Case
7/8 in (22 mm) Smoke Evacuation Tubing		
 <p>The most common and versatile size of tubing, combining a compact size and increased airflow.</p> STERILE 7/8 in (22 mm) x 6 ft (1.8 m). 7/8 in (22 mm) x 10 ft (3.0 m).	VT10424 VT10624	24/Case 24/Case
NON-STERILE 7/8 in (22 mm) x 6 ft (1.8 m) with (12) 7/8 in tubing-to-tubing connectors (extension tubing). 7/8 in (22 mm) x 10 ft (3.0 m). 7/8 in (22 mm) x 10 ft (3.0 m). 7/8 in (22 mm) x 6 ft (1.8 m). 7/8 in (22 mm) x 2.5 ft (.7 m) (Replaces suction canister connecting tube).	VT10324 VT10524-10 VT10524 VT78-6 VT10610	24/Case 10/Case 24/Case 6/Case 10/Case
1–1/4 in (32 mm) Smoke Evacuation Tubing		
 <p>A wide diameter tubing, ideal for cases producing large amounts of smoke and odors such as aesthetic procedures and Trans-urethral Resection of the Prostate (TURP) procedures.</p> STERILE 1–1/4 in (32 mm) x 6 ft (1.8 m).	VT10206	6/Case
NON-STERILE 1–1/4 in (32 mm) x 6 ft (1.8 m). 1–1/4 in (32 mm) x 10 ft (3.0 m). 1–1/4 in (32 mm) x 2 ft (.6 m).	VT10106 VT10306 VT10510	6/Case 6/Case 10/Case
1–3/8 in (35 mm) Erbium: Yag Tubing Kit		
 NON-STERILE 1–3/8 in (35 mm) x 6 ft (1.8 m) tube (replace as needed) and six 2 ft (.6 m) length tubes with integral wand & sponge guard to be replaced each procedure.	VTEYKIT	1/Kit
Speculum Tubing		
 STERILE Ideal for connection to surgical speculum, laryngoscope, or small area applications. 7/8 in (22 mm) x 6 ft (1.8 m) with 7/8 in (22 mm) to 1/4 in (6.4 mm) reducer to 1/4 in (6.4 mm) x 2 ft (.6 m) tubing.	VTESU05	5/Case
NON-STERILE Ideal for connection to surgical speculum or small area applications. 7/8 in (22 mm) x 6 ft (1.8 m) with 7/8 in (22 mm) to 1/4 in (6.4 mm) reducer to 1/4 in (6.4 mm) x 2 ft (.6 m) tubing.	PSFTS05	5/Case

Tubing – Standard & Specialty

Surgical Smoke Evacuation Tubing & Accessories

Description	Catalog Number	Quantity
Pencil Adapter Tubing Set		
 STERILE 7/8 in (22 mm) x 6 ft (1.8 m) with 7/8 in (22 mm) to 3/8 in (9.5 mm) reducer and 3/8 in (9.5 mm) x 4 ft (1.2 m).	VTVIC10	10/Case
7/8 in (22 mm) Tubing with Wand and Sponge Guard		
 STERILE 7/8 in (22 mm) x 6 ft (1.8 m) tubing with 8 in (20 cm) integral wand and sponge guard. 7/8 in (22 mm) x 10 ft (3.0 m) tubing with 8 in (20 cm) integral wand and sponge guard. 7/8 in (22 mm) x 14 ft (4.3 m) tubing with 8 in (20 cm) integral wand and sponge guard. 7/8 in (22 mm) x 10 ft (3.0 m) tubing with 8 in (20 cm) integral wand and sponge guard with 7/8 in to 1–3/8 in (35 mm) adapter.	VTWT424 VTWT624 VTWT805 VTWTS10	24/Case 24/Case 5/Case 10/Case
NON-STERILE 7/8 in (22 mm) x 6 ft (1.8 m) tubing with 8 in (20 cm) integral wand and sponge guard. 7/8 in (22 mm) x 10 ft (3.0 m) tubing with 8 in (20 cm) integral wand and sponge guard.	VTWT324 VTWT524	24/Case 24/Case
1–1/4 in (32 mm) Tubing with Wand and Sponge Guard		
 STERILE 1–1/4 in (32 mm) x 6 ft (1.8 m) tubing with 8 in (20 cm) integral wand and sponge guard.	VTWT206	6/Case
1–3/8 in (35 mm) Tubing with Wand and Sponge Guard		
 STERILE 1–3/8 in (35 mm) x 6 ft (1.8 m) with wand and sponge guard. 1–3/8 in (35 mm) x 10 ft (3.0 m) with wand and sponge guard.	VTWT505 VTWT515	5/Case 5/Case
NON-STERILE 1–3/8 in (35 mm) x 6 ft (1.8 m) with wand and sponge guard.	VTWT506	6/Case
7/8 in (22 mm) Tubing with Adapters		
 STERILE 7/8 in (22 mm) to 3/8 in (9.5 mm) reducer fitting with 7/8 in (22 mm) x 6 ft (1.8 m) tubing.	VT10405	5/Case
 STERILE 7/8 in (22 mm) to 1/4 in (6.4 mm) reducer fitting with 2 ft (.6 m) x 1/4 in (6.4 mm) tubing.	RF10210	10/Case
NON-STERILE 7/8 in (22 mm) to 1/4 in (6.4 mm) reducer fitting with 2 ft (.6 m) x 1/4 in (6.4 mm) tubing.	RF10110	10/Case




Tubing – Reducer Fittings/Adapters

Surgical Smoke Evacuation Tubing & Accessories

Description	Catalog Number	Quantity
Reducer Fittings/Adapters		
 NON-STERILE 7/8 in (22 mm) to 1/4 in (6.4 mm) reducer fitting.	RF10112	12/Case
 NON-STERILE 7/8 in (22 mm) to 1/4 in (6.4 mm) reducer fitting with 2 in (5.1 cm) cuff.	RF12524	24/Case
 NON-STERILE 7/8 in (22 mm) to 3/8 in (9.5 mm) reducer fitting with 2 in (5.1 cm) cuff.	RF783824	24/Case
 NON-STERILE 7/8 in (22 mm) to 3/8 in (9.5 mm) reducer fitting.	RF10512	12/Case
 NON-STERILE 1–3/8 in (35 mm) to 7/8 in (22 mm) reducer fitting.	RF10705	5/Case
 NON-STERILE 1–3/8 in (35 mm) to 3/8 in (9.5 mm) reducer fitting.	RF13810	10/Case

Tubing – Wands & Sponge Guards

Surgical Smoke Evacuation Tubing & Accessories

Description	Catalog Number	Quantity
Laser Resistant Wands with Sponge Guard		
 STERILE 7/8 in (22 mm) x 8 in (20 cm).	WLRT410	10/Case
	NON-STERILE 1–1/4 in (32 mm) x 8 in (20 cm).	WLRT0033/Case
	7/8 in (22 mm) x 8 in (20 cm).	WLRT3033/Case
Sponge Guard		
	NON-STERILE Sponge guard fits 7/8 in (22 mm) tubing.	WTIPS1010/Case
	Sponge guard fits 1–1/4 in (32 mm) to 1–3/8 in (35 mm) tubing.	WTIPL1010/Case

PlumePort® ActiV®

Laparoscopic Solutions

PlumePort® ActiV® is the first line of defense designed for safe, effective removal of surgical smoke during laparoscopic procedures. ActiV easily attaches to standard trocars and utilizes readily available suction systems providing noiseless operation.

With a built-in fluid trap, moisture is effectively managed throughout the entire procedure to ensure uninhibited flow and prevent filter saturation without compromising the integrity of the filtration media.

ActiV provides up to 50% more flow capability than competitive passive laparoscopic filters while maintaining ULPA filtration and significantly outperforms competitive devices when exposed to high moisture environments. In addition to ULPA filtration, ActiV contains activated carbon known to adsorb gases.

- Product Features & Benefits
- Active Smoke Removal

Controlled management of smoke throughout the surgical procedure featuring flow control dial with one hand adjustability.
- Noiseless Operation
- Compact Housing Design

Contains built-in fluid trap, flow adjustment valve and filtration.
- Moisture Management

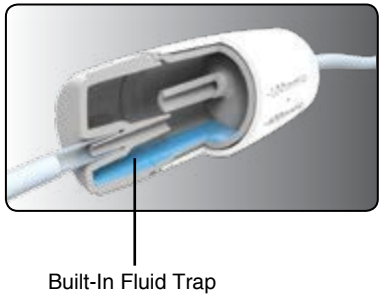
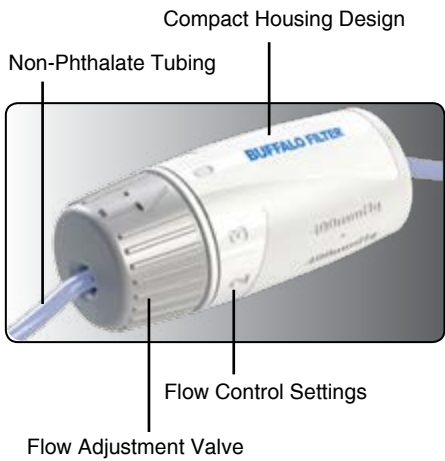
Built-in fluid trap to manage moisture throughout entire procedure.
- Integrated ULPA Filtration

Coupled with activated carbon to safely filter peritoneal smoke.
- Universal Connectivity

Easily attaches to standard luer lock fittings and suction systems.
- Up to 50% More Flow

Provides greater flow than passive laparoscopic devices.
- Not made with natural rubber latex

Product Ordering Information	Catalog Number	Quantity
PlumePort ActiV	PP010CS	10/Case



PlumePort® SEO

Laparoscopic Solutions

PlumePort® SEO easily connects from a standard trocar to a smoke evacuator for efficient and safe removal of surgical smoke during laparoscopic procedures. Utilizing available surgical smoke evacuators and coupling it with this flow controlled device, PlumePort SEO provides fast and safe smoke management while maintaining peritoneal distention.

- Product Features & Benefits
- Active Smoke Removal

Controlled management of smoke throughout the surgical procedure via surgical smoke evacuator.
- Maximum Flow Control

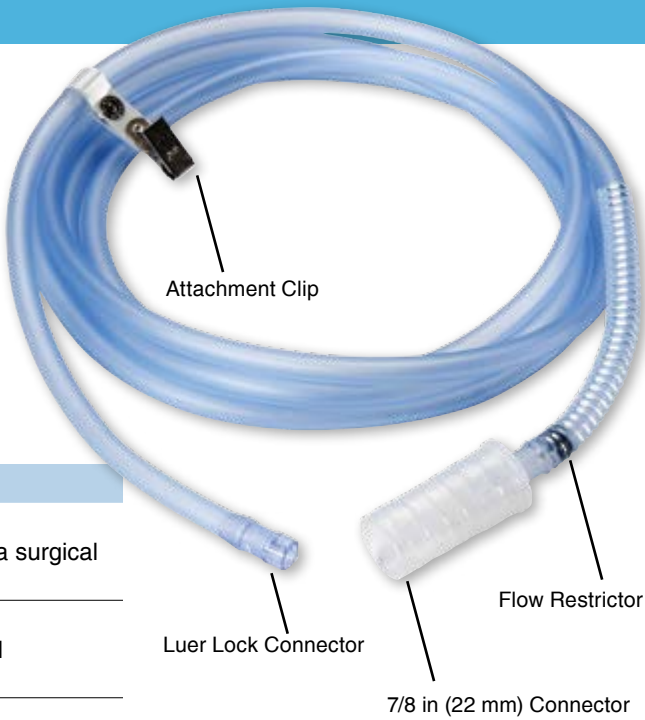
Built-in calibration maintains peritoneal distention without OR personnel interaction.
- Adjustable Flow Rate

Allows flow adjustment via surgical smoke evacuator.
- Universal Connectivity

Standard luer lock fitting and connects to most surgical smoke evacuators.
- Up to 50% More Flow

Provides greater flow than passive laparoscopic devices.
- Not made with natural rubber latex

Product Ordering Information	Catalog Number	Quantity
PlumePort SEO	PP012SEO	12/Case



PlumePort®

Laparoscopic Solutions

PlumePort® is a passive laparoscopic smoke filtration device with integrated ULPA filtration coupled with activated carbon to safely filter the aerosolized contents of peritoneal smoke during laparoscopy. Containing more than two times the ULPA media as competitive passive devices, and a dual management moisture control process of a wicking agent and fluid trap, PlumePort offers essential media integrity for greater protection during longer cases.



Product Features & Benefits

Adjustable Flow Control
Lightweight design and integral control maintains peritoneal distention.

Moisture Management
With an integrated fluid trap and wicking material, moisture is effectively managed to ensure the integrity of the filtration media.

ULPA Filtration
Contains more than two times ULPA filtration media than competitive devices providing enhanced protection and extending filter life.

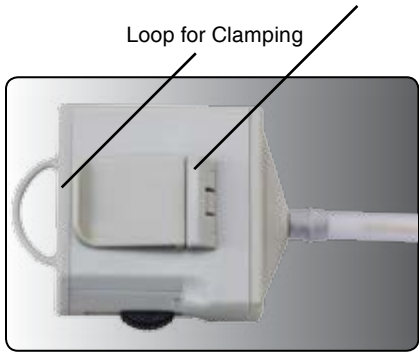
Activated Carbon
Incorporates activated carbon known to adsorb gases.

Universal Connectivity
Easily connects to all standard luer lock fittings.

Product Ordering Information	Catalog Number	Quantity
PlumePort	PP010	10/Case



Adjustable Flow Control



Wicking Material

PlumePort® SEV & SE

Laparoscopic Solutions

PlumePort® SEV is a sterile laparoscopic smoke filtration device that connects from a standard surgical trocar to a smoke evacuator for efficient and safe removal of surgical smoke during laparoscopic procedures. The surgical smoke evacuation is controlled via the surgical smoke removal valve.

Product Features & Benefits

Active Smoke Removal
Controlled management of smoke throughout the surgical procedure via surgical smoke removal valve.

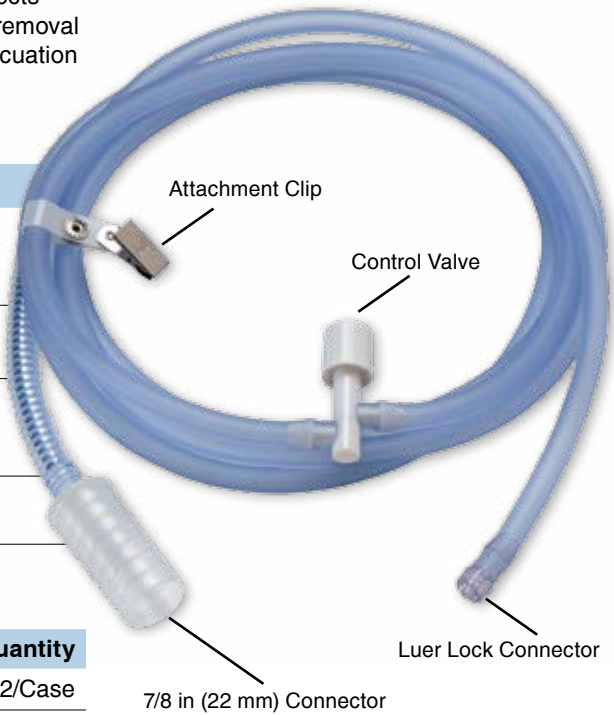
Surgical Smoke Removal Valve
Aids in reducing loss of insufflation gas while managing smoke.

Universal Connectivity
Easily connects to standard surgical trocars and most surgical smoke evacuators.

Attachment Clip
Conveniently attaches wherever needed.

Not made with natural rubber latex

Product Ordering Information	Catalog Number	Quantity
PlumePort SEV	BLAP100V	12/Case



PlumePort® SE is sterile smoke management tubing that connects from a standard surgical trocar to a smoke evacuator for efficient and safe removal of surgical smoke during laparoscopic procedures.

Product Features & Benefits

Active Smoke Removal
Controlled management of smoke throughout the surgical procedure via surgical smoke evacuator.

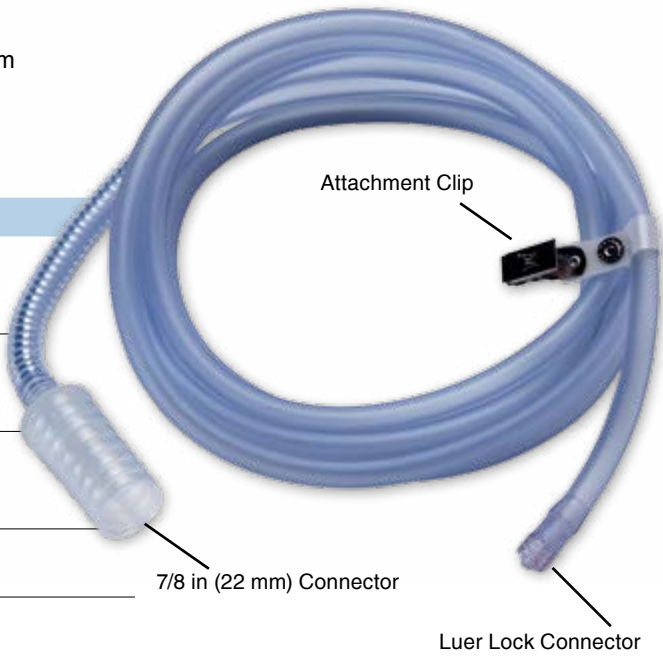
Adjustable Flow Rate
Allows flow adjustment via surgical smoke evacuator or trocar valve opening.

Universal Connectivity
Easily connects to standard surgical trocars and most surgical smoke evacuators.

Attachment Clip
Conveniently attaches wherever needed.

Not made with natural rubber latex

Product Ordering Information	Catalog Number	Quantity
PlumePort SE	BLAP100	12/Case



LaparoVue® Visibility System

Laparoscopic Solutions

LaparoVue® Visibility System

LaparoVue is an all-in-one solution designed to take the complexity out of achieving optimal visualization. An easy to use, disposable multi-purpose device that warms, white balances, cleans and defogs, LaparoVue® eliminates the necessity for multiple product purchases.

Product Features & Benefits

Warms & White Balances

Warms scope in 5 minutes to prevent fogging.
Unit warms up to 5 hours.
Allows for white balancing.

Cleans

Provides crisp, clear view in 5 seconds.
Radiopaque VueTip® Trocar Swabs remove debris and excess liquid from trocar cannula.
X-ray detectable Microfiber Cloth designed to capture residue/particulates.

Defogs

Pre-filled warming solution helps prevent intra-operative scope fogging.

One Unit, Two Ports

Two ports: warming/white balancing and cleaning/defogging.
Allows for second scope to be warmed and ready during surgery.
Fits 3 mm–12 mm scopes without a port size converter.

Detached Scope Cradle

Safely and securely supports scope.
Reduces tension on lens and potential for damage.

Ergonomic Design

Stable base prevents tipping.
Contoured, easy grip profile.
Engineered with soft silicone material.

Built-in LED lights

Product Ordering Information	Catalog Number	Quantity
LaparoVue® Visibility System	LAPVUE10	10/Case



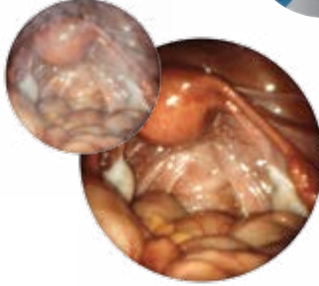
VueTip® Trocar Swab Accessory Kit
(also sold separately; catalog # VUETIP10)



warms &
white balances



cleans



defogs*

* Photographs are representative of a fogged and clear / defogged lens but do not reflect actual product use.

LaparoLight™ Veress Needle

Laparoscopic Solutions

LaparoLight™ Veress Needle

LaparoLight Veress Needle advances laparoscopic access with SafetyView™ Illumination Technology, a new safety enhancement developed so surgeons no longer have to blindly guess when the peritoneal cavity has been entered. A light immediately alerts them to entry. The “illuminated” visual placement indicator enhances current safety protocols and provides increased assurance to the surgeon during blind insertion.

Product Features & Benefits

SafetyView™ Illumination technology provides an illuminated visual upon entry into the peritoneal cavity.

Assists surgeon in reducing the possibility of patient injury.

Clear hub for easy viewing during aspiration and hanging drop tests.

Distinct audible “click” as blunt tip springs forward entering peritoneal cavity.

Accommodates different patient populations with two size lengths: 120mm and 150mm.

Product Ordering Information	Catalog Number	Quantity
LaparoLight™ Veress Needle	LLVN12012	12/Case
LaparoLight™ Veress Needle	LLVN15012	12/Case

Insufflation Tubing Sets








Insufflation Tubing

- 10ft (3 m) tubing
- bi-directional .1 micron hydrophobic filters reduce the chance of contamination
- Sterile
- Not made with natural rubber latex
- Rotating luer-lock connector prevents twisting or disconnects of CO2 line
- 4 different connect fittings

Product	Description	Catalog Number	Quantity
	Insufflation tubing set with funnel taper connector (click in connector) & swivel luer	ITSFTC10	10/Case
	Insufflation tubing set w/ quick connector (o-ring) & swivel luer	ITSQC10	10/Case
	Insufflation tubing set with dual swivel luers	ITSDSL10	10/Case
	Insufflation tubing set with 15/22 mm round connector	ITS152210	10/Case






Accessories

Description	Catalog Number	Quantity
VueTip® Trocar Swab Accessory Kit		
 Kit contains both a radiopaque Microfiber Cloth (non-abrasive) that can be used to clean the scope lens and two VueTip Trocar Swabs for 3–7 mm and 7–12 mm trocar cannulas.	VUETIP10	10/Case
EZLink®		
 Activation Device used to remotely turn all current Buffalo Filter surgical smoke evacuators on and off in conjunction with Electrosurgical Unit activation saving filter life. Adjustable delay allows for capture of residual smoke that may be present after deactivation of electrosurgery devices. Multiple cautery pencils can be accommodated with one EZLink device providing savings and convenience to facility. Easy set-up; requires no programming.	EZLINK01	1/Case
Pneumatic Footswitch		
 Designed to work with all current Buffalo Filter surgical smoke evacuators. Features 10 ft length (3.0 m).	FS10004	1/Case
Virosafe® Fluid Trap		
 Designed to capture fluids to help maintain the integrity of the filtration system and assist with maintaining filter life. Translucent design with simple to read measurement increments (holds up to 100 cc fluid capacity). Easy to attach and remove with cap holder for easy storage of caps during use. 7/8 in (22 mm) and 1/4 in (6.4 mm) tubing connection ports. Fits 7/8 in (22 mm) port of Buffalo Filter ViroSafe Filters.	VSFT10	10/Case
Direct Connect Cables		
 Direct Connect Cable for ConMed Electrosurgical Units (certain models only) and Buffalo Filter Smoke Evacuators	DCCM01	1/Case
Direct Connect Cable for Covidien Electrosurgical Units (certain models only) and Buffalo Filter Smoke Evacuators	DCCOV01	1/Case

Accessories





Description	Catalog Number	Quantity
PlumePen® Pro Capture Ports		
 4 in (102 mm) Capture Ports for PlumePen Pro	PROTIP420	20/Case
5 in (127 mm) Capture Ports for PlumePen Pro	PROTIP520	20/Case
6 in (152 mm) Capture Ports for PlumePen Pro	PROTIP620	20/Case
Y Adapter		
 7/8 in (22 mm) Y Adapter with connectors.	ADP22X22Y	1/Case
Surgical Laser Masks		
 High efficiency 0.1 micron filtration media surgical masks.	SMLOF50	50/Case
	SMLOF300	300/Case
LaseAdapt® SC Contour TRL Hand Piece Adapter		
 Designed to attach directly to the hand piece LaseAdapt SC series of laser attachments capture laser generated airborne contaminants (LGAC's) and eliminates need to hold a surgical smoke evacuation tube. 7/8 in (22 mm) connector	LA3010EY10	10/Case
LaseAdapt® ProFractional Therapy Hand Piece Adapter		
 Designed for the Sciton® ProFractional Therapy™ Laser System Designed to attach directly to the hand piece, LaseAdapt SC series of laser attachments capture laser generated airborne contaminants (LGAC's) and eliminates need to hold a surgical smoke evacuation tube. 7/8 in (22 mm) connector	LA3010PF10	10/Case
LaseAdapt Hand Piece Adapter Clips		
 LaseAdapt Reuseable Tubing Clips.	LA3010CL4	4/Case
Designed for the Sciton® Contour TRL™ Erbium Scanner and ProFractional Therapy™ Laser Systems.		

Accessories

Description	Catalog Number	Quantity
Armstand		
 <p>Great for office applications. Provides hands-free positioning of the smoke evacuation tubing. Velcro tubing fasteners included. 10 in (25.4 cm) x 10 in (25.4 cm) x 34 in (86.4 cm)</p>	ARMSTAND	1/Case
EvacuCart™		
 <p>Lightweight, transport cart with locking wheels for Buffalo Filter branded surgical smoke evacuators. 15 in (38.1 cm) x 17.5 in (44.5 cm) x 32 in (81.3 cm)</p>	ETC01	1/Case
ViroVac® Wall Mount Kit		
 <p>Wall mount kit designed for ViroVac surgical smoke evacuator. Includes base and wall mount plates, screws, and tri-wall anchors to properly mount unit.</p>	VVWM01	1/Case



Filters

For Buffalo Filter Evacuators

Filter Name	Designed to Fit	Description	Catalog Number	Quantity
ViroSafe® 6 Filter				
	PlumeSafe® Turbo; Porta PlumeSafe® 604	Lasts for 6 hours of smoke evacuation time and captures 0.1 to 0.2 micron particles at 99.999% efficiency. Dual male ports — 7/8 in (22 mm) and 1-1/4 in (32 mm).	VS06001 VS06002 VS06004	1/Case 2/Case 4/Case
ViroSafe® 6 Twin Port Filter				
	PlumeSafe® Turbo; Porta PlumeSafe® 604	Lasts for 6 hours of smoke evacuation time. Twin male ports — 7/8 in (22 mm).	VS06T04	4/Case
ViroSafe® Extra Long Life Filter				
	PlumeSafe® Turbo; Porta PlumeSafe® 604	Lasts for 18 hours of smoke evacuation time. Dual male ports — 7/8 in (22 mm) and 1-1/4 in (32 mm).	VSXLL02 VSXLL04	2/Case 4/Case
ViroSafe® Extra Long Life Twin Port Filter				
	PlumeSafe® Turbo; Porta PlumeSafe® 604	Lasts for 18 hours of smoke evacuation time. Twin male ports — 7/8 in (22 mm).	SING-VSXLLT VSXLLT02 VSXLLT04	1/Case 2/Case 4/Case



Filters

For Buffalo Filter Evacuators

Filter Name	Designed to Fit	Description	Catalog Number	Quantity
ViroSafe® Veterinary Filter				
	PlumeSafe® Turbo; Porta PlumeSafe® 604	Lasts for 24 hours of smoke evacuation time and captures 0.1 to 0.2 micron particles at 99.999% efficiency.	VSVET01	1/Case
		Dual male ports — 7/8 in (22 mm) and 1–1/4 in (32 mm)		
		Most economical choice for animal hospitals and clinics.		
ViroSafe® Erbium: YAG Pre-filter				
	ViroSafe® Erbium: YAG main filter	Specifically designed for use with Erbium: Yag laser applications.	BFEY04PF	4/Case
		Designed to be used for 1-3 procedures, depending on application.		
ViroSafe® Erbium: YAG Filter				
	PlumeSafe® Turbo; Porta PlumeSafe® 604	Specifically designed for use with the Erbium: Yag laser applications.	SING VSEY	1/Case
		Lasts for 12 hours of smoke evacuation time when used with pre-filters BFEY04PF and captures particles 0.1 to 0.2 micron particles at 99.999% efficiency.		
		Dual male ports — 7/8 in (22 mm) and 1–1/4 in (32 mm).		
ViroSafe® Erbium: YAG Kit				
	Erbium: Yag laser applications	The pre-filter has a 1–3/8 in (35 mm) male port at each end—one to attach to the 1–1/4 in (32 mm) opening on the Main Erbium: YAG filter and another to attach to a 1–3/8 in (35 mm) tubing set.	VSEY1-4	1 Main Filter 4 Pre-filters
	Using Erbium: YAG pre-filters helps to protect the efficacy of the ViroSafe® Erbium: YAG main filter (ensuring that it lasts for 12 hours of smoke evacuation time).	<u>Efficiency</u> Main Filter: captures particles 0.1 to 0.2 micron particles at 99.999% efficiency Pre-filter: 0.3–0.5 micron filtration		
		<u>Usage Time</u> Main Filter: 12 hours Pre-filter: 1–3 procedures		
Pre-filter				
	Not available in the United States	Pre-filter, Single Use	PRFIL20	20/Case



Filters

For Buffalo Filter Evacuators

Filter Name	Designed to Fit	Description	Catalog Number	Quantity
ViroSafe® Odor / Hair Removal Filter				
	PlumeSafe® Turbo; Porta PlumeSafe® 604	Ideal for procedures such as laser hair removal that create malodorous smoke and gases.	VSOH001	1/Case
		Lasts for 24 hours of smoke evacuation time and captures 0.1 to 0.2 micron particles at 99.999% efficiency.	VSOH002	2/Case
		Dual male ports — 7/8 in (22 mm) and 1–1/4 in (32 mm).		
ViroSafe® Pre-Filter				
	ViroSafe® main filter	Single port pre-filter may be attached to a ViroSafe main filter to help capture small amounts of liquid and particulate to protect and maintain its efficacy. This pre-filter should be changed after every use.	BFPF7/8–10	10/Case
ViroSafe® 12 Filter				
	PlumeSafe® 1202 (discontinued)	Lasts for 24 hours of smoke evacuation time and captures 0.1 to 0.2 micron particles at 99.999% efficiency.	VS12D01	1/Case
		Dual ports — 7/8 in (22 mm) or 1–1/4 in (32 mm)		
ViroSafe® ViroVac® Filter				
	ViroVac®	4 layers of proven filtration gross particulate, ULPA media, activated carbon, and post filter.	VS353	1/Case
		Last up to 35 hours of smoke evacuation time and captures 0.1 to 0.2 micron particles at 99.999% efficiency.	VS35302	2/Case
		Hidden ports reduce the risk to caregivers of cross contamination.	VS35304	4/Case
		3-port filter — 1/4 in (6.4 mm), 3/8 in (9.5 mm) and 7/8 in (22 mm)		
ViroSafe® VisiClear® Filter				
	VisiClear®	Safeport Technology™ prevents the clinician from accidental touching an exposed port when not in use. Customized filter life for acute care applications.	VS135	1/Case
		Lasts for up to 35 hours of smoke evacuation time and captures 0.1 to 0.2 micron particles at 99.999% efficiency.	VS1352	2/Case
		3-port filter — 1/4 in (6.4 mm), 3/8 in (9.5 mm) and 7/8 in (22 mm).	VS1354	4/Case

Filters

For Wall & Portable Suction Systems

Filter Name	Designed to Fit	Description	Catalog Number	Quantity
BILF150 Multi-Use In-Line Filter				
	Captures particulate before it enters wall suction systems. Ideal for connection to wall suction port.	ULPA rated media, 0.1 to 0.2 micron.	BILF150	10/Case
		Economical and easy to use.		
		As recommended by AORN, surgical smoke should be filtered before it reaches the wall to protect suction systems.		
BILF200 Multi-Use In-Line Filter				
	Captures particulate before it enters wall suction systems. Ideal for connection to canister tree	ULPA rated media, 0.1 to 0.2 micron.	BILF200	10/Case
		Economical and easy to use.		
		Single 1/4 in (6.4 mm) to 3/8 in (9.5 mm) detached tube.		

Filters

For Competitive Replacement

Buffalo Filter offers an expansive array of filters for OEM and Competitive manufacturer's of surgical smoke evacuators. We have replacement filters for the following manufacturers:

Berchtold: A series of replacement filters designed for the Berchtold Phoenix and TeleVac.

ConMed: Replacement filters for the CMIS, ConMed Aspen Vac and Hyfre-VAC filters

Cooper Surgical: Replacement pre-filters and filters for Cooper Surgical System 6080

EDGE: Replacement Pre-filters and filters for EDGE S.A.F.E. System

QuantaVac: Replacement filters for QuantaVac System

Stryker: Replacement filters for StrykeVac, StrykeVac 3 and Neptune 2 Ultra

Stackhouse: Replacement pre-filters and filters for Stackhouse ES-2000, LFA-100, MiniVac, AirSafe VersaVac and Point OneSystem



Surgimedics: Replacement pre-filters and filters for Surgimedics

TRUMPF: Replacement filters for TRUMPF EasyVac

Valleylab: Replacement pre-filters and filters for Valleylab Optimumm, Airforce, ValleyVac

Please cross-reference the manufacturer's filter model number below to the equivalent Buffalo Filter replacement filter for that system.



Description			Catalog Number	Quantity
Berchtold TeleVac & TeleVac LT				
	Replaces:	Lasts for 8 hours of smoke evacuation time. 7/8 in (22 mm) port.	BTLD004	4/Case
	<ul style="list-style-type: none">• Berchtold TELEVAC LT• Surgimedics 901428			
Berchtold Phoenix XS or X3 Filter				
	Replaces:	Lasts for 8 hours of smoke evacuation time. 7/8 in (22 mm) port.	BTLDXS04	4/Case
	<ul style="list-style-type: none">• Berchtold TELEVAC XS/X3			

Filters

For Competitive Replacement

Description			Catalog Number	Quantity
Cooper Surgical System 6080				



Replaces:

- Coastal Life 1101300, 901300-000
- Cooper 6082
- Intermed IG-6082
- Surgimedics 901300, 901009
- Valleylab E3515

Multi-fit pre-filter replacement with 7/8 in (22 mm) male port.

BSUCF03
BSUCF03V
(with gasket)

3/Case
3/Case

Edge S.A.F.E. System Filters & Pre-filters



Replaces:

- EDGE 20004 pre-filter

Pre-filter with a 7/8 in (22 mm) female and 1-1/4 in (32 mm) male port.

BFE20004

5/Case



Replaces:

- EDGE 20009 Big Boy main filter

Main filter for EDGE S.A.F.E. System.

BFE20009

1/Case



Replaces:

- EDGE S.A.F.E. System main filter and pre-filters

Kit replaces both the main filter and pre-filter with a 7/8 in (22 mm) female and 1-1/4 in (32 mm) male port.

BFE Kit

Main Filter
1/Case
Pre-Filter
5/Case



Filters

For Competitive Replacement

Description			Catalog Number	Quantity
Stackhouse ES-2000 System Filters & Pre-filters				



Replaces:

- Lumenis 80000-002
- Stackhouse ES-2000PF/12, 24204
- Surgimedics 901405, 901406

Must be used with Buffalo Filter main filter BES2000ULC.
Single use.

BES2000PF

12/Case



Replaces:

- Stackhouse ES-2000PFC/12, 24205
- Surgimedics 901406, 901407

Must be used with Buffalo Filter main filter BES2000ULC.
Single use.

BES2000PFC

12/Case



Replaces:

- Stackhouse ES-IWT-110/S, 24152
- Surgimedics 901414

Must be used with Buffalo Filter main filter BES2000ULC.
STERILE
7/8 in (22 mm) x 10 ft (3.0 m) tubing.

BESIWT110

12/Case



Replaces:

- Stackhouse ES2000/ULC, 24211
- Surgimedics 901407

Must be used with Buffalo Filter pre-filter:
• BES2000PF
• BES2000PFC
• BESIWT110
Lasts up to 25 hours of smoke evacuation time, depending on use.

BES2000ULC

1/Case

Stackhouse LFA-100 & Point One System Filters



Replaces:

- Stackhouse LFS-103/3, 24001
- Stackhouse LFS-103/12, 24033
- Surgimedics 901410

BLFS103
BLFS101

3/Case
12/Case

Stackhouse AirSafe VersaVac I & II Filter



Replaces:

- Edge 20012-03
- Stackhouse ST-370-FRESH/3, 24300;
- Surgimedics 901408


BST370ULC

3/Case


Filters

For Competitive Replacement


Description			Catalog Number	Quantity
Stackhouse MiniVac ST-1250				

	<i>Replaces:</i>	Male port filter	BSTM300	3/Case
	<ul style="list-style-type: none">• Conmed 60-5902-001• Cooper 395-703• Stackhouse STM-300, 24139-01• Surgimedics 901409• Valleylab E1091			


StrykeVac 1 & 2 ViroSafe® Filter

	<i>Designed to Fit:</i>	Lasts up to 24 hours of smoke evacuation time.	VSSV505	1/Case
	<ul style="list-style-type: none">• Integrated StrykeVac Smoke Evacuation System	4-port filter — 1/4 in (6.4 mm), 3/8 in (9.5 mm), 7/8 in (22 mm) and 1-1/4 in (32 mm).	VSSV50502	2/Case


StrykeVac 3 ViroSafe® Filter

	<i>Designed to Fit:</i>	Lasts up to 24 hours of smoke evacuation time.	VSSV301	1/Case
	<ul style="list-style-type: none">• StrykeVac 3 Smoke Evacuation System	3-port filter — 1/4 in (6.4 mm), 3/8 in (9.5 mm) and 7/8 in (22 mm).	VSSV302 VSSV304	2/Case 4/Case

Surgimedics 7/8 in (22 mm) Pre-filter

	<i>Replaces:</i>	7/8 in (22 mm) port.	BSPF 7-8-30	30/Case
	<ul style="list-style-type: none">• Cooper 52560, 6081• Surgimedics 901202 pre-filter			


Surgimedics 1-3/8 in (32 mm) Pre-filter

	<i>Replaces:</i>		BSPF030	30/Case
	<ul style="list-style-type: none">• Coastal Life 1101202, 901202-000• Cooper 6081; Intermed 2081, 6081• Surgimedics 901202 pre-filter			


Filters

For Competitive Replacement


Description			Catalog Number	Quantity
QuantaVac System Main Filter				

	<i>Designed to Fit:</i>	Lasts for 8 hours of smoke evacuation time.	MSF8D-1	1/Case
	<ul style="list-style-type: none">• QuantaVac System			



TRUMPF ViroSafe® Filter (EasyVac Filter for TRUMPF EasyVac)

	<i>Designed to Fit:</i>	Lasts for 8 hours of smoke evacuation time.	VSTR08	1/Case
	<ul style="list-style-type: none">• TRUMPF EasyVac	3-port filter — 1/4 in (6.4 mm), 3/8 in (9.5 mm) and 7/8 in (22 mm).	VSTR0804	4/Case

Smoke Evacuator Filter for Stryker Neptune 2 and Neptune 3

	<i>Designed to Fit:</i>	3-port filter — 1/4 in (6.4 mm), 3/8 in (9.5 mm) and 7/8 in (22 mm).	VSNEP01	1/Case
	<ul style="list-style-type: none">• Stryker Neptune 2 and Stryker Neptune 3		VSNEP04	4/Case

Valleylab Optimumm System Filters & Pre-filters

	<i>Replaces:</i>	1-3/8 in (35 mm) port pre-filter.	BFE3630	25/Case
	<ul style="list-style-type: none">• Surgimedics 901202• Valleylab E3630• Valleylab Optimumm pre-filter			
	<i>Replaces:</i>	ULPA filter for Optimumm smoke evacuator.	BFE3625	3/Case
	<ul style="list-style-type: none">• Surgimedics 901412• Valleylab Optimumm E3625 main filter			

Ordering & Contact Information

Terms and Conditions

All Buffalo Filter products are manufactured and produced in compliance with FDA QMS regulations, ISO 9001, and ISO 13485.

All prices are quoted in US Dollars or EUROS and are subject to change without notice. All product is shipped FOB Buffalo, New York or Ex Works Dublin, Ireland.

Buffalo Filter warrants the surgical smoke evacuators manufactured by Buffalo Filter to be free from defects in material and workmanship.

Products are warranted only to the extent that Buffalo Filter will replace without charge any surgical smoke evacuation systems proved to have defects within the following time guidelines, (from date of delivery), provided Buffalo Filter has been given the opportunity to inspect the system:

Surgical Smoke Evacuator	Warranty
Porta PlumeSafe® 604	1 year
ViroVac®	1 year
PlumeSafe® Turbo	3 years
VisiClear®	3 years

No warranty is included for incidental or consequential damages of any nature arising from any defect.

Return Policy

Returned merchandise must have a pre-authorized Return Material Authorization (RMA) number from Buffalo Filter and be marked with this number prior to returning. Transportation costs must be prepaid by the shipper and all risks of loss and damage of goods are the responsibility of the shipper. Unauthorized returns will be refused. Include a copy of return instructions form, the packing papers, and/or invoice with the return. Exchange will be of an equivalent dollar value of returned merchandise less a restocking and handling fee on new, unused, unopened equipment or disposables. Buffalo Filter cannot accept any returns of sterile products.

Quality Policy

Buffalo Filter as part of Filtration Group Life Sciences Division is committed to providing quality products and services that meet or exceed the expectations of our customers. Our effective Quality Management System complies with the requirements of the regulatory agencies. We maintain an environment for our employees that encourages pride and enthusiasm for quality, customer satisfaction and continual improvement.

Contact Us

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Education & Training

Surgical Smoke Evacuation



What is Surgical Smoke?

Surgical smoke is a dangerous by-product generated from the use of lasers, electro-surgical pencils, ultrasonic devices, and other surgical energy based devices. As these instruments cauterize vessels and destroy (vaporize) tissue, fluid, and blood, a gaseous material known as surgical smoke is created. It is estimated that approximately 95% of all surgical procedures produce some degree of surgical smoke.

Why is Surgical Smoke so Hazardous?

The composition of surgical smoke is generally 95% water and 5% other matter. It is the other matter that is hazardous to surgical personnel and patients. The hazards of surgical smoke can be broken down into chemical, biological and physical components.

CHEMICAL

The *chemical* component of surgical smoke contains over 80 different toxic chemicals and by-products; some which have documented harmful health effects. The carbon monoxide generated during electrocautery can cause headaches and nausea, and be undetected by pulse oximetry. Surgical smoke and aerosols irritate the lungs and have similar mutagenicity of cigarette smoke.¹ A recent study done to quantify exposure found that on average the surgical smoke produced daily in the operating room was equivalent to 27–30 cigarettes.² These compounds pose a health risk to exposed OR staff and patients.

BIOLOGICAL

The *biological* matter is the particulate matter of the surgical smoke that contains blood, and potentially infectious viruses and bacteria. Since surgical smoke is comprised of approximately 95% water vapor it creates a viable carrier for bacteria and virus which can transfer infectious diseases. There is documented evidence of virus being transferred airborne with surgical smoke. One report from a surgeon indicates he contracted the same DNA viral type of HPV in his larynx as a patient he had recently treated for anogenital condylomas.³ Evidence has also been found of HIV-1 in smoke caused by powered surgical instruments.⁴

PHYSICAL

The *physical* components consist of particulate from surgical smoke that ranges from <0.01 microns to >200 microns with a majority between .3 to .5. These ultra-fine particles are significantly elevated in the operating theatre and create a very fine dust similar to coal dust when electrocautery devices are used. Particles smaller than .3 microns can bypass the lungs normal filtration mechanisms, the mucus secretions and cilia, and deposit in the alveoli, where the exchange of blood/gas takes place. In addition, surgical smoke is consistent with cigarette smoke in that it can paralyze the cilia. It has been shown that surgical smoke can induce acute and chronic inflammatory changes including congestion, pneumonia, bronchiolitis and emphysematous changes in the respiratory tract.⁵

Why Evacuate?

Besides mitigating the risks associated with the physical, chemical, and biological components of surgical smoke, there are several reasons to evacuate including:

Reasons to Evacuate

Surgical smoke creates visibility difficulty during minimally invasive procedures and procedures where there is a lot of tissue ablation slowing down surgical time and potentially increasing the risk for complications.

Removal of aerosols in the peritoneal cavity have shown to help reduce build up on camera lenses.

Medical staff have reported a number of symptoms associated with exposure to surgical smoke including nausea, headaches, sneezing, lightheadedness, dizziness, and eye / nose / throat irritation.⁶

Surgical smoke plume has shown the potential to have adverse negative effects on the patient when plume is not properly evacuated during laparoscopic / endoscopic procedures.⁷ During laparoscopic surgery toxic compounds present in surgical smoke are absorbed into the body.⁸

Some of the chemicals identified in surgical smoke are:

- **PERCHLOROETHYLENE:** main component in dry cleaning fluid
- **HYDROGEN CYANIDE:** neurotoxin used in chemical warfare
- **TOLUENE:** similar to paint thinner; known carcinogen
- **FORMALDEHYDE:** used to preserve surgical specimens and embalming fluid
- **ETHYLBENZENE:** used in the manufacture of Styrofoam
- **BENZENE:** known carcinogen

¹ Barret WL, Garber SM Surgical Smoke a review of the literature. Business Briefing. Global Surgery. 2004; 1-7.

² Hill DS, O'Neill JK, Powell RJ, Oliver DW. Surgical smoke—a health hazard in the operating theatre: a study to quantify exposure and a survey of the use of smoke extractor systems in UK plastic surgery units. J Plast Reconstr Aesthet Surg. 2012; 65(7):911-916.

³ Hallmo P, Naess O. Laryngeal papillomatosis with human papillomavirus DNA contracted by a laser surgeon. Eur Arch Otorhinolaryngol. 1991;248(7):425-427.

⁴ G. K. Johnson & W. S. Robinson. Journal of Medical Virology, Jan. 1991 Human immunodeficiency virus-1 (HIV-1) in the vapors of surgical power instruments.

⁵ Baggish, M.S., Polesz, B.J., Joret, D., Williamson, P. and Refai, A. (1991), Presence of human immunodeficiency virus DNA in las smoke. Lasers Surg. Med., 11:197-203, doi:10.1002/lsm.1900110302.

⁶ SCHUCO International. Surgical smoke. In: Have You Considered the Danger of Surgical Smoke Plume? Available at: [http://www.myelectrosurgery.co.uk/resources/Dangers of Smoke Plume final.pdf](http://www.myelectrosurgery.co.uk/resources/Dangers%20of%20Smoke%20Plume%20final.pdf). Accessed February 1, 2011.

⁷ Ott DE. Safety concerns in endoscopy. Presented at International Society of Lasers in Medicine and Surgery November 5, 1991. Plume facts 2 1991; (Fourth Quarter): 3-4.

⁸ Dobrogowski M, Wesolowski W, Kucharska M, Sapota A, Pomorski LS (2014) Chemical composition of surgical smoke formed in the abdominal cavity during laparoscopic cholecystectomy - Assessment of the risk to the patient. Int J Occup Med Environ Health 2014 Apr 9. Epub 2014 Apr 9.

⁹ Perioperative Standards and Recommended Practices, 2014 Edition Copyright © 2014 AORN, Inc.

Education & Training

Surgical Smoke Evacuation

The logo for 'Clear The Air' is located in the bottom right corner. It features the words 'Clear' and 'The Air' in a white, sans-serif font, with 'The' in a smaller size. A stylized white smokestack icon is positioned to the right of the word 'Air', with a wavy line representing smoke rising from it.

Collaborating for a surgical smoke-free environment!

CLEAR THE AIR® PROGRAM

Let us help you navigate through the process to achieve a surgical smoke-free environment!

Whether you are trying to achieve the AORN Go Clear Award or just looking to be best-in-class for patient and healthcare personnel safety, we have solutions to meet your specific needs!

We understand the challenges and to help break through the process, Buffalo Filter has developed a comprehensive program complete with tools and solutions to ensure that your campus is truly “smoke-free”.

We offer free consultations and on-site visits which include the following:

- EDUCATION OF KEY STAKEHOLDERS

Our program starts by educating key stakeholders to the hazards inherent with surgical smoke and compliance risks by offering free continuing education activities for both nurses and physicians.

- **PROCESS AND/OR POLICY DEVELOPMENT**

Our clinical staff will guide your facility through the process of how to effectively implement a program to manage these hazards while controlling costs.

- **SELECTION OF “THE RIGHT FIT” SOLUTIONS**

Our experienced staff will guide your facility through any necessary trials and the selection of solutions that will best fit and meet the needs of your facility with the goal of ensuring success.

**SMOKE-FREE FACTS LIBRARY**

Our website is host to an extensive library of research articles, studies, and editorial work discussing the hazards of surgical smoke.

KNOW THE FACTS: <http://buffalofilter.com/cleartheair/article-library/>

Why Choose Buffalo Filter's Clear The Air® Program?

- **It's a Partnership**
- **No cost to your facility**
- **Support throughout the process**
- **Simple and easy to follow**

LET'S CHAT

Call with questions or schedule time for assistance in policy development, educational offerings, on-site clinical needs, equipment recommendations, and support with implementation of your surgical smoke-free policy.



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Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

