

erbe  
power your performance.

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IES 3

The smoke evacuation system for  
clean air at your workplace

# IES 3 smoke evacu

Our solution for a safe working environment

Eliminate surgical smoke with all its potentially dangerous substances from operating rooms, outpatient facilities and medical practices.

Smoke evacuation with IES 3 reduces the smoke concentration in the operating room – and thus also your smoke exposure.<sup>1,2</sup> A face mask allows too many particles to pass through.<sup>2,3</sup>

Direct evacuation with an electrosurgical pencil just a few millimeters above the source is more efficient than conventional ventilation systems.<sup>4</sup> This always gives you a good view of the surgical field and the surgical site itself.<sup>3</sup>

**HAZARD DETECTED. RISK AVERTED. INFORMATION AT: [SMOKE.ERBE-MED.COM](http://SMOKE.ERBE-MED.COM)**

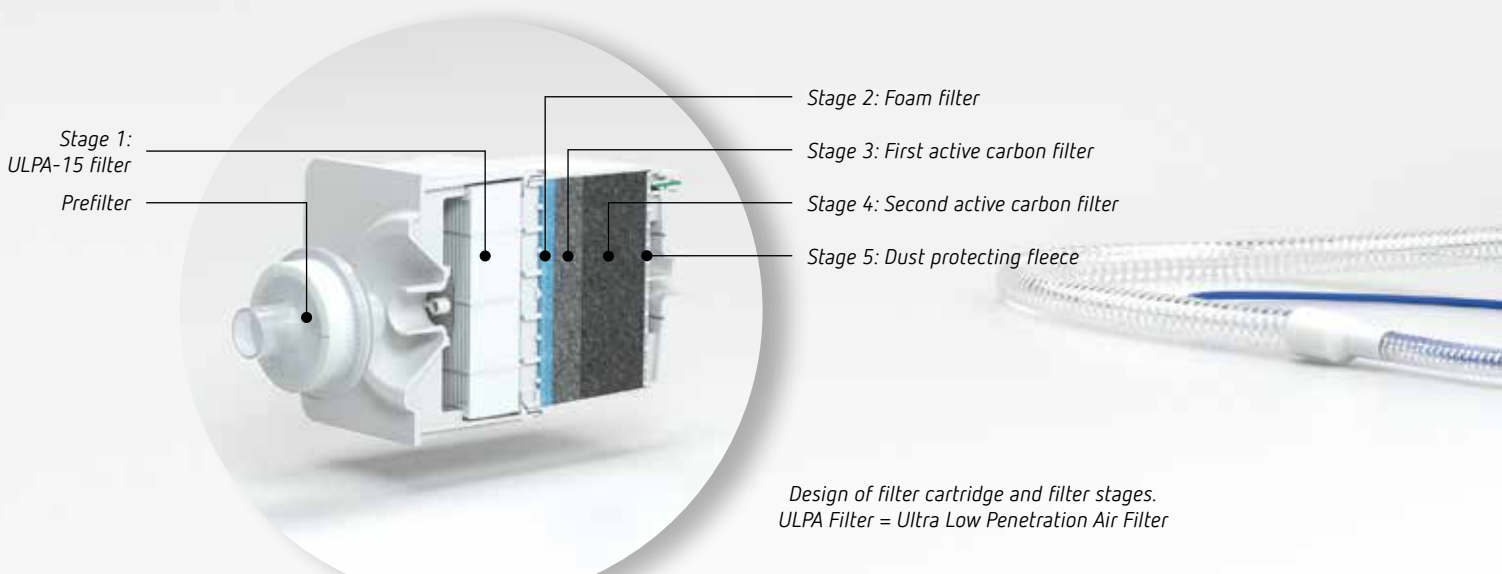
## Protection through ULPA-15 filter

One core component of the 5-stage main filter cartridge is the ULPA-15 filter which removes 99.9995% of all 0.1 µm particles.<sup>5</sup> It offers the best possible safety.<sup>3,4</sup> The active carbon barrier in the main filter reduces odors. The display indicates the remaining filter capacity at all times.<sup>6</sup> Changing the filter is simple and convenient.<sup>7</sup>

The optional prefilter protects the main filter cartridge against penetration of liquids and impurities via coarser tissue particles.

## Good response, quiet operation

The innovative bi-turbo technology ensures a clean and safe working environment within a very short time through effective and fast evacuation. Due to the enhanced noise insulation, the IES 3 is noticeably quieter and more pleasant than comparable devices.<sup>7,8</sup>



*Design of filter cartridge and filter stages.  
ULPA Filter = Ultra Low Penetration Air Filter*

# uation system

## Extended range of applications

The different operating modes of the IES 3 allow versatile use:

- ☑ Open surgical mode (OPEN Mode)
- ☑ Laparoscopic mode (LAP Mode) with special accessories such as the LAP tubing set with trumpet valve (3 m and 5 m)
- ☑ Presettings and configurations allow immediate use for different clinical requirements

## Flexible activation

You have the following options for activating the IES 3 individually – regardless of working with one or two instruments simultaneously:

- ☑ Automatically via the VIO® activation
- ☑ Via the automatic activation device for all electro-surgical units
- ☑ Via the foot switch for laser and ultrasonic applications

**91%**  
OF RESPONDENTS  
REGARD THE IES 3  
AS QUIET AND  
PLEASANT.<sup>7</sup>



# Our complete package

## Smoke evacuation made by Erbe

Benefit from our almost 100 years of experience in electrosurgery, our worldwide presence and international support. The IES 3 is our contribution to a safe working environment.<sup>1,3</sup>

**90 %**  
OF ALL  
RESPONDENTS  
REGARD THE IES 3  
USER INTERFACE  
AS INTUITIVELY  
EASY.<sup>7</sup>



**HORIZONTAL**



**VERTICAL**



**INTEGRATED IN THE VIO® 3 WORKSTATION**

### Easy and intuitive to use

- ☑ Compatible with all models of the VIO® range
- ☑ Fast and user-friendly operation:<sup>7</sup>
  - Proven user interface, similar to the VIO® 3 touchscreen
  - Display shows all parameters at a glance (settings, filter runtime, notes for the user)

### High flexibility, compact design

- ☑ Smoke evacuation for every surgical discipline
- ☑ In the operating room as well as in outpatient facilities and medical practices
- ☑ For electrosurgery, laser, ultrasound
- ☑ Can be integrated into the VIO® workstation
- ☑ Can be used as stand-alone device
- ☑ Can be positioned horizontally or vertically

# A system with variable configurations – all from one source



The **Water trap and prefilter** protect the high-efficiency filter.



The **connection to the central evacuation system** removes particles and odors from the operating field.



The **automatic activation device** enables starting the IES 3 with all electro-surgical devices.



Good view of the target area in LAP mode with the **LAP tubing set**.

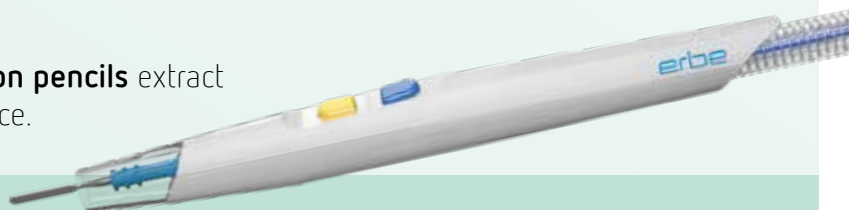


The **T-piece** offers optimal simultaneous evacuation even with 2 instruments.



The **one-pedal footswitch** activates the IES 3 in combination with laser and ultrasonic devices.

The **single-use smoke evacuation pencils** extract surgical smoke directly at its source.



## Instruments

20321-028	Electrosurgical pencil for IES, telescoping with spatula electrode
20321-040	Smoke evacuation pencil, single-use, short with spatula electrode, connecting cable 3 m
20321-041	Smoke evacuation pencil, single-use, short with coated spatula electrode, connecting cable 3 m
20321-042	Smoke evacuation pencil, single-use, short with spatula electrode, connecting cable 5 m
20321-043	Smoke evacuation pencil, single-use, short with coated spatula electrode, connecting cable 5 m
20321-007	Clip-on handle for Slim-Line electro-surgical pencils, tip short 12 mm with evacuation tubing 3 m and connection $\varnothing$ 22 mm, without electro-surgical pencil
20321-020	Clip-on handle for Slim-Line electro-surgical pencils, tip long 100 mm with evacuation tubing 3 m and connection $\varnothing$ 22 mm, without electro-surgical pencil
20321-044	Clip-On handle for smoke evacuation To be used in combination with Erbe Slim-Line electro-surgical pencils (20190-065, 20190-066, 20190-067, 20190-074, 20190-075)
20321-045	Extension tip for Clip-On handle To be used in combination with 20321-044

# Technical data

## Power connection

Rated supply voltage	100–240V AC ( $\pm 10\%$ )
Rated supply frequency	50/60 Hz
Line current	max. 3 A
Power consumption	max. 300 watts
Stand-by	12 watts at 230V, 12 watts at 115V
Potential equalization connection	Yes
Power fuse	T 4 A H / 250 V

## Type of operation

Continuous operation

## Unit data

Filter specifications	ULPA-15 in accordance with EN 1822-3:2011 and EN 1822-5:2011, corresponds to the requirements of ISO 16571 smoke evacuation devices
Noise development	At 60 % evacuation power $\leq 49$ dB(A) according to DIN EN ISO 3744 At max. evacuation power $\leq 59$ dB(A) according to DIN EN ISO 3744
Extraction performance	$\leq 730$ l/min (maximum turbine power, th) $\leq 300$ l/min (with main filter cartridge, automatic shut-off)

## Dimensions and weight

Width x height x depth	205 x 280 x 404 mm
Weight	9.7 kg including main filter cartridge
Display size	5.7 inches

## Ambient conditions for operating the unit

Temperature	+10 °C to +40 °C
Relative humidity	15 %–85 %, non-condensing
Air pressure	54 kPa–106 kPa
Max. operating height	5000 m over SL

## Acclimatization

If the unit has been stored or transported at temperatures below +10 °C or above +40 °C, the unit will take approximately 3 hours to acclimatize to room temperature.

## Standards

Classification in accordance with MDD 93/42 EEC	I
Protection class in accordance with EN 60 601-1	I
Type in accordance with EN 60 601-1	CF

# Smoke evacuation system and accessories

## Smoke evacuation system consisting of:

10323-000	IES 3 smoke evacuation unit
20323-000	Main filter cartridge IES 3

## Accessories for protecting the main filter cartridge

20321-022	Prefilter for smoke evacuation
20323-004	Self-sealing water trap; right angled, medium volume

## Accessories for laparoscopic application and simultaneous application

20323-003	LAP tubing set IES 3 with trumpet valve 3 m
20323-006	LAP tubing set IES 3 with trumpet valve 5 m
20323-005	T-piece 22 mm outer diameter, 22 mm inner diameter, 22 mm outer diameter

## Accessories for open surgical application

20321-004	Evacuation tube with optimized streaming
20321-009	Evacuation tubing, $\varnothing$ 22 mm
20321-010	Evacuation funnel connection, $\varnothing$ 22 mm
20321-012	Evacuation tubing, $\varnothing$ 22 mm, length 2.1 m (reusable)

## Accessories for connection to central evacuation system

20323-001	Evacuation element IES 3 for central evacuation
20323-009	Smoke evacuation tubing, $\varnothing$ 32 mm, length 1.8 m, type VT 10106

## Attachment sets

20180-132	Attachment set IES 2 / IES 3 to VIO® CART 20180-000
20323-008	Attachment set VIO® C to IES 3
20323-007	Attachment set IES 3 to VIO® 3

## Accessories for activation options

20323-002	Automatic activation device for IES 3 for VIO® C, electro-surgical external devices or stand-alone operation
20322-101	One-pedal footswitch IES 2 / IES 3 AP & IP X8 equipment

## References

- 1 Schultz L: Can efficient smoke evacuation limit aerosolization of bacteria? *AORN J.* 2015 Jul; 102(1):7-14.
- 2 R S Parsa, N J Dirig, I N Eck, W K Payne III.: Surgical Smoke and the Orthopedic Implications. *The Internet Journal of Orthopedic Surgery.* 2015 Volume 24 Number 1
- 3 BRENDA C. ULMER, RN, MN, CNOR: The Hazards of Surgical Smoke; *AORN J.* 2008, Vol 87, No. 4: 721-734.
- 4 Karsai S et al: Smoking guns: hazards generated by laser and electrocautery smoke. *J Dtsch Dermatol Ges.* 2012 Sep;10(9): 633-6.
- 5 Internal data: VB\_Filter qualification ULPA15 IES 3; D158650
- 6 Internal data: filter service life IES 3; D138347
- 7 Internal data: results of summary evaluation II; D158302
- 8 Internal data: VB\_sound measurements IES 3; D162979

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We have prepared this medium with care. Nonetheless, we cannot completely rule out errors in this medium.

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