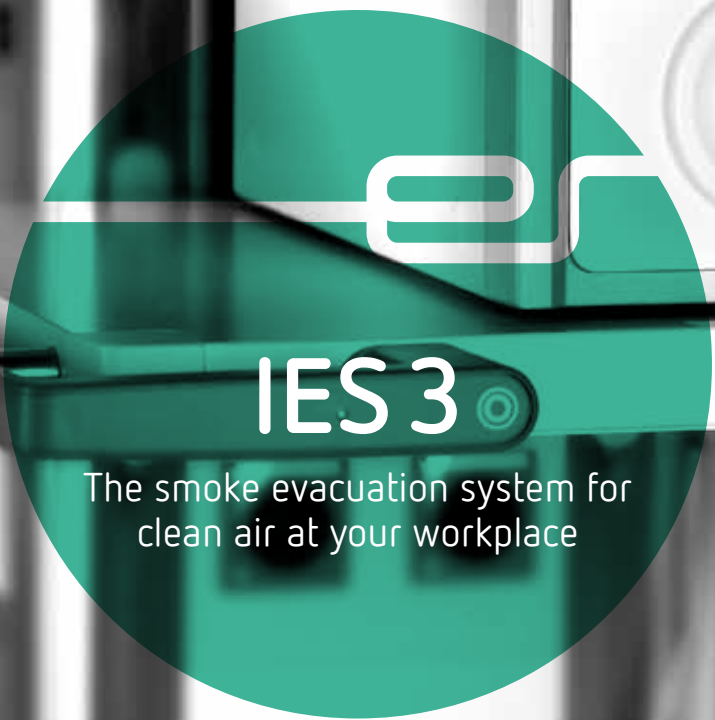# erbe
power your performance.

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.[1,2] A face mask allows too many particles to pass through.[2,3]

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

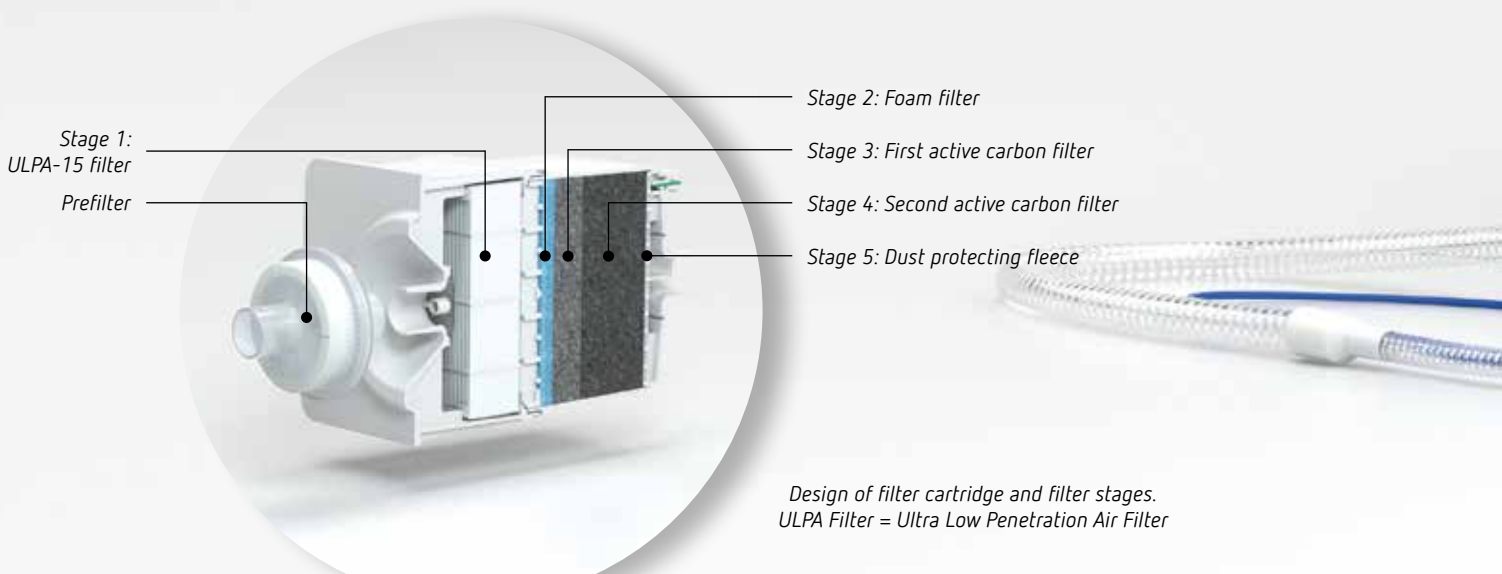**HAZARD DETECTED. RISK AVERTED. INFORMATION AT: SMOKE.ERBE-MED.COM**

Protection through ULPA-15 filter

One core component of the 5-stage main filter cartridge is the ULPA-15 filter which removes 99.995 % of all 0.1 µm particles.[5] It offers the best possible safety.[3,4] The active carbon barrier in the main filter reduces odors. The display indicates the remaining filter capacity at all times.[6] Changing the filter is simple and convenient.[7]
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.[7,8]

Stage 1:
ULPA-15 filter

Prefilter

Stage 2: Foam filter

Stage 3: First active carbon filter

Stage 4: Second active carbon filter

Stage 5: Dust protecting fleece

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 electrosurgical units
- ☑ Via the foot switch for laser and ultrasonic applications

91%
OF RESPONDENTS REGARD THE IES 3 AS QUIET AND PLEASANT.[7]

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.[1,3]

90 % OF ALL RESPONDENTS REGARD THE IES 3 USER INTERFACE AS INTUITIVELY EASY.[7]

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:[7]
  - → 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

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 electrosurgical devices.

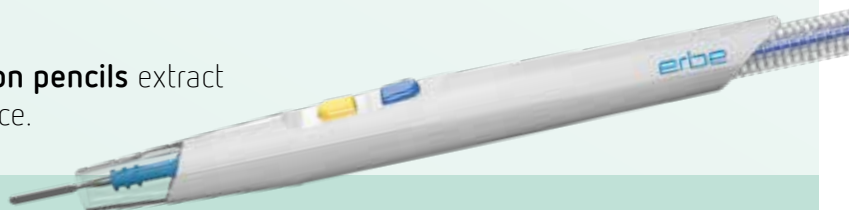Good view of the target area in LAP mode with the **LAP tubing set.**

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 electrosurgical pencils, tip short 12 mm with evacuation tubing 3 m and connection ø 22 mm, without electrosurgical pencil
20321-020	Clip-on handle for Slim-Line electrosurgical pencils, tip long 100 mm with evacuation tubing 3 m and connection ø 22 mm, without electrosurgical pencil
20321-044	Clip-On handle for smoke evacuation To be used in combination with Erbe Slim-Line electrosurgical 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

All instruments including accessories are listed in our catalog.

Technical data

Power connection

Rated supply voltage	100 – 240 V AC (± 10 %)
Rated supply frequency	50 / 60 Hz
Line current	max. 3 A
Power consumption	max. 300 watts
Stand-by	12 watts at 230 V, 12 watts at 115 V
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 ≤ 49 dB(A) according to DIN EN ISO 3744 At max. evacuation power ≤ 59 dB(A) according to DIN EN ISO 3744
Extraction performance	≤ 730 l/min (maximum turbine power, th) ≤ 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, ø 22 mm
20321-010	Evacuation funnel connection, ø 22 mm
20321-012	Evacuation tubing, ø 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, ø 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, electrosurgical 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

Important information

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

The information, recommendations and other data („Information") contained in this medium reflect our state of knowledge and the state of science and technology at the time of preparing the medium. The information is of a general nature, non-binding and serves solely for general information purposes and does not represent user manuals or instructions for use.

The information and recommendations contained in this medium do not constitute any legal obligations by Erbe Elektromedizin GmbH as well as their associated companies („Erbe") or any other claims against Erbe. The information does not represent a guarantee or other quality statement, these require the express contractual arrangement with Erbe in individual cases.

Every user of an Erbe product is responsible for checking the respective Erbe product for its properties as well as the suitability for the intended type of application or intended purpose in advance. The suitable type of application of the respective Erbe product is given by the user manual and the instructions for use for the corresponding Erbe product. The user is obliged to check whether the existing user manual and the instructions for use correspond with the status for the specific Erbe product. The units may only be used according to the user manual and the instructions for use.

The information on setting values, application sites, duration of application and the use of the respective Erbe product is based on the clinical experience of physicians independent from Erbe. They represent guidelines which need to be checked by the user for their suitability for the actual planned application. Depending on the circumstances of an actual application case, it may be necessary to deviate from the information provided. The user has to check this on his/her own responsibility in each case when using an Erbe product. We wish to point out that science and technology is constantly subject to new developments arising from research and clinical experience. For this reason it may be necessary for the user to deviate from the information provided in this medium.

This medium contains information about Erbe products which may possibly not be approved in a specific country. The user of the respective Erbe product is obliged to inform him/herself whether the Erbe product he/she is using is legally approved in his/her country and/or if legal requirements or restrictions for use possibly exist and to which extent.

This medium is not intended for users in the USA.