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]

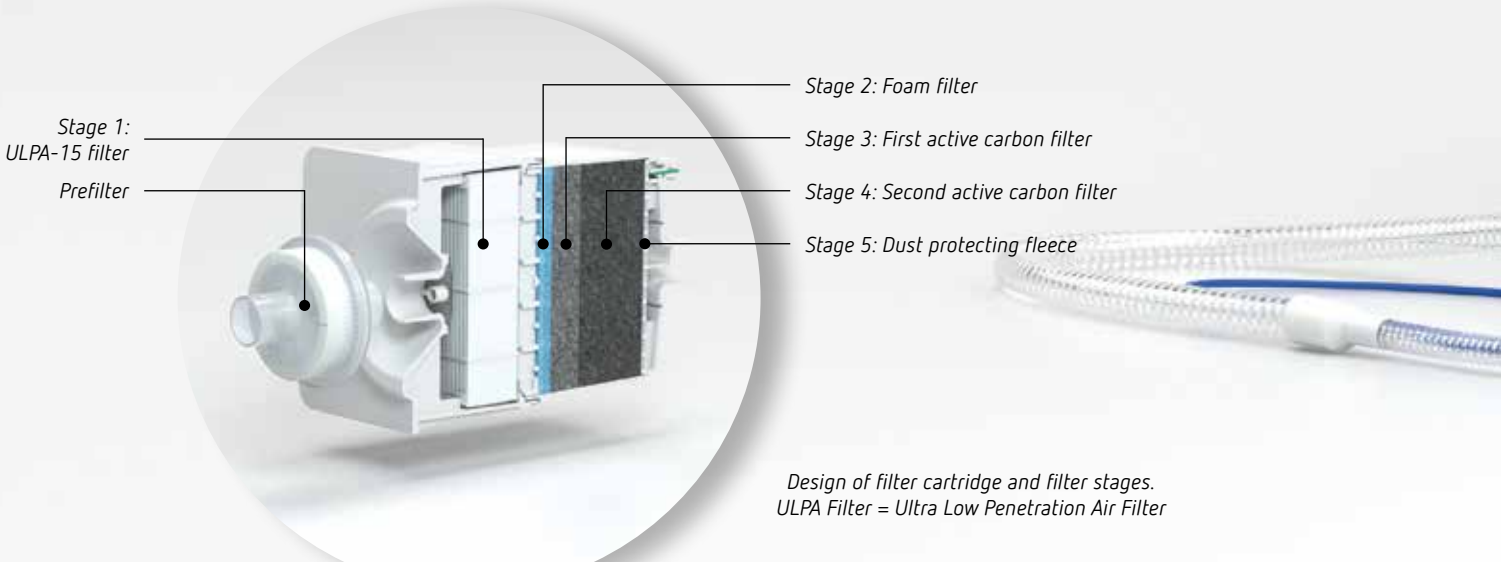
HAZARD DETECTED. RISK AVERTED. INFORMATION AT: SMOKE.ERBE-MED.COM

Protection through ULPA-15 filter

One core component of the 5-stage main filter cartridge is the ULPA-15 filter which removes 99.9995 % 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.[7] Due to the enhanced noise insulation, the IES 3 is noticeably quieter and more pleasant than comparable devices.[8]



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 or without 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
20323-010	LAP tubing set IES 3 without valve 5 m
20323-011	LAP tubing set IES 3 without 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

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Erbe Elektromedizin GmbH
Waldhoernlestrasse 17
72072 Tuebingen
Germany

Phone +49 7071 755-0
info@erbe-med.com
erbe-med.com
medical-videos.com

 2021-07 85323-100 non-US only