

What is Surgical Smoke?

Surgical smoke is generated during surgeries due to usage of electrosurgical processes causing thermal destruction of tissues.

Surgical smoke contains chemicals, blood and tissue particles, bacteria, and viruses, which have been shown to exhibit potential risks for surgeons, nurses and technicians in the operation room due to long term exposure of smoke. The patient might also suffer due to exposure to hazardous smoke.

200 different chemical constituents have been identified in surgical smoke, including carbon monoxide, hydrogen cyanide, acrylonitrile, formaldehyde, benzene etc.

Viable bacteria and Infectious viruses such as HIV (human immunodeficiency virus), HBV (hepatitis B virus) and HPV (human papillomavirus) have also been detected in surgical smoke.

https://www.youtube.com/watch?v=IVw0NTyX1sc

Smoke is Hazardous!

for the health of operating room personnel

Various scholarly articles state that exposure of 1 gm of tissue is equivalent to smoking 3 to 6 cigarettes. Based on interaction of various surgeons, the amount of smoke they face daily is equivalent to smoking 27 to 30 cigarettes, without filter.

Headaches, watery eyes, coughs, burning throats, nausea, offensive odours absorbed in the hair, drowsiness, dizziness, sneezing and rhinitis.

Surgical smoke has been demonstrated to harbor contagious, viable malignant cells, and even to contain live bacteria and viruses, including HPV and human immunodeficiency virus all of which may induce great damage to the persons exposed to.

Smoke may induce acute and chronic inflammatory changes, including alveolar congestion, interstitial pneumonia, bronchiolitis, and emphysematous changes in the respiratory tract.

The chemical compounds found in the smoke contain acetaldehyde, acrolein, acrylonitrile, benzene, cyclohexanone, formaldehyde, furfural, polyaromatic hydrocarbons, styrene, toluene and xylene have been classified as carcinogens (cancerous or leading to cancer) by the IARC (International Agency for Research on Cancer). Mutagenic potential of smoke changes DNA.

Smoke contains various bacteria like HPV (Human Papillomavirus) of over 100 verities, Corona, Hepatitis etc. and the list is going on with latest medical research.





Evacuating Smoke From Operation

Theatre

Smoke evacuation is the ability to capture the smoke generated at the surgical site and route it to a collection site. Traditional methods for OR smoke protection have limitations.

A smoke evacuation device is a machine that takes/ inhales the surgical smoke and disinfects using various mechanism.





Wall Suction

- Not proven to remove smoke at its source.
- Wall-mounted capture systems are generally not powerful enough to evacuate large quantities of smoke.

Surgical Masks

- Although surgical masks provide a barrier to splashes & droplets impacting on the wearer's nose, mouth & respiratory tract, they do not provide protection against airborne aerosol particles. Most surgical masks are designed to filter particles that are ≥5 µm.
- May be uncomfortable to wear and less effective if worn loosely or for too long.

Visibility

• Smoke generated during Surgeries often create smoke which disturbs visibility due to smoky surgical field.





Surgical Smoke Evacuation Device Series 6

Using a series of filters and UVC for effective disinfection of carcinogenic & mutagenic Surgical Smoke.



Autoclavable Cautery Pencil Holder (ACPH)

Unique Cautery Pencil Holder for collecting smoke generated during open Surgeries.



Surgical Smoke Evacuation Device Series 6 Pro

For disinfecting closed rooms removing aerosols and pathogens.





Note: In pursuit of continuous product improvement, the specifications are subject to change without prior notice.



Aones Series 6 Surgical Smoke Evacuation Device

Floor Mounted Operates with External Suction

SPECIFICATIONS

Dimensions

Overall Height: 840 mm

Overall Width: 300 mm

Overall Length: 400 mm

Weight: 26 kg (Easy to operate, light weight)

Electricity: Single Phase 230 V AC (Runs on Power Back up)

Start-up Time: 45 Second

Service Interval: 6 Months

COMPONENTS

Chemical bypass

Three stage filter- Primary filter, makes life of main filter longer

Carbon media and Filter- for removing humidity and odour

UVC chamber for killing bacteria

Two Stage – Main Filter (HEPA + ULPA)



Note: In pursuit of continuous product improvement, the specifications are subject to change without prior notice.



AoneS Series 6 Pro Surgical Smoke Evacuation Device

IOT enabled and Connected, Trolley Mounted

SPECIFICATIONS

Dimensions

Overall Height: 485 mm, Overall Width: 380 mm, Overall Length: 210 mm

Weight: 12-13 kg

Electricity: Single Phase 230 V AC (Runs on Power Back up)

Fan: 150mm, 50 Hz, 20W, 1750 rpm

Display: 5" TFT LCD Touch Screen- Filter Life, UVC Life monitoring

Flow Control: Normally Closed Solenoid Valve

Two Brushless DC Motors.

Quad Core 64 bit Processor

2/4/8 GB SDRAM

5.0 Wireless Bluetooth, BLE

2 USB 3.0 Ports

Manual Foot Switch

Noise: Less than 50 dB



Existing Users



AoneS Series 6 Surgical Smoke Evacuation Device

(formerly known as Sahyadri Hospitals Limited) ID>

[Subject to Pune Jurisdiction]

Sahyadri Hospitals Private Limited

(formerly known as Sahyadri Hospitals Limited)

Sahyadri Super Speciality Hospital, Deccan Plot No. 30 C, Erandawane, Karve Road, Pune 411004 -Ph. No 020-67213000 Fax No.020-25403270

Capital Purchase Order

: Aones Labs LLP

EFC Prime, 1st Floor, Nr. Mercedes Showroom Mumbai Bangalore Highway PO Date. : 27/08/2021 Pune MAHARASHTRA 411045 Valid Upto. : 31/12/2021

GSTIN No.: 27ABSFA3167B1ZG : Maharashtra

Your Ref : Quote:EST-000067 Phone No. : 9421115735

HSN/SAC Qty UOM Rate(INR) Gross Disc SGST CGST IGST Others Total(INR)

Smoke Evacuator, Model - AoneS Series 6 Surgical Smoke Evacuation Device, Make - Aones

1.00 Number

Runees Two Lacs Fighty Thousand only Net Amt (INR):

Remarks: For CSSD Dept. Amendment Reason: Rate Changed

Terms & Conditions:

1) Delivery: Within 1-2 weeks from the date of PO.

2) Tax: 12% GST included in the above price.

3) Payment - 100% after delivery, against valid Tax Invoice

4) Warranty: 2 years from the date of successful installation. There is complete unit replacement instead of repair, if machine faile to work properly or stopped working in warranty period.

Plot No. 30C, Karve Road, ErandavnePune, MAHARASHTRA, 411004

For Sahvadri Hospitals Private Limited (formerly known as Sahyadri Hospitals Limited)

Prepared By: 70001229

Authorized Signatory

PO No. : 22/D01/CAPPO/100055

GSTIN No. : 27AADCS9911L1ZW

Our Ref : CAF: 215/DG/2021-22

: Maharashtra

This purchase order is approved digitally and is valid without signature.

Annexture to PO NO.: 22/D01/CAPPO/100055

1) FOC Goods: (1) Three Stage Filters: 3 Pieces (2) Independent Carbon Filter: 1 Piece (3) Main (Two Stage) Filter: 1 Piece (4)

2) All Safety measures are strictly to be followed to the satisfaction of SHL authority.

3) Any loss or damage during transit shall be your responsibility. Hence, kindly ensure that the material is insured up to delivery.

4) Goods will be accepted between 10 am to 5 pm only on working days.

5) Goods will be accepted only if accompanied by Delivery Challan and are subject to verification of quality, quantity and rates.

6) Submit your Tax Invoice/Delivery Challan, Warranty Certificates, Calibration Certificate, Operating and Service Manuals to the Biomedical Dept. or Central stores along with the copy of the P.O.

7) Supplier would be debited if GST is not paid to the government by the supplier

8) The material should be strictly as per specifications mentioned in the order.

9) The material supplied if found defective will be replaced by you at your cost.

10) Transportation, Installation, Loading, Unloading, Packing and Forwarding Charges - Included in the above price.

11) You are responsible to generate the e-way bill as per Rule 138 of CGST Rules, 2017 at the time of movement of goods.

12) Each party of this agreement/contract agrees to comply with all the extant laws, regulatory guidelines and regulations, to the extent applicable to each of the parties

13) GST charged on the invoice issued by the vendor will be paid to vendor only after matching the same with amount disclosed by vendor in form GSTR-2A available on the common GST portal.







LATA MANGESHKAR MEDICAL FOUNDATION'S DEENANATH MANGESHKAR HOSPITAL & RESEARCH CENTER

8+13/2 Erandawne, Near Himali Society, Pune 411 004, Email: purchase@dmhospital.org Phone Direct line: 020 - 40151693, Fax: 40151943, EPABX: 40151000 / 68023000 GSTIN:27AAATL1944N1ZA

Material Purchase Order

Vendor Code: BIO951 DMH/PO/Medeqp/2021-22/88 Vendor Name: AONES LABS LLP PO Date: 07/10/2021

PLOT NO 68, NITYANAND SOCIETY, DHANKAWADI . PUNE, PInCode: 411046

PURCHASE Phone: Emall: atul.kaluskar@gmail.com / nishant.bhate@aones.in/ janhavi.salunkhe@ao 25/10/2021 Contact Person: Nichant Bhate 7821084042 Delivery Place : Bio-Medical Store

Contact No: Janhavi Salunkhe 9421116786 Reference: Ref No:RST-000075 Dt:28/09/2021

Sr.No	Item Code	Description	Qty	Unit	Rate	Disc%	Tax %	Total	PR No.
1.		Smoke Evacuator Rmk:AoneS Series 6 Compact Surgical Smoke Evacuation Device	1.0	Nos			CGST + 3GST 12%		

TERMS & CONDITIONS

Payment Terms

1-2 weeks

Remarks:

1) AoneS Series 6 Compact Surgical Smoke Evacuation Device with all std accessories, spares & consumables as mentioned in Ref No:RST-000075

2) Security gate entry is must on each tax invoice/challan.

Additional Cost Remarks :

1) DMH will deduct TDS u/s. 194Q, if applicable. TCS u/s 206(1H) should not be levied by vendor.

2) E-Way Bill:- The material/ goods will not be accepted and paid without valid EWAY bill, if it exceeds the Consignment Value as provided in MGST Act or CGST

3) GST component & bifurcation of Proforma invoice & Tax invoice should be same, else balance payment will be kept on hold.

15) The Material/Goods will not be accepted and paid without EWAY bill, if it exceeds the Consignment Value as provided in MGST Act or CGST Act as amended

16) DMH will deduct TDS u/s. 194Q, if applicable. TCS u/s 206(1H) should not be levied by vendor.









Dr. C. P. Kothari
Laparoscopic, Gl and
General Surgeon
CHL Apollo, Indore

WVOC

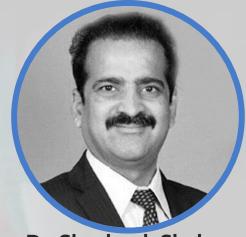
field.

No smoke on the face and the surgical field was clear. I use this device for open and laparoscopic surgeries.
There is no smoke and surgery is uninterrupted.

https://youtu.be/hN5nOj7OXLI

I feel safe to use this device. This is one of the best safety device installed for operation theatre staff, patients and surgeons. This is 'Made in India' and I feel proud to use this.

https://youtu.be/olAsZ2g0DF8



Dr. Shashank Shah Bbariatric, Laparoscopic Surgeon

MBBS, MS, FAIS, FICS, Honorary FIAGES, Honorary FMAS, Honorary FALS, Diploma as Visiting professor, IRCAD, France.



Dr. Chaitanya GanapuleGynaec and Obstetrics
Specialist: IVF treatments and

PCOS

Yash IVF & Pearl Women's

Smoke evacuator is a necessity and I am going to continue using this.

https://youtu.be/Z2k94iK1sjw

I highly recommend that every setup (OT) should have this device.
This also helps in rapid de-sufflation and also very clear smoke free surgical

https://youtu.be/CX4B4tgzoOc



Dr. Prasad Bhatlawande

M.B.B.S & MS
General Surgeon
Healing Touch Hospital

Comparison



Make In India, Import Substitute, AoneS Smoke Evacuation Device: Advantages over MNCs.									
Details	AoneS Series 6	Aones Pro	Medxxxxxc	Ethxxxn	Conxxd	Olyxxxs	Strxxxr		
Origin	INDIAN	INDIAN	American- Irish	American	American	Japanese	American		
Motor type	External Suction	2 BLDC	Vacuum	Pump	Vacuum	Vacuum	Vacuum		
Noise level	None#	<50 dB	< 58 dB	< 50 dB	< 55 dB	Not available	Not available		
5 Inch Touch Screen	LED Display	YES	No	No	No	No	No		
Quad- core 64 bit Processor, 4 GB Ram	No	YES	No	No	No	No	No		
Open	Yes	Yes	Yes	Yes	Yes	No	Yes		
Laparoscopic	Yes	Yes	Yes	Specific Model	Yes	Yes	Yes		
Evacuation Controls	Manual	Manual foot switch	Manual foot switch	Active	Active	Active	Active		
Carbon Media/ Filter	Double	Double	No	No	No	No	No		
ULPA filter	YES ##	YES ##	Yes	Yes	Yes	Yes	HEPA filter		
UVC Radiation	YES	YES	No	No	No	No	No		
Filter port design	1 port	1 port	3 port	1 port	3 port	3 port	1 port		
Filter tracking	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
GSM Slot	YES	No	No	No	No	No	No		
Fluid trap	YES	Yes	Optional accessory	Yes	Optional accessory	No	Optional		
Warranty 365 Days	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Mounting	Floor	Trolley	Trolley	Trolley	Trolley	Trolley	Trolley		
Customization Option	YES	Yes	No	No	No	No	No		
Approx. Consumables Cost Rs	c. Consumables Cost Rs 0.5 USD 1 USD Estimated as USD 9 to 10 per operative.								

AoneS Series 6 do not have moving parts. This device is connected externally to central suction/ suction machine.

AoneS uses both HEPA and ULPA filters. HEPA is used as pre filter to increase Life of ULPA filter.

Information is based on the websites of manufacturers and their catalogues. Some inferences are derived from the available information.



Reengineered: Negligible Cost of Consumables Aones + Labs

Sr.	Consumable Part	Estimated Life in Hours	Average Usage Time During the Surgery in Hours	Approximate Number of Surgeries	Unit Price in USD without Taxes	Estimated Cost Per Surgery in USD
1	3 Stage Combination Filter	300	1	300	125	0.42
2	Independent Carbon Filter with Metal Body	2000	1	2000	125	0.06
3	UVC Radiation Tube	8000	1	8000	150	0.02
4	Two Stage HEPA+ULPA Filter with Metal Body	2000	1	2000	225	0.11
5	Sodium Hypochlorite 10% (Not applicable for Model - Pro)	To use approx	0.10			
6	Internal Silicone Tubing		0.10			
Cost Per Surgery						



In Pipeline

AoneS + Labs

Stress Response Measurement Device



https://www.youtube.com/watch?v=T2HIiOlLiz8&t=7s



More about AoneS Labs



Indigenously Manufactured, More Efficient & Cost Effective Products.







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Thank You.