



CLEAN AIR MAKES ALL THE DIFFERENCE

Lower the risk of infection and reduce staff shortages


VIROBUSTER[®]
THE AIR PURIFICATION SPECIALIST

AIR HYGIENE TO PROTECT PEOPLE AND THE ENVIRONMENT

In safe hands with VIROBUSTER®

VIROBUSTER® has been a specialist in UV-C air hygiene since the 2003 SARS coronavirus epidemic. We know the levels of efficacy, performance and safety required.

With our patented UVPE¹ technology, originally developed for the healthcare industry, we revolutionised the use of UV-C, meaning that we can offer a safe, highly effective solution that is proven to eliminate 99.99% of coronaviruses². Today, our technology is in high demand in a wide range of other industries.

Whatever the application – healthcare and nursing, local authorities, industry or buildings in general – bacteria, viruses and mould accumulate in the air of closed rooms where air cannot circulate properly. In areas that are frequented by many people or have high footfall, these aerosols are also swirled around by the typical air circulation that results from rising heat and movement. Now more than ever, it is essential that this risk is minimised in order to protect people and the environment.

UV-C DISINFECTION – BETTER PROTECTION FOR ALL INDUSTRIES:

- ✓ **Lower risk of infection and illness for staff and customers**
- ✓ **99.99% room air purification rate with just one cycle**
- ✓ **Increased protection during pandemics**
- ✓ **Proven improvements to (room) air quality**
- ✓ **Safe for users and the environment**

BUILDINGS:

- ✓ **Integration into existing air handling systems**
- ✓ **Retrofitting to existing air handling systems**



HEALTHCARE AND NURSING

- ✓ Fewer hospital-acquired infections
- ✓ Better protection in waiting areas, wards and treatment rooms.
- ✓ Mobile solution that can be switched on and off (e.g. to create isolation rooms as required)
- ✓ Eligible for government funding



OFFICES, LOCAL AUTHORITIES, AND ADMINISTRATION

- ✓ Increased productivity and staff protection
- ✓ Low noise levels
- ✓ Eligible for government funding

FOOD, MANUFACTURING AND TRADE

- ✓ Better product quality
- ✓ Longer storage life
- ✓ Can reduce need to use preservatives
- ✓ Profitability/cost savings



1 Ultraviolet pathogen elimination, a technique developed by VIROBUSTER®

2 "Coronavirus surrogate inactivation rates", Elimination Study, Bermpohl 2020, Biotec GmbH, Gütersloh

UV-C – THE SAFEST ALTERNATIVE TO CONVENTIONAL METHODS

VIROBUSTER® systems are based on highly effective UV-C technology, offering the safest and most efficient alternative to conventional methods.

With a short wavelength of 254 nanometres, UV-C light is perfectly suited (when used safely, correctly and at a suitably high dose) to microbiological purification. Treatment with UV-C blocks the genetic material of micro-organisms such as viruses and bacteria, which prevents them from multiplying. As a result, they are no longer infectious after treatment with UV-C.

UV-C is a tried-and-tested technology



UV-C has been known to be effective since 1901, when it was used for water sterilisation without the use of chemical additives and for air purification in healthcare applications. With a combination of intelligent technology, high safety standards and the right UV-C dose, our free-standing devices eliminate 99.99% of the SARS-CoV2¹ virus in just one cycle – as proven in multiple scientific studies¹.

UV-C is safe and efficient

Our devices work solely on the basis of UV-C. There are no filters or hazardous additions such as plasma (ozone) or ionisation, which makes this an emission-free solution that is safe for users and the environment².



UV-C developed to perfection: the patented VIROBUSTER® UVPE³ technique is superior to traditional UV-C technologies (UVGI⁴)

Since it was first discovered, UV-C has seen significant changes in its use. Until the SARS1 outbreak in 2003, the “open” UV-C method was still being used: this uses direct irradiation of the area to be disinfected with UV-C light but is less effective and presents a health hazard due to ozone release. After this method was officially rejected by WHO and other health institutions, the now-standard (ozone-free) UV-C technology (UVGI) was developed, which involves placing the lamps in the sealed ventilation channels of air conditioning systems. While this eliminated the problems with safety, it drastically reduced efficacy, as the air is not present in these artificial ventilation systems long enough to be exposed to an adequate amount of radiation. This is a major issue that VIROBUSTER® identified early on and has now effectively overcome with the UVPE method.

*“VIROBUSTER® can play a significant role
in reducing the risk of infection.”*

*Dr Ron Hendrix, Hospital Hygienist
Dutch NOS News,
26 May 2008*

*1 “Coronavirus surrogate inactivation rates”, Elimination Study, Birmpohl 2020, Biotec GmbH, Gütersloh, Germany
2 TÜV Air Purification Device Report R60024536
3 Ultraviolet pathogen elimination, a technique developed by VIROBUSTER®
4 Ultraviolet germicidal irradiation*

THE VIROBUSTER® UVPE TECHNIQUE: THE NEXT GENERATION OF AIR DISINFECTION

“VIROBUSTER has taken the lead in research and development in air sterilisation technologies.”

*Dr Wladyslaw Kowalski, UV expert
UVGI Handbook 2009*



The new standard in UV-C air disinfection

VIROBUSTER® UVPE all-in-one units are different to open or standard UV-C (UV-C lamps in air conditioning channels) – they combine modular, ultra-efficient high-dose UV-C technology and special reflectors with a targeted displacement flow. This results in an effective, high-performance solution that clearly outperforms all other UV-C technologies currently on the market⁵.

OUR MODULES OFFER:

- 1 **Safety and sustainability:** Emission-free (ozone-free) UV-C tubes are installed in closed ventilation ducts to ensure the highest possible level of safety for people and the environment while simultaneously reducing the number of micro-organisms in air handling systems. In addition, UVPE technology requires far fewer lamps than traditional systems, meaning that energy and maintenance costs are also lower.
- 2 **Maximum intensity compared with UV-C:** The patented UVPE technique inactivates micro-organisms with a special arrangement of lamps and their multiple reflections, whose results are nearly a thousand times more effective than UV-C technologies used to date.
- 3 **A modular system of standalone units:** Unit systems are standard modules with an individual (technical) configuration and design that has been technically⁶ and biologically⁵ certified and validated by a recognised testing centre. All unit systems can therefore be retrofitted and are interchangeable⁷.
- 4 **Enhanced efficacy with the addition of filters:** The system can be combined with filters to handle larger inorganic particles.
- 5 **Flexible and easy to use:** The plug-and-play design used for our modules means they can be used wherever needed – just set them up and switch them on and off as required. As the modules are very quiet⁸, they can also be operated continuously as standalone solutions or integrated into air handling systems.

⁵ "Coronavirus surrogate inactivation rates", Elimination Study, Berrpohl 2020, Biotec GmbH, Gütersloh, Germany

⁶ TÜV Air Purification Device Report R60024536

⁷ "Air Filtration Technologies for Pig Transport", Nielsen, Yigit LF 2015, Denmark

⁸ "VIROBUSTER® sound pressure measurement", Keller et al., 2008, ebm-Papst, Muldingen, Germany

STERIBASE® 300 PLUS – AN OVERALL WINNER

When comparing free-standing solutions, filter efficacy is only one factor that needs to be taken into account. **VIROBUSTER® modules offer:**

- 1 Device efficacy:** VIROBUSTER® offers proven efficacy of >99.99% against SARS-CoV2⁹
- 2 Space efficacy:** The combination of slow intake and high output speed guarantees a reduction in microbial counts for the whole room – and in just a few minutes.
- 3 User comfort:** The pedestal offers stability and the fan it contains is extremely quiet despite its air flow capacity¹⁰. Continuous operation in offices, hospital wards or sleeping areas is therefore unproblematic.
- 4 Safety and sustainability:** Our devices work solely on the basis of UV-C. There are no filters or hazardous additions such as plasma (ozone) or ionisation, which makes this an emission-free solution that is safe for users and the environment.
- 5 Cost-effectiveness:** As there are no filters that would require regular changing, maintenance is only required every 2-3 years¹¹. In terms of life-cycle costs, low maintenance requirements make STERIBASE® the perfect choice.

STERIBASE® 300 PLUS

Dimensions: 500 x 600 x 1,640 mm (L x W x H)

Performance: 240 W, 230–240 V

Airflow:

3 levels, from 150 to 300 m³/h

Airflow/noise levels:

Level 1: 150 m³/h / 29.4 dB(A)

Level 2: 225 m³/h / 40.5 dB(A)

Level 3: >300 m³/h / 47.2 dB(A)

Integrated filter:

3 washable stainless steel prefilters for large particles

Biological reduction: >99.99 %

Maintenance: after 9,000 hours

Recommended use:

Per device: Up to 20 people or surface area of 150 m²

Included:

Plug-and-play, ready-to-use device



“DOES THE JOB” ISN’T
GOOD ENOUGH FOR US.
THE STERIBASE® RANGE
ALSO OFFERS:



A <30 dB(A)
sleep mode



No emissions
(no use of ozone)



An attractive design
(Design Award
Winner)



9 “Coronavirus surrogate inactivation rates”, Elimination Study, Bermpohl 2020, Biotec GmbH, Gütersloh, Germany
10 The carefully designed air flow enables airflows with virtually no input/output mixing and thus the highest possible net air exchange per hour.
11 When used 10 hours per day, 280 days per year

STERITUBE® AND BASICTUBE®

Dimensions: 1000 x 200 x 230 mm (L x W x H)

Output: 190 W, 230-240 V

Airflow:

150 to 800 m³/h

Pressure loss:

300 m³/h / 13 Pa

400 m³/h / 23 Pa

800 m³/h / 85 Pa

Integrated filter: no

Biological reduction: >99.99%

Maintenance: after 9,000 hours

Recommended room size:

The number of devices to be used depends on the air volume of the air handling system.

Package contents:

Connecting cable, plug system and DN160 quick-release (included separately)

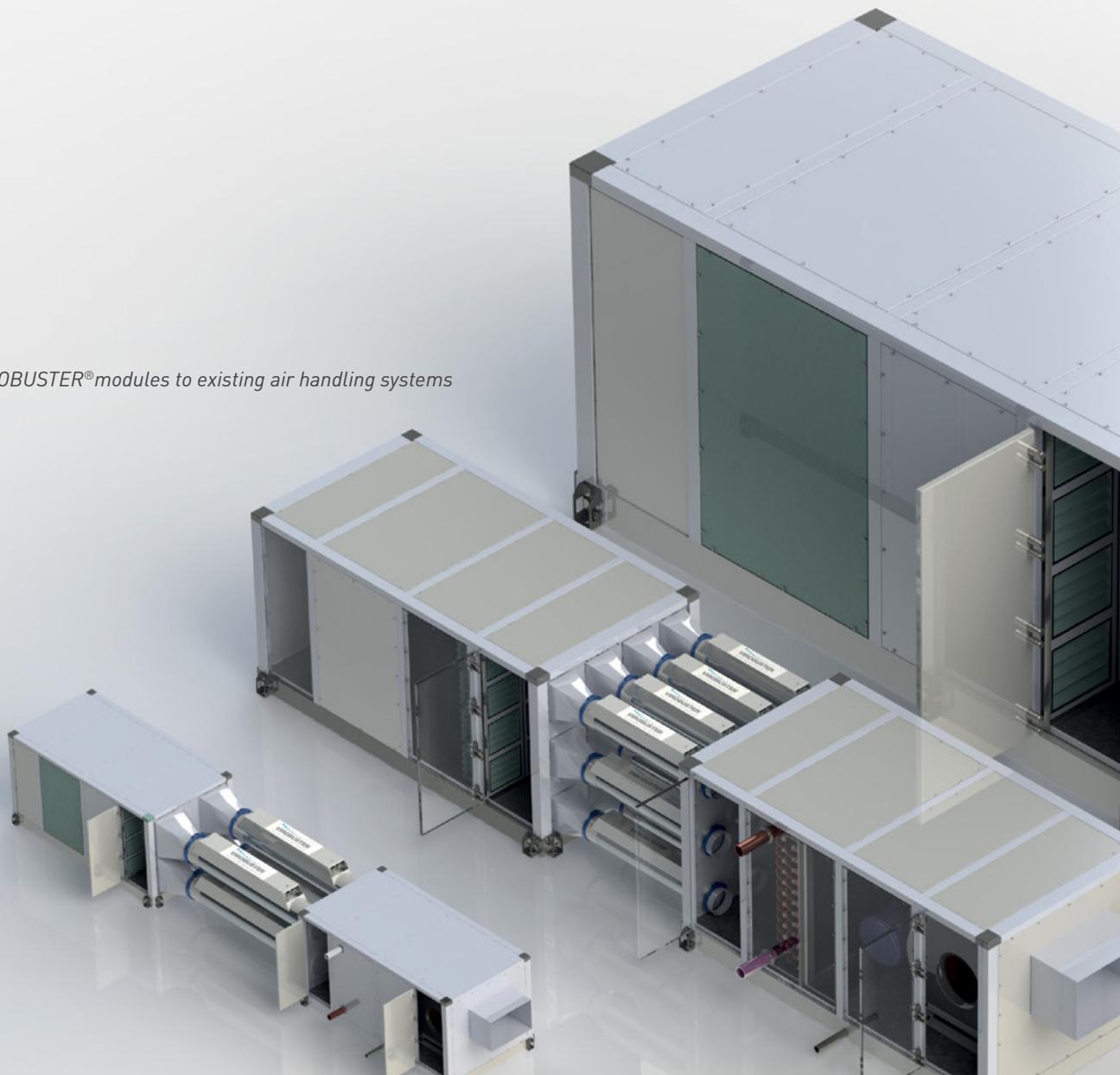


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ID 11120894



Made in
Germany

Fitting VIROBUSTER® modules to existing air handling systems



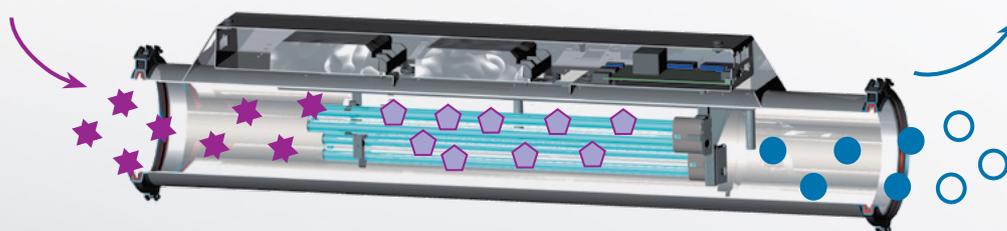
STERITUBE® AND BASICTUBE® – FOR INTEGRATING INTO AIR HANDLING SYSTEMS

The perfect building solution

Due to the constant pressure to make energy savings, minimum values for fresh air inflow in closed areas continue to be reduced. Higher proportions of circulating air lead to an increase in the accumulation of micro-organisms, VOCs (volatile organic compounds) and mould spores in the air, which can impact well-being and focus. Some 80% of respiratory-related sick notes are now due to viral infections. But traditional air handling systems cannot filter out viruses. When VIROBUSTER® modules are fitted to air handling systems, the accumulation of these pathogens is reduced, your employees are protected, productivity is increased and sickness rates are lowered for your company – on a permanent basis.

Viruses, bacteria and mould (risk of infection)

Disinfected air with minimal risk of infection



CERTIFIED, PROVEN AND TRIED-AND-TESTED

Some of our satisfied customers:



Universiteit Utrecht



máxima
medisch centrum

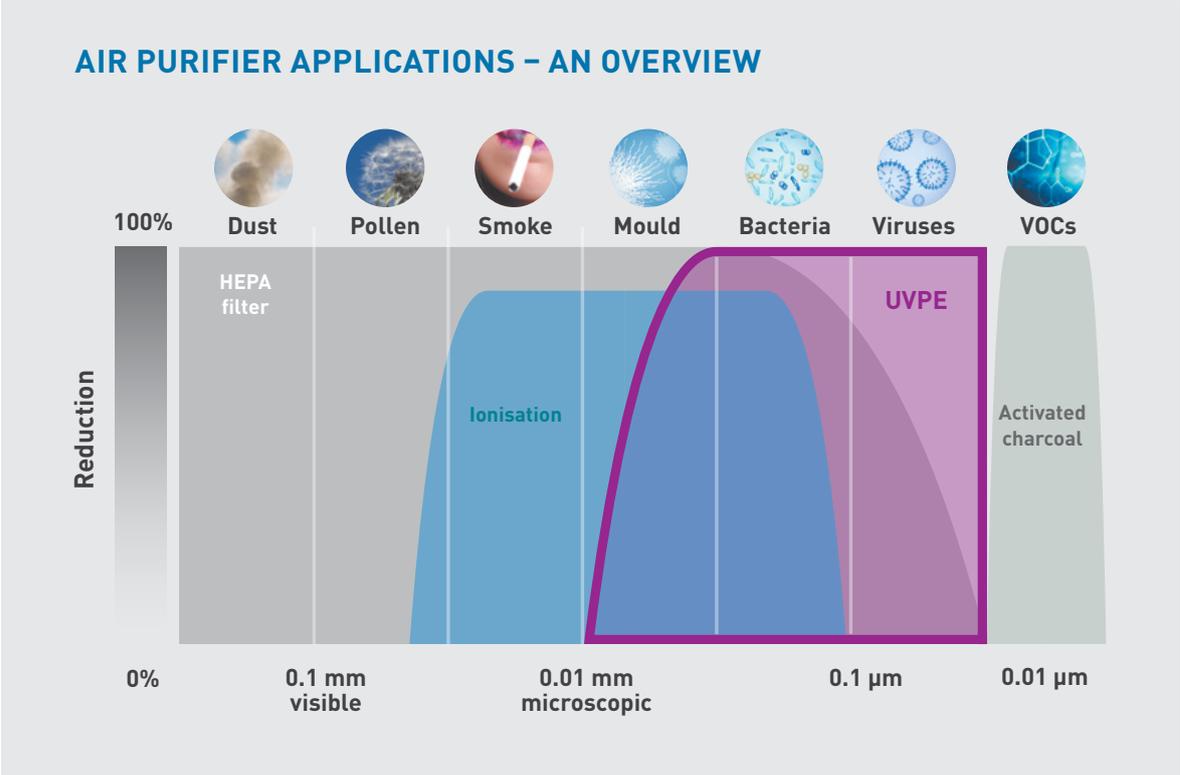


*"99.99% for the coronavirus
(surrogate Phi6) in one cycle.
The system can be classified
as 'very good'."*

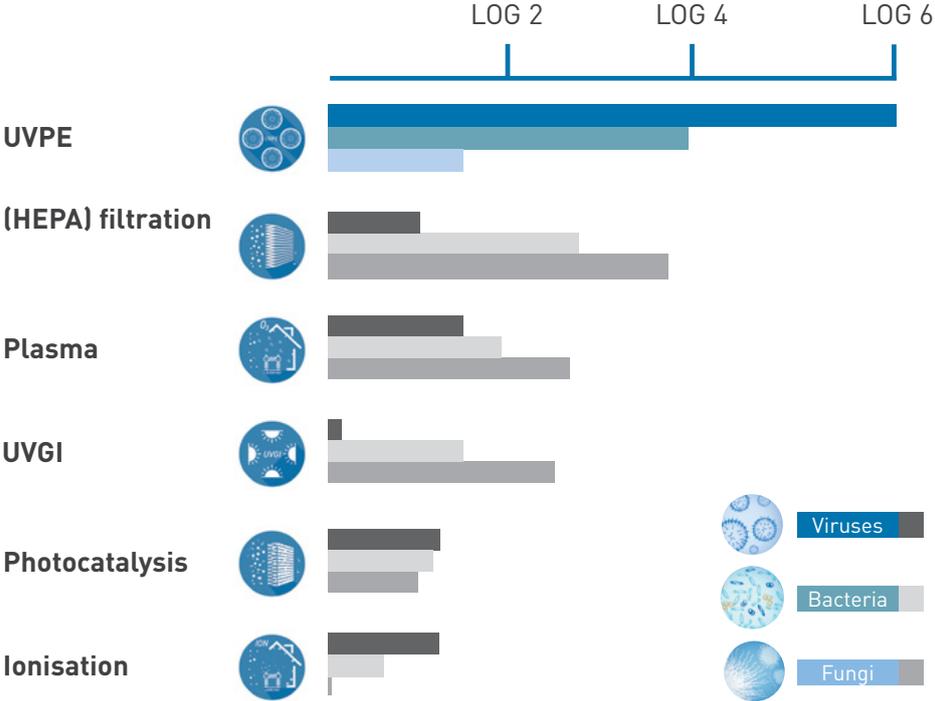
*Dr Andreas BERPPOHL, Biotec
GmbH 2020*



i VIROBUSTER® UVPE VERSUS OTHER TECHNOLOGIES



DEVICE EFFICACY IN ONE CYCLE



ABOUT VIROBUSTER®

Our mission statement:

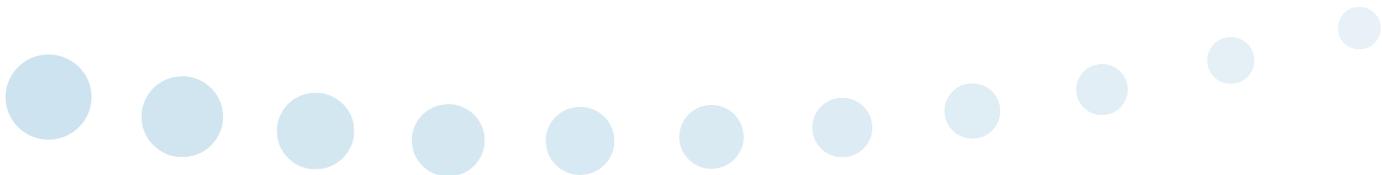
“Scientifically proven innovations for high-quality products, effective air hygiene and safety.”

VIROBUSTER® International GmbH, based in Windhagen, Germany, has specialised in UV-C air disinfection for over 15 years. In 2003, we were granted the first patent in the world for technology based on UVPE (originally developed for medical use), which continues to be our USP to this day.

From healthcare to anywhere

The first SARS coronavirus/H5N1 avian influenza threats, and the later H1N1 influenza pandemic, have shown the whole world that airborne diseases can have a significant social and economic impact. These effects have now been felt by every single household during the ongoing COVID-19 pandemic. The importance of cleaner air – more precisely, the risk of infection from pathogens in the air – cannot be overstated. And this risk is what we have transformed into an opportunity.

Today, VIROBUSTER® has developed partnerships across a wide range of industries in over 25 countries, and increasing demand from many other sectors shows that VIROBUSTER® disinfection technology is highly effective and practical beyond applications in healthcare. In particular, customers in food production (wholesale bakeries, delicatessens, fruit and vegetables, etc.), veterinary services, schools, government offices and transport/logistics are already successfully using our UVPE technology.





We represent the next generation of disinfection.

The patented VIROBUSTER® UVPE process achieves 99.99% purification rates in just one cycle, providing a significant improvement in air quality without the need for additional chemicals. The devices offer unrivalled efficiency, low noise levels, compatibility with current hygiene measures, no emissions and complete safety for people, animals and the environment – while maintaining unbeatable levels of performance. Our modular solution is scientifically proven and meets even the most demanding customer requirements.







VIROBUSTER®

 THE AIR PURIFICATION SPECIALIST

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 Sicherheit
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