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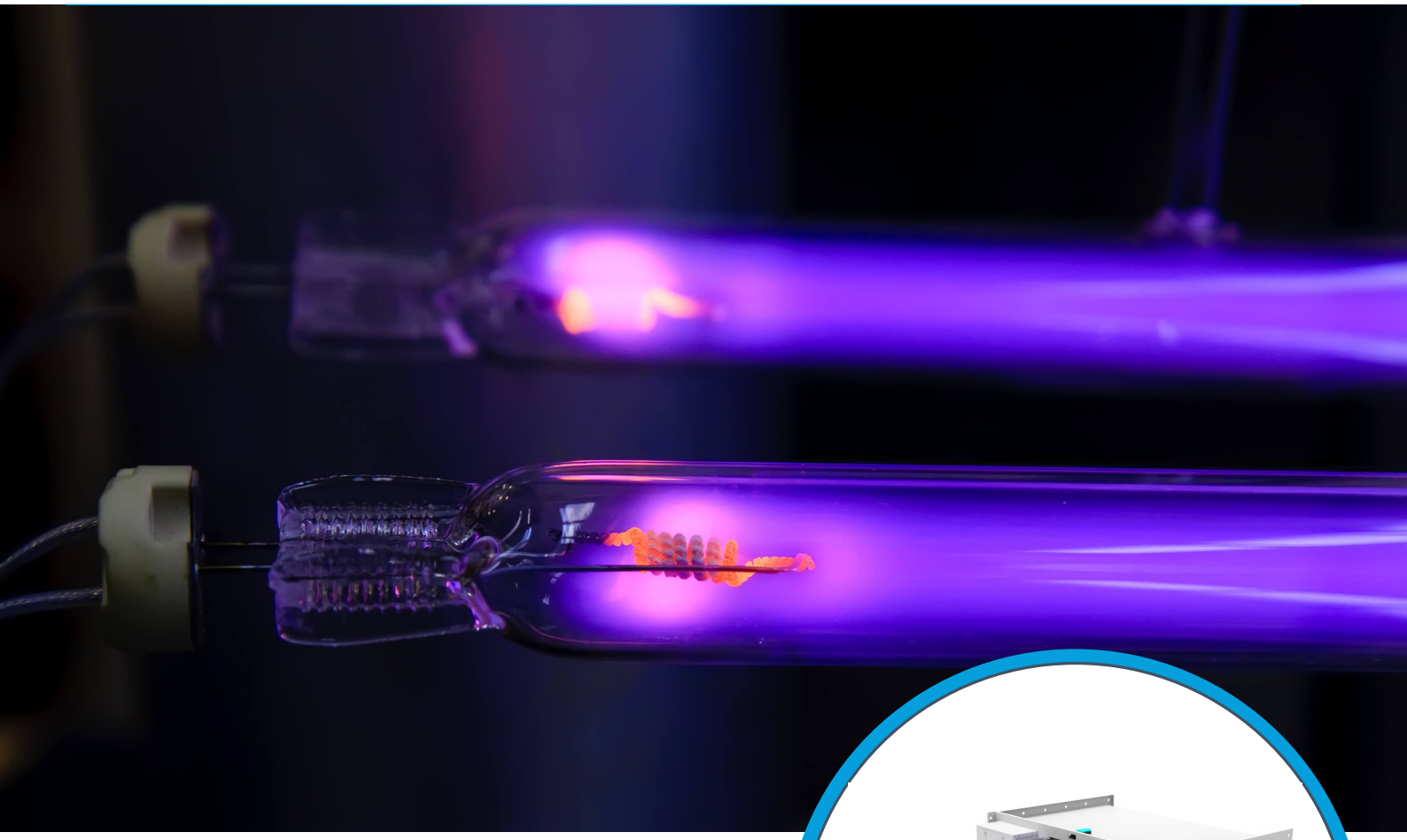


Product brochure

SCU-UV

UV Disinfection System

Air filtration

Issue Date: 21.08.2020

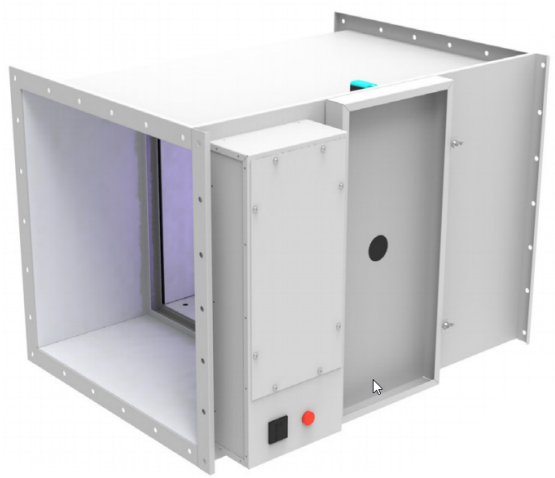
ISO 15714 COMPLIANT

INTERNATIONAL IUVA ULTRAVIOLET ASSOCIATION

UV DISINFECTION SYSTEM SCU-UV

PRODUCT OVERVIEW

Specialized system that provides effective disinfection of air in ventilation ducts. UV disinfection is a method based on irradiation with ultraviolet light of wavelength 254 nm and very high energy level.
Depending on the radiation dose (J / cm2), UV light eliminates majority of pathogenic microorganisms from the supply air without the generation of harmful chemical compounds and by-products.

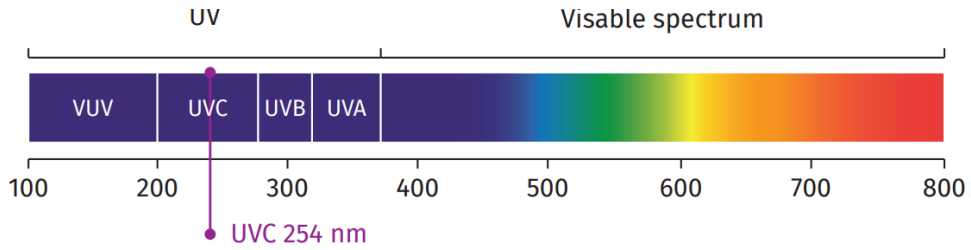


- Elimination of airborne pathogenic microorganisms such as bacteria and viruses using UV technology
- Provides disinfected air in the room where you live
- Reduces the risk of disease and the spread of airborne infections
- Ensures safe environment

Possibility of installation in existing or new mechanical ventilation systems:

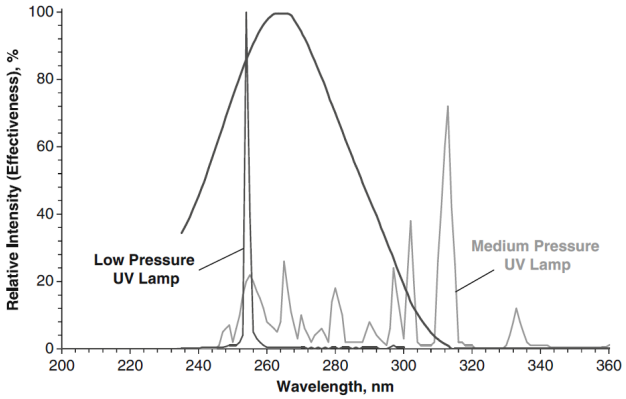
- Offices
- Hotels and restaurants
- Public institutions
- Shopping malls
- Hospitals and health facilities
- Industrial facilities
- Sports facilities and recreation areas

FUNCTION



SCU-UV primary function is to neutralize pathogenic organisms and harmful chemical compounds in the supply air. The key principle is based on using ultraviolet germicidal irradiation (UGVI). UGVI is is electromagnetic radiation which inactivates microorganisms and its ability to reproduce by causing photochemical change in nucleic acids.

Wavelengths in the UVC range are especially damaging to cells because they are absorbed by nucleic acids.



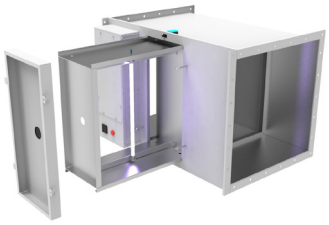
The germicidal effectiveness of UVC peaks at about 260–265 nm.

The UV light emitted by a source is expressed in Watts (W) and the irradiation density is expressed in watts per square meter (W/m^2). For germicidal action dose is important.
The dose is the irradiation density multiplied by the time (t) in seconds and expressed in Joules per square meter (J/m^2). (1 Joule is 1W x second).

The UV-C disinfection system is dimensioned to provide inactivation dose for the defined air volume flows.
The inactivation dose is killing or inactivating at least 90% of all airborne pathogenic organisms (D_{90} kill rate). Microbial susceptibility to ultraviolet light varies widely between species of microbes. Bacteria, viruses and fungal spores respond to UV exposure at rates defined in terms of UV rate constants. Other parameters used to define UV susceptibility include the Z value or Zeff (same as UV rate constant), the inactivation cross-section, the D_{90}, and variations of the D_{90} (i.e. D_{99}, $D_{99.9}$ etc.).

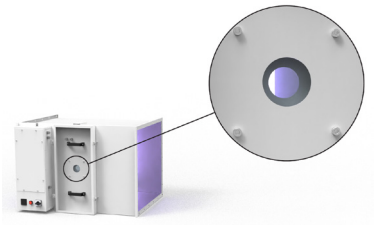
$D_{99.9}$ kill rate is acheivable when using SCU-UV in combination with SCU with HEPA H14 filter.

FEATURES



Removable control module / UV lamp supporting frame

Possible dislocation of control module (e.g. wall mounting) with standard cable length 5 m.
Easy service and replacement access to UV lamp's supporting frame.



Inspection opening with UV protection

Housing is equiped with built-in UV – protection safety glass for visual inspection of UV lamps

LED operation indicator

Located on the control module
Green light indicates proper operation of the SCU-UV
Red light indicates failure

Pressure switch
Device will be turned on only if AHU is operational.
In case that there is no pressure difference in the duct , SCU-UV will be automatically turned off
Pressure switch is located in control module.

Service switch

Main switch on the control module turns on/off entire device, allowing operator to approach device interior without any risk.

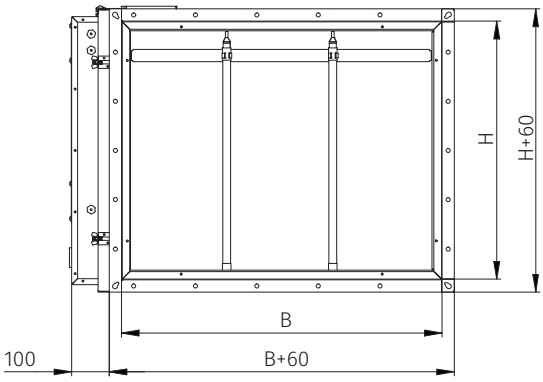
Safety switch
In case of unauthorized or accidental front cover opening, entire device shuts off to protect person from UV radiation.

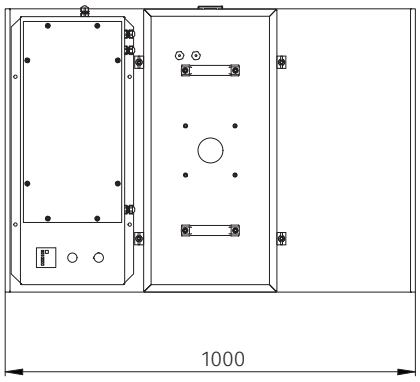
Hour counter
Counter measures working hours of the UV lamps. Average UV lamp lifetime is 9000 hours. After that UV lamp efficiency starts to drop.

Ability to connect to BMS
In case of any failure on the device, BMS will be notifyed with digital signal.

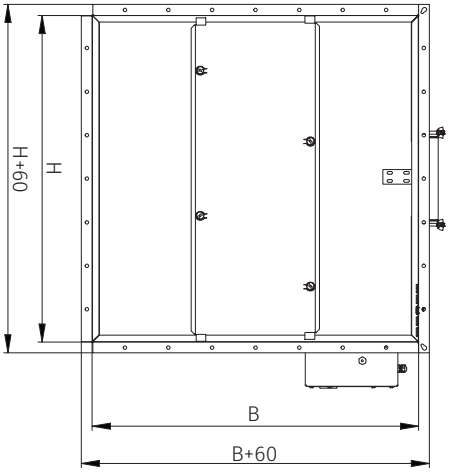
DIMENSIONS

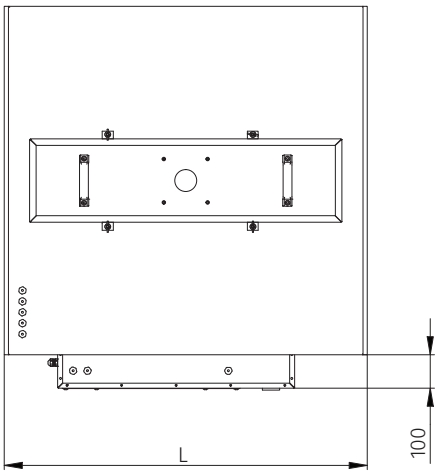
SCU-UV-LV (Low velocity)





SCU-UV-HV (High velocity)

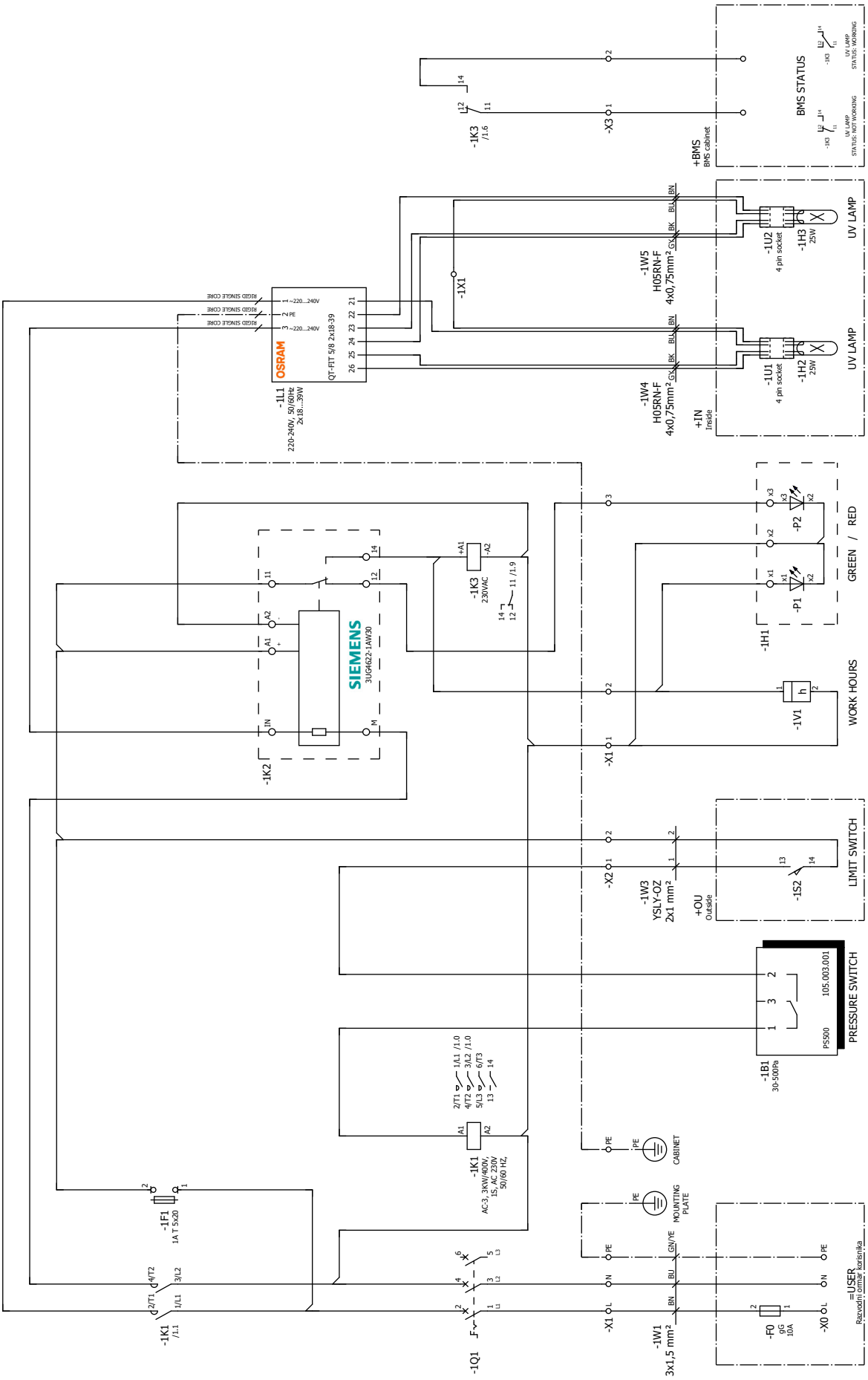




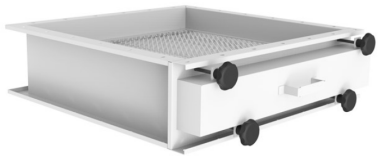
TECHNICAL DATA

Type	BxH [mm]	Airflow Q [m³/h]	No. of lamps	Nominal power [W]	Voltage U[V]
SCU-UV-LV	325x630	1500-2300	1	30	230/50Hz
SCU-UV-LV	630x630	2300-4000	2	55	230/50Hz
SCU-UV-LV	630x782	4000-5500	2	55	230/50Hz
SCU-UV-HV	900x300	3200-4900	2	45	230/50Hz
SCU-UV-HV	900x600	6200-9800	3	85	230/50Hz
SCU-UV-HV	900x900	9000-14600	4	165	230/50Hz

WIRING DIAGRAM



RELATED PRODUCTS



PSCU Prefilter (G4, F7 or F9)

Prefilter with different filter classes according to EN779 and EN 1822.
G4 - Coarse dust, particle size > 10 µm
F7, F9 - Fine dust, particle size 1 - 10 µm

Material:
Casing made out of galvanized steel
Powder coated in standard RAL 9010
Replaceable G4, F7 or F9 filter
Requires filter with handle
Easy filter insertion and replacement
Safe operator working environment
Filter saturation control

Options
Case made out of stainless steel (AISI 304 or 316)

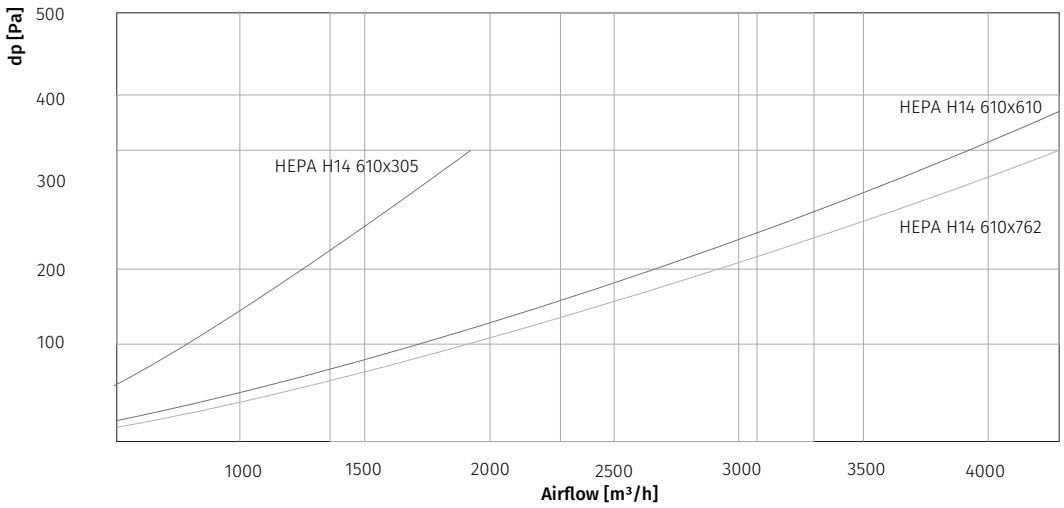
SCU Safe Change Unit with HEPA filter (H14)

H14 - Suspended particulates, particle size < 1 µm
Final filters for clean rooms, Classes 10 or 1

Material:
Casing made out of galvanized steel
Powder coated in standard RAL 9010
Replaceable HEPA filter
Requires filter with handle
Easy filter insertion and replacement
DOP connection
Filter saturation control
Standard filter height: 48 mm. Other heights on request
Safe operator working environment

Options
Case made out of stainless steel (AISI 304 or 316)

Airflow and pressure drop diagram for SCU with H14 HEPA filter



ORDERING KEY

(1) Product type		(2) Model		(3) Dimension
SCU-UV	**-**	**HV**	**-**	**900x600**

(1) UV disinfection system

(2) **LV** (*Low velocity)
HV (**High velocity)

(3) Dimension
630x325 (LV)
630x630 (LV)
782x630 (LV)
900x300 (HV)
900x600 (HV)
900x900 (HV)

* Low velocity model is suited for installation in combination with additional filtration device such as PSCU or SCU (see “Related products” on page 6)

** High velocity model is suited for standalone installation without additional filtration devices.

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Projektiranje, proizvodnja i održavanje opreme za klimatizaciju, ventilaciju i čiste prostore.
Design, production and service of Ventilation, Air-Conditioning and Cleanroom equipment.

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