

The system solution for emulsion mist and solid aerosols

Compact aerosol separator
MultiAir Premium

purifying our planet

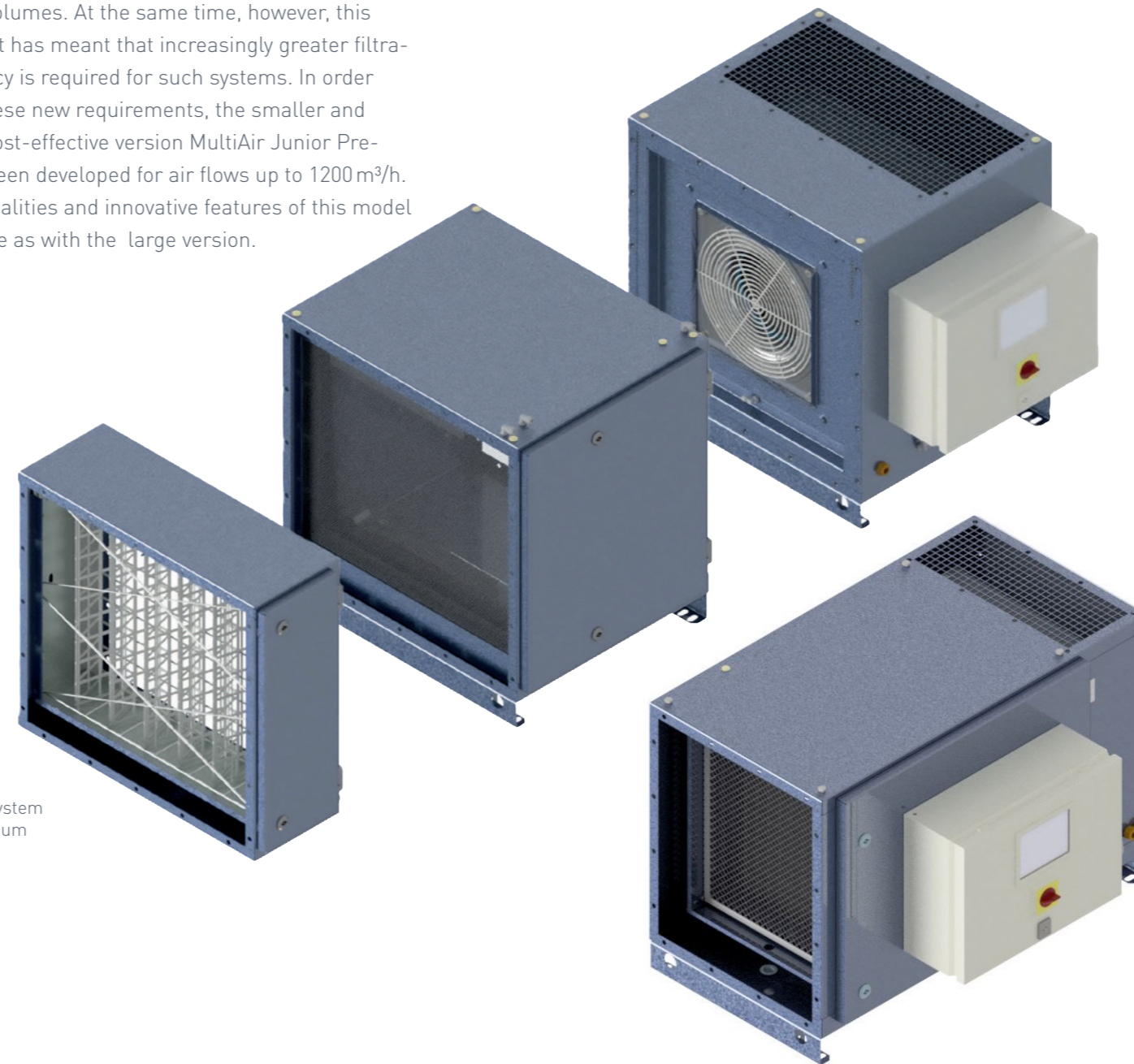
Safety for people and for machines

The metalworking industries produce emulsion mists and solid aerosols that must be filtered out to comply with occupational health and safety regulations. Hengst Filtration has developed just the right solution for these demanding responsibilities: The MultiAir Premium compact aerosol separator that, together with Air Eco2nomy, assures pure air at industrial work places.

Hengst Filtration stands for competence and experience from more than 100 years of market leadership in air-filter technology. Under the motto Air Eco2nomy, we offer you comprehensively oriented solutions that set economic and ecological standards. Our MultiAir Premium compact aerosol separator is the best example here.

The newly developed system has a modular structure where individual modules can be easily customized to particular requirements. The polluted air is so thoroughly cleaned that the filter system can operate in recirculating air mode. The system reliably prevents any danger of fire or explosion. MultiAir Premium not only effectively safeguards your staff. Air Eco2nomy also protects your operations from cost-intensive down times and production losses. Owing to its very small dimensions, this compact aerosol separator system requires only small space and can be easily installed.

Continuously improved encapsulation means that advanced CNC machine tools often have reduced air extraction volumes. At the same time, however, this development has meant that increasingly greater filtration efficiency is required for such systems. In order to satisfy these new requirements, the smaller and especially cost-effective version MultiAir Junior Premium has been developed for air flows up to 1200 m³/h. The functionalities and innovative features of this model are the same as with the large version.



The variable system
MultiAir Premium

The compact system
MultiAir Junior Premium

Sustainability for your processes

Air Eco2nomy is more than just engineering. It is an attitude that creates values with a future: quality of life for people. Protection of the climate and environment. Security for companies and investors.

- Safety filter function – no danger of fire or explosion
- Effective recirculated-air filtration mode with reliable compliance with specified AGW
- Modular technology for horizontal installation onto industrial processing machines
- Welded air-tight and oil-tight structural design
- Powerful fans (400V, 50 and 60 Hz)

Quality and diversity for any situation

Mists resulting from water-mixed cooling lubricants or emulsions also carry fine aerosols. These mists, however, have properties that are different from oil and dry dust. Our filter combinations assure high degrees of droplet separation and very fast collection of the separated droplets. By using different types of pre- and fine filters, the aerosol separator can be optimally adapted to each individual application.

Owing to its compact dimensions, MultiAir Premium can be directly installed where it is used: i.e., just where cooling-lubricant mist and liquid and dry aerosols are emitted. The system guarantees a high degree of flexibility. A selection of module sizes and high-performance fans allow optimal matching to operational air-flow levels and to building conditions. Depending on the individual design, pre-filters, separators, after-filters and fan assembly are arranged as required.

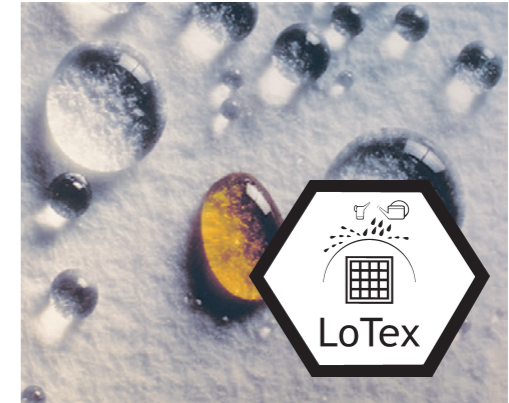
The systems are delivered in pre-assembled mode, which significantly shortens the final assembly time on site. Module units and electronic controls are installed ready for operation, and are tested to ensure flawless function. The primary application is for separation of emulsion mist that arises in metalcutting operations – and of erosion machining mist and other aerosols that increasingly occur in all areas of metalworking industries. In many cases, physical or safety considerations prevent the use of electrostatic precipitators for such uses.

A wide selection of pre- and main filters is available, according to specific requirements. All pre-filters can be regenerated (with the exception of filter pads). The main filters are provided with oleophobic and hydrophobic properties. Fine-particle air filters made by Hengst Filtration are tested by Eurovent for conformity to filter-class and initial pressure-drop specifications. The Eurovent seal verifies that the data in suppliers' brochures for a particular product category conform with all the systems of regulations applying to the filters being offered. The testing data can be systematically found under www.eurovent-certification.com – and this means in turn that you benefit from a maximum of transparency.



LoTex®-Filter pads – Technology for low energy consumption

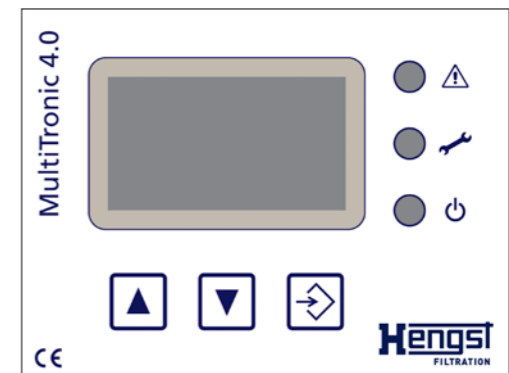
Hengst Filtration has developed LoTex® as a brand new filter media based on lotus effect. It is used primarily for separating of liquid droplets from the air stream, as the unique media treatment allows for a significantly reduced wettability. Water, oils, and emulsions easily pearl off, instead of evaporating in the filter and resinifying there. These characteristics mean that relatively large amounts of liquids can be separated and – if desired - can be effectively reused. A further benefit: since the pressure drops with Hengst Filtration LoTex® filters are appreciably less than those experienced in conventional demisters (droplet separators), power consumption for air filtration is cut in half. The advantages are double: cost reduction and protection of the environment.



LoTex Filterpads

The MultiTronic 4.0 – IOT-Ready

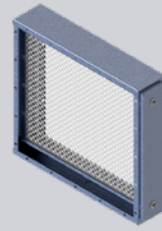
- Stepless closed-loop control, monitoring, and stabilization of the air flow through the filter system
- Digital display of filter-pressure drops
- Signaling when service is required
- Several floating outputs provided for remote display



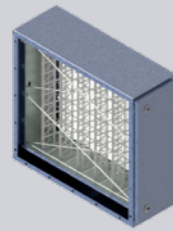
Filtersteuerung MultiTronic 4.0

- Regenerable pre-filters
- Simple replacement of filters through large service doors
- Various fine-filter cells up to filter class H14 (EN 1822), as fully incineratable main filter with plastic frame – which prevents swelling of the material as with wooden frames
- Patented MultiTronic filter control system, with pressure-drop monitoring for all filter stages, and processor-controlled (closed-loop) air flow
- Standard 3/4" removal fittings for each filter stage, for disposal of the removed aerosols and liquid cleaning agents
- Fast replacement of plug-in seals made of nitrile butadiene rubber (NBR) with stainless-steel cores

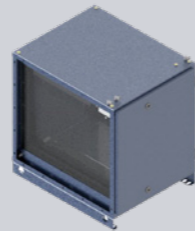
Technical Data



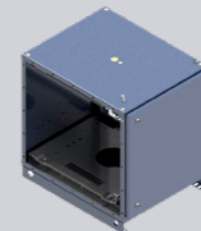
Pre-filter unit V



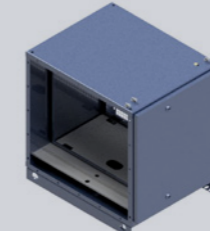
Pre-filter unit V_w



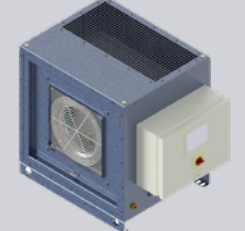
Separator unit A



Afterfilter unit N



Separator unit S



Fan unit F_{ec}

Size		KNA/W 1/1	KNA/W 2/1	KNA/W 2/2	KNA/W 2/3
Max. air flow	m ³ /h	2.500	3.200	6.400	9.600
Width	mm	618	618	1.200	1.803
Height (+ 60 mm for base)	mm	578	740	740	740
Max. operating temperature	°C	40	40	40	40
Relative humidity	%	100	100	100	100

Filter modules		KNA/W 1/1	KNA/W 2/1	KNA/W 2/2	KNA/W 2/3
Pre-filter unit V					
Length	mm	136	136	136	136
Weight	kg	14	17	30	45
Number of filter stages		2	2	2	2

Filter modules		KNA/W 1/1	KNA/W 2/1	KNA/W 2/2	KNA/W 2/3
Pre-filter V_w					
Length	mm	223	223	223	223
Weight	kg	16	19	34	60
Number of filter stages		2	2	2	2

Filter modules		KNA/W 1/1	KNA/W 2/1	KNA/W 2/2	KNA/W 2/3
Abscheideeinheit A					
Length	mm	500	500	500	500
Weight	kg	40	48	83	120
Number of filter stages	Pre-filter	1	1	1	1
	Main filter	1	1	1	1

Filter modules		KNA/W 1/1	KNA/W 2/1	KNA/W 2/2	KNA/W 2/3
Afterfilter unit N					
Length	mm	500	500	500	-
Weight	kg	40	48	83	-
Number of filter stages	Pre-filter	2	2	2	-
	Main filter	2	2	2	-

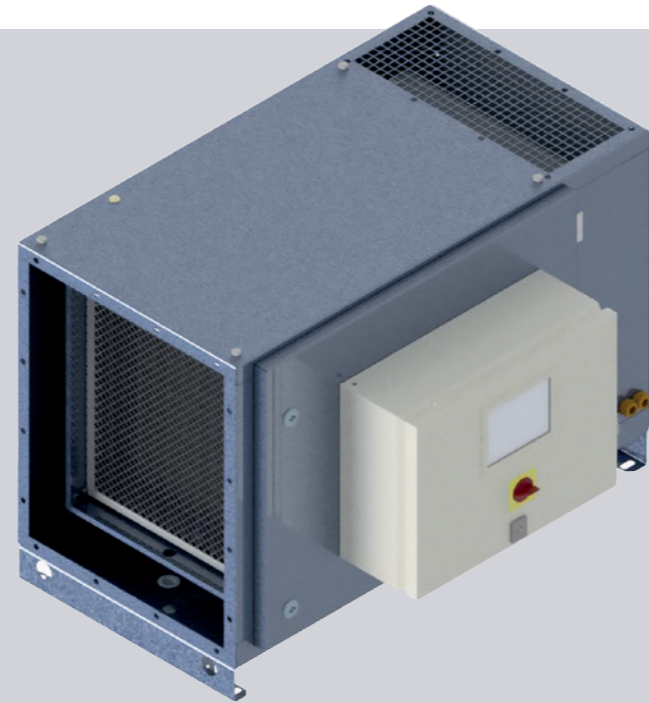
Filter modules		KNA/W 1/1	KNA/W 2/1	KNA/W 2/2	KNA/W 2/3
Afterfilter unit S					
Length	mm	500	500	500	500
Weight	kg	33	38	69	85
Number of filter stages		2	2	2	2

Fan modules		KNA/W 1/1	KNA/W 2/1	KNA/W 2/2	KNA/W 2/3
Fan unit F_{ec} (continuously controllable)					
Length	mm	500	500	500	800
Weight	kg	41	46	77	175
Rated voltage	VAC 50/60 Hz	3-380-480	3-380-480	3-380-480	3-380-480
Power consumption	kW	0.94	1.66	3.0	6.0
Sound pressure level ¹	ca. dB (A)	≤ 70	≤ 70	≤ 73	≤ 75

¹ at a distance of 1 m

The alternative for small air flows

- Single-part steel enclosure with oil-tight welding and with 3 chambers that are sealed off with respect to each other (i.e., no by-passes)
- Wide selection of filters that can be fitted
- Fan with great degree of efficiency and with minimal energy costs
- Adjustable filter clamps (with clamping heights of 25, 50, 80, and 150 mm) made of stainless steel: no corrosion and never any problems during change of filters over the lifetime of the system
- Price-effective, completely incineratable main filters with plastic frames or metal frames – with no swelling of the material as with wooden frames
- Fast replacement of plug-in seals made of nitrile butadiene rubber (NBR) with stainless-steel cores



Size	   	KNA/W 025/1
Max. air flow	m ³ /h	1,200
Width	mm	580
Height	mm	583
Length	mm	875
Weight	kg	70
Max. operating temperature	°C	40
Relative humidity	%	100
Rated voltage	VAC 50/60 Hz	400
Power consumption Ventilator	kW	1.18
Sound pressure level ¹	db (A)	< 65

¹ at a distance of 1 m

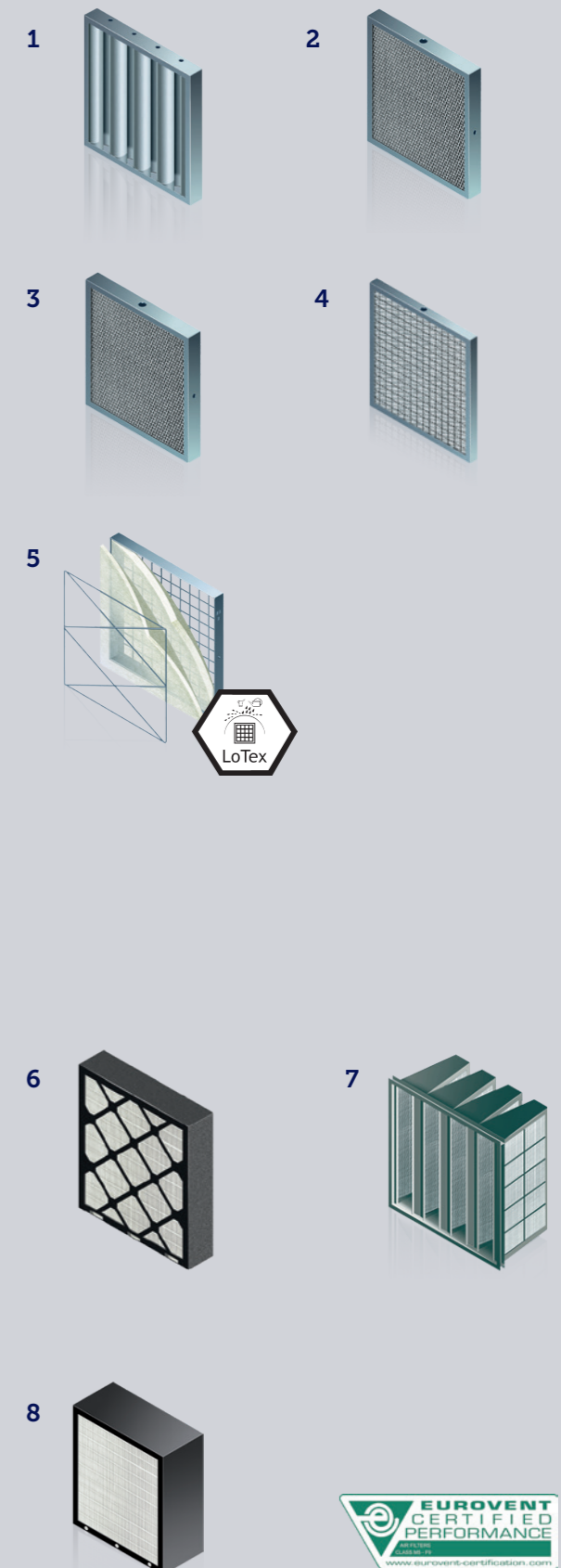
Filter media

Pre-filter

- 1. Droplet separator**
Offset arranged stainless steel profiles, regenerable, can be used in V-, A-, S- and N-unit
- 2. Metal filters, expanded metal mesh**
Multi-layer, expanded-mesh aluminum layers, robust U-profile frame, regenerable, can be used in V-, A-, S- and N-unit
- 3. Metal filters, woven mix**
Woven metal made of aluminum or stainless steel, in a robust U-profile frame, regenerable, can be used in V-, A-, S- and N-unit
- 4. Metal filters, woven mix**
High-quality woven mixture in a robust U-profile frame; regenerable, can be used in V-, A-, S- and N-unit
- 5. Filterpads LoTex®**
Synthetic-fiber fleece with progressive depth structure, not regenerable, can be used in V-, A-, S- and N-unit

Main- and afterfilter

- 6. Filter cell ePM1 50 % / ePM1 80 %**
Pleated micro-glass-fiber fleece, oleo- and hydrophobic, in plastic frame, not regenerable, can be used in S- and N-unit
- 7. Filter element ePM1 70 %**
Pleated micro-glass-fiber fleece, oleo- and hydrophobic, in re-usable metal frame, not regenerable, can be used in S- and N-unit
- 8. H13, H14 HEPA filters**
Pleated micro-glass-fiber fleece, in metal frames, not regenerable, can be used in S- and N-unit

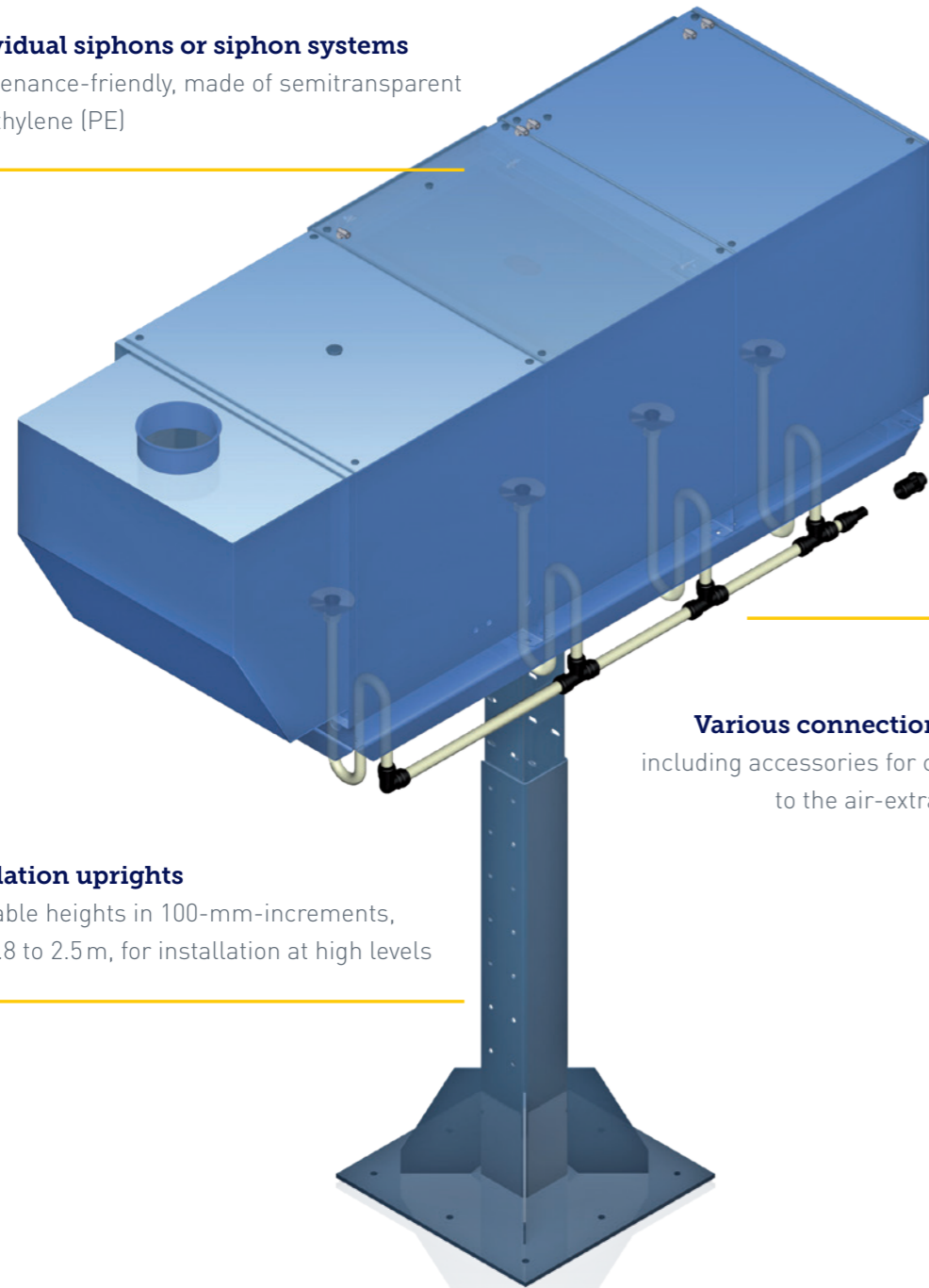


Accessory

The following accessories are available for MultiAir Premium and MultiAir Junior Premium:

Individual siphons or siphon systems

maintenance-friendly, made of semitransparent polyethylene (PE)



Installation uprights

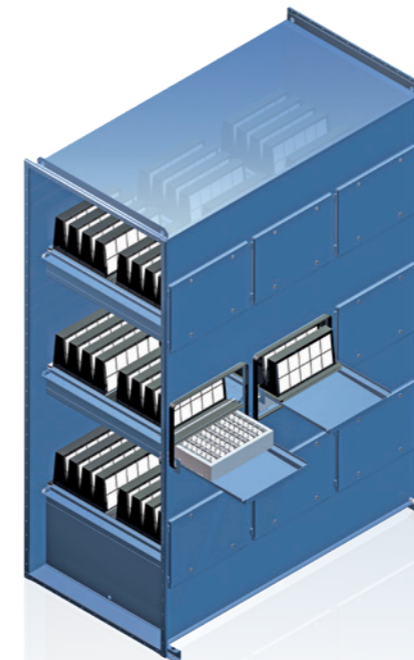
adjustable heights in 100-mm-increments, from 1.8 to 2.5m, for installation at high levels

Various connection adapters
including accessories for connections to the air-extraction point

Solution for central systems

Our systems offer a customised solution for each location and for all production conditions. If, however, greater flexibility is desired and if the machinery pool changes more frequently, we recommend decentral extraction with our MultiAir Premium compact filter units installed directly at the machines. If a company's

machinery pool remains constant over relatively long periods of time, we recommend either central or group air-extraction units. The KNA duct mist precipitator and the universal duct air filter system MultiMaster-Vario are examples of filter systems as a central-plant solution offered by Hengst Filtration.



KNA duct mist precipitator



Universal duct air filter MultiMaster-Vario

purifying our planet



Hengst Filtration is a dynamic globally active company within air treatment - filter technology - air quality.

Our local consultant and service teams gladly take their time to develop ideas and solutions together with our clients – creatively and professionally.

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Hengst
FILTRATION