

The edrizzi® cubes in this coating booth of the automotive ancillary industry are installed horizontally. The paint mist separators can be used horizontally or vertically depending on the application.



The benefits of the edrizzi® system



Economy

The changeover from wet to dry coating reduces the costs of painting by many times as a result of circulating air mode:

- ① Use of water for over-spray separation is dispensed with
- ② Expensive paint sludge disposal as special waste is omitted
- ③ Cost-intensive and time-intensive paint sludge extraction is not required
- ④ Use of chemicals (coagulation agents, de-foaming agents and bactericides, etc.) is dispensed with
- ⑤ Corrosion of spray booth equipment is reduced
- ⑥ Maintenance costs are avoided without pump equipment
- ⑦ Costs of cleaning the plant are reduced
- ⑧ Economical supply and storage by disassembled boxes



Ergonomic

The noise level in the coating zone is reduced to a value between 15 and 20 dB; no odours as a result of wet extraction



Flexibility

Easy conversion of existing systems; can be used for all surface materials; the system can be expanded and extended; wide range of variants of the edrizzi® secondary filter systems

Every surface treatment method is different. There are innumerable areas of application, which the edrizzi® team considers a challenge for system solutions and developments.



Efficiency

Absorption capacity up to 100 kg/m² and more depending on material in use, degree of separation → 97% with proper application and edrizzi® secondary filtering



Sustainability

Low-cost disposal of the dried paint (e. g. in the incineration plant), with no chemicals required

Product Overview

Vario16

The three types of Vario paint mist separators for different types of surface materials form the basis of the edrizzi® system. These simple cardboard boxes with their complex interiors absorb a majority of the over-spray.

	Vario Fine		Vario Medium		Vario Medium hydro		Vario Rough
18		20		22		24	

Secondary filter26

Secondary filtration supplements the paint mist separation and is designed and recommended depending on the specific application. The edrizzi® technical centre offers solutions for various surface materials and types of application.

	NFE02		CUBE01		NFEWP01		NFEWP02 NFEWP03
28		30		32		34	

Slide-in elements36

Slide-in elements are used as supporting construction for the edrizzi® paint mist separators and certain secondary filter versions and are built from galvanised steel sheet using the simple building block principle.

	E 300		E 500
38		38	

System solutions40

Application-specific system solutions are the high-end versions of the edrizzi® system and the result of several years of development in the edrizzi® technical centre as well as many systems running in various industries.

	modular spraying booth		Underfloor		ULF		ABRO
42		44		46		48	

Vario

The way to the Vario cubes

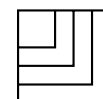
“The findings of our research and experience have yielded that – depending on the composition of the material being treated – over-spray gets deposited in different areas of the paint mist separator. The values from these findings formed the key to the design of the various guiding systems of the types, fine, medium and rough. For better understanding of the paint mist separation, it must be added as clarification that not all areas of the box are meant to get saturated. The main part of the paint dust is collected in the one third in the front, while the guiding systems deep down are used to achieve as high a degree of separation as possible and should not get completely saturated.” Michael Eder, the inventor

The three types of edrizzi® Vario are the result of several years of development and intensive exchange with the paints industry and supersede the edrizzi® Automotive system used so far. The processing of fire-retardant corrugated cardboard makes the edrizzi® Vario system safe and robust in application. The three solutions support the characteristics of different types of coating and adhesion for the absorption. Every area of application of the paints industry is covered by this development.

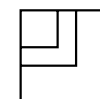
Comparison of saturated and unsaturated edrizzi® paint mist separators.

Cakes of paint on the front side, however, do not mean saturation by a long shot, since the majority of the absorption takes place in the first one third of the boxes and the depths are used to achieve the maximum degree of separation!

For simple checking, a sheet of paper is held at the inlet opening while the system is running. If the sheet of paper is held in place by the extraction, it means that the boxes are still functional.



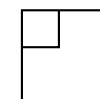
Vario
Fine
18



Vario
Medium
20



Vario
Medium
hydro
22



Vario
Rough
24

Vario fine

The edrizzi® Vario fine is used wherever the proven edrizzi® Vario medium reaches its limits with respect to the degree of separation. Examples of application include high-speed rotating bells, very finely atomised solvent-based paints, quick-drying systems and nano paints.



Technical specifications

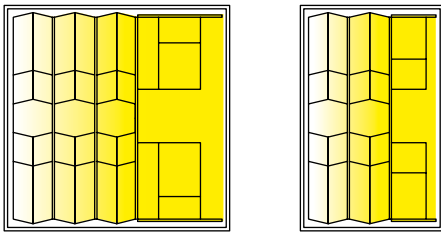


	Vario fine	300 / 500
	Filter class	Paint mist separator
	Absorption capacity	up to 100 kg/m²
	Degree of separation	up to 97 %
	Nominal volume flow rate	2,000 – 3,000 m³/m²h
	Recommended inflow speed	0.25 – 2 m/sec.
	Initial pressure difference with nominal volume flow rate	Vario 300: 105 Pa Vario 500: 110 Pa
	Temperature resistance	up to 80 °C
	Humidity resistance	Recommended storage conditions: Temperature 15 – 25 °C Rel. humidity 45 – 65 %
	Weight when empty	Vario 300: ≈ 1,400 g. Vario 500: ≈ 2,200 g.
	Reaction to fire	Certification DIN4102, testing for non-flammability, construction material class B1: fire-retardant

Dimensions (mm)

Front Vario 300 / 500	Side Vario 300	Side Vario 500
485	295	495

Schematic and saturation



Majority of saturation happens in the first third of the Vario paint mist separators

Vario medium

The edrizzi® Vario medium offers the solution for the majority of all surface materials and has been tested and used successfully since 2003 in all industries.



Technical specifications

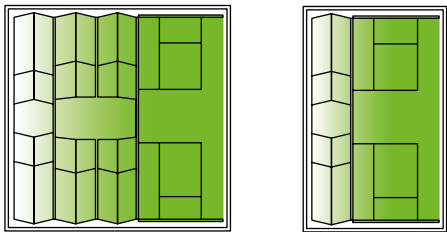


	Vario medium	300 / 500
	Filter class	Paint mist separator
	Absorption capacity	up to 100 kg/m ²
	Degree of separation	up to 97 %
	Nominal volume flow rate	2,000–3,000 m ³ /m ² h
	Recommended inflow speed	0.25–2 m/sec.
	Initial pressure difference with nominal volume flow rate	Vario 300: 68 Pa Vario 500: 88 Pa
	Temperature resistance	up to 80 °C
	Humidity resistance	Recommended storage conditions: Temperature 15–25 °C Rel. humidity 45–65 %
	Weight when empty	Vario 300: ≈ 1,100 g. Vario 500: ≈ 1,900 g.
	Reaction to fire	Certification DIN4102, testing for non-flammability, construction material class B1: fire-retardant

Dimensions (mm)

Front Vario 300 / 500	Side Vario 300	Side Vario 500
485	295	495

Schematic and saturation



Majority of saturation happens in the first third of the Vario paint mist separators

Vario medium hydro

The edrizzi® Vario medium hydro is the solution for equipment with high humidity and for applications where the Vario paint mist separators are sprayed with very wet surface materials directly at very short distance. Painting of small parts is an example.

In order to ensure the highest possible stability at high humidity, the design edrizzi® Vario medium hydro is made from wet-strength paper rather than flame resistant paper.



Technical specifications

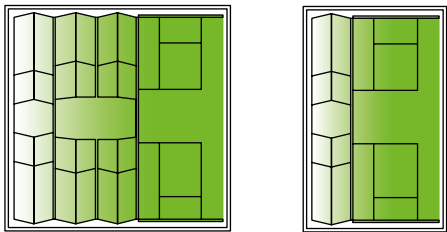


	Vario medium hydro	300 / 500
	Filter class	Paint mist separator
	Absorption capacity	up to 100 kg/m ²
	Degree of separation	up to 97 %
	Nominal volume flow rate	2,000–3,000 m ³ /m ² h
	Recommended inflow speed	0.25–2 m/sec.
	Initial pressure difference with nominal volume flow rate	Vario 300: 68 Pa Vario 500: 88 Pa
	Temperature resistance	up to 80 °C
	Humidity resistance	Recommended storage conditions: Temperature 15–25 °C Rel. humidity 45–65 %
	Weight when empty	Vario 300: ≈1,100 g. Vario 500: ≈1,900 g.

Dimensions (mm)

Front Vario 300 / 500	Side Vario 300	Side Vario 500
485	295	495

Schematic and saturation



Majority of saturation happens in the first third of the Vario paint mist separators

Vario rough

The edrizzi® Vario rough is the solution for those applications in which the Vario medium does not achieve the service life as a result of fast displacement of the inlet openings, i. e. cakes of paint form on the front side. This happens with surface materials that tend to foam up.



Technical specifications



Dimensions (mm)

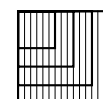
Schematic and saturation

	Vario rough	300 / 500
	Filter class	Paint mist separator
	Absorption capacity	up to 100 kg/m²
	Degree of separation	up to 97 %
	Nominal volume flow rate	2,000–3,000 m³/m²h
	Recommended inflow speed	0.25–2 m/sec.
	Initial pressure difference with nominal volume flow rate	Vario 300: 21 Pa Vario 500: 56 Pa
	Temperature resistance	up to 80 °C
	Humidity resistance	Recommended storage conditions: Temperature 15–25 °C Rel. humidity 45–65 %
	Weight when empty	Vario 300: ≈ 800 g. Vario 500: ≈ 1,600 g.
	Reaction to fire	Certification DIN4102, testing for non-flammability, construction material class B1: fire-retardant
Front Vario 300 / 500 Side Vario 300 Side Vario 500		
		Majority of saturation happens in the first third of the Vario paint mist separators

Secondary filter

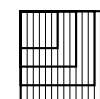
Secondary filtration rounds up the edrizzi® system and is designed depending on the specific application. Secondary filtration is used as the second stage of filtering after the edrizzi® boxes for separating the fine dust from the exhaust air. It is used wherever spray media are applied, which require the use of secondary filtering.

By default, the replaceable edrizzi® secondary filter elements are supplied with a paint stop filter mat. Depending on the requirement, even other filter materials may be used. Cartridge de-dusting and the systems edrizzi® and ULF and edrizzi® and ABRO are particularly efficient and fully automatic secondary filter solutions. Special solutions can be developed and tested at the in-house technical centre.



NFE02

28



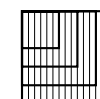
CUBE01

30

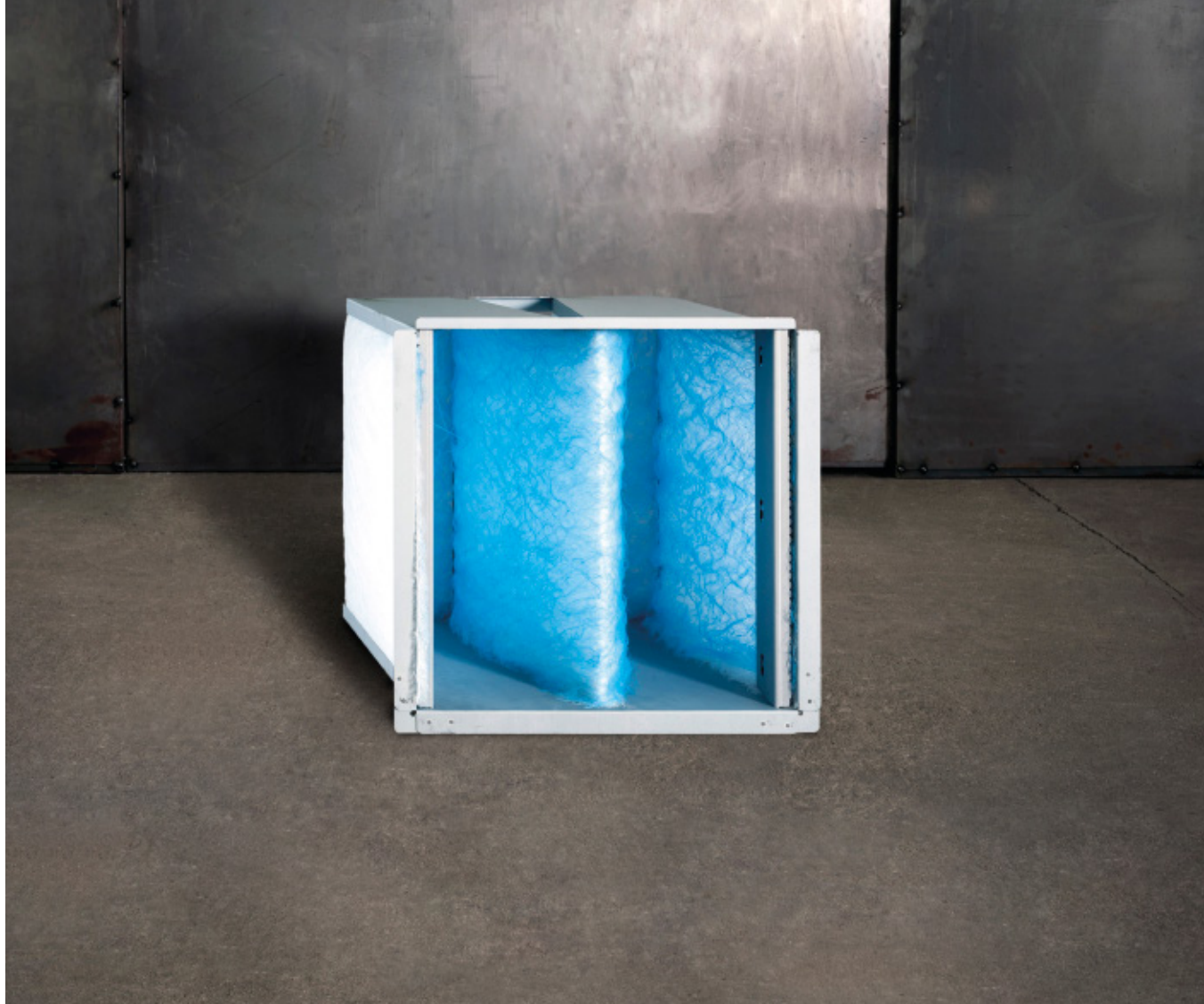


NFEWP01

32

NFEWP02
NFEWP03

34



NFE02

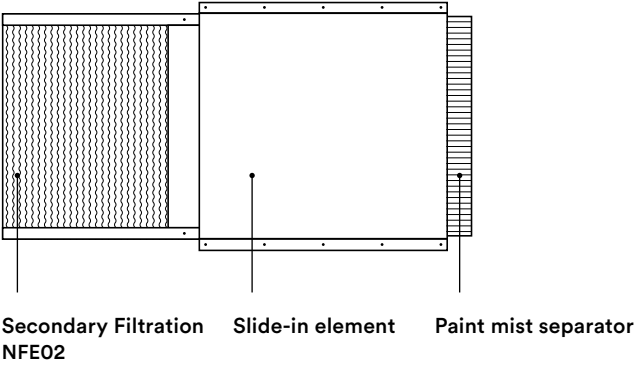
Reusable secondary filtering over the front installation

NFE02 provides the secondary filter solution for systems where the installation of secondary filtering is possible only from the front. The supporting frames of the edrizzi® secondary filter elements are made of galvanised steel sheet. A filter mat is fixed in this frame.

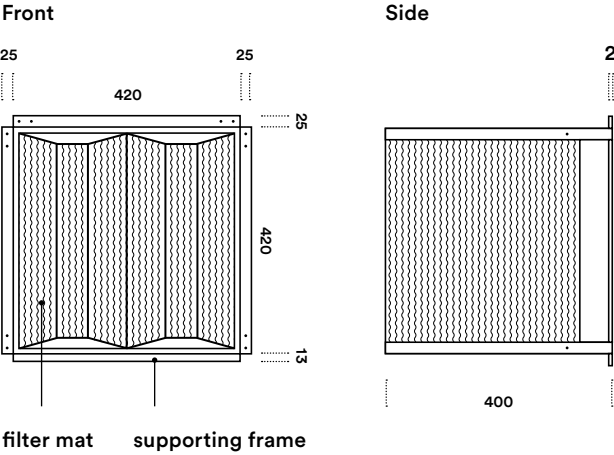
The secondary filter elements are placed through the front opening of the edrizzi® slide-in elements E 300 or E 500. After saturation, the secondary filter element can be removed, fitted with a new filter mat and reinstalled.

Design

The secondary filtration is combined with a slide-in element and the edrizzi® paint mist separator at a depth of 300 or 500 mm.



Dimensions (mm)



Note

	Dimensional tolerance	+2 mm / -2 mm
	Material thickness	1 mm
	Material	Galvanised steel sheet

Filter area of NFE02 is equivalent to 0.77 m²/secondary filter element.

The different materials to be used in the edrizzi® secondary filtration system are adapted to the surface material used.



CUBE01

One-way follow-up filtration made of corrugated paper

The filter area of CUBE01 is 1180 × 420 mm and is equipped with any kind of filter mat. CUBE01 possesses an air circulation area of 400 mm deep in one chamber. The filter box made of currogated paper is fixed within a sheet steel frame on the slide-in element.

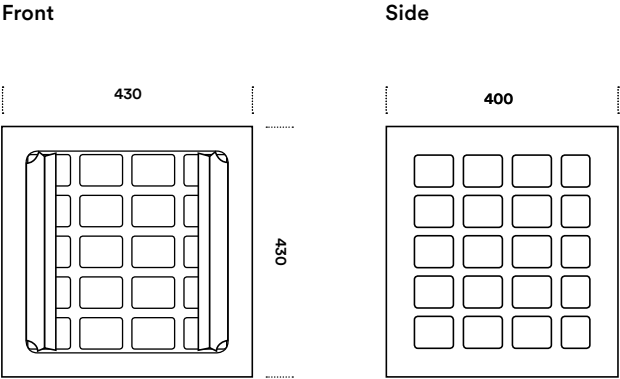
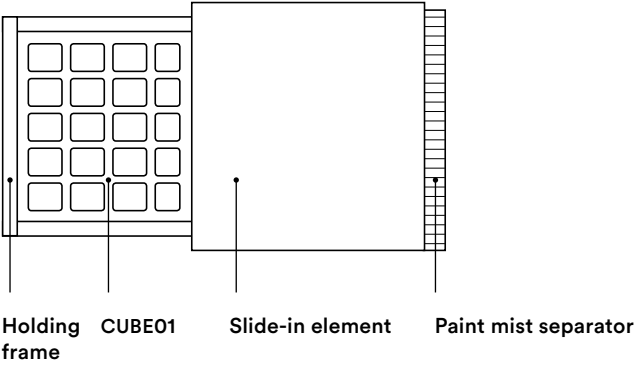
The filter change can be executed from the back side or front side, depending on the two constructions available. Due to its light weight CUBE01 is easy in handling – an advantage during filter change in high and inaccessible locations of the spray booth. CUBE01 and its appropriate slide-in frame is delivered unassembled, flat and cost saving.

Design

Dimensions (mm)

Note

The secondary filtration and its slide-in frame are combined with a slide-in element and the edrizzi® paint mist separator at a depth of 300 or 500 mm.



	Dimensional tolerance	+2 mm / -2 mm
	Material thickness	1 mm
	Material	Galvanised steel sheet

Filter area of CUBE01 is equivalent to 0.45 m²/secondary filter element.

The different materials to be used in the edrizzi® secondary filtration system are adapted to the surface material used.



NFEWP01

Disposable secondary filtering over the front installation

NFEWP01 is the secondary filter solution for systems where the installation of secondary filtering is possible only from the front. The absorption box of the edrizzi® secondary filter element is made of fire-retardant corrugated cardboard. It can be used more often if the contamination is not too much. A retention clip must be mounted on the slide-in element once to use the secondary filter element.

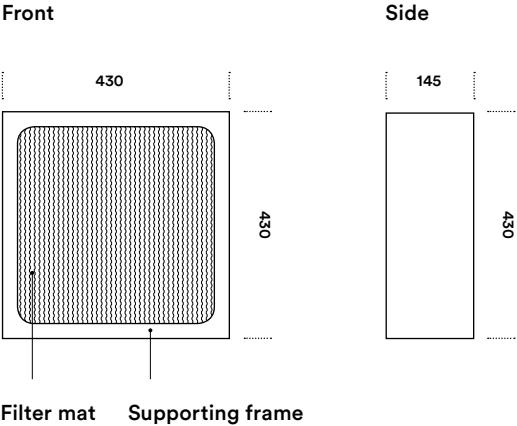
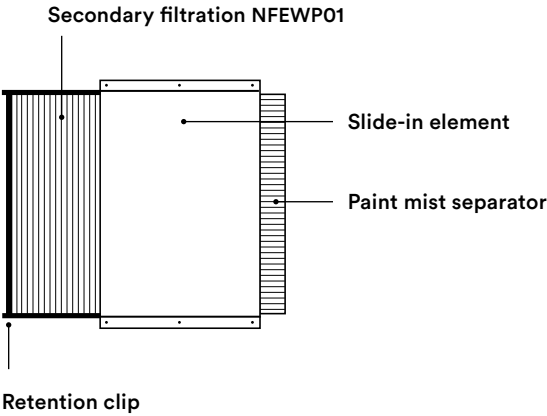
The edrizzi® secondary filter elements are placed through the front opening of the edrizzi® slide-in elements E 300 or E 500.

Design

Dimensions (mm)

Note

The secondary filtration is combined with a slide-in element and the edrizzi® paint mist separator at a depth of 300 or 500 mm.



	Dimensional tolerance	+1mm / -1mm
	Material thickness	1mm

Filter surface of NFEWP01 is equivalent to 0.19 m²/secondary filter element.

The different materials to be used in the edrizzi® secondary filtration system are adapted to the surface material used.



NFEWP02, NFEWP03

Secondary filtration for installation on the back side

The filter can be installed on the side or at the back. The advantage of this system is replacement independent of the edrizzi® Vario boxes. The absorption box of the secondary filter element, NFEWP02 or NFEWP03 is manufactured from fire-retardant corrugated cardboard and can be used more often with less fine dust.

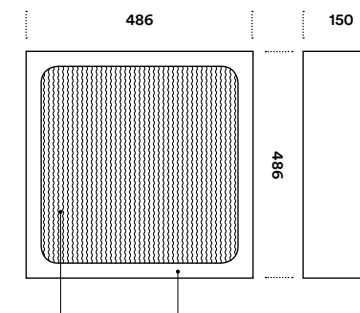
The edrizzi® secondary filter elements NFEWP02 and NFEWP03 are introduced through an opening on the side – generally through side doors over the U-type slide-in rails. After saturation, these secondary filter versions can be removed without disassembling the edrizzi® Vario paint mist separator and can be reinstalled with a new filter mat.

Dimensions
(mm)

Note

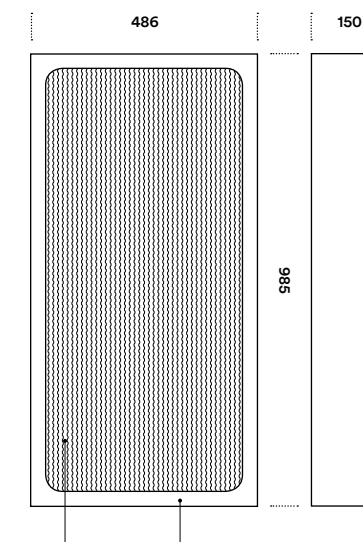
Installation

Front and side
NFEWP02



Filter mat Supporting frame

Front and side
NFEWP03



Filter mat Supporting frame

	Dimensional tolerance	+1mm / -1mm
	Material thickness	1mm

Filter surface NFEWP02 is equivalent to 0.22 m²/secondary filter element. Filter surface NFEWP03 is equivalent to 0.46 m²/secondary filter element.

The different materials to be used in the edrizzi® secondary filtration system are adapted to the surface material used.



The side entry is optimal to replace the secondary filtration element independent of the paint mist separators. In this presentation system at the edrizzi® technical centre, a fully automatic cartridge de-dusting system was used as the second secondary filter stage.



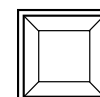
The edrizzi® secondary filter stages are installed in an exhaust air body behind the paint mist separator.

Slide-in elements

The edrizzi® slide-in elements E 300 and E 500 are used as supporting construction for the edrizzi® Vario paint mist separators 300 and 500 and certain applications of secondary filtration. The edrizzi® boxes can be combined easily and quickly into a separator wall of any size desired – according to the increments in size – with these elements. The slide-in elements are made of galvanised steel sheet or they are also made of stainless steel on request.

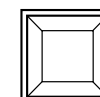
The slide-in elements with the edrizzi® Vario can be used in painting booths with horizontal or vertical ventilation or a combination of both. Similarly, they may also be installed at a slant or in the underfloor region. It is possible to retrofit them in existing systems.

The edrizzi® Vario in a compatible slide-in element and a NFEWP01 secondary filtration.



E 300

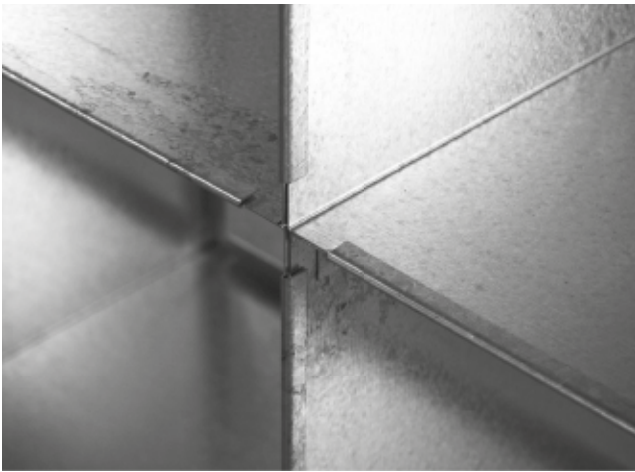
38



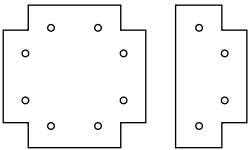
E 500

38

Assembly of
slide-in elements



Installation of junction
plate (Full / Half)

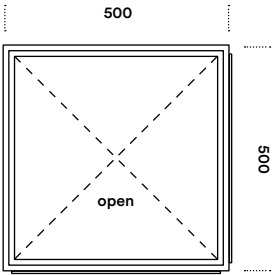


The edrizzi® boxes
can be combined easily
and quickly into a se-
parator wall of any size
desired – according to
the increments in size
– with these elements.

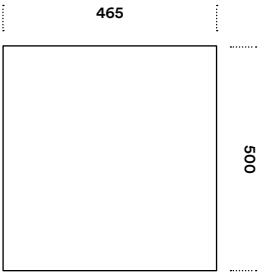


Dimensions
(mm)

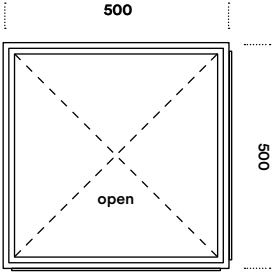
Front, E 500



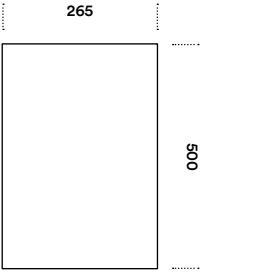
Side, E 500



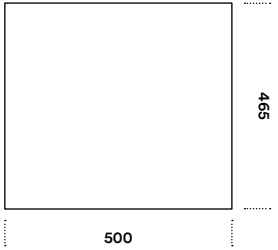
Front, E 300



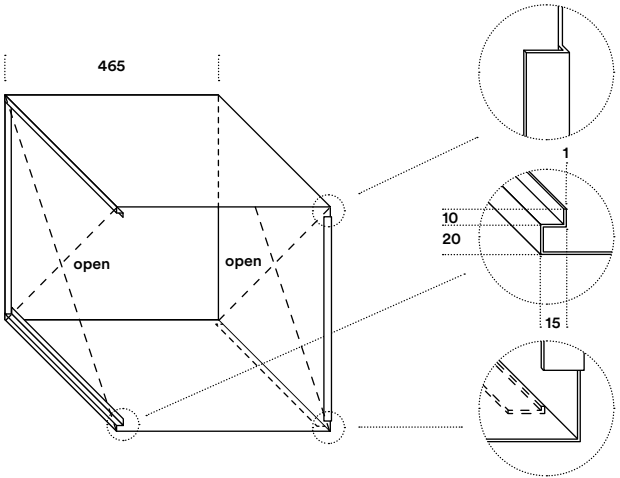
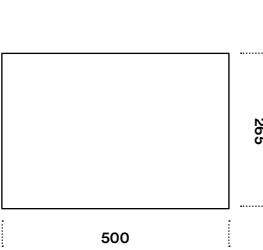
Side, E 300



Above, E 500



Above, E 300



Note

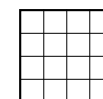
	Dimensional tolerance	+0 mm / -1mm
	Material thickness	1mm
	Material E 300 & E 500	galvanized steel



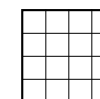
System solutions

We consider application-specific system solutions as a challenge and advanced development. Potential solutions in surface treatment are many, since, in practice, methods and processes are rarely comparable. For every application, there is a new coating situation depending on the material, plant size, application and air management.

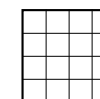
In several industries, we can draw on our several years of experience: Research and development in our in-house technical centre, numerous proven and running systems and close cooperation with renowned plant manufacturers stand for our know-how. Experienced employees of the edrizzi® technical centre take dimension on-site and design the retrofitting and conversion to an economical and ergonomic painting system.



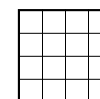
modular
spraying
booth
42



Underfloor
44



ULF
46



ABRO
48

edrizzi® Modular spray booth

For ease of retrofitting existing systems and also for new systems, edrizzi® recommends the modular spray booth, one with all the features of the edrizzi® systems – flexible in size, ergonomic, economical and with long service life.

A sheet metal body with exhaust air ventilation and an edrizzi® Vario wall with the appropriate type form the basis. Depending on the specific application, you may integrate up to two secondary filtration stages. The secondary filtrations in the exhaust air body can be replaced from the side independent of the paint mist separation. Depending on the application and the surface material, all elements of the edrizzi® system are available for secondary filtration.

Exhaust air fan on an edrizzi® spray booth.



A sheet metal body with exhaust air ventilation and an edrizzi® Vario wall with the appropriate type form the basis of the edrizzi® modular spray booth.

- ① Ergonomic area of application with reduced odour and noise
- ② edrizzi® separation wall with the appropriate Vario type
- ③ Secondary filtration zone with side access to replace the secondary filter independently
- ④ Exhaust air fan and piping
- ⑤ Sheet metal body
- ⑥ Booth enclosure

edrizzi® separator system in the underfloor region

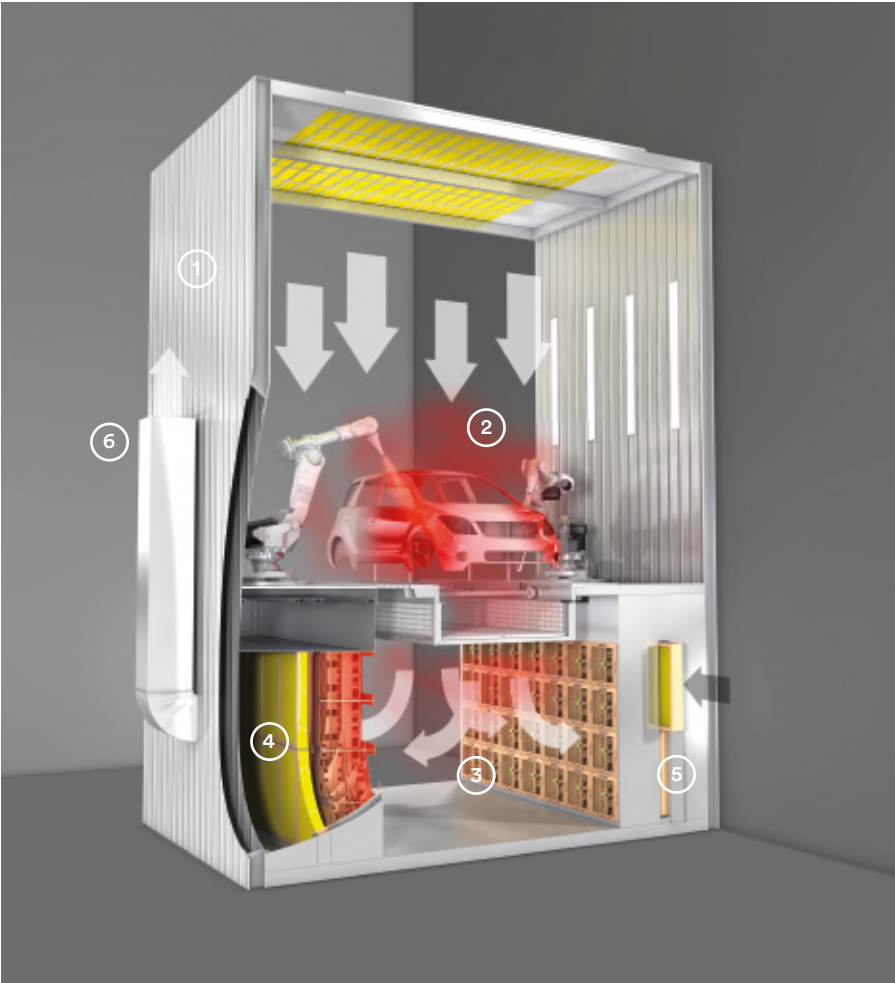
This separation solution for large industrial plants can be retrofitted and can also be incorporated in new plants. This system is already being used in several applications in the automotive and ancillary automotive industries. For retrofitting requirements, the edrizzi®engineers take over the air measurements and design. In general, conversion is done over a weekend.

New plants

For new plants, the edrizzi® technical centre recommends that the paint mist separator is installed vertically below the gratings. This enables access to the edrizzi cubes independent of the painting zone and without removing the grating.

For newly designed painting lines, the edrizzi® technical centre recommends vertical installation of the paint mist separator in the lower area of the system.

- ① Booth enclosure
- ② Painting line
- ③ Underfloor separation zone with vertical edrizzi® wall
- ④ Secondary filtration zone (can be installed alternatively in any area of the exhaust air sector)
- ⑤ Sheet metal body
- ⑥ Exhaust air piping



The edrizzi® boxes installed horizontally. The economy of the edrizzi® system is increased many times especially for large industrial plants with heavy-duty gratings.

- ① Heavy-duty gratings
- ② The sheet metal trays are customised products and contain the edrizzi boxes
- ③ Secondary filter zone (can be installed alternatively in any area of the exhaust air sector)
- ④ Painting area
- ⑤ Booth enclosure

Retrofitting existing plants

For floor extraction, the Edrizzi system can be installed horizontally or vertically just below the gratings of the painting area. The edrizzi® cubes are lowered in sheet metal inserts below the gratings. These inserts are produced in all sizes as special customised units. With this application, the edrizzi® system that has a service life of up to thirty times that of conventional systems is of special benefit, since with heavy-duty gratings the rare replacement of the paint mist separators enhances the economy of the plant by many times.

edrizzi® and ULF

ULF is the acronym for Circulating filter technology (in German) and has been used since several years in the painting industry. The combination of edrizzi® with ULF yields a highly effective painting concept with up to 99 % separation for fast-drying surface materials. Secondary filtration service lifetimes up to one year are achieved with this version.

The system consists of a housing made of galvanized steel sheet with an edrizzi® Vario paint mist separator and an extraction box, a continuously circulating filter fleece, the drive system and an extraction unit.

The edrizzi® Vario boxes are the first filter stage and separate out the majority of the paint mist. The circulating filter fleece behind it is used for secondary filtration. It traps the remaining fine dust particles and transports them continuously to the cleaning zone. A self-cleaning dust collector, which serves as a cleaning station, has been developed by the edrizzi® technical centre. This is where the dried paint material extracted in dry condition and cleanly is collected in a 200 litre tank. In this way, the circulating filter remains absorbent continuously. The air is extracted in the same way as in conventional spray booths with the help of extraction fans.

edrizzi® and ULF can be installed either horizontally or vertically just like all separator systems from the house of edrizzi®. Retrofitting in existing plants is easy and cost-effective. The edrizzi® and ULF system is one of the cleanest solutions for all areas of application in the painting industry – from simple manual spraying booths to powerful underfloor versions and right up to the edrizzi® and ULF system as an integral part of automated painting lines.

The ULF dust collector is of self-cleaning type



The edrizzi® system with ULF consists of a housing made of galvanized steel sheet with an edrizzi® Vario paint mist separator and an extraction box, a continuously circulating filter fleece, the drive system and an extraction unit.

- ① Ergonomic area of application with reduced odour and noise
- ② The edrizzi® separation wall with the appropriate Vario type
- ③ The sheet steel housing with the circulatory filter fleece including automatic extraction
- ④ The ULF dust collector
- ⑤ Exhaust air fan and piping
- ⑥ Booth enclosure

edrizzi® and ABRO

The edrizzi® and ABRO system is the combination of an edrizzi® Vario wall with an automatically operated and self-rolling secondary filter mat. The combination yields a highly effective painting concept with up to 99 % separation for adhesive surface materials. Secondary filtration service lifetimes of several weeks are achieved by this system, depending on the application.

The concept consists of a housing made of galvanized steel sheet with an edrizzi® Vario paint mist separator and an extraction box, a secondary filter mat and the drive system. A paint stop mat is used predominantly as the secondary filter.

The edrizzi® Vario boxes are the first filter stage and trap the majority of the paint mist. The filter mat behind it is used for secondary filtration. It separates the rest of the fine dust, and is automatically moved and rolled up again. The saturated filter mat can be replaced easily and quickly regardless of the degree of saturation of the Vario boxes with the help of lateral access. The air is extracted in the same way as in conventional spray booths with the help of extraction fans.

edrizzi® and ABRO can be installed either horizontally or vertically just like all separator systems from the house of edrizzi®. Retrofitting in existing plants is easy and cost-effective. The edrizzi® and ABRO system is one of the cleanest solutions for all areas of application in the painting industry – from simple manual spraying booths to powerful underfloor versions and right up to the edrizzi® system as an integral part of auto-mated painting lines.



The edrizzi® and ABRO system consists of a housing made of galvanized steel sheet with an edrizzi® ABRO paint mist separator and an extraction box, a secondary filter mat and the drive system.

- ① Ergonomic area of application with reduced odour and noise
- ② The edrizzi® separation wall with the appropriate Vario type
- ③ The automatically moved, self-rolling secondary filter mat, unsaturated
- ④ Exhaust air piping
- ⑤ Booth enclosure
- ⑥ Sheet metal body
- ⑦ Secondary filter mat, saturated