



Coating Lines

Technology for surface treatment



Czech coating lines
and technology manufacturer

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Coating lines from professionals

We are Czech producer of coating lines operating on the market since 1993. We perfectly understand our industry and we will find the best solution for you. We consider innovations to be a necessary part of our strategy.

We believe in the technologies we offer and consider them the best you can find on the market. To remain at the forefront in the industry, we must show diligence, perseverance and a great effort. It's not always easy, but that is the reason why we enjoy it.



Quality



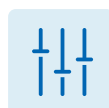
Expertise



Efectivity



Automation



Controls



Support



Industries

We have experience in many fields. Whether you work in automotive, construction industry or you have a commercial painting shop, we will always find the best solution for you.

- Automotive industry
- Agricultural machinery
- Product for construction industry
- White goods and household products
- Aluminum processing
- Engineering
- Energy industry
- Commercial coating shops



Our clients



Selected projects



ASSA ABLOY



FOXCONN

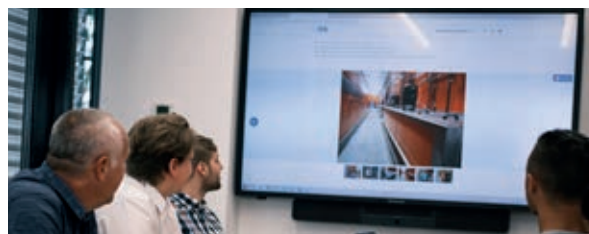


Services



Online support

We know the process and control software very well and we provide online support to our customers. We identify possible problems 24/7 and advise you immediately on how to proceed.



Advisory services

A team of experienced professionals and modern equipment allow us to develop new solutions and apply them in practice. We will provide you with advice, including a proposal of suitable technologies, and prepare project documentation for you.



Surface Quality Institute

We follow current trends; we strive for maximum automation in accordance with Industry 4.0. We come up with innovations in process optimization. We offer a virtual launch of technology, advice on environmental protection or problem-solving during painting. We focus on collaborative robotics and the development of new application methods.



Training

We specialise in surface finish training for operators of both powder painting shops and anodizing shops. The educational training is suitable for technological operators, paint shop managers, quality inspectors, and painters. We train the operators in equipment operation and maintenance, chemical substance handling and in environmental protection.



Research and development

We follow current trends and we maximize our effort to be in one with Industry 4.0 conception. We introduce solution for non-simple and complicated coating as well as virtual simulation of processes as a inovation for optimalization. Focus is aimed mainly on colaborative robotics and new application development.

Succesfull competetive advantage is delivered by our well experienced team with the all modern tools.

50+

innovation projects

3 500

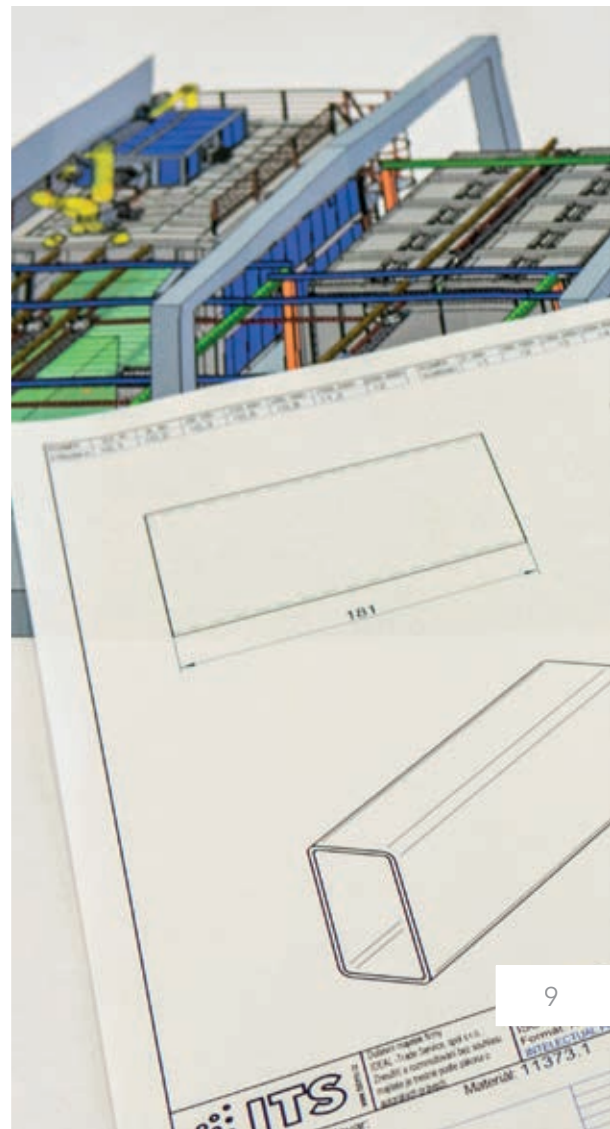
corrosion simulations
per year



Internal production centre

Thanks to our internal production, we are able to prepare a painting line tailored to your requirements. Our production plant occupies an area of 3,000 m², which is approximately half the size of a football pitch.

Our production and assembly team consists of trained professionals and we use top technologies.

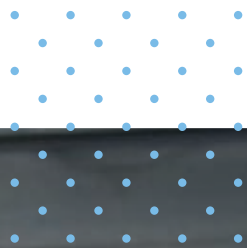


Service center

We have an extensive service department and a team of top trained local technicians on site.

Warranty and post-warranty service of coating lines is one of our strong points.

- Warranty and post-warranty service of coating lines
- Reconstruction and modernization
- Moving of coating lines
- Hotline 24/7



Respect for the environment

During design, realization and operation phase of all our technologies we always care about protection of environment. We use modern technologies to meet that goal successfully.

We design coating lines to use energy effectively with lowest energy consumption possible. By this we indirectly contribute to lowering emission within sources gaining.

However waste air is produced by production of coating line, clean air is secured by biofiltration technology.

Waste substances and 100% of smell are transformed and removed by microorganisms. This technology is called BAT.

To fulfill even the strictest limits for waste water, which is drained to the canalization, we ensure that within design and realization phase the neutralization station is fully operational.

We are proud members of project Zelená firma (Green company), which is focused on ecological recycling of electro waste and batteries.





Turnkey powder coating lines

Powder coating lines are complex technological devices for the final surface treatment. The most common is the surface treatment of metal products, but under certain conditions it is also possible to powder coat plastic products or wood-based materials.

Depending on the operation requirements, it is possible to choose from several types of coating lines. Technology can be **manual or automatic, loading or continuous**. All coating lines can be equipped with **robots on different nodes**. There are several options and combinations.

The implementation of turnkey projects is a great responsibility for us for the wide range of equipment and systems. We are aware of the high demands of our customers; therefore, we respond quickly and professionally. **Our team will help you choose the optimal solution for your operation.**



Basic overview

Chamber line with manual conveyor

- ✓ Variability
- ✓ Easy operation
- ✓ Quick color changes
- ✓ Maintenance
- ✓ Favorable price

TIP

**Price/Performance ratio
Controls**

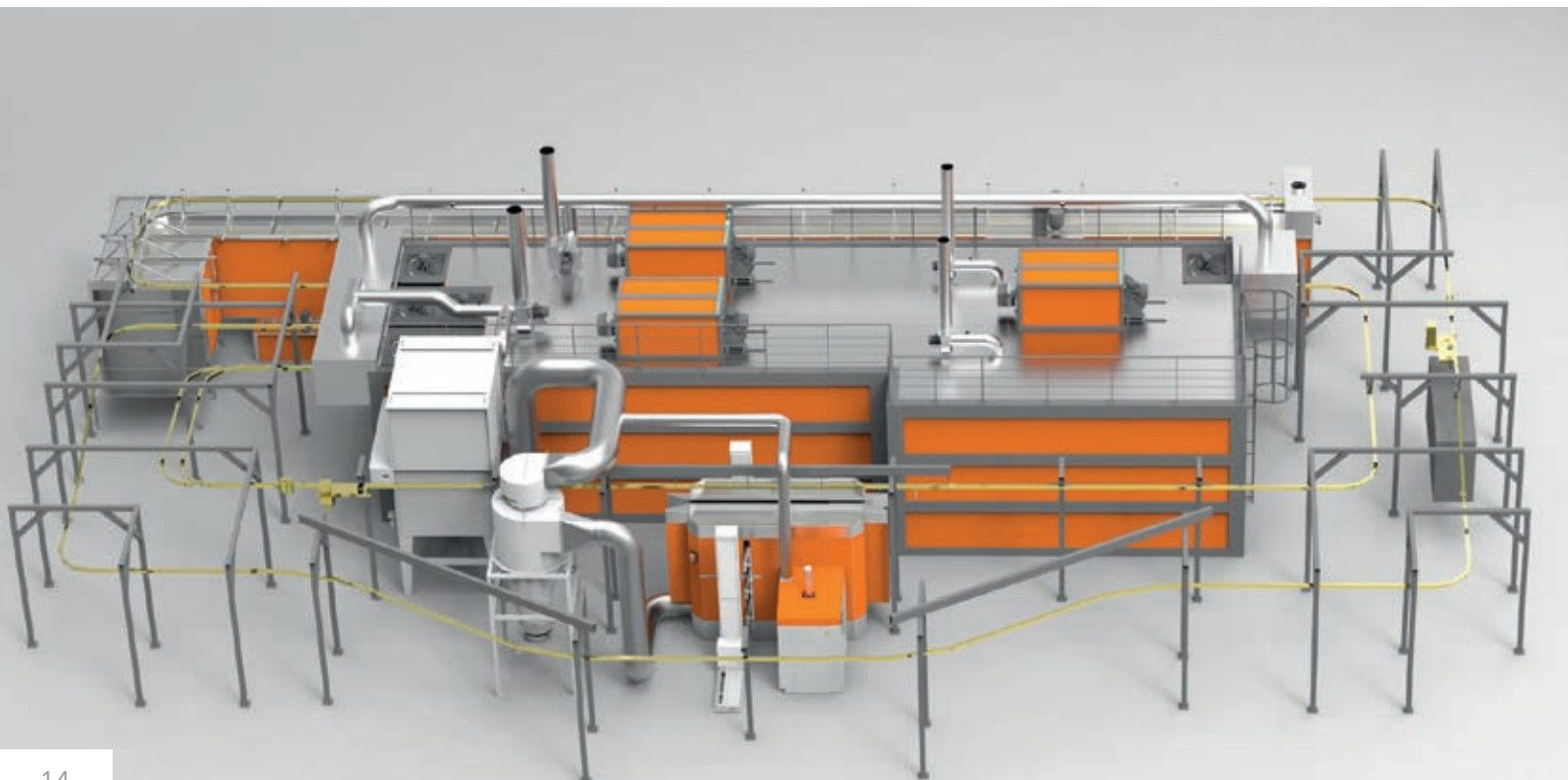


Continuous line with automatic painting booth

- ✓ Capacity
- ✓ Cost per m² of coated surface
- ✓ Achievable quality
- ✓ Maintenance

TIP

Process
Capacity

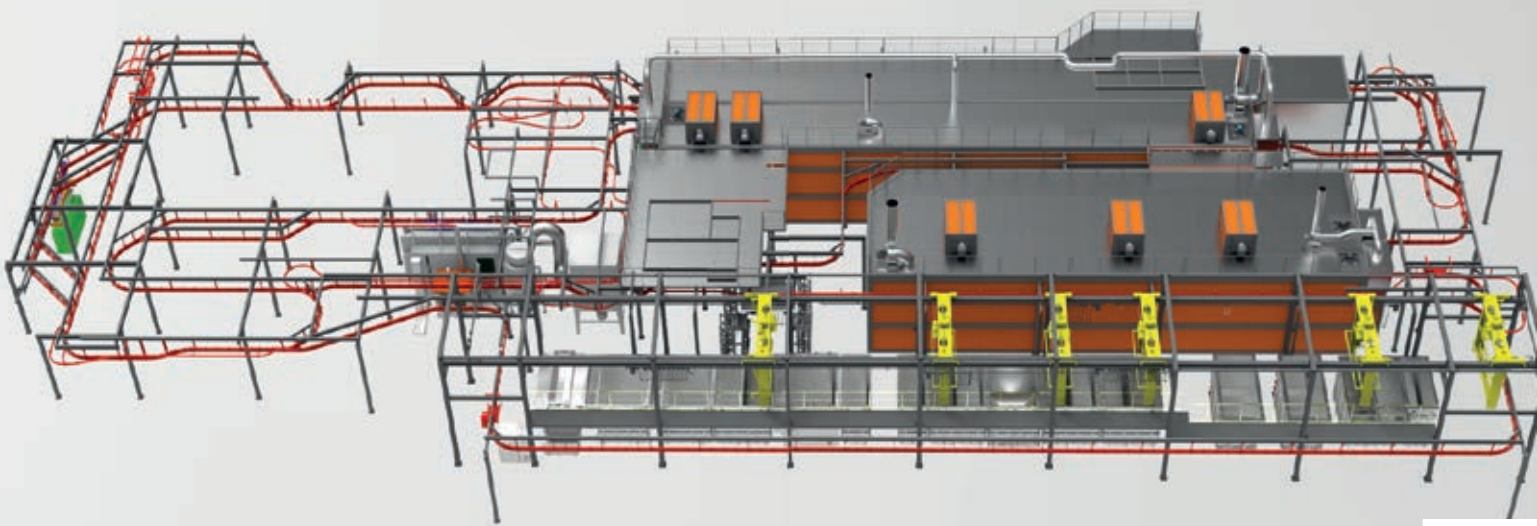


Tact line with automatic painting booth

- ✓ Quick color changes
- ✓ Possibility of more painting booths
- ✓ Possibility of Cataphoresis
- ✓ Conveyor load capacity
- ✓ Achievable quality

TIP

**Controls
Automation**



Surface pre-treatment

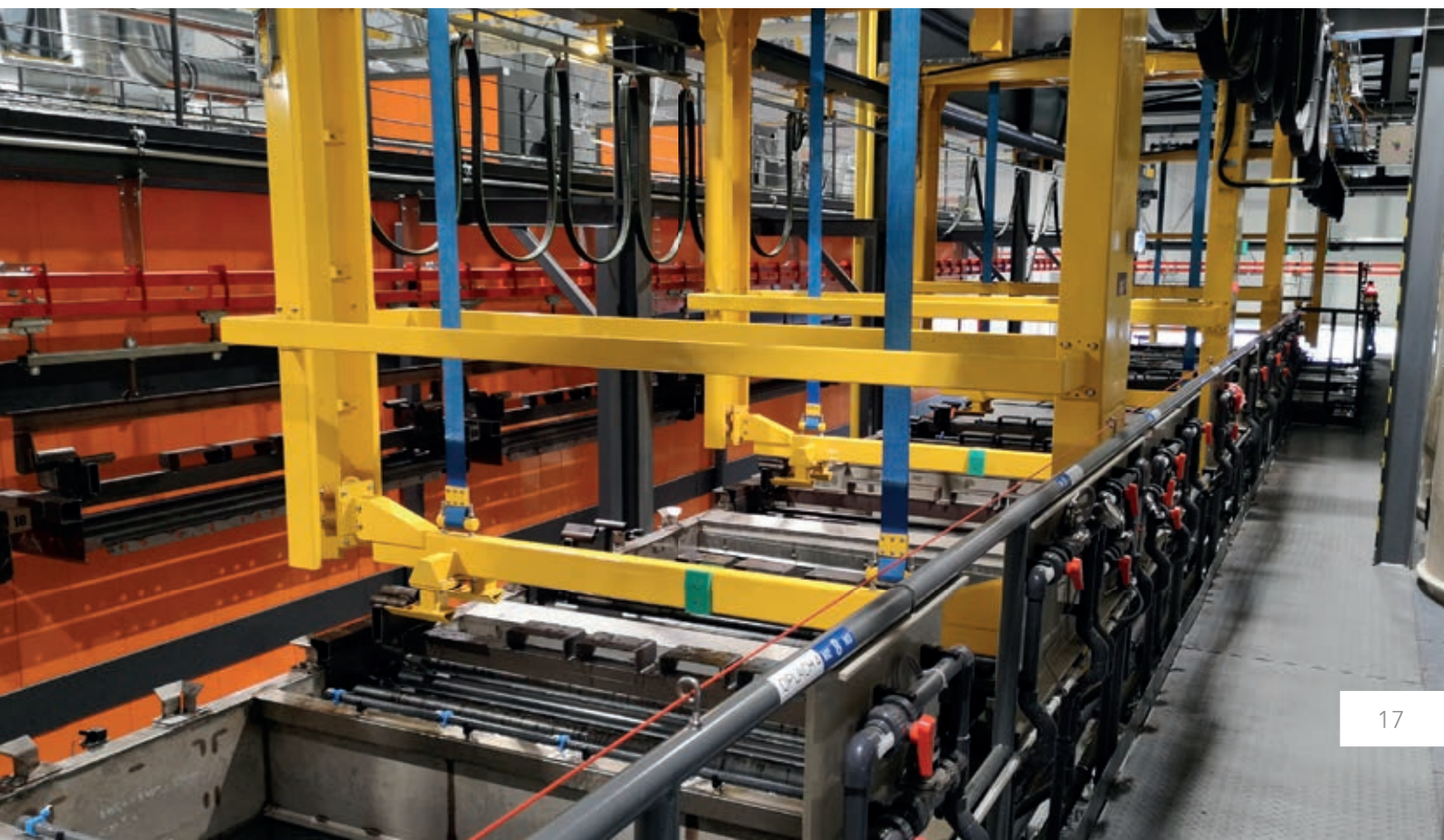
Depending on the processed material and the way of using the product we will propose the most suitable method of cleaning before painting. The surface is treated by manual high-pressure spraying in a loading washing box, continuously in a tunnel or by immersion.

Processes like iron phosphating, zinc phosphating, chromating and others are applied in consideration with the environment which the product will be exposed, material structure and desired corrosion resistance.



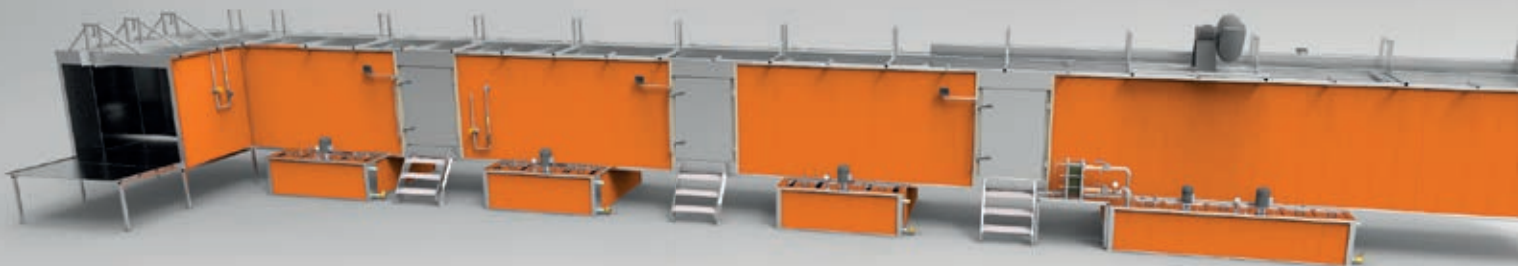
Pre-treatment by immersion

- ✓ Oversized parts
- ✓ Small parts in large series
- ✓ Parts with complex shapes
- ✓ Variable number of stages



Tunnel pre-treatment

- ✓ Spray application
- ✓ Capacity
- ✓ Continuous operation
- ✓ Number of stages depends on technology



Chamber pre-treatment

- ✓ Space saving
- ✓ Spray application
- ✓ Up to 12 stages
- ✓ Best for small series



E-coat

The cataphoretic method is based on the principle of accumulation of paint by electric current. It is an unrivaled way of surface treatment in terms of quality and durability.

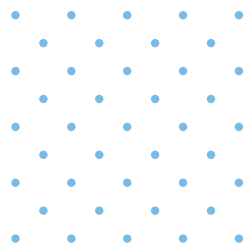
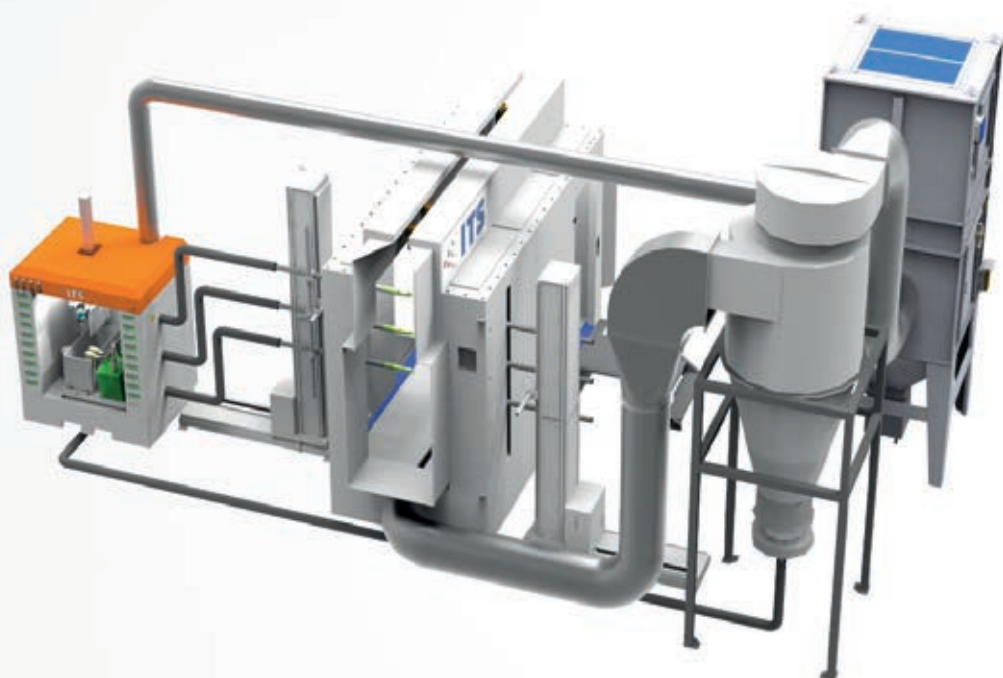
Ensuring high corrosion resistance, excellent efficiency with the regeneration system, low environmental pollution due to the water-based system, as well as low fire risk make this application desirable due to its excellent technological properties.

- ✓ For steel, aluminum and galvanized products
- ✓ For complex parts and assembled products
- ✓ Immersion system
- ✓ Capacity



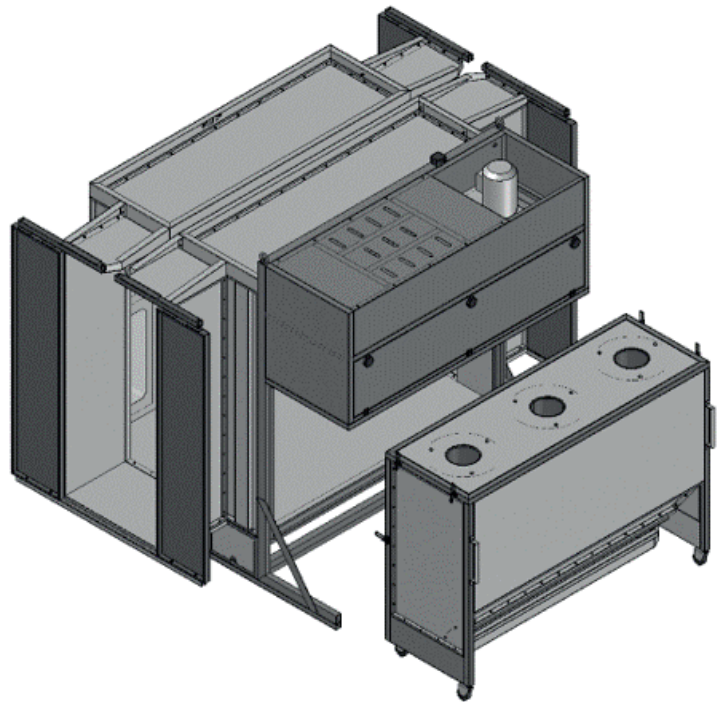
Coating booths

As in the case of surface pre-treatment, there are several types of coating booths. The determining parameters include whether a quick change of color, color recirculation or the quick cabin cleaning is required. An important role in choosing a suitable type of coating booth is whether the application of powder paint will be proceeded automatically or manually. Our experts will help you to choose the best solution for your operation.



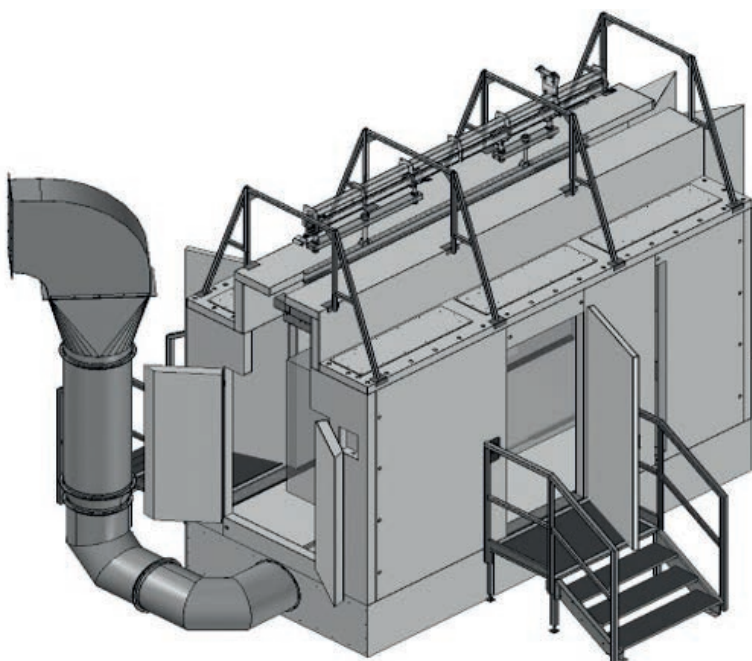
Booth with integrated filter

- ✓ Continuous or chamber
- ✓ Made from stainless steel
- ✓ Integrated filter
- ✓ Easy operation
- ✓ Quick color changes
- ✓ Ready for color recirculation



Booth with external suction

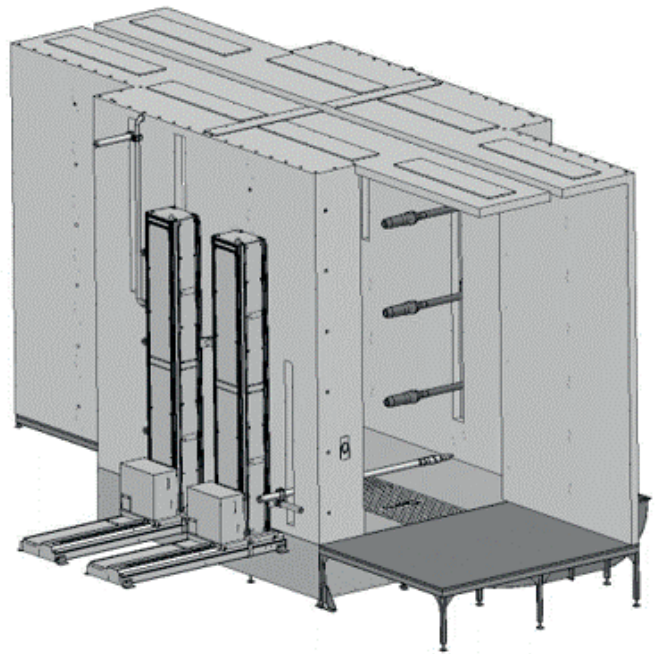
- ✓ Continuous
- ✓ Made from stainless steel or plastic
- ✓ Automatic and manual painting
- ✓ Easy operation
- ✓ Quick color changes





Stainless steel automatic booth

- ✓ Suitable for one color
- ✓ External suction
- ✓ Easy maintenance
- ✓ Ready for color recirculation



Plastic automatic booth

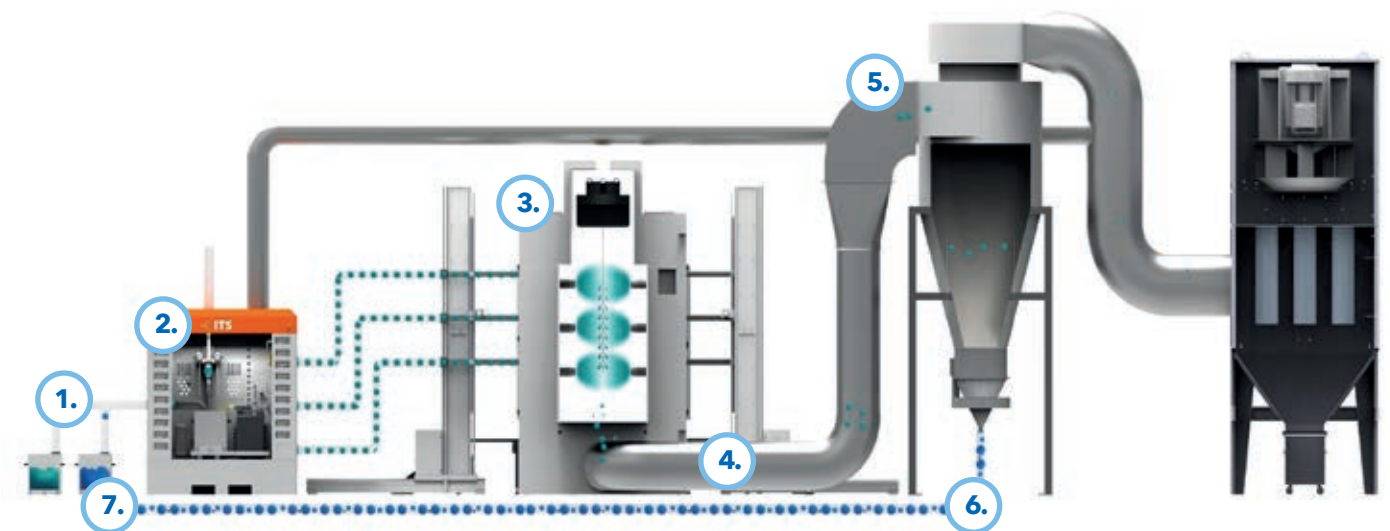
- ✓ Ready for Inobell application technology
- ✓ Quick color changes
- ✓ Easy maintenance
- ✓ Ready for color recirculation
- ✓ Quick cleaning



Powder recirculation

Powder paint, which is not effectively applied to the painted product, is sucked out of the painting booth. To reduce the consumption of powder paint, and thus financial savings, it is advisable to return the separated powder in the form of recycled material.

However, many customers still do not reuse the returned powder paint. It's a very effective system for increasing efficiency. In combination with the PowderVision powder center, ITS offers a comprehensive solution for saving your costs.



1. New powder paint
2. Powder center PowderVision
3. Painting process in the powder booth
4. Excess color extraction from booth
5. Reusable powder separation in cyclone
6. Separated powder returning
7. Recycled powder paint

Powder center

PowderVision

Based on many years of experience, we have developed our own powder center. We call it PowderVision. Different levels of equipment will satisfy even the most demanding requirements of our customers. PowderVision is the heart of achieving excellent results for automatic application of powder paints.

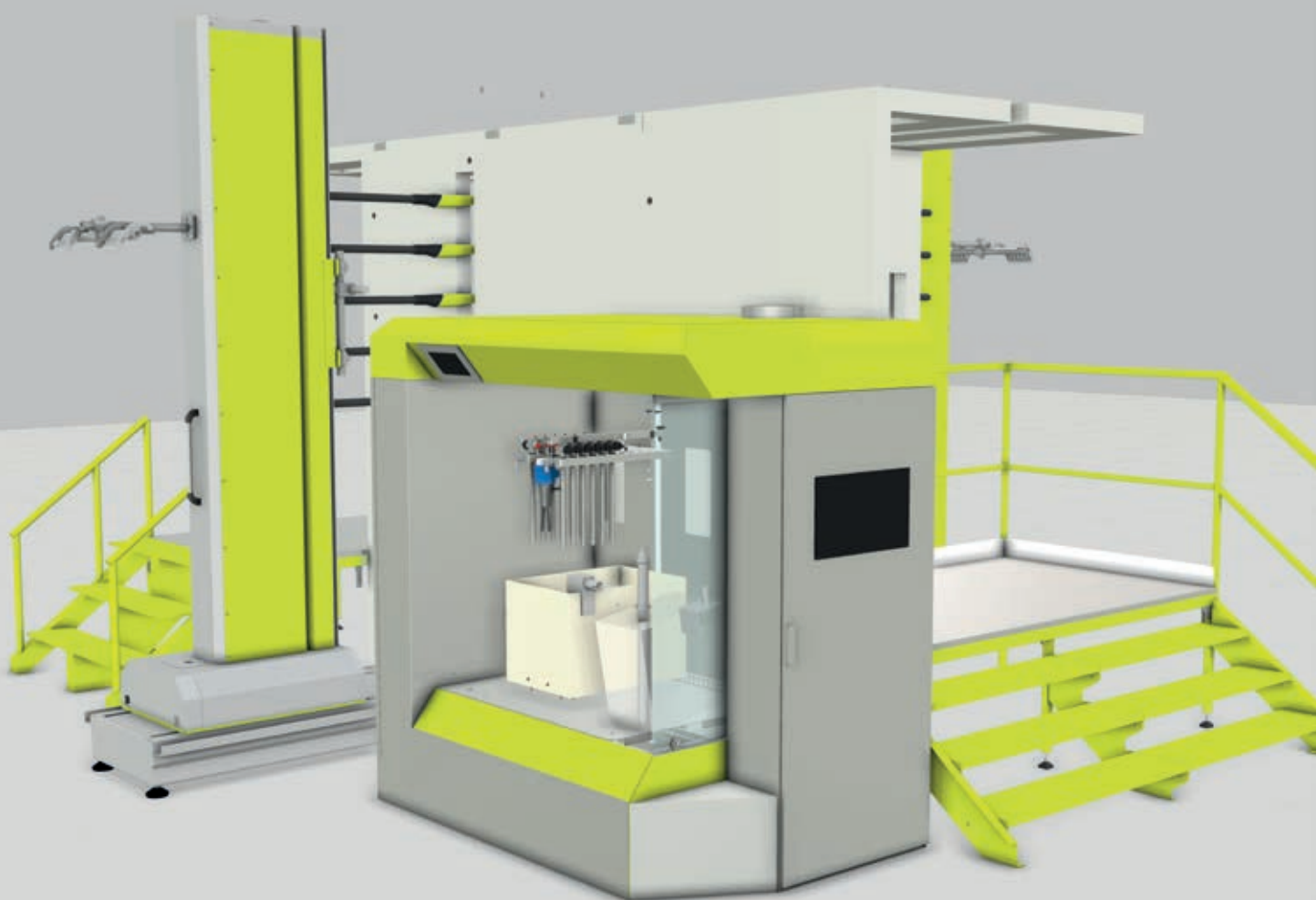
- ✓ Automatic powder ratio control
- ✓ Accurate dosing of recycled powder
- ✓ Quick cleaning of guns
- ✓ Sensors without calibration



Application technology

As standard, we supply our coating lines equipped with application technology from all reputable manufacturers.

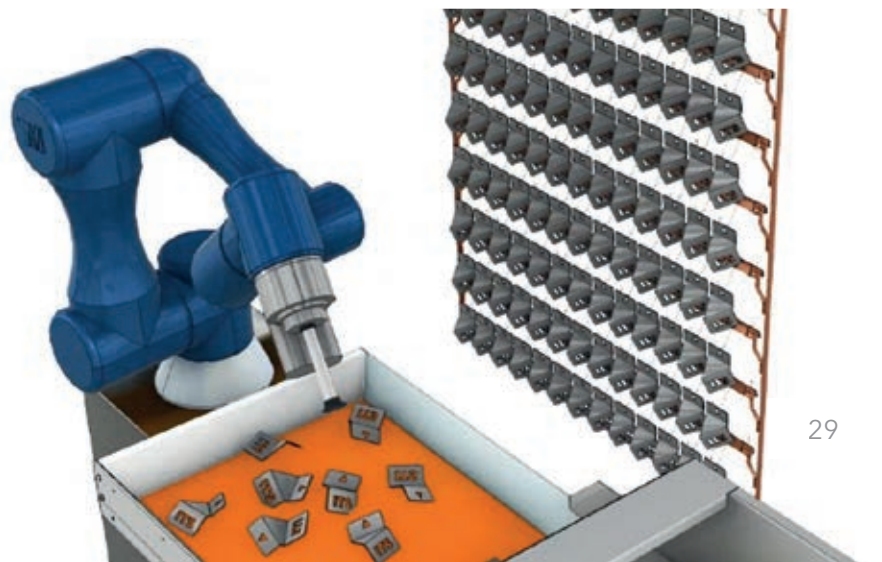
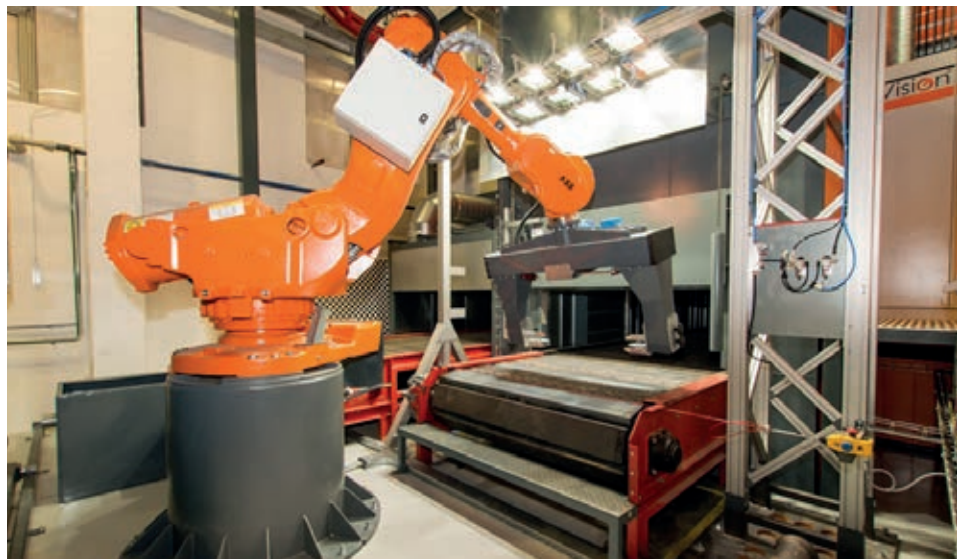
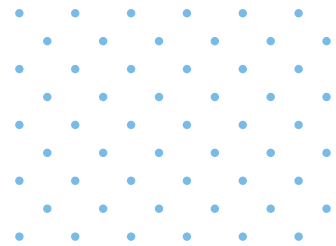
- ✓ Automatic guns
- ✓ Powder projectors - Inobell
- ✓ Manual guns
- ✓ Trolleys with manual gun



Robotic coating

The use of robotic powder paint application is useful especially in the painting of complex products and large series. Other ways to automate the entire coating line include the use of a robot for automatic hanging the products or the deployment of a mobile robot for trouble-free supply of material to the coating line.

We have a lot of experience with integrating robotic systems in coating lines in accordance with Industry 4.0 concept.

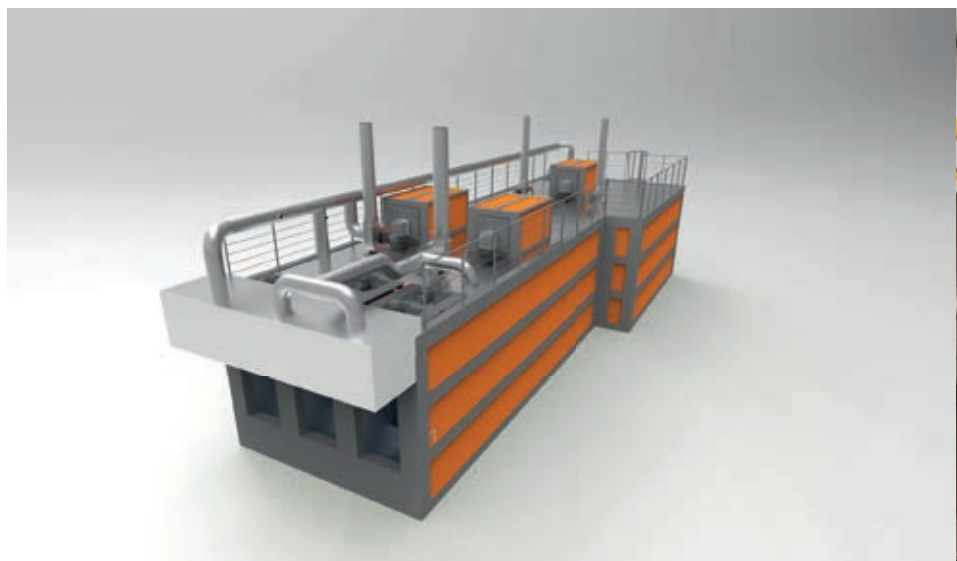


Drying and curing furnaces

When we are designing and implementing all furnaces, we pay attention to optimal performance and heat distribution throughout their inner space. Thanks to this, we achieve a constant temperature in the scale of few degrees.

We design furnaces as chamber or continuous. These can be divided into different temperature zones. This solution ensures that the optimal drying / firing curve is achieved even for complex parts.

- Heating method:**
- ✔ Direct or indirect gas heating
 - ✔ Hot air
 - ✔ Light fuel oil
 - ✔ Infrared
 - ✔ Hybrid and special



Cooling tunnels

The cooling tunnels are recommended when it is needed to manipulate with product as soon as possible after firing process. By technologies they are divided on cooling with external intake and outtake of air for climatized closed circuits. Cooling tunnels are not suited only for safely manipulation but even for staff comfort in coating lines. Even coating lines with basic solution without cooling tunnels are designed to transmit heat out of coating line.

- Benefits:**
- ✓ Cooling by exterior air
 - ✓ Climatized closed circuit
 - ✓ Safety manipulation with products
 - ✓ Staff comfort enhancement



Conveyors

We supply conveyors from the world's leading manufacturers with many years of experience. The range of overhead conveyor systems includes simple manual solutions, powered single lines and complex Power&Free systems.

Manual:

- ✓ Trolleys
- ✓ Conveyor with shifter
- ✓ Conveyor with junctions

Continuous:

- ✓ Overhead continuous conveyor
- ✓ Power&Free



Neutralization stations

Whenever chemical pretreatment is part of the technology, it is necessary to neutralize these precisely defined rinsing waters. Neutralization stations ITS can be delivered partially or fully automated, including automatic calibration of pH sensors. Only the technology is checked and the refills are refilled by operators.



Vacuum evaporating systems

An alternative for neutralizing of rinsing waters are vacuum evaporators. The final product is distilled water, suitable for reuse or discharge into drains on the one hand and on the other hand a concentrate intended for professional disposal. This solution is especially suitable for operations with difficult-to-reach limits for discharge into the sewer.



Control system

HiVision®



Video HiVision

HiVision is a comprehensive system developed on the basis of many years of experience in the field of coating line's management. In line with the latest trends, it offers a clear user interface on the terminals with touch screen up to 40". The possibility of extension of the control modules with additional functions or customization of the system makes the HiVision system the best available solution on the market.

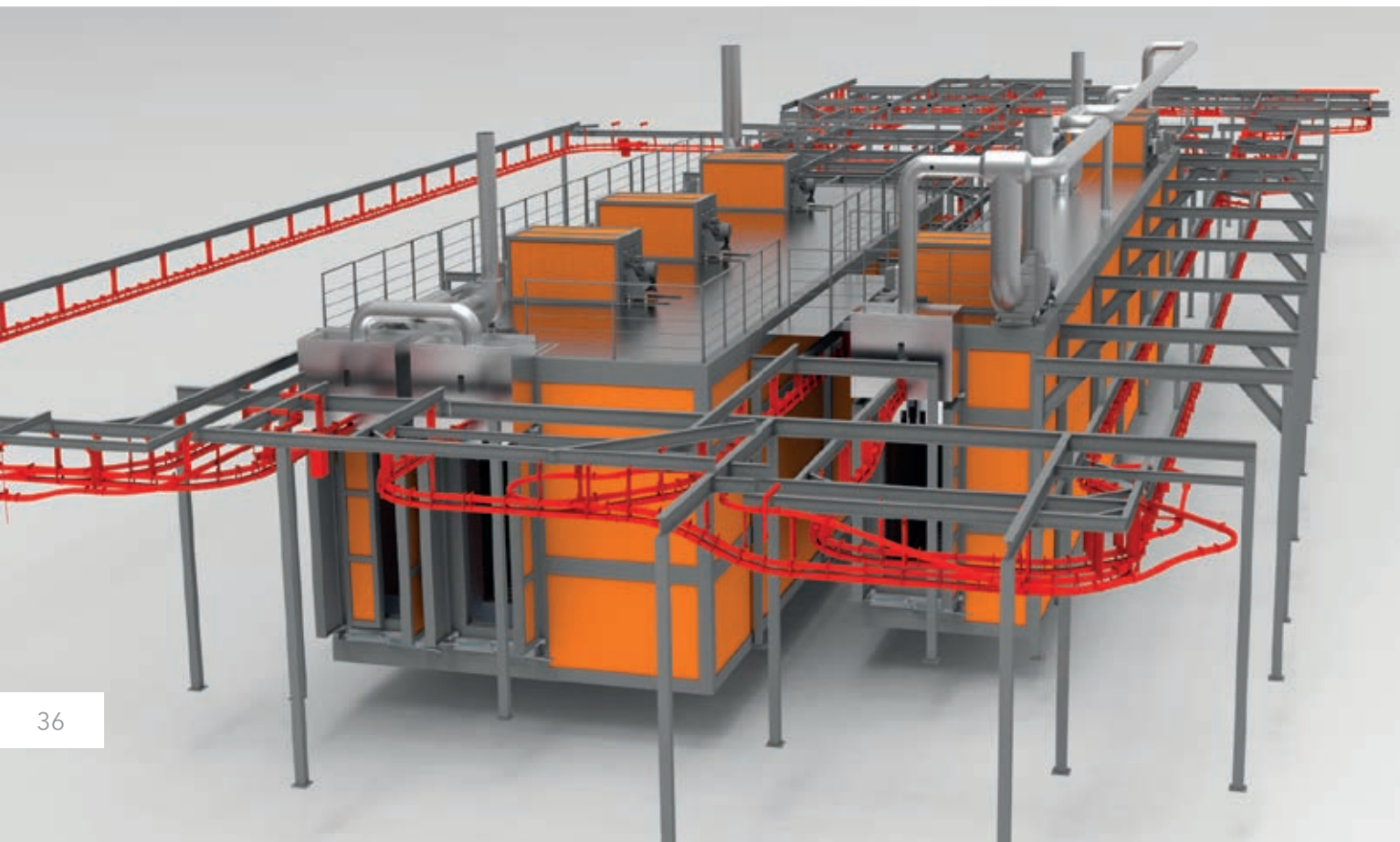
- ✓ Industry 4.0 ready
- ✓ On-line support 24/7
- ✓ Additional modules
- ✓ Integration t company ERP
- ✓ Database for data collection



Standard solutions

In addition to solving turkey powder coating projects, we also offer standardized solutions. It is a suitable alternative for smaller operations or also in the case of partial replacement of the complex coating line.

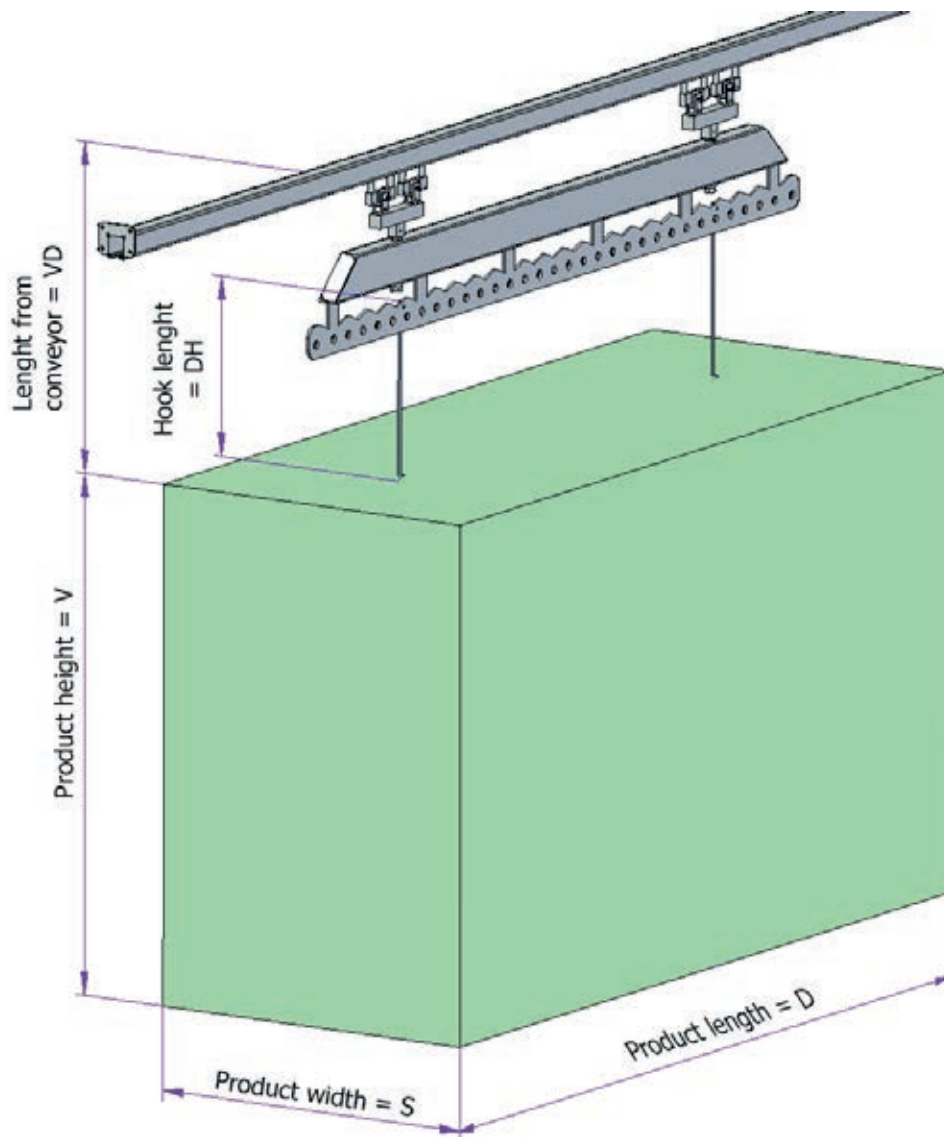
For these purposes, we have developed a modular solution that allows us to optimize production costs and shorten delivery times. Acquiring a partial node of the coating line has never been easier. The main determining parameter for choosing a suitable solution is the size of the painted part. The type and size of the technology then derives from it.



Dimensions setup of painted part

Basic parameter that affects the size of the typized device.
You can choose from combinations of the basic dimensions
of the maximum painted part.

Width = W	Height = H	Length = L	Weight
500	1600	2000	100
1000	2000	2500	300
1500	2500	3000	500
2000	-	3500	1000
-	-	4000	2000
-	-	4500	-



Painting booth with external dry filter

- Parts are loaded on an overhead conveyor (manual or driven). Spraying is usually done manually and the operator moves inside the booth around the part to be coated
- The air flow is vertical from the ceiling to the exhaust in the floor
- A cyclone separator for powder recycling can be placed in front of the dry filter
- Stainless steel design

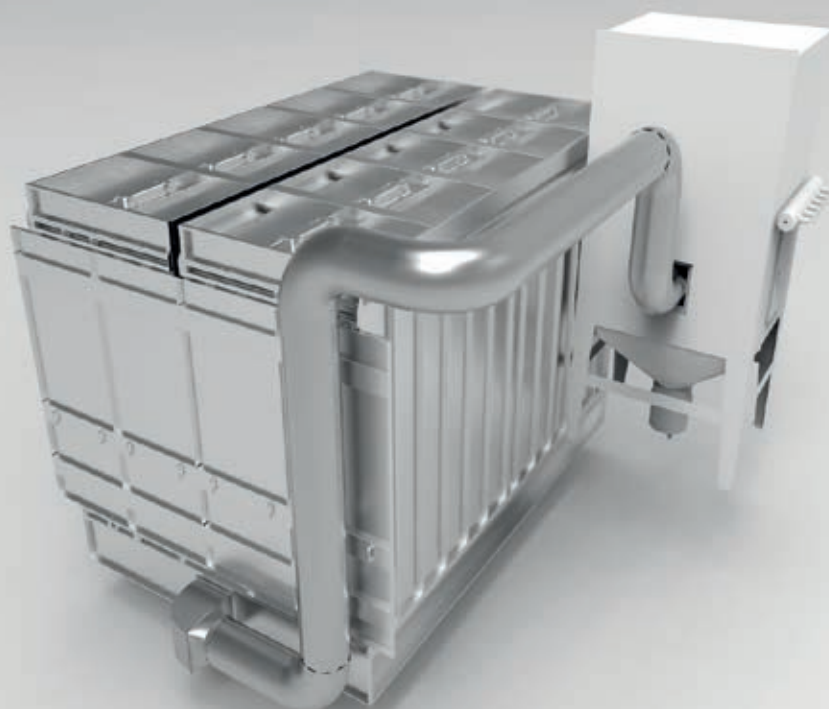
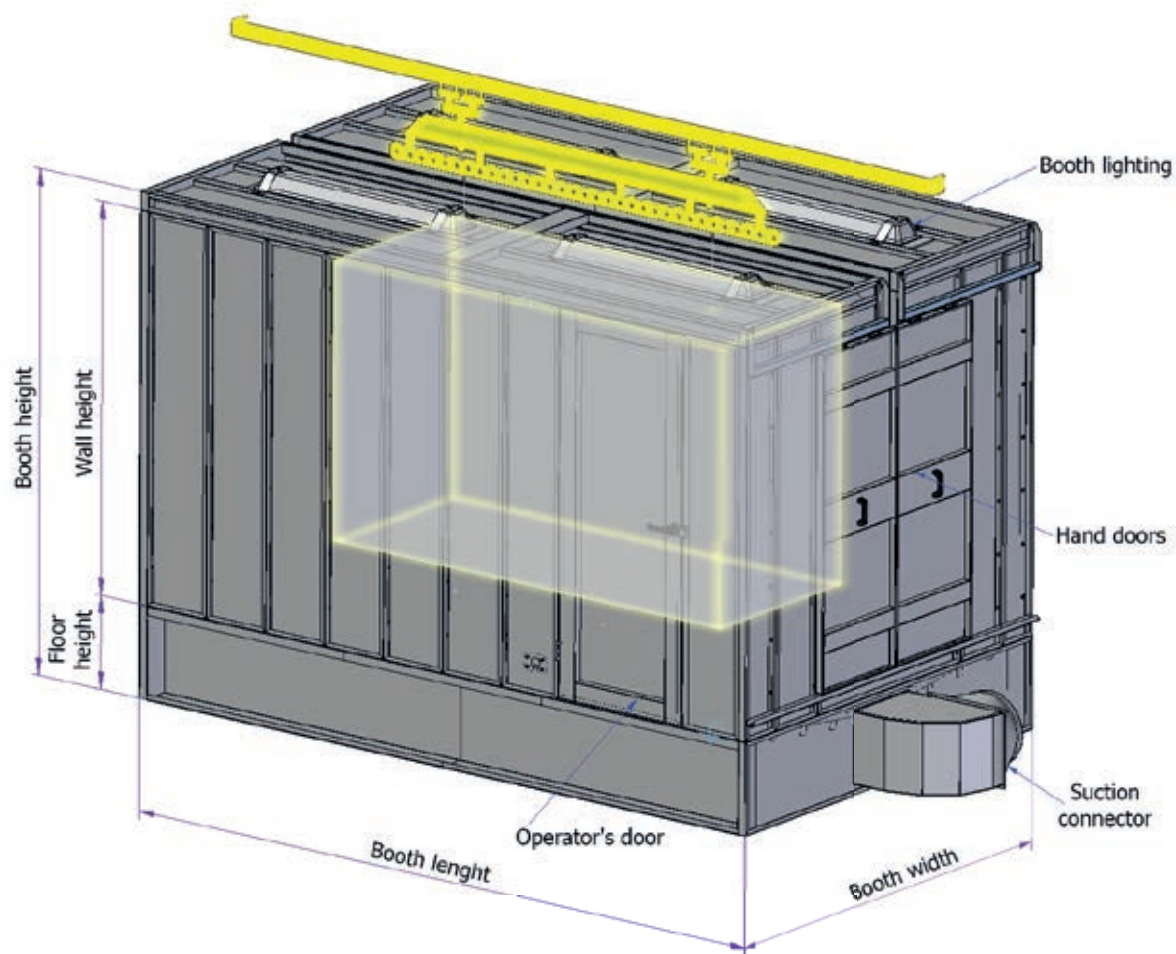
Dimensions of painting booth

The size of the painting booth is determined by the maximum dimensions of the painted parts. Please choose the dimensions from the table and send them to us. Based on that, we will choose the most suitable solution for you.

Max. product height	>	Booth height	Wall height	Floor height
1600	>	1900	2200	500
2000	>	2400	2600	
2500	>	2900	3100	

Max. product length	>	Booth length	Max. product width	>	Booth width
2000	>	3400	500	>	1900
2500	>	3900	1000	>	2400
3000	>	4400	1500	>	2900
3500	>	4900	2000	>	3400
4000	>	5400			
4500	>	5900			

The painting booth cannot be operated without adequate extraction. This ensures the safety of the working environment with regard to the risk of explosion. According to the legislation, it is necessary to install a detection and fire extinguishing system.





Filtration painting booth

- Filter cartridges with exhaust fan are part of the painting booth. Filter modules can be disconnected and used for return of the powder or the same filter modules can be used without paint recycling
- Continuous or chamber
- Suitable for both automatic guns with manipulators and for manual painting
- Stainless steel design with lacquered support frame

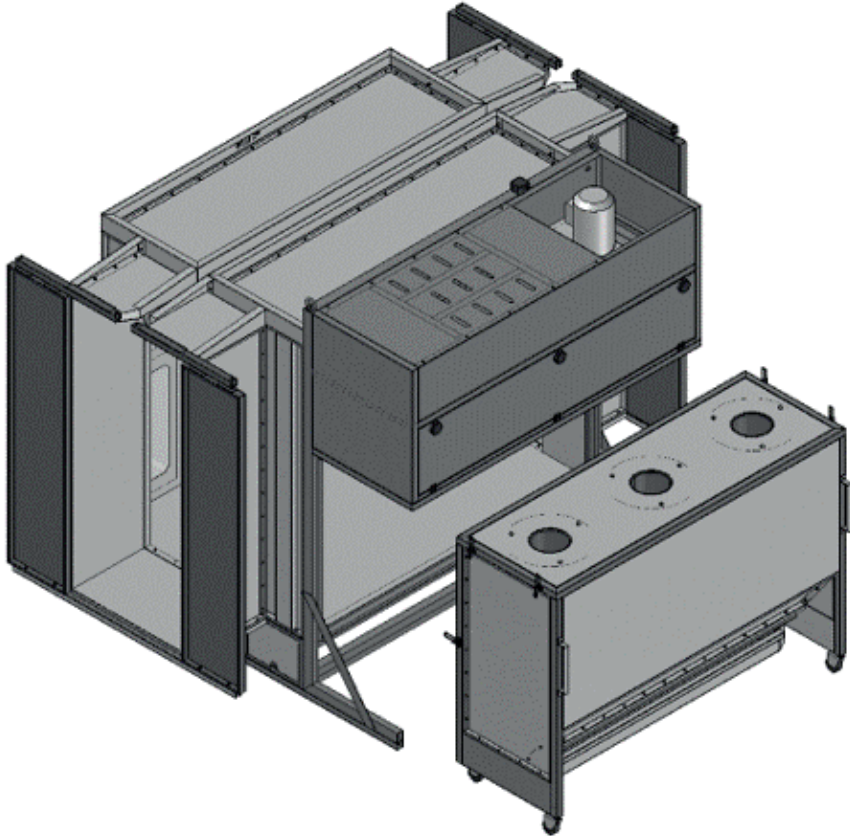
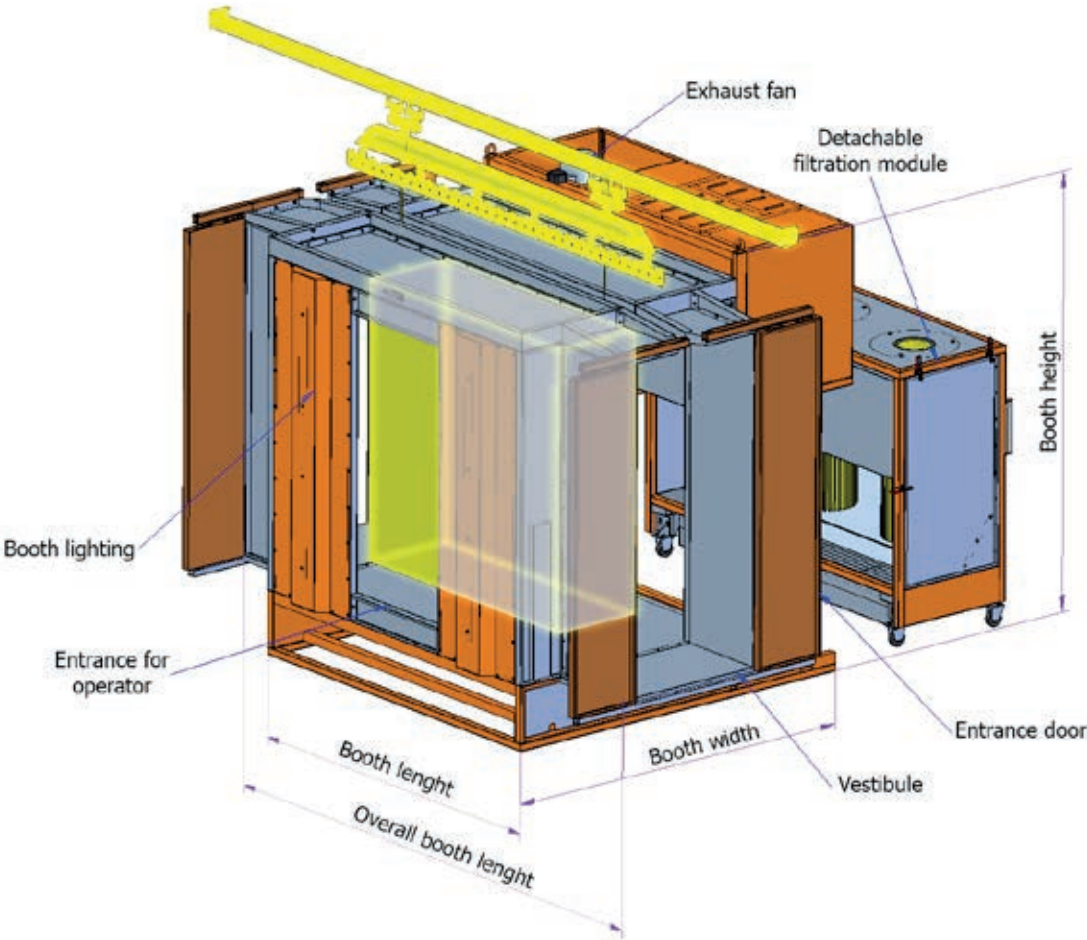
Dimensions of painting booth

The size of the painting booth is determined by the maximum dimensions of the painted parts. Please choose the dimensions from the table and send them to us. Based on that, we will choose the most suitable solution for you.

Max. product width	>	Booth width	Filtration booth width
500	>	1500	2250
1000	>	2000	2750
1500	>	2500	3250
2000	>	3000	3750

Max. product height	>	Booth height	Filtration booth height
1600	>	2250	2600
2000	>	2650	3000
2500	>	3150	3500

Max. product length	>	Booth length	2 vestibules booth length
2000	>	3100	4100
2500	>	3600	4600
3000	>	4100	5100
3500	>	4600	5600
4000	>	5100	6100
4500	>	5600	6600



Chamber pre-treatment

- 3 stages pre-treatment (degreasing + rinsing + rinsing with demineralized water)
- Stainless steel design
- Painted steel construction
- The spray rollers move in the direction of the conveyor and ensure perfect spraying of the entire part
- Reduced water consumption due to cascade
- Active bath heating via plate heat exchanger (boilers not included)
- Demineralized water production is not included
- Exhaust fan for steam

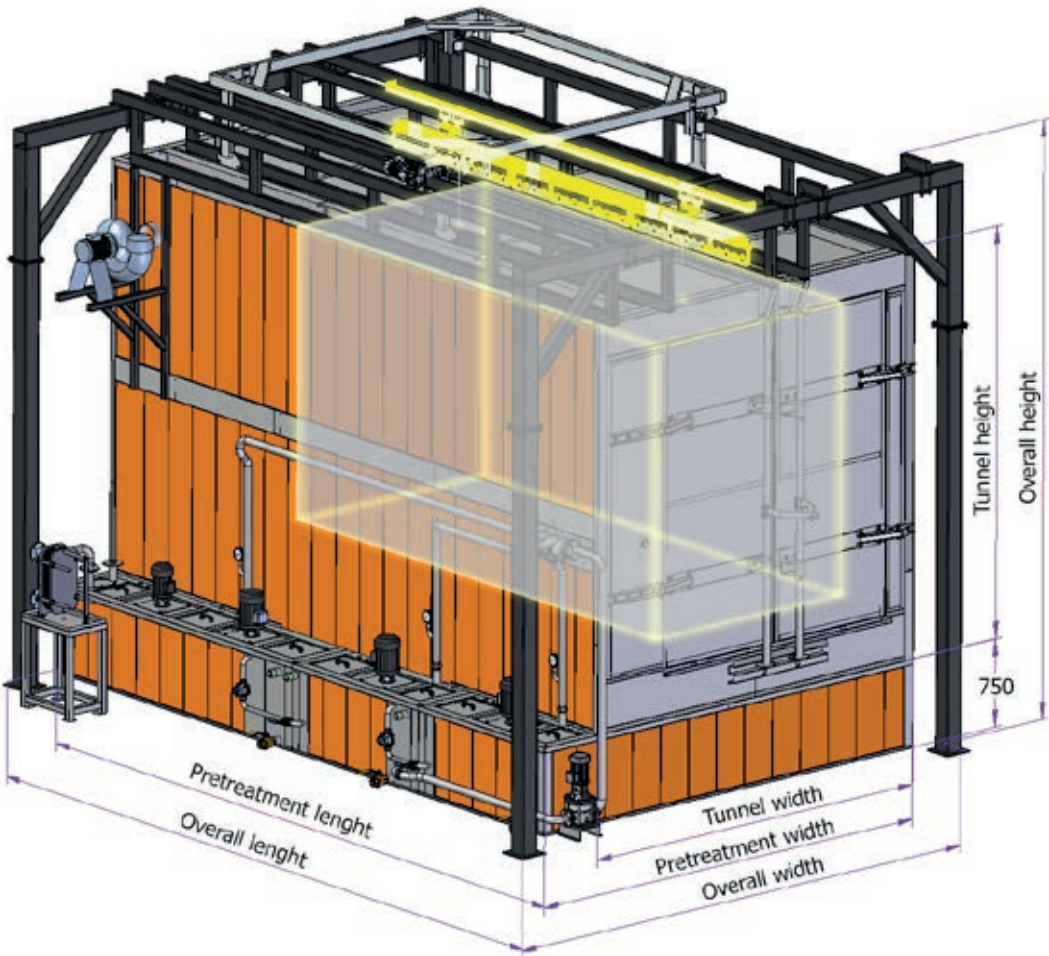
Dimensions of chamber pre-treatment

The size of the chamber pre-treatment is determined by the maximum dimensions of the painted parts. Please choose the dimensions from the table and send them to us. Based on that, we will choose the most suitable solution for you.

Max. products width	>	Tunnel width	Pretreatment width	Overall width
500	>	1900	2450	3200
1000	>	2400	2950	3700
1500	>	2900	3450	4200
2000	>	3400	3950	4700

Max. product height	>	Tunnel height	Overall height
1600	>	2600	4200
2000	>	3000	4600
2500	>	3500	5100

Max. product length	>	Pretreatment length	Overall length
2000	>	3600	4000
2500	>	4100	4500
3000	>	4600	5000
3500	>	5100	5500
4000	>	5600	6000
4500	>	6100	6500





Curing and drying chamber

- Heating on the side wall or ceiling
- Direct / indirect gas heating
- Electric heating as an alternative

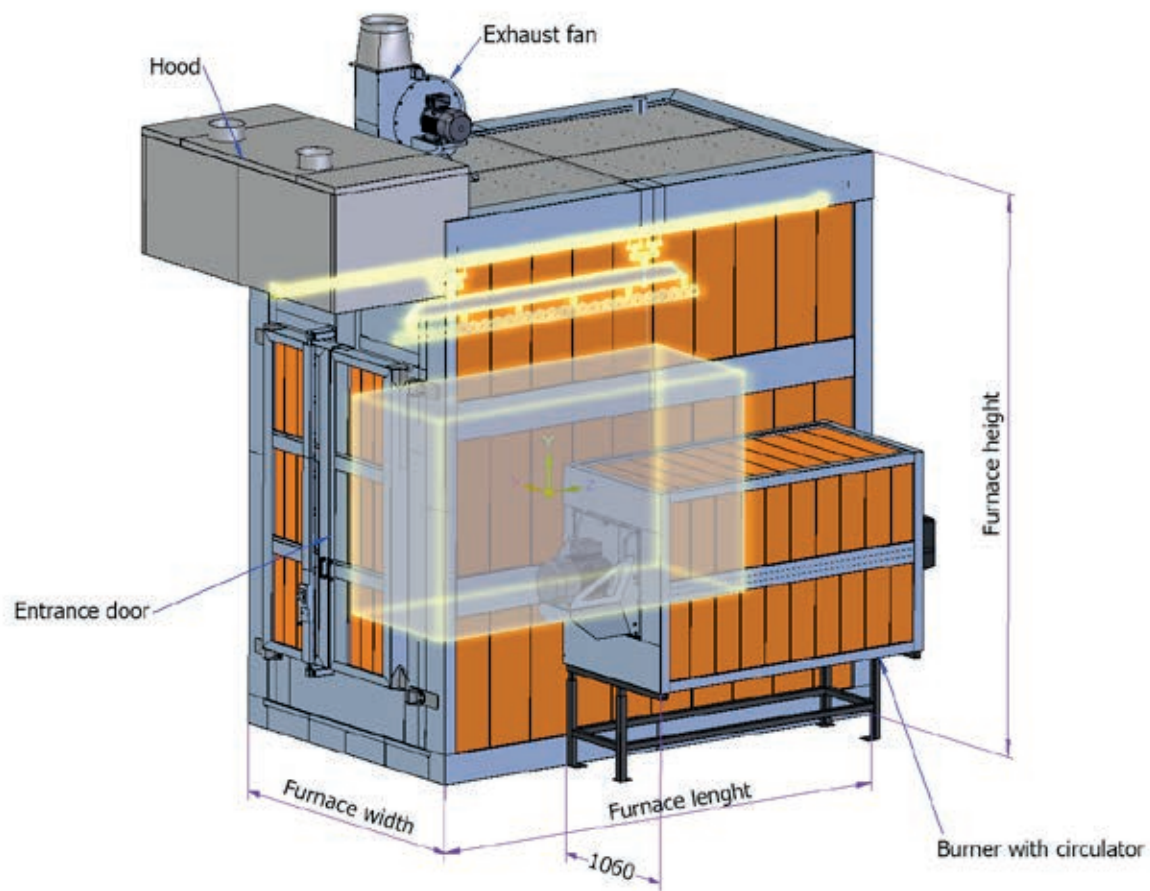
Dimensions of chamber

The size of the curing/drying chamber is determined by the maximum dimensions of the painted parts. Please choose the dimensions from the table and send them to us. Based on that, we will choose the most suitable solution for you.

Product width	>	Furnace width
500	>	1600
1000	>	2100
1500	>	2600
2000	>	3100

Product height	>	Furnace height
1600	>	3900
2000	>	4300
2500	>	4800

Product length	>	Furnace length
2000	>	3000
2500	>	3500
3000	>	4000
3500	>	4500
4000	>	5000
4500	>	5500



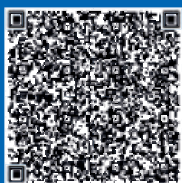
We are looking for
new partners...





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- info@itsbrno.cz
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