

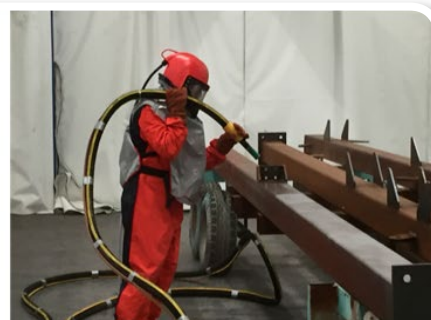
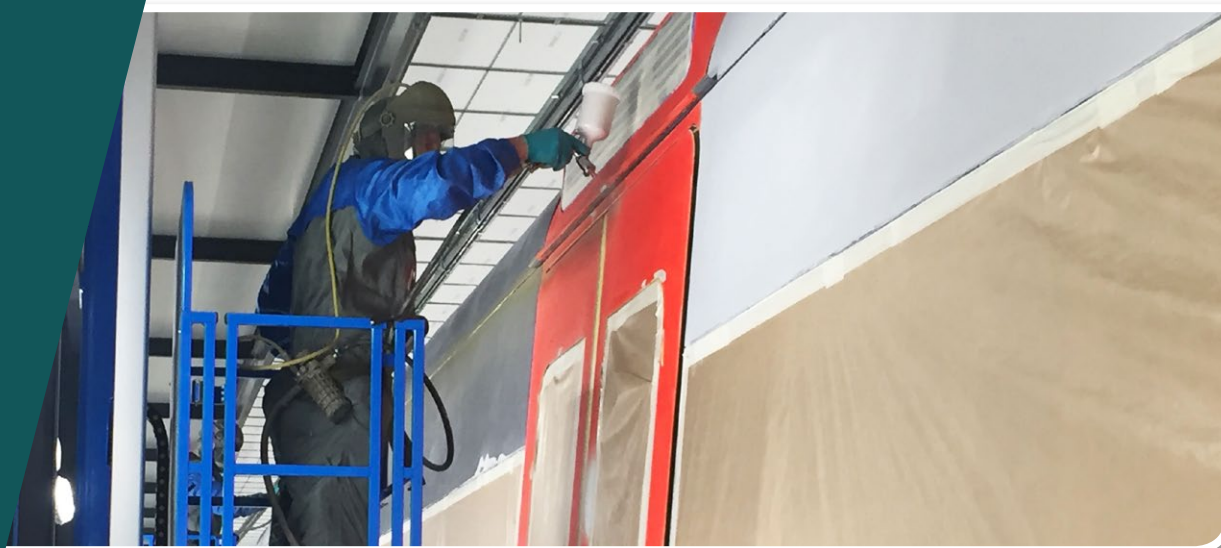
ISO 9001
Quality Management

Ventherm

just plug and paint

Catalogue

Spray Booths – Surface Treatment Plants



Content:

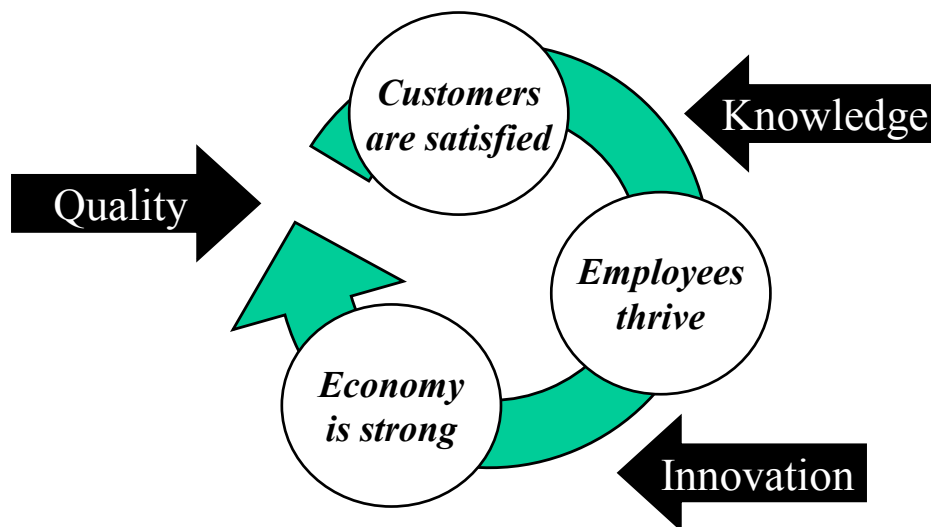
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Expect a bit more from Ventherm...

Ventherm A/S is an international provider of paint facilities and complete surface treatment plants for heavy industries such as Wind Power, Offshore, Defense, Transportation, Agricultural and other Machining industry.

Our systems are sold in a number of countries all over the world. We have achieved a leading position in the market over the years, especially by focusing on customised and turnkey systems that satisfy customer needs and desires.

The core competency at Ventherm A/S is our knowledge and experience. Our employees are thus our most significant asset, and we direct significant resources towards recruiting, training and retaining skilled employees. We work on the basis of the fundamental attitude that our only justification for existence is our continued ability to create added value for our customers, and we believe that the following are the crucial criteria for Ventherm's future success:



You can indeed expect a bit more from Ventherm. We take full responsibility for your installation, and we will not be satisfied unless you are.

We hope the following catalogue will be an inspiration to you.

Plug-and-Paint[®] Philosophy:

Ventherm's Plug-and-Paint[®] philosophy provides added value and safety for our customers by means of Knowledge, Innovation, Quality, Compliance, Turn-key solutions, On-time delivery and a competitive price considering all circumstances.

We customize the paint facility to your needs.

- ✓ Best available quality on the market that complies with all applicable standards.
- ✓ Energy-Saving-Package that reduces your energy consumption >60%.
- ✓ We improve your EHS (Environment, Health, Safety).
- ✓ We offer a Turn-Key delivery, including handling of local authorities, project management and supplemental installations.
- ✓ Your focus can be kept on running your own business in the construction phase.
- ✓ On-time guaranteed delivery.
- ✓ We can finance the paint facility for you – you pay as the paint facility earns you money.
- ✓ ISO 9001 quality management system.
- ✓ Attractive service agreement is available

This is what our customers think about our Plug-and-Paint[®] philosophy:

"Ventherm's Plug-and-Paint concept is brilliant! We are very happy with our new paint facility. Ventherm -continue doing what you did for us."

*Rune Solberg, CEO
Norsk Coating AS, Norge*

"Ventherm is awarded as "Best supplier of the project" when supplying paint booths to Siemens' £300 million investment in a new blade factory in Hull, UK.

*Robin Philips
Siemens Gamesa, UK*

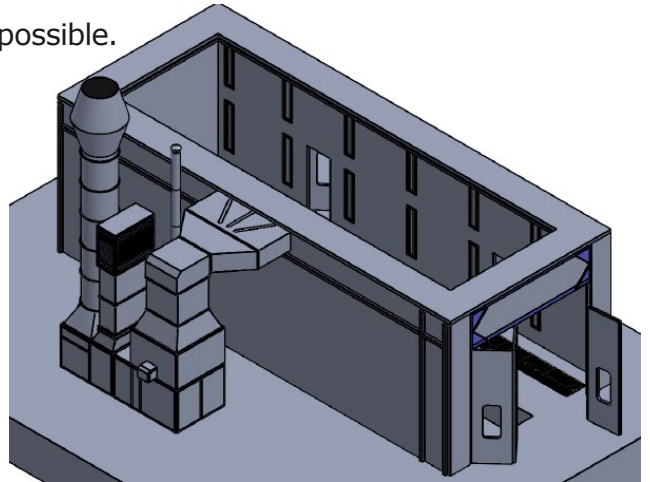
"Our expectations for Ventherm were very high, but actually Ventherm performed even better"

*Roger Åkerlund, CEO
Bergströms Måleri,
Sverige*

Spray Booths:

Single spray / drying booth:

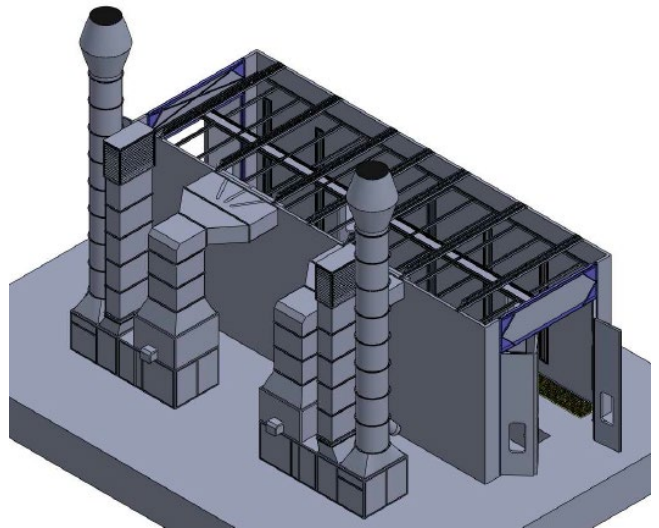
- ✓ Performed in non-combustable materials. Local authorities might require it erected in a separate fire section within the building.
- ✓ Performed according to EN 16985 / EN 1539.
- ✓ Air velocity 0,3 m/sec. vertically in empty booth. Air volume can be reduced if painting only items larger than 6 m.
- ✓ Air injection in the entire ceiling through filters, which creates counter pressure and ensures an even injection throughout the entire booth.
- ✓ Extraction in the floor – as close to the items as possible.
- ✓ Paint-stop is placed under gratings in the floor.
- ✓ Illumination min. 750 lux according to EN 16985.
- ✓ ATEX zone 2 classification calculated according to EN 16985.
- ✓ Special requirements regarding:
 - Vacuum / under pressure in operation.
 - Emergency exit doors.
 - Automatic shut down of paint operation if ventilation is not sufficient (i.e. dirty filters).
- ✓ Lots of available options:
 - Energy-Saving-Package
 - Lifts for operators
 - Pit in the floor
 - Conveyor system



Spray Booths:

Double spray / drying booth with intermediate roller door:

- ✓ Same requirements as for single spray booths – see previous page.
- ✓ Constructed like 2 independent booths – only separated by an intermediate roller door in full width and height.
- ✓ Thereby, maximal flexibility and the possibility of painting large as well as small items in an economically responsible way are obtained.
- ✓ When the intermediate door is open, the booths will automatically run as one large booth.
- ✓ When the intermediate door is closed, the two spray/drying booths can run independently.



Example: 120 m long spray booth with more intermediate roller doors. Doors are not visible when open.



Example: Double spray booth with one intermediate roller door. Operator platforms can run through the open door.

Spray Booths: Extraction in the wall:

In some countries it is accepted to extract paint dust in the lower part of the wall instead of extracting it through the floor.

Excavation and casting of extraction pits in the floor can sometimes be unreasonably costly, or even close to impossible to establish.

Therefore some countries accept extraction in the wall, although the required vertical (down draft) airflow cannot be ignored, and the intended and best way of performing it is through the floor.

Extraction in the wall often leads to a slightly poorer working environment for the operators since paint dust is extracted behind the operator and hence dragged towards him and his breathing zone - a fundamental issue that ought to be avoided in all paint operations.

Extraction in the wall often requires significantly more ducting for the installation.



Spray Booths:

Outdoor booths for painting or blasting etc.:

If a customer doesn't have sufficient space available for new paint facilities inside existing premises, Ventherm's outdoor concept is often a very attractive solution. Ventherm can build spray booths and blast rooms as a selfcontained outdoor building, which is much cheaper than erecting a new building and subsequently installing booths inside the new building.

Ventherm's outdoor booths are designed after all applicable standards for i.e. snow load and wind load etc., and obviously the booths are fully insulated and waterproof. The outdoor booths are available in a wide range of colors. Thus, they can look like our customer's existing building design if required.



Rolls-Royce Marine,
Bergen, Norway



Duusgaard Coating,
Denmark



Rolls-Royce Marine,
Tennfjord, Norway

Spray Booths:

Horizontal ventilation:

Under certain circumstances, EN 16985 and other standards allow for a spray booth to be designed for horizontal ventilation, which means extraction in one end of the booth and injection in the other. This configuration is often cheaper than vertical (down draft) ventilation because it requires a significantly lower air volume and no extraction in the floor.

The most important conditions for using horizontal ventilation are:

- ✓ The operator is not allowed to walk around the item he has to paint – he can only paint in the air flow direction towards the filter.
- ✓ Air velocity is required to be 0,5 m/sec. opposed to 0,3 m/sec. with vertical air flow.



Above:
Extraction in the rear wall.



Above: Halden Fengsel, Norway. Extraction in the rear wall, injection in the ceiling.



Above: Kongsberg Defence & Aerospace, Norway.
3 spray booths with horizontal ventilation.

Spray Booths:

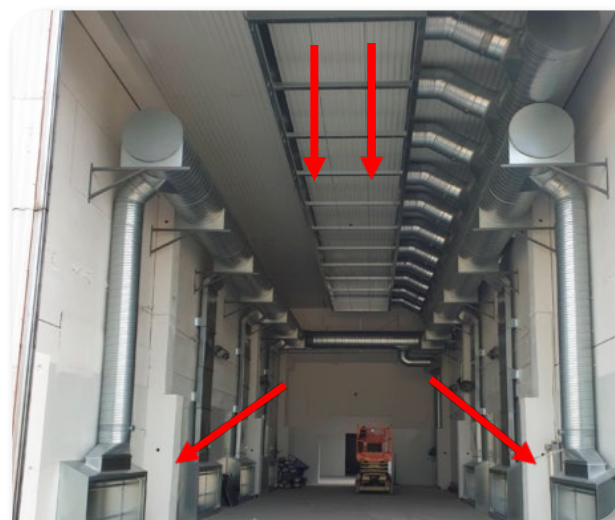
Custom design:

(Applied for example in wind industry, offshore, aviation and ship building industry):

When painting very large objects, to some extent, a less strict set of rules applies to establishment of exhaust ventilation than in ordinary spray/drying booths.

The rules are described in EN 16985. Ventherm knows all the rules as well as how to design the best solutions without compromising safety. At the same time, it is important to keep reduction of energy consumption in mind as it is often significant for large installations.

Please ask for references – a wide range is available.



Shipyard.



100 m long spray/drying booth with zone-ventilation according to EN 16985. Energy consumption is reduced to 1/6 without compromising on safety.



Military industry – zone ventilated spray / drying booth.

Spray Booths:

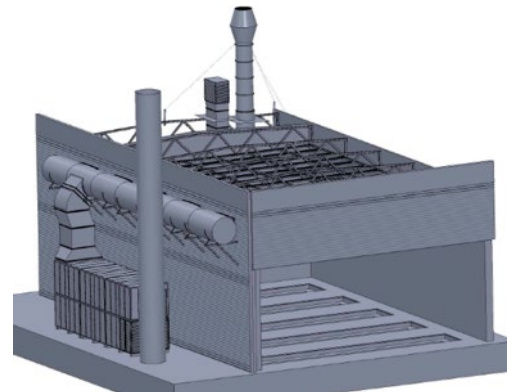
Selected references:



US Army Corps of Engineers

US Air Force

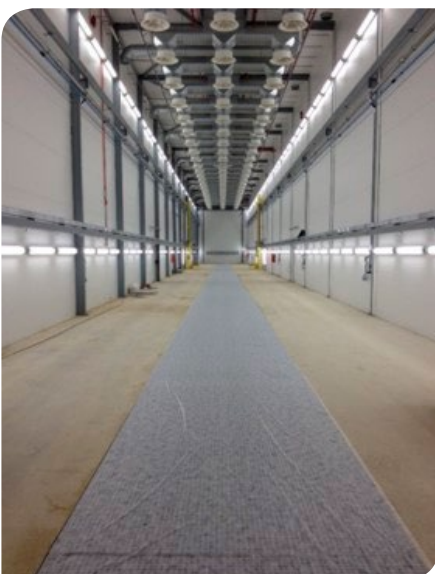
F16 Fighter spray booths – **Plug-and-Paint®**



SIEMENS

Siemens Wind Power

Multi-zone paint booth for blades to wind turbines.



Spray Booths:

Selected references:



Swedtrac RailServices

Scandinavia's largest paint booth, equipped with Ventherm's Energy-Saving-Package and 3-dimensional operator platforms.



Kongsberg Defence & Aerospace

Plug-and-Paint paint facility with 2 spray/drying booths, one drying oven and paint-mix room. All equipped with Ventherm's Energy-Saving-Package.



Spray Booths:

Selected references:



Kalmar Industries

Turn-key surface treatment plant for washing, painting and drying of items in the same booths.

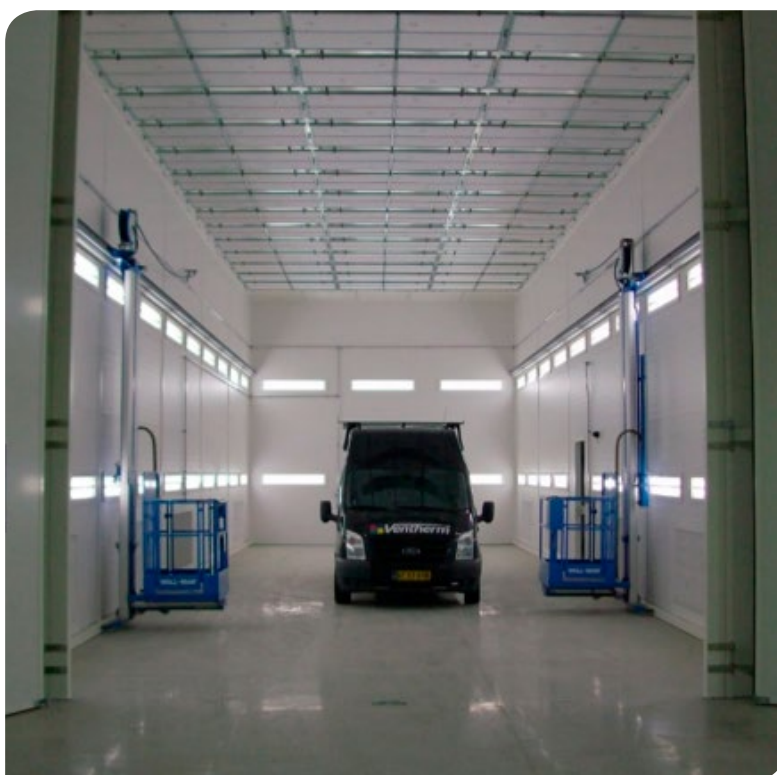
All booths are equipped with our Energy-Saving-Package.



NettBuss Group

3 large spray/drying booths for busses and lorries.

Equipped with 3-dimensional operator platforms and our Energy-Saving-Package.



Paint Facilities with Conveyor: A Conveyor System provides Higher Efficiency:

Ventherm A/S also designs and produces paint facilities for serial production of both small and large units. The painting lines are typically built up around a conveyor system for internal transportation and handling of the units. Conveyor systems are available with automatic as well as manual advancing of the items.

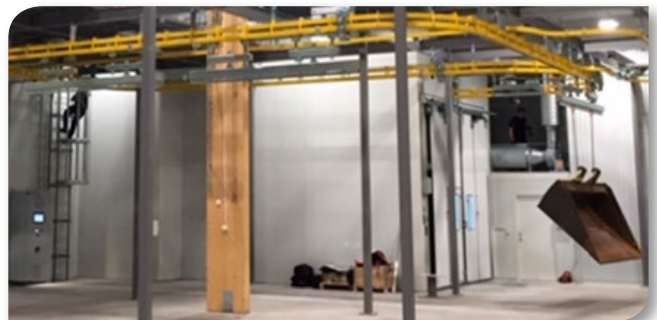
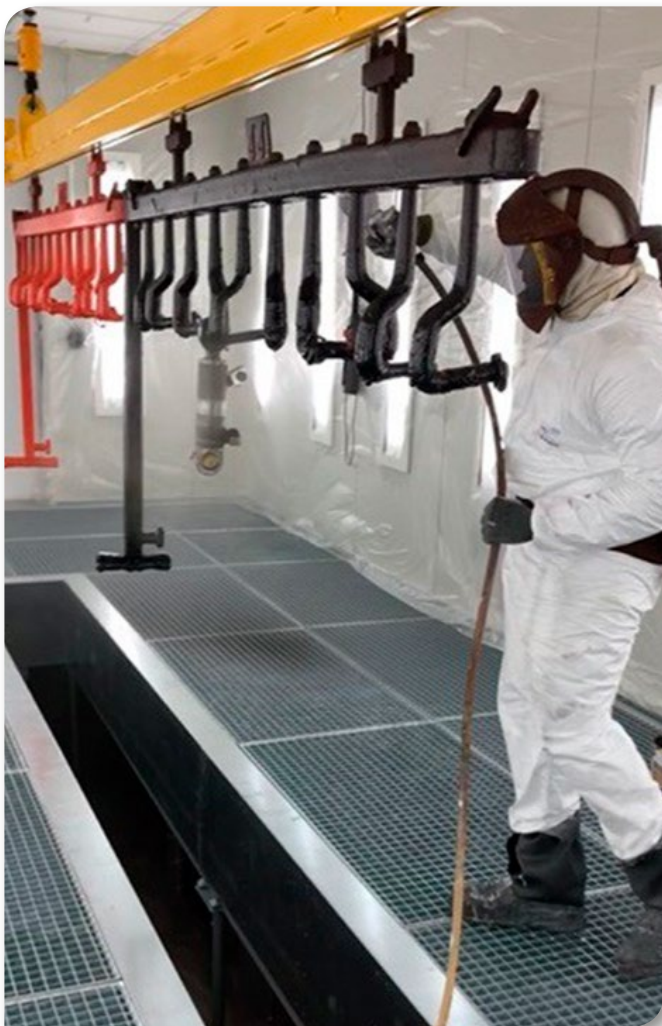
Conveyor systems are available with built-in crane functions which provide very safe and efficient loading and unloading conditions, and furthermore enable the operator to paint on top of large items.



Paint Facilities with Conveyor:

Selected examples and references:

- Upper right: Power & Free conveyor with buffer zone.
- Middle right: Power & Free conveyor for items up to 2 tons.
- Bottom right: Manual line with several tracks and lots of wagons.
- Bottom left: Manual line with built-in crane function.



Air Handling Units:

Ventherm produces its own air handling units for spray/drying booths. The air handling units are very high quality and provide a minimum of energy consumption and operating costs.

- ✓ Manufactured in aluminium profiles and galvanised steel.
- ✓ For heating you can choose between water based heating (central heating or boiler), direct or indirect gas burners, oil burner or electrical heat exchanger.
- ✓ A heat recycling system is installed on >95% of our installations.
- ✓ ABB motors and frequency converters are standard on all units and provide optimal quality and reliability.
- ✓ Pressure inside the booth is easily controlled regardless of the filter conditions.
- ✓ Low-noise – insulated with mineral wool.
- ✓ Fans are mounted with vibration dampers, etc.
- ✓ Hinged inspection hatches with switches for servicing.
- ✓ Available for indoor or outdoor installation.



Air Handling Units:

Ventherm designs, programs and produces our own intelligent control systems for all our installations.

- ✓ With built-in PLC (Siemens or Omron).
- ✓ Digital display/operating panel.
- ✓ Remote access to the control system allows for fast and cost-efficient service without down time for the customer.
- ✓ The paint facility can be monitored and operated from your smartphone.
- ✓ All required controls and alarm/fault functions.
- ✓ Pressure controls and regulation (selectable setting of over/under pressure).
- ✓ Accompanying magnetic valve connects to spray equipment, thus ensuring that spray painting cannot be done without ventilation (required by law).
- ✓ Data logging available.



Air Handling Units:

Properties/air quantity	15.000 m³/h	20.000 m³/h	25.000 m³/h	30.000 m³/h	35.000 m³/h	40.000 m³/h	45.000 m³/h	50.000 m³/h
Fans (qty. 2 belt-driven)	Nicotra 560 R	Nicotra 560 R	Nicotra 560 R	Nicotra 710 R	Nicotra 710 R	Nicotra 710 K	Nicotra 710 K	Nicotra 800 K
Motors (IE3, with soft starter)	2 x 7,5 kW Ex	2 x 11 kW Ex	2 x 11 kW Ex	2 x 15 kW Ex	2 x 15 kW Ex	2 x 15 kW Ex	2 x 22 kW Ex	2 x 22 kW Ex
Counter-pressure	900 Pa	900 Pa	900 Pa	900 Pa	900 Pa	900 Pa	900 Pa	900 Pa
Prefilter section (fresh air)	qty. 4 G4/EU4	qty. 4 G4/EU4	qty. 6 G4/EU4	qty. 6 G4/EU4	qty. 8 G4/EU4	qty. 8 G4/EU4	qty. 10 G4/EU4	qty. 10 G4/EU4
Spraying temperature	Approx. 20°C	Approx. 20°C	Approx. 20°C	Approx. 20°C	Approx. 20°C	Approx. 20°C	Approx. 20°C	Approx. 20°C
Drying temperature	Up to 60–70°C	Up to 60–70°C	Up to 60–70°C	Up to 60–70°C	Up to 60–70°C	Up to 60–70°C	Up to 60–70°C	Up to 60–70°C
Heating capacity (Delta T = 30°C)	160 kW	220 kW	275 kW	325 kW	375 kW	435 kW	490 kW	540 kW
Heat exchanger (only with oil/gas)	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Soot chimney (only with oil/gas)	4 m, stainless	4 m, stainless	4 m, stainless	4 m, stainless	4 m, stainless	4 m, stainless	4 m, stainless	4 m, stainless
Water-heating surface (for central heating or boiler system)	Alu and copper	Alu and copper	Alu and copper	Alu and copper	Alu and copper	Alu and copper	Alu and copper	Alu and copper
Water temperature supply/ return pipes (only at water-heating)	70/40°C	70/40°C	70/40°C	70/40°C	70/40°C	70/40°C	70/40°C	70/40°C
Heat recovery system, 60% (see page 19), motor sizes 80–85%	7,5 kW 11 kW	11 kW 15k W	15 kW 18,5 kW	15 kW 18,5 kW	18,5 kW 22 kW	22 kW 30 kW	30 kW 30 kW	30 kW 30 kW
Dim. ducts, intake / injection Dim. ducts, extraction/chimney	Ø800 Ø710	Ø1000 Ø800	Ø1000 Ø1000	Ø1250 Ø1000	Ø1250 Ø1250	Ø1400 Ø1250	Ø1400 Ø1250	Ø1500 Ø1400
Noise level (unit is soundproofed)	< 80 dB	< 80 dB	< 80 dB	< 80 dB	< 80 dB	< 80 dB	< 80 dB	< 80 dB
Adjustment damper (modulating, 24V)	Damper motor	Damper motor	Damper motor	Damper motor	Damper motor	Damper motor	Damper motor	Damper motor
Automatic air distribution damp- er (switch spraying/drying)	With compr. air	With compr. air	With compr. air	With compr. air	With compr. air	With compr. air	With compr. air	With compr. air
Controls (standard 3x400 V, 50 Hz)	With PLC (page 17)	With PLC (page 17)	With PLC (page 17)	With PLC (page 17)	With PLC (page 17)	With PLC (page 17)	With PLC (page 17)	With PLC (page 17)
ATEX zone classification	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2
Oil burner (type) Bentone, 2 step	B30	B40	B40	B40	B45	B45	B45	B45
Gas burner (type) Weishaupt, modulating	WG20	WG30	WG30	WG30	WG40	WG40	WG40	WG40
Water-heating surface (type) Modulating 24V valve	CSC1500	CSC1800	CSC2000	CSC2300	CSC2400	CSC2600	CSC2800	CSC3000

Energy-Saving-Package:

Ventherm's Energy-Saving-Package features:

- ✓ Up to 85% recycling system.
- ✓ ABB frequency converters on all motors.
- ✓ LED lights.
- ✓ ABB motors.
- ✓ Various energy saving functions that reduce energy consumption when painting is not in progress.
- ✓ Custom design that allows for energy reduction (only when applicable standards allow it)



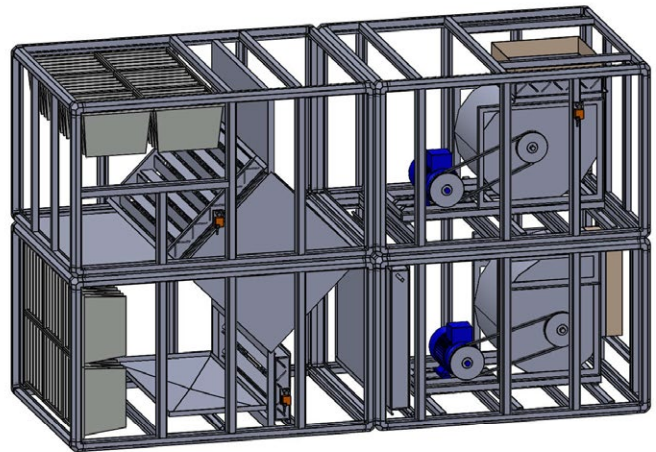
Air handling unit with cross heat exchanger for heat recycling.

About heat recycling systems:

- ✓ Ventherm uses only cross-heat exchangers since rotating exchangers are not allowed for industrial purposes.
- ✓ Bypass function is available, but not standard.



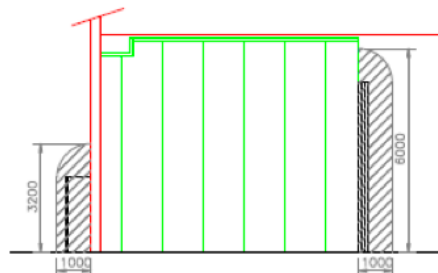
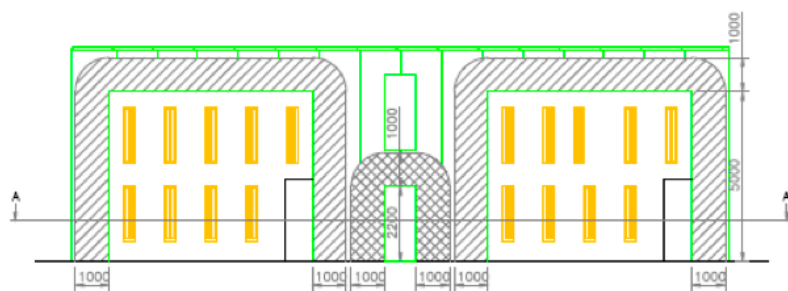
ABB motors and frequency converters are standard on all installations.



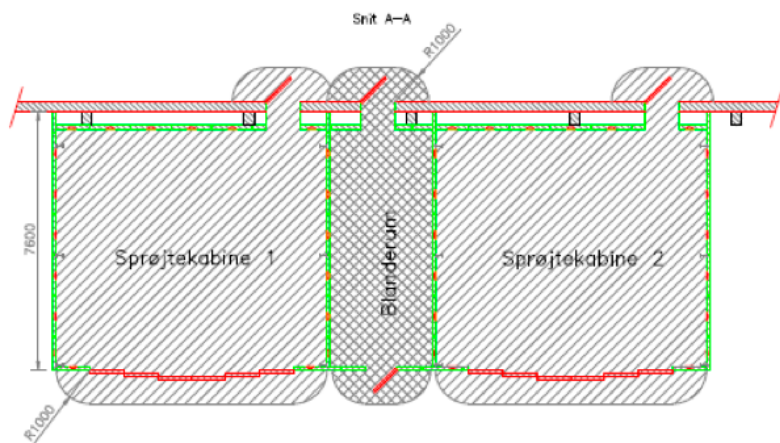
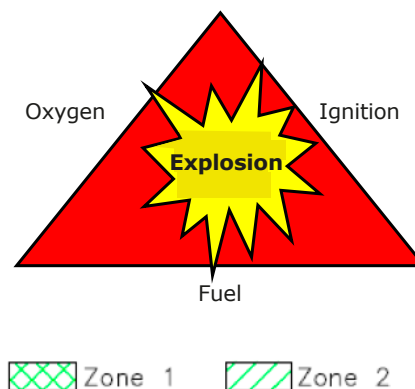
Heat recycling system/ Air volume	15.000 m³/h	20.000 m³/h	25.000 m³/h	30.000 m³/h	35.000 m³/h	40.000 m³/h	45.000 m³/h	50.000 m³/h
With 1 cross heat exchanger motors increase to the following (compared to page 18)	-	-	15 kW	-	18,5 kW	22 kW	30 kW	30 kW
With double cross heat exchanger motors increase to the following (compared to page 18)	11 kW	15 kW	18,5 kW	18,5 kW	22 kW	30 kW	30 kW	30 kW
Extra filter on exhaust	4 pcs. G4/EU4	4 pcs. G4/EU4	6 pcs. G4/EU4	6 pcs. G4/EU4	8 pcs. G4/EU4	8 pcs. G4/EU4	10 pcs. G4/EU4	10 pcs. G4/EU4

ATEX-Documentation:

ATEX zone-classification is required, and it must be performed individually according to EN 16985. Please find an example and accompanying explanation below:



Be aware of the ATEX triangle:



In Ventherm's systems there is only compressed air for the spray equipment when the booth is ventilated with adequate fresh air. During normal operation the booth is ventilated 150 to 200 times an hour. This change in air is so large that it will keep the concentration of organic solvent far below 25 % of the LEL (lower explosion limit). In principle the booth will therefore be unclassified during spraying, seen in an average view. There will however always be places in the booth where the concentration of organic solvent is higher (right in front of the spray gun), why the lowest class will necessarily be zone 2. We therefore classify the booth as zone 2 during spraying. The booth doors may not be opened during spraying. This is why the zone delimitation for zone 2 follows the booth's inner dimension, with an additional 1 m-safety radius by doors, gates etc.

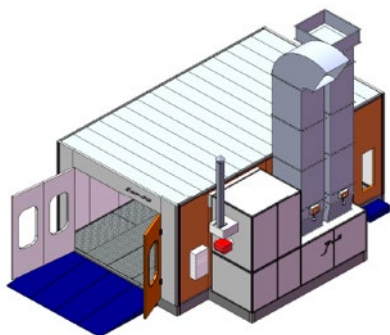
During spraying 90 % of the organic solvents are considered spontaneously released. Thus only 10% if the organic solvents remain for the drying process. Before the booth switches to drying with recirculation and the temperature increases the booth is by law required to ventilate for 10 minutes with clean fresh air, still 150 to 200 times an hour. A large part of the solvents will therefore have evaporated and the average concentration in the booth will not exceed 25 % of the LEL, even in case of discontinuance of ventilation. During normal dry operation the booth is ventilated with supply of approx. 20 % fresh air, equivalent to 30 - 40 times an hour. The booth is therefore in principle unclassified during the drying process. As the booth is already classified as zone 2 during spraying it serves no purpose to classify the booth lower during drying. The booth is therefore classified as zone 2 during drying. Extraction channels to and from units are likewise classified as zone 2.

Spray Booths for Auto Repair:

- ✓ Sold in very large numbers all over the world.
- ✓ Complies with applicable European standards.
- ✓ Standard quality materials, incl. Siemens motors.
- ✓ Supplied for embedding in floors or with ramps for mounting above concrete floors.
- ✓ Supplied with declaration of conformity and operators manual in English.



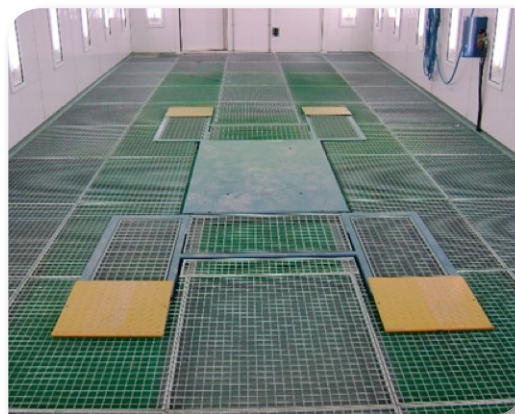
Type 900 – for passenger and delivery vehicles



Dimensions:	L:7000 mm W: 4000 mm H: 2650 mm (Internal. Can be increased!)
Air quantity:	25,000 m ³ /h, 2x7.5 kW motors (63 Amp fuse)
Heating:	Choose between oil or gas burners
Temperature:	Spraying ~ 20°C, drying max ~ 80°C
Light:	LED
Gates:	1 pcs. 3-wing, W: 3,000 mm H: 2600 mm

Options available:

- + Additional end door.
- + Outside ramp.
- + Turbodry system (water based paint)
- + Air handling unit on top of the booth.
- + IR drying.
- + Heat-recycling system.
- + Lift for vehicles.

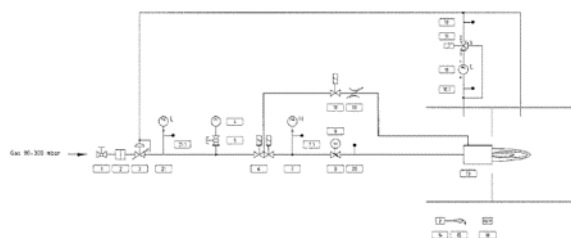
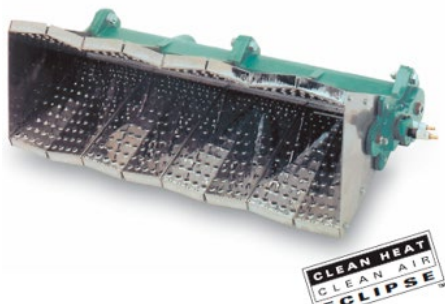
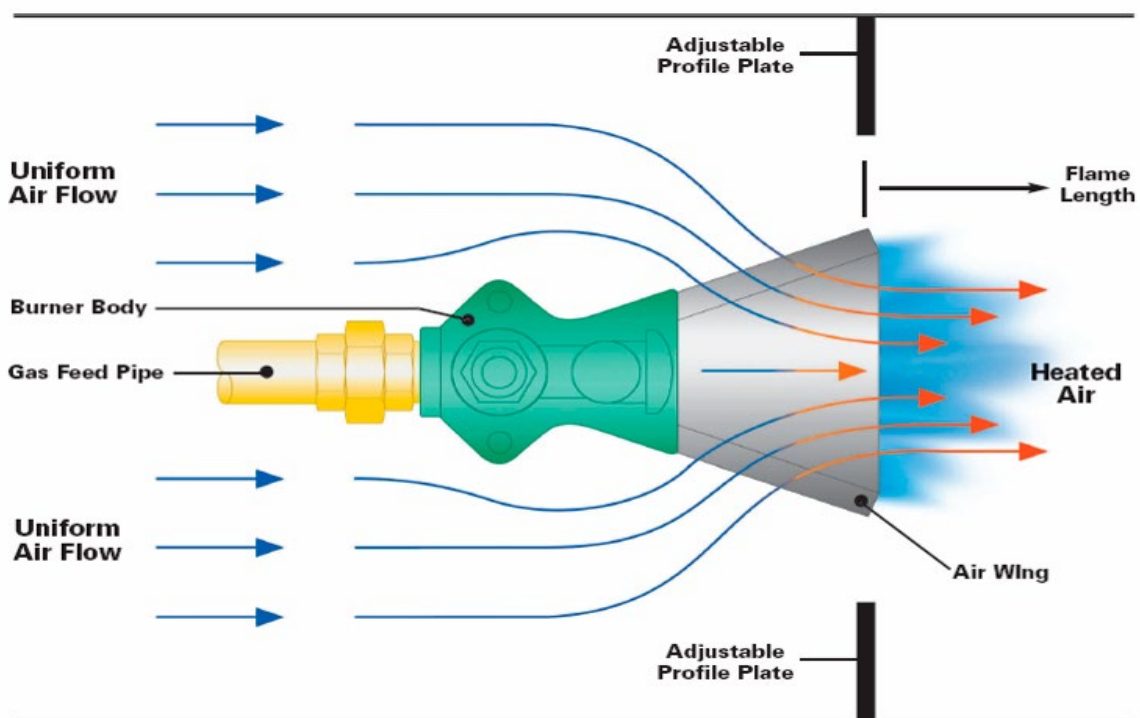


The booth is available with a lift built into the floor.

Spray Booths for Auto Repair:

Direct gas burner:

- ✓ Clean and very efficient combustion, both for natural gas and propane.
- ✓ 100% modulating burner (at least approx. 10 kW).
- ✓ Minimizes the energy consumption (can be combined with heat-recycling).
- ✓ Minimizes the process time.
- ✓ **Meets all requirements in EN-16985 and EN 746.** Please note that using direct gas burner requires additional safety features such as ventilation of the booth without heating and emission control inside the booth.



Spray Booths for Auto Repair:

A wide range of accessories for auto repair is available.

- ✓ Complete systems for infrared or ultraviolet drying of items, large or small.



- ✓ Equipment for cleaning of spray guns and/or cleaning and recycling of solvent.



- ✓ A wide selection of lifts for workshops.



Lifts for Operators:



WALL-MAN®:

- ✓ 3-Dimensional.
- ✓ Max. 150 kg. load.
- ✓ 50 m/min. sideways.
- ✓ 10-20 cm/sec. lifting.
- ✓ Max. air temp. 80 deg.
- ✓ Pneumatic controls.
- ✓ Air consumption 350 L/min.
- ✓ Several sizes – see next page.
- ✓ 1-year warranty.

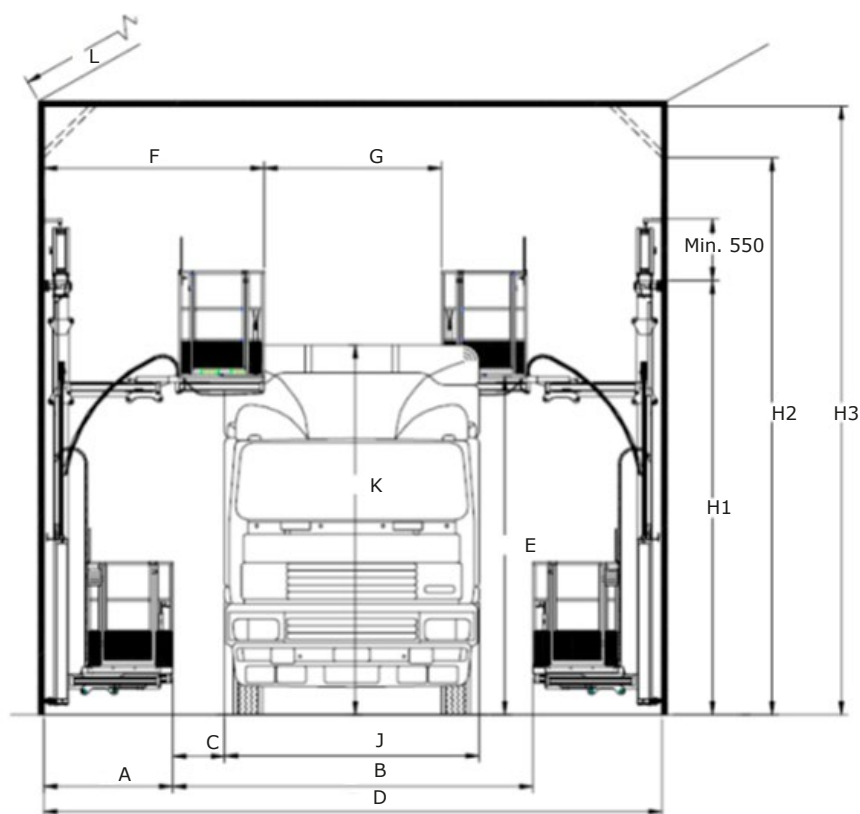


LIFTMAN®:

- ✓ 2-Dimensional.
- ✓ Ranges up to 10 m from supply position.
- ✓ Max. 140 kg. load
- ✓ Max. height 2.750 mm from floor.
- ✓ Pneumatic controls.
- ✓ Air consumption 350 L/min.
- ✓ 1-year warranty.

Lifts for Operators:

WALL-MAN® model choice:



Model	A	E option + 1250 mm	F	G	H1	H2	H3	Basket depth
1300/100	1.285	3.275	2.585	recommended	4.170	MIN.	MIN.	820
1200/100	1.235	3.275	2.435	max.	4.170	4.800	5.225	820
1100/100	1.185	3.275	2.285	1.800	4.170			820
1000/100	1.135	3.275	2.135		4.170			820
900/100	1.085	3.275	1.985		4.170			770
800/100	1.035	3.275	1.835		4.170			720
700/100	985	3.275	1.685		4.170			670
660/100	965	3.275	1.625		4.170			650
600/100	935	3.275	1.535		4.170			620

Lifts for Operators:

Painter®:

- ✓ Multiple sizes available.
- ✓ From 3,25 m to 4,5 m lifting height.
- ✓ Max. load 150 – 250 kgs depending on model choice.
- ✓ Drives manually on wheels.
- ✓ 6 bar compressed air for lifting.
- ✓ Size of basket: 674 x 2000 mm or 674 x 3500 mm.
- ✓ Outlet for compressed air in the basket.
- ✓ Shelf for equipment in the basket.

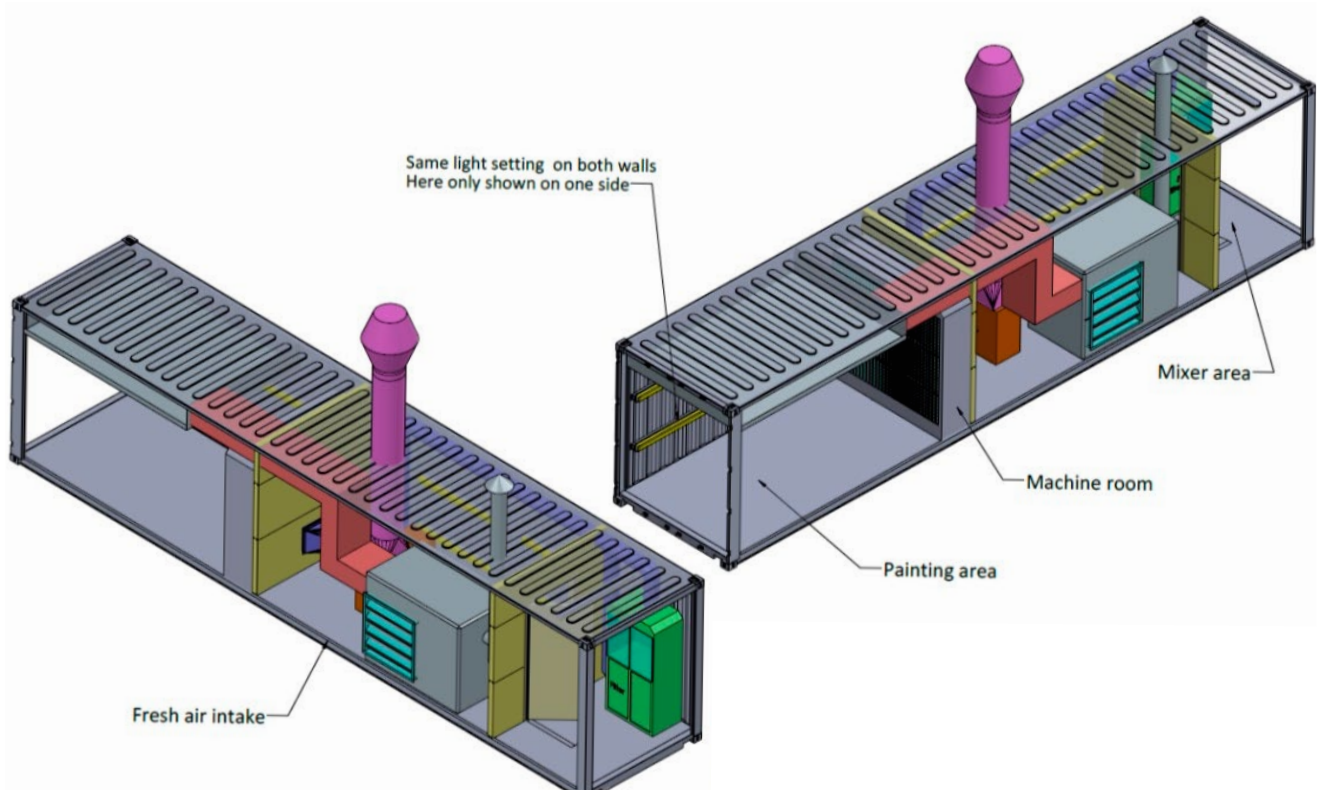


Container as Spray Booth:

- ✓ Standard 40" High Cube container.
- ✓ Available with insulation.
- ✓ All equipment built into the container.
- ✓ Also space for paint-mix room inside the container if required.
- ✓ Complete ventilation system with 10.000 m³/h, 0,5 m/sec. against the Andrae-filter.
- ✓ Heating system included (gas burner, oil burner or water based heating).
- ✓ Energy consumption: Electricity max. 10 kW, heating max. 100 kW

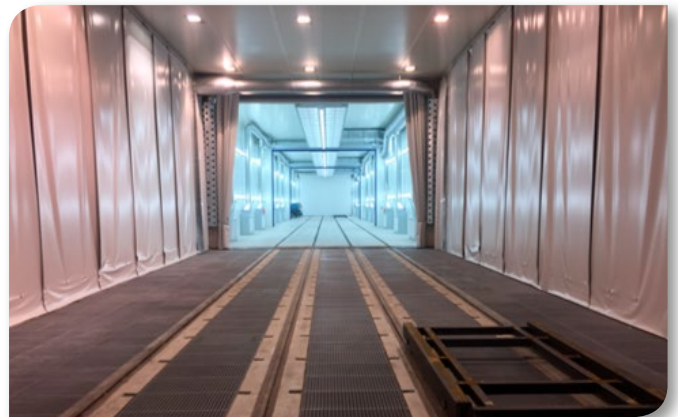
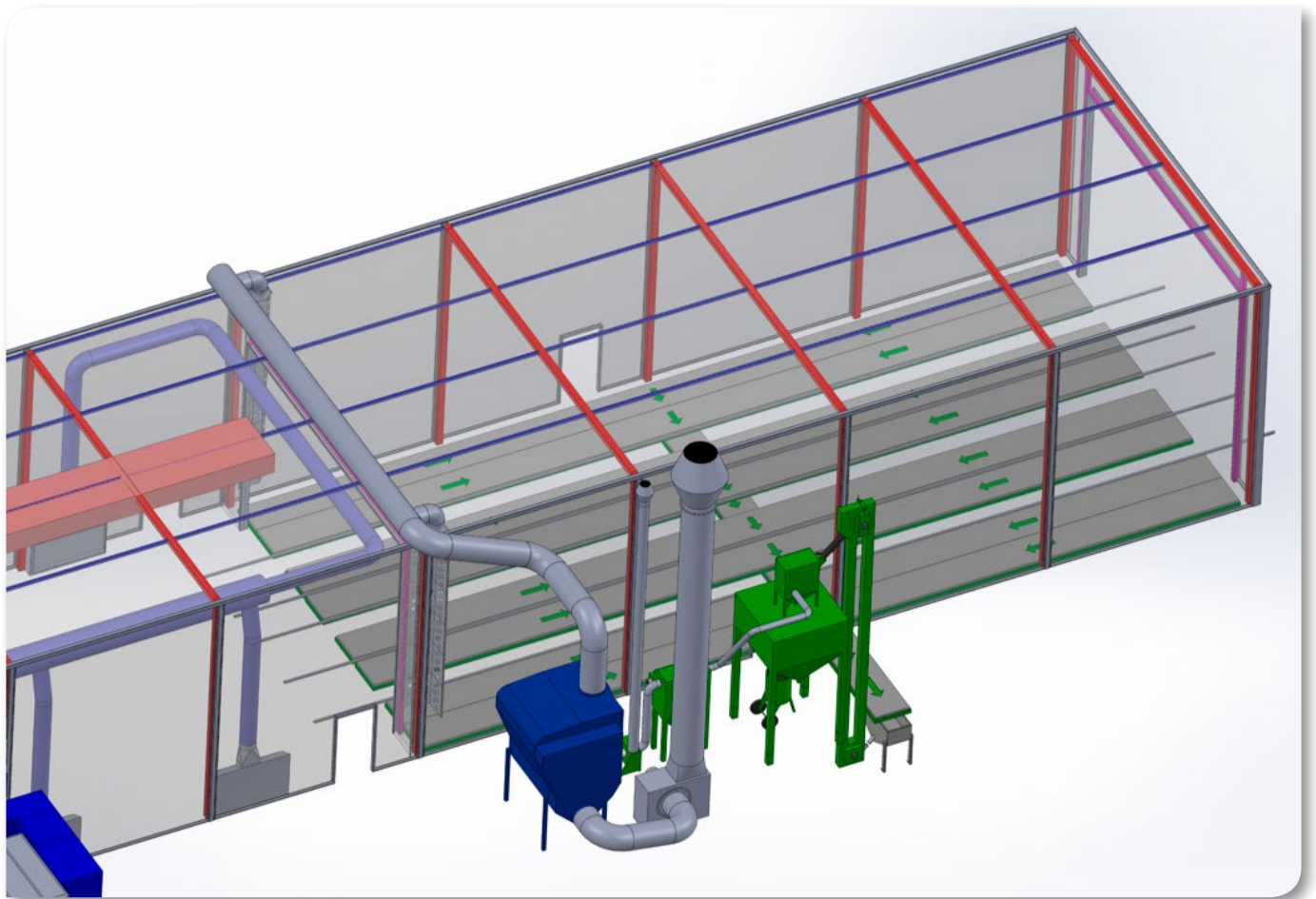


In this container a conveyor is included



Blast Rooms:

Ventherm delivers complete blast rooms with ventilation, filter systems, transportation systems, recycling systems and blasting machines. The starting point for the design is always a thorough analysis and conversation with the customer about workpieces, capacity, quality and optimization.



Blast Rooms:

Selected examples and references:

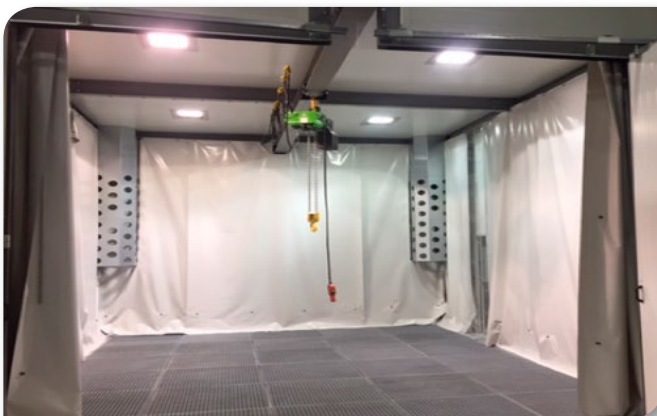
Upper right: Silo with double outlet for 2 blast machines with remote control.

Middel right: Trolley and rails for blast rooms – here built into the scraper floor.

Bottom right: Filter with big-bags.

Bottom left: Blast room with scraper floor and hoist.

Upper left: Large blast room with rubber protection and lights on the walls.



Wheel Blast Machines & Blast Robots:

In some cases, blasting is performed most effectively with an automatic wheel blast machine. A wide range of models and sizes is available – please find a few examples below. Please ask for a wheel blast machine that fits perfectly to your needs.



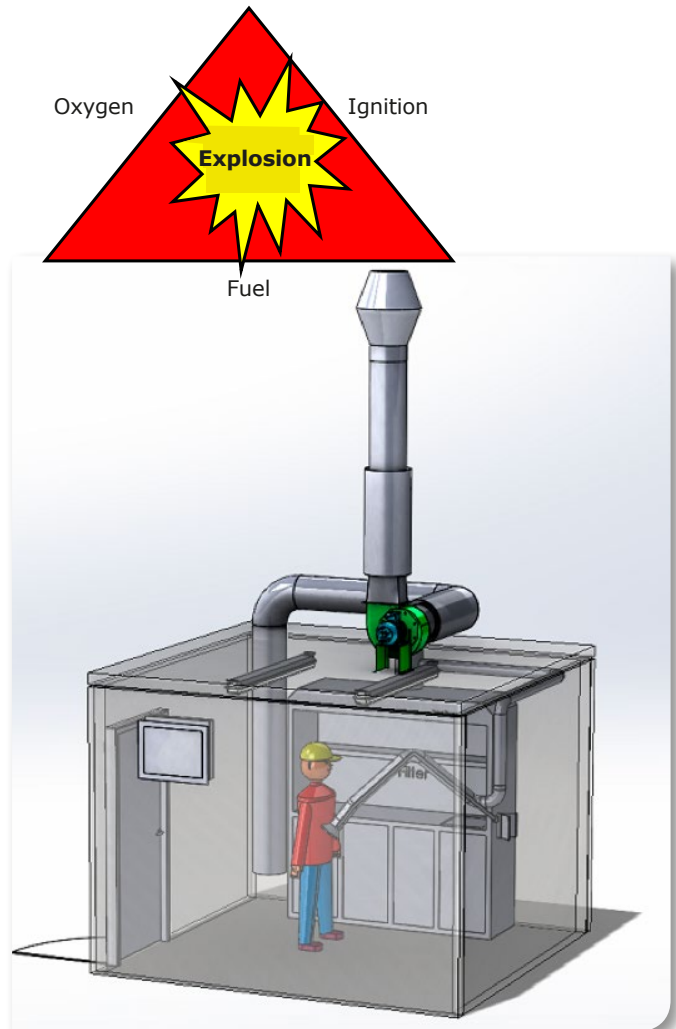
Robots are also available for blasting – either fully automated or semi-automated as shown below. Please ask for further information.



Paint Mixing Rooms:

- ✓ Constructed by EI60 fire rated sandwich panels.
- ✓ Air changes min. 60 times/hour when the room is occupied. Otherwise reduced air flow is sufficient.
- ✓ Good lighting.
- ✓ Equipment for ATEX zone 1 or 2.
- ✓ Equipped with a cleaning/mixing cabinet for solvent or water – see page 33.
- ✓ Possible sunken floor (spills).
- ✓ Can be delivered with specially heated replacement air.
- ✓ Legally mandated ventilation monitoring with lamp.
- ✓ Shown here to the right with standard equipment.

Be aware of the ATEX triangle:

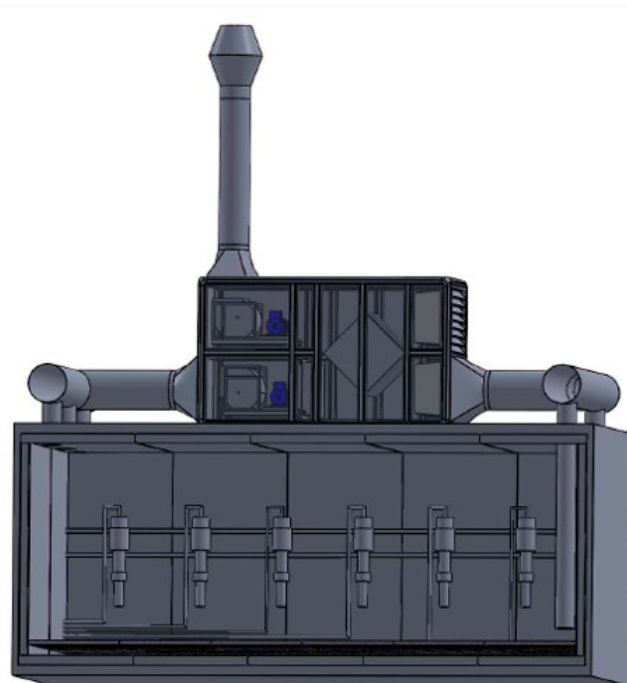


The model shown on the drawing for the addition of replacement air is preconditioned on the mixing room being able to be categorised as a non-permanent work location, which corresponds to normal practices as per the Working Environment Authority. For permanent work locations, replacement air must be injected from outside, which is a more comprehensive and expensive solution.

Paint Mixing Room:

Container solution:

- ✓ Standard 20" container.
- ✓ 100 mm fire insulation with EI60 approved sandwich panels.
- ✓ Complete ventilation systems with air change 60 times/hour in accordance with existing regulations.
- ✓ Complete floor grating with underlying waste tray for minimum 1,500 L.
- ✓ Heat exchanger and heat-recycling (possibly cooling).
- ✓ Built in lighting.
- ✓ All equipment is approved for ATEX zone 1 or 2.
- ✓ Gate in front so paint etc. can be loaded with a forklift.
- ✓ Energy consumption: El max. 4.4 kW, heating max. 8 kW
- ✓ Can be supplied with paint pumps etc. before delivery according to Ventherm's concept – **just Plug-and-Paint®**...



Cleaning / Mixing Cabinets:

- ✓ Efficient extraction, cleaning and storage for mixing and pumping rooms.
- ✓ Good work lighting (ATEX zone 2).
- ✓ Supplied with or without sink and drain.
- ✓ Extraction at shelf, rear wall and in lower cupboards.
- ✓ Extraction is often combined with, for example, a flex suction arm at scales or pumps.
- ✓ Can be delivered in selectable colour (standard = grey).



Also available with plexi
glas in the front

Type:	Dimensions (mm)	Light	Sink
RB1000-U	W: 1.000, H: 2.000 D: 600	✓	-
RB1000	W: 1.000, H: 2.000 D: 600	✓	✓
RB1500-U	W: 1.500, H: 2.000 D: 600	✓	-
RB1500	W: 1.500, H: 2.000 D: 600	✓	✓
RB2000-U	W: 2.000, H: 2.000 D: 600	✓	-
RB2000	W: 2.000, H: 2.000 D: 600	✓	✓
RB2500-U	W: 2.500, H: 2.000 D: 600	✓	-
RB2500	W: 2.500, H: 2.000 D: 600	✓	✓

Recommended air flow 1.000 – 1.800 m³/h

Spray Boxes:

✓- just Plug-and-Paint[®] version

Delivered complete and assembled. Simply connect the power cable and pipes to the exhaust chimney. (For Plug-and-Paint versions the fan is generally one size smaller due to less resistance)



Connect the accompanying power cable. Control panel to be mounted on the wall minimum 1 m away from the box.



Simple control panel:

- ✓ Ventilation on/off
- ✓ Light on/off
- ✓ Alarm/fault lamp
- ✓ Potentiometer in case of fan with freq. converter



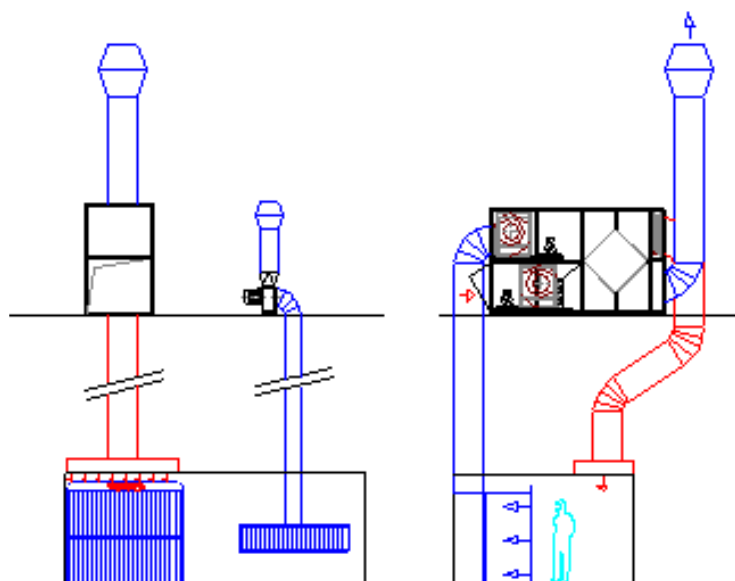
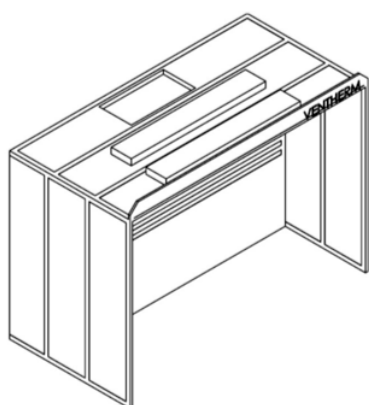
Magnetic valve stops spray airflow when the ventilation is off.



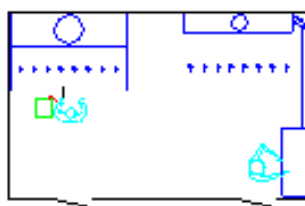
Legally mandated ventilation monitoring (filter alarm).

Spray Boxes:

- ✓ Good lighting
- ✓ Andraee filters, easy to replace
- ✓ Required air velocity 0,5 m/sec. towards filter/box.
- ✓ Should be supplemented with heated replacement air
- ✓ Heat-recycling system available as option.
- ✓ Select your own color – galvanized is standard.



Example – complete installation.



Type:	Dim (mm)	Light	Air quantity	Ventilation guard	Piping	Fan* 3 x 400 V 50 Hz
SB-1500	W: 1.500 H: 2.000 D: 1.500	qty. 1 2x36 W	0,5 m/sec. 5.400 m³/h	Included 100-1000 Pa	Ø400	BDS 454 1,1 kW (IE2) 450 Pa 1400 rpm
SB-2000	W: 2.000 H: 2.000 D: 1.500	qty. 1 2x58 W	0,5 m/sec. 7.200 m³/h	Included 100-1000 Pa	Ø500	BDS 504R 2,2 kW (IE2) 450 Pa 1400 rpm
SB-2500	W: 2.500 H: 2.000 D: 1.500	qty. 1 2x58 W	0,5 m/sec. 9.000 m³/h	Included 100-1000 Pa	Ø630	BDS 504 2,2 kW (IE2) 450 Pa 1400 rpm
SB-3000	w: 2.900 H: 2.000 D: 1.500	qty. 2 2x58 W	0,5 m/sec. 10.800 m³/h	Included 100-1000 Pa	Ø630	BDS 564R 3,0 kW (IE2) 450 Pa 1400 rpm

*) Spark-proof construction. Can also be delivered with 2-speed motor or frequency converter.

Spray Boxes:

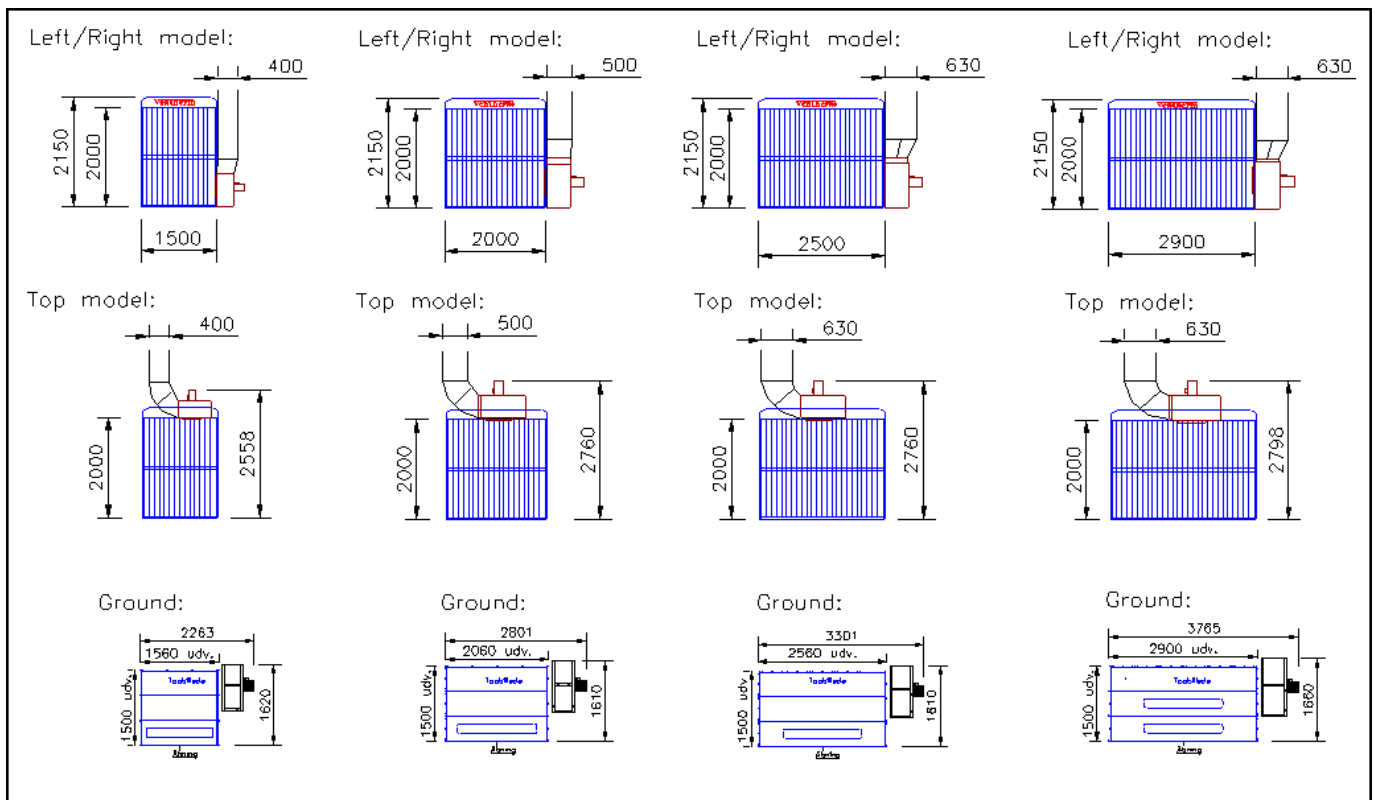
Dimensions for spray boxes – and ATEX and fire requirements.

SB-1500

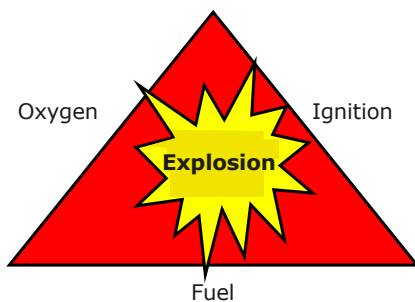
SB-2000

SB-2500

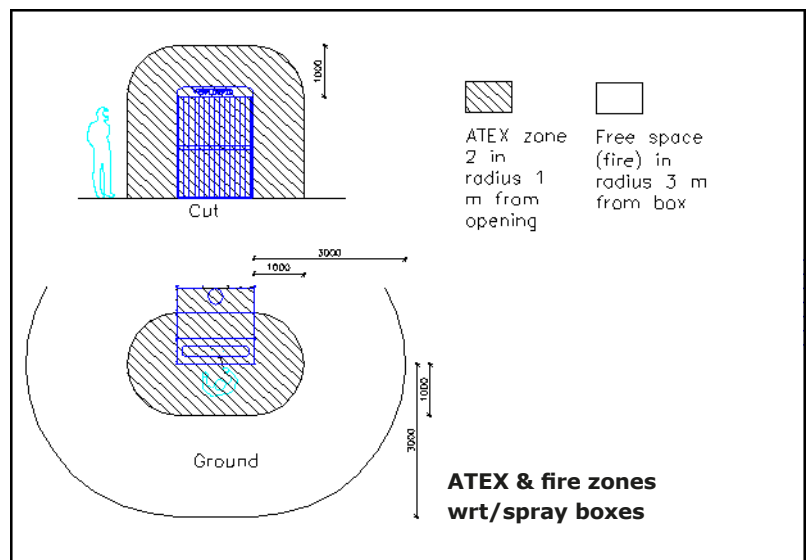
SB-3000



The ATEX triangle:



Solution: Eliminate one of the three legs in the ATEX triangle. In spray applications that means the ignition source (sparks typically).



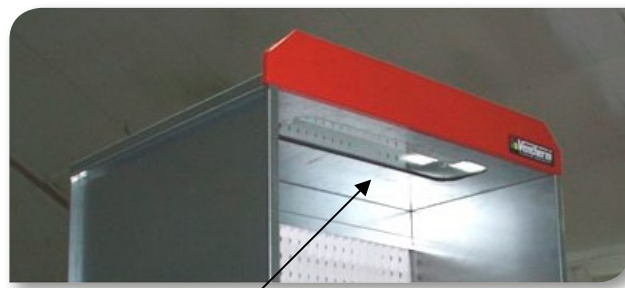
Spray boxes:

Little model (SBL-1000):

- ✓ Perfect for small jobs
- ✓ Good lighting
- ✓ Andreae filters, easy to replace
- ✓ Minimal maintenance
- ✓ Can be delivered on wheels
- ✓ Can be delivered in selectable colour (standard = galvanised)
- ✓ Can be delivered as **Plug-and-Paint®** which means with fan, control panel etc. fully mounted and ready to use.



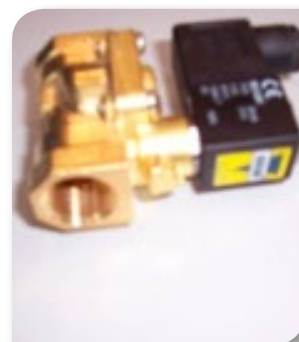
Dim	W: 1.000 mm H: 2.000 mm D: 1.000 mm
Airflow rate	0,5 m/sec.
Air quantity	1.800 m³/h
Light	2 x 18 W
Duct connection	Ø250
Ventilation guard	Included 100-1000 Pa
Fan spark-proof, 3x400 V	BDS-404 0,55 kW (IE2) 400 Pa 1400 rpm



Built-in fluorescent lamp fitting for proper work lighting



Simply connect the power cable.



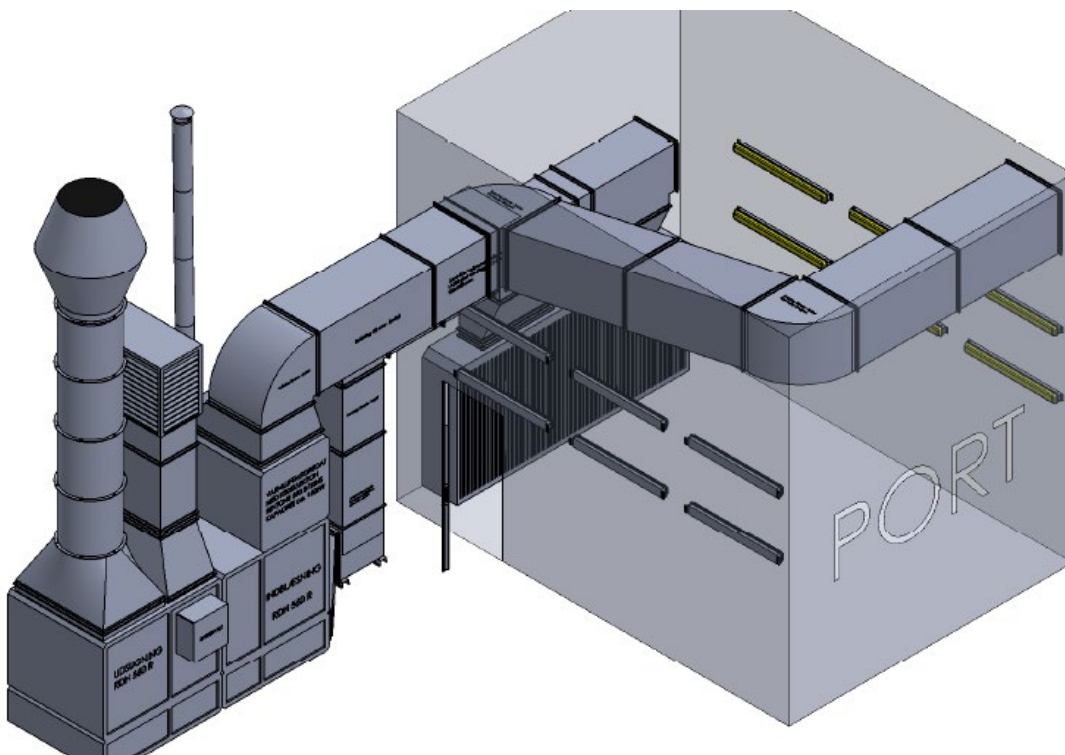
Magnetic valve stops spray airflow when the ventilation is off.

Spray Boxes:

Selected references with spray boxes:



- ✓ Balanced ventilation with extraction and heated replacement air.
- ✓ Many different options and applications.
- ✓ Can be combined with flash-off or drying oven.
- ✓ Horizontal ventilation 0.5 m/sec.
- ✓ The painted items must be placed within the walls of the box.
- ✓ The operator must stand outside the box and cannot walk around the unit.
- ✓ For ATEX and fire codes see page 36.



Spray Boxes:

Air heating units for replacement air...

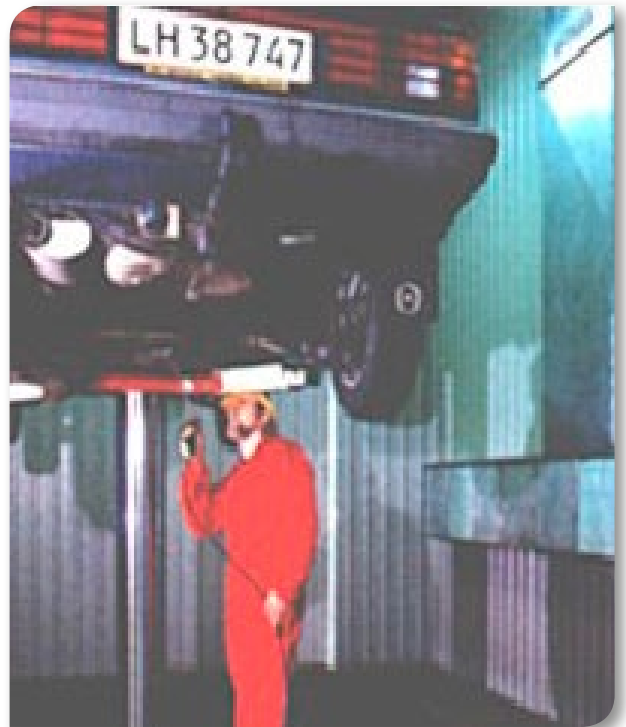
- ✓ High efficiency – low energy consumption.
- ✓ Accompanying control panel includes all thermostats and controllers, etc.
- ✓ Best quality – Weishaupt gas burners, Bentone oil burners, Ventherm water heaters.
- ✓ Combustion chamber in stainless steel.
- ✓ Incl. intake fan.
- ✓ Up to 75% heat recycling available as option.
- ✓ Various layouts and sizes.
- ✓ Ducts, chimneys and fittings are not included in the price.



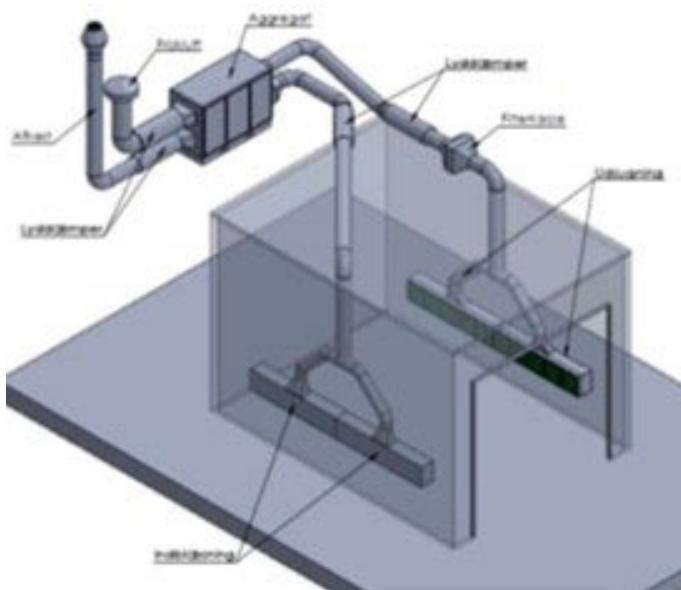
Box type:	Air volume	Heating capacity (Delta T = 30°C)	Control panel included	Heating source
SB-1500	5.400 m ³ /h	60 kW	✓	Gas, oil or water based
SB-2000	7.200 m ³ /h	75 kW	✓	Gas, oil or water based
SB-2500	9.000 m ³ /h	100 kW	✓	Gas, oil or water based
SB-3000	10.800 m ³ /h	115 kW	✓	Gas, oil or water based

Under-seal Treatment for Cars (Anti-corrosion):

- ✓ Special booths meant for anti-corrosion protection and undercoating of cars.
- ✓ Diagonal horizontal ventilation according to valid standards.
- ✓ Air velocity must represent 0,3 m/sec. 20 cm. under the bottom of the car.
- ✓ Both extraction and heated replacement air.
- ✓ Booths can be delivered complete with lifts, grid floors, lighting, etc.



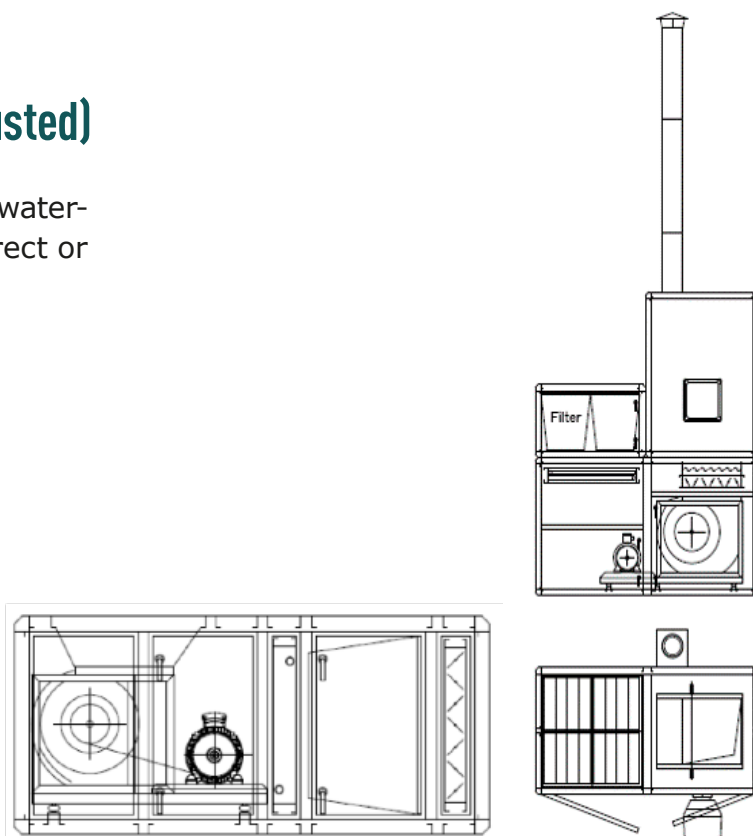
Example of full ventilation and heating for undercoating:



Air Heating Units:

(Delta T is here 40°C – can be adjusted)

- ✓ Complete air heating units with either water-based heat exchanger, oil burner or direct or indirect gas burner.
- ✓ Heat exchanger in stainless steel.
- ✓ Fresh air filter and recirculation.
- ✓ Injection fan.
- ✓ Soot chimney included.
- ✓ Controls with frequency converter.
- ✓ Can be provided with heat-recycling.



Spec. / Type	IA-150	IA-245	IA-300	IA-375	IA-450	IA-580	IA-650	IA-700
Air volume:	10,000 m3/h	15,000 m3/h	20,000 m3/h	25,000 m3/h	30,000 m3/h	35,000 m3/h	40,000 m3/h	45,000 m3/h
Heating capacity:	150 kW	245 kW	300 kW	375 kW	450 kW	580 kW	650 kW	700 kW
Motor (3x400V):	4.0 kW	7.5 kW	11.0 kW	11.0 kW	15.0 kW	15.0 kW	18.5 kW	22.0 kW
Burner:	oil or gas	oil or gas	oil or gas	oil or gas	oil or gas	oil or gas	oil or gas	oil or gas
Recirculation:	yes	yes	yes	yes	yes	yes	yes	yes
Fresh air intake:	yes	yes	yes	yes	yes	yes	yes	yes
Filter in intake:	yes	yes	yes	yes	yes	yes	yes	yes
Pressure:	400 Pa	400 Pa	400 Pa	400 Pa	400 Pa	400 Pa	400 Pa	400 Pa
Chimney:	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m
Dimensions L,W,H:	1000x 1100x 2100	1200x 1500x 2300	1200x 1600x 2400	1300x 1700x 2500	1600x 2000x 2500	1700x 2100x 2500	1700x 2300x 2600	1800x 2300x 2600
Control panel:	Includes frequency converter, pressure transmitter, temperature regulation, thermostats and burner control							
Heat exchanger:	All heat exchangers are stainless steel							

Units for Room Ventilation:

For room ventilation – especially for automobile workshops – Ventherm recommends that this be carried out in accordance to the following rules:

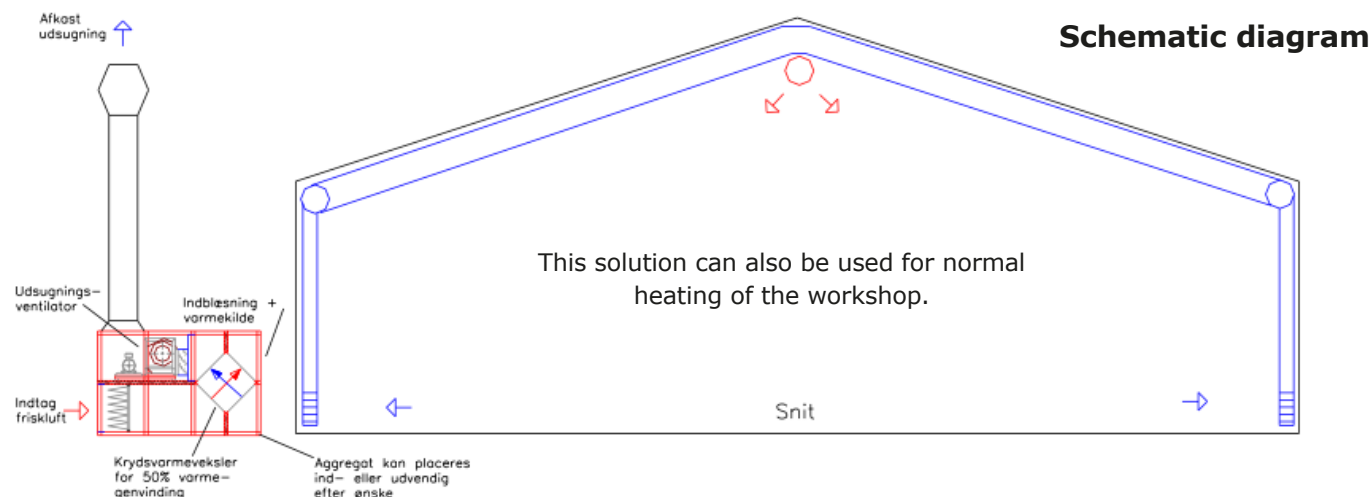
**Guidelines of the Working Environment Authority
– Ventilation at permanent work locations.**

The automotive industry's ventilation guidelines.

The most essential requirements of these guidelines for room ventilation are the following:

- ✓ Air change of 15-25 m³ of air per m² of floor area (or min. 3 times per hour).
- ✓ Replacement air from outdoors must be heated.
- ✓ Injection of replacement air should occur under the ceiling.
- ✓ Air extraction should be performed at the floor so that dust, etc. is efficiently removed from the workshop.
- ✓ For heat recovery, rotating exchangers that can cause recirculation may not be used.

The only effective manner of complying with these requirements is by performing room ventilation as shown in the schematic diagram below.

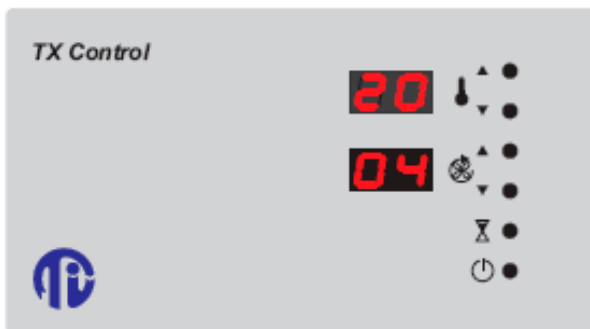
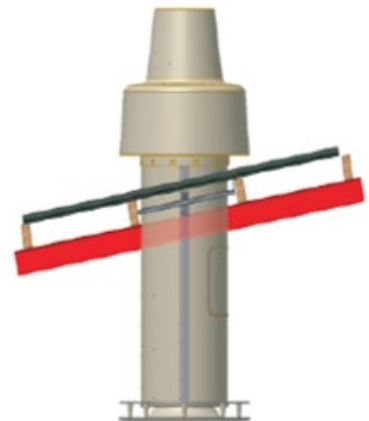


Air volume	Heating capacity	Heat recycling	Controls incl.	Heating choices
5.000 m ³ /h	25 kW	Yes, 50–60%	✓	Gas, oil, district heating
7.500 m ³ /h	40 kW	Yes, 50–60%	✓	Gas, oil, district heating
10.000 m ³ /h	55 kW	Yes, 50–60%	✓	Gas, oil, district heating
15.000 m ³ /h	80 kW	Yes, 50–60%	✓	Gas, oil, district heating

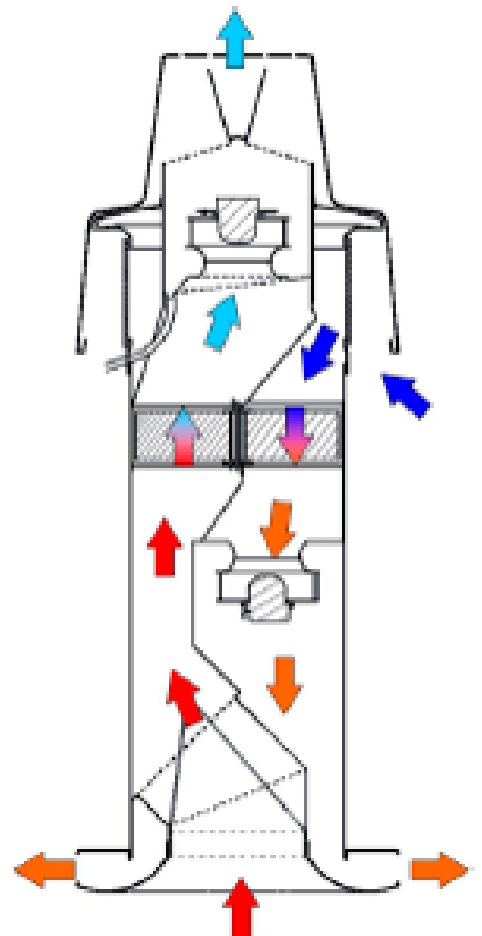
Units for Room Ventilation:

Turbovex TX3100A:

- ✓ Roof fans for room ventilation.
- ✓ Intake and discharge through roof.
- ✓ Air quantity up to 3,000 m³/h.
- ✓ Balanced air change – 4 steps.
- ✓ 75% heat recycling (rotating exchanger – no heating unit).
- ✓ Bypass function.
- ✓ Approved by the Working Environment Authority.
- ✓ Easy to install – Ø830 mm pipe penetration.



Control panel



Grinding Dust Extraction:

- ✓ Best available equipment for dust extraction from automotive and industrial grinding applications.
- ✓ Effective dust extraction with automatic filter cleaning.
- ✓ Available in many sizes and configurations (please ask for separate catalogue)



Wide range of turbines:

- ✓ Filter with automatic cleaning.
- ✓ With or without frequency converter on the fan.
- ✓ Motors from 2,2 kW to 15 kW.
- ✓ Capacity up to 12 simultaneous users.
- ✓ Please ask for separate catalogue.

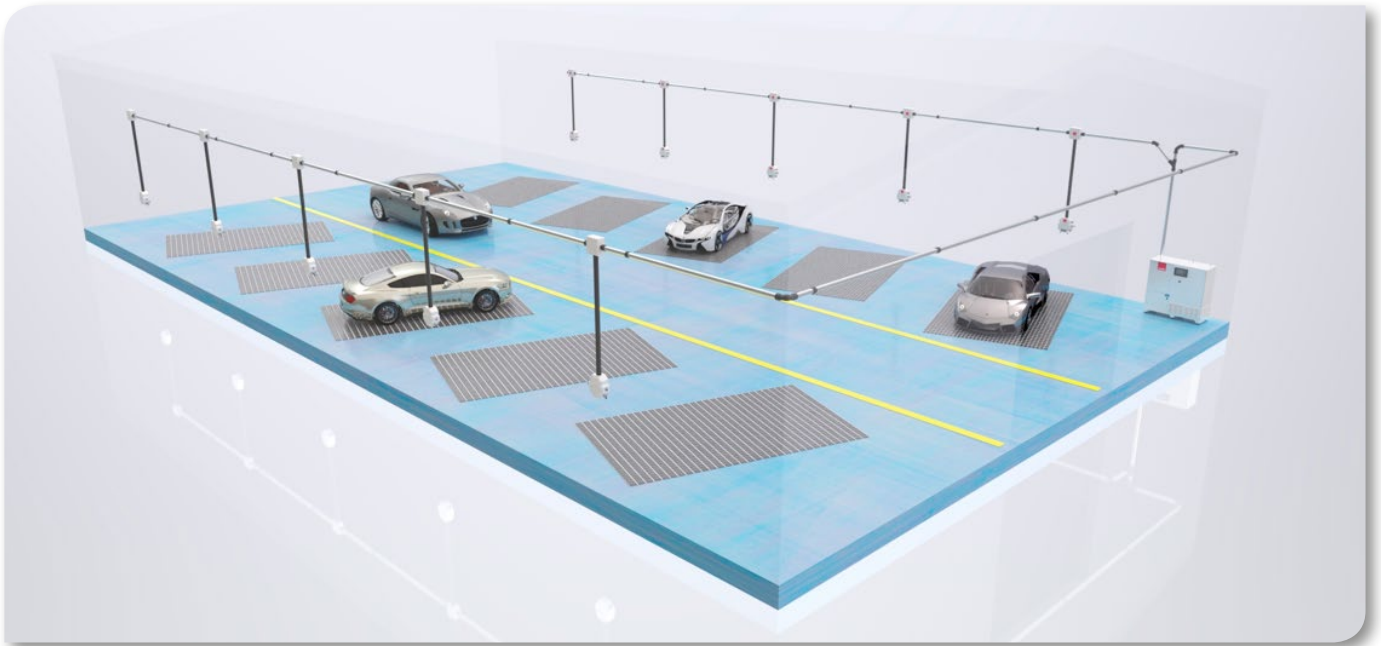
Large selection of accessories, i.e.:

- ✓ Control boxes incl. hoses and outlet for air and electricity.
- ✓ Control boxes available for wall-mounting or drop-down.
- ✓ Swing-arm in different sizes, also with built in light.



Grinding Dust Extraction:




Examples – complete workshop installations:



Suction Arms for Welding Fumes etc.:

Product	Type	Range	Dim.	Description
 <p>#4 with external turning part</p>  <p>#3 with external turning part</p>  <p>Type C</p>  <p>Flex</p>	#4	2,0 m	Ø160	Aluminium tubes, gas damper, funnel, wall fittings
	#4	3,0 m	Ø160	Aluminium tubes, gas damper, funnel, wall fittings
	#4	4,0 m	Ø160	Aluminium tubes, gas damper, funnel, wall fittings
	#4		Ø160	Close damper for funnel
	#4	2,0 m	Ø200	Aluminium tubes, gas damper, funnel, wall fittings
	#4	3,0 m	Ø200	Aluminium tubes, gas damper, funnel, wall fittings
	#4	4,0 m	Ø200	Aluminium tubes, gas damper, funnel, wall fittings
	#4		Ø200	Close damper for funnel
	#3	2,0 m	Ø160	Hose, gas damper, funnel, wall fittings
	#3	3,0 m	Ø160	Hose, gas damper, funnel, wall fittings
	#3	4,0 m	Ø160	Hose, gas damper, funnel, wall fittings
	#3		Ø160	Close damper for funnel
	#3	2,0 m	Ø200	Hose, gas damper, funnel, wall fittings
	#3	3,0 m	Ø200	Hose, gas damper, funnel, wall fittings
	#3	4,0 m	Ø200	Hose, gas damper, funnel, wall fittings
	#3		Ø200	Close damper for funnel
	C	1–2 m	Ø160	Inside telescopic arm w/ hose
	C	1,4–3 m	Ø160	Inside telescopic arm w/ hose
	C		Ø160	Close damper for funnel Ø160
	C		Ø160	Wall fittings Ø160
	C	1–2 m	Ø200	Inside telescopic arm w/ hose
	C	1,4–3 m	Ø200	Inside telescopic arm w/ hose
	C		Ø200	Close damper for funnel Ø200
	C		Ø200	Wall fittings Ø200
	Flex	1,0 m	Ø100	Inside turning part w/ hose
	Flex	1,5 m	Ø100	Inside turning part w/ hose
	Flex	1,0 m	Ø125	Inside turning part w/ hose
	Flex	1,5 m	Ø125	Inside turning part w/ hose
	Flex		Ø100	Transparent funnel Ø100, PolyCarbonat
	Flex		Ø125	Transparent funnel Ø125, PolyCarbonat
	Flex		Ø100	Transparent screen Ø100 300x245 mm
	Flex		Ø125	Transparent screen Ø125 300x245 mm

Suction Arms for Welding Fumes etc.:

Product	Dimension	Description	Weight
Extension arm 	Ø160	Standard length 1,7 m	75 kg
	Ø160	Standard length 2,7 m	88 kg
	Ø160	Standard length 4,0 m	106 kg
	Ø200	Standard length 2,3 m	
	Ø200	Standard length 3,5 m	
	Ø200	Standard length 5,7 m	
Fans For direct mounting on point suction arm  Large fans for central suction solutions, possible with filter, supplied upon request. Can be converted to 1x230V or 3x220V	Ø160/Ø160	Intake and outlet ø160, Voltage 3 x 400V Motor power 0,55 kW Capacity 1.200 m³/h Noise level 67 dB/A Weight 22 kg.	
	Ø160/Ø200	Intake and outlet ø160/200, Voltage 3 x 400V Motor power 1,1 kW Capacity 1.600 m³/h Noise level 68 dB/A Weight 28 kg.	
	Ø200/Ø200	Intake and outlet ø200, Voltage 3 x 400V Motor power 1,5 kW Capacity 3.000 m³/h Noise level 70 dB/A Weight 35 kg.	
Installation 	Ventherm produces and installs complete air extraction systems with injection and extraction fans, filter systems, duct systems and automation. Quotation are given as per individual situation. Contact Ventherm A/S by phone at (+45) 62 63 18 68		



Power outlet CE for connection of welding system. When the welding system is activated, a signal is given to a motor-driven damper, which then opens. 16/32 Amp.
(GR-09178000)



Normal revolving damper with damping motor, which opens after a signal from the power outlet.
(LI-DTBU) Ø200 230V/24V
(LI-DTBU) Ø160 230V/24V

Self-cleaning Cartridge Filters:

- ✓ Well-suited for welding fumes, sandblasting, plasma/laser cutters, central vacuuming systems, etc.
- ✓ Efficient filtration, at least 99% separation.
- ✓ Long lifespan of filter cartridges.
- ✓ Automatic cleaning with compressed air.
- ✓ From 500 m³/h to 200,000 m³/h.
- ✓ Delivered in various designs.
- ✓ All filters are also available in special or ATEX versions.

Recommended max. filter load:

Welding fumes:	50 m ³ /h per m ²
Sandblasting:	40 m ³ /h per m ²
Plasma, etc.:	18 m ³ /h per m ²



For welding fumes, etc. paper cartridges are used, polyester is used for sandblasting.


Info/Model	4500	7500	X7,5	X10	X15	X22,5	X30
Air quantity m ³ /h	750–1.500	2.000–6.000	3.700–11.250	5.000–15.000	7.500–22.500	11.000–33.000	15.000–45.000
No. cartridges	1	4	7,5	10	15	22,5	30
Filter area	40 m ²	160 m ²	174/90 m ²	232/120 m ²	348/180 m ²	522/270 m ²	696/360 m ²
Filter media	Polyester	Paper	Paper/ Polyester	Paper/ Polyester	Paper/ Polyester	Paper/ Polyester	Paper/ Polyester
Dust bucket	Drawer/box	50 L	50 L	50 L	50 L	50 L	50 L
Pressure drop	800-1500 Pa	800-1500 Pa	800-1500 Pa	800-1500 Pa	800-1500 Pa	800-1500 Pa	800-1500 Pa
Comp. air consump.	0,1 Nm ³ , 5 bar	0,2 Nm ³ , 5 bar	0,3 Nm ³ , 5 bar	0,5 Nm ³ , 5 bar	0,6 Nm ³ , 5 bar	0,7 Nm ³ , 5 bar	1,0 Nm ³ , 5 bar

Filters:

- ✓ High quality filters only – tested acc. to EN779 / ISO16890.
- ✓ High degree of efficiency.
- ✓ Long lifespan.
- ✓ Day-to-day delivery.



Type		Size
Prefilter cartridges (EU4/G4) Filter bag for dust etc. Max. amount of air 4-5.000 m ³ /h for size 600x600x600. Maximum recommended pressure loss: 250 Pa		600 x 600 x 300
		300 x 600 x 300
		600 x 600 x 600
		300 x 600 x 600

Type		Size
Paint stop filter (PS50) Glass fiber material Recommended air velocity: 0.7 – 1.75 m/sec. Maximum recommended pressure loss: 200 Pa Filtration capability: Up to 97% at 0.75 m/sec.		Roll of 1.5 x 20 m
		Roll of 1 x 20 m
		Roll of 0.75 x 20 m
		Roll of 0.5 x 20 m

Type		Size
Prefilter (blue) Synthetic coarse filter		Roll of 1 x 20 m
		Can also be delivered with customized dimensions.

Type		Size
Andreae-filter 2-layered "heavy-kraft-paper" Recommended air velocity: 0.5 – 1 m/sec. Maximum recommended pressure loss: 130 Pa Filtration capability: Up to 98% at 0.75 m/sec.		Pack of 0.9 x 9.2 m

Type		Size
Filter for ceiling (NF 600PA) Thermically bound polyester fibres		Roll of 1 x 20 m
		Can also be delivered with customized dimensions

Terms of sales and delivery for Ventherm A/S

1.0 Sales and delivery terms and conditions for application area.

- 1.1 The sales and delivery terms and conditions are applicable for every sale by A/S to the extent that they are not expressly departed from or modified by another written agreement.
- 1.2 Special purchasing rights or specific requirements for the purchased items on the part of the Buyer, specified on the Buyer's purchase order or in the Buyer's general purchasing terms and conditions are not binding for Ventherm A/S unless Ventherm A/S has expressly declared itself in writing as having understood and accepted the terms and conditions.

2.0 Offers and orders.

- 2.1 Agreements between Ventherm A/S and the Buyer are only first deemed to be binding for Ventherm A/S when the agreement has been confirmed in writing by Ventherm A/S by an order confirmation.
- 2.2 The Buyer's possible objections to the content of the order confirmation must be submitted in writing and have been received by Ventherm A/S at the latest 8 days after the date of the order confirmation.
- 2.3 Cancellation, return or alteration of an order may only occur with the written approval of Ventherm A/S.

3.0 Delivery and payment.

- 3.1 The delivery clause is ex works unless agreed upon otherwise in a specific instance.
- 3.2 The delivery times quoted by Ventherm A/S are preconditioned upon the Buyer having fulfilled in a timely manner all the requisite or agreed formalities or terms and conditions.
- 3.3 Ventherm A/S reserves the right to deliver in instalments.
- 3.4 The payment terms are net 8 days, if nothing to the contrary has been agreed in the order confirmation.
- 3.5 If payment for the purchase does not take place in a timely manner, penalty interest is accrued from the date of the invoice on amounts owed at any point in time incl. previously accrued interest, expenses, etc. at 2% per commenced month, with the interest being accrued to the residual balance monthly, inclusive interest. In addition, Ventherm A/S is not obligated to deliver further deliveries, regardless of whether a binding sales agreement has been entered into with the Buyer.

4.0 Delays.

- 4.1 Regardless of what is agreed on in point 3.2, the Buyer, if Ventherm A/S does not deliver in accordance with a point in time for delivery stated by Ventherm A/S, is entitled upon written notification to Ventherm A/S to demand delivery and establish a final deadline of a minimum of 30 working days computed from the point in time at which the Buyer asserts such right, and to thereby state that the Buyer will cancel the purchase agreement if delivery does not occur within this deadline, cf. point 4.2.
- 4.2 If delivery does not take place within the deadline set by the Buyer with respect to point 4.1, the Buyer is entitled, upon written notification to Ventherm A/S, to cancel the transaction. In addition to the aforementioned cancellation right, the Buyer may not assert other breach rights for delays against Ventherm A/S and thus cannot, for example, bring claims for compensation of any type.

5.0 Responsibility for deficiencies.

- 5.1 Upon the Buyer's ascertainment of deficiencies, the Buyer must, in writing, describe and specify to Ventherm A/S the alleged deficiency. Every claim concerning deficiencies must have been received by Ventherm A/S at the latest 10 days after delivery of the purchase. If the Buyer omits to do this, then the Buyer may not assert a claim for the deficiency.
- 5.2 Every claim for a deficiency, regardless of its nature, must be asserted within 6 months of the date of the invoice, thus after this deadline the Buyer cannot allege the deficiency.
- 5.3 If a claim is submitted too late, cf. point 5.1 and 5.2, but Ventherm A/S regardless enters into discussions of substance with the Buyer occasioned by the claim submitted, Ventherm A/S does not thereby simultaneously waive the ability to later assert that the claim concerned was submitted too late.
- 5.4 If deficiencies are demonstrated that can be asserted against Ventherm A/S, Ventherm A/S may as per its own choice entitled and obligated to either perform a redelivery, remedy the deficiency or give the Buyer a proportionate discount off the agreed purchase sum. The Buyer will thereby be fully and finally satisfied for any claim in consequence of the deficiency.
- 5.5 Ventherm A/S will issue within a reasonable amount of time after receipt of the Buyer's claim a statement concerning its selection with respect to point 5.4. If Ventherm A/S does not, within 20 working days after the issuance of a statement to the Buyer, fulfil its obligations with respect to point 5.4, the Buyer may give Ventherm A/S a last reasonable deadline in writing for remediation of the deficiency. If the obligation of Ventherm A/S has not been fulfilled before the expiration of the deadline established, the Buyer may terminate the agreement, provided the deficiency is substantive, or, if the deficiency can be said to be inconsequential, require a proportionate discount in the agreed purchase sum.
- 5.6 Ventherm A/S has, in addition to what has been provided for above, no liability for deficiencies, and the Buyer thus may not assert other breach rights other than what appears in the above. Ventherm A/S is thus not liable under any circumstances, regardless of any possible gross negligence, for example for direct losses or operating losses, lost profits or other indirect losses of consequential damages.
- 5.7 What is specified in the present sales and delivery terms and conditions concerning deficiencies, applies for both factual as well as legal deficiencies.

6.0 Force majeure and similar events.

- 6.1 Ventherm A/S is not liable for a lack of fulfilment of its obligations in consequence of circumstances that lie outside the direct control of Ventherm A/S and that cannot be attributed to Ventherm A/S and that are able to delay or prevent production or delivery of the purchase, or that make fulfilment significantly more burdensome for Ventherm A/S than expected.
- 6.2 If deficiency-free or timely delivery is prevented temporarily due to force majeure as mentioned in point 6.1, the delivery obligation is suspended during that space of time the hindrance persists, and the thus delayed delivery time will be deemed in all respects to be timely, hence the Buyer will not be entitled to cancel the purchase as long as such an event exists.
- 6.3 If Ventherm A/S wishes to assert the present point 6, Ventherm A/S is obligated to immediately give notice to the Buyer of such, with a specification of the cause and the time that the hindrance is expected to persist. Ventherm A/S shall at the same time strive to overcome the hindrance as quickly as possible and subsequently fulfil its obligations as soon as possible.
- 6.4 If a force majeure situation persists or is calculated by Ventherm A/S to last for over 6 weeks, both Ventherm A/S as well as the Buyer are entitled to cancel the agreement entered into without it being deemed to be a breach. The Buyer may thus not demand any form of compensation from Ventherm A/S.

7.0 Product liability.

- 7.1 Ventherm A/S is not liable for damages inflicted by the purchase, unless the damage is due to continued or gross negligence on the part of Ventherm A/S, or where personal injuries or consumer damage is involved. Regardless of the aforementioned, Ventherm A/S is however not in any event liable for capital losses, operating losses, losses of time, losses of profits, consequential damages and similar indirect losses.
- 7.2 The Purchaser is obligated, without undue delay, to notify Ventherm A/S if the Buyer becomes aware that damage caused by the deliver has occurred or been alleged by a third party, or if there is a danger that such damage will occur.
- 7.3 To the extent that liability might be imposed on Ventherm A/S with respect to a third party, the Buyer is obligated to indemnify Ventherm A/S to the same extent that the liability of Ventherm A/S is limited with respect to point 6 and the present point 7.

8.0 Jurisdiction and choice of law.

- 8.1 Any dispute arising from this present sales and delivery terms and conditions must be resolved under Danish law.
- 8.2 Any dispute must be resolved with the home venue of Ventherm A/S as the agreed venue. Regardless of the aforementioned, Ventherm A/S is however always entitled to bring actions against the Buyer in the Buyer's home venue or another venue that has jurisdiction over the Buyer if the claim asserted by Ventherm A/S is specified to concern a lack of fulfilment of its payment obligation. In addition, the Buyer is obligated to permit itself to be subject to an action in the same forum that processes any possible product liability case against Ventherm A/S, regardless of whether such a case is processed by the ordinary courts or by arbitration.

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Ventherm A/S

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