

Dear Reader,
Dear Customer,

In the past almost 20 years in our locations Mühlau and Greven we have been developed to an approved manufacturer in the field of surface treatment technologies. The focus of our activities rests here on the treatment of large constructional components in terms of blast cleaning and coating techniques. Our machines had been and will specifically be developed for large voluminous and heavy workpieces and individually be designed to your needs and those of our customers, respectively.

Your interests in respect of economic efficiency, ease of maintenance, and environmental friendliness had always been the centre point of our efforts in the development of our products. Only this explains that quite a number of reputable companies in our home country and abroad placed their confidence in us and invested into our machine designs. With gratefulness and proud we look on a respectable list of executed reference projects.

In the same period of time the corrosion protection plant in Mühlau, our second branch of business, has developed itself to a reputable company specialized in the field of job oriented blast cleaning and coating works largely beyond the regional area of Saxony. Also here, the continuous efforts to meet the wishes of our customers of aiming at high quality expectations enabled a continuous growth.



Management: H.-G. Vollmer and F. Gaidies (l. to r.)

You, our customers, are in the centre point of our business policy since we know that we can only then exist in the competition if you place your confidence into us again and again. A team of highly motivated personnel is ready to receive your individual problems. Please test us in all questions around *blast cleaning – paint spraying – handling* or in German language:

Strahlen – Lackieren – Fördern.

H.-G. Vollmer *F. Gaidies*

Heinz-Georg Vollmer

Fritz Gaidies

Modern surface technology for Jöst Schwingungstechnik



Open-space paint spraying area with movable telescopic dryer.

The internationally acting company **Jöst** manufactures units which recycle and convey bulk materials by means of vibration technology. From small punching sheets up to 12 m long welded constructions with a weight of up to 20 t are processed in the engineering department. Here, our task was to provide a new hall with a preparation, a paint spraying and drying equipment.

Optimum conditions for the paint application on structures are achieved by shot blasting treatment which removes all kinds of contamination like forge scales and rust. The blastroom with the dimensions of 15x6x6 m has an ample design for these purposes.

Depending on the workpiece size either a paint spraying installation for small parts or an open-space paint spraying area for large components is available in the paint

shop. Small parts up to a length of approx. 1,5 m and a max. weight of 1 t can be coated on the paint spraying booth, while large workpieces are treated on the open-space area. This working area within the hall has a length of 30 m, has a working width of 8 m and a working height up to the bridge crane of 7 m. Lengthwise the paint spraying area is divided into two sections of each 15 m so that preparation, paint spraying and drying can be performed alternately. Thus, one of the outstanding advantages of this paint spraying system is the fact that the operator can adapt the required work space and the application entirely to the respective component.

Due to the large hall the energy expenditure plays an important role regarding the economical efficiency so that great importance is attached to the patented "sectional ventilation system". For this purpose



Open-space paint spraying area. In the background: Movable telescopic dryer in parked position.



Blastroom with media recovery system covering the whole floor.

the ceiling of the hall was provided with 30 switchable long-range nozzles above the paint spraying area.

Usually the painted workpieces are placed into a dryer for evaporation and drying. In this case the process is vice versa, the dryer moves to the workpiece. A 15 m long, 8 m wide and 5 m high telescopic dryer with 2 large roll-up doors moves over the painted components by actuation of a key button. As this movable and telescopic dryer is provided with a roll-up door of 6 x 5 m on both ends, the use of the 30 m long open-space paint spraying area is notably versatile.

Innovative blasting and paint spraying of tipping trailers

Within the framework of a Joint Venture with the Turkish company Dogus Otomotiv Servis ve Ticaret A. S. the long-established company **F. X. Meiller Fahrzeug- und Maschinenfabrik GmbH & Co. KG** opened a new production and assembly site for Meiller Dogus tipping trailers in Turkey in 2008.

In Sakarya, in the Marmara Region of Turkey, Meiller Dogus manufactures tipping trailers for the European and Middle-Asian market. As long-time supplier with a usual high performance standard Meiller chose us for delivering the right system technique.

Features of the SLF Technique

The installed systems have been adapted exactly to the special requirements of the F. X. Meiller products. A sophisticated maintenance concept guarantees the high availability of the systems. Due to the sectional operating method of the paint spraying system considerable savings of operating costs compared to conventional systems could be realized.

The blastroom installed by us consists of a media recovery system over the complete floor using so-called lamella conveyors. The workpieces are transported with the help of an exterior, movable chain hoist for which a roof slot has been provided. Furthermore, a wear-protected illumination with a luminous intensity of more than 650 lx has been installed.

The paint spraying system consists of three components. The preparation cabin can sectionally be switched by means of an operator's recognition system. For lifting the tipper bodies to 1.800 mm a system with hydraulic lifting columns has been installed. An efficient, two-stage **SLF**-dry separation system using impact separators and cassette filters reliably provides clean air. An integrated heat recovery system by plate heat exchangers substantially contributes to the reduction of the installed heating capacity. As the use of water-based paints is planned in future the paint spraying cabin can be retrofitted with a humidification system.

The drying of the painted workpieces is performed with a circulating air power of $2 \times 25.000 \text{ m}^3/\text{h}$, heated directly by gas surface burners. Herewith, drying temperatures of up to 110°C are reached. At the push of a button an adaption of the individual temperature to the different workpieces is possible.

Owing to our long-time experience with Meiller products the paint spraying line could be integrated into the manufacturing process within the shortest possible time. It is especially remarkable that a production capacity of nearly 100 % could be reached with the commissioning of the system.

Newly developed automatic air blast system with indexing table for ZF

ZF, one of the leading manufacturers of driveline and chassis technology for the automotive industry, provides worldwide a contribution to mobility.

The innovations in the drive and chassis technology developed by ZF provide for

blast treatment the inside edge of the rings is roughened for a subsequent coating process.

The requested workpiece throughput required a blast cabin with 3 horizontally arranged satellites. After the workpieces have been positioned on the satellites, they index into the blasting station. Following the blasting process they are blown off in another station. The automatic blast unit was adapted to customer's existing handling system, which required a high positioning accuracy of the satellites. Of course, manual loading and unloading of the installation is possible, too. In order to integrate this installation into an automatic process, the blasting process must be provided with a

monitoring system. By means of a special measuring instrument the media flow and the blast pressure as well as the continuous rotating speed of the satellites is controlled. The installation is equipped with a pneumatic media conveyor incl. automatic media replenishment. Media deposits on the turntable have been minimised by means of a conical metal plate.

02



Automatic indexing table unit with direct suction system for the air blasting of synchroniser rings.

increased driving dynamics, safety, comfort and economic efficiency as well as lower fuel consumption and emissions in the automotive means of the customers: on land, water and in the air.

For a new production line we have been entrusted with the delivery of an automatic air blast system for the treatment of synchroniser rings. By means of an air

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The first tipping trailer manufactured by Meiller Dogus in Turkey.

Open-space paint spraying system for nuclear power plant components at ZVZ



Perfect paint spraying of large components with an open-space paint spraying system.

into corresponding housings.

Thanks to the special air conduction each spot of this working area can be used without any conversion and modification works for the application of paints and simultaneously, the continuation of the assembly works.

The Czech industrial concern **ZVZ** is internationally known especially for its components for nuclear power plants.

On the production site in Milevsko filters and fans of greatest dimensions are manufactured. Coatings are applied in a hall equipped with our paint spraying technique. Bulky components which can only be moved with a hall crane alternate several times within one day with smaller components at which assembly works still have to be performed. That is the reason why a flexible open-space paint spraying system has been installed. Here, the coating operators can paint thick layers of antioxidant-(zinc-)primers whereas a few meters away bearings and joints are fitted

Today a reasonable energy balance and low maintenance costs are of high priority. Therefore, such an open-space paint spraying system is always sectionally operated. Especially we would like to emphasize the heat recovery by two plate heat exchangers. Before the room air of 50.000 m^3 per hour becomes exhaust air, the airflow gives its heat to the fresh air which is sucked as supply air over the roof of the hall. Thus, 50% of the heat energy is recovered in the pure aluminium cassettes whereas the profit is highest in the cold season. The system complies with the emission limit value of 3 mg dust/m^3 of air and is designed regarding the latest safety regulations according to the European standards.

03

Robust lifting platforms for accessible blastrooms

In order to bring the operating personnel in blast rooms in an optimum blasting position, particularly for the surface treatment of large workpieces, e.g. rail vehicles, large columns for wind power plants, we have developed extra robust wall-guided, swivelling lifting platforms. The platforms are provided with a low-wear cable winch drive and the platform cages are provided with a complete rubber wear protection lining. Thus, the platforms are best suitable for the tough conditions in blast rooms.

These lifting platforms are provided for a load of up to 250 kg and, thus, are approved for 2 persons.

By the low entrance height and the maximum stroke of 6.000 mm higher components can easily be reached. Furthermore, a higher flexibility is given by swivelling the working cage.

Of course, with only few adaptations our lifting platforms can also be used in paint spraying cabins, cleaning cabins, etc.



Sidewall-guided lifting platform for blastrooms

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Coating of passenger coaches at Siemens Transportation Systems Vienna

With their works in Vienna and Graz **Siemens Transportation Systems GmbH & Co KG** belongs to the world's leading suppliers of rail vehicles with the main focus on metro vehicles, passenger coaches and chassis.

An up-dated technology and a uniform design are the major aspects of the customer.

In order to be able to cope with the increasing works at the coaches we installed a new preparation hall and a combined paint spraying and drying cabin. In order to meet the requirements of all types of coaches the halls have an imposing length of 32 m.

The first working step is the blowing off of the coaches to be painted for achieving an impeccable surface. Also maskings for multi-coloured paintings are glued here to the surface. In this hall the lifting platforms

are guided by lateral rails with a length of 28 m and can vary the wall distance by extending their scissors. For working at the front of the coaches these lifting platforms can be extended between the coaches to up to 2,8 m. The design of both lifting platforms chosen here is especially suitable for the coating operator.

The heat required for paint spraying and the following drying process is efficiently provided by a gas surface burner. Furthermore, a large plate heat exchanger provides for a favourable energy balance. Due to cassettes made of pure aluminium through which the fresh air and the exhaust air separately flow, the heat loss during the blowing out of the cleaned air over the roof is minimised.

The sectional ventilation is very important for the following production step. The complete room was separated in 10 work-

ing areas which are controlled by a sensor recognition of the coating operator. Thus, it is not necessary to constantly exchange the complete room volume with heated and filtered fresh air.

A comparison of the average operating costs of this system with a conventional paint spraying cabin of the same size with a use as it should be here at Siemens in Vienna gets the savings to the point:

Filter replacement, cleaning costs, heating and maintenance costs, i.e. all labour and material costs result in savings of up to 50% over the year.



Optimum paint spraying using SLF lifting platforms.

++ Wirtgen Group relies on SLF technology +++

The Wirtgen Group, world-leading manufacturer of technologies for road construction machines, invests in their production facilities in Windhagen and Göppingen (company Kleemann) in new, modern surface technique. Large components with a single weight of up to 30 t will be coated with our systems. Both systems will be put into service within this year.

+++ F.X. Meiller GmbH & Co. KG prepares for the future... +++

... and restructures the complete production in their headquarters in Munich.

The central facility represents a new surface treatment centre which consists of three complete paint spraying lines. The assembly of the paint spraying lines in which tipper bodies, subframes or even complete vehicles are coated, is nearly finished and will be put into service soon.

Flexible surface treatment thanks to telescopic technique



Telescopic dryer on an open-space paint spraying area.

Surface treatment technology for wind power plants

The **SIAG Schaaf Industrie AG**, once started as a conventional steelwork company, has in the meantime become one of the leading suppliers in the energy sector, with factories in Germany, Czech Republic, France, Poland and as of March in Egypt, too. In 2009 company SIAG, with more than 1.000 employees sees its challenge in the expansion with the customers and in offering the best possible quality and delivery reliability everywhere in the world. In the sector of wind energy technology SIAG supplies everything from one source, ranging from steel tube towers via supports for machine and electric generators up to all components and built-in parts. The wind power sector turns out to be a steadily growing market. The investment on advanced manufacturing machines also entailed a new surface treatment centre adapted to the extremely growing throughput in Chrudim (CZ). For this reason investments in the following stated components have been made:

- Two telescopic combined paint spraying and drying cabins (each 38 x 7 x 7 m)
- One open-space paint spraying area (14 x 7 x 10 m)
- Two blastrooms (38 x 7,5 x 6,5 m)

By the combined paint spraying and drying cabins a considerable reduction of the handling expenditures could be achieved.

The wind tower segments with a length of up to 35 m and a diameter of up to 5 m can be directly placed into the paint spraying and drying area by means of a bridge crane. A time-consuming displacement of the wind tower segments between the paint spraying and drying process is not necessary. The wind tower segment remains at the same place till final completion of the painting.

Due to the space-saving conception of the telescopic cabin, already in the early planning phase it was possible to allow for additional manufacturing areas instead of using this space for conventional cabin technique.

By an additional open-space paint spraying system with long-range nozzle technique also smaller components such as

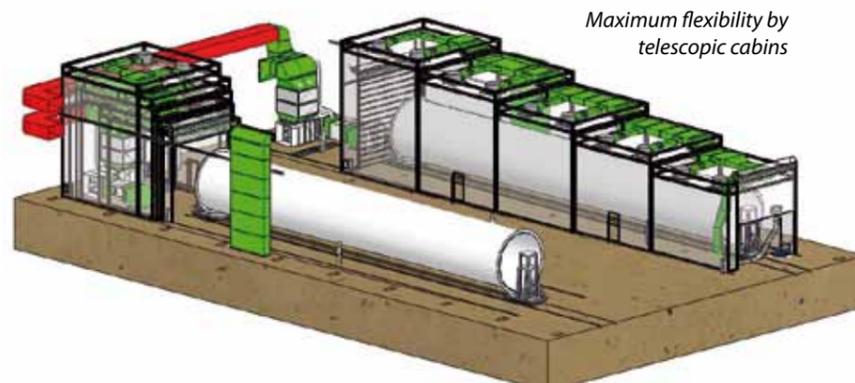
attachments or machine supports with dimensions of at least 10x4x2 m (LxWxH) can be coated with the usual high flexibility.

Particularly the fact that the workpieces to be coated are directly brought onto the paint spraying area considerably facilitates the production process.

Even coating of the components suspended in the bridge crane is possible.

Experiences

We, company **SLF** have been a long-time and reliable partner of **SIAG Schaaf AG**. Due to the consolidated experiences regarding the workpieces to be coated, we are able to prepare and realize customised surface treatment conception exactly meeting the respective requirements.



Maximum flexibility by telescopic cabins

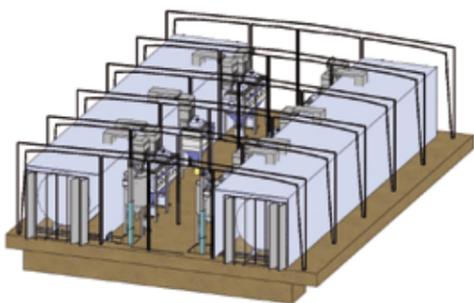
Based in the north of Spain, near La Coruña, the company **FORMOSO Estructuras Metálicas** is manufacturer of steel constructions, especially for the factory building sector.

Due to a necessary production enlargement **FORMOSO** built a new production hall. For coping with the increased production also in the field of the surface refinement **FORMOSO** invested in a modern paint spraying system to meet their requirements. We received the order for the paint spraying technique, in particular, because of the high flexibility of our system with an effective exploitation of the operating media. This consists of an open-space paint spraying system with three paint spraying areas and one movable telescopic dryer which is able to perform a forced drying process in all three paint spraying areas. Irrespective on which paint spraying area the movable telescopic dryer is operated, the remaining two paint spraying areas can be used independently from each other for paint spraying purposes. Consequently, this solution guarantees a very high material throughput with maximum flexibility and minimum logistic effort.

+++ SIAG goes to Egypt... +++

... and we follow! The strong course of expansion of SIAG Schaaf AG continues and writes another chapter by founding a Joint Venture named SIAG El Sewedy Towers.

For SIAG the new works for towers of wind power plants is the first large investment outside the European continent and represents a decisive step on the African continent. Here SIAG Schaaf AG trusts in our reliable blasting and paint spraying technique.



Two blastrooms designed for up to 4 operators.

Range of products

Airblast units

- Blastrooms
- Blast cabinets with suction-type and direct pressure system
- Automatic blast units with suction-type and direct pressure system
- Service & Spare parts

Paint spraying units

- Wet paint spraying units
- Powder coating units
- Open-space paint spraying units with long-range nozzle technique

Heavy-duty transport technology

- Hanger-type conveyor systems
- Roller conveyor systems
- Rail cars for lifting pallets

Lifting platforms

- Mobile lifting platforms
- Sidewall-mounted lifting platforms
- 3-Axes telescopic platforms

IMPRINT

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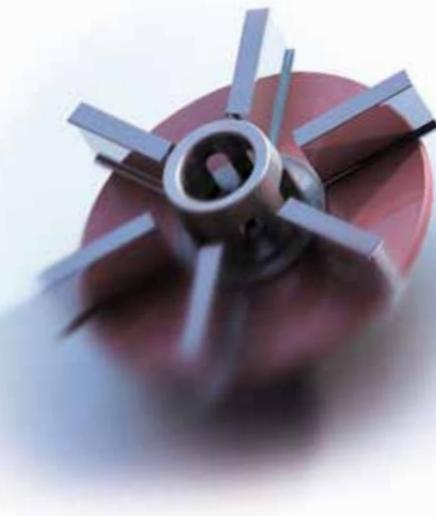
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Blasting technology – always a suitable solution

Together with our partner the **AGTOS GmbH**, located in Emsdetten/Germany, we are able to realize combined projects in the field of surface technology. The customer-oriented company offers besides new machines also second hand machines that are ready for use.

Processing such as rust removal, descaling, hardening and finishing of sensitive components or roughening of surfaces for successive coating is, thus, possible according to the customer's requirements. The AGTOS GmbH is specialized in the development, construction, manufacture and distribution of appropriate shot-blasting machines. From treating chain parts to overseas container there are almost no limits with regard to the units' application and size.



In this connection, the specialist also offers second hand machines. This service is especially interesting for companies that

require a blasting machine at short-notice or that don't want to apply it on long-term work. Basically, AGTOS repairs and verifies these machines regarding its function and safety. According to the process requirements and to the customer's needs they can technically and mechanically be completed and modernized. A new painting is also possible.

AGTOS places particular emphasis on a comprehensive and type independent service around the blasting technology. Besides a comprehensive range of spare parts the services also include reparation and maintenance of new and second hand machines, advice and realization of upgrading and power enhancement for still existing units, as well as training of the operating staff and the maintenance personnel.

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Cleaning and paint spraying on open working areas

The company **EHT** in Teningen near Freiburg manufactures customized press brakes and guillotine shears for special use. EHT, former Eisen- und Hammerwerke Teningen, was founded in 1771 and since 1950 the core business area has been machine tools for the sheet metal machining industry. Special know-how is required for manufacturing those machines for the special custom-made use – from S to XXL size!

In October 2008 EHT puts a new paint spraying hall in operation. We delivered the corresponding surface treatment systems consisting of one high-pressure cleaning and one open-space paint spraying system. In cooperation with EHT's project manager Mr. Werner Adam as well as the Engineering Office AB Anlagenplanung in Achim a complete solution has previously been developed for a maximum integration of the new systems into the existing material flow. Another task has been the development of a flexible and energy-conscious surface treatment system for the mostly bulky machine frames. Dimensions of up to 9 x 3,5 x 4,0 m (L x W x H) and component weights of up to 40 tons had to be considered.

Special features of the delivered system technique

The cleaning cabin with the dimensions 12 x 7 x 6,5 m (L x W x H) was provided with a ceiling opening with a width of 4 m for charging the heavy components by the hall crane. A special air lock in the ceiling

High-pressure cleaning cabin with ceiling opening for hall crane.

area avoids escaping the vapours, rising during the cleaning process with a high-pressure cleaner, through the open crane slot into the coating hall.

For saving of chemicals and water the cleaning water as well as the rinsing water are recirculated.

We delivered the corresponding equipment for this system.

The high-pressure cleaning system consists of two insulated special steel tanks which are each electrically heated up to approx. 70°C.

In addition, the tank system for the degreasing agent is equipped with an oil and sludge separator permanently working over a bypass.

After the cleaning process the workpieces are transported by means of a gantry crane to the filler working places. The coating is applied with a single-layer-structural paint with the open-space paint spraying system extending over an area of 15 x 6 m. The use of our long-range nozzle system makes it possible to paint in an open hall without any wall separations or even a cabin. Furthermore, thanks to the sectional



working method more than 40% of the electrical and heating energy can be saved.

Additionally, time-consuming internal transports are reduced (up to 30%) as the open-space paint spraying area can be charged with a rail-bound trolley as well as with a hall crane.

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Looking for detailed information? Please tick the appropriate box with the cipher code of the corresponding article and send us the coupon by mail or fax: **SLF Oberflächentechnik GmbH** · Greven Landstr. 22-24 · D-48268 Greven (OT Reckenfeld)

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