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SLF
Oberflächentechnik



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Surface Treatment Technology For Heavy-Duty Components

The SLF Oberflächentechnik GmbH has specialised in the surface treatment of large components. Emerged from the contract blasting and coating services the design, engineering and installation of such accordingly large dimensioned blasting and paint spraying equipment is performed by ourselves.

Josef Leicht Maschinenbau, one of the most famous mechanical engineering companies in Germany has lately put into operation their new surface treatment centre.



Telescopic cleaning cabin, length 12,5 m

Here heavy welded groups of components like e.g. machine tool columns, precision parts or engine blocks for stationary motors of up to 20 t are at first degreased and then coated and dried after manufacturing and mechanical treatment. For this purpose SLF Ober-

flächentechnik GmbH, located in 09241 Mühlau and 48268 Greven, supplied the necessary pre-treatment and paint spraying system technique. Due to the extremely bulky and heavy components the workpieces are conveyed by means of an indoor crane. SLF solved the problem of conveying the components into the cabin by a telescopic design of the cleaning cabin. After placing the component on the washing bay the cabin which in parked position is space saving retracted to 4 m is simply extended over the component. The total length of the cabin in completely extracted condition is 12.5 m. The vapour generated during the cleaning process is caught by a strong ventilation system that is integrated in the cabin and then is directed via the roof after mist elimination.

For the cleaning technique SLF supplied a high-pressure cleaning system with closed circuit. It cleans the degreasing medium continuously and recycles it, thus reducing the consumption of water and chemicals to a minimum. A heating of the bath moreover guarantees best cleaning results. A quick drying of the wet components is achieved, too. Special cleaning chemicals allow a single-stage machine technique so that also a clear water rinsing basin is not necessary. The main advantage of a single-stage system is that there is no entrainment into the next stage. Thus the service life of the media is considerably increased and the use of water and chemicals is further reduced.

After the component has been cleaned the telescopic cabin is returned into its parking position. That way the component can be returned to the open-space paint spraying area by means of an indoor crane. The painting of the component is performed on an open-space area within the workshop. In this case a paint spraying cabin is not used. By using special long-range nozzles the heated air from heights of up to 20 m is precisely directed to the operator. The overspray is caught by the airflow



Open-space paint spraying system with long-range nozzles and telescopic cabin in parking position

and is directed into the floor-mounted extraction system. Here the overspray is at first pre-separated by the heavy-duty impact separators developed by SLF before it is cleaned in a central filter unit such that a cleaning degree remaining far below the statutory limits is reached.

As a hot air drying within the open workshop area is not possible, also in this case SLF installed a telescopic drying cabin. After termination of the painting process the drying cabin is simply extended over the component that is placed on the open-space area



Cleaning cabin completely extended



General view of washing and painting area

In the Spot Light: SLF - blasting and paint spraying of large components

Regarding the surface treatment SLF Oberflächentechnik GmbH has specialised in the treatment of large components. As an outgrowth of the contract blasting and coating services sector, correspondingly large dimensioned blasting and paint spraying systems are developed, engineered and installed by ourselves.

By means of open-space paint spraying areas with long-range nozzle technique it is possible to treat large components in the open workshop area without restrictive cabin walls. With the special sectional fresh air and exhaust air control system with automatic operator's recognition device developed by SLF, only the working area of the painter but not the whole paint spraying area is ventilated and de-ventilated, thus leading to considerable energy savings. Manufacturers of large components (e. g. shipyards, rail vehicle manufacturers, manufacturers of steel and crane constructions) benefit from these advantages.

Apart from this, SLF manufactures airblast rooms and pre-treatment systems (e.g. high-pressure cleaning systems) as well as conveyor systems for large components.

Versatile lifting platforms suitable for the use in paint spraying cabins and blastrooms complete the production program of the plant engineering.

and the roll-up door is closed. Now the drying process of the newly painted component at a circulating air temperature of about 60°C can be effected. For this purpose the ventilation unit of the open-space paint spraying system is used.

A paint spraying system for the treatment of small parts was purchased at the same time as the open-space paint spraying system also. This allows the treatment of small parts in a combined paint spraying and drying cabin independently from the open-space area.

Customer's Feedback:

According to information from our customer's production manager the telescopic design of the cabins saves 3 - 4 hours/workpiece for handling works compared to the coating in conventional paint spraying cabins. The solvent consumption for cleaning the workpieces has been reduced from a former 100t/a to 0 t/a. A profitable investment!

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