

SPACE-SAVING POWER & FREE SYSTEM

Large Platforms for Heavy Loads

The following example demonstrates how a powerful conveyor system for handling heavy components can be installed in a restricted space.

Bison Palfinger, which is part of the Palfinger group, manufactures aerial work platforms for the global market. Its products range from small platforms with a lifting height of 12 metres designed for vans up to large-scale platforms with a lifting height of 61 metres for installation on four-axle trucks. As part of the process of increasing the output from the factory in Löbau in Germany, Bison Palfinger planned to install a flexible overhead conveyor with crossbeams up to 9



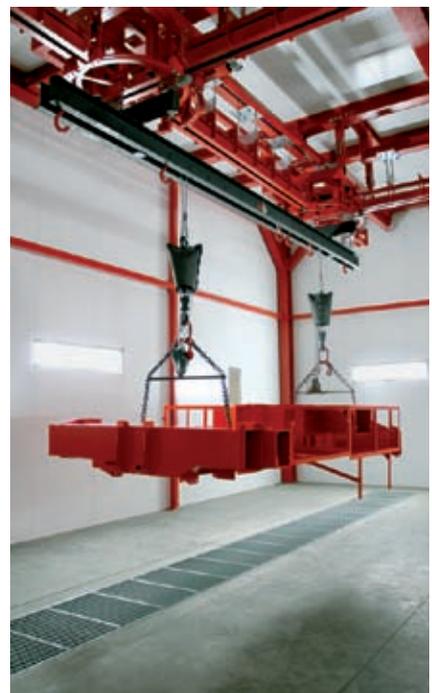
Bison Palfinger's products range from small platforms with a lifting height of 12 metres designed for vans up to platforms with a lifting height of 61 metres.

metres long and capable of handling loads of up to 4,500 kilograms for its new painting plant. The company chose Caldan Conveyor to supply the conveyor system, as Caldan's design made clever use of the space available in the existing factory building and met all the customer's requirements.

Because of the relatively long cycle times of up to an hour for the largest parts, Bison Palfinger wanted a manual conveyor system, despite the weight of the components, in order to keep costs low. The final solution was a manual overhead conveyor based on the heavy duty P+F 420 system. The system was designed with rotating switch gates, because the limited space available and the length of the crossbeams restricted the size of the curves. As a result, the operators do not need to pull heavy parts around corners, but can rotate them automatically.

Easier parts handling for operators

In order to make the operators' work easier, they can lower the crossbeam from a height of 4.5 metres to an ergonomic height using a drop and lift section in the infeed area, which allows them to suspend the heavy components from the crossbeam. The parts are then either moved into a blasting chamber or transported on a bypass conveyor directly to a wet cleaning booth. After this, the



In the painting line, steel parts for cranes are transported via an overhead conveyor

PROJECT DETAILS

Components: Chassis and crane bridges, booms, mounted components	
Maximum hanger size:	L = 9000 mm W = 2500 mm H = 2000 mm
Maximum hanger load:	4000 kg
Cycle time of the largest hangers:	45 to 60 min.
Conveyor system:	Caldan P+F 420
Rail length:	300 m
Rotating switch gates:	4
Drop and lift sections:	2
Wagons:	16

water is removed from the parts in a dryer. Because of the lack of space available, the parts then turn through 90 degrees to reach the filling and grinding area, before being moved once more through 90 degrees into the spray painting booths. The use of pneumatic turning stations makes the operators' job

much easier and allows the available space to be used as efficiently as possible.

The crane components are spray painted manually in two large booths and are flashed off in between coats in a separate booth. After the top coat has been applied, the parts turn through 90

degrees to be flashed off again. Two more rotating switch gates then take the parts to the dual conveyor which leads to the dryer. Once the parts are dry, they are turned through 90 degrees again and enter the cooling zone. After this the finished parts can be moved to the outfeed area using a drop and lift section.

The system was installed and put into operation in the summer of 2007 in cooperation with the customer and the booth supplier, Wolf. A standard procedure at Bison Palfinger is for an experienced technical supervisor to be appointed, who is responsible for installing the plant together with the supplier. The collaboration between all the parties involved demonstrated the benefits of this approach. —

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