

The products are brought to the dry side by means of a lifting frame, moving platform, drying shelf and lowering frame

The products are transported to the lifting rack by means of a free lift conveyor once they are produced on steel plates in the machine. Then the products are brought to the dry side by means of a lifting frame, moving platform, drying shelf and lowering frame. The shelving units was designed in the form of a closed system with recirculating air equipment. This ensures optimised drying with a minimum expenditure of energy.

After the drying track products can be placed for rearrangement. This rearrangement generates different sized layers which are placed as a packet of blocks on a plate conveyor. Packaging of stones can be made directly if layers are not rearranged.

The transfer unit as well as the packaging unit are servo equipped. Here all movements (i.e. lifting and drive system) are made with servo motors (except from the clamps).

The packaged products are then transported outside by means of a plate conveyor. Since one stone packet is generated every 100 seconds, a package buffer crane was built outside to move the stone packets for temporary storage to setdown stations on one side of the plate conveyor. A forklift can be used to empty the other side during this time. When the store is full, the other side is filled and the forklift empties the opposite side. Due to the packet buffer it is not necessary to have the forklift driver there all the time, so that he can do other tasks such as monitor the material feed.

After the products have been removed from the steel plates, the plates are cleaned with a metal scraper and then turned. Then pallets are stacked and fed directly back to the block manufacturing plant by means of a sheet stacking crane. When the cycle time of the machine and drying side is different, the sheet stacks formed are either transported to a storage area or stacks are fed from the storage area to the block manufacturing machine.

Profibus systems network the decentralised S7 plant controller. Functions can be selected and data input directly using the colour display touch screen. The visualisation software supplied has simple graphical function displays, a user guide and unlimited recipe management. All plant conditions are classified. The built-in statistics program records all operating data, which can be transferred to external PCs. Overall this block manufacturing plant is a sophisticated, user friendly total solution, which meets the technically demanding requirements of Redsun Garden Products GmbH & Co. KG without any problems. At the same time this confirms Masa AG about it's approach towards customer oriented and company internal quality requirements, which makes the company a competent and reliable partner worldwide.

The trust Redsun has shown for Masa confirms this. More than 1.2 million m² of high quality paving stones a year on the Masa



Finished products on the drying side



All movements are carried out with servo motors apart from the clamps



A packet buffer crane was installed outside



The pallet stacks are fed back to the block manufacturing plant using a sheet stacking crane

I is the best proof of this. Masa II should be capable of surpassing this. "Masa II is at least one second faster than Masa I.", says plant manager Mike Kremers.

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Packaging lines for heavy concrete products at Aggregate Industries

Aggregate Industries is a long established company in the British building materials industry and with its "Charcon" and "Bradstone" business divisions it is a market leader with multiple loca-

tions. Presses have been used for decades in the production of kerbstones and slabs. Everything was packed manually in the past, but Aggregate Industries wanted to automate this process.



A four sided gripper takes the products from the pallet. The empty pallets (right in picture) are stacked for later use.



At the Aggregate Industries plant the products can be hooped with plastic or steel straps. The transfer carriage has an integrated press, for pressing the products together during packaging.

The challenge was to select a flexible competitive packaging line, for optimising the existing locations one after another. Rimac from Mauer near Heidelberg, Germany, were awarded the contract. The main arguments Aggregate Industries used for this decision was, that Rimac was able to show they had some very good European references and that their proposed solution was an excellent match to the requirements.

The plant has three areas which are described in brief below:

The packs with the dried products are initially taken from the outlet side with a four sided gripper and placed on a transfer carriage with integrated pressing station. The four sided gripper is suitable for slabs, kerbstones and sloped kerbstones.

Here, single, double or triple layers are made and pressed together depending on the product. After this the pack can either be moved to the plastic wrapping area on the left or the steel strapping area on the right. On the steel hooping side a corner/edge protector for the finished products is added.

After packaging a second gripper takes the finished packs from the transfer carriage and places them on a discharge belt ready for pick up.

The packaging should be carried out at a rate of one per minute, including hooping time. 5 safety circuits have been specified in order to guarantee a minimum number of interruptions, in such a way that these circuits can operate independently of each other.

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A second gripper removes the finished hooped stack from the transfer carriage and positions it on the discharge belt.

The control was carried out using an "Alan Bradley" system as an option.

Further information:



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