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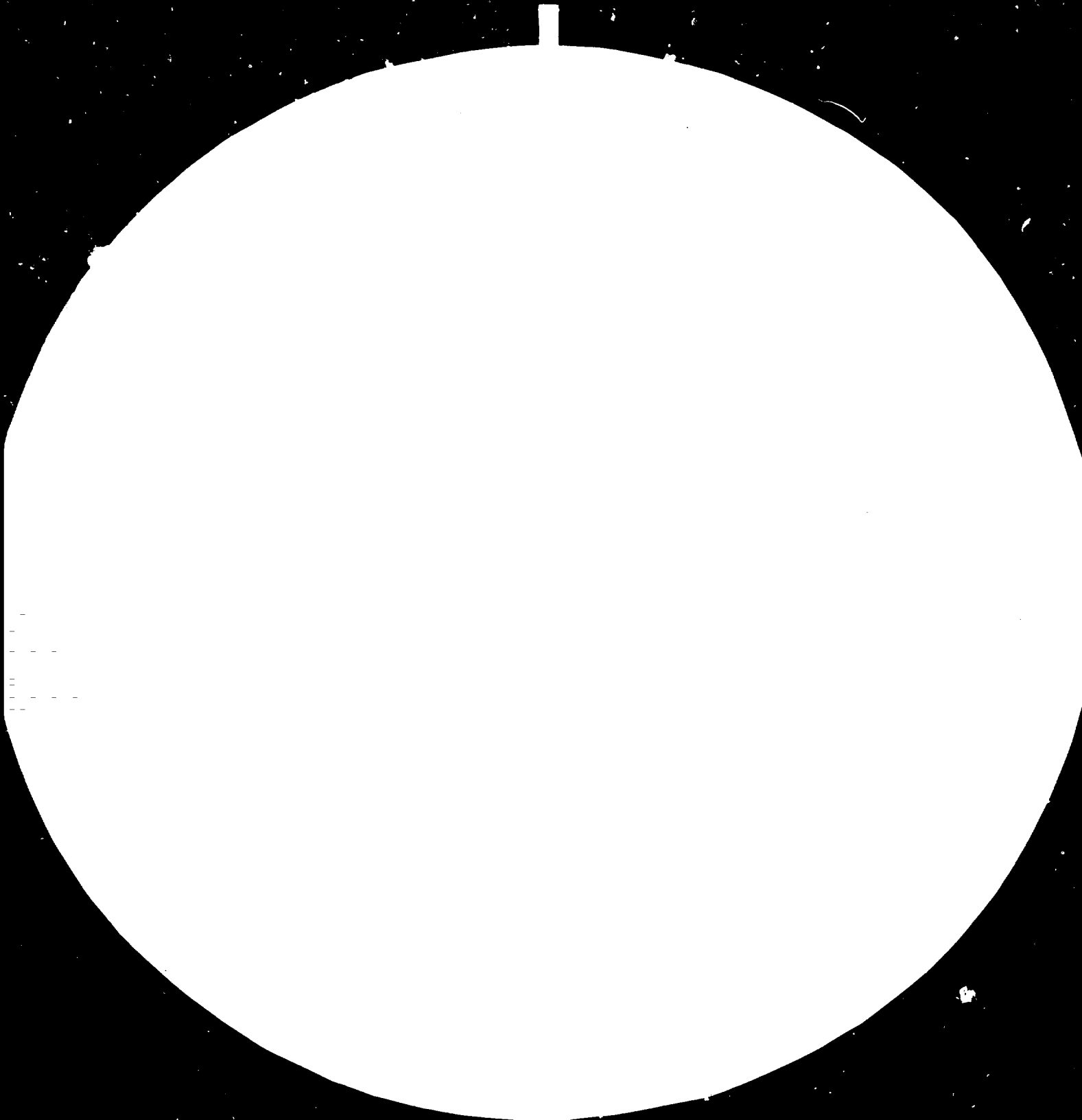
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CEMENT TERMINALS AND NEW DEVELOPMENTS
IN THE PACKING PLANT BRANCH*

by

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Summary

Cement Terminals and New Developments in the Packing Plant Branch

During the passed years a strong demand for the construction of cement terminals has been experienced. In many cases great importance is attached to the fact, that the terminal can easily be dismantled and be erected again at some other point. The regulations of local harbours often prohibit the construction of permanent plants which then result in the erection of floating terminals, whereby modernized ships or barges serve as cement silos.

For the designing and construction of terminals the local circumstances must especially be taken into consideration when arranging the plant equipment. In many terminals, which handle 1 mill. tons of cement p.a. or more, the latest state of engineering is employed, which can also be put into practice in the construction of packing plants within cement works. A calculation based on costs in the Iraq in 1981 showed, that the distance between the cement work and the terminal should be 65 - 80 km. The terminal should be as near as possible to the site. When planning a terminal, not only the packing into bags should be taken into consideration, but also the installation of a bulk loading at some later date.

Attention should also be paid to the loading into Big-Bags. For the lorry-bag-loading stern loading machines with manual operation in different designs, as well as automatic lorry loaders, can be introduced. In those cases, where bagged cement is being exported or to be stored in the open air for a considerable time, fully automatic palletizing devices with subsequent pallet-free shrinks have proved successful.

In the stationary terminals the material feed to the hopper takes place over a pneumatic conveyor, belt plants, bucket elevators or vertical screws. The cement storage hoppers can be designed in steel or concrete. The silo discharge of the Ibau design guarantees a complete and reliable discharge and in addition offers the possibility to arrange the packing plant underneath the Ibau-cone. This silo system is also very economic as far as the building costs are concerned.

The following new developments in the range of the packing plant can be installed in terminals as well as in packing plants within the cement works.

a) automatic bag applicators according to the bundle or roller system in connection with rotating packing machines but also in connection with stationary packing machines. Existing packing machines can also be fitted with this automatic bag applicator system after a few modifications. Automatic bag applicators also contribute to the fact, that the effective output per packing point is being increased and that employee costs are reduced.

b) Roto-Packer 4000

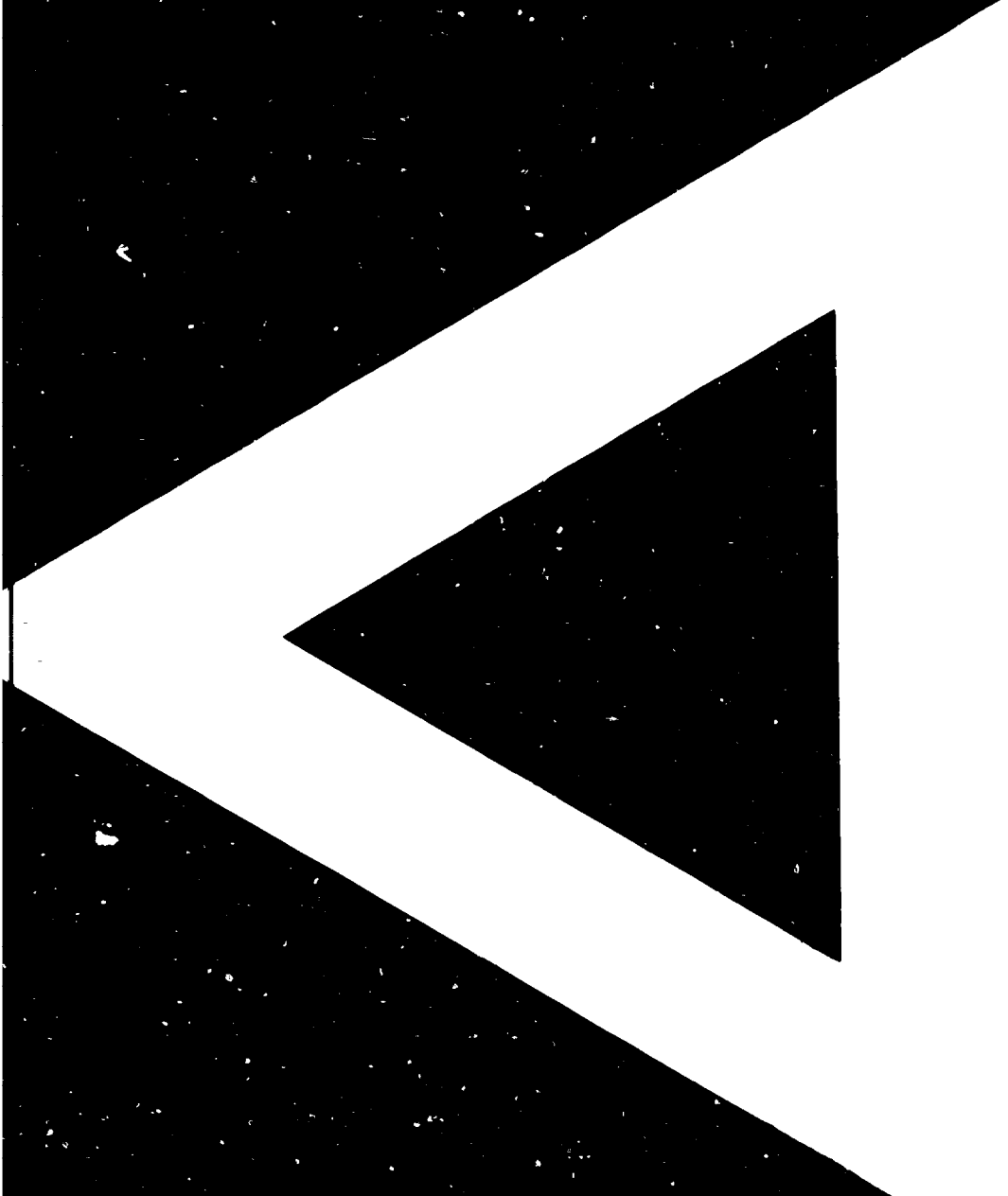
as in nearly all sections of the cement works a great improvement was also made in the packing plant during the last year concerning the increase in output per packing point. The Roto Packer 4000 for 200 t/h was brought onto the market, consisting of the successful component parts of more than 1000 Roto Packers. Next to a few modifications the special feature lies in the fact, that this Roto Packer has 12 spouts and releases onto 2 discharging belts. Each discharging belt conveys 2000 bags/h, so that two belt systems can be fed simultaneously. When employing an automatic palletizer for 4000 bags/h both belt plants can be brought together. In connection with the Roto Packer automatic bag applicators

can be used. The installation of a Roto Packer 4000 has the advantage that only one material feed is being required, also only one filter plant, one spillage return and a considerable smaller building compared to two normal Roto Packers with the pertinent conveyor elements, whereby the total costs are reduced considerably.

c) belt control weighers for automatic weight correction

by means of the installation of a belt weigher in connection to the bag discharge belt, the weight accuracy is considerably improved. An impulse of the belt weigher results in an automatic weight correction on the mechanical weighers of the Roto Packers. Measurements have shown that 95% of all filled bags lie within the tolerance of + 200 g. In countries where calibration is compulsory, only the belt weigher must still be calibrated but not the Roto Packer.

These statements are to give you a general view of the different possibilities of erecting cement terminals and packing plants in connection with to-day's state of engineering.



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