

ROSTA Motorbases Type MB 100 on New-Sulzer-Burckhardt Vacuum Pumps

Aniline, used in the chemical industry primarily as a raw material for the synthesis of colours and synthetic fibres, as well as for the manufacture of synthetic rubber and medicines, is technically extracted by the reduction of nitrobenzene, in the presence of iron and hydrochloric acid. For the further processing, the aniline produced is distilled in a vacuum.

The company **nsb AG** (New-Sulzer-Burckhardt AG) situated in Basel, builds very large liquid ring pumps to create a vacuum for industrial needs.

Recently, **nsb AG** has delivered two large radial liquid ring pumps for the extraction of aniline to a customer in the petro-chemical industry. The ring pump, driven by eight SPC V-belts, is driven by a 250 kW, 6 pole (1500 min⁻¹) electro-motor, with a frame-housing 355M and weight of 1750 kg.

The reduction ratio of the drive motor to the flywheel of the ring pump is 1:3,75



Installation of the 1750 kg heavy motor on the motorbase, and tensioning of the eight SPC V-belts by an integrated bevel-gear shaft drive.



250 kW drive motor for the fluid ring pump on ROSTA Motorbase Type MB 100

(pump speed 400 min⁻¹) and the effective belt length measures 5 metres.

nsb AG wanted to supply their customer with a **user friendly** vacuum plant and therefore installed the large 250 kW drive motors on **self-adjusting ROSTA Motorbases Type MB 100**. Until it reaches its lifespan due to wear, a 5 metre long V-belt is subject to an average elongation, because of age, of approx. 3%, in this case, this is equivalent to a distance of 150 mm. During the first months of operation, without **self-adjusting, slip compensating** ROSTA motor suspension, the maintenance personnel would have had to compensate for the belt elongation on a weekly basis, in order to guarantee slip-free torque transfer.

For the mentioned drive size, with new adjustment of the motor, that is equivalent to **expensive maintenance work**

of approx. 1½ hours for two qualified mechanics. Moreover, the endurance of the **belt extends** by approx. **factor 3** with the self-adjusting mounting of the drive motor; the belts never operate under heat generating slip conditions, do not become warm when operating and will not become glass hard prematurely and brittle, that leads to failure!

All in all a user friendly, cost saving investment!

