

Tensioning of the belts is a child's play... ...with the new ROSTA Motorbase Type MB 70!



Easy pre-tensioning by means of two pull-out ratchets

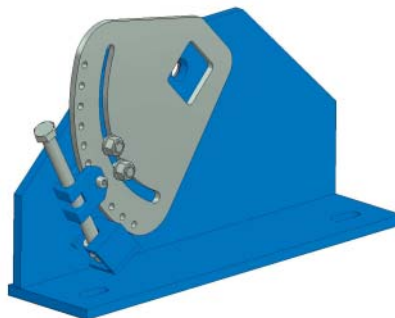
In the past 10 years **ROSTA Motorbases** types MB 27, 38, 50, 70 and 100 have convinced a growing number of followers from the mechanical engineering field of the advantages of **its self re-tensioning** and **energy-efficient** motor mounts.

The advantages and the resultant customer benefits of these standardised machine components for drive technology are obvious:

- **Almost slippage-free transmission of the torque to the driven unit**
- **No energy loss because of belt slippage**
- **Constant compensation of belt lengthening**
- **Up to 3 times longer belt service life (reduces peak torques)**

- **Absolutely maintenance-free belt drive (no periodical re-tensioning)**
- **Fastest belt change without re-adjustment of pulleys**
- **Very long service life of the automatic ROSTA motorbase**

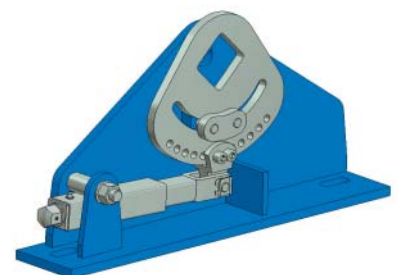
old pre-tensioning unit



relatively energysapping slow pre-tensioning; danger of dirt accumulation



new pre-tensioning unit



easy and effortless pre-tensioning; fully encapsulated trapezoid threaded spindle, permanently greased and dirt protected

The four motorbase sizes of the MB 70 series are allocated to motor frame sizes **250 M** to **315 L** for drive units weighing from 400 to 1,000 kgs. The previous pre-tensioning system using an adjustable stand and fine-thread screw M 20 x 1,5 was relatively slow for these heavy motors and energy-sapping, as the friction resistance of the fine-thread screw was high, especially by dirty threads. A new feature is that the two pre-tensioning units of the MB 70 series have two **fully encapsulated, horizontal trapezoid threaded spindles** with a high pitch of bolt.



Rapid pre-tensioning of the belt alone is not enough. To ensure optimum power transmission from the driver to the driven pulley the test load recommended by the belt manufacturer **must** be checked before operation with an appropriate instrument (e.g. a spring scale from Gates or Optibelt or with an infrared sound wave measuring device). The traditional "thumb pressure measuring method" is

absolutely unsuitable. Depending on the tester's form of the day, the measured values can be up to 100 % wrong!

Allocation table MB 70 for motor frame sizes:

Art.-No.	Type	IEC				NEMA									Weight [kg]
		Motor Frame Size	A	B	K	Motor Frame Size	A	B	K	AB	BB	C	D	E	
02 200 710	MB 70 × 400	250M	406	349	22	404T	406	311	22	510	410	513	643	50	142
02 200 711	MB 70 × 550	280S	457	368	22	405T	406	349	22	560	565	663	793	50	169
		280M	457	419	22	444T	457	368	22						
02 200 712	MB 70 × 650	315S	508	406	26	445T	457	419	22	630	660	763	893	70	191
02 200 713	MB 70 × 800	315M	508	457	28	447T	457	508	22	630	805	913	1043	70	216
		315L	508	508	28	449T	457	635	22						

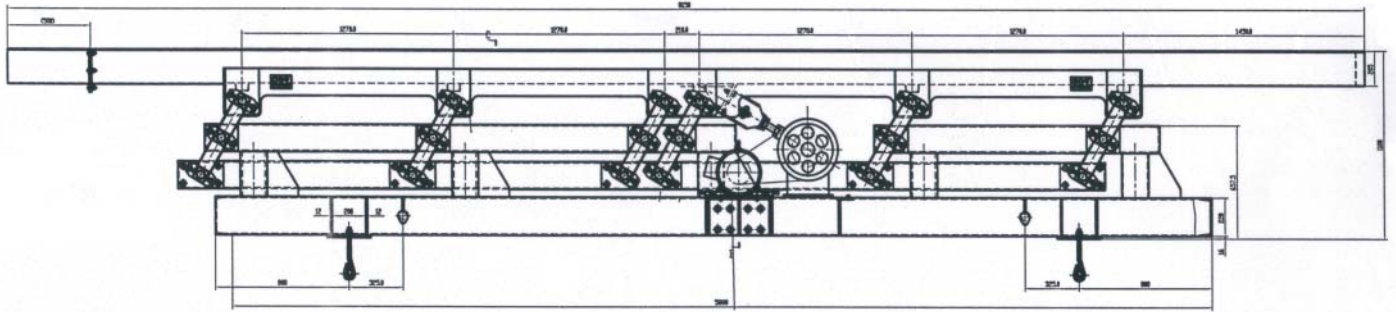
New Generation of Oscillating Shaker Conveyors for Harbin Boshi Automation, China!

Harbin Boshi Automation Co., Ltd. is located in Harbin, capital of China's northernmost province Heilongjiang. The company was founded in 1997 and specialises in the construction and production of logistics machines and equipment for the handling of bulk goods. The product range consists mainly of sorting systems, big-bag filling machines, bulk goods transport systems, automatic stack storage and systems for the transshipment of goods to rail, road and ships.

For the intermediate transport and dosing of the bulk goods that are mostly powdery, Harbin Boshi uses oscillating conveyors. The design of these conveyors was originally based on a slider crank system with rocker arms consisting of polyester slats reinforced with fibreglass. In order to reduce reaction forces, the machine frame also rested on hol-



Original oscillating conveyor design with fibreglass slats



New concept with counter-mass suspensions using ROSTA AD-P 50 double rockers



Prototype of the new concept shaker conveyor with AD-P 50 rocker arms

In June 2010 Mr Kevin Zhou, product manager of the Joint-Venture Company ROSTA/Miki Pulley China and a technician from ROSTA AG visited the Boshi company in Harbin. A prototype of the new concept machine was first developed to ensure correct construction and precise alignment. The prototype was then precisely measured out by the Harbin staff and the ROSTA team using a laser level. First of all, the double rocker arms have been bolted on the machine frame, subsequently the conveyor trough has been connected on the upper rocker-arm ends and eventually the counter-mass was fixed at the lower end of the guide

arms. Finally the slider crank system was connected to the channel by means of two output drive heads of type ST 60. The new oscillating conveyor immediately started working perfectly and thanks to the precisely balanced counter-mass the system worked completely reaction-free (without bolting to the ground).

In the meantime, Harbin Boshi had delivered plenty of these new-concept shaker machines to its customers. The oscillating conveyors are from 8 to 12 metres long and are all based on the same concept. The eccentric radius is 12 mm, the speed is 380 min⁻¹, the machine performance

low springs made of rubber. The high oscillation amplitude of 22 mm quickly led to material fatigue at the clamping points of the fibreglass slats. After an operating period of only three months this led to the breakdown of these suspensions and to a temporary shut-down of the plant. Harbin Boshi urgently needed a **reliable shaker conveyor**.

In 2010 technicians from Boshi visited the BAUMA-Shanghai exhibition and at the ROSTA stand they saw oscillating conveyors with rubber-suspended rocker arms. They decided to cooperate with ROSTA and after intensive consultations a new generation of conveyors was developed. This was a two-mass shaker conveyor with direct mass counterbalance, resting on ROSTA double rockers type AD-P 50.



Series production of two-mass oscillating conveyors at Harbin Boshi



Slider crank drive on the oscillating conveyor with two ROSTA drive heads type ST 50



ROSTY'S COMMENTS:

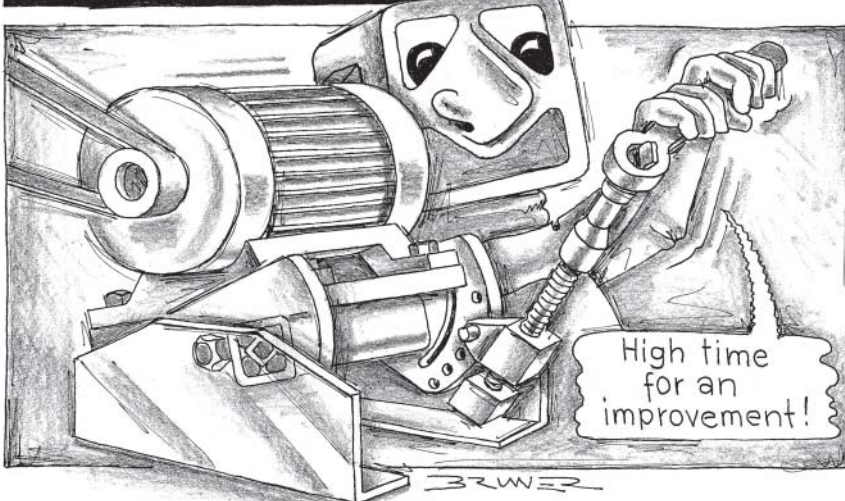


figure **K** is 1.9 g and the theoretical conveying speed is approx. 14 m/min.

Customer benefit:

Harbin Boshi is now in a position to offer **absolutely reliable** oscillating conveyors for the intermediate transport of powdery goods for their highly complex bulk goods transshipment systems.

Almost all plants operate a three-shift system, and the ROSTA oscillating elements are not subject to **material fatigue or to shutdown periods.**

In close cooperation with the machine manufacturer and ROSTA technicians, a **tailor-made design** for the client was developed and tested.

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