

OSCILLATING CONVEYOR TECHNOLOGY!

Leadership through Innovation

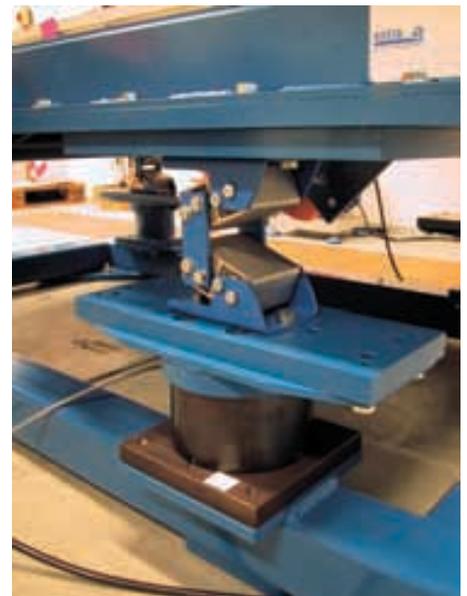
ROSTA, the leading manufacturer of standardised screen and trough suspensions on the basis of torsion-elastic rubber suspension units, has gone one step further in its technical customer information!

All suspension units of screening machines that are operated with unbalanced force pass on certain residual or reaction forces to the building structure during the working process. These reaction forces should be known when designing the building, so that the responsible building dynamics specialist can take these into account in his design. In the past, many processing buildings were only designed on the basis of their static loading, with a little "dynamic reserve". When equipped with several screening machines on working platforms that are sometimes very high, buildings that have been designed on purely static considerations often come into indefinable oscillation, which has a negative effect on the substance of the building; the consequences: **material**

fatigue in the structural steel, **cracks** in the concrete elements and **emissions that are hazardous to the health** of the operating personnel.

In very few cases will you find information in the technical documentation of the manufacturers of elastic screen supports regarding the dynamic stiffness of their products in the work process; you will hardly ever find information as to which reaction forces will be transferred to the substance of the building when running through the critical frequency (the natural frequency of the supports)!

ROSTA goes a step further! In the company's own laboratory, a measurement table driven by Italtibras unbalanced motors have been set up for the precise determination of the horizontal and vertical reaction forces on the building substance (see Figures). This measurement table can be loaded with reference weights corresponding to the ROSTA oscillating mountings that are planned for use in



each case. Three-dimensional sensors (dynamic pressure transducers) are fitted underneath the ROSTA screen support, which precisely register the transmission of the reaction forces in the horizontal and vertical direction in continuous operation and when passing through resonance, which can then be visualised against a reference scale on a PC in a sinusoidal form, and can be printed out.

This information guidelines, which are very important for the design of screening machines and buildings, will be available in our sales information in the future. The data will, of course, be dependent on the weight, frequency and oscillation amplitude of the respective screening machine. Should you urgently require data for a specific oscillation unit, please contact our Technical Service department.

ROSTA oscillating mountings and the technical services of ROSTA . . .

. . . for the avoidance of guarantee claims from the operator!



RUBBER SUSPENSION TECHNOLOGY!

Happy Landings in Elastic Docks

Sailing boats and sport boats cost a fortune, and they only make their proud owners happy when they can run into their home harbour, as white as snow in the azure waves, without scrapes and black friction marks, and in front of as wide a public as possible. As long as the wind force is less than 4, sailing on the open water is seldom a challenge for a leisure-time captain; manoeuvring in the tightly-packed harbour, around floating causeways, moorings and neighbouring boats, on the other hand, very often is! How quickly a rigid floating pier can scratch the full length of the beautiful hull – and the beautiful white shellac is forever damaged!

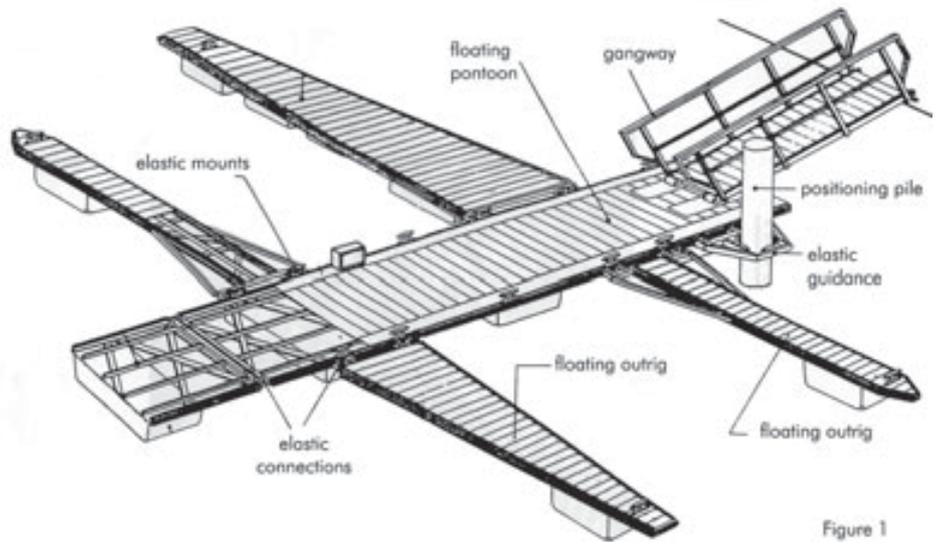


Figure 1



For many years now, **ROSTA's rubber suspension technology** has made an important contribution to the protection of these expensive "Sunday boats". In the harbours of many European lakes and, more recently, also in sport marinas in the Mediterranean, the segments of floating piers and the floating causeways between the boats have been flexibly linked together by means of ROSTA rubber suspension elements. Not only do the floating moles with the ROSTA suspension units adapt harmonically to the changing waves – they also carry out this continuous movement **with no sound at all**, thanks to the rubber suspension, much to the satisfaction of the captains and crew in their night moorings in the roads. The steel bolt and latch connections that were formerly used "sang" a creaky song with the course of the waves, which prevented many sailors from sleeping.

Figure 1 shows the versatile application of the ROSTA rubber suspension elements in the construction of floating moles. From the connection of the sections of the mole, through the flexible suspension of the boat separation causeways up to the suspension of the guide rollers in the positioning piles rammed into the seabed – ROSTA has the right element for all applications, mole sizes and sea conditions – in light-metal design or galvanised steel for fresh-water lakes or in stainless steel designs for harbour installations on the open sea.



Advantages of the flexible mole suspensions from ROSTA:

- Less damage to the hull thanks to the flexibly-supported causeway
- No wear on the connecting plates, thanks to the rubber suspension
- Noise-free mole connections, with no metal-to-metal contact
- Connection absolutely maintenance-free, no replacement of bolts necessary at all
- Secure mole connection, with no breakage of the bolts under the loading of persons.

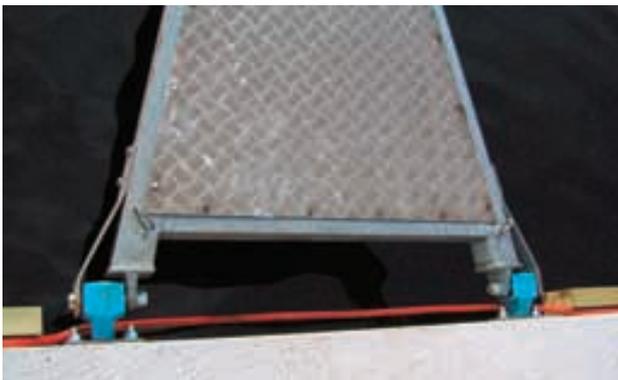




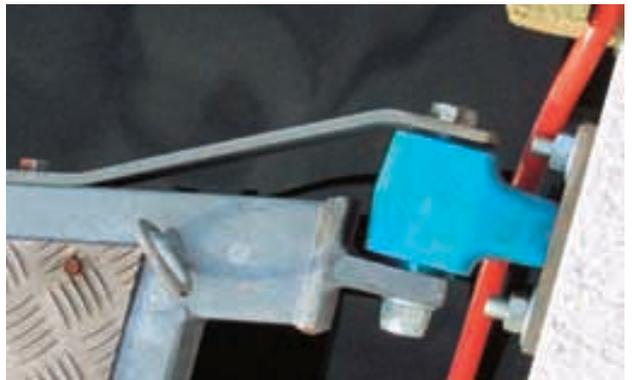
Harbour installation with flexible cause ways



Double suspension with ST-C 45



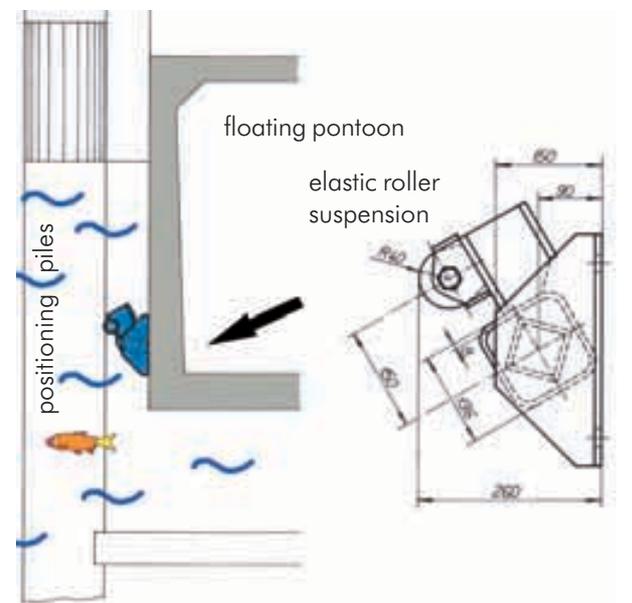
Elastic outrig suspension



Elastic suspension with ST-C 45



Double suspension with DR-C 45 x 80



Guide roller for floating pontoon

TENSIONING TECHNOLOGY!

ROSTA Type KSE belt tensioner . . . against slipping V-belts!

So that there will no longer be any "slip" in your belt drives, ROSTA has the well-proven tensioning elements with the most commonly used V-belt pulleys with the profile sizes **SPZ**, **SPA** and **SPB**, ready for delivery, assembled and available ex stock in all **1, 2** and **3 groove versions**.

The greatest innovation here is that the working position of the V-belt pulleys, which are turned from all-steel materials, can now be individually adjusted to the threaded axis, corresponding to the respective run of the belt track! As with the well-proven ROSTA chain wheel kits, the track positioning of the belt pulleys can be individually selected over a limited adjustment range and can be secured with locking nuts. This track adjustment is new, simple and time-saving in the installation of the tensioning element!

(This track adjustment on the threaded bolt will not immediately please some specialists from the "Power transmission" sector! "A ball-bearing should never be mounted on a threaded bolt – bending tensions will arise through the imbalance of the belt pulley and the axle will break after a short operational period due to the notch effect of the tread" will be the typical comment – or "The two locknuts on the inner ring of the ball bearing will be insufficient to hold the belt pulley in position!").

In this regard, we have carried out long-term trials on our test benches, and have found that this simple and attractive positioning is completely sufficient! The belt pulleys, which are turned from all-steel materials, are also balanced as a result of this processing method, and produce no bending forces on the axle that add to the pre-tensioning set up on the element. We would also not suspend a belt pulley

that is used to divert the path of the belt drive on a threaded bolt and secure it with two locknuts; we would, however, certainly do this for a pure tensioning pulley that would transmit little more than the test pressure force to the belt!



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