Airspring

The (R)Evolution in Screening

THE ORIGINAL

MADE IN GERMANY

LuCoTec
Airspringsystems

STEINHAUS

User Experiences

As a producer for screening and dewatering machines, STEINHAUS airsprings puts us ahead of our competitors.
Reduced energy consumption, less noise emission and limited warranty costings.
Todays business is shaped by international pressure and every benefit is essential. For us, STEINHAUS airsprings are this unique advantage.

As Head of Production I am responsible for the plant and availability. Thanks to the airsprings and the increased amplitude we raised our production volume and got improved screening results. Due to the reduced downtime the performance and availability increased significantly.

As part of the managment I can report only positively. It's a comprehensible investment with dominating benefits: Increased production with reduced energy consumption, higher plant availability and an increased lifetime of the machine, topped with improved work safety and acceptance of local residents.
We are more than satisfied!

Being a structural engineer I'm thrilled by the decreased restoring forces and the minimized vibrations transmission for the structural steel frames. We are currently calculating a bigger screening machine in the existing steel structure...all thanks to the airsprings.

User Experiences

With the installation of STEINHAUS airsprings we increased the screening machines amplitude. As we didn't need the increased production we changed the centrifugal weight and save up to 10% energy, allowing us to be much more sustainable and ‚green'.

For us living locally near a plant the STEINHAUS airsprings changed a lot. Before the change it has been much louder and somethimes even the glasses in the shelfs started shaking. Now we don't even mind the plant running till the late evening.

As service engineers we benefit a lot from undocking the machine from the steel structure.
The screening machine itself is not affected by external vibrations for maximum operational safety.
The airsprings are easy to change without any lifting equipment and even the change of screens is faster and easier when the machine is in shutdown position.
On top, by reducing the centrifugal weight the lifetime of the bearings was increased noticeably.

We representing the industrial cooperative would have wished to have this technology implemented earlier. With one single action the safety at work amended considerably. No chances any more to get fingers bruised, the vibrations and noise at the workplaces has been significantly reduced making them less endangering in total.

Airsprings Worldwide

Request our worldwide service! airspring@steinhaus-gmbh.de

Airspring in Action

Full Refund

On condition that the installation has been executed by our specialists, a full 4 week refund is granted on original equipment..

Technical Information

Increased lifetime of screening machines

Within the steel construction of a screening machine usually various other aggregates as pumps, conveyor belts, log washers, etc. are in the perimeter. These units also emit vibrations set a steel construction in motion. Such external influences frequently lead to damage and premature failure of the screening machine. Due to the air suspension, the screening machine is optimally decoupled from the steel construction, disturbing external influences can no longer damage the screening machine.

5 - 10% energy saving

The reduction of lost energy through vibrations in the substructure results in an increased amplitude.
If the increased amplitude is not used for a performance/production increase, one may scale back the centrifugal weights. This will result in a reduced current consumption by approx. 5-10% (up to 40% have been achieved max).

Improved durability for bearings

When the centrifugal weights are reduced to maintain the amplitude, another positive effect aside the reduced energy consumption is noticeable:
The bearings of the screening machine are less loaded and achive a higher durability.

Calmed structural steelwork

The vibration transfer from the screening machine to the steel construction is considerably lower compared to conventional steel springs.
Vibrations in steel construction will be reduced effectively and damages prevented.

Reduced Noise Emission

The ‚rattling' of conventional springs disappears. In addition the smoother running and reduced vibrations in the steel structure cause a noticabel noise reduction.

Raised Production / Improved Screening Result

As less energy is lost within the structure, the amplitude of the screening machine is increased.
This produces a superior screening result and an increased production throughput, considering the approved acceleration by the fabricator.
By this method, an increase in turnover by €44.000,-/ month was verified.

Maintenance friendly

The lifetime of the airspring bellows is designed as a 7 years cycle.
A change of a bellow can be easily done; after deflating the bellows the screening machine rests on the passive buffers. In opposite to steel springs the bellows can be changed without any lifting gear within a few minutes.

Workplace Safety

The danger of crushing, especially when the machines shut down, is eliminated.
Employer's liability insurance often demands a surrounding for the springs to avoid accidents; this maintenance-unfriendly demand is no longer required.
The reduction of the vibration transmission is reducing the noise emission, improving the quality and safety of the workplace noticeable.

Constant Screening Result

In opposite to conventional steel springs or rubber springs, the airsprings never wear out from fatigue.
This feature guarantees a constant screening result over the years, in addition to the capital saved.

Flexibility

The airspings can change the inclination of the screen by several angular degree. By this the screening machine can be adapted easily to changes in the bulk material.

Smart Control

Every set of airsprings is optionally equiped with an intelligent sensor system.
The sensor system adjusts the machine fully automatically to changing parameters, either in the process or environmental.
As an example, the airspring can adjust itself to a wavering ship, scaling the screen.
Variations in the bulk can be automatically leveled by the inclination and pressure adjustment

Operational Safety

Our in-house developed control system prevents the screening machine to move crossways to the flow direction.
Destrucitve transverse forces, which will lead to a fracture in the sidewalls are effectively prevented.

Results in daily practice

The diagramm shows the vertically occuring forces transferred from a spring point to the substructure.

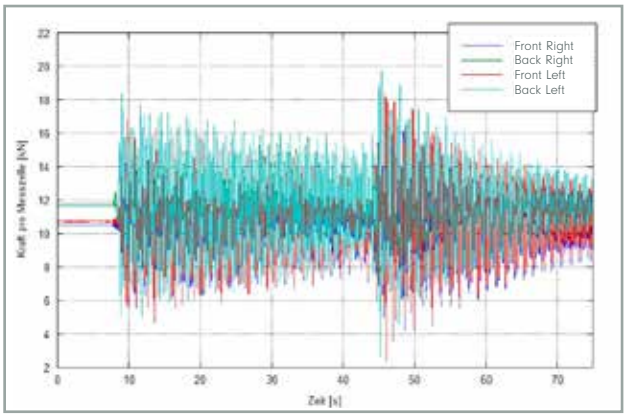

Abb 1 Conventional Steel Springs
Applied forces of a screening machine with steel springs.

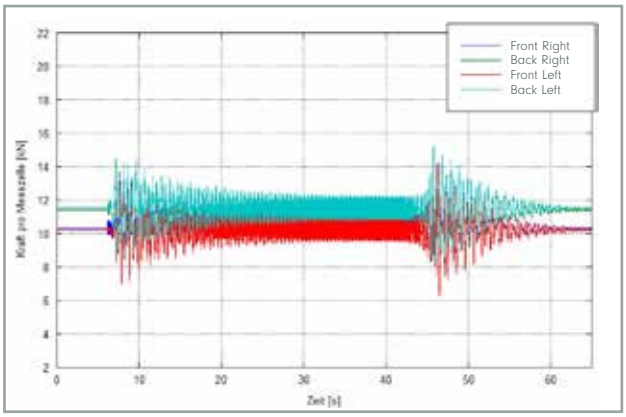

Abb 2 STEINHAUS Airsprings
Same machine after assembly of STEINHAUS airsprings.

Delivery Program

Screen Panels

Screen panels made of polyurethane & steel
System screen modules
Wire mesh
Perforated plates

OPTIMA

Wedge wire panels
Plain sieve panels
Sieve bends
Slotted screen baskets
High precision filter tubes
Industrial filter media

Wire Mesh Conveyor Belts

Woven & braided wire mesh belts
Rolled baking oven belts (Z-belts)
CLEANBELT device for belt cleaning

LuCoTec Air Spring System

Air spring systems for screening machines & other vibrating machines

MULTOTEC - Process Equipment

Slurry Pumps
Cyclones
Spirals

Contact us for on-site consultation by our experienced field engineers.

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wb110e/02.2020